

CONTRACT DOCUMENTS
FOR
CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS
AIP PROJECT NO. 3-41-0019-013-2018

OWNER:

City of Florence
2675 Kingwood Street
Florence, OR 97439

ENGINEER:



1020 SW EMKAY DRIVE, SUITE 100 | BEND, OR 97702
PHONE: (541) 322-8962 | FAX: (541) 382-2423 | www.centurywest.com

JUNE 2018

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RENEWS: 12/31/18

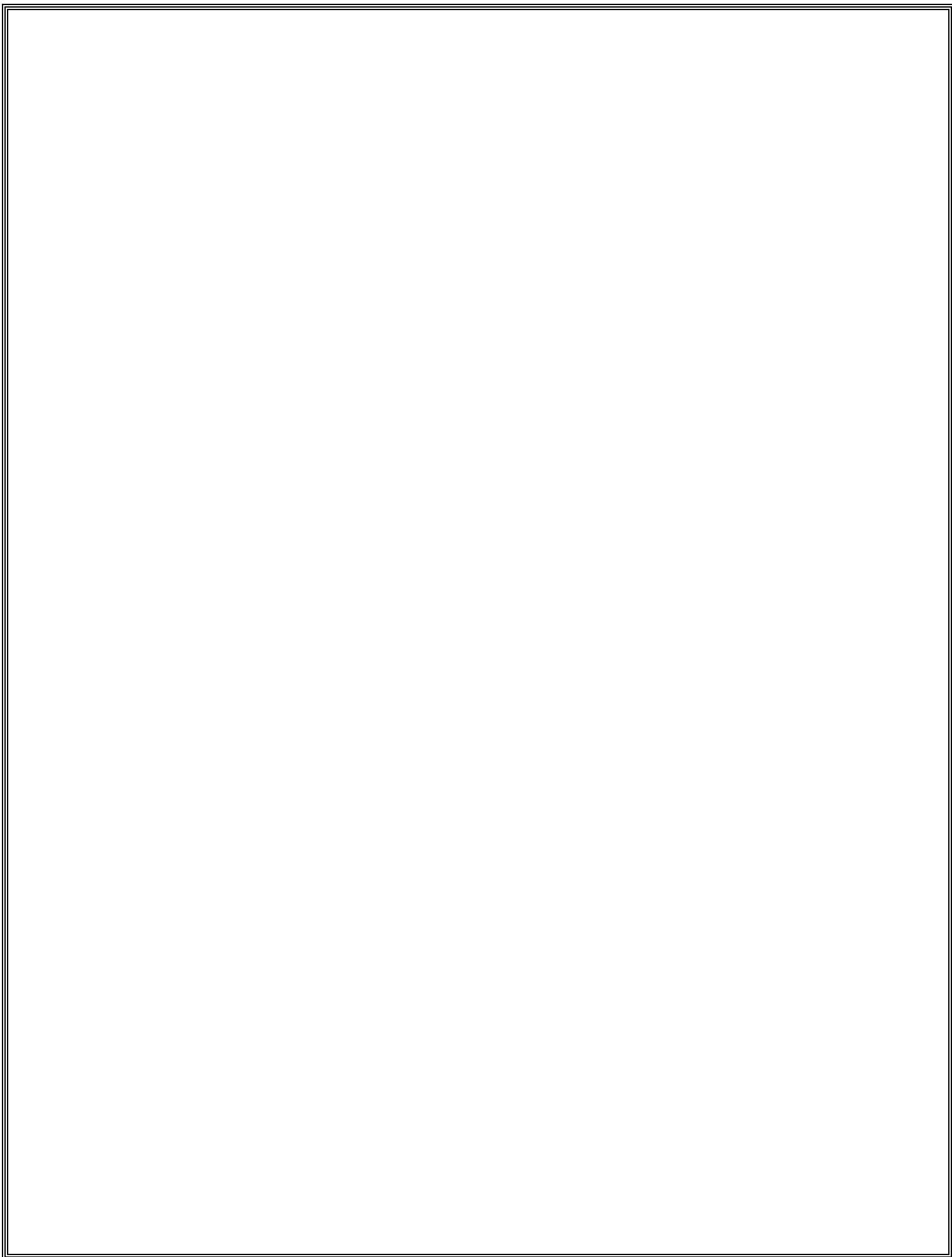


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SECTION I
Bidding Information

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT

SEAL COAT AND LIGHTING IMPROVEMENTS

A.I.P. PROJECT No. 3-41-0019-013-2018

INVITATION TO BID

Sealed bids for **Florence Municipal Airport, Seal Coat and Lighting Improvements, A.I.P. Project No. 3-41-0019-013-2018** will be received by Mike Miller, Public Works Director, at the Public Works Facility located at 2675 Kingwood Street, Florence, Oregon, 97439, until the bid closing time of 2:00 p.m., local time, on the 26th day of July, 2018, at which time the bids will be publicly opened and read. Bidders shall submit the required first-tier subcontractor disclosure form within two hours of the bid closing time. Bidders whose bids and/or disclosure statements are received after the stated times will be considered non-responsive, and their bids will not be considered.

The scope of work being considered is:

1. Crack cleaning, repair and sealing
2. Construction of emulsified asphalt seal coat for RW 15-33, parallel taxiway, and connector taxiways
3. Construction of pavement markings
4. Removal of the existing MIRL system
5. Construction of a new MIRL system
6. Removal of an existing PAPI system
7. Construction of new PAPI's for each runway approach
8. Construction of new REIL's for each runway approach
9. Construction of airport lighted guidance signs
10. Installation of taxiway elevated reflectors
11. Electrical room modifications
12. Miscellaneous Incidental Electrical Improvements

The Contract Documents, including the specifications, for the above project may be reviewed and examined at the offices of the City of Florence (City) Public Works Facility on working days, between the hours of 8:00 a.m. and 5:00 p.m. **Bidding documents can be downloaded at www.questcdn.com under Login using QuestCDN #5836866 for a non-refundable charge of \$20.00. Contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in membership registration and downloading this digital project information.**

Technical questions shall be directed to Greg Reince, P.E., Century West Engineering Corporation, (541) 322-8962.

Contractors must be qualified in accordance with the applicable parts of ORS 279C in order to enter into a contract with the City. Among other factors that will be considered, the City will only award a contract to a contractor that is able to demonstrate that they have completed previous contracts of a similar nature with a satisfactory record of performance, and that demonstrate that they have a satisfactory record of integrity. The City may investigate to determine the qualifications of the bidders as part of the evaluation of the bids, and the City may reject a bid that does not comply with the prescribed public contracting procedures and requirements, including the requirement to demonstrate the bidder's responsibility under ORS 279C.375(3)(b).

Bidders must submit qualification statements in accordance with the terms of subsection 20-02 of the General Provisions (FAA) with their Proposal. Proposals submitted without qualification statements will not be accepted.

This contract will be funded, in part, by a grant from the Federal Aviation Administration. As such it will be subject to federal requirements. These include, but are not limited to:

- Buy America Preferences;
- Foreign Trade Restrictions;
- Prevailing Wage Rates (higher of Oregon BOLI or Davis-Bacon rates);
- Affirmative Action Requirements;
- Government wide Debarment and Suspension Provisions; and
- Government wide Requirements for Drug-free workplace Requirements.

All applicable federal provisions are given in the specifications.

The proposed contract is under and subject to Executive Order 112456 of September 24, 1986, and to the Equal Employment Opportunity (EEO) and Federal Labor Provisions.

Each Bidder must supply all information required by the bid documents and specifications.

The EEO requirements, labor provisions, and wage rates are included in the specifications and bid documents.

Each Bidder must complete, sign, and furnish with their bid a "Certification of Nonsegregated Facilities" and a statement entitled "Bidders Statement on Previous Contracts Subject to EEO Clause," as contained in the Bid Proposal.

A contractor having 50 or more employees and their subcontractors having 50 or more employees and who may be awarded a subcontract of \$50,000 or more will be required to maintain an affirmative action program, the standards for which are contained in the specifications.

To be eligible for award each Bidder must comply with the affirmative action requirements which are contained in the specifications.

Disadvantaged Business Enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award of any contract entered into pursuant to this advertisement.

In accordance with federal requirements, the Owner has determined that this contract has subcontracting possibilities and encourages the participation of Disadvantaged Business Enterprises as prime contractors and subcontractors. No DBE contract goal has been established for this project.

Based on the 9th Circuit Court Decision in *Western States Paving Company v. Washington State Department of Transportation*, the Owner has determined that it is appropriate to use a race/gender neutral goal. The Owner encourages all bidders to take active race/gender neutral steps to include DBEs in this contract. Race/gender neutral steps include: unbundling large contracts, subcontracting work the prime contractor may self-perform, providing bonding or financing assistance, providing technical assistance, etc.

A NON-MANDATORY pre-bid meeting is to be held at 2:00 p.m., local time on the 10th day of July, 2018, at the Airport. Interested prime contractors are encouraged to attend. At this meeting, questions concerning the Contract Documents and the proposed work will be discussed. A tour of the project site will be conducted after the meeting, after which, no other formal tours or site visits will be scheduled.

This project is for a public improvement subject to the prevailing rates of wage requirements of ORS 279C.800 to 279C.870, or by the U.S. Secretary of Labor, whichever is greater. The City will not receive or consider a bid unless the bid contains a statement by the bidder that the bidder will comply with ORS 279C.838 or 279C.840. Contractor licensing under ORS 468A.720 for asbestos abatement is not a requirement of this project. No bid shall be considered unless the bidder is licensed by the Oregon Construction Contractors Board or the State Landscape Contractors Board.

Bids must be submitted on the prescribed forms and must be accompanied by certified check, cashier's check, or bid bond executed in favor of the City in an amount equal to ten percent (10%) of the amount bid.

No bid may be withdrawn after the scheduled time for the public opening of the bid as specified above. The City reserves the right to reject any and all bids, to waive any irregularities, and to accept the bid deemed in the best interest of the City. The City may reject any bid not in compliance with all prescribed public bidding procedures and requirements and may reject for good cause any or all bids after finding that doing so is in the public interest.

MIKE MILLER, PUBLIC WORKS DIRRECTOR
CITY OF FLORENCE

Dated at the City of Florence, this 27th day of June, 2018

Published: Oregon Daily Journal of Commerce – June 27, 2018 and July 2, 2018

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

A.I.P. PROJECT No. 3-41-0019-013-2018

INSTRUCTIONS TO BIDDERS

1. Owner's Representative

The Owner's Representative for the project, who assumes duties and responsibilities and has rights and authority assigned in the Contract Documents in connection with completion of this project in accordance with the Contract Documents, shall be Mike Miller, Public Works Director. The Owner's Representative can be reached at the City Public Works Facility located at 2675 Kingwood Street, Florence, Oregon, 97439, phone (541) 997-4106. Technical questions about the project should be directed to Greg Reince, P.E., Century West Engineering Corporation, (541) 322-8962.

2. Copies of Contract Documents

- a. Bidding documents can be downloaded at www.questcdn.com under Login using QuestCDN #5836866 for a non-refundable charge of \$20.00. Contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in membership registration and downloading this digital project information.
- b. The Contractor shall use complete sets of Contract Documents in preparing the Proposal; the Owner assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.
- c. The Owner, in making copies of Contract Documents available on the above terms, does so only for the purpose of obtaining Proposals for the project work and does not confer a license or grant for any other use.

3. Qualifications of Bidders

Bidders must submit qualifications statements in accordance with the terms of subsection 20-02 of the Contract Conditions and General Provisions with their proposal. Proposals submitted without qualifications statements will not be accepted.

4. Examination of Contract Documents and Site

- a. It is the responsibility of each bidder before submitting a Proposal:
 - A. To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including "technical data" referred to below);

- B. To visit the site to become familiar with and satisfied as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the project work;
 - C. To consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the project work;
 - D. To study and carefully correlate bidder's knowledge and observations with the Contract Documents and such other related data; and
 - E. To promptly notify the Owner's Representative of all conflicts, errors, ambiguities or discrepancies that the Bidder has discovered in or between the Contract Documents and such other related documents.
- b. Reference is made to the Construction Services Contract and the Terms and Conditions for Public Improvement Contracts for identification of additional contract provisions required by the State of Oregon in connection with this contract.
 - c. Concerning those reports of conditions at or contiguous to the site which have been utilized by the Owner in preparation of the Contract Documents; the Bidder may rely upon the general accuracy of the "technical data" contained in such reports but not upon other data, interpretations, opinions or information contained in such reports or otherwise relating to the conditions at the site, nor upon the completeness thereof for the purposes of bidding or construction.
 - d. Concerning those drawings utilized by the Owner in preparation of the Contract Documents; the Bidder may rely upon the general accuracy of the "technical data" contained in such drawings but not upon other data, interpretations, opinions or information shown or indicated in such drawings or otherwise relating to such structures, nor upon the completeness thereof for the purposes of bidding or construction. Bidder is responsible for any interpretation or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information. The Bidder is responsible for obtaining any investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and underground facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or finishing of the project work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and finishing the project work in accordance with the time, price and other terms and conditions of the Contract Documents.
 - e. The submission of a Bid will constitute an incontrovertible representation by the Bidder:
 - A. That the Bidder has complied with every requirement of this Article 4;

- B. That without exception the Bid is premised upon performing and furnishing the project work required by the Contract Documents and applying the specific means, methods, techniques, sequences or procedures of construction (if any) that may be shown or indicated or expressly required by the Contract Documents;
- C. That the Bidder has given the Owner written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Contract Documents and that the written resolutions thereof by the Owner are acceptable to the Bidder;
- D. That the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

5. Availability of Lands for Work

The lands upon which the project work is to be performed, rights-of-way and easements for access thereto, and other lands designated for use in performing the project work, shall be supplied by the Owner.

6. Interpretations and Addenda

All questions about the meaning or intent of the Contract Documents are to be directed to the Owner or Owner's Representative. Interpretations or clarifications considered necessary by the Owner in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by the Owner as having received the Bidding Documents. Questions received less than five days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. Addenda may also be issued to modify the Bidding Documents as deemed advisable by the Owner or Owner's Representative.

7. Bid Security

- a. Each Bid must be accompanied by Bid security made payable to the Owner in an amount equal to ten percent (10%) of Bidder's Total Estimated Bid Cost and in the form of a certified or cashier's check, irrevocable letter of credit issued by an insured institution as defined in ORS 706.008, or a Bid Bond (on the form attached) issued by an acceptable surety.
- b. The Bid security of Successful Bidder will be retained until such Bidder has executed the Construction Services Contract, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Public Improvement Contract and furnish the required contract security within seven (7) days after the Notice of Award, the Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom the Owner believes to have a reasonable chance of receiving

the award may be retained by the Owner until the Effective Date of the Agreement or the 120th day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned. Bid security with Bids that are not competitive will be returned upon execution of the Construction Services Contract between the Owner and the successful bidder.

8. Proposal Form

The Proposal Form is included with the Bidding Documents; additional copies may be obtained from the Owner Representative. All blanks on the Proposal must be completed by clearly printing in ink or by typewriter. Changes may be made provided that the Bidder initials all changes.

All items in the proposal form shall be completed in full showing a unit or lump sum price or prices for each and every item. The price per item shall be clearly shown in the space provided. The pricing shall be extended to show the total when required.

The extensions in the column headed “EXTENDED TOTAL” are made for the sole purpose of facilitating bid comparisons and if there are any discrepancies between the unit prices and the total amount shown, the unit prices shall govern. In instances where prices in words are required, they shall take precedence over figures.

9. Submission of Bids

Bids shall be submitted, prior to the Bid Closing time, at the place indicated in the Invitation to Bid. The Bid shall be enclosed in an opaque sealed envelope, marked with the Project title, date of opening, name and address of Bidder and accompanied by the Bid security and other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "Sealed Bid on **FLORENCE MUNICIPAL AIRPORT, SEAL COAT AND LIGHTING IMPROVEMENTS, A.I.P. Project No. 3-41-0019-013-2018**" and the name and address of the Bidder on the face of it.

Facsimile Bids and/or Electronic Data Interchange bids will not be accepted, and Bids received after the scheduled Bid Closing time will not be opened or considered by the Owner.

10. First-tier Subcontractor Disclosure

- a. Bidders are required to disclose information about certain first-tier subcontractors when the contract value for a public improvement is greater than \$100,000. Specifically, within two working hours after the date and time of the deadline when the bids are due, the Bidder shall submit to the Owner a disclosure of the first-tier subcontractors that:
 - A. Will be furnishing labor or will be furnishing labor and materials in connection with the public improvement; and

- B. Will have a contract value that is equal to or greater than five percent (5%) of the total project bid or \$15,000, whichever is greater, or \$350,000 regardless of the percentage of the total project bid.
- b. The Bidder shall use the “First-tier Subcontractor Disclosure Form” provided with the Contract Documents, and shall list the name of each first-tier subcontractor, and the category of work that they will be performing.
- c. If the Bidder will not be using any subcontractors that are subject to the above disclosure requirements, the Bidder shall indicate “NONE” on the First-tier Subcontractor Disclosure Form.

11. Drug Testing Program

By signing and submitting a Bid to the Owner, the Bidder shall certify that it has an employee drug testing program in place.

12. Non-discrimination Certification

By signing and submitting a Bid to the Owner, the Bidder shall certify that, per OAR 137-030-0100, it has not discriminated against minority, women, or emerging small business enterprises in obtaining any subcontracts.

13. Modification and Withdrawal of Bids

- a. Bids may be modified or withdrawn at any time prior to the opening of Bids. This may be done by the Bidder in person or upon his/her written request delivered to the place where Bids are to be submitted. A telephoned request for withdrawal of a Bid will not be recognized as a legitimate means for withdrawal of a Bid.
- b. If, within twenty-four hours after Bids are opened, any Bidder files a duly signed, written notice with the Owner’s Representative and promptly thereafter demonstrates to the reasonable satisfaction of the Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the project work to be provided under the Contract Documents.

14. Opening of Bids

Bids will be opened and (unless obviously non-responsive) read aloud publicly at the place where Bids are to be submitted, at the time for the Bid Opening stated in the Invitation to Bid.

15. Bids to Remain Subject to Acceptance

All Bids will remain subject to acceptance for 120 days after the day of the Bid opening, but the Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date.

16. Award of Contract

- a. The Owner reserves the right to reject any or all Bids, including without limitation the rights to reject any or all nonconforming, non-responsive, unbalanced or conditional Bids and to reject the Bid of any Bidder if the Owner believes that it would not be in the best interest of the Owner to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by the Owner. The Owner also reserves the right to waive all informalities not involving price, time, or changes in the project work and to negotiate contract terms with the Successful Bidder. Discrepancies between words and figures will be resolved in favor of the words.
- b. In evaluating Bids, the Owner will consider the qualifications of Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Proposal or prior to the Notice of Award.
- c. The Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the project work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Contract Documents. The Owner also may consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the project work when such data is required to be submitted prior to the Notice of Award.
- d. The Owner may conduct such investigations as it deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers and other persons and organizations to perform and furnish the project work, in accordance with the Contract Documents, to the Owner's satisfaction, within the prescribed time.
- e. If the contract is to be awarded, it will be awarded to the lowest responsive and responsible Bidder whose evaluation by the Owner indicates that the award will be in the best interests of the Owner.
- f. If the contract is to be awarded, the Owner will give Successful Bidder a Notice of Award within 120 days after the day of the Bid opening.

17. Signing of Construction Services Contract

When the Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Construction Services Contract with all other written Contract Documents attached. Within fifteen (15) calendar days thereafter, the Contractor shall sign and deliver the required number of counterparts of the Contract and

attached documents to the Owner with the required liability and workers compensation insurance certificates, and payment and performance bonds. Within thirty (30) days thereafter, the Owner shall deliver one fully signed counterpart to the Contractor. Each counterpart is to be accompanied by a complete set of the Drawings with appropriate identification.

18. Standard Specifications

Standards for Specifying Construction of Airports (FAA Advisory Circular, AC 150/5370-10, latest edition and modifications), shall apply to work performed as part of this project.

19. Contract Documents

- a. The Contract Documents under which it is proposed to execute this work consist of all material bound herewith the drawings, plus any addenda incorporated into the documents plus the contract drawings.
- b. These Contract Documents are intended to be mutually cooperative and to provide all details reasonably required for the execution of the proposed work. Any person contemplating the submission of a proposal shall have thoroughly examined all of the various parts of these documents, and should there be any doubt as to the meaning or intent of said Contract Documents, the Bidder should request of the Engineer, in writing (at least five (5) days prior to bid opening), an interpretation thereof. Any interpretation or change in said Contract Documents will be made only in writing, in the form of addenda to the documents and will be furnished to all Bidders receiving a set of the documents, who shall indicate receipt of same in the space provided on the proposal form. The Owner will not be responsible for any other explanation of interpretation of said documents.

20. Inconsistencies and Omissions

- a. Any inconsistency or omission found in the Contract Documents shall be reported to the Engineer immediately. The Engineer will clarify inconsistencies or omissions, in writing, within a reasonable time.
- b. In resolving inconsistencies among two or more sections of the Contract Documents, precedence shall be as stated in the Special Provisions.
- c. Figure dimensions on plans shall take precedence over scale dimensions, detailed plans shall take precedence over general plans.

21. Plans

The plans included with this document are electronic reductions of the original drawings. Full-scale plans may be obtained from Century West Engineering Corporation, 1020 SW Emkay Drive, Suite 100, Bend, Oregon 97702, at a cost of \$100.00 per set. No return of full-scale plans is required, and no refund will be made.

22. Estimate of Quantities

The estimate of quantities of work to be done as given in the Proposal, although stated with as much accuracy as possible, is approximate only and is assumed solely for the purpose of comparing bids. The quantities on which payments will be made to the Contractor are to be determined by measurement of the work actually performed by the Contractor as specified in the Contract Documents. The Owner reserves the right to increase or diminish the amount of any class of work as may be deemed necessary.

23. Determination of Low Bid

In making the award of contract, the Owner reserves the right to take into consideration the plant facilities of the Bidder and the Bidder's ability to complete the contract within the time specified in the proposal. The Owner also reserves the right to evaluate factors that in its opinion would affect the final total cost. The Owner reserves the right to reject any or all bids and to accept such bids that in its opinion are in the best interest of the project.

24. Safety and Health Standards and Accident Prevention

United States Department of Labor Safety and Health Regulations for Construction, 29 CFR 1518 of April 17, 1971 (Part II) or any subsequent revision thereof are included herein by reference.

The Contractor shall be solely and completely responsible for conditions of the job site, including safety of all personnel and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours.

25. Progress Payments

This project involves payment to the Contractor not only from funds the Owner has on hand for this purpose but also with grant funds from the Federal Aviation Administration (FAA) and the State of Oregon. The Contractor is hereby advised that the Owner and the Engineer will expedite partial and final payments to the Contractor as much as possible but since FAA grant funds must be obtained to make these payments, the Contractor should anticipate and allow time for obtaining these grant funds before expecting partial or final payments under this Contract.

The following is the procedure which will be used in making partial and final pavements to the Contractor. At the pre-construction conference the Engineer and Contractor shall agree on a date each month when work will be cut off for that month's estimate. No later than ten (10) calendar days after said cut-off date the Engineer will prepare the estimate for payment to the Contractor and Federal Aid Application for FAA grant payment to the Airport which application will be mailed to FAA within ten day period.

- A. No later than seven (7) days after receipt of the Federal Grant payment from the U.S. Treasury the Airport will process and pay the claim for the partial or final estimate as the case may be.

Note that processing the request for reimbursement from FAA for the final payment of the contractor takes considerably more time than is required for the request involving only partial payment because the final grant involves an audit and other procedures.

- B. The Contractor will not be paid the final retaining of the contract price until the final inspection has been held. There may be considerable delay in receiving final payment.
- C. Final Payment shall not be due until the Contractor has provided the Owner with the “Affidavit of Amounts Paid DBEs” form provided, a final record set of construction drawings, and releases off liens from all suppliers and subcontractors.
- D. The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the retained percentage or final payment is made.
- E. The making of final payment will not relieve the Contractor from claims arising from the failure of the work to comply with the requirements of the Contract Document.
- F. Retainage. In the event Owner receives a claim from a subcontractor or supplier, Owner shall be entitled to withhold payment to Contractor up to the amount of the claim. Owner shall be entitled to hold those funds until the claim is resolved and a release is signed by the subcontractor or supplier.

26. Form of Payment

Payment of monthly estimates and final payment will be by means of municipal checks.

27. Standards of Conduct

No member or officer, or employee of the Owner, or its designees or agents, no member of the governing body of the Owner, and no other public official of the Owner who exercises any functions or responsibilities with respect to this contract during his/her tenure or one year thereafter, shall have any interest, direct or indirect, in work to be performed in connection with this contract. All contractors shall incorporate, or cause to be incorporated, in all subcontracts a provision prohibiting such interest.

28. Certificates of Insurance

Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to the commencement of any work by the Contractor under this contract. These certificates shall contain a provision that coverages afforded under the policies cannot be canceled and restrictive modifications cannot be made until at least 30 days prior written notice has been given to the Owner. A certificate which states merely that the issuing company “will endeavor to mail” written notice is unacceptable.

29. Additional Instructions

Bidders shall refer to Sections 20 and 30 of the Contract Conditions and General Provisions for specific instructions relative to preparation and submission of Proposals.

30. Requirements for Bids for AIP Contracts:

- a. Required Notice for All Contracts:
 - A. The Bidder (proposer) must supply all the information required by the proposal forms and specifications.
 - B. The Owner, in accordance with Title VI of the Civil Rights Act of 1964, hereby notifies all bidders that they (bidders) must affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or natural origin in consideration for award.
 - C. All labor on the project shall be paid no less than the minimum wage rates established by the U.S. Secretary of Labor.
- b. Required Notices for Contracts Over \$10,000:
 - A. Each Bidder will be required to comply with the affirmative action plan for equal employment opportunity prescribed by the Office of Contract Compliance (OFCC), United States Department of Labor, Regulations of the Secretary of Labor (41 CFR 60), or by other designated trades used in the performance of the contract and other non-federally involved contracts in the area geographically defined in the plan.
 - B. The proposed contract is under and subject to Executive Order 11246 of September 24, 1965, as amended, and to the equal opportunity clause; and
 - C. Each Bidder must submit with the bid a Certificate of Non-segregated Facilities and a statement entitled "Bidders Statement Previous Contracts Subject to EEO Clause," as contained in the bid proposal. In addition:
 1. Contractors receiving federally assisted construction contract awards, which are not exempt from the provisions of the equal opportunity clause, will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$100,000 and are not exempt from the provisions of the equal opportunity clause. A Certification of Non-segregated Facilities must be submitted prior to award of any such subcontract exceeding \$10,000.

2. Contractors receiving subcontract awards exceeding \$10,000, which are not exempt from the provisions of the equal opportunity clause, will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the equal opportunity clause.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

- D. When a determination has been made to award a contract or subcontract to a specific Contractor, such Contractor is required, prior to the award or after the award, or both, to furnish such other information as the FAA, the Sponsor, or the Director of OFCC requests.
- E. Equal Employment Opportunity (EEO) and labor provisions, when applicable, are included in the bidding documents.
- F. Contractors and subcontractors may satisfy EEO requirements of paragraph 2 of the EEO contract clause by stating in all solicitations or advertisements for employees that:

 “All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin,” or by using a single advertisement in which appears in clearly distinguished type, the phrase:

 An equal opportunity employer.”
- G. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered areas, are as follows:

GOALS AND TIMETABLES

Goals for Women: (Applies Nationwide)

<u>Timetable</u>	<u>Goals %</u>
<i>From April 1, 1980 until further notice</i>	6.9%

Goals for Minorities:

<i>Non SMSA Counties</i>	3.6%
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- H. By operation of the Order, The Notice of Requirement for Affirmative Action to Insure Equal Employment (Executive Order 11246) and the Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246) shall be deemed to be a part of this solicitation and of every contract and subcontract, as appropriate, required by the Order and regulations.
- c. Required Notice for Contracts for 50 or More Employees and a Contract of \$50,000 or More.
 - A. A Contractor having 50 or more employees and first tier subcontractors having 50 or more employees and who may be awarded a subcontract of \$50,000 or more will, within 120 days from contract commencement, be required to develop a written affirmative action compliance program for each of its establishments (state and local governments are exempt).
 - B. Within 30 days after award of this contract, the Contractor shall file a compliance report (SF 100) if the Contractor has not submitted a complete compliance report within 12 months preceding the date of award.
 - C. State and local governments are exempt from the requirements of filing the annual compliance report (SF 100).
 - D. The Contractor shall require the subcontractor on any first tier subcontracts, irrespective of dollar amount, to file an SF 100 within 30 days after award of the subcontract if the above three conditions apply. An SF 100 will be furnished upon request. The SF 100 is normally furnished by Contractors annually, based on a mailing list currently maintained by the Joint Reporting Committee.

In the event a Contractor has not received the form, he may obtain it by writing to the following address:

Joint Reporting Committee
1800 "G" Street
Washington, D.C. 20506

- d. Required Notice for Contracts in Excess of \$100,000.

Each Bidder must submit with the bid a bid guarantee equivalent to ten (10%) percent of the bid price. The bid guarantee shall be in the form of a Bid Bond, certified check, or other negotiable instrument accompanying a bid as assurance that the Bidder will, upon acceptance of the bid, execute such contractual documents as may be required within the time specified.

- e. Disadvantaged Business Enterprise (DBE) Policy and Obligation.

- A. Pursuant to 49 CFR Section 23.43(a) and the financial assistance agreement between the Owner and the U.S. Department of Transportation, the following provisions are made a part of this contract:

It is the policy of the Department of Transportation that DBEs, as defined in 49 CFR Part 23, shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with federal funds under this agreement. Consequently, the DBE requirements of 49 CFR Part 23 apply to this agreement.

Contractor agrees to ensure that DBEs, as defined in 49 CFR Part 23, have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with federal funds provided under this agreement. In this regard, Contractor shall take all necessary and reasonable steps, in accordance with 49 CFR Part 23, to ensure that DBEs have the maximum opportunity to compete for and perform contracts. Contractor shall not discriminate on the basis of race, color, national origin, or sex in award and performance of DOT-assisted contracts.

- B. Definitions.

1. “Disadvantaged Business Enterprise” (DBE) means, for the purposes of this contract, a small business enterprise that has been certified by the Oregon Department of Transportation, as a disadvantaged, minority, or women business enterprise.
2. “Joint venture” means an association of two or more businesses that carry out a single business enterprise for profit by combining their property, capital, efforts, skills and knowledge.
3. “Goal” is the percentage of total dollar amount bid for DBE participation identified in the Bid form.

- C. Directories.

Directory of firms certified by the State of Oregon, Office of Minority, Women and Emerging Small Business (OMWESB) are available, upon request from the OMWESB.

- D. Bidding Procedures.

Based on the 9th Circuit Court Decision in Western States Paving Company v. Washington State Department of Transportation, the Owner has determined that it is appropriate to use a race/gender neutral goal. The Owner encourages all bidders to take active race/gender neutral steps to include DBE’s in this and other airport contracts. Race/gender neutral steps include: unbundling large contracts, subcontract work the prime

contractor may self-perform, provide bonding or financing assistance, provide technical assistance, etc. This contract can be awarded without the lowest responsive bidder meeting the any established DBE participation goal or demonstrating good faith effort to meet the goal.

E. Good Faith Efforts.

This contract can be awarded without demonstrating a good faith effort to meet any established DBE participation goal.

F. After Bid Opening.

1. Bidders, within their bid, shall submit to the Owner the Statement of Intent, Disadvantaged Business Enterprise (DBE) Utilization (form enclosed with Bid form), showing the names and addresses of the certified DBE participants, the work each will perform, and the dollar amount of participation by each. If the Statement of Intent is submitted blank, the Owner will assume that the Bidder obtained no participation.
2. All of a bidder's expenditures to a DBE manufacturer, and 60 percent of a bidder's expenditures to a DBE supplier performing a commercially useful function, will be counted toward the DBE goal.
3. If a bidder or a subcontractor is a joint venture consisting of DBE and non-DBE partners, a portion of the expenditure to the joint venture equal to the percentage of ownership and control of DBE partners in the joint venture will be counted toward the DBE goal.

G. Prior to Notice to Proceed.

The apparent successful bidder, upon contract award and prior to Notice to Proceed, shall submit to the Owner copies of binding DBE contracts.

H. After Notice to Proceed.

If circumstances arise after Notice to Proceed, which reduce DBE participation, Contractor shall immediately notify the Owner and request a meeting with the Owner and the Engineer. At this meeting, Contractor shall:

1. Present the circumstances which brought about the reduction in DBE participation; and
2. Present plans or actions to bring the DBE participation back to the level promised.

I. Replacing a DBE.

1. Contractor shall notify the Owner and obtain its written approval before replacing a DBE or making any change in the DBE participation listed.
2. If a DBE is unable to fulfill the original obligation to the contract, Contractor must demonstrate to the Owner its good-faith efforts to replace that DBE with another DBE. Failure to so demonstrate is a material breach of this contract.

J. Liaison Officer, Records, and Reports.

Contractor shall designate a DBE liaison officer who will administer Contractor's DBE program and submit documentation to the Owner with each Application for Progress Payment verifying that Contractor is subcontracting with or purchasing materials from the DBEs identified, if any.

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**FAA
Airports**

Contract Provisions for Obligated Sponsors and Airport Improvement Program Projects

A1 ACCESS TO RECORDS AND REPORTS

ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Owner, the Federal Aviation Administration and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A2 AFFIRMATIVE ACTION REQUIREMENT

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION to ENSURE EQUAL EMPLOYMENT OPPORTUNITY

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. 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:

Timetables

Goals for minority participation for each trade:	4.12%
Goals for female participation in each trade:	6.9%

These goals are applicable to all of 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.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working 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.

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is Oregon, Lane County, City of Florence.

FAA REQUIRED PROVISIONS

A3 BREACH OF CONTRACT TERMS

BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the *Contractor* or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide *Contractor* written notice that describes the nature of the breach and corrective actions the *Contractor* must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the *Contractor* must correct the breach. Owner may proceed with termination of the contract if the *Contractor* fails to correct the breach by the deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A4 BUY AMERICAN PREFERENCE

BUY AMERICAN PREFERENCE

The Contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

A bidder or offeror must complete and submit the Buy America certification included herein with their bid or offer. The Owner will reject as nonresponsive any bid or offer that does not include a completed Certificate of Buy American Compliance.

Certificate of Buy American Compliance for Manufactured Products

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 USC § 50101 by selecting one on the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark (✓) or the letter "X".

- Bidder or offeror hereby certifies that it will comply with 49 USC § 50101 by:
- a) Only installing steel and manufactured products produced in the United States;
 - b) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
 - c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

1. To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
2. To faithfully comply with providing U.S. domestic product.
3. To furnish U.S. domestic product for any waiver request that the FAA rejects
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

- The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

1. To the submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that supports the type of waiver being requested.

FAA REQUIRED PROVISIONS

2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination may result in rejection of the proposal.
3. To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver – The cost of the item components and subcomponents produced in the United States is more than 60 percent of the cost of all components and subcomponents of the “item”. The required documentation for a Type 3 waiver is:

- a) Listing of all product components and subcomponents that are not comprised of 100 percent U.S. domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).
- b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
- c) Percentage of non-domestic component and subcomponent cost as compared to total “item” component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

Type 4 Waiver – Total cost of project using U.S. domestic source product exceeds the total project cost using non-domestic product by 25 percent. The required documentation for a Type 4 of waiver is:

- a) Detailed cost information for total project using U.S. domestic product
- b) Detailed cost information for total project using non-domestic product

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date

Signature

Company Name

Title

A5 CIVIL RIGHTS - GENERAL

GENERAL CIVIL RIGHTS PROVISIONS

The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

A6 CIVIL RIGHTS – TITLE VI ASSURANCE

Title VI Solicitation Notice:

The **City of Florence**, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Compliance with Nondiscrimination Requirements:

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor”), agrees as follows:

1. **Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
3. **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor’s obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.
4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a Contractor’s noncompliance with the non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
 - a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or
 - b. Cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 USC §§ 12131 – 12189) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC 1681 *et seq.*).

A7 CLEAN AIR AND WATER POLLUTION CONTROL

CLEAN AIR AND WATER POLLUTION CONTROL

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC § 740-7671q) and the Federal Water Pollution Control Act as amended (33 USC § 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceeds \$150,000.

A8 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

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, including watchmen and guards, 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.

2. Violation; Liability for Unpaid Wages; Liquidated Damages.

In the event of any violation of the clause set forth in paragraph (1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. 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 watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of \$10 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 clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration (FAA) or the Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or 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, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this clause.

4. Subcontractors.

The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this clause.

A9 COPELAND “ANTI-KICKBACK” ACT

COPELAND “ANTI-KICKBACK” ACT

Contractor must comply with the requirements of the Copeland “Anti-Kickback” Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

A10 DAVIS-BACON REQUIREMENTS

DAVIS-BACON REQUIREMENTS

1. Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work 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 the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent 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.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) 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 shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). 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 classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall 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 easily be seen by the workers.

(ii)(A) The contracting officer shall 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 shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination;
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) 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 shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards

FAA REQUIRED PROVISIONS

Administration, U.S. Department of Labor, Washington, DC 20210. 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.

(C) 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 shall 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.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall 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.

(iii) 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 shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) 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, 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.

2. Withholding.

The Federal Aviation Administration or the sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the Contractor, Sponsor, Applicant, or Owner, 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.

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at

the site of the work. Such records shall contain the name, address, and social security number of each such worker; his or her correct classification; 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 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) 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 section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records that 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 that show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (*e.g.* the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at www.dol.gov/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit them to the applicant, sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, Sponsor, or Owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) The payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i), and that such information is correct and complete;

(2) Each laborer and mechanic (including each helper, apprentice, and trainee) employed 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 Regulations 29 CFR Part 3;

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

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

(D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The Contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the sponsor, the Federal Aviation Administration, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, Sponsor, applicant, or Owner, 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 may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed 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, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall 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 the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice

must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall 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, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination that provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees, and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

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.

6. Subcontracts.

The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by

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appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section 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.

9. Disputes Concerning Labor Standards.

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.

(i) By entering into this contract, the Contractor certifies that neither it (nor he or she) 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 section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 USC 1001.

A11 DEBARMENT AND SUSPENSION

CERTIFICATION OF OFFERER/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a “covered transaction”, must verify each lower tier participant of a “covered transaction” under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: <http://www.sam.gov>.
2. Collecting a certification statement similar to the Certification of Offeror /Bidder Regarding Debarment, above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

A12 DISADVANTAGED BUSINESS ENTERPRISE

Solicitation Language (Race/Gender Neutral Means)

The requirements of 49 CFR part 26 apply to this contract. It is the policy of the City of Florence to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. The Owner encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

Prime Contracts (Projects Covered by a DBE Program)

DISADVANTAGED BUSINESS ENTERPRISES

Contract Assurance (§ 26.13) –

The Contractor 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 Department of Transportation-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 Owner 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.

Prompt Payment (§26.29) – The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from City of Florence. The prime contractor agrees further to return retainage payments to each subcontractor within 30 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the City of Florence. This clause applies to both DBE and non-DBE subcontractors.

A13 DISTRACTED DRIVING

TEXTING WHEN DRIVING

In accordance with Executive Order 13513, “Federal Leadership on Reducing Text Messaging While Driving”, (10/1/2009) and DOT Order 3902.10, “Text Messaging While Driving”, (12/30/2009), the Federal Aviation Administration encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$3,500 that involve driving a motor vehicle in performance of work activities associated with the project.

A14 ENERGY CONSERVATION REQUIREMENTS

ENERGY CONSERVATION REQUIREMENTS

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to energy efficiency as contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 USC 6201*et seq.*).

A15 DRUG FREE WORKPLACE REQUIREMENTS

None.

A16 EQUAL EMPLOYEMENT OPPORTUNITY (EEO)

EQUAL OPPORTUNITY CLAUSE

During the performance of this contract, the Contractor agrees as follows:

- (1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identify, or national origin. Such action shall include, but not be limited to, the following: 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. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
- (3) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (4) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said 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 or federally assisted construction 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.
- (7) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for

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noncompliance: *Provided, however*, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS**

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 (OFCCP), U.S. 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:
 - (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
 - (3) Asian 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
 - (4) 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 solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR part 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith 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 goals and timetables.

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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 minority 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 a geographical area 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 being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting 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 shall be employed by the Contractor during the training period and the Contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall 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 onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or 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 organizations' 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 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 female 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 company 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 onsite 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 workforce.
- 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 personnel, 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 company 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 groups 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 workforce 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, if the 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

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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 part 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, 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).

A17 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

SOLICITATION CLAUSE

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers.

The *Contractor* has full responsibility to monitor compliance to the referenced statute or regulation. The *Contractor* must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

A18 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

CERTIFICATION REGARDING LOBBYING

The Bidder or Offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an 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.
- (2) 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 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.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

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 section 1352, title 31, U.S. Code. 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.

A19 PROHIBITION of SEGREGATED FACILITIES

PROHIBITION OF SEGREGATED FACILITIES

(a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Employment Opportunity clause in this contract.

(b) “Segregated facilities,” as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Employment Opportunity clause of this contract.

A20 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. The employer must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (29 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

A21 PROCUREMENT OF RECOVERED MATERIALS

PROCUREMENT OF RECOVERED MATERIALS

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

- 1) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or
- 2) The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

A22 RIGHT TO INVENTIONS

Not used.

A23 SEISMIC SAFETY

Not used.

A24 TAX DELINQUENCY AND FELONY CONVICTIONS

CERTIFICATION OF OFFERER/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

The applicant must complete the following two certification statements. The applicant must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

- 1) The applicant represents that it is () is not () a corporation that has 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.
- 2) The applicant represents that it is () is not () is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty-four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. § 3559.

Tax Delinquency: A tax delinquency is 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.

A25 TERMINATION OF CONTRACT

TERMINATION FOR CONVENIENCE (CONSTRUCTION & EQUIPMENT CONTRACTS)

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.
2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
3. Discontinue orders for materials and services except as directed by the written notice.
4. Deliver to the Owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work, and as directed in the written notice.
5. Complete performance of the work not terminated by the notice.
6. Take action as directed by the Owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

- 1) completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
- 2) documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;
- 3) reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
- 4) reasonable and substantiated expenses to the Contractor directly attributable to Owner's termination action.

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

TERMINATION FOR DEFAULT (CONSTRUCTION)

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes conditions, rights, and remedies associated with Owner termination of this contract due to default of the Contractor.

TERMINATION FOR DEFAULT (EQUIPMENT)

The Owner may, by written notice of default to the Contractor, terminate all or part of this Contract if the Contractor:

FAA REQUIRED PROVISIONS

1. Fails to commence the Work under the Contract within the time specified in the Notice- to- Proceed;
2. Fails to make adequate progress as to endanger performance of this Contract in accordance with its terms;
3. Fails to make delivery of the equipment within the time specified in the Contract, including any Owner approved extensions;
4. Fails to comply with material provisions of the Contract;
5. Submits certifications made under the Contract and as part of their proposal that include false or fraudulent statements; or
6. Becomes insolvent or declares bankruptcy.

If one or more of the stated events occur, the Owner will give notice in writing to the Contractor and Surety of its intent to terminate the contract for cause. At the Owner's discretion, the notice may allow the Contractor and Surety an opportunity to cure the breach or default.

If within [10] days of the receipt of notice, the Contractor or Surety fails to remedy the breach or default to the satisfaction of the Owner, the Owner has authority to acquire equipment by other procurement action. The Contractor will be liable to the Owner for any excess costs the Owner incurs for acquiring such similar equipment.

Payment for completed equipment delivered to and accepted by the Owner shall be at the Contract price. The Owner may withhold from amounts otherwise due the Contractor for such completed equipment, such sum as the Owner determines to be necessary to protect the Owner against loss because of Contractor default.

Owner will not terminate the Contractor's right to proceed with the Work under this clause if the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such acceptable causes include: acts of God, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, and severe weather events that substantially exceed normal conditions for the location.

If, after termination of the Contractor's right to proceed, the Owner determines that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the Owner issued the termination for the convenience the Owner.

The rights and remedies of the Owner in this clause are in addition to any other rights and remedies provided by law or under this contract.

A26 TRADE RESTRICTION CERTIFICATION

TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

- 1) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);
- 2) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and
- 3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC Section 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to an Offeror or subcontractor:

- 1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR or
- 2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list or
- 3) who incorporates in the public works project any product of a foreign country on such USTR list.

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 provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

FAA REQUIRED PROVISIONS

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

A27 VETERAN'S PREFERENCE

VETERAN'S PREFERENCE

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 USC 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT

SEAL COAT AND LIGHTING IMPROVEMENTS

A.I.P. PROJECT No. 3-41-0019-013-2018

SPECIAL PROVISIONS

Any applicable section listed herein when neither specified nor listed in the Bid Proposal as a separate pay item, will be considered incidental work for which no separate payment will be made.

100 Special Provisions

100.1.00 Proposal Work Schedules

If the Proposal contains more than one schedule of work, the bidder shall refer to the Proposal and construction drawings for the applicable bid items for each schedule of work. The bidder shall include in the bid prices the entire cost of each item of work set forth in the Proposal. The bidder shall also prepare the Proposal so that the bid for each work schedule is complete and includes the entire cost to complete all the work within each work schedule.

The Owner reserves the right to award all of the work schedules, a single work schedule, or any combination of work schedules without penalty.

100.2.00 Private Property Access and Work in Easements

Not Used.

101 Definitions and Abbreviations

101.1.00 Definitions

BID CLOSING - The date and time announced in the Invitation to Bid as deadline for submitting Proposals.

BID OPENING - The date, time and place announced in the Invitation to Bid for the public opening of written sealed Proposals.

OWNER - The Christmas Valley Park and Recreation District.

DAYS - Calendar days unless otherwise specified by these specifications.

ENTITY - A natural person capable of being legally bound, sole proprietorship, limited liability company, corporation, partnership, limited liability partnership, profit and nonprofit unincorporated association, business trust, two or more persons having a joint or common economic interest, or any other person with legal capacity to contract, or a government or governmental subdivision.

FINAL COMPLETION - The completion of all of the work called for under the contract including but not limited to, if applicable, satisfactory operation of all equipment, by means of acceptance tests, correction of all punch list items to the satisfaction of the Owner, settlement of all claims, if any, payment and release of records of all construction and like liens, delivery of all guarantees, equipment operation and maintenance manuals, as-built drawings, building certificate required prior to occupancy, electrical certificates, mechanical certificates, plumbing certificates, all other required approvals and acceptances by Owner, county and state governments, or other authority having jurisdiction, and removal of all rubbish, tools, scaffolding, equipment, and surplus materials and equipment from the job site.

LUMP SUM - A method of payment providing for one all-inclusive cost for the work or for a particular portion of the work.

PUNCH LIST - A list prepared by the Owner of the Contractor's incomplete or uncorrected work.

RESPONSIBLE BIDDER - An entity that has submitted a Proposal and meets the standards set for in the Contract Documents and has not been disqualified by the Owner.

RESPONSIVE BID - A Proposal that substantially complies with the applicable solicitation procedures and requirements and the Contract Documents.

SIGNED OR SIGNATURE - Any mark, work or symbol executed or adopted by an Entity evidencing an intent to be bound.

SUBSTANTIAL COMPLETION - The completion of the work to the extent that the Owner may have uninterrupted occupancy and use of the facility or specified portion thereof for the purpose for which intended. Substantial completion shall not be construed as acceptance of the work or any part thereof by the Owner.

UNIT PRICE - A contract item of work providing for payment based on a specified unit of measurement; e.g. lineal feet or tons.

PAYMENT BOND - The form of security approved by the Owner, furnished by the Contractor and his/her surety, guaranteeing prompt payment of all persons who shall supply material, labor, or services on the project and pay all sums due the Industrial Accident Fund, the State Unemployment Compensation Fund and all sums required to be paid to the Department of Revenue.

PERFORMANCE BOND - The form of security approved by the Owner, furnished by the Contractor and his/her surety, guaranteeing the complete and faithful performance of all the obligations and conditions placed upon the Contractor by the Contract.

PROPOSAL - A competitive offer, binding on the Bidder and submitted in response to an Invitation to Bid.

102 Proposal Requirements

102.1.00 Explanation or Interpretation of Proposal Documents

If it should appear to a bidder that the work to be done or matters relative thereto are not sufficiently described or explained in the Contract Documents or that the Contract Documents are not definite and clear, the bidder may make written inquiry regarding same to the Owner at least five (5) days before the scheduled Bid Closing. Then, if in the judgment of the Owner, additional information or interpretation is necessary, such information will be supplied in the form of an addendum, which will be delivered or mailed to all individuals, firms and corporations who have taken out Contract Documents. Such addendum shall have the same binding effect as though contained in the main body of the Contract Documents. **ORAL INSTRUCTIONS OR INFORMATION CONCERNING THE CONTRACT DOCUMENTS OR THE PROJECT GIVEN OUT BY OFFICERS, EMPLOYEES OR AGENTS OF THE OWNER TO PROSPECTIVE BIDDERS SHALL NOT BIND THE OWNER.**

The contract and each of the Contract Documents are complementary and they shall be interpreted so that what is called for by one shall be binding as if called for by all. In the event of duplications or conflicts in the Contract Documents after the contract has been executed, the most expensive method of work, materials and equipment shall be construed as the requirement, with a credit for all cost savings accruing to the Owner in the event the least expensive method of work is directed. A duplication of work is not intended, and any duplication shall not become a basis for extra cost to the Owner.

Both parties represent that there now exists no other agreements between them, written or otherwise relating to the rights and obligations of either under this contract, that this contract is intended to and does supersede any and all prior understandings between the parties relating to the project whether written or oral, and that in the case of any conflict between the terms of this instrument and the proposal of the Contractor, this instrument shall control. No modification of this contract shall be effective unless and until reduced to writing and attached to this contract with specific reference thereto, signed by both parties.

102.2.00 Proposal Guaranty

Surety companies executing the bid bond must be currently authorized to transact business in the State of Oregon.

103 Award and Execution of Contract

103.1.00 Performance and Payment Bond

The performance and payment bonds to be furnished by the successful bidder shall be on the form provided by the Owner and shall be of a surety company authorized to transact business in the State of Oregon.

The successful bidder may upon approval of the Owner provide alternative surety but, in any case, must complete the forms provided by the Owner.

104 Scope of Work

104.1.00 Plans and Specifications

The plans, specifications and other Contract Documents will govern the work. The Contract Documents are intended to be complementary and cooperative and to describe and provide for a complete project. Anything in the specifications and not on the plans, or on the plans and not in the specifications, shall be as though shown or mentioned in both. Reference specifications and standard plans are a part of the Contract Documents.

While it is believed that much of the information pertaining to conditions which may affect the cost of the proposed work will be shown on the plans or indicated in the specifications, the Owner does not warrant the completeness, accuracy, interpretation or deductions of such information. It is the Contractor's responsibility to ascertain the existence of any conditions affecting the cost of the work that would have been disclosed by reasonable diligent examination of the site. Failure of the Contractor to make an examination necessary to determine general and local conditions and all other conditions which may affect the work under this contract shall not entitle the Contractor to additional compensation on account of extra work or to an extension of time for completion.

The Contractor shall, upon discovering any error, omission or inconsistency in the plans or specifications, immediately call it to the attention of the Owner. Contractor shall have no cause for a claim where Contractor had reason to believe defects in the plans or specifications existed and failed to present timely objection thereto.

If there is a conflict between Contract Documents, the document highest in precedence shall control. The precedence shall be:

1. Contract
2. Attachments to the Contract
3. Addenda
4. The Proposal
5. Instructions to Bidders

6. Invitation to Bid
7. FAA Special Provisions
8. Special Provisions
9. Supplementary Conditions
10. Contract Conditions and General Provisions
11. Technical Specifications
12. Construction Plans

Change orders, supplemental agreements, and approved revisions to the plans and specifications will take precedence over the documents listed above.

105 Control of Work

105.1.00 Authority of the Engineer

It is not incumbent upon the Engineer or the Owner to notify the Contractor when to begin, cease or resume work, nor to give early notice of rejection of faulty work, nor in any way to superintend so as to relieve the Contractor of any responsibility or of any consequences for neglect or carelessness by the Contractor or his/her subordinates.

105.2.00 Authority of Inspectors

The Engineer may appoint assistants to inspect all materials used and all work done. Such inspection may extend to any or all parts of the work and to the preparation or manufacture of the materials to be used. The inspectors will not be authorized to revoke, alter, enlarge or relax the provisions of these specifications. An inspector is placed on the work to keep the Engineer informed as to the progress of the work and the manner in which it is being done; also to call the attention of the Contractor to any infringements upon the plans or specifications, but failure of the inspector or the Engineer to call the attention of the Contractor to faulty work or infringements upon the plans or specifications shall not constitute acceptance of said work. Furthermore, visits, observations and inspections by the Engineer or inspector shall not relieve the Contractor of his/her obligation to conduct comprehensive inspections of the work and to furnish materials and perform acceptable work and to provide acceptable safety precautions, in conformance with the intent of the contract.

An inspector will not be authorized to approve or accept any portion of the work or to issue instructions contrary to the plans and specifications. The inspector will have authority to reject defective material and to suspend any work that is being improperly done, subject to the final decision of the Engineer. The inspector will exercise such additional authority as may, from time to time, be specifically delegated to him/her by the Engineer.

105.3.00 Responsibilities of the Contractor

The Contractor shall do all the work and furnish all labor, materials, supervision, inspections, equipment, tools and machines necessary for the performance and completion of the project in accordance with the Contract Documents within the specified time.

The Contractor shall do all cutting, fitting and patching of his work that may be required to make its general parts come together properly and fit it to receive or be received by work of other contractors shown upon or reasonably implied by the Contract Documents. Requirements for additional cutting, fitting and patching, resulting from Contractor's defective or ill-timed work shall not be a basis for additional cost to the Owner.

If any part of the contract work depends, for proper execution or maximum durability, upon the work of any other firm, the Contractor or his/her subcontractor(s) shall inspect said work before commencing his/her own work and shall make known for approval by the Owner any departures from drawings and specifications. Similarly, the Contractor shall provide comprehensive and continuous supervision of personnel and inspections of the work and materials. The Contractor shall not assert that the Contractor was in any manner relieved of such obligations due to the presence of or involvement of other parties, such as the Owner's Representative, the Engineer or an inspector. Failure of the Contractor to observe these requirements shall bar him/her from claiming thereafter that defects in his/her own work are due to defects in the work of others, unless he submits clear and convincing evidence that a thorough inspection of said other work was made before his/her own work went forward and that tests which were reasonable and customary failed to disclose the defects which later appeared.

The Contractor shall employ only competent, skillful persons to do the work. The Contractor shall keep on the work, during its progress, competent supervisory personnel. The Contractor shall give efficient supervision to the work using the highest level of skill and attention.

The Contractor shall be responsible for all expense involved in making any required changes in the plans or specifications to accommodate a substitution approved by the Engineer for the convenience of the Contractor or to circumvent an unforeseen difficulty in obtaining a specified article.

The Contractor shall assume all responsibility for the work. As between him and the Owner, the Contractor shall bear all losses and damages directly or indirectly resulting to him/her, to the Owner or to others on account of the character or performance of the work, unforeseen difficulties, accidents or any other cause whatsoever. The Contractor shall assume the defense of, indemnify and save harmless the Owner, its officers, employees representatives, the Engineer and inspector from all claims, liability, loss, damage and injury of every kind, nature and description, directly or indirectly resulting from the Contractor's activities in the performance of the contract, the ownership, maintenance or use of motor vehicles in connection therewith, or the acts, omissions, operations, or conduct of the Contractor or any subcontractor under the contract, or in any

way arising out of the contract, irrespective of whether fault is the basis of the liability or claim, and irrespective of whether any act, omission or conduct of the Owner connected with the contract is a condition or contributory cause of the claimed liability, loss, damage or injury and irrespective of whether act, omission or conduct of the Contractor or subcontractor is merely a condition rather than a cause of the claim, liability, loss, damage or injury.

If at any time during the performance of this contract, or at any time in the future, the Contractor becomes aware of actual or potential problems, faults or defects in the site conditions, the contract work, any non-conformance with the project construction contract, federal, state or local law, rule or regulation, or has any objection to any decision made by or on behalf of the Owner or the Engineer with respect to such condition, contract, rules or regulations, the Contractor shall give prompt written notice thereof to the Owner. Any delay or failure on the part of the Owner to provide a response to the Contractor shall neither constitute agreement with nor acquiescence to the Contractor's statement of claim nor constitute a waiver of any of the Owner's rights.

105.4.00 Utilities and Existing Improvements

105.4.01 General

The Contractor shall make excavations and borings ahead of the work as necessary, to determine the exact location of interfering utilities or underground structures.

105.4.02 Contractor's Responsibilities

Ordinarily, utility companies responsible for facilities located within the right-of-way will be required to complete any installation, relocation, repair, or replacement prior to the commencement of work by the Contractor. However, when this is not feasible or practicable or the need for such work was not foreseen, such utility company or the Owner shall have the right to enter upon the right-of-way and upon any structure therein for the purpose of making new installations, changes, or repairs. The Contractor shall conduct its operations so as to provide the time needed for such work to be accomplished during the progress of the work.

105.5.00 Protection of Permanent Survey Markers

The Contractor shall be responsible for the requirements of this section. See additional information on the Drawings.

106 Control of Materials

106.5.00 Inspection Requirements

If any work should be covered up without the approval or consent of the Engineer, it shall, if required by the Engineer, be uncovered for examination at the Contractor's expense. The Owner may order re-examination of the work, and if so ordered, the Contractor shall uncover the work. If such work is found to be in conformance with the Contract Documents, the Owner will pay the cost of re-examination and replacement. If such work is found to be not in accordance with the Contract Documents, the Contractor and his/her sureties shall correct the defective work at the Contractor's and surety's expense.

108 Prosecution and Progress of Work

108.1.00 Contractor's Construction Schedule

The Contractor shall submit ten (10) copies of a detailed critical path work schedule to the Owner's Representative at least five (5) days prior to the Preconstruction Conference. The construction schedule shall take into account the orderly, timely, and efficient prosecution of the work. The construction schedule shall indicate the Contractor's plan of the prosecution of the work in sufficient detail to enable both the Contractor and the Owner to plan, coordinate, appraise, document, and control their respective contract responsibilities.

108.2.00 Preconstruction Conference

The Owner's Representative will schedule a Preconstruction Conference after the Owner Council's awarding of an acceptable bid and before construction begins.

108.3.00 Commencement of Work

The Contractor shall notify the Owner of the time and location that work will begin at least two (2) working days prior to beginning work.

108.1100 Completion and Acceptance

108.11.01 Certificate of Compliance

Prior to final acceptance of the work, the Owner will require a certificate in the form substantially as follows:

Certificate of Compliance

Project Title & Project No.

I, _____, _____ do hereby certify:
(name of signatory party) (title)

1. That all work has been performed and materials supplied in accordance with the Contract Documents for the project work, and that;
2. Not less than prevailing wages have been paid to laborers, workers, and mechanics employed on this work;
3. There have been no unauthorized substitutions of subcontractors; nor have any subcontracts been entered into without the names of the subcontractors having been submitted to the Owner prior to the start of such subcontract work;
4. That no subcontract was assigned or transferred or performed by any subcontractor other than the original subcontractor, without prior notice having been submitted to the Owner together with the names of all subcontractors;
5. That all claims for material and labor and other service performed in connection with these specifications have been paid;
6. That all monies due to the Industrial Accident Fund, the State Unemployment Compensation Fund, the Department of Revenue, Oregon Bureau of Labor and Industries, hospitals, and other health care providers, have been paid;
7. That the signing party has read such statement knows and understands the contents hereof and verifies the truthfulness of each statement and the whole thereof.

Contractor (authorized signature)

Date

(print name)

109 Measurement and Payment

109.1.00 Progress Payments and Retainage

109.1.01 Owner's Right to Withhold Payment

In addition to retainage amounts due the Contractor, the Owner shall have the right to withhold from payments due the Contractor such sums as necessary, in the Owner's sole opinion, to protect the Owner against any loss or damage which may result from:

1. negligence or unsatisfactory work by the Contractor;
2. failure by the Contractor to perform his/her obligations, including but not limited to failure to maintain satisfactory progress of the work;
3. third party claims filed or reasonable evidence indicating probable filing of claims;
4. damage to the Owner or another not adjusted;
5. failure of the Contractor to make proper payment to material suppliers or subcontractors;
6. reasonable evidence that the work will not be completed within the contract time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
7. persistent failure to carry out the work in accordance with the Contract Documents; or
8. subsequently discovered evidence or subsequent observations which nullify in whole or in part the Contractor's previous payment.

**AMENDMENTS TO OREGON DETERMINATION 2018-01
EFFECTIVE APRIL 1, 2018**

TRADE

**BASIC
HOURLY
RATE**

**HOURLY
FRINGE**

TRADE

**BASIC
HOURLY
RATE**

**HOURLY
FRINGE**

CEMENT MASON

(This trade is tended by "Concrete Laborer")

Zone A (Base Rate)

Group 1	31.50	19.62
Group 2	32.19	19.62
Group 3	32.19	19.62
Group 4	32.87	19.62

Zone Differential for Cement Mason
(Add to Basic Hourly Rate)

Zone A	3.00 per hour
Zone B	5.00 per hour
Zone C	10.00 per hour

Zone A: Projects located 60-79 miles of the respective city hall of the Reference Cities listed below.

Zone B: Projects located 80-99 miles of the respective city hall of the Reference Cities listed below.

Zone C: Projects located 100 or more miles of the respective city hall of the Reference Cities listed below.

Reference Cities for Zones A-C (Cement Mason)

Bend	Eugene	Portland	The Dalles
Corvallis	Medford	Salem	Vancouver

When a contractor takes current employees to a project that is located more than 59 miles from the city hall of the Reference City that is closest to the contractor's place of business, Zone Pay is to be paid for the distance between the city hall of the identified Reference City and the project site.

"Contractor's place of business" shall include not only contractor's principal place of business but also contractor's area office(s) that support contractor's operations in a geographical region. Such area office(s) shall not include project offices(s) established for the duration of a particular project.

Note: All miles are to be determined on the basis of road miles using the normal route (shortest time – best road), from the city hall of the Reference City closest to the project site.

ELECTRICIAN

Area 5

Electrician	42.60	24.05
Electrical Welder	46.86	24.18
Material Handler/ Lighting Maintenance	26.71	16.04

Reference Counties Area 5

Clackamas	Hood River	Tillamook	Yamhill (d)
Clatsop	Multnomah	Wasco	
Columbia	Sherman	Washington	

(d) North Half

Shift Differential

1 st Shift "day"	Between the hours of 8:00am and 4:30pm	8 hours pay for 8 hours work
2 nd Shift "swing"	Between the hours of 4:30pm and 1:00am	8 hours pay for 8 hours work plus 17.3% for all hours worked
3 rd Shift "Graveyard"	Between the hours of 12:30am and 9:00am	8 hours pay for 8 hours work plus 31.4% for all hours worked.

Zone Pay for Area 5 Electrician and Electrical Welder

(Add to Basic Hourly Rate)

Zone mileage based on air miles:

Zone 1	31-50 miles	1.50 per hour
Zone 2	51-70 miles	3.50 per hour
Zone 3	71-90 miles	5.50 per hour
Zone 4	Beyond 90	9.00 per hour

There shall be a 30-mile free zone from downtown Portland City Hall and a similar 15-mile free zone around the following cities:

Astoria	Seaside	Tillamook
Hood River	The Dalles	

Further, the free zone at the Oregon coast shall extend along Hwy 101 west to the ocean Hwy 101 east 10 miles if not already covered by the above 15-mile free zone.

PREVAILING WAGE RATES

for

Public Works Contracts in Oregon



OREGON BUREAU OF LABOR AND INDUSTRIES

**Brad Avakian
Commissioner
Bureau of Labor and Industries**

Effective: January 1, 2018



BRAD AVAKIAN
COMMISSIONER

CHRISTIE HAMMOND
DEPUTY COMMISSIONER

BUREAU OF LABOR AND INDUSTRIES

January 1, 2018

In January and July of each year, the Bureau of Labor and Industries publishes the prevailing wage rates that are required to be paid to workers on non-residential public works projects in the state of Oregon. Quarterly updates are published in April and October.

A separate publication, entitled "[Definitions of Covered Occupations for Public Works Contracts in Oregon](#)," provides occupational definitions used to classify the duties performed on public works projects.

These publications are available electronically on the bureau's website at www.oregon.gov/boli. In order to contain costs and preserve limited budget resources, BOLI is no longer automatically mailing copies of these publications to contracting agencies, contractors, and other interested parties. Those on the agency's mailing list will receive an email notification whenever the publications are amended in the future. One complimentary hard copy of each PWR publication is available upon request by emailing BOLI at pwremail@boli.state.or.us or calling 971-673-0838. Additional copies are available at cost, plus postage.

Also available on the bureau's website is a link to the federal Davis-Bacon rates. This link is posted in order to assist contractors and public agencies in determining which rates to pay on projects in Oregon subject to BOTH the state PWR and federal Davis-Bacon Act. The higher of the wage rates must be paid on such projects.

Unless specifically exempted by state law, prevailing wage rates are the minimum wages that must be paid to all workers employed on all public works. These rates are determined using data collected from a statewide construction industry wage survey of occupations and crafts performing commercial building and heavy and highway construction in 14 geographic regions of the state.

ORS 279C.830 requires that the applicable wage rates be incorporated into all bid specifications for public works contracts subject to the PWR law. A statement incorporating the applicable prevailing wage rate publication and any amendments thereto or Davis-Bacon wage rate determination into the specifications *by reference* will satisfy these requirements. Such reference must include the title of the applicable wage rates publication or determination and the date of the publication or determination as well as the date of any applicable amendments. A provision that prevailing wage rates must be paid must also appear in the contract.

Generally, the rates in effect at the time the bid specifications are first advertised are those that apply for the duration of the project. There are some exceptions to this rule. For example, if during the bidding process, the prevailing wage rates change, the public agency has the option of amending the bid specifications to reflect such changes. If a Construction Manager/General Contractor (CM/GC) is used on the project, the rates in effect at the time the CM/GC contract becomes a public works contract are the applicable rates to be used for the duration of the project. (See OAR 839-025-0020 for more information.) Note that the applicable rates for purposes of compliance with the federal Davis-Bacon Act may be different than the applicable rates for purposes of compliance with Oregon's prevailing wage rate laws. The effective federal rates will be those as determined under 29 CFR 1.6.

If you have any questions regarding application of the state PWR law or the applicable rates to be paid on any project, contact the bureau's Prevailing Wage Coordinator in Portland at (971) 673-0839.

Brad Avakian
Commissioner
Bureau of Labor and Industries

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BOLI forms necessary to comply with ORS 279C.800 through ORS 279C.870 may be found in the back of this booklet. Contractors are encouraged to use and keep on file the forms provided as master copies for use on future prevailing wage rate projects.

All of the information in this booklet can be accessed and printed from the Internet at: www.oregon.gov/BOLI

Pursuant to ORS 279C.800 to ORS 279C.870, the prevailing wage rates contained in this booklet have been adopted for use on public works contracts in Oregon. Additional copies of this booklet are available at cost, plus postage.

HOW TO LOOK UP A RATE

1. When was the project first advertised for bid?

For purposes of compliance with Oregon’s prevailing wage rate laws, the rates in effect at the time the bid specifications are first advertised are those that apply for the duration of the project. (See OAR 839-025-0020(6) for information about projects using a CM/GC.)

2. What type of work is being performed by the employee?

Using the booklet, [Definitions of Covered Occupations](#) find the definition that most closely matches the actual work being performed by the worker. If you have any questions about work classifications, contact BOLI at the number below.

3. Where is the work being performed – what region?

Find the occupation in the correct region pages associated with the county where the project construction is taking place.

4. Is there a rate listed next to the classification?

If so, use it. The prevailing wage rate is made up of an hourly base rate and an hourly fringe rate; it is the combination of these two amounts that must be paid to the worker.

5. If the book directs you to “See Appendix,” go to the back of the book and use the rate listed in the Appendix pages. It may include a group number, shift differential, hazard pay and/or zone pay which are added to the hourly base rate.

6. Apprentices must be paid the full fringe rate in those regions where the appendix rate does not apply. However, if the book directs you to "See Appendix," and the worker is registered in a bona fide apprenticeship program, **you may contact BOLI at (971) 673-0839** for the applicable hourly fringe rate.

7. If you still don’t know CALL BOLI at (971) 673-0839.

For specific information or questions regarding the prevailing wage law, you may obtain a “Prevailing Wage Rate Laws” handbook by contacting the nearest Oregon Bureau of Labor and Industries office listed below. An order form is in the back of this booklet.

BOLI Office Locations		
Eugene	1400 Executive Parkway, Suite 200 Eugene, OR 97401	(541) 686-7623
Portland	800 NE Oregon St., #1045 Portland, OR 97232	(971) 673-0761
Salem	3865 Wolverine St. NE, Bldg. E-1 Salem, OR 97305	(503) 378-3292

PUBLIC WORKS BONDS

EVERY CONTRACTOR AND SUBCONTRACTOR who works on public works projects subject to the prevailing wage rate (PWR) law is required to file a **\$30,000** "**PUBLIC WORKS BOND**" with the Construction Contractor's Board (CCB). (ORS 279C.836) This includes flagging and landscaping companies, temporary employment agencies, and sometimes sole proprietors.

- This bond is to be **USED EXCLUSIVELY FOR UNPAID WAGES** determined to be due by the Bureau of Labor and Industries (BOLI).
- The bond **MUST** be filed **BEFORE STARTING WORK** on a prevailing wage rate project.
- The bond is in effect **CONTINUOUSLY** (do not have to have one per project).
- **BEFORE PERMITTING A SUBCONTRACTOR TO START WORK** on a public works project, **CONTRACTORS MUST VERIFY** their subcontractors have either filed the bond, or have elected not to file a public works bond due to a bona fide exemption.
- A public works bond is in addition to any other required bond the contractor or subcontractor is required to obtain.

Exemptions:

- Allowed for a disadvantaged business enterprise, a minority-owned business, woman-owned business, a business that a service-disabled veteran owns or an emerging small business certified under ORS 200.055, for the first FOUR years of certification;
 - Exempt contractor must still file written verification of certification with the CCB, and give the CCB written notice that they elect not to file a bond.
 - The prime contractor must give written notice to the public agency that they elect not to file a public works bond.
 - Subcontractors must give written notice to the prime contractor that they elect not to file a public works bond.
- For projects with a total project cost of \$100,000 or less, a public works bond is not required. (Note this is the total project cost, not an individual contract amount.)
- Emergency projects, as defined in ORS 279A.010(f).

ORS 279C.830(2) requires:

That the **specifications** for every contract for public works shall contain a provision stating that the contractor and every subcontractor must have a public works bond filed with the CCB before starting work on the project, unless otherwise exempt.

Every contract awarded by a contracting agency shall contain a provision requiring the contractor:

- To have a public works bond filed with the CCB before starting work on the project, unless otherwise exempt;
- To include in every subcontract a provision requiring the subcontractor to have a public works bond filed with the CCB before starting work on the project unless otherwise exempt.

Every subcontract that a contractor or subcontractor awards in connection with a public works contract must require any subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on the public works project, unless otherwise exempt.

PWR SURVEY WAGE RATE APPEAL PROCESS

- 1) Anyone wishing to challenge or appeal a survey rate determination should submit their request in writing to the commissioner.
- 2) The appeal should include:
 - a) a complete description of the “problem,” including the affected trade(s), and documentation or evidence (if available) supporting why the rate determination is incorrect
 - b) recommendations for how the rate could be more accurately determined.
- 3) The written appeal will be reviewed by the Wage and Hour Division which will recommend to the commissioner a course of action and proposed time frame for addressing the issue (such as a recommendation that further information be obtained, an investigation or study of the matter be conducted, a rate amendment or correction be issued, the next survey be modified, etc.).
- 4) The commissioner will review the division’s recommendation and either approve, disapprove or modify the recommendation. (The PWR Advisory Committee may be consulted in some matters as deemed appropriate by the commissioner.)
- 5) The requesting party will be notified of the commissioner’s decision.

PWR REQUIRED POSTINGS

ALL CONTRACTORS AND SUBCONTRACTORS

PREVAILING WAGE RATES

Each and every contractor and subcontractor engaged in work on a public works must post the applicable prevailing wage rates for that project in a conspicuous place at the work site so workers have ready access to the information. ORS 279C.840(4); OAR 839-025-0033(1).

DETAILS OF FRINGE BENEFIT PROGRAMS

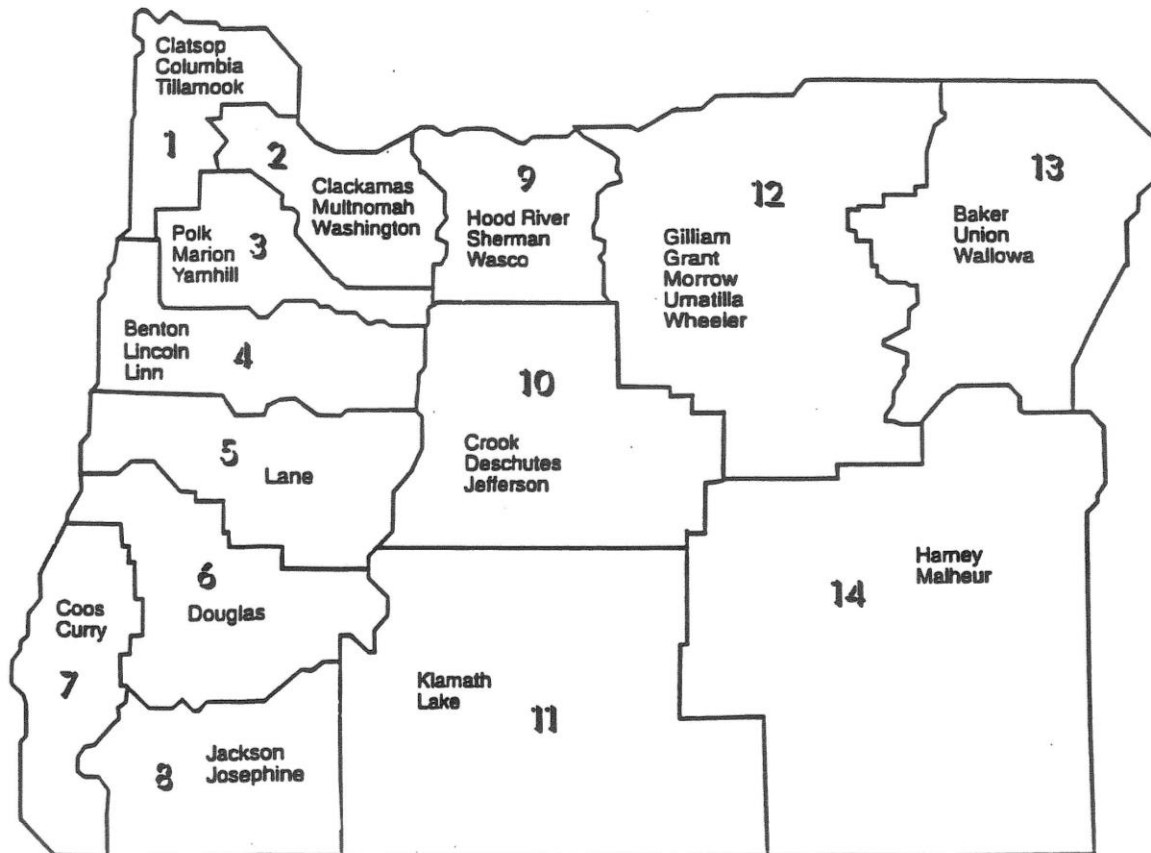
When a contractor or subcontractor provides for or contributes to a health and welfare plan or a pension plan, or both, for the contractor or subcontractor's employees who are working on a public works project, the details of all fringe benefit plans or programs must be posted on the work site. The posting must include a description of the plan or plans, information about how and where claims can be made and where to obtain more information. The notice must be posted in a conspicuous place at the work site in the same location as the prevailing wage rates (see above). ORS 279C.840(5); OAR 839-025-0033(2)

WORK SCHEDULE

Contractors and subcontractors must give workers the regular work schedule (days of the week and number of hours per day) in writing, before beginning work on the project. Contractors and subcontractors may provide the schedule at the time of hire, prior to starting work on the contract, or by posting the schedule in a location frequented by employees, along with the prevailing wage rate information and any fringe benefit information. If an employer fails to give written notice of the worker's schedule, the work schedule will be presumed to be a five-day schedule. The schedule may only be changed if the change is intended to be permanent and is not designed to evade the PWR overtime requirements. ORS 279C.540(2); OAR 839-025-0034.

PREVAILING WAGE RATES OCCUPATIONS BY REGIONS

PREVAILING WAGE RATE REGIONS



REGION #5
Lane County

Using the booklet, [Definitions of Covered Occupations](#), find the definition that most closely matches the actual work being performed by the worker.

OCCUPATION	BASIC HOURLY RATE	FRINGE RATE
Asbestos Worker/Insulator	See Appendix	See Appendix
Boilermaker	See Appendix	See Appendix
Bricklayer/Stonemason	See Appendix	See Appendix
Bridge and Highway Carpenter (See Carpenter Group 5)	See Appendix	See Appendix
Carpenter Group 1 & 2	See Appendix	See Appendix
Cement Mason	See Appendix	See Appendix
Diver	See Appendix	See Appendix
Diver Tender	See Appendix	See Appendix
Dredger	See Appendix	See Appendix
Drywall, Lather, Acoustical Carpenter & Ceiling Installer	See Appendix	See Appendix
Drywall Taper (See Painter & Drywall Taper)	See Appendix	See Appendix
Electrician	See Appendix	See Appendix
Elevator Constructor, Installer and Mechanic	See Appendix	See Appendix
Fence Constructor (Non-metal)	\$24.53	\$10.02
Fence Erector (Metal)	\$20.50	\$5.09
Flagger (See Laborer Group 3)	See Appendix	See Appendix
Glazier	See Appendix	See Appendix
Hazardous Materials Handler/Mechanic	See Appendix	See Appendix
Highway and Parking Striper	\$26.11	\$8.20
Ironworker	See Appendix	See Appendix
Laborer Group 1	See Appendix	See Appendix
Laborer Group 2	See Appendix	See Appendix
Laborer Group 3	See Appendix	See Appendix
Landscape Laborer/Technician	\$18.14	\$4.68
Limited Energy Electrician	\$30.03	\$10.49
Line Constructor	\$44.80	\$14.96
Marble Setter	\$33.54	\$18.50
Millwright Group 1 & 2	\$29.32	\$10.68
Painter	\$22.00	\$8.46
Piledriver (See Carpenter Group 6)	See Appendix	See Appendix
Plasterer and Stucco Mason	See Appendix	See Appendix
Plumber/Pipefitter/Steamfitter	See Appendix	See Appendix
Power Equipment Operator Group 1	See Appendix	See Appendix
Power Equipment Operator Group 1A	See Appendix	See Appendix
Power Equipment Operator Group 1B	See Appendix	See Appendix
Power Equipment Operator Group 2	See Appendix	See Appendix
Power Equipment Operator Group 3	See Appendix	See Appendix
Power Equipment Operator Group 4	See Appendix	See Appendix
Power Equipment Operator Group 5	See Appendix	See Appendix
Power Equipment Operator Group 6	See Appendix	See Appendix

Using the booklet, [Definitions of Covered Occupations](#), find the definition that most closely matches the actual work being performed by the worker.

OCCUPATION	BASIC HOURLY RATE	FRINGE RATE
Roofer	\$24.87	\$11.11
Sheet Metal Worker	\$32.82	\$13.17
Soft Floor Layer	\$25.02	\$11.16
Sprinkler Fitter	\$33.70	\$12.93
Tender to Mason Trades (Brick and Stonemason, Mortar Mixer, Hod Carrier)	See Appendix	See Appendix
Tender to Plasterer and Stucco Mason	\$26.12	\$12.29
Testing, Adjusting, and Balancing (TAB) Technician	\$34.14	\$13.04
Tilesetter/Terrazzo Worker: Hard Tilesetter	See Appendix	See Appendix
Tile, Terrazzo, and Marble Finisher	See Appendix	See Appendix
Truck Driver – All Groups	\$21.77	\$6.53

APPENDIX

JANUARY 1, 2018

Collectively Bargained Rates

(To be used only when referred to in the Regions pages 6-33)

JANUARY 1, 2018 APPENDIX

*The Appendix rates are Collectively Bargained Rates to be used **ONLY** for Regions/Trades specified in pages 6 through 33. Refer to pages 6 through 33 **BEFORE** using rates in this section. Rates in this section may include premium pay such as shift differential, hazard pay and/or a zone pay differential which is added to the hourly base rate.*

Using the booklet, [Definitions of Covered Occupations](#), find the definition and group number, if applicable, that most closely matches the actual work being performed by the worker.

Asbestos Worker/Insulator	38
Boilermaker.....	38
Bricklayer/Stonemason.....	38
Bridge and Highway Carpenter (See Carpenter Group 5)	38
Carpenter	38
Cement Mason	39
Diver	39
Diver Tender	39
Dredger.....	40
Drywall, Lather, Acoustical Carpenter & Ceiling Installer	40
Drywall Taper (See Painter & Drywall Taper)	45
Electrician	41
Elevator Constructor, Installer and Mechanic.....	43
Glazier	43
Hazardous Materials Handler	43
Highway/Parking Striper	43
Ironworker	43
Laborer	44
Limited Energy Electrician.....	44
Line Constructor.....	45
Marble Setter.....	45
Millwright Group 1 & 2 (See Carpenter Group 3 & 4)	38
Painter	45
Piledriver (See Carpenter Group 6).....	38
Plasterer and Stucco Mason.....	46
Plumber/Pipefitter/Steamfitter	46
Power Equipment Operator	47
Roofer.....	48
Sheet Metal Worker	48
Soft Floor Layer	49
Sprinkler Fitter	49
Tender to Mason Trades (Brick and Stonemason, Mortar Mixer, Hod Carrier).....	49
Tender to Plasterer and Stucco Mason	49
Testing and Balancing (TAB) Technician	50
Tilesetter/Terrazzo Worker: Hard Tilesetter.....	50
Tile, Terrazzo, and Marble Finisher	50
Truck Driver.....	50
MAP: Power Equipment Operator, Zone 1.....	51

TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE	TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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ASBESTOS WORKER/INSULATOR

47.17 21.37

Firestop Containment **30.02 15.20**

BOILERMAKER **38.69 28.75**

BRICKLAYER/STONEMASON

36.03 19.59

(This trade is tended by "Tenders to Mason Trades")

(Add \$1.00 per hour to Fringe for Refractory repair work)

CARPENTER

Zone A (Base Rate)

Group 1	36.63	16.25
Group 2	36.78	16.25
Group 3	37.16	16.25
Group 4	37.34	16.25
Group 5	37.16	16.25
Group 6	37.70	16.25

Zone Differential for Carpenters
(Add to Zone A Base Rate)

Zone B	1.25 per hour
Zone C	1.70 per hour
Zone D	2.00 per hour
Zone E	3.00 per hour
Zone F	5.00 per hour
Zone G	10.00 per hour

Zone A: Projects located within 30 miles of the respective city hall of the cities listed.

Zone B: More than 30 miles but less than 40 miles.

Zone C: More than 40 miles but less than 50 miles.

Zone D: More than 50 miles but less than 60 miles.

Zone E: More than 60 miles but less than 70 miles.

Zone F: More than 70 miles but less than 100 miles.

Zone G: More than 100 miles.

CARPENTER (continued)

Reference Cities for Group 1 and 2 Carpenters

Albany	Goldendale	Madras	Roseburg
Astoria	Grants Pass	Medford	Salem
Baker City	Hermiston	Newport	The Dalles
Bend	Hood River	Ontario	Tillamook
Brookings	Klamath Falls	Pendleton	Vancouver
Burns	La Grande	Portland	
Coos Bay	Lakeview	Port Orford	
Eugene	Longview	Reedsport	

Group 3
(Millwright Group-I)

Group 4
(Millwright Group-II)

Zones for Groups 3 and 4 Carpenter are determined by the distance between the project site and **either**

- 1) The worker's residence; **or**
- 2) City Hall of a reference city listed for the appropriate group shown, whichever is closer

Reference Cities for Group 3 and 4 Carpenters

Eugene	Medford	Portland	Vancouver
Longview	North Bend	The Dalles	

Group 5
(Bridge & Highway
Carpenter)

Group 6
(Piledriver)

Zones for Groups 5 and 6 Carpenter are determined by the distance between the project site and **either**

- 1) The worker's residence; **or**
- 2) City Hall of a reference city listed for the appropriate group shown, whichever is closer

Reference Cities for Group 5 and 6 Carpenters

Bend	Longview	North Bend
Eugene	Medford	Portland

Note: All job or project locations shall be computed (determined) on the basis of road miles and in the following manner. A mileage measurement will start at the entrance to the respective city hall, facing the project (if possible), and shall proceed by the normal route (shortest time, best road) to the geographical center on the highway, railroad, and street construction projects (end of measurement). On all project contracts, the geographical center where the major portion of the construction is located, shall be considered the center of the project (end measurement).

TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE	TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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CARPENTER (continued)

Welders receive \$1.75/hour above their group's rate with an eight (8) hour minimum.

When working with creosote and other toxic, treated wood and steel material, workers shall receive \$.25/hour premium pay for minimum of eight (8) hours.

When working in sheet pile coffer dams or cells up to the external water level, Group 6 workers shall receive \$.15/hour premium pay for minimum of eight (8) hours.

CEMENT MASON

(This trade is tended by "Concrete Laborer")

Zone A (Base Rate)

Group 1	31.50	19.62
Group 2	32.19	19.62
Group 3	32.19	19.62
Group 4	32.87	19.62

Zone Differential for Cement Mason
(Add to Basic Hourly Rate)

Zone A	3.00 per hour
Zone B	5.00 per hour
Zone C	10.00 per hour

Zone A: Projects located 60-79 miles of the respective city hall of the Reference Cities listed below.

Zone B: Projects located 80-99 miles of the respective city hall of the Reference Cities listed below.

Zone C: Projects located 100 or more miles of the respective city hall of the Reference Cities listed below.

Reference Cities for Zones A-C (Cement Mason)

Bend	Eugene	Portland	The Dalles
Corvallis	Medford	Salem	Vancouver

When a contractor takes current employees to a project that is located more than 59 miles from the city hall of the Reference City that is closest to the contractor's place of business, Zone Pay is to be paid for the distance between the city hall of the identified Reference City and the project site.

"Contractor's place of business" shall include not only contractor's principal place of business but also contractor's area office(s) that support contractor's operations in a geographical region. Such area office(s) shall not include project offices(s) established for the duration of a particular project.

CEMENT MASON (continued)

Note: All miles are to be determined on the basis of road miles using the normal route (shortest time – best road), from the city hall of the Reference City closest to the contractor's place of business and the project, or, city hall of the Reference City closest to the current employee's residence and the project.

DIVER & DIVER TENDER

Zone 1 (Base Rate)

DIVER	86.89	16.25
DIVER TENDER	42.89	16.25

- 1) For those workers who reside within a reference city below, their zone pay shall be computed from the city hall of the city wherein they reside.
- 2) For those workers who reside nearer to a project than is the city hall of any reference city below, the mileage from their residence may be used in computing their zone pay differential.
- 3) The zone pay for all other projects shall be computed from the city hall of Portland.

Zone Differential for Diver/Diver Tender
(Add to Zone 1 Base Rate)

Zone 2	.85 per hour
Zone 3	1.25 per hour
Zone 4	1.70 per hour
Zone 5	2.00 per hour
Zone 6	3.00 per hour
Zone 7	5.00 per hour

Zone 1: Projects located within 30 miles of city hall of the reference cities listed.

Zone 2: More than 30 miles, but less than 40 miles.

Zone 3: More than 40 miles, but less than 50 miles.

Zone 4: More than 50 miles, but less than 60 miles.

Zone 5: More than 60 miles, but less than 70 miles.

Zone 6: More than 70 miles, but less than 100 miles.

Zone 7: More than 100 miles from the city hall of employee's home local.

Reference Cities for Diver/Diver Tender

Astoria	Klamath Falls	Newport	Roseburg
Bend	Longview	North Bend	Salem
Eugene	Medford	Portland	The Dalles

TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE	TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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DIVER & DIVER TENDER (continued)

Note: All job or project locations shall be computed (determined) on the basis of road miles and in the following manner. A mileage measurement will start at the entrance to the respective city hall, facing the project (if possible), and shall proceed by the normal route (shortest time, best road) to the geographical center on the highway, railroad, and street construction projects (end of measurement). On all project contracts, the geographical center where the major portion of the construction is located, shall be considered the center of the project (end measurement).

Depth Pay and Enclosure Pay are added to the Divers' Basic Hourly Rate to obtain the Total Hourly Rate for the Diver.

Basic Hourly Rate	+	Hourly Depth Pay	+	Hourly Enclosure Pay	=	Diver Total Hourly Pay Rate
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Diver Depth Pay:

Depth of Dive Hourly Depth Pay

50-100 ft.	\$1.00 per foot over 50 feet
101-150 ft.	\$1.50 per foot over 100 feet
151-200 ft.	\$2.00 per foot over 150 feet

Depth shall be figured from the surface to the actual depth where the diving work is being performed.

Diver Enclosure Pay (working without vertical escape):

Distance Traveled

In the Enclosure Hourly Enclosure Pay

5-50ft.	\$0.50/hr. up to \$4.00 maximum per day
50-100ft.	\$1.13/hr. up to \$9.00 maximum per day
100-150ft.	\$2.13/hr. up to \$17.00 maximum per day
150-200ft.	\$4.63/hr. up to \$37.00 maximum per day
200-300ft.	\$4.63/hr. up to \$37.00 maximum per day, plus \$0.40 per foot traveled in enclosure.
300-450ft.	\$4.63/hr. up to \$37.00 maximum per day, plus \$0.80 per foot traveled in enclosure.
450-600ft.	\$4.63/hr. up to \$37.00 maximum per day, plus \$1.60 per foot traveled in enclosure.

DREDGER

Zone A (Base Rate)

Leverman (Hydraulic & Clamshell)	45.96	14.35
Assistant Engineer (Watch Engineer, Mechanic Machinist)	42.80	14.35
Tenderman (Boatman Attending Dredge Plant) Fireman	41.31	14.35
Fill Equipment Operator	40.14	14.35
Assistant Mate	37.44	14.35

Zone Differential for Dredgers
(Add to Zone A Base Rate)

Zone B	3.00 per hour
Zone C	6.00 per hour

Zone mileage based on road miles:

- Zone A: Center of jobsite to no more than 30 miles from the city hall of Portland.
- Zone B: More than 30 miles but not more than 60 miles.
- Zone C: Over 60 miles.

DRYWALL, LATHER, ACOUSTICAL CARPENTER & CEILING INSTALLER

Zone 1 (Base Rate)

1. DRYWALL INSTALLER	36.92	15.96
2. LATHER, ACOUSTICAL CARPENTER & CEILING INSTALLER	36.92	15.96

Zone Differential for Drywall, Lather, Acoustical Carpenter & Ceiling Installer

(Add to Zone 1 Base Rate)

Zone mileage based on road miles:

Zone 2	31-40 miles	.85 per hour
Zone 3	41-50 miles	1.25 per hour
Zone 4	51-60 miles	1.70 per hour
Zone 5	61-70 miles	2.00 per hour
Zone 6	71-100 miles	3.00 per hour
Zone 7	101 or more	5.00 per hour

TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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DRYWALL, LATHER, ACOUSTICAL CARPENTER & CEILING INSTALLER (continued)

The correct transportation allowance shall be based on road mileage from the City Hall of the local union having jurisdiction of the job or other transportation reference cities herein listed.

Reference Cities for Drywall, Lather, Acoustical Carpenter & Ceiling Installer

Albany	Coquille	Medford	Roseburg
Astoria	Eugene	Newport	Salem
Baker	Grants Pass	North Bend	Seaside
Bandon	Hermiston	Pendleton	The Dalles
Bend	Klamath Falls	Portland	Tillamook
Brookings	Kelso-Longview	Reedsport	Vancouver

ELECTRICIAN

Area 1

Electrician	29.46	13.72
Cable Splicer	32.19	13.70

Reference Counties Area 1

Malheur

Area 2

Electrician	40.90	20.06
Cable Splicer	42.95	20.12

Reference Counties Area 2

Baker	Grant	Umatilla	Wallowa
Gilliam	Morrow	Union	Wheeler

Add 50% of the base rate when workers are required to work under the following conditions:

1. Under compressed air with atmospheric pressure exceeding normal pressure by at least 10%.
2. From trusses, swing scaffolds, bosun's chairs, open platforms, unguarded scaffolds, open ladders, frames, tanks, stacks, silos and towers where the workman is subject to a direct fall of (a) more than 60 feet or (b) into turbulent water under bridges, powerhouses or spillway faces of dams.

ELECTRICIAN (continued)

Area 3

Electrician	37.55	17.43
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Reference Counties Area 3

Coos Curry	Douglas (a) Lane (a)	Lincoln
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(a) Those portions of Lane and Douglas lying **west** of a line running North and South from the NE corner of Coos County to the SE corner of Lincoln County.

Shift Differential

1 st Shift "day"	Between the hours of 8:00am and 4:30pm	8 hours pay for 8 hours work
2 nd Shift "swing"	Between the hours of 4:30pm and 1:00am	8 hours pay for 8 hours work plus 17% for all hours worked
3 rd Shift "Graveyard"	Between the hours of 12:30am and 9:00am	8 hours pay for 8 hours work plus 31% for all hours worked.

