EDO - Panhandle Grading and Paving Contract Award and Mott MacDonald Work Order 28

AND PANDHANDLE GRADING & PAVING, INC.

(Federal Funding)

THIS AGREEMENT (hereinafter referred to as the "Agreement") is made this ______, day of _______, 2021 by and between Santa Rosa County, a political subdivision of the state of Florida, (hereinafter referred to as the "County"), with a mailing address of 6495 Caroline Street, Milton, FL 32570, and Panhandle Grading & Paving, Inc., a for profit organization, authorized to do business in the State of Florida (hereinafter referred to as "Contractor") whose Federal I.D. # is 59-1879185.

RECITALS

WHEREAS, the County is in need of a contractor to provide construction of a taxiway rehabilitation project at Peter Prince Field. ("Services"); and

WHEREAS, Invitation to Bid 21-032; and

WHEREAS, Contractor is a certified and insured entity with the necessary experience to provide the desired Services; and

WHEREAS, the County wishes to enter into this Agreement with Contractor to provide the Services to the County fully described in the exhibits attached to this contract.

NOW THEREFORE, in consideration of the promises and the mutual covenants herein, the parties agree as follows:

1. <u>Recitals and Attachments</u>. The Recitals set forth above are hereby incorporated into this Agreement and made part hereof for reference. The following documents are attached to this Agreement and are incorporated herein.

Attachment "A" – Invitation to Bid 21-032, and Contractors Scope of Services

Attachment "B" - Insurance Requirements;

Attachment "C" - Title VI list of pertinent nondiscrimination acts and authorities;

Attachment "D" - Scrutinized Companies Certification;

Attachment "E" - Special Conditions - Additional Federal Requirements;

1

Services. Contractor agrees to perform the following services, milling and overlay of the existing Taxiway A, and re-construction of existing cross-taxiway A4. Work will include new LED taxiway lighting, pavement markings, earthwork, and FAA Type P-401 asphalt pavement in accordance with FAA specifications. The Services to be provided are further detailed in the Contractor's proposal attached as Attachment "A" and incorporated herein by reference. The Services shall be performed by Contractor to the full satisfaction of the County. Contractor agrees to have a qualified representative to audit and inspect the Services provided on a regular basis to ensure all Services are being performed in accordance with the County's needs and pursuant to the terms of this Agreement and shall report to the County accordingly. Contractor

agrees to immediately inform the County via telephone and in writing of any problems that could cause damage to the County. Contractor will require its employees to perform their work in a manner befitting the type and scope of work to be performed.

1. <u>Term and Renewal</u>. The term of this Agreement shall begin upon grant award, subject to the County's ability to terminate in accordance with Section 7 of this Agreement. The terms of Section 23 entitled "Indemnification and Waiver of Liability" shall survive termination of this Agreement.

This agreement may not be renewed;

- 2. <u>Compensation</u>. The Contractor agrees to provide the Services to the County, including materials and labor, in a total amount of Nine Hundred Seventy-Two Thousand Seven Hundred Sixteen Dollars and Ninety-Four Cents (\$ 972,716.94)
 - a. Contractor shall submit an invoice to the County every thirty (30) days through the completion of the project. The invoice shall indicate that all services have been completed for that invoice period. In addition, Contractor agrees to provide the County with any additional documentation requested to process the invoices.
 - b. <u>Disbursement</u>. Check one:

There are no reimbursable expenses associated with this Agreement.

- c. Payment Schedule. Invoices received from the Contractor pursuant to this Agreement will be reviewed by the initiating County Department. Payment will be disbursed as set forth above. If services have been rendered in conformity with the Agreement, the invoice will be sent to the Finance Department for payment. Invoices must reference the contract number assigned by the County after execution of this Agreement. Invoices will be paid in accordance with the State of Florida Local Government Prompt Payment Act.
- d. Availability of Funds. The County's performance and obligation to pay under this Agreement is contingent upon annual appropriation for its purpose by the County Commission.

Contractor shall make no other charges to the County for supplies, labor, taxes, licenses, permits, overhead or any other expenses or costs unless any such expenses or cost is incurred by Contractor with the prior written approval of the County. If the County disputes any charges on the invoices, it may make payment of the uncontested amounts and withhold payment on the contested amounts until they are resolved by agreement with the Contractor. Contractor shall not pledge the County's credit or make it a guarantor of payment or surety for any contract, debt, obligation, judgment, lien, or any form of indebtedness. The Contractor further warrants and represents that it has no obligation or indebtedness that would impair its ability to fulfill the terms of this Agreement.

- 3. Ownership of Documents and Equipment. All documents prepared by the Contractor pursuant to this Agreement and related Services to this Agreement are intended and represented for the ownership of the County only. Any other use by Contractor or other parties shall be approved in writing by the County. If requested, Contractor shall deliver the documents to the County within fifteen (15) calendar days.
- **4.** <u>Insurance.</u> Contractor shall, at its sole cost and expense, during the period of any work being performed under this Agreement, procure and maintain the minimum insurance coverage required as set forth in Attachment "B" attached hereto and incorporated herein, to protect the County and Contractor against all loss, claims, damages and liabilities caused by Contractor, its agents, or employees.

5. Termination and Remedies for Breach.

- a. If, through any cause within its reasonable control, the Contractor shall fail to fulfill in a timely manner or otherwise violate any of the covenants, agreements or stipulations material to this Agreement, the County shall have the right to terminate the Services then remaining to be performed. Prior to the exercise of its option to terminate for cause, the County shall notify the Contractor of its violation of the particular terms of the Agreement and grant Contractor thirty (30) days to cure such default. If the default remains uncured after thirty (30) days the County may terminate this Agreement, and the County shall receive a refund from the Contractor in an amount equal to the actual cost of a third party to cure such failure. If Contractor fails, refuses or is unable to perform any term of this Agreement, County shall pay for services rendered as of the date of termination.
 - i. In the event of termination, all finished and unfinished documents, data and other work product prepared by Contractor (and sub-Contractor (s)) shall be delivered to the County and the County shall compensate the Contractor for all Services satisfactorily performed prior to the date of termination, as provided in Section 4 herein.
 - ii. Notwithstanding the foregoing, the Contractor shall not be relieved of liability to the County for damages sustained by it by virtue of a breach of the Agreement by Contractor and the County may reasonably withhold payment to Contractor for the purposes of set-off until such time as the exact amount of damages due the County from the Contractor is determined.
- b. <u>Termination for Convenience of County</u>. The County may, for its convenience and without cause immediately terminate the Services then remaining to be performed at any time by giving written notice. The terms of Paragraph a(i) and a(ii) above shall be applicable hereunder.
- c. <u>Termination for Insolvency</u>. The County also reserves the right to terminate the remaining Services to be performed in the event the Contractor is placed either in

- voluntary or involuntary bankruptcy or makes any assignment for the benefit of creditors.
- d. <u>Termination for failure to adhere to the Public Records Law</u>. Failure of the Contractor to adhere to the requirements of Chapter 119 of the Florida Statutes and Section 9 below, may result in immediate termination of this Agreement.
- 6. Governing Law, Venue and Waiver of Jury Trial. This Agreement shall be interpreted and construed in accordance with and governed by the laws of the State of Florida. All parties agree and accept that jurisdiction of any dispute or controversy arising out of this Agreement, and any action involving the enforcement or interpretation of any rights hereunder shall be brought exclusively in the First Judicial Circuit in and for Santa Rosa County, Florida, and venue for litigation arising out of this Agreement shall be exclusively in such state courts, forsaking any other jurisdiction which either party may claim by virtue of its residency or other jurisdictional device. In the event it becomes necessary for the County to file a lawsuit to enforce any term or provision under this Agreement, then the County shall be entitled to its costs and attorney's fees at the pretrial, trial and appellate levels. BY ENTERING INTO THIS AGREEMENT, CONTRACTOR AND COUNTY HEREBY EXPRESSLY WAIVE ANY RIGHTS EITHER PARTY MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS AGREEMENT. Nothing in this Agreement is intended to serve as a waiver of sovereign immunity, or of any other immunity, defense, or privilege enjoyed by the County pursuant to Section 768.28, Florida Statutes.
- 7. <u>Public Records</u>. Any record created by either party in accordance with this Contract shall be retained and maintained in accordance with the public records law, Florida Statutes, Chapter 119. Contractor must comply with the public records laws, Florida Statute chapter 119, specifically Contractor must:
 - a. Keep and maintain public records required by the County to perform the service.
 - b. Upon request from the County's custodian of public records, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in chapter 119 Florida Statutes or as otherwise provided by law.
 - c. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the County.
 - d. Upon completion of the contract, transfer, at no cost, to the County all public records in possession of the contractor or keep and maintain public records required by the County to perform the service. If the contractor transfers all public records to the public agency upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon

completion of the contract, the contractor shall meet all applicable requirements for retaining the public records. All records stored electronically must be provided to the public agency, upon the request from the public agency's custodian of public records, in a format that is compatible with the information technology systems of the public agency.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS WANDA PITTS, (850) 963-1925, wandap@santarosa.fl.gocv, 6945 Caroline Street, Milton, FL 32570.

- 8. <u>Audit</u>. The County and/or its designee shall have the right from time to time at its sole expense to audit the compliance by the Contractor with the terms, conditions, obligations, limitations, restrictions, and requirements of this Contract and such right shall extend for a period of three (3) years after termination of this Contract.
- 9. Notices. All notices and other communications required or permitted to be given under this Agreement by either party to the other shall be in writing and shall be sent (except as otherwise provided herein) (i) by certified mail, first class postage prepaid, return receipt requested, (ii) by guaranteed overnight delivery by a nationally recognized courier service, or (iii) by facsimile with confirmation receipt (with a copy simultaneously sent by certified mail, first class postage prepaid, return receipt requested or by overnight delivery by traditionally recognized courier service), addressed to such party as follows:

If to the County:	With a copy to: Department 6495 Caroline Street, Suite Milton, FL 32570
If to the Contractor:	Panhandle Grading & Paving, Inc. 2665 Solo Dos Familiaf Pensacola, FL 32534

10. <u>Assignment</u>. Contractor shall not assign this Agreement or any part thereof, without the prior consent in writing of the County. If Contractor does, with approval, assign this Agreement or any part thereof, it shall require that its assignee be bound to it and to assume toward Contractor all of the obligations and responsibilities that Contractor has assumed toward the County.

- 11. Subcontracting. Contractor shall not subcontract any services or work to be provided to County without the prior written approval of the County's Representative. The County reserves the right to accept the use of a subcontractor or to reject the selection of a particular subcontractor and to inspect all facilities of any subcontractors in order to make a determination as to the capability of the subcontractor to perform properly under this Agreement. The County's acceptance of a subcontractor shall not be unreasonably withheld. The Contractor is encouraged to seek minority and women business enterprises for participation in subcontracting opportunities. Additionally, any subcontract entered into between the Contractor and subcontractor will need to be approved by the County prior to it being entered into and said agreement shall incorporate in all required terms in accordance with local, state and federal regulations.
- 12. <u>Civil Rights</u>. 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.
- 13. <u>Compliance with Nondiscrimination Requirements</u>. During the performance of this Agreement, the Contractor, for itself, its assignees, and successors in interest, agrees as follows:
 - a. <u>Compliance with Regulations</u>: The Contractor 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 and attached hereto as Attachment "C".
 - b. <u>Nondiscrimination</u>: The Contractor, with regard to the work performed by it during the Agreement, 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.
 - c. <u>Solicitations for Subcontracts, including Procurements of Materials and Equipment</u>: 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.
 - d. <u>Information and Reports</u>: 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 County or other governmental entity 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 County or the other governmental entity, as appropriate, and will set forth what efforts it has made to obtain the information.

- e. <u>Sanctions for Noncompliance</u>: In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the County will impose such contract sanctions as it or another applicable state or federal governmental entity may determine to be appropriate, including, but not limited to:
 - a. Withholding payments to the Contractor under the Agreement until the Contractor complies; and/or
 - b. Cancelling, terminating, or suspending the Agreement, in whole or in part.
- f. <u>Incorporation of Provisions</u>: 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 County 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 County to enter into any litigation to protect the interests of the County. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.
- 14. <u>Procurement of Recovered Materials</u>. Contractor and any subcontractors 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.
- 15. <u>Debarment and Suspension</u>. Contractor as part of the procurement response, Attachment "A" has submitted to the County a certification that Contractor and its principals, if applicable, are not presently debarred or suspended by any Federal department or agency from participating in this transaction. Contractor now agrees to verify, to the extent applicable, that for each lower tier subcontractor that exceeds \$25,000 as a "covered transaction" under the Services to be provided is not presently disbarred or otherwise disqualified from participating in the federally assisted services. The Contractor agrees to accomplish this verification by:
 - 1. Checking the System for Award Management at website: http://www.sam.gov.
 - 2. Collecting a certification statement similar to the Certification of Offerer /Bidder Regarding Debarment, above.
 - 3. Inserting a clause or condition in the covered transaction with the lower tier contract.
- 16. <u>Minority/Women's Business Enterprises</u>. Contractor must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible, in accordance with 2 CFR 200.321. If subcontracts are to be let, prime contractor will require compliance by all sub-contractors. Information regarding certified M/WBE firms can be obtained from (the following list is not exhaustive):
 - Florida Department of Management Services (Office of Supplier Diversity);
 - Florida Department of Transportation;
 - Minority Business Development Center in most large cities; and
 - Local Government M/DBE programs in many large counties and cities.
- 17. Compliance with Laws. Contractor shall secure any and all permits, licenses and approvals that may be required in order to perform the Services, shall exercise full and complete authority over Contractor's personnel, shall comply with all workers' compensation, employer's liability and all other federal, state, county, and municipal laws, ordinances, rules and regulations required of an employer performing services such as the Services, and shall make all reports and remit all withholdings or other deductions from the compensation paid to Contractor's personnel as may be required by any federal, state, county, or municipal law, ordinance, rule, or regulation.
- 18. <u>Conflict of Interest</u>. The Contractor covenants that it presently has no interest and shall not acquire any interest, directly or indirectly which could conflict in any manner or degree with the performance of the Services. The Contractor further covenants that in the performance of this Agreement, no person having any such interest shall knowingly be employed by the Contractor.

The Contractor guarantees that he/she has not offered or given to any member of, delegate to the Congress of the United States, any or part of this contract or to any benefit arising therefrom.

- 19. <u>Independent Contractor</u>. Contractor enters into this Agreement as, and shall continue to be, an independent contractor. All services shall be performed only by Contractor and Contractor's employees. Under no circumstances shall Contractor or any of Contractor's employees look to the County as his/her employer, or as partner, agent or principal. Neither Contractor, nor any of Contractor's employees, shall be entitled to any benefits accorded to the County's employees, including without limitation worker's compensation, disability insurance, vacation or sick pay. Contractor shall be responsible for providing, at Contractor's expense, and in Contractor's name, unemployment, disability, worker's compensation and other insurance as well as licenses and permits usual and necessary for conducting the services to be provided under this Agreement.
- 20. <u>Third Party Beneficiaries</u>. It is specifically agreed between the parties executing this Agreement that it is not intended by any of the provisions of any part of the Agreement to create in the public or any member thereof, a third party beneficiary under this Agreement, or to authorize anyone not a party to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Agreement.
- 21. Indemnification and Waiver of Liability. The Contractor agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless the County, its agents, representatives, officers, directors, officials and employees from and against claims, damages, losses and expenses (including but not limited to attorney's fees, court costs and costs of appellate proceedings) relating to, arising out of or resulting from the Contractor's negligent acts, errors, mistakes or omissions relating to professional Services performed under this Agreement. The Contractor's duty to defend, hold harmless and indemnify the County its agents, representatives, officers, directors, officials and employees shall arise in connection with any claim, damage, loss or expense that is attributable to bodily injury; sickness; disease; death; or injury to impairment, or destruction of tangible property including loss of use resulting therefrom, caused by any negligent acts, errors, mistakes or omissions related to Services in the performance of this Agreement including any person for whose acts, errors, mistakes or omissions the Contractor may be legally liable. The parties agree that TEN DOLLARS (\$10.00) represents specific consideration to the Contractor for the indemnification set forth herein.

The waiver by a party of any breach or default in performance shall not be deemed to constitute a waiver of any other or succeeding breach or default. The failure of the County to enforce any of the provisions hereof shall not be construed to be a waiver of the right of the County thereafter to enforce such provisions.

22. <u>Taxes and Assessments</u>. Contractor agrees to pay all sales, use, or other taxes, assessments and other similar charges when due now or in the future, required by any local, state or federal law, including but not limited to such taxes and assessments as may from time to time be imposed by the County in accordance with this Agreement. Contractor further agrees that it shall protect, reimburse and indemnify County from and assume all liability for its tax and assessment obligations under the terms of the Agreement.

The County is exempt from payment of Florida state sales and use taxes. The Contractor shall not be exempted from paying sales tax to its suppliers for materials used to fulfill contractual obligations with the County, nor is the Contractor authorized to use the County's tax exemption number in securing such materials.

The Contractor shall be responsible for payment of its own and its share of its employees' payroll, payroll taxes, and benefits with respect to this Agreement.

23. Prohibition Against Contracting with Scrutinized Companies. Pursuant to Florida Statutes Section 215.4725, contracting with any entity that is listed on the Scrutinized Companies that Boycott Israel List or that is engaged in the boycott of Israel is prohibited. Contractors must certify that the company is not participating in a boycott of Israel. Any contract for goods or services of One Million Dollars (\$1,000,000) or more shall be terminated at the County's option if it is discovered that the entity submitted false documents of certification, is listed on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or has been engaged in business operations in Cuba or Syria after July 1, 2018.

Any contract entered into or renewed after July 1, 2018 shall be terminated at the County's option if the company is listed on the Scrutinized Companies that Boycott Israel List or engaged in the boycott of Israel. Contractors must submit the certification that is attached to this agreement as Attachment "D". Submitting a false certification shall be deemed a material breach of contract. The County shall provide notice, in writing, to the Contractor of the County's determination concerning the false certification. The Contractor shall have ninety (90) days following receipt of the notice to respond in writing and demonstrate that the determination was in error. If the Contractor does not demonstrate that the County's determination of false certification was made in error, then the County shall have the right to terminate the contract and seek civil remedies pursuant to Florida Statute Section 215.4725.

- **24.** Special Conditions Additional Federal Requirements. As some or all of the Services to be provided under this Agreement may be funded with federal funds. Contractor agrees to adhere to the required additional federal requirements set forth in Attachment "E" and incorporated herein by reference.
- 25. Grant or Agreement Requirements. The County will submit for receipt of a grant with the Federal Aviation Administration (FAA) which shall be funding some or all of the Services to be provided under this Agreement. Contractor agrees to adhere to all of the requirements of the Grant or Agreement.
- 26. <u>Inconsistencies and Entire Agreement</u>. If there is a conflict or inconsistency between any term, statement, requirement, or provision of any attachment attached hereto, any document or events referred to herein, or any document incorporated into this Agreement, the term, statement, requirement, or provision contained in this Agreement shall prevail and be given superior effect and priority over any conflicting or inconsistent term, statement, requirement or provision contained in any other document or attachment, including but not limited to Attachments listed in Section 1.

- 27. Severability. If any term or condition of this Contract shall be deemed, by a court having appropriate jurisdiction, invalid or unenforceable, the remainder of the terms and conditions of this Contract shall remain in full force and effect. This Contract shall not be more strictly construed against either party hereto by reason of the fact that one party may have drafted or prepared any or all the terms and provisions hereof.
- 28. Entire Agreement. This Agreement contains the entire agreement of the parties, and may be amended, waived, changed, modified, extended or rescinded only by in writing signed by the party against whom any such amendment, waiver, change, modification, extension and/or rescission is sought.
- 29. Representation of Authority to Contractor/Signatory. The individual signing this Agreement on behalf of Contractor represents and warrants that he or she is duly authorized and has legal capacity to execute and deliver this Agreement. The signatory represents and warrants to the County that the execution and delivery of this Agreement and the performance of the Services and obligations hereunder have been duly authorized and that the Agreement is a valid and legal agreement binding on the Contractor and enforceable in accordance with its terms.

30. Access to Records. The following access to records requirements apply to this contract:

- 1. The Contractor agrees to provide (insert name of state agency or local or Indian tribal government), (insert name of recipient), the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.
- 2. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- 3. The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.
- 4. In compliance with the Disaster Recovery Act of 2018, the (write in name of the non-federal entity) and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

The contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre- approval.

This is an acknowledgement that FEMA financial assistance will be used to fund all or a portion of the contract. The contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives

"The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract.

"The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor's actions pertaining to this contract.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in duplicate on the day and year first written above.

WITNESS: Signature Josh Hamner	BY: Donald Long, Vice President
Print Name	
ATTEST:	SANTA ROSA COUNTY, FLORIDA
Donald C. Spencer, Clerk of Court	David C. Piech, Chairman
Sacrific Carrier Carri	

Attachment "A"

____13

SANTA ROSA COUNTY, FLORIDA



ITB # 21-032 Peter Prince Field Taxiway "A" Rehabilitation

May 2021

OWNER: BOARD OF COUNTY COMMISSIONERS SANTA ROSA COUNTY, FLORIDA

SAM PARKER	-DISTRICT I
ROBERT A. "BOB" COLE	-DISTRICT II
JAMES CALKINS	-DISTRICT III
DAVE PIECH	-DISTRICT IV
COLTEN WRIGHT	-DISTRICT V

SECTION I. INVITATION TO BID

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MEMORANDUM

TO: Company Addressed DATE: May 12, 2021

FROM: Santa Rosa County Procurement Office

SUBJECT: ITB 21-032 Peter Prince Field Taxiway "A" Rehabilitation

Notice is hereby given that the Santa Rosa County Board of County Commissioners is calling for and requesting bids for the construction of a taxiway rehabilitation project at Peter Prince Field. The Taxiway A Rehabilitation Project consists of milling and overlay of the existing Taxiway A, and re-construction of existing cross-taxiway A4. Work will include new LED taxiway lighting, pavement markings, earthwork, and FAA Type P-401 asphalt pavement. Work shall be performed in accordance with FAA Specifications. Only properly licensed Contractors are invited to bid. All work shall be completed as night work between the hours of 7 PM and 5 AM. Taxiway A shall be restored to operable condition each morning.

All bids must be in writing and delivered by hand, overnight courier service, or U.S. Mail to the Santa Rosa County Procurement Department, 6495 Caroline Street, Suite M, Milton, Florida 32570, and **must be received by 10:00 A.M. on June 14, 2021** at which time will be publicly opened. E-mailed proposal responses will be rejected. All bids shall be sealed and clearly labeled, "**ITB # 21-032 Peter Prince Field Taxiway "A" Rehabilitation**". Please provide the original proposal, labeled "ORIGINAL", and one (1) copy labeled "COPY" along with one (1) electronic file in OCR (readable) PDF format.

A pre-bid conference will be held at **10:00 a.m.**, **CST**, **Wednesday**, **May 19**, **2021** at the Santa Rosa County Economic Development Office located at 6491 Caroline Street, Milton, Florida 32570. Attendance is strongly encouraged for those interested in bidding this project.

Specifications may be secured by download from the Santa Rosa County Website: https://www.santarosa.fl.gov/391/Procurement-Office "Bid Opportunities". Questions concerning this request should be directed to the Santa Rosa County Procurement Office in writing at bidinfo@santarosa.fl.gov prior to 4:30 p.m. on May 26, 2021.

Santa Rosa County Board of County Commissioners encourages all segments of the business community to participate in its procurement opportunities, including small businesses, minority/women owned businesses, and disadvantaged business enterprises. The Board does not discriminate on the basis of race, color, religion, national origin, disability, sex, or age in the administration of contracts.

The Board of County Commissioners reserves the right to waive irregularities in bids, to reject any or all bids with or without cause, and to award the bid that it determines to be in the best interest of Santa Rosa County.

By order of the Board of County Commissioners of Santa Rosa, Florida

SECTION II.

STD ITB – BID INSTRUCTIONS, SUBMITTAL REQUIREMENTS AND GENERAL BID REQUIREMENTS

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PRE-BID ACTIVITY

Except as provided in this section, respondents are prohibited from contacting or lobbying the County, County Administrator, Commissioners, County staff, and Review Committee members, or any other person authorized on behalf of the County related or involved with the solicitation. All inquiries on the scope of work, specifications, additional requirements, attachments, terms and general conditions or instructions, or any issue must be directed in writing, by US mail or email to: Santa Rosa County Procurement Office, 6495 Caroline Street, Suite L Milton Fl. 32570. Email; Bidinfo@santarosa.fl.gov.

All questions or inquiries must be received no later than the last day for questions stated in the ITB & Legal Notice. Any addenda or other modification to the bid documents will be issued by the County five (5) days prior to the date and time of bid closing, as written addenda, and will be posted to the Santa Rosa County website at https://www.santarosa.fl.gov keyword; Bids.

Such written addenda or modification shall be part of the bid documents and shall be binding upon each respondent. Each respondent is required to acknowledge receipt of any and all addenda in writing and submit with their bid. No respondent may rely upon any verbal modification or interpretation.

PROPOSED SCHEDULE

Invitation to Bid Published May 12, 2021

Pre-Bid Conference May 19, 2021 @ 10:00 a.m.

Deadline for Questions May 26, 2021 @ 4:30 p.m.

Bids Due June 14, 2021 @ 10:00 a.m.

Bid Reviews/Evaluation June 14-18, 2021 Recommendation Due June 21, 2021

Notification of Award June 22, 2021 (tentatively) *Contingent on BOCC approval

Award by BOCC July 13, 2021 (tentatively)

PREPARATION OF BID

A Bid form is included in these specifications. The Owner may consider as informal any bid on which there is an alteration of or departure from the Bid Form hereto attached. The respondent shall submit bids in accordance with the public notice.

All blanks in the bid documents shall be completed by printing in ink or by typewriter in both words and numbers with the amounts extended, totaled and the bid signed. A bid price shall be indicated for each section, bid item, alternative, adjustment unit price item, and unit price item listed therein, or the words "No Bid", "No Change", or "Not Applicable" entered. No changes shall be made to the phraseology of the form or in the items mentioned therein. In case of any discrepancy between the written amount and the numerical figures, the written amount shall govern. Any bid which contains any omissions, erasures, alterations, additions, irregularities of any kind, or items not called for which shall in any manner fail to conform

to the conditions of public notice inviting bids may be rejected.

A bid submitted by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature). The official address of the partnership shall be shown below the signature.

A bid submitted by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.

A bid submitted by an individual shall show the respondent's name and official address.

A bid submitted by a joint venture shall be executed by each joint venture in the manner indicated on the bid form. The official address of the joint venture must be shown below the signature.

It is preferred that all signatures be in blue ink with the names type or printed below the signature. Santa Rosa County does not accept electronic signatures in bid submissions.

The bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the form. The address and telephone # for communications regarding the bid shall be shown.

If the respondent is an out-of-state corporation, the bid shall contain evidence of respondent's authority and qualification to do business as an out-of-state corporation in the State of Florida. A state contractor license # for the State of Florida shall also be included on the bid form. Respondent shall be licensed in accordance with the requirements of Chapter 489, Florida Statutes.

The Bid shall be based upon the completion of the Work according to the drawings and specifications, together with all addenda thereto.

Bids must include lump sum pricing. Use Bid Form provided in this document. All proposed fees and costs must be broken down and disclosed in the bid.

SUBMITTAL OF BID

A bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be sealed and clearly labeled with the words "ITB # 21-032 Peter Prince Field Taxiway "A" Rehabilitation", name of bidder and date and time of opening so as to guard against premature opening of any bid and shall be accompanied by the bid security and other required documents. It is the respondent's responsibility to assure that its bid is delivered at the proper time and place. Offers by email, facsimile, or telephone will NOT be accepted.

Each contractor's submittal shall include all the items listed on the Bidders Submission Checklist, in order, with the Checklist on the top of the submission.

INTEGRITY OF BID DOCUMENTS

Respondents shall use the original Bid documents provided by the Santa Rosa County Procurement Office and enter information only in the spaces where a response is requested. Respondents may use an attachment to the Bid documents if sufficient space is not available. Any modifications or alterations to the original bid documents by the respondent, whether intentional or otherwise, will constitute grounds for rejection of a bid. Any such modification or alteration that a respondent wishes to propose must be clearly stated in the respondent's response in the form of an addendum to the original bid documents.

WITHDRAWAL OF SUBMITTALS

Any Respondent may withdraw its Submittal, either personally or by written request, at any time prior to the scheduled time for opening Submittals.

INTERPRETATION

No oral interpretation will be made to any Bidder as to the meaning of the drawings or specifications. Every interpretation made to a Bidder will be in the form of an Addendum to the specifications. Addenda will be furnished to each Bidder, but it shall be the Bidder's responsibility to make inquiry as to Addenda issued. All such addenda shall become part of the contract and all Bidders shall be bound by such Addenda whether or not received by the Bidders.

BIDS TO REMAIN SUBJECT TO ACCEPTANCE

All bids will remain subject to acceptance or rejection by Santa Rosa County for sixty (60) calendar days after the day of the bid opening. The County may, in its sole discretion, release any bid and return the bid security prior to the end of this period.

CONDITIONAL & INCOMPLETE BIDS

Santa Rosa County specifically reserves the right to reject any conditional bid.

ADDITION/DELETION OF ITEM

The County reserves the right to add or delete any item from this bid or resulting contract when deemed to be in the County's best interest.

SPECIFICATION EXCEPTIONS

Specifications are based on the most current literature available. Respondent shall clearly list any change in the manufacturer's specifications which conflict with the bid specifications. Respondent must also explain any deviation from the bid specification in writing, as a foot note on the applicable bid page and enclose a copy of the manufacturer's specifications data detailing the changed item(s) with their bid. Failure of the respondent to comply with these

provisions will result in respondents being held responsible for all costs required to bring the equipment in compliance with bid specifications.

FAMILIARITY WITH LAWS

All applicable Federal and State laws, County and municipal ordinances, orders, rules and regulations of all authorities having jurisdiction over the project shall apply to the bid throughout, and they will be deemed to be included in the contract the same as though they were written in full therein.

EXAMINATION OF DOCUMENTS AND SITE

Before submitting their proposal, the Bidder shall familiarize themselves with the nature and extent of the work and any local conditions that may in any manner affect the work to be done and the equipment, materials, and labor required. Bidder shall also examine all drawings, specifications, addenda and other Contract Documents to be thoroughly informed regarding any and all conditions and requirements that may in any manner affect the work to be performed under the contract.

RIGHT TO REJECT PROPOSAL

The Owner reserves the right to waive informalities in bids to reject any or all bids with or without cause and accept the bid that in its judgment is in the best interest of the County.

DISQUALIFICATION OF RESPONDENTS

Any of the following reasons may be considered as sufficient for the disqualification of a respondent and the rejection of its bid:

Submission of more than one proposal for the same work from an individual, firm or corporation under the same or different name. Evidence that the respondent has a financial interest in the firm of another respondent for the same work.

Evidence of collusion among respondents. Participants in such collusion will receive no recognition as respondents for any future work of the County until such participant has been reinstated as a qualified respondent.

Uncompleted work which in the judgment of the County might hinder or prevent the prompt completion of additional work if awarded.

Failure to pay or satisfactorily settle all bills due for labor and material on former contracts in force at the time of advertisement of proposals. Default under previous contract.

Listing of the respondent by any Local, State or Federal Government on its barred/suspended vendor list.

DISCRIMINATION

An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work,

may not submit bids on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity.

REVIEW OF PROCUREMENT DOCUMENTS

Per Florida Statute 119.071 (1) 2, sealed bids, proposals, or replies received by the County pursuant to a competitive solicitation are exempt from public disclosure until such time as the County provides notice of an intended decision or until 30 days after opening the bids, proposals, or final replies, whichever is earlier.

COMPLIANCE WITH FLORIDA STATUTE 119.0701

The Respondent shall comply with all the provisions of section 119.0701, Florida Statutes relating to the public records which requires, among other things, that the Respondent: (a) Keep and maintain public records; (b) Provide the public with access to public records on the same terms and conditions that the public agency would provide the records; (c) ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law; and (d) Meet all requirements for retaining public records and transfer, at no cost, to the public agency all public records in possession of the respondent upon termination of the contract.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (850) 983-1925, wandap@santarosa.fl.gov; 6495 CAROLINE STREET, SUITE C, MILTON, FLORIDA 32570.

SUSPENSION OR TERMINATION FOR CONVENIENCE

The County may, at any time, without cause, order Respondent in writing to suspend, delay or interrupt the work in whole or in part for such period of time as the County may determine, or to terminate all or a portion of the Contract for the County's convenience. Upon such termination, the Contract Price earned to the date of termination shall be paid to Respondent, but Respondent waives any claim for damages, including loss of profits arising out of or related to the early termination. Those Contract provisions which by their nature survive final acceptance shall remain in full force and effect. If the County orders a suspension, the Contract price and Contract time may be adjusted for increases in the cost and time caused by suspension, delay or interruption. No adjustment shall be made to the extent that performance is, was or would have been so suspended, delayed or interrupted by reason for which Respondent is responsible; or that an equitable adjustment is made or denied under another provision of this Contract.

FAILURE OF PERFORMANCE/DELIVERY

In case of default by the respondent, the County after due notice (oral or written) may procure the necessary supplies or services from other sources and hold the respondent responsible for difference in cost incurred. Continuous instances of default shall result in cancellation of the award and removal of the respondent from the bid list for duration of one (1) year, at the option of the County.

AUDIT

If requested, respondent shall permit the County or an authorized, independent audit agency to inspect all data and records of respondent relating to its performance and its subcontracts under this bid from the date of the award through three (3) years after the expiration of contract.

NON-COLLUSION

Respondent certifies that it has entered into no agreement to commit a fraudulent, deceitful, unlawful or wrongful act, or any act which may result in an unfair advantage over other respondents. See Florida Statute 838.22.

PUBLIC ENTITY CRIME INFORMATION

Pursuant to Florida Statute 287.133, a respondent may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in s. 287.017 for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted vendor list.

<u>Note</u>: For respondent's convenience, this certification form is enclosed and is made a part of the bid package.

INVESTIGATION OF RESPONDENT

The County may make such investigations, as it deems necessary to determine the stability of the respondent to perform the work and that there is no conflict of interest as it relates to the project. The respondent shall furnish to the Owner any additional information and financial data for this purpose as the County may request.

CONE OF SILENCE CLAUSE

The Santa Rosa County Board of County Commissioners has established a solicitation silence policy (Cone of Silence Clause) that prohibits oral and written communication regarding all formal solicitations for goods and services (formal bids, Request for Proposals, Requests for Qualifications) issued by the Board through the Procurement Office. The period commences from the date of advertisement until award of contract. All communications shall be directed to the Procurement Office.

<u>Note:</u> For respondent's convenience, this certification form is enclosed and is made a part of the bid package.

TIME OF COMPLETION

The entire project shall be completed within **150 calendar days** after the Notice to Proceed date. The date of substantial completion of the work or designated portion thereof is the date certified by the Engineer when construction is sufficiently complete and approved in accordance with the Contract Documents so the Owner can occupy or utilize the work for the use which it was intended.

The date of substantial completion of the work or designated portion thereof is the date certified by the Engineer when construction is sufficiently complete and approved in accordance with the Contract Documents so the Owner can occupy or utilize the work for the use which it was intended.

Liquidated damages will be established in the amount of \$2,000.00 per calendar day for each calendar day after completion date if the work is not substantially complete as certified by the Engineer.

Payment requests approved by the Engineer for work completed satisfactorily in accordance with the Contract Documents shall be reduced by a ten percent (10%) retainer. The ten percent (10%) retainer shall be retained by the Owner until final completion and acceptance of the work by the Engineer and Santa Rosa County, Florida.

EVALUATION OF BIDS AND AWARD OF CONTRACT

Santa Rosa County Staff will review all bids and will provide the recommendation to award to the Procurement Office, the County Administrator and the Board of County Commissioners. The County will award the bid to the responsive and responsible vendor(s) with the lowest responsive bid(s). The County reserves the right to award the bid to the respondent submitting a responsive bid with a resulting negotiated agreement which is most advantageous and in the best interest of the County, and to reject any and all bids or to waive any irregularity or technicality in bids received. Santa Rosa County shall be the sole judge of the bid and the resulting negotiated agreement that is in its best interest and its decision shall be final.

Santa Rosa County reserves its right to reject any or all Bids, including without limitation nonconforming, nonresponsive, unbalanced or conditional Bids. The County further reserves the right to reject the Bid of any Bidder whom it finds after reasonable inquiry and evaluation to not be responsible. In evaluating Bidders, the County may consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted with the Bid Form.

Santa Rosa County reserves the right to waive any informalities or reject any and all bids, in whole or part, to utilize any applicable state contracts in lieu of or in addition to this bid and to accept the bid that in its judgment will best serve the interest of the County.

Santa Rosa County reserves the right to reject any conditional bids and will normally reject those which made it impossible to determine the true amount of the bid. Each item must be bid separately, and no attempt is to be made to tie any item or items to any other item or items

FORM OF AGREEMENT:

The Contract form shall be provided by the County Attorney. The successful contractor shall, within 10 days after receipt of the Notice of Award and the contract forms or documents, sign and deliver to the County Legal Office all required contract documents. The awarded contractor shall also deliver the policies of insurance or insurance certificate as required. All insurance documents shall be approved by Santa Rosa County Legal Office before the successful contractor may proceed with the work.

BID GUARANTEE:

Each bid shall be submitted on the bid form provided and must be accompanied by a Certified Check or Bid Bond in the amount of five percent (5%) of the Base Bid, and copies of all required licenses. Such Bid Bond or Check is given with the understanding and agreement that it guarantees:

(1) that the bidder will not withdraw his bid for a period of 60 days after the bids have been opened; and, (2) that if his bid is accepted, the Bidder will enter into the written Contract with Santa Rosa County and furnish the required Performance Bond Payment Bond Insurance Certificates, within 10 days after receipt of Notice of Award of his bid. Pursuant to Florida Statutes, Section 255.05, should the contract exceed \$100,000, the Contractor shall be required to execute and record performance and payment bonds. These bonds must state the name and principal business address of both the principal and the surety and a description of the project sufficient to identify it. In the event the bidder fails to comply with any of these conditions and requirements in whole or in part, the full amount of the bond or check shall be automatically forfeited to Santa Rosa County as damages on account of the default of the bidder.

SYSTEM OF AWARD MANAGEMENT

All respondents must be registered with the Federal System of Award Management (SAM) and be up to date on all registration requirements at the time of submitting a response to this Request for Bids. Failure to do so will result in respondent's submittal being deemed as unresponsive.

PROCUREMENT OF RECOVERED MATERIALS

All respondents must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

DOMESTIC PREFERENCE

Although the County has no local preference, in accordance with 2 C.F.R. 200.322, the County may consider preference for the use of products and materials produced in the United States.

CONTRACT WITH THE ENEMY

In accordance with 2 C.F.R. 200.215, it is acknowledged that no services under this contract are to be performed outside the United states and its territories nor in support of a contingency operation in which members of the Armed Forces are actively engaged in hostilities.

MISC. FEDERAL REQUIREMENTS

All respondents should be aware that some federal funds may be utilized in the course of services being performed under this agreement, as such, respondent agrees that it shall adhere to all necessary federal regulations. Further, the respondent acknowledges that the Federal government is not a party to this agreement and is not subject to any obligations or liabilities to the non-federal entity, Respondent, or any other party pertaining any matter resulting from any award. Should a federal awarding agency require adherence to Supplemental Standard Terms and Conditions relevant to any award hereunder, such conditions will be included for review and approval as a condition any amendment or task order.

UNAUTHORIZED ALIENS/PATRIOT'S ACT

The knowing employment by respondent or its subcontractors of any alien not authorized to work by the immigration laws is prohibited and shall be a default of the contract. In the event that the respondent is notified or becomes aware of such default, the respondent shall take steps as are necessary to terminate said employment with 24 hours of notification or actual knowledge that an alien is being employed. Respondent's failure to take such steps as are necessary to terminate the employment of any said alien within 24 hours of notification or actual knowledge that an alien is being employed shall be grounds for immediate termination

of the contract. Respondent shall take all commercially reasonable precautions to ensure that it and its subcontractors do not employ persons who are not authorized to work by the immigration laws.

PROTECTION OF RESIDENT WORKERS

The Santa Rosa County Board of County Commissioners actively supports the Immigration and Nationality Act (INA) which includes provisions addressing employment eligibility, employment verifications, and nondiscrimination. Under the INA, employers may hire only persons who may legally work in the United States (i.e., citizens and nationals of the U.S.) and aliens authorized to work in the U.S. The employer must verify the identity and employment eligibility of anyone to be hired, which includes completing the Employment Eligibility Verifications. The respondent shall establish appropriate procedures and controls so no services or products under the Contract Documents will be performed or manufactured by any worker who is not legally eligible to perform such services or employment. Santa Rosa County reserves the right to request documentation showing compliance with the requirements.

Respondents doing construction business with Santa Rosa County are required to use the Federal Government Department of Homeland Security's website and use the E-Verify Employment Eligibility Verifications System to confirm eligibility of all employees to work in the United States.

SECTION III. SANTA ROSA COUNTY DOCUMENTS AND FORMS

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BID SUBMISSION CHECKLIST

ITB # 21-032 Peter Prince Field Taxiway "A" Rehabilitation

	Sealed Bid Package with Bid Name and Number, Firm name and Address with Contact information clearly marked on the outside of envelope/box.
	1 Original Bid Package and 1 Copy with 1 Electronic Copy in .pdf on a CD or USB Drive
	Bid Submittal Checklist attached to top of Original Bid Package
	Bid Bond
	Bid Form and Schedule of Values, Unit Pricing
	Cone of Silence
	Sworn Statement Public Entity Crimes
	Debarment Form
	References Form
	Conflict of Interest Form
	Copy of current Required Insurance declaration page with Santa Rosa County named interest, or, Letter of Insurability from Carrier stating that the levels of coverage will be obtained.
	Contractors license
	Addendum (s)
	proof of System for Award Management "active status" (SAM.gov)
	proof of "active status" with the Florida Department of State Division of Corporations (sunbiz.org)
informall req	equired documentation submitted must be updated with most current and complete nation from date of bid opening) including notarizations where required. Failure to submit quired forms may result in your submittal being deemed non-responsive. ATTACH THIS E TO THE TOP OF YOUR BID SUBMISSION
Firm:	
By:	
Signat	(Print) ture:

BID FORM

(May be copied by the Bidder on his own letterhead)

ТО:		Santa Rosa County Procurement Department Attention Procurement Officer 6495 Caroline Street, Suite L Milton, Florida 32570
REFE	ERENCE:	ITB # 21-032 Peter Prince Field Taxiway "A" Rehabilitation
		BASE BID PRICE: \$
To wl	nom it may conc	ern,
consis	sting of Drawing	have received and reviewed the Bidding Documents as and Specifications (Project Manual) entitled ITB # 21-032 Peter Prince Rehabilitation , prepared by Mott MacDonald.
I have	e also received A	Addenda Numbers and have included their provisions in my Bid.
In sub	omitting the Bid,	I agree:
1.	•	d in full force and effect for a period of sixty (60) calendar days after the ening of this Bid.
2.	To accept the Guarantee.	provisions of the Instructions to Bidders regarding disposition of Bid
3.		nd execute a Contract within 10 (ten) calendar days after said Contract me, if awarded on the basis of this Bid.
4.	To accomplish	the work in accordance with the Contract Documents.
5.	"Notice of Proc	work under this Contract on or before a date to be specified in written beed" by the County Attorney and to complete project within one hundred and days thereafter.
6.		dated damages, the sum of \$2,000.00 for each consecutive calendar letion date, as called for in the Contract Agreement as modified.

Provide Santa Rosa County with performance Bonds and adhere to Supplementary

7.

Conditions.

I will construct this project for the lump sum price	ce of:
TOTAL BID	
This is a lump sum project. The purpose for provious of change order. There is no implied statement accuracy of the stated quantities within the bid titems within the plans. It is the contractor's specifications, and project to determine what is this LUMP SUM BID. This basis of award will be	by the engineer or Santa Rosa County as to the ab or that the bid tab is all inclusive of the work responsibility to carefully review the plans, needed to do the whole job, and to reflect this in
FIRM:	
BY (print):	
SIGNATURE:	
TITLE:	
DATE:	
MAILING ADDRESS	
PHONE ()	FAX ()
EMAIL	

Item No.	FAA AC 150/5370- 10H Reference	Description	Quantity	Unit	Unit Price	Total	
1	C-105	Mobilization @ 10% of overall Cost (Max)	1	LS		\$ -	-
2	40-05	мот	1	LS		\$ -	-
3	P-620	Striping (all striping)	1	LS		\$ -	
		Resurface Twy A					
4	P-101	Mill Ex. Asphalt Pavement, 1.5" avg. Depth	6,409	SY		\$ -	
5	P-101	Mill Ex. Asphalt Pavement, 2" avg. Depth	6,109	SY		\$ -	
6	P-603	Bituminous Tack Coat	1,239	GAL		\$ -	_
7	P-401	3" Bituminous Surface Course	1,057	TN		\$ -	
8	P-401	2" Bituminous Surface Course	672	TN		\$ -	
		Re-Construct A4				1.7	
9	P-101	Pavement Removal	786	SY		\$ -	
10	P-152	12" Stabilized Subgrade	1,009	SY		\$ -	
11	P-209	6" Crushed Aggregate Base Course	862	SY		\$ -	
12	P-602	Bituminous Prime Coat	236	GAL		\$ -	
13	P-401	3" Bituminous Surface Course	130	TN		\$ -	
14	T-904	Sod	1.229	SY		\$ -	
		Lighting				. *	
15	L-108-5.1	No. 8 AWG Cable, Installed in Trench, Duct Bank or Conduit	14,660	LF		\$ -	
16	L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed in Trench, , Including Connections/Terminations - per linear foot (meter)	14,660	LF		\$ -	
17	L-108-5.3	Copper Clad Ground Rod	105	EA		\$ -	-
18	L-109-7.1	Furnishing and Installation of Airport Transformer Vault Equipment in Place (7.5 kW CCR)	1	EA		\$ -	-
19	L-110-5.1	Type III 2" HDPE Installed by Directional Drill	780	LF		\$ -	
20	L-861T-1	LED Elevated Taxiway Edge Light, inclusive of L-867 base, L-830 Transformer, concrete, installed complete	102	EA		\$ -	-
21	L-861T-2	Remove Existing Elevated Taxiway Edge Light, inclusive of L-867 base, L-830 Transformer, concrete, installed complete	13	EA		\$ -	-
22	L-861T-3	Remove and Replace Elevated Taxiway Edge Light on existing L-867 base, L-830 Transformer, concrete, installed complete	28	EA		\$ -	-
23	L-858Y	Size 1 Taxiway sign, inclusive of foundation, L-830 Transformer, concrete, installed complete.	2	EA		\$ -	-
24	L-858R	Size 1 Taxiway Mandatory instruction sign, inclusive of foundation, L-830 Transformer, concrete, installed complete	1	EA		\$ -	
				То	tal Amount Bid	\$ -	

CONE OF SILENCE FORM

SRC Procurement Form COS 013 01 091619

The Board of County Commissioners have established a solicitation silence policy (Cone of Silence) that prohibits oral and written communication regarding all formal solicitations for goods and services (ITB, RFP, ITQ, ITN, and RFQ) or other competitive solicitation between the bidder (or its agents or representatives) or other entity with the potential for a financial interest in the award (or their respective agents or representatives) regarding such competitive solicitation, and any County Commissioner or County employee, selection committee member or other persons authorized to act on behalf of the Board including the County's Architect, Engineer or their subconsultants, or anyone designated to provide a recommendation to award a particular contract, other than the Procurement Department Staff.

The period commences from the time of advertisement until contract award.

Any information thought to affect the committee or staff recommendation submitted after bids are due, should be directed to the Procurement Officer or an appointed representative. It shall be the Procurement Officers decision whether to consider this information in the decision process.

Any violation of this policy shall be grounds to disqualify the respondent from consideration during the selection process.

All respondents must agree to comply with this policy by signing the following statement and including it with their submittal.

I,	representing
(Print)	(Company)
On this of Silence" proposal/sul	2021 hereby agree to abide by the County's "Cone d violation of this policy shall result in disqualification of my
(Signature)	

SWORN STATEMENT UNDER SETION 287.133 (3) (A) FLORIDA STATUTE ON PUBLIC ENTITY CRIMES

SRC Procurement Form SSPEC 016 01 091619

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted with Bid, Proposal or Contract for:

2.	. This sworn statement is submitted by,	hose business, and (if (if the ng this sworn		
3.	. My name is and my relationship named above is (title).	to the entity		
4.				
5.	. I understand that "convicted" or "convicted" as defined in paragraph 287.133 (1) (b), <u>FI</u> means a finding of guilt or a conviction of a public entity crime with or without an a guilt, in any federal or state trial court of records relating to charges brought by information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a p nolo contendere.	djudication of indictment or		
6.	. I understand that an "affiliate" as defined in Paragraph 287 .133 (1) (a), Florida Statutes	, means:		
	a. A predecessor or successor of a person convicted of a public entity crime; or			
	b. An entity under the control of any natural person who is active in the manageme and who has been convicted of a public entity crime. The term "affiliate" includes directors, executives, partners, shareholders, employees, members, and agents who ar management of an affiliate. The ownership by one of shares constituting a controlling persons when not for fair interest in another person, or a pooling of equipment or i persons when not for fair market value under an length agreement, shall be a prima faci person controls another person. A person who knowingly convicted of a public entity or during the preceding 36 months shall be considered an affiliate.	those officers, e active in the ncome among ncome among e case that one		
7.	. I understand that a "person" as defined in paragraph 287 .133 (1) (e), <u>Florida Statut</u> natural person or entity organized under the laws of the state or of the United States power to enter into a binding contract provision of goods or services let by a public enterwise transacts or applies to transact business with a public entity. The term "per those officers, directors, executives, partners, shareholders, employees, members, and a	with the legal ntity, or which rson" includes		

active in management of an entity.



SANTA ROSA COUNTY PROCUREMENT DEPARTMENT

6495 Caroline Street, Suite L| Milton, Florida 32570 850-983-1870 procurement@santarosa.fl.gov

	8.	Based on information and belief, the sta entity submitting this sworn statement. (
	sha	either the entity submitting this sworn areholders, employees, member, or agents e entity have been charged with and convide	s who are active in management	of the entity, nor affiliate o
	sha the	ne entity submitting this sworn statement, of archolders, employees, members, or agent the entity has been charged with and convicted ease attach a copy of the final order)	s who are active in management	of the entity, or an affiliate o
	bef ent	the person or affiliate was placed on the confore a hearing officer of the State of Floatered by the hearing officer determined the the convicted vendor list. (Please attack)	orida, Division of Administrative hat it was in public interest to re	e Hearings. The final orde
		ne person or affiliate has not been placed of , or pending with, the department of General		ase describe any action taken
TH EN YE PU AM	E P TIT AR BLI IOU	DERSTAND THAT THE SUBMISSION OF PUBLIC ENTITY IDENTIFIED IN PARTY ONLY AND THAT THIS FORM IS VOLUMED. I ALSO UNLIED ENTITY PRIOR TO ENTERING IN JUNE JUNE 10 ENTERING IN JUNE 10 ENTAIL INFORMATION CONTAIN	ARAGRAPH 1 (ONE) ABOVE VALID THROUGH DECEMBE DERSTAND THAT I AM REQ VTO A CONTRACT IN EXCE FLORIDA STATUTES FOR C	E IS FOR THAT PUBLICER 31 OF THE CALENDAR QUIRED TO INFORM THE CSS OF THE THRESHOLE
Na	me			
Sig	 ŗnat	ture	Date	
aff	ixed	ONALLY APPEARED BEFORE ME, the his/her signature at the space provided ally known to me, or has provided	d above on this day of	, 20, and is
		E OF FLORIDA TTY OF:		Notary Public
		ommission expires:		Trouity I dollo

DEBARMENT FORM

SRC Procurement Form Debar 022_00_082719

Certification Regarding Debarment, Suspension, And Other Responsibility Matters

- 1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or Local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
 - d. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or Local) terminated for cause or default.
- 2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Name:		Title:	
Signature:			
			
Street Address:			
City:			
	Zip Code:		
Solicitation Name		# XX-XXX	

REFERENCES FORM

SRC Procurement Form Memo 024 00 082719

List work which best illustrates current qualifications relevant to this solicitation accomplished by personnel that will be assigned to the County's project. List at least three but no more than five (5) projects. (This form may be reproduced.)

YOUR FIRMS NAME	
PROPOSAL POINT OF CONTACT	PHONE
EMAIL	
REFERENCE I.	
PROJECT NAME:	
AGENCY:	
AGENCY:ADDRESS:	_
CITY, STATE, ZIP CODE:	_
CONTACT PERSON:	
TITLE:	
EMAIL:	
TELEPHONE:	
PROJECT COST:	
COMPLETION DATE:	_
SCOPE of Project (list tasks, attach samples of delivera	ables, outlines or descriptions of items:
(You may attach information to this form)	
List key personnel assigned to this project that will wor	rk on the County project (include
assignments. You may attach information to this form):	:

REFERENCE II.

PROJECT NAME:					
AGENCY:					
CITY, STATE, ZIP CODE:					
CONTACT PERSON:					
TITLE:					
EMAIL:	_				
TELEPHONE:	-				
PROJECT COST:	_				
COMPLETION DATE:	_				
SCOPE of Project (list tasks, attach samples of deliverables, outlines or descriptions of iten (You may attach information to this form)					
List key personnel assigned to this project that will worassignments. You may attach information to this form)					
REFERENCE III. PROJECT NAME:					
AGENCY:					
ADDRESS:					
CITY, STATE, ZIP CODE:					
CONTACT PERSON:					
TITLE:					
EMAIL:	_				
TELEPHONE:	-				
PROJECT COST:	_				
COMPLETION DATE:					
SCOPE of Project (list tasks, attach samples of delivera	ables, outlines or descriptions of items:				
(You may attach information to this form)	, <u>.</u>				
List kay parsannal assigned to this project that will was	ek on the County project (include				
List key personnel assigned to this project that will wor assignments. You may attach information to this form)	• 1 • `				

REFERENCE IV.					
PROJECT NAME:					
AGENCY:					
ADDRESS:					
CITY, STATE, ZIP CODE:					
CONTACT PERSON:					
TITLE:					
EMAIL:					
TELEPHONE:					
PROJECT COST:					
COMPLETION DATE:					
SCOPE of Project (list tasks, attach samples of deliverables, outlines or descriptions of items: (You may attach information to this form)					
List key personnel assigned to this project that will work on the County project (include assignments. You may attach information to this form):					
REFERENCE V. PROJECT NAME:					
ADDRESS:					
CITY, STATE, ZIP CODE:					
CONTACT PERSON:					
TITLE:					
EMAIL:					
TELEPHONE:					
PROJECT COST:					
COMPLETION DATE:					
SCOPE of Project (list tasks, attach samples of deliverables, outlines or descriptions of items:					
(You may attach information to this form)					
List key personnel assigned to this project that will work on the County project (include assignments. You may attach information to this form):					

CONFLICT OF INTEREST DISCLOSURE FORM

SRC Procurement Form COS 027 00 091319

For purposes of determining any possible conflict of interest, all respondents, must disclose if any Santa Rosa Board of County Commissioner, employee(s), elected officials(s), or if any of its agencies is also an owner, corporate officer, agency, employee, etc., of their business.

Indicate either "yes" (a county employee, elected official, or agency is also associated with your business), or "no". If yes, give person(s) name(s) and position(s) with your business.

Yes: No:			
Name(s)		Position(s)	
All respondents must agree to comply including it with their submittal.	y with this	policy by signing th	
FIRM NAME:			
BY (PRINTED):			
BY (SIGNATURE):			
TITLE:			
ADDRESS:		State	Zip Code
PHONE NO:			
E-MAIL:			
Date:			

Santa Rosa County

Insurance Requirements

March 2021

Workers' Compensation – meet statutory limits in compliance with the Workers Compensation Laws of Florida. This policy must include Employer Liability with a limit of \$100,000 for each accident, \$500,000 disease policy limit and \$100,000 disease each employee limit.

Commercial General Liability – coverage shall provide minimum limits of liability of \$1,000,000 per occurrence, \$2,000,000 Aggregate, for bodily injury and property damage. This shall include coverage for:

- a. Premises/operations
- b. Products/complete operations
- c. Contractual liability
- d. Independent contractors

Business Auto Liability – coverage shall provide minimum limits \$500,000. Combined Single Limit for bodily injury and property damage. If Split limit coverage is provided Limits of 500,000 per person/500,000 per accident and 500,000 for property damage are required.

This shall include coverage for:

- a. Owned autos
- b. Hired autos
- c. Non-owned autos

Special Requirements:

- 1) Prior to execution of a contract or agreement, certificates of insurance will be produced that shall provide for the following:
- a. Santa Rosa County shall be named as an additional insured on all coverages except workers' compensation.

- b. Santa Rosa County will be given thirty (30) days' notice prior to cancellation or modification of any stipulated insurance.
- 2) It is the responsibility of the contractor to ensure that all subcontractors comply with all insurance requirements.
- 3) It should be noted that these are minimum requirements which are subject to modification in response to specialized or high hazard operations.

In the event of unusual circumstances, the County Administrator, or his designee, may adjust these insurance requirements.

Insurance Checklist

Proposal/Project Reference_____

Requir	ed Coverage (Marked by "X")	Minimum Limits
1.	Workers Compensation Proprietor/Executive Officers Exclusion not allowed	\$100,000. Employers Liab. \$100,000. Accident –Disease \$500,000. Disease policy Limit
2.	Commercial General Liability Including Premises operations-Products completed ops Contractual Liability and Personal and advertising Liability	\$1,000,000. CSL \$2,000,000. Annual Aggregate
3.	XAutomobile Liability – including Hired and Non- Owned	\$1,000,000. CSL
4.	Professional Liability coverage	\$1,000,000. Per Occurrence
5.	Asbestos Removal Liability	\$2,000,000. Per Occurrence
6.	Medical Malpractice	\$1,000,000 Per Occurrence
7.	Garage Liability	\$1,000,000. BI/PD- Occurrence
8.	Garage ElabilityGarage Keepers Liability	\$500,000. Comprehensive \$500,000. Collision
9	Inland Marine- Bailee's Insurance	\$
10.	Moving and Rigging Floater	Endorsement to CGL
11	Crime/Dishonesty Bond	\$
12	Builders Risk/Installation Floater – Provide coverage in Full	amount of Contract.
13	Owner's Protective Liability	\$
14.	Excess/Umbrella Liability	\$

General Requirements

- A. Carrier rating shall be A.M. Best rating of B++V or Better.
- B. Notice of Cancellation or Non-renewal or material change in coverage shall be provided to Santa Rosa County at least 30 days prior to action.
- C. Santa Rosa County shall be named as Additional Insured on all policies except Workers' Compensation.

Approved by the BOCC March 23, 2021

SANTA ROSA COUNTY BOARD OF COUNTY COMMISSIONERS GENERAL PROVISIONS

SRC Procurement Form GP 019 01 090519

ARTICLE 1: GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Agreement between Owner and Contractor (hereinafter the Agreement), Conditions of the Contract (General, Supplementary and other Conditions), Drawings/maps/sketches, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Engineer. Unless specifically enumerated in the Agreement, the Contract Documents do not include other documents such as bidding requirements (advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or portions of Addenda relating to bidding requirements).

1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Engineer and Contractor, (2) between the Owner and a Subcontractor or Sub-Subcontractor, (3) between the Owner and Engineer or (4) between any persons or entities other than the Owner and Contractor. The Engineer shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Engineer's duties.

1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner or by separate Contractors.

1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

1.1.7 THE PROJECT MANUAL

The Project Manual is a volume assembled for the Work which may include the bidding

requirements, sample forms, Conditions of the Contract and Specifications.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

- **1.2.1** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.
- **1.2.2** Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.
- **1.2.3** Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

1.3 CAPITALIZATION

1.3.1 Terms capitalized in these General Conditions include those which are (1) specifically defined, (2) the titles of numbered articles and identified references to Paragraphs, Subparagraphs and Clauses in the document.

1.4 INTERPRETATION

1.4.1 In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an", but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

1.5 EXECUTION OF CONTRACT DOCUMENTS

- **1.5.1** The Contract Documents shall be signed by the Owner and Contractor. If either the Owner or Contractor or both do not sign all the Contract Documents, the Engineer shall identify such unsigned Documents upon request.
- **1.5.2** Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

1.6 OWNERSHIP AND USE OF DRAWINGS/MAPS/SKETCHES, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

1.6.1 The Drawings/maps/sketches, Specifications and other documents, including those in electronic form, prepared by the Engineer and the Engineer's consultants are Instruments of Service through which the Work to be executed by the Contractor is described. The Contractor may retain one record set. Neither the Contractor nor any Subcontractor, Sub-Subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications and other documents prepared by the Engineer or the Engineer's consultants, and unless otherwise indicated the Engineer and the Engineer's consultants shall be deemed the authors of them and will retain all common law, statutory and other reserved rights, in addition to the copyrights. All copies of Instruments of Service, except the Contractor's record set, shall be returned or suitably accounted for to the Engineer, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Engineer and the Engineer's consultants, and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-Subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work without the

specific written consent of the Owner, Engineer and the Engineer's consultants. The Contractor, Subcontractors, Sub-Subcontractors and material or equipment suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Engineer and the Engineer's consultants appropriate to and for use in the execution of their Work under the Contract Documents. All copies made under this authorization shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents prepared by the Engineer and the Engineer's consultants. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Engineer's or Engineer's consultants' copyrights or other reserved rights.

ARTICLE 2: OWNER

2.1 GENERAL

- **2.1.1** The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Subparagraph **4.2.1**, the Engineer does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.
- **2.1.2** The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

- **2.2.1** The Owner shall, at the written request of the Contractor, prior to commencement of the Work and thereafter, furnish to the Contractor reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. Furnishing of such evidence shall be a condition precedent to commencement or continuation of the Work. After such evidence has been furnished, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.
- **2.2.2** Except for permits and fees, including those required under Subparagraph **3.7.1**, which are the responsibility of the Contractor under the Contract Documents, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.
- **2.2.3** The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.
- **2.2.4** Information or services required of the Owner by the Contract Documents shall be furnished by the Owner with reasonable promptness. Any other information or services relevant to the Contractor's performance of the Work under the Owner's control shall be furnished by the Owner after receipt from the Contractor of a written request for such information or services.
- **2.2.5** Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, such copies of Drawings and Project Manuals as are reasonably necessary for execution of the Work.

2.3 OWNER'S RIGHT TO STOP THE WORK

2.3.1 If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Paragraph **12.2** or persistently fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Subparagraph **6.1.3.**

2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

2.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may after such seven-day period give the Contractor a second written notice to correct such deficiencies within a three-day period. If the Contractor within such three-day period after receipt of such second notice fails to commence and continue to correct any deficiencies, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Engineer's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Engineer. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3: CONTRACTOR

3.1 GENERAL

- **3.1.1** The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Contractor" means the Contractor or the Contractor's authorized representative.
- **3.1.2** The Contractor shall perform the Work in accordance with the Contract Documents.
- **3.1.3** The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Engineer in the Engineer's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

3.2 <u>REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR</u>

- **3.2.1** Since the Contract Documents are complementary, before starting each portion of the Work, the Contractor shall carefully study and compare the various Drawings and other Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Subparagraph **2.2.3**, shall take field measurements of any existing conditions related to that portion of the Work and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, any errors, inconsistencies or omissions discovered by the Contractor shall be reported promptly to the Engineer as a request for information in such form as the Engineer may require.
- **3.2.2** Any design errors or omissions noted by the Contractor during this review shall be reported promptly to the Engineer, but it is recognized that the Contractor's review is made in the Contractor's capacity as a Contractor and not as a licensed design professional unless

otherwise specifically provided in the Contract Documents. The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations, but any nonconformity discovered by or made known to the Contractor shall be reported promptly to the Engineer.

3.2.3 If the Contractor believes that additional cost or time is involved because of clarifications or instructions issued by the Engineer in response to the Contractor's notices or requests for information pursuant to Subparagraphs 3.2.1 and 3.2.2, the Contractor shall make Claims as provided in Subparagraphs 4.3.6 and 4.3.7. If the Contractor fails to perform the obligations of Subparagraphs 3.2.1 and 3.2.2, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. The Contractor shall not be liable to the Owner or Engineer for damages resulting from errors, inconsistencies or omissions in the Contract Documents or for differences between field measurements or conditions and the Contract Documents unless the Contractor recognized such error, inconsistency, omission or difference and knowingly failed to report it to the Engineer.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

- **3.3.1** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Engineer and shall not proceed with that portion of the Work without further written instructions from the Engineer. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any resulting loss or damage.
- **3.3.2** The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors.
- **3.3.3** The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

3.4 LABOR AND MATERIALS

- **3.4.1** Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.
- **3.4.2** The Contractor may make substitutions only with the consent of the Owner, after evaluation by the Engineer and in accordance with a Change Order.
- **3.4.3** The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

3.5 WARRANTY

3.5.1 The Contractor warrants to the Owner and Engineer that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Engineer, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

3.6 <u>TAX</u>

3.6.1 The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor which are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

3.7 PERMITS, FEES AND NOTICES

- **3.7.1** Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required when bids are received or negotiations concluded.
- **3.7.2** The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities applicable to performance of the Work.
- **3.7.3** It is not the Contractor's responsibility to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations. However, if the Contractor observes that portions of the Contract Documents are at variance therewith, the Contractor shall promptly notify the Engineer and Owner in writing, and necessary changes shall be accomplished by appropriate Modification.
- **3.7.4** If the Contractor performs Work knowing it to be contrary to laws, statutes, ordinances, building codes, and rules and regulations without such notice to the Engineer and Owner, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

3.8 <u>ALLOWANCES</u>

- **3.8.1** The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.
- **3.8.2** Unless otherwise provided in the Contract Documents:
 - 1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
 - 2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances;
 - 3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Clause 3.8.2.1 and (2)

3.8.3 Materials and equipment under an allowance shall be selected by the Owner in sufficient time to avoid delay in the Work.

3.9 SUPERINTENDENT

3.9.1 The Contractor shall employ competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

- **3.10.1** The Contractor, promptly after being awarded the Contract, shall prepare and submit for prior approval by Owner and Engineer Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.
- **3.10.2** The Contractor shall prepare and keep current, for the Engineer's approval, a schedule of submittals which is coordinated with the Contractor's construction schedule and allows the Engineer reasonable time to review submittals.
- **3.10.3** The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Engineer.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

3.11.1 The Contractor shall maintain at the site for the Owner one record copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to record field changes and selections made during construction, and one record copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Engineer and shall be delivered to the Engineer for submittal to the Owner upon completion of the Work.

3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- **3.12.1** Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
- **3.12.2** Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
- **3.12.3** Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.
- **3.12.4** Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review by the Engineer is subject to the limitations of Subparagraph **4.2.7.** Informational submittals upon which the Engineer is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Engineer without action.

- **3.12.5** The Contractor shall review for compliance with the Contract Documents, approve and submit to the Engineer Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate Contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Engineer without action.
- **3.12.6** By approving and submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
- **3.12.7** The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals until the respective submittal has been approved by the Engineer.
- 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Engineer's approval of Shop Drawings, Product Data, Samples, or similar submittals unless the Contractor has specifically informed the Engineer in writing of such deviation at the time of submittal and (1) the Engineer has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals by the Engineer's approval thereof.
- **3.12.9** The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Engineer on previous submittals. In the absence of such written notice the Engineer's approval of a resubmission shall not apply to such revisions.
- **3.12.10** The Contractor shall not be required to provide professional services which constitute the practice of Engineerure or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Engineer will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Engineer. The Owner and the Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided the Owner and Engineer have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Subparagraph 3.12.10, the Engineer will review, approve or take

other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

3.13 USE OF SITE

3.13.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

3.14 CUTTING AND PATCHING

- **3.14.1** The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly.
- **3.14.2** The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate Contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate Contractor except with written consent of the Owner and of such separate Contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate Contractor the Contractor's consent to cutting or otherwise altering the Work.

3.15 <u>CLEANING UP</u>

- **3.15.1** The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials.
- **3.15.2** If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

3.16 ACCESS TO WORK

3.16.1 The Contractor shall provide the Owner and Engineer access to the Work in preparation and progress wherever located.

3.17 ROYALTIES, PATENTS AND COPYRIGHTS

3.17.1 The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Engineer harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Engineer. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Engineer.

3.18 <u>INDEMNIFICATION</u>

3.18.1 To the fullest extent permitted by law and to the extent claims, damages, losses or expenses are not covered by Project Management Protective Liability insurance purchased by the Contractor in accordance with Article **11**, the Contractor shall indemnify and hold harmless the Owner, Engineer, Engineer's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor,

anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Paragraph 3.18.

3.18.2 In claims against any person or entity indemnified under this Paragraph **3.18** by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Subparagraph **3.18.1** shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4: ADMINISTRATION OF THE CONTRACT

4.1 ENGINEER

- **4.1.1** The Engineer is the person lawfully licensed to practice Engineerure or an entity lawfully practicing Engineerure identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Engineer" means the Engineer or the Engineer's authorized representative.
- **4.1.2** Duties, responsibilities and limitations of authority of the Engineer as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Engineer. Consent shall not be unreasonably withheld.
- **4.1.3** If the employment of the Engineer is terminated, the Owner shall employ a new Engineer against whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the former Engineer.

4.2 ENGINEER'S ADMINISTRATION OF THE CONTRACT

- **4.2.1** The Engineer will provide administration of the Contract as described in the Contract Documents, and will be an Owner's representative (1) during construction, (2) until final payment is due and (3) with the Owner's concurrence, from time to time during the one-year period for correction of Work described in Paragraph **12.2**. The Engineer will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.
- 4.2.2 The Engineer, as a representative of the Owner, will visit the site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and deficiencies in the Work, and (3) to determine in general if the Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Engineer will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Engineer will neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Subparagraph 3.3.1.
- **4.2.3** The Engineer will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Engineer will not have control over or charge of and will not be responsible for acts or omissions of the Contractor,

- Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.
- **4.2.4** Communications Facilitating Contract Administration. Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Engineer about matters arising out of or relating to the Contract. Communications by and with the Engineer's consultants shall be through the Engineer. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate Contractors shall be through the Owner.
- **4.2.5** Based on the Engineer's evaluations of the Contractor's Applications for Payment, the Engineer will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.
- **4.2.6** The Engineer will have authority to reject Work that does not conform to the Contract Documents. Whenever the Engineer considers it necessary or advisable, the Engineer will have authority to require inspection or testing of the Work in accordance with Subparagraphs **13.5.2** and **13.5.3**, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Engineer nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Engineer to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.
- **4.2.7** The Engineer will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Engineer's action will be taken with such reasonable promptness as to cause no delay in the Work or in the activities of the Owner, Contractor or separate Contractors, while allowing sufficient time in the Engineer's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Engineer's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Paragraphs **3.3, 3.5** and **3.12**. The Engineer's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Engineer, of any construction means, methods, techniques, sequences or procedures. The Engineer's approval of a specific item shall not indicate approval of an assembly of which the item is a component.
- **4.2.8** The Engineer will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Paragraph **7.4.**
- **4.2.9** The Engineer will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion, will receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.
- **4.2.10** If the Owner and Engineer agree, the Engineer will provide one or more project representatives to assist in carrying out the Engineer's responsibilities at the site. The duties,

responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

- **4.2.11** The Engineer will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Engineer's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If no agreement is made concerning the time within which interpretations required of the Engineer shall be furnished in compliance with this Paragraph **4.2**, then delay shall not be recognized on account of failure by the Engineer to furnish such interpretations until **15** days after written request is made for them.
- **4.2.12** Interpretations and decisions of the Engineer will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and initial decisions, the Engineer will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith.
- **4.2.13** The Engineer's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

4.3 CLAIMS AND DISPUTES

- **4.3.1** Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. Claims must be initiated by written notice. The responsibility to substantiate claims shall rest with the party making the Claim.
- **4.3.2** Time Limits on Claims. Claims by either party must be initiated within **21** days after occurrence of the event giving rise to such Claim or within **21** days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Claims must be initiated by written notice to the Engineer and the other party.
- **4.3.3** Continuing Contract Performance. Pending final resolution of a Claim except as otherwise agreed in writing or as provided in Subparagraph **9.7.1** and Article **14**, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.
- **4.3.4** Claims for Concealed or Unknown Conditions. If conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then notice by the observing party shall be given to the other party promptly before Conditions are disturbed and in no event later than **21** days after first observance of the conditions. The Engineer will promptly investigate such conditions and, if they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Engineer determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Engineer shall

so notify the Owner and Contractor in writing, stating the reasons. Claims by either party in opposition to such determination must be made within 21 days after the Engineer has given notice of the decision. If the conditions encountered are materially different, the Contract Sum and Contract Time shall be equitably adjusted, but if the Owner and Contractor cannot agree on an adjustment in the Contract Sum or Contract Time, the adjustment shall be referred to the Engineer for initial determination, subject to further proceedings pursuant to Paragraph 4.4.

- **4.3.5** Claims for Additional Cost. If the Contractor wishes to make Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Paragraph **10.6**.
- **4.3.6** If the Contractor believes additional cost is involved for reasons including but not limited to (1) a written interpretation from the Engineer, (2) an order by the Owner to stop the Work where the Contractor was not at fault, (3) a written order for a minor change in the Work issued by the Engineer, (4) failure of payment by the Owner, (5) termination of the Contract by the Owner, (6) Owner's suspension or (7) other reasonable grounds, Claim shall be filed in accordance with this Paragraph **4.3**.

4.3.7 CLAIMS FOR ADDITIONAL TIME

- **4.3.7.1** If the Contractor wishes to make Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.
- **4.3.7.2** If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.
- **4.3.8** Injury or Damage to Person or Property. If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding **21** days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.
- **4.3.9** If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.
- **4.3.10** Claims for Consequential Damages. The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes:
 - 1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
 - 2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Subparagraph 4.3.10 shall be deemed to preclude an award of liquidated direct damages, when applicable, in accordance with the requirements of the Contract Documents.

4.4 RESOLUTION OF CLAIMS AND DISPUTES

- **4.4.1** The Engineer will review Claims and take one or more of the following preliminary actions within ten days of receipt of a Claim: (1) request additional supporting data from the claimant; (2) submit a schedule to the parties indicating when the Engineer expects to take action; (3) reject the: Claim in whole or in part stating reasons for rejection; (4) recommend approval of the Claim by the other party; or (5) suggest a compromise. The Engineer may also, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim.
- **4.4.2** If a Claim has been resolved, the Engineer will prepare or obtain appropriate documentation.
- **4.4.3** If a Claim has not been resolved, the party making the Claim shall, within ten days after the Engineer's preliminary response take one or more of the following actions: (1) submit additional supporting data requested by the Engineer; (2) modify the initial Claim; or (3) notify the Engineer that the initial Claim stands.
- **4.4.4** If a Claim has not been resolved after consideration of the foregoing and of further evidence presented by the parties or requested by the Engineer, the Engineer will notify the parties in writing that the Engineer's decision will be made within seven days, which decision shall be final and binding on the parties. Upon expiration of such time period, the: Engineer will render to the parties the Engineer's written decision relative to the Claim, including any change in the Contract Sum or Contract Time or both. If there is a surety and there appears to be a possibility of a Contractor's default, the Engineer may, but is not obligated to, notify the surety and request the surety's assistance in resolving the: controversy.

ARTICLE 5: SUBCONTRACTORS

5.1 DEFINITIONS

- **5.1.1** A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate Contractor or Subcontractors of a separate Contractor.
- **5.1.2** A Sub-Subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-Subcontractor or an authorized representative of the Sub-Subcontractor.

5.2 <u>AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF</u> THE WORK

5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Engineer the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Engineer will promptly reply to the Contractor in writing stating

whether or not the Owner or the Engineer, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Engineer to reply promptly shall constitute notice of no reasonable objection.

- **5.2.2** The Contractor shall not contract with a proposed person or entity to whom the Owner or Engineer has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.
- **5.2.3** If the Owner or Engineer has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Engineer has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.
- **5.2.4** The Contractor shall not change a Subcontractor, person or entity previously selected if the Owner or Engineer makes reasonable objection to such substitute.

5.3 SUBCONTRACTUAL RELATIONS

5.3.1 By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Engineer. Each subcontract agreement shall preserve and protect the rights of the Owner and Engineer under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-Subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement which may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-Subcontractors.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

- **5.4.1** Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner provided that:
 - 1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Paragraph 14.2 and only for those subcontract agreements which the Owner accepts by notifying the Subcontractor and Contractor in writing; and
 - 2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.
- **5.4.2** Upon such assignment, if the Work has been suspended for more than **30** days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

ARTICLE 6: CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 <u>OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE</u> <u>CONTRACTS</u>

- **6.1.1** The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Paragraph **4.3**.
- **6.1.2** When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.
- **6.1.3** The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate Contractors and the Owner in reviewing their construction schedules when directed to do so. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate Contractors and the Owner until subsequently revised.
- **6.1.4** Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights which apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

6.2 MUTUAL RESPONSIBILITY

- **6.2.1** The Contractor shall afford the Owner and separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.
- **6.2.2** If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Engineer apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.
- **6.2.3** The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a separate Contractor because of delays, improperly timed activities or defective construction of the Contractor. The Owner shall be responsible to the Contractor for costs incurred by the Contractor because of delays, improperly timed activities, damage to the Work, or defective construction of a separate Contractor.
- **6.2.4** The Contractor shall promptly remedy damage wrongfully caused by the Contractor to completed or partially completed construction or to property of the Owner or separate

Contractors as provided in Subparagraph 10.2.5.

6.2.5 The Owner and each separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Subparagraph **3.14.**

6.3 OWNER'S RIGHT TO CLEAN UP

6.3.1 If a dispute arises among the Contractor, separate Contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Engineer will allocate the cost among those responsible.

ARTICLE 7: CHANGES IN THE WORK

7.1 GENERAL

- 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.
- **7.1.2** A Change Order shall be based upon agreement among the Owner, Contractor and Engineer; a Construction Change Directive requires agreement by the Owner and Engineer and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Engineer alone.
- **7.1.3** Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

7.2 CHANGE ORDERS

- **7.2.1** A Change Order is a written instrument prepared by the Engineer and signed by the Owner, Contractor and Engineer, stating their agreement upon all of the following:
 - 1 change in the Work;
 - 2 the amount of the adjustment, if any, in the Contract Sum; and
 - 3 the extent of the adjustment, if any, in the Contract Time.
- **7.2.2** Methods used in determining adjustments to the Contract Sum may include those listed in Subparagraph **7.3.3**.

7.3 CONSTRUCTION CHANGE DIRECTIVES

- **7.3.1** A Construction Change Directive is a written order prepared by the Engineer and signed by the Owner and Engineer, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.
- **7.3.2** A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.
- **7.3.3** If the Construction Change directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
 - 1 mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
 - 2 unit prices stated in the Contract Documents or subsequently agreed upon;
 - 3 cost to be determined in a manner agreed upon by the parties and a mutually acceptable

- 4 as provided in Subparagraph 7.3.6.
- **7.3.4** Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Engineer of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.
- **7.3.5** A Construction Change Directive signed by the Contractor indicates the agreement of the Contractor therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.
- **7.3.6** If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the Engineer on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. In such case, and also under Clause **7.3.3.3**, the Contractor shall keep and present, in such form as the Engineer may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Subparagraph **7.3.6** shall be limited to the following:
 - 1 costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
 - 2 costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
 - **3** rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
 - 4 costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
 - **5** additional costs of supervision and field office personnel directly attributable to the change.
- **7.3.7**. The amount of credit to be allowed by the Contractor to the Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Engineer. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.
- **7.3.8** Pending final determination of the total cost of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs. For any portion of such cost that remains in dispute, the Engineer will make an interim determination for purposes of monthly certification for payment for those costs. That determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a claim in accordance with Article **4**.
- **7.3.9** When the Owner and Contractor agree with the determination made by the Engineer concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach

agreement upon the adjustments, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order.

7.4 MINOR CHANGES IN THE WORK

7.4.1 The Engineer will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

ARTICLE 8: TIME

8.1 DEFINITIONS

- **8.1.1** Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.
- **8.1.2** The date of commencement of the Work is the date established in the Agreement. The date shall not be postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible.
- **8.1.3** The date of Substantial Completion is the date certified by the Engineer in accordance with Paragraph **9.8**.
- **8.1.4** The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

8.2 PROGRESS AND COMPLETION

- **8.2.1** Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the work.
- **8.2.2** The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance. Unless the date of commencement is established by the Contract Documents or a notice to proceed given by the Owner, the Contractor shall notify the Owner in writing not less than five days or other agreed period before commencing the Work to permit the timely filing of mortgages, mechanic's liens and other security interests.
- **8.2.3** The Contractor shall proceed with the project expeditiously and continuously with adequate forces and shall achieve Substantial Completion within the Contract Time. Contractor shall progress with and maintain continuous construction even if construction is ahead of the approved construction schedule.

If the percentage dollar value of the completed work is 15% or more below the dollar value of work that should have been completed in accordance with the approved construction schedule, further payment under this contract to Contractor shall be suspended until the percentage dollar value of completed work is within 5% of the dollar value of work that should have been completed in accordance with the approved construction schedule.

8.3 <u>DELAYS AND EXTENSIONS OF TIME</u>

8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Engineer, or of an employee of either, or of a separate Contractor employed by the Owner, or by changes ordered in the Work, or by labor

disputes, fire, unusual delay in deliveries; unavoidable casualties or other causes beyond the Contractor's control, then the Contract Time shall be extended by Change Order for such reasonable time as the Engineer may determine.

8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Paragraph **4.3**.

ARTICLE 9: PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

9.2 SCHEDULE OF VALUES

9.2.1 Before the first Application for Payment, the Contractor shall submit to the Engineer a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Engineer may require. This schedule, unless objected to by the Engineer, shall be used as a basis for reviewing the Contractor's Applications for Payment.

9.3 APPLICATIONS FOR PAYMENT

- **9.3.1** At least ten days before the date established for each progress payment, the Contractor shall submit to the Engineer an itemized Application for Payment for operations completed in accordance with the schedule of values. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Engineer may require, such as copies of requisitions from Subcontractors and material suppliers, and reflecting retainage if provided for in the Contract Documents.
 - **9.3.1.1** As provided in Subparagraph **7.3.8**, such applications may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives, or by interim determination of the Engineer, but not yet included in Change Orders.
 - **9.3.1.2** Such applications may not include requests for payment for portions of the Work for which the Contractor does not intend to pay to a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.
- **9.3.2** Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.
- 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided

labor, materials and equipment relating to the Work.

9.4 CERTIFICATES FOR PAYMENT

- **9.4.1** The Engineer will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Engineer determines is properly due, or notify the Contractor and Owner in writing of the Engineer's reasons for withholding certification in whole or in part as provided in Subparagraph **9.5.1**.
- 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Engineer to the Owner, based on the Engineer's evaluation of the Work and the data comprising the Application for Payment, that the Work has progressed to the point indicated and that, to the best of the Engineer's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Engineer. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Engineer has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

- 9.5.1 The Engineer may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Engineer's opinion the representations to the Owner required by Subparagraph 9.4.2 cannot be made. If the Engineer is unable to certify payment in the amount of the Application, the Engineer will notify the Contractor and Owner as provided in Subparagraph 9.4.1. If the Contractor and Engineer cannot agree on a revised amount, the Engineer will promptly issue a Certificate for Payment for the amount for which the Engineer is able to make such representations to the Owner. The Engineer may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Engineer's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Subparagraph 3.3.2, because of:
 - 1 defective Work not remedied;
 - 2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
 - **3** failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
 - 4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
 - 5 damage to the Owner or another Contractor;
 - 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; or

- 7 persistent failure to carry out the Work in accordance with the Contract Documents.
- **9.5.2** When the above reasons for withholding certification are removed, certification will be made for. amounts previously withheld.

9.6 PROGRESS PAYMENTS

- **9.6.1** After the Engineer has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Engineer.
- **9.6.2** The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of such Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-Subcontractors in a similar manner.
- **9.6.3** The Engineer will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Engineer and Owner on account of portions of the Work done by such Subcontractor.
- **9.6.4** Neither the Owner nor Engineer shall have an obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law.
- **9.6.5** Payment to material suppliers shall be treated in a manner similar to that provided in Subparagraphs **9.6.2**, **9.6.3** and **9.6.4**.
- **9.6.6** A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.
- 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

9.7 FAILURE OF PAYMENT

9.7.1 If the Engineer does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Engineer or awarded by arbitration, then the Contractor may, upon seven additional days' written notice to the Owner and Engineer, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

9.8 SUBSTANTIAL COMPLETION

- **9.8.1** Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.
- **9.8.2** When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Engineer a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.
- **9.8.3** Upon receipt of the Contractor's list, the Engineer will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Engineer's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Engineer. In such case, the Contractor shall then submit a request for another inspection by the Engineer to determine Substantial Completion.
- **9.8.4** When the Work or designated portion thereof is substantially complete, the Engineer will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate, Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.
- 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

9.9 PARTIAL OCCUPANCY OR USE

- **9.9.1** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Article **11** and authorized by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Engineer as provided under Subparagraph **9.8.2.** Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Engineer.
- 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Engineer

- shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.
- **9.9.3** Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

9.10 FINAL COMPLETION AND FINAL PAYMENT

- **9.10.1** Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Engineer will promptly make such inspection and, when the Engineer finds the Work acceptable under the Contract Documents and the Contract fully performed, the Engineer will promptly issue a final Certificate for Payment stating that to the best of the Engineer's knowledge, information and belief, and on the basis of the Engineer's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Engineer's final Certificate for Payment will constitute a further representation that conditions listed in Subparagraph **9.10.2** as precedent to the Contractor's being entitled to final payment have been fulfilled.
- **9.10.2** Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Engineer (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.
- **9.10.3** If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Engineer so confirms, the Owner shall, upon application by the Contractor and certification by the Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Engineer prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.
- 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except

those arising from:

- 1 liens, claims, security interests or encumbrances arising out of the Contract and unsettled;
- 2 failure of the Work to comply with the requirements of the Contract Documents; or
- **3** terms of special warranties required by the Contract Documents.
- **9.10.5** Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

10.2 SAFETY OF PERSONS AND PROPERTY

- **10.2.1** The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to:
 - 1 employees on the Work and other persons who may be affected thereby;
 - 2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-Subcontractors; and
 - 3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- **10.2.2** The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.
- **10.2.3** The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.
- **10.2.4** When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.
- 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Clauses 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Clauses 10.2.1.2 and 10.2 1 3, except damage or loss attributable to acts or omissions of the Owner or Engineer or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Paragraph 3.18.
- **10.2.6** The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the

- Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Engineer.
- **10.2.7** The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.

10.3 **EMERGENCIES**

10.3.1 In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Paragraph 4.3 and Article 7.

ARTICLE 11: INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

- 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.
 - 1 claims under workers' compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;
 - 2 claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
 - **3** claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
 - 4 claims for damages insured by usual personal injury liability coverage;
 - 5 claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
 - 6 claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
 - 7 claims for bodily injury or property damage arising out of completed operations; and
 - **8** claims involving contractual liability insurance applicable to the Contractor's obligations under Paragraph **3.18.**
- 11.1.2 The insurance required by Subparagraph 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment.
- 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. These certificates and the insurance policies required by this Paragraph 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days prior written notice has been given to the Owner. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment as required by Subparagraph 9.10.2. Information concerning reduction of coverage on account

of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

11.2 INDEMNIFICATION AND INSURANCE

- 11.2.1. Contractor agrees to save harmless, indemnify, and defend Owner and its, agents, officers and employees from any and all claims, losses, penalties, interest, demands, judgments, and costs of suit, including attorneys fees and paralegals' fees, for any expense, damage or liability incurred by any of them, whether for personal injury, death, property damage, direct or consequential damages, or economic loss, including environmental impairment, arising directly or indirectly on account of or in connection with the work done by Contractor under this agreement or by any person, firm or corporation (including but not limited to the Engineer/engineer) to whom any portion of the work is subcontracted by Contractor or resulting from the use by Contractor, or by any one for whom Contractor is legally liable, of any materials, tools, machinery or other property of Owner. Owner and Contractor agree the first \$100.00 of the contract amount paid by Owner to Contractor shall be given as separate consideration for this indemnification, and any other indemnification of Owner by Contractor provided for within the Contract Documents, the sufficiency of such separate consideration being acknowledged by Contractor by Contractor's acceptance and execution of the agreement. The Contractor's obligation shall not be limited by, or in any way to, any insurance coverage or by any provision in or exclusion or omission from any policy of insurance. The Contractor agrees to pay on behalf of Santa Rosa County, as well as provide a legal defense for the Owner, both of which will be done only if and when requested by the Owner, for all claims made. Such payment on the behalf of the Owner shall be in addition to any and all other legal remedies available to the Owner and shall not be considered to be the Owner's exclusive remedy.
- 11.2.2. Contractor shall obtain and carry, at all times during its performance under the Contract Documents, insurance of the types and in the amounts set forth in Article 11. All insurance policies shall be from responsible companies duly authorized to do business in the State of Florida and/or responsible risk retention group insurance companies or trusts which are registered with the State of Florida. Foreign or offshore insurance carriers are not acceptable for work under this contract unless admitted to the State of Florida. All commercial insurance carriers providing the Contractor with required insurance shall be "A" (excellent) rated with a minimum financial size category of "IX", according to the A. M. Best Key Rating Guide, latest edition. Within ten (10) calendar days after notice of award is received by Contractor and prior to the commencement of work, Contractor shall provide Owner with properly executed certificates of insurance to evidence Contractor's compliance with the insurance requirements of the Contract Documents. Said certificates of insurance shall be on forms approved by Owner, such as "Acord Form 25". The certificates of insurance shall be personally, manually signed by the authorized representatives of the insurance company/companies shown on the certificates of insurance, with proof that they are authorized representatives thereof. Certificates of insurance shall be mailed to Santa Rosa County Board of County Commissioners in care of: Daniel J. Schebler, County Administrator, 6495 Caroline Street, Suite D, Milton, Florida 32570. In addition, true and exact copies of all insurance policies required hereunder shall be provided to Owner, on a timely basis, when requested by Owner.
- 11.2.3. The certificates of insurance and required insurance policies shall contain provisions that thirty (30) days prior written notice by registered or certified mail shall be given Owner of any cancellation, intent not to renew, or reduction in the policies or coverages, except in the application of the aggregate limits provisions. In the event of a reduction in the

- aggregate limit of any policy, Contractor shall immediately take steps to have the aggregate limit reinstated to the full extent permitted under such policy.
- 11.2.4. All insurance coverages of the Contractor shall be primary to any insurance or self insurance program carried by the Owner applicable to this project. The acceptance by Owner of any certificate of insurance does not constitute approval or agreement by the Owner that the insurance requirements have been satisfied or that the insurance policy shown on the certificate of insurance is in compliance with the requirements of the Contract Documents. No work shall commence at the project site unless and until the required certificates of insurance are received by the Owner
- 11.2.5. Contractor shall require each of its Subcontractors to procure and maintain, until the completion of the Subcontractor's work, insurance of the types and to the limits specified in Article 11, unless such insurance requirements for the Subcontractor is expressly waived in writing by the Owner. All liability insurance policies, other than professional liability, worker's compensation and employer's liability policies, obtained by Contractor to meet the requirements of the Contract Documents shall name the Santa Rosa County Board of County Commissioners as an additional insured and shall contain severability of interest provisions. The Board of County Commissioners shall also be designated as certificate holder with the address of 6495 Caroline Street, Suite M, Milton, Florida 32570. If any insurance provided pursuant to the Contract Documents expires prior to the completion of the work, renewal certificates of insurance and, if requested by Owner, certified, true copies of the renewal policies, shall be furnished by Contractor within thirty (30) days prior to the date of expiration. Upon expiration of an insurance policy term during the course of work under the contract, succeeding insurance policies shall be consecutive to the expiring policy.
- 11.2.6 All liability policies shall be underwritten on the "occurrence" basis, unless otherwise approved in writing by the county division of risk management. "Claims made" policies, if approved by the risk manager, and subsequent insurance certificates shall provide a "retrodate" which shall include the effective date of the contract. "Claims-made" renewals or carrier and policy replacements shall reflect the original "retro-date."
- 11.2.7 Should at any time the Contractor not maintain the insurance coverages required herein, the Owner may terminate the agreement or at its sole discretion shall be authorized to purchase such coverages and charge the Contractor for such coverages purchased. The Owner shall be under no obligation to purchase such insurance, nor shall it be responsible for the coverages purchased or the insurance company or companies used. The decision of the Owner to purchase such insurance coverages shall in no way be construed to be a waiver of any of its rights under the Contract Documents.
- 11.2.8 Contractor shall submit to Owner a copy of all accident reports arising out of any personal injuries or property damages arising or alleged to have arisen on account of any work by Contractor or Subcontractor under the Contract Documents.
- 11.2.9 Duty to Provide Legal Defense. The Contractor agrees to pay, to Santa Rosa County, as well as provide a legal defense for the Owner, which shall include attorneys' fees and costs, both of which will be done only if and when requested by the Owner, for all claims as described in paragraph 13.1. Such payment on the behalf of the Owner shall be in addition to any and all other legal remedies available to the Owner and shall not be considered to be the Owner's exclusive remedy.