When workers are required to work under compressed air or where gas masks are required, or to work from trusses, all scaffolds including mobile elevated platforms, any temporary structure, bosun's chair or on frames, stacks, towers, tanks, within 15' of the leading edges of any building at a distance of:

50 – 75 feet to the ground	Add 1 ½ x the base rate
75+ feet to the ground	Add 2 x the base rate

High Time is not required to be paid on any permanent structure with permanent adequate safeguards (handrails, mid-rails, and toe guards). Any vehicle equipped with outriggers are exempted from this section.

OREGON DETERMINATION 2018-01

TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE	TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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ELECTRICIAN (continued)

Area 4

Electrician	41.85	18.95
Cable Splicer	46.04	19.07
Lighting Maintenance/ Material Handlers	19.02	9.82

Reference Counties Area 4

Benton	Jefferson	Marion
Crook	Lane (b)	Polk
Deschutes	Linn	Yamhill (c)

(b) That portion of Lane County lying **east** of a line running North and South from the NE corner of Coos County to the SE corner of Lincoln County.

(c) South half

Shift Differential

1 st Shift "day"	Between the hours of 8:00am and 4:30pm	8 hours pay for 8 hours work
2 nd Shift "swing"	Between the hours of 4:30pm and 1:00am	8 hours pay for 8 hours work plus 17% for all hours worked
3 rd Shift "Graveyard"	Between the hours of 12:30am and 9:00am	8 hours pay for 8 hours work plus 31.4% for all hours worked.

Area 5

Electrician	40.20	23.38
Electrical Welder	44.22	23.50
Material Handler/ Lighting Maintenance	22.91	15.65

Reference Counties Area 5

Clackamas	Hood River	Tillamook	Yamhill (d)
Clatsop	Multnomah	Wasco	
Columbia	Sherman	Washington	

(d) North Half

ELECTRICIAN (continued)

Shift Differential

1 st Shift "day"	Between the hours of 8:00am and 4:30pm	8 hours pay for 8 hours work
2 nd Shift "swing"	Between the hours of 4:30pm and 1:00am	8 hours pay for 8 hours work plus 17.3% for all hours worked
3 rd Shift "Graveyard"	Between the hours of 12:30am and 9:00am	8 hours pay for 8 hours work plus 31.4% for all hours worked.

Zone Pay for Area 5 Electrician and Electrical Welder

(Add to Basic Hourly Rate)

Zone mileage based on air miles:

Zone 1	31-50 miles	1.50 per hour
Zone 2	51-70 miles	3.50 per hour
Zone 3	71-90 miles	5.50 per hour
Zone 4	Beyond 90	9.00 per hour

There shall be a 30-mile free zone from downtown Portland City Hall and a similar 15-mile free zone around the following cities:

Astoria	Seaside	Tillamook
Hood River	The Dalles	

Further, the free zone at the Oregon coast shall extend along Hwy 101 west to the ocean Hwy 101 east 10 miles if not already covered by the above 15-mile free zone.

Area 6

Electrician	32.69	16.52
Lighting Maintenance and Material Handlers	16.97	9.76

Reference Counties Area 6

Douglas (e)	Jackson	Klamath
Harney	Josephine	Lake

(e) That portion of Douglas County lying **east** of a line running North and South from the NE corner of Coos County to the SE corner of Lincoln County.

TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE	TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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ELECTRICIAN (continued)

	<u>Shift Differential</u>	
1 st Shift "day"	Between the hours of 8:00am and 4:30pm	8 hours pay for 8 hours work
2 nd Shift "swing"	Between the hours of 4:30pm and 1:00am	8 hours pay for 8 hours work plus 7.5% for all hours worked
3 rd Shift "Graveyard"	Between the hours of 12:30am and 9:00am	8 hours pay for 8 hours work plus 15% for all hours worked.

When workers are required to work under compressed air or to work from trusses, scaffolds, swinging scaffolds, bosun's chair or on building frames, stacks or towers at a distance of 50 to 90 feet from the ground or supporting structures shall be paid 1-1/2 times the base rate of pay.

ELEVATOR CONSTRUCTOR, INSTALLER AND MECHANIC

Area 1

Mechanic	52.41	38.46
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Reference Counties Area 1

Baker	Umatilla	Union	Wallowa
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Area 2

Mechanic	52.70	38.63
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Reference Counties Area 2

All remaining Counties

<u>GLAZIER</u>	37.17	20.45
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(Add \$1.00 to base rate if safety belt is required by State safety regulations)

(Add \$4.00 to base rate for work done from a non-motorized single-man bosun chair)

HAZARDOUS MATERIALS HANDLER

23.78	12.18
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HIGHWAY/PARKING STRIPER

34.87	11.46
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Shift Differential

(Add \$1.85 to base rate for shifts that start between 3:00pm and 4:00am)

IRONWORKER

<u>Zone 1 (Base Rate):</u>	36.21	24.66
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Zone Differential for Ironworker
(Add to Basic Hourly Rate)

Zone 2	4.38/hr. or \$35.00 maximum per day
Zone 3	7.50/hr. or \$60.00 maximum per day
Zone 4	10.00/hr. or \$80.00 maximum per day

Zone 1: Projects located within 45 miles of city hall in the reference cities listed below.
 Zone 2: More than 45 miles, but less than 60 miles.
 Zone 3: More than 60 miles, but less than 100 miles.
 Zone 4: More than 100 miles.

Note: Zone pay for Ironworkers shall be determined using AAA road mileage computed from the city hall or dispatch center of the reference cities listed below or the residence of the employee, whichever is nearer to the project.

Reference Cities and Dispatch Center

Medford	Portland
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The Local Union Office
 2505 Dupertail St., Suite C
 Richland, WA 99352

TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE	TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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LABORER

Zone A (Base Rate):

Group 1	28.86	13.82
Group 2	29.94	13.82
Group 3	25.00	13.82

Note: A Hazardous Waste Removal Differential must be added to the base rate if work is performed inside the boundary of a Federally Designated Hazardous Waste Site. A Group 1 base rate is used for General Laborer on such a site. For further information on this, call the Prevailing Wage Rate Coordinator at (971) 673-0839.

Zone Differential for Laborers
(Add to Zone A Base Rate)

Zone B	.85 per hour
Zone C	1.25 per hour
Zone D	2.00 per hour
Zone E	3.00 per hour
Zone F	5.00 per hour

Zone A: Projects located within 30 miles of city hall in the reference cities listed.

Zone B: More than 30 miles but less than 40 miles.

Zone C: More than 40 miles but less than 50 miles.

Zone D: More than 50 miles but less than 80 miles.

Zone E: More than 80 miles but less than 100 miles.

Zone F: More than 100 miles.

Reference Cities for Laborer

Albany	Burns	Hermiston	Roseburg
Astoria	Coos Bay	Klamath Falls	Salem
Baker City	Eugene	Medford	The Dalles
Bend	Grants Pass	Portland	

Note: All job or project locations shall be computed (determined) on the basis of road miles and in the following manner. A mileage measurement will start at the entrance to the respective city hall, facing the project (if possible), and shall proceed by the normal route (shortest time, best road) to the geographical center on the highway, railroad, and street construction projects (end of measurement). On all other project contracts, the geographical center where the major portion of the construction is located, shall be considered the center of the project (end measurement).

LIMITED ENERGY ELECTRICIAN

Area 1 **20.00** **8.85**

Reference Counties Area 1

Malheur

Area 2 **31.50** **18.35**

Reference Counties Area 2

Baker Gilliam	Grant Morrow	Umatilla Union	Wallowa Wheeler
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Area 3 **28.65** **15.36**

Reference Counties Area 3

Coos Curry	Douglas (a) Lane (a)	Lincoln
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(a) Those portions of Lane and Douglas lying **west** of a line running North and South from the NE corner of Coos County to the SE corner of Lincoln County.

Area 4 **30.13** **14.40**

Reference Counties Area 4

Benton	Jefferson	Marion
Crook	Lane (b)	Polk
Deschutes	Linn	Yamhill (c)

(b) That portion of Lane County lying **east** of a line running North and South from the NE corner of Coos County to the SE corner of Lincoln County.

(c) South half

Area 5 **32.78** **18.98**

Reference Counties Area 5

Clackamas	Hood River	Tillamook	Yamhill (d)
Clatsop	Multnomah	Wasco	
Columbia	Sherman	Washington	

(d) North Half

TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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POWER EQUIPMENT OPERATOR

Zone 1 (Base Rate)

Group 1	41.65	14.35
Group 1A	43.73	14.35
Group 1B	45.82	14.35
Group 2	39.74	14.35
Group 3	38.59	14.35
Group 4	37.51	14.35
Group 5	36.27	14.35
Group 6	33.05	14.35

(Group 4 Tunnel Boring Machine Mechanic add \$10.00/hour hyperbaric pay)

Note: A Hazardous Waste Removal Differential must be added to the base rate if work is performed inside the boundary of a Federally Designated Waste Site. For information on this differential, call the Prevailing Wage Rate Coordinator at (971) 673-0839.

(Add \$0.40 to the base rate for any and all work performed underground, including operating, servicing and repairing of equipment)

(Add \$0.50 to the base rate per hour for any employee who works suspended by a rope or cable)

(Add \$0.50 to the base rate for employees who do "pioneer" work (break open a cut, build road, etc.) more than one hundred fifty (150) feet above grade elevation)

Shift Differential

Two-Shift Operations:

On a two shift operation, when the second shift starts after 4:30 p.m., second-shift workers shall be paid the base hourly wage rate plus 5% for all hours worked.

When the second shift starts at 8:00 p.m. or later, the second-shift workers shall be paid at the base hourly wage rate plus 10% for all hours worked.

Three-Shift Operations:

On a three-shift operation, the base hourly wage rate plus five percent (5%) shall be paid to all second-shift workers for all hours worked, and the base hourly wage rate plus ten percent (10%) shall be paid to all third shift workers for all hours worked.

Zone Pay Differential for Power Equipment Operator
(Add to Zone 1 Base Rate)

Zone 2	3.00 per hour
Zone 3	6.00 per hour

POWER EQUIPMENT OPERATOR (continued)

For projects in the following metropolitan counties:

Clackamas	Marion	Washington
Columbia	Multnomah	Yamhill

See map on page 51 for Zone 1 of this classification

(A) All jobs or projects located in Multnomah, Clackamas and Marion counties, West of the western boundary of Mt. Hood National Forest and West of Mile Post 30 on Interstate 84 and West of Mile Post 30 on State Hwy 26 and West of Mile Post 30 on Hwy 22 and all jobs located in Yamhill County, Washington County and Columbia County shall receive Zone 1 pay for all classifications.

(B) All jobs or projects located in the area outside the *identified boundary* above, but less than 50 miles from the Portland City Hall shall receive Zone 2 pay for all classifications.

(C) All jobs or projects located more than 50 miles from the Portland City Hall, but outside the identified border above, shall receive Zone 3 pay for all classifications.

Reference cities for projects in all remaining counties:

Albany	Coos Bay	Grants Pass	Medford
Bend	Eugene	Klamath Falls	Roseburg

(A) All jobs or projects located within 30 miles of the respective city hall of the above mentioned cities shall receive Zone 1 pay for all classifications.

(B) All jobs or projects located more than 30 miles and less than 50 miles from the respective city hall of the above mentioned cities shall receive Zone 2 for all classifications.

(C) All jobs or projects located more than 50 miles from the respective city hall of the above mentioned cities shall receive Zone 3 pay for all classifications.

Note: All job or project locations shall be computed (determined) on the basis of road miles and in the following manner. A mileage measurement will start at the entrance to the respective city hall, facing the project (if possible), and shall proceed by the normal route (shortest time-best road) to the geographical center on the highway, railroad, and street construction projects (end of measurement). On all other project contracts, the geographical center where the major portion of the construction is located, shall be considered the center of the project (end measurement).

TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE	TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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ROOFER

Area 1

Roofer	30.88	17.44
Handling coal tar pitch	33.97	17.44
Remove fiberglass insulation	33.97	17.44

Reference Counties Area 1

Baker	Gilliam	Multnomah	Washington
Clackamas	Grant	Sherman	Wheeler
Clatsop	Hood River	Tillamook	
Columbia	Jefferson	Wasco	

Area 2

Roofer	26.55	15.96
Handling coal tar pitch	28.55	15.96
Remove fiberglass insulation	28.05	15.96

Reference Counties Area 2

Benton	Douglas	Lake	Marion
Coos	Harney	Lane	Polk
Crook	Jackson	Lincoln	Yamhill
Curry	Josephine	Linn	
Deschutes	Klamath	Malheur	

Area 4

Roofers	26.74	12.23
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Reference Counties Area 4

Umatilla	Union	Wallowa
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(Add \$2.00 to basic hourly rate for employees working with irritable bituminous materials)

(Add \$2.00 to basic hourly rate for employees removing fiberglass insulation)

Area 5

Roofers	26.60	12.28
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Reference County for Area 5

Morrow

(Add \$3.00 to base rate for employees working with irritable and pitch bituminous materials)

SHEET METAL WORKER

Area 1

38.77	20.43
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Reference Counties Area 1

Benton	Grant	Multnomah	Washington
Clackamas	Hood River	Polk	Wheeler
Clatsop	Lincoln	Sherman	Yamhill
Columbia	Linn	Tillamook	
Gilliam	Marion	Wasco	

(Add \$1.00 to base rate for work performed on any swinging platform, swinging chair or swinging ladder)

(Add \$1.00 to base rate for work where a worker is exposed to resins, chemicals or acid)

Area 2

25.00	18.21
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Reference Counties Area 2

Baker	Malheur
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(Add \$1.75 to base rate for work performed in an area where epoxy resins or other injurious chemicals are being applied)

Area 3

34.75	20.82
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Reference Counties Area 3

Morrow	Umatilla	Union	Wallowa
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(Add \$1.00 to base rate for work where it is necessary to wear a chemically activated type face mask)

Area 4

32.10	18.45
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Reference Counties Area 4

Douglas	Lane
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(Add \$1.00 to base rate for work performed on any swinging platform, swinging chair or swinging ladder)

(Add \$1.00 to base rate for work where a worker is exposed to resins, chemicals or acid)

TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE	TRADE	HOURLY BASE RATE	HOURLY FRINGE RATE
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TESTING AND BALANCING (TAB) TECHNICIAN

Air-Handling Equipment, Ductwork

See **SHEET METAL WORKER**

Water Distribution Systems

See **PLUMBER/PIPEFITTER/STEAMFITTER**

TILESETTER/TERRAZZO WORKER: Hard Tilesetter

31.39 18.08

(This trade is tended by "Tile, Terrazzo, & Marble Finisher")

(Add \$1.00 to base rate when working with a safety belt)

(Add \$1.00 to base rate if work involves epoxy, furnane, alklor or acetylene black grouting)

TILE, TERRAZZO, AND MARBLE FINISHER

1. TILE, TERRAZZO FINISHER

23.95 13.18

(Add \$1.00 to base rate when working with a safety belt)

(Add \$1.00 to base rate if work involves epoxy, furnane, alklor or acetylene black grouting)

2. BRICK AND MARBLE FINISHER

23.95 13.31

(Add \$1.00 to base rate for Refractory work)

TRUCK DRIVER

Zone A (Base Rate)

Group 1	27.94	14.37
Group 2	28.06	14.37
Group 3	28.19	14.37
Group 4	28.46	14.37
Group 5	28.68	14.37
Group 6	28.85	14.37
Group 7	29.05	14.37

TRUCK DRIVER (continued)

Zone differential for Truck Drivers
(Add to Zone A Base Rate)

Zone B	.65 per hour
Zone C	1.15 per hour
Zone D	1.70 per hour
Zone E	2.75 per hour

Zone A: Projects within 30 miles of the cities listed.
 Zone B: More than 30 miles but less than 40 miles.
 Zone C: More than 40 miles but less than 50 miles.
 Zone D: More than 50 miles but less than 80 miles.
 Zone E: More than 80 miles.

Reference Cities

Albany	Eugene	Madras	Reedsport
Astoria	Goldendale	Medford	Roseburg
Baker	Grants Pass	McMinnville	Salem
Bend	Hermiston	Newport	The Dalles
Bingen	Hood River	Ontario	Tillamook
Brookings	Klamath Falls	Oregon City	Vancouver
Burns	LaGrande	Pendleton	
Coos Bay	Lakeview	Portland	
Corvallis	Longview	Port Orford	

Note: All job or project locations shall be computed (determined) on the basis of road miles and in the following manner. A mileage measurement will start at the entrance to the respective city hall, facing the project (if possible), and shall proceed by the normal route (shortest time-best road) to the geographical center on the highway, railroad, and street construction projects (end of measurement). On all other project contracts, the geographical center where the major portion of the construction is located, shall be considered the center of the project (end measurement).

Power Equipment Operator

ZONE 1



**LIST OF CONTRACTORS INELIGIBLE
TO RECEIVE PUBLIC WORKS CONTRACTS
PUBLICATION DATE: JANUARY 1, 2018**

To: All Oregon Contracting Agencies

Pursuant to ORS 279C.860, contractors on this list are ineligible to receive public works contracts subject to the Prevailing Wage Rate Law. These contractors and subcontractors, as well as any firm, corporation, partnership or association in which the contractor or subcontractor has a financial interest are ineligible to receive public works contracts until removed from this list.

If you have questions regarding the list or for the most current information regarding persons ineligible to receive prevailing wage contracts, please contact the Prevailing Wage Rate Coordinator in Portland at (971) 673-0839.

	<u>CONTRACTOR NAME</u>	<u>DATE PLACED</u>	<u>REMOVAL DATE</u>
1.	A D Traffic Control Services, LLC 309 S. McLoughlin Blvd. Oregon City, OR 97045	August 24, 2015	August 23, 2018
2.	A2Z Flagging LLC 731 N Hayden Meadows Dr, #107 Portland, OR 97217	May 2, 2017	May 1, 2020
3.	Armiger Acoustical & Drywall, Inc. 11096 N Umpqua Highway Roseburg, OR 97470	June 1, 2017	May 31, 2018
4.	Michael Armiger aka Michael Tobbin Armiger 11096 N Umpqua Highway Roseburg, OR 97470	June 1, 2017	May 31, 2018
5.	Beaver Flagging 2239 Dakota Street Eugene, OR 97404	November 25, 2009	November 24, 2019
6.	Christy C. Beaver 2570 River Road Eugene, OR 97404	November 25, 2009	November 24, 2019
7.	Kimberly Bell-Eddy 8535 Woodard Ave SE Salem, OR 97317	January 12, 2016	January 11, 2023
8.	Russ Brotnov 22905 S Stormer Rd Estacada, OR 97023	January 5, 2017	January 4, 2020
9.	BSD OR WA. LLC 2951 NW Division St., Ste110 Gresham, OR 97030	February 11, 2016	February 10, 2019
10.	Bill Butler 4355 SE 10 th Drive Gresham, OR 97080	January 22, 2016	January 21, 2019
11.	Cameron Creations Steven Cameron Nancy Cameron PO Box 2 Lowell, OR 97452	May 25, 2000	Not to be Removed

**LIST OF CONTRACTORS INELIGIBLE
TO RECEIVE PUBLIC WORKS CONTRACTS
PUBLICATION DATE: JANUARY 1, 2018**

	<u>CONTRACTOR NAME</u>	<u>DATE PLACED</u>	<u>REMOVAL DATE</u>
12.	Angela Canell 6020 NE 33 rd Circle Vancouver, WA 98661	May 2, 2017	May 1, 2020
13.	Carpentry Plus, Inc. P O Box 998 Boring, OR 97009-0998	January 5, 2017	January 4, 2020
14.	Concrete Works, Inc. 2425 Fischer Rd NE Salem, OR 97305	June 15, 2017	June 14, 2020
15.	Kelly Cunningham 4355 SE 120 th Drive Gresham, OR 97080	January 22, 2016	January 21, 2019
16.	Randall D. David 35491 Laura Lane SE Albany, OR 97321	January 15, 2016	January 14, 2019
17.	Demolition Contractors, Inc. PO Box 4010 19650 SW Teton Ave Tualatin, OR 97062	February 15, 2016	February 15, 2018
18.	Amanda Dawn Denton Olsen-Smith PO Box 1058 Willamina, OR 97080	February 11, 2016	February 10, 2019
19.	DNB Painting, Inc. 35491 Laura Lane SE Albany, OR 97321	January 15, 2016	January 14, 2019
20.	Robert Donily 19650 SW Teton Ave Tualatin, OR 97062	February 15, 2016	February 15, 2018
21.	Final Touch NW, Inc. PO Box 169 2245 Crestview Drive West Linn, OR 97068	January 8, 2015	January 7, 2018
22.	GNC Construction Services, LLC 309 S. McLoughlin Blvd. Oregon City, OR 97045	July 21, 2015 July 21, 2018	July 20, 2018 July 20, 2021
23.	Eugene Graeme 169 SE Cody Lane Madras, OR 97741	July 3, 2017	July 2, 2027
24.	H. & L. Corporation 13711 NE Laurin Rd. Vancouver, WA 98662	January 30, 2015	January 29, 2018

**LIST OF CONTRACTORS INELIGIBLE
TO RECEIVE PUBLIC WORKS CONTRACTS
PUBLICATION DATE: JANUARY 1, 2018**

	<u>CONTRACTOR NAME</u>	<u>DATE PLACED</u>	<u>REMOVAL DATE</u>
25.	Armond Harper 4071 N Mississippi Ave., Apt. A Portland, OR 97227	May 30, 2017	May 29, 2020
26.	Kim Bell Flagging, Inc. 8535 Woodard Ave SE Salem, OR 97317	January 12, 2016	January 11, 2023
27.	Peter G. Lupachev aka Peter Lupachov 4536 SE Stark Street Portland, OR 97239	November 2, 2015	November 1, 2018
28.	Mountain View Flagging, Inc. 1122 NE 122 nd Ave Portland, OR 97230	September 26, 2016	September 25, 2019
29.	Sang In Nam dba Cornerstone Janitorial Services 130 NE Danbury Ave Hillsboro, OR 97124	September 20, 2016	Not to be Removed
30.	Noland Enterprises, Inc. 601 NW McDonald Road Prineville, OR 97754	June 6, 2016	June 5, 2019
31.	Debbie Noland 601 NW McDonald Road Prineville, OR 97754	June 6, 2016	June 5, 2019
32.	James Noland 601 NW McDonald Road Prineville, OR 97754	June 6, 2016	June 5, 2019
33.	A.J. Olsen-Smith aka Alex James Olsen-Smith aka Alex J. Olsen PO Box 1058 Willamina, OR 97080	February 11, 2016	February 10, 2019
34.	Orcanco Commercial Construction, Inc. 4355 SE 10 th Drive Gresham, OR 97080	January 22, 2016	January 21, 2019
35.	Peter Construction, Inc. dba Peters Construction, Inc. 4522 SW Water Ave., Suite 110 Portland, OR 97239	November 2, 2015	November 1, 2018
36.	Phoenix Construction Group, Inc. 309 S. McLoughlin Blvd. Oregon City, OR 97045	August 24, 2015 August 24, 2018	August 23, 2018 August 23, 2021

**LIST OF CONTRACTORS INELIGIBLE
TO RECEIVE PUBLIC WORKS CONTRACTS
PUBLICATION DATE: JANUARY 1, 2018**

	<u>CONTRACTOR NAME</u>	<u>DATE PLACED</u>	<u>REMOVAL DATE</u>
37.	Portland Flagger, LLC dba A D Traffic Control Services 309 S. McLoughlin Blvd. Oregon City, OR 97045	August 24, 2015	August 23, 2018
38.	Portland Safety Equipment, LLC 309 S. McLoughlin Blvd. Oregon City, OR 97045	August 24, 2015 August 24, 2018	August 23, 2018 August 23, 2021
39.	Bernadine Raiford 424 NE Shaver Street Portland, OR 97212	September 26, 2016	September 25, 2019
40.	Colleen Runyon 13711 NE Laurin Rd. Vancouver, WA 98662	January 30, 2015	January 29, 2018
41.	Edward Runyon 13711 NE Laurin Rd. Vancouver, WA 98662	January 30, 2015	January 29, 2018
42.	Avian Samuel PO Box 169 2245 Crestview Drive West Linn, OR 97068	January 8, 2015	January 7, 2018
43.	Terrence Samuel PO Box 169 PO Box 249 Wilsonville, OR 97070 2245 Crestview Drive West Linn, OR 97068	January 21, 2015	January 20, 2018
44.	SBG Construction Services LLC 309 S. McLoughlin Blvd. Oregon City, OR 97045	August 24, 2015 August 24, 2018	August 23, 2018 August 23, 2021
45.	Cassie Seeley 7991 Little Rd. SE Aumsville, OR 97325-9497	July 13, 2017	July 12, 2020
46.	Kenya Smith 309 S. McLoughlin Blvd. Oregon City, OR 97045	July 21, 2015	July 20, 2018
47.	Alan Tatom 168 Clearwater Avenue NE Salem, OR 97301	July 10, 2015	July 9, 2025
48.	Tri-Star Flagger, LLC 309 S. McLoughlin Blvd. Oregon City, OR 97045	August 24, 2015	August 23, 2018

**LIST OF CONTRACTORS INELIGIBLE
TO RECEIVE PUBLIC WORKS CONTRACTS
PUBLICATION DATE: JANUARY 1, 2018**

	<u>CONTRACTOR NAME</u>	<u>DATE PLACED</u>	<u>REMOVAL DATE</u>
49.	Phillip Walker 580 Market Street NE Salem, OR 97301	July 10, 2015	July 9, 2025
50.	WCI Construction LLC 169 SE Cody Lane Madras, OR 97741	July 3, 2017	July 2, 2027
51.	Evan Williams 309 S. McLoughlin Blvd. Oregon City, OR 97045	February 29, 2016	February 28, 2019
52.	WWJD Traffic Control, Inc. 168 Clearwater Avenue NE Salem, OR 97301	July 10, 2015	July 9, 2025

**BRAD AVAKIAN, COMMISSIONER
OREGON BUREAU OF LABOR AND INDUSTRIES**

PREVAILING WAGE RATE FORMS

WH-38	Certified Payroll Form
WH-39	Public Works Fee Information Form
WH-40	Public Works Fee Adjustment Form
WH-81	Notice of Public Works
WH-118	Planned Public Improvement Summary
WH-119	Capital Improvement Cost Comparison Estimate



BUREAU OF LABOR AND INDUSTRIES, PREVAILING WAGE RATE UNIT

INSTRUCTIONS FOR COMPLETING THE PREVAILING WAGE RATE PAYROLL/CERTIFIED STATEMENT FORM (WH-38)

The Payroll/Certified Statement form (WH-38) may be used by contractors for reporting their payroll as required by ORS 279C.845 on public works projects subject to the Prevailing Wage Rate (PWR) Law. Although this form has not been officially approved by the U.S. Department of Labor (US DOL), it is designed to meet the requirements of the federal Davis-Bacon Act. For projects associated with the U.S. Department of Housing and Urban Development (HUD), contact the public agency (owner) associated with the project for assistance with payroll reporting.

Contractors are not required to use the WH-38 form in reporting their payroll; however, the contractor must provide all of the information contained in the form, including the certified statement on page two. The certified statement must be signed by the contractor, certifying the accuracy of the information reported on the payroll, including representations pertaining to the provision of fringe benefits to employees by third parties, and must be submitted with each weekly payroll report. Detailed instructions concerning the preparation of the form follow:

Complete the top third of the form. Be sure to enter the date the contract was first advertised for bid. If you are not sure of this date, contact the public agency (owner) associated with the project. The "Payroll No." is a US DOL requirement and represents the number of weeks the contractor performed work on the project.

Column 1 – NAME AND ADDRESS: The employee's full name must be shown on each payroll submitted. The employee's address must also be shown on the first payroll submitted. The address need not be shown on subsequent payrolls submitted unless the address changes. The US DOL requires an employee identification number for each individual employee, on each payroll submitted. This number may be, but does not have to be, the last four digits of the employee's social security number.

Column 2 – CLASSIFICATION: For assistance in determining the correct classification, use the Bureau of Labor and Industries' (BOLI's) publication "Definitions of Covered Occupations for Public Works Contracts in Oregon." On the WH-38, list the classification that is most descriptive of the work actually performed by the employee. Give the group number for those classifications that include such information. Indicate which workers are apprentices, if any, and give their current percentage, classification, and group number when applicable. If an employee works in more than one classification, use the highest rate for all hours worked, or use separate line entries to show hours worked and hourly rates for each classification.

Column 3 – DAY AND DATE: Enter the day of the week (M, T, W, Th, F, S, and Sn) in the top row of boxes, and the corresponding date below.

HOURS WORKED EACH DAY: Enter the total number of straight time hours worked in the row marked "ST." Generally, hours worked over 8 in a day or work performed on Saturdays, Sundays, and legal holidays should be entered as overtime ("OT") hours worked. Contractors who have adopted and followed a written work schedule of four consecutive ten-hour days (Monday through Thursday or Tuesday through Friday) may enter hours worked over 10 in a day as overtime hours. For more information on overtime requirements, see the Contractor Responsibilities section of BOLI's publication, "*Prevailing Wage Rate Laws*."

Check the correct work schedule box to indicate the employee's weekly work schedule: 5/8 or 4/10. Enter the employee's regular hourly schedule for the week being reported next to the "Reg. Hrly. Schd: _____ to _____." For example: 7:00 a.m. to 4:30 p.m.

Column 4 – TOTAL HOURS: Enter separately the total number of straight time and overtime hours worked by the employee (in each classification, if applicable) on the PWR project during the week. The total number of straight time hours worked should be entered in the lower box ("ST"); the total number of overtime hours worked should be entered in the top box ("OT").

Column 5 – HOURLY BASE RATE: Enter the hourly base rate (plus zone pay, if any) and the hourly overtime rate (plus zone pay, if any) paid to the employee in the appropriate straight time and overtime boxes. (Payment of not less than one and one half times the base rate of pay, including zone pay but not including fringe benefits, is required to be paid for overtime hours pursuant to ORS 279C.540). Generally, use the appropriate prevailing wage rates in effect at the time the contract was first advertised for bid by the public agency. If this date is not known, or if the project was not advertised for bid, contact the public agency (owner) associated with the project for assistance with applicable rates.

Column 6 – HOURLY FRINGE BENEFIT AMOUNT PAID AS WAGES TO THE EMPLOYEE: Enter hourly fringe benefit amounts paid directly to the employee as wages. (For overtime hours worked, it is not necessary to pay time and one half for the fringe benefit portion of the prevailing wage rate.)

Column 7 – GROSS AMOUNT EARNED: Enter the gross amount earned for work on the PWR project during the week. If part of the employee's wages for the pay period were earned on projects other than the project described on the WH-38, or if the employee is paid less often than on a weekly basis, enter in column 7 first the gross amount earned on the PWR project for the week, then the total gross amount earned for the pay period. For example: \$567.84 / \$1,267.27.

Column 8 – ITEMIZED DEDUCTIONS, FICA, FED, STATE, ETC.: Enter deductions withheld from wages for the pay period. All deductions must be in accordance with the provisions of ORS 652.610 (and as defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. Stat. 967, 76 Stat. 357; 40 U.S.C 276c) on projects subject to Davis-Bacon Act). For projects subject to the Davis-Bacon Act, itemize the deductions.

Column 9 – NET WAGES PAID: Enter the total amount of net wages actually paid to the employee for the pay period. This figure can be calculated by subtracting the total deductions reported in Column 8 from the gross amount of wages for the pay period reported in the bottom portion of Column 7.

Column 10 – HOURLY FRINGE BENEFITS PAID TO BENEFITS PARTY, PLAN, FUND OR PROGRAM: Enter the hourly amount of fringe benefits paid to each individually approved party, plan, fund, or program, for each employee. List these amounts separately on the lines provided. Any contractor who is making payments to approved parties, plans, funds or programs in amounts less than the required hourly fringe benefit is obligated to pay the difference directly to the employee as wages in lieu of fringe benefits, and to show that amount in Column 6 of this form. For information on how to calculate hourly fringe benefit credits, see Appendix A in the BOLI's publication, "Prevailing Wage Rate Laws."

Column 11 – NAME OF BENEFIT PARTY, PLAN, FUND OR PROGRAM: Enter the name of the party, plan, fund, or program that corresponds to the amount paid as an hourly fringe benefit in Column 10.

CALCULATION CHECK

In order to determine whether the wages and fringe benefits paid are sufficient to meet prevailing wage rate requirements, the following check may be performed:

1. For each classification listed in column 2, compute the sum of:
 - a) the hourly base rate of pay shown in Column 5,
 - b) the hourly fringe benefit amount paid as wages to employee shown in Column 6, and
 - c) the hourly fringe benefits paid to benefit party, plan, fund or program shown in Column 10.
2. This sum must equal or exceed the total of the hourly base rate (including zone pay) and the hourly fringe benefit rate for that classification as listed in the appropriate issue of BOLI's publication, Prevailing Wage Rates for Public Works Contracts in Oregon.

IF YOU HAVE QUESTIONS REGARDING COMPLETION OF THIS FORM, CONTACT THE PREVAILING WAGE RATE UNIT OF THE BUREAU OF LABOR AND INDUSTRIES AT (971) 673-0838.

NOTE: PAYROLL/CERTIFIED STATEMENTS ARE ONLY REQUIRED TO BE SUBMITTED TO THE PUBLIC AGENCY ASSOCIATED WITH THE PROJECT.

**CERTIFIED PAYROLL AND OTHER FORMS ARE AVAILABLE ON OUR WEBSITE:
WWW.OREGON.GOV/BOLI**

PRIME CONTRACTOR

SUBCONTRACTOR

PAYROLL NO. _____

FINAL PAYROLL

Business Name (DBA): _____ Phone: () _____ CCB Registration Number: _____

Project Name: _____ Project Number: _____ Type of Work: _____

Street Address: _____ Project Location: _____

Mailing Address: _____ Project County: _____

Date Pay Period Began: _____ Date Pay Period Ended: _____

THIS SECTION FOR PRIME CONTRACTORS ONLY **THIS SECTION FOR SUBCONTRACTORS ONLY**

Public Contracting Agency Name: _____ Subcontract Amount: _____
 Phone: () _____ Prime Contractor Business Name (DBA): _____
 Date Contract Specifications First Advertised for Bid: _____ Prime Contractor Phone: () _____
 Contract Amount: _____ Prime Contractor's CCB Registration Number: _____
 Date You Began Work on the Project: _____

(1)	(2)	(3) DAY AND DATE							(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
NAME, ADDRESS AND EMPLOYEE'S IDENTIFICATION NUMBER	CLASSIFICATION (INCLUDE GROUP # AND APPRENTICESHIP STEP IF APPLICABLE)	HOURS WORKED EACH DAY							TOTAL HOURS	HOURLY BASE RATE	HOURLY FRINGE BENEFIT AMOUNTS PAID AS WAGES TO EMPLOYEE	GROSS AMOUNT EARNED (see directions)	ITEMIZED DEDUCTIONS FICA, FED, STATE, ETC.	NET WAGES PAID	HOURLY FRINGE BENEFITS PAID TO BENEFIT PARTY, PLAN, FUND, OR PROGRAM	NAME OF BENEFIT PARTY, PLAN, FUND, OR PROGRAM	
		OT										/					
		ST										/					
		Schedule: 5/8 <input type="checkbox"/> 4/10 <input type="checkbox"/> ; Reg. Hrly. Schd: _____ to _____.										/					
		OT										/					
		ST										/					
		Schedule: 5/8 <input type="checkbox"/> 4/10 <input type="checkbox"/> ; Reg. Hrly. Schd: _____ to _____.										/					
		OT										/					
		ST										/					
		Schedule: 5/8 <input type="checkbox"/> 4/10 <input type="checkbox"/> ; Reg. Hrly. Schd: _____ to _____.										/					

*Although this form has not been officially approved by the U.S. Department of Labor, it is designed to meet the requirements of both the state PWR law and the federal Davis-Bacon Act.

CERTIFIED STATEMENT

In addition to completing sections (1) - (3), if your project is subject to the federal Davis-Bacon Act requirements, complete the following section as well:

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS OR PROGRAMS

- In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in Section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in Section 4(c) below.

(c) EXCEPTIONS:

EXCEPTION (GRAFT) _____
EXPLANATION _____

REMARKS:

NAME AND TITLE _____
SIGNATURE _____

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

**FILE THIS FORM WITH THE PUBLIC AGENCY ASSOCIATED WITH THE PROJECT
NOTE TO CONTRACTORS: YOU MUST ATTACH COPIES OF THIS FORM TO EACH OF YOUR PAYROLL SUBMISSIONS ON THIS PROJECT.
INSTRUCTIONS AND ADDITIONAL FORMS ARE AVAILABLE ON OUR WEBSITE: WWW.OREGON.GOV/BOLI.**

Date: _____

I, _____ (NAME OF SIGNATORY PARTY), _____ (TITLE),
do hereby state:

(1) That I pay or supervise the payment of the persons employed by:

_____ (CONTRACTOR, SUBCONTRACTOR OR SURETY)

on the _____ (BUILDING OR WORK) _____; that during the payroll period

commencing on the _____ day of _____ (MONTH) _____ (YEAR), and ending the _____ day

of _____ (MONTH) _____ (YEAR), all persons employed on said project have been paid the

full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said _____ (CONTRACTOR, SUBCONTRACTOR OR SURETY)

from the full weekly wages earned by any person, and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as specified in ORS 652.610, and as defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. 276c), and described below:

(2) That any payroll otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for workers contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each worker conform with work performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a state apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a state, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

I HAVE READ THIS CERTIFIED STATEMENT, KNOW THE CONTENTS THEREOF AND IT IS TRUE TO MY KNOWLEDGE:

(NAME AND TITLE)

(SIGNATURE AND DATE)



**CONTRACT FEE SECTION
PREVAILING WAGE RATE UNIT
BUREAU OF LABOR AND INDUSTRIES
800 N.E. OREGON ST., #1045
PORTLAND, OR 97232-2180
PHONE: (971) 673-0852
FAX: (971) 673-0769**

For Office Use Only: Project DB #: _____
--

PUBLIC WORKS FEE INFORMATION FORM

For use by public agencies that have contracted with a contractor on a public works project regulated by ORS 279C.800 to 279C.870, in compliance with ORS 279C.825. Also for use by public agencies that are a party to a public works project pursuant to ORS 279C.800(6)(a)(B), (C) (D) or (E).

PUBLIC AGENCIES: Please complete and mail this form to BOLI at the above address, along with the public works fee of one-tenth of one percent of the contract price (contract amount x .001), payable to BOLI. **The minimum fee is \$250.00; the maximum fee is \$7,500.00.** Without the following completed information, the bureau may be unable to properly credit you for payment received.

PUBLIC AGENCY: _____ **AGENCY #:** _____

AGENCY MAILING ADDRESS: _____

CITY, STATE, ZIP: _____

AGENCY CONTACT PERSON: _____ **PHONE:** (____) _____

PROJECT MANAGER NAME: _____ **PHONE:** (____) _____

PROJECT NAME: _____

CONTRACT NAME (if part of larger project): _____

PROJECT LOCATION: _____

PROJECT NO: _____ **DATE CONTRACT FIRST ADVERTISED:** _____

DATE CONTRACT AWARDED: _____ **CONTRACTOR CCB#:** _____

CONTRACTOR BUSINESS NAME (DBA): _____

CONTRACTOR ADDRESS: _____

CITY, STATE ZIP _____

CONTRACT AMOUNT: \$ _____ **FEE AMOUNT DUE/PAID: \$** _____

If less than \$50K, is it part of a larger project? yes no **Contract amount x .001 = fee due**

(Please duplicate this form for future use.)



**CONTRACT FEE SECTION
PREVAILING WAGE RATE UNIT
BUREAU OF LABOR AND INDUSTRIES
800 N.E. OREGON ST., #1045
PORTLAND, OR 97232-2180
PHONE: (971) 673-0852
FAX: (971) 673-0769**

For Office Use Only:
Project DB #: _____

PUBLIC WORKS FEE ADJUSTMENT FORM

**THIS FORM TO BE USED FOR RECONCILIATION OF FEES UPON COMPLETION OF
PUBLIC WORKS PROJECTS**

(As required by ORS 279C.825 and OAR 839-025-0210)

PUBLIC AGENCIES: Complete and mail this form to BOLI at the above address after completion of the public work project and not less than 30 days after the final progress payment is made to the contractor. Public agencies are required to determine the final contract price, including all change orders or other adjustments to the original contract price, and to calculate the adjusted prevailing wage rate fee based on the revised contract price. Documentation must be included to support the final contract price. Documentation of the final contract price may consist of change orders or other contract documents substantiating the amount of the contract. The prevailing wage rate fee of one-tenth of one percent (.001) shall be applied to the final contract price, with credit taken for fees already submitted. The public agency must submit any additional fee payable to BOLI, or submit any request for refund, with this adjustment form. **THE MINIMUM FEE IS \$250.00; THE MAXIMUM FEE IS \$7,500.00. NO ADDITIONAL FEE IS REQUIRED TO BE PAID, AND REFUNDS WILL NOT BE MADE, IF THE BALANCE DUE OR THE REFUND DUE IS LESS THAN \$100.00.**

PUBLIC AGENCY: _____ **AGENCY #:** _____

AGENCY CONTACT PERSON: _____ **PHONE :** (____) _____

MAILING ADDRESS: _____

PROJECT NAME: _____

CONTRACT NAME (if part of larger project): _____

PROJECT NUMBER: _____ **PROJECT LOCATION:** _____

CONTRACTOR/BUSINESS NAME (DBA): _____

CONTRACTOR CCB#: _____ **DATE AWARDED:** _____

FINAL CONTRACT/PROJECT AMOUNT: _____ **FINAL FEE DUE:** _____
(Include all change orders and adjustments to the contract price) (Final Contract amount X .001)

ORIGINAL CONTRACT AMOUNT: _____ **INITIAL FEE PAID:** _____
(Original Contract amount X .001)

TOTAL ADJUSTMENT: _____ **BALANCE DUE*:** _____

or
REFUND DUE*: _____
*Final contract fee less initial fee paid

Sample Calculation:			
Final Contract Amount:	\$ 400,000.00	Final Fee Due:	\$ 400.00
Original Contract Amount:	- 300,000.00	Initial Fee Paid:	- 300.00
Total Adjustment:	\$ 100,000.00	Additional Amount Due:	\$ 100.00

(Please duplicate this form for future use)



BUREAU OF LABOR AND INDUSTRIES
NOTICE OF PUBLIC WORKS
(For use by public agencies in complying with ORS 279C.835)

For Office Use Only:
Project DB #: _____

NOTE: ORS 279C.835 requires that public contracting agencies include with this form a copy of the disclosure of first-tier subcontractors submitted pursuant to ORS 279C.370.

PUBLIC AGENCY INFORMATION

Agency Name: _____
Agency Division: _____ Agency # (if known): _____
Address: _____
City, State, Zip: _____
Email Address: _____
Agency Representative: _____ Phone: _____

SECTION A: To be completed when a public agency awards a contract to a contractor for a public works project, including CM/GC projects. (See reverse for public works projects in which no public agency awards a contract to a contractor.)

CONTRACT INFORMATION:

Project Name: _____
Contract Name (if part of larger project): _____
Project #: _____ Contract #: _____
Project Manager Name: _____ Phone: _____ Fax: _____
Project Location (Street(s), City): _____ Project County: _____
Contract Amount: \$_____ If under \$50,000, is this contract part of a larger project? YES NO
If yes, total project amount: \$_____
Will project use federal funds that require compliance with the Davis-Bacon Act? YES NO
Date Contract Specifications First Advertised for Bid (if not advertised, date of RFP or first contact with contractor): _____
OR If CM/GC Contract, Date Contract Became a Public Works Contract (see OAR 839-025-0020(6)): _____
Date Contract Awarded: _____ Date Work Expected to Begin: _____ Date Work Expected to be Complete: _____

PRIME CONTRACTOR INFORMATION:

Name: _____
Address: _____
City, State Zip: _____ Phone: _____
Construction Contractors Board Registration #: _____
Name of Bonding Company: _____
Address: _____
Agent Name: _____ Phone: _____
Payment Bond #: _____

Copy of first-tier subcontractors attached (see NOTE above).

Signature of agency representative completing form: _____
Printed Name: _____ Phone: _____ Date: _____
Email Address: _____

THIS FORM WILL BE RETURNED TO THE PUBLIC AGENCY FOR CORRECTION AND RESUBMITTAL IF INCOMPLETE.

Complete this page for public works projects in which NO PUBLIC AGENCY AWARDS A CONTRACT TO A CONTRACTOR. Complete the CONTRACT INFORMATION AND SECTION B, C, D or E, whichever applies to the project.

CONTRACT INFORMATION:

Name of Project Owner: _____ Phone: _____
Project Name: _____ Project #: _____
Project Location (Street(s), City): _____ Project County: _____
Total Project Cost: \$ _____ Amount of Public Funds Provided for the project: \$ _____
Name(s) of Public Agency(ies) Providing Public Funds: _____
Will project use federal funds that require compliance with the Davis-Bacon Act? YES NO
Date Work Expected to Begin: _____ Date Work Expected to be Complete: _____

SECTION B: To be completed when a project is a public works pursuant to ORS 279C.800(6)(a)(B) (a project for the construction, reconstruction, major renovation or painting of a road, highway, building, structure or improvement of any type **that uses \$750,000 or more of funds of a public agency**).

Date the public agency or agencies committed to the provision of funds for the project: _____

SECTION C: To be completed when a project is a public works pursuant to ORS 279C.800(6)(a)(C) (a project for the construction of a privately owned road, highway, building, structure or improvement of any type **that uses funds of a private entity and in which 25 percent or more of the square footage of the completed project will be occupied or used by a public agency**).

Total square footage of privately owned road, highway, building, structure or improvement: _____

Percent of total square footage of the completed project that will be occupied or used by a public agency: _____

Date the public agency or agencies entered into an agreement to occupy or use the completed project: _____

SECTION D: To be completed when a project is a public works pursuant to ORS 279C.800(6)(a)(D) (a project that includes the construction or installation of a **device, structure or mechanism that uses solar radiation** on public property, regardless of project cost or whether the project uses funds of a public agency).

Date the public agency entered into an agreement for the project: _____

SECTION E: To be completed when a project is a public works pursuant to ORS 279C.800(6)(a)(E) (a project for the construction, reconstruction, major renovation or painting of a road, highway, building, structure, or improvement of any type that occurs, with or without using funds of a public agency, **on real property that the Oregon University System or an institution in the Oregon University System owns**).

Date the public agency entered into an agreement for the project: _____

Signature of agency representative completing form: _____

Printed Name: _____ Phone: _____ Date: _____

Email Address: _____

THIS FORM WILL BE RETURNED TO THE PUBLIC AGENCY FOR CORRECTION AND RESUBMITTAL IF INCOMPLETE.

RETURN THIS COMPLETED FORM TO:

Prevailing Wage Rate Unit • Bureau of Labor and Industries • 800 NE Oregon Street, #1045 • Portland, OR 97232-2180
Telephone (971) 673-0852 • FAX (971) 673-0769 • pwremail@boli.state.or.us



PUBLIC IMPROVEMENT PROJECT COST ANALYSIS

Contracting Agency: _____

Project Name/Number: _____

Department: _____

Estimated Construction Period: _____

ESTIMATED CONTRACTOR COSTS				
Item Description	Estimated Quantity	Unit Cost	Total Estimated Cost Per Item	
TOTAL OF ALL CONTRACTOR COSTS				\$

ESTIMATED CONTRACTING AGENCY COSTS							
Labor	Equipment	Administration and Overhead	Tools and Materials	Cost of Any Contracts Agency Must Enter	Quality Control Testing	Any Other Necessary and Related Costs	
TOTAL OF ALL PUBLIC AGENCY COSTS							\$

The above-named agency has determined that this project can be performed at the least cost by: _____ Agency _____ Contractor (check one)

ORS 279C.305 requires that not less than 30 days prior to adoption of its budget for the subsequent budget period, or before starting to construct a public improvement, each contracting agency shall prepare and file with the Commissioner of the Bureau of Labor and Industries a list of every public improvement that the contracting agency plans to fund in the budget period, identifying each improvement by name and estimating the total on-site construction costs. The list must also state whether the contracting agency intends to perform the construction through a private contractor. If the contracting agency intends to use the contracting agency's own equipment or personnel to perform construction work on a public improvement, and the estimated value of the construction work that the contracting agency intends to perform with the contracting agency's own equipment or personnel exceeds \$200,000 (or \$125,000 if the public improvement involves the resurfacing of highways, roads or streets at a depth of two or more inches), the contracting agency shall file with the commissioner not later than 180 days before construction begins on the public improvement an analysis that shows that the contracting agency's decision conforms to the state's policy that contracting agencies make every effort to construct public improvements at the least cost to the contracting agency. Public agencies are required to keep and preserve a full, true and accurate account of the costs of performing the work, including all categories of costs described in ORS 279C.305(3)(b). The final account of the costs is a public record. Form WH-118 (Planned Public Improvement Summary) may be used to list planned public improvements. This form (WH-119) may be used to report the agency's cost analysis.

Completed forms should be mailed to:

Prevailing Wage Rate Unit
 Wage and Hour Division, #1045
 Bureau of Labor and Industries
 800 N.E. Oregon St.
 Portland, OR 97232-2180

WH-119 (Rev. 12/17)

 (Name of Agency Official)

 (Signature of Agency Official)

The 2016 edition of the *Prevailing Wage Rate Laws* handbook are now available. One complimentary hard copy of each Prevailing Wage Rate (PWR) publication is available upon request by emailing BOLI at pwremail@boli.state.or.us or calling (971) 673-0838. Additional copies are available at cost, plus postage.

In addition to providing this and other PWR publications, the Bureau of Labor and Industries' PWR Unit regularly offers free, informational seminars for both public agencies and contractors. The current schedule is available online at <http://www.oregon.gov/boli/WHD/PWR/docs/pwrsched.pdf>.

Prior to responding below, please consider that all PWR-related information is available online at <http://www.oregon.gov/BOLI/WHD/PWR/Pages/index.aspx>. If you are interested in receiving the handbook and/or being included on our mailing lists for future seminar notifications, please complete the form below and return it to the bureau's PWR Unit. You may mail this form to the address on the opposite side of the form, or fax it to (971) 673-2372.

-
- Please send me the 2016 edition of the *Prevailing Wage Rate Laws* handbook.
 - Please add me to the mailing list to receive information about BOLI PWR seminars.
 - Please add me to the e-mailing list to receive information about BOLI PWR seminars.

AGENCY OR CONTRACTOR BUSINESS NAME and PHONE NUMBER (Required)

AGENCY OR CONTRACTOR BUSINESS E-MAIL ADDRESS (Please print clearly)

MAILING ADDRESS

CITY, STATE, ZIP

NAME OF REPRESENTATIVE and PHONE NUMBER if different from above.

**DAVIS-BACON WAGE DETERMINATION SCHEDULE
EFFECTIVE: MAY 4, 2018**

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General Decision Number: OR180001 05/04/2018 OR1

Superseded General Decision Number: OR20170001

State: Oregon

Construction Type: Highway

Counties: Oregon Statewide.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2018
1	01/12/2018
2	03/16/2018
3	04/27/2018
4	05/04/2018

BROR0001-006 06/01/2017

BAKER, BENTON (NORTH), CLACKAMAS, CLATSOP, COLUMBIA, GILLIAM, HARNEY, HOOD RIVER, LINCOLN (NORTH), LINN (NORTH), MALHEUR (NORTH), MARION, MORROW, MULTNOMAH, POLK, SHERMAN, TILLAMOOK, UMATILLA, UNION, WALLOWA, WASCO (NORTH), WASHINGTON AND YAMHILL COUNTIES

	Rates	Fringes
BRICKLAYER.....	\$ 36.03	20.81

BROR0001-007 06/01/2017

BENTON (SOUTH), CROOK, DESCHUTES, GRANT, JACKSON, JEFFERSON, KLAMATH, LAKE, LANE, LINCOLN (SOUTH), LINN (SOUTH), MALHEUR (SOUTH), WASCO (SOUTH) AND WHEELER COUNTIES

	Rates	Fringes
BRICKLAYER.....	\$ 36.03	20.81

 CARP9001-001 06/01/2012

ZONE 1:

	Rates	Fringes
Carpenters:		
CARPENTERS.....	\$ 32.61	14.44
DIVER STANDBY.....	\$ 34.42	14.44
DIVERS TENDERS.....	\$ 36.97	14.44
DIVERS.....	\$ 78.38	14.44
MANIFOLD AND/OR DECOMPRESSION CHAMBER OPERATORS.....	\$ 30.28	14.44
MILLWRIGHTS.....	\$ 33.11	14.44
PILEDRIVERS.....	\$ 33.61	14.44

DEPTH PAY:

50 to 100 feet \$1.00 per foot over 50 feet
 101 to 150 feet 1.50 per foot over 101 feet
 151 to 200 feet 2.00 per foot over 151 feet

Zone Differential (Add to Zone 1 rates):

Zone 2 - \$0.85
 Zone 3 - 1.25
 Zone 4 - 1.70
 Zone 5 - 2.00
 Zone 6 - 3.00

ZONE 1 - All jobs or projects located within 30 miles of the
 respective City Hall

ZONE 2 - More than 30 miles and less than 40 miles from the
 respective City Hall

ZONE 3 - More than 40 miles and less than 50 miles from the
 respective City Hall

ZONE 4 - More than 50 miles and less than 60 miles from the
 respective City Hall

ZONE 5 - More than 60 miles and less than 70 miles from the
 respective City Hall

ZONE 6 - More than 70 miles from the respective City Hall.

BASEPOINTS CITIES FOR CARPENTERS (EXCLUDING MILLWRIGHTS,
 PILEDRIVERS AND DIVERS)

ALBANY	ASTORIA	BAKER
BEND	BROOKINGS	BURNS
COOS BAY	CORVALLIS	EUGENE

GOLDENDALE	GRANTS PASS	HERMISTON
HOOD RIVER	KLAMATH FALLS	LAGRANDE
LAKEVIEW	LONGVIEW	MADRAS
MEDFORD	McMINNVILLE	NEWPORT
OREGON CITY	ONTARIO	PENDLETON
PORTLAND	PORT ORFORD	REEDSPORT
ROSEBURG	SALEM	ST. HELENS
THE DALLES	TILLAMOOK	VANCOUVER

BASEPOINTS FOR MILLWRIGHTS

EUGENE	NORTH BEND	LONGVIEW
PORTLAND	MEDFORD	THE DALLES
VANCOUVER		

BASEPOINTS FOR PILEDRIVERS AND DIVERS

ASTORIA	BEND	COOS BAY
EUGENE	KLAMATH FALLS	LONGVIEW
MEDFORD	NEWPORT	PORTLAND
ROSEBURG	SALEM	THE DALLES

 * ELEC0048-006 01/01/2018

CLACKAMAS, CLATSOP, COLUMBIA, HOOD RIVER, MULTNOMAH, TILLAMOOK,
 WASCO, WASHINGTON, SHERMAN AND YAMHILL (NORTH) COUNTIES

	Rates	Fringes
CABLE SPLICER.....	\$ 44.22	21.50
ELECTRICIAN.....	\$ 42.60	22.75

HOURLY ZONE PAY:

Hourly Zone Pay shall be paid on jobs located outside of the
 free zone computed from the city center of the following
 listed cities:

Portland, The Dalles, Hood River, Tillamook, Seaside and
 Astoria

Zone Pay:

Zone 1: 31-50 miles \$1.50/hour
 Zone 2: 51-70 miles \$3.50/hour
 Zone 3: 71-90 miles \$5.50/hour
 Zone 4: Beyond 90 miles \$9.00/hour

*These are not miles driven. Zones are based on Delorrne
 Street Atlas USA 2006 plus.

 ELEC0112-001 06/01/2017

BAKER, GILLIAM, GRANT, MORROW, UMATILLA, UNION, WALLOWA, AND
 WHEELER COUNTIES

	Rates	Fringes
CABLE SPLICER.....	\$ 42.95	20.06
ELECTRICIAN.....	\$ 40.90	20.06

 * ELEC0280-003 01/01/2018

BENTON, CROOK, DESCHUTES, JEFFERSON, LANE (EAST OF A LINE RUNNING NORTH AND SOUTH FROM THE NORTHEAST CORNER OF COOS COUNTY TO THE SOUTHEAST CORNER OF LINCOLN COUNTY), LINN, MARION, POLK AND YAMHILL (SOUTHERN HALF) COUNTIES

	Rates	Fringes
CABLE SPLICER.....	\$ 41.15	17.75
ELECTRICIAN.....	\$ 41.85	18.95

 ELEC0291-006 06/01/2017

MALHEUR COUNTY

	Rates	Fringes
CABLE SPLICER.....	\$ 32.19	6%+11.76
ELECTRICIAN.....	\$ 29.26	6%+11.76

 * ELEC0659-004 02/01/2018

DOUGLAS (EAST OF A LINE RUNNING NORTH AND SOUTH FROM THE NE CORNER OF COOS COUNTY TO THE SE CORNER OF LINCOLN COUNTY), HARNEY, JACKSON, JOSEPHINE, KLAMATH AND LAKE COUNTIES

	Rates	Fringes
CABLE SPLICER.....	\$ 57.94	18.27
ELECTRICIAN.....	\$ 33.94	16.76

ZONE PAY: BASE POINTS ARE FROM THE DOWNTOWN POST OFFICE IN GRANTS PASS, KLAMATH FALLS, ROSEBURG AND MEDFORD.

ZONE 1:	0-20 MILES	\$0.00 PER HOUR
ZONE 2:	> 20-30 MILES	\$1.50 PER HOUR
ZONE 3:	>30-40 MILES	\$3.30 PER HOUR
ZONE 4:	>40-50 MILES	\$5.00 PER HOUR
ZONE 5:	>50-60 MILES	\$6.80 PER HOUR
ZONE 6:	>60 MILES	\$9.50 PER HOUR

*THESE ARE NOT MILES DRIVEN. ZONES ARE BASED ON DELORNE STREET ATLAS USA 5.0.

 ELEC0932-004 01/01/2018

COOS, CURRY, LINCOLN, DOUGLAS AND LANE COUNTIES (AREA LYING WEST OF A LINE NORTH AND SOUTH FROM THE N.E. CORNER OF COOS COUNTY TO THE S.E. CORNER OF LINCOLN COUNTY)

	Rates	Fringes
ELECTRICIAN.....	\$ 38.55	17.46

ENGI0701-005 01/01/2018		

ZONE 1:

POWER EQUIPMENT OPERATORS (See Footnote C)

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 41.65	14.35
GROUP 1A.....	\$ 43.73	14.35
GROUP 1B.....	\$ 45.82	14.35
GROUP 2.....	\$ 39.47	14.35
GROUP 3.....	\$ 38.59	14.35
GROUP 4.....	\$ 37.51	14.35
GROUP 5.....	\$ 36.27	14.35
GROUP 6.....	\$ 33.05	14.35

Zone Differential (add to Zone 1 rates):

Zone 2 - \$3.00

Zone 3 - \$6.00

For the following metropolitan counties: MULTNOMAH; CLACKAMAS; MARION; WASHINGTON; YAMHILL; AND COLUMBIA; CLARK; AND COWLITZ COUNTY, WASHINGTON WITH MODIFICATIONS AS INDICATED:

All jobs or projects located in Multnomah, Clackamas and Marion Counties, West of the western boundary of Mt. Hood National Forest and West of Mile Post 30 on Interstate 84 and West of Mile Post 30 on State Highway 26 and West of Mile Post 30 on Highway 22 and all jobs or projects located in Yamhill County, Washington County and Columbia County and all jobs or projects located in Clark & Cowlitz County, Washington except that portion of Cowlitz County in the Mt. St. Helens "Blast Zone" shall receive Zone I pay for all classifications.

All jobs or projects located in the area outside the identified boundary above, but less than 50 miles from the Portland City Hall shall receive Zone II pay for all classifications.

All jobs or projects located more than 50 miles from the Portland City Hall, but outside the identified border above, shall receive Zone III pay for all classifications.

For the following cities: ALBANY; BEND; COOS BAY; EUGENE;

GRANTS PASS; KLAMATH FALLS; MEDFORD; ROSEBURG

All jobs or projects located within 30 miles of the respective city hall of the above mentioned cities shall receive Zone I pay for all classifications.

All jobs or projects located more than 30 miles and less than 50 miles from the respective city hall of the above mentioned cities shall receive Zone II pay for all classifications.

All jobs or projects located more than 50 miles from the respective city hall of the above mentioned cities shall receive Zone III pay for all classifications.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

Group 1

Concrete Batch Plant and or Wet mix three (3) units or more; Crane, Floating one hundred and fifty (150) ton but less than two hundred and fifty (250) ton; Crane, two hundred (200) ton through two hundred ninety nine (299) ton with two hundred foot (200') boom or less (including jib, inserts and/or attachments); Crane, ninety (90) ton through one hundred ninety nine (199) ton with over two hundred (200') boom Including jib, inserts and/or attachments); Crane, Tower Crane with one hundred seventy five foot (175') tower or less and with less than two hundred foot (200') jib; Crane, Whirley ninety (90) ton and over; Helicopter when used in erecting work

Group 1A

Crane, floating two hundred fifty (250) ton and over; Crane, two hundred (200) ton through two hundred ninety nine (299) ton, with over two hundred foot (200') boom (including jib, inserts and/or attachments); Crane, three hundred (300) ton through three hundred ninety nine (399) ton; Crane, Tower Crane with over one hundred seventy five foot (175') tower or over two hundred foot (200') jib; Crane, tower Crane on rail system or 2nd tower or more in work radius

Group 1B

Crane, three hundred (300) ton through three hundred ninety nine (399) ton, with over two hundred foot (200') boom (including jib, inserts and/or attachments); Floating crane, three hundred fifty (350) ton and over; Crane, four hundred (400) ton and over

Group 2

Asphalt Plant (any type); Asphalt Roto-Mill, pavement profiler eight foot (8') lateral cut and over; Auto Grader or "Trimmer"; Blade, Robotic; Bulldozer, Robotic Equipment (any type); Bulldozer, over one hundred twenty thousand (120,000) lbs. and above; Concrete Batch Plant and/or Wet Mix one (1) and two (2) drum; Concrete Diamond Head

Profiler; Canal Trimmer; Concrete, Automatic Slip Form Paver (Assistant to the Operator required); Crane, Boom Truck fifty (50) ton and with over one hundred fifty foot (150') boom and over; Crane, Floating (derrick barge) thirty (30) ton but less than one hundred fifty (150) ton; Crane, Cableway twenty-five (25) ton and over; Crane, Floating Clamshell three (3) cu. Yds. And over; Crane, ninety (90) ton through one hundred ninety nine (199) ton up to and including two hundred foot (200') of boom (including jib inserts and/or attachments); Crane, fifty (50) ton through eighty nine (89) ton with over one hundred fifty foot (150') boom (including jib inserts and/or attachments); Crane, Whirley under ninety (90) ton; Crusher Plant; Excavator over one hundred thirty thousand (130,000) lbs.; Loader one hundred twenty thousand (120,000) lbs. and above; Remote Controlled Earth Moving Equipment; Shovel, Dragline, Clamshell, five (5) cu. Yds. And over; Underwater Equipment remote or otherwise, when used in construction work; Wheel Excavator any size

Group 3

Bulldozer, over seventy thousand (70,000) lbs. up to and including one hundred twenty thousand (120,000) lbs.; Crane, Boom Truck fifty (50) ton and over with less than one hundred fifty foot (150') boom; Crane, fifty (50) ton through eighty nine (89) ton with one hundred fifty foot (150') boom or less (including jib inserts and/or attachments); Crane, Shovel, Dragline or Clamshell three (3) cu. yds. but less than five (5) cu. Yds.; Excavator over eighty thousand (80,000) lbs. through one hundred thirty thousand (130,000) lbs.; Loader sixty thousand (60,000) lbs. and less than one hundred twenty thousand (120,000) lbs.

Group 4

Asphalt, Screed; Asphalt Paver; Asphalt Roto-Mill, pavement profiler, under eight foot (8') lateral cut; Asphalt, Material Transfer Vehicle Operator; Back Filling Machine; Backhoe, Robotic, track and wheel type up to and including twenty thousand (20,000) lbs. with any attachments; Blade (any type); Boatman; Boring Machine; Bulldozer over twenty thousand (20,000) lbs. and more than one hundred (100) horse up to seventy thousand (70,000) lbs.; Cable-Plow (any type); Cableway up to twenty five (25) ton; Cat Drill (John Henry); Chippers; Compactor, multi-engine; Compactor, Robotic; Compactor with blade self-propelled; Concrete, Breaker; Concrete, Grout Plant; Concrete, Mixer Mobile; Concrete, Paving Road Mixer; Concrete, Reinforced Tank Banding Machine; Crane, Boom Truck twenty (20) ton and under fifty (50) ton; Crane, Bridge Locomotive, Gantry and Overhead; Crane, Carry Deck; Crane, Chicago Boom and similar types; Crane, Derrick Operator, under one hundred (100) ton; Crane, Floating Clamshell, Dragline, etc. Operator, under three (3) cu. yds. Or less than thirty (30) ton; Crane, under fifty (50) ton; Crane, Quick Tower under one hundred foot (100') in height and less than one hundred

fifty foot (150') jib (on rail included); Diesel-Electric Engineer (Plant or Floating); Directional Drill over twenty thousand (20,000) lbs. pullback; Drill Cat Operator; Drill Doctor and/or Bit Grinder; Driller, Percussion, Diamond, Core, Cable, Rotary and similar type; Excavator Operator over twenty thousand (20,000) lbs. through eighty thousand (80,000) lbs.; Generator Operator; Grade-all; Guardrail Machines, i.e. punch, auger, etc.; Hammer Operator (Piledriver); Hoist, stiff leg, guy derrick or similar type, fifty (50) ton and over; Hoist, two (2) drums or more; Hydro Axe (loader mounted or similar type); Jack Operator, Elevating Barges, Barge Operator, self-unloading; Loader Operator, front end and overhead, twenty five thousand (25,000) lbs. and less than sixty thousand (60,000) lbs.; Log Skidders; Piledriver Operator (not crane type); Pipe, Bending, Cleaning, Doping and Wrapping Machines; Rail, Ballast Tamper Multi-Purpose; Rubber-tired Dozers and Pushers; Scraper, all types; Side-Boom; Skip Loader, Drag Box; Strump Grinder (loader mounted or similar type); Surface Heater and Planer; Tractor, rubber-tired, over fifty (50) HP Flywheel; Trenching Machine three foot (3') depth and deeper; Tub Grinder (used for wood debris); Tunnel Boring Machine Mechanic; Tunnel, Mucking Machine; Ultra High Pressure Water Jet Cutting Tool System Operator; Vacuum Blasting Machine Operator; Water pulls, Water wagons

Group 5

Asphalt, Extrusion Machine; Asphalt, Roller (any asphalt mix); Asphalt, Roto-Mill pavement profiler ground man; Bulldozer, twenty thousand (20,000) lbs. or less, or one hundred (100) horse or less; Cement Pump; Chip Spreading Machine; Churn Drill and Earth Boring Machine; Compactor, self-propelled without blade; Compressor, (any power) one thousand two hundred fifty (1,250) cu. ft. and over, total capacity; Concrete, Batch Plant Quality control; Concrete, Combination Mixer and compressor operator, gunite work; Concrete, Curb Machine, Mechanical Berm, Curb and/or Curb and Gutter; Concrete, Finishing Machine; Concrete, Grouting Machine; Concrete, Internal Full Slab Vibrator Operator; Concrete, Joint Machine; Concrete, Mixer single drum, any capacity; Concrete, Paving Machine eight foot (8') or less; Concrete, Planer; Concrete, Pump; Concrete, Pump Truck; Concrete, Pumpcrete Operator (any type); Concrete, Slip Form Pumps, power driven hydraulic lifting device for concrete forms; Conveyored Material Hauler; Crane, Boom Truck under twenty (20) tons; Crane, Boom Type lifting device, five (5) ton capacity or less; Drill, Directional type less than twenty thousand (20,000) lbs. pullback; Fork Lift, over ten (10) ton or Robotic; Helicopter Hoist; Hoist Operator, single drum; Hydraulic Backhoe track type up to and including twenty thousand (20,000) lbs.; Hydraulic Backhoe wheel type (any make); Laser Screed; Loaders, rubber-tired type, less than twenty five thousand (25,000) lbs.; Pavement Grinder and/or Grooving Machine (riding type); Pipe, cast in place Pipe Laying Machine; Pulva-Mixer or similar types; Pump Operator, more than five (5) pumps

(any size); Rail, Ballast Compactor, Regulator, or Tamper machines; Service Oiler (Greaser); Sweeper Self-Propelled; Tractor, Rubber-Tired, fifty (50) HP flywheel and under; Trenching Machine Operator, maximum digging capacity three foot (3') depth; Tunnel, Locomotive, Dinkey; Tunnel, Power Jumbo setting slip forms, etc.

Group 6

Asphalt, Pugmill (any type); Asphalt, Raker; Asphalt, Truck Mounted Asphalt Spreader, with Screed; Auger Oiler; Boatman; Bobcat, skid steed (less than one (1) yard); Broom, self-propelled; Compressor Operator (any power) under 1,250 cu. ft. total capacity; Concrete Curing Machine (riding type); Concrete Saw; Conveyor Operator or Assistant; Crane, Tugger; Crusher Feederman; Crusher Oiler; Deckhand; Drill, Directional Locator; Fork Lift; Grade Checker; Guardrail Punch Oiler; Hydrographic Seeder Machine, straw, pulp or seed; Hydrostatic Pump Operator; Mixer Box (CTB, dry batch, etc.); Oiler; Plant Oiler; Pump (any power); Rail, Brakeman, Switchman, Motorman; Rail, Tamping Machine, mechanical, self-propelled; Rigger; Roller grading (not asphalt); Truck, Crane Oiler-Driver

IRON0029-004 07/01/2017

	Rates	Fringes
IRONWORKER.....	\$ 36.21	24.66

LABO0737-001 06/01/2017

	Rates	Fringes
Mason Tender/Hod Carrier Tenders to Bricklayers, Tile Setters, Marble Setters and Terrazzo Workers, Topping for Cement Finishers and Mortar Mixers.....	\$ 28.89	13.85

LABO0737-008 06/01/2017

ZONE 1:

LABORERS (SEE FOOTNOTE C)

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 28.86	13.85
GROUP 2.....	\$ 29.94	13.85
GROUP 3.....	\$ 25.00	13.85

Zone Differential (Add to Zone 1 rates):

Zone 2 - \$0.85
Zone 3 - 2.00
Zone 4 - 3.00
Zone 5 - 5.00

ZONE 1 - All jobs or projects located within 30 miles of the respective City Hall

ZONE 2 - More than 30 miles and less than 40 miles from the respective City Hall

ZONE 3 - More than 40 miles and less than 50 miles from the respective City Hall

ZONE 4 - More than 50 miles and less than 80 miles from the respective City Hall

ZONE 5 - More than 80 miles from the respective City Hall.

BASEPOINTS:

ALBANY	ASTORIA	BAKER CITY
BEND	BURNS	COOS BAY
EUGENE	GRANTS PASS	HERMISTON
KLAMATH FALLS	MEDFORD	PENDLETON
PORTLAND	ROSEBURG	SALEM
THE DALLES		

LABORER CLASSIFICATIONS

GROUP 1: Applicator (including Pot Tender for same) applying protective material by hand or nozzle on utility lines or storage tanks on project, Asphalt Plant; Asphalt Spreader; Batch Weighman; Broomers; Brush Burners and Cutters; Choker Setter; Choker Splicer; Clary Power Spreader; Clean-up Laborer; Clean up Nozzleman (concrete, rock, etc); Concrete Laborer; Crusher Feeder; Curing, Concrete; Demolition, wrecking, and moving; Dopping and Wrapping Pipe; Dumpman (for Grading Crew); Erosion Control Specialist; Fine Graders; Fence Builders; Form Strippers; Guard Rail, Median Rail, Barriers, Reference Post, Guide Post, Right of Way Marker; Remote Control (Dry Pack Machine, Jackhammer, Chipping Guns, Compaction, Paving Breakers, Hand Held Concrete Saw, Demo Saw, Core Drill); Precast Concrete Setter; Pressure Washer; Railroad Track Laborer; Ribbon Setter; Rip Rap Map; Sand Blasting (Wet); Scaffold Tender; Self Propelled Concrete Buggy; Sewer Laborer; Sign Erector; Signalman; Scissor and Manlift; Skipman; Slopers; Sprayman; Stake Chaser; Stake Setter; Tamper; Timber Faller and Bucker; Tool Operators (Hand Held, Walk Behind)

GROUP 2: Asbestos Removal; Asphalt Rakers, Bit Grinder, Concrete Core Drill, Concrete Pump Nozzleman, Concrete Saw Operator (Walk Behind, Walk Saw, Rail Mounted, Wire); Drill Operator; Grade Checker; Gunite Nozzleman; Hazardous Waste Laborer; High Scalers; Laser Bean (Pipe Laying); Loop Installation; Manhole Builder; Mold Remediation Laborer;

Nippers and Timberman; Pipelayer; Powderman; Power Saw Operators (Bucking and Falling); Pumpcrete Nozzleman; Sand Blasting (Dry); Sewer Timberman; Tugger Operator; Vibrators; Water Blaster

GROUP 3: Final Clean-up(detailed clean-up, limited to cleaning up floors, ceilings, walls, windows-prior to acceptance by the owner); Fire Watch; Landscaper; Traffic Flagger

FOOTNOTE C:

HANDLING OF HAZARDOUS WAST MATERIALS - Personnel in all craft classifications subject to working inside a federally designated Hazardous Waste perimeter shall be eligible for compensation in accordance with the following group schedule relative to the level of Hazardous Waste as outline in the specific Hazardous Waste Project Site Safety Plan:

H-1 Base Wage Rate when on a hazardous waste site when not outfitted with protective clothing.

H-2 Class "C" Suit - Basic hourly wage rate plus \$1.00 per hour, fringes plus \$0.15.

H-3 Class "B" Suit - Basic hourly wage rate plus \$1.50 per hour, fringes plus \$0.15.

H-4 Class "A" Suit -Basic hourly wage rate plus \$2.00 per hour, fringes plus \$0.15.

PAIN0055-002 07/01/2017

	Rates	Fringes
PAINTER		
HIGHWAY & PARKING LOT		
STRIPER.....	\$ 34.87	11.46

PAIN0055-033 07/01/2017

	Rates	Fringes
PAINTER		
BAKER, BENTON, CLATSOP,		
CROOK, DESCHUTES, GRANT,		
GILLIAM, HARNEY,		
JEFFERSON, LAKE, LANE,		
LINN, LINCOLN, MALHEUR,		
MARION, POLK, TILLAMOOK,		
SHERMAN, UNION, WHEELER		
AND YAMHILL COUNTIES		

High work-All work 60 feet or higher.....	\$ 23.97	11.02
Painters.....	\$ 22.47	10.10
BENTON, LANE, LINN, JEFFERSON, WHEELER, CROOK, DESCHUTES, BAKER, MALHEUR, GRANT, LAKE, LINCOLN, HARNEY, CLATSOP, GILLIAM, MARION, POLK, TILLAMOOK, SHERMAN, UNION, AND YAMHILL COUNTIES		
Painters.....	\$ 22.02	11.02
CLACKAMAS, COLUMBIA, HOOD RIVER, MULTNOMAH, MORROW, UMATILLA, WALLOWA, WASCO AND WASHINGTON COUNTIES		
High work-All work 60 feet or higher.....	\$ 24.97	11.02
Painters.....	\$ 23.02	11.02
JACKSON AND KLAMATH COUNTIES		
High Work-All Work 60 feet or higher.....	\$ 21.97	11.02
Painters.....	\$ 20.02	11.02

PLAS0555-001 06/01/2017

ZONE 1:

	Rates	Fringes
Cement Masons: (ZONE 1)		
CEMENT MASONS DOING BOTH COMPOSITION/POWER MACHINERY AND SUSPENDED/HANGING SCAFFOLD..		
	\$ 32.87	17.62
CEMENT MASONS ON SUSPENDED, SWINGING AND/OR HANGING SCAFFOLD.....		
	\$ 32.19	17.62
CEMENT MASONS.....		
	\$ 31.50	17.62
COMPOSITION WORKERS AND POWER MACHINERY OPERATORS...		
	\$ 32.19	17.62

Zone Differential (Add To Zone 1 Rates):

- Zone 2 - \$0.65
- Zone 3 - 1.15
- Zone 4 - 1.70
- Zone 5 - 3.00

BASE POINTS: BEND, CORVALLIS, EUGENE, MEDFORD, PORTLAND,
SALEM, THE DALLES, VANCOUVER

ZONE 1: Projects within 30 miles of the respective city hall

ZONE 2: More than 30 miles but less than 40 miles from the
respective city hall.

ZONE 3: More than 40 miles but less than 50 miles from the respective city hall.

ZONE 4: More than 50 miles but less than 80 miles from the respective city hall.

ZONE 5: More than 80 miles from the respective city hall

TEAM0037-004 06/01/2017

ZONE 1:

TRUCK DRIVERS (See Footnote C):

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 27.94	14.37
GROUP 2.....	\$ 28.06	14.37
GROUP 3.....	\$ 28.19	14.37
GROUP 4.....	\$ 28.46	14.37
GROUP 5.....	\$ 28.68	14.37
GROUP 6.....	\$ 28.85	14.37
GROUP 7.....	\$ 29.05	14.37

Zone Differential (add to Zone 1 rates):

Zone 2 - \$0.65
Zone 3 - 1.15
Zone 4 - 1.70
Zone 5 - 2.75

Zone 1 - All jobs or projects located within 30 miles of the respective City Hall

Zone 2 - More than 30 miles and less than 40 miles from the respective City Hall

Zone 3 - More than 40 miles and less than 50 miles from the respective City Hall

Zone 4 - More than 50 miles and less than 80 miles from the respective City Hall

Zone 5 - More than 80 miles from the respective City Hall

BASEPOINTS:

ALBANY	ASTORIA	BAKER
BEND	BINGEN	BROOKINGS
BURNS	COOS BAY	CORVALLIS
EUGENE	GOLDENDALE	GRANTS PASS
HERMISTON	HOOD RIVER	KLAMATH FALLS
LAGRANDE	LAKEVIEW	LONGVIEW
MADRAS	MEDFORD	MCMINNVILLE
OREGON CITY	NEWPORT	ONTARIO
PENDLETON	PORTLAND	PORT ORFORD
REEDSPORT	ROSEBURG	SALEM

THE DALLES

TILLAMOOK

VANCOUVER

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: A-frame or hydra-lift truck w/load bearing surface; Articulated dump truck; Battery rebuilders; Bus or manhaul driver; Concrete buggies (power operated); Concrete pump truck; Dump trucks, side, end and bottom dumps, including semi-trucks and trains or combinations thereof: up to and including 10 cu. yds.; Lift jitneys, fork lifts (all sizes in loading, unloading and transporting material on job site); Loader and/or leverman on concrete dry batch plant (manually operated); Lubrication man, fuel truck driver, tireman, wash rack, steam cleaner or combination; Pilot car; Pickup truck; Slurry truck driver or leverman; Solo flat bed and misc. body truck, 0-10 tons; Team drivers; Tireman; Transit mix and wet or dry mix trucks: 5 cu yds. and under; Water wagons (rated capacity) up to 3,000 gallons

GROUP 2: Boom truck/hydra-lift or retracting crane; Challenger; Dumpsters or similar equipment-all sizes; Dump trucks/articulated dumps 6 cu to 10 cu.; Flaherty spreader driver or leverman; Low bed equipment, flat bed semi-truck and trailer or doubles transporting equipment or wet or dry materials; Lumber carrier, driver-straddle carrier (used in loading, unloading and transporting of materials on job site); Oil distributor driver or leverman; Transit mix and wet or dry mix trucks: over 5 cy yds and including 7 cu. yds; Vacuum trucks; Water Wagons (rated capacity) over 3,000 to 5,000 gallons

GROUP 3: Ammonia nitrate distributor driver; Dump trucks, side, end and bottom dumps, including semi-trucks and trains or combinations thereof: over 10 cu. yds. and including 30 cu. yds., includes articulated dump trucks; Self-Propelled street sweeper; Transit mix and wet or dry mix trucks, over 7 cu. yds. and including 11 cu. yds.; truck mechanic-Welder-Body repairman; Utility and clean-up truck; Water wagons (rated capacity) 5,000 to 10,000 gallons.

GROUP 4: Asphalt Bruner; Dump trucks, side, end and bottom dumps, including semi-trucks and trains or combinations thereof: over 30 cu. yds. and including 50 cu. yds. includes articulated dump trucks; Fire guard; Transit Mix and Wet or Dry Mix Trucks, over 11 cu. yds. and including 15 cu. yds.; Water Wagon (rated capacity) over 10,000 gallons to 15,000 gallons

GROUP 5: Composite Crewman; Dump trucks, side, end and bottom dumps, including semi-trucks and trains or combinations thereof: over 50 cu. yds. and including 60 cu. yds., includes articulated dump trucks

GROUP 6: Bulk cement spreader w/o auger; Dry Pre-Batch concrete mix trucks; Dump trucks, side, end and bottom dumps, including semi-trucks and trains of combinations

thereof: over 60 cu. yds. and including 80 cu. yds. and includes articulated dump trucks; Skid truck

GROUP 7: Dump trucks, side, end and bottom dumps, including semi-trucks and trains or combinations thereof: over 80 cu. yds. and including 100 cu. yds. includes articulated dump trucks; Industrial lift truck (mechanical tailgate)

FOOTNOTE C:

HANDLING OF HAZARDOUS WAST MATERIALS -(LABORERS, POWER EQUIPMENT OPERATORS, AND TRUCK DRIVERS): Personnel in all craft classifications subject to working inside a federally designated Hazardous Waste perimeter shall be eligible for compensation in accordance with the following group schedule relative to the level of Hazardous Waste as outline in the specific Hazardous Waste Project Site Safety Plan:

H-1 Base Wage Rate when on a hazardous waste site when not outfitted with protective clothing.

H-2 Class "C" Suit - Basic hourly wage rate plus \$1.00 per hour, fringes plus \$0.15.

H-3 Class "B" Suit - Basic hourly wage rate plus \$1.50 per hour, fringes plus \$0.15.

H-4 Class "A" Suit -Basic hourly wage rate plus \$2.00 per hour, fringes plus \$0.15.

SUOR1991-003 04/01/1991

	Rates	Fringes
Timber Sales Roads:		
LABORERS.....	\$ 8.35	4.30
OPERATING ENGINEERS.....	\$ 10.37	4.15
POWER SAW, DRILLER, POWDERMAN.....	\$ 9.12	4.30
TEAMSTERS.....	\$ 9.74	3.74

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their

own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates

the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division

U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT

SEAL COAT AND LIGHTING IMPROVEMENTS

A.I.P. PROJECT No. 3-41-0019-013-2018

BIDDER'S CHECKLIST

To all Plan Holders and/or Prospective Bidders:

Use the following checklist to ensure that your bid package is complete upon submittal to the Owner on the date listed in the Invitation to Bid. This checklist has been prepared and furnished to aid Bidders in including all necessary supporting information with their bid. Bidder's submittals shall include, but are not limited to, the following:

- | | <u>Checked</u> |
|--|----------------|
| 1. Contractor's Qualification Statement, in accordance with Section 20-02, including "Evidence of Competency" and "Evidence of Financial Responsibility". | _____ |
| 2. Proposal (Bid) Fully Executed. Complete the Proposal in clearly written ink or typed characters. Changes may be made provided all changes are initialed. | _____ |
| 3. Acknowledgement of Addenda (on Proposal). Acknowledge receipt of all Addenda. Bidders are strongly encouraged to contact the Owner/Engineer to verify that all addenda are in hand prior to submittal of the bid package. | _____ |
| 4. Certification of Non-segregated Facilities. | _____ |
| 5. Bidder's Statement on previous contracts subject to EEO Clause. | _____ |
| 6. Letter of Intent (if DBE subcontractors are to be used). | _____ |
| 7. Restrictions of Federal Public Works Projects. | _____ |
| 8. Tax Delinquency and Felony Convictions. | _____ |
| 9. Bidders Certification. | _____ |
| 10. Buy American Certification. | _____ |
| 11. Bidder's Bond or other Security. Include an executed Bid Bond or other acceptable Bid Security in the amount of ten percent (10%) of the total bid amount. | _____ |

12. Power-of-Attorney for Surety's Agent to execute Bidder's Bond. _____
13. Complete and submit the First-tier Subcontractors Disclosure Form prior to the time listed in the advertisement for bids. Failure to submit the disclosure form will result in the bid being declared “non-responsive”. _____
14. Bidders List. The Bidder shall submit the name, address, DBE status, age, and gross receipts of all firms bidding or quoting subcontracts on DOT-assisted projects. The attached form in the Proposal shall be used to report this information. The Bidders List shall be submitted with the Bidder’s sealed proposal. _____
15. Submit the bid package, prior to the Bid Closing time, at the place indicated in the Invitation to Bid. The bid package shall be enclosed in an opaque, sealed envelope, marked with the project title, date of the opening, and the name and address of the Bidder. _____

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS
A.I.P. PROJECT No. 3-41-0019-013-2018
PROPOSAL

TO: *Mayor and City Council*
City of Florence
250 Highway 101
Florence, Oregon 97439

This Proposal is submitted as an offer by the undersigned, having examined the Contract Documents and considered all conditions to be encountered, to enter into a Contract with the City of Florence (“Owner”) to furnish all labor, materials, and equipment, and to perform all work necessary to complete this project, in accordance with the Contract Documents, in consideration of the amounts stated in this Proposal.

BIDDERS DECLARATION:

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this proposal are those named herein, that this proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the proposal is made without any connection or collusion with any person making another proposal on this contract.

The Bidder further declares that the Bidder has carefully examined the Contract Documents for the construction of the project, that the Bidder has personally inspected the site, that the Bidder is satisfied as to the quantities involved, including the fact that the description of the quantities of work and materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the Contract Documents, and that this proposal is made according to the provisions and under the terms of the Contract Documents, which documents are hereby made a part of this proposal.

The Bidder further declares that the provisions required pertaining to Federal and State prevailing wage rates shall be included in his contract and will be complied with.

The Bidder further agrees that the Bidder has exercised the Bidder’s own judgment regarding the interpretation of subsurface information and has utilized all data believed to be pertinent from the Engineer, Owner, and other sources in arriving at the Bidder’s conclusions.

NOTICE TO PROCEED:

Due to the timing and availability of project funding, weather, field conditions or operational circumstances, Notice to Proceed (NTP) for various segments of the contract work may be issued for construction beginning in September 2018 or beginning in April 2019, and will be issued by the Owner at the Owner's convenience. Dates listed below for the various segments of work are approximate only, and the Owner reserves the right to issue NTP at any time that project funding, weather, field conditions, or operational circumstances allow.

No adjustments will be made to the pricing established in this proposal regardless of when Notice to Proceed is issued. No work shall begin prior to issuance of Notice to Proceed by the Owner.

Notice to Proceed for work segments shall be as follows:

1. NTP for commencement of material, product and equipment submittals process; Production and/or procurement of materials and long lead-time items for 2019 construction. NTP is anticipated on or about September 10, 2018, at the convenience of the Owner.
2. NTP for construction items related to the lighting system improvements required to be complete during a continuous 60 calendar day contract time. NTP is anticipated on or about April 1, 2019, at the convenience of the Owner.
3. NTP for construction of items related to the seal coat work to be complete during a continuous 10 calendar day period during which the airport is to be closed. NTP is anticipated on or about June 3, 2019, at the convenience of the Owner.
4. NTP for the final application of painted pavement markings, after expiration of the seal coat curing period. The time allowed for this work is 2 consecutive calendar days. NTP will be issued at the convenience of the Owner.

CONSTRUCTION TIME LIMITS:

For each Notice to Proceed, The Bidder agrees to begin work within 5 calendar days after the date of the Owner's written Notice to Proceed and to substantially complete the work within the time allowed.

1. For commencement of material, product and equipment submittals process, production and/or procurement of materials and long lead-time items for 2019 construction: The work shall be complete prior to the NTP date for construction of items related to the lighting system improvements. This work includes all materials and products for the seal coat work and the lighting improvement work. If work is not complete within the period allowed, liquidated damages as set forth in this proposal will be assessed.

2. For construction items related to the lighting system improvements: The work shall be complete within 60 continuous calendar days of Owners written NTP. Work hours are restricted to 0800 to 1800. Work days are restricted to Monday through Friday, work on Saturdays and Sundays is not allowed. The runway shall be open for air traffic use at 1800 on each work day, and the contractor shall allow adequate time for Owner staff to conduct runway inspections and authorization of the runway opening within this time. If work is not complete within the period allowed, liquidated damages as set forth in this proposal will be assessed.

The MIRL, PAPI, and REIL systems, including all power and control units, fixtures, signs, and appurtenances, and incidentals shall be fully operational at the conclusion of the 60-calendar day time frame.

Work exempt from the 60-calendar day requirement includes the FAA flight check and FAA commissioning of the PAPI and REIL systems.

3. For construction of items related to the seal coat work: The work shall be complete within 10 continuous calendar days of Owners written NTP. The airport shall be open to air traffic at the conclusion of the time allowed. If work is not complete within the 10-calendar day period, liquidated damages as set forth in this proposal will be assessed.

The final application of painted pavement markings, after expiration of the seal coat curing period is exempt from the 10 continuous calendar day requirement. The time allowed for the final application of painted pavement markings is 2 consecutive calendar days. The airport shall be open to air traffic at the conclusion of the time allowed. If work is not complete within the 2-calendar day period, liquidated damages as set forth in this proposal will be assessed.

In the event that certain items not required for substantial completion, as defined in the Supplementary Conditions herein, but required for final completion of the work as put forth in this Contract Document fail to arrive at the work site in time to be properly installed during normal working hours within the time allowed for substantial completion of the work, then an allowance of not more than thirty (30) calendar days following the receipt of the last item required will be given to the Contractor to effect the final completion of said work.

LIQUIDATED DAMAGES:

The Owner shall be entitled to liquidated damages of \$2,400.00 per calendar day, for non-use, and for failure of the Bidder to complete the work within the specified contract time. In addition, for work restrictions that have daily time certain (specific work hour) requirements, the liquidated damages will be assessed at an hourly rate of \$100 per hour, for non-use.

In addition:

- A. The Bidder further agrees to pay liquidated damages for expenses incurred by the Owner for unscheduled employment of the Engineer during the contract time overrun.

As compensation for expense incurred for unscheduled employment of the Engineer, the Contractor shall be assessed an additional liquidated damage equal to the expense incurred for each day that the work remains uncompleted beyond the contract period. The liquidated damage amounts shall also apply to phases or work areas that have limited or specific time constraints.

B. The Bidder further agrees to pay liquidated damages according to the following hourly rates for the unscheduled employment of the Engineer necessitated by the Contractor:

1. Working more than ten (10) hours per day, more than five (5) days per week and Saturdays (time and one-half), and holidays, and Sundays (double time).
2. Furnishing materials or equipment not in conformance with Contract Documents necessitating redesign by the Engineer.
3. Working beyond the time of completion established in the Notice to Proceed with Construction.

	Straight Time	Time and One-Half Mon.-Sat.	Double Time Sundays and Holidays
Engineer	\$175.00/Hr.	\$175.00/Hr.	\$175.00/Hr.
Resident Project Rep.	\$110.00/Hr.	\$165.00/Hr.	\$220.00/Hr.
Out of Pocket Cost material, equipment, supplies, transportation, subsistence	At Cost+10%	At Cost+10%	At Cost+10%

C. The Engineering budget will be analyzed at the end of the project to determine whether any unscheduled employment of the Engineer, during the scheduled contract time, resulted in a cost savings to the Owner. If, as a result of working more than ten hours per day, five days per week, the Contractor completes the project within the scheduled time, and if the overtime results in a reduced contract time and cost savings to the Owner, no liquidated damages will be assessed for the unscheduled employment of the Engineer during the scheduled contract time. Liquidated damages will be assessed as stipulated for each day the work remains uncompleted beyond the scheduled contract time.

SUBCONTRACTORS:

The Bidder will list all proposed subcontractors by their proper corporate name and the portion of the work the subcontractor intends to perform in the spaces provided below.

The Owner reserves the right to reject any subcontractor that the Owner deems unfit for the scope of the work proposed.

	Subcontractor	Work to be performed
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____

UNIT PRICES:

The Bidder further proposes to accept as full payment for the work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following lump sum price or unit price amounts. The Bidder agrees that the lump sum prices or unit prices represent a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type and unit of work called for in these Contract Documents. The amounts shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.

All blanks on the Proposal must be completed by clearly printing in ink or by typewriter. Changes may be made provided that the Bidder initials all changes.

All items in the proposal form shall be completed in full showing a unit or lump sum price or prices for each and every item. The price per item shall be clearly shown in the space provided. The pricing shall be extended to show the total when required.

The extensions in the column headed “EXTENDED TOTAL” are made for the sole purpose of facilitating bid comparisons and if there are any discrepancies between the unit prices and the total amount shown, the unit prices shall govern.

BASIS OF AWARD:

Bidders must bid all portions of the work (base bid and all bid alternates). The bidder understands that the award shall be made to the lowest responsible and responsive bidder for the total of the items selected for award. The Owner reserves the right to withdraw any item(s) or Alternates from award consideration. Contract is subject to receipt of FAA grant funding.

DBE GOAL:

Contract Goals: No DBE contract goal has been established for this project.

Bidders List: The Bidder shall submit the name, address, DBE status, age, and gross receipts of all firms bidding or quoting subcontracts on DOT-assisted projects. The attached form in the Proposal shall be used to report this information. The Bidders List shall be submitted with the Bidder’s sealed proposal.