11.3 PERFORMANCE BOND AND PAYMENT BOND

11.3.1 BONDS

- 11.3.1.1 Contractor shall provide performance and payment bonds, in the form prescribed in Exhibit B, in the amount of 100% of the contract amount, the costs of which to be paid by Contractor. The performance and payment bonds shall be underwritten by a surety authorized to do business in the State of Florida and otherwise acceptable to Owner; provided; however, the surety shall be rated as "A" or better and Class XII or higher rating as to financial size category and the amount required shall not exceed 2% of the reported policy holders surplus, all as reported in the most current best key rating guide, published by A.M. Best Company, Inc. of 75 Fulton Street, New York, New York 10038.
- 11.3.1.2 If the surety for any bond furnished by Contractor is declared bankrupt, becomes insolvent, its right to do business is terminated in the State of Florida, or it ceases to meet the requirements imposed by the Contract Document, the Contractor shall, within five (5) calendar days thereafter, substitute another bond and surety, both of which shall be subject to the Owner's approval.
- 11.3.1.3 As per Florida Statutes, Section 255.05, the Contractor shall be required to execute and record the performance and payment bonds. The bonds must state the name and principal business address of both the principal and the surety and a description of the project sufficient to identify it.

ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

12.1 UNCOVERING OF WORK

- **12.1.1** If a portion of the Work is covered contrary to the Engineer's request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Engineer, be uncovered for the Engineer's examination and be replaced at the Contractor's expense without change in the Contract Time.
- 12.1.2 If a portion of the Work has been covered which the Engineer has not specifically requested to examine prior to its being covered, the Engineer may request to see such Work and it shall be unc9vered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate Contractor in which event the Owner shall be responsible for payment of such costs.

12.2 CORRECTION OF WORK

12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

12.2.1.1 The Contractor shall promptly correct Work rejected by the Engineer or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections and compensation for the Engineer's services and expenses made necessary thereby, shall be at the Contractor's expense.

12.2.2 AFTER SUBSTANTIAL COMPLETION

12.2.2.1 In addition to the Contractor's obligations under Paragraph 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Subparagraph 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract

Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one- year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Engineer, the Owner may correct it in accordance with Paragraph 2.4.

- **12.2.2.2** The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work.
- **12.2.2.3** The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Paragraph **12.2.**
- **12.2.3** The Contractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.
- **12.2.4** The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate Contractors caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.
- 12.2.5 Nothing contained in this Paragraph 12.2 shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the one-year period for correction of Work as described in Subparagraph 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

12.3 <u>ACCEPTANCE OF NONCONFORMING WORK</u>

12.3.1 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13: MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

13.1.1 The Contract shall be governed by the law of the place where the Project is located.

13.2 <u>SUCCESSORS AND ASSIGNS</u>

13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives of such other party in respect to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Subparagraph 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

13.2.2 The Owner may, without consent of the Contractor, assign the Contract to an institutional lender providing construction financing for the Project. In such event, the lender shall assume the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

13.3 WRITTEN NOTICE

13.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to an officer of the corporation for which it was intended, or if delivered at or sent by registered or certified mail to the last business address known to the party giving notice.

13.4 RIGHTS AND REMEDIES

- **13.4.1** Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.
- **13.4.2** No action or failure to act by the Owner, Engineer or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

13.5 TESTS AND INSPECTIONS

- 13.5.1 Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Engineer timely notice of when and where tests and inspections are to be made so that the Engineer may be present for such procedures. The Owner shall bear costs of tests, inspections or approvals which do not become requirements until after bids are received or negotiations concluded.
- 13.5.2 If the Engineer, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Subparagraph 13.5.1, the Engineer will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Engineer of when and where tests and inspections are to be made so that the Engineer may be present for such procedures. Such costs, except as provided in Subparagraph 13.5.3, shall be at the Owner's expense.
- 13.5.3 If such procedures for testing, inspection or approval under Subparagraphs 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Engineer's services and expenses shall be at the Contractor's expense.
- **13.5.4** Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Engineer.
- **13.5.5** If the Engineer is to observe tests, inspections or approvals required by the Contract Documents, the Engineer will do so promptly and, where practicable, at the normal place of testing.

13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

13.6 INTEREST

13.6.1 Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

13.7 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

13.7.1 As between the Owner and Contractor:

- 1 Before Substantial Completion. As to acts or failures to act occurring prior to the relevant date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion;
- 2 Between Substantial Completion and Final Certificate for Payment. As to acts or failures to act occurring subsequent to the relevant date of Substantial Completion and prior to issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of issuance of the final Certificate for Payment; and
- 3 After Final Certificate for Payment. As to acts or failures to act occurring after the relevant date of issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of any act or failure to act by the Contractor pursuant to any Warranty provided under Paragraph 3.5, the date of any correction of the Work or failure to correct the Work by the Contractor under Paragraph 12.2, or the date of actual commission of any other act or failure to perform any duty or obligation by the Contractor or Owner, whichever occurs last.

ARTICLE 14: TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

- **14.1.1** The Contractor may terminate the Contract if the Work is stopped for a period of **30** consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-Subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons.
 - 1 issuance of an order of a court or other public authority having jurisdiction which requires all Work to be stopped;
 - 2 an act of government, such as a declaration of national emergency which requires all Work to be stopped;
 - 3 because the Engineer has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Subparagraph 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
 - 4 the Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Subparagraph 2.2.1.
- **14.1.2** The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub- Subcontractor or their agents or employees or any other persons

or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Paragraph 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 150 days in any 365-day period, whichever is less.

- **14.1.3** If one of the reasons described in Subparagraph **14.1.1** or **14.1.2** exists, the Contractor may, upon seven days' written notice to the Owner and Engineer, terminate the Contract and recover from the Owner only as provided in Subparagraph **14.3.1**.
- **14.1.4** If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has persistently failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Engineer, terminate the Contract and recover from the Owner only as provided in Subparagraph **14.3.1.**

14.2 TERMINATION FOR DEFAULT

- 14.2.1 Contractor shall be considered in material default of the agreement and such default shall be considered cause for Owner to terminate the agreement, in whole or in part, as further set forth in this section, if Contractor: (1) fails to begin the work under the Contract Documents within the time specified herein; or (2) fails to properly and timely perform the work as directed by the Owner or as provided for in the approved progress schedule; or (3) performs the work unsuitably or neglects or refuses to remove materials or to correct or replace such work as may be rejected as unacceptable or unsuitable; or (4) discontinues the prosecution of the work; or (5) fails to resume work which has been suspended within a reasonable time after being notified to do so; or (6) becomes insolvent or is declared bankrupt, or commits any act of bankruptcy; or (7) allows any final judgment to stand against it unsatisfied for more than ten (10) days; or (8) makes an assignment for the benefit of creditors; or (9) fails to obey any applicable codes, laws, ordinances, rules or regulations with respect to the work; or (10) materially breaches any other provision of the Contract Documents.
- 14.2.2 Owner shall notify Contractor in writing of Contractor's default(s). If Owner determines that Contractor has not remedied and cured the default(s) within seven (7) calendar days following receipt by Contractor of said written notice, then Owner, at its option, without releasing or waiving its rights and remedies against the Contractor's sureties and without prejudice to any other right or remedy it may be entitled to hereunder or by law, may terminate Contractor's right to proceed under the agreement, in whole or in part, and take possession of all or any portion of the work and any materials, tools, equipment, and appliances of Contractor, take assignments of any of Contractor's subcontracts and purchase orders, and complete all or any portion of Contractor's work by whatever means, method or agency which Owner, in its sole discretion, may choose.
- 14.2.3 If Owner deems any of the foregoing remedies necessary, Contractor agrees that is shall not be entitled to receive any further payments hereunder until after the project is completed. All monies expended and all of the costs, losses, damages and extra expenses, including all management, administrative and other overhead and other direct and indirect expenses (including attorneys' fees) or damages incurred by Owner incident to such completion, shall be deducted from the contract amount, and if such expenditures exceed the unpaid balance of the contract amount, Contractor agrees to pay promptly to Owner

on demand the full amount of such excess, including costs of collection, attorney's fees (including appeals) and interest thereon at the maximum legal rate of interest until paid. If the unpaid balance of the contract amount exceeds all such costs, expenditures and damages incurred by the Owner to complete the work, such excess shall be paid to the Contractor. The amount to be paid to the Contractor or Owner, as the case may be, and this obligation for payment shall survive termination of the agreement.

- 14.2.4. The liability of Contractor hereunder shall extend to and include the full amount of any and all sums paid, expenses and losses incurred, damages sustained, and obligations assumed by Owner in good faith under the belief that such payments or assumptions were necessary or required, in completing the work and providing labor, materials, equipment, supplies, and other items therefor or re-letting the work, in settlement, discharge or compromise of any claims, demands, suits, and judgments pertaining to or arising out of the work hereunder.
- 14.2.5 If, after notice of termination of Contractor's right to proceed pursuant to this section, it is determined for any reason that Contractor was not in default, or that its default was excusable, or that Owner is not entitled to the remedies against Contractor provided herein, then Contractor's remedies against Owner shall be the same as and limited to those afforded Contractor below under subsection 14.3.1, termination for convenience.

14.3 TERMINATION FOR CONVENIENCE AND RIGHT OF SUSPENSION

- 14.3.1. Owner shall have the right to terminate this agreement without cause upon seven (7) calendar days written notice to Contractor. In the event of such termination for convenience, Contractor's recovery against Owner shall be limited to that portion of the contract amount earned through the date of termination, together with any retainage withheld and reasonable termination expenses incurred, but Contractor shall not be entitled to any other or further recovery against Owner, including, but not limited to, damages or any anticipated profit on portions of the work not performed.
- 14.3.2. Owner shall have the right to suspend all or any portions of the work upon giving Contractor two (2) calendar days' prior written notice of such suspension. If all or any portion of the work is so suspended, Contractor's sole and exclusive remedy shall be to seek an extension of time to its schedule in accordance with the procedures set forth in the Contract Documents. In no event shall the Contractor be entitled to any additional compensation or damages. Provided, however, if the ordered suspension exceeds three (3) months, the Contractor shall have the right to terminate the agreement with respect to that portion of the work which is subject to the ordered suspension.

SANTA ROSA COUNTY BOARD OF COUNTY COMMISSIONERS SUPPLEMENTAL PROVISIONS

SRC Procurement Form SP 020 00 082719

ARTICLE 1: SUPPLEMENTAL PROVISIONS

1.0 GENERAL CONDITIONS:

The following conditions supplement, modify, change, delete from or add to the General Provisions of the Contract, Articles 1 through 14. Where an Article of the General Provisions is modified or a Paragraph, Subparagraph, or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph, or Clause shall remain in effect.

2.0 FORM OF CONTRACT AND BONDS:

The contract form as furnished by Santa Rosa County shall be utilized. Performance and Payment Bond forms as approved by Santa Rosa County shall be utilized.

3.0 MATERIALS:

Whenever "or approved equal" is indicated, items proposed for use shall be submitted for Engineer's approval. Wherever an item or class of material is specified exclusively by trade name or by name of the maker or by catalog reference, only such items shall be used unless previously approved through addenda by the Engineer. Should the Contractor desire to substitute another material for one or more specified by name they shall state the credit or extra involved by the use of such material, in their bid. No such materials shall be used unless approved in writing by the Engineer.

4.0 PROGRESS CHART:

Within ten (10) days after receipt of signed Contract the Contractor shall file with the Engineer a progress chart showing the order in which the Contractor proposes to accomplish the work, the dates on which he proposes to begin the various parts of the work and the dates he contemplates completing them.

5.0 TIME FOR COMPLETION:

Time for completion of all work included in this contract shall not exceed 150 days from date of written Notice to proceed. The number of days allowed does not include an allowance for calendar days missed due to weather. Extension of time will be allowed for delays due to weather if properly documented and reported to the Engineer.

6.0 PRECONSTRUCTION CONFERENCE:

Within ten (10) days after the effective date of the agreement, but before Contractor starts the work at the Project site, a conference will be held for review and acceptance of the schedules referred to in paragraph 4.0, to establish procedures for processing applications for payment, and to establish a working understanding among the parties as to the work.

7.0 RECORD KEEPING

The Contractor shall maintain all relevant project records for three years after the Owner has made final payment to the Contractor.

SECTION IV.

PROJECT MANUAL, SPECIFICATIONS, PLANS AND SUPPORTING DOCUMENTATION

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Project Manual for: Peter Prince Field Taxiway A Rehabilitation

SANTA ROSA COUNTY, FL MAY 2021

Table of Contents

PART 1 – GENERAL CONTRACT PROVISIONS	1
Section 10 Definition of Terms	1
Section 20 Proposal Requirements and Conditions	9
Section 30 Award and Execution of Contract	14
Section 40 Scope of Work	17
Section 50 Control of Work	20
Section 60 Control of Materials	25
Section 70 Legal Regulations and Responsibility to Public	28
Section 80 Execution and Progress Error! Bookmark not	defined.
Section 90 Measurement and Payment	40
PART 2 – GENERAL CONSTRUCTION ITEMS	
Item C-100 Contractor Quality Control Program (CQCP)	47
Item C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control	
Item C-105 Mobilization	
Item C-110 Method of Estimating Percentage of Material Within Specification Limits (P	WL)60
PART 3 – SITEWORK	
Item P-101 Preparation/Removal of Existing Pavements	68
Item P-151 Clearing and Grubbing (NOT USED)	
Item P-152 Excavation, Subgrade, and Embankment	74
Item P-153 Controlled Low-Strength Material (CLSM) (NOT USED)	
Item P-154 Subbase Course (NOT USED)	
Item P-155 Lime-Treated Subgrade (NOT USED)	83
Item P-156 Cement Treated Subgrade (NOT USED)	84
Item P-157 [Cement][Lime] Kiln Dust Treated Subgrade (NOT USED)	85
Item P-158 Fly Ash Treated Subgrade (NOT USED)	86
PART 4 –BASE COURSES	
Item P-207 In-place Full Depth Reclamation (FDR) Recycled Asphalt Aggregate Base C	ourse
(NOT USED)	
Item P-208 Aggregate Base Course (NOT USED)	88
Item P-209 Crushed Aggregate Base Course	89
Item P-210 Caliche Base Course (NOT USED)	97
Item P-211 Lime Rock Base Course (NOT USED)	98
Item P-212 Shell Base Course (NOT USED)	99
Item P-213 Sand-Clay Base Course (NOT USED)	100
Item P-217 Aggregate-Turf Runway/Taxiway (NOT USED)	101
Item P-219 Recycled Concrete Aggregate Base Course (NOT USED)	102
Item P-220 Cement Treated Soil Base Course (NOT USED)	103
PART 5 – STABILIZED BASE COURSES	
Item P-304 Cement-Treated Aggregate Base Course (CTB) (NOT USED)	104
Item P-306 Lean Concrete Base Course (NOT USED)	
Item P-307 Cement Treated Permeable Base Course (CTPB) (NOT USED)	106
PART 6 – FLEXIBLE PAVEMENTS	
Item P-401 Asphalt Mix Pavement	
Item P-403 Asphalt Mix Pavement Course (NOT USED)	
Item P-404 Fuel-Resistant Asphalt Mix Pavement (NOT USED)	128

PART 7 – RIGID PAVEMENT	129
Item P-501 Cement Concrete Pavement (NOT USED)	129
PART 8- SURFACE TREATMENTS	130
Item P-608 Emulsified Asphalt Seal Coat (NOT USED)	130
Item P-608-R Rapid Cure Seal Coat (NOT USED)	131
Item P-609 Chip Seal Coat (NOT USED)	
Item P-623 Emulsified Asphalt Spray Seal Coat (NOT USED)	132
Item P-626 Emulsified Asphalt Slurry Seal Surface Treatment (NOT USED)	133
Item P-629 Thermoplastic Coal Tar Emulsion Surface Treatments (NOT USED)	134
Item P-630 Refined Coal Tar Emulsion Without Additives, Slurry Seal Surface Treatm USED)	
Item P-631 Refined Coal Tar Emulsion with Additives, Slurry Seal Surface Treatment USED)	(NOT
Item P-632 Asphalt Pavement Rejuvenation (NOT USED)	
PART 9– MISCELLANEOUS	
Item P-602 Emulsified Asphalt Prime Coat	
Item P-603 Emulsified Asphalt Tack Coat	
Item P-604 Compression Joint Seals for Concrete Pavements (NOT USED)	
Item P-605 Joint Sealants for Pavements	
Item P-606 Adhesive Compounds, Two-Component for Sealing Wire and Lights in Pa (NOT USED)	vement
Item P-610 Concrete for Miscellaneous Structures (NOT USED)	
Item P-620 Runway and Taxiway Marking	
Item P-621 Saw-Cut Grooves (NOT USED)	
PART 10 – FENCING	
Item F-160 Wire Fence with Wood Posts (Class A and B Fences) (NOT USED)	
Item F-161 Wire Fence with Steel Posts (Class C and D Fence) (NOT USED)	
Item F-162 Chain-Link Fence (NOT USED)	
Item F-163 Wildlife Deterrent Fence Skirt (NOT USED)	
Item F-164 Wildlife Exclusion Fence (NOT USED)	
PART 11 – DRAINAGE	
Item D-701 Pipe for Storm Drains and Culverts (NOT USED)	
Item D-702 Slotted Drains (NOT USED)	
Item D-705 Pipe Underdrains for Airports (NOT USED)	165
Item D-751 Manholes, Catch Basins, Inlets and Inspection Holes (NOT USED)	
Item D-752 Concrete Culverts, Headwalls, and Miscellaneous Drainage Structures (No	
Item D-754 Concrete Gutters, Ditches, and Flumes (NOT USED)	
PART 12 – TURFING	
Item T-901 Seeding	
Item T-903 Sprigging (NOT USED)	
Item T-904 Sodding	
Item T-905 Topsoil	
Item T-908 Mulching (NOT USED).	
PART 13 – LIGHTING INSTALLATION	
Item L-101 Airport Rotating Beacons (NOT USED)	
Item L-103 Airport Beacon Towers (NOT USED)	
1	

Item L-107 Airport Wind Cones (NOT USED)	188
Item L-108 Underground Power Cable for Airports	189
Item L-109 Airport Transformer Vault and Vault Equipment	202
Item L-110 Airport Underground Electrical Duct Banks and Conduits	208
Item L-115 Electrical Manholes and Junction Structures	217
Item L-119 Airport Obstruction Lights (NOT USED)	226
Item L-125 Installation of Airport Lighting Systems	

Part 1 – General Contract Provisions

Section 10 Definition of Terms

When 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 defined as follows:

Paragraph Number	Term	Definition
10-01	AASHTO	The American Association of State Highway and Transportation Officials.
10-02	Access Road	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
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	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; airport buildings and facilities located in any of these areas, and a heliport.
10-05	Airport Improvement Program (AIP)	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	Air Operations Area (AOA)	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.
10-07	Apron	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	ASTM International (ASTM)	Formerly known as the American Society for Testing and Materials (ASTM).

Paragraph Number	Term	Definition
10-09	Award	The Owner's notice to the successful bidder of the acceptance of the submitted bid.
10-10	Bidder	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
10-11	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.
10-12	Calendar Day	Every day shown on the calendar.
10-13	Certificate of Analysis (COA)	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	Certificate of Compliance (COC)	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	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 work within the scope of the contract and necessary to complete the project.
10-16	Contract	A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment.
		The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
10-17	Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.
10-18	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

Paragraph Number	Term	Definition
		calendar or working days, the contract shall be completed by that date.
10-19	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.
10-20	Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	Contractor Quality Control Program (CQCP)	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	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.
10-24	Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-25	Engineer	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-26	Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	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 Owner's Engineer or Resident Project Representative (RPR) to be necessary to

Paragraph Number	Term	Definition
		complete the work within the intended scope of the contract as previously modified.
10-28	FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-30	Force Account	a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis.
		b. Owner Force Account - Work performed for the project by the Owner's employees.
10-31	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 and/or Resident Project Representative (RPR) 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 and/or RPR, 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.
10-32	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.
10-33	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.

Paragraph Number	Term	Definition
10-34	Materials	Any substance specified for use in the construction of the contract work.
10-35	Modification of Standards (MOS)	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	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.
10-37	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. The Owner for this project is Santa Rosa County .
10-38	Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	Payment bond	The approved form of security furnished by the Contractor and their own 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.
10-41	Performance bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-42	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. Plans may also be referred to as 'contract drawings.'
10-43	Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	Proposal	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work

Paragraph Number	Term	Definition
		and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-45	Proposal guaranty	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-46	Quality Assurance (QA)	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	Quality Control (QC)	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
10-48	Quality Assurance (QA) Inspector	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-49	Quality Assurance (QA) Laboratory	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	Resident Project Representative (RPR)	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	Runway	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	Safety Plan Compliance Document (SPCD)	Details how the Contractor will comply with the CSPP.
10-54	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

Paragraph Number	Term	Definition
		contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	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.
10-56	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; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	Subgrade	The soil that forms the pavement foundation.
10-58	Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.
10-59	Supplemental Agreement	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%: (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	Taxilane	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	Taxiway	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.
10-63	Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See

Paragraph Number	Term	Definition
		the construction safety and phasing plan (CSPP) for limits of the TSA.
10-64	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.
10-65	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.
10-66	Owner Defined terms	None

END OF SECTION 10

Section 20 Proposal Requirements and Conditions

20-01 Advertisement (Notice to Bidders). See "Invitation to Bid"

20-02 Qualification of bidders. Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.

Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.

Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. 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 their 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 they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

20-03 Contents of proposal forms. The Owner's proposal forms state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 *Irregular proposals*.

A pre-bid conference will be held on this project to discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including airport access and staging areas; and unique airfield paving construction requirements.

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is 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. See "INSTRUCTIONS TO BIDDERS". 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 provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, 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 to the character, quality, and quantities of work to be performed, materials to be furnished, and 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 to the conditions to be encountered in performing the work and 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 their own 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 their proposal on the forms furnished by the Owner (See "INSTRUCTIONS TO BIDDERS"). All blank spaces in the proposal forms, unless explicitly stated otherwise, 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 which they propose 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 correctly sign the proposal in ink. If the proposal is made by an individual, their 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 where 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 their 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 Owner's invitation for bid. It is the Owner'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 2 CFR § 200.318(h). 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.
 - **f.** If the applicable Disadvantaged Business Enterprise information is incomplete.

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**. See "INSTRUCTIONS TO BIDDERS". Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to the Owner.
- **20-11 Delivery of proposal.** Each proposal submitted shall be submitted as defined in the "INVITATION TO BID". 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 or by fax or 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 paragraph 20-04, *Issuance of Proposal Forms*, of this section.
- **20-15 Discrepancies and Omissions.** A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than **7** days prior to bid opening.

Any interpretation of the project bid documents by the Owner's Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

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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 bid 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 Section 20, paragraph 20-09, *Irregular Proposals*.
- **b.** If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, *Disqualification of Bidders*.

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 as specified in the "INVITATION TO BID" and "INSTRUCTIONS TO BIDDERS". The award of a contract, if it is to be awarded, shall be made within **60** calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

- **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 paragraph 30-07 *Approval of Contract*.
- **30-04 Return of proposal guaranty**. See "INSTRUCTIONS TO BIDDERS". 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 paragraph 30-01, *Consideration of Proposals*. 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 paragraph 30-05, *Requirements of Contract Bonds*.
- **30-05 Requirements of contract bonds**. See "INSTRUCTIONS TO BIDDERS". 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.

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 paragraph 30-05, *Requirements of Contract Bonds*, of this section and the "INSTRUCTIONS TO BIDDERS", 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 period specified in paragraph 30-06, *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 liquidated damages to the Owner.

END OF SECTION 30

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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 the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. 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.

40-03 Omitted items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. 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 Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for 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 RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. 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 Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

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. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).
- **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 their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. 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 Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.
- **b.** With respect to their 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 in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).
- c. When the contract requires the maintenance of 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 the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions 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 Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, 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 embankment, the Contractor may at their own option either:

- **a.** Use such material in another contract item, providing such use is approved by the RPR 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 RPR; 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 RPR's approval in advance of such use.

Should the RPR 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 their 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 RPR 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 their own 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 the property Owner.

END OF SECTION 40

Section 50 Control of Work

50-01 Authority of the Engineer. The Engineer has final authority regarding the interpretation of project specification requirements. The Engineer shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The Engineer does not have the authority to accept work that does not conform to 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 RPR 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 their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR 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. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR 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 RPR's written orders.

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 RPR'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 RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR 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. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. 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. 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 RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 List of Special Provisions. NONE

50-05 Cooperation of Contractor. The Contractor shall be supplied with five hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard 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 RPR and their 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 their 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 RPR or their authorized representative.

50-06 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 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 their own contract and shall protect and hold 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 their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): **DWG (AutoCAD Civil 3D) and PDF.**

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. 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.

50-08 Authority and duties of Quality Assurance (QA) inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their 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 RPR 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 RPR 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 RPR 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.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

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 RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

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 Section 70, paragraph 70-14, *Contractor's Responsibility for Work*.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, 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 RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against 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, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

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 paragraph 50-12, *Maintenance during Construction*, the RPR 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 RPR'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 recovered as a liquidated damage against 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 RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR 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 RPR 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 RPR 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 RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. 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 RPR 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 RPR in writing of their 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 RPR 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 RPR 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 RPR 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 Value Engineering Cost Proposal. 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 documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. 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 meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program* and *Addendum*, that is in effect on the date of advertisement.

60-02 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR 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 RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner 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.

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. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. 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 RPR.

A copy of all Contractor QC test data shall be provided to the RPR 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 RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

The Contractor shall employ a Quality Control (QC) testing organization to perform all Contractor required QC tests in accordance with Item C-100 Contractor Quality Control Program (CQCP).

60-03 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC 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. The COA is the manufacturer's COC and includes all applicable test results.

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 RPR.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "or equal," 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.

The RPR shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant inspection. The RPR or their 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 RPR conduct plant inspections, the following conditions shall exist:

- **a.** The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.
- **b.** The RPR 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 RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location 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 RPR 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/ Resident Project Representative (RPR) field office. An Engineer/RPR field office is not required.

60-06 Storage of materials. Materials shall be stored 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 RPR. 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 and/or CSPP, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the RPR. 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 RPR 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 their 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 RPR.

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 RPR 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 their 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.

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 RPR.

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 RPR, 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 Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States 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's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public convenience and safety. The Contractor shall control their operations and those of their 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 their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is on sheet(s) C-003 and C-004 of the project plans.

70-09 Use of explosives. Not Used

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/RPR 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 their 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 hold harmless the Engineer/RPR and the Owner and their officers, agents, 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 their own 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, their own 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. If it is 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 must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

The Phasing Plan as represented on Sheet C-003 of the Contract Documents shall be adhered to by the Contractor to the greatest extent possible. The Contractor shall coordinate with Santa Rosa County, the Engineer, FBO's and hangar tenants to maintain access during construction.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, 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 their expense.

The Contractor shall make their 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.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor's responsibility for work. Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, 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 their own 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 paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, 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/or in the contract documents.

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 their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.

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 RPR.

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 RPR 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 RPR 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 their own 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, RPR, their 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 their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their 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, asphalts, 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 their 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 RPR. The RPR 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 Section 40, paragraph 40-04, *Extra Work*, and Section 90, paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

END OF SECTION 70

<u>12/21/2018</u> AC 150/5370-10H

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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 Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least **50** percent of the total contract cost.

Should the Contractor elect to assign their 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.

The Contractor shall provide copies of all subcontracts to the RPR 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

80-02 Notice to proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within 10 days of the NTP date. The Contractor shall notify the RPR at least 48 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations 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 coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 10 days prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. 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 RPR'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 RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

The project 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. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

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.

80-04 Limitation of operations. The Contractor shall control their operations and the operations of their 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 their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

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; and 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 satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:

Areas noted on the Contract Documents Requiring temporary closure of Taxiways

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. 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 SPCD 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 SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

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 RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR 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 not cause injury to previously completed work, adjacent property, or existing airport facilities due to 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 otherwise authorized by the RPR. 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 RPR 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 RPR 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 RPR 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 paragraph.

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 the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time 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 written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR 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 or for any other delay provided for in the contract, plans, or specifications.

If it becomes 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 days shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract time based on calendar days. 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.

80-08 Failure to complete on time. As delineated in the Contract Documents for the Project.

80-09 Default and termination of contract. The Contractor shall be considered in default of their 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 Owner consider the Contractor in default of the contract for any reason above, the Owner 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 RPR 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 RPR 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 RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their 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 RPR 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 work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

Section 90 Measurement and Payment

90-01 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

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 RPR.

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.

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.

When requested by the Contractor and approved by the RPR 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 RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term "ton" will mean the short ton consisting of 2,000 pounds (907 km) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. 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 RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	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

<u>12/21/2018</u> AC 150/5370-10H

Term	Description
	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.
Asphalt Material	Asphalt 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. 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 asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	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.
Plates and Sheets	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.
Miscellaneous Items	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	Scales must be tested for accuracy and serviced before use. 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. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.
	Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR 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 0.1% of the nominal rated capacity of the scale, but not less than one pound (454 grams). The use of spring balances will not be permitted.

Term	Description
	In the event inspection reveals the scales have been "overweighing" (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%.
	In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded.
	Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR 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.
	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.
Rental Equipment	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 in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 <i>Payment for Extra Work</i> .
Pay Quantities	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 RPR. 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 Section 70, paragraph 70-18, *No Waiver of Legal Rights*.

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 Section 40, paragraph 40-02, *Alteration of Work*

and Quantities, 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 their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, *Omitted Items*, the RPR 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 RPR 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 RPR'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 RPR'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 RPR'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 Section 40, paragraph 40-04, *Extra Work*, 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 RPR, 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 paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

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 RPR 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 paragraph 90-09, *Acceptance and Final Payment*.

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 RPR at or on an approved site.

- **b.** The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
- **c.** The Contractor has furnished the RPR 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 stored or stockpiled.
- **e.** The Contractor has furnished the Owner evidence that the material 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 their 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 paragraph.

- **90-08 Payment of withheld funds**. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 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 Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR 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 RPR 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 RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR'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 Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, 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 Section 50, paragraph 50-16, *Claims for Adjustments and Disputes*, or under the provisions of this paragraph, 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, except as noted. 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. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.
- **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 the Contractor's failure to conform to contract requirements; or 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 Contractor Final Project Documentation.** 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 RPR 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 Section 40, paragraph 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(s).
 - k. Security for Construction Warranty.
 - **l.** Equipment commissioning documentation submitted, if required.

END OF SECTION 90

Part 2 – General Construction Items

Item C-100 Contractor Quality Control Program (CQCP)

100-1 General. Quality is more than test results. Quality is the combination of proper materials, testing, workmanship, equipment, inspection, and documentation of the project. Establishing and maintaining a culture of quality is key to achieving a quality project. The Contractor shall establish, provide, and maintain an effective Contractor Quality Control Program (CQCP) 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 Contractor shall establish a CQCP that will:

- **a.** Provide qualified personnel to develop and implement the CQCP.
- **b.** Provide for the production of acceptable quality materials.
- **c.** Provide sufficient information to assure that the specification requirements can be met.
- **d.** Document the CQCP process.

The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the CQCP has been reviewed and approved by the Resident Project Representative (RPR). No partial payment will be made for materials subject to specific quality control (QC) requirements until the CQCP has been reviewed and approved.

The QC requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the quality assurance (QA) testing requirements. QA testing requirements are the responsibility of the RPR or Contractor as specified in the specifications.

A Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Resident Project Representative (RPR), Contractor, subcontractors, testing laboratories, and Owner's representative must be held prior to start of construction. The QC/QA workshop will be facilitated by the Contractor. The Contractor shall coordinate with the Airport and the RPR on time and location of the QC/QA workshop. Items to be addressed, at a minimum, will include:

- **a.** Review of the CQCP including submittals, QC Testing, Action & Suspension Limits for Production, Corrective Action Plans, Distribution of QC reports, and Control Charts.
 - **b.** Discussion of the QA program.
- **c.** Discussion of the QC and QA Organization and authority including coordination and information exchange between QC and QA.
 - **d.** Establish regular meetings to discuss control of materials, methods and testing.
 - e. Establishment of the overall QC culture.

100-2 Description of program.

a. General description. The Contractor shall establish a CQCP to perform QC inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors.

The CQCP shall ensure conformance to applicable specifications and plans with respect to materials, offsite fabrication, workmanship, construction, finish, and functional performance. The CQCP 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 QC.

b. Contractor Quality Control Program (CQCP). The Contractor shall describe the CQCP in a written document that shall be reviewed and approved by the RPR prior to the start of any production, construction, or off-site fabrication. The written CQCP shall be submitted to the RPR for review and approval at least 10 calendar days before the CQCP Workshop. The Contractor's CQCP and QC testing laboratory must be approved in writing by the RPR prior to the Notice to Proceed (NTP).

The CQCP shall be organized to address, as a minimum, the following:

- 1. QC organization and resumes of key staff
- 2. Project progress schedule
- 3. Submittals schedule
- 4. Inspection requirements
- 5. QC testing plan
- 6. Documentation of QC activities and distribution of QC reports
- 7. Requirements for corrective action when QC and/or QA acceptance criteria are not met
- 8. Material quality and construction means and methods. Address all elements applicable to the project that affect the quality of the pavement structure including subgrade, subbase, base, and surface course. Some elements that must be addressed include, but is not limited to mix design, aggregate grading, stockpile management, mixing and transporting, placing and finishing, quality control testing and inspection, smoothness, laydown plan, equipment, and temperature management plan.

The Contractor must add any additional elements to the CQCP that is necessary to adequately control all production and/or construction processes required by this contract.

100-3 CQCP organization. The CQCP shall be implemented by the establishment of a QC organization. An organizational chart shall be developed to show all QC personnel, their authority, and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all QC staff by name and function, and shall indicate the total staff required to implement all elements of the CQCP, 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 CQCP, the personnel assigned shall be subject to the qualification requirements of paragraphs 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The QC organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Contractor Quality Control Program Administrator (CQCPA) must be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The CQCPA must have a minimum of five (5) years of experience in QC pavement construction with prior QC experience on a project of comparable size and scope as the contract.

Included in the five (5) years of paving/QC experience, the CQCPA must meet 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) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport paving experience.
- (4) An individual with four (4) years of airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications. The CQCPA authority must include the ability to immediately stop production until materials and/or processes are in compliance with contract specifications. The CQCPA must report directly to a principal officer of the construction firm. The CQCPA 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. QC technicians. A sufficient number of QC technicians necessary to adequately implement the CQCP must be provided. These personnel must be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II in Civil Engineering Technology or higher, and shall have a minimum of two (2) years of experience in their area of expertise.

The QC technicians must report directly to the CQCPA 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 paragraph 100-6.
 - (2) Performance of all QC tests as required by the technical specifications and paragraph 100-8.
 - (3) Performance of tests for the RPR when required by the technical specifications.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

- **c. Staffing levels.** The Contractor shall provide sufficient qualified QC 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 CQCP shall state where different technicians will be required for different work elements.
- **100-4 Project progress schedule.** Critical QC activities must be shown on the project schedule as required by Section 80, paragraph 80-03, *Execution and Progress*.
- **100-5 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 as a minimum:
 - a. Specification item number
 - **b.** Item description
 - c. Description of submittal
 - **d.** Specification paragraph requiring submittal
 - e. Scheduled date of submittal

100-6 Inspection requirements. QC 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 paragraph 100-9.

Inspections shall be performed as needed to ensure continuing compliance with contract requirements until completion of the particular feature of work. Inspections shall include the following minimum requirements:

- **a.** During plant operation for material production, QC 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 CQCP shall detail how these and other QC functions will be accomplished and used.
- **b.** During field operations, QC 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 CQCP shall document how these and other QC functions will be accomplished and used.

100-7 Contractor QC testing facility.

- **a.** For projects that include Item P-401, Item P-403, and Item P-404, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM D3666, *Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials*:
 - 8.1.3 Equipment Calibration and Checks;
 - 8.1.9 Equipment Calibration, Standardization, and Check Records;
 - 8.1.12 Test Methods and Procedures
- **b.** For projects that include P-501, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM C1077, Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation:
 - 7 Test Methods and Procedures
 - 8 Facilities, Equipment, and Supplemental Procedures

100-8 QC testing plan. As a part of the overall CQCP, the Contractor shall implement a QC 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 QC tests that the Contractor deems necessary to adequately control production and/or construction processes.

The QC testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

- **a.** Specification item number (e.g., P-401)
- **b.** Item description (e.g., Hot Mix Asphalt Pavements)
- **c.** Test type (e.g., gradation, grade, asphalt content)
- **d.** Test standard (e.g., ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)

e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated)

- **f.** Responsibility (e.g., plant technician)
- g. Control requirements (e.g., target, permissible deviations)

The QC testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The RPR shall be provided the opportunity to witness QC sampling and testing.

All QC test results shall be documented by the Contractor as required by paragraph 100-9.

100-9 Documentation. The Contractor shall maintain current QC records of all inspections and tests performed. These records shall include factual evidence that the required QC 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 RPR daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCPA.

Contractor QC records required for the contract shall include, but are not necessarily limited to, the following records:

- **a. Daily inspection reports.** Each Contractor QC 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 QC 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) Summary of any necessary corrective actions
 - (7) Safety inspection.
 - (8) Photographs and/or video

The daily inspection reports shall identify all QC inspections and QC tests 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 QC technician and the CQCPA. The RPR shall be provided at least one copy of each daily inspection report on the work day following the day of record. When QC inspection and test results are recorded and transmitted electronically, the results must be archived.

- **b. Daily test reports.** The Contractor shall be responsible for establishing a system that will record all QC 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 RPR prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical QC charts. When QC daily test results are recorded and transmitted electronically, the results must be archived.

100-10 Corrective action requirements. The CQCP 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 CQCP as a whole, and for individual items of work contained in the technical specifications.

The CQCP shall detail how the results of QC inspections and tests will be used for determining the need for corrective action and shall contain clear 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 QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

100-11 Inspection and/or observations by the RPR. All items of material and equipment are subject to inspection and/or observation by the RPR at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate QC 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 inspection and/or observation by the RPR at the site for the same purpose.

Inspection and/or observations by the RPR does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or subcontractor's work.

100-12 Noncompliance.

- **a.** The Resident Project Representative (RPR) will provide written notice to the Contractor of any noncompliance with their CQCP. After receipt of such notice, the Contractor must take corrective action.
- **b.** When QC activities do not comply with either the CQCP or the contract provisions or when the Contractor fails to properly operate and maintain an effective CQCP, and no effective corrective actions have been taken after notification of non-compliance, the RPR will recommend the Owner take the following actions:
- (1) Order the Contractor to replace ineffective or unqualified QC personnel or subcontractors and/or
 - (2) Order the Contractor to stop operations until appropriate corrective actions are taken.

METHOD OF MEASUREMENT

100-13 Basis of measurement and payment. NOT USED

BASIS OF PAYMENT

100-14 Payment will be made under: No payment shall be made for the CQCP and it shall be considered incidental to the work.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete

Aggregates for Use in Construction and Criteria for Testing Agency

Evaluation

ASTM D3665 Standard Practice for Random Sampling of Construction Materials

ASTM D3666 Standard Specification for Minimum Requirements for Agencies Testing

and Inspecting Road and Paving Materials

END OF ITEM C-100

Item C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control

DESCRIPTION

102-1. This item shall consist of temporary control measures as shown on the plans or as ordered by the Resident Project Representative (RPR) during the life of a contract to control pollution of air and water, 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.

Temporary erosion control shall be in accordance with the approved erosion control plan; the approved Construction Safety and Phasing Plan (CSPP) and AC 150/5370-2, *Operational Safety on Airports During Construction*. 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 designed, 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

- **102-2.1 Grass.** Grass that will not compete with the grasses sown later for permanent cover per Item T-901shall 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.
- **102-2.2 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 per Item T-908. Mulches shall not create a wildlife attractant.
- **102-2.3 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.
- **102-2.4 Slope drains.** Slope drains may be constructed of pipe, fiber mats, rubble, concrete, asphalt, or other materials that will adequately control erosion.
- **102-2.5 Silt fence.** 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.
- **102-2.6 Other.** All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

102-3.1 General. The work includes erosion control and stormwater pollution prevention plan (SWPPP) preparation is required by the State of Florida's Construction Storm Water General (NPDES) Permit. The Contractor shall prepare a SWPPP and submit a Construction Notice of Intent (CNOI) along

with the SWPPP to the Office of Pollution Control (OPC) at least 30 days prior to the commencement of construction. The SWPPP shall be prepared according to the requirements outlined in the Florida Stormwater Pollution Prevention Plan (SWPPP) Guidance Manual for Construction Activities (See Appendix) The SWPPP and the CNOI shall be reviewed and approved by the Engineer prior to submittal to OPC. The Contractor shall allow for a 10 day review of the SWPPP and CNOI by the Engineer.

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 RPR shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

102-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans 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 RPR.

102-3.3 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 plans and approved CSPP. 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, schedule and perform clearing and grubbing operations so that grading operations and permanent erosion control features can follow immediately if project conditions permit. Temporary erosion control measures are required if permanent measures cannot immediately follow grading operations. The RPR 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 RPR.

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 RPR. 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 RPR, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The RPR 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 maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. 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.

102-3.4 Installation, maintenance and removal of silt fence. 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 RPR.

METHOD OF MEASUREMENT

- **102-4.1** Temporary erosion and pollution control work required will be performed as scheduled or directed by the RPR. Completed and accepted work will be measured as follows:
 - **a.** Temporary seeding and mulching will be measured by the square yard (square meter).
 - **b.** Temporary slope drains will be measured by the linear foot (meter).
- **c.** Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed as directed by the RPR.
 - **d.** All fertilizing will be measured by the ton (kg).
 - **e.** Installation and removal of silt fence will be measured by the Lump sum.
- **102-4.2** Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor.

BASIS OF PAYMENT

102-5.1 Erosion Control – Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

AC 150/5370-2 Operational Safety on Airports During Construction

ASTM International (ASTM)

ASTM D6461 Standard Specification for Silt Fence Materials

<u>12/21/2018</u> AC 150/5370-10H

United States Department of Agriculture (USDA)

FAA/USDA Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM C-102

Item C-105 Mobilization

105-1 Description. This item of work shall consist of, 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.

105-2 Mobilization limit. Mobilization shall be limited to **10** percent of the total project cost.

105-3 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.

105-4 Engineer/RPR field office. An Engineer/RPR field office is not required.

METHOD OF MEASUREMENT

105-5 Basis of measurement and payment. Based upon the contract lump sum price for "Mobilization"

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)

WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

Item C-105 Mobilization 58

<u>12/21/2018</u> AC 150/5370-10H

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Item C-105 Mobilization 59

Item C-110 Method of Estimating Percentage of Material Within Specification Limits (PWL)

110-1 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 (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.