PROPOSAL AMOUNTS:							
Bid Item	Description Quantity	Spec/ Detail	Qty	Price Unit	Unit Price or LS (Figures)	Unit Price or LS (Words)	Extended Total Cost (Figures)
1	Mobilization	105	1	LS			
2	Temporary Flagging, Marking, and Signing	01300	1	LS			
3	Low Level Barricades	01300	1	LS			
4	Construction Staking	01406	1	LS			
5	Temporary Erosion and Pollution Control	P-156	1	LS			
6	Crack Repairs- Route and Seal Previously Unsealed Cracks	S-100	3,300	LF			
7	Crack Repairs- Heat and Seal Previously Sealed Cracks	S-100	4,300	LF			

Bid Item	Description Quantity	Spec/ Detail	Qty	Price Unit	Unit Price or LS (Figures)	Unit Price or LS (Words)	Extended Total Cost (Figures)
8	Type I Slurry Seal	P-626	34,800	SY			
9	Pavement Marking Removal	P-620	7,500	SF			
10	Pavement Marking-First Application	P-620	7,550	SF			
11	Pavement Marking-Second Application	P-620	7,550	SF			
12	Area Seeding- PAPI/REIL Grading Areas	T-901	0.5	ACRE			
13	L-861SE(L) Elevated Runway Threshold Lights, Green/Red Lens	16515	12	EA			
14	L-861(L) Elevated Runway Edge Lights, White Lens	16515	34	EA			

Bid Item	Description Quantity	Spec/ Detail	Qty	Price Unit	Unit Price or LS (Figures)	Unit Price or LS (Words)	Extended Total Cost (Figures)
15	L-861T(L) Elevated Taxiway Edge Lights, Blue Lens	16515	35	EA			
16	L-853 Elevated Taxiway Reflectors, Blue	16515	93	EA			
17	L-881 PAPI, RW 15	16515	1	LS			
18	RW 15 PAPI 600v Conductors	L-108	150	LF			
19	RW 15 PAPI and REIL Aiming	16515	1	LS			
20	L-881 PAPI, RW 33	16515	1	LS			
21	RW 33 PAPI 600v Conductors	L-108	150	LF			
22	RW 33 PAPI and REIL Aiming	16515	1	LS			

Bid Item	Description Quantity	Spec/ Detail	Qty	Price Unit	Unit Price or LS (Figures)	Unit Price or LS (Words)	Extended Total Cost (Figures)
23	L-849(L) RW 15 REIL	16515	1	LS			
24	RW 15 REIL 600v Conductors	L-108	450	LF			
25	L-849(L) RW 33 REIL	16515	1	LS			
26	RW 33 REIL 600v Conductors	L-108	450	LF			
27	Lighted Guidance Sign	16527	5	EA			
28	Demolish Existing Guidance Sign	16515; L-100	4	EA			
29	Demolish Existing MIRL System (Fixtures, Conduit, Conductor, Etc.)	16515; L-100	1	LS			
30	Demolish Existing RW 33 PAPI System	16515; L-100	1	LS			

Bid Item	Description Quantity	Spec/ Detail	Qty	Price Unit	Unit Price or LS (Figures)	Unit Price or LS (Words)	Extended Total Cost (Figures)
31	Electrical Utility Vault	5/E-11	4	EA			
32	L-867 Junction Base Can	16515; 2/E-11	4	EA			
33	L-824, #8AWG, 5 Kv, Cable in Conduit or Ductbank	L-108	9,500	LF			
34	#6AWG Counterpoise Conductor in Trench-MIRL	L-108	7,600	LF			
35	#6AWG Counterpoise Conductor in Trench-PAPI's	L-108	100	LF			
36	#6AWG Counterpoise Conductor in Trench-REIL's	L-108	300	LF			
37	2' PVC Conduit- MIRL	L-110	8,000	LF			

Bid Item	Description Quantity	Spec/ Detail	Qty	Price Unit	Unit Price or LS (Figures)	Unit Price or LS (Words)	Extended Total Cost (Figures)
38	2" PVC Conduit- PAPI's	L-110	100	LF			
39	2" PVC Conduit- REIL's	L-110	300	LF			
40	4-4" Duct Bank Crossing	L-110	270	LF			
41	Temporary Trench Patch	4/E-11	150	SY			
42	Permanent Trench Patch	4/E-11	150	SY			
43	Duct Markers	L-110; 4/E-12	12	EA			
44	General Electrical Room Removal	L-100	1	LS			
45	Electrical Room Modifications	L-100	1	LS			

Bid Item	Description Quantity	Spec/ Detail	Qty	Price Unit	Unit Price or LS (Figures)	Unit Price or LS (Words)	Extended Total Cost (Figures)
46	L-828, 7.5 KW Regulator	L-100	1	LS			
47	L-854 Radio Control Unit	L-100	1	LS			
48	Load Centers and Circuit Breakers	L-100	1	LS			
<i>Total Bid (Basis of Award)</i>							

<i>BID ALTERNATE:</i>							
Bid Item	Description Quantity	Spec Detail	Qty	Price Unit	Unit Price or LS Figures	Unit Price or LS Words	Extended Total Cost Figures
A-1	L-881(L) PAPI, RW 15	16515	1	LS			
A-2	L-881(L) PAPI, RW 33	16515	1	LS			
<i>Bid Alternate Total</i>							

BID BOND:

Accompanying this Proposal is a certified check, cashier's check or bid bond payable to the City of Florence, Oregon, in the sum of _____ Dollars (\$_____), said amount being equal to ten percent (10%) of the Total Bid Amount, based on the foregoing prices. If this proposal shall be accepted by the City of Florence and the undersigned shall fail to execute a satisfactory Public Improvement Contract, performance bond, and payment bond within seven (7) days from the date of the Notice of Award, then the Owner may, at its option, determine that the undersigned has abandoned the Contract and thereupon this proposal shall be null and void, and the above check or bond accompanying this proposal shall be forfeited to and become the property of the Owner.

PUBLIC WORKS BOND:

For projects over \$100,000, before starting work on a contract or subcontract for a public works project, a contractor or subcontractor shall comply with the requirements of ORS 279C.836, and related Oregon Administrative Rules, pertaining to the filing of a Public Works Bond.

PREVAILING WAGE STATEMENT:

The undersigned Bidder declares by the signing of this Bid that the provisions required by ORS 279C.840, or by the U.S. Secretary of Labor, whichever is greater, pertaining to prevailing wage rates are included in this Bid, and that the Bidder will comply with said requirements throughout the duration of the contract.

NON-DISCRIMINATION STATEMENT:

By signing and submitting a Bid to the City, Bidder certifies that bidder has not discriminated and will not discriminate against a disadvantaged business enterprise, a minority-owned business, a woman-owned business, a business that a service-disabled veteran owns or an emerging small business in awarding a subcontract.

ADDENDA:

By signing and submitting this Proposal to the Owner, the Bidder represents that the Bidder has examined and carefully studied the Contract Documents, and other data identified in the Contract Documents, and the following Addenda, receipt of which is hereby acknowledged:

<i>ADDENDUM NO.</i>	<i>ADDENDUM DATE</i>

SIGNATURE OF BIDDER:

Name of Bidder: _____

Signature of Authorized Agent: _____

Date: _____

Title: _____

(SEAL)

Business Address: _____

Phone #: _____

Construction Contractors Board Registration No.: _____

Workers Comp. Insurance Company: _____

Workers Comp. Policy/Binder Number: _____

CERTIFICATION OF NONSEGREGATED FACILITIES

The federally-assisted construction contractor certifies that she or he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that she or he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that she or he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that she or he will retain such certifications in his files.

Certification: The information above is true and complete to the best of my knowledge and belief.

Name and Title of Signer (Please type)

Signature

Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

**BIDDER'S STATEMENT ON PREVIOUS
CONTRACTORS SUBJECT TO EEO CLAUSE**

The Bidder (proposer) has _____ has not _____ participated in a previous contract subject to the nondiscrimination clause prescribed by Section 202 of Executive Order No. 11246 dated September 24, 1965.

The Bidder (proposer) has _____ had not _____ submitted compliance reports in connection with any such contract as required by applicable instructions.

If the Bidder (proposer) has participated in a previous contract subject to the nondiscrimination clause and has not submitted compliance reports as required by applicable instructions, the Bidder (proposer) shall submit Standard Form 100 (for federal construction contracts) with the bid or proposal indicating current compliance.

Name and Title of Signer (Please type)

Signature

Date

LETTER OF INTENT

Name of Bidder's Firm: _____

Bidder's Address: _____

City: _____ State: _____ Zip Code _____

Name of DBE Firm: _____

Address: _____

City: _____ State: _____ Zip Code _____

Telephone: _____ Area Code: _____

State DBE Certification Number: _____

Description of work to be performed by DBE firm:

Bidder intends to utilize the above-named minority firm for the work described above. The estimated amount of work is valued at \$ _____. If the above-named bidder is not determined to be the successful bidder, the Letter of Intent shall be null and void.

(Copy this page for each DBE subcontractor)

(Letter of intent is not required if no DBE firms participate in the project)

RESTRICTION ON FEDERAL PUBLIC WORKS PROJECTS

- (a) General: This clause implements provisions contained in the Airport and airway Safety and Capacity Expansion Act of 1987, Public Law No. 100223.
- (b) Restrictions on Contract Award: No contract will be awarded to a bidder (1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms, published by the United States Trade Representative (USTR) or (2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list or (3) who incorporates in the project any production of a foreign country on such USTR List; unless a waiver to these restrictions is granted by the President of the United States or the Secretary of Transportation. (Notice of the granting of a waiver will be published in the Federal Register.)
- (c) Certification: By this page the bidder certifies that with respect to this solution, and any resultant contract the bidder:
 - 1. Is _____ Is not _____ a contractor of a foreign country included on the USTR list;
 - 2. Has _____ Has not _____ entered into any contract with a subcontractor of a foreign country included on the USTR list;
 - 3. Has _____ Has not _____ entered into any contract for any product to be used on this project that is produced in a foreign country included on the USTR list.
- (d) The bidder may rely upon the certification of a prospective subcontractor for the above conditions unless the bidder has knowledge that the certification is erroneous.
- (e) Erroneous Certification: This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the bidder knowingly rendered an erroneous certification, the sponsor may cancel this contract for default at no cost to the sponsor.
- (f) Subcontracts: The bidder shall incorporate this clause, without modification, including this paragraph (f) in all solicitations and subcontracts under this contract.
- (g) Applicability of 18 U.S.C. 1001: This certification concerns a matter within the jurisdiction of the federal Aviation Administration and the making of a false or fraudulent certification may render the maker subject to prosecution under Title 18, Unites States Code, Section 1001.

Firm Name: _____

Authorized Signature: _____

Title: _____

Date: _____

BIDDER'S CERTIFICATION

The Bidder hereby certifies that neither the Bidder nor the Bidder's principals are presently debarred, suspended or proposed for debarment by any federal agency. Bidder further agrees to include this clause in all subcontracts. Where the Bidder or any subcontractors is unable to certify to this statement on explanation shall be attached to this proposal.

Firm Name: _____

Authorized Signature: _____

Title: _____

Date: _____

Certificate of Buy America Compliance for Manufactured Products
 (Non-building construction projects, equipment acquisition projects)

PROJECT NAME:	Seal Coat and Lighting Improvements
AIRPORT NAME:	Florence Municipal Airport
AIP NUMBER:	3-41-0019-013-2018

Certificate of Buy American Compliance for Manufactured Products

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 USC § 50101 by selecting one on the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark (✓) or the letter "X".

- Bidder or offeror hereby certifies that it will comply with 49 USC § 50101 by:
- Only installing steel and manufactured products produced in the United States;
 - Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
 - Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

- To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
- To faithfully comply with providing U.S. domestic product.
- To furnish U.S. domestic product for any waiver request that the FAA rejects
- To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

- The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:
- To the submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that supports the type of waiver being requested.
 - That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination may result in rejection of the proposal.
 - To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
 - To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver – The cost of the item components and subcomponents produced in the United States is more that 60 percent of the cost of all components and subcomponents of the "item". The required documentation for a Type 3 waiver is:

- Listing of all product components and subcomponents that are not comprised of 100 percent U.S. domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).
- Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
- Percentage of non-domestic component and subcomponent cost as compared to total "item" component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

Type 4 Waiver – Total cost of project using U.S. domestic source product exceeds the total project cost using non-domestic product by 25 percent. The required documentation for a Type 4 of waiver is:

- Detailed cost information for total project using U.S. domestic product
- Detailed cost information for total project using non-domestic product

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date

Signature

Company Name

Title

CERTIFICATION OF OFFERER/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

The Bidder must complete the following two certification statements. The Bidder must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. The Bidder agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

- 1) The Bidder represents that it is () is not () a corporation that has 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.
- 2) The Bidder represents that it is () is not () is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If a Bidder responds in the affirmative to either of the above representations, the Bidder is ineligible to receive an award unless the sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The Bidder therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty-four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. § 3559.

Tax Delinquency: A tax delinquency is 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.

Firm Name: _____

Authorized Signature: _____

Title: _____

Date: _____

**CITY OF FLORENCE
 FLORENCE MUNICIPAL AIRPORT
 SEAL COAT AND LIGHTING IMPROVEMENTS
 AIP #3-41-0019-013-2018**

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

Bid Closing: July 26th, 2018/ 2:00pm (Local time)

For projects with a contract value of more than \$100,000, this form must be submitted at the located specified in the Invitation to Bid on the advertised bid closing date within two (2) working hours after the advertised bid closing time.

List below, the “Name” “Dollar Value” and “Category of Work” of each subcontractor that:

- (A) Will be furnishing labor or will be furnishing labor and materials in connection with the public improvement; and
- (B) Will have a contract value that is equal to or greater than five percent (5%) of the total project bid or \$15,000, whichever is greater, or \$350,000 regardless of the percentage of the total project bid.

Enter “NONE” if there are no subcontractors that need to be disclosed (if needed attach additional sheets).

SUBCONTRACTOR NAME	DOLLAR VALUE	CATEGORY OF WORK
	(\$)	
	(\$)	
	(\$)	
	(\$)	
	(\$)	
	(\$)	
	(\$)	

FAILURE TO SUBMIT THIS FORM BY THE DISCLOSURE DEADLINE WILL RESULT IN A NONRESPONSIVE BID. A NONRESPONSIVE BID WILL NOT BE CONSIDERED FOR AWARD.

Form submitted by (Bidder name): _____

Contact Name: _____ Phone #: _____

NOTE: Faxed copies of this form will not be accepted.

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BID BOND

KNOW ALL PEOPLE BY THESE PRESENTS, that we, the undersigned, _____
_____ as Principal and
_____ as Surety are hereby held and
firmly bound unto _____ as OWNER in the penal sum
of _____ for the payment of which, well and truly
to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed this _____ day of _____ 20_____.

The Condition of the above obligation is such that whereas the Principal has submitted to
_____ a certain BID attached hereto and
hereby made a part hereof to enter into a contract in writing, for the _____

NOW, THEREFORE,

(a) If said BID shall be rejected, or
(b) If said BID shall be accepted and the Principal shall execute and deliver a
contract in the Form of Contract attached hereto (property completed in accordance with
said BID) and shall furnish a BOND for his faithful performance of said contract, and for
the payment of all persons performing labor or furnishing materials in connection
therewith, and shall in all other respects perform the agreement created by the acceptance of
said BID, then this obligation shall be void, otherwise the same shall remain in force and
effect; it being expressly understood and agreed that the liability of the Surety for any and
all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein
stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said
Surety and its BOND shall be in no way impaired or affected by any extension of the time
within which the OWNER may accept such BID; and said Surety does hereby waive notice
of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and
seals and such of them as are corporations have caused their corporate seals to be hereto
affixed and these presents to be signed by their proper officers, the day and year first set
forth above.

Principal (L.S.) Surety

By: _____

IMPORTANT- Surety companies executing BONDS must appear on the Treasury Department's most current
list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

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CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMETNS
A.I.P. PROJECT No. 3-41-0019-013-2018
APPENDIX

- CONSTRUCTION SAFETY AND PHASING PLAN

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**Florence Municipal Airport
Seal Coat and Lighting Improvements
Project
AIP #3-41-0019-023-2018**

CONSTRUCTION SAFETY AND PHASING PLAN

Prepared for:

City of Florence
250 Highway 101
Florence, OR 97439

Prepared by:



1020 SW Emkay Drive, #100
Bend, OR 97702

May 2018



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Appendices

Appendix A	Construction Project Daily Safety Inspection Checklist
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I. PURPOSE AND OBJECTIVE

Aviation safety is the primary consideration at airports, especially during construction. The Construction Safety and Phasing Plan (CSPP) is a tool used to ensure safety compliance when coordinating construction activities with airport operations. This document identifies all aspects of the Florence Municipal Airport Seal Coat and Lighting Improvements Project that pose a potential safety hazard to airport operations and outlines mitigation procedures for each hazard.

This plan has been prepared in accordance with FAA Advisory Circulars (AC) 150/5300-13A, “*Airport Design*” and 150/5370-2G, “*Operational Safety on Airports During Construction*.”

The following objectives must be met by the “Team” comprised of: the Airport Manager; City of Florence Staff; the Engineering Design Consultant; the Prime Contractor; and various subconsultants, subcontractors, airport users, and airport tenants in order to maximize safety and minimize time and economic loss. These objectives include:

- Maintaining the safety and integrity of operations on the airport.
- To the greatest extent practical, keeping the airport operational for all users.
- Minimizing delays for aircraft and construction operations.
- Maximizing airport operation and construction activity opportunities.

The “Team” must keep these objectives in mind when formulating work schedules and work activities affecting operations on the airport.

II. RESPONSIBILITIES OF THE CONSTRUCTION CONTRACTOR

The Contractor is responsible for the following items:

A. Safety Plan Compliance Document (SPCD)

The Contractor is responsible for supplementing and following the CSPP by way of the Safety Plan Compliance Document (SPCD). The SPCD should include a general statement by the construction contractor that he has read and will abide by the CSPP. In addition, the SPCD must include all supplemental information that could not be included in the CSPP prior to the contract award. The contractor statement should include the name of the Contractor, the title of the project CSPP, the approval date of the CSPP, and a reference to any supplemental information (that is, “I, Name of Contractor, have read the *Florence Municipal Airport Seal Coat and Lighting Improvements Project CSPP*, approved on Date, and will abide by it as written and with the following additions as noted:”). The supplemental information in the SPCD should be written to match the format of the CSPP indicating each subject by corresponding CSPP subject number and title. If no supplemental

information is necessary for any specific subject, the statement, “No supplemental information,” should be written after the corresponding subject title. The SPCD should not duplicate information in the CSPP. Guidance for supplementing the CSPP with the SPCD is provided below.

- 1) Coordination.** Discuss details of proposed safety meetings with the airport operator and with contractor employees and subcontractors.
 - a. This includes attendance of key personnel and subcontractors at weekly coordination meetings with the Airport and Engineer.
 - b. This includes weekly scheduling of an Airport escort, if needed, to work areas as allowed by the Airport.
- 2) Phasing.** Discuss proposed construction schedule elements, including:
 - a. Daily start and finish of construction, including weekend work and nighttime construction.
- 3) Areas and operations affected by the construction activity.** These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.
- 4) Protection of NAVAIDs.** Navigational Aids (NAVAIDs) will be replaced as part of this project. Any new NAVAID will need to be protected after installation for the duration of the project.
- 5) Contractor access.** Provide the following:
 - a. Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).
 - b. Listing of individuals requiring driver training (for certificated airports and as requested).
 - c. Radio communications.
 - i. Types of radios and backup capabilities.
 - ii. Parties responsible for monitoring radios.
 - d. Details on how the contractor will escort material delivery vehicles.
- 6) Wildlife management.** Discuss the following:
 - a. Methods and procedures to prevent wildlife attraction.
 - b. Wildlife reporting procedures.
- 7) Foreign Object Debris (FOD) management.** Discuss equipment and methods for control of FOD, including construction debris and dust.
- 8) Hazardous material (HAZMAT) management.** Discuss equipment and methods for responding to hazardous spills.
- 9) Notification of construction activities.** Provide the following:
 - a. Contractor points of contact.
 - b. Contractor 24 hour emergency contact.



- c. Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.
- 10) Inspection requirements.** Discuss daily (or more frequent) inspections and special inspection procedures.
- 11) Underground utilities.** Discuss proposed methods of identifying and protecting underground utilities.
- 12) Penalties.** Penalties should be identified in the CSPP and should not require an entry in the SPCD.
- 13) Special conditions.** Discuss proposed actions for each special condition identified in the CSPP.
- 14) Runway and taxiway visual aids. Including marking, lighting, signs, and visual NAVAIDs.**
 - a. Equipment and methods for covering signage and airfield lights.
 - b. Equipment and methods for temporary closure markings (paint, fabric, other).
- 15) Marking and signs for access routes.** Discuss proposed methods of demarcating access routes for vehicle drivers.
- 16) Hazard marking and lighting.** Discuss proposed equipment and methods for identifying excavation areas.
- 17) Protection of runway and taxiway safety areas, including object free areas, obstacle free zones, and approach/departure surfaces.** Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:
 - a. Equipment and methods for maintaining Runway Safety Area standards.
 - b. Equipment and methods for maintaining Taxiway Safety Area standards.
- 18) Other limitations on construction.** These should be identified in the CSPP and should not require an entry in the SPCD.

B. Document Availability

Have available at all times copies of the CSPP and SPCD for reference by the airport operator and its representatives, and by subcontractors and contractor employees.

C. Safety Procedures

Ensure that construction personnel are familiar with safety procedures and regulations on the airport. Provide a point of contact that will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport. The Contractor shall anticipate 24-hour coverage.



D. Contractor's SPCD Representative

Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site whenever active construction is taking place.

E. Inspections

Conduct inspections sufficiently frequently to ensure construction personnel comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.

F. Vehicle Movement

Restrict movement of construction vehicles and personnel to permitted construction areas by flagging, barricading, erecting temporary fencing, or providing escorts, as appropriate and as specified in the CSPP and SPCD.

G. Air Operations Area Protection

Ensure that no contractor employees, employees of subcontractors or suppliers, or other persons enter any part of the air operations area (AOA) from the construction site unless authorized.

H. Form 7460-1 Submittal

Ensure prompt submittal through the airport operator of Form 7460-1 for the purpose of conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, and other equipment), stock piles, and haul routes when different from cases previously filed by the airport operator. The FAA encourages online submittal of forms for expediency.

III. INTRODUCTION OF STAFF

Key staff associated with the safety and operational planning of the Bandon State Airport.

Dan Stewart

Project Manager – FAA

Mike Miller

Airport Manager – Florence Municipal Airport

Greg Reince

Project Manager – Century West Engineering

IV. SCHEDULE AND SCOPE OF WORK

A. Schedule

Dependent on funding availability, construction may begin in Spring 2019.

B. Scope

The overall work includes the following:

1. Crack repair of Runway 15-33, four connector taxiways, and parallel taxiway;



2. Seal coat of approximately 34,560 SY of Runway 15-33, four connector taxiways, and parallel taxiway;
3. Demolition and reconstruction of the Runway 33 PAPI;
4. Siting analysis and installation of the Runway 15 PAPI;
5. Installation of lighted Holding Position Guidance Signs;
6. Installation of Runway 15 REILs;
7. Installation of Runway 33 REILs;
8. Installation of parallel taxiway reflectors;
9. Demolition and reconstruction of Runway 15-33 MIRL system (including the home run)
10. Upgrades of airport electrical equipment as necessary;
11. As-built AGIS survey for NAVAID installation.

V. SAFETY PLAN

A. Construction Safety and Phasing

The items listed below follow the guidance of Chapter 2, Section 2, “Plan Requirements” and Chapter 3, “Guidelines for Writing a CSPP” as provided in *AC 150/5370-2G-Operational Safety on Airports During Construction*.

- 1) **Coordination.** The Florence Municipal Airport construction project’s predesign, pre-bid, and preconstruction conferences will be used as opportunities to introduce the subject of airport operational safety during construction and to describe the elements of this CSPP and resulting SPCD.
 - a. **Contractor Progress Meetings.** Operational safety will be a standing agenda item for discussion during weekly progress meetings through the duration of the project.
 - b. **Scope or Schedule Changes.** Changes in the scope or duration of the project will be represented by revisions to the CSPP.
 - c. **FAA-ATO Coordination.** The contractor will work with the project representative during construction to assure that FAA Air Traffic Organization (ATO) will be coordinated with to schedule airway facility (including NAVAIDs) shutdowns and restarts.
 - i. Runway 15-33 will be closed from 8:00am to 6:00pm Monday through Friday for 60 calendar days during the lighting rehabilitation work. The runway will be reopened at the end of

each construction shift. There will be no night operations during this period as the airfield lighting will be turned off.

- ii. The airport will be closed for 10 calendar days during the pavement maintenance on the runway and taxiways.

2) Phasing. The Site Phasing and Safety Plan for the project details the scheduling of construction phases.

It is anticipated that the project will be completed in two phases:

a. Phase 1:

- i. 60 calendar days for lighting system improvements.
- ii. Runway 15-33 will be closed from 8:00am to 6:00pm Monday through Friday during the lighting rehabilitation work. The runway shall be reopened at the end of each construction shift.
- iii. There will be no night operations during this period as the airfield lighting will be turned off.

b. Phase 2:

- i. 10 calendar days for the crack seal and slurry seal work.
- ii. The airport will be closed during pavement maintenance on the runway and taxiways.

c. Total contract time: 70 days.

- d. 2 calendar days will be allowed for application of final pavement markings following expiration of the seal coat curing period.

3) Areas and Operations Affected by Construction Activity.

The attached Site Phasing and Safety Plan drawings for the project identify areas and operations affected by the construction. Major impacts include:

- a. Runway 15-33 is anticipated to be closed for 60 Calendar Days from 8:00 am PT to 6:00 pm PT Mondays through Fridays during lighting rehabilitation work. Additionally, there will be no night operations during this phase of the project.
- b. The airport is anticipated to be closed for 10 calendar days for the pavement maintenance work on the runway and taxiways.



4) NAVAID Protection.

The runway lights, REILs, PAPIs, and rotating beacon will be turned off during runway closure periods. The PAPIs, REILs, and runway lights will be upgraded or replaced during construction. Extreme caution shall be used when working near new and existing light fixtures, underground electrical ducts, underground electrical cable and any other new or existing airport fixtures. Should damage occur to any of these items, they will be replaced at the Contractor's expense.

5) Contractor Access.

- a. **Location of Stockpiled Construction Materials.** Stockpiled materials and equipment storage will be restricted to the areas marked as 'Contractor Staging Area' on the attached Site Phasing and Safety Plans. This area is located as far from aircraft operations as feasible. Contractor stockpiled materials and equipment storage are not permitted within Runway Safety Areas (RSA), Obstacle Free Zones (OFZ) or Object Free Areas (OFA) of operational runways. Stockpiled materials and equipment adjacent to these areas are to be prominently marked and lighted during hours of restricted visibility or darkness (see Section 16). Limit stockpiled materials to 12 feet in height and at least 220 feet from any runway centerline and 45 feet from any taxiway centerline. Stockpiled materials shall not penetrate Part 77 surfaces shown on the Site Phasing and Safety Plan in Appendix C. Materials are to be stabilized and stored at an approved location so as not to be a hazard to aircraft operations and to prevent attraction of wildlife and foreign object damage. Refer to Sections 6 and 7.
- b. **Vehicle and Pedestrian Operations.** Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the AOA. Construction and related vehicles shall be restricted to areas clearly indicated on the attached Site Phasing and Safety Plan sheets and as directed by the Airport. The use of escort vehicles is addressed below.
 - i. **Construction Site Parking.** Vehicle parking areas for contractor employees will be restricted to 'Contractor Staging Areas' as depicted in the attached Site Phasing and Safety Plan.



- ii. **Construction Equipment Parking.** Contractor employees must park and service all construction vehicles in 'Contractor Staging Areas'. Inactive equipment must not be parked on a closed taxiway or runway. Employees shall park construction vehicles in the designated areas when not in use by construction personnel (for example, overnight, on weekends, or during other periods when construction is not active).
- iii. **Access and Haul Roads.** Construction contractor's access to the construction sites and haul roads has been clearly marked on the Site Phasing and Safety Plan. The construction contractor is not permitted to use any access or haul roads other than those approved. Access routes used by contractor vehicles must be clearly marked by contractor to prevent inadvertent entry to areas open to airport operations.
- iv. **Marking and Lighting of Vehicles.** At a minimum, Contractor vehicles shall be marked with company identification (on both sides of the vehicle) and a flashing yellow beacon while operating within the airport boundary. Contractor vehicles will be required to have an Engineer approved orange and white checkered flag mounted on pickups, rollers, scrapers, dozers, trenchers, and all other Contractor vehicles and must be visible from 300 feet.

If working at night all construction vehicles working on the airport (beyond the staging area) shall be equipped with amber strobe lights or amber rotating beacons. This is required in order to provide adequate visibility of construction equipment from the air and from aircraft taxiing on the ground. Lights shall conform to *AC 150/5210-5D Painting, Marking and Lighting of Vehicles Used on an Airport*, latest edition. Lights may be used during the daylight operations in lieu of the orange checkered flag specified above.

- v. **Vehicle Operations.** Only vehicles used for construction purposes shall enter the air operations area. Contractor vehicle operations are allowed only in defined work areas, haul routes, and paved areas closed to aircraft traffic, unless otherwise approved by the Airport or Engineer in advance. The contractor is to familiarize all construction personnel with the safety provisions.
- vi. **Escorting.** The Contractor and employees are not required to be escorted while on site.

- vii. **Training Requirements for Vehicle Drivers.** Airport orientation/safety training is required by all personnel before escorting and/or driving on site. The training will be conducted on site and is anticipated to be approximately 30 minutes.
- viii. **Situational Awareness.** Vehicle drivers must confirm by personal observation that no aircraft is approaching their position (either in the air or on the ground) when given clearance to cross a runway, taxiway, or any other area open to airport operations.
- ix. **Two-way Radio Communication Procedures.** When required by the Airport the Contractor shall monitor the Common Traffic Advisory Frequency (CTAF):
 - CTAF: 122.8
- x. **Maintenance of the Secured Area of the Airport.** A flagger shall control gate access at any open or unlocked gate to allow construction equipment and personnel only, if necessary.

6) Wildlife Management.

Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports, such as the following:

- a. **Trash.** Food scraps must be collected from construction personnel activity.
- b. **Standing Water.** Standing water is not permitted on Airport grounds.
- c. **Tall Grass and Seeds.** Grass seed is attractive to birds. Lower quality seed mixtures can contain seeds of plants (such as clover) that attract larger wildlife.
- d. **Poorly Maintained Fencing and Gates.** See Section 5 above.
- e. **Encounters with Wildlife.** If the contractor encounters large to medium sized mammals (such as deer) within Airport property fencing they are to notify the project representative during construction.

7) Foreign Object Debris (FOD) Management.

Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. Construction contractors must not leave or place FOD on or near active aircraft movement areas. Materials capable of creating FOD must be continuously removed during the construction project.



The Contractor shall take care to manage FOD so as not to disturb operation of FAA owned facilities (including NAVAIDS) at the airport. Additionally, prior to reopening the runway or taxiways following a closure, all FOD must be removed from airfield pavement.

8) Hazardous Materials (HAZMAT) Management.

Encountering hazardous material (HAZMAT) during construction should be considered an emergency. Emergency procedures shall be followed in this instance. Contractor shall take care to prevent and contains leaks of hazardous material (fuel, hydraulic fluids, etc.). Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel or hydraulic fluid leaks.

9) Notification of Construction Activities.

- a. List of Responsible Representatives:

In Case of Emergency.....	911
Lane County Sheriff (General).....	(541) 682-4150
Florence Fire Dept. (Office)	(541) 997-3212
Poison Control Center.....	(800) 222-1222
Airport Manager (Mike Miller)	(541) 997-8069
Century West Engineering	(541) 322-8962

- b. **NOTAMs.** Only the Airport Manager may initiate or cancel a Notice to Airmen (NOTAM) on airport conditions and is the only entity that can close or open a runway or taxiway. The airport operator must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM.

Construction activity shall not commence prior to issuance of a NOTAM. The Contractor shall advise the Engineer three (3) days in advance of the planned commencement of construction activity so a NOTAM can be issued and shall not commence such activity until advised by the Engineer. Upon completion of work



to the satisfaction of the Engineer, a NOTAM indicating completion will be issued. No further work in affected areas will be permitted.

- c. **Emergency Notification Procedures.** In the event of an emergency, Airport staff will be notified immediately. The proper authorities will also be notified. In the event of an emergency, personnel and equipment shall move immediately to the staging area through appropriate routes.

Prior to start of construction, the Contractor shall provide a list of contact information for personnel available 24 hours a day to be contacted in case of an emergency. As applicable, the list shall include phone numbers of the Engineer, Inspector, and Airport manager.

The Contractor shall designate a qualified safety officer for the project as well as appoint a point of contact for any required operational safety concerns.

- d. **Coordination with ARFF.** Coordinate ARFF activities with the Airport Manager.
- e. **Notification to the FAA.**
 - i. **Part 77.** Any proposed construction or alterations of objects that affect navigable airspace, as defined in Part 77, will be coordinated with FAA.
 - ii. **NAVAIDS.** For emergency (short-notice) notification about impacts to both airport owned and FAA owned NAVAIDS, contact: 866-432-2622. FAA ATO/Technical Operations shall be provided a 45-day minimum notice for the scheduled interruption of NAVAIDS.

10) Inspection Requirements.

- a. **Daily Inspections.** Inspections shall be conducted at least daily, but more frequently if necessary to ensure conformance with the CSPP. For the Contractors own use, a sample checklist has been attached to this safety plan in Appendix A. The project representative during construction, serving as the project inspector, is responsible for monitoring work progress and will respond to construction and safety issues. The inspector will have communication capability with Airport staff. The Contractor is required to immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope.

The Engineer is responsible for the supervision and enforcement of Safety Plan requirements, as well as addressing airfield issues with construction personnel, as appropriate.



- b. **Inspections Prior to Reopening.** Temporarily closed existing runway, taxiways and tie-down apron are subject to safety inspections prior to reopening the facilities for service.

Requirements for reopening the runway at the end of each work shift include:

- i. Runway Safety Area conditions
 - a. Open trenches or excavations are not permitted within the RSA while the runway is open. Backfill trenches before the runway is opened. If backfilling excavations before the runway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the runway across the trench without damage to the aircraft.
 - b. RSA must have no potentially hazardous ruts, humps, depressions, or other surface variations, and must be capable, under dry conditions, of supporting the occasional passage of aircraft without causing structural damage to the aircraft.
- ii. Pavement conditions
 - a. Lips off of pavement edges and ends shall not exceed 3 inches.
 - b. Construction debris (gravel, sand, mud, paving materials) and trash shall be removed from pavement prior to reopening runway.
- iii. Return all equipment to staging areas.
- iv. Remove barricades and runway closure markers.

11) Underground Utilities.

The following individuals, firms or corporations have authority to excavate or otherwise disturb non-FAA owned utility services or facilities located within the limits of the work:

Utility or other Facility	Contact Person	Phone Number
1. Utility One-Call	One-Call Dispatcher	811
2. Airport	Mike Miller	(541) 997-8069



The contractor shall call 811 and notify the Airport prior to excavating or otherwise disturbing utility services or facilities located within the limits of the work. Contractor shall hand dig at crossings to locate and protect all utilities. If accidental damage occurs, the Contractor shall notify the Airport and the Engineer.

12) Penalties.

Contractor will make construction personnel familiar with safety plan. All contractor and subcontractor personnel are required to comply with the safety plan. The Contractor will be held responsible for any accident that occurs as a result of construction personnel not following the provisions of this safety plan.

Strict adherence to the provisions of this plan by all personnel assigned to or visiting the construction site is mandatory. In the event contractor activities are not in conformance with the provisions of this plan, the contractor shall immediately cease those operations involved in the violation of the provisions of this plan and conduct a safety meeting. The owner may direct the contractor, in writing, to immediately cease those operations involved in the violation of the provisions of this plan. The contractor shall not resume construction operations until an appropriate action is taken as determined by the Owner.

13) Special Conditions.

There are no special conditions that affect the operation of the airport or will require the activation of any special procedures.

14) Runway and Taxiway Visual Aids.

The runway and taxiways will be temporarily closed for the duration of this project. The airport's only runway will be marked with runway closure markings in compliance with the standards of *AC 150/5340-1L, Standards for Airport Markings*. Existing NAVAIDs including runway lights and PAPIs will be turned off for the duration of the closure.

15) Marking and Signs for Access Routes.

Pavement markings and signs for construction personnel will conform to *AC 150/5340-18* and, to the extent practicable, with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or State highway specifications. Signs adjacent to areas used by aircraft must comply with the frangibility requirements of *AC 150/5220-23, Frangible Connections*.

16) Hazard Marking, Lighting and Signing.

- a. Hazard marking and lighting prevents pilots from entering areas closed to aircraft and prevents construction personnel from entering areas open to aircraft. Hazard marking and lighting must also be specified to identify open manholes, small areas under repair, stockpiled material, waste areas, and areas subject to jet blast.
- b. **Equipment.**
 - i. **Barricades** will be used to identify and define the limits of construction and hazardous areas on airports. Barricade type and placement can be found in the project Specifications (Section 01300) and Site Phasing and Safety Plan, both of which have been included in Appendix B and Appendix C, respectively. The spacing of the barricades is such that a breach is physically prevented barring a deliberate act.
 - ii. **Lights** must be red and must meet the luminance requirements of the State Highway Department. Lights must be mounted on barricades and spaced at no more than 10 ft. Lights must be operated between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. Mounted barricade lights may be operated by photocell or battery power, but the contractor must maintain the aforementioned luminance requirements while the airport is open for operations.
 - iii. No supplemental barricades with signs are needed for the proposed project.
 - iv. **Air Operations Area – General.** Barricades are not permitted in any active safety area or on the runway side of a runway hold line.
 - v. **Air Operations Area – Runway/Taxiway Intersections.** Use highly reflective barricades with lights to close taxiways leading to closed runways. Evaluate all operating factors when determining how to mark temporary closures that can last from 10 to 15 minutes to a much longer period of time. Even for closures of relatively short duration, close all taxiway/runway intersections with barricades.
 - vi. **Air Operations Area – Other.** Beyond runway and taxiway object free areas and aprons, barricades intended for construction vehicles and

personnel may be many different shapes and made from various materials, including railroad ties, sawhorses, jersey barriers, or barrels.

- vii. **Maintenance.** In accordance with specification Section 01300 the contractor is required to have a person on call 24 hours a day for emergency maintenance of airport hazard lighting, barricades, and orange mesh safety fence. The contractor must file the contact person's information with the airport operator.

17) Protection of Runway and Taxiway Safety Areas.

Protection of these areas includes limitations on the location and height of equipment and stockpiled material.

- a. **Runway Safety Area (RSA).** A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway (see AC 150/5300-13).

At Florence Municipal Airport, the RSA has the following dimensions:

Runway 15-33 120' in width, 3,480' in length

Construction activities within the RSA are subject to the following conditions:

- i. No activity (including construction) may occur within the RSA while the runway is open for aircraft operations.
- ii. The RSA width will not be adjusted for the proposed project.
- iii. Stockpiles are not permitted within the RSA while the runway is open.
- iv. Excavations
 - a. If required by Airport Operations, open trenches or excavations are not permitted within the RSA while the runway is open. Excavations are to be backfilled before the runway is reopened.
 - b. If required by Airport Operations, construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

- v. Erosion Control. Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.
- b. **Runway Object Free Area (ROFA).** Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use. The proposed project does not allow stockpiling within the ROFA.

At Florence Municipal Airport, the ROFA has the following dimensions:

Runway 15-33 250' in width, 3,480' in length

- c. **Taxiway Safety Area (TSA).** A taxiway safety area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway.

At Florence Municipal Airport, the TSA has a width of: 49'

Construction activities within the TSA are subject to the following conditions:

- i. No activity (including construction) may occur within the TSA while the taxiway is open for aircraft operations.
- ii. The TSA width will not be adjusted for the proposed project.
- iii. Excavations
 - a. If required by Airport Operations, open trenches or excavations are not permitted within the TSA while the taxiway is open. Excavations are to be backfilled before the taxiway is reopened.
 - b. If required by Airport Operations, construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.



- iv. Erosion Control. Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasionally passage of aircraft without causing structural damage to the aircraft.
- d. **Taxiway Object Free Area (TOFA).** Unlike the Runway Object Free Area, aircraft wings regularly penetrate the taxiway object free area during normal operations. Thus, the restrictions are more stringent. No construction may occur within the taxiway object free area while the taxiway is open for aircraft operations.

At Florence Municipal Airport, the TOFA has a width of: 89'

- e. **Obstacle Free Zone (OFZ).** Personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations.

At Florence Municipal Airport, the OFZ have the following dimensions:

Runway 15-33 250' in width, 3,400' in length

- f. **Runway Approach/Departure Areas and Clearways.** All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces, as defined in Appendix 2, "Threshold Siting Requirements," of AC 150/5300-13.

18) Other Limitations on Construction.

- a. **Prohibitions.**
 - i. No use of tall equipment (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.
 - ii. No use of open flame, welding, or torches unless fire safety precautions are provided and the airport operator has approved their use.
 - iii. No use of electrical blasting caps on or within 1,000 ft. (300 m) of the airport property.
 - iv. No use of flare pots within the AOA.

- b. **Restrictions.** The attached Site Phasing and Safety Plan Notes and Details offers detail on restrictions on which areas cannot be worked in simultaneously, day/night work restrictions, and other limitations.

APPENDIX A

Construction Project Daily Safety Inspection Checklist

APPENDIX A. CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project including information such as the date, time and name of the person conducting the inspection.

Table A-1. Potentially Hazardous Conditions

Item	Action Required (Describe)	No Action Required (Check)
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and		

Item	Action Required (Describe)	No Action Required (Check)
approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Obliterated or faded temporary markings on active operational areas.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		

Item	Action Required (Describe)	No Action Required (Check)
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		

Item	Action Required (Describe)	No Action Required (Check)
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase.		

APPENDIX B

Specifications Sections 01160 and 01300

(Refer to Project Technical Specifications)

APPENDIX C

Site Phasing and Safety Plans

(Refer to Project Construction Drawings)



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SECTION II
Contract Forms

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS
A.I.P. PROJECT No. 3-41-0019-013-2018

AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 20____, by and between the **CITY OF FLORENCE**, hereinafter called “OWNER” and _____ doing business as (an individual,) or (a partnership), or (a corporation) hereinafter called “CONTRACTOR”.

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence and complete the construction of _____

2. The CONTRACTOR will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the PROJECT described herein.

3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS within **5** calendar days after the date of the NOTICE TO PROCEED and will complete the same within **72** calendar days of the NOTICE TO PROCEED unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS.

4. The CONTRACTOR agrees to perform all of the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein for the sum of \$ _____, or as shown in the BID schedule.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in _____ each of which

(Number of Copies)

shall be deemed an original on the date first above written.

OWNER

By _____

Name _____

Title _____

(Seal)

ATTEST:

Name _____

Title _____

CONTRACTOR:

By _____

Name _____

Address _____

(Seal)

ATTEST:

Name _____

Title _____

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PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____ hereinafter called Principal, and
(Corporation, Partnership or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto _____

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of _____ Dollars, \$(_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____ 20_____, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alternation or addition to the terms of the contract or to the

WORK to be performed hereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contractor to the WORK or the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each
(Number)

one of which shall be deemed an original, this _____ day of _____
20 _____.

ATTEST:

(Principal Secretary)
(Seal)

(Principal)

By _____(s)

(Address)

(Witness as to Principal)

(Address)

ATTEST:

(Surety)

By _____
(Attorney-in-Fact)

(Witness as to Surety)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____ hereinafter called Principal,
(Corporation, Partnership or Individual)

and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto _____

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of _____ Dollars, \$(_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____ 20_____, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed r used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alternation or addition to the terms of the contract or to the WORK to be performed hereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each
(Number)
one of which shall be deemed an original, this _____ day of _____
20 _____.

ATTEST:

(Principal Secretary)
(Seal)

(Principal)

By _____ (s)

(Address)

(Witness as to Principal)

(Address)

ATTEST:

(Surety)

By _____
(Attorney-in-Fact)

(Address)

(Witness as to Surety)

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

SECTION III

Contract Conditions and General Provisions

SECTION 10 DEFINITION OF TERMS

Whenever the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be interpreted as follows:

10-01 AASHTO. The American Association of State Highway and Transportation Officials, the successor association to AASHO.

10-02 Access road. The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.

10-03 Advertisement. A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.

10-04 Airport Improvement Program (AIP). A grant-in-aid program, administered by the Federal Aviation Administration (FAA).

10-05 Air operations area (AOA). For the purpose of these specifications, the term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.

10-06 Airport. Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; and airport buildings and facilities located in any of these areas and includes a heliport.

10-07 ASTM International (ASTM). Formerly known as the American Society for Testing and Materials (ASTM).

10-08 Award. The Owner's notice to the successful bidder of the acceptance of the submitted bid.

10-09 Bidder. Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

10-10 Building area. An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.

10-11 Calendar day. Every day shown on the calendar.

10-12 Change order. A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for the work affected by such changes. The work, covered by a change order, must be within the scope of the contract.

10-13 Contract. The written agreement covering the work to be performed. The awarded contract shall include, but is not limited to: Advertisement, Contract Form, Proposal, Performance Bond, Payment Bond, any required insurance certificates, Specifications, Plans, and any addenda issued to bidders.

10-14 Contract item (pay item). A specific unit of work for which a price is provided in the contract.

10-15 Contract time. The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.

10-16 Contractor. The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.

10-17 Contractor's laboratory. The Contractor's quality control organization in accordance with the Contractor Quality Control Program.

10-18 Construction Safety and Phasing Plan (CSPP). The overall plan for safety and phasing of a construction project developed by the airport operator or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.

10-19 Drainage system. The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

10-20 Engineer. The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and observation of the contract work and acting directly or through an authorized representative.

10-21 Equipment. All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

10-22 Extra work. An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Engineer to be necessary to complete the work within the intended scope of the contract as previously modified.

10-23 FAA. The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his or her duly authorized representative.

10-24 Federal specifications. The Federal Specifications and Standards, Commercial Item Descriptions, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government.

10-25 Force account. Force account work is planning, engineering, or construction work done by the Sponsor's employees.

10-26 Inspector. An authorized representative of the Engineer assigned to make all necessary inspections, observations, and/or tests and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

10-27 Intention of terms. Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer, subject in each case to the final determination of the Owner.

Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

10-28 Laboratory. The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer. Also referred to as "Engineer's Laboratory" or "quality assurance laboratory."

10-29 Lighting. A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.

10-30 Major and minor contract items. A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.

10-31 Materials. Any substance specified for use in the construction of the contract work.

10-32 Notice to Proceed (NTP). A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.

10-33 Owner. The term “Owner” shall mean the party of the first part or the contracting agency signatory to the contract. Where the term “Owner” is capitalized in this document, it shall mean airport Sponsor only.

10-34 Passenger Facility Charge (PFC). Per 14 CFR Part 158 and 49 USC § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.”

10-35 Pavement. The combined surface course, base course, and subbase course, if any, considered as a single unit.

10-36 Payment bond. The approved form of security furnished by the Contractor and his or her surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.

10-37 Performance bond. The approved form of security furnished by the Contractor and his or her surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.

10-38 Plans. The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications.

10-39 Project. The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

10-40 Proposal. The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.

10-41 Proposal guaranty. The security furnished with a proposal to guarantee that the bidder will enter into a contract if his or her proposal is accepted by the Owner.

10-42 Runway. The area on the airport prepared for the landing and takeoff of aircraft.

10-43 Specifications. A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.

10-44 Sponsor. A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.

10-45 Structures. Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; flexible and rigid pavements; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.

10-46 Subgrade. The soil that forms the pavement foundation.

10-47 Superintendent. The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct the construction.

10-48 Supplemental agreement. A written agreement between the Contractor and the Owner covering (1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25%, such increased or decreased work being within the scope of the originally awarded contract; or (2) work that is not within the scope of the originally awarded contract.

10-49 Surety. The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.

10-50 Taxiway. For the purpose of this document, the term taxiway means the portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.

10-51 Work. The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.

10-52 Working day. A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.

END OF SECTION 10

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SECTION 20 PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 Advertisement (Notice to Bidders). The time, place and stipulation of all bid proposals has been advertised in a manner as prescribed by law and is contained in the “Invitation to Bid.”

20-02 Qualification of bidders. Each bidder shall furnish the Owner satisfactory evidence of his or her competency to perform the proposed work. Such evidence of competency, unless otherwise specified, shall consist of statements covering the bidder’s past experience on similar work, a list of equipment that would be available for the work, and a list of key personnel that would be available. In addition, each bidder shall furnish the Owner satisfactory evidence of his or her financial responsibility. Such evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder’s financial resources and liabilities as of the last calendar year or the bidder’s last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether his or her financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder’s financial responsibility has changed, the bidder shall qualify the public accountant’s statement or report to reflect the bidder’s true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that he or she is prequalified with the State Highway Division and is on the current “bidder’s list” of the state in which the proposed work is located. Such evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

Each bidder shall submit “evidence of competency” and “evidence of financial responsibility” to the Owner at the time of bid opening.

20-03 Contents of proposal forms. The Owner shall furnish bidders with proposal forms. All papers bound with or attached to the proposal forms are necessary parts and must not be detached.

The plans, specifications, and other documents designated in the proposal form shall be considered a part of the proposal whether attached or not.

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder should such bidder be in default for any of the following reasons:

- a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.
- b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.

- c. Documented record of Contractor default under previous contracts with the Owner.
- d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as hereinafter provided in the subsection 40-02 titled ALTERATION OF WORK AND QUANTITIES of Section 40 without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which the bidder may make or obtain from his or her examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 Preparation of proposal. The bidder shall submit his or her proposal on the forms furnished by the Owner. All blank spaces in the proposal forms must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals for which they propose to do for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall sign the proposal correctly and in ink. If the proposal is made by an individual, his or her name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state under the laws of which the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of his or her authority to do so and that the signature is binding upon the firm or corporation.

20-08 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in the Sponsor's invitation for bid. It is the Sponsor's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 49 CFR § 18.36(b)(8). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

d. If the proposal contains unit prices that are obviously unbalanced.

e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. Each separate proposal shall be accompanied by a certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such check, or collateral, shall be made payable to the Owner.

20-11 Delivery of proposal. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-12 Withdrawal or revision of proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing, by fax, or by email before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of bidders. A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in “default” for any reason specified in the subsection 20-04 titled ISSUANCE OF PROPOSAL FORMS of this section.

END OF SECTION 20

SECTION 30 AWARD AND EXECUTION OF CONTRACT

30-01 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in the subsection 20-09 titled IRREGULAR PROPOSALS of Section 20.

b. If the bidder is disqualified for any of the reasons specified in the subsection 20-14 titled DISQUALIFICATION OF BIDDERS of Section 20.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within **120** calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

Award of the contract shall be made by the Owner to the lowest, qualified bidder whose proposal conforms to the cited requirements of the Owner.

For AIP contracts, unless otherwise specified in this subsection, no award shall be made until the FAA has concurred in the Owner's recommendation to make such award and has approved the Owner's proposed contract to the extent that such concurrence and approval are required by 49 CFR Part 18.

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with the subsection 30-07 titled APPROVAL OF CONTRACT of this section.

30-04 Return of proposal guaranty. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the subsection 30-01 titled CONSIDERATION OF PROPOSALS of this section. Proposal

guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in the subsection 30-05 titled REQUIREMENTS OF CONTRACT BONDS of this section.

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

For AIP contracts in excess of \$100,000, the successful bidder shall furnish a separate performance bond and payment bond in the full amount of the contract.

30-06 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in the subsection 30-05 titled REQUIREMENTS OF CONTRACT BONDS of this section, within 15 calendar days from the date mailed or otherwise delivered to the successful bidder.

30-07 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the 15 calendar day period specified in the subsection 30-06 titled EXECUTION OF CONTRACT of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidation of damages to the Owner.

END OF SECTION 30

SECTION 40 SCOPE OF WORK

40-01 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of work and quantities. The Owner reserves and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner. Unless otherwise specified herein, the Engineer shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than 25% (total cost being based on the unit prices and estimated quantities in the awarded contract). Alterations that do not exceed the 25% limitation shall not invalidate the contract nor release the surety, and the Contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations that are for work within the general scope of the contract shall be covered by “Change Orders” issued by the Engineer. Change orders for altered work shall include extensions of contract time where, in the Engineer’s opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the 25% limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

Supplemental agreements shall be approved by the FAA and shall include all applicable Federal contract provisions for procurement and contracting required under AIP. Supplemental agreements shall also require consent of the Contractor’s surety and separate performance and payment bonds.

40-03 Omitted items. The Engineer may, in the Owner’s best interest, omit from the work any contract item, except major contract items. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with the subsection 90-04 titled PAYMENT FOR OMITTED ITEMS of Section 90.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called “Extra Work.” Extra Work that is within the general scope of the contract shall be covered by written

change order. Change orders for such Extra Work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order and shall contain any adjustment to the contract time that, in the Engineer's opinion, is necessary for completion of such Extra Work.

When determined by the Engineer to be in the Owner's best interest, the Engineer may order the Contractor to proceed with Extra Work as provided in the subsection 90-05 titled PAYMENT FOR EXTRA WORK of Section 90. Extra Work that is necessary for acceptable completion of the project but is not within the general scope of the work covered by the original contract shall be covered by a Supplemental Agreement as defined in the subsection 10-48 titled SUPPLEMENTAL AGREEMENT of Section 10.

Any claim for payment of Extra Work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration.

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to his or her own operations and the operations of all subcontractors as specified in the subsection 80-04 titled LIMITATION OF OPERATIONS of Section 80. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in the subsection 70-15 titled CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS in Section 70.

b. With respect to his or her own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport.

c. When the contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The Contractor shall be responsible for the repair of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (<http://mutcd.fhwa.dot.gov/>), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

40-06 Removal of existing structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Engineer shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the Engineer in accordance with the provisions of the contract.

Except as provided in the subsection 40-07 titled RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK of this section, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and use of materials found in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be either embankment or waste, the Contractor may at his or her option either:

- a. Use such material in another contract item, providing such use is approved by the Engineer and is in conformance with the contract specifications applicable to such use; or,
- b. Remove such material from the site, upon written approval of the Engineer; or
- c. Use such material for the Contractor's own temporary construction on site; or,
- d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the Engineer's approval in advance of such use.

Should the Engineer approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at his or her own expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the Engineer approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of his or her exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily unless the Contractor has obtained the written permission of such property Owner.

END OF SECTION 40

SECTION 50 CONTROL OF WORK

50-01 Authority of the Engineer. The Engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work. The Engineer shall decide all questions that may arise as to the interpretation of the specifications or plans relating to the work. The Engineer shall determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for the under contract.

The Engineer does not have the authority to accept pavements that do not conform to FAA specification requirements.

50-02 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans or specifications.

If the Engineer finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications but that the portion of the work affected will, in his or her opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the Engineer will advise the Owner of his or her determination that the affected work be accepted and remain in place. In this event, the Engineer will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. The Engineer's determination and recommended contract price adjustments will be based on sound engineering judgment and such tests or retests of the affected work as are, in the Engineer's opinion, needed. Changes in the contract price shall be covered by contract change order or supplemental agreement as applicable.

If the Engineer finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the Engineer's written orders.

For the purpose of this subsection, the term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the Engineer's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the Engineer's opinion, such compliance is essential to provide an acceptable finished portion of the work.

For the purpose of this subsection, the term "reasonably close conformity" is also intended to provide the Engineer with the authority, after consultation with the FAA, to use sound engineering judgment in his or her determinations as to acceptance of work that is not in strict

conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans and specifications.

The Engineer will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the Engineer for an interpretation and decision, and such decision shall be final.

LIST OF SPECIAL PROVISIONS

Special Provisions are described in Section I-Bidding Information.

50-04 Cooperation of Contractor. The Contractor will be supplied with five copies each of the plans and specifications. The Contractor shall have available on the work at all times one copy each of the plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof and shall cooperate with the Engineer and his or her inspectors and with other contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as his or her agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the Engineer or his or her authorized representative.

50-05 Cooperation between contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work so as not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with his or her contract and shall protect and save harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange his or her work and shall place and dispose of the materials being used so as not to interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join his or her work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-06 Construction layout and stakes. The Engineer shall establish horizontal and vertical control only. The Contractor must establish all layout required for the construction of the work. Such stakes and markings as the Engineer may set for either their own or the Contractor's guidance shall be preserved by the Contractor. In case of negligence on the part of the Contractor, or their employees, resulting in the destruction of such stakes or markings, an amount equal to the cost of replacing the same may be deducted from subsequent estimates due the Contractor at the discretion of the Engineer.

The Construction survey control will be the secondary and primary control stations identified by the Engineer and used for the design. These were established using the procedures in FAA AC FAA AC 150/5300-16A [most current version]. If additional secondary control stations are needed they must be surveyed to the temporary control standards and procedures in accordance with FAA AC 150/5300-16A [most current version].

When staking out construction features the construction survey must verify consistency with the secondary project control. If secondary project control has been disturbed the survey must verify consistency with primary project control. The Contractor must verify his internal secondary control monuments a minimum of once per month.

Prior to performing the initial control survey, submit a methodology statement to the Engineer for their review, complete with survey equipment to be utilized and with information as to the accuracy of the equipment.

The Contractor will be required to furnish all lines, grades and measurements from the control points necessary for the proper execution and control of the work contracted for under these specifications.

The Contractor must give copies of survey notes to the Engineer for each area of construction and for each placement of material as specified to allow the Engineer to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. All surveys must be provided to the Engineer prior to commencing work items that will cover or disturb the survey staking as set by the Contractor's surveyor. Survey(s) and notes shall be provided in the following format(s): Hardcopy, PDF, MS Word, MS Excel, ASCII, AutoCAD. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not

concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

Construction Staking and Layout includes but is not limited to:

- a.** Clearing and Grubbing perimeter staking
- b.** Rough Grade slope stakes at 100-foot (30-m) stations
- c.** Drainage Swales slope stakes and flow line blue tops at 50-foot (15-m) stations

Subgrade blue tops at 25-foot (7.5-m) stations and 25-foot (7.5-m) offset distance (maximum) for the following section locations:

- a.** Runway – minimum five (5) per station
- b.** Taxiways – minimum three (3) per station
- c.** Holding apron areas – minimum three (3) per station
- d.** Roadways – minimum three (3) per station

Base Course blue tops at 25-foot (7.5-m) stations and 25-foot (7.5-m) offset distance (maximum) for the following section locations:

- a.** Runway – minimum five (5) per station
- b.** Taxiways – minimum three (3) per station
- c.** Holding apron areas – minimum three (3) per station

Pavement areas:

a. Edge of Pavement hubs and tacks (for stringline by Contractor) at 100-foot (30-m) stations.

b. Between Lifts at 25-foot (7.5-m) stations for the following section locations:

- (1)** Runways – each paving lane width
- (2)** Taxiways – each paving lane width
- (3)** Holding areas – each paving lane width

c. After finish paving operations at 50-foot (15-m) stations:

(1) All paved areas – Edge of each paving lane prior to next paving lot

d. Shoulder and safety area blue tops at 50-foot (15-m) stations and at all break points with maximum of 50-foot (15-m) offsets.

e. Fence lines at 100-foot (30-m) stations minimum.

f. Electrical and Communications System locations, lines and grades including but not limited to duct runs, connections, fixtures, signs, lights, Visual Approach Slope Indicators (VASIs), Precision Approach Path Indicators (PAPIs), Runway End Identifier Lighting (REIL), Wind Cones, Distance Markers (signs), pull boxes and manholes.

g. Drain lines, cut stakes and alignment on 25-foot (7.5-m) stations, inlet and manholes.

h. Painting and Striping layout (pinned with 1.5 inch PK nails) marked for paint Contractor. (All nails shall be removed after painting).

i. Laser, or other automatic control devices, shall be checked with temporary control point or grade hub at a minimum of once per 400 feet (120 m) per pass (that is, paving lane).

The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor.

Controls and stakes disturbed or suspect of having been disturbed shall be checked and/or reset as directed by the Engineer without additional cost to the Owner.

50-07 Automatically controlled equipment. Whenever batching or mixing plant equipment is required to be operated automatically under the contract and a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually or by other methods for a period 48 hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the contract.

50-08 Authority and duties of inspectors. Inspectors shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the contract. Inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

Inspectors are authorized to notify the Contractor or his or her representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the Engineer for a decision.

50-09 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the Engineer requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and

the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Any work done or materials used without supervision or inspection by an authorized representative of the Owner may be ordered removed and replaced at the Contractor's expense unless the Owner's representative failed to inspect after having been given reasonable notice in writing that the work was to be performed.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the Engineer as provided in the subsection 50-02 titled CONFORMITY WITH PLANS AND SPECIFICATIONS of this section.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of the subsection 70-14 titled CONTRACTOR'S RESPONSIBILITY FOR WORK of Section 70.

No removal work made under provision of this subsection shall be done without lines and grades having been established by the Engineer. Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the plans or as established by the Engineer, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the Engineer made under the provisions of this subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs incurred by the Owner from any monies due or to become due the Contractor.

50-11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor shall be responsible for all damage done by his or her hauling equipment and shall correct such damage at his or her own expense.

50-12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in the subsection 50-12 titled MAINTENANCE DURING CONSTRUCTION of this section, the Engineer shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the Engineer's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be deducted from monies due or to become due the Contractor.

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the Engineer to make final inspection of that unit. If the Engineer finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the Engineer may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The Engineer shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the Engineer in writing of his or her intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the Engineer is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the Engineer has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the Engineer who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

50-17 Cost reduction incentive. Not Used.

END OF SECTION 50

SECTION 60 CONTROL OF MATERIALS

60-01 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish complete statements to the Engineer as to the origin, composition, and manufacture of all materials to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

The Contractor shall supply steel and manufactured products that conform to the Buy American provisions established under 49 USC Section 50101 as follows:

“Steel products must be 100% U.S. domestic product Manufactured Products. Preference shall be given to products that are 100% manufactured and assembled in the U.S. Manufactured products not meeting the 100% U.S. domestic preference may only be used on the project if the FAA has officially granted a permissible waiver to Buy American Preferences. Submittals for all manufactured products must include certification of compliance with Buy American requirements as established under 49 USC Section 50101. Submittal must include sufficient information to confirm compliance or submittal will be returned with no action.”

At the Engineer’s option, materials may be approved at the source of supply before delivery is stated. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that conforms to the requirements of cited materials specifications. In addition, where an FAA specification for airport lighting equipment is cited in the plans or specifications, the Contractor shall furnish such equipment that is:

- a.** Listed in advisory circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, and Addendum that is in effect on the date of advertisement; and,
- b.** Produced by the manufacturer as listed in the Addendum cited above for the certified equipment part number.

The following airport lighting equipment is required for this contract and is to be furnished by the Contractor in accordance with the requirements of this subsection: Refer to items specified elsewhere in these bidding documents.

60-02 Samples, tests, and cited specifications. Unless otherwise designated, all materials used in the work shall be inspected, tested, and approved by the Engineer before incorporation in the work. Any work in which untested materials are used without approval or written permission of the Engineer shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the Engineer, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), Federal Specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids, will be made by and at the expense of the Engineer.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel, including the Contractor's representative at his or her request. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the Engineer. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the Engineer.

The Contractor shall employ a testing organization to perform all Contractor required Quality Control tests. The Contractor shall submit to the Engineer resumes on all testing organizations and individual persons who will be performing the tests. The Engineer will determine if such persons are qualified. All the test data shall be reported to the Engineer after the results are known. A legible, handwritten copy of all test data shall be given to the Engineer daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the Engineer showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 Certification of compliance. The Engineer may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the Engineer. When a material or assembly is specified by “brand name or equal” and the Contractor elects to furnish the specified “brand name,” the Contractor shall be required to furnish the manufacturer’s certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

Should the Contractor propose to furnish an “or equal” material or assembly, the Contractor shall furnish the manufacturer’s certificates of compliance as hereinbefore described for the specified brand name material or assembly. However, the Engineer shall be the sole judge as to whether the proposed “or equal” is suitable for use in the work.

The Engineer reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant inspection. The Engineer or his or her authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the Engineer conduct plant inspections, the following conditions shall exist:

a. The Engineer shall have the cooperation and assistance of the Contractor and the producer with whom the Engineer has contracted for materials.

b. The Engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the Engineer, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The Engineer shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer’s field office. When specified and listed as a contract bid item, the Contractor shall furnish for the duration of the project one building for the use of the field Engineers and inspectors, as a field office. This facility shall be an approved weatherproof building meeting the current State Highway Specifications (for example, Class I Field Office or Type C Structure). This building shall be located conveniently near to the construction and shall be separate from any building used by the Contractor. The Contractor shall furnish facsimile (FAX) machine, photocopy machine, water, sanitary facilities, heat, air conditioning, and electricity. The Contractor and the Contractor’s superintendent shall provide all reasonable facilities to enable to the Engineer to inspect the workmanship and materials used into the work.

60-06 Storage of materials. Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the Engineer. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the Engineer. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the Engineer a copy of the property Owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at his or her entire expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the Engineer.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the Engineer has approved its use in the work.

60-08 Owner furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

SECTION 70

LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

70-01 Laws to be observed. The Contractor shall keep fully informed of all Federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all his or her officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) is indicated as follows: Refer to Section III-Contract Conditions and General Provisions, Supplementary Conditions.

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the Engineer.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the Engineer, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal aid participation. For Airport Improvement Program (AIP) contracts, the United States Government has agreed to reimburse the Owner for some portion of the contract costs. Such reimbursement is made from time to time upon the Owner's request to the FAA. In consideration of the United States Government's (FAA's) agreement with the Owner, the Owner has included provisions in this contract pursuant to the requirements of Title 49 of the USC and the Rules and Regulations of the FAA that pertain to the work.

As required by the USC, the contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator, and is further subject to those provisions of the rules and regulations that are cited in the contract, plans, or specifications.

No requirement of the USC, the rules and regulations implementing the USC, or this contract shall be construed as making the Federal Government a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, health, and safety provisions. The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his or her employees as may be necessary to comply with the requirements of the state and local Board of Health, or of other bodies or tribunals having jurisdiction.

Attention is directed to Federal, state, and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to his or her health or safety.

70-07 Public convenience and safety. The Contractor shall control his or her operations and those of his or her subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to his or her own operations and those of his or her subcontractors and all suppliers in accordance with the subsection 40-05 titled MAINTENANCE OF TRAFFIC of Section 40 hereinbefore specified and shall limit such operations for the convenience and safety of the traveling public as specified in the subsection 80-04 titled LIMITATION OF OPERATIONS of Section 80 hereinafter.

70-08 Barricades, warning signs, and hazard markings. The Contractor shall furnish, erect, and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work. When used during periods of darkness, such barricades, warning signs, and hazard markings shall be suitably illuminated. Unless otherwise specified, barricades, warning signs, and markings for hazards that are in the air operations area (AOAs) shall be a maximum of 18 inches (0.5 m) high. Unless otherwise specified, barricades shall be spaced not more than 4 feet (1.2 m) apart. Barricades, warning signs, and markings shall be paid for under subsection 40-05. For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices.

When the work requires closing an air operations area of the airport or portion of such area, the Contractor shall furnish, erect, and maintain temporary markings and associated lighting conforming to the requirements of advisory circular (AC) 150/5340-1, Standards for Airport Markings.

The Contractor shall furnish, erect, and maintain markings and associated lighting of open trenches, excavations, temporary stock piles, and the Contractor's parked construction equipment that may be hazardous to the operation of emergency fire-rescue or maintenance vehicles on the airport in reasonable conformance to AC 150/5370-2, Operational Safety on Airports During Construction.

The Contractor shall identify each motorized vehicle or piece of construction equipment in reasonable conformance to AC 150/5370-2.

The Contractor shall furnish and erect all barricades, warning signs, and markings for hazards prior to commencing work that requires such erection and shall maintain the barricades, warning signs, and markings for hazards until their removal is directed by the Engineer.

Open-flame type lights shall not be permitted.

70-09 Use of explosives. When the use of explosives is necessary for the execution of the work, the Contractor shall exercise the utmost care not to endanger life or property, including new work. The Contractor shall be responsible for all damage resulting from the use of explosives.

All explosives shall be stored in a secure manner in compliance with all laws and ordinances, and all such storage places shall be clearly marked. Where no local laws or ordinances apply, storage shall be provided satisfactory to the Engineer and, in general, not closer than 1,000 feet (300 m) from the work or from any building, road, or other place of human occupancy.

The Contractor shall notify each property Owner and public utility company having structures or facilities in proximity to the site of the work of his or her intention to use explosives. Such notice shall be given sufficiently in advance to enable them to take such steps as they may deem necessary to protect their property from injury.

The use of electrical blasting caps shall not be permitted on or within 1,000 feet (300 m) of the airport property.

70-10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at his or her own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for damage claims. The Contractor shall indemnify and save harmless the Engineer and the Owner and their officers, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the “Workmen’s Compensation Act,” or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of his or her contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, his or her surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening sections of the work to traffic. Should it be necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such “phasing” of the work shall be specified herein and indicated on the plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified. The Contractor shall make his or her own estimate of the difficulties involved in arranging the work to permit such beneficial occupancy by the Owner as described in the construction plans.

Upon completion of any portion of the work listed above, such portion shall be accepted by the Owner in accordance with the subsection 50-14 titled PARTIAL ACCEPTANCE of Section 50. No portion of the work may be opened by the Contractor for public use until ordered by the Engineer in writing. Should it become necessary to open a portion of the work to public traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the Engineer, such portion of the work is in an acceptable condition to support the intended traffic.

Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at his or her expense.

The Contractor shall make his or her own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

Contractor shall be required to conform to safety standards contained AC 150/5370-2 (see Special Provisions).

Contractor shall refer to the approved Construction Safety Phasing Plan (CSPP) to identify barricade requirements and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor's responsibility for work. Until the Engineer's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with the subsection 50-14 titled PARTIAL ACCEPTANCE of Section 50, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at his or her expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor's responsibility for utility service and facilities of others. As provided in the subsection 70-04 titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section, the Contractor shall cooperate with the Owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and the Owners are indicated as follows: Refer to Section III-Contract Conditions and General Provisions, Supplementary Conditions.

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of his or her plan of operations. Such notification shall be in writing addressed to THE PERSON TO CONTACT as provided in this subsection and subsection 70-04 titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section. A copy of each notification shall be given to the Engineer.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's PERSON TO CONTACT no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the Engineer.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the Engineer and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the Engineer continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or his or her surety.

70-15.1 FAA facilities and cable runs. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

b. The Contractor shall provide notice to the FAA Air Traffic Organization (ATO)/Technical Operations/System Support Center (SSC) Point-of-Contact through the airport Owner a minimum of seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

c. If execution of the project work requires a facility outage, the Contractor shall contact the FAA Point-of-Contact a minimum of 72 hours prior to the time of the required outage.

d. Any damage to FAA cables, access roads, or FAA facilities during construction caused by the Contractor's equipment or personnel whether by negligence or accident will require the Contractor to repair or replace the damaged cables, access road, or FAA facilities to FAA requirements. The Contractor shall not bear the cost to repair damage to underground facilities or utilities improperly located by the FAA.

e. If the project work requires the cutting or splicing of FAA owned cables, the FAA Point-of-Contact shall be contacted a minimum of 72 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA specifications and require approval by the FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

70-16 Furnishing rights-of-way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, his or her authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No waiver of legal rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or his or her surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill his or her obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental protection. The Contractor shall comply with all Federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during his or her operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the Engineer. The Engineer will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in the subsection 40-04 titled EXTRA WORK of Section 40 and the subsection 90-05 titled PAYMENT FOR EXTRA WORK of Section 90. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with the subsection 80-07 titled DETERMINATION AND EXTENSION OF CONTRACT TIME of Section 80.

END OF SECTION 70

SECTION 80 EXECUTION AND PROGRESS

80-01 Subletting of contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Engineer.

The Contractor shall provide copies of all subcontracts to the Engineer. The Contractor shall perform, with his organization, an amount of work equal to at least **25** percent of the total contract cost.

Should the Contractor elect to assign his or her contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

80-02 Notice to proceed. The notice to proceed shall state the date on which it is expected the Contractor will begin the construction and from which date contract time will be charged. The Contractor shall begin the work to be performed under the contract within 10 days of the date set by the Engineer in the written notice to proceed, but in any event, the Contractor shall notify the Engineer at least 24 hours in advance of the time actual construction operations will begin. The Contractor shall not commence any actual construction prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their progress schedule for the Engineer's approval within 10 days after the effective date of the notice to proceed. The Contractor's progress schedule, when approved by the Engineer, may be used to establish major construction operations and to check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the Engineer's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the notice to proceed is issued by the Owner.

80-04 Limitation of operations. The Contractor shall control his or her operations and the operations of his or her subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct his or her operations within an AOA of the airport, the work shall be coordinated with airport operations (through the Engineer) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so

authorized by the Engineer and until the necessary temporary marking and associated lighting is in place as provided in the subsection 70-08 titled BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS of Section 70.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until the satisfactory conditions are provided.

Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction (see Special Provisions).

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the project Construction Safety and Phasing Plan (CSPP) and the provisions set forth within the current version of AC 150/5370-2. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a Safety Plan Compliance Document that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP unless approved in writing by the Owner or Engineer.

80-05 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the Engineer, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed forthwith by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the Engineer.

Should the Contractor fail to remove such persons or person or fail to furnish suitable and sufficient personnel for the proper execution of the work, the Engineer may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall be such that no injury to previously completed work, adjacent property, or existing airport facilities will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the Engineer may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this subsection.

80-06 Temporary suspension of the work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods as the Owner may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for the execution of the work, or for such time as is necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the Engineer's order to suspend work to the effective date of the Engineer's order to resume the work. Claims for such compensation shall be filed with the Engineer within the time period stated in the Engineer's order to resume work.

The Contractor shall submit with his or her claim information substantiating the amount shown on the claim. The Engineer will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling

the Contractor to compensation for delays due to inclement weather, for suspensions made at the request of the Owner, or for any other delay provided for in the contract, plans, or specifications.

If it should become necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and extension of contract time. The number of calendar or working days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME.

Should the contract time require extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

a. CONTRACT TIME based on WORKING DAYS shall be calculated weekly by the Engineer. The Engineer will furnish the Contractor a copy of his or her weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved CHANGE ORDERS or SUPPLEMENTAL AGREEMENTS covering EXTRA WORK).

The Engineer shall base his or her weekly statement of contract time charged on the following considerations:

(1) No time shall be charged for days on which the Contractor is unable to proceed with the principal item of work under construction at the time for at least six (6) hours with the normal work force employed on such principal item. Should the normal work force be on a double-shift, 12 hours shall be used. Should the normal work force be on a triple-shift, 18 hours shall apply. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the principal item of work under construction or temporary suspension of the entire work which have been ordered by the Owner for reasons not the fault of the Contractor, shall not be charged against the contract time.

(2) The Engineer will not make charges against the contract time prior to the effective date of the notice to proceed.

(3) The Engineer will begin charges against the contract time on the first working day after the effective date of the notice to proceed.

(4) The Engineer will not make charges against the contract time after the date of final acceptance as defined in the subsection 50-15 titled FINAL ACCEPTANCE of Section 50.

(5) The Contractor will be allowed one (1) week in which to file a written protest setting forth his or her objections to the Engineer's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in the subsection 20-05 titled INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES of Section 20. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time

shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

b. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the notice to proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner’s orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

c. When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially complete.

If the Contractor finds it impossible for reasons beyond his or her control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, the Contractor may, at any time prior to the expiration of the contract time as extended, make a written request to the Owner for an extension of time setting forth the reasons which the Contractor believes will justify the granting of his or her request. Requests for extension of time on calendar day projects, caused by inclement weather, shall be supported with National Weather Bureau data showing the actual amount of inclement weather exceeded what could normally be expected during the contract period. The Contractor’s plea that insufficient time was specified is not a valid reason for extension of time. If the supporting documentation justify the work was delayed because of conditions beyond the control and without the fault of the Contractor, the Owner may extend the time for completion by a change order that adjusts the contract time or completion date. The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in the subsection 80-07 titled DETERMINATION AND EXTENSION OF CONTRACT TIME of this Section) the sum specified in the contract and proposal as liquidated damages will be deducted from any money due or to become due the Contractor or his or her surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Schedule	Liquidated Damages Cost	Allowed Construction Time
All Work	Refer to “Proposal”	Refer to “Proposal”
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The maximum construction time allowed is as described in the “Proposal”. Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of its rights under the contract.

80-09 Default and termination of contract. The Contractor shall be considered in default of his or her contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons if the Contractor:

- a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or
- b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or
- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the execution of the work, or
- e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Engineer consider the Contractor in default of the contract for any reason above, the Engineer shall immediately give written notice to the Contractor and the Contractor’s surety as to the reasons for considering the Contractor in default and the Owner’s intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the Engineer of the facts of such delay, neglect, or default and the Contractor’s failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the Engineer will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for national emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer.

Termination of the contract or a portion thereof shall neither relieve the Contractor of his or her responsibilities for the completed work nor shall it relieve his or her surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the Engineer prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate his or her work in such a manner as to ensure safety and a minimum of hindrance to flight operations. All Contractor equipment and material stockpiles shall be stored a minimum of **220** feet from the centerline of an active runway. No equipment will be allowed to park within the approach area of an active runway at any time. No equipment shall be within **125** feet of an active runway at any time.

END OF SECTION 80

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SECTION 90 MEASUREMENT AND PAYMENT

90-01 Measurement of quantities. All work completed under the contract will be measured by the Engineer, or his or her authorized representatives, using United States Customary Units of Measurement or the International System of Units.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the Engineer.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

In computing volumes of excavation, the average end area method or other acceptable methods will be used.

The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.

The term “ton” will mean the short ton consisting of 2,000 lb (907 kg) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, approved scales by competent, qualified personnel at locations designed by the Engineer. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the Engineer directs, and each truck shall bear a plainly legible identification mark.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

When requested by the Contractor and approved by the Engineer in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Bituminous materials will be measured by the gallon (liter) or ton (kg). When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts or ASTM D633 for tars.

Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work.

When bituminous materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, may be used for computing quantities.

Cement will be measured by the ton (kg) or hundredweight (km).

Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

The term “lump sum” when used as an item of payment will mean complete payment for the work described in the contract.

When a complete structure or structural unit (in effect, “lump sum” work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered by the Engineer in connection with force account work will be measured as agreed in the change order or supplemental agreement authorizing such force account work as provided in the subsection 90-05 titled PAYMENT FOR EXTRA WORK of this section.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales.

Scales shall be accurate within 1/2% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the inspector before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of 1% of the nominal rated capacity of the scale, but not less than 1 pound (454 grams). The use of spring balances will not be permitted.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the inspector can safely and conveniently view them.

Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Scales must be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

Scales “overweighing” (indicating more than correct weight) will not be permitted to operate, and all materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of one-half of 1%.

In the event inspection reveals the scales have been under weighing (indicating less than correct weight), they shall be adjusted, and no additional payment to the Contractor will be allowed for materials previously weighed and recorded.

All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.

When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the Engineer. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of the subsection 70-18 titled NO WAIVER OF LEGAL RIGHTS of Section 70.

When the “basis of payment” subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in the subsection 40-02 titled ALTERATION OF WORK AND QUANTITIES of Section 40 will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from his or her unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in the subsection 40-03 titled OMITTED ITEMS of Section 40, the Engineer shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the Engineer omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the Engineer's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the Engineer's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the Engineer's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with the subsection 40-04 titled EXTRA WORK of Section 40, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the Engineer, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with the subsection 90-07 titled PAYMENT FOR MATERIALS ON HAND of this section. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. The Owner must ensure prompt and full payment of retainage from the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all

the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

From the total of the amount determined to be payable on a partial payment, 5 percent of such total amount will be deducted and retained by the Owner until the final payment is made, except as may be provided (at the Contractor's option) in the subsection 90-08 titled PAYMENT OF WITHHELD FUNDS of this section. The balance (95%) of the amount payable, less all previous payments, shall be certified for payment. Should the Contractor exercise his or her option, as provided in the subsection 90-08 titled PAYMENT OF WITHHELD FUNDS of this section, no such percent retainage shall be deducted.

When at least 95% of the work has been completed, the Engineer shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done.

The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the Engineer to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in the subsection 90-09 titled ACCEPTANCE AND FINAL PAYMENT of this section.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the Engineer at or on an approved site.

b. The Contractor has furnished the Engineer with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the Engineer with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material so stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of his or her responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in subsection 90-06 PARTIAL PAYMENTS, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of the subsection 50-15 titled FINAL ACCEPTANCE of Section 50, the Engineer will prepare the final estimate of the items of work actually performed. The Contractor shall approve the Engineer's final estimate or advise the Engineer of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the Engineer shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the Engineer's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may

approve the Engineer's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with the subsection 50-16 titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section 50.

After the Contractor has approved, or approved under protest, the Engineer's final estimate, and after the Engineer's receipt of the project closeout documentation required in subsection 90-11 Project Closeout, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of the subsection 50-16 titled CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section 50 or under the provisions of this subsection, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of one year from the date of final acceptance of the work. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of:

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:

(1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

90-11 Project closeout. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the Engineer approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturers warranties specified for materials, equipment, and installations.

b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.

c. Complete final cleanup in accordance with subsection 40-08, FINAL CLEANUP.

d. Complete all punch list items identified during the Final Inspection.

e. Provide complete release of all claims for labor and material arising out of the Contract.

f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.

g. When applicable per state requirements, return copies of sales tax completion forms.

h. Manufacturer's certifications for all items incorporated in the work.

i. All required record drawings, as-built drawings or as-constructed drawings.

j. Project Operation and Maintenance (O&M) Manual.

k. Security for Construction Warranty.

l. Equipment commissioning documentation submitted, if required.

m. Items mentioned in Section 01700 elsewhere in these contract documents.

n. Other items mentioned elsewhere in these contract documents.

END OF SECTION 90

SECTION 100 CONTRACTOR QUALITY CONTROL PROGRAM

100-01 General. The Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified here and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The intent of this section is to enable the Contractor to establish a necessary level of control that will:

- a.** Adequately provide for the production of acceptable quality materials.
- b.** Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.
- c.** Allow the Contractor as much latitude as possible to develop his or her own standard of control.

The Contractor shall be prepared to discuss and present, at the preconstruction conference, their understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed and accepted by the Engineer. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed.

The quality control requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the acceptance testing requirements. Acceptance testing requirements are the responsibility of the Engineer.

Paving projects over \$500,000 shall have a Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Contractor, subcontractors, testing laboratories, and Owner's representative at start of construction. The workshop shall address QC and QA requirements of the project specifications. The Contractor shall coordinate with the Airport and the Engineer on time and location of the QC/QA workshop.

100-02 Description of program.

a. General description. The Contractor shall establish a Quality Control Program to perform quality control inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of quality control.

b. Quality Control Program. The Contractor shall describe the Quality Control Program in a written document that shall be reviewed and approved by the Engineer prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review and approval at least **10** calendar days before the **preconstruction conference**. The Contractor's Quality Control Plan and Quality Control testing laboratory must be approved in writing by the Engineer prior to the Notice to Proceed (NTP).

The Quality Control Program shall be organized to address, as a minimum, the following items:

- a. Quality control organization
- b. Project progress schedule
- c. Submittals schedule
- d. Inspection requirements
- e. Quality control testing plan
- f. Documentation of quality control activities
- g. Requirements for corrective action when quality control and/or acceptance criteria are not met

The Contractor is encouraged to add any additional elements to the Quality Control Program that is deemed necessary to adequately control all production and/or construction processes required by this contract.

100-03 Quality control organization. The Contractor Quality Control Program shall be implemented by the establishment of a separate quality control organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all quality control staff by name and function and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the Quality Control Program, the personnel assigned shall be subject to the qualification requirements of paragraph 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The quality control organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Program Administrator shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The Program Administrator shall have a minimum of five (5) years of experience in airport and/or highway construction and shall have had prior quality control experience on a project of comparable size and scope as the contract.

Additional qualifications for the Program Administrator shall include at least one of the following requirements:

- (1) Professional Engineer with one (1) year of airport paving experience.
- (2) Engineer-in-training with two (2) years of airport paving experience.
- (3) An individual with three (3) years of highway and/or airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.
- (4) Construction materials technician certified at Level III by the National Institute for Certification in Engineering Technologies (NICET).
- (5) Highway materials technician certified at Level III by NICET.
- (6) Highway construction technician certified at Level III by NICET.
- (7) A NICET certified engineering technician in Civil Engineering Technology with five (5) years of highway and/or airport paving experience.

The Program Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications. The Program Administrator shall report directly to a responsible officer of the construction firm. The Program Administrator may supervise the Quality Control Program on more than one project provided that person can be at the job site within two (2) hours after being notified of a problem.

b. Quality control technicians. A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II or higher construction materials technician or highway construction technician and shall have a minimum of two (2) years of experience in their area of expertise.

The quality control technicians shall report directly to the Program Administrator and shall perform the following functions:

- (1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by subsection 100-06.
- (2) Performance of all quality control tests as required by the technical specifications and subsection 100-07.
- (3) Performance of density tests for the Engineer when required by the technical specifications.

Certification at an equivalent level, by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing levels. The Contractor shall provide sufficient qualified quality control personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state where different technicians will be required for different work elements.

100-04 Project progress schedule. The Contractor shall submit a coordinated construction schedule for all work activities. The schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified in the contract. As a minimum, it shall provide information on the sequence of work activities, milestone dates, and activity duration.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

100-05 Submittals schedule. The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:

- a. Specification item number
- b. Item description
- c. Description of submittal
- d. Specification paragraph requiring submittal
- e. Scheduled date of submittal

100-06 Inspection requirements. Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by subsection 100-07.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work. These shall include the following minimum requirements:

a. During plant operation for material production, quality control test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The Quality Control Program shall detail how these and other quality control functions will be accomplished and used.

b. During field operations, quality control test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The Program shall document how these and other quality control functions will be accomplished and used.

100-07 Quality control testing plan. As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.

The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

- a. Specification item number (for example, P-401)
- b. Item description (for example, Plant Mix Bituminous Pavements)
- c. Test type (for example, gradation, grade, asphalt content)
- d. Test standard (for example, ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)
- e. Test frequency (for example, as required by technical specifications or minimum frequency when requirements are not stated)
- f. Responsibility (for example, plant technician)
- g. Control requirements (for example, target, permissible deviations)

The testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The Engineer shall be provided the opportunity to witness quality control sampling and testing.

All quality control test results shall be documented by the Contractor as required by subsection 100-08.

100-08 Documentation. The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily inspection reports. Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:

- (1) Technical specification item number and description
- (2) Compliance with approved submittals
- (3) Proper storage of materials and equipment
- (4) Proper operation of all equipment

- (5) Adherence to plans and technical specifications
- (6) Review of quality control tests
- (7) Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible quality control technician and the Program Administrator. The Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

b. Daily test reports. The Contractor shall be responsible for establishing a system that will record all quality control test results. Daily test reports shall document the following information:

- (1) Technical specification item number and description
- (2) Test designation
- (3) Location
- (4) Date of test
- (5) Control requirements
- (6) Test results
- (7) Causes for rejection
- (8) Recommended remedial actions
- (9) Retests

Test results from each day's work period shall be submitted to the Engineer prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the Program Administrator.

100-09 Corrective action requirements. The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

100-10 Surveillance by the Engineer. All items of material and equipment shall be subject to surveillance by the Engineer at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to surveillance by the Engineer at the site for the same purpose.

Surveillance by the Engineer does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

100-11 Noncompliance.

a. The Engineer will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Engineer or his or her authorized representative to the Contractor or his or her authorized representative at the site of the work, shall be considered sufficient notice.

b. In cases where quality control activities do not comply with either the Contractor Quality Control Program or the contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer, the Engineer may:

(1) Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors.

(2) Order the Contractor to stop operations until appropriate corrective actions are taken.

END OF SECTION 100

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SECTION 105 MOBILIZATON

105-1 Description. This item shall consist of work and operations, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

105-1.1 Posted notices. Prior to commencement of construction activities the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster “Equal Employment Opportunity is the Law” in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL “Notice to All Employees” Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105-2 Basis of measurement and payment. Based upon the contract lump sum price for “Mobilization” partial payments will be allowed as follows:

- a. With first pay request, 25%.
- b. When 25% or more of the original contract is earned, an additional 25%.
- c. When 50% or more of the original contract is earned, an additional 40%.
- d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by 90-11, the final 10%.

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SECTION 110
METHOD OF ESTIMATING PERCENTAGE OF MATERIAL
WITHIN SPECIFICATION LIMITS (PWL)

110-01 General. When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average (\bar{X}) and sample standard deviation (S_n) of the specified number (n) of sublots for the lot and the specification tolerance limits, L for lower and U for upper, for the particular acceptance parameter. From these values, the respective Quality index, Q_L for Lower Quality Index and/or Q_U for Upper Quality Index, is computed and the PWL for the lot for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

It is the intent of this section to inform the Contractor that, in order to consistently offset the Contractor's risk for material evaluated, production quality (using population average and population standard deviation) must be maintained at the acceptable quality specified or higher. In all cases, it is the responsibility of the Contractor to produce at quality levels that will meet the specified acceptance criteria when sampled and tested at the frequencies specified.

110-02 Method for computing PWL. The computational sequence for computing PWL is as follows:

- a. Divide the lot into n sublots in accordance with the acceptance requirements of the specification.
- b. Locate the random sampling position within the subplot in accordance with the requirements of the specification.
- c. Make a measurement at each location or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.
- d. Find the sample average (\bar{X}) for all subplot values within the lot by using the following formula:

$$\bar{X} = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

Where: \bar{X} = Sample average of all subplot values within a lot

x_1, x_2 = Individual subplot values

n = Number of sublots

e. Find the sample standard deviation (S_n) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \dots + d_n^2)/(n-1)]^{1/2}$$

Where: S_n = Sample standard deviation of the number of subplot values in the set

d_1, d_2 = Deviations of the individual subplot values x_1, x_2, \dots from the average value X

that is: $d_1 = (x_1 - X), d_2 = (x_2 - X) \dots d_n = (x_n - X)$

n = Number of sublots

f. For single sided specification limits (that is, L only), compute the Lower Quality Index Q_L by use of the following formula:

$$Q_L = (X - L) / S_n$$

Where: L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L , using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For double-sided specification limits (that is, L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$Q_L = (X - L) / S_n$$

and

$$Q_U = (U - X) / S_n$$

Where: L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U , using the column appropriate to the total number (n) of measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U . Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where: P_L = percent within lower specification limit

P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project

Test Item: Item P-401, Lot A.

A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

$$A-1 = 96.60$$

$$A-2 = 97.55$$

$$A-3 = 99.30$$

$$A-4 = 98.35$$

$$n = 4$$

2. Calculate average density for the lot.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$$

$$X = 97.95\% \text{ density}$$

3. Calculate the standard deviation for the lot.

$$S_n = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2) / (4 - 1)]^{1/2}$$

$$S_n = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$$

$$S_n = 1.15$$

4. Calculate the Lower Quality Index Q_L for the lot. ($L=96.3$)

$$Q_L = (X - L) / S_n$$

$$Q_L = (97.95 - 96.30) / 1.15$$

$$Q_L = 1.4348$$

5. Determine PWL by entering Table 1 with $Q_L = 1.44$ and $n = 4$.

$$PWL = 98$$

B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

$$A-1 = 5.00$$

$$A-2 = 3.74$$

$$A-3 = 2.30$$

$$A-4 = 3.25$$

2. Calculate the average air voids for the lot.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$$

$$X = 3.57\%$$

3. Calculate the standard deviation S_n for the lot.

$$S_n = [((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) / (4 - 1)]^{1/2}$$

$$S_n = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$$

$$S_n = 1.12$$

4. Calculate the Lower Quality Index Q_L for the lot. ($L = 2.0$)

$$Q_L = (X - L) / S_n$$

$$Q_L = (3.57 - 2.00) / 1.12$$

$$Q_L = 1.3992$$

5. Determine P_L by entering Table 1 with $Q_L = 1.41$ and $n = 4$.

$$P_L = 97$$

6. Calculate the Upper Quality Index Q_U for the lot. ($U = 5.0$)

$$Q_U = (U - X) / S_n$$

$$Q_U = (5.00 - 3.57) / 1.12$$

$$Q_U = 1.2702$$

7. Determine P_U by entering Table 1 with $Q_U = 1.29$ and $n = 4$.

$$P_U = 93$$

8. Calculate Air Voids PWL

$$PWL = (P_L + P_U) - 100$$

$$PWL = (97 + 93) - 100 = 90$$

EXAMPLE OF OUTLIER CALCULATION (REFERENCE ASTM E178)

Project: Example Project

Test Item: Item P-401, Lot A.

A. Outlier Determination for Mat Density.

1. Density of four random cores taken from Lot A arranged in descending order.

A-3 = 99.30

A-4 = 98.35

A-2 = 97.55

A-1 = 96.60

2. Use $n=4$ and upper 5% significance level of to find the critical value for test criterion = 1.463.

3. Use average density, standard deviation, and test criterion value to evaluate density measurements.

- a. For measurements greater than the average:

If $(\text{measurement} - \text{average})/(\text{standard deviation})$ is less than test criterion, then the measurement is not considered an outlier

For A-3, check if $(99.30 - 97.95) / 1.15$ is greater than 1.463.

Since 1.174 is less than 1.463, the value is not an outlier.

- b. For measurements less than the average:

If $(\text{average} - \text{measurement})/(\text{standard deviation})$ is less than test criterion, then the measurement is not considered an outlier.

For A-1, check if $(97.95 - 96.60) / 1.15$ is greater than 1.463.

Since 1.435 is less than 1.463, the value is not an outlier.

Note: In this example, a measurement would be considered an outlier if the density were:

Greater than $(97.95 + 1.463 \times 1.15) = 99.63\%$

OR

less than $(97.95 - 1.463 \times 1.15) = 96.27\%$.

Table 1. Table for Estimating Percent of Lot Within Limits (PWL)

Percent Within Limits (P _L and P _U)	Positive Values of Q (Q _L and Q _U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Percent Within Limits (P _L and P _U)	Negative Values of Q (Q _L and Q _U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

END OF SECTION 110

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SUPPLEMENTARY CONDITIONS

Section 10, Definition of Terms Add the following:

10-53 Substantial Completion: Substantial completion shall be that degree of completion of the project or a defined portion of the project, sufficient to enable the Owner, at his discretion, to safely and conveniently use the project or defined portion of the project for the purposes for which it was intended during all hours of operation.

10-54 Time: Unless otherwise stated, the term “day” shall be taken to mean a calendar day of 24 hours, beginning at 12:00 midnight. Saturdays, Sundays, and Holidays shall be included.

Section 40, Scope of Work Add the following:

40-02 Alteration of Work Quantities. Change orders and supplemental agreements must be approved by the Owner, Engineer, FAA, and Contractor before the work on the change order or supplementary agreement is started.

40-04 Extra Work. Change orders and supplemental agreements must be approved by the Owner, Engineer, FAA, and Contractor before the work on the change order or supplementary agreement is started.

Section 50, Control of Work Add the following:

50-15 Final Acceptance. Acceptance of the work by the Owner or Engineer is not final until approved by the FAA.

Section 70, Legal Relations and Responsibility to Public Add the following:

70-04 Restoration of Surfaces Disturbed by Others. The following individuals, firms or corporations have authority to excavate or otherwise disturb utility services or facilities located within the limits of the work.

Owner

(Utility or other Facility)

1. Utility One-Call

2. City of Florence

3. Central Lincoln PUD

Contact Person

One-Call Dispatcher

Mike Miller

Troy Delle

Phone Number

1-800-332-2344

(541) 997-4106

(541) 997-5627

Section 80, Execution and Progress Add the following:

Anytime work is occurring on the project, by the Contractor or any subcontractor, the Contractor shall have a Project Manager or Project Superintendent on site. No work, by the contractor or any subcontractor, shall occur without the knowledge and presence of the Resident Engineer, Inspector, or Owner’s Representative on the project site.

The following sections are added to the General Provisions:

SAFETY

The Engineer has not been retained or compensated to provide design and construction review services relating to the Contractor's safety precautions or to means, methods, techniques, sequences or procedures required for the Contractor to perform his work.

The Contractor will be solely and completely responsible for conditions of the work site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. Safety provisions shall conform to all applicable State, County, and local laws, ordinances and codes.

The Contractor shall also comply with the "U.S. Department of Labor Occupational Safety and Health Act," the "Construction Safety Act" administered by the U.S. Department of Labor, the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, and the "Manual on Uniform Traffic Control Devices," except where these are in conflict with state laws, in which case, the more stringent requirements shall be followed.

The Contractor shall maintain at his office or other well-known place at the work site, all articles necessary for giving first-aid to the injured and shall establish the procedure for the immediate removal to a hospital or a doctor's care of all persons (including employees) who may be injured on the work site.

The duty of the Engineer to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the construction site.

If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Engineer and the Owner. In addition, the Contractor must promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.

If any claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Engineer giving full details of the claim.

CORRECTION OF DEFECTIVE WORK AFTER FINAL ACCEPTANCE

All work shall be guaranteed for a period of one (1) year against defects in materials and workmanship. The Contractor hereby agrees to make at his own expense, all repairs or replacements necessitated by defects in materials or workmanship supplied by him that become evident within one (1) year after the date of written notice from the Engineer recommending final acceptance of the entire project, or entire schedule, by the Owner. The Contractor also agrees to

hold the Owner harmless from claims of any kind arising from damage due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written orders for same from the Owner. If the Contractor fails to make the repairs and replacements promptly, the Owner may do the work, and the Contractor and his surety shall be liable for the cost thereof.

NO WAIVER OF RIGHTS

Neither the inspection by the Owner, through the Engineer or any of his employees, nor any order by the Owner for payment of money, nor any payment for, or acceptance of, the whole or any part of the work by the Owner or Engineer, nor any extension of time, nor any possession taken by the Owner or its employees, shall operate as a waiver of any provision of these Contract Documents, or any power herein reserved to the Owner, or any right to damages herein provided, nor shall any waiver of any breach in this Agreement be held to be a waiver of any other or subsequent breach.

LITIGATION FEES AND EXPENSES

In the event that a suit or action is instituted to enforce any of the terms or conditions of this Agreement, the losing party shall pay to the prevailing party, in addition to the costs and disbursements allowed by statute, such sum as the court may adjudge reasonable as attorney's fees in such suit or action, in both trial and appellate courts.

VEHICLE MARKING

When any vehicle is used in the aircraft movement area or is required to travel over any portion of that area, it should be escorted by a vehicle properly identified to operate in the area and provided with a flag so attached to the vehicle that the flag is readily visible. The flag should not be less than three square feet consisting of a checkered pattern of international orange and white squares of not less than one foot of each side. A rotating yellow light on the vehicle can be used in place of the flag, including for nighttime work. The rotating yellow light must be visible for 360 degrees at ground level. Refer to Section 01160, General Requirements and Section 01300, Airport Safety for additional requirements.

GENERAL LIABILITY AND AUTO DAMAGE INSURANCE

The Contractor shall maintain such public liability, auto, and property damage insurance as will protect the contractor and the owner from any and all claims for damage or personal injury including death, which may arise from operations under this contract or in connection therewith, including all operations of subcontractors.

Such insurance shall provide coverage for not less than the following:

- \$5,000,000 combined single-limit, bodily injury and property damage liability coverage. The policy will also contain an endorsement which applies any aggregates contained in the \$5,000,000 coverage to this specific.

Such insurance shall be without prejudice to coverage otherwise existing, and shall name as additional insured the owner, and any other governmental bodies with jurisdiction in the area involved in this project, their officers and employees, and shall further provide that his policy shall not be terminated or be canceled prior to the completion of this contract without 30 days written notice by verified mail to the auditor which notice shall be subject to the approval of the attorney, said notice to commence to run from the date notice is actually received at the office of the auditor.

Notwithstanding the naming of additional insured, the said policy shall protect each insured in the same manner as though a separate policy had been issued to each; but nothing herein shall operate to increase the insurer's liability as set forth elsewhere in the policy beyond the amount or amounts for which the insurer would have been liable in only one person or interest had been named as insured.

WORKER'S COMPENSATION INSURANCE

The contractor shall provide Worker's Compensation insurance coverage for all persons employed on the work to be done under the contract and assured that all workers will receive the compensation for compensable injuries provided in the ORS 656.001 to 656.794 by:

- Qualifying as a carrier-insured employer; or
- Qualifying as a self-insured responsibility employer under 656.401 and 656.407.

The contractor acknowledges that the work performed under this contract is performed as an independent contractor and acknowledges that Worker's Compensation coverage will not be provided, to the contractor or any subcontractor for the contractor, by the Owner.

In the event that the contractor or any of the subcontractors shall elect to fulfill this responsibility by qualifying as a direct responsibility employer under ORS 656.405 and 656.409, satisfactory proof of such fact shall be required. In the event that the certification as a direct responsibility employer is withdrawn, as provided in ORS 656.417, the contractor or any subcontractor shall thereafter on the effective date of the withdrawal of certification, becoming a contributing employer.

COMMUNICATIONS WITH CONTROL TOWER/AIRPORT UNICOM

The contractor shall furnish and monitor a two-way communication system with a range capable of maintaining contact with the Air Traffic Control Tower and airport UNICOM at all locations on the airport grounds. The system will be monitored anytime men and equipment are operating in the air operations area. The contractor's operations will be suspended anytime the required radios are not available or operational. Refer to Section 01300, Airport Safety for additional requirements.

WORKERS' COMPENSATION AS REQUIRED BY ORS 656.017

The Contractor, its subcontractors, if any, and all employers working under the Contractor's direction shall comply with ORS 656.017 which requires them to provide Workers' Compensation coverage for all their subject workers.

ESTIMATES OF QUANTITIES

The quantities shown on the plans and in the bid specifications are approximate only, being given as a basis for the comparison of bids. The Owner does not, expressly or by implication, agree that the actual amount of work will correspond therewith, and reserves the right to increase or decrease the amount of work as may be deemed necessary or advisable by the Owner.

SEVERABILITY

If a part of this contract document is declared invalid, all parts severable from the invalid part shall remain in effect. If a part of this contract document is declared invalid in one or more of its applications, that part shall remain in effect in all valid applications that are severable from the invalid applications.

WAIVER

Failure of the Owner to enforce any provision of this Contract shall not constitute a waiver or relinquishment by the Owner of the right to such performance in the future nor of the right to enforce any other provision of this Contract.

ASSIGNMENT/TRANSFER

Contractor shall not assign, sell, or transfer rights, or delegate responsibilities under this Contract, in whole or in part, without the prior consent of the Owner. No such written approval shall relieve Contractor of any obligations of this Contract, and any transferee shall be considered the agent of the Contractor and bound to perform in accordance with the Contract Documents. Contractor shall remain liable as between the original parties to the Contract as if no assignment had occurred.

SUCCESSORS IN INTEREST

The provisions of this Contract shall be binding upon and shall inure to the benefit of the parties to the Contract and their respective successors and assigns.

OWNER'S RIGHT TO DO WORK

At any time and without prejudicing this Contract, the Owner may perform work with its own personnel. The Contractor shall fully cooperate with all Owner forces without additional cost to the Owner.

OTHER CONTRACTS

In all cases and at any time, the Owner has the right to execute other contracts related to or unrelated to the Work of this Contract. The Contractor of this Contract will fully cooperate with any and all other contractors without additional cost to the Owner.

END OF SUPPLEMENTARY CONDITIONS

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SECTION IV
Technical Specifications

01160 GENERAL REQUIREMENTS

1.00 GENERAL SCOPE

Location and Plans. The location of the work is at the Florence Municipal Airport, Florence, Oregon. For the purpose of this contract the terms Airport and Owner are considered the same.

The contract plans for this project consist of **28** sheets entitled Florence Municipal Airport, Seal Coat and Lighting Improvements.

Airport Security. During the course of the contract, the Contractor shall be responsible for maintaining security against unauthorized access to the Airport. The Contractor will be held responsible for any fines, damages, or civil penalties filed against the City of Florence and the Florence Municipal Airport for the Contractor's failure to maintain the regulations set forth herein.

The Contractor shall be fully responsible for compliance of all employees with the Airport security program and following regulations and orders of the Airport management. These regulations may affect identification requirements of employees and subcontractors, movement around the Airport, parking, entry, and other circumstances affecting the safety or protection of persons or property. The security requirements are subject to change at any time during the project without prior notice.

For the intent and purpose of these regulations, Air Operations Area (AOA) is construed to mean any area used or intended to be used for takeoff, landing, or surface maneuvering of aircraft, and all other areas restricted to public access on the field. Work boundaries within the Air Operations Area shall be established as shown on the drawings. Only Contractor's employees are permitted in the work sites.

The term "gate" used herein shall mean any controlled, securable opening in the security fence. The Contractor must enter and exit the Air Operations Area only through the gates designated by the Engineer. Deliveries to work sites will be controlled by the Contractor or, if applicable, a security gate guard (employed by the Contractor), who will record name and license of driver, vehicle license, and times in and out. The Contractor shall keep the gates locked and secured at all times when not in use. The Contractor shall account for Airport-issued keys and access cards in a manner approved by the Airport.

Within the Air Operations Area, all equipment, vehicle, and personnel travel shall be restricted to designated work sites.

Only vehicles used for construction purposes shall enter the Air Operations Area. Contractor personnel shall park their personal vehicles within a designated staging area.

FAA-approved orange and white checkered flags shall be provided by the Contractor on all vehicles and equipment within the Airfield.

During night operations, each vehicle entering the Air Operations Area shall be equipped with a yellow flashing light mounted on the roof of the cab. Headlights, taillights, and flashers shall be used for all activities during these hours.

In the event of an emergency, personnel and equipment shall move immediately to the staging area.

Layout of the Work. The Contractor will do all the construction surveying on the project. The Engineer will provide vertical and horizontal reference control points in the proximity of the work. The Contractor should refer to Section 01406, "Construction Staking", for specific requirements.

Completion Time. All items of contract work shall be substantially complete within the time period specified in the "Proposal" and the "Contract" or "Agreement".

Environmental Codes and Regulations. The Contractor shall comply with provisions of Federal, State and local statutes, ordinances and regulations dealing with the prevention of environmental pollution and the preservation of natural resources that affect the project.

If the Contractor must undertake additional work due to the enactment of new or the amendment of existing statutes, ordinances and regulations dealing with the prevention of the successful bid, the Airport will issue a supplemental agreement setting forth the additional work that must be undertaken. The supplemental agreement shall not invalidate the contract and there shall be, in addition to a reasonable extension of contract time, if necessary, a reasonable adjustment in the contract price to compensate the successful bidder for all costs and expenses incurred, including overhead and profits, as a result of the additional work.

Special Permits. The Contractor shall pay for and obtain any and all permits required for construction of the work. Permits may include, but are not limited to, the following:

1. City Building Permit;
2. Permits for electrical work;
3. Other permits as required.

Contractor shall comply with the terms, conditions and requirements of permits obtained by the owner.

Inspection and Testing. All tests called for in the specifications or deemed necessary by the Engineer will be performed by the Engineer, except when indicated otherwise in the specifications. The Engineer will perform quality assurance testing when, in the opinion of the Contractor, the work area to be tested is prepared and will meet the required specifications. Contractor shall schedule testing at least 48 hours in advance of when he is ready for the test. Hot mix asphalt testing shall be scheduled a minimum of 14 days in advance of beginning paving. In the event test results do not meet the specifications, any cost for re-testing as may be required by the Engineer shall be at the Contractor's expense, charged at the rate established in the Engineer's standard fee schedule.

Contractor's Staging Area. An area (or areas) will be set aside on the Airport property for the Contractor's use as a staging area for personnel, equipment, and materials. The Contractor shall obtain all necessary building permits and operating licenses from local governmental agencies. The Engineer will define the actual location in the field. The Contractor may install a security fence. The area shall be restored to its original condition at the conclusion of the work, at no cost to the Owner.

Disposal of Waste Material. Earthen material, rock, and boulders that is acceptable for construction of embankments/fills for the project, and approved by the Engineer, shall be placed in locations as designated by the Engineer or as shown on the plans. Other/Excess, waste earthen material, unsuitable material, strippings, sod, and vegetation/organic material from clearing and grubbing or excavation shall be disposed of off-site at the Contractor's expense.

Concrete and other debris shall be disposed of offsite.

Disposal of waste materials shall be in accordance with governing agency safety, health, and other requirements.

Site Investigation and Representation. The Contractor acknowledges familiarity as to the nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during the prosecution of the work and all other matters which can in any way affect the work or the cost thereof under this contract.

The Contractor further acknowledges understanding of the character, quality, and quantity of surface and subsurface materials to be encountered from inspecting the site.

The Contractor warrants that as a result of the examination and investigation of all the aforesaid data that he can perform the work in a good and workmanlike manner and to the satisfaction of the Airport. The Airport assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this contract, unless (1) such representations are expressly stated in the contract, and (2) the contract expressly provides that the responsibility therefore is assumed by the Airport. Representations for which liability is not expressly assumed by the Airport in the contract shall be deemed only for the information of the Contractor.

Information on Site Conditions. All information obtained by the Airport regarding site conditions, subsurface information, ground water elevations, existing construction of site facilities as applicable, and similar data will be available for inspection upon request. Such information is offered as supplementary information only. The Airport does not assume any responsibility for the completeness or interpretation of such supplementary information.

Subsurface and Site Information. Information derived from inspection of test results, of topographic maps, or from plans showing location of utilities and structures will not in any way relieve the Contractor from any risk, or from properly examining the site and making such additional investigations as he may elect, or from properly fulfilling all the terms of the contract documents.

The submission of a proposal shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of the contract documents.

Underground Utilities. Known utilities and structures expected to be adjacent to or encountered in the work are shown on the plans. It is expected that there may be some discrepancies and omissions in the locations and quantities of utilities and structures shown. Those shown are for the convenience of the Contractor only, and no responsibility is assumed by the Airport for their accuracy or completeness.

Fire Prevention and Protection. The Contractor shall perform all work in a fire-safe manner. The Contractor shall comply with applicable local and State fire prevention regulations.

Temporary Water. No potable water supply is immediately available at the designated Contractor's staging area. The Contractor shall make arrangements for obtaining water and pay all costs for same.

Temporary Electric Power. No electric power is immediately available at the designated Contractor's staging. The Contractor shall make arrangements for electric power for use during the construction period until final acceptance by the Airport, and pay all costs for same.

Sanitary Facilities. The Contractor shall provide and maintain sanitary facilities for employees and subcontractor's employees that will comply with the regulations of the local and State departments of health and as directed by the Engineer.

2.00 GENERAL CONSTRUCTION RESPONSIBILITIES AND PROCEDURES

Site Restoration and Cleanup. Upon completion of the project, all areas used by the Contractor in connection with the work shall be properly cleared of all temporary structures, rubbish, and waste materials and properly graded to drain and blend in with the abutting property.

Haul Routes and Maintenance. The Contractor shall abide by prevailing legal load limit regulations when hauling over airfield pavements and public roads. The Contractor shall perform all necessary maintenance of haul routes during construction and shall perform all work as necessary to restore the routes used by all his equipment to their original condition at the conclusion of construction. New construction haul roads shall be obliterated and original vegetation re-established. Existing roadways, runways, and taxiways shall be patched or overlaid at the Contractor's expense, as necessary to restore them.

Unsurfaced haul roads shall be sprinkled with water as necessary to prevent dust diffusion during the course of the work.

All maintenance and restoration work shall be completed to the Engineer's satisfaction before final payment is awarded. No direct payment will be made for this work.

Responsibility for Damage to Existing Structures. Where any existing structures or facilities which are intended to remain are damaged by the Contractor during demolition or construction, the Contractor shall promptly repair or replace the damaged portion or facility at no additional cost to the Airport.

Storage of Materials. Materials shall be so stored as to insure the preservation of their quality and fitness of the work. When considered necessary, they shall be placed on wooden platforms or other hard, clean surfaces, and not on the ground, and/or they shall be placed under cover. Stored materials shall be located so as to facilitate prompt inspection. Private property shall not be used for storage purposes without the written permission of the Airport or lessee.

Cleanup. The Contractor shall at all times during the work keep the premises clean and orderly, and shall promptly remove all waste materials and rubbish. All directions from the Engineer and other authorized public officials having jurisdiction over health and safety shall be obeyed. Areas to be opened up to aircraft operations shall be swept thoroughly clean with power broom equipment. Any debris resisting sweeping shall be removed by hand labor or other suitable means.

Upon completion of the work, all materials, equipment, and appurtenances not required, as a part of, or appurtenant to, the completed structure or facility shall be completely removed from the Airport property.

Blasting. Blasting is not allowed.

3.00 WORK PROGRESS SCHEDULE

Scope. The work specified in this subsection includes planning, scheduling, and reporting that is required to be performed by the Contractor.

Preconstruction Conference. A preconstruction conference will be held at the Airport before Notice to Proceed is issued. The conference shall be attended at a minimum by the Contractor's project manager and superintendent, and representatives of all subcontracting firms that will provide five percent (5%) or more of the total value of the project. A copy of the Contractor's anticipated construction schedule shall be submitted to the Engineer at least 5 days prior to the preconstruction conference. The Contractor shall be prepared to discuss details of how construction will progress, how they expect to conduct their operations, and discuss operational and safety requirements associated with the work.

Coordination Meetings. Coordination meetings will be held on a weekly basis or more often if necessary, to communicate work efforts between the Engineer, the Airport and the Contractor. The Resident Engineer will schedule the meetings with attendance required by at least one person from each organization.

Method. An overall project critical path schedule and supplementary weekly "look ahead" schedules, shall be submitted to the Engineer for review in accordance with the Special Provisions. Provide revised schedules and updated schedules at any time requested by the Engineer.

Schedule Requirements. Distinct items of contract work shall be defined and separated on the schedule. As a minimum, the work items shall include each contract pay item, mobilization, demobilization, and cleanup. Pay items that are partially subcontracted shall be split up to distinctly show the subcontracted work. These items of work shall be plotted on a graph with calendar day duration as a horizontal reference. Anticipated start and finish dates for each work stage and for each of the work items within a stage, shall be shown.

The project name, the Contractor's name, and the date of the schedule submittal shall be clearly shown on the submittal.

Progress Reports. At the end of each week, the Contractor shall submit a summary report of the progress of the various scheduled work items stating, for each item, the existing time status, estimated time of completion, and cause of delays, if any. If the work is behind the previously submitted schedule, the Contractor shall submit an updated schedule and a written plan acceptable to the Engineer for bringing the work up to schedule.

Updated schedules will be used by Engineer in compiling partial payments and no such computations will be made until the reports have been received and approved by the Engineer.

The Engineer may request reports to be made on a more frequent schedule if he considers the substantial completion date to be in jeopardy because of activities behind schedule or for other valid reasons.

END OF SECTION 01160

01300 AIRPORT SAFETY

PART 1: GENERAL

1.1 SCOPE

This specification outlines safety procedures and regulations to be followed by the Contractor during the course of this work. The work item “Temporary Flagging, Marking and Signing” shall consist of furnishing, installing, and removing temporary marking, signing, lighting, and barricades required during the course of this work. All work shall be in conformance with the most current versions of FAA Northwest Mountain Region NM 5200.3 “Safety Requirements on Airports During Construction and Maintenance Activities”, FAA Advisory Circular 150/5370-2 (latest edition) “Operational Safety on Airports During Construction”, and the “Manual of Uniform Traffic Control.”

The Contractor shall provide, erect, and maintain all necessary protection of the work and the safety of the public for both land and air traffic. Suitable warning signs and barricades, illuminated at night, shall be provided.

In order to protect air traffic against turning off of active runways or taxiways into construction areas, barricades shall be placed at the locations as shown on the plans, or as described in the Construction Safety and Phasing Plan (also known as the Construction Operations Plan) or as directed by the Engineer.

1.2 GENERAL REQUIREMENTS

The Contractor shall keep personnel and equipment off of the runway, runway sides, runway ends, taxiways, taxiway sides and aprons as described below. The Contractor shall continue to follow all safety requirements during runway closures.

1.3 CONSTRUCTION SEQUENCE

Construction activity shall not commence prior to issuance of a Notice to Airmen (NOTAM). The Contractor shall advise the Engineer three (3) days in advance of the planned commencement of construction activity so a NOTAM can be issued and shall not commence such activity until advised by the Engineer. Upon completion of work to the satisfaction of the Engineer, a NOTAM indicating completion will be issued. No further work in affected areas will be permitted.

1.4 GENERAL SAFETY REQUIREMENTS

- A. Prior to commencement of work on any of the airport's runways, taxiways, or aprons, the Contractor and the Engineer will select haul routes to be used by personnel and vehicles during the course of work in the various stages. The Contractor shall furnish, install and maintain appropriate traffic signs that clearly identify a haul route throughout its length within the flight operation area.

- B. FAA-approved orange and white-checked flags shall be provided by the Contractor on all vehicles and equipment.
- C. The Contractor's operations shall be limited to the staging area, the work boundaries shown on the plans and approved haul roads.
- D. **Runway Sides.** If appropriate construction NOTAM have been issued, construction (using equipment less than 10 feet tall) is permissible as close as the following distances from the centerline of the runway indicated when the runway is active:

<u>Runway Designation</u>	<u>Feet from Runway Centerline</u>
15-33	125

- E. **Runway Ends.** If appropriate construction NOTAM has been issued, construction activity is permissible off the threshold of the runways indicated below provided at least the indicated minimum safety area and indicated unobstructed approach slope are maintained:

<u>Runway End Number</u>	<u>Minimum Safety Area Behind Threshold</u>	<u>Minimum Unobstructed Approach Slope</u>
15	240 Feet	20:1 to 200' behind threshold
33	240 Feet	20:1 to 200' behind threshold
Taxiways	44.5 Feet from centerline	NA

Work inside these safety areas and penetrating the approach slope will be allowed during runway or taxiway closure only.

- F. Normally, work will be permitted during daylight hours only. If an emergency situation requires, or project phasing/sequencing requires, work at night, the Contractor shall notify the Engineer as far in advance as possible and obtain clearance from the Owner before proceeding to work.

During night operations, each vehicle shall be equipped with an omnidirectional yellow flashing light mounted on the roof of the cab. Headlights, taillights and flashers shall be used for all activities during these hours.

When the Contractor is required to work at night, adequate portable lights at the areas of work shall be provided by the Contractor. Sufficient lights shall be provided to complete the work to the specified tolerances. Portable light plants shall have at least four (4) working metal halide 1000 watt bulbs or 245,000 lumen output, each mounted on a mast at least 25' high, or as approved by the Engineer.

- G. At the end of each working day, all equipment and other obstructions shall be moved away from the runways and taxiways to Contractor staging areas.
- H. Construction equipment that extends 10 feet or more above ground level shall be cleared through the Engineer. It shall be lighted at night in an approved manner and/or lowered to height of adjacent structural surroundings at the discretion of the Engineer.
- I. Welding equipment shall not be used within 100 feet of fuel trucks or aircraft.
- J. All accidents shall be reported to the Engineer.
- K. In the event of an emergency, personnel and equipment shall be moved immediately at the direction of the Engineer.
- L. The Contractor shall be responsible for, at all times, insuring that active runways and taxiways are kept free of construction debris, equipment, and/or materials that might endanger or be ingested by an aircraft.
- M. All trenching within active runway or taxiway safety areas will be backfilled to grade at the end of each workday.
- N. The Contractor will be responsible for all equipment being within the staging area at the end of each working day, including subcontractors' equipment.
- O. The contractor shall place, service, and maintain Owner-provided, runway closure crosses during the closure of any single runway.

1.5 CONSTRUCTION SAFETY AND PHASING PLAN

A Construction Safety and Phasing Plan (a.k.a. construction operations plan) has been developed by the Owner to mitigate the adverse impacts of construction on aeronautical operations on the airport. Strict adherence to the provisions of the construction operations plan by all personnel assigned to or visiting the construction site is mandatory for all construction projects. When an Airport safety item is covered by more than one section in the contract documents, the Contractor shall adhere to the more stringent requirements for each safety item. In the event contractor activities are not in conformance with the provisions of the construction operations plan, the contractor shall immediately cease those operations involved in the violation of the provisions of the construction operations plan and conduct a safety meeting. The owner may direct the contractor, in writing, to immediately cease those operations involved in the violation of the provisions of the construction operations plan. The contractor shall not resume construction operations until an appropriate action is taken as determined by the Owner. Costs associated with work stoppages or additional meetings required due to the violations of the safety plans shall be paid by the Contractor. Contract time and liquidated damages will apply to periods or work stoppage related to safety plan violations.

2.00 MATERIALS

General. All barricades with flashing lights shall be inspected and tested each day, prior to project shut down to verify operation during nighttime usage. All barricade types shall be checked daily by the Contractor to ensure they are functioning as intended, including periods of time when work is not occurring or temporarily suspended.

The Contractor shall designate a person or persons who will be available 24 hours per day should any of the barricades, closure markers, or other safety measures noted in the plans, specifications, or Construction Operations Plan fail. This person/persons shall be capable of immediately dispatching to the site for making repairs or adjustments as needed.

Tubular Markers. Tubular Markers shall be a minimum of 28” high and a maximum of 42” high, with a weighted bottom to prevent overturning due to wind or prop wash. They shall be florescent orange with at least two white reflective bands providing full 360 degree visibility and shall have a flashing red light attached to the top.

Tubular markers shall be used to delineate “off pavement” construction work area boundaries, safety areas or other limits as directed by the engineer. Use barricades or tubular markers “on pavement” only when directed by the Engineer. Maximum barricade/tubular marker spacing shall be 10 feet, unless otherwise shown on the plans. The Contractor shall furnish, arrange and otherwise maintain a sufficient number of tubular markers to complete the work.

Low Level Barricades. Low level barricades shall have nominal dimensions of 10”H x 96”L x 10”W, shall be specifically designed for airport use and shall be equipped with pins or connectors so that a “string” of barricades can be formed. They shall be weighted with water or sand as ballast. The low level barricades shall be in conformance with FAA AC 150/5370-2G (latest version). Low level barricades shall have diagonal striped, alternating, orange/white high reflective sheeting on both sides of the barricade, and two battery or solar powered flashing red lights. If solar powered lights are used, the contractor shall ensure that they are “on” during periods of low visibility, during daylight hours.

Low level barricades shall be used to delineate “on pavement” work area limits, safety areas, or other boundaries as directed by the engineer. When in place, low level barricades shall form a continuous “string” across the designated boundary. The Contractor shall furnish, arrange and otherwise maintain a sufficient number of low level barricades to complete the work.

Runway Closure Markers (Crosses). The contractor shall provide, place and maintain, as required during runway closures, two (2) runway crosses. Two (2) runway crosses shall be provided, each made of yellow truck tarp nylon weighing 18 ounces per square yard. The edges shall be hemmed, corners reinforced and grommets provided every 3 feet along the edge. For each runway cross, the material shall be sized as follows: 1 piece (10’ x 60’) and 2 pieces (10’ x 25’). The crosses shall be given to the Owner, in satisfactory condition, upon completion of the project. The crosses shall be secured with sandbags or other approved methods to hold the crosses down during weather or prop wash conditions.

Closed runway marking (crosses) as described shall be provided, placed and maintained, by the contractor as directed by the Engineer during the contract time. The crosses shall be on the project site and available for use within two weeks of the date of the Notice to Proceed or before the runway is closed, whichever is sooner.

Airport Radios. Airport radios shall be VHF Air Band Transceivers, as manufactured by ICOM, Model IC-A24, or equal. Radios shall be supplied with a compatible wall charge unit, and a vehicle “cigarette lighter” style plug in charger. The contractor shall provide two (2) radios for use on the project.

The contractor shall designate one lead person to monitor the Airport UNICOM frequency at all times during construction operations in each Work Area. The person shall be familiar with construction vehicular movements, operations and airport layout. The contractor shall allow time for proper training of airport radio communications with the Owner prior to the start of construction.

At no time will the Contractor, the Contractor’s employees, or subcontractors be given authorization to enter an active runway, or taxiway unless they are being escorted by Airport Operations or the Resident Engineer. Hauling across active runways, taxiways, or aprons shall not be permitted.

Temporary Marking and Signing. The Contractor shall install temporary closing crosses, temporary displaced thresholds, lights, lenses, traffic control devices and other temporary markings, barricades and signs required during the course of this contract. The temporary markings shall conform to applicable Federal Aviation Administration markings and shall be constructed of materials approved by the Engineer.

3.00 PAYMENT

Temporary Flagging, Marking and Signing. Temporary Flagging, Marking and Signing will be paid for at the contract lump sum price for item “Temporary Flagging, Marking, and Signing”. This price shall be full compensation for furnishing and maintenance of flagmen, radio operators, radio operator guards, runway closure markers, barricades, tubular markers, lights, lenses, temporary displaced thresholds, signs and markings, for maintenance of those items during the work, any necessary relocation and for all labor, equipment, tools, and incidentals necessary to complete the item.

Runway Closure Markers. Placement and maintenance of Contractor-provided Runway Closure Markers is considered incidental to various project work items and activities for which no separate payment will be made, including all related labor, equipment, tools, and incidentals necessary to complete the item.

Low Level Barricades. Low Level Barricades will be paid for at the contract lump sum price for item “Low Level Barricades”. This price shall be full compensation for furnishing and maintenance of the low level barricades and for maintenance of the items during the work, any necessary relocation and for all labor, equipment, tools, and incidentals necessary to complete the item.

Airport Radios. Airport Radios are considered incidental to various project work items and activities for which no separate payment will be made.

END OF SECTION 01300

01406 CONSTRUCTION STAKING

1.00 GENERAL SCOPE

This work shall consist of all surveying, measuring and laying out control for the many phases of work required to construct the project. The Contractor will be provided with reference monuments for both vertical and horizontal control in the proximity of the work. The Contractor shall be responsible for all measurements made in connection with the work.

The Engineer will perform the following, which will not be a part of this work.

1. Provide vertical and horizontal reference control points.
2. Perform such checks as he deems necessary to verify the accuracy of the Contractor's survey work and insure the completed work complies with the plans and specifications.
3. In the case of unforeseen difficulties, not due to the Contractor's operations which necessitate minor redesign of the work, the Engineer will provide the necessary surveying to gather additional information for the redesign.

The Contractor shall review Section 50-06 CONSTRUCTION LAYOUT AND STAKES for minimum staking requirements that are not fully described in this section. Staking requirements described in this section shall take precedence over those listed in Section 50-06. Where discrepancies appear, the more stringent requirement shall apply.

2.00 MATERIALS

The Contractor shall furnish all stakes, hubs, equipment, tools and incidentals required to lay out and control every part of the work from the reference control points provided.

3.00 WORKMANSHIP

Personnel. Survey work performed under this contract shall be performed under the direct supervision of an Oregon registered Professional Land Surveyor. Recognized and established construction survey practices and orders of accuracy shall be followed in all cases.

Equipment. All surveying equipment and tools shall be provided by the Contractor. Equipment shall be in good operating order and shall be kept in adjustment throughout the duration of the project.

Layout of the Work. The Contractor shall supervise and control the layout of the work. Prior to the construction of any item, the Engineer shall review the layout of the work, and give notice to proceed if the layout meets his satisfaction. The Engineer's notice to proceed does not constitute an approval or acceptance of the survey work, but is rather an inspection to see that sufficient line and grade has been established to construct the work to the required accuracy. The Contractor shall submit a Staking Plan, for approval, indicating the surveying tasks they intend to do to layout the work. The following minimum staking requirements shall be met:

- A. **Subgrade, Subbase and Base Rock Hubs.** Not used.
- B. **Electrical Equipment.** The location of duct banks, lights, signs, and other electrical equipment shall be located by means of offset hubs. Conduit, wire and duct runs shall be staked at 50 foot intervals.
- C. **Pavement Edge.** Not used.
- D. **Striping Layout.** Centerline striping layout shall be delineated by minimum of 1 PK nail per centerline stripe. Hold positions will require a minimum of 2 PK nails. Hubs shall be set for all radius points. PK nails shall be removed after striping is completed.
- E. **Drainage Structures and Pipelines.** Not used.

Finish Grade Surveying & Acceptance. Not used.

Preservation of Reference Control Points. It shall be the responsibility of the Contractor to maintain and preserve all stakes and other points established by the Engineer until authorized to move them. If such points are disturbed or destroyed through negligence of the Contractor, the Owner may order their replacement at his discretion.

The expense of such replacement will be deducted from any amounts due, or to become due the Contractor.

Protection of Existing Monuments. The Contractor shall record and protect existing monuments as shown on the Drawings.

4.00 PAYMENT

Payment shall be made at the contract lump sum price for "Construction Staking." This price shall be full compensation for furnishing all labor, equipment, materials, tools and incidentals necessary to complete the work.

END OF SECTION 01406

01700 PROJECT CLOSEOUT

1.00 GENERAL SCOPE

Engineer shall prepare a punch list when notified by the Contractor that work is completed. Engineer and Owner will conduct one final inspection only. All further inspections or punch lists as required will be made at \$2,500 per trip, at Contractor's expense. (Note: Failure of Engineer to include any items on punch list does not alter responsibility of Contractor to complete work in accord with Contract Documents.) Deliver all items called for herein and under various specification sections to Engineer at completion of work.

Project Record/As-Built Drawings. As the job progresses, Contractor shall keep at project site an accurately marked job set of contract documents showing all changes and deviations from original drawings. These shall be available to Engineer. (Note: Above requirements shall not be construed as authorization to make changes in work or layout without definite instructions in each case.) Upon completion of project and before final payment, Contractor shall forward to Engineer two complete new sets of contract documents covering all work including his changes under this contract, showing all above information, changes and deviations from the original drawings.

Cleanup. Upon completion of the project and prior to final payment, the Contractor shall restore the work area to a satisfactory condition as determined by the Engineer. All materials, equipment, and appurtenances not required as a part of or appurtenant to, the completed project shall be graded smooth to establish grade or if no grade is established, to a neat uniform condition as determined by the Engineer.

Closeout. The Contractor shall furnish the following before final payment will be released.

1. Submit to the Owner a signed affidavit, satisfactory to the Owner, stating that so far as he has knowledge or information, all accounts for materials, labor, and incidentals in connection with the work have been paid in full.
2. Furnish to the Owner an "Affidavit of Wages Paid."
3. The Owner's approval of the affidavit of the release of liens.
4. Inspection and approval by the Federal Aviation Administration as required for Airport Improvement Programs.
5. Submit O&M manuals for all equipment installed or constructed.
6. Submit project record drawings as described above.
7. Submit "Certificate of Compliance" form.
8. Furnish to the Owner a statement of amounts paid to qualified DBE subcontractors and suppliers participating on the project.

9. Results of all contractor quality control tests performed during the project.
10. Documentation for finish grade acceptance surveying.
11. Copies of any other inspection, observation or monitoring reports required by any other permits for the project.
12. Other miscellaneous items required to be submitted by the contract documents.
13. Return all airport security badges, issued by the Airport, to the airport security director, if applicable.

The acceptance by the Contractor of the final payment shall release the Owner and the Engineer as agent of the Owner from all claims and all liability to the Contractor for all things done or furnished in connection with the work, and every act of the Owner and others relating to or arising out of the work. No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from obligations under this contract and the “Performance and Payment Bond”, as herein provided.

END OF SECTION 01700

ITEM P-100 FOD PREVENTION CONTROLS

DESCRIPTION

P-100-1.1 This item shall consist of providing manpower and equipment necessary to avoid the possibility for FOD (foreign object debris) damage to aircraft. FOD present on an active runway, taxiway, shoulder, ramp, road, or any other paved surfaces may result in aircraft damage from engine ingestion, engine blast or any high-speed ground operation. To prevent such damage from occurring, FOD prevention controls must be maintained throughout the duration of the contract period. FOD is considered to be objects/debris of any visible size. Active aircraft surfaces shall be kept clean as work progresses and shall be free of FOD, as described above, before these surfaces are opened to aircraft operations.

MATERIALS

P-100-2.1 EQUIPMENT. Equipment shall include power brooms (plastic brooms only, wire brooms are not allowed), vacuum type sweepers, and hand tools as necessary to eliminate FOD.

CONSTRUCTION METHODS

P-100-3.1 Procedures to be followed for purposes of preventing FOD shall be observed with the maximum degree of effort. It shall be understood that unlike general “best effort” cleanup requirements associated with typical construction projects, the FOD prevention controls are to be considered a primary project objective. The Contractor shall review the safety and phasing requirements carefully as presented in the project plans and specifications and submit with the contractor’s proposed schedule a FOD Control Plan.

The basic philosophy of the FOD Control Plan shall be to minimize the work necessary to remove debris from aircraft movement areas by minimizing the source debris along immediate haul and access routes.

Food and beverage containers, along with any other refuse generated by the Contractor, shall be contained to prevent creation of FOD.

FOD PREVENTION CONTROLS REQUIREMENTS

Access/haul routes shall be confined strictly to the areas designated on the Project Site Plan, Safety, Phasing, or Work Area Plan. These routes shall be confined to the smallest possible area in order to limit the amount of sweeping and clean-up required. These routes shall be marked clearly by the Contractor with signs and cones so vehicles will not stray from the designated routes.

The Contractor shall return all aircraft movement areas to a clean, FOD-free state to the satisfaction of the airport before re-opening those surfaces to aircraft traffic. FOD cleanup equipment and methods used by the Contractor are subject to approval by the Engineer and/or Airport Staff. Equipment judged to be unsuitable by the Engineer shall be replaced by the Contractor.

The Contractor shall provide signs, barricades, and cones to delineate clearly and confine access routes to prevent vehicle and aircraft conflicts and to prevent FOD.

Whenever directed by the Engineer, the Contractor shall begin cleanup operations or shut down cleanup operations already in progress. In the event the Airport or Engineer determines any active aircraft movement area to be unusable due to construction generated debris, and if the Contractor is not on site, cleanup equipment will be called to the airport and billed directly to the Contractor.

METHOD OF MEASUREMENT AND PAYMENT

P-100-4.1 FOD Prevention Controls shall be considered incidental to applicable bid items and no separate measurement or payment will be made.

END OF ITEM P-100

ITEM P-156 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL

DESCRIPTION

156-1.1 This item shall consist of temporary control measures as shown on the plans or as ordered by the Engineer during the life of a contract to control water pollution, soil erosion, and siltation through the use of silt fences, berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be design, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

MATERIALS

156-2.1 Grass. Grass that will not compete with the grasses sown later for permanent cover per Item T-901 shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover. Selected grass species shall not create a wildlife attractant.

156-2.2 Mulches. Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials. Mulches shall not create a wildlife attractant.

156-2.3 Fertilizer. Fertilizer shall be a standard commercial grade and shall conform to all Federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

156-2.4 Slope drains. Slope drains may be constructed of pipe, fiber mats, rubble, Portland cement concrete, bituminous concrete, or other materials that will adequately control erosion.

156-2.5 Silt fence. The silt fence shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life. Silt fence shall meet the requirements of ASTM D6461.

156-2.6 Other. All other materials shall meet commercial grade standards and shall be approved by the Engineer before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

156-3.1 General. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other Federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The Engineer shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

156-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules for accomplishment of temporary and permanent erosion control work for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the Engineer.

156-3.3 Construction details. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the accepted schedule. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion may be a problem, clearing and grubbing operations should be scheduled and performed so that grading operations and permanent erosion control features can follow immediately if project conditions permit; otherwise, temporary erosion control measures may be required.

The Engineer shall limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current with the accepted schedule. If seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified as directed by the Engineer.

The Contractor shall provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the Engineer. If temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the Engineer, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The Engineer may increase or decrease the area of erodible earth material that can be exposed at any time based on an analysis of project conditions.

The erosion control features installed by the Contractor shall be acceptably maintained by the Contractor during the construction period.

Whenever construction equipment must cross watercourses at frequent intervals, temporary structures should be provided.

Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

156-3.4 Installation, maintenance and removal of silt fences. Silt fences shall extend a minimum of 16 inches (41 cm) and a maximum of 34 inches (86 cm) above the ground surface. Posts shall be set no more than 10 feet (3 m) on center. Filter fabric shall be cut from a continuous roll to the length required minimizing joints where possible. When joints are necessary, the fabric shall be spliced at a support post with a minimum 12-inch (300-mm) overlap and securely sealed. A trench shall be excavated approximately 4 inches (100 mm) deep by 4 inches (100 mm) wide on the upslope side of the silt fence. The trench shall be backfilled and the soil compacted over the silt fence fabric. The Contractor shall remove and dispose of silt that accumulates during construction and prior to establishment of permanent erosion control. The fence shall be maintained in good working condition until permanent erosion control is established. Silt fence shall be removed upon approval of the Engineer.

METHOD OF MEASUREMENT

156-4.1 No separate measurement of temporary erosion and pollution control work will be made.

BASIS OF PAYMENT

156-5.1 For “Temporary Erosion and Pollution Control”, work shall be paid for at the contract lump sum price listed in the proposal. This price shall be full compensation for furnishing, maintenance and removal (at the end of the project) of all temporary erosion control measures, smoke and dust control, and other activities described in these specifications and as shown on the plans including all labor, equipment, tools, and incidentals necessary to complete the item.

MATERIAL REQUIREMENTS

ASTM D6461	Standard Specification for Silt Fence Materials
AC 150/5200-33	Hazardous Wildlife Attractants

END OF ITEM P-156

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ITEM P-603 BITUMINOUS TACK COAT

DESCRIPTION

603-1.1 This item shall consist of preparing and treating a bituminous or concrete surface with bituminous material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

603-2.1 Bituminous materials. The bituminous material shall be an emulsified asphalt indicated in ASTM D3628 as a bituminous application for tack coat appropriate to local conditions or as designated by the Engineer.

BITUMINOUS MATERIAL (from ASTM D3628)

Type and Grade	Specification	Application Temperatures	
		Deg. F	Deg. C
Emulsified Asphalt			
SS-1, SS-1h	ASTM D 977	70-160	20-70
CSS-1, CSS-1h	ASTM D 2397	70-160	20-70

CONSTRUCTION METHODS

603-3.1 Weather limitations. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is 50°F (10°C) or above; the temperature has not been below 35°F (2°C) for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the Engineer.

603-3.2 Equipment. The Contractor shall provide equipment for heating and applying the bituminous material.

Provide a distributor with pneumatic tires of such size and number that the load produced on the base surface does not exceed 65.0 psi (4.5 kg/sq cm) of tire width to prevent rutting, shoving or otherwise damaging the base, surface or other layers in the pavement structure. Design and equip the distributor to spray the bituminous material in a uniform coverage at the specified temperature, at readily determined and controlled rates from 0.05 to 2.0 gallons per square yard (0.23 to 9.05 L/square meter), with a pressure range of 25 to 75 psi (172.4 to 517.1 kPa) and with an allowable variation from the specified rate of not more than ±5%, and at variable widths. Include with the distributor equipment a separate power unit for the bitumen pump, full-

circulation spray bars, tachometer, pressure gauges, volume-measuring devices, adequate heaters for heating of materials to the proper application temperature, a thermometer for reading the temperature of tank contents, and a hand hose attachment suitable for applying bituminous material manually to areas inaccessible to the distributor. Equip the distributor to circulate and agitate the bituminous material during the heating process. If the distributor is not equipped with an operable quick shutoff valve, the tack operations shall be started and stopped on building paper. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the Owner.

A power broom and/or power blower suitable for cleaning the surfaces to which the bituminous tack coat is to be applied shall be provided.

603-3.3 Application of bituminous material. Immediately before applying the tack coat, the full width of surface to be treated shall be swept with a power broom and/or power blower to remove all loose dirt and other objectionable material.

Emulsified asphalt shall be diluted by the addition of water when directed by the Engineer and shall be applied a sufficient time in advance of the paver to ensure that all water has evaporated before the overlying mixture is placed on the tacked surface.

The bituminous material including vehicle shall be uniformly applied with a bituminous distributor at the rate of 0.05 to 0.10 gallons per square yard (0.20 to 0.50 liters per square meter) depending on the condition of the existing surface. The type of bituminous material and application rate shall be approved by the Engineer prior to application.

After application of the tack coat, the surface shall be allowed to cure without being disturbed for the period of time necessary to permit drying and setting of the tack coat. This period shall be determined by the Engineer. The Contractor shall protect the tack coat and maintain the surface until the next course has been placed.

603-3.4 Bituminous material Contractor's responsibility. The Contractor shall provide a statement of source and character of the proposed bituminous material which must be submitted and approved by the Engineer before any shipment of bituminous materials to the project. The engineer may use the local state DOT agency supplier certification program for approval instead of the test reports.

The Contractor shall furnish the vendor's certified test reports for each carload, or equivalent, of bituminous material shipped to the project. The tests reports shall be provided to and approved by the Engineer before the bituminous material is applied. If the bituminous material does not meet the specifications, it shall be replaced at the Contractor's expense. Furnishing the vendor's certified test report for the bituminous material shall not be interpreted as a basis for final acceptance. Samples may be taken and tested for verification by the engineer when material is delivered to the site.

603-3.5 Freight and weigh bills The Contractor shall submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the Engineer certified waybills and certified delivery tickets for all bituminous materials used in the construction of the pavement covered by the contract. Do not remove bituminous material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

MEASUREMENT AND PAYMENT

603-4.1 The bituminous material for tack coat shall be considered incidental to applicable bid items and no separate measurement or payment will be made.

MATERIAL REQUIREMENTS

ASTM D633	Standard Volume Correction Table for Road Tar
ASTM D977	Standard Specification for Emulsified Asphalt
ASTM D1250	Standard Guide for Use of the Petroleum Measurement Tables
ASTM D2028	Standard Specification for Cutback Asphalt (Rapid-Curing Type)
ASTM D2397	Standard Specification for Cationic Emulsified Asphalt
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END ITEM P-603

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ITEM P-610 STRUCTURAL PORTLAND CEMENT CONCRETE

DESCRIPTION

610-1.1 This item shall consist of plain or reinforced structural Portland Cement Concrete (PCC), prepared and constructed in accordance with these specifications, at the locations and of the form and dimensions shown on the plans. This specification shall be used for all structural and miscellaneous concrete including signage bases.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Engineer before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine and Coarse aggregates to be used in all concrete shall be evaluated and tested by the Contractor for alkali-aggregate reactivity in accordance with both ASTM C1260 and C1567. The laboratory performing the tests shall be accredited in accordance with ASTM C1077. The laboratory accreditation must be current and listed on the accrediting authority's website. Test method ASTM C1260 must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction.

Aggregate and mix proportion reactivity tests shall be performed for each project.

(1) Coarse and fine aggregate shall be tested separately in accordance with ASTM C1260. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.10% at 28 days (30 days from casting).

(2) Combined coarse and fine aggregate shall be tested in accordance with ASTM C1567, modified for combined aggregates, using the proposed mixture design proportions of aggregates, cementitious materials, and/or specific reactivity reducing chemicals. If lithium nitrate is proposed for use with or without supplementary cementitious materials, the aggregates shall be tested in accordance with Corps of Engineers (COE) CRD C662. If lithium nitrate admixture is used, it shall be nominal 30% \pm 0.5% weight lithium nitrate in water.

(3) If the expansion of the proposed combined materials test specimens, tested in accordance with ASTM C1567, modified for combined aggregates, or COE CRD C662, does not exceed 0.10% at 28 days, the proposed combined materials will be accepted. If the expansion of the proposed combined materials test specimens is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10% at 28 days, or new aggregates shall be evaluated and tested.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33. The Engineer may consider and reserve final approval of other State classification procedures addressing aggregate durability.

Coarse aggregate shall be well graded from coarse to fine and shall meet the following gradation shown in the table below when tested per ASTM C136.

Gradation For Coarse Aggregate

Sieve Designation (square openings)	Percentage by Weight Passing Sieves
	¾" (19mm)
No. 4 to ¾ in. (4.75-19 mm)	90-100
No. 4 to 1 in. (4.75-25 mm)	*
No. 4 to 1-1/2 in. (4.75-38 mm)	35-70

610-2.2.1 Aggregate susceptibility to durability (D) cracking. Aggregates that have a history of D-cracking shall not be used.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet the requirements of ASTM C33.

The fine aggregate shall be well graded from fine to coarse and shall meet the requirements of the table below when tested in accordance with ASTM C136:

Gradation For Fine Aggregate

Sieve Designation (square openings)	Percentage by Weight Passing Sieves
3/8 inch (9 mm)	100
No. 4 (4.75 mm)	95-100
No. 16 (1.18 mm)	45-80
No. 30 (0.60 mm)	25-55
No. 50 (0.30 mm)	10-30
No. 100 (0.15 mm)	2-10

Blending will be permitted, if necessary, to meet the gradation requirements for fine aggregate. Fine aggregate deficient in the percentage of material passing the No. 50 mesh sieve may be accepted, if the deficiency does not exceed 5% and is remedied by the addition of pozzolanic or cementitious materials other than Portland cement, as specified in paragraph 610-2.6, Admixtures, in sufficient quantity to produce the required workability as approved by the Engineer.

610-2.4 Cement. Cement shall conform to the requirements of **ASTM C150 Type I, IA or III.**

If aggregates are deemed innocuous when tested in accordance with paragraph 610-2.1.a.1 and accepted in accordance with paragraph 610-2.1.a.3, higher equivalent alkali content in the cement may be allowed if approved by the Engineer and FAA. If cement becomes partially set or contains lumps of caked cement, it shall be rejected. Cement salvaged from discarded or used bags shall not be used.

The Contractor shall furnish vendors' certified test reports for each carload, or equivalent, of cement shipped to the project. The report shall be delivered to the Engineer before use of the cement is granted. All test reports shall be subject to verification by testing sample materials received for use on the project.

610-2.5 Water. The water used in concrete shall be fresh, clean and potable; free from injurious amounts of oils, acids, alkalies, salts, organic materials or other substances deleterious to concrete.

610-2.6 Admixtures and supplementary cementitious material. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the Engineer may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the Engineer from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding and set-accelerating admixtures shall be approved by the Engineer. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

d. Lithium nitrate. The lithium admixture shall be a nominal 30% aqueous solution of Lithium Nitrate, with a density of 10 pounds/gallon (1.2 kg/L), and shall have the approximate chemical form as shown below:

Constituent	Limit (Percent by Mass)
LiNO ₃ (Lithium Nitrate)	30 ±0.5
SO ₄ (Sulfate Ion)	0.1 (max)
Cl (Chloride Ion)	0.2 (max)
Na (Sodium Ion)	0.1 (max)
K (Potassium Ion)	0.1 (max)

Provide a trained representative to supervise the lithium nitrate admixture dispensing and mixing operations.

e. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash for use in mitigating alkali-silica reactivity shall have a Calcium Oxide (CaO) content of less than 13%.

610-2.7 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751 or ASTM D1752.

610-2.8 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.9 Steel reinforcement. Reinforcing shall consist of **materials** conforming to the requirements of **the table below, or as shown on the plans.**

Reinforcing Steel	ASTM A615, ASTM A706, ASTM A775, ASTM A934
Welded Steel Wire Fabric	ASTM A1064
Welded Deformed Steel Fabric	ASTM A1064
Bar Mars	ASTM A184 or ASTM A704

610-2.10 Materials for curing concrete. Curing materials shall conform to **one or more of the following:**

Waterproof paper	ASTM C171
Clear or white Polyethylene Sheeting	ASTM C171
White-pigmented Liquid Membrane-Forming Compound, Type 2, Class B	ASTM C309

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the Engineer.

610-3.2 Concrete composition. The concrete shall develop a compressive strength of **3,500** psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cement per cubic yard (280 kg per cubic meter). The concrete shall contain 5% of entrained air, $\pm 1\%$, as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

610-3.3 Acceptance sampling and testing. Concrete for each structure will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The concrete shall be sampled, by the Contractor, in accordance with ASTM C172. Concrete cylindrical compressive strength specimens shall be made, by the Contractor, in accordance with ASTM C31 and tested in accordance with ASTM C39. The Contractor shall cure and store the test specimens under such conditions as directed by the Engineer. Contractor will make the actual tests on the specimens at no expense to the Owner. Perform one test for each 50 cubic yards of concrete and at least one test each day concrete is placed.

610-3.4 Qualifications for concrete testing service. Perform concrete testing by an approved laboratory and inspection service experienced in sampling and testing concrete. Testing agency must meet the requirements of ASTM C1077 or ASTM E329.

610-3.5 Proportioning and measuring devices. When package cement is used, the quantity for each batch shall be equal to one or more whole sacks of cement. The aggregates shall be measured separately by weight. If aggregates are delivered to the mixer in batch trucks, the exact amount for each mixer charge shall be contained in each batch compartment. Weighing boxes or hoppers shall be approved by the Engineer and shall provide means of regulating the flow of aggregates into the batch box so the required, exact weight of aggregates is obtained.

610-3.6 Consistency. The consistency of the concrete shall be determined by the slump test specified in ASTM C143.

610-3.7 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94.

610-3.8 Mixing conditions. The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without permission of the Engineer. If permission is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material shall not be permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.9 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the Engineer. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface. The forms shall not be removed until at least 30 hours after concrete placement for vertical faces, walls, slender columns, and similar structures. Forms supported by falsework under slabs, beams, girders, arches, and similar construction shall not be removed until tests indicate the concrete has developed at least 60% of the design strength.

610-3.10 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.11 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.12 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the Engineer. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more

than 5 feet (1.5 m). Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.13 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309, Guide for Consolidation of Concrete. Where bars meeting ASTM A775 or A934 are used, the vibrators shall be equipped with rubber or non-metallic vibrator heads. Furnish a spare, working, vibrator on the job site whenever concrete is placed. Consolidate concrete slabs greater than 4 inches (100 mm) in depth with high frequency mechanical vibrating equipment supplemented by hand spading and tamping. Consolidate concrete slabs 4 inches (100 mm) or less in depth by wood tampers, spading, and settling with a heavy leveling straightedge. Operate internal vibrators with vibratory element submerged in the concrete, with a minimum frequency of not less than 6000 cycles per minute when submerged. Do not use vibrators to transport the concrete in the forms. Penetrate the previously placed lift with the vibrator when more than one lift is required. Use external vibrators on the exterior surface of the forms when internal vibrators do not provide adequate consolidation of the concrete. Vibrators shall be manipulated to work the concrete thoroughly around the reinforcement and embedded fixtures and into corners and angles of the forms. The vibration at any point shall be of sufficient duration to accomplish compaction but shall not be prolonged to where segregation occurs. Concrete deposited under water shall be carefully placed in a compact mass in its final position by means of a tremie or other approved method and shall not be disturbed after placement.

610-3.14 Construction joints. If the placement of concrete is suspended, necessary provisions shall be made for joining future work before the placed concrete takes its initial set. For the proper bonding of old and new concrete, provisions shall be made for grooves, steps, reinforcing bars or other devices as specified. The work shall be arranged so that a section begun on any day shall be finished during daylight of the same day. Before depositing new concrete on or against concrete that has hardened, the surface of the hardened concrete shall be cleaned by a heavy steel broom, roughened slightly, wetted, and covered with a neat coating of cement paste or grout.

610-3.15 Expansion joints. Expansion joints shall be constructed at such points and dimensions as indicated on the drawings. The premolded filler shall be cut to the same shape as the surfaces being joined. The filler shall be fixed firmly against the surface of the concrete already in place so that it will not be displaced when concrete is deposited against it.

610-3.16 Defective work. Any defective work discovered after the forms have been removed, which in the opinion of the Engineer cannot be repaired satisfactorily, shall be immediately removed and replaced at the expense of the Contractor. Defective work shall include deficient dimensions, or bulged, uneven, or honeycomb on the surface of the concrete.

610-3.17 Surface finish. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated. Mortar finishing shall not be permitted, nor shall dry cement or sand-cement mortar be spread over the concrete during the finishing of horizontal plane surfaces.

The surface finish of exposed concrete shall be a rubbed finish. If forms can be removed while the concrete is still green, the surface shall be wetted and then rubbed with a wooden float until all irregularities are removed. If the concrete has hardened before being rubbed, a carborundum stone shall be used to finish the surface. When approved, the finishing can be done with a finishing machine.

610-3.18 Curing and protection. All concrete shall be properly cured and protected by the Contractor. The concrete shall be protected from the weather, flowing water, and from defacement of any nature during the project. The concrete shall be cured by covering with an approved material as soon as it has sufficiently hardened. Water-absorptive coverings shall be thoroughly saturated when placed and kept saturated for at least three (3) days following concrete placement. All curing mats or blankets shall be sufficiently weighted or tied down to keep the concrete surface covered and to prevent the surface from being exposed to air currents. Wooden forms shall be kept wet at all times until removed to prevent opening of joints and drying out of the concrete. Traffic shall not be allowed on concrete surfaces for seven (7) days after the concrete has been placed.

610-3.19 Drains or ducts. Drainage pipes, conduits, and ducts that are to be encased in concrete shall be installed by the Contractor before the concrete is placed. The pipe shall be held rigidly so that it will not be displaced or moved during the placing of the concrete.

610-3.20 Cold weather placing. When concrete is placed at temperatures below 40°F (4°C), the Contractor shall provide satisfactory methods and means to protect the mix from injury by freezing. The aggregates, or water, or both, shall be heated to place the concrete at temperatures between 50°F and 100°F (10°C and 38°C).

Calcium chloride may be incorporated in the mixing water when directed by the Engineer. Not more than pounds (908 grams) of Type 1 nor more than 1.6 pounds (726 grams) of Type 2 shall be added per bag of cement. After the concrete has been placed, the Contractor shall provide sufficient protection such as cover, canvas, framework, heating apparatus, etc., to enclose and protect the structure and maintain the temperature of the mix at not less than 50°F (10°C) until at least 60% of the designed strength has been attained.

610-3.21 Hot weather placing. Concrete shall be properly placed and finished with procedures previously submitted. The concrete-placing temperature shall not exceed 100°F when measured in accordance with ASTM C1064. Cooling of the mixing water and aggregates, or both, may be required to obtain an adequate placing temperature. A retarder meeting the requirements of paragraph 610-2.6 may be used to facilitate placing and finishing. Steel forms and reinforcement shall be cooled prior to concrete placement when steel temperatures are greater than 120°F (50°C). Conveying and placing equipment shall be cooled if necessary to maintain proper concrete-placing temperature. Submit the proposed materials and methods for review and approval by the Engineer if concrete is to be placed under hot weather conditions.

610-3.22 Filling joints. All joints that require filling shall be thoroughly cleaned, and any excess mortar or concrete shall be cut out with proper tools. Joint filling shall not start until after final curing and shall be done only when the concrete is completely dry. The cleaning and filling shall be done with proper equipment to obtain a neat looking joint free from excess filler.

METHOD OF MEASUREMENT AND PAYMENT

610-4.1 Portland cement concrete shall be considered incidental to applicable bid items and no separate measurement or payment will be made.

TESTING REQUIREMENTS

ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C138	Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1567	Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregates (Accelerated Mortar-Bar Method)

ASTM E329 Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection

U.S. Army Corps of Engineers (USACE) Concrete Research Division (CRD) C662
Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials, Lithium Nitrate Admixture and Aggregate (Accelerated Mortar-Bar Method)

MATERIAL REQUIREMENTS

ASTM A184 Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement

ASTM A185 Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete

ASTM A615 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

ASTM A704 Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement

ASTM A706 Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement

ASTM A775 Standard Specification for Epoxy-Coated Steel Reinforcing Bars

ASTM A934 Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars

ASTM A1064 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

ASTM C33 Standard Specification for Concrete Aggregates

ASTM C94 Standard Specification for Ready-Mixed Concrete

ASTM C150 Standard Specification for Portland Cement

ASTM C171 Standard Specification for Sheet Materials for Curing Concrete

ASTM C172 Standard Practice for Sampling Freshly Mixed Concrete

ASTM C260 Standard Specification for Air-Entraining Admixtures for Concrete

ASTM C309 Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

ASTM C494 Standard Specification for Chemical Admixtures for Concrete

ASTM C595 Standard Specification for Blended Hydraulic Cements

ASTM C618 Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete

ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 309R	Guide for Consolidation of Concrete

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ITEM P-620 RUNWAY AND TAXIWAY MARKING

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Engineer. The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

MATERIALS

620-2.1 Materials acceptance. The Contractor shall furnish manufacturer’s certified test reports for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. The reports can be used for material acceptance or the Engineer may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the Engineer upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers 55 gallons or smaller for inspection by the Engineer. Material shall not be loaded into the equipment until inspected by the Engineer.

620-2.2 Marking materials. Paint shall be waterborne in accordance with the requirements of paragraph 620-2.2, a. Paint shall be furnished in accordance with Federal Standard No. 595. Colors shall be furnished as shown below.

<u>Fed Std. No 595 Color</u>	<u>Number</u>
White	37925
Red	31136
Yellow	33538 or 33655
Black	37038
Pink	1 part 31136 to 2 parts 37925
Green	34108

a. Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952E, Type II. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis.

620-2.3 Reflective media. Glass beads shall meet the requirements for Federal Specification TT-B-1325D, Type I, Gradation A for all markings with the exception of runway holding position markings. Glass beads for runway holding position markings shall meet the requirements of federal specification TT-B-1325D, Type III. Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Paint Color	Glass Beads, Type I, Gradation A	Glass Beads, Type III	Glass Beads, Type IV
White	See Table 1	See Table 1	See Table 1
Yellow	See Table 1	See Table 1	See Table 1
Red	See Table 1 and Note	Not used	See Table 1 and Note
Pink	See Table 1 and Note	Not used	See Table 1 and Note
Black	Not used	Not used	Not used
Green	Not used	Not used	Not used

Federal Specification TT-B-1325D, Type I, gradation A shall be used when remarking on a frequent basis (at least every six months) and should yield at least 300 mcd/m²/lux on white markings at installation and at least 175 mcd/m²/lux on yellow markings at installation.

Federal Specification TT-B-1325D, Type III, gradation A shall be used when a higher reflective value is desired. Initial readings should yield at least 600 mcd/m²/lux on white markings and at least 300 mcd/m²/lux on yellow markings at installation.

Retroreflective measurements shall be taken by the Contractor, in the presence of the Engineer. Retroreflectivity shall be measured by a portable retroreflectometer according to ASTM E1710 and the practices in ASTM D7585 shall be followed for taking retroreflectivity readings with a portable retroreflectometer and computing measurement averages. A van-mounted retroreflectometer may also be used. Measurements shall be taken in the presence of the engineer. Test reports shall be prepared and delivered to the engineer for acceptance.

CONSTRUCTION METHODS

620-3.1 Weather limitations. The painting shall be performed only when the surface is dry and when the surface temperature is at least 45°F (7°C) and rising and the pavement surface temperature is at least 5°F (2.7°C) above the dew point or meets the manufacturer’s recommendations. Painting operations shall be discontinued when the surface temperature exceeds the maximum temperature recommended by the manufacture. Markings shall not be applied when the pavement temperature is greater than 130°F (55°C). Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns.

620-3.2 Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless-type marking machine suitable for application of traffic paint. It shall produce an even and uniform film thickness at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray.

620-3.3 Preparation of surface. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other foreign material that would reduce the bond between the paint and the pavement. The area to be painted shall be cleaned by waterblasting, shotblasting, grinding, sandblasting or by other methods as required to remove all contaminants minimizing damage to the pavement surface. Shot blasting shall not be done on grooved surfaces. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the Engineer. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

Paint shall not be applied to Portland cement concrete pavement until the areas to be painted are clean of curing material. Sandblasting or high-pressure water shall be used to remove curing materials.

At least 24 hours prior to remarking existing markings, existing markings must be removed such that 90% of the existing markings are removed. After removal, the surface shall be cleaned of all residue or debris either with sweeping or blowing with compressed air or both.

Prior to the application of any markings, the Contractor shall certify in writing that the surface has been prepared in accordance with the paint manufacturer’s requirements, that the application equipment is appropriate for the type of marking paint and that environmental conditions are appropriate for the material being applied. This certification along with a copy of the paint manufacturer’s surface preparation and application requirements must be submitted and approved by the Engineer prior to the initial application of markings.

620-3.4 Layout of markings. The proposed markings shall be laid out in advance of the paint application. All markings shall receive glass beads in accordance with this Item P-620. Do not apply glass beads to black markings.

620-3.5 Application. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the Engineer. The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m), and marking dimensions and spacings shall be within the following tolerances:

Dimension and Spacing	Tolerance
36 inch (910 mm) or less	±1/2 inch (12 mm)
greater than 36 inch to 6 feet (910 mm to 1.85 m)	±1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	±2 inch (50 mm)
greater than 60 feet (18.3 m)	±3 inch (76 mm)

The paint shall be mixed in accordance with the manufacturer’s instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted. A period of 30 calendar days shall elapse between placement of a bituminous surface course or seal coat and application of the paint.

Prior to the initial application of markings, the Contractor shall certify in writing that the surface has been prepared in accordance with the paint manufacturer's requirements, that the application equipment is appropriate for the marking paint and that environmental conditions are appropriate for the material being applied. This certification along with a copy of the paint manufacturer's application and surface preparation requirements must be submitted to the Engineer prior to the initial application of markings.

For pavement surfaces that must be opened to traffic prior to the 30-day waiting period, apply a single coat of paint, without glass beads, at 50% of the application rate specified in Table 1.

After the 30-day waiting period, apply a second coat of paint, including glass beads, at application rate specified in Table 1.

620-3.6 Test strip. Prior to the full application of airfield markings, the Contractor shall produce a test strip in the presence of the Engineer. The test strip shall include the application of a minimum of 5 gallons (4 liters) of paint and application of 35 lbs (15.9 kg) of Type I/50 lbs (22.7 kg) of Type III glass beads. The test strip shall be used to establish thickness/darkness standard for all markings. The test strip shall cover no more than the maximum area prescribed in Table 1 (e.g., for 5 gallons (19 liters) of waterborne paint shall cover no more than 575 square feet (53.4 m²).

**Table 1. Application Rates For Paint And Glass Beads
(See Note regarding Red and Pink Paint)**

Paint Type	Paint Square feet per gallon, ft²/gal (Sq m per liter, m²/l)	Glass Beads, Type I, Gradation A Pounds per gallon of paint-lb/gal (Km per liter of paint-kg/l)	Glass Beads, Type III Pounds per gallon of paint-lb/gal (Km per liter of paint-kg/l)	Glass Beads, Type IV Pounds per gallon of paint-lb/gal (Km per liter of paint-kg/l)
Waterborne Type II	115 ft ² /gal max (2.8 m ² /l)	7 lb/gal min (0.85 kg/l)	10 lb/gal min (1.2 kg/l)	--

Note: The glass bead application rate for Red and Pink paint shall be reduced by 2 lb/gal (0.24 kg/l) for Type I and Type IV beads. Type III beads shall not be applied to Red or Pink paint.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment should be performed by the Contractor.

All emptied containers shall be returned to the paint storage area for checking by the Engineer. The containers shall not be removed from the airport or destroyed until authorized by the Engineer.

620-3.7 Application--preformed thermoplastic airport pavement markings. Not used.

620-3.8 Protection and cleanup. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose or unadhered reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the Engineer. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and Federal environmental statutes and regulations.

620-3.9 Removal of existing markings. Existing markings which are to be removed shall be removed (90% removal) by water, shot, sand blasting, or other approved methods which do not cause major damage to the pavement surface. Shot blasting shall not be performed on grooved surfaces. Major damage is defined as changing the properties of the pavement or removing pavement over 1/8 inch deep. Major damage to pavement shall be repaired by the contractor, to the Owner's satisfaction, at no additional cost. The use of open flame heating equipment, solvents, or painting will not be allowed. This work covers removal of markings on existing pavements scheduled to remain in place. Markings on existing pavement scheduled for pavement removal, grinding, milling, or excavation is not covered or paid for under this section.

For areas where existing markings have been removed, and are not scheduled for repainting, the affected pavement shall be treated with an emulsified asphalt seal coat and allowed to cure.

METHOD OF MEASUREMENT

620-4.1 The quantity of marking removal to be paid for shall be the number of square feet of markings removed, performed in accordance with the specifications and accepted by the Engineer.

620-4.2 The quantity of runway and taxiway markings (first and final applications) to be paid for shall be the number of square feet of painting, performed in accordance with the specifications and accepted by the Engineer.

BASIS OF PAYMENT

620-5.1 Payment shall be made at the respective contract price per square foot for each item listed in the bid schedule. This price shall be full compensation for furnishing all materials including glass beads, and for all labor, equipment, tools, and incidentals necessary to complete the item.

TESTING REQUIREMENTS

ASTM C371	Standard Test Method for Wire-Cloth Sieve Analysis of Nonplastic Ceramic Powders
ASTM D92	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
ASTM D711	Standard Test Method for No-Pick-Up Time of Traffic Paint
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

MATERIAL REQUIREMENTS

ASTM D476 Standard Classification for Dry Pigmentary Titanium Dioxide Products
40 CFR Part 60, Appendix A-7, Method 24
 Determination of volatile matter content, water content, density, volume
 solids, and weight solids of surface coatings

29 CFR Part 1910.1200 Hazard Communication

FED SPEC TT-B-1325D
 Beads (Glass Spheres) Retro-Reflective

American Association of State Highway and Transportation Officials (AASHTO) M247
 Standard Specification for Glass Beads Used in Pavement Markings

FED SPEC TT-P-1952E
 Paint, Traffic and Airfield Marking, Waterborne

Commercial Item Description A-A-2886B
 Paint, Traffic, Solvent Based

FED STD 595 Colors used in Government Procurement

AC 150/5340-1 Standards for Airport Markings

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ITEM P-626 EMULSIFIED ASPHALT SLURRY SEAL SURFACE TREATMENT

626-1.1 This item shall consist of a mixture of emulsified asphalt, mineral aggregate, and water properly proportioned, mixed, and spread on an asphalt pavement surface, including airport pavements serving small airplanes (12,500 lbs (5670 kg) or less), roads, and other general applications. The application of the surface treatment shall be in accordance with these specifications and shall conform to the dimensions shown on the plans or as directed by the Engineer.

MATERIALS

626-2.1 Aggregate. The aggregate shall consist of sound and durable manufactured sand, slag, crusher fines, crushed stone, or a combination. The aggregate shall be clean and free from vegetable matter, dirt, and other deleterious substances. The aggregate shall have a sand equivalent of not less than 45 percent when tested in accordance with ASTM D2419. The aggregate shall show a loss of not more than 35 percent when tested in accordance with ASTM C131. The sodium sulfate soundness loss shall not exceed 12 percent, or the magnesium soundness loss shall not exceed 20 percent after 5 cycles when tested in accordance with ASTM C88. Aggregate shall be 100 percent crushed.

The combined aggregate shall conform to the gradation shown in Table 1 when tested in accordance with ASTM C136 and ASTM C117.

Table 1. Gradation of Aggregates

Sieve Size	Percent by Weight Passing Sieve
	Type I
3/8 inch (9 mm)	100
No. 4 (4.75 mm)	100
No. 8 (2.36 mm)	90 - 100
No. 16 (1.18 mm)	65 - 90
No. 30 (600 micro m)	40 - 65
No. 50 (300 micro m)	25 - 42
No. 100 (150 micro m)	15 - 30
No. 200 (75 micro m)	10 - 20
Residual asphalt content percent dry weight of aggregate	10% - 16%

The job mix formula (mix design) shall be prepared by the Contractor and shall be run using aggregate within the gradation band for the desired type shown in Table 1. Once the mix design has been submitted and approved by the Engineer, the aggregate used on the project shall not vary by more than the tolerances shown in Table 2. At no time shall the aggregate used go out of the gradation band in Table 1.

The aggregate will be accepted at the job location or stockpile based on five gradation test samples, taken and tested by the Contractor in accordance with ASTM D75. If the average of the five tests is within the gradation tolerances, then the materials will be accepted. If the tests show the material to be out of tolerance, the Contractor will be given the choice either to remove the material or blend other aggregates with the stockpile material to bring it into specification. Materials used in blending shall meet the quality tests before blending and shall be blended in a manner to produce a consistent gradation. This blending may require a new mix design.

Screening shall be required at the project stockpile site if there are oversize materials in the mix.

Precautions shall be taken to prevent segregation of the aggregate in storing and handling. The stockpile shall be kept in areas that drain readily.

a. Aggregate Tolerance. Once the mix design has been accepted, the aggregate gradation used on the project may vary from the aggregate gradation used in the mix design on each sieve by the percentages shown in Table 2. If the project aggregate fails to remain within this tolerance, a new mix design will be required by the Engineer at the expense of the Contractor.

Table 2. Aggregate Tolerance

Sieve Size	Tolerance, percent by weight passing sieve
3/8 inch (9 mm)	±0%
No. 4 (4.75 mm)	±0%
No. 8 (2.36 mm)	±5%
No. 16 (1.18 mm)	±5%
No. (600 micro m)	±5%
No. 50 (300 micro m)	±4%
No. 100 (150 micro m)	±3%
No. 200 (75 micro m)	±2%
Residual Asphalt, percent dry weight of aggregate	±1%

626-2.2 Mineral filler. If mineral filler, in addition to that naturally present in the aggregate, is necessary, it shall meet the requirements of ASTM D242 and shall be used in the amounts required by the mix design. The mineral filler shall be considered as part of the aggregate.

626-2.3 Emulsified asphalt. The emulsified asphalt shall conform to the requirements of ASTM D 977 and/or 2397 and shall be CQS-1H, latex emulsion.

626-2.4 Water. All water used in making the slurry shall be potable and free from harmful soluble salts and chemicals.

COMPOSITION AND APPLICATION

626-3.1 Composition. The slurry seal shall consist of a mixture of emulsified asphalt, mineral aggregate, and water.

626-3.2 Job mix formula. The mix design shall be developed by a laboratory with experience in designing slurry seal mixes and a signed copy shall be submitted in writing by the Contractor to the Engineer at least 30 days prior to the start of operations. No slurry seal for payment shall be placed until a mix design has been approved by the Engineer.

The laboratory report (mix design) shall indicate the proportions of aggregates, mineral filler (minimum and maximum), water (minimum and maximum) and asphalt emulsion based on the dry aggregate weight. It shall also report the quantitative effects of moisture content on the unit weight of the aggregate (bulking effects). The mix design shall be in effect until modified in writing by the Engineer. If the sources of materials change, a new mix design shall be established before the new material is used.

The Contractor shall submit to the Engineer for approval a complete mix design on the materials proposed for use, prepared and certified by an approved laboratory. Compatibility of the aggregate, emulsion, mineral filler, and other additives shall be verified by the mix design. The mix design shall be made with the same aggregate and grade of emulsified asphalt that the Contractor will provide on the project. At a minimum the required tests and values needed are as follows:

	Description	Specification
ISSA TB-100	Wet track abrasion loss one hour soak	50 g/ft ² Max (538 g/m ²)
ISSA TB-115	Determination of Slurry System Compatibility	Pass

626-3.3 Application rate. Unless otherwise specified, the slurry seal shall be applied at the application rates shown in Table 3.

Table 3. Slurry Application Rates

Mix Measurement	Type I
Pounds of mixture per square yard	8 - 12
Kilograms of mixture per square meter	4.3 - 6.5

The rate of application shall not vary more than ± 2 pounds per square yard (± 1.1 kg per square meter).

626-3.4 Test sections. Test sections shall be placed prior to the start of the slurry seal work in the presence of the Engineer. The test area will be located on the existing pavement and designated by the Engineer. Test strips shall be made by each machine after calibration. Samples of the slurry seal may be taken and the mix consistency verified by using ISSA TB-106 Measurement of Slurry Seal Consistency test. In addition, the proportions of the individual materials may be verified by the Engineer by using the calibration information provided after machine calibration. If any test does not meet specification requirements, additional tests shall be made at the expense of the Contractor, until an acceptable test strip is placed.

A qualified slurry seal contractor's representative shall be present in the field to assist the Contractor in applying test areas and/or test sections to determine the optimum application rate of both emulsion and aggregate.

CONSTRUCTION METHODS

626-4.1 Weather limitations. The slurry seal shall not be applied if either the pavement or air temperature is below 50°F (10°C) and falling but may be applied when both pavement and air temperature are above 45°F (7°C) and rising. No slurry seal shall be applied when there is danger that the finished product will freeze before 24 hours, or when rain is imminent. The mixture shall not be applied when weather conditions prolong opening to traffic beyond a reasonable time.

626-4.2 Equipment and tools. The Contractor shall furnish all equipment, tools, and machinery necessary for the performance of this work.

a. Slurry mixing equipment. The machine shall be specifically designed and manufactured to lay slurry seal. The material shall be mixed by a self-propelled slurry seal mixing machine of either truck mounted or continuous run design. Either type machine shall be able to accurately deliver and proportion the aggregate, emulsified asphalt, mineral filler, and water to a revolving mixer and discharge the mixed product on a continuous flow basis. The machine shall have sufficient storage capacity for materials to maintain an adequate supply to the proportioning controls.

If continuous run equipment is used, the machine shall be equipped to allow the operator full control of the forward and reverse speed of the machine during application of the slurry seal, with a self-loading device, with opposite side driver stations, all part of original equipment manufacturer design.

The aggregate shall be pre-wetted immediately prior to mixing with the emulsion. The mixing unit of the mixing chamber shall be capable of thoroughly blending all ingredients. No excessive mixing

shall be permitted. The mixing machine shall be equipped with a fines feeder that provides an accurate metering device or method to introduce a predetermined proportion of mineral filler into the mixer at the same time and location that the aggregate is fed into the mixer.

The mixing machine shall be equipped with a water pressure system and fog-type spray bar adequate for complete fogging of the surface with an application of 0.05 to 0.10 gallon per square yard (0.23 to 0.45 liter per square meter) preceding the spreading equipment.

Sufficient machine storage capacity to mix properly and apply a minimum of 5 tons (4500 kg) of the slurry shall be provided. Proportioning devices shall be calibrated prior to placing the slurry seal.

b. Slurry spreading equipment. The mixture shall be spread uniformly by means of a conventional surfacing spreader box attached to the mixer and equipped to agitate and spread the material evenly throughout the box. A front seal shall be provided to ensure no loss of the mixture at the surface contact point. The rear seal shall act as the final strike-off and shall be adjustable. The spreader box and rear strike-off shall be designed and operated to produce a free flow of material of uniform consistency to the rear strike-off. The spreader box shall provide suitable means to side shift the box to compensate for variations in the pavement geometry. The box shall be kept clean and built-up asphalt and aggregate on the box shall not be permitted. A burlap drag or other approved screed may be attached to the rear of the spreader box to provide a uniform mat.

c. Auxiliary equipment. Other tools or equipment such as brushes, hand squeegees, hose equipment, tank trucks, water distributors and flushers, power blowers, barricades, etc., shall be provided as required.

d. Roller. The roller shall be a self-propelled pneumatic-tired roller capable of exerting a contact pressure during rolling of 50 lb / sq inch (350 Newtons per square meter). It shall be equipped with a water spray system, to be used if the slurry is picking up on the tires during rolling.

626-4.3 Equipment calibration. Each slurry mixing unit to be used on the project shall be calibrated in the presence of the Engineer prior to construction. Previous calibration documentation covering the exact materials to be used may be accepted by the Engineer provided they were made during the calendar year. The documentation shall include an individual calibration of each material at various settings, which can be related to the machine's metering devices. No machine will be allowed to work on the project until the calibration has been completed and/or accepted by the Engineer.

626-4.4 Preparation of existing surface. Prior to application of a slurry seal, remove vegetation from areas within and along edges of pavement so the surface and edges are exposed and clean. Vacuum all accessible pavement surfaces prior to applying the slurry seal with a regenerative-air sweeper. The Contractor shall clean areas (i.e., around lights, signs, inlets, etc.) not accessible to the vacuum with a broom-type power sweeper and/or hand tools. Water flushing will not be permitted in areas where considerable cracks are present in the pavement surface.

The pavement shall be cleaned of grass, dust, dirt, sand, loose rocks, vegetation, moss, rubber, excessive oil and grease, or other objectionable surface film, to the satisfaction of the Engineer. Remove oil or grease that has not penetrated the asphalt pavement by scraping or by scrubbing with a detergent, then wash thoroughly with clean water. After cleaning, treat these areas with the oil spot primer.

Cover existing runway edge lights, taxiway edge lights, centerline lights, in-pavement markers, surface mounted pavement markers, and tie-down chains or ropes unless otherwise directed by the Engineer. Pavement markings shall be removed as shown on the plans prior to placing slurry seal.

Cracks shall be sealed with filler material prior to applying the slurry seal as shown on the plans. Those cracks that are not indicated for sealing shall be cleaned and prepared prior to slurry seal application as described in this section.

626-4.5 Application of slurry seal surface treatment. The surface shall be prewet by fogging ahead of the slurry spreader box. Water used in prewetting the surface shall be applied at such a rate that the entire surface is damp with no apparent flowing water in front of the slurry spreader box. The slurry mixture shall be of the desired consistency when deposited on the surface, and no additional elements shall be added. Total time of mixing shall not exceed two (2) minutes. A sufficient amount of slurry shall be carried in all parts of the spreader box at all times so that complete coverage of all surface voids and cracks is obtained. Care shall be taken not to overload the spreader box which shall be towed at a slow and uniform rate not to exceed 5 miles per hour (8 km per hour). No lumping, balling, or unmixed aggregate shall be permitted. No segregation of the emulsion and fines from the coarse aggregate will be permitted. If the coarse aggregate settles to the bottom of the mix, the slurry shall be removed from the pavement surface. A sufficient amount of slurry shall be fed into the box to keep a full supply across the full width of the spreader box. The mixture shall not be permitted to overflow the sides of the spreader box. No breaking of the emulsion will be allowed in the spreader box. The finished surface shall have no more than four (4) tear or drag marks greater than 1/2-inch (12 mm) wide and 4-inch (100 mm) long in any 12-foot (3.7-m) by 22-foot (25-sq m) section. It shall have no tear or drag marks greater than 1-inch (25 mm) wide and 3-inch (15 mm) long.

The finished surface shall have no transverse ripples of 1/4 inch (6 mm) or more in depth, as measured with a 12-foot (3.7 meter) straightedge laid upon the surface.

Adjacent lanes shall be lapped at the edges a minimum of 2 inch (50 mm) with a maximum of 4 inch (100 mm) to provide complete sealing at the overlap. Construction longitudinal and transverse joints shall be neat and uniform without buildup, uncovered areas, or unsightly appearance. All joints shall have no more than 1/4-inch (6 mm) difference in elevation when measured across with a 12-foot (3.7 meter) straightedge.

The sealed surface shall be subjected to a minimum of two full coverage passes by the roller. These rolling passes are to be done as soon as the slurry mixture will support the roller without damage.

The fresh slurry seal application shall be protected by barricades and markers and permitted to dry for four (4) to 24 hours, depending on weather conditions. Any damage to uncured slurry shall be repaired at the expense of the Contractor.

In areas where the spreader box cannot be used, the slurry shall be applied by means of a hand squeegee. Upon completion of the work, the seal coat shall have no holes, bare spots, or cracks through which liquids or foreign matter could penetrate to the underlying pavement. The finished surface shall present a uniform and skid resistant texture satisfactory to the Engineer. All wasted and unused material and all debris shall be removed from the site prior to final acceptance.

Upon completion of the project, the Contractor shall sweep the finished surface with a conventional power rotary broom, to remove any potential loose material from the surface. The material removed by sweeping shall be disposed of in a manner satisfactory to the Engineer.

The cured slurry shall have a homogeneous appearance, fill all cracks, adhere firmly to the surface and have a skid resistant texture. The slurry seal will not stop shrinkage and other large thermal cracks from reflecting back through the new slurry surface.

If the slurry seal gets on any light, marker, hold line or pavement markings to be preserved, the Contractor shall clean immediately. The contractor shall replace any light, sign, or marker with equal equipment at no cost to the Owner if cleaning is not satisfactory to the Engineer.

626-4.6 Emulsion material (Contractor's responsibility). Samples of the emulsion that the Contractor proposes to use, together with a statement as to its source, shall be submitted, and approval shall be obtained before using such material. The Contractor shall submit to the Engineer a manufacturer's certified report for each consignment of the emulsion. The manufacturer's certified report shall not be interpreted as a basis for final acceptance. All such reports shall be subject to verification by testing samples of the emulsion received for use on the project.

METHOD OF MEASUREMENT

626-5.1 Type I Slurry Seal shall be measured by the square yard.

BASIS OF PAYMENT

626-6.1 Payment shall be made for Type I Slurry Seal at the contract price per square yard. The price shall be full compensation for furnishing all materials, for preparing, mixing, and applying these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item. The price shall include all cleaning and preparation prior to application of the slurry seal.

Crack sealing and paint removal are not included and will be measured and paid for separately.

TESTING REQUIREMENTS

ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C128	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ISSA A-105	Recommended Performance Guidelines for Emulsified Asphalt Slurry Seal
ISSA TB-100	Test Method for Wet Track Abrasion of Slurry Surfacing Systems
ISSA TB-106	Test Method for Measurement of Slurry Seal Consistency
ISSA TB-111	Outline Guide Design Procedure for Slurry Seal
ISSA TB-115	Determination of Slurry System Compatibility

MATERIAL REQUIREMENTS

ASTM D242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D977	Standard Specification for Emulsified Asphalt
ASTM D2397	Standard Specification for Cationic Emulsified Asphalt

END OF ITEM P-626

ITEM S-100 CRACK SEALING AND REPAIR

DESCRIPTION

S-100-1.1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable drawings.

MATERIALS

S-101-2.1 Filler Material. The filler material for the item “Crack Sealing” shall be a rubber asphalt product such as Crafcro Type 221 as manufactured by Crafcro, Inc., “Elastoflex 6690 Type 2” or “Elastoflex 61” as manufactured by Maxwell Products, Inc., or other crack seal material meeting the requirements of ASTM D6690, Type II.

S-101-2.2 Tack Coat. Not used.

S-101-2.3 Asphalt Concrete Pavement. Not used.

S-101-2.4 Aggregate Base. Not used.

S-101-2.5 Geotextile Fabric. Not used.

S-101-2.6 Herbicide. Herbicide spray to kill the weeds prior to cleaning the cracks shall be Round-up or approved equal. In those areas where weeds are removed, a liquid pre-emergent herbicide such as Surflan or approved equal, shall be applied to prevent the re-growth of weeds. Apply herbicides in strict compliance with State and federal laws. The contractor shall follow all manufacturers’ instructions for mixing, handling and application and shall use all necessary personal protective equipment to reduce applicator exposure. Herbicide shall be considered incidental to crack sealing work.

S-101-2.7 Equipment. All methods employed in performing the work and all equipment, tools, and machinery used for handling the material and executing any part of the work shall be subject to the approval of the Engineer before the work is started, and whenever unsatisfactory, they shall be changed or improved as required. All equipment, tools, machinery and containers must be kept clean and maintained in satisfactory condition.

CONSTRUCTION

S-101-3.1 Preparation of Cracks in Flexible Pavement.

S-101-3.1.1 Vegetation removal. If vegetation is present, treat the specific area with a concentrated solution of a water-based herbicide per Section S-101-2.6. Allow a waiting period for the herbicide to work in accordance with the manufacturers recommendations. Remove all vegetation, root material and debris from cracks.

S-101-3.1.2 Cracks to be routed. Existing cracks (either previously sealed or unsealed) identified by the Engineer for routing shall be routed to a minimum depth of 3/8 inch and a maximum depth of 1/2 inch. Notify the engineer immediately if routing operations cause excessive raveling at the edge of the crack.

S-101-3.1.3 Existing cracks. Existing cracks, previously sealed, that are to be resealed shall be prepared for sealing using a heat lance to liquefy the existing material to the satisfaction of the Engineer and remove any loose sealant from the cracks.

S-101-3.1.4 Cleaning of cracks. Cleaning shall be accomplished using a heat lance, compressed air, or similar method to loosen and blow loose, foreign, or objectionable material from the crack. Backpack blowers or handheld blowers shall not be used for final cleaning of cracks. After the cracks are cleaned, the entire paved surface shall be cleaned of foreign material. Care shall be taken not to refill cracks with any foreign material.

S-101-3.1.5 Filling cracks. Flush fill all cracks with an approved crack sealing material. If any shrinkage or settlement occurs in the rubberized asphalt sealant, the cracks shall be refilled until they are no lower than 1/8 inch below, or flush with, the surrounding surface.

Any excess buildup of filler material will not be permitted. Use of applicator disks or any other method that results in over-banding such as “Band-aiding” or capping of the crack to be sealed will not be permitted. Use of squeegees or other sealing shoes shall be required whenever any excess material is present along a sealed crack. Sealant drips shall be controlled by use of a drip stopper device at the tip of the sealant applicator wand. Any spillage or loose material shall be immediately removed from the pavement surface.

When cracks in an area have been sealed and the area must be opened to traffic prior to full cooling of sealant materials, a barrier material may be used. A detackifier such as Detack, as manufactured by Crafcro, Inc. or an approved equal may be used to remove tackiness and prevent tracking of crack sealants subject to approval by the engineer.

101-3.2 Maintenance. The Contractor shall perform all maintenance work and take all precautions necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the Engineer. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. Existing pavement section layers must be protected from damage by construction operations. If cleaning is necessary or if the pavement becomes disturbed, any additional work or repairs necessary shall be performed at the Contractor’s expense.

101-3.3 Weather Limitations. Asphalt concrete and all crack filler materials may be installed when either the atmospheric or pavement surface temperature is 45 degrees F and rising. Application or installation of these materials shall be suspended when either atmospheric or pavement surface temperature is 45 degrees F and falling. When either atmospheric or pavement surface temperature is 55 degrees F or less at the time of placement/application, the contractor shall provide an acceptable temperature reference for review by the Engineer.

METHOD OF MEASUREMENT

101-4.1 Crack Sealing. The unit of measurement for Crack Sealing shall be the linear feet of cracks cleaned, filled and repaired as specified.

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified above for each type of crack listed in the bid schedule. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

MATERIAL REQUIREMENTS

ASTM D6690 Standard Specification for Joint and Crack Sealants, Hot Applied, for
Concrete and Asphalt Pavements

END ITEM S-100

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ITEM T-901 SEEDING

DESCRIPTION

901-1.1 This item shall consist of soil preparation, seeding and fertilizing the areas shown on the plans or as directed by the Engineer in accordance with these specifications.

MATERIALS

901-2.1 SEED

- a. The seed mix is to be untreated, tested seed of good quality and free of noxious weeds.
- b. Seed shall be dry and not moldy and shall show no sign of having been wet or otherwise damaged.
- c. Each bag shall be labeled with the variety of seed and mix percentages and the supplier's name and address and other information as required by the Oregon State Weed Laws (ORS 633.511, 633.520, 633.651).
- d. The seed mix shall be constituted of the following types and percentages by weight:

SEEDING (general seeding, where special seeding types are not specified)

Dwarf Perennial Ryegrass	80%
Creeping Red Fescue	20%
Minimum Germination	90%
Application Rate	100 lbs/acre

901-2.2 FERTILIZER.

- a. The fertilizer shall be slow release, commercial grade containing the following elements in the following percentages by weight:

Nitrogen	16%
Phosphorus	16%
Potassium	16%

- b. All fertilizer elements shall be free flowing and uniformly mixed to ensure even distribution of plant nutrients.
- c. Fertilizer shall be applied at the rate of 300 pounds per acre.

901-2.3 TOPSOIL. Provide topsoil per Item T-905.

901-2.4 MULCH. Mulch shall consist of ground or chopped vegetative material spread evenly over disturbed surfaces. The following materials may be used for mulch.

A. Mulch for Wet Application:

1. Mulch for wet application shall consist of cellulose fiber produced from virgin wood, straw, or paper fiber product mixed with a tackifier consisting of gum binder derived from guar. Mulch shall be applied at a rate of 2,000 lbs./acre. Sufficient tackifier shall be added to the mulch to achieve an application rate of 60 lbs./acre when applied.