110-2 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 sublot 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 (X) for all sublot test values within the lot by using the following formula:

$$X = (x_1 + x_2 + x_3 + ... x_n) / n$$

Where: X = Sample average of all sublot test values within a lot $x_1, x_2, \dots x_n = Individual$ sublot test values n = Number of sublot test values

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 sublot test values in the set

 $d_1, d_2, \dots d_n$ = Deviations of the individual sublot test values x_1, x_2, \dots from the average value X

that is:
$$d_1 = (x_1 - X)$$
, $d_2 = (x_2 - X)$... $d_n = (x_n - X)$

n = Number of sublot test values

f. For single sided specification limits (i.e., L only), compute the Lower Quality Index Q_L by use of the following formula:

$$O_L = (X - L) / S_n$$

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 (i.e., L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$\begin{aligned} Q_L &= \left(X - L \right) / \, S_n \\ &\quad and \\ Q_U &= \left(U - X \right) / \, S_n \end{aligned}$$

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.

$$X = (x_1 + x_2 + x_3 + \dots x_n) / n$$

 $X = (96.60 + 97.55 + 99.30 + 98.35) / 4$
 $X = 97.95\%$ density

3. Calculate the standard deviation for the lot.

$$\begin{split} S_n &= \left[\left((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2 \right) \right) / \left(4 - 1 \right) \right]^{1/2} \\ S_n &= \left[\left(1.82 + 0.16 + 1.82 + 0.16 \right) / 3 \right]^{1/2} \\ S_n &= 1.15 \end{split}$$

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.

$$X = (x_1 + x_2 + x_3 ...n) / n$$

 $X = (5.00 + 3.74 + 2.30 + 3.25) / 4$
 $X = 3.57\%$

3. Calculate the standard deviation S_n for the lot.

$$\begin{split} S_n &= \left[\left((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2 \right) / \left(4 - 1 \right) \right]^{1/2} \\ S_n &= \left[\left(2.04 + 0.03 + 1.62 + 0.10 \right) / 3 \right]^{1/2} \\ S_n &= 1.12 \end{split}$$

4. Calculate the Lower Quality Index Q_L for the lot. (L= 2.0)

$$\begin{aligned} Q_L &= (X - L) \, / \, S_n \\ Q_L &= (3.57 - 2.00) \, / \, 1.12 \\ Q_L &= 1.3992 \end{aligned}$$

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)

$$\begin{aligned} Q_U &= (U - X) \ / \ S_n \\ Q_U &= (5.00 - 3.57) \ / \ 1.12 \end{aligned}$$

$$O_{U} = 1.2702$$

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.** From ASTM E178, Table 1, for n=4 an upper 5% significance level, 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 (measurement - average)/(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 (average - measurement)/(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			Positive	Values of Q	(Q _L and Q _l	1)		
Limits (P _L and P _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

Percent Within			Positiv	e Values of	Q (Q _L and Q) U)		
Limits (P _L and P _U)	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
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		,	Negative \	Values of (Q (Q _L and	\mathbf{Q}_{U}		
Within Limits	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
(P _L and P _U)								
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

Percent			Negative	Values of	Q (Q _L an	d Q _U)	_	
Within Limits	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
(P _L and P _U)								
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

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM E178

Standard Practice for Dealing with Outlying Observations

END OF ITEM C-110

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Part 3 – Sitework

Item P-101 Preparation/Removal of Existing Pavements

DESCRIPTION

101-1 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 plans.

EQUIPMENT AND MATERIALS

101-2 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1 Removal of existing pavement.

The Contractor's removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

a. Concrete pavement removal. Full depth saw cuts shall be made perpendicular to the slab surface. The Contractor shall saw through the full depth of the slab including any dowels at the joint, removing the pavement and installing new dowels as shown on the plans and per the specifications. Where the perimeter of the removal limits is not located on the joint and there are no dowels present, the perimeter shall be saw cut the full depth of the pavement. The pavement inside the saw cut shall be removed by methods which will not cause distress in the pavement which is to remain in place. Concrete slabs that are damaged by under breaking shall be repaired or removed and replaced as directed by the RPR.

The edge of existing concrete pavement against which new pavement abuts shall be protected from damage at all times. Spall and underbreak repair shall be in accordance with the plans. Any underlaying material that is to remain in place, shall be recompacted and/or replaced as shown on the plans. Adjacent areas damaged during repair shall be repaired or replaced at the Contractor's expense.

- **b. Asphalt pavement removal.** Asphalt pavement to be removed shall be cut to the full depth of the asphalt pavement around the perimeter of the area to be removed.
- **c. Repair or removal of Base, Subbase, and/or Subgrade.** All failed material including surface, base course, subbase course, and subgrade shall be removed and repaired as shown on the plans or as directed by the RPR. Materials and methods of construction shall comply with the applicable sections of these specifications. Any damage caused by Contractor's removal process shall be repaired at the Contractor's expense.
- **101-3.2 Preparation of joints and cracks prior to overlay/surface treatment.** Remove all vegetation and debris from cracks to a minimum depth of 1 inch (25 mm). If extensive vegetation exists, treat the specific area with a concentrated solution of a water-based herbicide approved by the RPR. Fill all cracks greater than 1/4 inch (6 mm) wide) with a crack sealant per ASTM D6690. The crack sealant,

preparation, and application shall be compatible with the surface treatment/overlay to be used. To minimize contamination of the asphalt with the crack sealant, underfill the crack sealant a minimum of 1/8 inch (3 mm), not to exceed ½ inch (6 mm). Any excess joint or crack sealer shall be removed from the payement surface.

101-3.3 Removal of Foreign Substances/contaminates prior to overlay and remarking. Removal of foreign substances/contaminates from existing pavement that will affect the bond of the new treatment shall consist of removal of rubber, fuel spills, oil, crack sealer, at least 90% of paint, and other foreign substances from the surface of the pavement. Areas that require removal are designated on the plans and as directed by the RPR in the field during construction.

cold milling may be used. If chemicals are used, they shall comply with the state's environmental protection regulations. Removal methods used shall not cause major damage to the pavement, or to any structure or utility within or adjacent to the work area. Major damage is defined as changing the properties of the pavement, removal of asphalt causing the aggregate to ravel, or removing pavement over 1/8 inch (3 mm) deep. If it is deemed by the RPR that damage to the existing pavement is caused by operational error, such as permitting the application method to dwell in one location for too long, the Contractor shall repair the damaged area without compensation and as directed by the RPR.

Removal of foreign substances shall not proceed until approved by the RPR. Water used for high-pressure water equipment shall be provided by the Contractor at the Contractor's expense. No material shall be deposited on the pavement shoulders. All wastes shall be disposed of in areas indicated in this specification or shown on the plans.

101-3.4 Concrete spall or failed asphaltic concrete pavement repair.

- **a. Repair of concrete spalls in areas to be overlaid with asphalt.** The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The perimeter of the repair shall be saw cut a minimum of 2 inches (50 mm) outside the affected area and 2 inches (50 mm) deep. The deteriorated material shall be removed to a depth where the existing material is firm or cannot be easily removed with a geologist pick. The removed area shall be filled with asphalt mixture with aggregate sized appropriately for the depth of the patch. The material shall be compacted with equipment approved by the RPR until the material is dense and no movement or marks are visible. The material shall not be placed in lifts over 4 inches (100 mm) in depth. This method of repair applies only to pavement to be overlaid.
- **b. Asphalt pavement repair.** The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. Materials and methods of construction shall comply with the applicable sections of these specifications.
- **101-3.5 Cold milling.** Milling shall be performed with a power-operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlaying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. All millings shall be removed and disposed off Airport property. If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor's Expense.
- **a. Patching.** The milling machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the remaining pavement and it shall have a positive method of controlling the depth of cut. The RPR shall layout the area to be milled with a straightedge in increments of 1-foot (30 cm) widths. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate milling machine, or areas that are damaged because of his negligence, shall be repaired by the Contractor at the Contractor's Expense.

b. Profiling, grade correction, or surface correction. The milling machine shall have a minimum width of **7** feet and it shall be equipped with electronic grade control devices that will cut the surface to the grade specified. The tolerances shall be maintained within +0 inch and -1/4 inch of the specified grade. The machine must cut vertical edges and have a positive method of dust control. The machine must have the ability to remove the millings or cuttings from the pavement and load them into a truck. All millings shall be removed and disposed of off the airport.

- **c. Clean-up.** The Contractor shall sweep the milled surface daily and immediately after the milling until all residual materials are removed from the pavement surface. Prior to paving, the Contractor shall wet down the milled pavement and thoroughly sweep and/or blow the surface to remove loose residual material. Waste materials shall be collected and removed from the pavement surface and adjacent areas by sweeping or vacuuming. Waste materials shall be removed and disposed off Airport property.
- **101-3.6. Preparation of asphalt pavement surfaces prior to surface treatment.** Existing asphalt pavements to be treated with a surface treatment shall be prepared as follows:
- **a.** Patch asphalt pavement surfaces that have been softened by petroleum derivatives or have failed due to any other cause. Remove damaged pavement to the full depth of the damage and replace with new asphalt pavement similar to that of the existing pavement in accordance with paragraph 101-3.4b.
 - **b.** Repair joints and cracks in accordance with paragraph 101-3.2.
- **c.** Remove oil or grease that has not penetrated the asphalt pavement by scrubbing with a detergent and washing thoroughly with clean water. After cleaning, treat these areas with an oil spot primer.
- **d.** Clean pavement surface immediately prior to placing the surface treatment so that it is free of dust, dirt, grease, vegetation, oil or any type of objectionable surface film.
- **101-3.7 Maintenance**. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.
- **101-3.8 Preparation of Joints in Rigid Pavement prior to resealing.** Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the joint and does not damage the joint.
- **101-3.8.1 Removal of Existing Joint Sealant**. All existing joint sealants will be removed by plowing or use of hand tools. Any remaining sealant and or debris will be removed by use of wire brushes or other tools as necessary. Resaw joints removing no more than 1/16 inch (2 mm) from each joint face. Immediately after sawing, flush out joint with water and other tools as necessary to completely remove the slurry.
- **101-3.8.2 Cleaning prior to sealing**. Immediately before sealing, joints shall be cleaned by removing any remaining laitance and other foreign material. Allow sufficient time to dry out joints prior to sealing. Joint surfaces will be surface-dry prior to installation of sealant.
- 101-3.8.3 Joint sealant. Joint material and installation will be in accordance with Item P-605.
- **101-3.9 Preparation of Cracks in Flexible Pavement prior to sealing.** Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the cracks and does not damage the pavement.

101-3.9.1 Preparation of Crack. Widen crack with router by removing a minimum of 1/16 inch (2 mm) from each side of crack. Immediately before sealing, cracks will be blown out with a hot air lance combined with oil and water-free compressed air.

- **101-3.9.2 Removal of Existing Crack Sealant**. Existing sealants will be removed by. Following routing, any remaining debris will be removed by use of a hot lance combined with oil and water-free compressed air.
- 101-3.9.3 Crack Sealant. Crack sealant material and installation will be in accordance with Item P-605.
- 101-3.9.4 Removal of Pipe and other Buried Structures.
- **a. Removal of Existing Pipe Material.** Remove the types of pipe as indicated on the plans. The pipe material shall be legally disposed of off-site in a timely manner following removal. Trenches shall be backfilled with material equal to or better in quality than adjacent embankment. Trenches under paved areas must be compacted to 95% D698.
- **b. Removal of Inlets/Manholes.** Where indicated on the plans or as directed by the RPR, inlets and/or manholes shall be removed and legally disposed of off-site in a timely fashion after removal. Excavations after removal shall be backfilled with material equal or better in quality than adjacent embankment. When under paved areas must be compacted to 95% of ASTM D1557, when outside of paved areas must be compacted to 95% of ASTM D698. Method of Measurement
- **101-4.1 Lump sum.** No separate measurement for payment will be made. The work covered by this section shall be considered as a subsidiary obligation of the Contractor and covered under the other contract items.

BASIS OF PAYMENT

101-5.1 Payment. Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5380-6 Guidelines and Procedures for Maintenance of Airport Pavements.

ASTM International (ASTM)

ASTM D6690 Standard Specification for Joint and Crack Sealants, Hot Applied, for

Concrete and Asphalt Pavements

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Item P-151 Clearing and Grubbing

Item P-152 Excavation, Subgrade, and Embankment

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

- **152-1.2 Classification.** All material excavated shall be classified as defined below:
- **a.** Unclassified excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature which is not otherwise classified and paid for under one of the following items.
- **152-1.3 Unsuitable excavation.** Unsuitable material shall be disposed in designated waste areas as shown on the plans. Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material suitable for topsoil may be used on the embankment slope when approved by the RPR.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of in waste areas as shown on the plans. All waste areas shall be graded to allow positive drainage of the area and adjacent areas. The surface elevation of waste areas shall be specified on the plans or approved by the RPR.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches (100 mm), to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the RPR, who shall arrange for their removal if necessary. The Contractor, at their own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting shall not be allowed.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of the ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate, or agree to any adjustments made to the original ground lines.

Digital terrain model (DTM) files of the existing surfaces, finished surfaces and other various surfaces were used to develop the design plans.

Existing grades on the design cross sections or DTM's, where they do not match the locations of actual spot elevations shown on the topographic map, were developed by computer interpolation from those spot elevations. Prior to disturbing original grade, Contractor shall verify the accuracy of the existing ground surface by verifying spot elevations at the same locations where original field survey data was obtained as indicated on the topographic map. Contractor shall recognize that, due to the interpolation process, the actual ground surface at any particular location may differ somewhat from the interpolated surface shown on the design cross sections or obtained from the DTM's. Contractor's verification of original ground surface, however, shall be limited to verification of spot elevations as indicated herein, and no adjustments will be made to the original ground surface unless the Contractor demonstrates that spot elevations shown are incorrect. For this purpose, spot elevations which are within 0.1 foot (30 mm) of the stated elevations for ground surfaces, or within 0.04 foot (12 mm) for hard surfaces (pavements, buildings, foundations, structures, etc.) shall be considered "no change". Only deviations in excess of these will be considered for adjustment of the original ground surface. If Contractor's verification identifies discrepancies in the topographic map, Contractor shall notify the RPR in writing at least two weeks before disturbance of existing grade to allow sufficient time to verify the submitted information and make adjustments to the design cross sections or DTM's. Disturbance of existing grade in any area shall constitute acceptance by the Contractor of the accuracy of the original elevations shown on the topographic map for that area.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes **as** shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. When selective grading is indicated on the plans, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Not Used

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as "Unclassified Excavation."

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by the Contractor as indicated on the plans. All 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 as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans.

- **152-2.3 Borrow excavation.** There are no borrow sources within the boundaries of the airport property. The Contractor shall locate and obtain borrow sources, subject to the approval of the RPR. The Contractor shall notify the RPR at least 15 days prior to beginning the excavation so necessary measurements and tests can be made by the RPR. All borrow pits shall be opened to expose the various strata of acceptable material to allow obtaining a uniform product. Borrow areas shall be drained and left in a neat, presentable condition with all slopes dressed uniformly. Borrow areas shall not create a hazardous wildlife attractant.
- **152-2.4 Drainage excavation.** Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final line, elevation, and cross-section. The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.
- **152-2.5 Preparation of cut areas or areas where existing pavement has been removed.** In those areas on which a subbase or base course is to be placed, the top 12 inches of subgrade shall be compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D698. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.
- **152-2.6 Preparation of embankment area.** All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches (150 mm) and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches (300 mm) and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work..

152-2.7 Control Strip. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

152-2.8 Formation of embankments. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches (150 mm) nor more than 12 inches (300 mm) of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within $\pm 2\%$ of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The RPR will take samples of excavated materials which will be used in embankment for testing to obtain a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D698. A new Proctor shall be obtained for each soil type based on visual classification.

Density tests will be taken by the RPR for every **3,000** square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow AASHTO T-180 Annex Correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than **100%** of maximum density for non-cohesive soils, and **95%** of maximum density for cohesive soils as determined by ASTM D698. Under all areas to be paved, the embankments shall be compacted to a depth of **6 inches** and to a density of not less than **100%** percent of the maximum density as determined by ASTM **D698**. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

On all areas outside of the pavement areas, no compaction will be required on the top **4 inches** which shall be prepared for a seedbed in accordance with Item T-901.

The in-place field density shall be determined in accordance with ASTM 6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches (100 mm) in their greatest dimensions will not be allowed in the top 12 inches (300 mm) of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock, cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet (60 cm) in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet (1.2 m) below the finished subgrade.

152-2.9 Proof rolling. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. Before start of embankment, and after compaction is completed, the subgrade area shall be proof rolled with a 20 ton (18.1 metric ton) Tandem axle Dual Wheel Dump Truck loaded to the legal limit in the presence of the RPR. Apply a minimum of 6 coverage, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch (25 mm) or show permanent deformation greater than 1 inch (25 mm) shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications. Removal and replacement of soft areas is incidental to this item.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of **6 inches** and to a density of not less than **100** percent of the maximum dry density as determined by ASTM D698. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of **6 inches** and to a density of not less than **95** percent of the maximum density as determined by ASTM D698.

The material to be compacted shall be within $\pm 2\%$ of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the $\frac{3}{4}$ inch (19.0 mm) sieve, follow the ASTM D698. Tests for moisture content and compaction will be taken at a minimum of **500** S.Y. of subgrade. All quality assurance testing shall be done by the Contractor's laboratory in the presence of the RPR, and density test results shall be furnished upon completion to the RPR for acceptance determination.

The in-place field density shall be determined in accordance with ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938 within 12 months prior to its use on this contract. The gage shall be field standardized daily.

Density tests will be taken by the Contractor for every **500** square yards of completed subgrade. If a nuclear gage is used for density determination, two random readings shall be made for each **2,000** square yards (meters).

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

152-2.11 Finishing and protection of subgrade. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, recompacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 Haul. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

- **152-2.13 Surface Tolerances.** In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.
 - **a. Smoothness.** The finished surface shall not vary more than +/- ½ inch (12 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.
 - **b. Grade.** The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +/- 0.05 feet (15 mm) of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to placed, grade shall not vary more than 0.10 feet (30 mm) from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall be located as shown on the plans and the approved CSPP, and shall not be placed on areas that subsequently will require any excavation or embankment fill. If, in the judgment of the RPR, it is practical to place the

salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further re-handling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as shown on the plans and as required in Item T-905. Topsoil shall be paid for as provided in Item T-905. No direct payment will be made for topsoil under Item P-152.

METHOD OF MEASUREMENT

152-3.1 Measurement for payment specified by the cubic yard shall be computed by the comparison of digital terrain model (DTM) surfaces. The end area is that bound by the original ground line established by field cross-sections and the final theoretical pay line established by cross-sections shown on the plans, subject to verification by the RPR.

BASIS OF PAYMENT

152-4.1 Unclassified excavation - Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180	Standard Method of	Fest for Moisture-Density	Relations of Soils Using a
	4 F 4 1 (10 11) D	1 455 (10 '	` P

4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

ASTM International (ASTM)

ASTM D698 Standard Test Methods for Laboratory Compaction Characteristics of

Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³))

ASTM D1556 Standard Test Method for Density and Unit Weight of Soil in Place by

the Sand-Cone Method

ASTM D1557 Standard Test Methods for Laboratory Compaction Characteristics of

Soil Using Modified Effort (56,000 ft-lbf/ft³ (2700 kN-m/m³))

ASTM D6938 Standard Test Methods for In-Place Density and Water Content of Soil

and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Advisory Circulars (AC)

AC 150/5370-2 Operational Safety on Airports During Construction Software

Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

U.S. Department of Transportation

FAA RD-76-66 Design and Construction of Airport Pavements on Expansive Soils

END OF ITEM P-152

Item P-153 Controlled Low-Strength Material (CLSM)

Item P-154 Subbase Course

Not Used

Item P-154 Subbase Course 82

Item P-155 Lime-Treated Subgrade

Item P-156 Cement Treated Subgrade

Item P-157 [Cement][Lime] Kiln Dust Treated Subgrade

Item P-158 Fly Ash Treated Subgrade

Part 4 –Base Courses

Item P-207 In-place Full Depth Reclamation (FDR) Recycled Asphalt Aggregate Base Course

Item P-208 Aggregate Base Course

Item P-209 Crushed Aggregate Base Course

DESCRIPTION

209-1.1 This item consists of a base course composed of crushed aggregate base constructed on a prepared course in accordance with these specifications and in conformity to the dimensions and typical cross-sections shown on the plans.

MATERIALS

209-2.1 Crushed aggregate base. Crushed aggregate shall consist of clean, sound, durable particles of crushed stone, crushed gravel, and shall be free from coatings of clay, silt, organic material, clay lumps or balls or other deleterious materials or coatings. The method used to produce the crushed gravel shall result in the fractured particles in the finished product as consistent and uniform as practicable. Fine aggregate portion, defined as the portion passing the No. 4 (4.75 mm) sieve shall consist of fines from the coarse aggregate crushing operation. The fine aggregate shall be produced by crushing stone, gravel, meet the coarse aggregate requirements for wear and soundness. Aggregate base material requirements are listed in the following table.

Crushed Aggregate Base Material Requirements

Material Test	Requirement	Standard			
Coarse Aggregate					
Resistance to Degradation	Loss: 45% maximum	ASTM C131			
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88			
Percentage of Fractured Particles	Minimum 90% by weight of particles with at least two fractured faces and 98% with at least one fractured face ¹	ASTM D5821			
Flat Particles, Elongated Particles, or Flat and Elongated Particles	10% maximum, by weight, of flat, elongated, or flat and elongated particles ²	ASTM D4791			
Clay lumps and friable particles	Less than or equal to 3 percent	ASTM C142			
Fine Aggregate					
Liquid limit	Less than or equal to 25	ASTM D4318			
Plasticity Index	Not more than five (5)	ASTM D4318			

¹ The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

209-2.2 Gradation requirements. The gradation of the aggregate base material shall meet the requirements of the gradation given in the following table when tested per ASTM C117 and ASTM C136. The gradation shall be well graded from coarse to fine and shall not vary from the lower limit on one sieve to the high limit on an adjacent sieve or vice versa.

² A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

Gradanon or Aggregate Dast	Gradation	of A	ggregate	Base
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Sieve Size	Design Range Percentage by Weight passing	Contractor's Final Gradation	Job Control Grading Band Tolerances ¹ (Percent)
2 inch (50 mm)	100		0
1-1/2 inch (37.5 mm)	95-100		±5
1 inch (25.0 mm)	70-95		±8
3/4 inch (19.0 mm)	55-85		±8
No. 4 (4.75 mm)	30-60		±8
No. 40 ² (425 μm)	10-30		±5
No. 200 ² (75 μm)	0-10		±3

¹ The "Job Control Grading Band Tolerances for Contractor's Final Gradation" in the table shall be applied to "Contractor's Final Gradation" to establish a job control grading band. The full tolerance still applies if application of the tolerances results in a job control grading band outside the design range.

209-2.3 Sampling and Testing.

a. Aggregate base materials. The Contractor shall take samples of the aggregate base in accordance with ASTM D75 to verify initial aggregate base requirements and gradation. Material shall meet the requirements in paragraph 209-2.1. This sampling and testing will be the basis for approval of the aggregate base quality requirements.

b. Gradation requirements. The Contractor shall take at least two aggregate base samples per day in the presence of the Resident Project Representative (RPR) to check the final gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 209-2.2. The samples shall be taken from the in-place, un-compacted material at sampling points and intervals designated by the RPR.

209-2.4 Separation Geotextile. Not used

CONSTRUCTION METHODS

209-3.1 Control strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

 $^{^2}$ The fraction of material passing the No 200 (75 μ m) sieve shall not exceed two-thirds the fraction passing the No 40 (425 μ m) sieve.

Control strips that do not meet specification requirements shall be reworked, re-compacted or removed and replaced at the Contractor's expense. Full operations shall not continue until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved by the RPR.

- **209-3.2 Preparing underlying subgrade and/or subbase**. The underlying subgrade and/or subbase shall be checked and accepted by the RPR before base course placing and spreading operations begin. Reproof rolling of the subgrade or proof rolling of the subbase in accordance with Item P-152, at the Contractor's expense, may be required by the RPR if the Contractor fails to ensure proper drainage or protect the subgrade and/or subbase. Any ruts or soft, yielding areas due to improper drainage conditions, hauling, or any other cause, shall be corrected before the base course is placed. To ensure proper drainage, the spreading of the base shall begin along the centerline of the pavement on a crowned section or on the high side of the pavement with a one-way slope.
- **209-3.3 Production**. The aggregate shall be uniformly blended and, when at a satisfactory moisture content per paragraph 209-3.5, the approved material may be transported directly to the placement.
- **209-3.4 Placement**. The aggregate shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted.

The aggregate shall meet gradation and moisture requirements prior to compaction. The base course shall be constructed in lifts as established in the control strip, but not less than 4 inches (100 mm) nor more than 12 inches (300 mm) of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications at the Contractor's expense.

209-3.5 Compaction. Immediately after completion of the spreading operations, compact each layer of the base course, as specified, with approved compaction equipment. The number, type, and weight of rollers shall be sufficient to compact the material to the required density within the same day that the aggregate is placed on the subgrade.

The field density of each compacted lift of material shall be at least 100% of the maximum density of laboratory specimens prepared from samples of the base material delivered to the jobsite. The laboratory specimens shall be compacted and tested in accordance with ASTM D698. The moisture content of the material during placing operations shall be within ± 2 percentage points of the optimum moisture content as determined by ASTM D698. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

- **209-3.6 Weather limitations.** Material shall not be placed unless the ambient air temperature is at least 40°F (4°C) and rising. Work on base course shall not be conducted when the subgrade or subbase is wet or frozen or the base material contains frozen material.
- **209-3.7 Maintenance.** The base course shall be maintained in a condition that will meet all specification requirements. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meet all specification requirements. Equipment may be routed over completed sections of base course, provided that no damage results and the equipment is routed over the full width of the completed base course. Any damage

resulting to the base course from routing equipment over the base course shall be repaired by the Contractor at the Contractor's expense.

- **209-3.8 Surface tolerances.** After the course has been compacted, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and recompacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense. The smoothness and accuracy requirements specified here apply only to the top layer when base course is constructed in more than one layer.
- **a. Smoothness.** The finished surface shall not vary more than 3/8-inch (9 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.
- **b. Grade.** The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +0 and -1/2 inch (12 mm) of the specified grade.
- **209-3.9** Acceptance sampling and testing. Crushed aggregate base course shall be accepted for density and thickness on an area basis. Two tests shall be made for density and thickness for each 1200 square yds (1000 m2). Sampling locations will be determined on a random basis per ASTM D3665
- **a. Density.** The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance.

Each area shall be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens compacted and tested per ASTM 698. The in-place field density shall be determined per ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. If the specified density is not attained, the area represented by the failed test must be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. Depth tests shall be made by test holes at least 3 inches (75 mm) in diameter that extend through the base. The thickness of the base course shall be within +0 and -1/2 inch (12 mm) of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch (12 mm), the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches (75 mm), adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

209-4.1 The quantity of crushed aggregate base course will be determined by measurement of the number of square yard of material actually constructed and accepted by the RPR as complying with the plans and specifications. Base materials shall not be included in any other excavation quantities.

BASIS OF PAYMENT

209-5.1 Payment shall be made at the contract unit per square yard for crushed aggregate base course. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools, and incidentals necessary to complete the item.

209-5.2 Payment shall be Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

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ASTM C29	Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
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-µm (No. 200) Sieve in Mineral Aggregates by Washing
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 C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2700 kN-m/m³))
ASTM D2167	Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4643	Standard Test Method for Determination of Water Content of Soil and Rock by Microwave Oven Heating

ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM D7928	Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis
A A	III alaman and Thomas and the or Officials (A A CHTO)

American Association of State Highway and Transportation Officials (AASHTO)

M288 Standard Specification for Geosynthetic Specification for Highway

Applications

END OF ITEM P-209

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Item P-210 Caliche Base Course

Item P-211 Lime Rock Base Course

Item P-212 Shell Base Course

Item P-213 Sand-Clay Base Course

Item P-217 Aggregate-Turf Runway/Taxiway

Item P-219 Recycled Concrete Aggregate Base Course

Item P-220 Cement Treated Soil Base Course

Part 5 – Stabilized Base Courses

Item P-304 Cement-Treated Aggregate Base Course (CTB)

Item P-306 Lean Concrete Base Course

Item P-307 Cement Treated Permeable Base Course (CTPB)

Part 6 – Flexible Pavements

Item P-401 Asphalt Mix Pavement

DESCRIPTION

401-1.1 This item shall consist of pavement courses composed of mineral aggregate and asphalt binder mixed in a central mixing plant and placed on a prepared base or stabilized course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross-sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.

MATERIALS

- **401-2.1 Aggregate.** Aggregates shall consist of crushed stone, crushed gravel, crushed slag, screenings, natural sand, and mineral filler, as required. The aggregates should have no known history of detrimental pavement staining due to ferrous sulfides, such as pyrite. Coarse aggregate is the material retained on the No. 4 (4.75 mm) sieve. Fine aggregate is the material passing the No. 4 (4.75 mm) sieve.
- **a. Coarse aggregate.** Coarse aggregate shall consist of sound, tough, durable particles, free from films of matter that would prevent thorough coating and bonding with the asphalt material and free from organic matter and other deleterious substances. Coarse aggregate material requirements are given in the table below.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0 % maximum	ASTM C142
Percentage of Fractured Particles	For pavements designed for aircraft gross weights of 60,000 pounds (27200 kg) or more: Minimum 75% by weight of particles with at least two fractured faces and 85% with at least one fractured face ¹	ASTM D5821
	For pavements designed for aircraft gross weights less than 60,000 pounds (27200 kg): Minimum 50% by weight of particles with at least two fractured faces and 65% with at least one fractured face ¹	
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles at 5:1 ²	ASTM D4791
Bulk density of slag ³	Weigh not less than 70 pounds per cubic foot (1.12 Mg/cubic meter)	ASTM C29.

¹ The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

b. Fine aggregate. Fine aggregate shall consist of clean, sound, tough, durable, angular shaped particles produced by crushing stone, slag, or gravel and shall be free from coatings of clay, silt, or other objectionable matter. Natural (non-manufactured) sand may be used to obtain the gradation of the fine aggregate blend or to improve the workability of the mix. Fine aggregate material requirements are listed in the table below.

² A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

³ Only required if slag is specified.

Material Test	Requirement	Standard
Liquid limit	25 maximum	ASTM D4318
Plasticity Index	4 maximum	ASTM D4318
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0% maximum	ASTM C142
Sand equivalent	45 minimum	ASTM D2419
Natural Sand	0% to 15% maximum by weight of total aggregate	ASTM D1073

- **c. Sampling.** ASTM D75 shall be used in sampling coarse and fine aggregate.
- **401-2.2 Mineral filler.** Mineral filler (baghouse fines) may be added in addition to material naturally present in the aggregate. Mineral filler shall meet the requirements of ASTM D242.

Mineral Filler Requirements

Material Test	Requirement	Standard
Plasticity Index	4 maximum	ASTM D4318

- **401-2.3 Asphalt binder.** Asphalt binder shall conform to ASTM D6373 Performance Grade (PG) **76**.
- **401-2.4 Anti-stripping agent.** Any anti-stripping agent or additive (anti-strip) shall be heat stable and shall not change the asphalt binder grade beyond specifications. Anti-strip shall be an approved material of the Department of Transportation of the State in which the project is located.

COMPOSITION

- **401-3.1 Composition of mixture(s).** The asphalt mix shall be composed of a mixture of aggregates, filler and anti-strip agent if required, and asphalt binder. The aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).
- **401-3.2 Job mix formula (JMF) laboratory.** The laboratory used to develop the JMF shall possess a current certificate of accreditation, listing D3666 from a national accrediting authority and all test methods required for developing the JMF; and be listed on the accrediting authority's website. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Resident Project Representative (RPR) prior to start of construction.
- **401-3.3 Job mix formula (JMF).** No asphalt mixture shall be placed until an acceptable mix design has been submitted to the RPR for review and accepted in writing. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

When the project requires asphalt mixtures of differing aggregate gradations and/or binders, a separate JMF shall be submitted for each mix. Add anti-stripping agent to meet tensile strength requirements.

The JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 401-3.2. The asphalt mixture shall be designed using procedures contained in Asphalt Institute MS-2 Mix Design Manual, 7th Edition. Samples shall be prepared and compacted using the gyratory compactor in accordance with ASTM D6925.

Should a change in sources of materials be made, a new JMF must be submitted to the RPR for review and accepted in writing before the new material is used. After the initial production JMF has been approved by the RPR and a new or modified JMF is required for whatever reason, the subsequent cost of the new or modified JMF, including a new control strip when required by the RPR, will be borne by the Contractor.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

The JMF shall be submitted in writing by the Contractor at least 30 days prior to the start of paving operations. The JMF shall be developed within the same construction season using aggregates proposed for project use.

The JMF shall be dated, and stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items as a minimum:

- Manufacturer's Certificate of Analysis (COA) for the asphalt binder used in the JMF in accordance with paragraph 401-2.3. Certificate of asphalt performance grade is with modifier already added, if used and must indicate compliance with ASTM D6373. For plant modified asphalt binder, certified test report indicating grade certification of modified asphalt binder.
- Manufacturer's Certificate of Analysis (COA) for the anti-stripping agent if used in the JMF in accordance with paragraph 401-2.4.
- Certified material test reports for the course and fine aggregate and mineral filler in accordance with paragraphs 401-2.1.
- Percent passing each sieve size for individual gradation of each aggregate cold feed and/or hot bin; percent by weight of each cold feed and/or hot bin used; and the total combined gradation in the JMF.
- Specific Gravity and absorption of each coarse and fine aggregate.
- Percent natural sand.
- Percent fractured faces.
- Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).
- Percent of asphalt.
- Number of blows or gyrations
- Laboratory mixing and compaction temperatures.
- Supplier-recommended field mixing and compaction temperatures.
- Plot of the combined gradation on a 0.45 power gradation curve.
- Graphical plots of air voids, voids in the mineral aggregate (VMA), and unit weight versus asphalt content. To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.
- Tensile Strength Ratio (TSR).

- Type and amount of Anti-strip agent when used.
- Asphalt Pavement Analyzer (APA) results.

 $(APA)^2$

Date the JMF was developed. Mix designs that are not dated or which are from a prior construction season shall not be accepted.

Test Property	Value	Test Method
Number of blows or gyrations	75	
Air voids (%)	3.5	ASTM D3203
Percent voids in mineral aggregate (VMA), minimum	See Table 2	ASTM D6995
Tensile Strength Ratio (TSR) ¹	not less than 80 at a saturation of 70-80%	ASTM D4867
Asphalt Pavement Analyzer	L (h 10 @ 4000	AASHTO T340 at 250 psi hose

Table 1. Asphalt Design Criteria

Less than 10 mm @ 4000 passes

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 2 when tested in accordance with ASTM C136 and ASTM C117.

The gradations in Table 2 represent the limits that shall determine the suitability of aggregate for use from the sources of supply; be well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa.

Sieve Size	Percentage by Weight Passing Sieve
1 inch (25.0 mm)	
3/4 inch (19.0 mm)	100
1/2 inch (12.5 mm)	90-100
3/8 inch (9.5 mm)	72-88
No. 4 (4.75 mm)	53-73
No. 8 (2.36 mm)	38-60
No. 16 (1.18 mm)	26-48
No. 30 (600 µm)	18-38
No. 50 (300 μm)	11-27
No. 100 (150 μm)	6-18
No. 200 (75 μm)	3-6

Table 2. Aggregate - Asphalt Pavements

pressure at 64°C test temperature

Test specimens for TSR shall be compacted at 7 ± 1.0 % air voids. In areas subject to freeze-thaw, use freeze-thaw conditioning in lieu of moisture conditioning per ASTM D4867

AASHTO T340 at 100 psi hose pressure at 64°C test temperature may be used in the interim. If this method is used the required Value shall be less than 5 mm @ 8000 passes

Sieve Size	Percentage by Weight Passing Sieve	
Minimum Voids in Mineral Aggregate (VMA) ¹	15.0	
Asphalt Percent:		
Stone or gravel	5.0-7.5	
Recommended Minimum Construction Lift Thickness	2 inch	

¹To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated in the Asphalt Institute MS-2 Mix Design Manual, 7th Edition.

401-3.4 Reclaimed asphalt pavement (RAP). RAP shall not be used

401-3.5 Control Strip. A control strip is not required.

CONSTRUCTION METHODS

401-4.1 Weather limitations. The asphalt shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the RPR, if requested; however, all other requirements including compaction shall be met.

N. 4 (ID) • 1	Base Temperature (Minimum)	
Mat Thickness	°F	°C
3 inches (7.5 cm) or greater	40 1	4
Greater than 2 inches (50 mm) but less than 3 inches (7.5 cm)	45	7

Table 4. Surface Temperature Limitations of Underlying Course

- **401-4.2 Asphalt plant.** Plants used for the preparation of asphalt shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M156 including the following items.
- **a. Inspection of plant.** The RPR, or RPR's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.
- **b. Storage bins and surge bins.** The asphalt mixture stored in storage and/or surge bins shall meet the same requirements as asphalt mixture loaded directly into trucks. Asphalt mixture shall not be stored in storage and/or surge bins for a period greater than twelve (12) hours. If the RPR determines there is an excessive heat loss, segregation, or oxidation of the asphalt mixture due to temporary storage, temporary storage shall not be allowed.
- **401-4.3 Aggregate stockpile management.** Aggregate stockpiles shall be constructed in a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be

stockpiled, weighed and batched separately at the asphalt batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used.

A continuous supply of materials shall be provided to the work to ensure continuous placement.

- **401-4.4 Hauling equipment.** Trucks used for hauling asphalt shall have tight, clean, and smooth metal beds. To prevent the asphalt from sticking to the truck beds, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other material approved by the RPR. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.
- 401-4.4.1 Material transfer vehicle (MTV). Material transfer vehicles are not required
- **401-4.5 Asphalt pavers.** Asphalt pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of asphalt that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface. The asphalt paver shall be equipped with a control system capable of automatically maintaining the specified screed grade and elevation.

If the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued.

The paver shall be capable of paving to a minimum width specified in paragraph 401-4.12.

- **401-4.6 Rollers.** The number, type, and weight of rollers shall be sufficient to compact the asphalt to the required density while it is still in a workable condition without crushing of the aggregate, depressions or other damage to the pavement surface. Rollers shall be in good condition, clean, and capable of operating at slow speeds to avoid displacement of the asphalt. All rollers shall be specifically designed and suitable for compacting asphalt concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used.
- **401-4.7 Density device.** The Contractor shall have on site a density gauge during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall supply a qualified technician during all paving operations to calibrate the gauge and obtain accurate density readings for all new asphalt. These densities shall be supplied to the RPR upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.
- **401-4.8 Preparation of asphalt binder.** The asphalt binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the asphalt binder to the mixer at a uniform temperature. The temperature of unmodified asphalt binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325°F (160°C) when added to the aggregate. The temperature of modified asphalt binder shall be no more than 350°F (175°C) when added to the aggregate.
- **401-4.9 Preparation of mineral aggregate.** The aggregate for the asphalt shall be heated and dried. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350°F (175°C) when the asphalt binder is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.
- **401-4.10 Preparation of Asphalt mixture.** The aggregates and the asphalt binder shall be weighed or metered and mixed in the amount specified by the JMF. The combined materials shall be mixed until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed throughout the

mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95% of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all asphalt upon discharge shall not exceed 0.5%.

401-4.11 Application of Prime and Tack Coat. Immediately before placing the asphalt mixture, the underlying course shall be cleaned of all dust and debris.

A prime coat in accordance with Item P-602 shall be applied to aggregate base prior to placing the asphalt mixture.

A tack coat shall be applied in accordance with Item P-603 to all vertical and horizontal asphalt and concrete surfaces prior to placement of the first and each subsequent lift of asphalt mixture.

401-4.12 Laydown plan, transporting, placing, and finishing. Prior to the placement of the asphalt, the Contractor shall prepare a laydown plan with the sequence of paving lanes and width to minimize the number of cold joints; the location of any temporary ramps; laydown temperature; and estimated time of completion for each portion of the work (milling, paving, rolling, cooling, etc.). The laydown plan and any modifications shall be approved by the RPR.

Deliveries shall be scheduled so that placing and compacting of asphalt is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to approximately ambient temperature. The Contractor, at their expense, shall be responsible for repair of any damage to the pavement caused by hauling operations.

Contractor shall survey each lift of asphalt surface course and certify to RPR that every lot of each lift meets the grade tolerances of paragraph 401-6.2d before the next lift can be placed.

Edges of existing asphalt pavement abutting the new work shall be saw cut and the cut off material and laitance removed. Apply a tack coat in accordance with P-603 before new asphalt material is placed against it.

The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Placement of the asphalt mix shall begin along the centerline of a crowned section or on the high side of areas with a one way slope unless shown otherwise on the laydown plan as accepted by the RPR. The asphalt mix shall be placed in consecutive adjacent lanes having a minimum width of **20** feet except where edge lanes require less width to complete the area. Additional screed sections attached to widen the paver to meet the minimum lane width requirements must include additional auger sections to move the asphalt mixture uniformly along the screed extension.

The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least one foot (30 cm); however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet (3 m) from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet (3 m). On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the asphalt may be spread and luted by hand tools.

The RPR may at any time, reject any batch of asphalt, on the truck or placed in the mat, which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or overheated asphalt mixture. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the

presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

Areas of segregation in the surface course, as determined by the RPR, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of the construction lift thickness as specified in paragraph 401-3.3, Table 2 for the approved mix design. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet (3 m) long.

401-4.13 Compaction of asphalt mixture. After placing, the asphalt mixture shall be thoroughly and uniformly compacted by self-propelled rollers. The surface shall be compacted as soon as possible when the asphalt has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any surface defects and/or displacement occurring as a result of the roller, or from any other cause, shall be corrected at the Contractor's expense.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross-section, and the required field density is obtained. To prevent adhesion of the asphalt to the roller, the wheels shall be equipped with a scraper and kept moistened with water as necessary.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power tampers.

Any asphalt that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.

401-4.14 Joints. The formation of all joints shall be made to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.

The roller shall not pass over the unprotected end of the freshly laid asphalt except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be coated with an asphalt tack coat before placing any fresh asphalt against the joint.

Longitudinal joints which have been left exposed for more than four (4) hours; the surface temperature has cooled to less than 175°F (80°C); or are irregular, damaged, uncompacted or otherwise defective shall be cut back with a cutting wheel or pavement saw a maximum of 3 inches (75 mm) to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material and any laitance produced from cutting joints shall be removed from the project. Asphalt tack coat in accordance with P-603 shall be applied to the clean, dry joint prior to placing any additional fresh asphalt against the joint. The cost of this work shall be considered incidental to the cost of the asphalt.

401-4.15 Saw-cut grooving. Saw-cut grooving is not required.

401-4.16 Diamond grinding. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive.

Diamond grinding shall be performed with a machine designed specifically for diamond grinding capable of cutting a path at least 3 feet (0.9 m) wide. The saw blades shall be 1/8-inch (3-mm) wide with a

sufficient number of blades to create grooves between 0.090 and 0.130 inches (2 and 3.5 mm) wide; and peaks and ridges approximately 1/32 inch (1 mm) higher than the bottom of the grinding cut. The actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Equipment or grinding procedures that cause ravels, aggregate fractures, spalls or disturbance to the pavement will not be permitted. Contractor shall demonstrate to the RPR that the grinding equipment will produce satisfactory results prior to making corrections to surfaces. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.

401-4.17 Nighttime paving requirements. The Contractor shall provide adequate lighting during any nighttime construction. A lighting plan shall be submitted by the Contractor and approved by the RPR prior to the start of any nighttime work. All work shall be in accordance with the approved CSPP and lighting plan.

CONTRACTOR QUALITY CONTROL (CQC)

- **401-5.1 General.** The Contractor shall develop a Contractor Quality Control Program (CQCP) in accordance with Item C-100. No partial payment will be made for materials without an approved CQCP.
- **401-5.2 Contractor quality control (QC) facilities.** The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.
- **401-5.3 Contractor QC testing.** The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved CQCP. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A QC Testing Plan shall be developed as part of the CQCP.
- **a. Asphalt content.** A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.
- **b. Gradation.** Aggregate gradations shall be determined a minimum of twice per day from mechanical analysis of extracted aggregate in accordance with ASTM D5444, ASTM C136, and ASTM C117.
- **c. Moisture content of aggregate.** The moisture content of aggregate used for production shall be determined a minimum of once per day in accordance with ASTM C566.
- **d. Moisture content of asphalt.** The moisture content shall be determined once per day in accordance with AASHTO T329 or ASTM D1461.
- **e. Temperatures.** Temperatures shall be checked, at least four times per day, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt at the job site.

f. In-place density monitoring. The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D2950.

g. Smoothness for Contractor Quality Control. The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues

The Contractor may use a 12-foot (3.7 m) straightedge or a rolling inclinometer meeting the requirements of ASTM E2133. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer is used, the data may be evaluated using the FAA profile program, ProFAA, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

- (1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements shall be taken perpendicular to the pavement centerline each 50 feet (15 m) or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.
- (2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests shall be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet (6 m); and at the third points of paving lanes when widths of paving lanes are 20 ft (6 m) or greater.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch (6 mm) shall be corrected with diamond grinding per paragraph 401-4.16 or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 401-6.1d(3). Areas that have been ground shall be sealed with a surface treatment in accordance with Item P-608. To avoid the surface treatment creating any conflict with runway or taxiway markings, it may be necessary to seal a larger area.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade shall be evaluated daily to allow adjustments to paving operations when grade measurements do not meet specifications. As a minimum, grade shall be evaluated prior to and after the placement of the first lift and after placement of the surface lift.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement

will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch (12 mm) vertically. The documentation will be provided by the Contractor to the RPR within 24 hours.

Areas with humps or depressions that exceed grade or smoothness criteria and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch (12 mm) less than the thickness specified on the plans. Grinding shall be in accordance with paragraph 401-4.16.

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus ½ inch and replacing with new material. Skin patching is not allowed.