CONSTRUCTION METHODS

901-3.1 ADVANCE PREPARATION AND CLEANUP. After grading of areas has been completed and before applying fertilizer, areas to be seeded shall be raked or otherwise cleared of stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris which might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes has occurred after the completion of grading and before beginning the application of fertilizer, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

Apply topsoil to areas to be seeded where shown on the plans.

An area to be seeded shall be considered a satisfactory seedbed without additional treatment if it has recently been thoroughly loosened and worked to a depth of not less than 5 in (125 mm) as a result of grading operations and, if immediately prior to seeding, the top 3 in (75 mm) of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and if shaped to the required grade.

However, when the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches (125 mm). Clods shall be broken and the top 3 inches (75 mm) of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

901-3.2 WET APPLICATION (HYDROSEEDING) METHOD.

- a. Seed, mulch, and fertilizer shall be applied, where indicated on the plans, by spraying on the prepared seedbed in the form of an aqueous mixture and by using the methods and equipment described herein. The rates of seed, fertilizer, and mulch shall be as given in Sections 901-2.1, 2.2, and 2.3 of these specifications
- b. The spraying equipment shall have a container or water equipped with a liquid level gauge calibrated to read in increments not larger than 50 gallons over the entire range of the tank capacity, mounted so as to be visible to the nozzle operator. The container or tank shall also be equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used. The unit shall also be equipped with a pressure pump capable of delivering 100 gallons per minute at a pressure of 100 pounds per square inch.

- c. Wet application shall commence no earlier than September 1st and be completed no later than September 30th.

901-3.4 MAINTENANCE OF SEEDED AREAS. The Contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the Engineer. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work.

When the wet application method outlined above is used for work done out of season, it will be required that the Contractor establish a good stand of grass of uniform color and density to the satisfaction of the Engineer. If at the time when the contract has been otherwise completed it is not possible to make an adequate determination of the color, density, and uniformity of such stand of grass, payment for the unaccepted portions of the areas seeded out of season will be withheld until such time as these requirements have been met.

METHOD OF MEASUREMENT AND PAYMENT

901-4.1 The quantity of seeding to be paid for shall be the number of acres measured on the ground surface, completed and accepted.

No measurement will be made for topsoil and seeding for disturbed areas related to trench backfill and surface restoration for the installation and removal of conduits, conductors, ducts, signs, and light fixtures. The work is considered incidental to applicable bid items.

No measurement will be made for topsoil, seeding, or restoration of contractor staging areas, haul routes or other areas damaged by the contractor's operations. The work is considered incidental to applicable bid items.

901-4.2 Payment shall be made at the contract unit price per acre or fraction thereof for each type of seeding listed in the bid schedule, which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

No payment will be made for topsoil and seeding for disturbed areas related to trench backfill and surface restoration for the installation and removal of conduits, conductors, ducts, signs, and light fixtures. The work is considered incidental to applicable bid items.

No payment will be made for topsoil, seeding, or restoration of contractor staging areas, haul routes or other areas damaged by the contractor's operations. The work is considered incidental to applicable bid items.

MATERIAL REQUIREMENTS

ASTM C 602

Agricultural Liming Materials

ASTM D 977

Emulsified Asphalt

FED SPEC A-A-1909

Fertilizer

END OF ITEM T-901

ITEM T-905 TOPSOILING

DESCRIPTION

905-1.1 This item shall consist of preparing the ground surface for topsoil application, removing topsoil from designated stockpiles or areas to be stripped on the site or from approved sources off the site, and placing and spreading the topsoil on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the Engineer.

MATERIALS

905-2.1 Topsoil. Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 inches (50 mm) or more in diameter), and clay lumps or similar objects. Brush and other vegetation that will not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sod and herbaceous growth such as grass and weeds are not to be removed but shall be thoroughly broken up and intermixed with the soil during handling operations. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means, shall be removed. The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 7.6 pH, when tested in accordance with the methods of testing of the Association of Official Agricultural Chemists in effect on the date of invitation of bids. The organic content shall be not less than 3% nor more than 20% as determined by the wet-combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% of the material passing the 200 mesh (0.075 mm) sieve as determined by the wash test in accordance with ASTM C117. All tests of the topsoil shall be made by the Contractor, at no cost to the Owner. Furnish test reports to the Engineer for approval.

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

905-2.2 Inspection and tests. Within 10 days following acceptance of the bid, the Engineer shall be notified of the source of topsoil to be furnished by the Contractor. The topsoil shall be inspected to determine if the selected soil meets the requirements specified and to determine the depth to which stripping will be permitted. At this time, the Contractor may be required to take representative soil samples from several locations within the area under consideration and to the proposed stripping depths, for testing purposes as specified in paragraph 905-2.1.

CONSTRUCTION METHODS

905-3.1 General. Areas to be topsoiled shall be shown on the plans. Topsoil shall be obtained by the Contractor from an off-site source, selected by the Contractor.

Suitable equipment necessary for proper preparation and treatment of the ground surface, stripping of topsoil, and for the handling and placing of all required materials shall be on hand, in good condition, and approved by the Engineer before the various operations are started.

905-3.2 Preparing the ground surface. Immediately prior to dumping and spreading the topsoil on any area, the surface shall be loosened by discs or spike-tooth harrows, or by other means approved by the Engineer, to a minimum depth of 2 inches (50 mm) to facilitate bonding of the topsoil to the covered subgrade soil. The surface of the area to be topsoiled shall be cleared of all stones larger than 2 inches (50 mm) in any diameter and all litter or other material which may be detrimental to proper bonding, the rise of capillary moisture, or the proper growth of the desired planting. Limited areas, as shown on the plans, which are too compact to respond to these operations shall receive special scarification.

Grades on the area to be topsoiled, which have been established by others as shown on the plans, shall be maintained in a true and even condition. Where grades have not been established, the areas shall be smooth-graded and the surface left at the prescribed grades in an even and compacted condition to prevent the formation of low places or pockets where water will stand.

905-3.3 Obtaining topsoil. Prior to the stripping of topsoil from designated areas, any vegetation, briars, stumps and large roots, rubbish or stones found on such areas, which may interfere with subsequent operations, shall be removed using methods approved by the Engineer. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means shall be removed.

The Contractor shall locate and obtain the topsoil supply, subject to the approval of the Engineer, from an off-site location determined by the Contractor. The Contractor shall notify the Engineer sufficiently in advance of operations in order that necessary measurements and tests can be made. The Contractor shall remove the topsoil from approved areas and to the depth as directed. The topsoil shall be hauled to the site of the work and placed for spreading or spread as required. Any topsoil hauled to the site of the work and stockpiled shall be rehandled and placed without additional compensation.

905-3.4 Placing topsoil. The topsoil shall be evenly spread on the prepared areas to a uniform depth of 3 inches after compaction, unless otherwise shown on the plans or stated in the special provisions. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Spreading shall be carried on so that turving operations can proceed with a minimum of soil preparation or tilling.

After spreading, any large, stiff clods and hard lumps shall be broken with a pulverizer or by other effective means, and all stones or rocks (2 inches (50 mm) or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. After spreading is completed, the topsoil shall be satisfactorily compacted by rolling with a cultipacker or by other means approved by the Engineer. The compacted topsoil surface shall conform to the required lines, grades, and cross-sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

METHOD OF MEASUREMENT AND PAYMENT

905-4.1 Topsoil is considered incidental to other applicable bid items and no separate measurement or payment will be made.

TESTING MATERIALS

ASTM C117 Materials Finer than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing

END OF ITEM T-905

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SECTION 16515 LIGHTING SYSTEMS

PART 1: GENERAL SCOPE

- a. This work shall consist of furnishing and installing airport lighting systems in accordance with this specification, the referenced specification, and the applicable advisory circulars. This work shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the Engineer.
- b. Additional details pertaining to a specific system covered in this item are contained in the advisory circulars listed in the following paragraphs:
 1. AC 150/5345-46 (latest edition and change), Specification for Runway and Taxiway Light Fixtures
 2. AC 150/5345-1 (latest edition and change), Approved Airport Equipment
 3. AC 150/5340-30 (latest edition and change), Design and Installation Details for Airport Visual Aids
 4. AC 150/5345-28 (latest edition and changes) Precision Approach Path Indicator (PAPI) Systems
 5. AC 150/5345-51B - Specification for Discharge-Type Flashing Light Equipment
 6. AC 150/5345-53 (latest edition and change) Airport Lighting Certification Program
 7. AC 150/5345-10 (latest edition and change) Specification for Constant Current Regulators and Regulator Monitors
 8. AC 150/5345-42 (latest edition and changes) Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories

PART 2: MATERIALS

2.1 LIGHTING EQUIPMENT

- a. Airport lighting equipment and materials covered by FAA specifications shall have the prior approval of the Federal Aviation Administration, Airports Service, Washington DC 20591, and shall be listed in Advisory Circular 150/5345-1, Approved Airport Lighting Equipment and/or AC 150/5345-53 (latest edition and change) Airport Lighting Certification Program.
- c. Only Third Party certified manufacturers, listed in AC 150/5345-53, Appendix 3 Addendum (as required) and meeting the BUY AMERICAN preference requirements can provide equipment and materials specified in the Contract Documents. Documentation certifying compliance with the BUY AMERICAN preference rules for Airport Improvement Program (AIP) cited in 49 USC §50101) shall be included with each equipment and material submittal.

2.2 OTHER EQUIPMENT

- a. All equipment and materials covered by other referenced specifications shall be subject to acceptance through the manufacturer's certification of compliance when required by the Engineer.

2.3 TAPE

- a. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88, respectively, as manufactured by the Minnesota Mining and Manufacturing Company, or approved equal.

2.4 CONCRETE

- a. Concrete for foundations, pads as concrete collars shall conform to ASTM C94, Alternate 2 and shall be 3500 psi, using 3/4 inch minus maximum size coarse aggregate, at 28 days, in accordance with P-610.

2.5 BASE CANS

- a. Shall be FAA L-867 or L-868 as shown on the plans, Class I, Size B (12" dia.), 24" deep, base cans meeting the requirements of FAA Specifications AC 150/5345-42(latest edition and changes) "Specifications for Airport Light Base and Transformer Housings, Junction Boxes and Accessories."
- b. Provide a blank steel cover plate for each base can. Blank steel cover plates shall be of a diameter that matches its corresponding base can and be a minimum of 1/4" in thickness for L-867 base cans and 3/4" for L-868 base cans. Provide a gasket, bolts and other necessary incidentals to install the cover plate.

2.6 ISOLATING TRANSFORMERS

- a. Shall be FAA L-830-1, 6.6-amp primary, 6.6-amp secondary, isolating transformers meeting the requirements of FAA Specification AC 150/5345-53 (latest edition and changes), "Specification for Series to Series Isolation Transformers for Airport Lighting Systems."
 - 1. For Taxiway Elevated Edge Lights, 10/15 Watt, or as recommend by manufacture.
 - 2. For MIRL Edge Lights, 10/15 Watt or as recommended by manufacturer.
 - 3. For MIRL Threshold Lights, 10/15 Watt or as recommended by manufacture.

2.7 NEW RUNWAY FLUSH MOUNTED EDGE LIGHTS, MEDIUM INTENSITIY

- a. Not used.

2.8 NEW RUNWAY ELEVATED EDGE LIGHTS, MEDIUM INTENSITY

- a. Medium-Intensity Runway Lighting (MIRL): Elevated edge lights shall be medium intensity, L-861(L) (color as indicated on the drawings) for runway edge lights meeting the requirements of FAA AC 150/5345-46 (latest edition and changes).
- b. Lights shall be clamp style, 9.9 VA, 6.6-amp service, and shall be 14 inches high. Each light shall be furnished complete with LED lamp without heater, lens, sockets, isolation transformer, wiring, L-823 connectors, support structure, frangible coupling and L-867 base can. All elevated edge lights shall be of the same manufacturer.
- c. Each light shall be fitted with an identification tag, made of non-corrosive, UV resistant material, and be engraved or stamped with the fixture number. The identification text (ID #) shall be a minimum of 3/4" in height. Refer to the plans for the label identification number. The tag shall be attached to the light fixture with a non-corrosive, UV resistant, durable band or tie.

2.9 NEW RUNWAY ELEVATED THRESHOLD LIGHTS

- a. Elevated edge lights shall be high intensity, L-861SE(L) (color as indicated on the drawings) for threshold lights meeting the requirements of FAA AC 150/5345-46 (latest edition and changes).
- b. Lights shall be clamp style, 14.1 VA, 6.6-amp service, and shall be 14 inches high. Each light shall be furnished complete with LED lamp without heater, lens, sockets, isolation transformer, wiring, L-823 connector, support structure, frangible coupling and L-867 base can. All elevated edge lights shall be of the same manufacturer.
- c. Each light shall be fitted with an identification tag, made of non-corrosive, UV resistant material, and be engraved or stamped with the fixture number. The identification text (ID #) shall be a minimum of 3/4" in height. Refer to the plans for the label identification number. The tag shall be attached to the light fixture with a non-corrosive, UV resistant, durable band or tie.

2.10 NEW ELEVATED TAXIWAY EDGE LIGHTS, MEDIUM INTENSITY

- a. Elevated edge lights shall be medium intensity, L-861T (L) (blue) for taxiway edge lights meeting the requirements of FAA AC 150/5345-46 (latest edition and changes). These include both installation in shoulder gravel and in existing paved shoulder areas.
- b. Lights shall be LED style, 12 VA, 6.6-amp service, and shall be 14 inches high. Each light shall be furnished complete with lens, LED lamp without heater, sockets, isolation transformer, wiring, L-823 connectors, support structure, frangible coupling and L-867 base can. All elevated edge lights shall be of the same manufacturer.

- c. Each light shall be fitted with an identification tag, made of non-corrosive, UV resistant material, and be engraved or stamped with the fixture number. The identification text (ID #) shall be a minimum of 3/4" in height. Refer to the plans for the label identification number. The tag shall be attached to the light fixture with a non-corrosive, UV resistant, durable band or tie.

2.11 PRECISION APPROACH PATH INDICATOR (L-881 and L-881(L))

2.11.1 PAPI L-881 (BASE BID)

- a. Type L-881, 2-light unit Precision Approach Path Indicator (PAPI) meeting the requirements of FAA Specifications AC 150/5345-28(latest edition and changes).
- b. Furnish complete with power and control unit from a 6.6A current loop source, aiming and calibration equipment, frangible mounts for all supporting legs, and all necessary appurtenances for a complete installation.
- c. Contractor may furnish any approved L-881, Style B, 2-unit PAPI shown in AC 150/5345-53 (latest edition and changes). The unit shall have 2-lamp optical boxes and be equipped with a heater. Provide factory installed baffle kit, coordinate degree of baffling with the engineer, prior to ordering.
- d. Contractor will be responsible for completing any modifications to the plans and specifications necessary to accommodate his proposed unit. Contractor shall include any modifications in his bid unit prices and submit a revised schematic for approval prior to installation.
- e. Provide the following spare parts for the L-881:
 - 1. A 4-year supply of lamps for FAA EB 67D Warranty equivalence, assuming 24 hrs/day 365 days/year operation with 1000 hour rated lamp life, for each PAPI unit (2 L-881 x 2 light units each x 2 lamps/light unit x 34 replacement lamp sets = 272 spare lamps).
 - 2. 2 each Lamp driver/Tilt sensing PCB's
 - 3. 2 each LC Control Board
 - 4. 2 each SCR Block
 - 5. 2 each Tilt Switch Assembly
- f. All L-881 PAPI's provided shall be of the same manufacture.

2.11.2 PAPI L-881(L) (BID ALTERNATE)

- a. Type L-881(L), 2-light unit Precision Approach Path Indicator (PAPI) meeting the requirements of FAA Specifications AC 150/5345-28(latest edition and changes).
- b. Furnish complete with from a 6.6A current loop source, aiming and calibration equipment, frangible mounts for all supporting legs, and all necessary appurtenances for a complete installation.

- c. Contractor may furnish any approved L-881, Style B, 2-unit PAPI shown in AC 150/5345-53 (latest edition and changes). Each unit shall have single LED light channel and be equipped with a heater. Provide factory installed baffle kit, coordinate degree of baffling with the engineer, prior to ordering.
- d. Contractor will be responsible for completing any modifications to the plans and specifications necessary to accommodate his proposed unit. Contractor shall include any modifications in his bid unit prices and submit a revised schematic for approval prior to installation.
- e. Provide the following spare parts for the L-881(L):
 - 1. 2 each Control Board Replacement Kit (Primary)
 - 2. 2 each Control Board Replacement Kit (Secondary)
 - 3. 2 each Input Power Board (Primary)
 - 4. 2 each Input Power Board (Secondary)
- f. All L-881(L) PAPI's provided shall be of the same manufacture.

2.12 RUNWAY END IDENTIFIER LIGHTS

- a. Type L-849I(L), Style C, current series operated, uni-directional, LED, low intensity, single step. Runway End Identifier Lights (REIL) meeting the requirements of FAA AC 150/5345-51(latest edition and changes).
- b. Furnish a complete system with Master and slave units, aiming and calibration equipment, frangible mounts, and all necessary appurtenances for a complete installation. All REIL units shall be of the same manufacture.

2.13 TAXIWAY ELEVATED REFLECTORS

- a. Taxiway elevated reflectors shall be Type L-853 and meet the requirements of FAA Specifications AC 150/5345-39 (latest edition and changes).

PART 3: WORKMANSHIP

3.1 CONSTRUCTION

- a. The installation and testing for the systems shall be as specified in the applicable advisory circulars.
- b. Prior to starting construction work, the Contractor shall make all necessary arrangements required to maintain electrical services to all airport lighting circuits serving operational taxiways, aprons and runways.
- c. Before commencement of the work, the Contractor, in the presence of the Owner and Engineer, shall measure the insulation resistance to ground of all series lighting circuits which will be affected by the new construction or which will be crossed by haul roads during construction.

- d. Following completion of construction, the Contractor shall re-measure the resistance to ground. If the resistance to ground is lower than the initial reading, then the Contractor shall be required to trouble-shoot the lighting circuit and make such repairs as are necessary to restore the circuit to its original condition.
- e. Electrical work shall be done by qualified, licensed electricians who are familiar with airport lighting systems. All necessary precautions shall be taken by the Contractor to assure that lock out provisions are taken on circuits being modified so that the circuits cannot be energized until the work is completed.

3.2 TEMPORARY CIRCUIT CONNECTIONS, MODIFICATIONS FOR CONSTRUCTION PHASING, STAGING AND OPERATIONS

- a. Maintain existing electrical circuits and service to areas that are open to air traffic at all times. Any interruption of electrical service shall be coordinated, in advance through the Engineer and Airport. The contractor shall phase the work to minimize interruptions to any electrical system or circuit.
- b. This work includes, but is not limited to, providing temporary power to runway or taxiway lighting circuits, signs, providing temporary circuit modifications, disconnecting and covering signs, de-energizing lighting circuits and NAVAIDS, restoring power, lighting, sign and NAVAID circuits, and any other miscellaneous and incidental work necessary to accommodate construction. This work is incidental to other items of work and no separate measurement or payment will be made.

3.3 BASE CAN INSTALLATION

- a. Base cans shall be installed at the location indicated on the plans. The exact location shall be as directed by the engineer.
- b. Details for the installation of base cans are shown on the drawings.
- c. Excavate a hole only as large as necessary to install the base can with a minimum of backfill material.
- d. The base shall be supported in the excavation so that the top flange is within 2 degrees of level and at the elevation and location required to meet the requirements of light unit installation and alignment. Backfilling shall not cover exposed duct ends unless sealed.
- e. PVC ducts/conduit (size per plan) shall be installed during the leveling process and in such a manner to assure proper alignment and attitude. Water tight coupling connections shall be made in the base can.
- f. Backfill to the level shown on the drawings, tamping firm. Drains shall be installed to ensure proper drainage. Bedding material shall be placed under the can during leveling to assure that undue strain is not created at the connections during backfilling.

- g. Grade material surrounding the base can away from the light base assuring positive drainage away from the light. The base can shall have its plywood protective cover reinstalled until the time to install cables, transformers, and light units.

3.4 INSTALLATION OF PRECISION APPROACH PATH INDICATOR (PAPI)

- a. The foundation for mounting the PAPI light units and power control unit are as shown in the plans. The bases shall be located as shown on the plan on a Contractor prepared, level site. The concrete surface shall be +1 inch above the ground surface. The surface of the concrete base shall slope away from the center at 1 percent for drainage. Anchor bolts shall be set in the concrete at locations shown on the supplier's submittal drawings.
- b. Frangible mounts shall be installed on all supporting legs for the light units and power control unit. The front face of each light unit shall be located on a line perpendicular to the runway centerline within +/-6 inches. The beam centers of all light units shall be within +/-1 inch of a horizontal plane. This horizontal plane shall be within +/-1 foot of the runway crown elevation.
- c. Each light unit shall be aimed outward into the approach zone (toward the end of the runway) on a line parallel to runway centerline within a tolerance of +/-1/2 degrees.
- d. Aiming angle of the light units shall be completed by the Contractor following verification of location and elevation of the units. The aiming angle for each unit shall be as follows:
 - 1. Unit nearest runway 4 Degrees, 15'
 - 2. Next Adjacent Unit 3 Degrees, 45'
- e. Check all wiring and electrical components (fuses, circuit breakers, transformers, switches, etc.) to determine that ratings are correct and the components are installed in accordance with national and local electrical code requirements.
- f. Check all nuts, bolts, and other hardware to determine if the components are secure and of correct size, type, and finish.
- g. Check the system installation to determine conformance with environmental requirements. Check equipment to ensure it meets project specifications requirements. Check all equipment to determine that it has been assembled and placed in accordance with the manufacturer's instructions.
- h. Operate each system not less than 10 hours. In addition, operate each control not less than 10 times.
- i. Test the circuit cables in accordance with the applicable sections of AC 150/5370-10, Item L-108, except that a 10-megohm insulation resistance to ground test requirement is substituted for 600-volt cable.

3.5 PAPI AND REIL AIMING

- a. Aiming and for each PAPI and REIL unit includes the initial aiming at the aiming shown on the plans. Aiming for the PAPI and REIL units is not complete until each aiming has been approved by the Airport and FAA, after an FAA-performed flight check. Contractor to make up to 2 additional trips to the site to make adjustments to the aiming angles, if directed by the Engineer.

3.6 TESTING

- a. All circuits shall be tested before affecting the circuit (before opening j-boxes, handholes, vaults, or base cans) to assure freedoms from grounds. Perform megger testing and submit test report to the Engineer.
- b. All circuits affected by this contract shall be tested after completion of the work by the Contractor. Perform megger testing and submit test report with the record drawings.
- c. Demonstrate operation of the lighting system to the satisfaction of the Engineer.
- d. Record the load on each circuit at the panel board, as well as total load with all circuits operating.

3.7 MAINTENANCE

- a. The Contractor shall be responsible for all maintenance including lamp replacement until final acceptance.

3.8 REMOVAL WORK

- a. Equipment/Facilities scheduled for removal, replacement, grade adjustment, or relocation shall be carefully removed from the foundation, with a minimum of disassembly, complete with all hardware and parts not scheduled for reinstallation. This work includes demolition of the RW 33 PAPI system (including meter decommissioning and pole removal), MIREL system, existing guidance signs, and other miscellaneous items scheduled for removal as shown on the plans.
- b. For items designated for removal, excavate/demolish existing foundations or other appurtenant structures. Existing foundations shall be excavated at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of off-site. All foundations thus excavated shall be backfilled with suitable material provided by the Contractor and compacted to 95% of ASTM D-698.
- c. The Contractor shall be responsible for verifying that existing circuits to remain in service are operational following transformer and/or conductor removal.
- d. All concrete, steel, PVC, ducts, equipment, damaged cable and similar waste items shall be disposed of offsite by the Contractor.

PART 4: MEASUREMENT AND PAYMENT

4.1 MEASUREMENT AND PAYMENT

- a. Payment when made at the contract unit price per each for the particular item or items shown in the bid schedule will be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete this work.
- b. For L-881 and L-881(L) PAPI's, payment when made at the contract unit price per each for the particular item or items shown in the bid schedule will be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete this work. L-881 shall be the base bid. L-881(L) shall be a bid alternative. PAPI's at both ends of the runway will be of the same type. Bid items should reflect any cost difference in the equipment and in the spares required for the two different types.

END OF SECTION 16515

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**SECTION 16527
AIRCRAFT GUIDANCE SIGNAGE**

PART 1: GENERAL

1.1 DESCRIPTION

- a. This section includes equipment and electrical work relating to aircraft guidance signage. This section covers changes, removal or relocation of existing guidance signs, new lighted guidance signs and new non-lighted guidance signs. The work includes but is not limited to:
 - 1. Removal, grade adjustments, or relocations of existing guidance signs with foundations per the drawings and specifications.
 - 2. Furnish, construct, and install new guidance signs with new foundations per the drawings and specifications.
 - 3. Route power wiring and connections to the appropriate airfield lighting system circuit as specified for lighted signs.

1.2 REFERENCE STANDARDS.

- a. This section references the following documents. They are a part of this section as specified and modified. In a case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

<u>Reference (Latest Version)</u>	<u>Title</u>
FAA AC 150/5340-18	Standards for Airport Sign Systems
FAA AC 150/5340-21	Airport Miscellaneous Lighting Visual Aids
FAA AC 150/5345-26	Specifications for L823 Plug & Receptacle Cable Connectors
FAA AC 150/5345-44	Specifications for Taxiway and Runway Signs
FAA AC 150/5345-47	Isolation Transformers for Airport Lighting Systems

1.3 DEFINITIONS

- a. Aircraft Guidance Sign; Signs approximately 12 inches deep and 30 inches high. Length is dictated by the legend. Each identified by number and location as shown on the drawings.
- b. Base Can: L-867, galvanized 12-inch by 24-inch cans in which the isolation transformer is located and interconnected with the 5kV lighting circuit.

- c. Isolation Transformer: One required at each lighted sign location, or where shown on the plans, matched to the calculated sign load and the constant current ampacity of the circuit to which it is connected.
- d. Foundation: The concrete footing upon which the sign is mounted. Concrete shall be as specified in P-610.

1.4 SYSTEM DESCRIPTIONS

- a. Lighted guidance signs are served by a series-constant current type circuit, rated 5000 volts, that serves the edge lights. Contractor shall field verify existing wire size where connections to existing circuits are made.
- b. The sign transformers shall be connected in series with the existing lighting circuit indicated on the drawings.
- c. The ballasts provided with each sign must be field connected and taps selected to match the constant current regulator step outputs. Contractor shall field verify regulator output steps.
- d. The location and orientation of each sign is critical and must meet the requirements of these specifications, the drawings and FAA regulations.
- e. Not used.
- f. The sign schedule shown in the drawings describes signs to be removed, signs which are to be relocated, and signs which require legend modifications.
- g. For existing signs to be relocated, existing L-830 isolation transformers may be reused.
- h. For existing signs to be relocated, provide new L-867 base cans.

1.5 SUBMITTALS

- a. Submit complete catalog cut sheets with detailed information for the following items:
 - 1. Signs and Legend
 - 2. Base Cans
 - 3. Blank Covers
- b. Submit complete design drawing details for:
 - 1. All proposed precast or poured-in-place foundations
 - 2. General arrangement of typical sign and base can.
 - 3. Sign panel legends.

PART 2: PRODUCTS

2.1 GENERAL

- a. All materials furnished shall be FAA approved airport equipment as listed in the FAA Advisory Circular 150/5345-53 (latest edition and changes) “Lighting Equipment Certification Program” and 150/5345-44 (latest edition and changes) “Specifications for Taxiway and Runway Signs”.
- b. Each sign shall be complete in accordance with all specifications requirements and shall include: mounting legs and hardware, tethers, electrical disconnect, any required series circuit adapter unit, and instruction booklet, base can, gasket, blank cover, conduit grommets, transformer, and connector kit.
- c. Each shall meet the FAA requirements for internal lighting, reflectance, color, construction, ambient temperature range operation, wind velocity, driving rain, and frangible mounting hardware.

2.1 SIGNS

- a. Type:
 1. Mandatory: Type L-858R(L)
 2. Location: Type L-858L(L)
 3. Direction/Destination: L-858Y(L)
 4. Distance Remaining: L-858B(L)
- b. Size: Size 1: 18-inch sign face with a 12-inch legend.
- c. Style: Style 2- Powered from a series lighting circuit of 2.8 to 6.6 amperes, for lighted signs.
- d. Class: Class 2: For operation down to –40 degrees C.
- e. Mode: Mode 2 to withstand wind loads of 200 mph.

2.2 L-867 BASE CANS

- a. Base cans shall be FAA L-867 base cans and related supplies meeting the requirements of FAA Specifications AC 150/5345-42 (latest edition and changes) “Specifications for Airport Light Base and Transformer Housing, Junction Boxes, and Accessories.”
- b. Class I Steel, Size B, 12-inch diameter, 24 inches deep with ½ inch diameter drain hole in the bottom.

- c. Conduit connections shall be the 2-inch flexible type with grommets for 2-inch schedule 40 PVC conduit.
- d. Each can shall be furnished with a plywood shipping cover bolted to the top and size 1/8-16 stainless steel 1-inch bolts packed inside.
- e. The base cans shall have connection points 180 degrees apart (for straight runs).
- f. The base cans with three 2-inch conduit connections shall have those connection points 90 – 180 degrees apart (for “T” and “L” connections).
- g. The base can blank cover shall be 13-1/2 diameter, L-867, 3/8-inch-thick, furnished complete with gaskets.
- h. Base cans are not required for non-lighted signs.

2.3 L-830 ISOLATION TRANSFORMERS

- a. Shall be FAA L-830 isolating transformers meeting the requirements of FAA Specification AC 150/5345-47 (latest edition and changes), “Isolation Transformers for Airport Lighting System”.
- b. Match proposed sign with system circuit.
- c. Isolation transformers are not required for non-lighted signs.

2.4 BOLTS

- a. Anchor bolts, nuts, and washers used to extend existing anchor bolts for securing 2-inch pipe flanges to the concrete foundations shall be 1/2-inch by 7-inch stainless steel.
- b. Couplings for anchor bolt extension shall be stainless steel suitable for 1/2-inch bolt, threaded full length.

2.5 CABLE TIES

- c. Cable ties, used to secure the secondary cable to the sign leg, shall be Thomas & Betts nylon 6/6 weather-resistant tie, Cat. No. TY527MX, or equal.

PART 3: EXECUTION

3.1 GENERAL

- a. See general scheduling and sequencing.
- b. Base cans shall be completely accessible without moving the sign. The top of the base can shall be flush with the erosion pad or finish grade.
- c. Miscellaneous items of work requiring runway or taxiway closure, should be coordinated with other work requiring closure of the same area, to reduce airport operational conflicts.
- d. Active runway or taxiway circuits shall remain operational at all times. Coordinate connection of sign transformers with the Owner to insure:
 1. The tower is aware of the procedure in progress and that an alarm may be tripped indicating added circuit load.
 2. Airport maintenance is alerted to recalibrate supervisory circuit monitoring equipment and the internal sign taps when required.
 3. The affected circuit is returned to full operation and the tower notified same day.

3.2 REMOVAL WORK

- a. Signs scheduled for removal, replacement, grade adjustment, or relocation shall be carefully removed from the foundation, with a minimum of disassembly, complete with all hardware and parts not scheduled for reinstallation.
- b. The Contractor shall be responsible for verifying that the Lighting circuits are operational following transformer and/or conductor removal.
- c. All concrete, steel, PVC, ducts, damaged cable and similar waste items shall be disposed of offsite.

3.3 BASE CAN INSTALLATION

- a. Prior to installation, drill a ½ inch diameter hole in the bottom of each can, where it will not be covered by the brick, and paint the damaged galvanizing with a zinc-rich paint.
- b. The base can shall have its plywood protective cover reinstalled until time to install cables and transformers.

3.4 AIRCRAFT GUIDANCE SIGN INSTALLATION

- a. The Contractor shall install, adjust, or relocate all aircraft guidance signs, including lamps, transformers, base cans, cover, and foundation.
- b. Confirm the sign size, anchor bolt location and configuration, and base can location with the sign manufacture. See the schedule and details on the drawings. Report discrepancies to the Engineer immediately.
- c. Provide concrete foundations as required for each new, adjusted, or relocated sign and as required by the details on the drawings. Include all associated materials and labor for wiring and grounding.
- d. Provide the underground supply cable into the base can, leaving sufficient slack to permit all cable connections to be made above ground. Connections to the series circuit shall be made with the field attached or factory-molded plug in connectors and heat shrink kits.
- e. Assemble the signs in accordance with the manufacturer's instructions and as shown on the drawings. Install lamps of the proper rating. Connect the secondary lead with L-823 connectors without taping the joints.
- f. Secure the secondary pigtail to the nearest sign leg, using two weather resistant nylon TY-RAPS, leaving no stress or slack cable between the leg and the connector.
- g. Connect the grounding conductor to the sign enclosure using a listed grounding lug.

PART 4: MEASUREMENT AND PAYMENT

4.1 AIRCRAFT GUIDANCE SIGNS

- a. Payment will be made on a unit bid price basis for each sign and type of modification, including removal, shown in the bid schedule including foundation, base can, transformer, connector, and hardware installed in place by the Contractor and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for labor, equipment, tools, and incidentals necessary to complete this item.

END OF SECTION 16527

ITEM L-100 POWER SERVICE AND CONTROL

DESCRIPTION

100-1.01 Scope. This section covers the work necessary for the complete Power and Control Systems. Furnish materials, labor, and equipment in accordance with these specifications, the accompanying drawings, and the directions of the Engineer. Furnish and install one new regulator complete with controls, size as indicated on the drawings.

100-1.02 Site Inspection. Prior to submitting a bid, visit the project site, ascertain conditions affecting the proposed work, and make allowances as to the cost thereof.

100-1.03 Responsibility. Be responsible for:

Complete, fully operational, systems in accordance with the intent of these contract documents.

Referring to all of the drawings for other trades for details of facility equipment and construction which affect the work covered under this section.

Coordinating electrical work with owner, power utility company, and work of other trades to avoid conflicts, errors, and delays.

Coordinate and size equipment furnished with other manufacturers.

Installing materials and equipment in a workmanlike manner.

Installing materials and equipment in strict accordance with manufacturer's recommendations, unless otherwise specified or directed by the Engineer.

Furnishing and installing all incidental items not specifically shown or specified which are required by good practice to provide the complete systems specified herein.

100-1.04 Intent of Drawings. Drawings are partly diagrammatic and are intended to show circuiting and switching details, which shall be exactly as shown.

Exact conduit locations are not shown unless so indicated or specially dimensioned.

One-line and riser diagrams are schematic and do not show physical arrangement of equipment.

100-1.05 Departures from Drawings. Submit, in writing, to the Engineer for review, details of any necessary proposed departures from these Contract Documents, and the reasons therefore, as soon as practicable and within 15 days after the award of contract. Make no such departures without the prior written approval of the Engineer.

MATERIALS

100-2.01 Conduit shall be rigid galvanized steel, threaded type, except where all underground conduit shall be PVC.

Ends shall be threaded and reamed smooth. Conduit shall be threaded into fittings and equipment or shall be secured by insulated grounded bushings.

100-2.02 Conduit Fittings shall be used as required to make up the raceway system. Such fittings shall be malleable iron galvanized. Fittings exposed to the weather shall be gasketed and watertight. Straps, bushings, locknuts, connectors and similar devices shall be galvanized.

100-2.03 Wire shall be stranded copper, type XHHW-2 insulated. Stranded wire shall be terminated with crimped on lugs except where equipment materials are designed for stranded conductors.

100-2.04 L-828, 7.5KW regulator shall conform to FAA specification AC 150/5345-10 (latest edition and changes) for an L-828 constant current ferroresonant regulator having a secondary current range of 4.8 amperes to 6.6 amperes and three brightness steps. Primary voltage shall be 240 volts, single-phase, 60 hertz.

Control shall be local. A secondary ammeter shall be provided on the unit. Regulator case and secondary circuit lightning arrestors shall be bonded to the grounding system.

A 7.5KW regulator shall be provided for the new runway lighting system. See the drawings for operational characteristics.

100-2.05 Radio Control System. Radio Control System shall conform to FAA AC 150/5345-49 (latest version) for an L-854, Type 1 radio control unit.

100-2.06 Photocell and Control Enclosure. Photocell shall be cadmium sulphide with epoxy coating. Photo control enclosure shall be heavy-duty die cast zinc, gasketed for weather protection. Contacts shall be normally closed with snap action. Photocell must be able to withstand temperatures of -40°C to $+60^{\circ}\text{C}$.

The contractor shall provide a NEMA 1 rated control enclosure for the photocell lighting control relay and manual override switch as shown on the drawings. Manual override switch shall be a 2-pole selector switch. Provide black acrylic nameplate with white writing stating both the "AUTO" and "BYPASS" positions for the manual selector switch. The selector switch shall be rated for 120V. The relay shall be 4-pole with form C contacts rated for 10A at 120V.

100-2.07 Load Centers. Load centers shall be Square D NQ panelboard with door, and type QOB circuit breakers, or approved equivalent. Number of spaces and main breaker size as shown on plans. NEMA 1 gasketed enclosure, finish shall be ANSI 61 gray. All breaker spaces shall be labeled with permanent engraved plastic labels. Panel shall have copper bus and breakers shall be bolted on.

Other acceptable manufacturers include: General Electric, Westinghouse and Eaton.

100-2.08 Circuit Breakers. Circuit breakers shall be thermal magnetic trip equipped with individually insulated, braced and protected connectors. The front faces of all circuit breakers shall be flush with each other. Large permanent individual circuit numbers shall be affixed to each breaker in a uniform position. Tripped indication shall be clearly shown by the breaker handle taking a position between ON and OFF. Provisions for additional breakers shall be such that no additional connectors will be required to add breakers.

Circuit Breakers shall be bolted securely to the panelboard bus. "Push on" or "plug in" breakers are not acceptable.

Where 120-volt, 20-amp breakers are intended for switching loads they shall be rated for switching duty and labeled "SWD".

100-2.09 Safety Switches and Disconnecting Means. Furnish safety switches and disconnecting means where required by the NEC, state and local codes or where required by the AHJ. All equipment shall conform to NEMA standards latest revision as applicable. Switches shall be heavy-duty class, quick-make, safety-type, externally operable, with by-passable interlock to prevent opening of cover on "ON" position. Switch shall have positive indication of "OFF" and "ON" position. Devices shall have visible blades unless molded-case breaker mechanism is used. Switches shall be so constructed as to preclude single phasing of switch blades due to mechanical failure. Switches shall be padlockable in the "OFF" position. Switches shall be of the proper horsepower, ampere and voltage rating with number of poles required to open all ungrounded conductors and with a solid neutral (S/N) bar where required. Provide auxiliary switch contacts in all disconnect switches to monitor the status of the disconnect switch.

Unless otherwise indicated, individually-mounted switches shall be in NEMA type 12 enclosures except in wet locations or where indicated as weatherproof, in which case NEMA type 4 stainless steel enclosures shall be provided.

100-2.10 Receptacles. Provide grounding-type receptacles as follows, all receptacles shall be Ground Fault Interrupter (GFI) and shall be furnished with internal, solid-state, ground fault current sensing and tripping. The receptacle shall include built-in "TEST" and "RESET" switches and "TRIPPED" indicator. It shall be rated 20-amp, 120 VAC.

CONSTRUCTION

100-4.01 Workmanship shall be neat and workmanlike in all respects, done by competent, skilled craftsmen. The Engineer shall have the right to order the removal of any workman who is deemed incompetent, careless or not performing in the best interest of the project. The contractor shall remove any such workman when directed by the Engineer and shall have all inferior work removed and replaced as directed by the Engineer.

Work shall be accomplished with a minimum of disturbance to the FAA functions at the field. Outages of any sort to FAA facilities shall be made only by prearrangement with the Engineer and at such times and durations as the Engineer authorizes.

MEASUREMENT AND PAYMENT

100-9.01 L-828 7.5KW Regulator will be paid for at the contract lump sum price stated in the proposal. Said price shall include the regulator and modifications required for the installation of the primary and secondary wiring connections, and full compensation for furnishing all materials, labor, equipment, tools, and incidentals for completing this item as specified or shown on the plans.

100-9.02 L-854 Radio Control Unit. The radio control unit will be paid for at the contract lump sum price stated in the proposal. Said price shall include the receiver, decoder antenna system, radio interface unit, and full compensation for furnishing all materials, labor, equipment, tools, and incidentals for completing this item as specified or shown on the plans.

100-9.02 Photocell and Control Enclosure. Payment for photocell and control enclosure shall be included under Electrical Room Modifications lump sum price.

100-9.03 Electrical Removal and Demolition. Payment will be made at the contract lump sum price for each type of electrical removal or demolition listed in the bid schedule. The price shall be full compensation for all testing, materials, equipment, labor, and disposal necessary to complete the work. The price includes ducts, pull boxes, junction boxes, base cans, concrete markers, cables, conduits, lights, signage, transformers, wiring, equipment and other items scheduled or required for demolition, relocation or reinstallation, storage at Owner storage, conductors in ducts as required and shown on drawings, and other miscellaneous abandoned items within the work area but not specifically designated elsewhere. The work associated with protection of existing electrical utilities in the affected areas shall also be covered under this bid item.

100-9.04 Electrical Room Modifications. Payment will be made at the contract lump sum price for modifications made to/inside the electrical room as shown on the plans and as necessary for the installation of the various equipment and materials in the electrical room. The price includes all materials, including but not limited to parts, making and sealing wall penetrations, wall repairs, painting, restoration of the interior to original condition, equipment, labor, and incidentals necessary to complete the work.

100-9.05 Load Centers and Circuit Breakers. Load center and circuit breakers will be paid for at the contract lump sum price stated in the proposal. Said price shall include the panel, circuit breakers, and full compensation for furnishing all materials, labor, equipment, tools, and incidentals for completing this item as specified or shown on the plans.

100-9.06 Safety Switches and Disconnecting Means. Payment for safety switches and disconnect means (if required) shall be included under Electrical Room Modifications lump sum price.

100-9.07 Receptacles and Misc. Items. Payment for receptacles and other misc. items shall be included under Electrical Room Modifications lump sum price.

100-9.08 Lighting Contactors. Payment for lighting contactors shall be included under Electrical Room Modifications lump sum price.

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ITEM L-108 UNDERGROUND POWER CABLE FOR AIRPORTS

DESCRIPTION

108-1.1 This item shall consist of furnishing and installing power cables that are direct buried and furnishing and/or installing power cables within conduit or duct banks per these specifications at the locations shown on the plans. It includes excavation and backfill of trench for direct-buried cables only. Also included are the installation of counterpoise wires, ground wires, ground rods and connections, cable splicing, cable marking, cable testing, and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the Engineer. This item shall not include the installation of duct banks or conduit, trenching and backfilling for duct banks or conduit, or furnishing or installation of cable for FAA owned/operated facilities. Requirements and payment for trenching and backfilling for the installation of underground conduit and duct banks is in Item L-110, Airport Underground Electrical Duct Banks and Conduits.

EQUIPMENT AND MATERIALS

108-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (AC) shall be approved under the Airport Lighting Equipment Certification Program per AC 150/5345-53, current version.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when requested by the Engineer.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the Engineer) and replaced with materials that comply with these specifications at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. The Contractor's submittals shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section. The Engineer reserves the right to reject any and all equipment, materials, or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner. The Contractor shall be responsible to maintain a minimum insulation resistance per AC 150/5340-26B, Maintenance Airport Visual aid Facilities, Table 5-1 and paragraph 5.1.3.1, with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period.

Only Third Party certified manufacturers, listed in AC 150/5345-53, Appendix 3 Addendum (as required) and meeting the BUY AMERICAN preference requirements can provide equipment and materials specified in the Contract Documents. Documentation certifying compliance with the BUY AMERICAN preference rules for Airport Improvement Program (AIP) cited in 49 USC §50101) shall be included with each equipment and material submittal.

108-2.2 Cable. Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits latest edition. Conductors for use on 6.6 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #8 American wire gauge AWG), L-824, Type C, 5,000 volts, nonshielded, with cross-linked polyethylene insulation. Conductors for use on 20 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #6 AWG, L-824 Type C, 5,000 volts, nonshielded, with cross-linked polyethylene insulation. L-824 conductors for use on the L-830 secondary of airfield lighting series circuits shall be sized in accordance with the manufacturer's recommendations. All other conductors shall comply with FAA and National Electric Code (NEC) requirements. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Federal Specification J-C-30 and shall be type THWN-2, 75°C. Conductors for parallel (voltage) circuits shall be sized and installed in accordance with NFPA-70, National Electrical Code.

Unless noted otherwise, all 600-volt and less non-airfield lighting conductor sizes are based on a 75°C, THWN-2, 600 volt insulation, copper conductors, not more than three single insulated conductors, in raceway, in free air. The conduit/duct sizes are based on the use of THWN-2, 600 volt insulated conductors. The Contractor shall make the necessary increase in conduit/duct sizes for other types of wire insulation. In no case shall the conduit/duct size be reduced. The minimum power circuit wire size shall be #12 AWG.

Conductor sizes may have been adjusted due to voltage drop or other engineering considerations. Equipment provided by the Contractor shall be capable of accepting the quantity and sizes of conductors shown in the Contract Documents. All conductors, pigtails, cable step-down adapters, cable step-up adapters, terminal blocks and splicing materials necessary to complete the cable termination/splice shall be considered incidental to the respective pay items provided.

Cable type, size, number of conductors, strand and service voltage shall be as specified in the Contract Document.

108-2.3 Bare copper wire (counterpoise, bare copper wire ground and ground rods). Wire for counterpoise or ground installations for airfield lighting systems shall be No. 6 AWG bare solid copper wire for counterpoise and/or No. 6 AWG insulated stranded for ground wire per ASTM B3 and ASTM B8, and shall be bare copper wire per ASTM B33. See AC 150/5340-30 for additional details about counterpoise and ground wire types and installation. For voltage powered circuits, the equipment ground conductor shall be minimum No. 6 AWG, 600V rated, Type XHHW insulated, green color, stranded copper equipment ground conductor.

Ground rods shall be copper or copper-clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case be less than 10 feet long and 3/4 inch in diameter.

108-2.4 Cable connections. In-line connections or splices of underground primary cables shall be of the type called for on the plans, and shall be one of the types listed below. No separate payment will be made for cable connections.

a. The cast splice. A cast splice, employing a plastic mold and using epoxy resin equivalent to that manufactured by 3M™ Company, “Scotchcast” Kit No. 82-B, or as manufactured by Hysol® Corporation, “Hyseal Epoxy Splice” Kit No. E1135, or an approved equivalent, used for potting the splice is acceptable.

b. The field-attached plug-in splice. Figure 3 of AC 150/5345-26, Specification for L-823 Plug and Receptacle, Cable Connectors, employing connector kits, is acceptable for field attachment to single conductor cable. It shall be the Contractor’s responsibility to determine the outside diameter of the cable to be spliced and to furnish appropriately sized connector kits and/or adapters and heat shrink tubing with integral sealant.

c. The factory-molded plug-in splice. Specification for L-823 Connectors, Factory-Molded to Individual Conductors, is acceptable.

d. The taped or heat-shrink splice. Taped splices employing field-applied rubber, or synthetic rubber tape covered with plastic tape is acceptable. The rubber tape should meet the requirements of ASTM D4388 and the plastic tape should comply with Military Specification MIL-I-24391 or Commercial Item Description A-A-55809. Heat shrinkable tubing shall be heavy-wall, self-sealing tubing rated for the voltage of the wire being spliced and suitable for direct-buried installations. The tubing shall be factory coated with a thermoplastic adhesive-sealant that will adhere to the insulation of the wire being spliced forming a moisture- and dirt-proof seal. Additionally, heat shrinkable tubing for multi-conductor cables, shielded cables, and armored cables shall be factory kits that are designed for the application. Heat shrinkable tubing and tubing kits shall be manufactured by Tyco Electronics/ Raychem Corporation, Energy Division, or approved equivalent.

In all the above cases, connections of cable conductors shall be made using crimp connectors using a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made per the manufacturer’s recommendations and listings.

All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except that a light base ground clamp connector shall be used for attachment to the light base. See AC 150/5340-30 for additional information about methods of attaching a ground to a galvanized light base. All exothermic connections shall be made per the manufacturer's recommendations and listings.

108-2.5 Splicer qualifications. Every airfield lighting cable splicer shall be qualified in making airport cable splices and terminations on cables rated at or above 5,000 volts AC. The Contractor shall submit to the Engineer proof of the qualifications of each proposed cable splicer for the airport cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

108-2.6 Concrete. Concrete for cable markers shall be per Specification Item P-610, Structural Portland Cement Concrete.

108-2.7 Flowable backfill. Not used.

108-2.8 Cable identification tags. Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

108-2.9 Tape. Electrical tapes shall be Scotch™ Electrical Tapes –Scotch™ 88 (1-1/2 inch (38 mm) wide) and Scotch™ 130C® linerless rubber splicing tape (2-inch (50 mm) wide), as manufactured by the Minnesota Mining and Manufacturing Company (3M™), or an approved equivalent.

108-2.10 Electrical coating. Electrical coating shall be Scotchkote™ as manufactured by 3M™, or an approved equivalent.

108-2.11 Existing circuits. Whenever the scope of work requires connection to an existing circuit, the circuit's insulation resistance shall be tested, in the presence of the Engineer. The test shall be performed per this item and prior to any activity that will affect the respective circuit. The Contractor shall record the results on forms acceptable to the Engineer. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the Engineer. The Contractor shall record the results on forms acceptable to the Engineer. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual.

108-2.12 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) Red (electrical power lines, cables, conduit and lighting cable) with continuous legend magnetic tape shall be polyethylene film with a metalized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

108-3.1 General. The Contractor shall install the specified cable at the approximate locations indicated on the plans. Unless otherwise shown on the plans, all cable required to cross under pavements expected to carry aircraft loads shall be installed in concrete encased duct banks. Wherever possible, cable shall be run without splices, from connection to connection.

Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual isolation transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections unless otherwise authorized in writing by the Engineer or shown on the plans.

In addition to connectors being installed at individual isolation transformers, L-823 cable connectors for maintenance and test points shall be installed at locations shown on the plans. Cable circuit identification markers shall be installed on both sides of the L-823 connectors installed or at least once in each access point where L-823 connectors are not installed.

Provide not less than 3 feet (1 m) of cable slack on each side of all connections, isolation transformers, light units, and at points where cable is connected to field equipment. Where provisions must be made for testing or for future above grade connections, provide enough slack to allow the cable to be extended at least one foot (30 cm) vertically above the top of the access structure. This requirement also applies where primary cable passes through empty light bases, junction boxes, and access structures to allow for future connections, or as designated by the Engineer.

Primary airfield lighting cables installed shall have cable circuit identification markers attached on both sides of each L-823 connector and on each airport lighting cable entering or leaving cable access points, such as manholes, hand holes, pull boxes, junction boxes, etc. Markers shall be of sufficient length for imprinting the cable circuit identification legend on one line, using letters not less than 1/4 inch (6 mm) in size. The cable circuit identification shall match the circuits noted on the construction plans.

108-3.2 Installation in duct banks or conduits. This item includes the installation of the cable in duct banks or conduit per the following paragraphs. The maximum number and voltage ratings of cables installed in each single duct or conduit, and the current-carrying capacity of each cable shall be per the latest version of the National Electric Code, or the code of the local agency or authority having jurisdiction.

The Contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks.

Unless otherwise designated in the plans, where ducts are in tiers, use the lowest ducts to receive the cable first, with spare ducts left in the upper levels. Check duct routes prior to construction to obtain assurance that the shortest routes are selected and that any potential interference is avoided.

Duct banks or conduits shall be installed as a separate item per Item L-110, Airport Underground Electrical Duct Banks and Conduit. The Contractor shall run a mandrel through duct banks or conduit prior to installation of cable to ensure that the duct bank or conduit is open, continuous and clear of debris. The mandrel size shall be compatible with the conduit size. The Contractor shall swab out all conduits/ducts and clean light bases, manholes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed, the light bases and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, light bases, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems

left open, after initial cleaning, for any reason shall be re-cleaned at the Contractor's expense. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the Engineer of any blockage in the existing ducts.

The cable shall be installed in a manner that prevents harmful stretching of the conductor, damage to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moisture-seal tape providing moisture-tight mechanical protection with minimum bulk, or alternately, heat shrinkable tubing before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a conduit, all cable shall be pulled in the conduit at the same time. The pulling of a cable through duct banks or conduits may be accomplished by hand winch or power winch with the use of cable grips or pulling eyes. Maximum pulling tensions shall not exceed the cable manufacturer's recommendations. A non-hardening cable-pulling lubricant recommended for the type of cable being installed shall be used where required.

The Contractor shall submit the recommended pulling tension values to the Engineer prior to any cable installation. If required by the Engineer, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the Engineer. Cable pull tensions shall be recorded by the Contractor and reviewed by the Engineer. Cables exceeding the maximum allowable pulling tension values shall be removed and replaced by the Contractor at the Contractor's expense.

The manufacturer's minimum bend radius or NEC requirements (whichever is more restrictive) shall apply. Cable installation, handling and storage shall be per manufacturer's recommendations. During cold weather, particular attention shall be paid to the manufacturer's minimum installation temperature. Cable shall not be installed when the temperature is at or below the manufacturer's minimum installation temperature. At the Contractor's option, the Contractor may submit a plan, for review by the Engineer, for heated storage of the cable and maintenance of an acceptable cable temperature during installation when temperatures are below the manufacturer's minimum cable installation temperature.

Cable shall not be dragged across base can or manhole edges, pavement or earth. When cable must be coiled, lay cable out on a canvas tarp or use other appropriate means to prevent abrasion to the cable jacket.

108-3.3 Installation of direct-buried cable in trenches. Not used.

108-3.4 Cable markers for direct-buried cable. Not used.

108-3.5 Splicing. Connections of the type shown on the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

a. Cast splices. These shall be made by using crimp connectors for jointing conductors. Molds shall be assembled, and the compound shall be mixed and poured per the manufacturer's instructions and to the satisfaction of the Engineer.

b. Field-attached plug-in splices. These shall be assembled per the manufacturer's instructions. These splices shall be made by plugging directly into mating connectors. In all cases the joint where the connectors come together shall be wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint.

c. Factory-molded plug-in splices. These shall be made by plugging directly into mating connectors. In all cases, the joint where the connectors come together shall be wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint.

d. Taped or heat-shrink splices. A taped splice shall be made in the following manner:

Bring the cables to their final position and cut so that the conductors will butt. Remove insulation and jacket allowing for bare conductor of proper length to fit compression sleeve connector with 1/4 inch (6 mm) of bare conductor on each side of the connector. Prior to splicing, the two ends of the cable insulation shall be penciled using a tool designed specifically for this purpose and for cable size and type. Do not use emery paper on splicing operation since it contains metallic particles. The copper conductors shall be thoroughly cleaned. Join the conductors by inserting them equidistant into the compression connection sleeve. Crimp conductors firmly in place with crimping tool that requires a complete crimp before tool can be removed. Test the crimped connection by pulling on the cable. Scrape the insulation to assure that the entire surface over which the tape will be applied (plus 3 inches (75 mm) on each end) is clean. After scraping wipe the entire area with a clean lint-free cloth. Do not use solvents.

Apply high-voltage rubber tape one-half lapped over bare conductor. This tape should be tensioned as recommended by the manufacturer. Voids in the connector area may be eliminated by highly elongating the tape, stretching it just short of its breaking point. Throughout the rest of the splice less tension should be used. Always attempt to exactly half-lap to produce a uniform buildup. Continue buildup to 1-1/2 times cable diameter over the body of the splice with ends tapered a distance of approximately one inch (25 mm) over the original jacket. Cover rubber tape with two layers of vinyl pressure-sensitive tape one-half lapped. Do not use glyptol or lacquer over vinyl tape as they react as solvents to the tape. No further cable covering or splice boxes are required.

Heat shrinkable tubing shall be installed following manufacturer's instructions. Direct flame heating shall not be permitted unless recommended by the manufacturer. Cable surfaces within the limits of the heat-shrink application shall be clean and free of contaminants prior to application.

Surfaces of equipment or conductors being terminated or connected shall be prepared in accordance with industry standard practice and manufacturer's recommendations. All surfaces to be connected shall be thoroughly cleaned to remove all dirt, grease, oxides, nonconductive films, or other foreign material. Paints and other nonconductive coatings shall be removed to expose base metal. Clean all surfaces at least 1/4 inch (6.4 mm) beyond all sides of the larger bonded area on all mating surfaces. Use a joint compound suitable for the materials used in the connection. Repair painted/coated surface to original condition after completing the connection.

108-3.6 Bare counterpoise wire installation for lightning protection and grounding. If shown on the plans or included in the job specifications, bare solid #6 AWG copper counterpoise wire shall be installed for lightning protection of the underground cables. The Engineer shall select one of two methods of lightning protection for the airfield lighting circuit based on the frequency of local lightning:

a. Equipotential. Not used.

b. Isolation – used in areas where lightning strikes are not common. The counterpoise is not bonded to edge light fixtures, in-pavement fixtures are bonded to the counterpoise. Counterpoise size is selected by the Engineer.

Counterpoise wire shall be installed in the same trench for the entire length of buried cable, conduits and duct banks that are installed to contain airfield cables.

For edge light fixtures installed in turf (stabilized soils) and for raceways or cables adjacent to the full-strength pavement edge, the counterpoise conductor shall be installed halfway between the pavement edge and the light base, mounting stake, raceway, or cable.

The counterpoise conductor shall be installed 8 inches (203 mm) minimum below grade.

Each light base or mounting stake shall be provided with a grounding electrode.

When a metallic light base is used, the grounding electrode shall be bonded to the metallic light base or mounting stake with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

When a nonmetallic light base is used, the grounding electrode shall be bonded to the metallic light fixture or metallic base plate with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

For raceways installed under pavement; for raceways and cables not installed adjacent to the full strength pavement edge; for fixtures installed in full strength pavement and shoulder pavement and for optional method of edge lights installed in turf (stabilized soils); and for raceways or cables adjacent to the full strength pavement edge, the counterpoise conductor shall be centered over the raceway or cable to be protected as described below.

The counterpoise conductor shall be installed no less than 8 inches (203 mm) above the raceway or cable to be protected, except as permitted below.

The minimum counterpoise conductor height above the raceway or cable to be protected shall be permitted to be adjusted subject to coordination with the airfield lighting and pavement designs.

Where raceway is installed by the directional bore, jack and bore, or other drilling method, the counterpoise conductor shall be permitted to be installed concurrently with the directional bore, jack and bore, or other drilling method raceway, external to the raceway or sleeve.

The counterpoise conductor shall be installed no more than 12 inches (305 mm) above the raceway or cable to be protected.

The counterpoise conductor height above the protected raceway(s) or cable(s) shall be calculated to ensure that the raceway or cable is within a 45-degree area of protection.

The counterpoise conductor shall be bonded to each metallic light base, mounting stake, and metallic airfield lighting component.

All metallic airfield lighting components in the field circuit on the output side of the constant current regulator (CCR) or other power source shall be bonded to the airfield lighting counterpoise system.

The counterpoise wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500 feet (150 m) apart around the entire circuit. The counterpoise system shall be continuous and terminate at the transformer vault or at the power source. It shall be securely attached to the vault or equipment external ground ring or other made electrode-grounding system. The connections shall be made as shown on the plans and in the specifications.

If shown on the plans or in the specifications, a separate equipment (safety) ground system shall be provided in addition to the counterpoise wire using one of the following methods:

c. A ground rod installed at and securely attached to each light fixture base, mounting stake, and to all metal surfaces at junction/access structures via #6 AWG wire.

d. For parallel voltage systems only, install a #6 AWG green insulated equipment ground conductor internal to the conduit system and securely attached it to each light fixture base internal grounding lug and to all metal surfaces at junction/access structures. Dedicated ground rods shall be installed and exothermically welded to the counterpoise wires at each end of a duct bank crossing under pavement.

Where an existing airfield lighting system is being extended or modified, the new counterpoise conductors shall be interconnected to existing counterpoise conductors at each intersection of the new and existing airfield lighting counterpoise systems.

108-3.7 Counterpoise installation above multiple conduits and duct banks. Counterpoise wires shall be installed above multiple conduits/duct banks for airfield lighting cables, with the intent being to provide a complete area of protection over the airfield lighting cables. When multiple conduits and/or duct banks for airfield cable are installed in the same trench, the number and location of counterpoise wires above the conduits shall be adequate to provide a complete cone of protection measured 22-1/2 degrees each side of vertical.

Where duct banks pass under pavement to be constructed in the project, the counterpoise shall be placed above the duct bank. Reference details on the construction plans.

108-3.8 Counterpoise installation at existing duct banks. When airfield lighting cables are indicated on the plans to be routed through existing duct banks, the new counterpoise wiring shall be terminated at ground rods at each end of the existing duct bank where the cables being protected enter and exit the duct bank. The new counterpoise conductor shall be bonded to the existing counterpoise system.

108-3.9 Exothermic bonding. Bonding of counterpoise wire shall be by the exothermic welding process. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the Engineer, the welding kits, materials and procedures to be used for welded connections prior to any installations in the field. The installations shall comply with the manufacturer's recommendations and the following:

a. All slag shall be removed from welds.

b. Using an exothermic weld to bond the counterpoise to a lug on a galvanized light base is not recommended unless the base has been specially modified. Consult the manufacturer's installation directions for proper methods of bonding copper wire to the light base. See also AC 150/5340-30 for galvanized light base exception.

c. If called for in the plans, all buried copper and weld material at weld connections shall be thoroughly coated with 6 mm of 3M™ Scotchkote™, or approved equivalent, or coated with coal tar Bitumastic® material to prevent surface exposure to corrosive soil or moisture.

108-3.10 Testing. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The

Contractor shall perform all tests in the presence of the Engineer. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the Engineer. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase. The Contractor must maintain the test results throughout the entire project as well as during the warranty period that meet the following:

a. Earth resistance testing methods shall be submitted to the Engineer for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the Engineer. All such testing shall be at the sole expense of the Contractor.

b. Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The Engineer shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

After installation, the Contractor shall test and demonstrate to the satisfaction of the Engineer the following:

c. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

d. That all affected circuits (existing and new) are free from unspecified grounds.

e. That the insulation resistance to ground of all new non-grounded high voltage series circuits or cable segments is not less than **100** megohms.

f. That the insulation resistance to ground of all new non-grounded conductors of new multiple circuits or circuit segments is not less than 100 megohms.

g. That all affected circuits (existing and new) are properly connected per applicable wiring diagrams.

h. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

i. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be used, as described by American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81, to verify this requirement. As an alternate, clamp-on style ground impedance test meters may be used to satisfy the impedance testing requirement. Test equipment and its calibration sheets shall be submitted for review and approval by the Engineer prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the Engineer. Where connecting new cable to existing cable, ground resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved “repair” procedures for items that have failed testing other than complete replacement.

METHOD OF MEASUREMENT

108-4.1 Trenching shall be considered incidental to applicable bid items and no separate measurement will be made.

108-4.2 Cable, ground, and counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet (meters) of cable or counterpoise wire installed in trenches, duct bank or conduit, including ground rods and grounding connectors, and trench marking tape ready for operation, and accepted as satisfactory. Separate measurement shall be made for each cable or counterpoise wire installed in trench, duct bank or conduit. The measurement for this item shall not include additional quantities required for slack.

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for cable, ground, and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals, including trench excavation & backfill, top soiling and seeding, ground rods and ground connectors and trench marking tape, necessary to complete this item.

MATERIAL REQUIREMENTS

AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-53	Airport Lighting Equipment Certification Program
Commercial Item Description A-A-59544	Cable and Wire, Electrical (Power, Fixed Installation)
Commercial Item Description A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic
ASTM B3	Standard Specification for Soft or Annealed Copper Wire
ASTM B8	Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B33	Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes
ASTM D4388	Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes
FED SPEC J-C-30	Cable and Wire, Electrical (Power, Fixed Installation)
MIL-I-24391	Insulation Tape, Electrical, Plastic, Pressure Sensitive

REFERENCE DOCUMENTS

NFPA-70	National Electrical Code (NEC)
NFPA-780	Standard for the Installation of Lightning Protection Systems
MIL-S-23586F	Performance Specification: Sealing Compound (with Accelerator), Silicone Rubber, Electrical
ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

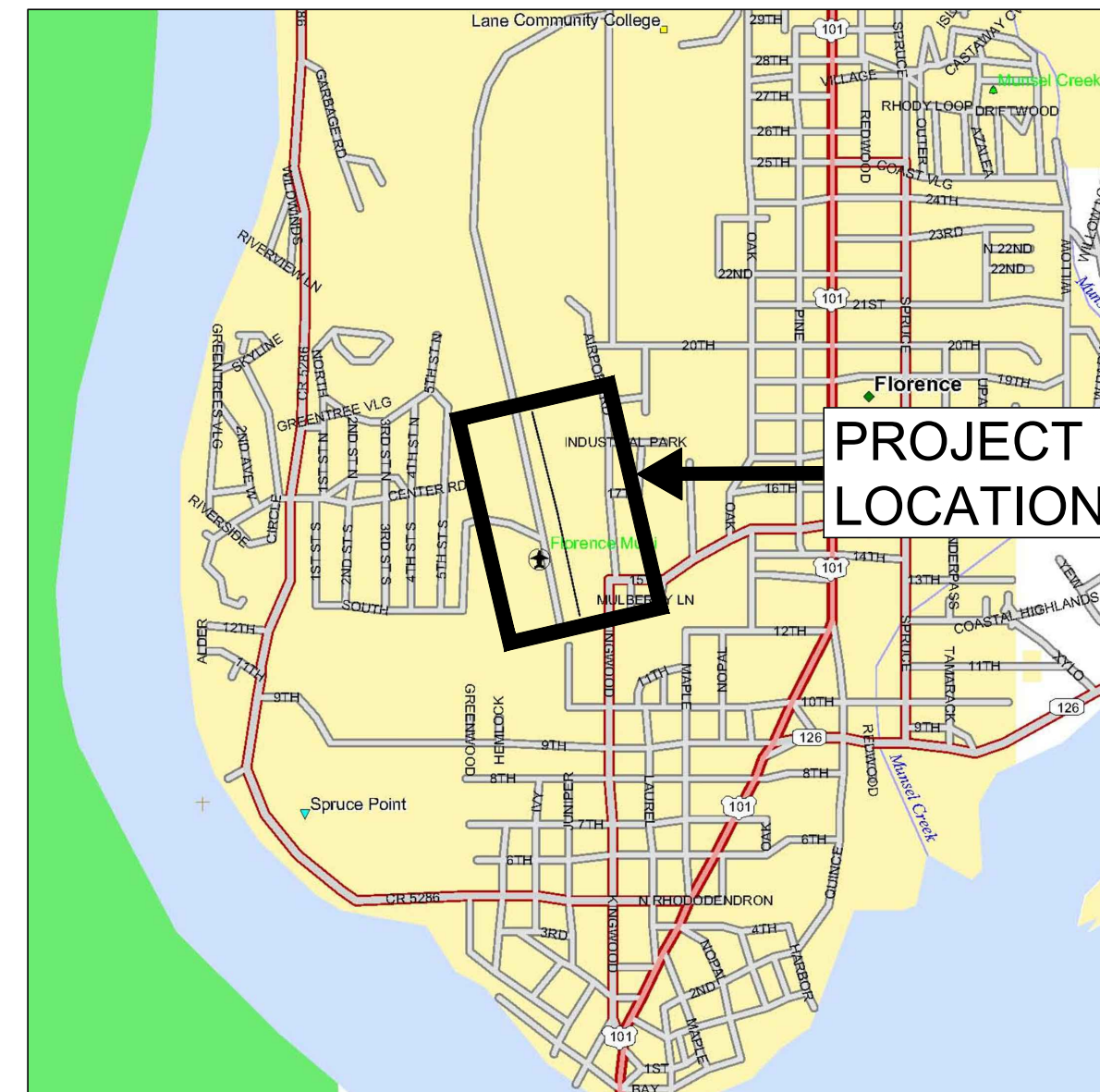
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SECTION V

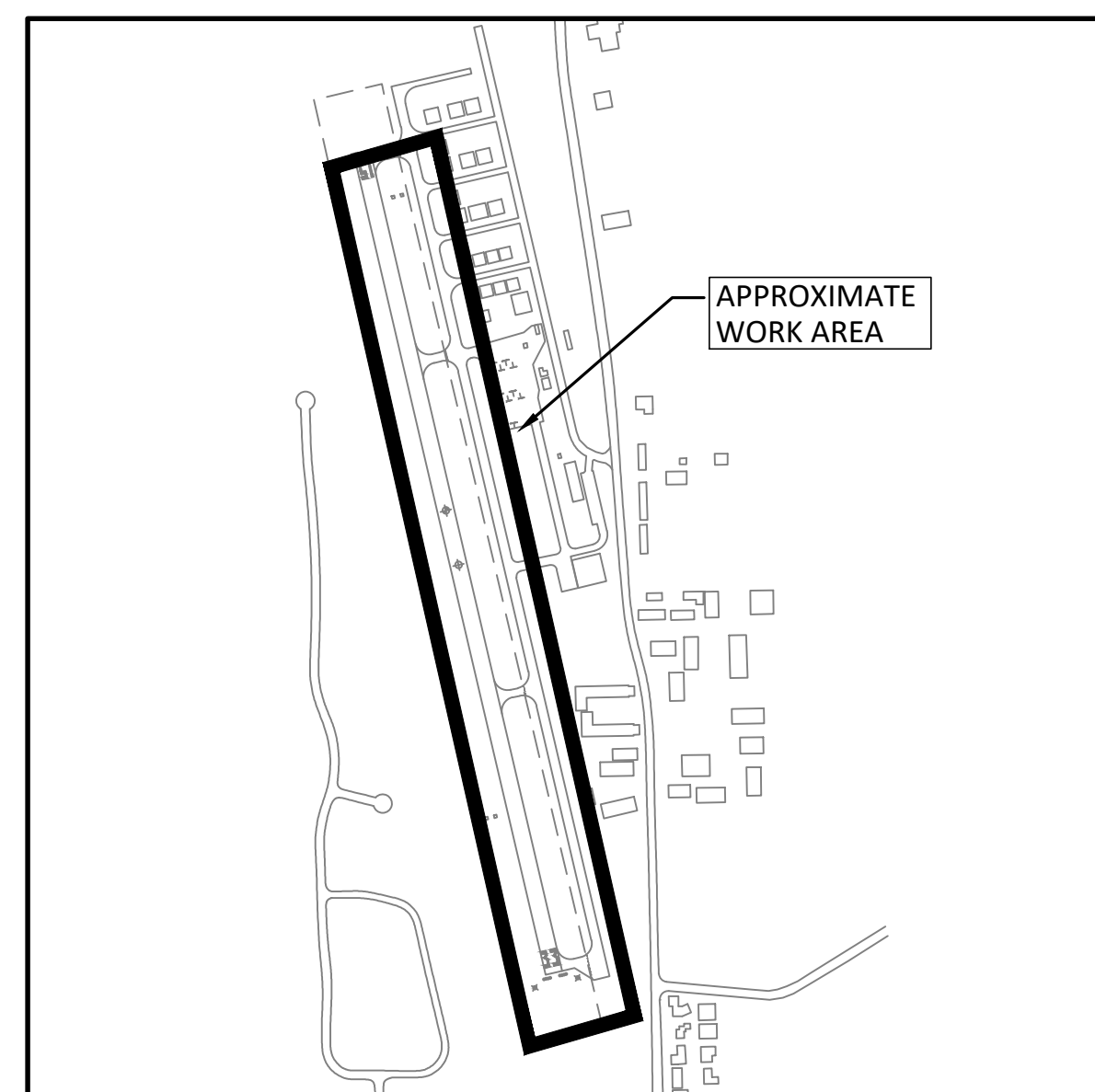
Drawings

CITY OF FLORENCE FLORENCE MUNICIPAL AIRPORT SEAL COAT AND LIGHTING IMPROVEMENTS

A.I.P. NO. 3-41-0019-013-2018
JUNE 2018



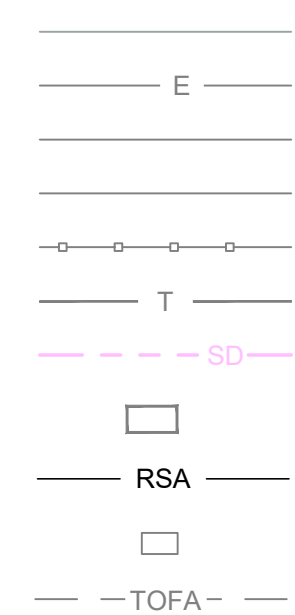
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SITE MAP
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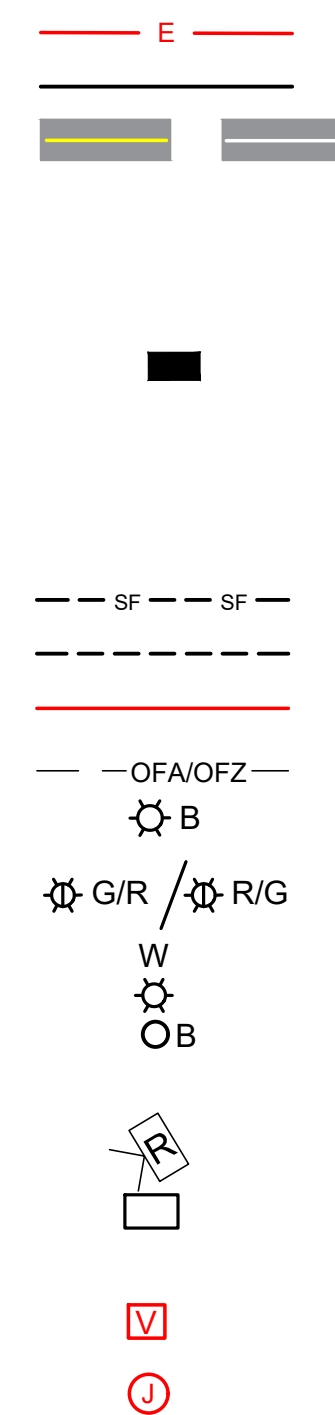
LEGEND

EXISTING



CONTOURS
UNDERGROUND ELECTRIC
PAVEMENT
AIRFIELD STRIPING
CHAINLINK FENCE
TELEPHONE
STORM LINE
SIGN
RUNWAY SAFETY AREA
STORM CATCH BASIN
TAXIWAY OBJECT FREE AREA
SEDIMENT FENCE
SAWCUT
DUCT CROSSING
OBJECT FREE AREA/OBSTACLE FREE ZONE
TAXIWAY EDGE LIGHT
RUNWAY THRESHOLD LIGHT
RUNWAY EDGE LIGHT
REFLECTOR
PROPERTY BOUNDARY
REIL
PAPI UNIT
OBSTACLE FREE ZONE
VAULT
JUNCTION BASE CAN

PROPOSED



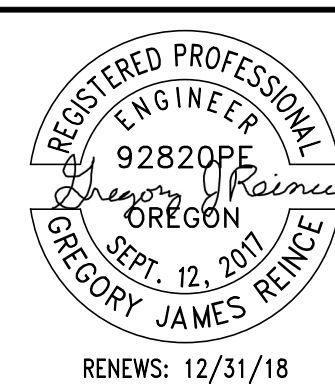
THIS PLAN SHEET IS INTENDED TO BE VIEWED IN COLOR. THE FOLLOWING COLORS SHOULD BE DISTINGUISHABLE WHEN PRINTED CORRECTLY:

RED ■ BLUE ■

SHEET INDEX

SHEET NUMBER	DRAWING NUMBER	SHEET CONTENT
1	G-1	COVER SHEET
2	G-2	SITE & SURVEY CONTROL PLAN
3	G-3	SITE PHASING AND SAFETY PLAN
4	G-4	SITE PHASING AND SAFETY PLAN NOTES & DETAILS
5	G-5	GRADING AND EROSION CONTROL PLAN
6	G-6	EROSION CONTROL DETAILS
7	C-1	DEMOLITION PLAN RUNWAY 15 END
8	C-2	DEMOLITION PLAN RUNWAY 33 END
9	C-3	DEMOLITION PLAN RUNWAY 33 PAPI CONNECTION
10	C-4	CRACK REPAIR PLAN
11	C-5	SLURRY SEAL PLAN
12	C-6	PAVEMENT MARKING PLAN RUNWAY 15 END
13	C-7	PAVEMENT MARKING PLAN RUNWAY 33 END
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16	E-2	LIGHTING AND SIGNAGE PLAN RUNWAY 15 END
17	E-3	LIGHTING AND SIGNAGE PLAN RUNWAY 33 END
18	E-4	LIGHTING PLAN HOME RUN
19	E-5	REFLECTOR LAYOUT PLAN
20	E-6	RUNWAY 15 PAPI LAYOUT AND AIMING
21	E-7	RUNWAY 33 PAPI LAYOUT AND AIMING
22	E-8	REIL PLAN RUNWAY 15 AND RUNWAY 33
23	E-9	REGULATOR ROOM, ONE-LINE DIAGRAM, AND SCHEDULES
24	E-10	RUNWAY LOOP DIAGRAM AND DETAILS
25	E-11	ELECTRICAL DETAILS I
26	E-12	ELECTRICAL DETAILS II
27	E-13	PAPI & REIL DETAILS
28	E-14	GUIDANCE SIGN SCHEDULE AND DETAILS

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BEND OFFICE
1020 SW EMKAY DRIVE, #100
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541.382.2423 FAX

DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

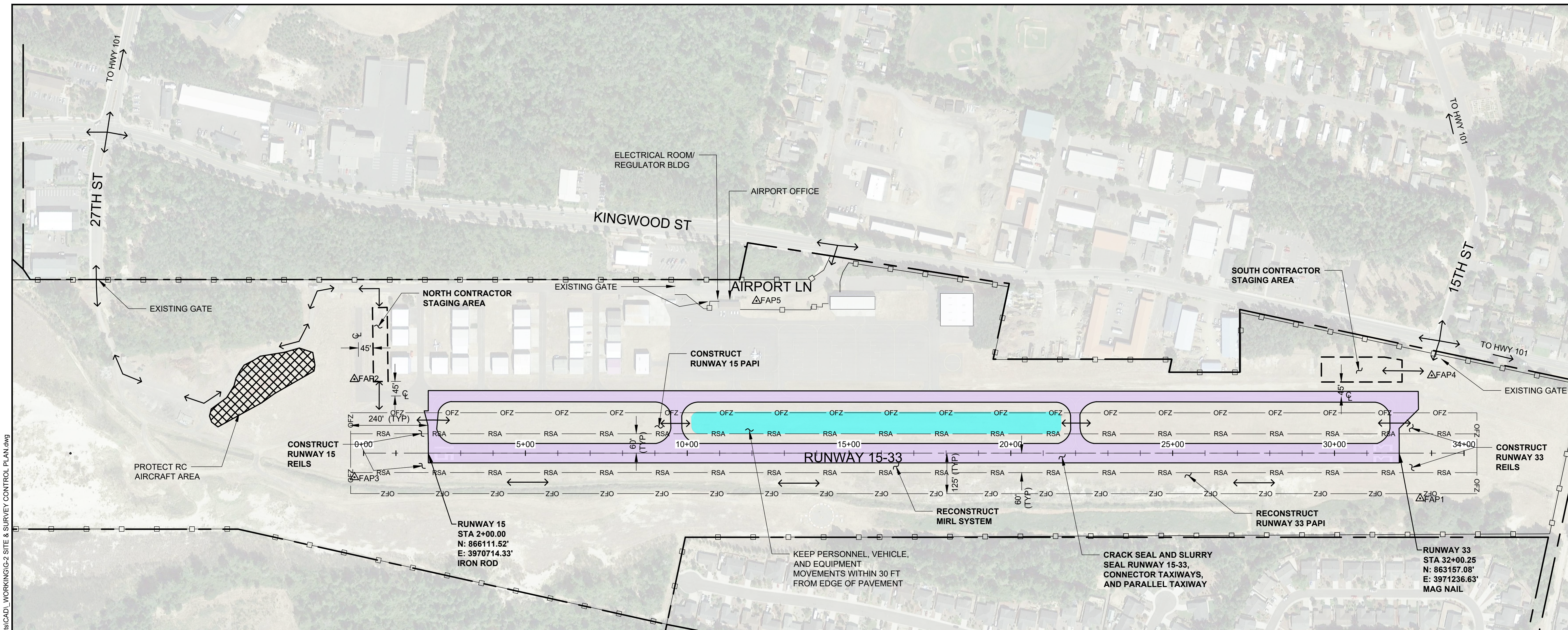
COVER SHEET

DRAWING NO. **G-1**
SHEET NO. **1 OF 28**

RENEWS: 12/31/18

DATE: JUNE 2018

PROJECT NO: 41301.014.01



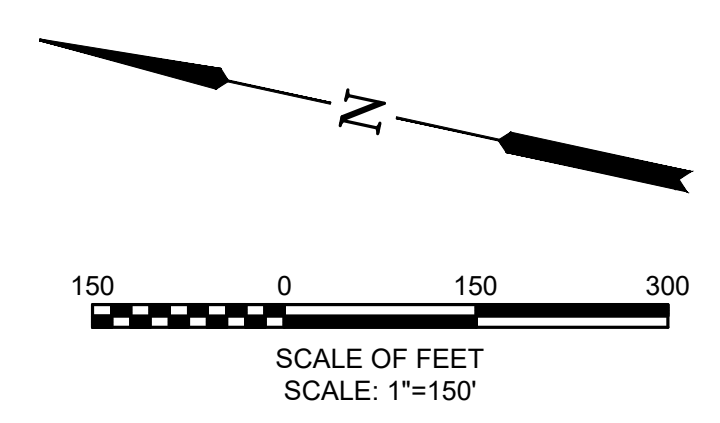
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LEGEND

- EXISTING FENCE
- CONTRACTOR ACCESS/HAUL ROUTE
- CRACK SEAL & SLURRY SEAL LIMITS
- OBSTACLE FREE ZONE
- RUNWAY SAFETY AREA
- SURVEY CONTROL POINT
- PROPERTY LINE
- PROTECT
- LIMITED ACCESS

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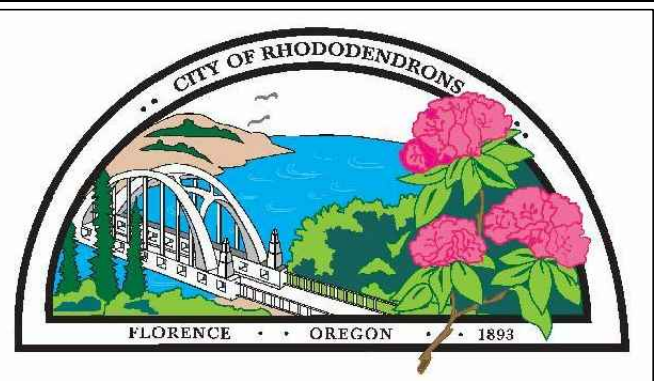
PLAN
SCALE: 1"=150'

1
G-2

SURVEY CONTROL				
CONTROL POINT #	NORTHING	EASTING	ELEVATION	REMARKS
FAP1	863069.54'	3971110.06'	39.58'	RPC
FAP2	866376.24'	3970899.77'	52.47'	RPC
FAP3	866323.31'	3970601.25'	52.80'	RPC
FAP4	863100.39'	3971490.69'	41.76'	RPC
FAP5	865195.08'	3971354.25'	47.70'	2018 ELEV.

GENERAL NOTES:

1. CONTRACTOR'S ACCESS ROAD, HAUL ROADS, AND STAGING AREA SHALL BE MAINTAINED AT CONTRACTOR'S EXPENSE. ALL DISTURBED AREAS OUTSIDE CONTRACT GRADING LIMITS SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER. IMPACTS TO THE AIRPORT'S GRASS SURFACES CAUSED BY CONSTRUCTION EQUIPMENT OR ACTIVITIES SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER PRIOR TO PROJECT ACCEPTANCE.
2. PROVIDE FOR AND MAINTAIN PUBLIC PARKING AND ACCESS TO EXISTING AIRPORT HANGARS AND BUILDINGS AT ALL TIMES.
3. THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN THROUGHOUT THIS SET OF DRAWINGS ARE SHOWN IN AN APPROXIMATE WAY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THEIR REPRESENTATIVE.
4. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. DAMAGES SHALL BE REPAIRED BY THE AFFECTED UTILITY AT THE CONTRACTOR'S EXPENSE.
5. ALL PAVEMENT SURFACES SHALL BE PROTECTED FROM DAMAGE DUE TO CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL RESTORE DAMAGED PAVEMENT TO ORIGINAL OR BETTER CONDITION AT NO COST TO THE OWNER.
6. CONTRACTOR SHALL CONTROL DUST AND SMOKE RELATED TO CONSTRUCTION ACTIVITIES AT ALL TIMES.
7. SAWCUTTING AC PAVEMENT IS INCIDENTAL TO APPLICABLE WORK AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE.



VERIFY SCALES
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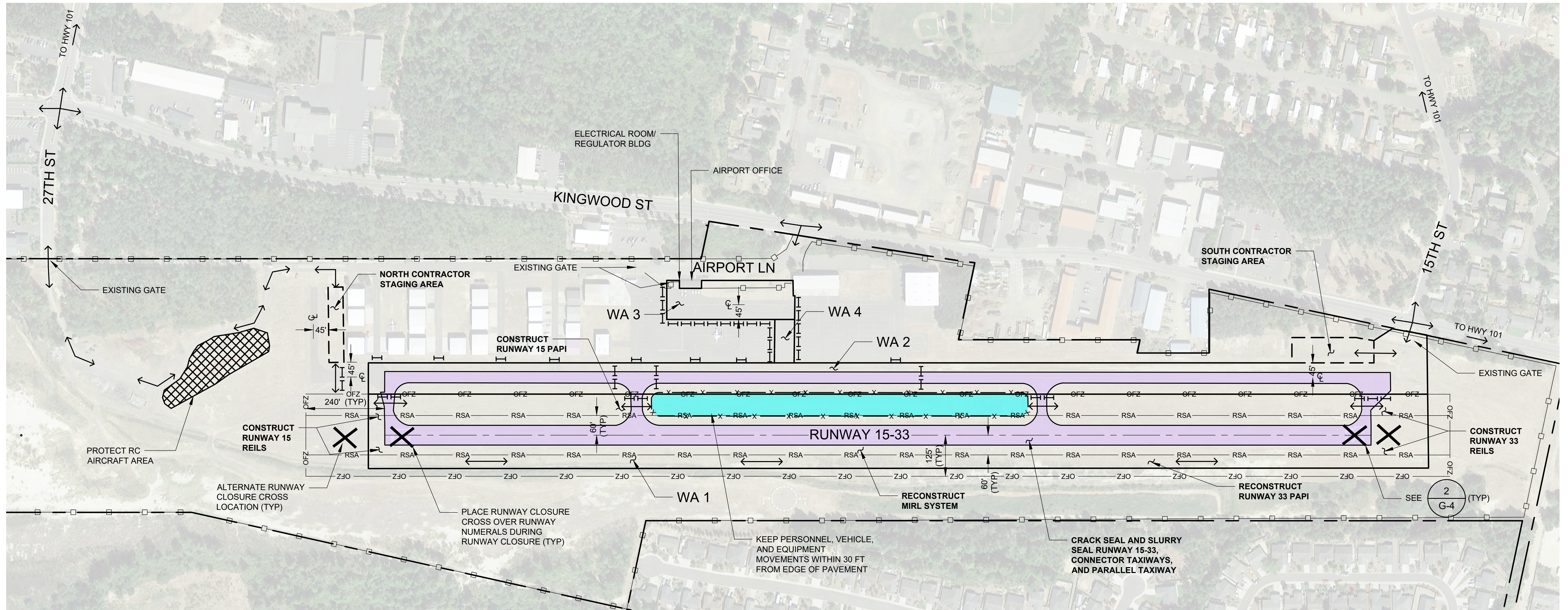
DATE: JUNE 2018 PROJECT NO: 41301.014.01

DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

**CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS**

SITE & SURVEY CONTROL PLAN

DRAWING NO. **G-2**
SHEET NO. **2 OF 28**



LEGEND

- EXISTING FENCE
- WORK AREA LIMITS
- CONTRACTOR ACCESS/HAUL ROUTE
- CRACK SEAL & SLURRY SEAL LIMITS
- OBSTACLE FREE ZONE
- RUNWAY SAFETY AREA
- WORK AREA
- PROPERTY LINE
- PROTECT
- LIMITED ACCESS

- TUBULAR MARKER
- LOW LEVEL BARRICADE, SEE DETAIL
-

PLAN

SCALE: 1"=150'

1
G-3

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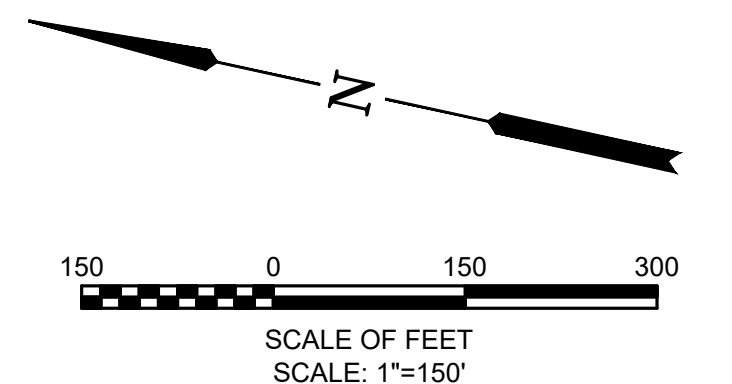
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WORK AREA DESCRIPTIONS:

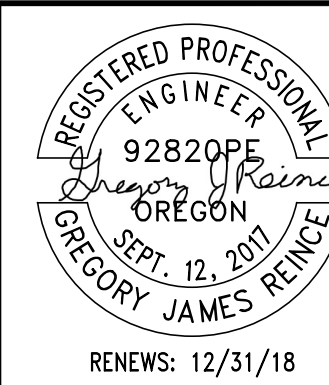
- WA 1 - RUNWAY 15-33 OFZ
- WA 2 - PARALLEL TAXIWAY A
- WA 3 - HOMERUN CONNECTION
- WA 4 - APRON CROSSING

NOTES:

1. FOR WORK AREA/PHASING NOTES SEE SHEET G-4.
2. FOR WORK AREA SEQUENCING SEE SHEET G-4.
3. PLACE LOW LEVEL BARRICADES AND TUBULAR MARKERS WHERE SHOWN OR AS DIRECTED BY THE ENGINEER.

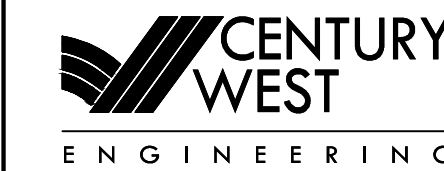


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 CHECKED BY: JNR
 SCALE: AS NOTED

DATE: JUNE 2018 PROJECT NO: 41301.014.01

CITY OF FLORENCE
 FLORENCE MUNICIPAL AIRPORT
 SEAL COAT AND LIGHTING IMPROVEMENTS

SITE PHASING AND SAFETY PLAN

DRAWING NO. G-3
 SHEET NO. 3 of 28

GENERAL WORK AREA NOTES:

1. THE CONTRACTOR SHALL BE RESTRICTED TO USE THE ENTRANCE AND HAULING ROUTES SHOWN ON THE DRAWINGS. FOLLOW AIRPORT AND FAA SAFETY PROCEDURES WHEN MOVING EQUIPMENT OR PERSONNEL. NO PERSONAL VEHICLES SHALL BE ALLOWED OUTSIDE OF THE STAGING AREA. THE AIRPORT MAY IMMEDIATELY REMOVE ANY PERSONNEL AND EQUIPMENT FROM THE SITE IN VIOLATION OF AIRPORT SAFETY AND SECURITY PROCEDURES.
2. AVOID IMPACTS TO AIRFIELD LIGHTING AND PAVEMENTS OUTSIDE WORK AREA. PROVIDE TEMPORARY CONNECTIONS TO KEEP ELECTRICAL SYSTEMS ENERGIZED OUTSIDE OF THE WORK AREA AT NO COST TO AIRPORT.
3. DISENGAGE LIGHTING CIRCUITS, DARKEN LIGHT FIXTURES, & COVER GUIDANCE SIGNS AS DIRECTED BY THE AIRPORT TO PREVENT AIRCRAFT FROM TAXIING TOWARDS CLOSED WORK AREAS.
4. LIMIT EQUIPMENT HEIGHT TO 12 FEET UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. LIMIT STOCK PILES TO 12 FEET IN HEIGHT AND AT LEAST 220 FEET FROM RUNWAY CENTERLINE AND 45 FEET FROM TAXIWAY CENTERLINE.
6. IN THE EVENT OF AN EMERGENCY, MOVE ALL EQUIPMENT AND PERSONNEL TO THE CONTRACTOR'S STAGING AREA UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
7. ACCESS TO ANY WORK AREA MUST BE AUTHORIZED BY THE ENGINEER PRIOR TO WORK IN THAT AREA. NOTIFY THE ENGINEER A MINIMUM OF 72 HOURS PRIOR TO BEGINNING WORK IN ANY AREA.
8. PLACE CLOSURE CROSSES (X's) OVER RUNWAY NUMERALS DURING RUNWAY CLOSURES AS DIRECTED BY THE ENGINEER. SEE SECTION 01300 OF THE TECHNICAL SPECIFICATIONS.
9. ANY WORK WITHIN 125 FEET OF THE RUNWAY 15-33 CENTERLINE OR WITHIN 240 FEET OF RUNWAY END WILL REQUIRE A RUNWAY CLOSURE.
10. PLACE LOW LEVEL BARRICADES, BARRICADES, AND TUBULAR MARKERS AS SHOWN AND DESCRIBED IN SECTION 01300 OF THE SPECIFICATIONS.
11. RUNWAY CLOSURES AND NAVAID WORK WILL REQUIRE THE SHUTDOWN OF AIRPORT NAVAIDS AND FAA OWNED FACILITIES. THE CONTRACTOR IS REQUIRED TO NOTIFY THE ENGINEER OF ANY CLOSURE 45 CALENDAR DAYS IN ADVANCE OF THE CLOSURE.
12. WHILE WORKING IN ANY AREA, THE CONTRACTOR SHALL HAVE AN AIRPORT RADIO CAPABLE OF MONITORING THE AIRPORT UNICOM FREQUENCY (122.80).
13. FOR ADDITIONAL REQUIREMENTS, REFER TO SECTION 01330, AIRPORT SAFETY, IN THE TECHNICAL SPECIFICATIONS.

WORK IN SAFETY AREAS AND OBJECT FREE AREAS:

1. NO WORK IS ALLOWED IN ACTIVE RUNWAY AND TAXIWAY SAFETY AREAS. RUNWAY SAFETY AREA (RSA) AND TAXIWAY SAFETY AREA (TSA) ARE DEFINED AS AREAS THAT SHALL BE CLEARED AND GRADED AND HAVE NO RUTS, HUMPS, OPEN TRENCHES, DEPRESSIONS, OR OTHER SURFACE VARIATIONS. THE MAXIMUM SLOPE ANYWHERE WITHIN A RUNWAY OR TAXIWAY SAFETY AREA SHALL BE 3%. IN TRANSITIONS FROM PAVED TO UNPAVED AREAS, A 1.5 INCH VERTICAL DROP IS ALLOWED. THE RUNWAY AND TAXIWAY SAFETY AREAS SHALL BE MAINTAINED AT ALL TIMES WHEN THE RUNWAY AND TAXIWAY IS OPEN TO AIR TRAFFIC. PERSONNEL, EQUIPMENT, OR MATERIAL WITHIN A RUNWAY SAFETY AREA AT ANY TIME REQUIRES A CLOSURE. SAFETY AREAS THAT ARE CLOSED FOR CONSTRUCTION MUST MEET THESE CRITERIA PRIOR TO REOPENING.
2. THE CONTRACTOR SHALL ANTICIPATE THE CONSTRUCTION OF TEMPORARY FILLS, COMPACTION, TRENCH BACKFILLING, AND GRADING TO MEET THE REQUIREMENTS OF "WORK IN SAFETY AREAS AND OBJECT FREE AREAS", PRIOR TO REOPENING RUNWAYS AND TAXIWAYS. THIS WORK IS CONSIDERED INCIDENTAL TO VARIOUS WORK ITEMS AND SEPARATE PAYMENT WILL NOT BE MADE.
3. CONTRACTOR SHALL NOT ENTER ANY ACTIVE RSA OR TSA WITHOUT AUTHORIZATION FROM THE AIRPORT. ALL EQUIPMENT, TOOLS, AND MATERIALS SHALL BE MOVED TO STAGING AREAS PRIOR TO REOPENING A RUNWAY OR TAXIWAY.
4. SAFETY AREA LIMITS
TAXIWAY - 24.5' FROM
RUNWAY 15-33 - 60' FROM CL 240' FROM THRESHOLD
5. RUNWAY AND TAXIWAY OBJECT FREE ZONES ARE DEFINED AS AREAS THAT SHALL BE CLEAR OF FIXED OR MOVABLE OBJECTS. EQUIPMENT NOT IN USE, AND MATERIAL STOCKPILES AND STORAGE SHALL BE PLACED AT LEAST 220 FEET FROM ANY RUNWAY CENTERLINE. NO WORK MAY OCCUR IN TAXIWAY OBJECT FREE ZONES UNLESS THE TAXIWAY IS CLOSED TO AIRCRAFT TRAFFIC. NO STORAGE OF EQUIPMENT, MATERIALS OR STOCKPILES IS ALLOWED WITHIN TAXIWAY OBJECT FREE ZONES.
6. OBJECT/OBSTACLE FREE ZONE LIMITS
RUNWAY 15-33 - 125' FROM
TAXIWAYS - 44.5' FROM CL
7. RUNWAY AND TAXIWAY SAFETY AREA AND RUNWAY AND TAXIWAY OBJECT FREE ZONE CRITERIA MUST BOTH BE MET PRIOR TO OPENING AN IMPACTED RUNWAY OR TAXIWAY.

WORK SCHEDULE NOTES:

1. FOR COMMENCEMENT OF MATERIAL, PRODUCT AND EQUIPMENT SUBMITTALS PROCESS, PRODUCTION AND/OR PROCUREMENT OF MATERIALS AND LONG LEAD-TIME ITEMS FOR 2019 CONSTRUCTION: THE WORK SHALL BE COMPLETE PRIOR TO THE NTP DATE FOR CONSTRUCTION OF ITEMS RELATED TO THE LIGHTING SYSTEM IMPROVEMENTS. THIS WORK INCLUDES ALL MATERIALS AND PRODUCTS FOR THE SEAL COAT WORK AND THE LIGHTING IMPROVEMENT WORK. IF WORK IS NOT COMPLETE WITHIN THE PERIOD ALLOWED, LIQUIDATED DAMAGES WILL BE ASSESSED.
2. FOR CONSTRUCTION ITEMS RELATED TO THE LIGHTING SYSTEM IMPROVEMENTS: THE WORK SHALL BE COMPLETE WITHIN 60 CONTINUOUS CALENDAR DAYS OF OWNERS WRITTEN NTP. WORK HOURS ARE RESTRICTED TO 0800 TO 1800. WORK DAYS ARE RESTRICTED TO MONDAY THROUGH FRIDAY. WORK ON SATURDAYS AND SUNDAYS IS NOT ALLOWED. THE RUNWAY SHALL BE OPEN FOR AIR TRAFFIC USE AT 1800 ON EACH WORK DAY, AND THE CONTRACTOR SHALL ALLOW ADEQUATE TIME FOR OWNER STAFF TO CONDUCT RUNWAY INSPECTIONS AND AUTHORIZATION OF THE RUNWAY OPENING WITHIN THIS TIME. IF WORK IS NOT COMPLETE WITHIN THE PERIOD ALLOWED, LIQUIDATED DAMAGES WILL BE ASSESSED.

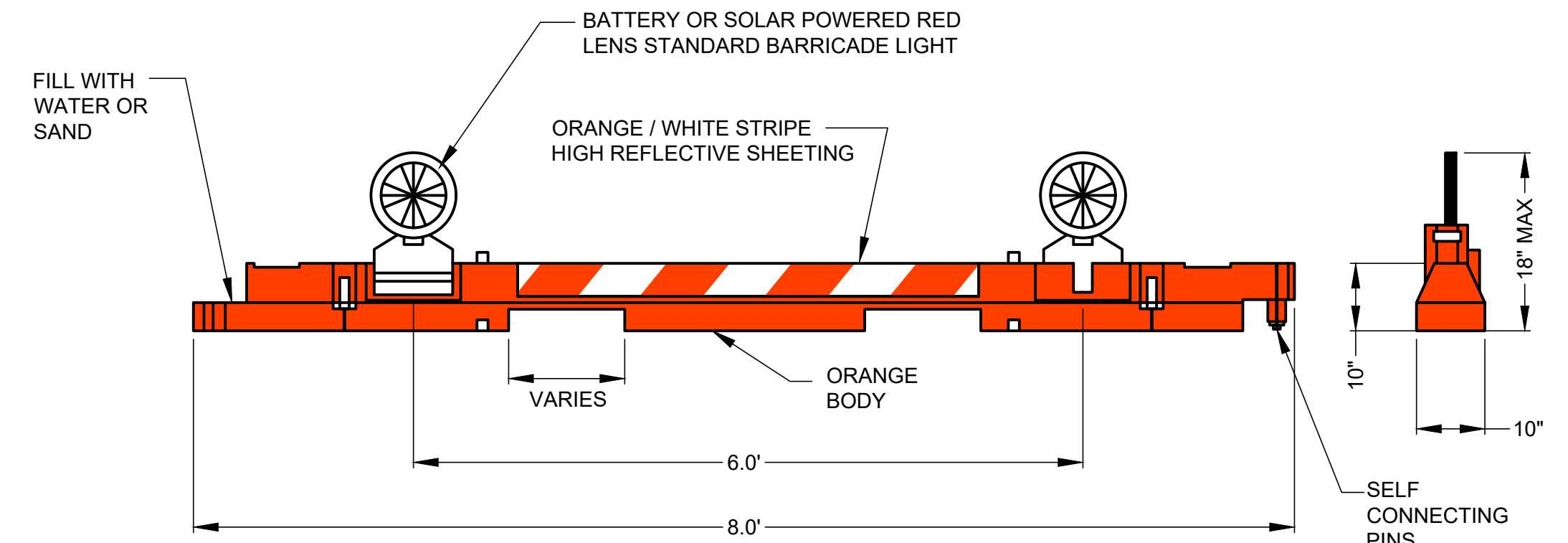
THE MIRL, PAPI, AND REIL SYSTEMS, INCLUDING ALL POWER AND CONTROL UNITS, FIXTURES, SIGNS, AND APPURTENANCES, AND INCIDENTALS SHALL BE FULLY OPERATIONAL AT THE CONCLUSION OF THE 60 CALENDAR DAY TIME FRAME.

WORK EXEMPT FROM THE 60 CALENDAR DAY REQUIREMENT INCLUDES THE FAA FLIGHT CHECK AND FAA COMMISSIONING OF THE PAPI AND REIL SYSTEMS.
3. FOR CONSTRUCTION OF ITEMS RELATED TO THE SEAL COAT WORK: THE WORK SHALL BE COMPLETE WITHIN 10 CONTINUOUS CALENDAR DAYS OF OWNERS WRITTEN NTP. THE AIRPORT SHALL BE OPEN TO AIR TRAFFIC AT THE CONCLUSION OF THE TIME ALLOWED. IF WORK IS NOT COMPLETE WITHIN THE 10 CALENDAR DAY PERIOD, LIQUIDATED DAMAGES WILL BE ASSESSED.

THE FINAL APPLICATION OF PAINTED PAVEMENT MARKINGS, AFTER EXPIRATION OF THE SEAL COAT CURING PERIOD IS EXEMPT FROM THE 10 CONTINUOUS CALENDAR DAY REQUIREMENT. THE TIME ALLOWED FOR THE FINAL APPLICATION OF PAINTED PAVEMENT MARKINGS IS 2 CONSECUTIVE CALENDAR DAYS. THE AIRPORT SHALL BE OPEN TO AIR TRAFFIC AT THE CONCLUSION OF THE TIME ALLOWED. IF WORK IS NOT COMPLETE WITHIN THE 2 CALENDAR DAY PERIOD, LIQUIDATED DAMAGES WILL BE ASSESSED.

SEQUENCING AND PHASING NOTES:

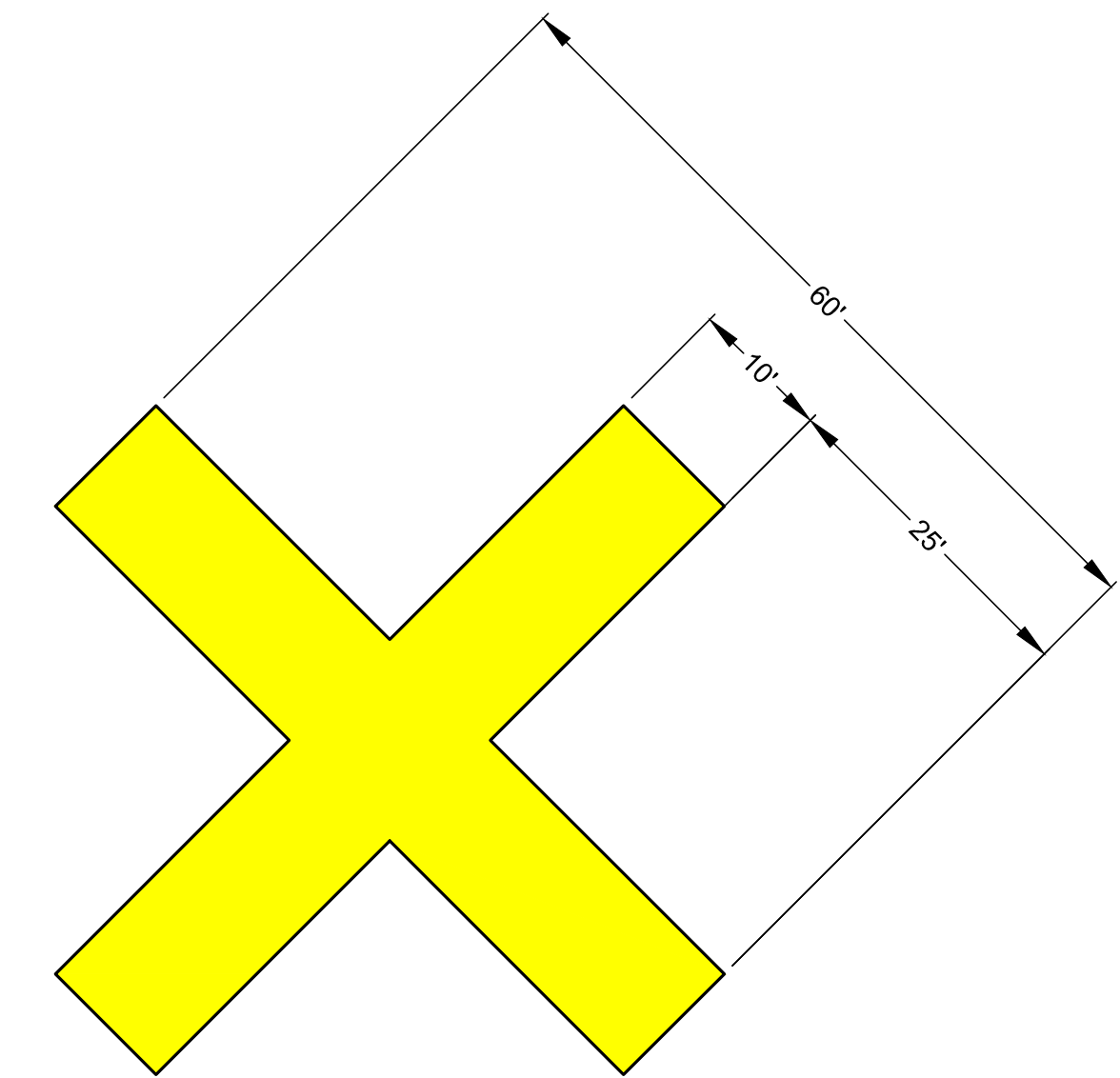
1. COORDINATE WORK AREA CLOSURES WITH THE AIRPORT TO ENSURE ACCESS AS NEEDED TO MAINTAIN AIRPORT OPERATIONS, INCLUDING PROVIDING FOR AND MAINTAINING ACCESS TO THE FOLLOWING:
 - ACCESS TO THE APRON AREA
 - ACCESS TO THE FBO RAMP
 - RUNWAY AND TAXIWAY ACCESS WHEN ALLOWED
2. CRACK SEALING AND SEAL COAT WORK MAY BE CONCURRENT WITH LIGHTING WORK, WITHIN THE WORK SCHEDULE LIMITS ALLOWED.
3. RUNWAY AND TAXIWAY MARKINGS SHALL BE IN PLACE ANY TIME RUNWAYS/TAXIWAYS ARE OPEN TO AIR TRAFFIC.
4. REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL PRECEDE CRACK SEAL WORK AND SLURRY SEAL WORK.
5. ALL PERMANENT TRENCH PATCHES SHALL BE COMPLETE PRIOR TO SLURRY SEAL CONSTRUCTION.
6. DISENGAGE EXISTING LIGHTED WINDCONE AND BEACON CIRCUIT ANY TIME THE AIRPORT MIRL SYSTEM IS OUT OF SERVICE.



NOTES:

1. BARRICADES SHALL MEET THE REQUIREMENTS OF AC 150/5370-2, CURRENT EDITION.
2. PLACE BARRICADE PER THE PLANS OR AS DIRECTED BY THE ENGINEER.
3. BARRICADES SHALL BE PROVIDED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING, FILLING, EMPTYING, MOVING, MAINTAINING AND PROTECTING BARRICADES THROUGHOUT THE DURATION OF THE PROJECT.
4. LIGHTS ARE TO BE NO FARTHER APART THAN 10' WHEN PLACED.
5. BARRICADES SHALL BE COVERED WITH REFLECTIVE SHEETING OR OTHER MATERIAL APPROVED BY THE ENGINEER.
6. BARRICADES SHALL BE APPROPRIATELY WEIGHTED DOWN TO RESTRICT MOVEMENT FROM HIGH WINDS OR PROP WASH.

LOW LEVEL BARRICADE DETAIL 1
N.T.S. G-4



NOTES:

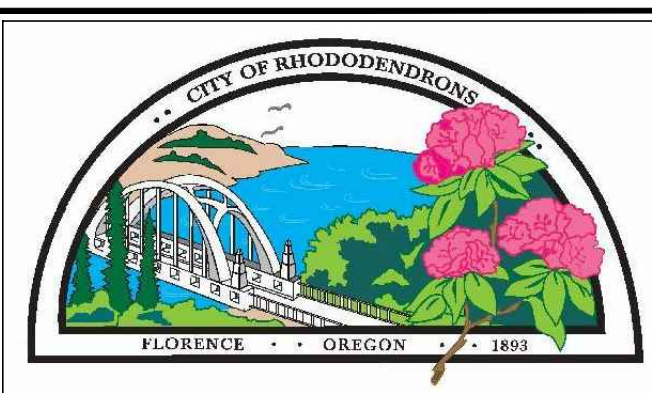
1. PLACE RUNWAY CLOSURE MARKINGS PER THE PLANS.
2. YELLOW IN COLOR.
3. THE "X" IS TO BE PLACED OVER THE RUNWAY DESIGNATION MARKINGS OR, WHEN REQUIRED BY CONSTRUCTION ACTIVITY, JUST OFF THE RUNWAY END.

CLOSED RUNWAY MARKING DETAIL 2
N.T.S. G-4

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RED [Red Box] BLUE [Blue Box]

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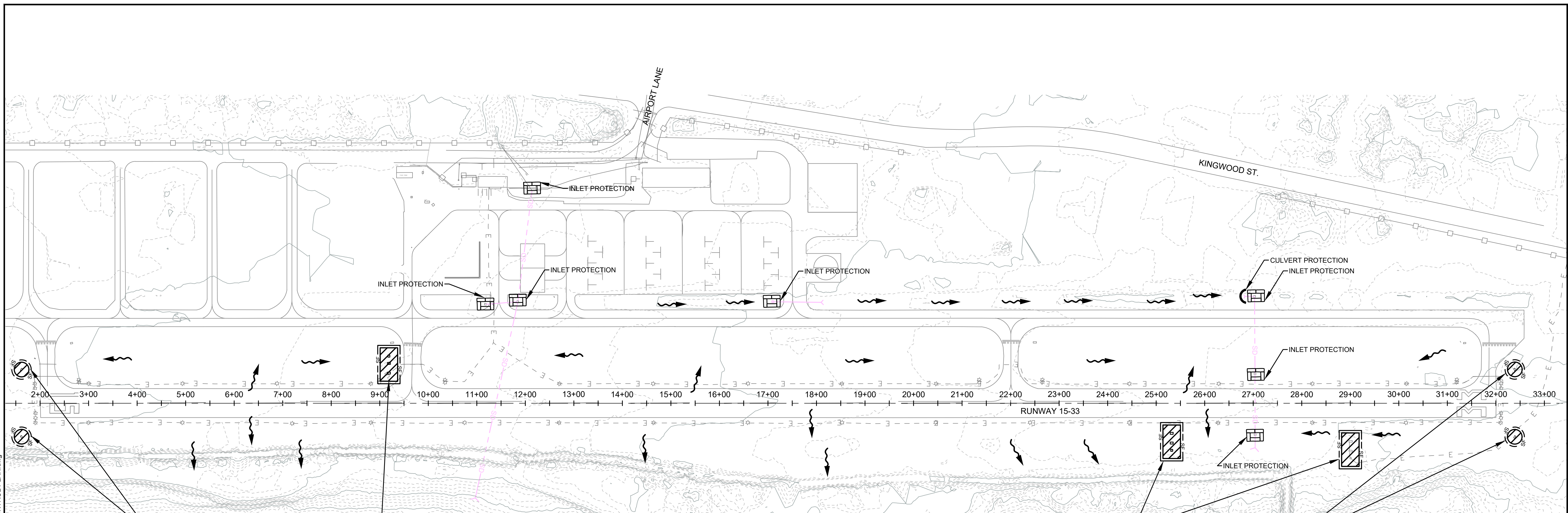
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SCALE: AS NOTED

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

SITE PHASING AND SAFETY PLAN
NOTES & DETAILS

DRAWING NO. G-4
SHEET NO. 4 OF 28

C:\Users\enewton\Dropbox (Centurywest)\Puget Sound\Projects\FLORENCE, CITY OF\2018 Seal Coat and Lighting Improvements\CAD\WORKING\G-5 EROSION CONTROL PLAN.dwg



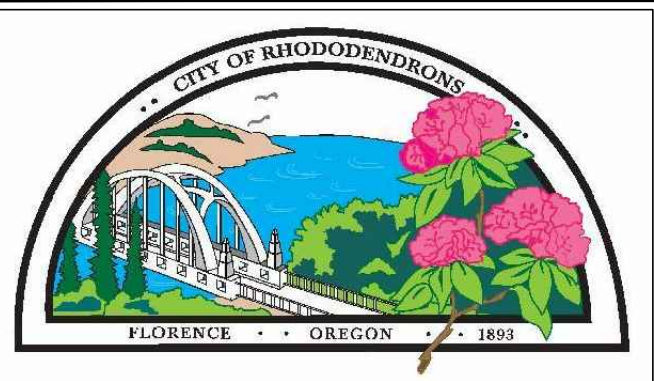
PLAN
1"=100'

- LEGEND:**
- SEDIMENT FENCE PER 1
G-6 --- SF --- SF --- SF ---
 - CULVERT PROTECTION PER 2
G-6
 - FLOW DIRECTION (SURFACE)
 - EXISTING PAVEMENT
 - EXISTING 5' CONTOUR
 - EXISTING 1' CONTOUR
 - BIOFILTER INLET PROTECTION PER 3
G-6
 - GRADING AREA/DISTURBED SURFACE TO TOPSOIL & RESEED SEE NOTE 2
 - EXISTING STORM DRAIN

THIS PLAN SHEET IS INTENDED TO BE VIEWED IN COLOR. THE FOLLOWING COLORS SHOULD BE DISTINGUISHABLE WHEN PRINTED CORRECTLY:

RED BLUE

- NOTES:**
1. TEMPORARY EROSION CONTROL DEVICES SHALL BE IN PLACE AND APPROVED BY THE ENGINEER PRIOR TO DISTURBING ANY SOIL.
 2. TOPSOIL AND SEEDING LIMITS SHOWN ARE APPROXIMATE. LIMIT SURFACE DISTURBANCE TO THE LIMITS APPROVED BY THE ENGINEER IN THE FIELD. GRADE AREAS TO MATCH SURROUNDING AREA, FOR POSITIVE DRAINAGE AND SO THERE ARE NO HUMPS, DEPRESSIONS, RUTS OR OTHER SURFACE VARIATIONS OF MORE THAN 1.5". COMPACT DISTURBED AREAS TO 95% OF ASTM D-698. PLACE 3" OF TOPSOIL AND RESEED PER ITEM T-901.
 3. DISPOSE SOD AND EXCESS EXCAVATED MATERIAL, IF ANY, OFF SITE AT NO COST TO AIRPORT.
 4. TOPSOILING AND SEEDING RELATED TO ELECTRICAL TRENCHING IS NOT SHOWN.
 5. TOPSOILING AND SEEDING RELATED TO ELECTRICAL TRENCHING IS INCIDENTAL TO APPLICABLE BID ITEMS AND NO SEPARATE PAYMENT WILL BE MADE.



VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING. 0" = 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

NO.	DATE	BY	APPR	REVISIONS

CENTURY WEST ENGINEERING

BEND OFFICE
1020 SW EMKAY DRIVE, #100
BEND, OR 97702
541.322.8962
541.382.2423 FAX

DATE: JUNE 2018 PROJECT NO: 41301.014.01

DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

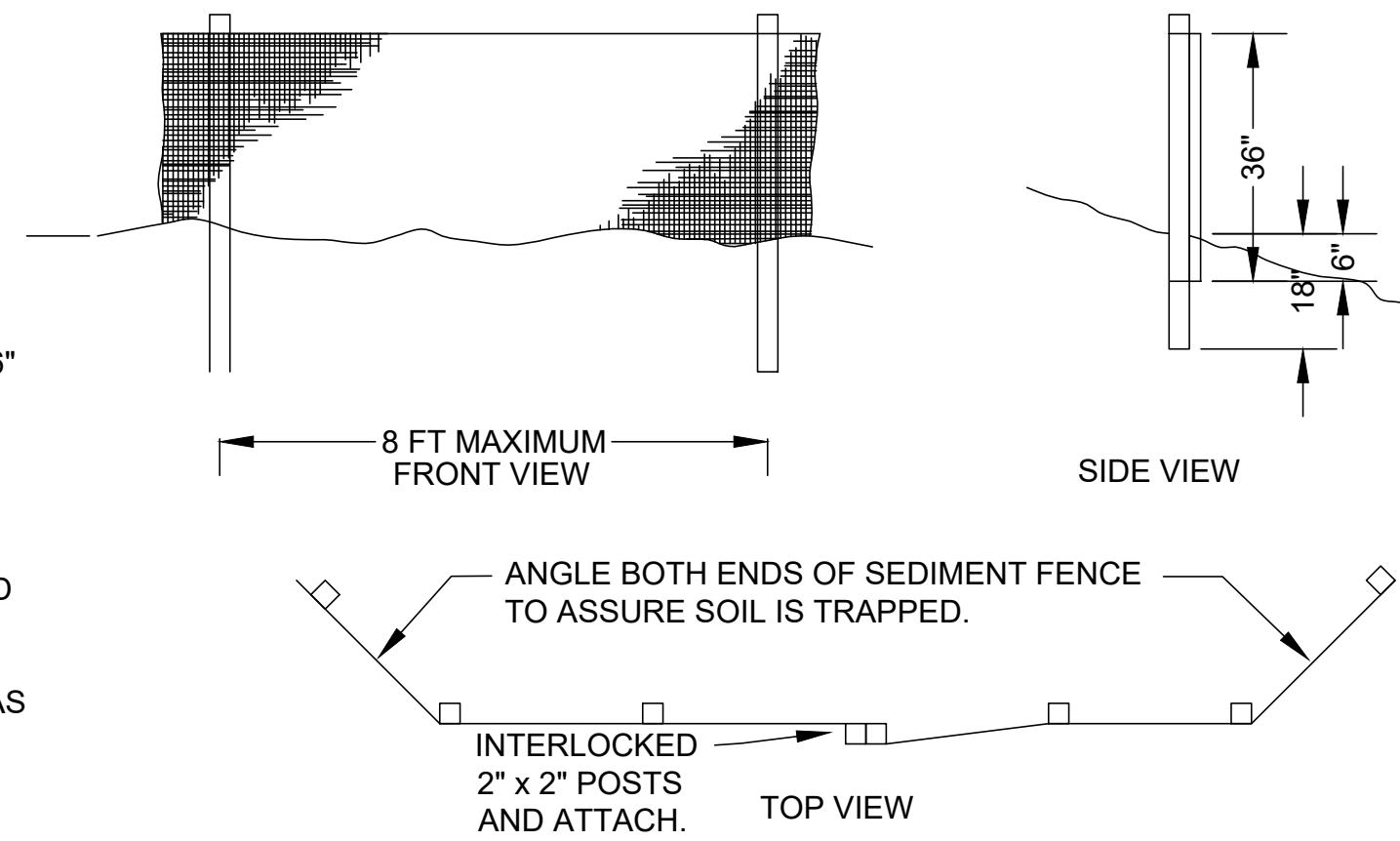
CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

GRADING AND EROSION CONTROL PLAN

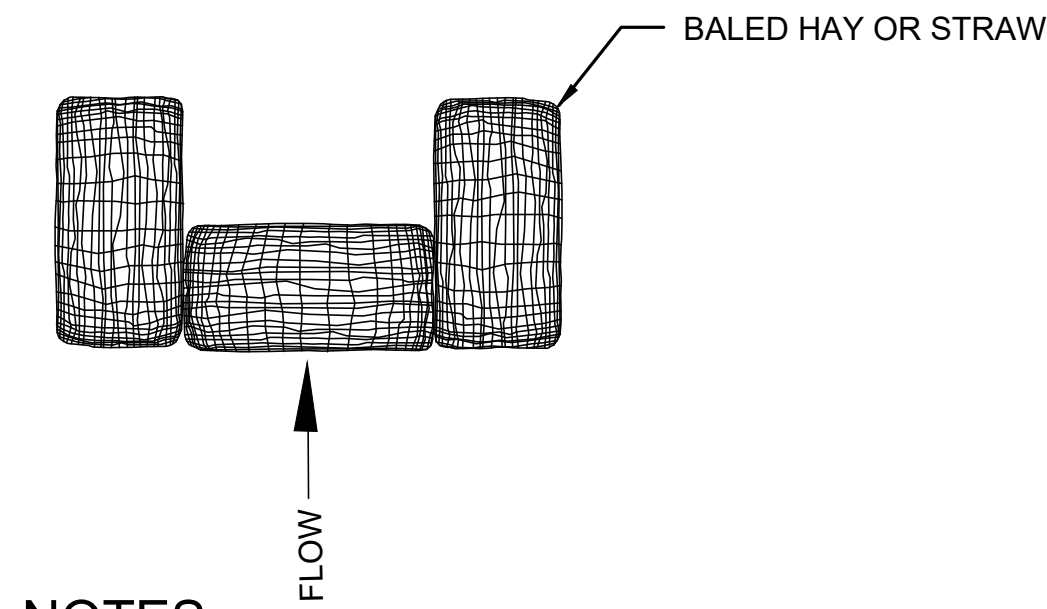
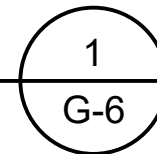
DRAWING NO. G-5
SHEET NO. 5 OF 28

NOTES:

1. BURY BOTTOM OF FILTER FABRIC 6" MIN. VERTICALLY BELOW GRADE.
2. 2" x 2" FIR, PINE, OR STEEL FENCE POSTS.
3. STITCHED LOOPS TO BE INSTALLED UPHILL SIDE OF SLOPE.
4. COMPACT NATIVE FILL IN ALL AREAS OF FILTER FABRIC TRENCH.



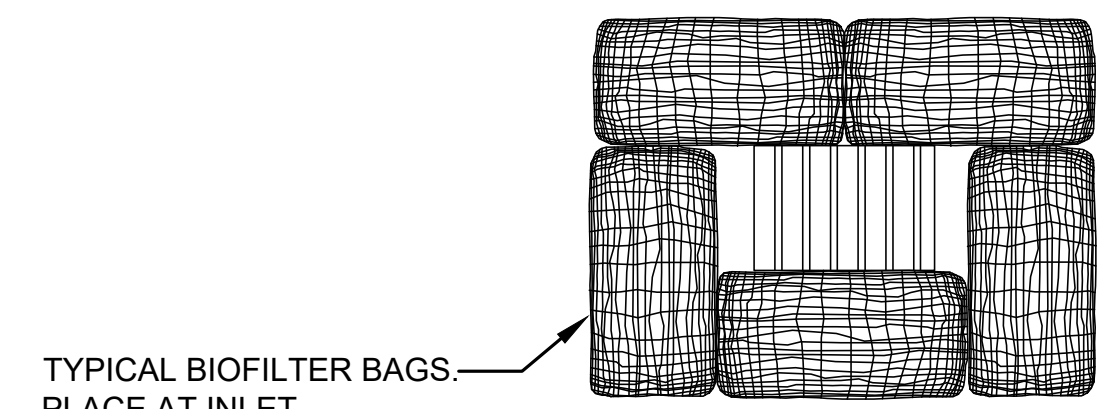
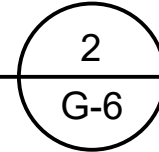
SEDIMENT FENCE
NO SCALE



NOTES:

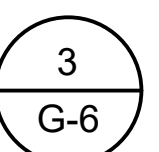
1. STAKING OF BALED HAY OR STRAW REQUIRED USING (2) 1"X2" WOOD STAKES OR APPROVED EQUAL PER BALE.
2. SURFACE MUST BE SMOOTH BEFORE APPLICATION.

CULVERT PROTECTION
NO SCALE

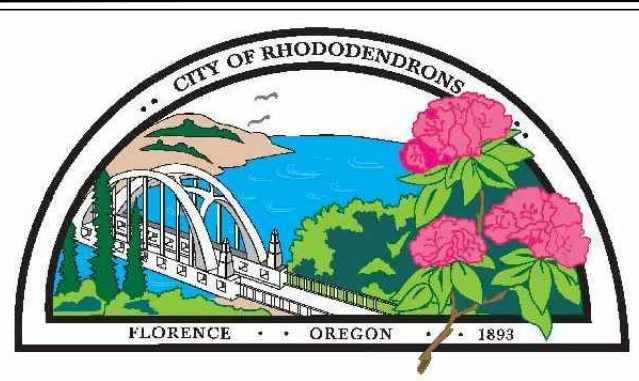


TYPICAL BIOFILTER BAGS.
PLACE AT INLET ENTRANCES

TEMPORARY INLET PROTECTION
NO SCALE



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DATE: JUNE 2018 PROJECT NO: 41301.014.01

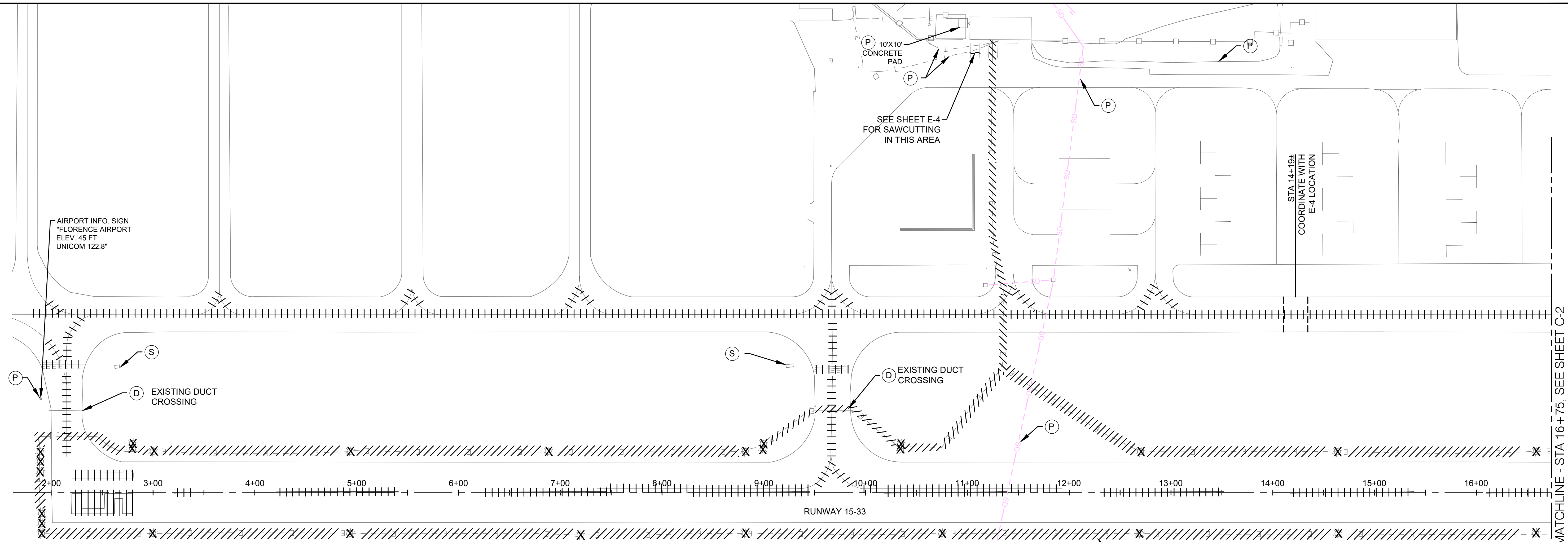
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DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

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FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS**

EROSION CONTROL DETAILS

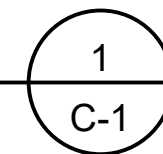
DRAWING NO. G-6
SHEET NO. 6 OF 28

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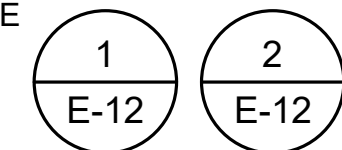
DEMOLITION PLAN

1"=50'



DUCT CROSSING NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION OF DUCT CROSSINGS.
2. EXISTING DUCT CROSSINGS CONSIST OF 2-3" GRSC/PVC CONDUITS, CONCRETE ENCASED.
3. CONTRACTOR SHALL EXPOSE ENDS OF EXISTING DUCT CROSSINGS SO ENGINEER CAN EVALUATE REUSE OF EXISTING DUCTS FOR NEW CIRCUITS.
4. IF ENGINEER DETERMINES EXISTING DUCT CROSSING IS SUITABLE FOR REUSE, ROUTE NEW CIRCUITS THROUGH EXISTING DUCTS AFTER CLEANING/MANDRELING DUCT.
5. IF ENGINEER DETERMINES EXISTING DUCT CROSSING IS NOT SUITABLE FOR REUSE, REMOVE EXISTING DUCT AND INSTALL NEW DUCT CROSSING AS SHOWN ELSEWHERE ON THESE PLANS. SEE

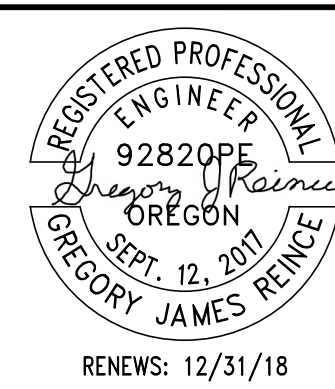
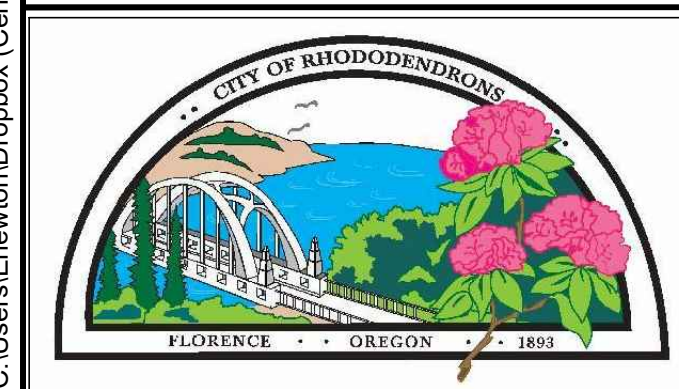
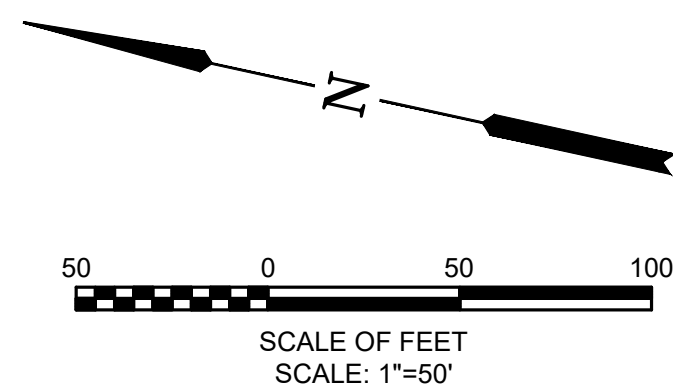


DEMOLITION NOTES:

1. PROTECT EXISTING STRUCTURES, UTILITIES AND FEATURES TO REMAIN.
2. PROTECT ALL EXISTING PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
3. ABANDON IN PLACE IF NOT ENCOUNTERED IN EXCAVATION. REMOVE AND DISPOSE OF MATERIALS ENCOUNTERED IN EXCAVATIONS.
4. CONTRACTOR MUST BE PREPARED TO FILL TRENCHES AND COVER ALL OPENINGS WITHIN THE SAFETY AREAS PRIOR TO REOPENING THE RUNWAY. COVERS (STEEL PLATES) MUST BE OF SUFFICIENT STRENGTH TO SUPPORT 12,500 LBS (GROSS) WEIGHT, AND SHALL NOT EXCEED 1.5" IN HEIGHT.
5. REUSE EXISTING CONCRETE DUCT MARKERS WHERE ENCOUNTERED AT EXISTING DUCT CROSSINGS. CONSTRUCT NEW DUCT MARKERS WHERE SHOWN ON THE PLANS OR WHERE DIRECTED BY THE ENGINEER.

LEGEND

REMOVE EXISTING FIXTURE/STRUCTURE, LIGHT TRANSFORMER AND TRANSFORMER BOX, IF PRESENT	X
EXISTING ELECTRICAL	—E—E—
EXISTING TELECOMM	—T—
EXISTING STORM DRAIN	—SD—
SAW CUT EXISTING PAVEMENT	— — — — —
REMOVE EXISTING GUIDANCE SIGN AND FOUNDATION	(S)
PROTECT	(P)
REMOVE	(R)
ABANDON IN PLACE	(A)
REMOVE/ABANDON EXISTING CONDUIT, CABLE, COUNTERPOISE	///////
MARKING REMOVAL	
REFER TO DUCT CROSSING NOTES	(D)



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 BEND OFFICE
 1020 SW EMKAY DRIVE, #100
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 541.382.2423 FAX

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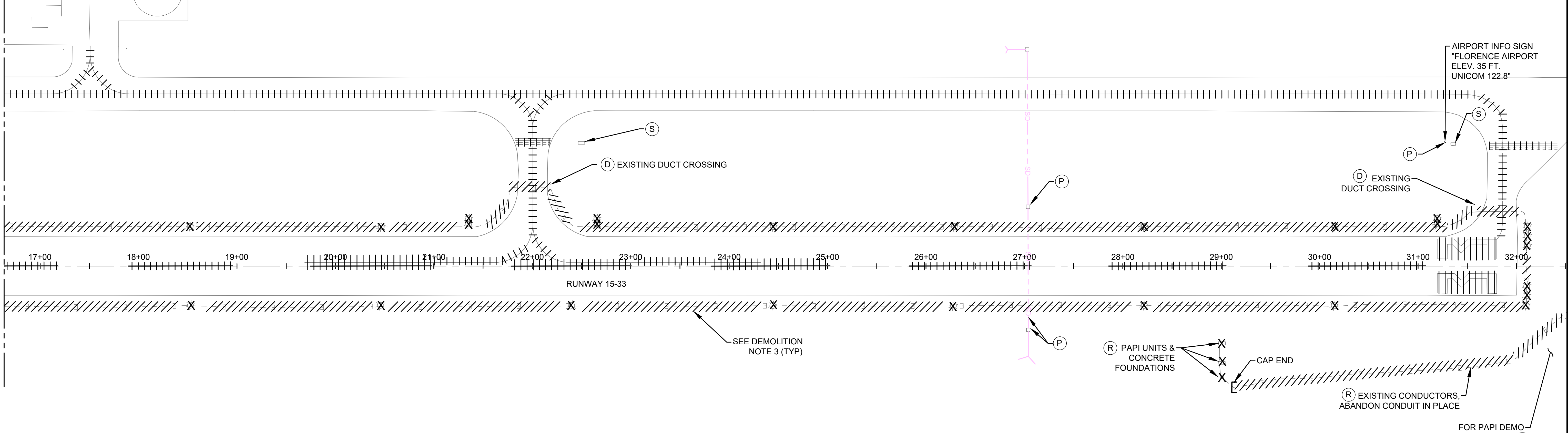
DESIGNED BY: GJR	CHECKED BY: JNR
DRAWN BY: EKN	SCALE: AS NOTED

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 FLORENCE MUNICIPAL AIRPORT
 SEAL COAT AND LIGHTING IMPROVEMENTS**

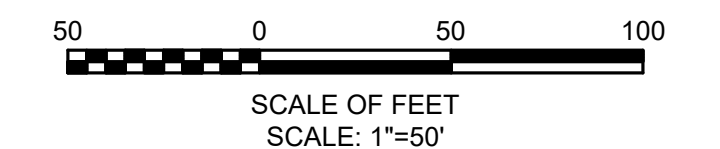
**DEMOLITION PLAN
 RUNWAY 15 END**

DRAWING NO. C-1
SHEET NO. 7 OF 28

MATCHLINE - STA 16+75, SEE SHEET C-1

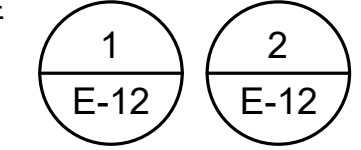


DEMOLITION PLAN
1
1"=50'
C-2



DUCT CROSSING NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION OF DUCT CROSSINGS.
2. EXISTING DUCT CROSSINGS CONSIST OF 2-3" GRSC/PVC CONDUITS, CONCRETE ENCASED.
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4. IF ENGINEER DETERMINES EXISTING DUCT CROSSING IS SUITABLE FOR REUSE, ROUTE NEW CIRCUITS THROUGH EXISTING DUCTS AFTER CLEANING/MANDRELING DUCT.
5. IF ENGINEER DETERMINES EXISTING DUCT CROSSING IS NOT SUITABLE FOR REUSE, REMOVE EXISTING DUCT AND INSTALL NEW DUCT CROSSING AS SHOWN ELSEWHERE ON THESE PLANS. SEE



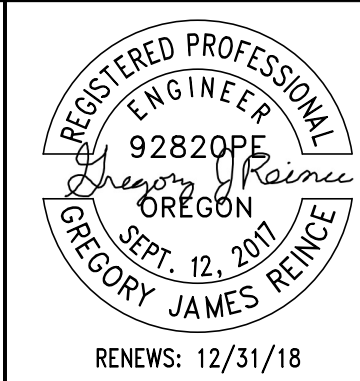
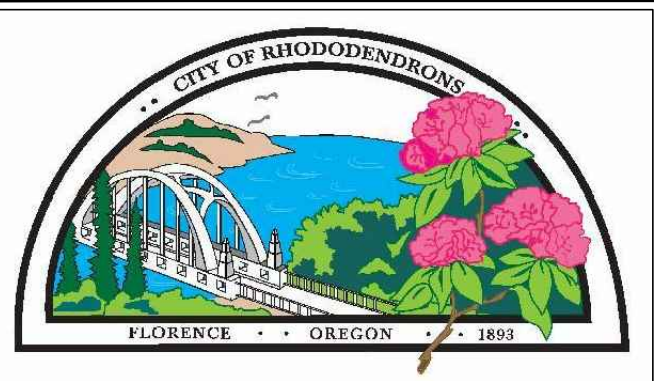
DEMOLITION NOTES:

1. PROTECT EXISTING STRUCTURES, UTILITIES AND FEATURES TO REMAIN.
2. PROTECT ALL EXISTING PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
3. ABANDON IN PLACE IF NOT ENCOUNTERED IN EXCAVATION. REMOVE AND DISPOSE OF MATERIALS ENCOUNTERED IN EXCAVATIONS..
4. CONTRACTOR MUST BE PREPARED TO FILL TRENCHES AND COVER ALL OPENINGS WITHIN THE SAFETY AREAS PRIOR TO REOPENING THE RUNWAY. COVERS (STEEL PLATES) MUST BE OF SUFFICIENT STRENGTH TO SUPPORT 12,500 LBS (GROSS) WEIGHT, AND SHALL NOT EXCEED 1.5" IN HEIGHT.
5. REUSE EXISTING CONCRETE DUCT MARKERS WHERE ENCOUNTERED AT EXISTING DUCT CROSSINGS. CONSTRUCT NEW DUCT MARKERS WHERE SHOWN ON THE PLANS.

LEGEND

- REMOVE EXISTING FIXTURE/STRUCTURE, LIGHT TRANSFORMER AND TRANSFORMER BOX, IF PRESENT X
- EXISTING ELECTRICAL —E—E—
- EXISTING STORM DRAIN - - - - SD - - - -
- SAW CUT EXISTING PAVEMENT - - - - -
- REMOVE EXISTING GUIDANCE SIGN AND FOUNDATION (S)
- PROTECT (P)
- REMOVE (R)
- ABANDON IN PLACE (A)
- REMOVE/ABANDON EXISTING CONDUIT, CABLE, COUNTERPOISE //////////
- MARKING REMOVAL |||||
- REFER TO DUCT CROSSING NOTES (D)

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BEND OFFICE
1020 SW EMKAY DRIVE, #100
BEND, OR 97702
541.322.8962
541.382.2423 FAX

DATE: JUNE 2018 PROJECT NO: 41301.014.01

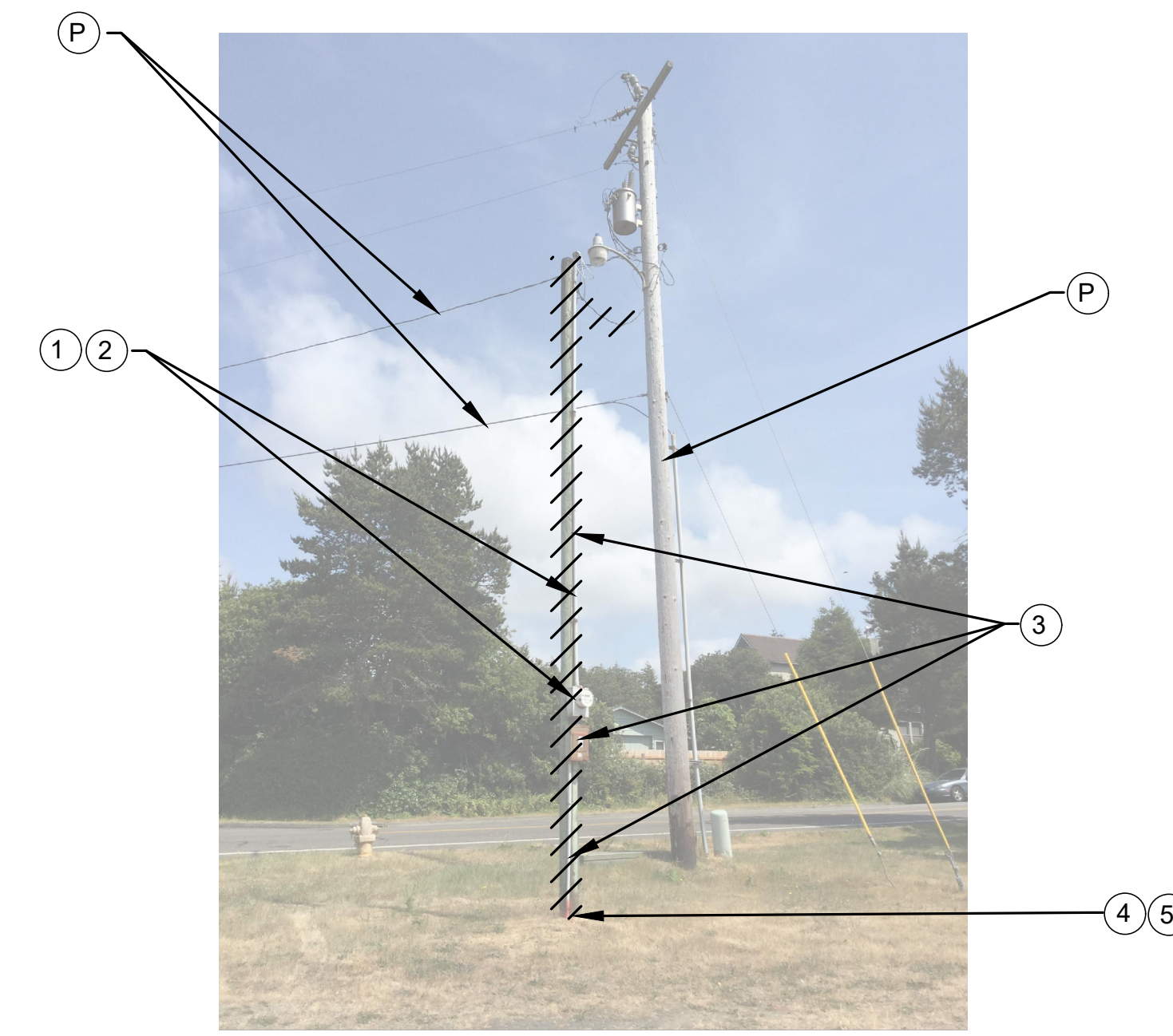
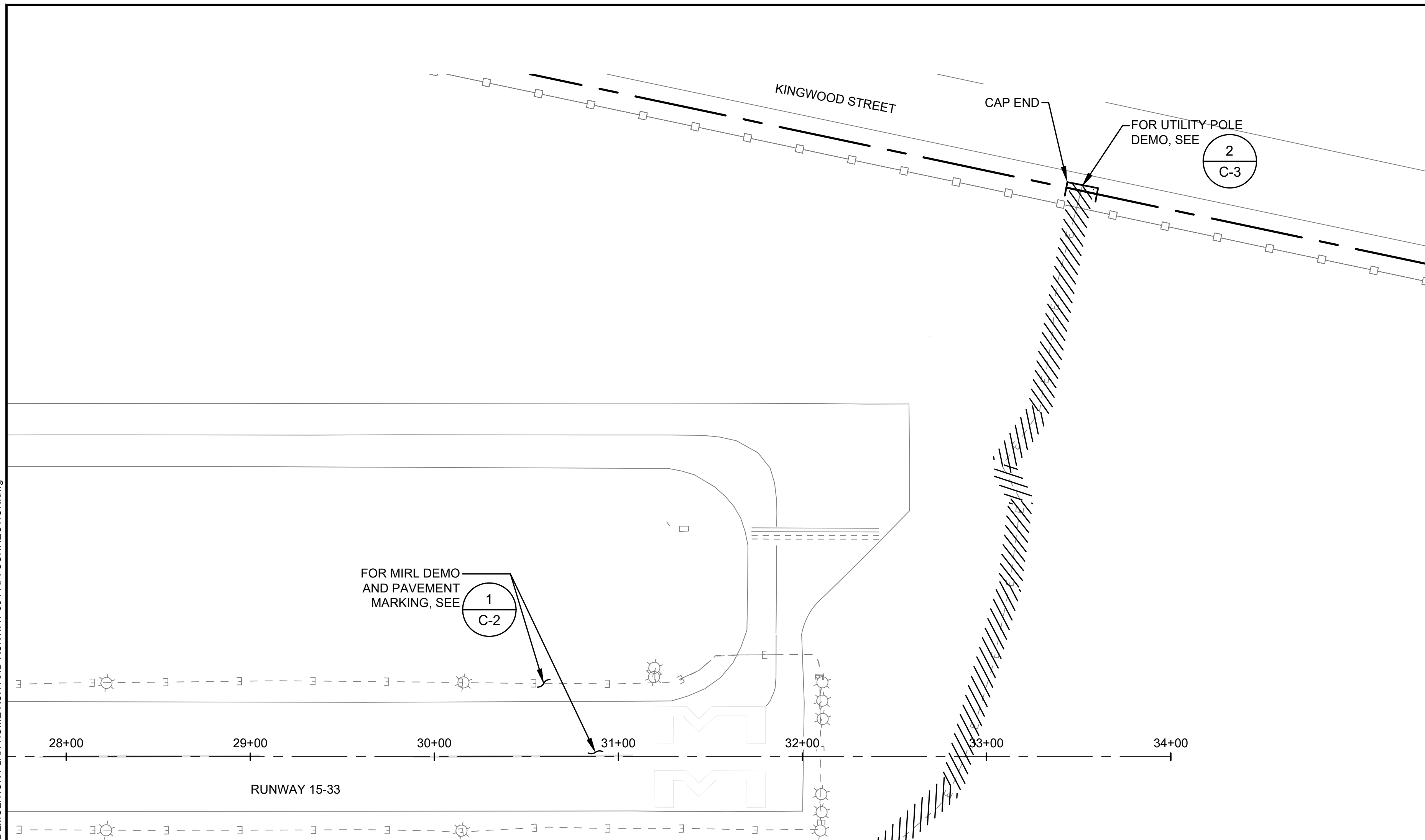
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CHECKED BY: JNR
SCALE: AS NOTED

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FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

DEMOLITION PLAN
RUNWAY 33 END

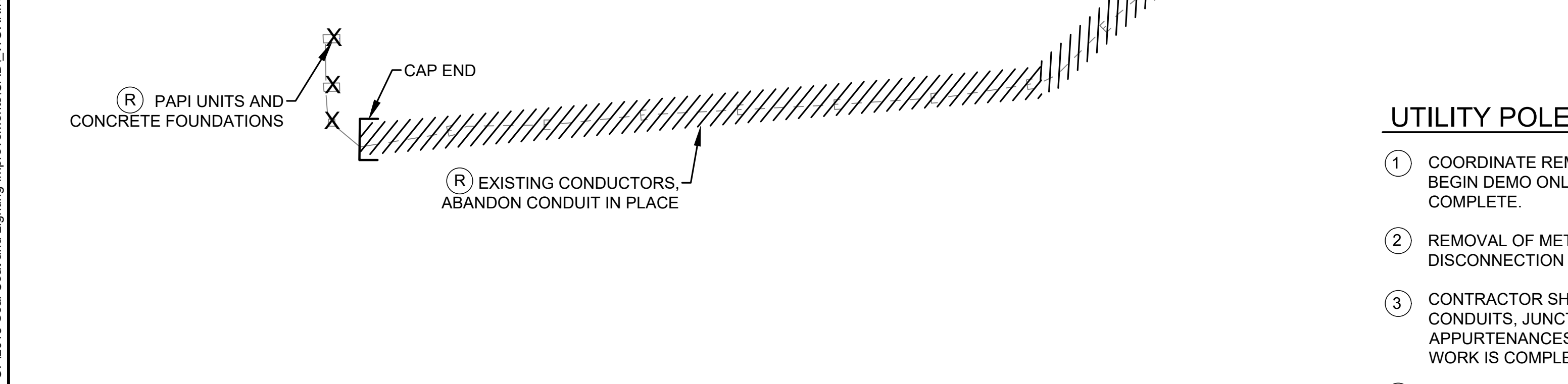
DRAWING NO. C-2
SHEET NO. 8 OF 28

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UTILITY POLE DEMOLITION PLAN
NO SCALE

2
C-3



DEMOLITION PLAN
1"
=40'

1
C-3

UTILITY POLE DEMOLITION NOTES:

- ① COORDINATE REMOVAL WITH CENTRAL LINCOLN PUD. BEGIN DEMO ONLY AFTER REMOVAL WORK BY PUD IS COMPLETE.
- ② REMOVAL OF METER SOCKET AND SERVICE DROP DISCONNECTION TO BE DONE BY PUD.
- ③ CONTRACTOR SHALL REMOVE ALL CONDUCTORS, CONDUITS, JUNCTION BOXES, AND OTHER APPURTENANCES REMAINING AFTER PUD REMOVAL WORK IS COMPLETE.
- ④ CONTRACTOR TO REMOVE UTILITY POLE, CUT OFF FLUSH WITH GROUND.
- ⑤ CONTRACTOR TO CAP EXISTING CONDUIT TO BE ABANDONED FLUSH WITH GROUND.

DEMOLITION NOTES:

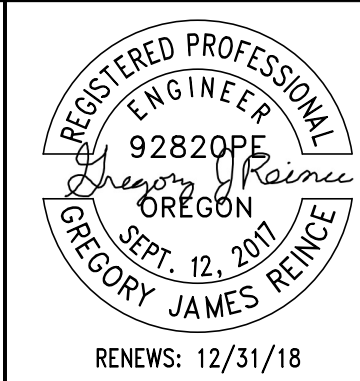
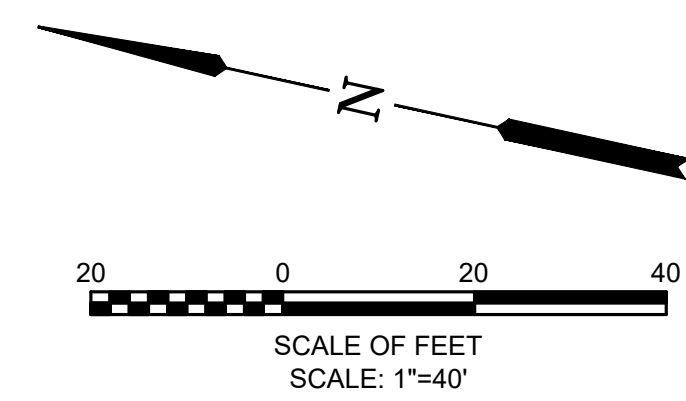
1. PROTECT EXISTING STRUCTURES, UTILITIES AND FEATURES TO REMAIN.
2. PROTECT ALL EXISTING PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
3. ABANDON IN PLACE IF NOT ENCOUNTERED IN EXCAVATION. REMOVE AND DISPOSE OF MATERIALS ENCOUNTERED IN EXCAVATIONS.
4. CONTRACTOR MUST BE PREPARED TO FILL TRENCHES AND ALL OPENINGS WITHIN THE SAFETY AREAS PRIOR TO REOPENING THE RUNWAY. COVERS (STEEL PLATES) MUST BE OF SUFFICIENT STRENGTH TO SUPPORT 12,500 LBS (GROSS) WEIGHT, AND SHALL NOT EXCEED 1.5" IN HEIGHT.
5. REUSE EXISTING CONCRETE DUCT MARKERS WHERE ENCOUNTERED AT EXISTING DUCT CROSSINGS. CONSTRUCT NEW DUCT MARKERS WHERE SHOWN ON THE PLANS.

LEGEND

REMOVE AND SALVAGE EXISTING FIXTURE/STRUCTURE, LIGHT TRANSFORMER AND TRANSFORMER BOX, IF PRESENT	X
EXISTING ELECTRICAL	—E—E—
SAW CUT EXISTING PAVEMENT	— — — —
REMOVE EXISTING GUIDANCE SIGN AND FOUNDATION	(S)
PROTECT	(P)
REMOVE	(R)
ABANDON IN PLACE	(A)
DEMO/ABANDON EXISTING MARKING REMOVAL	//////////
REFER TO DUCT CROSSING NOTES	(D)

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CENTURY WEST ENGINEERING

BEND OFFICE
1020 SW EMKAY DRIVE, #100
BEND, OR 97702
541.322.8962
541.382.2423 FAX

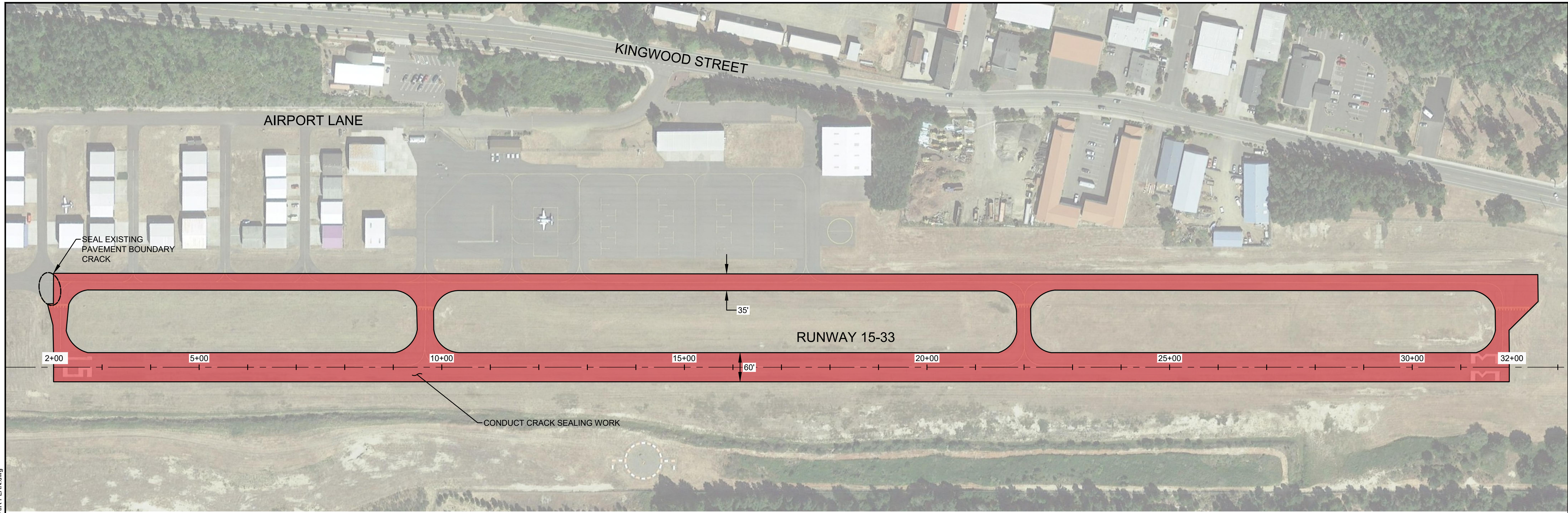
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DESIGNED BY: GJR
DRAWN BY: EKN
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SCALE: AS NOTED

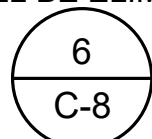
**CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS**

**DEMOLITION PLAN
RUNWAY 33 PAPI CONNECTION**

DRAWING NO. **C-3**
SHEET NO. **9 of 28**



GENERAL NOTES:

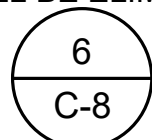
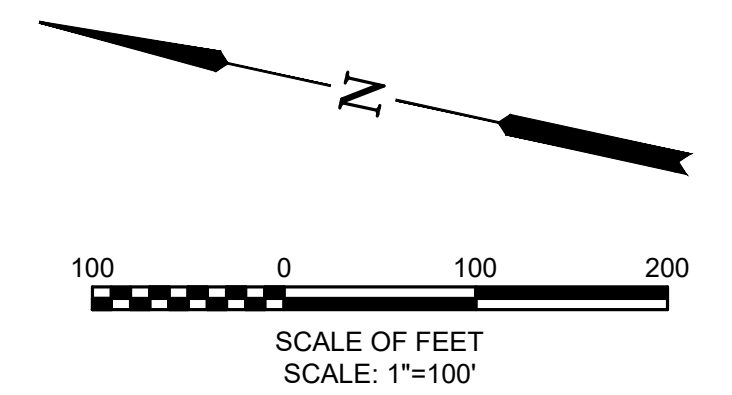
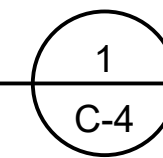
1. ALL EXISTING PAVEMENT MARKINGS WITHIN CRACK REPAIR/SLURRY SEAL LIMITS TO BE REMOVED PRIOR TO CRACK SEALING. THE CONTRACTOR SHALL DETERMINE EXISTING MARKINGS IN THE FIELD AND REMOVE ACCORDING TO THE SPECIFICATIONS.
2. ANY GRASS OR WEEDS OVERGROWN ONTO PAVEMENT SURFACE SHALL BE ELIMINATED PRIOR TO SLURRY SEALING. SEE 
3. PAVEMENT MARKINGS TO BE REMARKED AFTER SLURRY SEAL.
4. PRESERVE AND PROTECT ALL TIE DOWNS ON APRONS.
5. PROTECT EXISTING FUEL ISLAND, ADJACENT CURBS, BUILDINGS, HANGARS, FENCES/FENCE POSTS, AND CONCRETE FROM DAMAGE OR DISCOLORATION DURING SLURRY SEAL AND CRACK REPAIR.
6. FILTER FABRIC PROTECTION TO BE PROPERLY PLACED AT ALL CATCH BASIN GRATES PRIOR TO CRACK REPAIR OR SLURRY SEAL.
7. PRESERVE AND PROTECT EXISTING LIGHT FIXTURES, SIGNING, AND OTHER STRUCTURES.

CRACK REPAIR NOTES:

1. PRIOR TO CRACK REPAIR, CRACK LOCATIONS WILL BE INDICATED WITH TEMPORARY MARKING PAINT (BY THE ENGINEER). CONTRACTOR WILL BE PROVIDED WITH MEASURED CRACK QUANTITY INFORMATION.
2. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER IF ANY DISCREPANCY IN CRACK LENGTH IS OBSERVED.
3. CONTRACTOR SHALL NOTIFY ENGINEER 48 HOURS MINIMUM PRIOR TO CRACK REPAIR WORK.

CRACK REPAIR PLAN



1"=100'



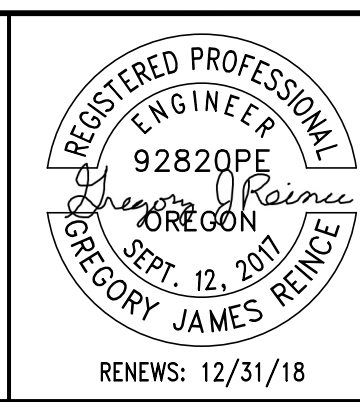
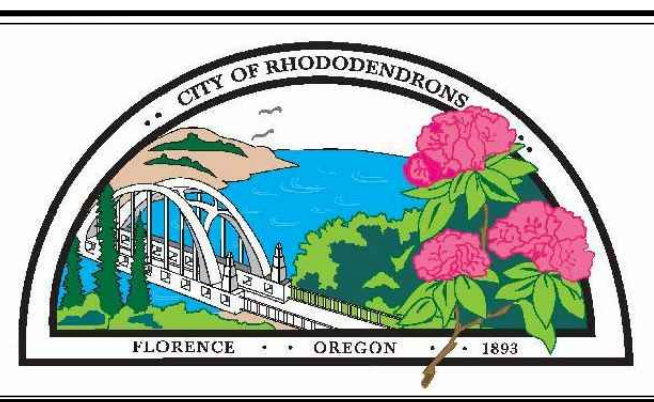
LEGEND



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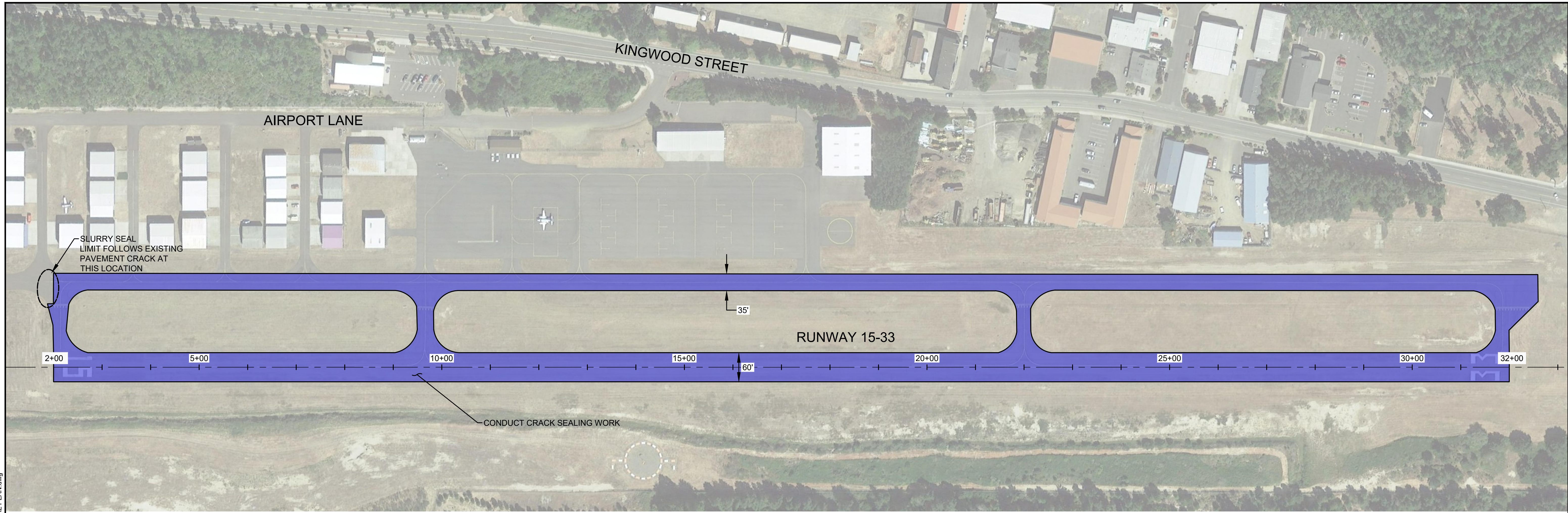
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DESIGNED BY: GJR
 DRAWN BY: EKN
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 SCALE: AS NOTED

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 FLORENCE MUNICIPAL AIRPORT
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CRACK REPAIR PLAN

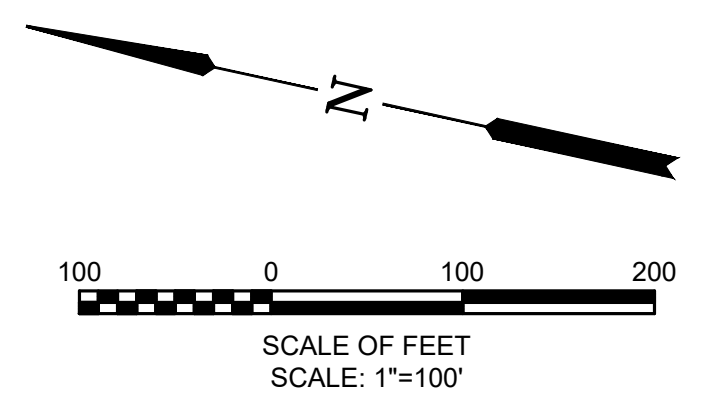
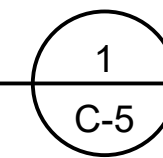
DRAWING NO. C-4
 SHEET NO. 10 OF 28



GENERAL NOTES:

1. ALL EXISTING PAVEMENT MARKINGS WITHIN CRACK REPAIR/SLURRY SEAL LIMITS TO BE REMOVED PRIOR TO CRACK SEALING. THE CONTRACTOR SHALL DETERMINE EXISTING MARKINGS IN THE FIELD AND REMOVE ACCORDING TO THE SPECIFICATIONS.
2. ANY GRASS OR WEEDS OVERGROWN ONTO PAVEMENT SURFACE SHALL BE ELIMINATED PRIOR TO SLURRY SEALING. SEE 6
C-8
3. PAVEMENT MARKINGS TO BE REMARKED AFTER SLURRY SEAL.
4. PRESERVE AND PROTECT ALL TIE DOWNS ON APRONS.
5. PROTECT EXISTING FUEL ISLAND, ADJACENT CURBS, BUILDINGS, HANGARS, FENCES/FENCE POSTS, AND CONCRETE FROM DAMAGE OR DISCOLORATION DURING SLURRY SEAL AND CRACK REPAIR.
6. FILTER FABRIC PROTECTION TO BE PROPERLY PLACED AT ALL CATCH BASIN GRATES PRIOR TO CRACK REPAIR OR SLURRY SEAL.
7. PRESERVE AND PROTECT EXISTING LIGHT FIXTURES, SIGNING, AND OTHER STRUCTURES.

SLURRY SEAL PLAN
1"=100'



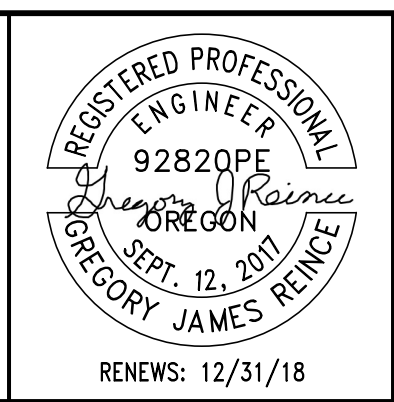
THIS PLAN SHEET IS INTENDED TO BE VIEWED IN COLOR. THE FOLLOWING COLORS SHOULD BE DISTINGUISHABLE WHEN PRINTED CORRECTLY:

RED BLUE

LEGEND

AREA OF SLURRY SEAL

C:\Users\Erewnon\Dropbox (Centurywest)\Puget Sound\Projects\FLORENCE_CITY_OF\2018 Seal Coat and Lighting Improvements\CAD_WORKING\C-5 SLURRY SEAL PLAN.dwg



VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING.
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

NO.	DATE	BY	APPR	REVISIONS

CENTURY WEST ENGINEERING

BEND OFFICE
1020 SW EMKAY DRIVE, #100
BEND, OR 97702
541.322.8862
541.382.2423 FAX

DATE: JUNE 2018 PROJECT NO: 41301.014.01

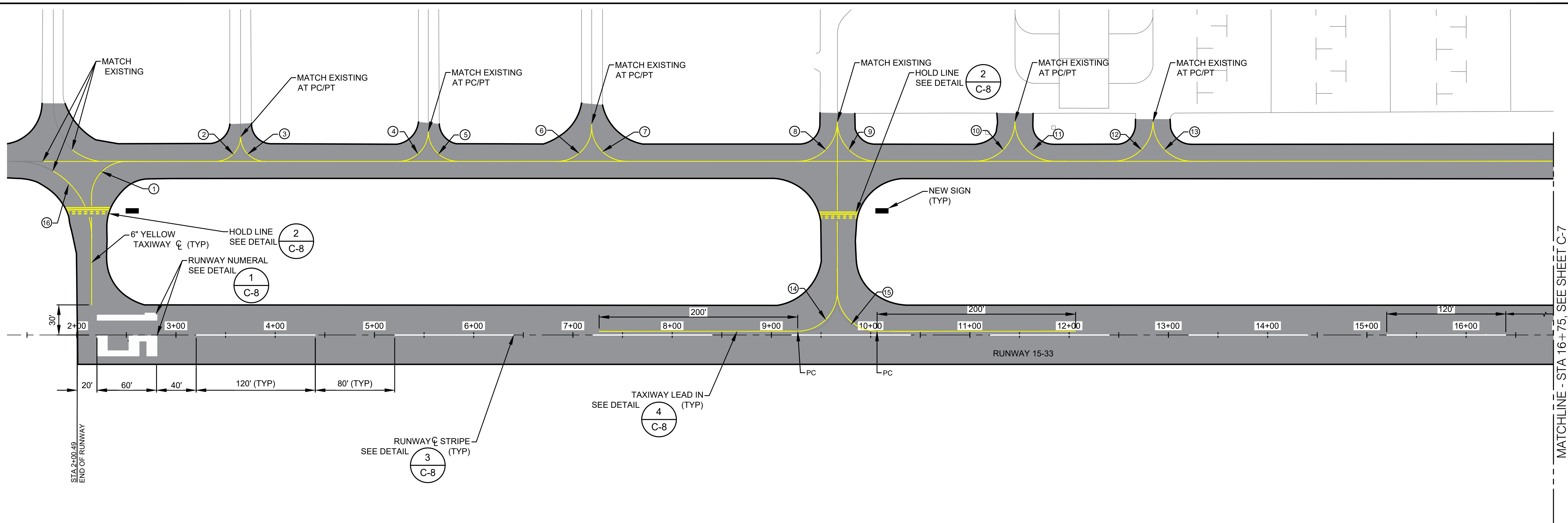
DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

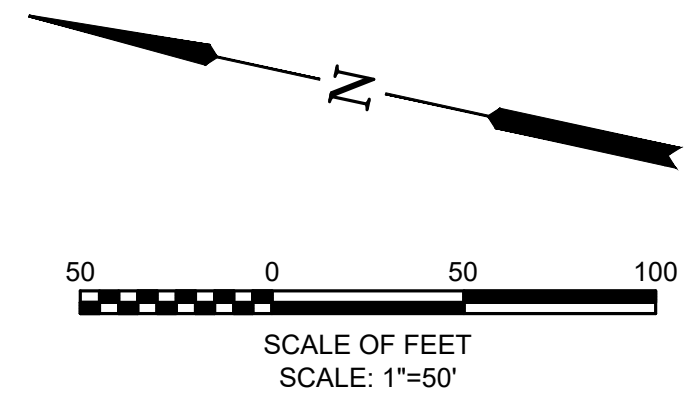
SLURRY SEAL PLAN

DRAWING NO. C-5
SHEET NO. 11 OF 28

C:\Users\enewton\Dropbox (Centurywest)\Pugget Sound\Projects\FLORENCE, CITY OF\2018 Seal Coat and Lighting Improvements\CAD\WORKING\C-6 PAVEMENT MARKING PLAN RUNWAY 15 END.dwg



PAVEMENT MARKING PLAN (1)
1"=100' (C-6)



CURVE	R	PT		PC	
		STA	OFF	STA	OFF
①	35.0'	2+14.99	139.80' LT	2+49.98	174.86' LT
②	25.0'	3+37.40	174.87' LT	3+65.15	199.89' LT
③	25.0'	3+90.07	174.77' LT	3+65.15	199.89' LT
④	30.0'	5+21.20	174.86' LT	5+54.28	204.90' LT
⑤	30.0'	5+90.33	174.86' LT	5+54.28	204.90' LT
⑥	35.0'	6+83.82	174.83' LT	7+18.94	212.74' LT
⑦	35.0'	7+60.03	174.98' LT	7+18.94	212.74' LT
⑧	40.0'	9+26.48	174.94' LT	9+66.50	214.94' LT
⑨	40.0'	10+05.20	174.93' LT	9+66.50	214.94' LT
⑩	40.0'	11+05.43	174.99' LT	11+45.40	215.07' LT
⑪	40.0'	11+85.37	175.00' LT	11+45.40	215.07' LT
⑫	40.0'	12+45.94	175.01' LT	12+84.51	215.01' LT
⑬	40.0'	13+22.60	174.95' LT	12+84.51	215.01' LT
⑭	40.0'	9+20.49	3.75' LT	9+66.46	43.53' LT
⑮	40.0'	10+06.50	3.75' LT	9+66.46	43.53' LT
⑯	80.0'	1+35.12	174.85' LT	2+15.05	98.23' LT

THIS PLAN SHEET IS INTENDED TO BE VIEWED IN COLOR. THE FOLLOWING COLORS SHOULD BE DISTINGUISHABLE WHEN PRINTED CORRECTLY:

RED BLUE



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0" 1"
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BEND OFFICE
1020 SW EMKAY DRIVE, #100
BEND, OR 97702
541.322.8962
541.382.2423 FAX

DATE: JUNE 2018 PROJECT NO: 41301.014.01

DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

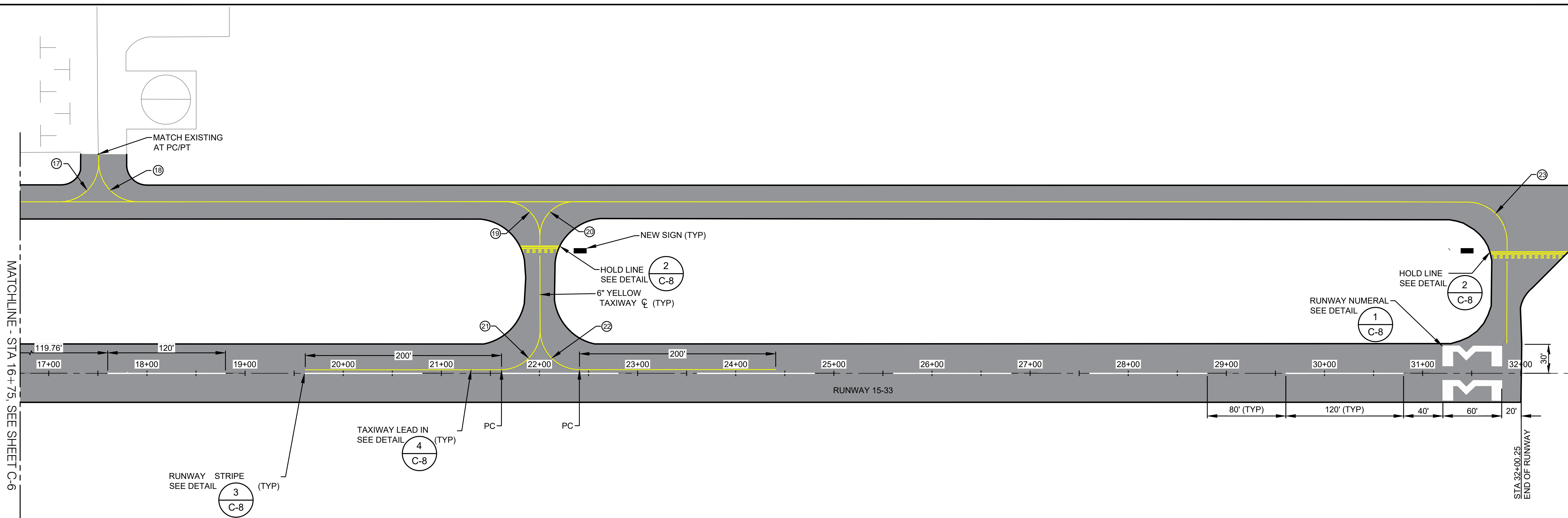
**CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS**

**PAVEMENT MARKING PLAN
RUNWAY 15 END**

DRAWING NO. **C-6**
SHEET NO. **12 OF 28**

MATCHLINE - STA 16+75, SEE SHEET C-7

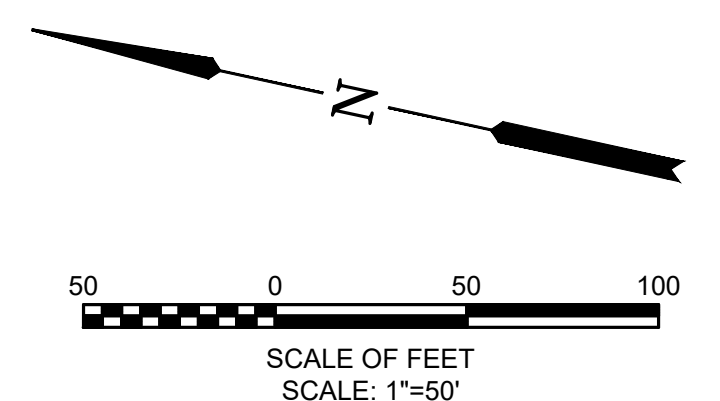
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MATCHLINE - STA 16+75, SEE SHEET C-6

STA 32+00.25
END OF RUNWAY

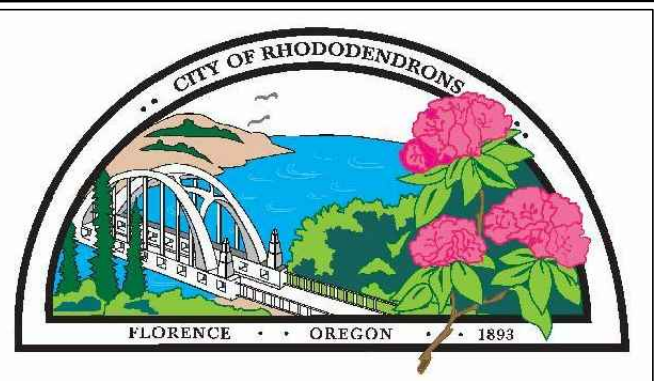
PAVEMENT MARKING PLAN 1
1"=100' C-7



THIS PLAN SHEET IS INTENDED TO BE VIEWED IN COLOR. THE FOLLOWING COLORS SHOULD BE DISTINGUISHABLE WHEN PRINTED CORRECTLY:

RED BLUE

CURVE	R	PT		PC	
		STA	OFF	STA	OFF
17	40.0'	17+10.91	174.89' LT	17+50.84	212.48' LT
18	40.0'	17+90.16	174.92' LT	17+50.84	212.48' LT
19	35.0'	21+66.60	175.02' LT	22+00.44	140.07' LT
20	35.0'	22+35.47	175.07' LT	22+00.44	140.07' LT
21	40.0'	21+61.35	3.75' LT	22+00.71	43.65' LT
22	40.0'	22+40.73	3.75' LT	22+00.71	43.65' LT
23	40.0'	31+46.05	174.67' LT	31+86.07	136.64' LT



VERIFY SCALES
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NO.	DATE	BY	APPR	REVISIONS

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BEND, OR 97702
541.322.8962
541.382.2423 FAX

DATE: JUNE 2018 PROJECT NO: 41301.014.01

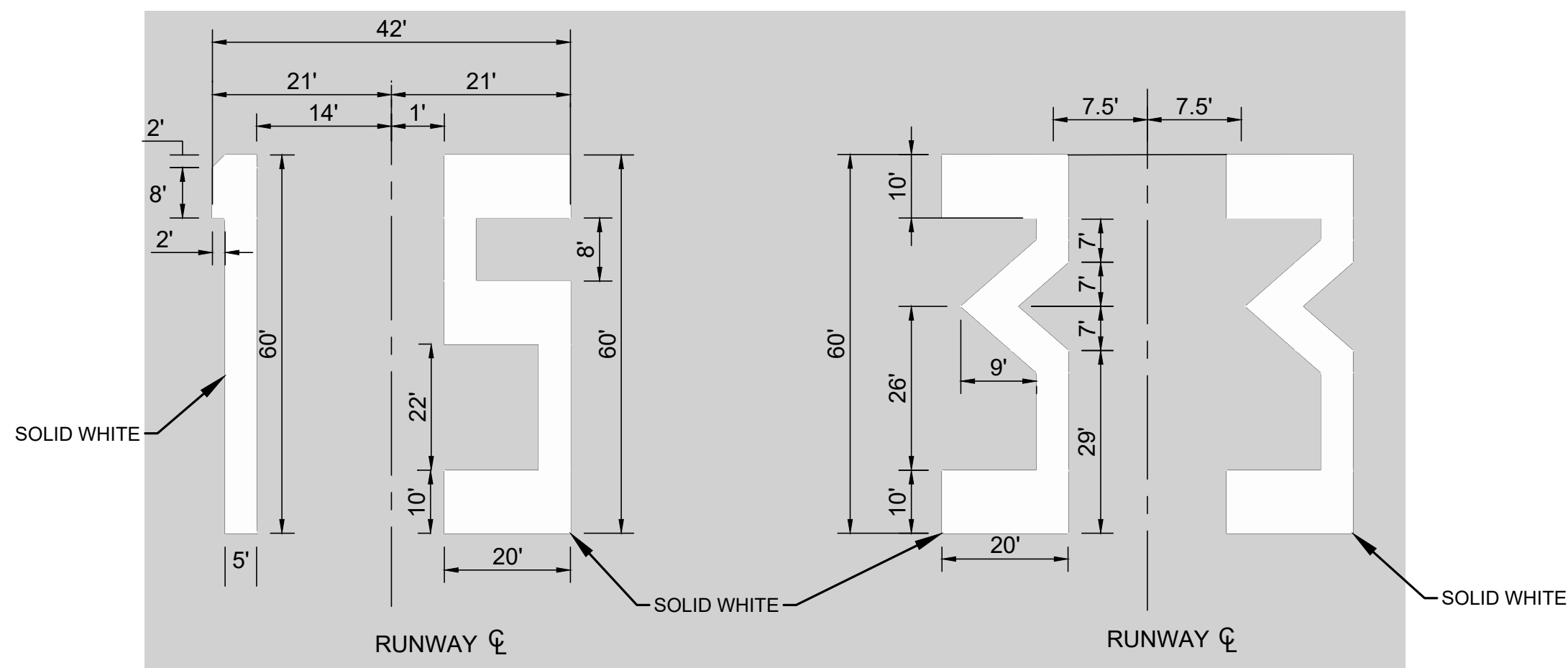
DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

PAVEMENT MARKING PLAN
RUNWAY 33 END

DRAWING NO. C-7
SHEET NO. 13 OF 28

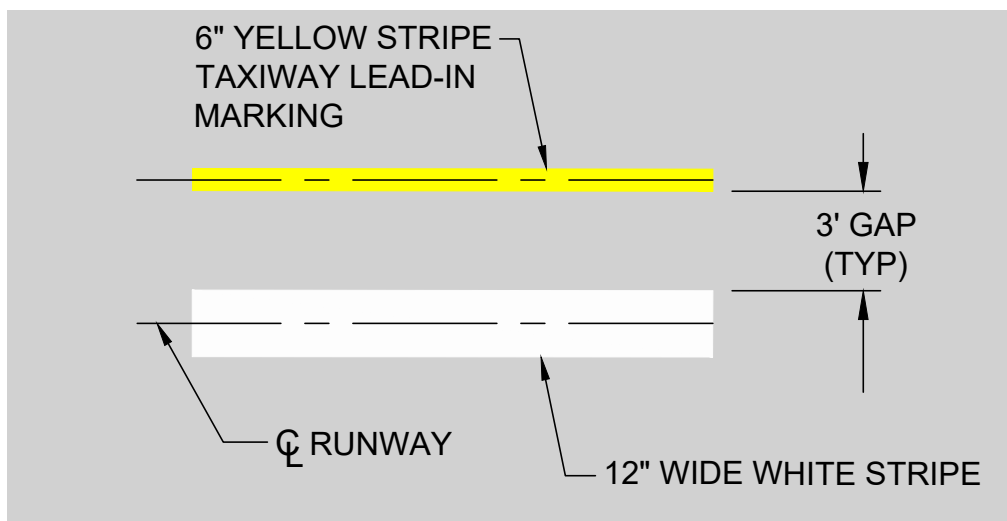
C:\Users\Enlow\Dropbox (Centurywest)\Puguet Sound\Projects\FLORENCE, CITY OF\2018 Seal Coat and Lighting Improvements\CAD_WORKING\C-8 PAVEMENT MARKING & CRACK SEAL DETAILS.dwg



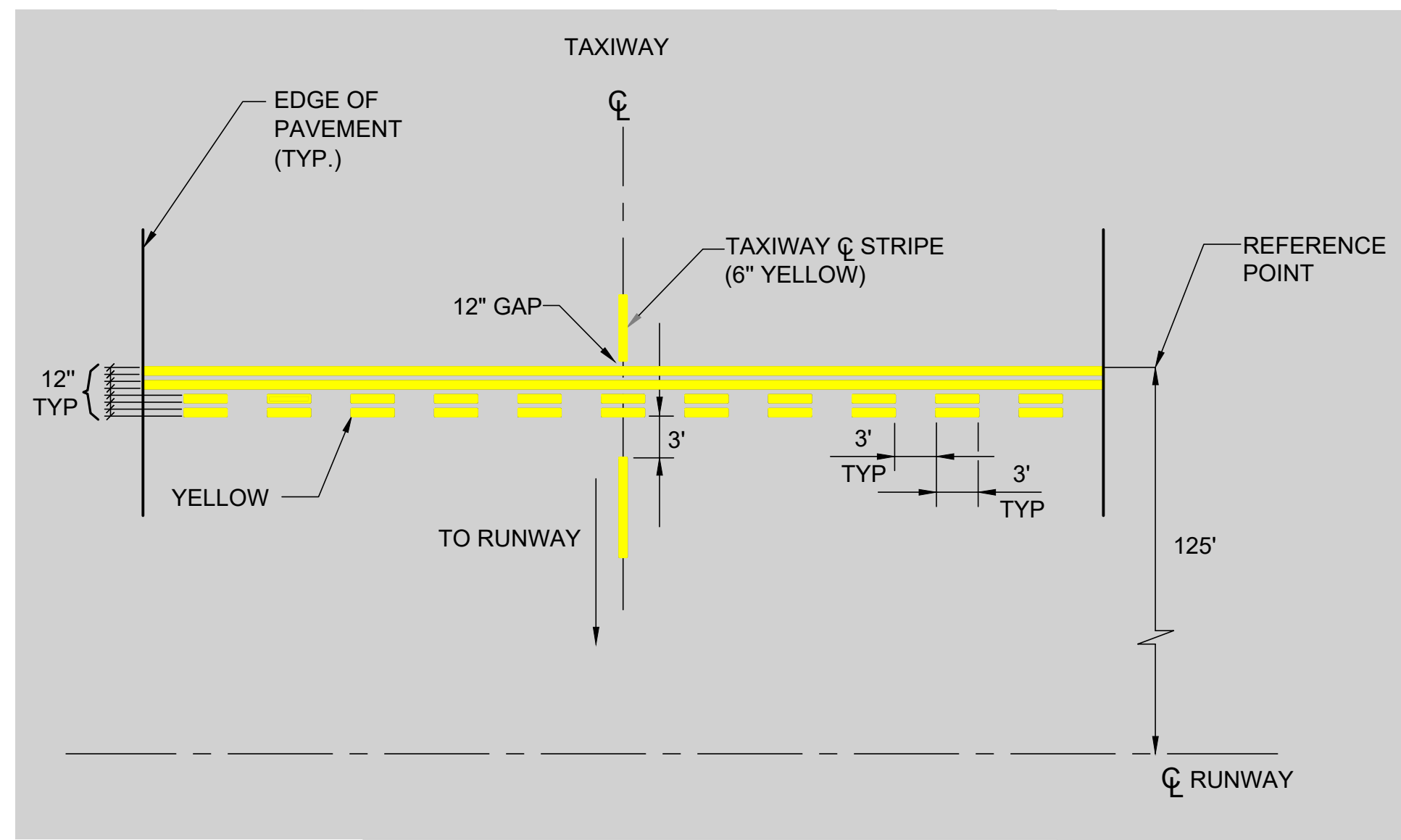
NOTE:

1. ALL CHARACTERS SHALL HAVE THESE CHARACTERISTICS (UNLESS OTHERWISE SPECIFIED)
 VERTICAL STROKE OF 5'
 HORIZONTAL STROKE OF 10'
 DIAGONAL STROKE OF 5'

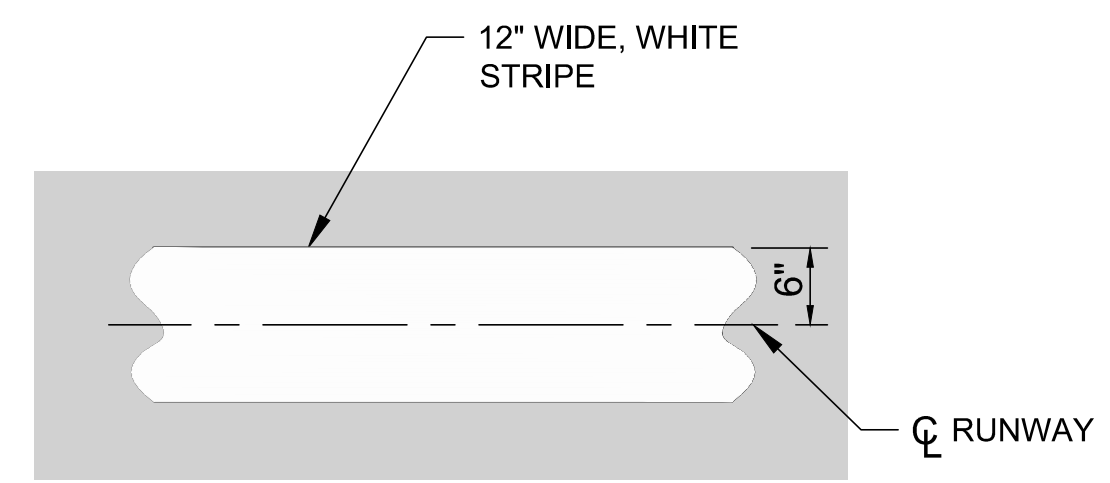
RUNWAY NUMERAL DETAIL 1
 NO SCALE C-8



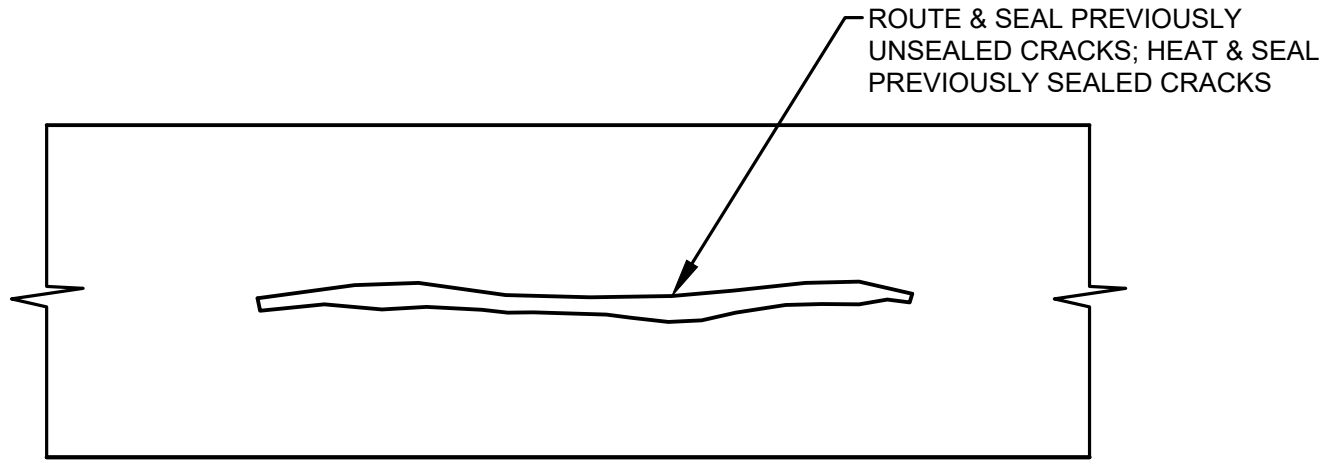
TAXIWAY LEAD-IN MARKING DETAIL 4
 NO SCALE C-8



HOLD LINE DETAIL 2
 NO SCALE C-8



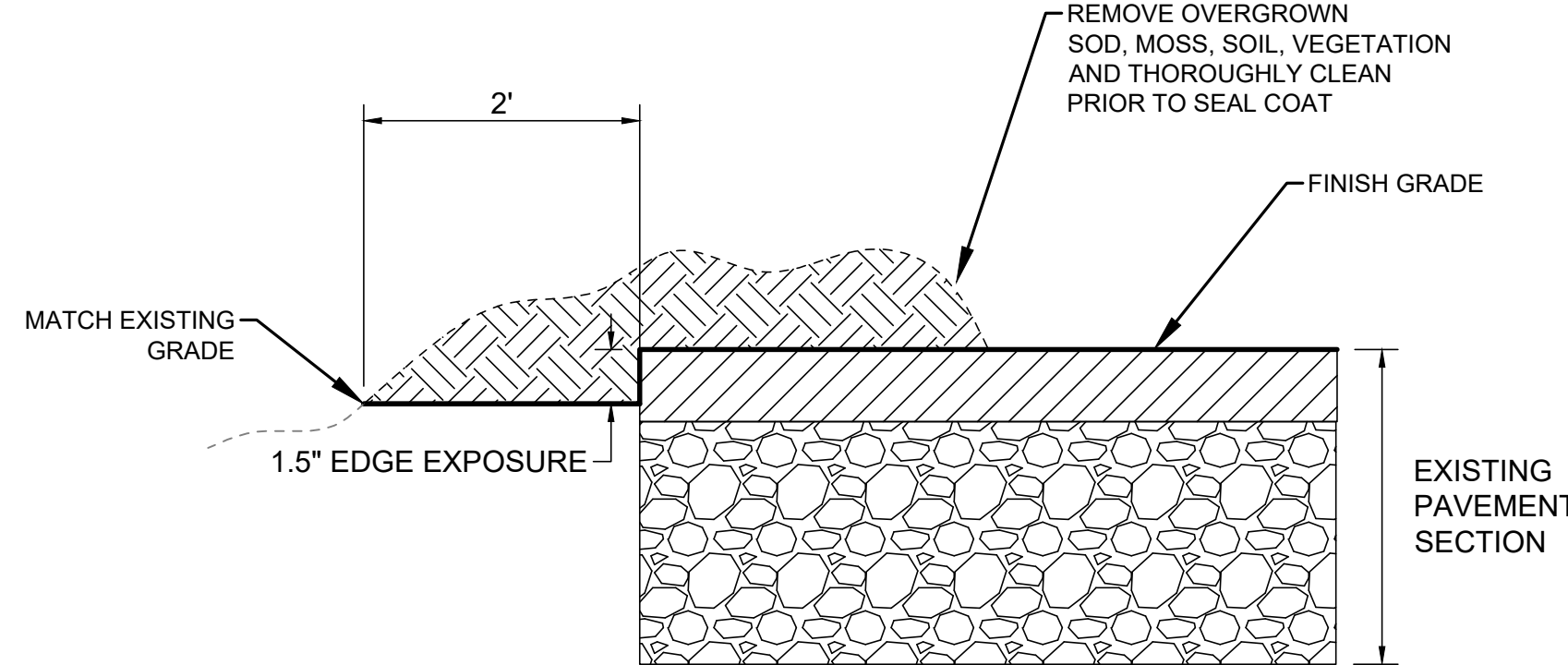
RUNWAY C STRIPE DETAIL 3
 NO SCALE C-8



NOTES:

1. VERIFY CRACKS FOR CLEANING AND FILLING WITH ENGINEER PRIOR TO WORK.
2. ROUTE AND CLEAR CRACK OF ALL EXISTING SEALER, DEBRIS, AND VEGETATION.
3. FOR PREVIOUSLY SEALED CRACKS, CLEAN CRACKS WITH HEAT LANCE AND FILL WITH RUBBERIZED ASPHALT CRACK SEALANT IN MINIMUM OF TWO LIFTS.