- **401-5.4 Sampling.** When directed by the RPR, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.
- **401-5.5 Control charts.** The Contractor shall maintain linear control charts for both individual measurements and range (i.e. difference between highest and lowest measurements) for aggregate gradation, asphalt content, and VMA. The VMA for each day will be calculated and monitored by the QC laboratory.

Control charts shall be posted in a location satisfactory to the RPR and kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the RPR may suspend production or acceptance of the material.

a. Individual measurements. Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation, asphalt content, and VMA. The control charts shall use the job mix formula target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

Sieve	Action Limit	Suspension Limit
3/4 inch (19.0 mm)	±6%	±9%
1/2 inch (12.5 mm)	±6%	±9%
3/8 inch (9.5 mm)	±6%	±9%
No. 4 (4.75 mm)	±6%	±9%
No. 16 (1.18 mm)	±5%	±7.5%
No. 50 (300 μm)	±3%	±4.5%
No. 200 (75 μm)	±2%	±3%
Asphalt Content	±0.45%	±0.70%
Minimum VMA	-0.5%	-1.0%

Control Chart Limits for Individual Measurements

b. Range. Control charts shall be established to control gradation process variability. The range shall be plotted as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n=2. Should the Contractor elect to perform more

than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

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Sieve	Suspension Limit
1/2 inch (12.5 mm)	11%
3/8 inch (9.5 mm)	11%
No. 4 (4.75 mm)	11%
No. 16 (1.18 mm)	9%
No. 50 (300 µm)	6%
No. 200 (75 μm)	3.5%
Asphalt Content	0.8%

Control Chart Limits Based on Range

- **c.** Corrective Action. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:
 - (1) One point falls outside the Suspension Limit line for individual measurements or range; or
 - (2) Two points in a row fall outside the Action Limit line for individual measurements.
- **401-5.6 QC reports.** The Contractor shall maintain records and shall submit reports of QC activities daily, in accordance with Item C-100.

MATERIAL ACCEPTANCE

- **401-6.1 Acceptance sampling and testing.** Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the RPR at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.
- **a. Quality assurance (QA) testing laboratory**. The QA testing laboratory performing these acceptance tests will be accredited in accordance with ASTM D3666. The QA laboratory accreditation will be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing will be listed on the lab accreditation.
 - **b.** Lot size. Each days production shall equal one sublot.
 - c. Asphalt air voids. Plant-produced asphalt will be tested for air voids on a sublot basis.
- (1) **Sampling.** Material from each sublot shall be sampled in accordance with ASTM D3665. Samples shall be taken from material deposited into trucks at the plant or at the job site in accordance with ASTM D979. The sample of asphalt may be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to maintain the material at or above the compaction temperature as specified in the JMF.
- (2) **Testing.** Air voids will be determined for each days production in accordance with ASTM D3203 for a set of compacted specimens prepared in accordance with ASTM D6925.

d. In-place asphalt mat and joint density. Each sublot will be tested for in-place mat and joint density as a percentage of the theoretical maximum density (TMD).

- (1) Sampling. The Contractor will cut minimum 5 inch (125 mm) diameter samples in accordance with ASTM D5361. The Contractor shall furnish all tools, labor, and materials for cleaning, and filling the cored pavement. Laitance produced by the coring operation shall be removed immediately after coring, and core holes shall be filled within one day after sampling in a manner acceptable to the RPR.
- (2) **Bond.** Each lift of asphalt shall be bonded to the underlying layer. If cores reveal that the surface is not bonded, additional cores shall be taken as directed by the RPR to determine the extent of unbonded areas. Unbonded areas shall be removed by milling and replaced at no additional cost as directed by the RPR.
- (3) **Thickness.** Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade. Measurements of thickness will be made using the cores extracted for each sublot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch (6 mm) less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or sublot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the RPR to circumscribe the deficient area.
- (4) Mat density. One core shall be taken from each sublot. Core locations will be determined by the RPR in accordance with ASTM D3665. Cores for mat density shall not be taken closer than one foot (30 cm) from a transverse or longitudinal joint. The bulk specific gravity of each cored sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each sublot sample by the TMD for that sublot.
- (5) **Joint density**. One core centered over the longitudinal joint shall be taken for each sublot that has a longitudinal joint. Core locations will be determined by the RPR in accordance with ASTM D3665. The bulk specific gravity of each core sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each joint density sample by the average TMD for the lot. The TMD used to determine the joint density at joints formed between lots will be the lower of the average TMD values from the adjacent lots.

401-6.2 Acceptance criteria.

- **a. General.** Acceptance will be based on the implementation of the Contractor Quality Control Program (CQCP) and the following characteristics of the asphalt and completed pavements: air voids, mat density, joint density, grade.
- **b.** Air Voids and Mat density. Acceptance of each lot of plant produced material for mat density and air voids will be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90%, the lot will be acceptable. Acceptance and payment will be determined in accordance with paragraph 401-8.1.
- **c. Joint density.** Acceptance of each lot of plant produced asphalt for joint density will be based on the PWL. If the PWL of the lot is equal to or exceeds 90%, the lot will be considered acceptable. If the PWL is less than 90%, the Contractor shall evaluate the reason and act accordingly. If the PWL is less than 80%, the Contractor shall cease operations and until the reason for poor compaction has been determined. If the PWL is less than 71%, the pay factor for the lot used to complete the joint will be reduced by five (5) percentage points. This lot pay factor reduction will be incorporated and evaluated in accordance with paragraph 401-8.1.

d. Grade. The final finished surface of the pavement shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch (12 mm) vertically.

Cross-sections of the pavement shall be taken at a minimum 50-foot (15-m) longitudinal spacing and at all longitudinal grade breaks. Minimum cross-section grade points shall include grade at centerline, \pm 10 feet of centerline, and edge of taxilane pavement.

The survey and documentation shall be stamped and signed by a licensed surveyor. Payment for sublots that do not meet grade for over 25% of the sublot shall not be more than 95%.

e. Profilograph roughness for QA Acceptance. Not used

401-6.3 Percentage of material within specification limits (PWL). The PWL will be determined in accordance with procedures specified in Item C-110. The specification tolerance limits (L) for lower and (U) for upper are contained in Table 5.

Test Property	Pavements Specification Tolerance Limits	
	L	U
Air Voids Total Mix (%)	2.0	5.0
Surface Course Mat Density (%)	92.8	-
Base Course Mat Density (%)	92.0	-
Joint density (%)	90.5	

Table 5. Acceptance Limits for Air Voids and Density

a. Outliers. All individual tests for mat density and air voids will be checked for outliers (test criterion) in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded, and the PWL will be determined using the remaining test values. The criteria in Table 5 is based on production processes which have a variability with the following standard deviations: Surface Course Mat Density (%), 1.30; Base Course Mat Density (%), 1.55; Joint Density (%), 1.55.

The Contractor should note that (1) 90 PWL is achieved when consistently producing a surface course with an average mat density of at least 94.5% with 1.30% or less variability, (2) 90 PWL is achieved when consistently producing a base course with an average mat density of at least 94.0% with 1.55% or less variability, and (3) 90 PWL is achieved when consistently producing joints with an average joint density of at least 92.5% with 1.55% or less variability.

401-6.4 Resampling pavement for mat density.

- **a. General.** Resampling of a lot of pavement will only be allowed for mat density, and then, only if the Contractor requests same, in writing, within 48 hours after receiving the written test results from the RPR. A retest will consist of all the sampling and testing procedures contained in paragraphs 401-6.1d and 401-6.2b. Only one resampling per lot will be permitted.
- (1) A redefined PWL will be calculated for the resampled lot. The number of tests used to calculate the redefined PWL will include the initial tests made for that lot plus the retests.
 - (2) The cost for resampling and retesting shall be borne by the Contractor.
- **b. Payment for resampled lots.** The redefined PWL for a resampled lot will be used to calculate the payment for that lot in accordance with Table 6.
 - c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%.

METHOD OF MEASUREMENT

401-7.1 Measurement. Asphalt shall be measured by the number of tons of asphalt used in the accepted work. Batch weights or truck scale weights will be used to determine the basis for the tonnage.

BASIS OF PAYMENT

- **401-8.1 Payment.** Payment for a lot of asphalt meeting all acceptance criteria as specified in paragraph 401-6.2 shall be made based on results of tests for mat density and air voids. Payment for acceptable lots shall be adjusted according to paragraph 401-8.1c for mat density and air voids; and paragraph 401-6.2c for joint density, subject to the limitation that:
- **a.** The total project payment for plant mix asphalt pavement shall not exceed [___] percent of the product of the contract unit price and the total number of tons (kg) of asphalt used in the accepted work.
- **b.** The price shall be compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.
- **c. Basis of adjusted payment.** The pay factor for each individual lot shall be calculated in accordance with Table 6. A pay factor shall be calculated for both mat density and air voids. The lot pay factor shall be the higher of the two values when calculations for both mat density and air voids are 100% or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either mat density or air voids is 100% or higher. The lot pay factor shall be the lower of the two values when calculations for both mat density and air voids are less than 100%. If PWL for joint density is less than 71% then the lot pay factor shall be reduced by 5% but be no higher than 95%.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 401-8.1a. Payment in excess of 100% for accepted lots of asphalt shall be used to offset payment for accepted lots of asphalt payment that achieve a lot pay factor less than 100%.

Payment for sublots which do not meet grade in accordance with paragraph 401-6.2d after correction for over 25% of the sublot shall be reduced by 5%.

Percentage of material within specification limits (PWL)	Lot pay factor (percent of contract unit price)
96 – 100	106
90 – 95	PWL + 10
75 – 89	0.5 PWL + 55
55 – 74	1.4 PWL – 12
Below 55	Reject ²

Table 6. Price adjustment schedule¹

d. Payment shall be lump sum.

Although it is theoretically possible to achieve a pay factor of 106% for each lot, actual payment above 100% shall be subject to the total project payment limitation specified in paragraph 401-8.1a.

² The lot shall be removed and replaced. However, the RPR may decide to allow the rejected lot to remain. In that case, if the RPR and Contractor agree in writing that the lot shall not be removed, it shall be paid for at 50% of the contract unit price and the total project payment shall be reduced by the amount withheld for the rejected lot.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
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 C127	Standard Test Method for Density, Relative Density (Specific Gravity) and Absorption of Coarse 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 C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D946	Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D979	Standard Practice for Sampling Asphalt Paving Mixtures
ASTM D1073	Standard Specification for Fine Aggregate for Asphalt Paving Mixtures
ASTM D1188	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Asphalt Paving Mixtures
ASTM D1461	Standard Test Method for Moisture or Volatile Distillates in Asphalt Paving Mixtures
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures

ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D2950	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3381	Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4552	Standard Practice for Classifying Hot-Mix Recycling Agents
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4867	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5361	Standard Practice for Sampling Compacted Asphalt Mixtures for Laboratory Testing
ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6084	Standard Test Method for Elastic Recovery of Bituminous Materials by Ductilometer
ASTM D6307	Standard Test Method for Asphalt Content of Hot Mix Asphalt by Ignition Method
ASTM D6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D6752	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D6925	Standard Test Method for Preparation and Determination of the Relative Density of Hot Mix Asphalt (HMA) Specimens by Means of the SuperPave Gyratory Compactor.
ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
ASTM D6995	Standard Test Method for Determining Field VMA based on the Maximum Specific Gravity of the Mix (Gmm)

ASTM E11 Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves ASTM E178 Standard Practice for Dealing with Outlying Observations **ASTM E1274** Standard Test Method for Measuring Pavement Roughness Using a Profilograph ASTM E950 Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference **ASTM E2133** Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M156 Standard Specification for Requirements for Mixing Plants for Hot-

Mixed, Hot-Laid Bituminous Paving Mixtures.

AASHTO T329 Standard Method of Test for Moisture Content of Hot Mix Asphalt

(HMA) by Oven Method

AASHTO T324 Standard Method of Test for Hamburg Wheel-Track Testing of

Compacted Asphalt Mixtures

AASHTO T 340 Standard Method of Test for Determining the Rutting Susceptibility of

Hot Mix Asphalt (APA) Using the Asphalt Pavement Analyzer (APA)

Asphalt Institute (AI)

Asphalt Institute Handbook MS-26, Asphalt Binder

Asphalt Institute MS-2 Mix Design Manual, 7th Edition

AI State Binder Specification Database

Federal Highway Administration (FHWA)

Long Term Pavement Performance Binder Program

Advisory Circulars (AC)

AC 150/5320-6 Airport Pavement Design and Evaluation

FAA Orders

5300.1 Modifications to Agency Airport Design, Construction, and Equipment

Standards

Software

FAARFIELD

END OF ITEM P-401

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Item P-403 Asphalt Mix Pavement[Base][Leveling][Surface] Course

Item P-404 Fuel-Resistant Asphalt Mix Pavement

Part 7 – Rigid Pavement

Item P-501 Cement Concrete Pavement

Part 8– Surface Treatments

Item P-608 Emulsified Asphalt Seal Coat

Item P-608-R Rapid Cure Seal Coat

Not Used

Item P-609 Chip Seal Coat

Item P-623 Emulsified Asphalt Spray Seal Coat

Item P-626 Emulsified Asphalt Slurry Seal Surface Treatment

Item P-629 Thermoplastic Coal Tar Emulsion Surface Treatments

Item P-630 Refined Coal Tar Emulsion Without Additives, Slurry Seal Surface Treatment

Item P-631 Refined Coal Tar Emulsion with Additives, Slurry Seal Surface Treatment

Item P-632 Asphalt Pavement Rejuvenation

Part 9- Miscellaneous

Item P-602 Emulsified Asphalt Prime Coat

DESCRIPTION

602-1.1 This item shall consist of an application of emulsified asphalt material on the prepared base course in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

602-2.1 Emulsified Asphalt material. The emulsified asphalt material shall be as specified in ASTM D3628 for use as a prime coat appropriate to local conditions. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the emulsified asphalt material. The COA shall be provided to and approved by the Resident Project Representative (RPR) before the emulsified asphalt material is applied. The furnishing of the COA for the emulsified asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

602-3.1 Weather limitations. The emulsified asphalt prime coat shall be applied only when the existing surface is dry; the atmospheric temperature is 50°F (10°C) or above, and 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 RPR.

602-3.2 Equipment. The equipment shall include a self-powered pressure asphalt material distributor and equipment for heating asphalt 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 asphalt material in a uniform coverage at the specified temperature, at readily determined and controlled rates from 0.05 to 1.0 gallons per square yard (0.23 to 4.5 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 $\pm 5\%$, 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 asphalt material manually to areas inaccessible to the distributor. Equip the distributor to circulate and agitate the asphalt material during the heating process. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

A power broom and power blower suitable for cleaning the surfaces to which the asphalt coat is to be applied shall be provided.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

602-3.3 Application of emulsified asphalt material. Immediately before applying the prime coat, the full width of the surface to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.

The asphalt emulsion material shall be uniformly applied with an asphalt distributor at the rate of 0.15 to 0.30 gallons per square yard (0.68 to 1.36 liters per square meter) depending on the base course surface texture. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Following application of the emulsified asphalt material and prior to application of the succeeding layer of pavement, allow the asphalt coat to cure and to obtain evaporation of any volatiles or moisture. Maintain the coated surface until the succeeding layer of pavement is placed, by protecting the surface against damage and by repairing and recoating deficient areas. Allow the prime coat to cure without being disturbed for a period of at least 48 hours or longer, as may be necessary to attain penetration into the treated course. Furnish and spread sand to effectively blot up and cure excess asphalt material. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the Owner. Keep traffic off surfaces freshly treated with asphalt material. Provide sufficient warning signs and barricades so that traffic will not travel over freshly treated surfaces.

602-3.4 Trial application rates. The Contractor shall apply a minimum of three lengths of at least 100 feet (30 m) for the full width of the distributor bar to evaluate the amount of emulsified asphalt material that can be satisfactorily applied with the equipment. Apply three different application rates of emulsified asphalt materials within the application range specified in paragraph 602-3.3. Other trial applications can be made using various amounts of material as directed by the RPR. The trial application is to demonstrate the equipment can uniformly apply the emulsified asphalt material within the rates specified and determine the application rate for the project.

602-3.5 Freight and waybills. The Contractor shall submit waybills and delivery tickets during the progress of the work. Before the final estimate is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt 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.

METHOD OF MEASUREMENT

602-4.1 The emulsified asphalt material for prime coat shall be measured by the gallon. Volume shall be corrected to the volume at 60°F (16°C) in accordance with ASTM D4311. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

602-5.1 Payment shall be Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D2995 Standard Practice for Estimating Application Rate and Residual

Application Rate of Bituminous Distributors

ASTM D3628 Standard Practice for Selection and Use of Emulsified Asphalts

END OF ITEM P-602

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Item P-603 Emulsified Asphalt Tack Coat

DESCRIPTION

603-1.1 This item shall consist of preparing and treating an asphalt or concrete surface with asphalt material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

603-2.1 Asphalt materials. The asphalt material shall be an emulsified asphalt as specified in ASTM D3628 as an asphalt application for tack coat appropriate to local conditions. The emulsified asphalt shall not be diluted. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the asphalt material to the Resident Project Representative (RPR) before the asphalt material is applied for review and acceptance. The furnishing of COA for the asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

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 RPR.
- **603-3.2 Equipment.** The Contractor shall provide equipment for heating and applying the emulsified asphalt material. The emulsion shall be applied with a manufacturer-approved computer rate-controlled asphalt distributor. The equipment shall be in good working order and contain no contaminants or diluents in the tank. Spray bar tips must be clean, free of burrs, and of a size to maintain an even distribution of the emulsion. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process with application speeds under eight (8) miles per hour (13 km per hour) or seven (700) feet per minute (213 m per minute).

The equipment will be tested under pressure for leaks and to ensure proper set-up before use to verify truck set-up (via a test-shot area), including but not limited to, nozzle tip size appropriate for application, spray-bar height and pressure and pump speed, evidence of triple-overlap spray pattern, lack of leaks, and any other factors relevant to ensure the truck is in good working order before use.

The distributor truck shall be equipped with a minimum 12-foot (3.7-m) spreader spray bar with individual nozzle control with computer-controlled application rates. The distributor truck shall have an easily accessible thermometer that constantly monitors the temperature of the emulsion, and have an operable mechanical tank gauge that can be used to cross-check the computer accuracy. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

The distributor truck shall be equipped to effectively heat and mix the material to the required temperature prior to application as required. Heating and mixing shall be done in accordance with the manufacturer's recommendations. Do not overheat or over mix the material.

The distributor shall be equipped with a hand sprayer.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

A power broom and/or power blower suitable for cleaning the surfaces to which the asphalt tack coat is to be applied shall be provided.

603-3.3 Application of emulsified asphalt material. The emulsified asphalt shall not be diluted. Immediately before applying the emulsified asphalt 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.

The emulsified asphalt material shall be uniformly applied with an asphalt distributor at the rates appropriate for the conditions and surface specified in the table below. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Surface Type Residual Rate, gal/SY **Emulsion Application Bar Rate, gal/SY** (L/square meter) (L/square meter) 0.02-0.05 (0.09-0.23) 0.03-0.07 (0.13-0.32) New asphalt **Existing asphalt** 0.04-0.07 (0.18-0.32) 0.06-0.11 (0.27-0.50) Milled Surface 0.04-0.08 (0.18-0.36) .0.06-0.12 (0.27-0.54) **Concrete** 0.03-0.05 (0.13-0.23) 0.05-0.08 (0.23-0.36)

Emulsified Asphalt

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 RPR. The Contractor shall protect the tack coat and maintain the surface until the next course has been placed. When the tack coat has been disturbed by the Contractor, tack coat shall be reapplied at the Contractor's expense.

603-3.4 Freight and waybills The Contractor shall submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt 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.

METHOD OF MEASUREMENT

603-4.1 The emulsified asphalt material for tack coat shall be measured by the ton. Volume shall be corrected to the volume at 60°F (16°C) in accordance with ASTM D1250. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

603.5-1 Payment shall be Lump Sum.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D1250	Standard Guide for Use of the Petroleum Measurement Tables
ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END ITEM P-603

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Item P-604 Compression Joint Seals for Concrete Pavements

Item P-605 Joint Sealants for Pavements

DESCRIPTION

605-1.1 This item shall consist of providing and installing a resilient and adhesive joint sealing material capable of effectively sealing joints in pavement; joints between different types of pavements; and cracks in existing pavement.

MATERIALS

605-2.1 Joint sealants. Joint sealant materials shall meet the requirements of Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

Each lot or batch of sealant shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer's certification stating that the sealant meets the requirements of this specification.

605-2.2 Backer rod. Not Used

605-2.3 Bond breaking tapes. Not Used

CONSTRUCTION METHODS

- **605-3.1 Time of application.** Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be $50^{\circ}F$ ($10^{\circ}C$) and rising at the time of application of the poured joint sealing material. Do not apply sealant if moisture is observed in the joint.
- **605-3.2 Equipment.** Machines, tools, and equipment used in the performance of the work required by this section shall be approved before the work is started and maintained in satisfactory condition at all times. Submit a list of proposed equipment to be used in performance of construction work including descriptive data, **7** days prior to use on the project.
- **a. Tractor-mounted routing tool.** Provide a routing tool, used for removing old sealant from the joints, of such shape and dimensions and so mounted on the tractor that it will not damage the sides of the joints. The tool shall be designed so that it can be adjusted to remove the old material to varying depths as required. The use of V-shaped tools or rotary impact routing devices will not be permitted. Hand-operated spindle routing devices may be used to clean and enlarge random cracks.
 - **b. Sandblasting equipment.** Sandblasting is not allowed.
- **c. Waterblasting equipment.** The Contractor must demonstrate waterblasting equipment including the pumps, hose, guide and nozzle size, under job conditions, before approval in accordance with paragraph 605-3.3. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.
- **d. Hand tools.** Hand tools may be used, when approved, for removing defective sealant from a crack and repairing or cleaning the crack faces. Hand tools should be carefully evaluated for potential spalling effects prior to approval for use.

e. Hot-poured sealing equipment. The unit applicators used for heating and installing ASTM D6690 joint sealant materials shall be mobile and shall be equipped with a double-boiler, agitator-type kettle with an oil medium in the outer space for heat transfer; a direct-connected pressure-type extruding device with a nozzle shaped for inserting in the joint to be filled; positive temperature devices for controlling the temperature of the transfer oil and sealant; and a recording type thermometer for indicating the temperature of the sealant. The applicator unit shall be designed so that the sealant will circulate through the delivery hose and return to the inner kettle when not in use.

- **605-3.3 Preparation of joints.** Pavement joints for application of material in this specification must be dry, clean of all scale, dirt, dust, curing compound, and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.
- **a. Sawing**. All joints shall be sawed in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.
- **b. Sealing.** Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, filler, protrusions of hardened concrete, old sealant and other foreign material from the sides and upper edges of the joint space to be sealed. Cleaning shall be accomplished by tractor-mounted routing equipment, concrete saw, or water blaster as specified in paragraph 605-3.2. The newly exposed concrete joint faces and the pavement surface extending a minimum of 1/2 inch (12 mm) from the joint edge shall be cleaned. After final cleaning and immediately prior to sealing, blow out the joints with compressed air and leave them completely free of debris and water. The joint faces shall be surface dry when the seal is applied.
 - c. Backer Rod. Not Used
 - d. Bond-breaking tape. Not Used
- **605-3.4 Installation of sealants.** Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the RPR before sealing is allowed. Sealants shall be installed in accordance with the following requirements:

Immediately preceding, but not more than 50 feet (15 m) ahead of the joint sealing operations, perform a final cleaning with compressed air. Fill the joints from the bottom up to 1/8 inch (3 mm) below the top of pavement surface; or bottom of groove for grooved pavement. Remove and discard excess or spilled sealant from the pavement by approved methods. Install the sealant in such a manner as to prevent the formation of voids and entrapped air. In no case shall gravity methods or pouring pots be used to install the sealant material. Traffic shall not be permitted over newly sealed pavement until authorized by the RPR. When a primer is recommended by the manufacturer, apply it evenly to the joint faces in accordance with the manufacturer's instructions. Check the joints frequently to ensure that the newly installed sealant is cured to a tack-free condition within the time specified.

- **605-3.5 Inspection.** The Contractor shall inspect the joint sealant for proper rate of cure and set, bonding to the joint walls, cohesive separation within the sealant, reversion to liquid, entrapped air and voids. Sealants exhibiting any of these deficiencies at any time prior to the final acceptance of the project shall be removed from the joint, wasted, and replaced as specified at no additional cost to the airport.
- **605-3.6 Clean-up.** Upon completion of the project, remove all unused materials from the site and leave the pavement in a clean condition.

METHOD OF MEASUREMENT

605-4.1 Lump sum. No separate measurement for payment will be made. The work covered by this section shall be considered as a subsidiary obligation of the Contractor and covered under the other contract items

BASIS OF PAYMENT

605-5. The work covered by this section shall be considered as a subsidiary obligation of the Contractor covered under the other contract items. No separate payment will be made. This 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.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D789 Standard Test Method for Determination of Relative Viscosity of

Polyamide (PA)

ASTM D6690 Standard Specification for Joint and Crack Sealants, Hot Applied, for

Concrete and Asphalt

Advisory Circulars (AC)

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

END ITEM P-605

Item P-606 Adhesive Compounds, Two-Component for Sealing Wire and Lights in Pavement

Item P-610 Concrete for Miscellaneous Structures

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 Resident Project Representative (RPR). 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. This certification along with a copy of the paint manufacturer's surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 Marking materials.

Paint1 Glass Beads² Fed Std. 595 **Type** Color **Application Rate Type Application Rate** Number **Maximum Minimum** II White 37925 Ш 115 ft2/gal 10 lb/gal II Yellow 33538 or 33655 115 ft2/gal Ш 10 lb/gal

Table 1. Marking Materials

a. Paint. Paint shall be waterborne in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595.

Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952F, 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.

b. Reflective media. Glass beads for white and yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type III .

Glass beads for red and pink paint shall meet the requirements for (NOT USED)

¹See paragraph 620-2.2a

² See paragraph 620-2.2b

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.

Glass beads shall not be used in black and green paint.

Type III glass beads shall not be used in red and pink paint.

CONSTRUCTION METHODS

- **620-3.1 Weather limitations.** Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.
- **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 with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

- **620-3.3 Preparation of surfaces.** Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminates that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. 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.
- **a. Preparation of new pavement surfaces.** The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.
- **b. Preparation of pavement to remove existing markings.** Existing pavement markings shall be removed by rotary grinding, water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings. After removal of markings on asphalt pavements, apply a fog seal or seal coat to 'block out' the removal area to eliminate 'ghost' markings.
- **c. Preparation of pavement markings prior to remarking.** Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufactures application and surface preparation requirements must be submitted to the RPR 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. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 Application. A period of **30** days shall elapse between placement of surface course or seal coat and application of the permanent paint markings. 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 RPR.

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 spacing 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)

Marking Dimensions and Spacing Tolerance

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.

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 and distribution should be performed.

620-3.6 Application--preformed thermoplastic airport pavement markings.

Preformed thermoplastic pavement markings not used.

620-3.7 Control strip. Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

620-3.8 Retro-reflectance. Reflectance shall be measured with a portable retro-reflectometer meeting ASTM E1710 (or equivalent). A total of 6 reading shall be taken over a 6 square foot area with 3 readings taken from each direction. The average shall be equal to or above the minimum levels of all readings which are within 30% of each other.

Minimum	Retro	-Reflectance	Values
VIIIIIIIIII	Nell O	- Nemectance	vailles

Material	Retro-reflectance mcd/m²/lux		
	White	Yellow	Red
Initial Type I	300	175	35
Initial Type III	600	300	35
Initial Thermoplastic	225	100	35
All materials, remark when less than ¹	100	75	10

¹ 'Prior to remarking determine if removal of contaminants on markings will restore retro-reflectance

620-3.9 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 reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1b The quantity of markings shall be paid for by lump sum.

BASIS OF PAYMENT

620-5.1 This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

620-5.2b Payment for markings shall be made at the contract price for by lump sum.

Payment will be made under:

Item P-620-5.2b Marking lump sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D4/6	Standard Classification for Dry Pigmentary Titanium Dioxide Products
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 E303	Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
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

Code of Federal Regulations (CFR)

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

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D Beads (Glass Spheres) Retro-Reflective

FED SPEC TT-P-1952F Paint, Traffic and Airfield Marking, Waterborne

FED STD 595 Colors used in Government Procurement

Commercial Item Description

A-A-2886B Paint, Traffic, Solvent Based

Advisory Circulars (AC)

AC 150/5340-1 Standards for Airport Markings

AC 150/5320-12 Measurement, Construction, and Maintenance of Skid Resistant Airport

Pavement Surfaces

END OF ITEM P-620

Item P-621 Saw-Cut Grooves

Part 10 – Fencing

Item F-160 Wire Fence with Wood Posts (Class A and B Fences)

Item F-161 Wire Fence with Steel Posts (Class C and D Fence)

Item F-162 Chain-Link Fence

Item F-163 Wildlife Deterrent Fence Skirt

Item F-164 Wildlife Exclusion Fence

Part 11 – Drainage

Item D-701 Pipe for Storm Drains and Culverts

Item D-702 Slotted Drains

Not Used

Item D-702 Slotted Drains 164

Item D-705 Pipe Underdrains for Airports

Item D-751 Manholes, Catch Basins, Inlets and Inspection Holes

Item D-752 Concrete Culverts, Headwalls, and Miscellaneous Drainage Structures

Item D-754 Concrete Gutters, Ditches, and Flumes

Part 12 - Turfing

Item T-901 Seeding

DESCRIPTION

901-1.1 This item shall consist of soil preparation, seeding, fertilizing the areas shown on the plans or as directed by the RPR in accordance with these specifications.

MATERIALS

901-2.1 Seed. The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein. Seed shall conform to the requirements of Federal Specification JJJ-S-181, Federal Specification, Seeds, Agricultural.

Seed shall be furnished separately or in mixtures in standard containers labeled in conformance with the Agricultural Marketing Service (AMS) Seed Act and applicable state seed laws with the seed name, lot number, net weight, percentages of purity and of germination and hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the RPR duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within six (6) months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed. Wet, moldy, or otherwise damaged seed will be rejected.

Seeds shall be applied as follows:

Seed Properties and Rate of Application

Seed	Minimum Seed Purity (Percent)	Minimum Germination (Percent)	Rate of Application lb/1,000 S.F.)
Bahia	95	85	30
Bermuda	95	85	15
Centipede	95	85	13

Seeding shall be performed during the period between April and September inclusive, unless otherwise approved by the RPR.

901-2.2 Lime. Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 20 (850 μ m) mesh sieve and 50% will pass through a No. 100 (150 μ m) mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate of 5 gal/acre. All liming materials shall conform to the requirements of ASTM C602.

901-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They

shall be applied at the rate and to the depth specified, and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

- a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
- b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or
- c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be 10-20-10 commercial fertilizer and shall be spread at the rate of 20 lbs. / 1000 square feet.

901-2.4 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

901-3.1 Advance preparation and cleanup. After grading of areas has been completed and before applying fertilizer and ground limestone, 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 that 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 and ground limestone, the Contractor shall repair such damage include filling gullies, smoothing irregularities, and repairing other incidental damage.

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 inches (125 mm) as a result of grading operations and, if immediately prior to seeding, the top 3 inches (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.

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 Dry application method.

- **a. Liming.** Lime shall be applied separately and prior to the application of any fertilizer or seed and only on seedbeds that have previously been prepared as described above. The lime shall then be worked into the top 3 inches (75 mm) of soil after which the seedbed shall again be properly graded and dressed to a smooth finish.
- **b. Fertilizing.** Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate that will provide not less than the minimum quantity stated in paragraph 901-2.3.
- **c. Seeding.** Grass seed shall be sown at the rate specified in paragraph 901-2.1 immediately after fertilizing. The fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the

seasons shown on the plans or in the special provisions, a cover crop shall be sown by the same methods required for grass and legume seeding.

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawn roller, weighing 40 to 65 pounds per foot (60 to 97 kg per meter) of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot (223 to 298 kg per meter) of width for sandy or light soils.

901-3.3 Wet application method.

- **a. General.** The Contractor may elect to apply seed and fertilizer (and lime, if required) by spraying them on the previously prepared seedbed in the form of an aqueous mixture and by using the methods and equipment described herein. The rates of application shall be as specified in the special provisions.
- **b. Spraying equipment.** The spraying equipment shall have a container or water tank equipped with a liquid level gauge calibrated to read in increments not larger than 50 gallons (190 liters) 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 (380 liters) per minute at a pressure of 100 lb/sq inches (690 kPa). The pump shall be mounted in a line that will recirculate the mixture through the tank whenever it is not being sprayed from the nozzle. All pump passages and pipe lines shall be capable of providing clearance for 5/8 inch (16 mm) solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. There shall be an indicating pressure gauge connected and mounted immediately at the back of the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, three-way control valve connecting the recirculating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture delivered to the nozzle. At least three different types of nozzles shall be supplied so that mixtures may be properly sprayed over distance varying from 20 to 100 feet (6 to 30 m). One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, and one a long-range jet nozzle. For case of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick-release couplings.

In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet (15 m) in length shall be provided to which the nozzles may be connected.

c. Mixtures. Lime, if required, shall be applied separately, in the quantity specified, prior to the fertilizing and seeding operations. Not more than 220 pounds (100 kg) of lime shall be added to and mixed with each 100 gallons (380 liters) of water. Seed and fertilizer shall be mixed together in the relative proportions specified, but not more than a total of 220 pounds (100 kg) of these combined solids shall be added to and mixed with each 100 gallons (380 liters) of water.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. The Contractor shall identify to the RPR all sources of water at least two (2) weeks prior to use. The RPR may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the RPR following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within two (2) hours from the time they were mixed or they shall be wasted and disposed of at approved locations.

d. Spraying. Lime, if required, shall be sprayed only upon previously prepared seedbeds. After the applied lime mixture has dried, the lime shall be worked into the top 3 inches (75 mm), after which the seedbed shall again be properly graded and dressed to a smooth finish.

Mixtures of seed and fertilizer shall only be sprayed upon previously prepared seedbeds on which the lime, if required, shall already have been worked in. The mixtures shall be applied by means of a high-pressure spray that shall always be directed upward into the air so that the mixtures will fall to the ground like rain in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner as might produce erosion or runoff.

Particular care shall be exercised to ensure that the application is made uniformly and at the prescribed rate and to guard against misses and overlapped areas. Proper predetermined quantities of the mixture in accordance with specifications shall be used to cover specified sections of known area.

Checks on the rate and uniformity of application may be made by observing the degree of wetting of the ground or by distributing test sheets of paper or pans over the area at intervals and observing the quantity of material deposited thereon.

On surfaces that are to be mulched as indicated by the plans or designated by the RPR, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling operations will be required after the soil has dried.

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 RPR. 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 either the dry or 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 RPR. A grass stand shall be considered adequate when bare spots are one square foot (0.01 sq m) or less, randomly dispersed, and do not exceed 3% of the area seeded.

METHOD OF MEASUREMENT

901-4.1 The quantity of seeding to be paid for shall be the number of units square feet measured on the ground surface, completed and accepted.

BASIS OF PAYMENT

901-5.1 Payment shall be Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602 Standard Specification for Agricultural Liming Materials

Federal Specifications (FED SPEC)

FED SPEC JJJ-S-181, Federal Specification, Seeds, Agricultural

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-901

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Item T-903 Sprigging

Not Used

Item T-903 Sprigging 175

Item T-904 Sodding

DESCRIPTION

904-1.1 This item shall consist of furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

904-2.1 Sod. Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. At least 70% of the plants in the cut sod shall be composed of the species stated in the special provisions, and any vegetation more than 6 inches (150 mm) in height shall be mowed to a height of 3 inches (75 mm) or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the special provisions.

904-2.2 Lime. Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 20 (850 μ m) mesh sieve and 50% will pass through a No. 100 (150 μ m) mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate of 5 gal / acre. All liming materials shall conform to the requirements of ASTM C602.

904-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified, and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

- a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
- b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or
- c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be 10-20-10 commercial fertilizer and shall be spread at the rate of 20 lbs/1000 square feet.

904-2.4 Water. The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass.

904-2.5 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free

from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

904-3.1 General. Areas to be solid, strip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition that are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the RPR before the various operations are started. The Contractor shall demonstrate to the RPR before starting the various operations that the application of required materials will be made at the specified rates.

904-3.2 Preparing the ground surface. After grading of areas has been completed and before applying fertilizer and limestone, areas to be sodded 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 sodding, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

904-3.3 Applying fertilizer and ground limestone. Following ground surface preparation, fertilizer shall be uniformly spread at a rate which will provide not less than the minimum quantity of each fertilizer ingredient, as stated in the special provisions. If use of ground limestone is required, it shall then be spread at a rate that will provide not less than the minimum quantity stated in the special provisions. These materials shall be incorporated into the soil to a depth of not less than 2 inches (50 mm) by discing, raking, or other suitable methods. Any stones larger than 2 inches (50 mm) in any diameter, large clods, roots, and other litter brought to the surface by this operation shall be removed.

904-3.4 Obtaining and delivering sod. After inspection and approval of the source of sod by the RPR, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 inches (50 mm). Sod sections or strips shall be cut in uniform widths, not less than 10 inches (250 mm), and in lengths of not less than 18 inches (0.5 m), but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside. The Contractor may be required to mow high grass before cutting sod.

The sod shall be transplanted within 24 hours from the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, approval to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

904-3.5 Laying sod. Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the RPR, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches (100 mm) immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod

bed by tamping or rolling with approved equipment to provide a true and even surface, and ensure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workmen, when replacing it, shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately one inch (25 mm) below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than one (1) vertical to 2-1/2 horizontal and in v-shaped or flat-bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 inches (300 mm) in length and have a cross-sectional area of not less than 3/4 sq inch (18 sq mm). The pegs shall be driven flush with the surface of the sod.

- **904-3.6 Watering.** Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.
- **904-3.7 Establishing turf.** The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work. All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the RPR. The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. Weeds or other undesirable vegetation shall be mowed and the clippings raked and removed from the area.
- **904-3.8 Repairing.** When the surface has become gullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the RPR, and shall then be sodded as specified in paragraph 904-3.5.

METHOD OF MEASUREMENT

904-4.1 This item shall be measured on the basis of the area in square yards of the surface covered with sod and accepted.

BASIS OF PAYMENT

904-5.1 This item will be paid for by Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602 Standard Specification for Agricultural Liming Materials

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-904

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Item T-905 Topsoil

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 RPR.

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 (75 μm) sieve as determined by the wash test in accordance with ASTM C117.

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 RPR 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. If topsoil is available on the site, the location of the stockpiles or areas to be stripped of topsoil and the stripping depths shall be shown on the plans.

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 RPR 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 RPR, to a minimum depth of 2 inches (50 mm) to facilitate bonding of the topsoil to the covered subgrade

Item T-905 Topsoil

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 RPR. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means shall be removed.

When suitable topsoil is available on the site, the Contractor shall remove this material from the designated areas and to the depth as directed by the RPR. The topsoil shall be spread on areas already tilled and smooth-graded, or stockpiled in areas approved by the RPR. Any topsoil stockpiled by the Contractor shall be rehandled and placed without additional compensation. Any topsoil that has been stockpiled on the site by others, and is required for topsoil purposes, shall be removed and placed by the Contractor. The sites of all stockpiles and areas adjacent thereto which have been disturbed by the Contractor shall be graded if required and put into a condition acceptable for seeding.

When suitable topsoil is secured off the airport site, the Contractor shall locate and obtain the supply, subject to the approval of the RPR. The Contractor shall notify the RPR 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 2 inches (50 mm) 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 turfing 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 RPR. 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

905-4.1 Topsoil obtained on the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoil by the Contractor shall be measured by the number of cubic yards (cubic meters) of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards (cubic meters) computed by the method of end areas.

Item T-905 Topsoil

905-4.2 Topsoil obtained off the site shall be measured by the number of cubic yards of topsoil measured in its original position and stripped or excavated. Topsoil shall be measured by volume in cubic yards computed by the method of end areas.

BASIS OF PAYMENT

905-5.1 Payment will be made by Lump Sum

905-5.2 Payment will be made by Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C117 Materials Finer than 75 µm (No. 200) Sieve in Mineral Aggregates by

Washing

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-905

Item T-905 Topsoil

Item T-908 Mulching

Not Used

Item T-908 Mulching 184

Part 13 – Lighting Installation

Item L-101 Airport Rotating Beacons

NOT USEDEND OF ITEM L-101

Item L-103 Airport Beacon Towers

NOT USEDEND OF ITEM L-103

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Item L-107 Airport Wind Cones

NOT USEDEND OF ITEM L-107

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 RPR. 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.

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 RPR.
- **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 RPR) 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 RPR 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 RPR, to determine compliance with the plans and specifications.] electronically submitted in pdf format. The RPR 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 maintain a minimum insulation

resistance in accordance with paragraph 108-3.10e with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period when tested in accordance with AC 150/5340-26, *Maintenance Airport Visual Aid Facilities*, paragraph 5.1.3.1, Insulation Resistance Test.

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 B., 5,000 volts, non-shielded, with ethylene propylene 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 Commercial Item Description A-A-59544A and shall be type THWN-2, 75°C for installation in conduit and RHW-2, 75°C for direct burial installations. Conductors for parallel (voltage) circuits shall be type and size 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. AWG bare solid copper wire for counterpoise and/or No. 6 AWG insulated stranded for grounding bond wire per ASTM B3 and ASTM B8, and shall be bare copper wire. For voltage powered circuits, the equipment grounding conductor shall comply with NEC Article 250.

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 (2.54 m) long and 3/4 inch (19 mm) 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 3MTM Company, "Scotchcast" Kit No. 82-B, or an approved equivalent, used for potting the splice is acceptable.
- **b.** The field-attached plug-in splice. Field attached plug-in splices shall be installed as shown on the plans. The Contractor shall determine the outside diameter of the cable to be spliced and furnish

appropriately sized connector kits and/or adapters. Tape or heat shrink tubing with integral sealant shall be in accordance with the manufacturer's requirements. Primary Connector Kits manufactured by Amerace, "Super Kit", Integro "Complete Kit", or approved equal is acceptable.

- **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. 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 RPR 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 shall be proportioned, placed, and cured per state department of transportation structural concrete with minimum 25% Type F fly ash, and a minimum allowable compressive strength of 4,000 psi (28 MPa).

- **108-2.7 Flowable backfill.** Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.
- **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 ScotchTM Electrical Tapes –ScotchTM 88 (1-1/2 inch (38 mm) wide) and ScotchTM 130C[®] linerless rubber splicing tape (2-inch (50 mm) wide), as manufactured by the Minnesota Mining and Manufacturing Company (3MTM), or an approved equivalent.
- **108-2.10 Electrical coating.** Electrical coating shall be ScotchkoteTM as manufactured by 3MTM, or an approved equivalent.
- **108-2.11 Existing circuits.** Whenever the scope of work requires connection to an existing circuit, the existing circuit's insulation resistance shall be tested, in the presence of the RPR. 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 RPR. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the RPR. The Contractor shall record the results on forms acceptable to the RPR. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the existing 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 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. Detectable warning tape for communication cables shall be orange. Detectable warning tape color code shall comply with the APWA Uniform Color Code.

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. Cable shall be run without splices, from fixture to fixture.

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 RPR 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 and on both sides of slack loops where a future connector would be 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 RPR.

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 RPR 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 RPR prior to any cable installation. If required by the RPR, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the RPR. Cable pull tensions shall be recorded by the Contractor and reviewed by the RPR. 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 RPR, 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. Unless otherwise specified, the Contractor shall not use a cable plow for installing the cable. Cable shall be unreeled uniformly in place alongside or in the trench and shall be carefully placed along the bottom of the trench. The cable shall not be unreeled and pulled into the trench from one end. Slack cable sufficient to provide strain relief shall be placed in the trench in a series of S curves. Sharp bends or kinks in the cable shall not be permitted.

Where cables must cross over each other, a minimum of 3 inches (75 mm) vertical displacement shall be provided with the topmost cable depth at or below the minimum required depth below finished grade.

a. Trenching. Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored. Trenches for cables may be excavated manually or with mechanical

trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of surface is disturbed. Graders shall not be used to excavate the trench with their blades. The bottom surface of trenches shall be essentially smooth and free from coarse aggregate. Unless otherwise specified, cable trenches shall be excavated to a minimum depth of 18 inches (0.5 m) below finished grade per NEC Table 300.5, except as follows:

- When off the airport or crossing under a roadway or driveway, the minimum depth shall be 36 inches (91 cm) unless otherwise specified.
- Minimum cable depth when crossing under a railroad track, shall be 42 inches (1 m) unless otherwise specified.

The Contractor shall excavate all cable trenches to a width not less than 6 inches (150 mm). Unless otherwise specified on the plans, all cables in the same location and running in the same general direction shall be installed in the same trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches (75 mm) below the required cable depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. Flowable backfill material may alternatively be used.

Duct bank or conduit markers temporarily removed for trench excavations shall be replaced as required.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

- (1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.
- (2) Trenching, etc., in cable areas shall then proceed, with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair or replacement.

b. Backfilling. After the cable has been installed, the trench shall be backfilled. The first layer of backfill in the trench shall encompass all cables; be 3 inches (75 mm) deep, loose measurement; and shall be either earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. This layer shall not be compacted. The second layer shall be 5 inches (125 mm) deep, loose measurement, and shall contain no particles that would be retained on a one inch (25.0 mm) sieve. The remaining third and subsequent layers of backfill shall not exceed 8 inches (20 cm) of loose measurement and be excavated or imported material and shall not contain stone or aggregate larger than 4 inches (100 mm) maximum diameter.

The second and subsequent layers shall be thoroughly tamped and compacted to at least the density of the adjacent material. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be to a minimum of 100 percent of ASTM D1557.