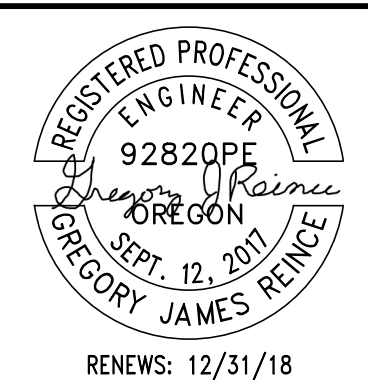
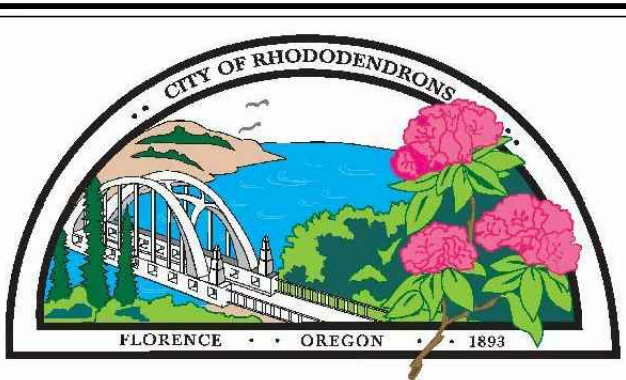
A.C. CRACK SEAL 5
 NO SCALE C-8



PAVEMENT EDGE CLEANING DETAIL 6
 NO SCALE C-8

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RED BLUE



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NO.	DATE	BY	APPR	REVISIONS

CENTURY WEST ENGINEERING

BEND OFFICE
 1020 SW EMKAY DRIVE, #100
 BEND, OR 97702
 541.322.8862
 541.382.2423 FAX

DATE: JUNE 2018 PROJECT NO: 41301.014.01

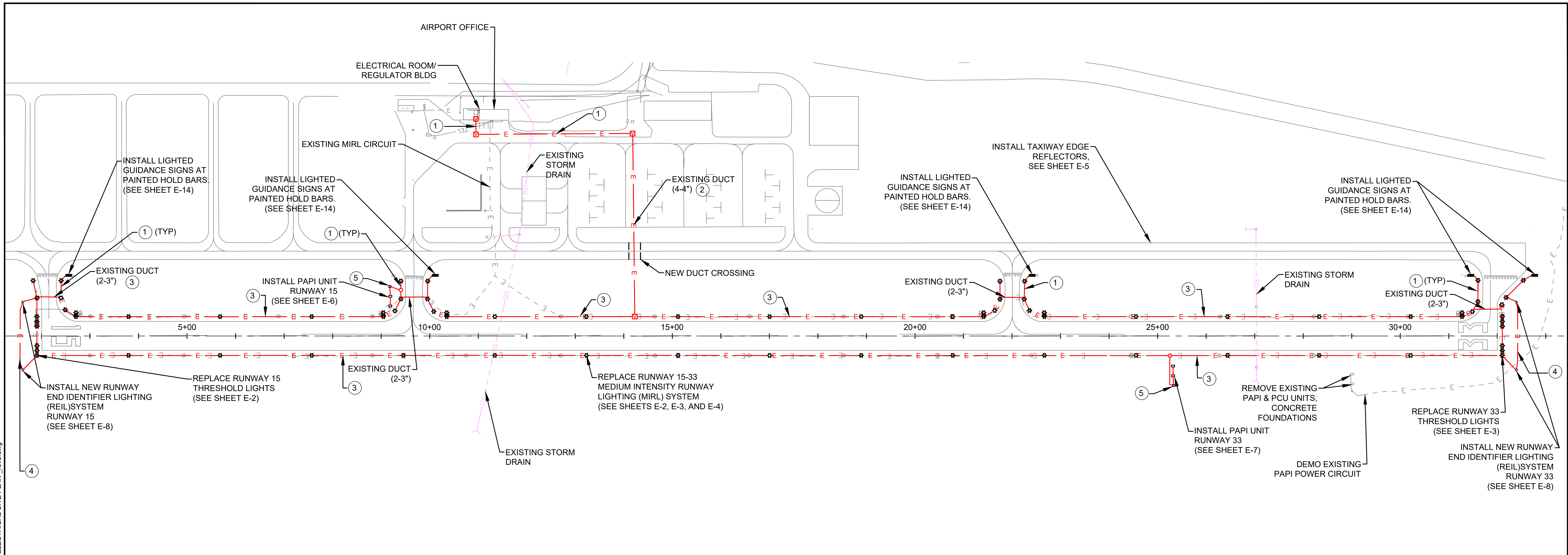
DESIGNED BY: GJR
 DRAWN BY: EKN
 CHECKED BY: JNR
 SCALE: AS NOTED

**CITY OF FLORENCE
 FLORENCE MUNICIPAL AIRPORT
 SEAL COAT AND LIGHTING IMPROVEMENTS**

PAVEMENT MARKING & CRACK SEAL DETAILS

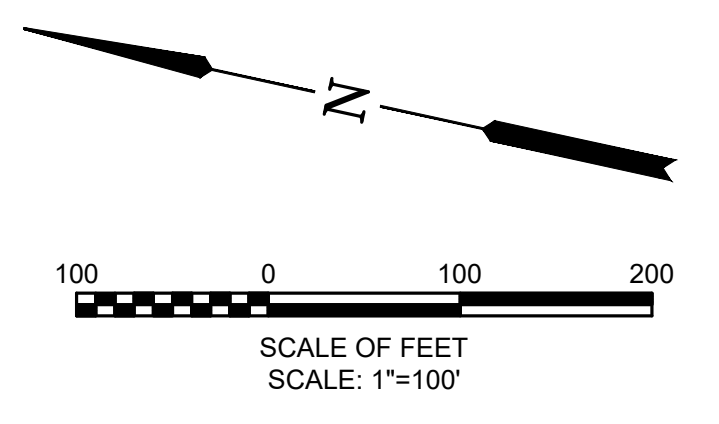
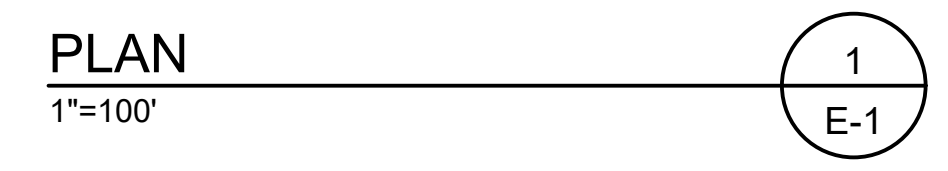
DRAWING NO. C-8
 SHEET NO. 14 OF 28

C:\Users\Enlow\Dropbox (Centurywest)\Pugget Sound\Projects\FLORENCE, CITY OF\2018 Seal Coat and Lighting Improvements\CAD_WORKING\E-1 ELECTRICAL SITE PLAN_rev3.dwg



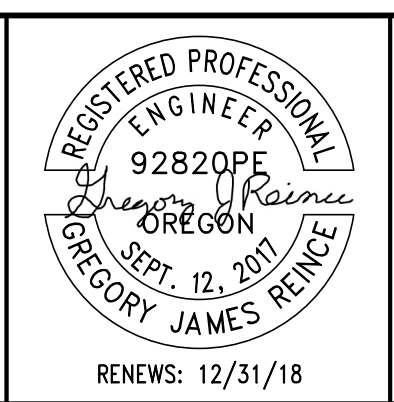
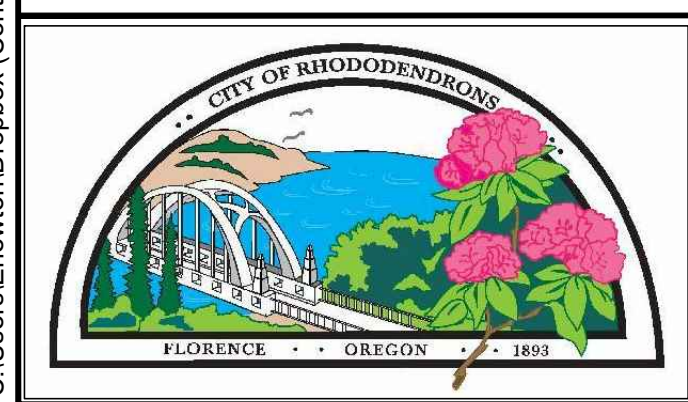
NOTES:

- ① SEE CONDUIT AND CABLE SCHEDULE ON SHEET E-9, CIRCUIT 5.
- ② PROVIDE CONDUCTORS IDENTIFIED ON CONDUIT AND CABLE SCHEDULE SHEET E-9, CIRCUIT 5. ROUTE IN EXISTING DUCT.
- ③ PROVIDE (1) #8 5KV CABLE IN 2" CONDUIT UNLESS OTHERWISE NOTED.
- ④ PROVIDE (1) 2" CONDUIT WITH (2) #12 AWG CONDUCTORS AND (1) #12 GROUND.
- ⑤ INSTALL SEPARATE PCU FOR L-881 PAPI UNIT (BASE BID). SEPARATE PCU IS NOT REQUIRED FOR L-881 (L) (BID ALTERNATE).



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RED BLUE



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NO.	DATE	BY	APPR	REVISIONS

CENTURY WEST ENGINEERING

BEND OFFICE
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 BEND, OR 97702
 541.322.8962
 541.382.2423 FAX

DATE: JUNE 2018 PROJECT NO: 41301.014.01

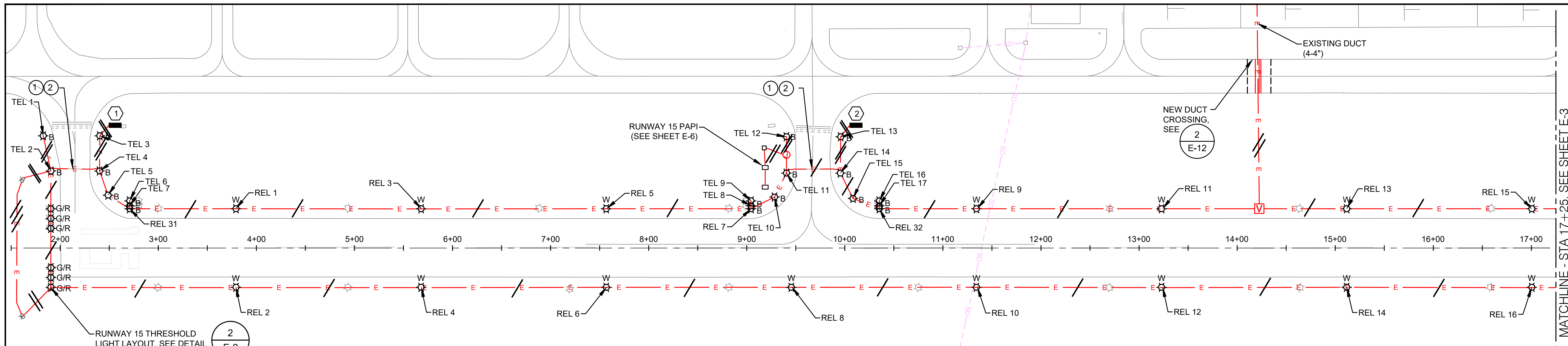
DESIGNED BY: GJR
 DRAWN BY: EKN
 CHECKED BY: JNR
 SCALE: AS NOTED

**CITY OF FLORENCE
 FLORENCE MUNICIPAL AIRPORT
 SEAL COAT AND LIGHTING IMPROVEMENTS**

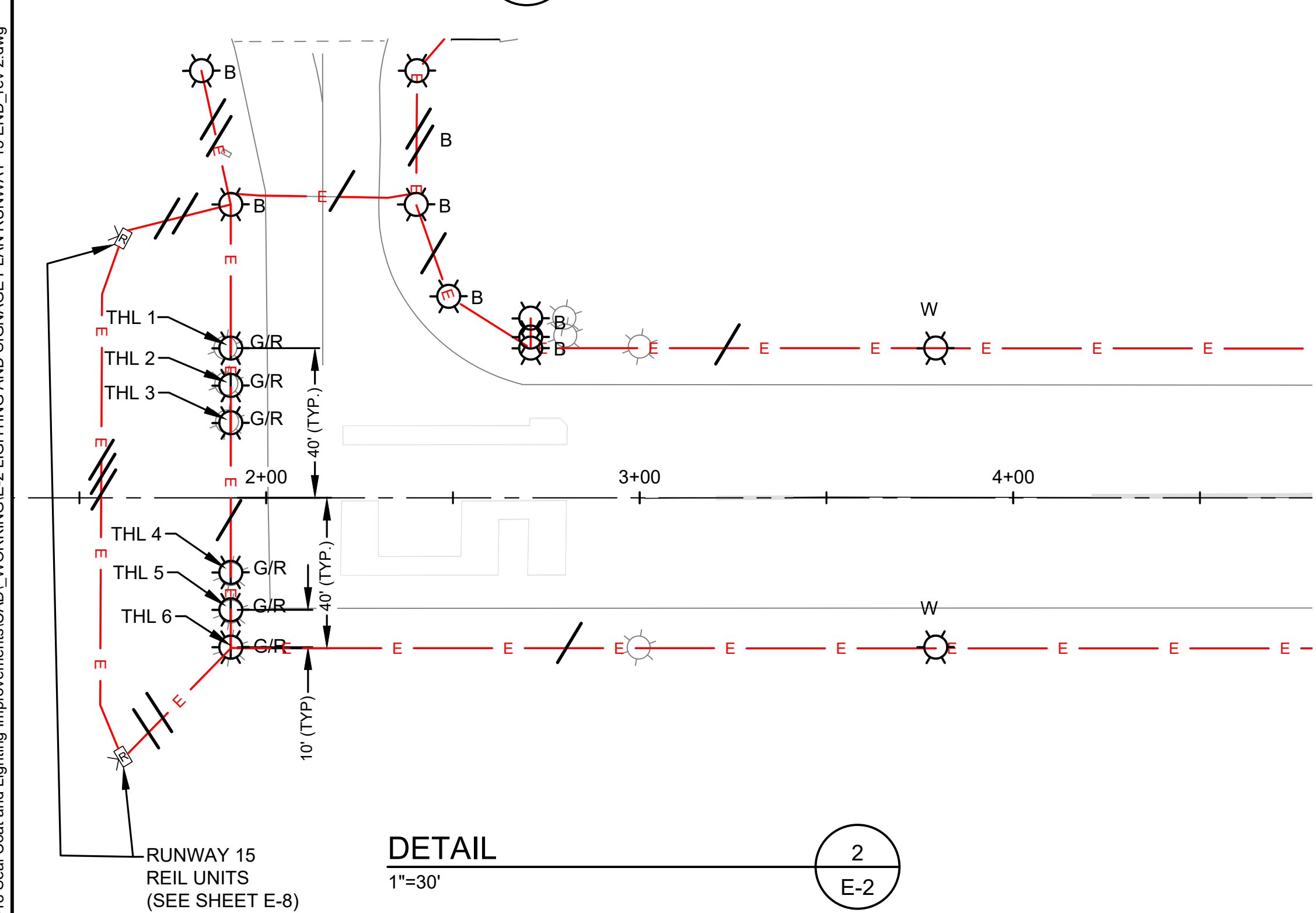
ELECTRICAL SITE PLAN

DRAWING NO. **E-1**
 SHEET NO. **15 OF 28**

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PLAN
1"=50'



DETAIL
1"=30'

LIGHT LEGEND - SEE DETAIL 1
E-11

- RUNWAY EDGE LIGHT - ELEVATED (REL) W
- RUNWAY THRESHOLD LIGHT (THL) G/R
- TAXIWAY EDGE LIGHT (TEL) B
- REIL R
- PAPI UNIT □
- LEGEND:**
- NEW LIGHTED GUIDANCE SIGN/ID, SEE SHEET E-14 #
- EXISTING CONDUIT —E—E—
- PROPOSED CONDUIT, TICS INDICATE NUMBER OF CONDUCTORS —E/E—
- NEW VAULT V
- JUNCTION BASE CAN J
- RED/GREEN R/G
- WHITE/CLEAR W
- BLUE B
- EXISTING STORM DRAIN - - - 50

STATIONING & OFFSET THRESHOLD LIGHT (R/G)

LIGHT	STATION	OFFSET
THL 1	1+90.49	40.00 LT
THL 2	1+90.49	30.00 LT
THL 3	1+90.49	20.00 LT
THL 4	1+90.49	20.00 RT
THL 5	1+90.49	30.00 RT
THL 6	1+90.49	40.00 RT

STATIONING & OFFSET RUNWAY EDGE LIGHT (W)

LIGHT	STATION	OFFSET
REL 1	3+79.22	40.00 LT
REL 2	3+79.22	40.00 RT
REL 3	5+67.96	40.00 LT
REL 4	5+67.96	40.00 RT
REL 5	7+56.69	40.00 LT
REL 6	7+56.69	40.00 RT
REL 7	9+04.34	40.00 LT
REL 8	9+45.43	40.00 RT
REL 9	11+34.16	40.00 LT
REL 10	11+34.16	40.00 RT
REL 11	13+22.90	40.00 LT
REL 12	13+22.90	40.00 RT
REL 13	15+11.63	40.00 LT
REL 14	15+11.63	40.00 RT
REL 15	17+00.37	40.00 LT
REL 16	17+00.37	40.00 RT
REL 31	2+70.81	40.00 LT
REL 32	10+35.11	40.00 LT

STATIONING & OFFSET TAXIWAY EDGE LIGHT (B)

LIGHT	STATION	OFFSET
TEL 1	1+82.65	114.27 LT
TEL 2	1+90.49	78.47 LT
TEL 3	2+40.36	114.27 LT
TEL 4	2+40.15	78.47 LT
TEL 5	2+48.83	53.88 LT
TEL 6	2+70.81	48.00 LT
TEL 7	2+70.81	43.00 LT
TEL 8	9+04.34	43.00 LT
TEL 9	9+04.34	48.00 LT
TEL 10	9+28.31	51.94 LT
TEL 11	9+40.44	76.32 LT
TEL 12	9+40.44	113.32 LT
TEL 13	9+95.80	113.32 LT
TEL 14	9+95.48	76.32 LT
TEL 15	10+08.32	50.55 LT
TEL 16	10+35.11	48.00 LT
TEL 17	10+35.11	43.00 LT

ELECTRICAL NOTES: (X)

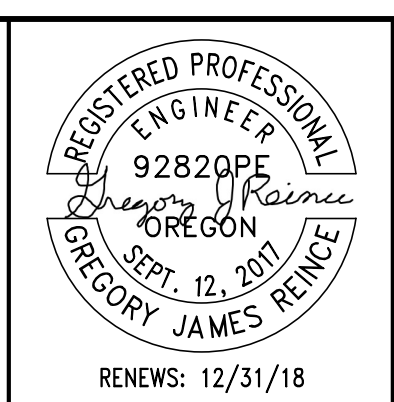
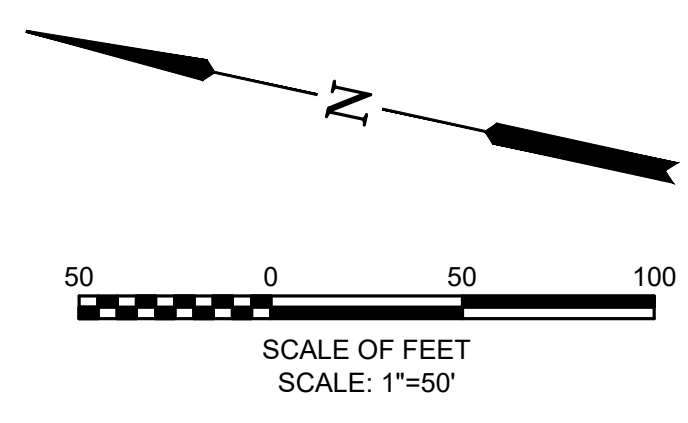
- UTILIZE EXISTING CONDUIT FOR CABLE RUN UNDER PAVEMENT. REMOVE EXISTING CABLE AND MANDREL CONDUIT PRIOR TO INSTALLING NEW CABLE AND PULL WIRE.
- SEE DEMOLITION PLANS FOR NOTES ON REUSE OF DUCT BANKS.
- FOR ADDITIONAL NOTES SEE SHEET E-1.

GUIDANCE SIGN NOTES:

- SEE E-14 FOR GUIDANCE SIGN SCHEDULE.
- SEE E-14 FOR GUIDANCE SIGN DETAILS.

THIS PLAN SHEET IS INTENDED TO BE VIEWED IN COLOR. THE FOLLOWING COLORS SHOULD BE DISTINGUISHABLE WHEN PRINTED CORRECTLY:

RED BLUE



VERIFY SCALES
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NO.	DATE	BY	APPR	REVISIONS

CENTURY WEST ENGINEERING

BEND OFFICE
1020 SW EMKAY DRIVE, #100
BEND, OR 97702
541.322.8962
541.382.2423 FAX

DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

DATE: JUNE 2018 PROJECT NO: 41301.014.01

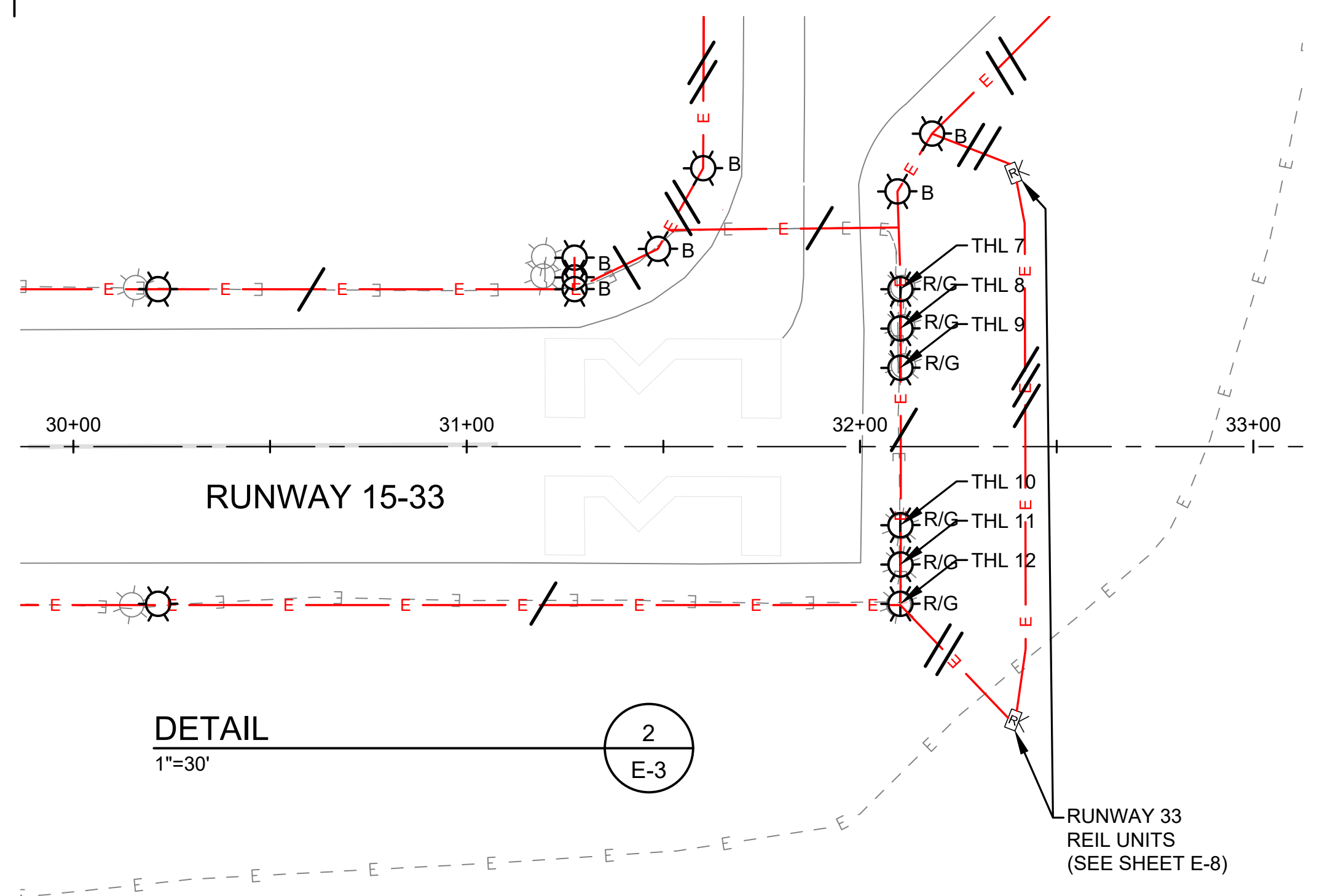
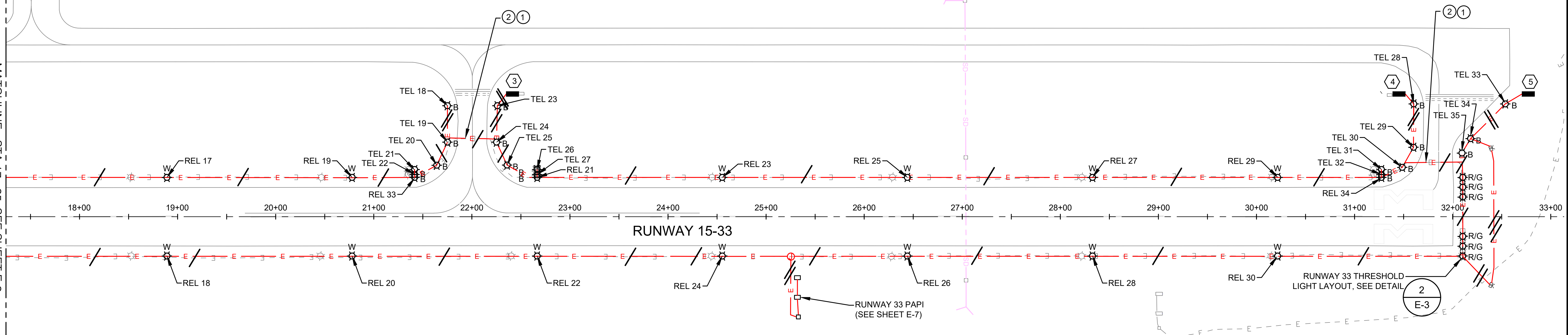
**CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS**

**LIGHTING AND SIGNAGE PLAN
RUNWAY 15 END**

DRAWING NO. **E-2**
SHEET NO. **16 OF 28**

MATCHLINE - STA 17+25, SEE SHEET E-2

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PLAN
1"
=50'

LIGHT LEGEND - SEE DETAIL 1
E-11

- RUNWAY EDGE LIGHT - ELEVATED (REL)
- RUNWAY THRESHOLD LIGHT (THL)
- TAXIWAY EDGE LIGHT (TEL)
- REIL
- PAPI UNIT

LEGEND:

- NEW LIGHTED GUIDANCE SIGN/ID, SEE SHEET E-14
- EXISTING CONDUIT
- PROPOSED CONDUIT, TICS INDICATE NUMBER OF CONDUCTORS
- NEW VAULT
- JUNCTION BASE CAN
- RED/GREEN
- WHITE/CLEAR
- BLUE
- EXISTING STORM DRAIN

STATIONING & OFFSET
THRESHOLD LIGHT (R/G) **STATIONING & OFFSET**
RUNWAY EDGE LIGHT (W) **STATIONING & OFFSET**
TAXIWAY EDGE LIGHT (B)

LIGHT	STATION	OFFSET	LIGHT	STATION	OFFSET	LIGHT	STATION	OFFSET
THL 7	32+10.25	40.00 LT	REL 17	18+89.10	40.00 LT	TEL 18	21+75.13	113.05 LT
THL 8	32+10.25	30.00 LT	REL 18	18+89.10	40.00 RT	TEL 19	21+75.13	75.94 LT
THL 9	32+10.25	20.00 LT	REL 19	20+77.84	40.00 LT	TEL 20	21+64.20	52.44 LT
THL 10	32+10.25	20.00 RT	REL 20	20+77.84	40.00 RT	TEL 21	21+41.61	48.00 LT
THL 11	32+10.25	30.00 RT	REL 21	22+66.57	40.00 LT	TEL 22	21+41.61	43.00 LT
THL 12	32+10.25	40.00 RT	REL 22	22+66.57	40.00 RT	TEL 23	22+26.05	113.05 LT
			REL 23	24+55.31	40.00 LT	TEL 24	22+25.19	75.94 LT
			REL 24	24+55.31	40.00 RT	TEL 25	22+35.96	52.61 LT
			REL 25	26+44.04	40.00 LT	TEL 26	22+66.57	48.00 LT
			REL 26	26+44.04	40.00 RT	TEL 27	22+66.57	43.00 LT
			REL 27	28+32.78	40.00 LT	TEL 28	31+60.28	114.86 LT
			REL 28	28+32.78	40.00 RT	TEL 29	31+60.08	70.74 LT
			REL 29	30+21.51	40.00 LT	TEL 30	31+48.61	50.25 LT
			REL 30	30+21.51	40.00 RT	TEL 31	31+27.38	48.00 LT
			REL 33	21+41.61	40.00 LT	TEL 32	31+27.38	43.00 LT
			REL 34	31+27.38	40.00 LT	TEL 33	32+53.61	114.86 LT
						TEL 34	32+18.28	79.53 LT
						TEL 35	32+09.48	64.83 LT

ELECTRICAL NOTES: (X)

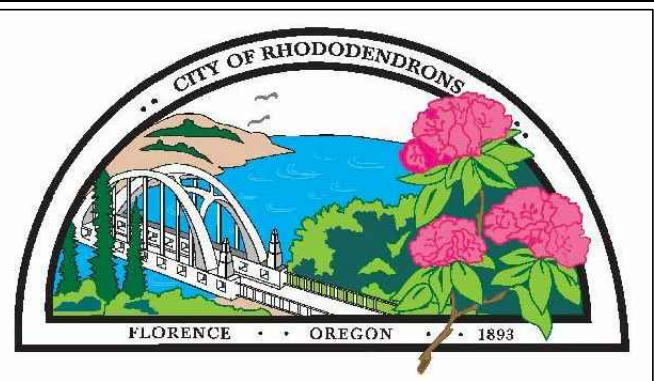
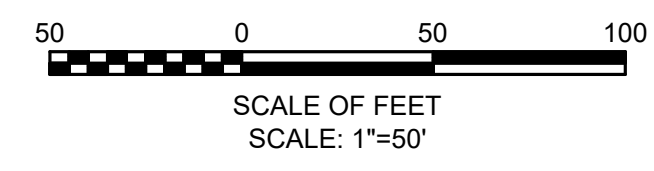
- UTILIZE EXISTING CONDUIT FOR CABLE RUN UNDER PAVEMENT. REMOVE EXISTING CABLE AND MANDREL CONDUIT PRIOR TO INSTALLING NEW CABLE AND PULL WIRE.
- SEE DEMOLITION PLANS FOR NOTES ON REUSE OF DUCT BANKS.
- FOR ADDITIONAL NOTES SEE SHEET E-1.

GUIDANCE SIGN NOTES:

- SEE E-14 FOR GUIDANCE SIGN SCHEDULE.
- SEE E-14 FOR GUIDANCE SIGN DETAILS.

THIS PLAN SHEET IS INTENDED TO BE VIEWED IN COLOR. THE FOLLOWING COLORS SHOULD BE DISTINGUISHABLE WHEN PRINTED CORRECTLY:

RED BLUE



VERIFY SCALES
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NO.	DATE	BY	APPR	REVISIONS

CENTURY WEST ENGINEERING

BEND OFFICE
1020 SW EMKAY DRIVE, #100
BEND, OR 97702
541.322.8962
541.382.2423 FAX

DATE: JUNE 2018 PROJECT NO: 41301.014.01

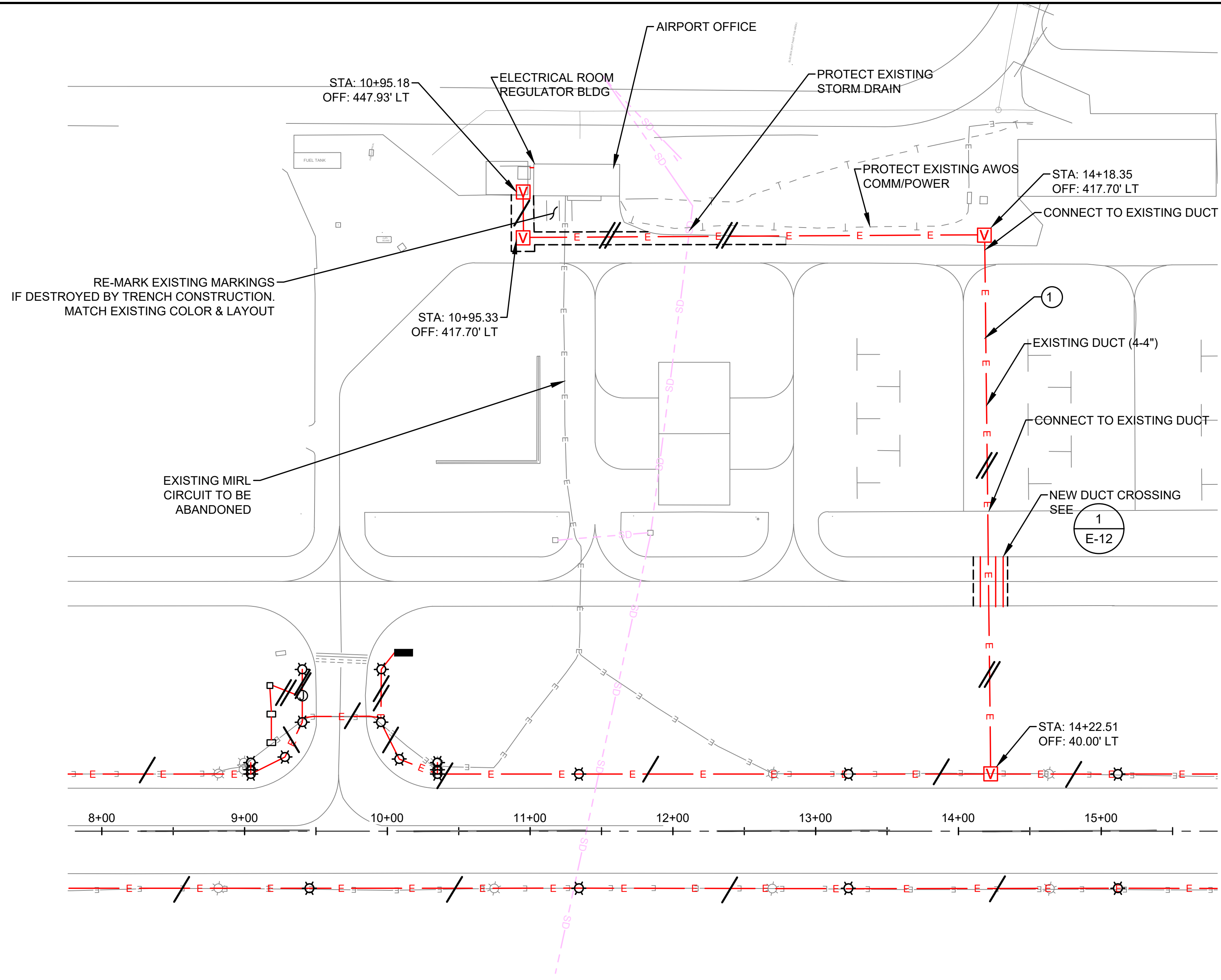
DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

LIGHTING AND SIGNAGE PLAN
RUNWAY 33 END

DRAWING NO. **E-3**
SHEET NO. **17 OF 28**

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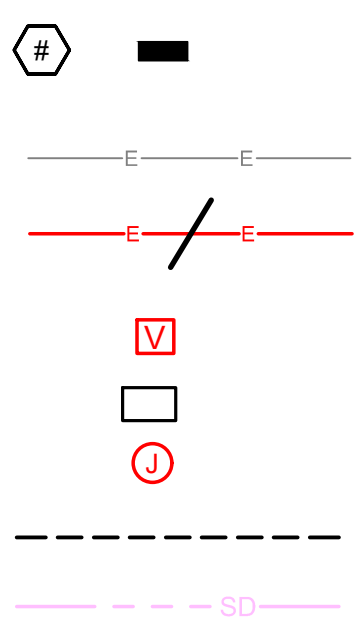


PLAN
1"=50'
1
E-4

LIGHT LEGEND - SEE DETAIL 1 E-11

- RUNWAY EDGE LIGHT - ELEVATED (REL)
- RUNWAY THRESHOLD LIGHT (THL)
- TAXIWAY EDGE LIGHT (TEL)
- REIL

- LEGEND:**
- W NEW LIGHTED GUIDANCE SIGN/ID, SEE SHEET E-14
 - ⊗ EXISTING CONDUIT
 - ⊗ G/R PROPOSED CONDUIT, TICS INDICATE NUMBER OF CONDUCTORS
 - ⊗ B NEW VAULT
 - ⊗ J PAPI UNIT
 - JUNCTION BASE CAN
 - SAWCUT AC
 - - - EXISTING STORM DRAIN



THIS PLAN SHEET IS INTENDED TO BE VIEWED IN COLOR. THE FOLLOWING COLORS SHOULD BE DISTINGUISHABLE WHEN PRINTED CORRECTLY:

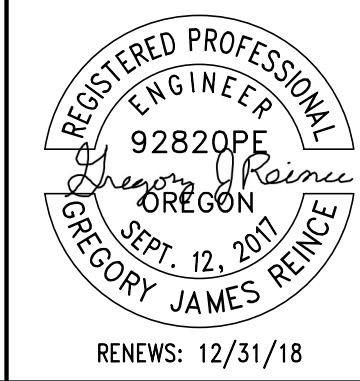
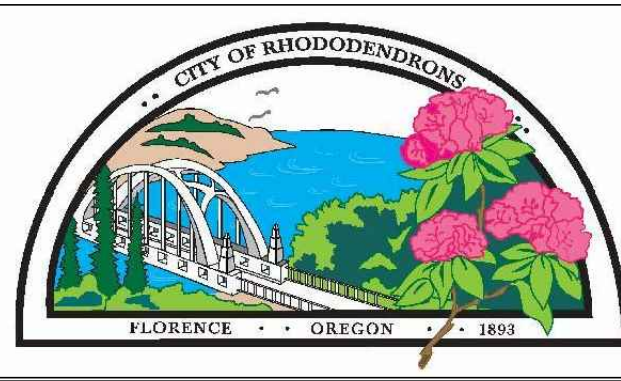
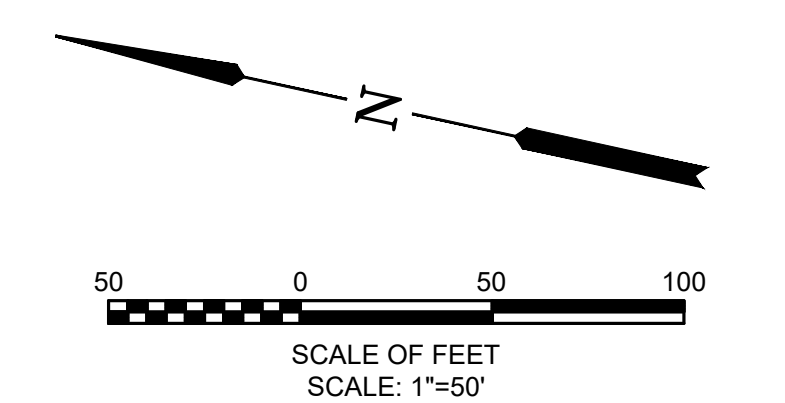
RED BLUE

GUIDANCE SIGN NOTES:

1. SEE E-14 FOR GUIDANCE SIGN SCHEDULE.
2. SEE E-14 FOR GUIDANCE SIGN DETAILS.

ELECTRICAL NOTES: (X)

1. UTILIZE EXISTING CONDUIT FOR CABLE RUN UNDER PAVEMENT. REMOVE EXISTING CABLE AND MANDREL CONDUIT PRIOR TO INSTALLING NEW CABLE AND PULL WIRE.
2. UTILIZE EXISTING STUB OUT OF VAULT TO CONNECT NEW CONDUIT TO NEW LIGHTS.
3. FOR ADDITIONAL NOTES SEE SHEET E-1.



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541.322.8962
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DATE: JUNE 2018 PROJECT NO: 41301.014.01

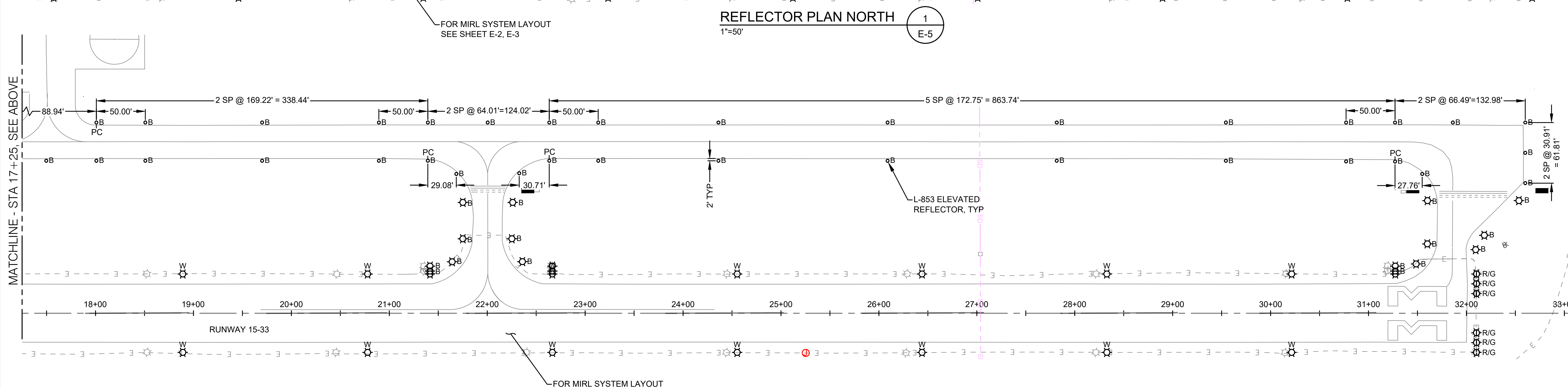
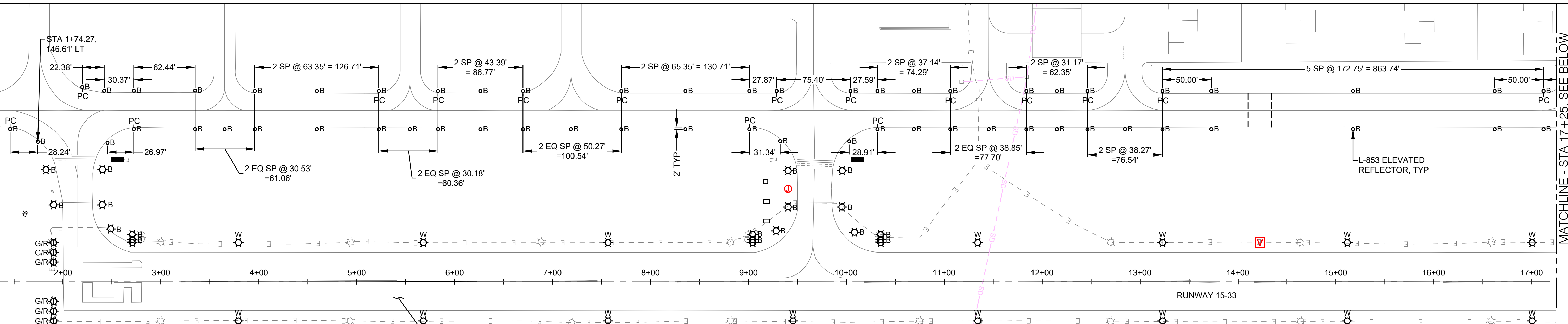
DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

LIGHTING PLAN
HOME RUN

DRAWING NO. E-4
SHEET NO. 18 OF 28

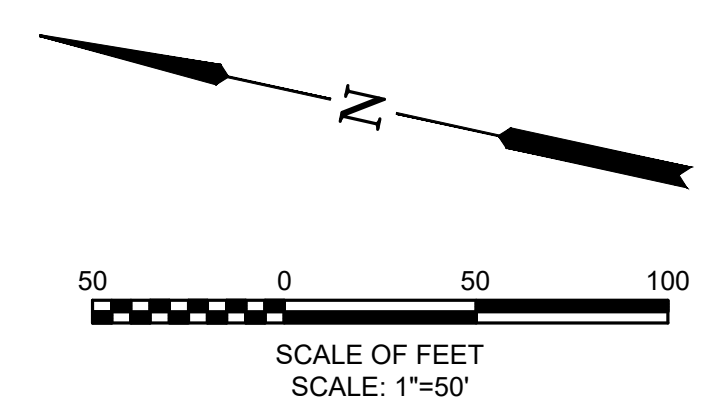
C:\Users\Enlow\Dropbox (Centurywest)\Puget Sound\Projects\FLORENCE, CITY OF\2018 Seal Coat and Lighting Improvements\CAD\WORKING\E-5 REFLECTOR LAYOUT PLAN.dwg



LEGEND:

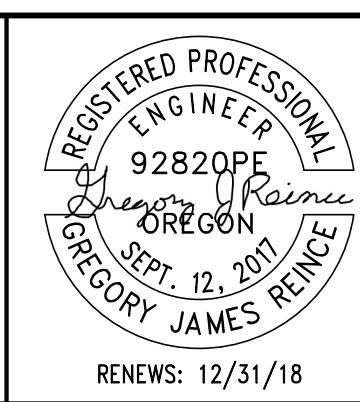
- RUNWAY EDGE LIGHT - ELEVATED (REL)
- RUNWAY THRESHOLD LIGHT (THL)
- ELEVATED REFLECTOR
- REIL UNIT
- PAPI UNIT
- NEW VAULT
- JUNCTION BASE CAN
- EXISTING STORM DRAIN

- W
- G/R
- O B
- NEW VAULT
- JUNCTION BASE CAN
- EXISTING STORM DRAIN



MATCHLINE - STA 17+25, SEE ABOVE

MATCHLINE - STA 17+25, SEE BELOW



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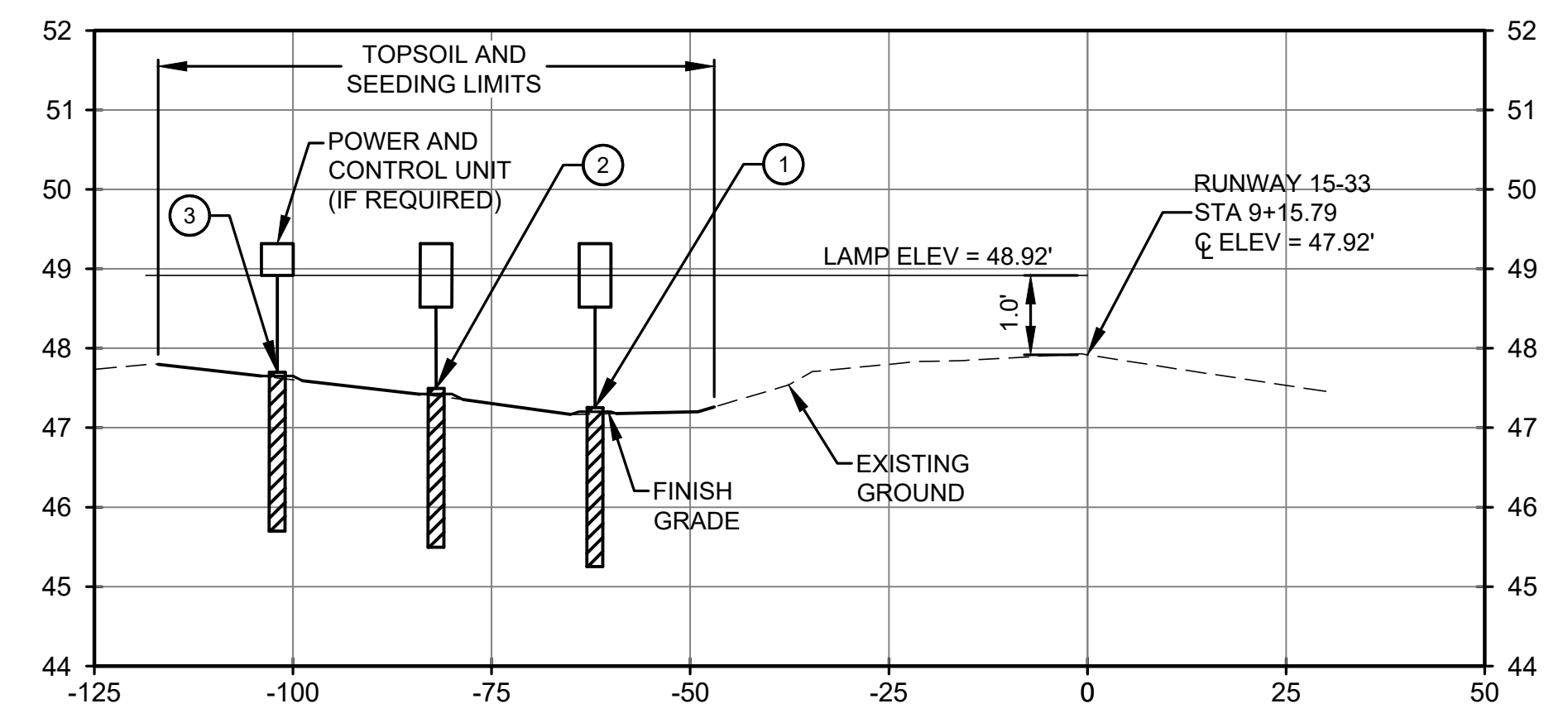
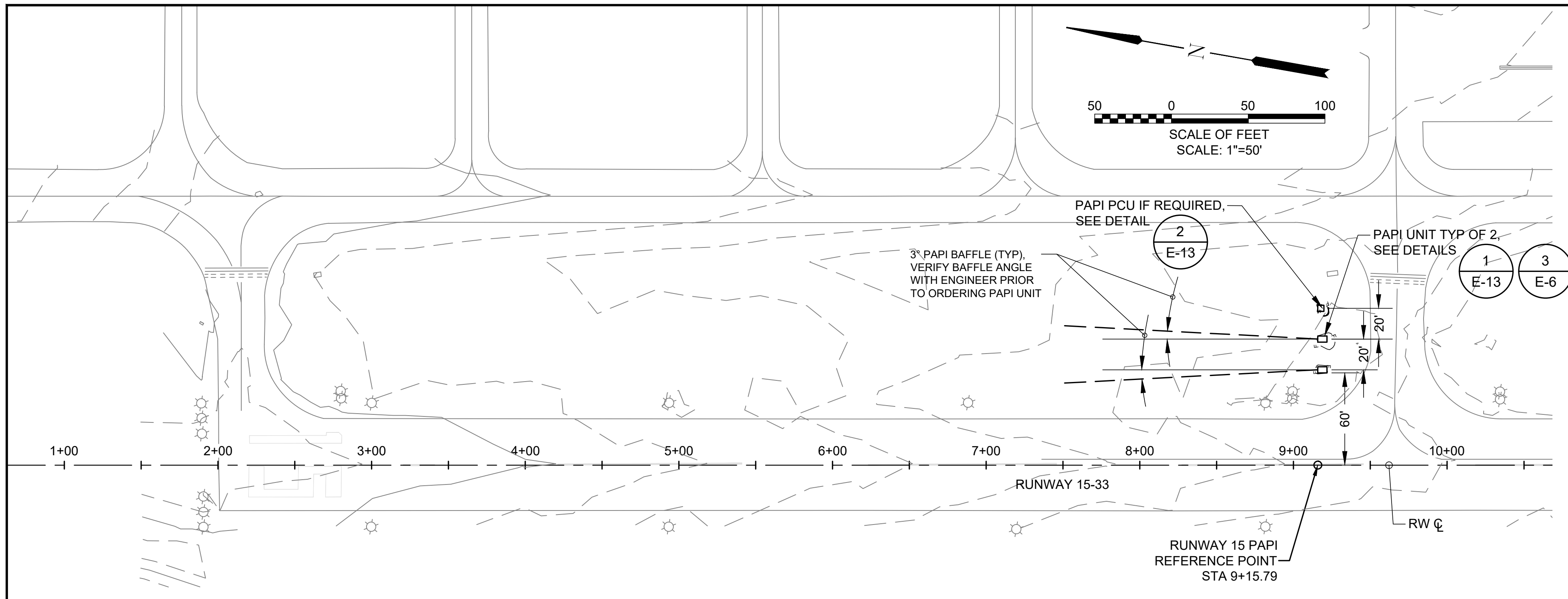
DATE: JUNE 2018 PROJECT NO: 41301.014.01

DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

**CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS**

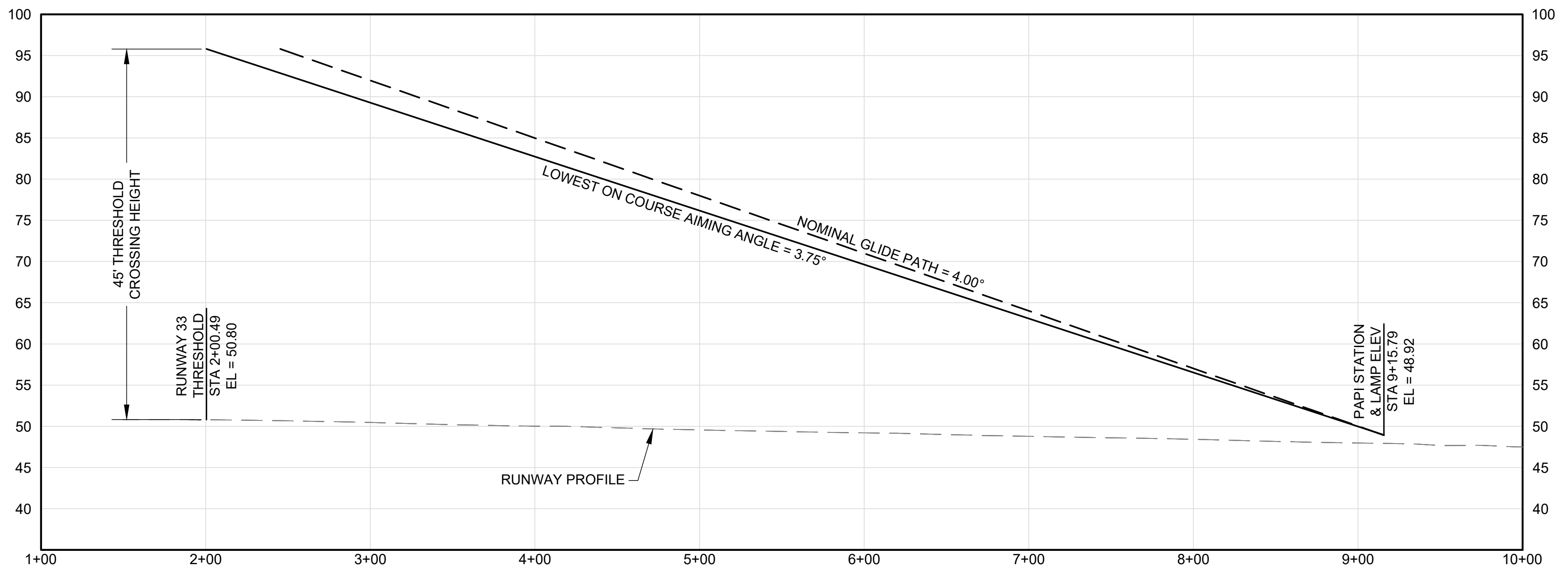
REFLECTOR LAYOUT PLAN

DRAWING NO. **E-5**
SHEET NO. **19 OF 28**



RUNWAY 15 PAPI PLAN VIEW
SCALE: 1"= 50'

RUNWAY 15 PAPI CROSS SECTION
STA 9+15.79
SCALE: 1"=20' HORIZ
1"=2' VERT



RUNWAY 15 PAPI AIMING PROFILE
SCALE: 1"=50' HORIZ
1"=10' VERT

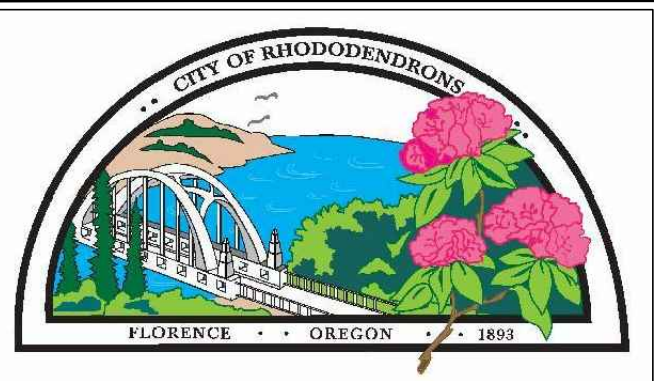
PAPI AIMING NOTES:

1. PAPI AIMING UNIT PRICE TO INCLUDE INITIAL AIMING AT THE PAPI AIMING ANGLE SHOWN.
2. PAPI AIMING IS NOT COMPLETE UNTIL APPROVED BY THE OWNER AND FAA, AFTER FAA FLIGHT CHECK.
3. CONTRACTOR SHALL MAKE UP TO 2 ADDITIONAL TRIPS TO THE SITE TO MAKE ADJUSTMENTS TO THE AIMING ANGLE, IF DIRECTED BY THE ENGINEER.
4. PAPI AIMING ANGLE AND OBSTACLE CLEARANCE SURFACE ANGLES ARE MEASURED TO HORIZONTAL.

RUNWAY 15 PAPI UNIT AIMING (2 BOX)

LIGHT UNIT	AIMING ANGLE
UNIT NEAREST RUNWAY	4°15'
UNIT FARTHEST FROM RUNWAY	3°45'

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0" ██████████ 1"
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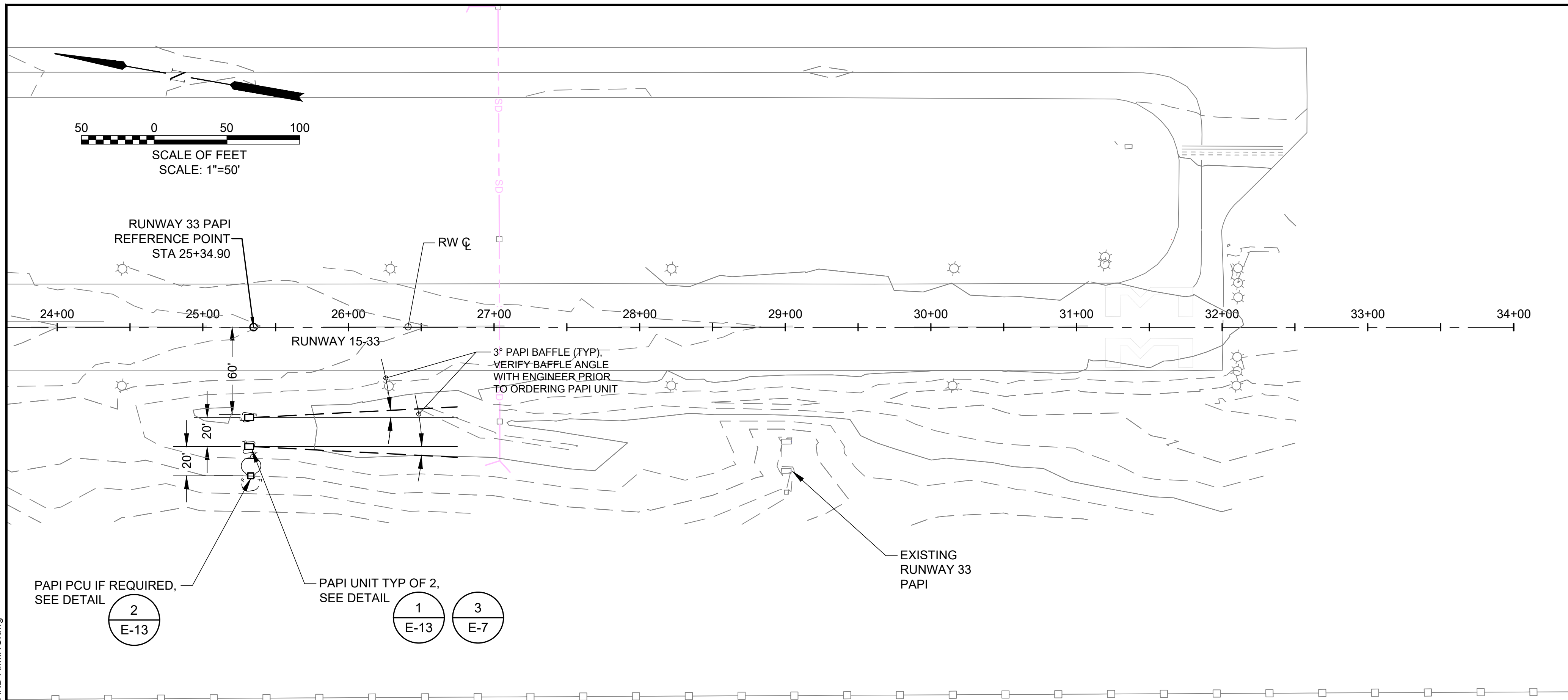
DATE: JUNE 2018 PROJECT NO: 41301.014.01

DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

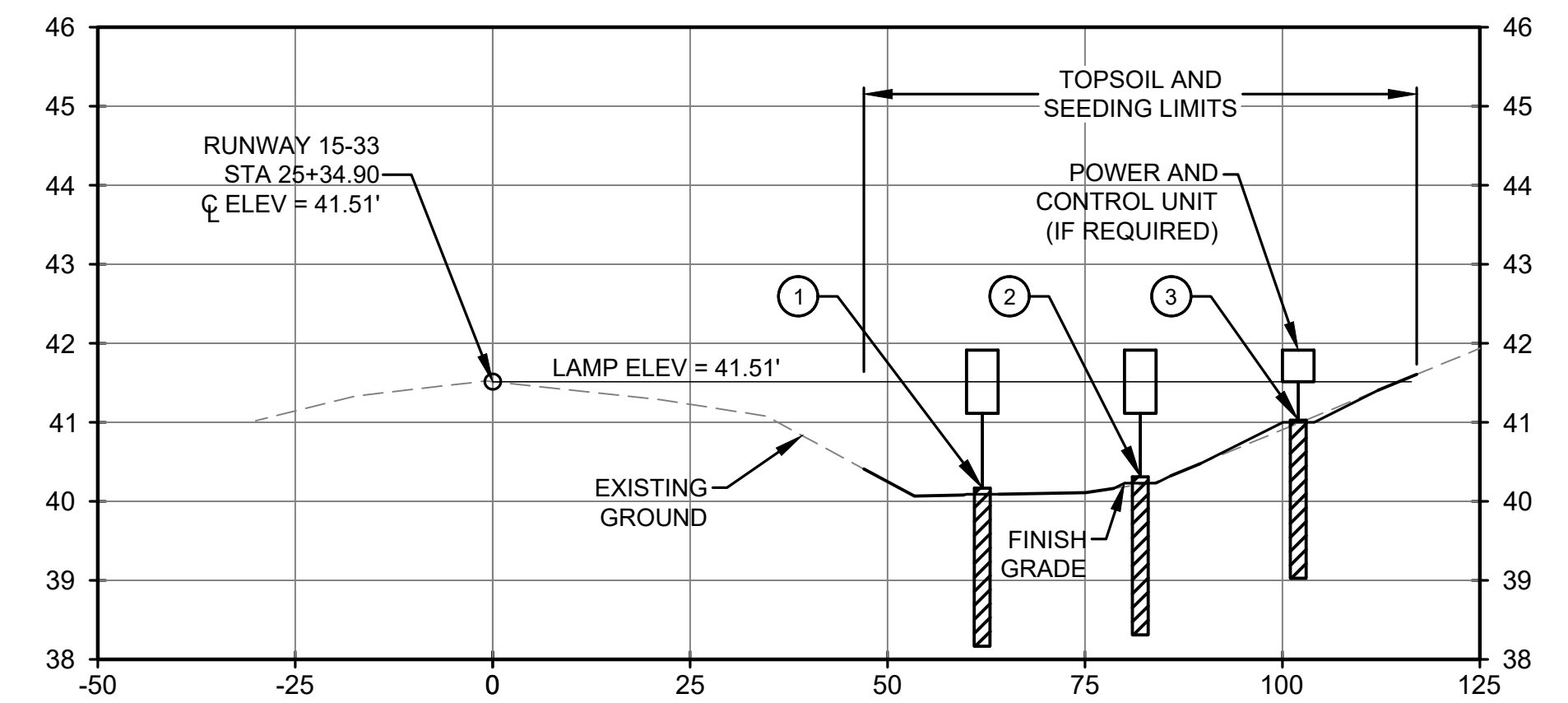
CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

RUNWAY 15 PAPI LAYOUT AND AIMING

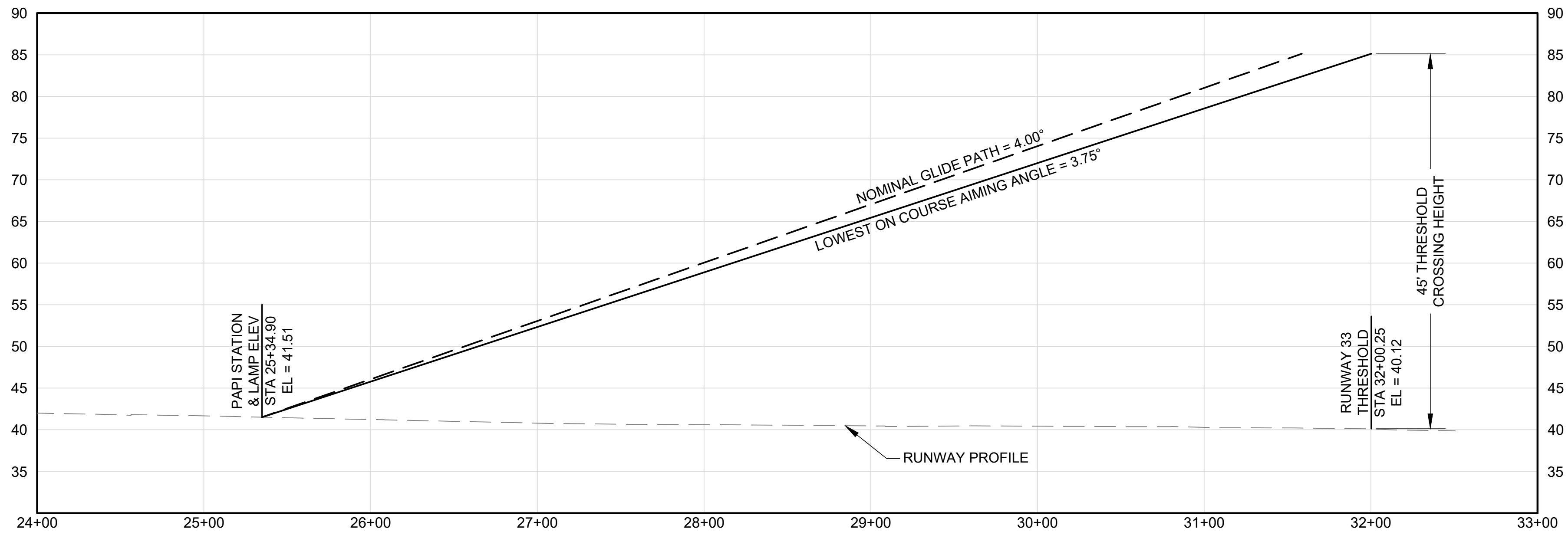
DRAWING NO. E-6
SHEET NO. 20 OF 28



RUNWAY 33 PAPI PLAN VIEW
SCALE: 1"= 50'
1
E-7



RUNWAY 33 PAPI CROSS SECTION
STA 25+34.90
SCALE: 1"=50' HORIZ
1"=5' VERT
3
E-7



RUNWAY 33 PAPI AIMING PROFILE
SCALE: 1"=50' HORIZ
1"=10' VERT
2
E-7

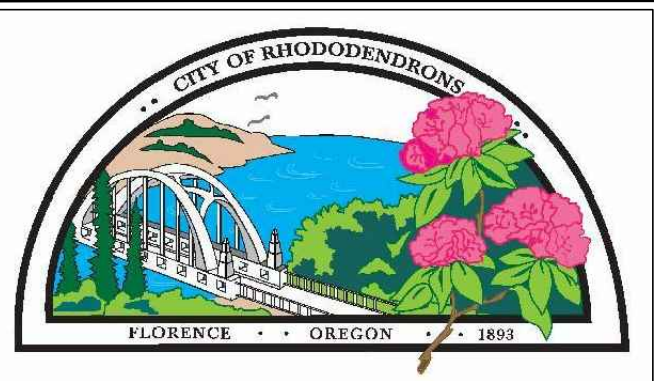
PAPI AIMING NOTES:

- PAPI AIMING UNIT PRICE TO INCLUDE INITIAL AIMING AT THE PAPI AIMING ANGLE SHOWN.
- PAPI AIMING IS NOT COMPLETE UNTIL APPROVED BY THE OWNER AND FAA, AFTER FAA FLIGHT CHECK.
- CONTRACTOR SHALL MAKE UP TO 2 ADDITIONAL TRIPS TO THE SITE TO MAKE ADJUSTMENTS TO THE AIMING ANGLE, IF DIRECTED BY THE ENGINEER.
- PAPI AIMING ANGLE AND OBSTACLE CLEARANCE SURFACE ANGLES ARE MEASURED TO HORIZONTAL.

RUNWAY 33 PAPI UNIT AIMING (2 BOX)

LIGHT UNIT	AIMING ANGLE
UNIT NEAREST RUNWAY	4°15'
UNIT FARTHEST FROM RUNWAY	3°45'

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CENTURY WEST ENGINEERING

BEND OFFICE
1020 SW EMKAY DRIVE, #100
BEND, OR 97702
541.322.8962
541.382.2423 FAX

DATE: JUNE 2018 PROJECT NO: 41301.014.01

DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

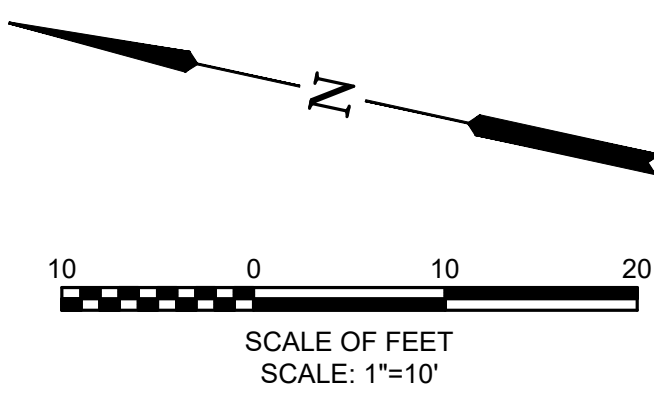
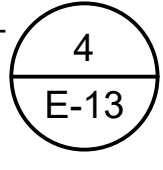
**CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS**

RUNWAY 33 PAPI LAYOUT AND AIMING

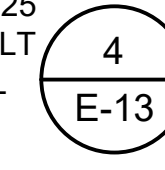
DRAWING NO. E-7
SHEET NO. 21 OF 28

C:\Users\Enwonwo\Dropbox (Centurywest)\Pugget Sound\Projects\FLORENCE, CITY OF\2018 Seal Coat and Lighting Improvements\CAD_WORKING\E-8 REIL PLAN RUNWAY 15 AND RUNWAY 33_reV2.dwg

1-2" SCH 40 WITH (2) #8 5KV CABLE
 INSTALL REIL (MASTER)
 STA 1+60.49
 OFF 70.00' LT
 SEE DETAIL

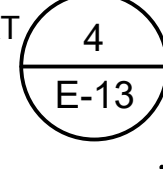


1-2" SCH 40 WITH(2) #8 5KV CABLE
 INSTALL REIL (MASTER)
 STA 32+40.25
 OFF 70.00' LT
 SEE DETAIL



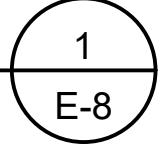
SEE NOTE 4 ON SHEET E-1

INSTALL REIL (SLAVE)
 STA 1+60.49
 OFF 70.00' RT
 SEE DETAIL



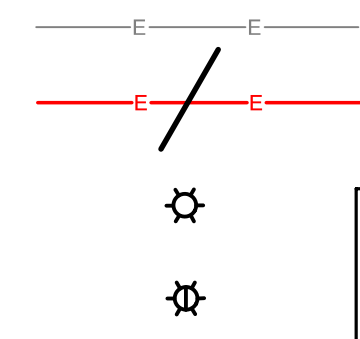
1-2" SCHED 40 WITH (2)
 #8 5KV CABLE

RUNWAY 15 REIL PLAN
 1"=10'

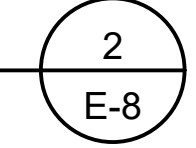


LEGEND:

- EXISTING CONDUIT
- PROPOSED CONDUIT, TICS INDICATE NUMBER OF CONDUCTORS
- ELEVATED EDGE LIGHT
- ELEVATED THRESHOLD LIGHT

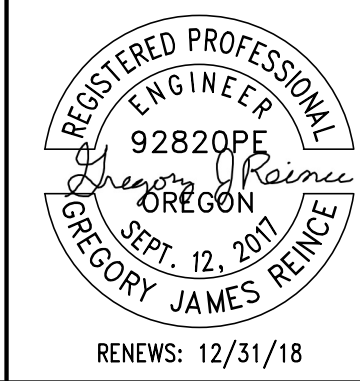
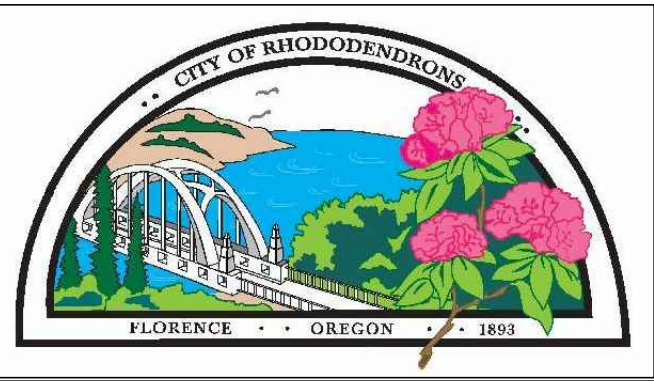


RUNWAY 33 REIL PLAN
 1"=10'



THIS PLAN SHEET IS INTENDED TO BE VIEWED IN COLOR. THE FOLLOWING COLORS SHOULD BE DISTINGUISHABLE WHEN PRINTED CORRECTLY:

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NO.	DATE	BY	APPR	REVISIONS

CENTURY WEST ENGINEERING

BEND OFFICE
 1020 SW EMKAY DRIVE, #100
 BEND, OR 97702
 541.322.8962
 541.382.2423 FAX

DATE: JUNE 2018 PROJECT NO: 41301.014.01

DESIGNED BY: GJR
 DRAWN BY: EKN
 CHECKED BY: JNR
 SCALE: AS NOTED

**CITY OF FLORENCE
 FLORENCE MUNICIPAL AIRPORT
 SEAL COAT AND LIGHTING IMPROVEMENTS**

REIL PLAN RUNWAY 15 AND RUNWAY 33

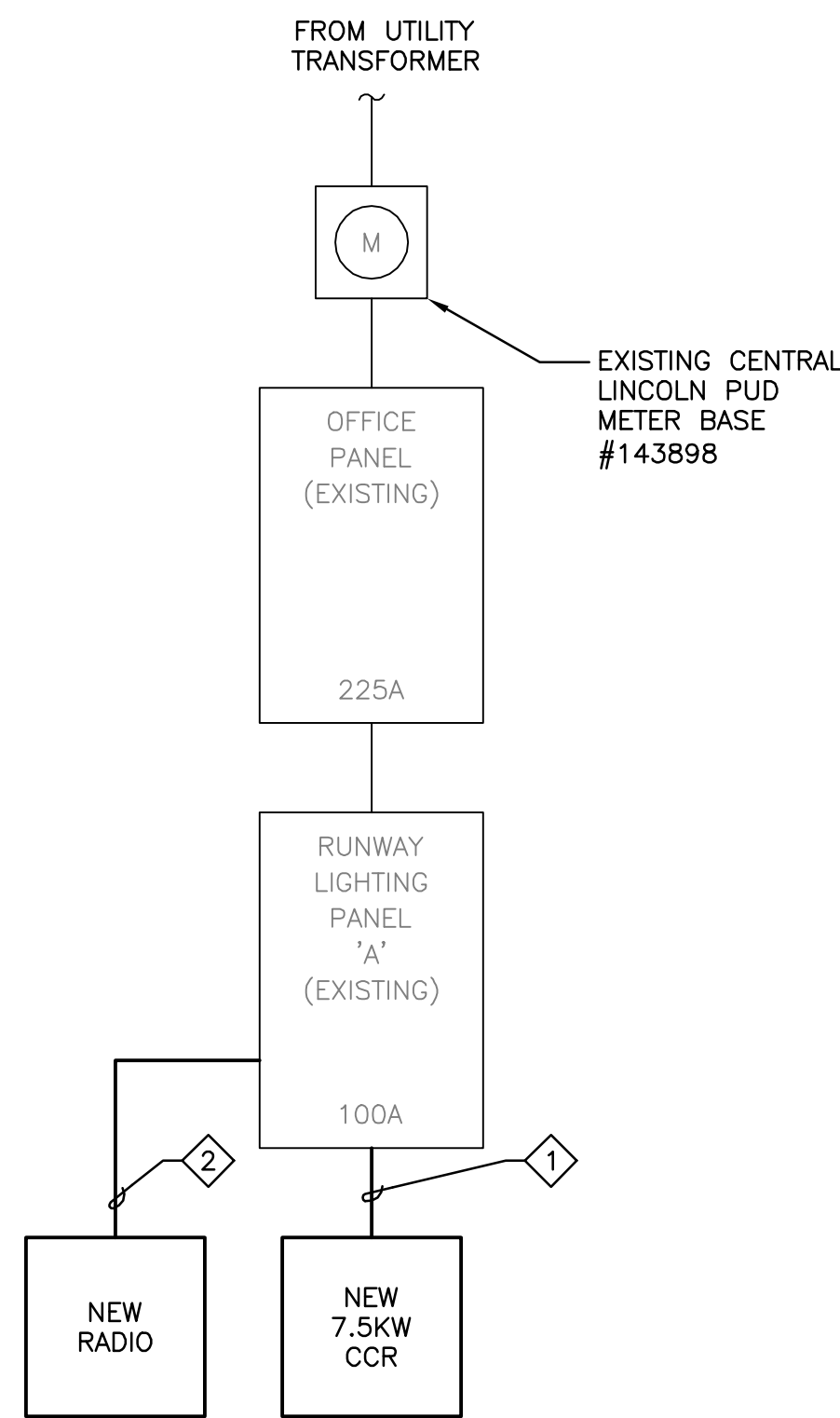
DRAWING NO. **E-8**
 SHEET NO. **22 OF 28**

GENERAL NOTES

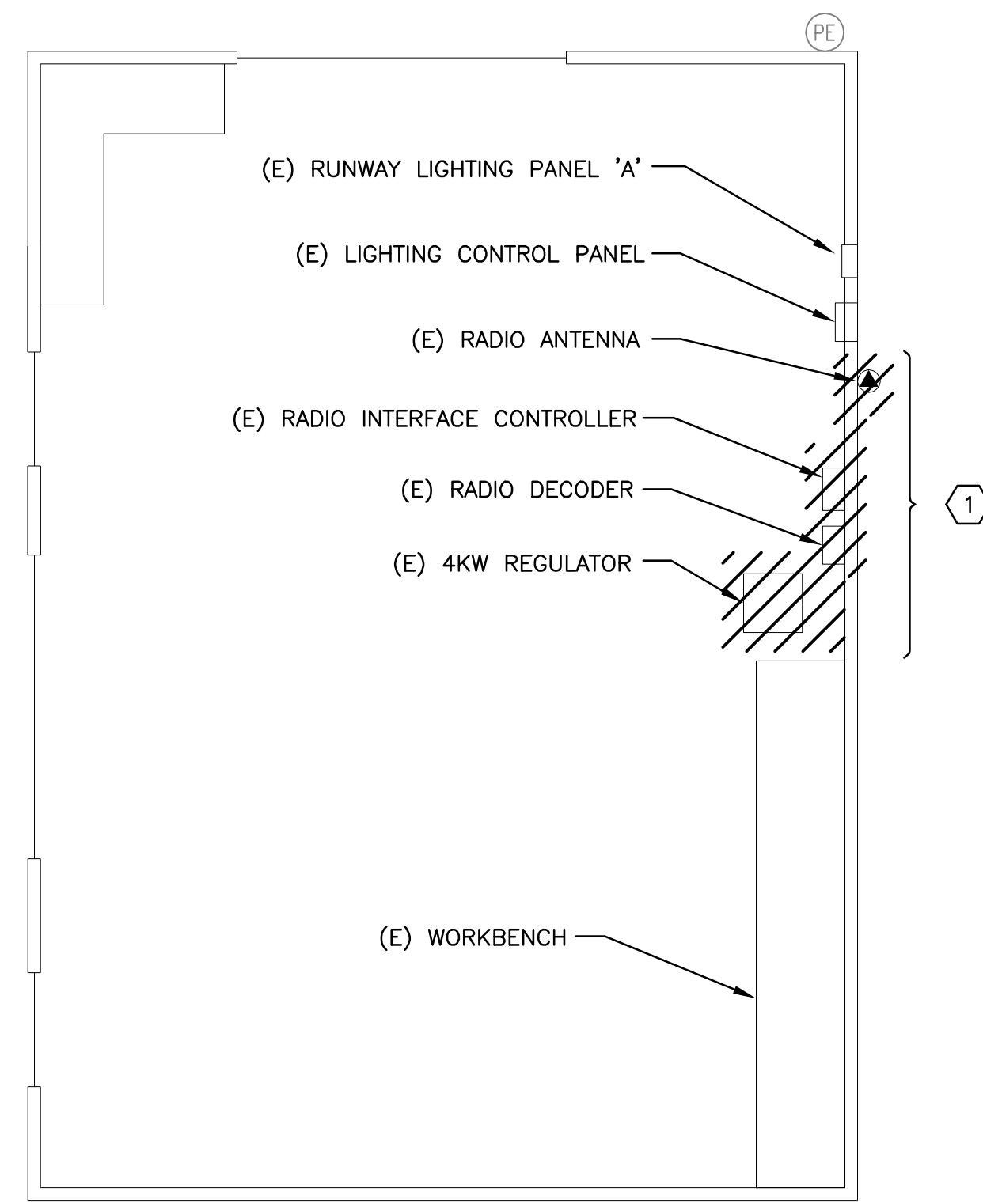
- A. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING EQUIPMENT LOCATIONS PRIOR TO COMMENCEMENT OF WORK. COORDINATE ANY CONFLICTS WITH THE ENGINEER PRIOR TO PROCEEDING WITH INDICATED WORK.