Trenches shall not contain pools of water during backfilling operations. The trench shall be completely backfilled and tamped level with the adjacent surface, except that when turf is to be established over the trench, the backfilling shall be stopped at an appropriate depth consistent with the

type of turfing operation to be accommodated. A proper allowance for settlement shall also be provided. Any excess excavated material shall be removed and disposed of per the plans and specifications.

Underground electrical warning (caution) tape shall be installed in the trench above all direct-buried cable. Contractor shall submit a sample of the proposed warning tape for acceptance by the RPR. If not shown on the plans, the warning tape shall be located 6 inches (150 mm) above the direct-buried cable or the counterpoise wire if present. A 3-6 inch (75 - 150 mm) wide polyethylene film detectable tape, with a metalized foil core, shall be installed above all direct buried cable or counterpoise. The tape shall be of the color and have a continuous legend as indicated on the plans. The tape shall be installed 8 inches (200 mm) minimum below finished grade.

- c. Restoration. Following restoration of all trenching near airport movement surfaces, the Contractor shall visually inspect the area for foreign object debris (FOD) and remove any that is found. Where soil and sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by work shall be restored to its original condition. The restoration shall include the sodding as shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. When trenching is through paved areas, restoration shall be equal to existing conditions. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be [to a minimum of 100 percent of ASTM D1557][backfill with controlled low strength material (CLSM) in accordance with P-153]. Restoration shall be considered incidental to the pay item of which it is a component part.
- **108-3.4 Cable markers for direct-buried cable.** The location of direct buried circuits shall be marked by a concrete slab marker, 2 feet (60 cm) square and 4-6 inch (10 15 cm) thick, extending approximately one inch (25 mm) above the surface. Each cable run from a line of lights and signs to the equipment vault shall be marked at approximately every 200 feet (61 m) along the cable run, with an additional marker at each change of direction of cable run. All other direct-buried cable shall be marked in the same manner. Cable markers shall be installed directly above the cable. The Contractor shall impress the word "CABLE" and directional arrows on each cable marking slab. The letters shall be approximately 4 inches (100 mm) high and 3 inches (75 mm) wide, with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep. Stencils shall be used for cable marker lettering; no hand lettering shall be permitted.

At the location of each underground cable connection/splice, except at lighting units, or isolation transformers, a concrete marker slab shall be installed to mark the location of the connection/splice. The Contractor shall impress the word "SPLICE" on each slab. The Contractor also shall impress additional circuit identification symbols on each slab as directed by the RPR. All cable markers and splice markers shall be painted international orange. Paint shall be specifically manufactured for uncured exterior concrete. After placement, all cable or splice markers shall be given one coat of high-visibility aviation orange paint as approved by the RPR. Furnishing and installation of cable markers is incidental to the respective cable pay item.

- **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 RPR.
- **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. The joint where the connectors come together shall be finished by one of the following methods: (1) 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 (2) Covered with heat shrinkable tubing with integral sealant

extending at least 1-1/2 inches (38 mm) on each side of the joint or (3) On connector kits equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

- **c. Factory-molded plug-in splices.** These shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) 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. (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches (38 mm) on each side of the joint. or (3) On connector kits so equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.
 - **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. The manufacturer's recommendation for stretching tape during splicing shall be followed. 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 contaminates prior to application.

- **e. Assembly.** 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 RPR shall select one of two methods of lightning protection for the airfield lighting circuit based upon sound engineering practice and lightning strike density.
- **a. Equipotential.** The counterpoise size is as shown on the plans. The equipotential method is applicable to all airfield lighting systems; i.e. runway, taxiway, apron touchdown zone, centerline, edge, threshold and approach lighting systems. The equipotential method is also successfully applied to

provide lightning protection for power, signal and communication systems. The light bases, counterpoise, etc – all components - are bonded together and bonded to the vault power system ground loop/electrode.

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. The counterpoise is centered over the cable/conduit/duct to be protected.

The counterpoise conductor shall be installed no less than 8 inches (200 mm) minimum or 12 inches (300 mm) maximum above the raceway or cable to be protected, except as permitted below:

- (1) 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.
- (2) 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, (45 degrees on each side of vertical creating a 90 degree angle).

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.

All components rise and fall at the same potential; with no potential difference, no damaging arcing and no damaging current flow.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Equipotential Method of lightning protection.

Reference FAA STD-019E, Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment, Part 4.1.1.7.][not used]

b. Isolation. [Counterpoise size is as shown on the plans. The isolation method is an alternate method for use only with edge lights installed in turf and stabilized soils and raceways installed parallel to and adjacent to the edge of the pavement. NFPA 780 uses 15 feet to define "adjacent to".

The counterpoise conductor shall be installed halfway between the pavement edge and the light base, mounting stake, raceway, or cable being protected.

The counterpoise conductor shall be installed 8 inches (203 mm) minimum below grade. The counterpoise is not connected to the light base or mounting stake. An additional grounding electrode is required at each light base or mounting stake. The grounding electrode is bonded to the light base or mounting stake with a 6 AWG solid copper conductor.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Isolation Method of lightning protection.][not used]

c. Common Installation requirements. 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.

Grounding electrodes may be rods, ground dissipation plates, radials, or other electrodes listed in the NFPA 70 (NEC) or NFPA 780.

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 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.

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.

- **d. Parallel Voltage Systems.** Provide grounding and bonding in accordance with NFPA 70, National Electrical Code.
- **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 area of protection measured 45 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 or equivalent method accepted by the RPR. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the RPR, 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 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 3MTM ScotchkoteTM, 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 RPR. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the RPR. 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 RPR for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the RPR. 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 RPR 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 RPR 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 **50** megohms. Verify continuity of all series airfield lighting circuits prior to energization.
- **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 RPR prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the RPR. Where connecting new cable to existing cable, insulation 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 measured by the linear feet (meters) of trench, including the excavation, backfill, and restoration, completed, measured as excavated, and accepted as satisfactory. When specified, separate measurement shall be made for trenches of various specified widths.
- **108-4.2** Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet (meters) installed 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 include additional quantities required for slack.

108-4.3 No separate payment will be made for ground rods

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for trenching, cable 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 RPR. 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 ground rods and ground connectors and trench marking tape, necessary to complete this item.

Payment will be made under:

Item L-108-5.1	No. 8, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit including Trenching for direct-buried cable, 18-inch minimum depth - per linear foot (meter)
Item L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed in Trench, , Including Connections/Terminations - per linear foot (meter)
Item L-108-5.3	Copper Clad Ground Rod, 3/4" x 10', installed complete - per each.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory	Circulars	(AC)

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-59544A	Cable and Wire, Electrical (Power, Fixed Installation)
A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic
ASTM International (ASTM)	
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

Mil Spec

MIL-PRF-23586F Performance Specification: Sealing Compound (with Accelerator),

Silicone Rubber, Electrical

MIL-I-24391 Insulation Tape, Electrical, Plastic, Pressure Sensitive

National Fire Protection Association (NFPA)

NFPA-70 National Electrical Code (NEC)

NFPA-780 Standard for the Installation of Lightning Protection Systems

American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE)

ANSI/IEEE STD 81 IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and

Earth Surface Potentials of a Ground System

Federal Aviation Administration Standard

FAA STD-019E Lightning and Surge Protection, Grounding Bonding and Shielding

Requirements for Facilities and Electronic Equipment

END OF ITEM L-108

Item L-109 Airport Transformer Vault and Vault Equipment

DESCRIPTION

109-1.1 This item shall consist of removing an existing airport transformer vault and equipment and; constructing an airport transformer vault or a prefabricated metal housing per these specifications and per the design and dimensions shown in the plans. This work shall also include the installation of conduits in the floor and foundation, painting and lighting of the vault or metal housing, and the furnishing of all incidentals that are necessary to produce a completed unit. Included as a separate part under this item or as a separate item where an existing vault is to be used shall be the furnishing of all vault equipment, wiring, electrical buses, cable, conduit, potheads, and grounding systems. This work shall also include the painting of equipment and conduit; the marking and labeling of equipment and the labeling or tagging of wires; the testing of the installation; and the furnishing of all incidentals necessary to place it in operating condition as a completed unit to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

109-2.1 General.

- **a.** Airport lighting equipment and materials covered by advisory circulars (AC) shall be certified in AC 150/5345-53, Airport Lighting Equipment Certification Program (ALECP) and listed in the ALECP Addendum.
- **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 RPR.
- **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 RPR) 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 RPR 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 RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be provided in electronic pdf format, tabbed by specification section. The RPR 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 a period of at least twelve (12) months from 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.

CONSTRUCTION OF VAULT AND PREFABRICATED METAL HOUSING

- 109-3.1 Electrical vault building. NOT USED.
- 109-3.2 Concrete. NOT USED.
- 109-3.3 Precast concrete structures. NOT USED.
- 109-3.4 Reinforcing steel. NOT USED.
- **109-3.5 Brick.** NOT USED.
- **109-3.6 Rigid steel conduit.** Rigid steel conduit and fittings shall be per Underwriters Laboratories Standards 6 and 514B.
- **109-3.7** Plastic Conduit and fittings. Plastic Conduit and fittings shall conform to the requirements of UL-651 and UL-654 schedule 40 polyvinyl chloride (PVC) suitable for use above or below ground.
- 109-3.8 Lighting. NOT USED.
- 109-3.9 Outlets. NOT USED.
- 109-3.10 Switches. NOT USED.
- 109-3.11 Paint.
- a NOT USED.
- 109-3.12 Ground bus. NOT USED.
- 109-3.13 Square duct. NOT USED.
- 109-3.14 Ground rods. NOT USED.
- 109-3.15 Vault prefabricated metal housing. NOT USED.
- **109-3.16 FAA-approved equipment.** Certain items of airport lighting equipment installed in vaults are covered by individual ACs listed below:

A	C 150/5345-3	Specification for L-821, Panels for Remote Control of Airport Lighting
A	C 150/5345-5	Circuit Selector Switch
A	C 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
A	C 150/5345-10	Specification for Constant Current Regulators and Regulator Monitors
A	C 150/5345-13	Specification for L-841 Auxiliary Relay Cabinet Assembly for Pilot Control of Airport Lighting Circuits.
A	C 150/5345-49	Specification for L-854, Radio Control Equipment
A	C 150/5345-56	Specification for L-890 Airport Lighting Control and Monitoring System (ALCMS)

109-3.17 Other electrical equipment. NOT USED.**109-3.18 Wire.** Wire (in conduit) rated up to 5,000 volts shall be per AC 150/5345-7, Specification for L-824 Underground Electrical Cables for Airport

Lighting Circuits. For ratings up to 600 volts, moisture and heat resistant thermoplastic wire conforming to Commercial Item Description A-A-59544A Type THWN-2 shall be used. The wires shall be of the type, size, number of conductors, and voltage shown in the plans or in the proposal.

a. Control circuits. Unless otherwise indicated on the plans, wire shall be not less than No. 12 American wire gauge (AWG) and shall be insulated for 600 volts. If telephone control cable is specified, No. 19 AWG telephone cable per ANSI/Insulated Cable Engineers Association (ICEA) S-85-625 specifications shall be used.

b. Power circuits.

- (1) 600 volts maximum Wire shall be No. 6 AWG or larger and insulated for at least 600 volts.
- (2) 3,000 volts maximum Wire shall be No. 6 AWG or larger and insulated for at least 3,000 volts.
- (3) Over 3,000 volts-Wire shall be No. 6 AWG or larger and insulated for at least the circuit voltage.
- **109-3.19 Short circuit / coordination / device evaluation / arc flash analysis.** The Contractor shall, based upon the equipment provided, include as a part of the submittal process the electrical system "Short Circuit / Coordination / Device evaluation / Arc Flash Analysis". The analysis shall be performed by the equipment manufacturer and submitted in a written report. The analysis shall be signed and sealed by a registered professional Engineer from the state in which the project is located. The analysis shall comply with NFPA-70E and IEEE 1584.

The analysis will include: one line diagrams, short circuit analysis, coordination analysis, equipment evaluation, arc flash analysis and arc flash labels containing at a minimum, equipment name, voltage/current rating, available incident energy and flash protection boundary.

The selected firms field service Engineer shall perform data gathering for analysis completion and device settings, perform device setting as recommended by the analysis and will furnish and install the arc flash labels. The components worst case incident energy will be considered the available arc flash energy at that specific point in the system. Submit three written copies and one electronic copy of the report.

CONSTRUCTION METHODS

CONSTRUCTION OF VAULT AND PREFABRICATED METAL HOUSING

109-4.1 General. NOT USED.

109-4.2 Foundation and walls.

- a. Reinforced concrete construction. NOT USED.
- b. Brick and concrete construction. NOT USED
- c. Concrete masonry construction. NOT USED..

109-4.3 Roof. NOT USED.

109-4.4 Floor. NOT USED.

109-4.5 Floor drain. NOT USED.

109-4.6 Conduits in floor and foundation. Conduits shall be installed in the floor and through the foundation walls per the details shown in the plans. All underground conduit shall be painted with an asphalt compound. Conduit shall be installed with a coupling or metal conduit adapter flush with the top

of the floor. All incoming conduit shall be closed with a pipe plug to prevent the entrance of foreign material during construction. Space conduit entrances shall be left closed.

109-4.7 Doors. NOT USED.

109-4.8 Painting. NOT USED.

109-4.9 Lights and switches. NOT USED.

INSTALLATION OF EQUIPMENT IN VAULT OR PREFABRICATED METAL HOUSING

109-5.1 General. The Contractor shall furnish, install, and connect all equipment, equipment accessories, conduit, cables, wires, buses, grounds, and support necessary to ensure a complete and operable electrical distribution center for the airport lighting system as specified herein and shown in the plans. When specified, an emergency power supply and transfer switch shall be provided and installed.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and local code agency having jurisdiction. All electrical work shall comply with the NEC and local code agency having jurisdiction including the separation of under 600V work from 5,000V work."

- 109-5.2 Power supply equipment. NOT USED.
- 109-5.3 Switchgear and panels. NOT USED.
- **109-5.4 Duct and conduit.** The Contractor shall furnish and install square-type exposed metallic ducts with hinged covers for the control circuits in the vault. These shall be mounted along the walls behind all floor-mounted equipment and immediately below all wall-mounted equipment. The hinged covers shall be placed to open from the front side with the hinges at the front bottom.

Wall brackets for square ducts shall be installed at all joints 2 feet (60 cm) or more apart with intermediate brackets as specified. Conduit shall be used between square ducts and equipment or between different items of equipment when the equipment is designed for conduit connection. When the equipment is not designed for conduit connection, conductors shall enter the square-type control duct through insulating bushings in the duct or on the conduit risers.

- **109-5.5 Wiring and connections.** The Contractor shall make all necessary electrical connections in the vault per the wiring diagrams furnished and as directed by the RPR. In wiring to the terminal blocks, the Contractor shall leave sufficient extra length on each control lead to make future changes in connections at the terminal block. This shall be accomplished by running each control lead the longest way around the box to the proper terminal. Leads shall be neatly laced in place.
- **109-5.6 Marking and labeling.** All equipment, control wires, terminal blocks, etc., shall be tagged, marked, or labeled as specified below:
- **a. Wire identification.** The Contractor shall furnish and install self-sticking wire labels or identifying tags on all control wires at the point where they connect to the control equipment or to the terminal blocks. Wire labels, if used, shall be of the self-sticking preprinted type and of the manufacturer's recommended size for the wire involved. Identification -markings designated in the plans shall be followed. Tags, if used, shall be of fiber not less than 3/4 inch (19 mm) in diameter and not less than 1/32 inch (1 mm) thick. Identification markings designated in the plans shall be stamped on tags by means of small tool dies. Each tag shall be securely tied to the proper wire by a nonmetallic cord.
- **b. Labels.** The Contractor shall stencil identifying labels on the cases of regulators, breakers, and distribution and control relay cases with white oil paint as designated by the RPR. The letters and numerals shall be not less than one inch (25 mm) in height and shall be of proportionate width. The Contractor shall also mark the correct circuit designations per the wiring diagram on the terminal marking strips, which are a part of each terminal block.

METHOD OF MEASUREMENT

109-6.1 The quantity of vaults to be paid for under this item shall consist of the number of vaults constructed in place and accepted as a complete unit.

109-6.2 The quantity of prefabricated metal housings to be paid for under this item shall consist of the number of housings constructed in place and accepted as a complete unit.

109-6.3 The quantity of equipment to be paid for under this item shall consist of all equipment installed, connected and accepted as a complete unit ready for operation within an existing vault or prefabricated metal housing.

BASIS OF PAYMENT

109-7.1 Payment will be made at the contract unit price for each completed and accepted vault or prefabricated metal housing equipment installation. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item L-109-7.1 Furnishing and Installation of Airport Transformer Vault Equipment in Place - per unit

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

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AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-3	Specification for L-821, Panels for Remote Control of Airport Lighting
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-10	Specification for Constant Current Regulators and Regulator Monitors
AC 150/5345-13	Specification for L-841 Auxiliary Relay Cabinet Assembly for Pilot Control of Airport Lighting Circuits
AC 150/5345-49	Specification L-854, Radio Control Equipment;
AC 150/5345-53	Airport Lighting Equipment Certification Program

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/ICEA S-85-625 Standard for Telecommunications Cable Aircore, Polyolefin Insulated, Copper Conductor Technical Requirements

ASTM International (ASTM)

ASTM A615 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

ASTM C62 Standard Specification for Building Brick (Solid Masonry Units Made

from Clay or Shale)

ASTM C90 Standard Specification for Loadbearing Concrete Masonry Units

ASTM D2823 Standard Specification for Asphalt Roof Coatings, Asbestos Containing

ASTM D4479 Standard Specification for Asphalt Roof Coatings – Asbestos-Free

Commercial Item Description (CID)

A-A 59544 Cable and Wire, Electrical (Power, Fixed Installation)

Institute of Electrical and Electronic Engineers (IEEE)

IEEE 1584 Guide for Performing Arc-Flash Hazard Calculations

Master Painter's Institute (MPI)

MPI Reference #9 Alkyd, Exterior, Gloss (MPI Gloss Level 6)

Underwriters Laboratories (UL)

UL Standard 6 Electrical Rigid Metal Conduit – Steel

UL Standard 514B Conduit, Tubing, and Cable Fittings

UL Standard 514C Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers

UL Standard 651 Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings

UL Standard 651A Type EB and A Rigid PVC Conduit and HDPE Conduit

National Fire Protection Association (NFPA)

NFPA-70 National Electrical Code (NEC)

NFPA-70E Standard for Electrical Safety in the Workplace

NFPA-780 Standard for the Installation of Lightning Protection Systems

END OF ITEM L-109

Item L-110 Airport Underground Electrical Duct Banks and Conduits

DESCRIPTION

110-1.1 This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete or buried in sand) installed per this specification at the locations and per the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits [and removal of existing duct banks]. It shall also include all turfing trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandrelling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables per the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

EQUIPMENT AND MATERIALS

110-2.1 General.

- **a.** All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.
- **b.** Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, that comply with these specifications, at the Contractor's cost.
- c. All materials and equipment used to construct this item shall be submitted to the RPR 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 non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for 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 project that accrue directly or indirectly from late submissions or resubmissions of submittals.
- **d.** The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR 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.
- **e.** All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from 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.

110-2.2 Steel conduit. Rigid galvanized steel (RGS) conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242. All RGS conduits or RGS elbows installed below grade, in concrete, permanently wet locations or other similar environments shall be painted with a 10-mil thick coat of asphaltum sealer or shall have a factory-bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing or steel shall be coated with 10 mils of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions. In lieu of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth."

110-2.3 Plastic conduit. Plastic conduit and fittings-shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10.
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.
- UL 651A covers W-C-1094-Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

- **a.** Type I–Schedule 40 and Schedule 80 PVC suitable for underground use either direct-buried or encased in concrete.
 - **b.** Type II–Schedule 40 PVC suitable for either above ground or underground use.
- **c.** Type III Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.
- **d.** Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

- **110-2.4 Split conduit**. Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.
- **110-2.5 Conduit spacers**. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads. They shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 Concrete.

Concrete shall be proportioned, placed, and cured per state department of transportation structural concrete with minimum 25% Type F fly ash, and a minimum allowable compressive strength of 4,000 psi (28 MPa).

110-2.7 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

110-2.8 Flowable backfill. Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

110-2.9 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber optic cabling) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

110-3.1 General. The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The RPR shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches (50 mm) inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches (75 mm) per 100 feet (30 m). On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. Under pavement, the top of the duct bank shall not be less than 18 inches (0.5 m) below the subgrade; in other locations, the top of the duct bank or underground conduit shall be be not less than 18 inches (0.5 m) below finished grade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. An iron-shod mandrel, not more than 1/4 inch (6 mm) smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed the light bases, manholes, pull boxes, etc., and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, 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 recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200-pound (90 kg) test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminants from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet (1.5 m).

Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads, such as runways, taxiways, taxilanes, ramps and aprons. When under paved shoulders and other paved areas, conduit and duct banks shall be encased using flowable fill for protection.

All conduits within concrete encasement of the duct banks shall terminate with female ends for ease in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches (75 mm) below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. Flowable backfill may alternatively be used

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the RPR. If not shown on the plans, the warning tape shall be located 6 inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared per the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet (60 cm).

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the RPR, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Additional duct bank supports shall be installed, as approved by the RPR.

All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.

Unless otherwise specified, excavated materials that are deemed by the RPR to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the RPR and compacted per Item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables) cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

- **a.** Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred
- **b.** Trenching, etc., in cable areas shall then proceed with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

110-3.2 Duct banks. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches (0.5 m) below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches (0.5 m) below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet (1 m) beyond the edges of the pavement or 3 feet (1 m) beyond any under drains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches (75 mm) thick prior to its initial set. The Contractor shall space the conduits not less than 3 inches (75 mm) apart (measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 inches (75 mm) thick unless otherwise shown on the plans. All conduits shall terminate with female ends for ease of access in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot (1.5-m) intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 3 to 6 inches (75 to 150 mm) wide tape, 8 inches (200 mm) minimum below grade above all underground conduit or duct lines not installed under pavement. Utilize the 3-inch (75-mm) wide tape only for single conduit runs. Utilize the 6-inch (150-mm) wide tape for multiple conduits and duct banks. For duct banks equal to or greater than 24 inches (600 mm) in width, utilize more than one tape for sufficient coverage and identification of the duct bank as required.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the RPR shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the RPR.

110-3.3 Conduits without concrete encasement. Trenches for single-conduit lines shall be not less than 6 inches (150 mm) nor more than 12 inches (300 mm) wide. The trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches (100 mm) thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding

material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch (6.3 mm) sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively be used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits within the Airport's secured area where trespassing is prohibited are at least 18 inches (0.5 m) below the finished grade. Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches (60 cm) below the finished grade per National Electric Code (NEC), Table 300.5.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches (150 mm) apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall be placed not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and lot less than 6 inches (150 mm) apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

110-3.4 Markers. The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet (60 cm) square and 4 - 6 inches (100 - 150 mm) thick extending approximately one inch (25 mm) above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building. Each cable or duct run from a line of lights and signs to the equipment vault must be marked at approximately every 200 feet (61 m) along the cable or duct run, with an additional marker at each change of direction of cable or duct run.

The Contractor shall impress the word "DUCT" or "CONDUIT" on each marker slab. Impression of letters shall be done in a manner, approved by the RPR, for a neat, professional appearance. All letters and words must be neatly stenciled. After placement, all markers shall be given one coat of high-visibility orange paint, as approved by the RPR. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the RPR. The letters shall be 4 inches (100 mm) high and 3 inches (75 mm) wide with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

110-3.5 Backfilling for conduits. For conduits, 8 inches (200 mm) of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted per Item P-152 except that material used for back fill shall be select material not larger than 4 inches (100 mm) in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.6 Backfilling for duct banks. After the concrete has cured, the remaining trench shall be backfilled and compacted per Item P-152 "Excavation and Embankment" except that the material used for backfill shall be select material not larger than 4 inches (100 mm) in diameter. In addition to the requirements of Item P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet (76 m) of duct bank or one work period's construction, whichever is less.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.7 Restoration. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include <code>sodding</code> shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item. Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

110-3.8 Ownership of removed cable. Return all removed cable to the owner.

METHOD OF MEASUREMENT

110-4.1 Underground conduits and duct banks shall be measured by the linear feet (meter) of conduits and duct banks installed, including encasement, locator tape, trenching and backfill with designated material, and restoration, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

BASIS OF PAYMENT

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for removal and disposal of existing duct banks and conduits as shown on the plans, furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1 Type III 2" HDPE Installed by Directional Drill

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circular (AC)

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

AC 150/5345-53 Airport Lighting Equipment Certification Program

ASTM International (ASTM)

ASTM A615 Standard Specification for Deformed and Plain Carbon-Steel Bars for

Concrete Reinforcement

National Fire Protection Association (NFPA)

NFPA-70 National Electrical Code (NEC)

Underwriters Laboratories (UL)

UL Standard 6 Electrical Rigid Metal Conduit - Steel
UL Standard 514B Conduit, Tubing, and Cable Fittings

UL Standard 514C Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers

UL Standard 1242 Electrical Intermediate Metal Conduit Steel

UL Standard 651 Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings

UL Standard 651A Type EB and A Rigid PVC Conduit and HDPE Conduit

END OF ITEM L-110

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Item L-115 Electrical Manholes and Junction Structures

DESCRIPTION

115-1.1 This item shall consist of electrical manholes and junction structures (hand holes, pull boxes, junction cans, etc.) installed per this specification, at the indicated locations and conforming to the lines, grades and dimensions shown on the plans or as required by the RPR. This item shall include the installation of each electrical manhole and/or junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the RPR [including removal of existing manholes and junction structures as shown on the plans].

EQUIPMENT AND MATERIALS

115-2.1 General.

- **a.** All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the RPR.
- **b.** 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 RPR) and replaced with materials that comply with these specifications at the Contractor's cost.
- c. All materials and equipment used to construct this item shall be submitted to the RPR 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.
- **d.** The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR 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.
- **e.** All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of 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.
- **115-2.2 Concrete structures.** Concrete shall be proportioned, placed, and cured per [Item P-610, Concrete for Miscellaneous Structures]. Cast-in-place concrete structures shall be as shown on the plans.

115-2.3 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another engineer approved third party certification program. Provide precast concrete structures where shown on the plans.

Precast concrete structures shall be an approved standard design of the manufacturer. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight

Threaded inserts and pulling eyes shall be cast in as shown on the plans.

If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the RPR shall be submitted by the Contractor to allow for a full evaluation by the RPR. The RPR shall review per the process defined in the General Provisions.

- 115-2.4 Junction boxes. Junction boxes shall be L-867 Class 1 (non-load bearing) or L-868 Class 1 (load bearing) airport light bases that are encased in concrete. The light bases shall have a L-894 blank cover, gasket, and stainless steel hardware. All bolts, studs, nuts, lock washers, and other similar fasteners used for the light fixture assemblies must be fabricated from 316L (equivalent to EN 1.4404), 18-8, 410, or 416 stainless steel is utilized it shall be passivated and be free from any discoloration. Covers shall be 3/8-inch (9-mm) thickness for L-867 and 3/4-inch (19-mm) thickness for L-868. All junction boxes shall be provided with both internal and external ground lugs.
- 115-2.5 Mortar. The mortar shall be composed of one part of cement and two parts of mortar sand, by volume. The cement shall be per the requirements in ASTM C150, Type I. The sand shall be per the requirements in ASTM C144. Hydrated lime may be added to the mixture of sand and cement in an amount not to exceed 15% of the weight of cement used. The hydrated lime shall meet the requirements of ASTM C206. Water shall be potable, reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product.
- **115-2.6 Concrete.** Concrete shall be proportioned, placed, and cured per state department of transportation structural concrete with minimum 25% Type F fly ash, and a minimum allowable compressive strength of 4,000 psi (28 MPa).
- 115-2.7 Frames and covers. The frames shall conform to one of the following requirements:
 - **a.** ASTM A48 Gray iron castings
 - **b.** ASTM A47 Malleable iron castings
 - **c.** ASTM A27 Steel castings
 - **d.** ASTM A283, Grade D Structural steel for grates and frames
 - e. ASTM A536 Ductile iron castings
 - **f.** ASTM A897 Austempered ductile iron castings

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings specified.

Each frame and cover unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

Each cover shall have the word "ELECTRIC" or other approved designation cast on it. Each frame and cover shall be as shown on the plans or approved equivalent. No cable notches are required.

Each manhole shall be provided with a "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" safety warning sign as detailed in the Contract Documents and in accordance with OSHA 1910.146 (c)(2).

- 115-2.8 Ladders. Ladders, if specified, shall be galvanized steel or as shown on the plans.
- **115-2.9 Reinforcing steel.** All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A615, Grade 60.
- 115-2.10 Bedding/special backfill. Bedding or special backfill shall be as shown on the plans.
- **115-2.11 Flowable backfill.** Flowable material used to backfill shall conform to the requirements of Item P-153, Controlled Low Strength Material.
- 115-2.12 Cable trays. NOT USED.
- **115-2.13 Plastic conduit.** Plastic conduit shall comply with Item L-110, Airport Underground Electrical Duct Banks and Conduits.
- **115-2.14 Conduit terminators.** Conduit terminators shall be pre-manufactured for the specific purpose and sized as required or as shown on the plans.
- 115-2.15 Pulling-in irons.
- 115-2.16 Ground rods. Ground rods shall be one piece, copper. The ground rods shall be of the length and diameter specified on the plans, but in no case shall they be less than 8 feet (2.4 m) long nor less than 5/8 inch (16 mm) in diameter.

CONSTRUCTION METHODS

115-3.1 Unclassified excavation. It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Damage to utility lines, through lack of care in excavating, shall be repaired or replaced to the satisfaction of the RPR without additional expense to the Owner.

The Contractor shall perform excavation for structures and structure footings to the lines and grades or elevations shown on the plans or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown.

All excavation shall be unclassified and shall be considered incidental to Item L-115. Dewatering necessary for structure installation and erosion per federal, state, and local requirements is incidental to Item L-115.

Boulders, logs and all other objectionable material encountered in excavation shall be removed. All rock and other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped or serrated, as directed by the RPR. All seams, crevices, disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation. Excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

The Contractor shall provide all bracing, sheeting and shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheeting and shoring shall be included in the unit price bid for the structure.

Unless otherwise provided, bracing, sheeting and shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be effected in a manner that will not disturb or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

After each excavation is completed, the Contractor shall notify the RPR. Structures shall be placed after the RPR has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 6 inches (150 mm) of sand or a material approved by the RPR as a suitable base to receive the structure. The base material shall be compacted and graded level and at proper elevation to receive the structure in proper relation to the conduit grade or ground cover requirements, as indicated on the plans.

- **115-3.2 Concrete structures.** Concrete structures shall be built on prepared foundations conforming to the dimensions and form indicated on the plans. The concrete and construction methods shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.
- **115-3.3 Precast unit installations.** Precast units shall be installed plumb and true. Joints shall be made watertight by use of sealant at each tongue-and-groove joint and at roof of manhole. Excess sealant shall be removed and severe surface projections on exterior of neck shall be removed.
- 115-3.4 Placement and treatment of castings, frames and fittings. All castings, frames and fittings shall be placed in the positions indicated on the Plans or as directed by the RPR and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

Field connections shall be made with bolts, unless indicated otherwise. Welding will not be permitted unless shown otherwise on the approved shop drawings and written approval is granted by the casting manufacturer. Erection equipment shall be suitable and safe for the workman. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and fitting of parts shall be reported immediately to the RPR and approval of the method of correction shall be obtained. Approved corrections shall be made at Contractor's expense.

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.

Pulling-in irons shall be located opposite all conduit entrances into structures to provide a strong, convenient attachment for pulling-in blocks when installing cables. Pulling-in irons shall be set directly into the concrete walls of the structure.

- **115-3.5 Installation of ladders.** Ladders shall be installed such that they may be removed if necessary. Mounting brackets shall be supplied top and bottom and shall be cast in place during fabrication of the structure or drilled and grouted in place after erection of the structure.
- 115-3.6 Removal of sheeting and bracing. In general, all sheeting and bracing used to support the sides of trenches or other open excavations shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a structure shall be withdrawn, unless otherwise directed, before more than 6 inches (150 mm) of material is placed above the top of the structure and before any bracing is removed. Voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The RPR may direct the Contractor to delay the removal of sheeting and bracing if, in his judgment, the installed work has not attained the necessary strength to permit placing of backfill.

115-3.7 Backfilling. After a structure has been completed, the area around it shall be backfilled in horizontal layers not to exceed 6 inches (150 mm) in thickness measured after compaction to the density requirements in Item P-152. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

Backfill shall not be placed against any structure until approval is given by the RPR. In the case of concrete, such approval shall not be given until tests made by the laboratory under supervision of the RPR establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

Where required, the RPR may direct the Contractor to add, at his own expense, sufficient water during compaction to assure a complete consolidation of the backfill. The Contractor shall be responsible for all damage or injury done to conduits, duct banks, structures, property or persons due to improper placing or compacting of backfill.

115-3.8 Connection of duct banks. To relieve stress of joint between concrete-encased duct banks and structure walls, reinforcement rods shall be placed in the structure wall and shall be formed and tied into duct bank reinforcement at the time the duct bank is installed.

115-3.9 Grounding. A ground rod shall be installed in the floor of all concrete structures so that the top of rod extends 6 inches (150 mm) above the floor. The ground rod shall be installed within one foot (30 cm) of a corner of the concrete structure. Ground rods shall be installed prior to casting the bottom slab. Where the soil condition does not permit driving the ground rod into the earth without damage to the ground rod, the Contractor shall drill a 4-inch (100 mm) diameter hole into the earth to receive the ground rod. The hole around the ground rod shall be filled throughout its length, below slab, with Portland cement grout. Ground rods shall be installed in precast bottom slab of structures by drilling a hole through bottom slab and installing the ground rod. Bottom slab penetration shall be sealed watertight with Portland cement grout around the ground rod.

A grounding bus of 4/0 bare stranded copper shall be exothermically bonded to the ground rod and loop the concrete structure walls. The ground bus shall be a minimum of one foot (30 cm) above the floor of the structure and separate from other cables. No. 2 American wire gauge (AWG) bare copper pigtails shall bond the grounding bus to all cable trays and other metal hardware within the concrete structure. Connections to the grounding bus shall be exothermic. If an exothermic weld is not possible, connections to the grounding bus shall be made by using connectors approved for direct burial in soil or concrete per UL 467. Hardware connections may be mechanical, using a lug designed for that purpose.

115-3.10 Cleanup and repair. After erection of all galvanized items, damaged areas shall be repaired by applying a liquid cold-galvanizing compound per MIL-P-21035. Surfaces shall be prepared and compound applied per the manufacturer's recommendations.

Prior to acceptance, the entire structure shall be cleaned of all dirt and debris.

115-3.11 Restoration. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. The Contractor shall restore all disturbed areas equivalent to or better than their original condition. All sodding, grading and restoration shall be considered incidental to the respective Item L-115 pay item.

The Contractor shall grade around structures as required to provide positive drainage away from the structure.

Areas with special surface treatment, such as roads, sidewalks, or other paved areas shall have backfill compacted to match surrounding areas, and surfaces shall be repaired using materials comparable to original materials.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

After all work is completed, the Contractor shall remove all tools and other equipment, leaving the entire site free, clear and in good condition.

115-3.12 Inspection. Prior to final approval, the electrical structures shall be thoroughly inspected for conformance with the plans and this specification. Any indication of defects in materials or workmanship shall be further investigated and corrected. The earth resistance to ground of each ground rod shall not exceed 25 ohms. Each ground rod shall be tested using the fall-of-potential ground impedance test per American National Standards Institute / Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81. This test shall be performed prior to establishing connections to other ground electrodes.

115-3.13 Manhole elevation adjustments. The Contractor shall adjust the tops of existing manholes in areas designated in the Contract Documents to the new elevations shown. The Contractor shall be responsible for determining the exact height adjustment required to raise or lower the top of each manhole to the new elevations. The existing top elevation of each manhole to be adjusted shall be determined in the field and subtracted/added from the proposed top elevation.

The Contractor shall remove/extend the existing top section or ring and cover on the manhole structure or manhole access. The Contractor shall install precast concrete sections or grade rings of the required dimensions to adjust the manhole top to the new proposed elevation or shall cut the existing manhole walls to shorten the existing structure, as required by final grades. The Contractor shall reinstall the manhole top section or ring and cover on top and check the new top elevation.

The Contractor shall construct a concrete slab around the top of adjusted structures located in graded areas that are not to be paved. The concrete slab shall conform to the dimensions shown on the plans.

115-3.14 Duct extension to existing ducts. Where existing concrete encased ducts are to be extended, the duct extension shall be concrete encased plastic conduit. The fittings to connect the ducts together shall be standard manufactured connectors designed and approved for the purpose. The duct extensions shall be installed according to the concrete encased duct detail and as shown on the plans.

METHOD OF MEASUREMENT

- 115-4.1 Electrical manholes and junction structures shall be measured by each unit completed in place and accepted. The following items shall be included in the price of each unit: All required excavation and dewatering:; sheeting and bracing; all required backfilling with on-site materials; restoration of all surfaces and finished grading and turfing; all required connections; temporary cables and connections; and ground rod testing
- **115-4.2 Manhole elevation adjustments** shall be measured by the completed unit installed, in place, completed, and accepted. Separate measurement shall not be made for the various types and sizes.

BASIS OF PAYMENT

- 115-5.1 The accepted quantity of electrical manholes and junction structures will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, furnishing and installation of appurtenances and connections to duct banks and other structures as may be required to complete the item as shown on the plans and for all labor, equipment, tools and incidentals necessary to complete the structure.
- 115-5.2 Payment shall be made at the contract unit price for manhole elevation adjustments. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary, including but not limited to, spacers, concrete, rebar, dewatering, excavating, backfill, topsoil, sodding and pavement restoration, where required, to complete this item as shown in the plans and to the satisfaction of the RPR.

Payment will be made under:

Item L-115-5.1	Electrical Manhole - Per Each
Item L-115-5.2	Electrical Junction Structure - Per Each
Item L-115-5.3	Existing Electrical Manhole/Junction Structure Elevation Adjustment— Per Each
Item L-115-5.4	Electrical Handhole –Per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

	·
ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System
Advisory Circular (AC)	
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 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program
Commercial Item Description (CID)
A-A 59544	Cable and Wire, Electrical (Power, Fixed Installation)
ASTM International (ASTM)	
ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C144	Standard Specification for Aggregate for Masonry Mortar

ASTM C150 Standard Specification for Portland Cement

ASTM C206 Standard Specification for Finishing Hydrated Lime

FAA Engineering Brief (EB)

EB #83 In Pavement Light Fixture Bolts

Mil Spec

MIL-P-21035 Paint High Zinc Dust Content, Galvanizing Repair

National Fire Protection Association (NFPA)

NFPA-70 National Electrical Code (NEC)

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Item L-119 Airport Obstruction Lights

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Item L-125 Installation of Airport Lighting Systems

DESCRIPTION

125-1.1 This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item 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 RPR.

EQUIPMENT AND MATERIALS

125-2.1 General.

- **a.** Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not performs as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.
- **b.** Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.
- c. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.
- **d.** The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.
- **e.** All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from 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.

EQUIPMENT AND MATERIALS

- **125-2.2 Conduit/Duct.** Conduit shall conform to Specification Item L-110 Airport Underground Electrical Duct Banks and Conduits.
- **125-2.3 Cable and Counterpoise.** Cable and Counterpoise shall conform to Item L-108 Underground Power Cable for Airports.
- **125-2.4 Tape.** Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.
- **125-2.5 Cable Connections.** Cable Connections shall conform to Item L-108 Installation of Underground Cable for Airports.
- 125-2.6 Retroreflective Markers. Not required.
- **125-2.7 Runway and Taxiway Lights.** Runway and taxiway lights shall conform to the requirements of AC 150/5345-46. Lamps shall be of size and type indicated, or as required by fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

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_	/12	511	w

Туре	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-861T	2	1	N/A	4	L-867	BLUE	25W	

125-2.8 Runway and Taxiway Signs. Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44.

Signs

Type	Size	Style	Class	Mode	Notes
L-858Y	1	3	1	2	
L-858R	1	3	1	2	

- 125-2.9 Runway End Identifier Light (REIL). Not required.
- 125-2.10 Precision Approach Path Indicator (PAPI). Not required.
- 125-2.11 Circuit Selector Cabinet. Not Required
- **125-2.12 Light Base and Transformer Housings.** Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42. Light bases shall be Type L-867, Class 1A, Size B shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.
- **125-2.13 Isolation Transformers**. Isolation Transformers shall be Type L-830, size as required for each installation. Transformer shall conform to AC 150/5345-47.

INSTALLATION

125-3.1 Installation. The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

- **125-3.2 Testing.** All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.
- **125-3.3 Shipping and Storage.** Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.
- **125-3.4 Elevated and In-pavement Lights.** Water, debris, and other foreign substances shall be removed prior to installing fixture base and light.

A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline and facing in the required direction. The outermost edge of fixture shall be level with the surrounding pavement. Surplus sealant or flexible embedding material shall be removed. The holding device shall remain in place until sealant has reached its initial set.

METHOD OF MEASUREMENT

125-4.1 Reflective markers will be measured by the number installed as completed units in place, ready for operation, and accepted by the RPR. Runway and taxiway lights will be measured by the number of each type installed as completed units in place, ready for operation, and accepted by the RPR. Guidance signs will be measured by the number of each type and size installed as completed units, in place, ready for operation, and accepted by the RPR. Runway End Identifier Lights shall be measured by each system installed as a completed unit in place, ready for operation, and accepted by the RPR.

Precision Approach Path Indicator shall be measured by each system installed as a completed unit, in place, ready for operation, and accepted by the RPR. Abbreviated Precision Approach Path Indicator shall be measured by each system installed as a completed unit, in place, ready for operation, and accepted by the RPR.

BASIS OF PAYMENT

125-5.1 Payment will be made at the Contract unit price for each complete runway or taxiway light, guidance sign, reflective marker, runway end identification light, precision approach path indicator, or abbreviated precision approach path indicator installed by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and

installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

Payment will be made under:

L-861T - Elevated Taxiway Edge Light, inclusive of L-867 base, L-830 Transformer, concrete, installed complete. — each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)	
AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-5	Circuit Selector Switch
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 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program
Engineering Brief (EB)	
EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures

END OF ITEM L-125

Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Engineering Division, Federal Aviation Administration ATTN: AAS-100, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Safety and Standards at (202) 267-5383.

Subj	ect: AC 150/5370-10H	Date:	
Plea.	se check all appropriate line ite	ems:	
	An error (procedural or typogi	raphical) has been noted in parag	graph on page
	Recommend paragraph	on page	be changed as follows:
	In a future change to this AC, (Briefly describe what you was	please cover the following subje nt added.)	ct:
	Other comments:		
	I would like to discuss the abo	ove. Please contact me at (phone	number, email address).

CONSTRUCTION PLANS

PETER PRINCE FIELD TAXIWAY 'A' REHABILITATION SANTA ROSA COUNTY, FLORIDA

MAY 2021



MOTT MACDONALD PROJECT NO. 502402274-008

ISSUED FOR BID

SANTA ROSA COUNTY COMMISSIONERS

CHAIR SAM PARKER -DISTRICT 1

ROBERT A. "BOB" COLE -DISTRICT 2

VICE CHAIR W.D. "DON" SALTER -DISTRICT 3

DAVE PIECH -DISTRICT 4

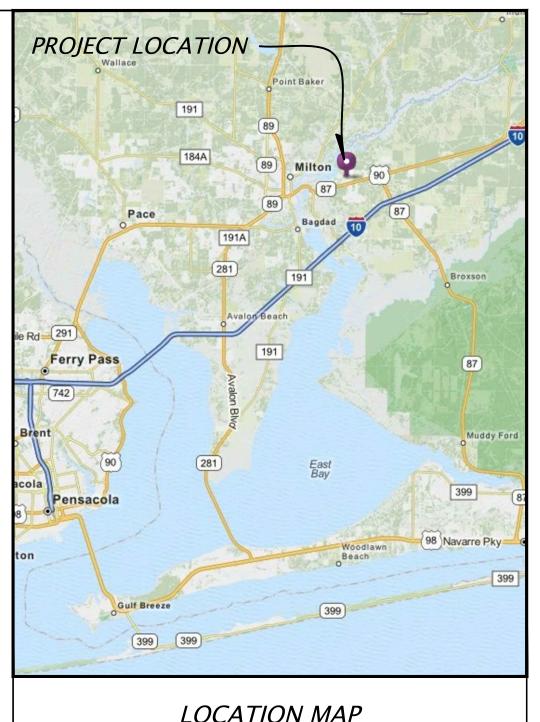
LANE LYNCHARD -DISTRICT 5

MOTT MACDONALD

Mott MacDonald Florida, LLC.
220 West Garden Street
Suite 700
Pensacola, FL 32502
United States of America
T +1 (850) 484 6011
www.mottmac.com/americas

Architects Engineers Surveyors
AA - C0000035 EB - 0000155 LB - 0006783

SHEET	DESCRIPTION
	CIVIL
C-001	COVER SHEET
C-002	GENERAL NOTES & SUMMARY OF QUANTITIES
C-003	OVERALL CONSTRUCTION PLAN
C-004 - C-005	GEOMETRY & SURVEY CONTROL PLAN
C-006	TYPICAL SECTIONS
C-007 - C-010	DEMOLITION PLAN - TAXIWAY 'A'
C-011 - C-014	LAYOUT & PAVEMENT MARKING PLAN - TAXIWAY 'A'
C-015 - C-022	CROSS SECTIONS - TAXIWAY 'A'
C-023	DEMOLITION PLAN - TAXIWAY 'A4'
C-024	PLAN & PROFILE - TAXIWAY 'A4'
C-025	CROSS SECTIONS - TAXIWAY 'A4'
C-026	PAVEMENT MARKING PLAN - TAXIWAY 'A4'
C-027	PAVEMENT MARKING DETAILS
C-028 - C-029	DETAILS
	ELECTRICAL
E-001	ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES
E-002	ONE-LINE DIAGRAM
E-012	LIGHTING PLAN - TAXIWAY 'A'
E-013	LIGHTING PLAN - TAXIWAY 'A'
E-014	LIGHTING PLAN - TAXIWAY 'A'
E-015	LIGHTING PLAN - TAXIWAY 'A'
E-900	ELECTRICAL DETAILS
E-901	ELECTRICAL DETAILS



SCALE: 1" = 15,000'

Rev	Date	Drawn	Description	Ch'k'd	App'd
	•	<u>.</u>			

M MOTT M Mott MacDonald Florida, LLC 220 West Garden Street Suite 700
Pensacola, FL 32502
United States of America T +1 (850) 484 6011
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Architects Engineers Surveyors AA - C0000035 EB - 0000155 LB - 0006783

Santa Rosa County
Board of County Commissioners

Peter Prince Field
Taxiway 'A' Rehabilitation
COVER SHEET

ISSUED FOR BID

THIS DRAWING IS

NOT FOR

CONSTRUCTION

Project Number				B/O		Total	
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Designed	L. LEWIS			Eng check	H. JENKINS		
Drawn	C. RILEY			Coordination	L. LEWIS		
Dwg check	j check			Approved			
Scale at ANS	I D	Status		Rev		Security	
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Drawing Number							
C-001							

User Name: RIL36256 Time Stamp: May 05, 2021 - 12:41:56PN Drawing Name: C-001 Cover Sheet.dwg

- 2. CONSTRUCTION OF THE WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL AVIATION ADMINISTRATION STANDARDS AND SPECIFICATIONS.
- 3. THE PRECEDENCE OF THE CONTRACT DOCUMENTS ARE CONTAINED IN THE SPECIFICATIONS.
- 4. CALCULATED DIMENSIONS WILL GOVERN OVER SCALED DIMENSIONS.
- 5. THE CONTRACTOR SHALL COMPLY WITH ALL CITY, COUNTY, AND STATE TRAFFIC REGULATIONS CONCERNING THE USE OF STREETS AND ROADWAYS FOR HAULING. ANY DAMAGE DONE TO THE ROADWAYS AND TAXIWAYS DUE TO THE CONTRACTOR'S EQUIPMENT OR HAULING OPERATIONS SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE SOLE EXPENSE OF THE CONTRACTOR. PRIOR TO CONSTRUCTION CONTRACTOR SHALL PERFORM A CONDITION ASSESSMENT OF THESE FACILITIES AND PROVIDE A COPY OF THE ASSESSMENT TO THE ENGINEER.
- 6. THESE PLANS SHOW ITEMS TO BE CONSTRUCTED. ACTUAL FIELD CONDITIONS, GRADES, LOCATIONS AND OTHER FEATURES MAY DIFFER FROM CONDITIONS INDICATED IN THESE DOCUMENTS.
- 7. HAUL ROUTES THE LOCATION OF HAUL ROUTES ON THE AIRPORT SHALL BE AS SHOWN ON THE PLANS AND AS APPROVED BY THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF-SITE HAUL ROUTES WITH THE PARTY HAVING JURISDICTION OVER THE AFFECTED ROUTE. ON-SITE HAUL ROUTES WILL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UPON COMPLETION OF BEING USED AS A HAUL ROUTE AT THE SOLE EXPENSE OF THE CONTRACTOR. FENCING, DRAINAGE, EROSION CONTROL, GRADING OR OTHER WORK NECESSARY TO CONSTRUCT HAUL ROUTES ON THE AIRPORT IS THE CONTRACTOR'S RESPONSIBILITY AND MUST BE APPROVED BY THE ENGINEER PRIOR TO THE WORK.
- 8. EXCESS SOILS PLACEMENT EXCESS SOILS, EXCESS MILLED ASPHALT CONCRETE, CONCRETE, RUBBLE, AND UNSUITABLE EXCAVATION SHALL BE DISPOSED OF OFF-SITE ACCORDING TO LOCAL LAWS AND REGULATIONS. UNLESS INDICATED OTHERWISE NO MATERIAL SHALL BE WASTED OR STOCKPILED ON THE AIRPORT UNLESS APPROVED BY THE ENGINEER. COSTS ASSOCIATED WITH THESE MATERIALS ARE CONSIDERED INCIDENTAL TO THE WORK. THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO SANTA ROSA COUNTY (SRC) INDICATING THE LOCATION AND QUANTITY OF ANY MATERIAL DISPOSED OF OFF AIRPORT PROPERTY. ANY REMOVAL ITEMS OF VALUE ARE TO REMAIN THE PROPERTY OF SANTA ROSA COUNTY (SRC) UNLESS OTHERWISE INDICATED.
- 9. CONTRACTOR SHALL SUBMIT PROPOSED LOCATION(S) FOR THE STORAGE OF SALVAGED ITEMS, TO THE ENGINEER FOR APPROVAL.
- 10. STOCKPILED MATERIAL SHALL BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT AS A RESULT OF AIRCRAFT OPERATIONS OR WIND.
- 11. CONTRACTOR GENERATED DEBRIS, WASTE AND LOOSE MATERIAL CAPABLE OF CAUSING DAMAGE TO AIRCRAFT LANDING GEAR, PROPELLERS AND ROTORS OR OF BEING INGESTED BY JET ENGINES SHALL NOT BE LEFT ON ACTIVE MOVEMENT AREAS. MATERIAL DROPPING WITHIN THESE AREAS SHALL BE REMOVED IMMEDIATELY AND CONTINUOUSLY BY THE CONTRACTOR AT ALL TIMES.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL SRC PROPERTY AND SHALL LOCATE AND PROTECT CAREFULLY FROM DAMAGE OR DISTURBANCE ALL BENCHMARKS, LAND MONUMENTS AND PROPERTY MARKERS. IF DAMAGE OR INJURY TO PROPERTY DOES OCCUR DURING THE WORK, THE CONTRACTOR SHALL RESTORE, AT THE CONTRACTOR'S OWN EXPENSE, SUCH PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE BY REBUILDING OR RESTORING AS DIRECTED, BY SRC AND THE ENGINEER.
- 13. THE CONTRACTOR IS ADVISED THAT OTHER CONSTRUCTION MAY BE IN PROGRESS DURING ALL OR PART OF THE WORK. THE CONTRACTOR SHALL COORDINATE THE CONTRACTOR'S WORK WITH THE WORK OF OTHER CONTRACTORS. SEE CONTRACT DOCUMENTS FOR OTHER REQUIREMENTS AND PROCEDURES TO BE FOLLOWED DURING CONSTRUCTION.
- 14. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION SURVEYING. ANY DEVIATIONS FROM EXISTING GRADES AS SHOWN ON THE PLANS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER. EXISTING AIRPORT SURVEY MONUMENTS ARE LOCATED THROUGHOUT THE CONSTRUCTION AREA. THE CONTRACTOR SHALL AT THE CONTRACTOR'S SOLE EXPENSE, HAVE A REGISTERED LAND SURVEYOR REPLACE ANY DISTURBED MONUMENT. REPLACED MONUMENTS SHALL BE PLACED AT LEAST 10' BUT NOT MORE THAN 50' FROM THE ORIGINAL MONUMENT.
- 15. CONTRACTOR SHALL ESTABLISH TEMPORARY BENCHMARKS (TBM) AS THE CONTRACTOR DEEMS NECESSARY BUT AT INTERVALS NOT GREATER THAN 1,000' ALONG THE PROJECT PRIOR TO BEGINNING ANY CONSTRUCTION REQUIRING LOCATIONS OR GRADES. TBM'S SHALL BE PLACED WHERE THEY WILL NOT BE DISTURBED BY CONSTRUCTION. TBM DATA SHALL BE PROVIDED TO THE ENGINEER.
- 16. SAFETY AND SECURITY SAFETY AND SECURITY IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE COORDINATED WITH SRC AND THE ENGINEER.
- 17. THE CONTRACTOR SHALL NOT ENTER ONTO ANY AREA OUTSIDE OF THE CONSTRUCTION LIMITS, STAGING AREA OR DESIGNATED HAUL ROUTES WITHOUT THE WRITTEN APPROVAL BY THE ENGINEER.
- 18. THE CONTRACTOR SHALL NOTIFY SRC IN WRITING, THROUGH THE ENGINEER, A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE TO OBTAIN CLEARANCE FOR WORK. THE CONTRACTOR SHALL SUBMIT A CRITICAL PATH METHOD (CPM) SCHEDULE (MICROSOFT PROJECT FORMAT) FOR REVIEW AT THE PRE-CONSTRUCTION CONFERENCE.
- 19. THE OWNER RESERVES THE RIGHT TO MAKE REVISIONS TO THE FINISHED ELEVATIONS AND GRADIENTS. IF CHANGES ARE NECESSARY, THE OWNER WILL FURNISH A REVISED GRADING OR PAVING PLAN. UNIT PRICES SHALL GOVERN FOR REVISED QUANTITIES.
- 20. THE CONTRACTOR SHALL APPLY WATER, CHEMICALS, VEGETATION OR OTHER MATERIALS TO PREVENT THE OCCURRENCE OF DUST WHICH IS OBJECTIONABLE TO THE OPERATIONS OR USERS OF THE AREA. OPERATIONS AND USERS SHALL INCLUDE BUT NOT BE LIMITED TO AIRPORT OPERATIONS, MAINTENANCE, AIRCRAFT OPERATIONS, AIRPORT TENANTS, AIRFIELD OPERATIONS, AND LAND SIDE OPERATIONS. THE CONTRACTOR SHALL ALSO DISCONTINUE OPERATIONS, WHICH VIOLATE EXISTING LAWS AND REGULATIONS OR CREATE A HAZARD TO AIR TRAFFIC. ALL COST FOR CONTROLLING DUST OR POLLUTANTS TO THE AIR OF ANY KIND SHALL BE INCIDENTAL TO THE WORK.
- 21. EXISTING UTILITY INFORMATION, LIGHTING DUCTS, AND CABLES SHOWN ON THE PLANS CONCERNING THE TYPE, SIZE, AND LOCATION WERE COMPILED BASED ON RECORDS AVAILABLE. THE CONTRACTOR SHALL PROVIDE A UTILITY LOCATOR AND VERIFY THE ACTUAL LOCATION PRIOR TO CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES IN PLACE UNLESS NOTED OTHERWISE OR SPECIFIED. THE OWNER AND ENGINEER BEAR NO RESPONSIBILITY FOR UTILITIES NOT SHOWN ON THE PLANS OR NOT IN THE LOCATION SHOWN ON THE PLANS. ANY AND ALL DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. EXCAVATION IMMEDIATELY NEAR UTILITIES SHALL BE DONE BY HAND. UTILITIES INTERFERING WITH CONSTRUCTION SHALL BE RESET OR RELOCATED BY THE UTILITY COMPANY CONCERNED UNLESS NOTED OTHERWISE. IN ADDITION TO THE CONTACTS REQUIRED IN SECTION 50 OF THE SPECIFICATIONS, CONTRACTOR SHALL CONTACT THE FOLLOWING AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO BEGINNING CONSTRUCTION:

SANTA ROSA COUNTY (SRC)
TINA STEWART
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6491 CAROLINE ST., SUITE 4
MILTON, FL 32570

22. POWER, CONTROL CABLES AND FIXTURES FOR AIRFIELD LIGHTING AND NAVIGATIONAL AIDS ARE LOCATED IN THE CONSTRUCTION AREAS. THE CONTRACTOR'S PERSONNEL SHALL BECOME FAMILIAR WITH THESE CABLE AND FIXTURE LOCATIONS AND KEEP VEHICLES AND EQUIPMENT CLEAR OF THEM AT ALL TIMES. ADHERENCE TO AVIATION LOCKOUT/TAGOUT PROCEDURES SHALL BE STRICTLY

FOLLOWED.

- 23. ANY DAMAGE TO THE EXISTING AIRPORT LIGHTING SYSTEM CAUSED BY CONSTRUCTION OPERATIONS SHALL BE IMMEDIATELY NOTED TO THE OWNER AND REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S SOLE EXPENSE.
- 24. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL FIRE HYDRANTS AT ALL TIMES.
- 25. THE CONTRACTOR SHALL NOT DRAW WATER FROM ANY FIRE HYDRANT FOR USE ON THE WORK WITHOUT FIRST OBTAINING A WRITTEN PERMIT FROM THE CONTROLLING FIRE DEPARTMENT.
- 26. THE CONTRACTOR WILL BE REQUIRED TO COORDINATE WITH THE ENGINEER THE PRECISE LOCATION AND LIMITS OF THE STAGING AREAS, AS WELL AS ANY SPECIAL REQUIREMENTS FOR FENCING, EROSION CONTROL. SECURITY OR ACCESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL UTILITIES AND HOOKUPS NECESSARY FOR THE CONTRACTOR'S USE AND FOR ALL PROJECT FIELD OFFICES AS REQUIRED.
- 27. THE EXACT LIMITS, LIGHTING, AND SECURITY REQUIREMENTS OF THE CONTRACTOR'S STAGING AND STORAGE AREA SHALL BE ESTABLISHED BY THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER IN THE AREAS GENERALLY AS SHOWN ON THE PLANS. ANY AND ALL REQUIRED UTILITIES FOR THE CONTRACTOR'S OPERATIONS SHALL BE ARRANGED FOR AND SOLELY PAID FOR BY THE CONTRACTOR AND PAID DIRECTLY TO THE APPROPRIATE UTILITY. UTILITY ARRANGEMENTS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. ALL COSTS ASSOCIATED WITH PREPARING THE STORAGE AND STAGING AREA SITES SHALL BE AT THE SOLE EXPENSE OF THE CONTRACTOR. THIS INCLUDES, BUT IS NOT LIMITED TO CLEARING AND GRADING OF THE SITE, CONSTRUCTION OF ALL TEMPORARY UTILITIES, AND RESTORATION OF THE SITE TO ITS ORIGINAL CONDITION.
- 28. THE CONTRACTOR SHALL COMPLETE CLEAN UP AND RESTORATION OF ENTIRE PROJECT AREA, INCLUDING STAGING AND STORAGE AREAS, AS APPROVED BY THE ENGINEER WITHIN 15 DAYS OF THE COMPLETION OF THE WORK.
- 29. THE CONTRACTOR SHALL CONDUCT THE FINAL CLEANING OF AFFECTED AIRPORT PAVEMENTS PRIOR TO RE-OPENING THE PAVEMENTS AT THE END OF EACH SHIFT TO AIR TRAFFIC. THE CONTRACTOR IS RESPONSIBLE FOR CONTINUOUS DAILY CLEAN UP OF THE WORK AREA. THE CONTRACTOR SHALL CONDUCT POWER VACUUM CLEANING OF AFFECTED AIRPORT PAVEMENTS PRIOR TO RE-OPENING EACH PHASE OF THE PAVEMENTS TO AIR TRAFFIC, AND FOR ACTIVE TAXIWAYS AND RUNWAYS IMMEDIATELY FOLLOWING ANY ACCESS ONTO OR CROSSING OF THE PAVEMENT BY CONSTRUCTION TRAFFIC. CONTRACTOR WILL PROVIDE SUFFICIENT BACK-UP POWER VACUUM EQUIPMENT TO ENSURE THOROUGH & TIMELY CLEANING.
- 30. THE CONTRACTOR IS REQUIRED TO PROVIDE LIGHTING FOR CONSTRUCTION DURING THE HOURS OF DARKNESS AS REQUIRED BY THE SPECIFICATIONS. COSTS FOR LIGHTING SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK. CONTRACTOR WILL PROVIDE SUFFICIENT LIGHTING TO SUPPORT THE SCALE OF THE WORK.
- 31. THE CONTRACTOR'S SUPERINTENDENT SHALL BE ON THE CONSTRUCTION SITE AT ALL TIMES DURING WORKING HOURS WHILE THE WORK IS IN PROGRESS. THE CONTRACTOR'S SUPERINTENDENT SHALL BE THE DESIGNATED RESPONSIBLE CONTRACTOR REPRESENTATIVE AND SHALL BE AVAILABLE IN CASE OF EMERGENCIES ON A 24-HOUR DAILY BASIS.
- 32. THE MAJORITY OF THE WORK WILL OCCUR WITHIN THE AOA AND IS SUBJECT TO OPERATIONAL SAFETY AND SECURITY REQUIREMENTS OF SRC, FDOT AND FAA. ANY ADDITIONAL REQUIREMENTS AS MAY BE DEEMED NECESSARY BY SRC, FDOT OR THE FAA WILL BE COMPLIED WITH BY THE CONTRACTOR AT THE CONTRACTOR'S SOLE EXPENSE.
- 33. ROADS USED AS CONTRACTOR ROUTES WILL BE USED BY OTHER AIRPORT VEHICLES (24 HOURS PER DAY). THE CONTRACTOR SHALL NOT INTERFERE WITH OTHER VEHICLE TRAFFIC AND SHALL YIELD TO AIRCRAFT AND EMERGENCY VEHICLES ALONG ANY OF THE AIRPORT OR PUBLIC ROADS.
- 34. CONTRACTOR'S VEHICLES SHALL BE EQUIPPED WITH ROTATING OR FLASHING AMBER LIGHTS.
 MATERIALS HAULING VEHICLES NOT SO EQUIPPED SHALL BE ESCORTED BY A VEHICLE SO EQUIPPED.
 ALL VEHICLES SHALL DISPLAY THE COMPANY LOGO.
- 35. ALL VEHICLES AND EQUIPMENT SHALL BE KEPT WITHIN THE WORK AREAS ESTABLISHED FOR EACH WORKSHIFT UNLESS TRAVELING TO OR FROM THE SITE. ALL VEHICLES TRAVELING TO OR FROM THE WORK SITE SHALL USE DESIGNATED ROUTES ONLY. ALL VEHICLES AND EQUIPMENT SHALL BE PARKED IN STAGING AREAS AS APPROVED BY THE ENGINEER.
- 36. CONTRACTOR SHALL PROVIDE TRAINED FLAGGERS TO COORDINATE AND CONTROL CONSTRUCTION TRAFFIC OPERATING ACROSS ANY ACTIVE PAVEMENTS. FLAGGERS SHALL MONITOR GROUND CONTROL FREQUENCY. IN ADDITION, FLAGGERS SHALL BE PROVIDED FOR CONTROLLING EQUIPMENT ENTERING AND LEAVING THE WORK AREA.
- 37. THE CONTRACTOR SHALL FOLLOW THE CONSTRUCTION PHASING PLANS AND DETAILS, AND SHALL AT NO TIME CROSS AN ACTIVE RUNWAY OR TAXIWAY UNLESS MONITORED, ESCORTED BY AN ESCORT, OR AS DEFINED IN THE SPECIFICATIONS. VIOLATION COULD RESULT IN PERMANENT EJECTION FROM THE AIRPORT PROPERTY AND/OR THE ASSESSMENT OF FINES.
- 38. AS SHOWN ON THE PLANS, CONTRACTOR ACCESS GATE SHALL BE MANNED BY A CONTRACTOR SUPPLIED GATE GUARD OR REMAIN LOCKED AT ALL TIMES WHEN NOT OCCUPIED. APPROVED GATE GUARD SHALL CONTROL ACCESS TO ALLOW ONLY AUTHORIZED CONSTRUCTION TRAFFIC TO ENTER THE SITE. SEE CONSTRUCTION PHASING PLANS AND DETAILS.
- 39. ALL SURFACE RUNOFF FROM THE STAGING AREAS OR THE AREAS UNDER CONSTRUCTION SHALL BE COLLECTED AND ADEQUATELY FILTERED BEFORE DISCHARGED INTO THE EXISTING DRAINAGE SYSTEM. CONTRACTOR SHALL MITIGATE THE IMPACTS OF RUNOFF FROM THE SITE IN CONFORMANCE WITH THE SPECIFICATIONS, AND THE CONTRACTOR'S APPROVED SWPPP.
- 40. NO ADJUSTMENT FOR ADDITIONAL COMPENSATION AND TIME WILL BE MADE FOR TIME LOST IN WORK AREAS CONTIGUOUS TO TAXIWAYS AND RUNWAYS DUE TO AIRCRAFT TRAFFIC.
- 41. CONTRACTOR SHALL NOTE IN THE RECORD DRAWINGS ANY AND ALL PIPES, DUCTS AND CABLES FOUND DURING EXCAVATION. INDICATE EXACT POSITION, ELEVATION, DIRECTION, SIZE, MATERIAL, PURPOSE AND ACTIVE STATUS, IF KNOWN.
- 42. ANY CONSTRUCTION ACTIVITY WITHIN 400 FEET OF AN ACTIVE RUNWAY CENTERLINE OR 65.5 FEET FROM AN ACTIVE TAXIWAY CENTERLINE OR OPEN EXCAVATIONS IN EXCESS OF 3 INCHES DEEP WITHIN THE ABOVE AREAS WILL REQUIRE CLOSURE OF THE AFFECTED RUNWAY, OR TAXIWAY, UNLESS OTHERWISE APPROVED BY THE AIRPORT. THE CONTRACTOR MUST NOTIFY THE AIRPORT OR THE ENGINEER A MINIMUM OF 48 HOURS PRIOR TO CLOSURE.
- 43. CLOSED RUNWAY OR TAXIWAY MARKERS AND BARRICADES SHALL BE SECURED AGAINST WIND AND AIRCRAFT JET/PROP BLASTS BY WEIGHTING OR NAILING INTO PAVEMENT.
- 44. REFERENCES:
 -FAA ADVISORY CIRCULAR 150/5370-2E "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".
 -FAA ADVISORY CIRCULAR 150/5210-5D- "PAINTING, MARKING AND LIGHTING OF VEHICLES USED ON AN

-FAA PARTS 77, 139 & 157 (WHEN APPLICABLE)
-FAA ADVISORY CIRCULAR 150/5200-18B- "AIRPORT SAFETY SELF INSPECTION".

AIRPORT".

45. THE ENGINEER (ENGINEER OF RECORD) SHALL PROVIDE TO THE OWNER AND SANTA ROSA COUNTY 'AS-BUILT' RECORD DRAWINGS FOR VERIFICATION AND APPROVAL BY SANTA ROSA COUNTY ONE WEEK PRIOR TO REQUESTING FINAL INSPECTION, OR PROVIDE 'AS-BUILT' CERTIFICATION THAT THE PROJECT CONSTRUCTION ADHERES TO THE PERMITTED PLANS AND SPECIFICATIONS. THE 'AS-BUILT' CERTIFICATION OR THE 'AS-BUILT' RECORD DRAWINGS MUST BE SIGNED, SEALED & DATED BY A REGISTERED FLORIDA PROFESSIONAL ENGINEER. AS-BUILT DRAWINGS SHALL INCLUDE TOPO OF POND VERIFYING POND VOLUME, OUTLET STRUCTURE DETAILS, DRAINAGE STRUCTURE MODIFICATIONS, AND HYDROLOGY STUDY ON AS-BUILT DATA.

- 46. (LDC 4.02.06.F) FOR PROJECT WITH CONSTRUCTION ACTIVITIES THAT DISTURB > 1 ACRE, OR IS PART OF A LARGER COMMON PLAN OF DEVELOPMENT OR SALE THAT WILL DISTURB > ACRE AND STORMWATER DISCHARGE IS TO THE SURFACE WATER OF THE STATE OR TO A MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4), AND NPDES PERMIT IS REQUIRED. PROVIDE COPY OF "NOTICE OF INTENT" TO SANTA ROSA COUNTY ENGINEERING DEPARTMENT.
- 47. TO COMPLY WITH NPDES REQUIREMENTS, ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AFTER EACH 1/4" RAINFALL EVENT OR AT LEAST WEEKLY. THE CONTRACTOR SHALL DOCUMENT SUCH INSPECTIONS AND EROSION CONTROL MAINTENANCE EFFORTS; INSPECTION RECORDS SHALL BE PROVIDED TO THE NPDES PERMIT APPLICANT FOR PROPER RECORDING TO FDEP.
- 48. CONTRACTOR SHALL BE RESPONSIBLE FOR & COMPLY WITH ANY TESTING REQUIRED BY THE LOCAL GOVERNING AGENCY IN ADDITION TO THE TESTING REQUIREMENTS OUTLINED IN THE SPECIFICATIONS. DENSITY TESTING & CORE SAMPLES WILL BE REQUIRED TO DEMONSTRATE COMPLIANCE WITH COUNTY STANDARDS PRIOR TO FINAL APPROVAL OF ROADWAY IMPROVEMENTS.
- 49. THE CONTRACTOR SHALL INSTALL PRIOR TO THE START OF CONSTRUCTION AND MAINTAIN DURING CONSTRUCTION ALL SEDIMENT CONTROL MEASURES AS REQUIRED TO RETAIN ALL SEDIMENTS ON THE SITE. IMPROPER SEDIMENT CONTROL MEASURES MAY RESULT IN CODE ENFORCEMENT VIOLATIONS. EROSION AND SEDIMENTATION CONTROL REQUIREMENTS SPECIFIED HEREIN SHALL BE CONSIDERED MINIMUM INSTALLATION REQUIREMENTS. CONTRACTOR SHALL PROVIDE ANY MATERIAL ITEM OR EFFORT NECESSARY TO PREVENT EROSION AND MAINTAIN SEDIMENT ON SITE. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL.
- 50. CONTRACTOR SHALL RESHAPE PER PLAN SPECIFICATIONS, CLEAN OUT ACCUMULATED SILT AND STABILIZE RETENTION/DETENTION POND(S) AT THE END OF CONSTRUCTION WHEN ALL DISTURBED AREAS HAVE BEEN STABILIZED AND AT THE END OF THE 2 YEAR WARRANTY PERIOD.
- 51. CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS DURING CONSTRUCTION WHICH WILL SHOW 'AS-BUILT' CONDITIONS OF ALL WORK INCLUDING PIPING, DRAINAGE STRUCTURES, TOPO OF PONDS, OUTLET STRUCTURES, DIMENSIONS, ELEVATIONS, GRADING, ETC. RECORD DRAWINGS SHALL BE PROVIDED TO THE ENGINEER OF RECORD PRIOR TO REQUESTING FINAL INSPECTION.
- 52. THE OWNER OR HIS/HER AUTHORIZED AGENT SHALL SUBMIT THE CONSTRUCTION COMMENCEMENT NOTICE TO NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- 53. THE CONSTRUCTION SUPERINTENDENT SHALL BE RESPONSIBLE FOR DAILY INSPECTION OF THE SITE.
- 54. APPROXIMATE CONSTRUCTION SCHEDULE:

CONSTRUCTION COMMENCEMENT: AUGUST, 2021
CONSTRUCTION COMPLETION: MARCH, 2022

PAVEMENT MARKING NOTES:

- 1. ALL MARKINGS SHALL CONFORM TO FAA ADVISORY CIRCULAR 150/5340-1L.
- 2. LOCATIONS OF EXISTING MARKINGS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ACTUAL LOCATIONS.
- 3. ALL RUNWAY MARKINGS SHALL BE WHITE, ALL TAXIWAY MARKINGS SHALL BE YELLOW (UNLESS OTHERWISE NOTED).
- 4. GLASS BEADS SHALL BE APPLIED TO ALL MARKINGS.
- 5. FINAL MARKINGS SHALL ALIGN WITH EXISTING MARKINGS AT ALL MATCH POINTS.
- 6. PAINTED/MARKED AREAS TO BE PAINTED OVER SHALL BE THOROUGHLY CLEANED PER P-620 SPECIFICATION, AND ANY EXISTING PAINTING WILL BE REMOVED (THE CONTRACTOR SHALL MAKE AN ASSESSMENT AND NOTIFY THE FIELD ENGINEER OF HIS INTENTIONS). ALL PAINTING SHALL BE WARRANTED PER THE CONTRACT DOCUMENTS.
- 7. THE CONTRACTOR SHALL SUBMIT, IN WRITING, PRIOR TO PERFORMING THE WORK, DOCUMENTATION ON ALL PAINT, GLASS BEADS, STRIPING AGENTS AND APPLICATION EQUIPMENT TO THE ENGINEER FOR APPROVAL.
- 8. GLASS BEADS SHALL BE TYPE III AND MEET THE REQUIREMENTS OF P-620.
- 9. PAINT SHALL MEET THE REQUIREMENTS OF FEDERAL SPECIFICATIONS TT-P-1952E AND BE TYPE II PER
- 10. ALL WHITE AND YELLOW MARKINGS SHALL BE OUTLINED WITH 6" WIDE BLACK PAINT
- 11. REMOVAL OF EXISTING MARKINGS SHALL BE BY WATER BLASTING. PAINTING BLACK OVER EXISTING MARKINGS IS NOT ACCEPTABLE.



LOCATION MAP

SCALE: 1" = 1,100'

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Rev	Date	Drawn	Description	Ch'k'd	App'd

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Architects Engineers Surveyors
AA - C0000035 EB - 0000155 LB - 0006783

Client

Santa Rosa County
Board of County Commissioners

Title

Peter Prince Field
Taxiway 'A' Rehabilitation

GENERAL NOTES & SUMMARY OF QUANTITIES

ISSUED FOR BID

THIS DRAWING IS

NOT FOR

CONSTRUCTION

Project Numb			B/O		Total			
5024	274-00	80	2		37			
Designed	VIS		Eng check	H. JENKINS				
Drawn	C. RIL	.EY		Coordination	L. LEWIS			
Dwg check				Approved				
Scale at ANSI D Status Rev P1 STD							D.	
Drawing Number								
C-002								

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OPERATING CONDITIONS AND SAFETY

- A. CONTRACTOR SHALL PROVIDE ONE SET (TWO UNITS) OF PORTABLE RUNWAY CLOSURE SIGNS (L-893). THE SIGNS SHALL BE PURCHASED NEW AND BECOME THE PROPERTY OF THE CONTRACTOR UPON COMPLETION OF THE WORK.
- B. AIRCRAFT TRAFFIC ALWAYS HAS PRIORITY OVER CONTRACTOR TRAFFIC. CROSSING OF ACTIVE RUNWAYS AND TAXIWAYS BY THE CONTRACTOR WILL NOT BE ALLOWED.
- C. CONTRACTOR VEHICLES, EQUIPMENT AND SUPPLIES MUST REMAIN INSIDE THE WORK AREA ESTABLISHED FOR THE WORK SHIFT UNLESS IN TRANSIT TO OR FROM THE SITE. CONTRACTOR SHALL MOVE EQUIPMENT BACK FROM THE EDGE OF THE CONSTRUCTION AREA, IF REQUESTED BY SRC OR THE ENGINEER TO ALLOW FOR THE PASSAGE OF AIRCRAFT.
- D. ADDITIONAL LIMITATIONS, RESTRICTIONS AND REQUIREMENTS THAT WILL APPLY TO THE CONTRACTOR'S OPERATIONS DURING CONSTRUCTION OF THE WORK ARE DISCUSSED IN THE FAA ADVISORY CIRCULAR 150/5370-2F.
- E. PRIOR TO REOPENING A TEMPORARILY CLOSED TAXIWAY OR RUNWAY. THE PAVEMENT MUST BE THOROUGHLY CLEANED OF ALL DEBRIS AND THE SAFETY AREA RETURNED TO STANDARD CRITERIA. SAFETY AREA CRITERIA PROHIBITS LEAVING EXCAVATIONS OPEN. PAVEMENT EDGE DROP OFF GREATER THAN 3 INCHES, AND GRADES STEEPER THAN 5 PERCENT, IN ADDITION TO OTHER CRITERIA CONTAINED IN THE PLANS AND SPECIFICATIONS
- F. CONTRACTOR SHALL FOLLOW OSHA GUIDELINES AND PROMINENTLY MARK OPEN TRENCHES AND **EXCAVATIONS AT THE CONSTRUCTION SITE WITH RED** OR ORANGE FLAGS, AS APPROVED BY THE ENGINEER. AND LIGHT THEM WITH RED LIGHTS DURING HOURS OF RESTRICTED VISIBILITY OR DARKNESS.
- G. CONSTRUCTION BARRICADES AND BARRIERS SHALL BE

- PLACED AS SPECIFIED. ADDITIONAL BARRICADES SHALL BE PLACED TO MARK ALL OPEN EXCAVATIONS. PAVEMENT DROP-OFFS OR OTHER HAZARDOUS CONDITIONS ADJACENT TO ACTIVE AIRFIELD PAVEMENTS.
- H. ALL BARRICADES SHALL BE REMOVED AND PAVEMENTS CLEANED, SWEPT AND VACUUMED PRIOR TO REOPENING OF PAVEMENTS.
- I. CONTRACTOR SHALL PREPARE, SUBMIT, AND OBTAIN APPROVAL FROM FAA FOR ALL CONSTRUCTION STAGING/LAYDOWN ACTIVITIES REQUIRED. FAA FORM 7460-1 (LATEST EDITION) SHALL BE USED.
- J. CONTRACTOR SHALL PREPARE A SAFETY PLAN FOR THE ENGINEER'S APPROVAL IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5370-2F.
- K. AT LEAST 10 CALENDAR DAYS PRIOR TO BEGINNING THE WORK, CONTRACTOR SHALL HAVE A COORDINATION MEETING TO DISCUSS AS A MINIMUM, BUT NOT LIMITED TO THE RESTRICTIONS, WORK, HAUL ROUTES. TEMPORARY LIGHTS. FOD PREVENTION, GATE GUARDS FLAGGERS, MONITORS, PAVING REPAIRS, WORK BY OTHERS, TEMPORARY FACILITIES, TEMPORARY PAVEMENT MARKINGS AND SIGNS, PERMITS, CLOSURES SECURITY, SAFETY, TESTING, INSPECTIONS, SCHEDULE, COMMUNICATIONS, EROSION CONTROL, AND BARRICADES PLACEMENT, REMOVAL AND STORAGE PLAN. REQUIRED FOR EACH UPCOMING PHASE.
- L. THE ACCESS GATE SHALL BE MANNED AT ALL TIMES. CONTRACTOR SHALL VERIFY THE INTENT OF ALL VEHICLES THAT USE THIS GATE. AND THE GATE SHALL REMAIN LOCKED DURING NON-WORKING HOURS. ESCORTS WILL NOT BE REQUIRED. CONTRACTOR SHALL INFORM ALL DRIVERS OF THE PROPER HAUL ROUTE(S). MAXIMUM SAFE SPEEDS, AND ANY OTHER RESTRICTIONS.
- M. AIRCRAFT FREQUENCY RADIO: THE CONTRACTOR SHALL BE REQUIRED TO HAVE AT LEAST ONE OPERABLE RADIO OPERATING ON 122.7 (UNICOM FREQUENCY) FOR MONITORING AIR TRAFFIC AT

ALL TIMES WHILE ON THE AIRPORT. THE CONTRACTOR SHALL ASSIGN ONE PERSON RESPONSIBLE FOR MONITORING THE FREQUENCY AT ALL TIMES WHILE ON THE CONSTRUCTION SITE.

GENERAL PHASING REQUIREMENTS:

- 1. THE FOLLOWING PLANS ARE GENERAL REQUIREMENTS FOR THE PHASING OF THE WORK. THE PHASING PLANS FOR EACH PORTION OF WORK OUTLINE APPROXIMATE CONSTRUCTION LIMITS.
- 2. CONTRACTOR MAY PERFORM THE WORK BETWEEN 7PM-5AM 7 DAYS PER WEEK.
- 3. PHASE LIMITS ARE APPROXIMATE. PRIOR TO BEGINNING WORK CONTRACTOR SHALL SUBMIT A DETAILED PHASING PLAN AND SCHEDULE
- 4. NO WORK WITHIN THE AOA SHALL START BEFORE THE NOTICE TO PROCEED (NTP). THE CONTRACTOR SHALL REQUEST THE SPECIFIC NTP AFTER THE PREVIOUS PHASE HAS BEEN COMPLETED.
- 5. CONDITIONS REQUIRED PRIOR TO STARTING DEMOLITION WITHIN ANY PART OF THE AOA:
 - A. AN APPROVED WORK SCHEDULE. B. AN ON-SITE UTILITY LOCATING COMPANY.
 - C. AN APPROVED STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 - D. REQUIRED SHOP DRAWINGS AND SUBMITTALS.
 - E. HAUL ROUTES (PRE-CONSTRUCTION) CONDITION ASSESSMENT.
 - F VACUUM SWEEPERS AND BACKUP VACUUM SWEEPERS AS NEEDED TO SUFFICIENTLY REMOVE
 - DEBRIS. G. SAFETY PLAN.
- H. UTILITIES COORDINATION MEETING COMPLETED. I. ALL OTHER REQUIREMENTS AS INCLUDED IN THE PLANS AND SPECIFICATIONS
- 6. ALL AIRPORT PROPERTY INCLUDING LIGHTS AND EQUIPMENT WITHIN THE WORK AREAS, SAFETY AREAS

AND WITHIN THE AOA SHALL BE PROTECTED AT ALL TIMES. THE CONTRACTOR SHALL PROTECT THESE LIGHTS AND EQUIPMENT FROM DAMAGE WHILE WORKING AT THE WORKSITE. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY. DAMAGE DUE TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S SOLE EXPENSE.

- WORK BY OTHERS; THE CONTRACTOR SHALL CLOSELY COORDINATE AND SCHEDULE WORK WITH OTHER CONTRACTORS COMPLETING WORK ON THE AIRFIELD. PRIOR TO PREPARING THE CONSTRUCTION SCHEDULE AND PERIODICALLY DURING CONSTRUCTION, THE CONTRACTOR SHALL MEET WITH THE ENGINEER TO DISCUSS OTHER WORK OCCURRING ON THE AIRFIELD. THE CONTRACTOR SHALL INCORPORATE INTO THE CONSTRUCTION SCHEDULE ANY RESTRICTIONS OR DATES REQUIRED TO MAKE CERTAIN THAT CONFLICTS WITH OTHER CONTRACTORS DO NOT OCCUR.
- 8. THE INTENT OF THIS PHASING PLAN IS TO MINIMIZE THE IMPACT OF CONSTRUCTION ON THE OPERATION OF THE AIRPORT. ALL REQUIREMENTS CONTAINED IN THE CONTRACT DOCUMENTS SHALL BE STRICTLY ENFORCED.
- 9. ALL CONSTRUCTION ACTIVITIES THAT ARE NECESSARY BEYOND THE WORK ZONE LIMITS SHOWN SHALL BE PERFORMED WHEN THE ADJACENT AIRFIELD PAVEMENT IS CLOSED TO AIR TRAFFIC. ARRANGEMENTS FOR CLOSING THESE PAVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- 10.NO CHANGE IN THE CONTRACTOR'S APPROVED PHASING PLAN SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.
- 11.IF CONTRACTOR PLANS TO DEVIATE FROM THE DESIGNATED HAUL ROUTES. A PLAN MUST BE SUBMITTED (1 WEEK ADVANCED NOTICE FOR APPROVAL BY THE ENGINEER.)
- 12.PRIOR TO BEGINNING WORK, CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS.
- 13.EROSION CONTROL DEVICES SHOWN ON PLANS

SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE ENGINEER.

- 14.THE CONTRACTOR SHALL RESTORE ALL EROSION CONTROL DEVICES TO WORKING ORDER TO THE SATISFACTION OF THE ENGINEER AFTER EACH RUN-OFF PRODUCING RAINFALL.
- 15.THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL MEASURES AS MAY BE REQUIRED BY THE ENGINEER DUE TO INCOMPLETE GRADING OPERATIONS OR UNFORESEEN CIRCUMSTANCES WHICH MAY ARISE.
- 16.CONTRACTOR SHALL INSTALL BEST MANAGEMENT PRACTICES (BMP) IN ACCORDANCE WITH THE MDEQ STORM WATER SWPPP.
- 17.NO DEBRIS OF ANY NATURE SHALL BE STORED OUTSIDE OF THE CONSTRUCTION AREAS. ALL LOOSE MATERIALS MUST BE KEPT WITHIN THE LIMITS OF CONSTRUCTION. WHEN THE CONSTRUCTION BARRIERS ARE MOVED DURING CONSTRUCTION, CLEAN UP OF THE AREAS OUTSIDE THE BARRIERS MUST OCCUR IMMEDIATELY. IN ADDITION, NO LOOSE MATERIALS THAT COULD BE BLOWN INTO THE AIRCRAFT OPERATIONS AREA SHALL BE STORED IN THE CONSTRUCTION AREA.

SCALE: 1" = 300 (22x34) 1" = 600 (11x17) LEGEND

CONSTRUCTION ZONE

CONTRACTOR

LAYDOWN/STAGING AREA

HAUL ROUTE

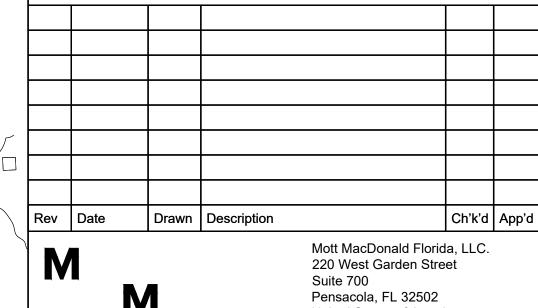
—□— EXISTING CHAIN LINK FENCE

ABBREVIATIONS:

BUILDING RESTRICTION LINE ROFA RUNWAY OBJECT FREE AREA TOFA TAXIWAY OBJECT FREE AREA

PHASING NOTES:

- 1. THE FOLLOWING PLANS ARE GENERAL REQUIREMENTS FOR THE PHASING OF THE WORK. THE PHASING PLANS FOR EACH PORTION OF WORK OUTLINE APPROXIMATE CONSTRUCTION LIMITS.
- 2. PHASE LIMITS ARE APPROXIMATE. PRIOR TO BEGINNING WORK CONTRACTOR SHALL SUBMIT A DETAILED PHASING PLAN AND SCHEDULE.
- ALL WORK AND TAXIWAY CLOSURE SHALL OCCUR AT NIGHT. THE ENTIRE TAXIWAY SHALL BE RETURNED TO USABLE CONDITION THE FOLLOWING DAY.