NOTES THIS SHEET

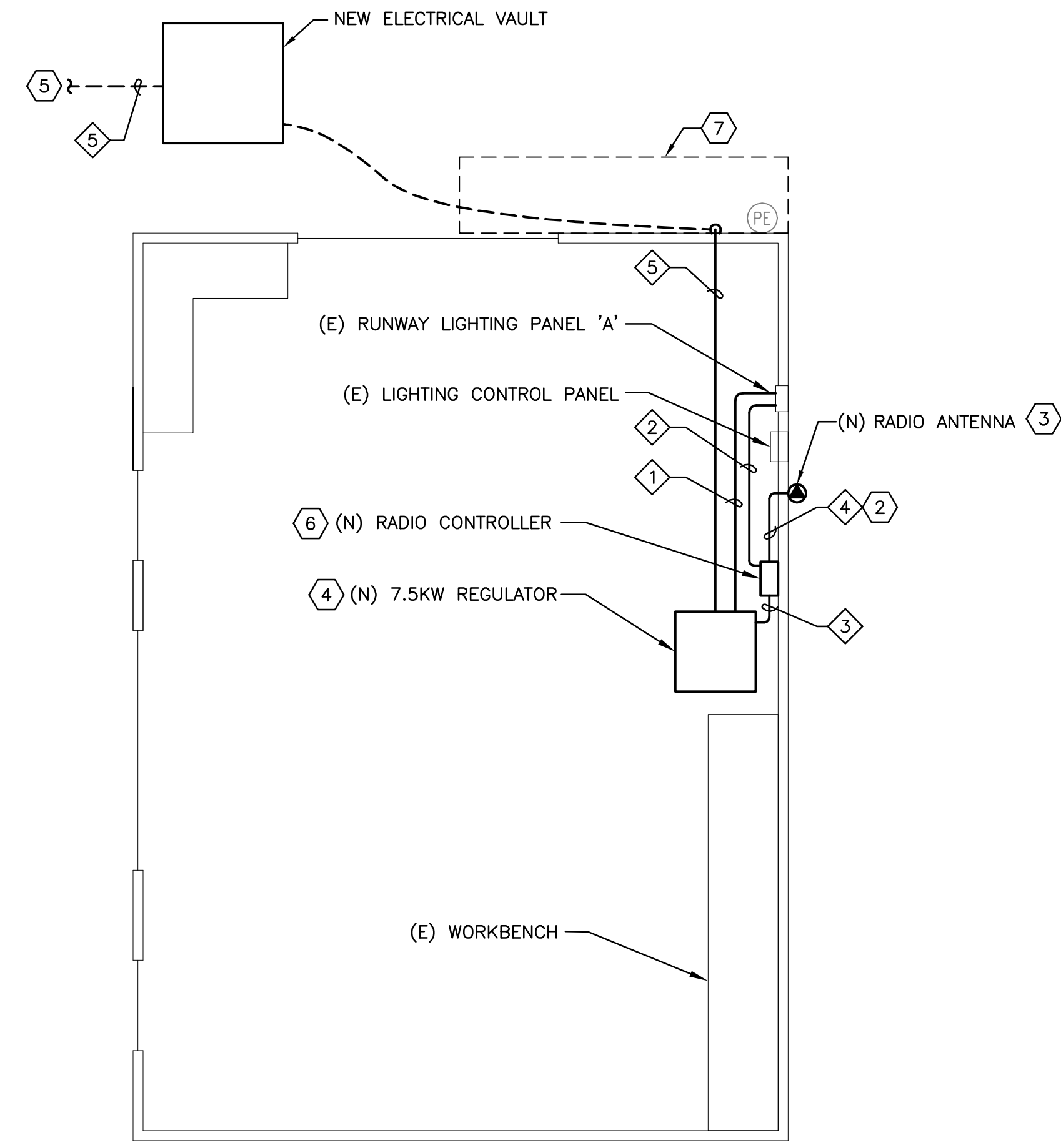
- 1. DEMOLISH AND DISPOSE OF EXISTING EQUIPMENT INCLUDING CONDUIT AND CONDUCTORS TO OR FROM DEMOLISHED EQUIPMENT. CUT ALL DEMOLISHED THROUGH SLAB CONDUITS FLUSH WITH FLOOR, PLUG/SEAL CONDUIT(S) AND ABANDONED IN PLACE.
- 2. PROVIDE 3/4" CONDUIT FOR PROTECTION OF ANTENNA CABLE.
- 3. MOUNT NEW RADIO ANTENNA IN SAME AREA AS EXISTING ANTENNA. FIELD COORDINATE SPECIFIC LOCATION. INSTALL PER MANUFACTURER INSTALLATION REQUIREMENTS.
- 4. CURRENT LOOP CUT-OUT PLUG IS ANTICIPATED TO BE INTERNAL TO PROVIDED CONSTANT CURRENT REGULATOR (CCR). IF PROVIDED SEPARATELY, FIELD COORDINATE A CODE COMPLIANT LOCATION FOR THE EXTERNAL CUT-OUT PLUG WITH THE ENGINEER AND OWNER.
- 5. SEE SHEET E-4 FOR AIRFIELD SITE PLAN AND CURRENT LOOP CIRCUIT CONTINUATION.
- 6. MOUNT NEW RADIO TO EXISTING PLYWOOD BACKBOARD.
- 7. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CIRCUITS LOCATED IN THIS AREA PRIOR TO COMMENCEMENT OF NEW WORK. VERIFY ANY ABANDON CIRCUITS AND DEMO. COORDINATE ALL WORK WITH THE ENGINEER.



1
E-9
EXISTING OFFICE BUILDING ONE-LINE DIAGRAM
SCALE: NOT TO SCALE



2
E-9
EXISTING ELECTRICAL ROOM (GARAGE) FLOOR DEMO PLAN
SCALE: 1/4"=1'-0"



3
E-9
EXISTING ELECTRICAL ROOM (GARAGE) FLOOR PLAN
SCALE: 1/4"=1'-0"

LOAD SUMMARY			
EXISTING SERVICE SIZE:	24.00 kVA	100.00 AMPS @ 240V, 1-PH	
PEAK DEMAND FOR LAST 12 MONTHS*:	10.30 kW	42.92 AMPS @ 240V, 1-PH	
PEAK DEMAND x 1.25:	12.88 kW	53.65 AMPS @ 240V, 1-PH	
AVAILABLE CAPACITY:	11.13 kVA	46.35 AMPS @ 240V, 1-PH	
EXISTING LOAD BEING DEMO'D:	-4.00 kW	-16.67 AMPS @ 240V, 1-PH	
NEW LOAD:	7.50 kW	31.25 AMPS @ 240V, 1-PH	
DIFFERENCE IN LOAD:	3.50 kVA	14.58 AMPS @ 240V, 1-PH	
PEAK DEMAND x 1.25 + DIFF x 1.25:	17.25 kW	71.88 AMPS @ 240V, 1-PH	

*PEAK DEMAND PER POWER UTILITY RECORDS

CONDUIT & CABLE SCHEDULE				
CIRCUIT NUMBER	COND. SIZE	CONDUCTORS	FROM	TO
1	1"	(2) #8 AWG & (1) #10 GND	(E) RUNWAY LIGHTING PANEL (GARAGE)	(N) 7.5KW REGULATOR
2	3/4"	(2) #12 AWG & (1) #12 GND	(E) RUNWAY LIGHTING PANEL (GARAGE)	(N) RADIO CONTROLLER
3	3/4"	(4) #12 AWG & (1) #12 GND	(N) RADIO CONTROLLER	(N) 7.5KW REGULATOR
4	3/4"	RADIO ANTENNA CABLE	(N) RADIO CONTROLLER	(N) RADIO ANTENNA
5	2"	(2) #8 5KV CABLE	(N) 7.5KW REGULATOR	RUNWAY LOOP

PANEL: 'A' (EXISTING)		BUS: 100 A		DATE: 05/23/18		VOLTAGE: 120 / 240 VOLTS, 1 PHASE, 3 WIRE				
FEEDER:	SEE ONE-LINE DIAGRAM	MAIN BRKR:	80 A	MOUNTING: SURFACE						
CKT NO.	CIRCUIT DESCRIPTION	CKT BKR	LOAD AMPS/POLE	LOAD VA	LOAD VA	LOAD VA	CKT BKR	CIRCUIT DESCRIPTION	CKT NO.	
1	(E) GFCI OUTLETS	1-20	R	900	A	4167	L	2-50	REGULATOR	2
3	(E) FUEL STATION	2-50	Z	1540	B	4167	L	---	---	4
5	---	---	Z	1540	A	---	---	1-15	SPARE	6
7	(E) BEACON LIGHT	1-20	L	1000	B	25	Z	1-15	RADIO CONTROLLER	8
9	(E) FLOOD LIGHTS	2-20	L	1000	A	200	L	1-15	(E) LIGHTS	10
11	---	---	L	1000	B	20	Z	1-15	(E) FLOOD LIGHT PHOTOCCELL	12

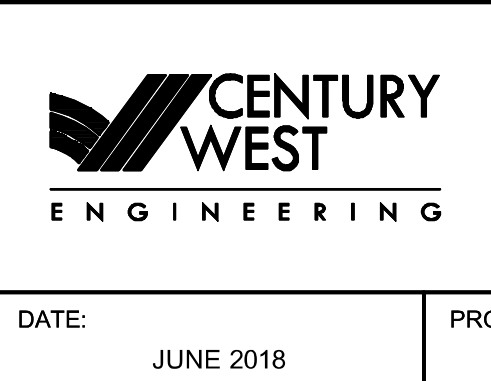
CONNECTED LOAD	NOTES.....	
LOAD PER PHASE (VA)	A= 7,807 VA B= 7,752 VA	1. NEW/MODIFIED EQUIPMENT LOADS SHOWN IN BOLD.	
LOAD PER PHASE (AMPS)	A= 65.1 A B= 64.6 A	2. EXISTING LOADS HAVE (E) ADJACENT DESCRIPTION. LOAD INFORMATION IS BASED ON PREVIOUS AS-BUILT INFORMATION.	
TOTAL LOAD (KVA)	15.6 KVA	3.	
TOTAL LOAD AMPS	64.8 A	4.	
		5.	

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BEND OFFICE
1020 SW EMKAY DRIVE, #100
BEND, OR 97702
541.322.8962
541.382.2423 FAX

DESIGNED BY: SMR
DRAWN BY: M.J.P.
CHECKED BY: SMR
SCALE: AS NOTED

CITY OF FLORENCE
FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

REGULATOR ROOM, ONE-LINE DIAGRAM,
AND SCHEDULES

DRAWING NO.
E-9
SHEET NO.
23 OF 28

GENERAL NOTES

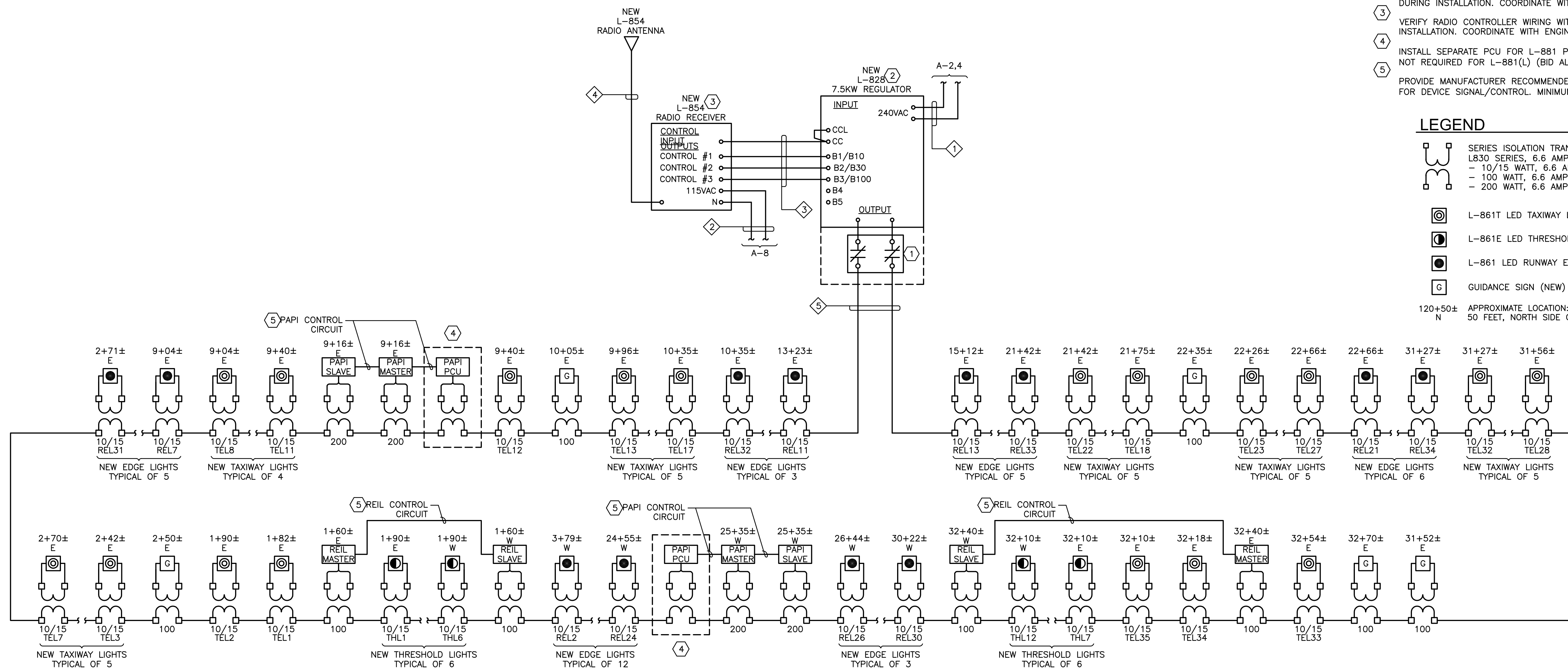
- A. RADIO CONTROL OPERATION OF LIGHTS SHALL BE AS FOLLOWS:
- 3-CLOCKS: RUNWAY LIGHTS AND PAPI LIGHTS ON - LOW INTENSITY, REIL LIGHTS OFF.
 - 5-CLOCKS: RUNWAY, PAPI AND REIL LIGHTS ON - MEDIUM INTENSITY.
 - 7-CLOCKS: RUNWAY, PAPI AND REIL LIGHTS ON - FULL INTENSITY.
- RADIO CONTROLLER SHALL BE INITIALLY CONFIGURED TO TURN LIGHTS OFF AFTER 15 MINUTE TIME DELAY. COORDINATE FINAL OFF TIME DELAY SETTING WITH OWNER DURING SYSTEM STARTUP.
- B. CONTRACTOR SHALL TEST AND VERIFY CURRENT LOOP WITH VERY LOW FREQUENCY (VLF) TEST TO DETERMINE LOOP INTEGRITY. TESTING IS IN ADDITION TO MEG-OHM TESTING REQUIRED BY SPECIFICATIONS. PROVIDE TEST REPORT TO ENGINEER FOR APPROVAL.
- C. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY CONTROL WIRING BETWEEN PAPI BOXES AND PCU (IF PROVIDED). COORDINATE WITH PAPI MANUFACTURER AND PROVIDE AS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM.

NOTES THIS SHEET

- 1 PROVIDE SERIES CUT-OUT PLUG, TYPE S-1, IN SELF CONTAINED NEMA 1 ENCLOSURE IF EXTERNAL CUT-OUT IS PROVIDED IN LIEU OF INTERNAL CUT-OUT PLUG.
- 2 VERIFY REGULATOR CONTROL WIRING WITH SELECTED REGULATOR MANUFACTURER DURING INSTALLATION. COORDINATE WITH ENGINEER AS NECESSARY.
- 3 VERIFY RADIO CONTROLLER WIRING WITH SELECTED RADIO MANUFACTURER DURING INSTALLATION. COORDINATE WITH ENGINEER AS NECESSARY.
- 4 INSTALL SEPARATE PCU FOR L-881 PAPI UNIT (BASE BID). SEPARATE PCU IS NOT REQUIRED FOR L-881(L) (BID ALTERNATE).
- 5 PROVIDE MANUFACTURER RECOMMENDED CONDUIT AND CONTROL CONDUCTORS FOR DEVICE SIGNAL/CONTROL. MINIMUM CONDUIT SIZE SHALL BE 1-INCH.

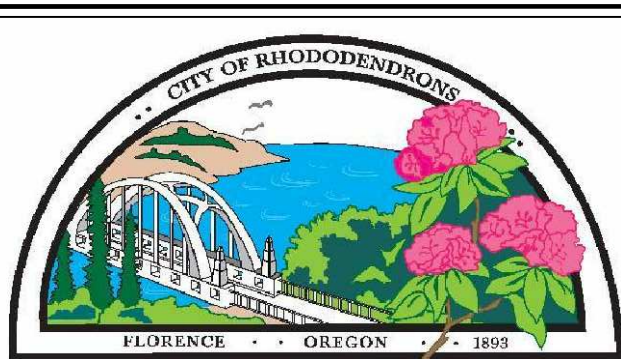
LEGEND

- SERIES ISOLATION TRANSFORMER
L830 SERIES, 6.6 AMP PRIMARY (NEW)
- 10/15 WATT, 6.6 AMP SECONDARY
- 100 WATT, 6.6 AMP SECONDARY
- 200 WATT, 6.6 AMP SECONDARY
- L-861T LED TAXIWAY LIGHTS WITH BASE CAN (NEW)
- L-861E LED THRESHOLD LIGHTS WITH BASE CAN (NEW)
- L-861 LED RUNWAY EDGE LIGHTS WITH BASE CAN (NEW)
- GUIDANCE SIGN (NEW)
- 120+50± N APPROXIMATE LOCATION: STATION 120 PLUS 50 FEET, NORTH SIDE OF RUNWAY.



1 RUNWAY LOOP LIGHTING DIAGRAM
E-10 NOT TO SCALE

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E-mail: rweng@rweng.com
Project No.: 132.073.001
Contact: SAM RUSSUM



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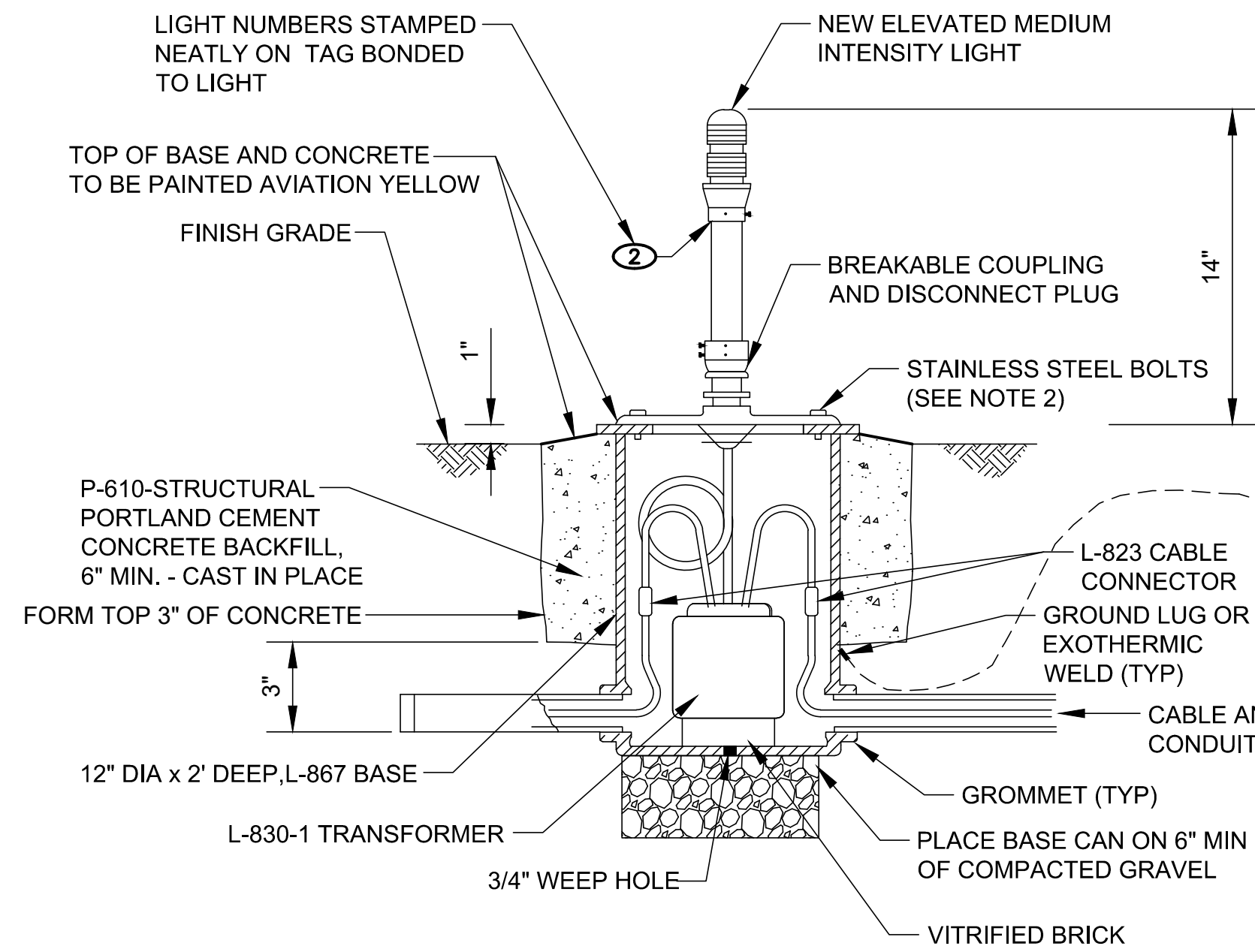
DATE: JUNE 2018 PROJECT NO: 41301.014.01

DESIGNED BY: SMR
DRAWN BY: MJP
CHECKED BY: SMR
SCALE: AS NOTED

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FLORENCE MUNICIPAL AIRPORT
SEAL COAT AND LIGHTING IMPROVEMENTS

RUNWAY LOOP DIAGRAM
AND DETAILS

DRAWING NO. E-10
SHEET NO. 24 OF 28

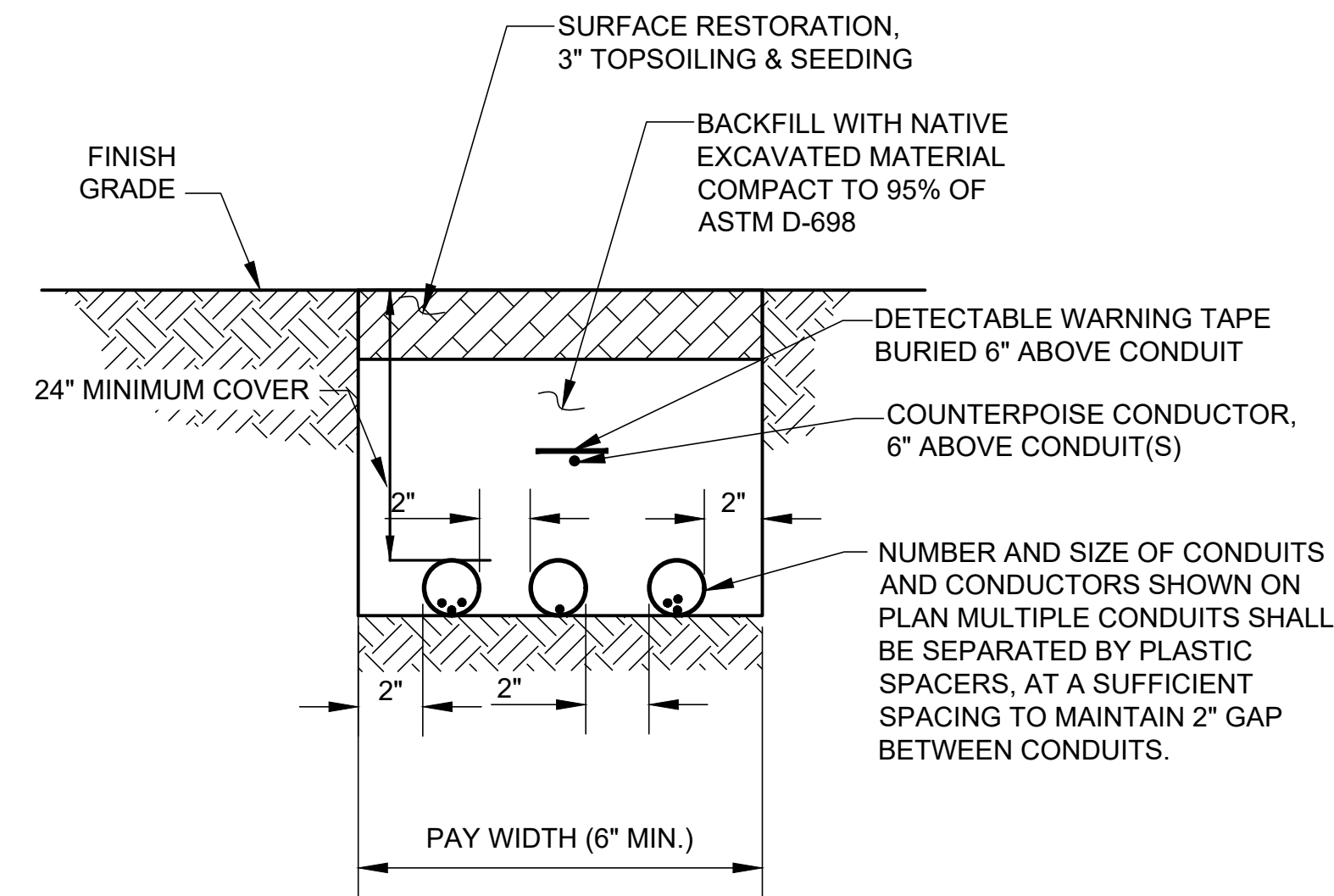


MEDIUM INTENSITY BASE MOUNTED LIGHT
NO SCALE

1
E-11

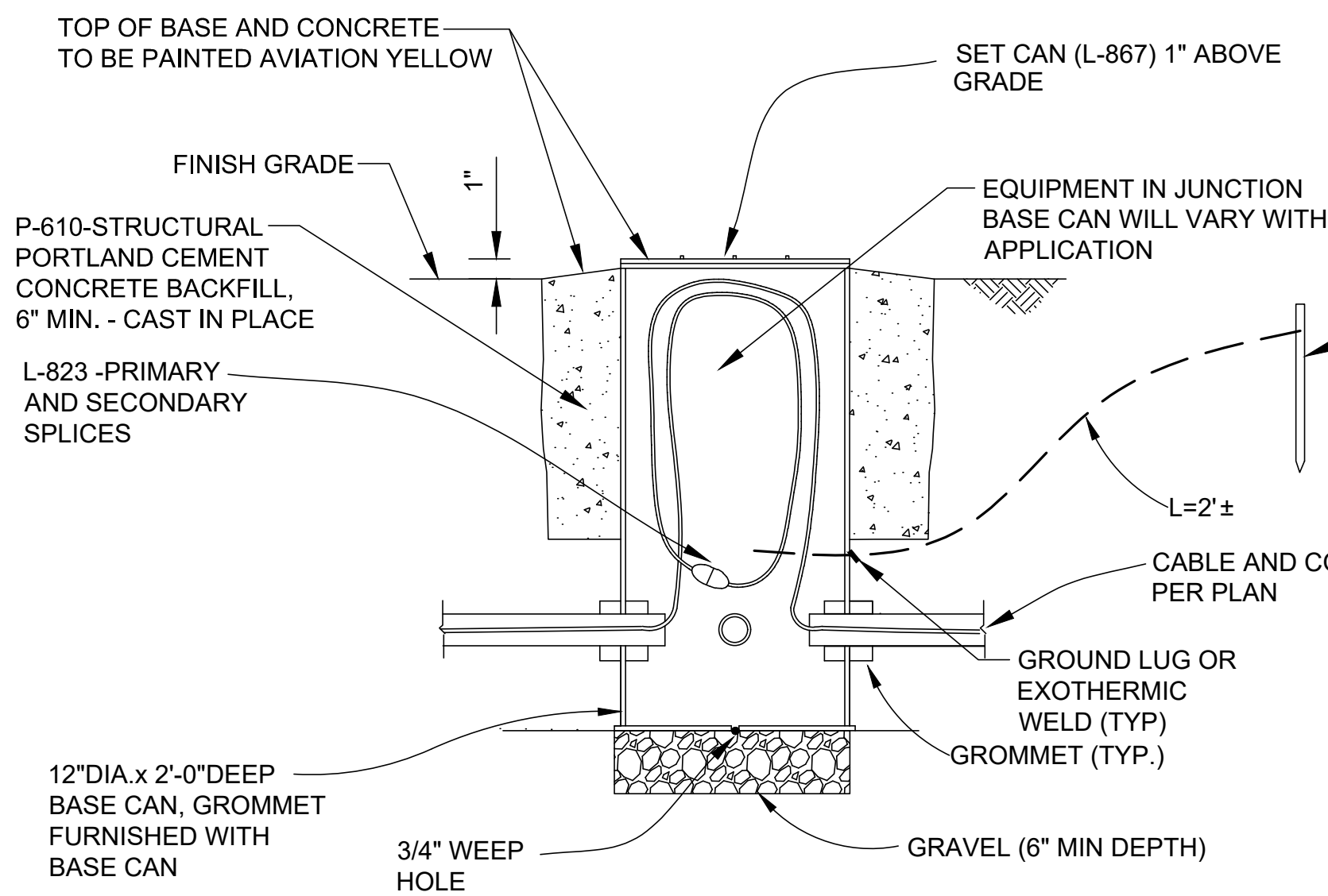
NOTES:

1. ALLOW 3' OF CONDUCTORS SLACK IN THE LIGHT BASE FROM EACH CABLE RUN, INCIDENTAL TO LIGHT.
2. COAT BOLTS WITH HIGH TEMPERATURE AND ANTI-SEIZE LUBRICANT.
3. GROUND RODS SHALL BE INSTALLED VERTICALLY. THE CONTRACTOR IS ALLOWED TO USE A GROUNDING PLATE, IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, IN LIEU OF A GROUND ROD.



TRENCH DETAIL-UNPAVED
NO SCALE

3
E-11

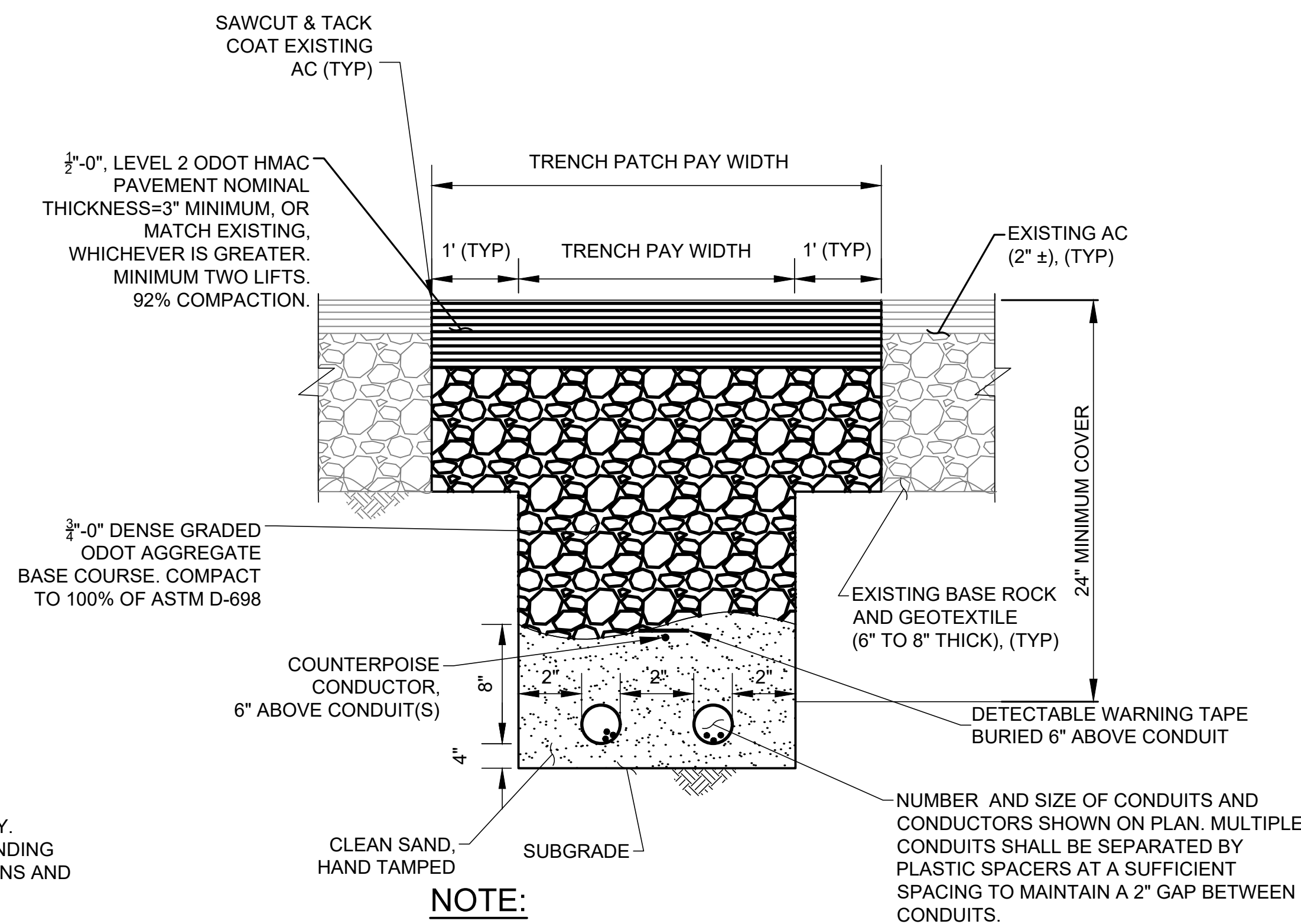


L-867 JUNCTION BASE CAN DETAIL
NO SCALE

2
E-11

NOTES:

1. ALLOW 3' OF CONDUCTORS SLACK IN THE LIGHT BASE FROM EACH CABLE RUN, INCIDENTAL TO LIGHT.
2. COAT BOLTS WITH HIGH TEMPERATURE AND ANTI-SEIZE LUBRICANT.
3. GROUND RODS SHALL BE INSTALLED VERTICALLY. THE CONTRACTOR IS ALLOWED TO USE A GROUNDING PLATE, IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, IN LIEU OF A GROUND ROD.

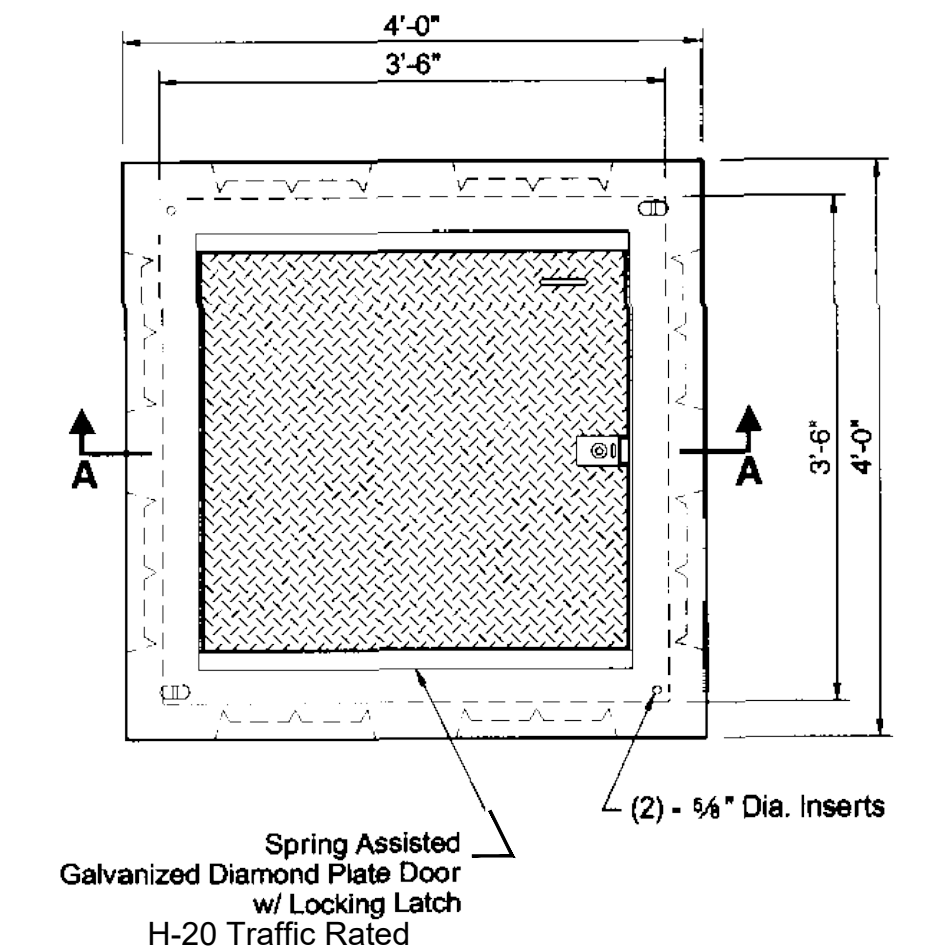


TRENCH DETAIL-PAVED
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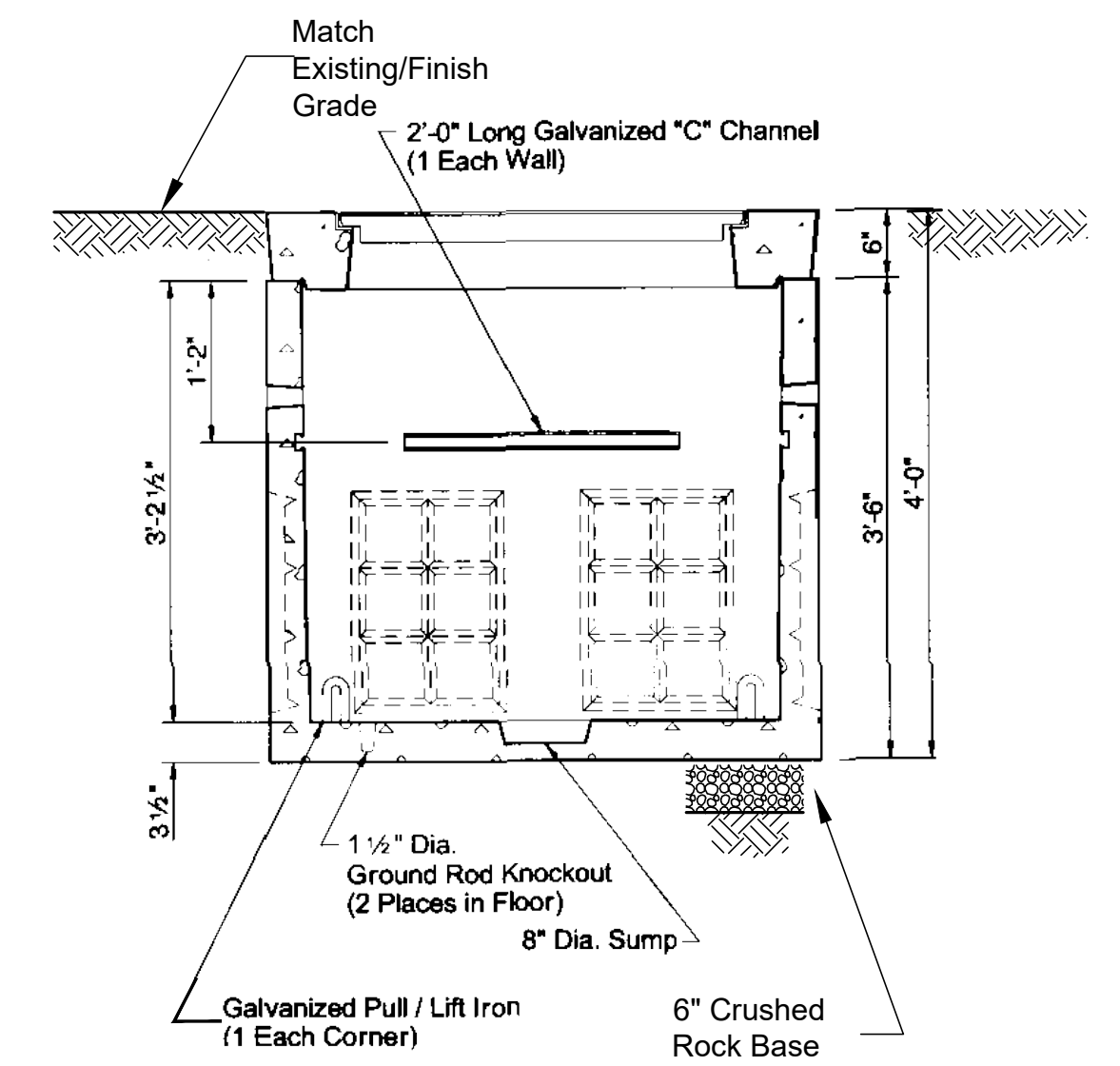
4
E-11

NOTE:

FOR TEMPORARY PATCHES USE ODOT EAC COLD MIX OR EQUAL



PLAN VIEW



SECTION AA

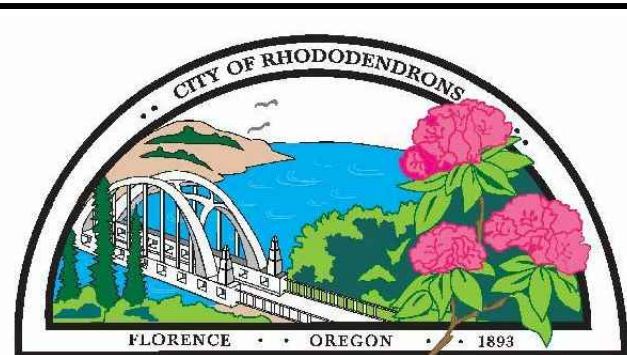
NOTE:

1. JUNCTION VAULT SHALL BE UTILITY VAULT 444-LA OR EQUAL.
2. SEAL WALL PENETRATIONS WATER TIGHT.
3. PROVIDE 1-1/2" GROUND ROD KNOCKOUT AND COPPER GROUND ROD AT BASE OF VAULT. GROUND ROD SHALL BE COPPER CLAD 3/4" x 10", MINIMUM. ALL GROUND BONDS SHALL BE CAD WELD. GROUND ALL NON-CURRENT CARRYING METAL PARTS WITH #6 AWG BARE COPPER GROUND CONDUCTOR.

NEW VAULT DETAIL
NO SCALE

5
E-11

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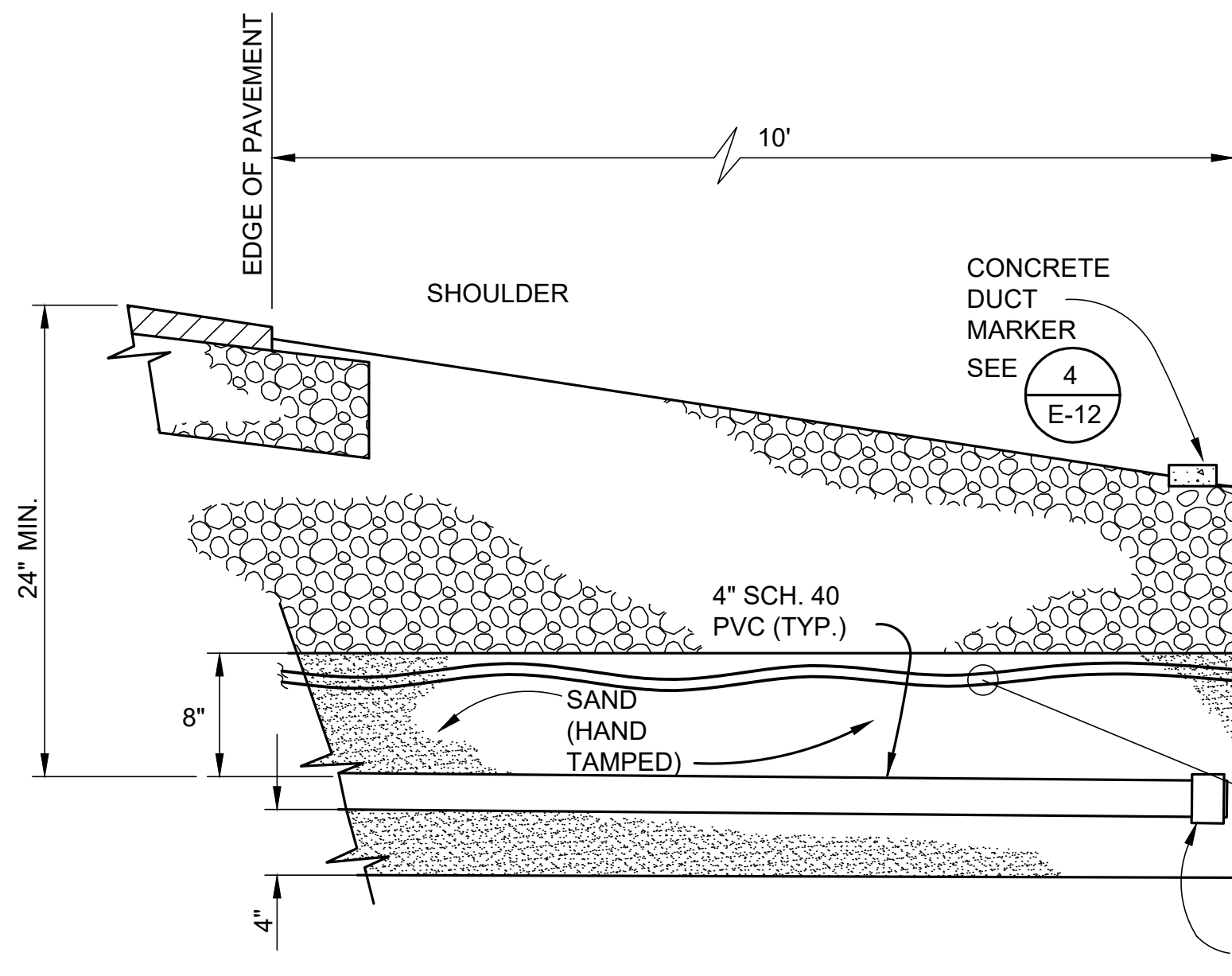
DATE: JUNE 2018 PROJECT NO: 41301.014.01

DESIGNED BY: GJR
DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

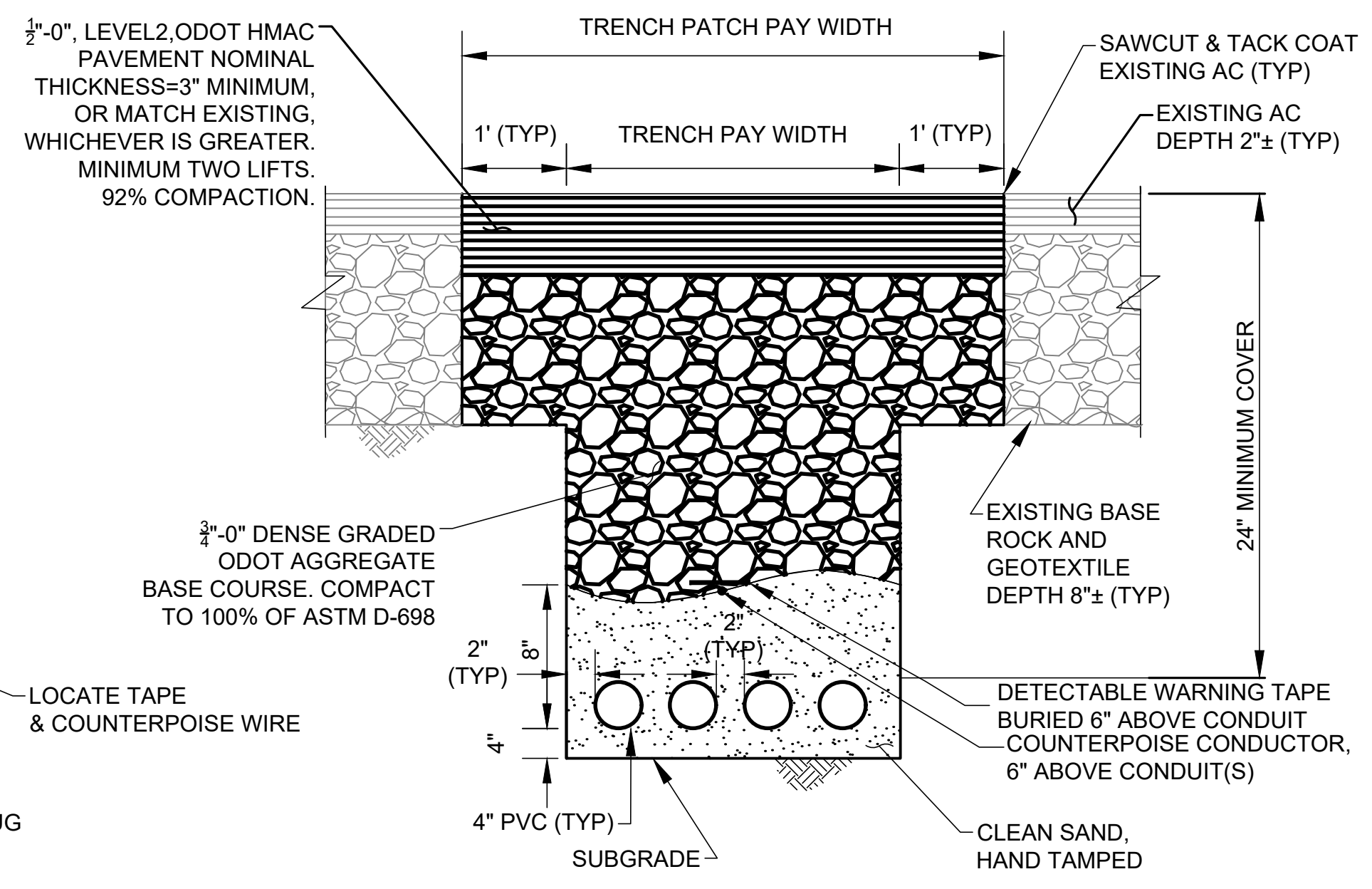
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SEAL COAT AND LIGHTING IMPROVEMENTS**

ELECTRICAL DETAILS I

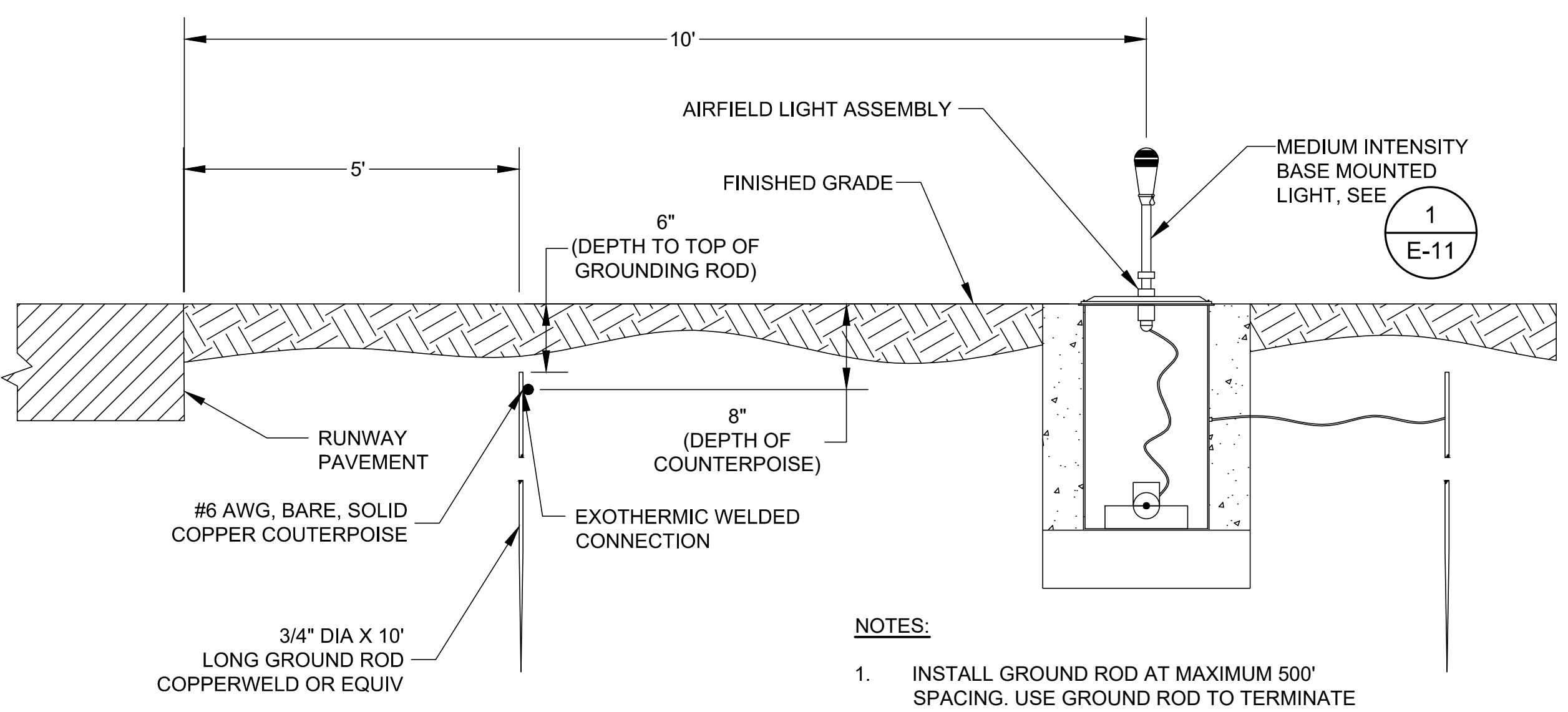
DRAWING NO. **E-11**
SHEET NO. **25 OF 28**



DUCT CROSSING END DETAIL (1)
NO SCALE
E-12

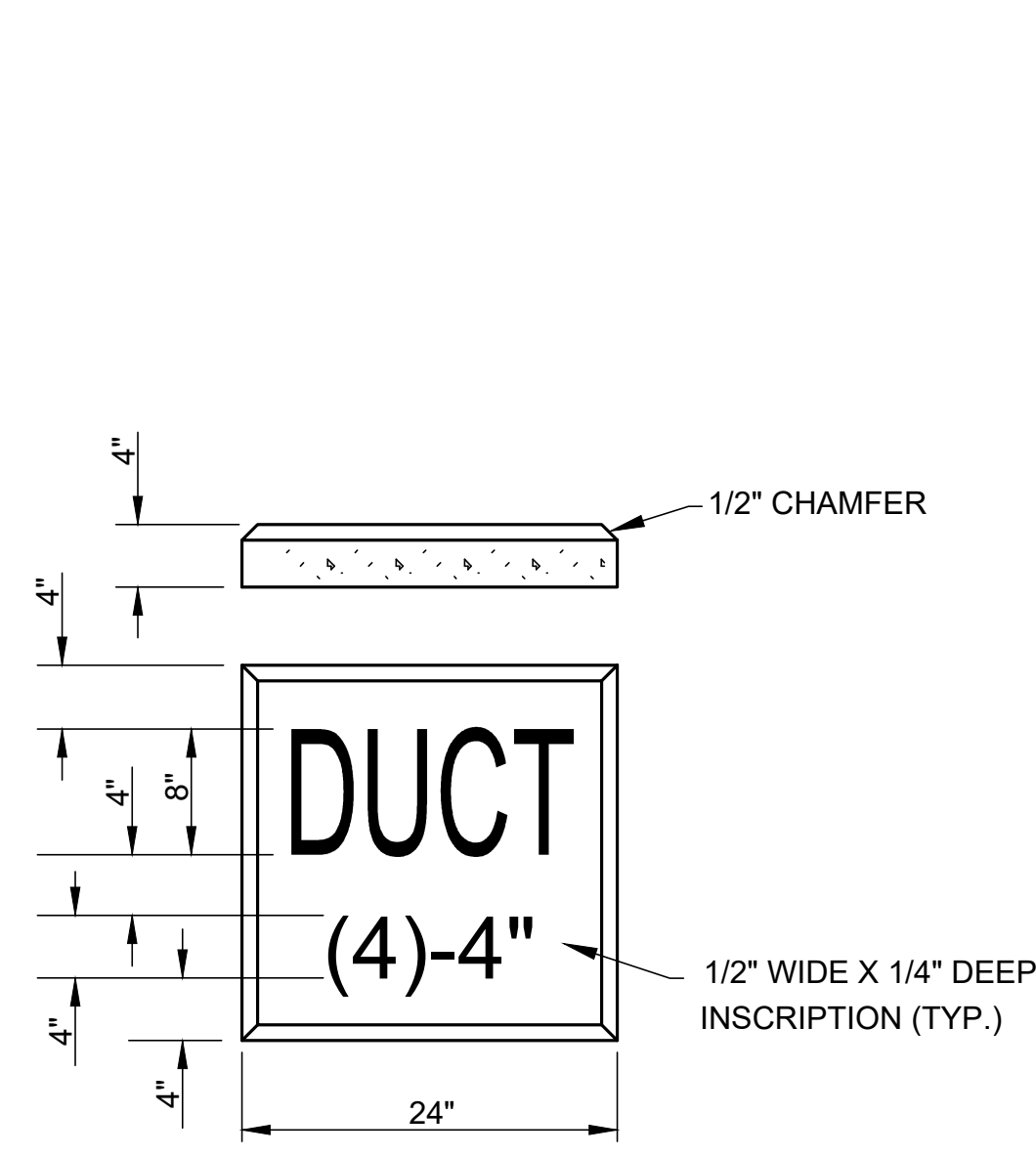


(4) 4\"/>

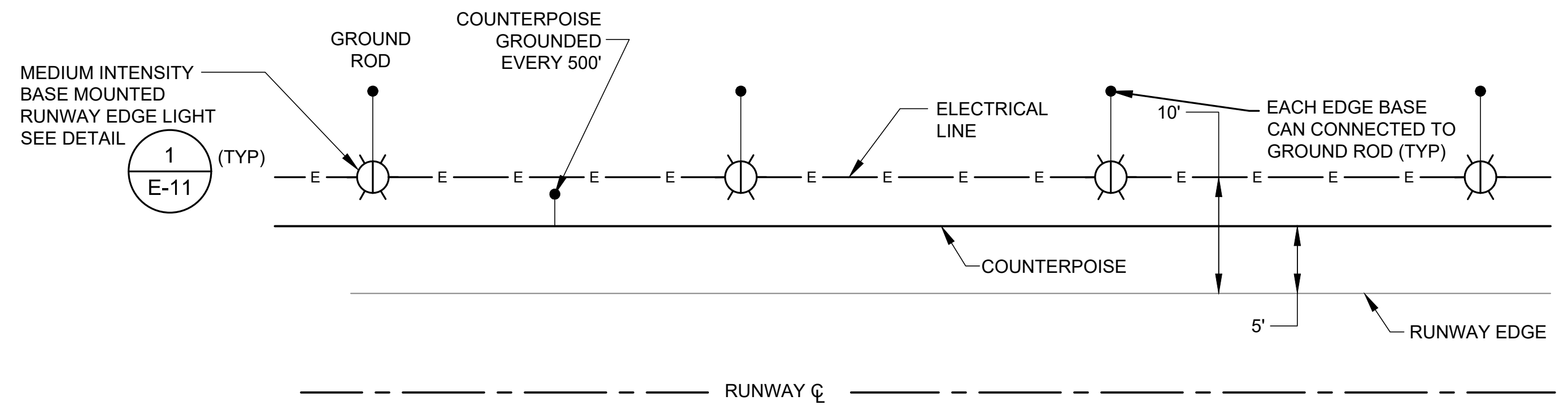


COUNTERPOISE INSTALLATION DETAIL (3)
NO SCALE
E-12

- NOTES:**
1. INSTALL GROUND ROD AT MAXIMUM 500' SPACING. USE GROUND ROD TO TERMINATE THE COUNTERPOISE AT BOTH ENDS OF DUCT.
 2. COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.

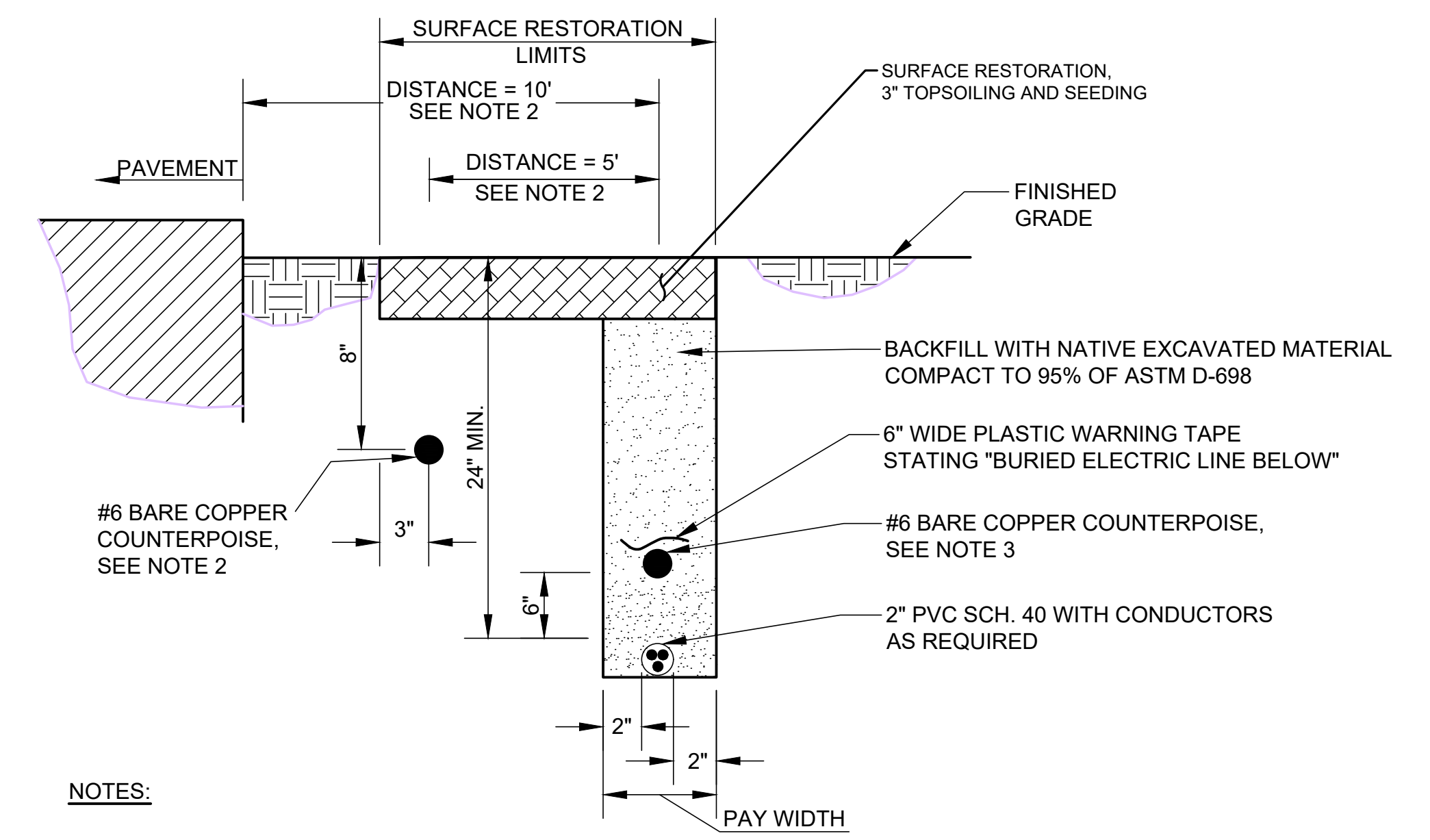


DUCT MARKER DETAIL (4)
NO SCALE
E-12



- NOTE:**
1. PROVIDE SECOND TRENCH FOR THE COUNTERPOISE. SEE (6) E-12

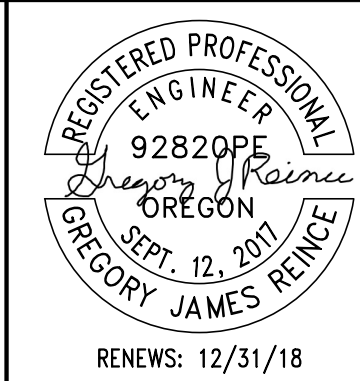
COUNTERPOISE INSTALLATION AT RUNWAY EDGE (PLAN VIEW) (5)
NO SCALE
E-12



- NOTES:**
1. WHEN MORE THAN DUCT / CONDUIT IS INSTALLED, MAINTAIN A MINIMUM SEPARATION BETWEEN DUCTS / CONDUITS OF 2\"/>

COUNTERPOISE INSTALLATION AT RUNWAY EDGE (SECTION VIEW) (6)
NO SCALE
E-12

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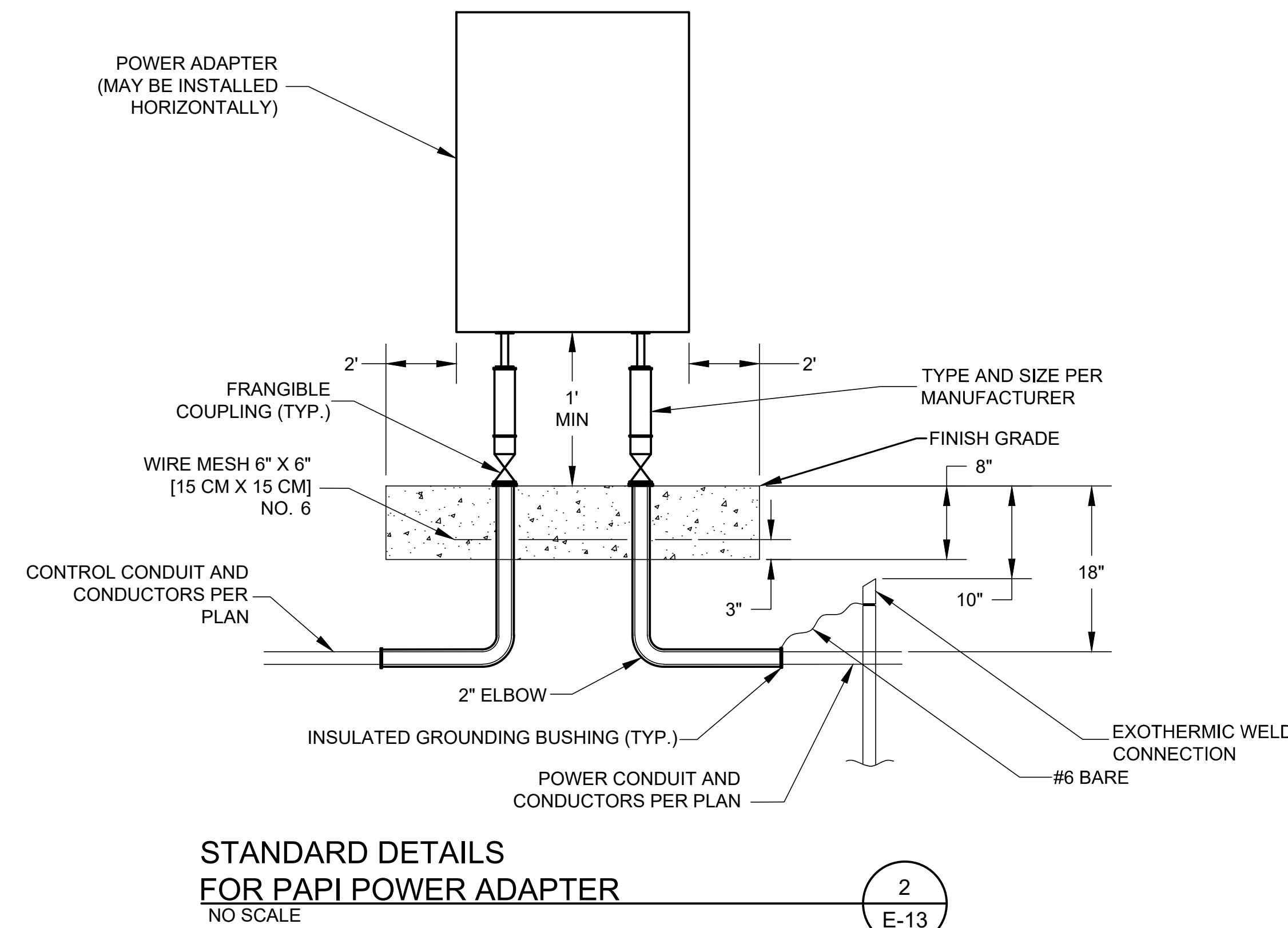
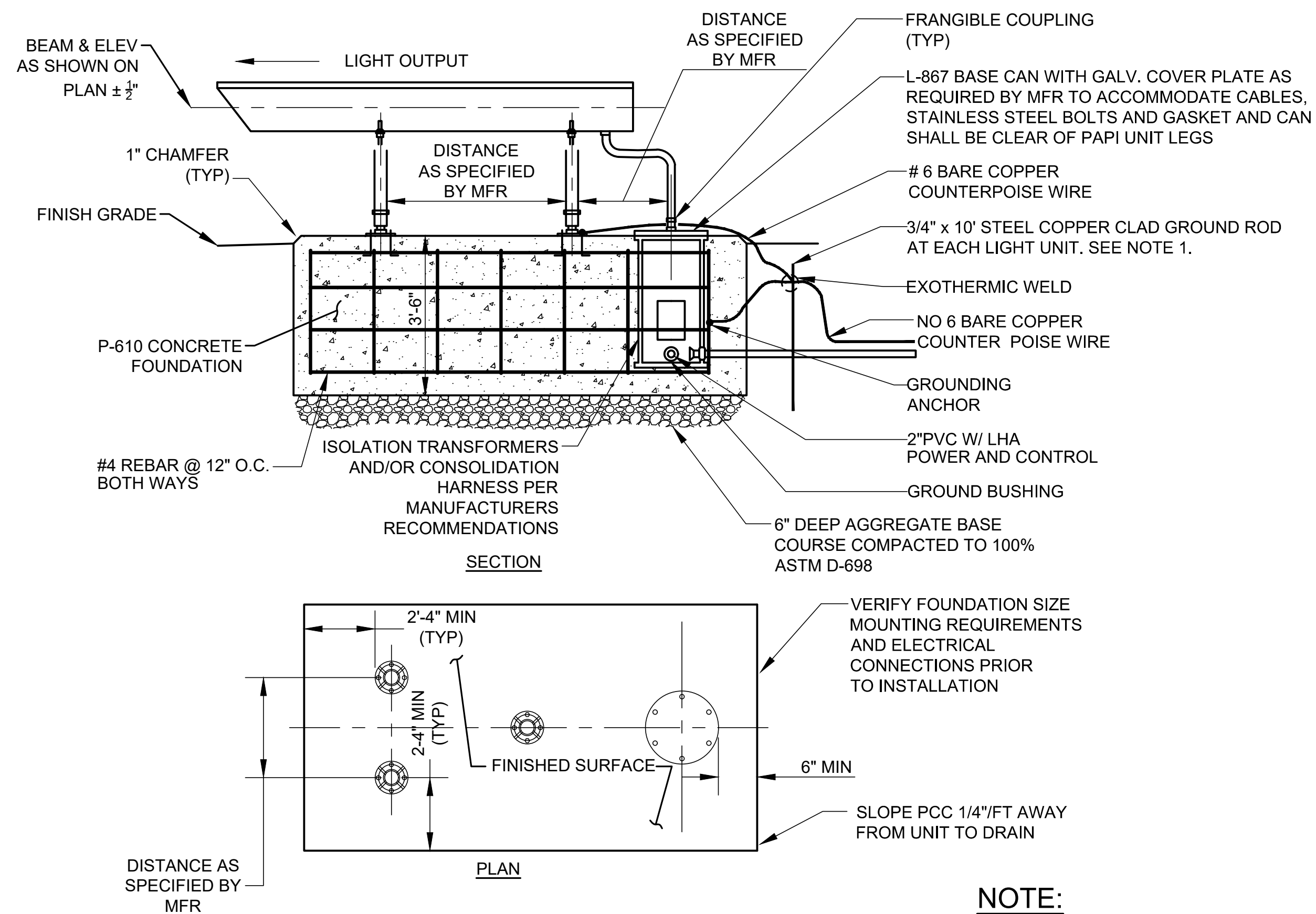
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ELECTRICAL DETAILS II

DRAWING NO. **E-12**
SHEET NO. **26 OF 28**



SIDE ELEVATION-TYPICAL FOUNDATION AND LIGHT HOUSING ASSEMBLY - PAPI
NO SCALE

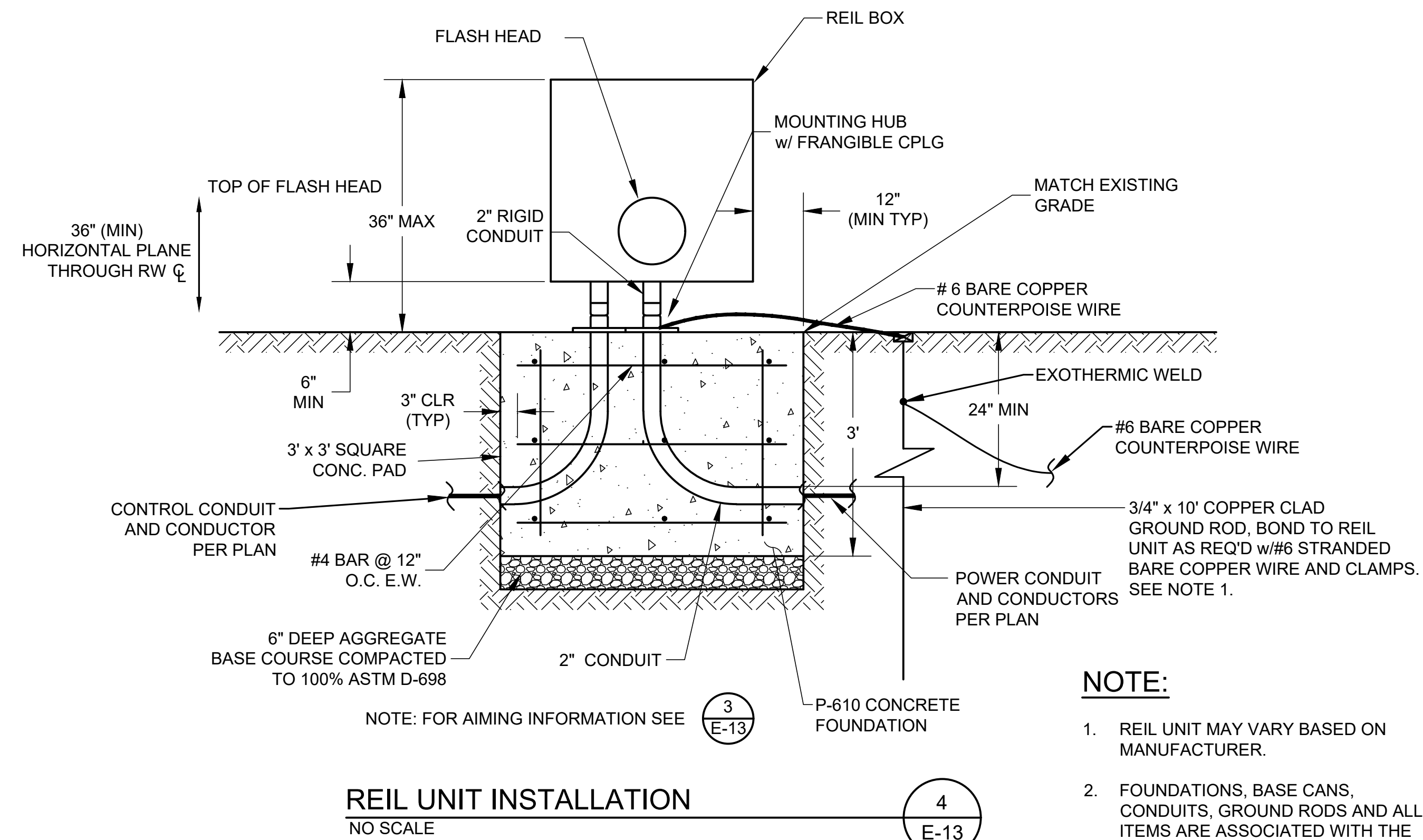
NOTES:

1. THE BEAM CENTERLINE (AIMING ANGLE) OF EACH LIGHT UNIT IS AIMED 15° OUTWARD FROM A LINE PARALLEL TO THE RUNWAY CENTERLINE AND INCLINED AT AN ANGLE 10° ABOVE THE HORIZONTAL. PROVIDE AN OPTICAL BAFFLE AND CHANGE THE ANGLES TO 10° HORIZONTAL AND 3° VERTICAL, IF NECESSARY.
2. THE ELEVATION OF BOTH UNITS SHALL BE WITHIN 3 FT. OF THE HORIZONTAL PLANE THROUGH THE RUNWAY CENTERLINE. CONTRACTOR TO SUBMIT FINISH ELEVATIONS TO THE ENGINEER.

REIL AIMING DETAIL
NO SCALE

NOTE:

1. FOUNDATIONS, BASE CANS, CONDUITS, GROUND RODS AND ALL ITEMS ASSOCIATED WITH THE PAPI UNIT ARE INCIDENTAL TO THE PAPI UNIT

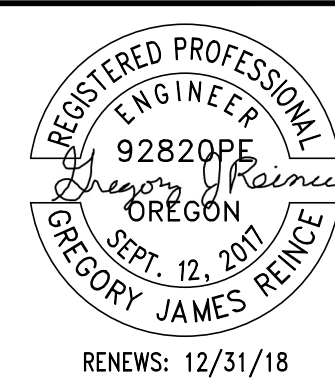
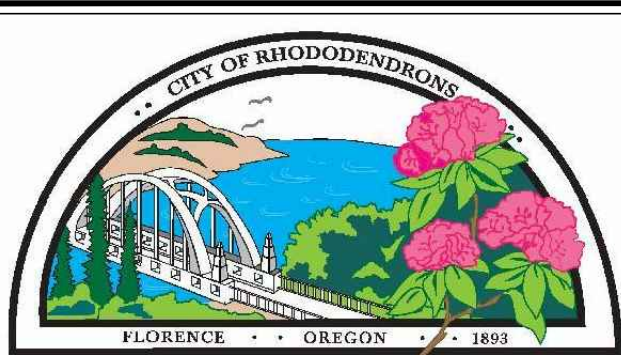


REIL UNIT INSTALLATION
NO SCALE

NOTE:

1. REIL UNIT MAY VARY BASED ON MANUFACTURER.
2. FOUNDATIONS, BASE CANS, CONDUITS, GROUND RODS AND ALL ITEMS ARE ASSOCIATED WITH THE REIL UNIT ARE INCIDENTAL TO THE REIL UNIT.

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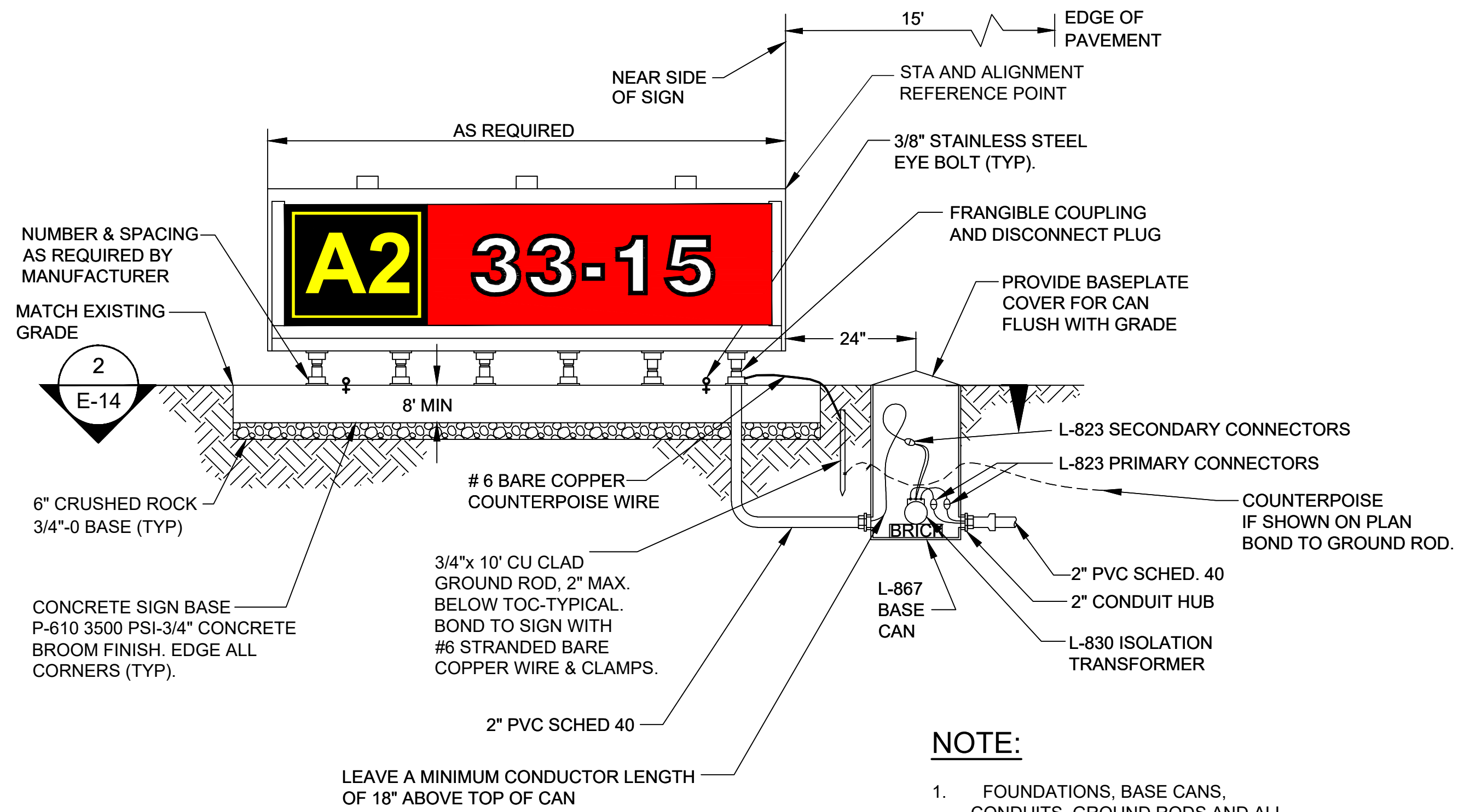
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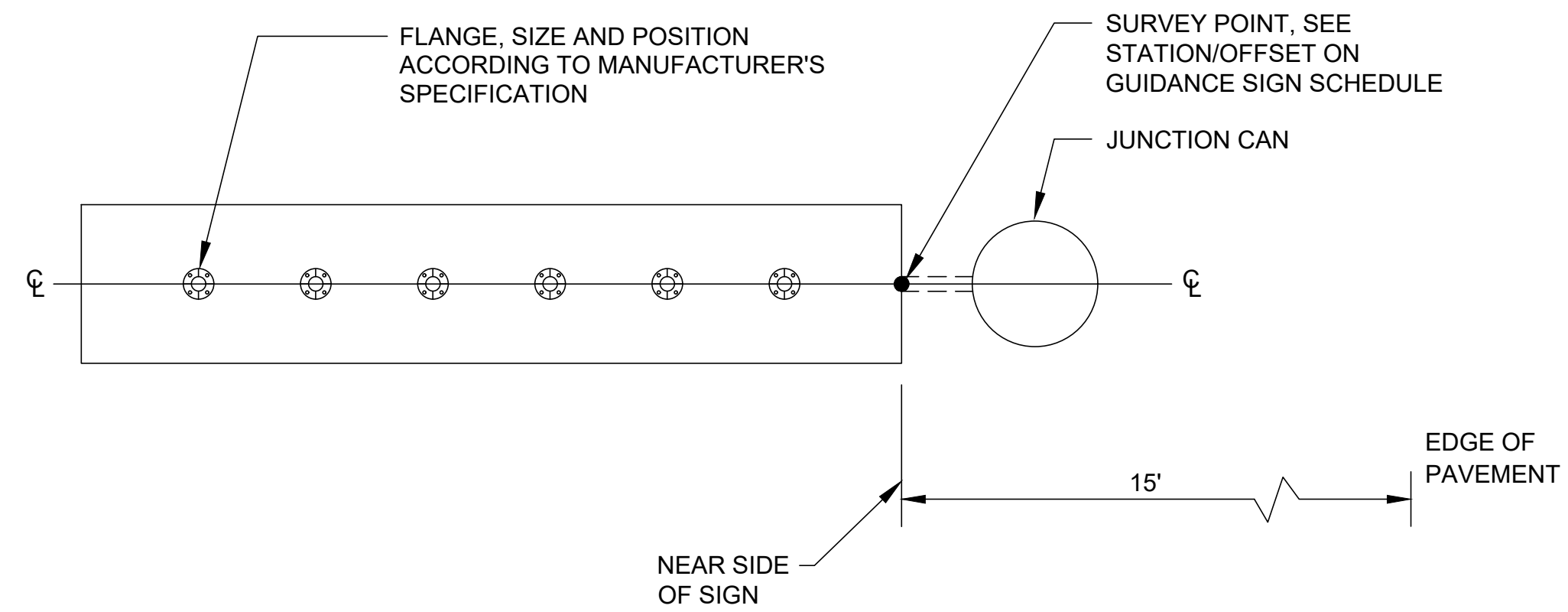
PAPI & REIL DETAILS

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SHEET NO. **27 OF 28**

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TYPICAL HOLD SIGN 1
N.T.S. E-14

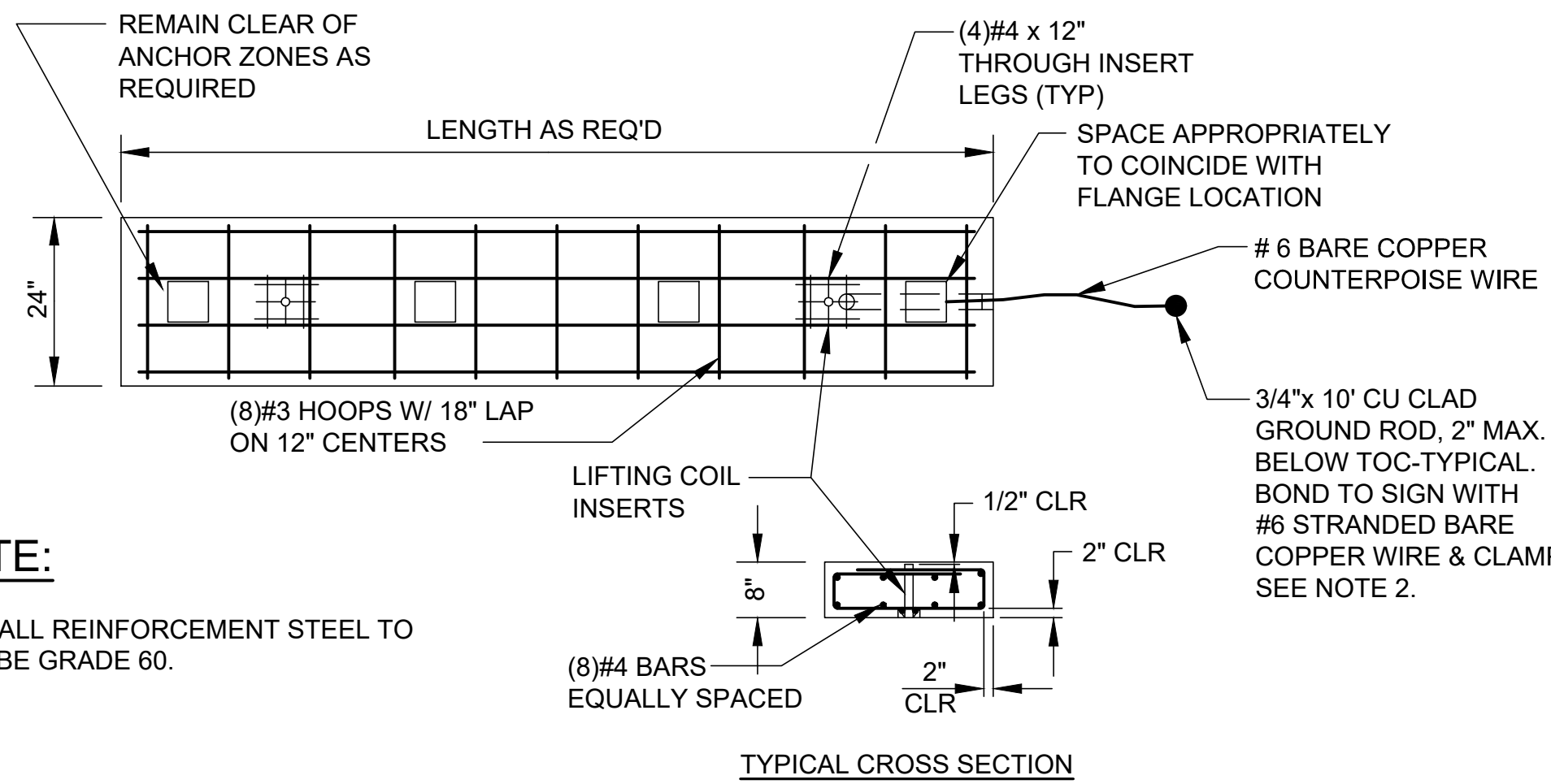


TYPICAL HOLD SIGN FOUNDATION-TOP 2
N.T.S. E-14

NOTE:
1. FOUNDATIONS, BASE CANS, CONDUITS, GROUND RODS AND ALL ITEMS ASSOCIATED WITH THE SIGN UNIT ARE INCIDENTAL TO THE SIGN UNIT

HOLD SIGN NOTES:

- THE DETAILS SHOWN FOR FOUNDATION DESIGN, ARE PROVIDED FOR CONTRACTOR GUIDANCE. THE CONCRETE MIX, DIMENSIONS, AND REINFORCEMENT SHOWN, ARE MINIMUMS.
- BASED UPON THE SIGN MANUFACTURER'S RECOMMENDATIONS, THE CONTRACTOR SHALL PROVIDE A PROPERLY DESIGNED AND DIMENSIONED PRE-CAST FOUNDATION FOR EACH SIGN SUPPLIED.
- EACH FOUNDATION SHALL HAVE AN EMBEDDED 3/8-INCH STAINLESS STEEL TIE-DOWN EYE BOLT, LOCATED WITHIN 6 INCHES OF EACH OUTSIDE LEG, AND A MINIMUM OF TWO HEAVY-DUTY EMBEDDED LIFTING COILS PLACED AND INSTALLED FOR OPTIMUM WEIGHT DISTRIBUTION.
- THE JUNCTION CAN SHALL BE LOCATED CLEAR OF THE FOUNDATION AND FLUSH WITH THE FINAL GRADE. ADDITIONAL SECONDARY CONDUCTOR LENGTH MAY BE REQUIRED.
- PRIOR TO EXCAVATION, THE CONTRACTOR SHALL IDENTIFY THE HIGHEST ELEVATION WITHIN A 15 FOOT RADIUS OF THE FOUNDATION CENTER. THE FINAL TOP OF FOUNDATION SHALL BE THAT ELEVATION PLUS ONE-TENTH FOOT. NOTIFY THE ENGINEER AT ONCE IF, IN THE CONTRACTOR'S OPINION, THIS LAYOUT METHOD MAY RESULT IN AN ABRUPT CHANGE IN ELEVATION, GREATER THAN 3%. TYPICAL ALL LOCATIONS.
- SIGNS WITH WHITE LEGEND ON RED BACKGROUND SHALL BE OUTLINED IN BLACK.



NOTE:
1. ALL REINFORCEMENT STEEL TO BE GRADE 60.

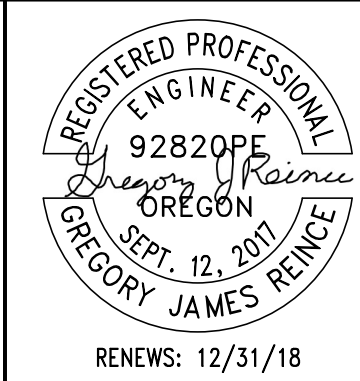
HOLD SIGN FOUNDATION DETAIL 3
N.T.S. E-14

SIGN NUMBER	SHEET NUMBER	FACE	NEW SIGN MESSAGE	NEW SIGN COLORS	ALIGNMENT/STATION	OFFSET	LIGHTED
1	E-2	EAST	A1 15	YELLOW ON BLACK / WHITE ON RED	RWY 15-33 2+49.62	125.00' LEFT	Y
		WEST		BLACK			
2	E-2	EAST	A3 33-15	YELLOW ON BLACK / WHITE ON RED	RWY 15-33 10+05.00	125.00' LEFT	Y
		WEST		BLACK			
3	E-3	EAST	A2 33-15	YELLOW ON BLACK / WHITE ON RED	RWY 15-33 22+35.09	125.00' LEFT	Y
		WEST		BLACK			
4	E-3	EAST	33 A1	WHITE ON RED / YELLOW ON BLACK	RWY 15-33 31+51.67	125.00' LEFT	Y
		WEST		BLACK			
5	E-3	EAST	A1 33	YELLOW ON BLACK / WHITE ON RED	RWY 15-33 32+70.78	125.00' LEFT	Y
		WEST		BLACK			

THIS PLAN SHEET IS INTENDED TO BE VIEWED IN COLOR. THE FOLLOWING COLORS SHOULD BE DISTINGUISHABLE WHEN PRINTED CORRECTLY:

RED BLUE

HOLD SIGN SCHEDULE 4
N.T.S. E-14



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DRAWN BY: EKN
CHECKED BY: JNR
SCALE: AS NOTED

DATE: JUNE 2018 PROJECT NO: 41301.014.01

CITY OF FLORENCE FLORENCE MUNICIPAL AIRPORT SEAL COAT AND LIGHTING IMPROVEMENTS

GUIDANCE SIGN SCHEDULE AND DETAILS

DRAWING NO. **E-14**
SHEET NO. **28 OF 28**