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Santa Rosa County **Board of County Commissioners**

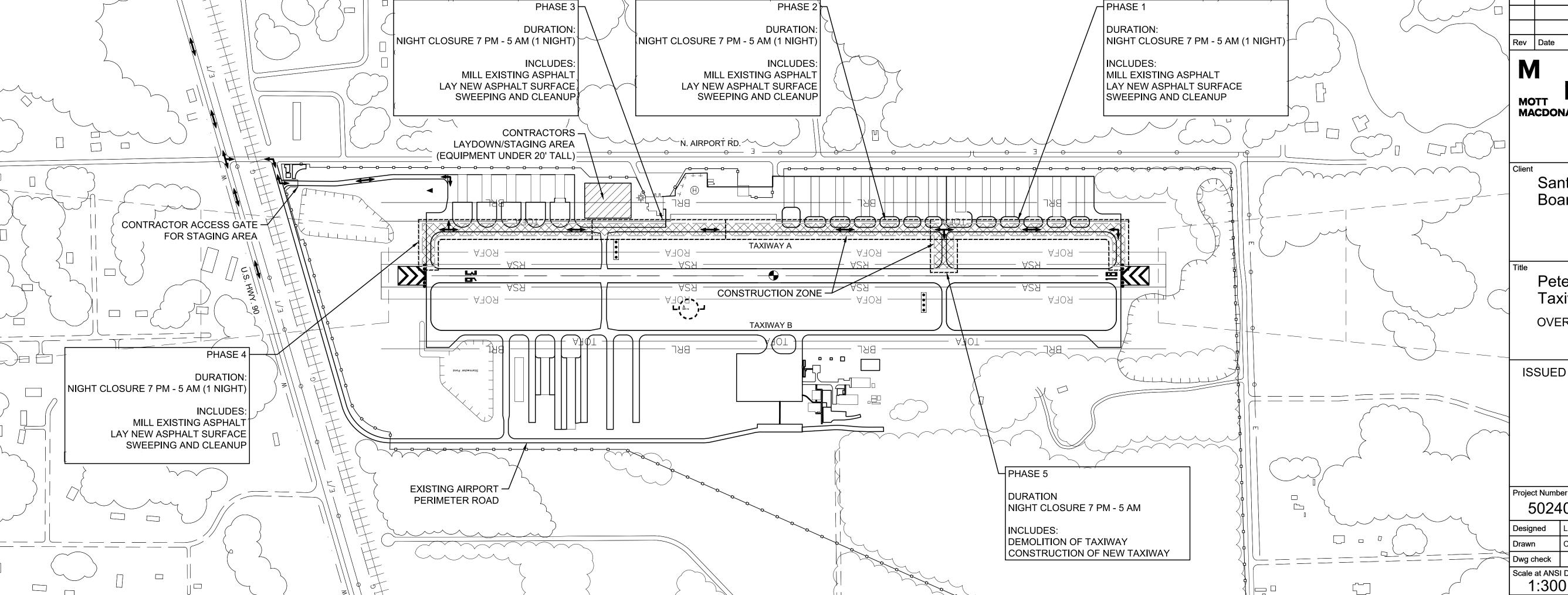
Peter Prince Field Taxiway 'A' Rehabilitation **OVERALL CONSTRUCTION PLAN**

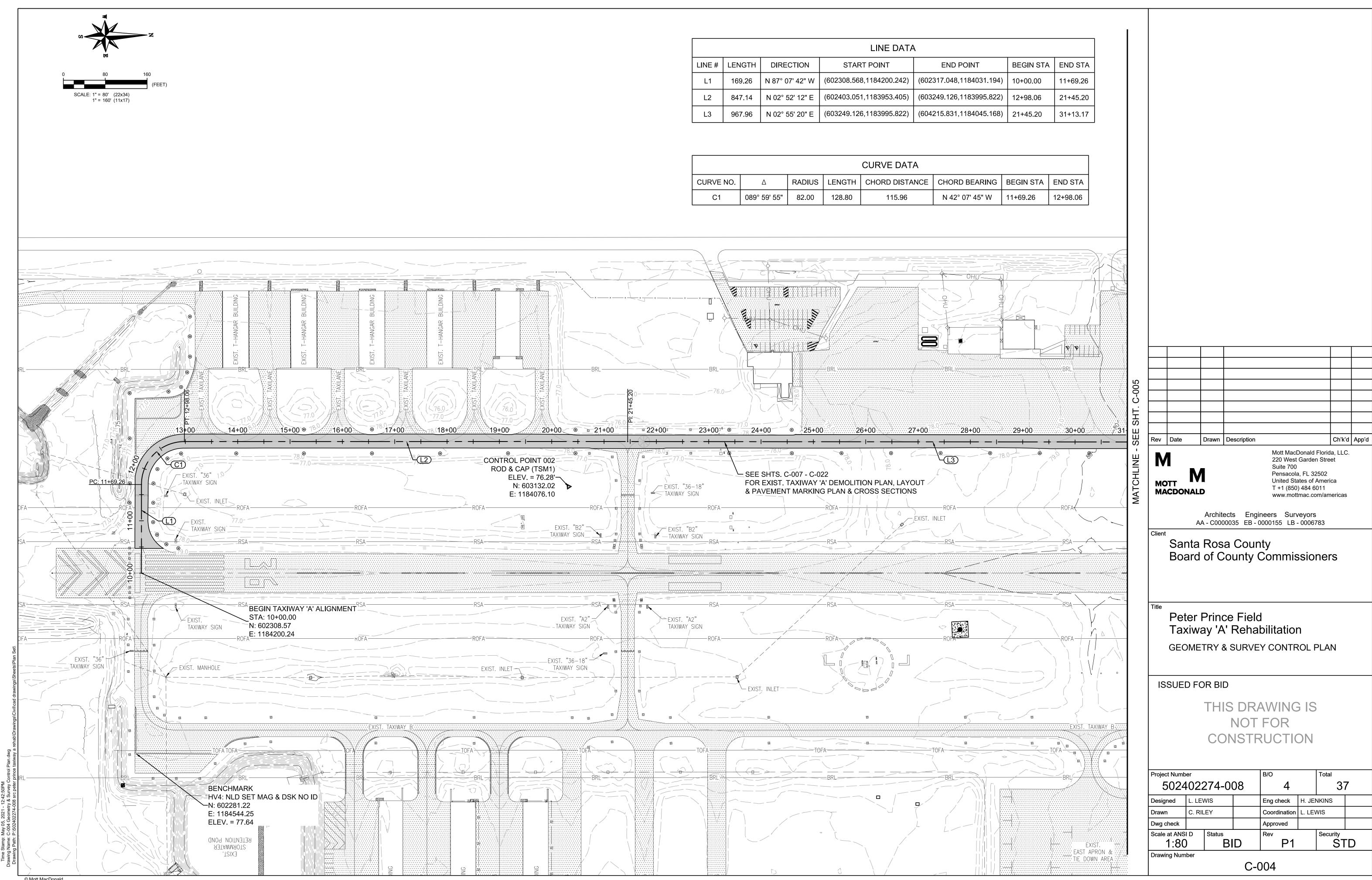
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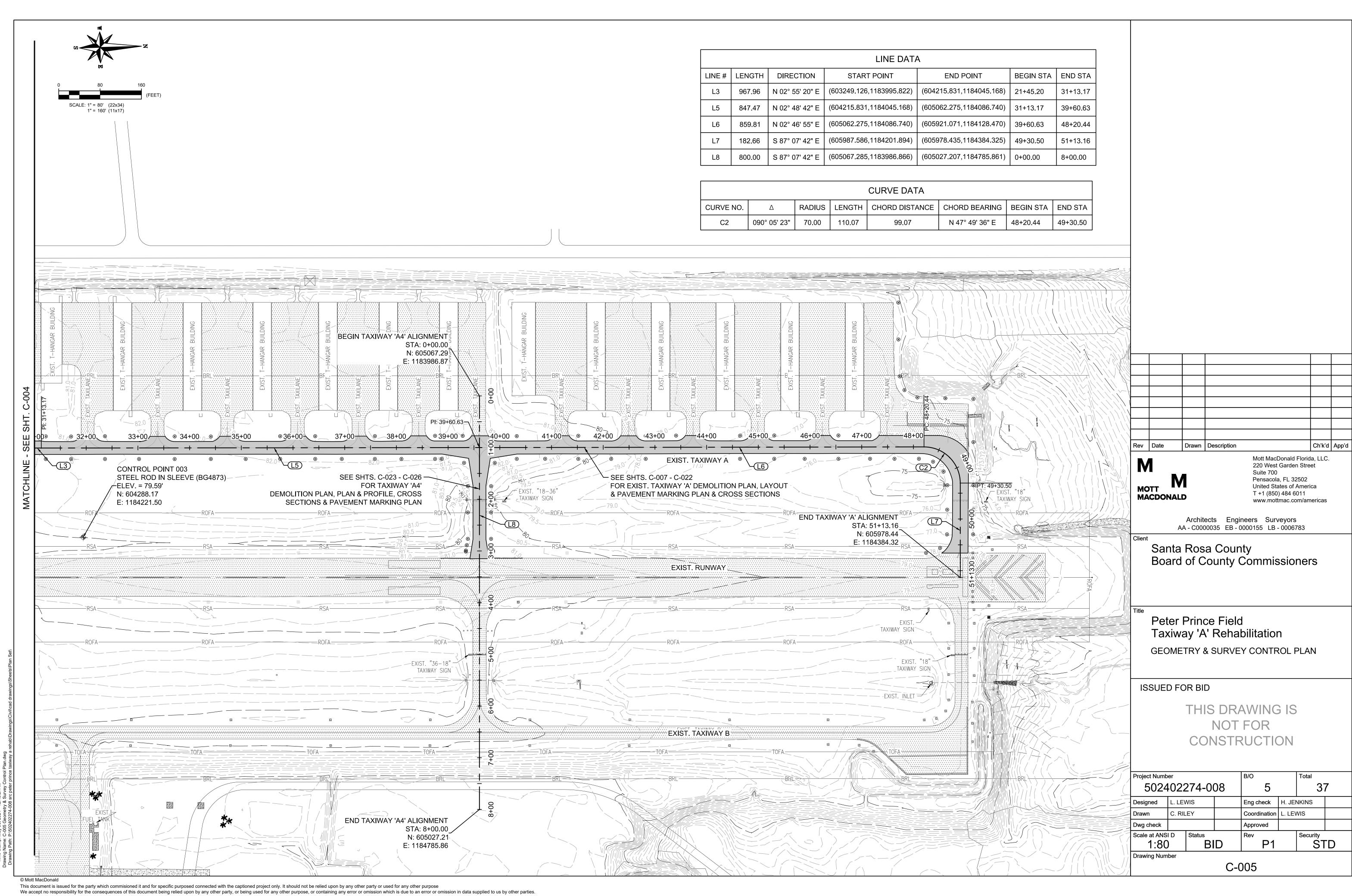
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	Designed	L. LEWIS			Eng check	H. JENKINS		
	Drawn	C. RILEY			Coordination	L. LEWIS		
18	Dwg check				Approved			
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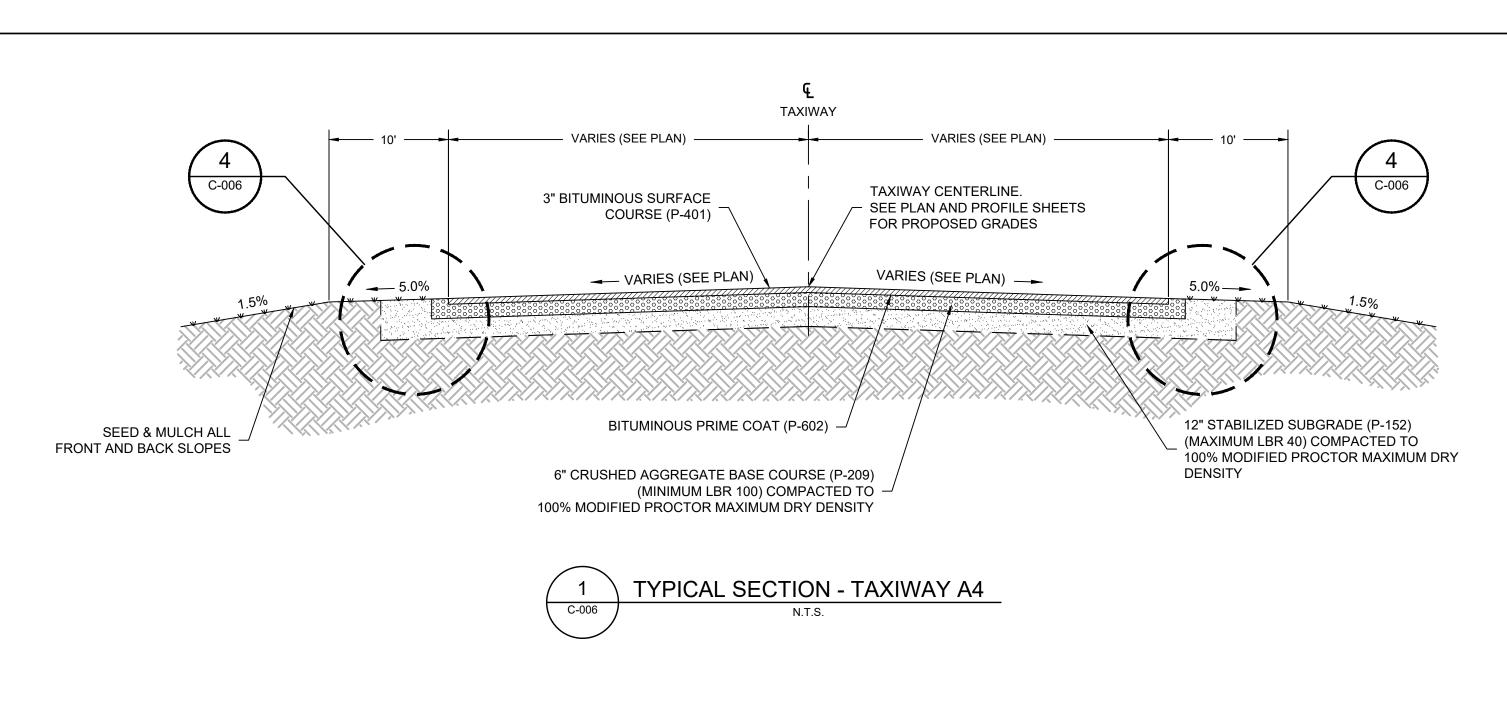
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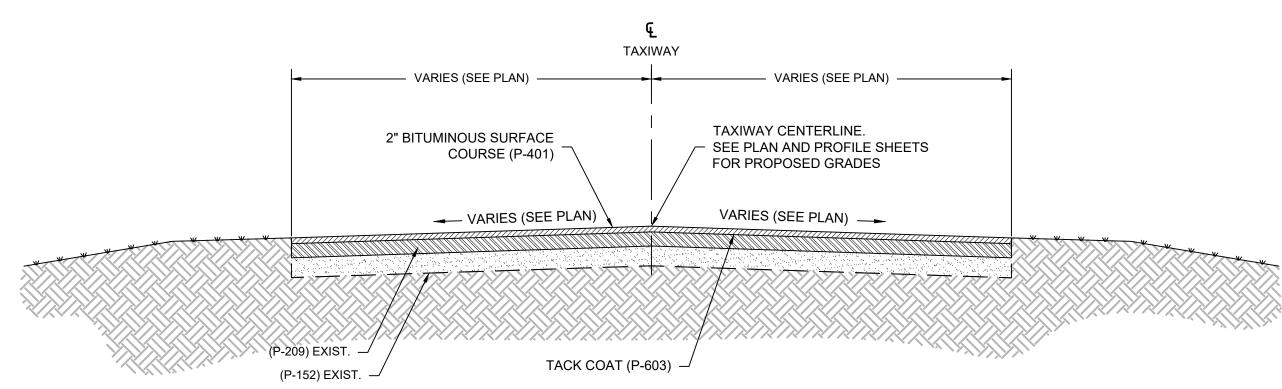


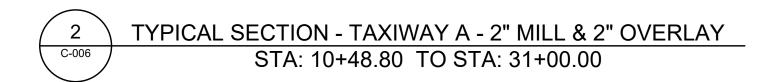


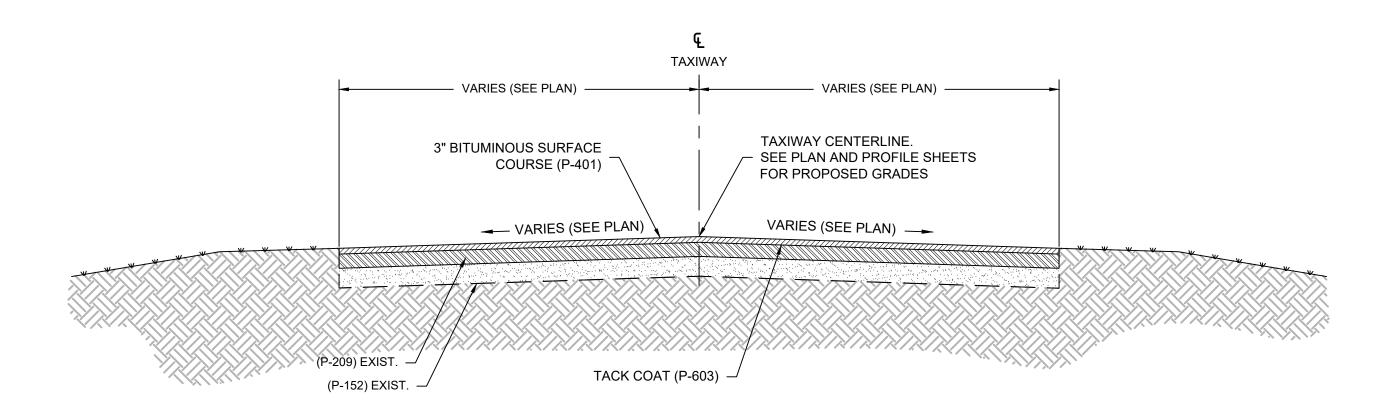
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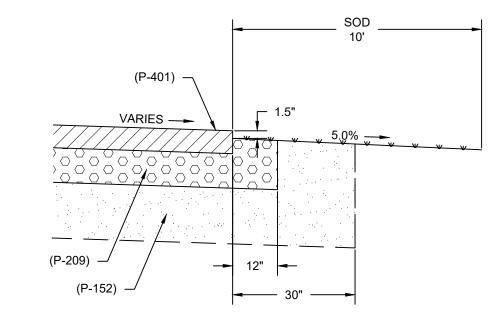








TYPICAL SECTION - TAXIWAY A - 1.5" MILL & 3" OVERLAY STA: 31+00.00 TO STA: 50+65.95



PAVEMENT EDGE DETAIL

Pour Date Drown Description Child App						
Pour Date Drown Description Child App						
Pour Date Drown Description Child App						
Pour Date Drown Description Child App						
Pour Date Drown Description Child App					·	
Pour Date Drown Description Child App						
Pour Date Drawn Description Child App						
Pour Date Drown Description Child App						
Pour Date Drawn Description Child App						
Kev Date	Rev	Date	Drawn	Description	Ch'k'd	App'd

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Architects Engineers Surveyors
AA - C0000035 EB - 0000155 LB - 0006783

Santa Rosa County
Board of County Commissioners

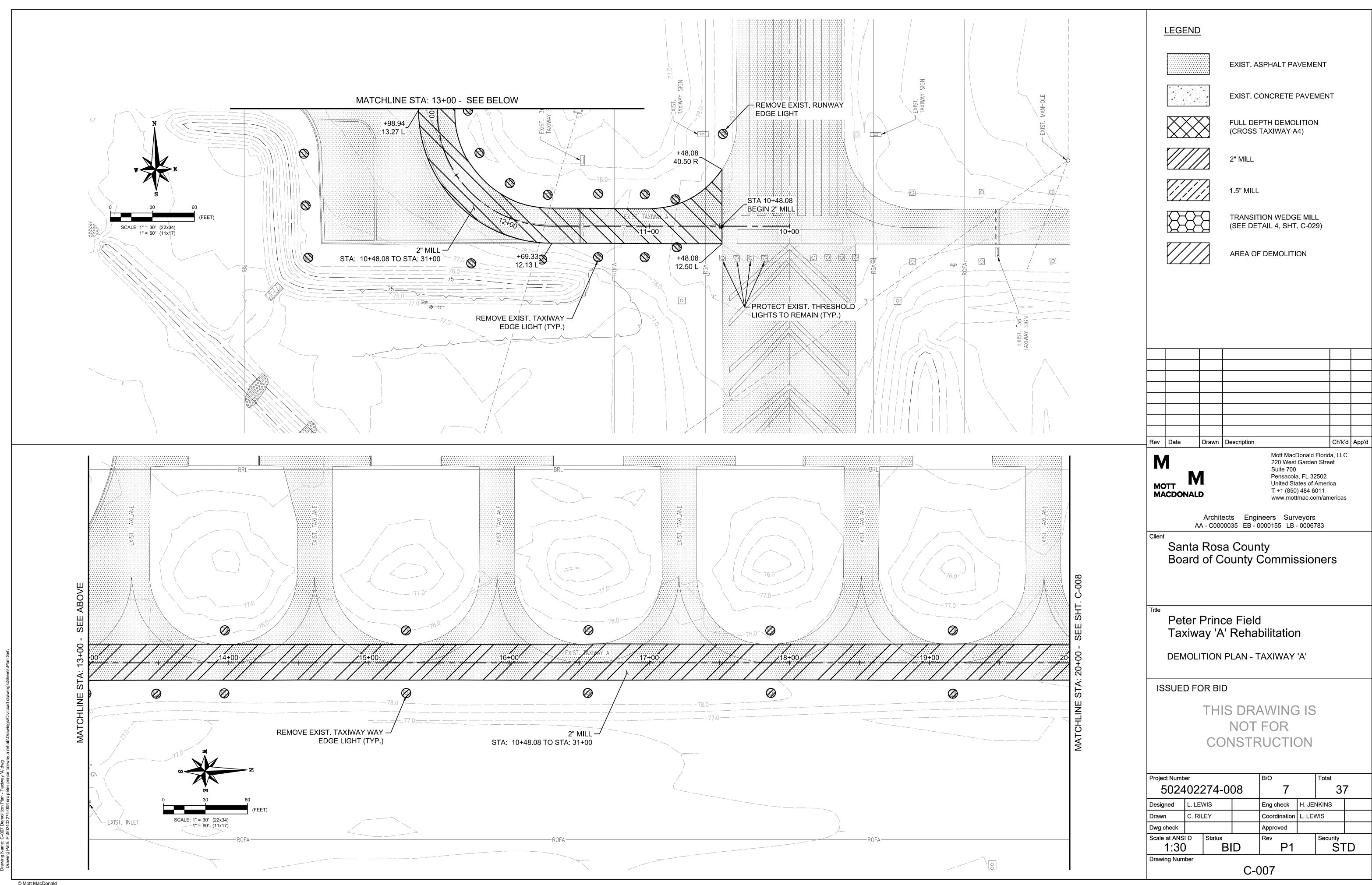
Peter Prince Field Taxiway 'A' Rehabilitation TYPICAL SECTIONS

ISSUED FOR BID

THIS DRAWING IS NOT FOR CONSTRUCTION

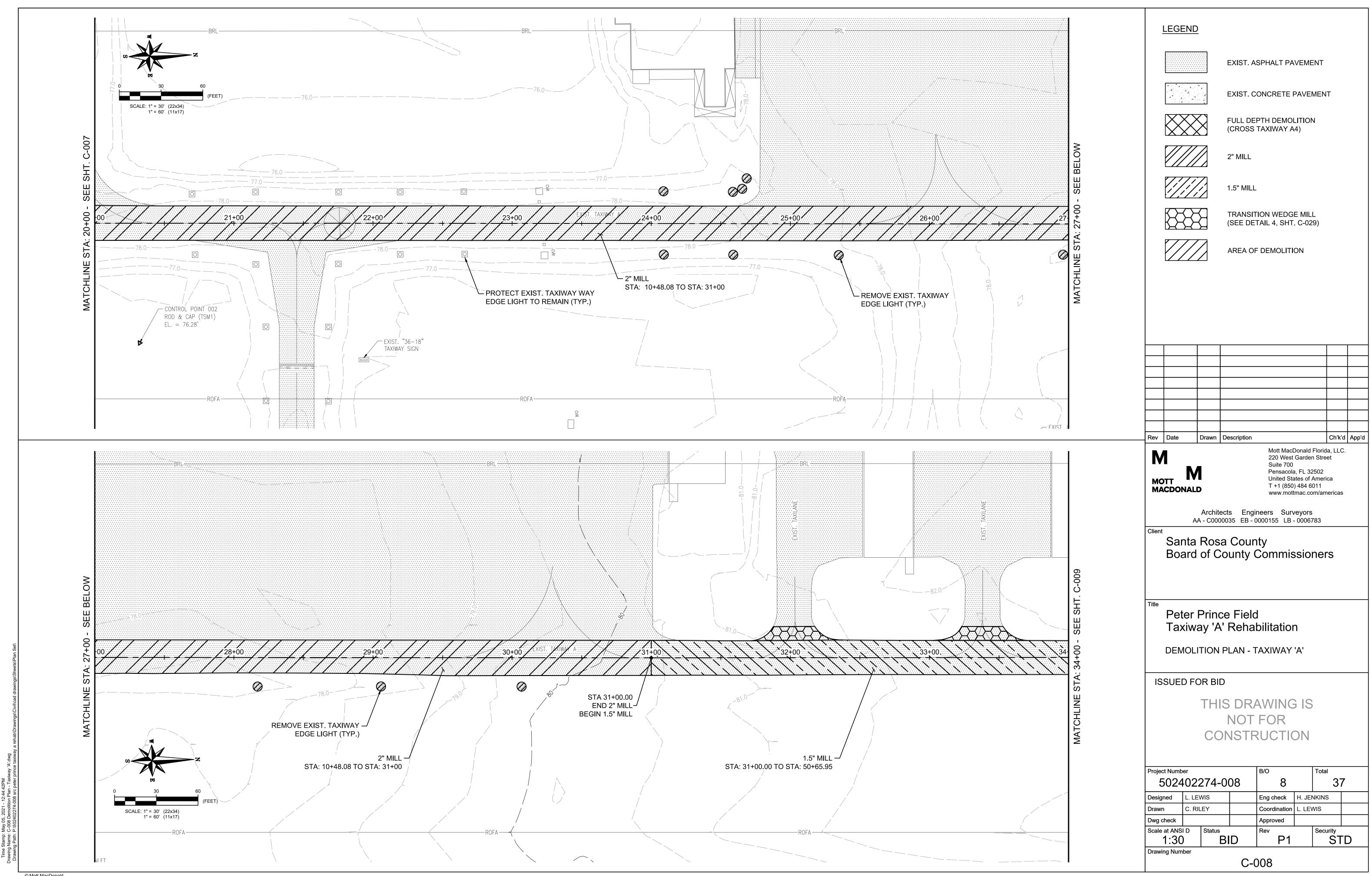
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Drawn C. RILEY				Coordination	L. LEWIS			
Dwg check				Approved				
Scale at ANS		Status BI	D	Rev P1		Security ST	D	
Drawing Number								
C-006								

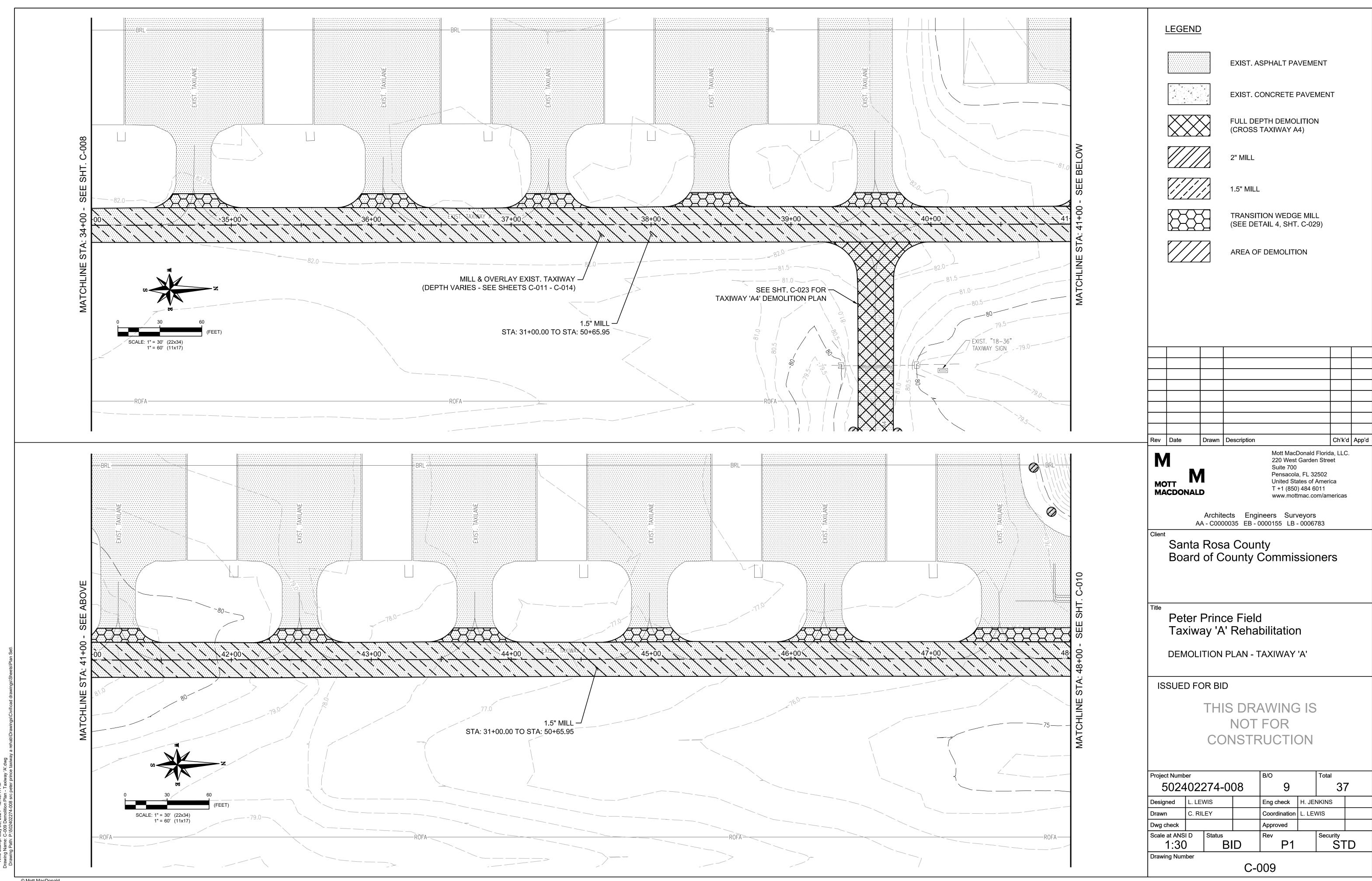
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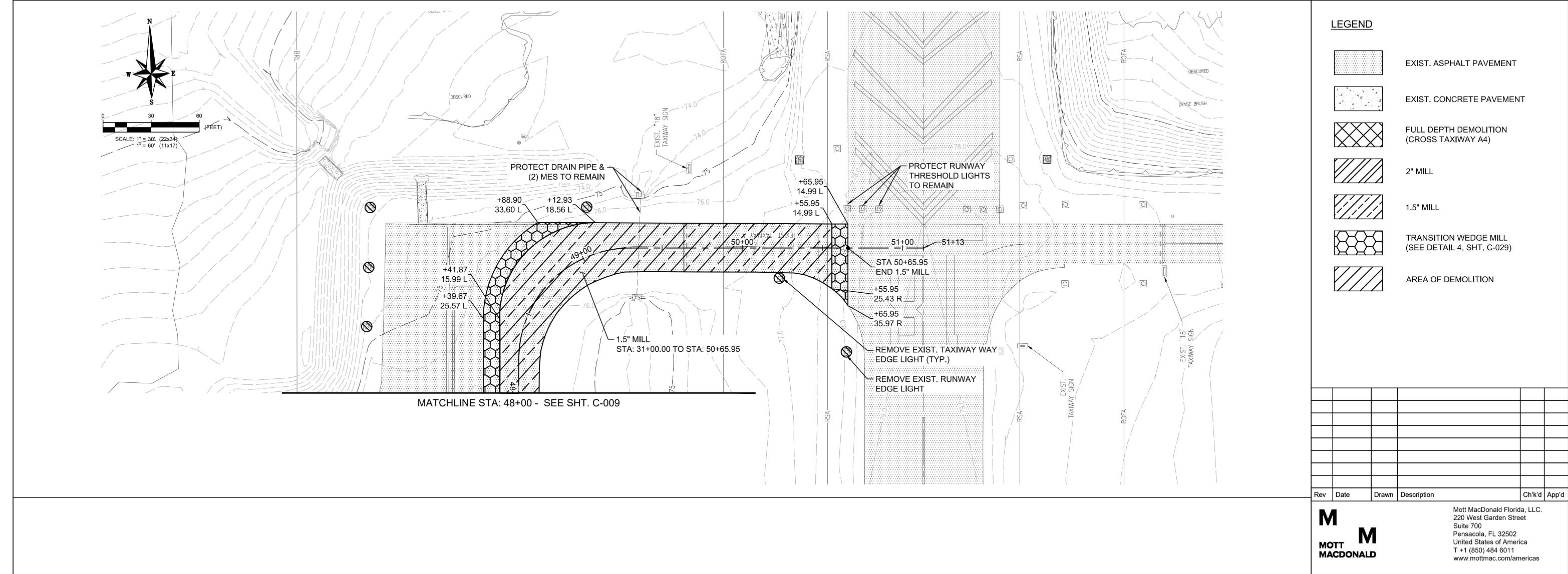


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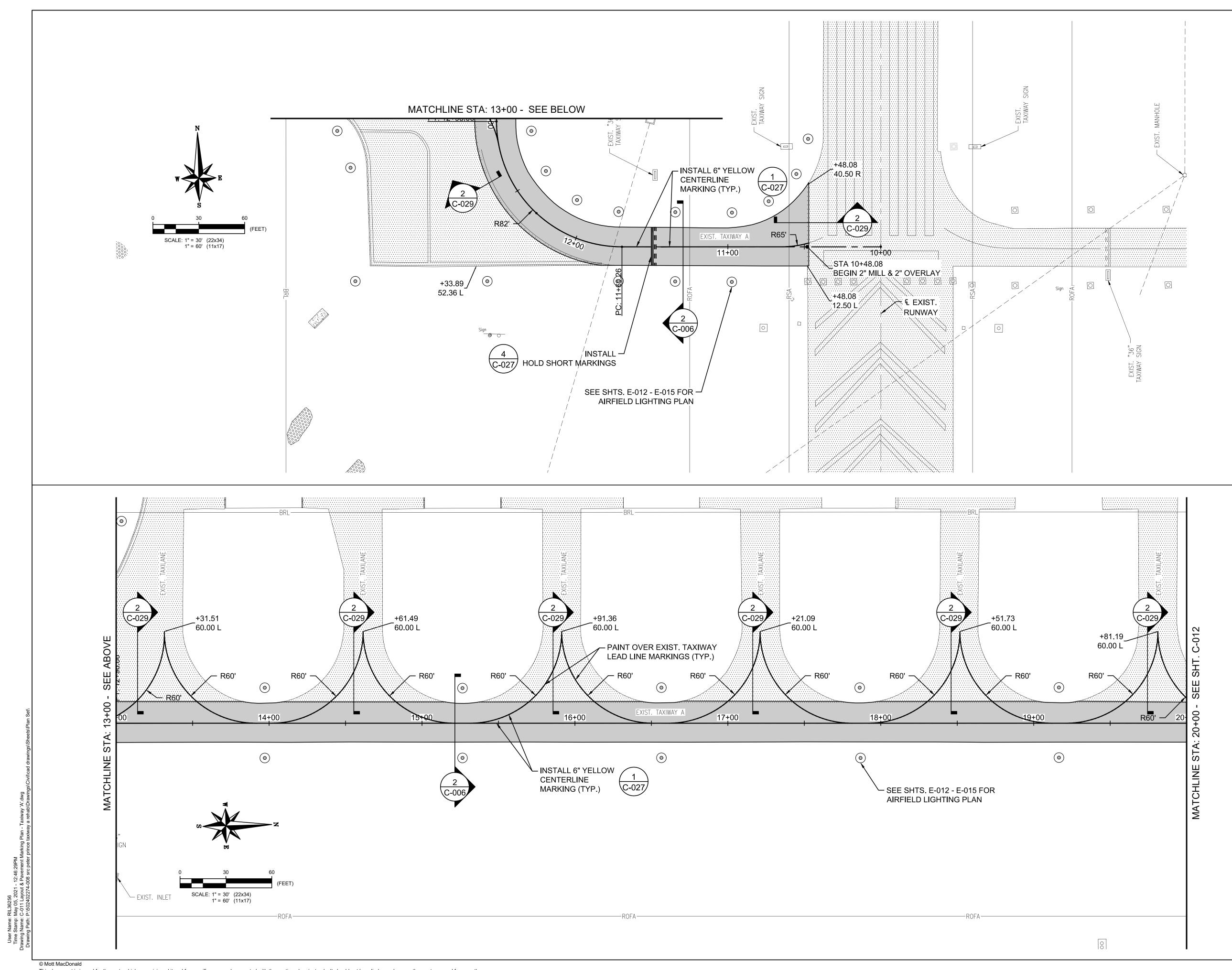
Peter Prince Field Taxiway 'A' Rehabilitation

DEMOLITION PLAN - TAXIWAY 'A'

ISSUED FOR BID

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Project Numb	er			B/O		Total		
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Designed	L. LEV	VIS		Eng check	H. JENKINS			
Drawn	C. RIL	.EY		Coordination	L. LE\	VIS		
Dwg check				Approved				
	Scale at ANSI D Status 1:30 BID			Rev P1	D4		D	
Drawing Num	ber	-	•		-			
	C-010							



<u>LEGEND</u>



PROPOSED ASPHALT PAVEMENT (DEPTH VARIES - SEE PLANS AND DETAILS)

EXISTING ASPHALT PAVEMENT

NOTES:

- 1. ALL MARKINGS SHALL CONFORM TO FAA ADVISORY CIRCULAR 150/5340-1L.
- 2. LOCATIONS OF EXISTING MARKINGS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ACTUAL LOCATIONS.
- 3. ALL RUNWAY MARKINGS SHALL BE WHITE, ALL TAXIWAY MARKINGS SHALL BE YELLOW (UNLESS OTHERWISE NOTED).
- 4. GLASS BEADS SHALL BE APPLIED TO ALL MARKINGS.
- 5. FINAL MARKINGS SHALL ALIGN WITH EXISTING MARKINGS AT ALL MATCH POINTS.
- 6. PAINTED/MARKED AREAS TO BE PAINTED OVER SHALL BE THOROUGHLY CLEANED PER P-620 SPECIFICATION, AND ANY EXISTING PAINTING WILL BE REMOVED (THE CONTRACTOR SHALL MAKE AN ASSESSMENT AND NOTIFY THE FIELD ENGINEER OF HIS INTENTIONS). ALL PAINTING SHALL BE WARRANTED PER THE CONTRACT DOCUMENTS.
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- 8. GLASS BEADS SHALL BE TYPE III AND MEET THE REQUIREMENTS OF P-620.
- 9. PAINT SHALL MEET THE REQUIREMENTS OF FEDERAL SPECIFICATIONS TT-P-1952E AND BE TYPE II PER P-620.
- 10. ALL WHITE AND YELLOW MARKINGS SHALL BE OUTLINED WITH 6" WIDE BLACK PAINT.



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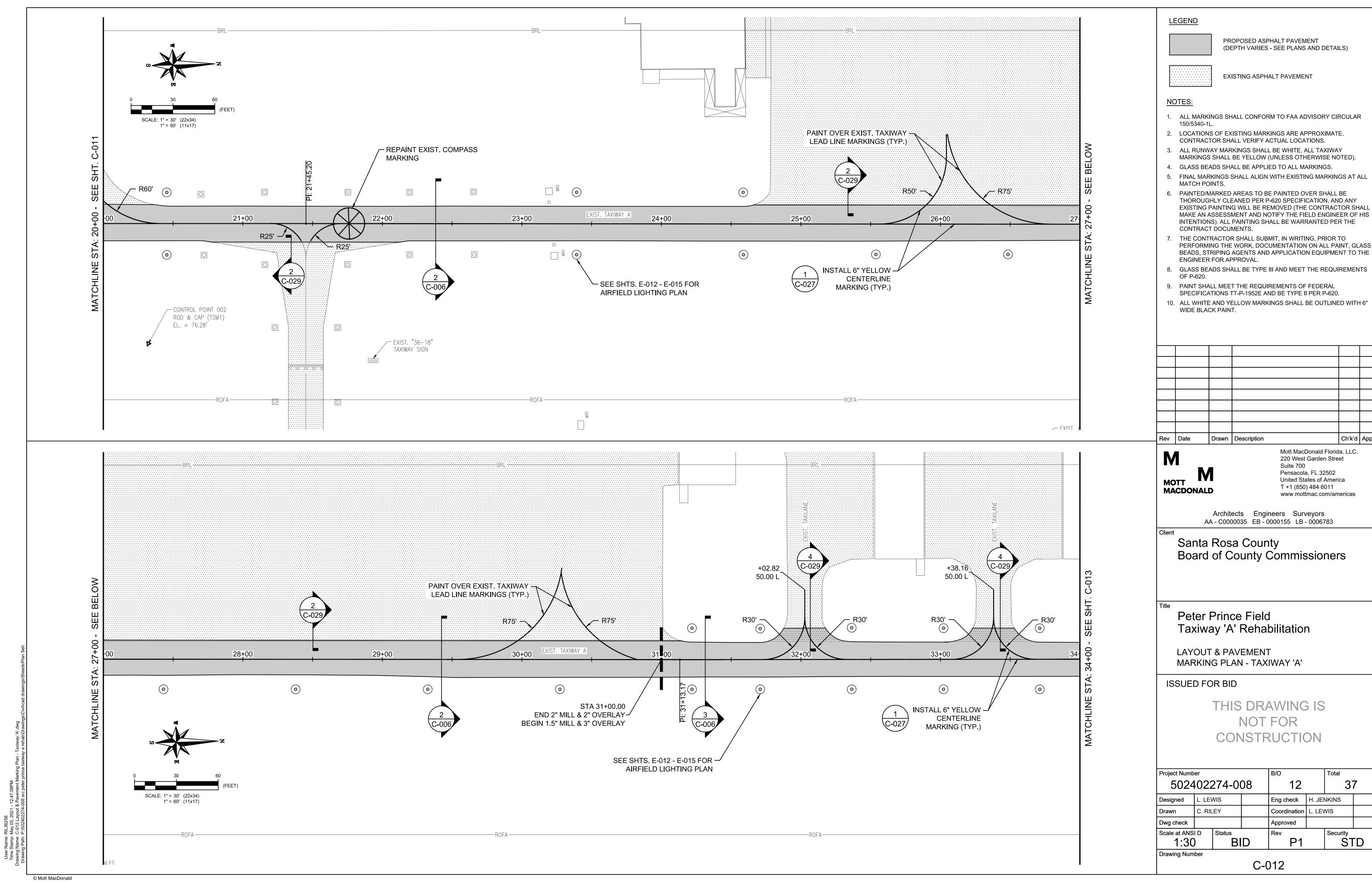
Peter Prince Field Taxiway 'A' Rehabilitation

LAYOUT & PAVEMENT MARKING PLAN - TAXIWAY 'A'

ISSUED FOR BID

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Project Numb	er			В/О		Total		
5024	1022	274-00	80	11 3		3	7	
Designed	L. LEV	VIS		Eng check	H. JEI	H. JENKINS		
Drawn	C. RIL	.EY		Coordination	L. LEV	L. LEWIS		
Dwg check				Approved				
Scale at ANSI D Status 1:30 BI			D	Rev P1		Security S7	ΓD	
Drawing Number								
C-011								



PROPOSED ASPHALT PAVEMENT

EXISTING ASPHALT PAVEMENT

(DEPTH VARIES - SEE PLANS AND DETAILS)

Ch'k'd App'd

Mott MacDonald Florida, LLC. 220 West Garden Street

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Total

Security

STD

Eng check H. JENKINS

Coordination L. LEWIS

Approved

C-012

Pensacola, FL 32502 United States of America

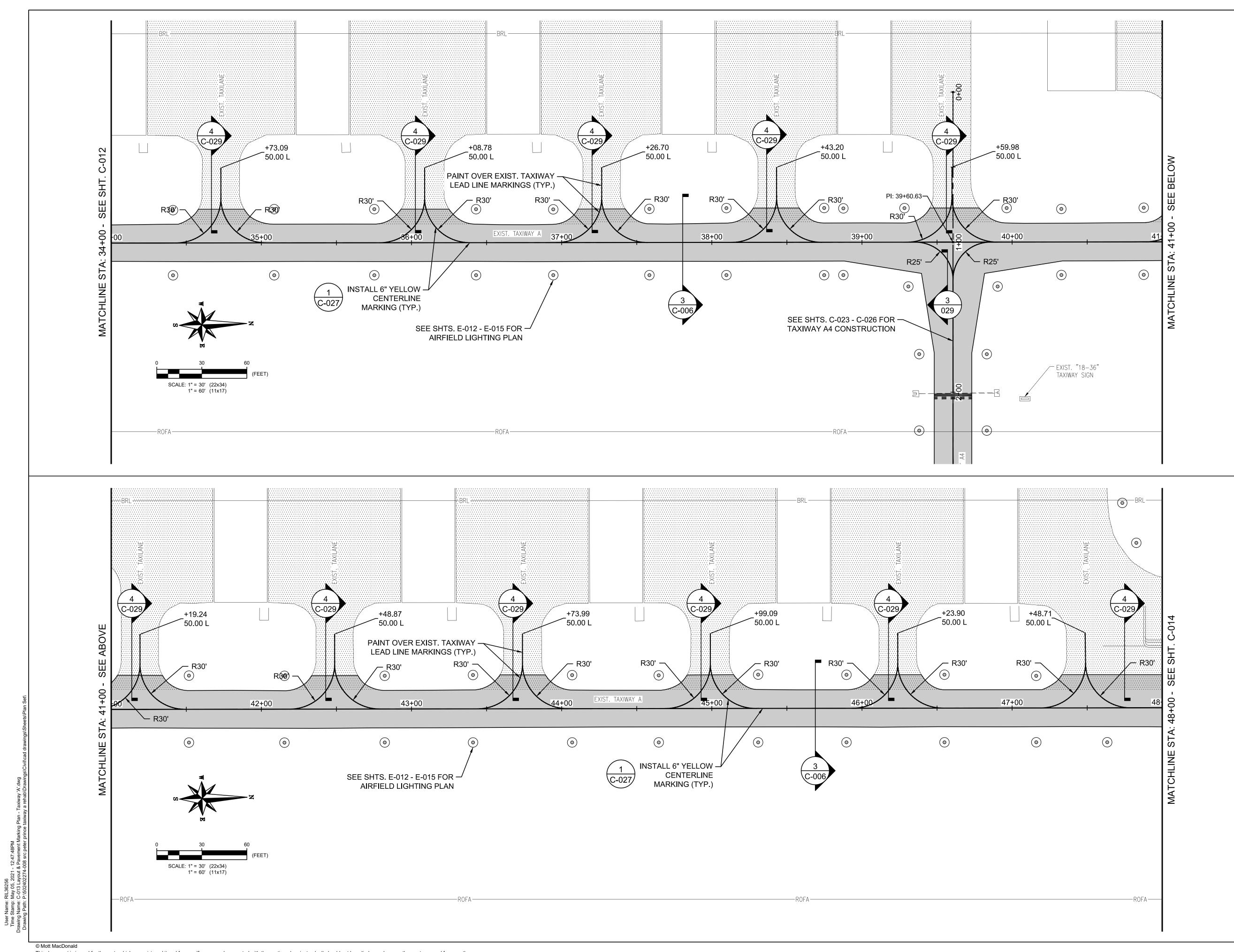
T +1 (850) 484 6011

Suite 700

NOT FOR

CONSTRUCTION

BID



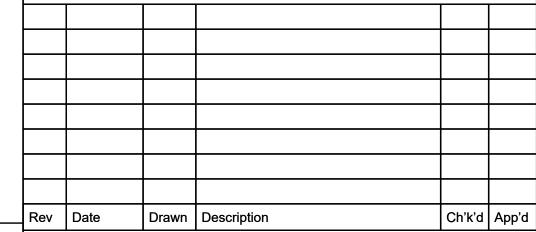
<u>LEGEND</u>

PROPOSED ASPHALT PAVEMENT (DEPTH VARIES - SEE PLANS AND DETAILS)

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Title

Peter Prince Field Taxiway 'A' Rehabilitation

LAYOUT & PAVEMENT MARKING PLAN - TAXIWAY

ISSUED FOR BID

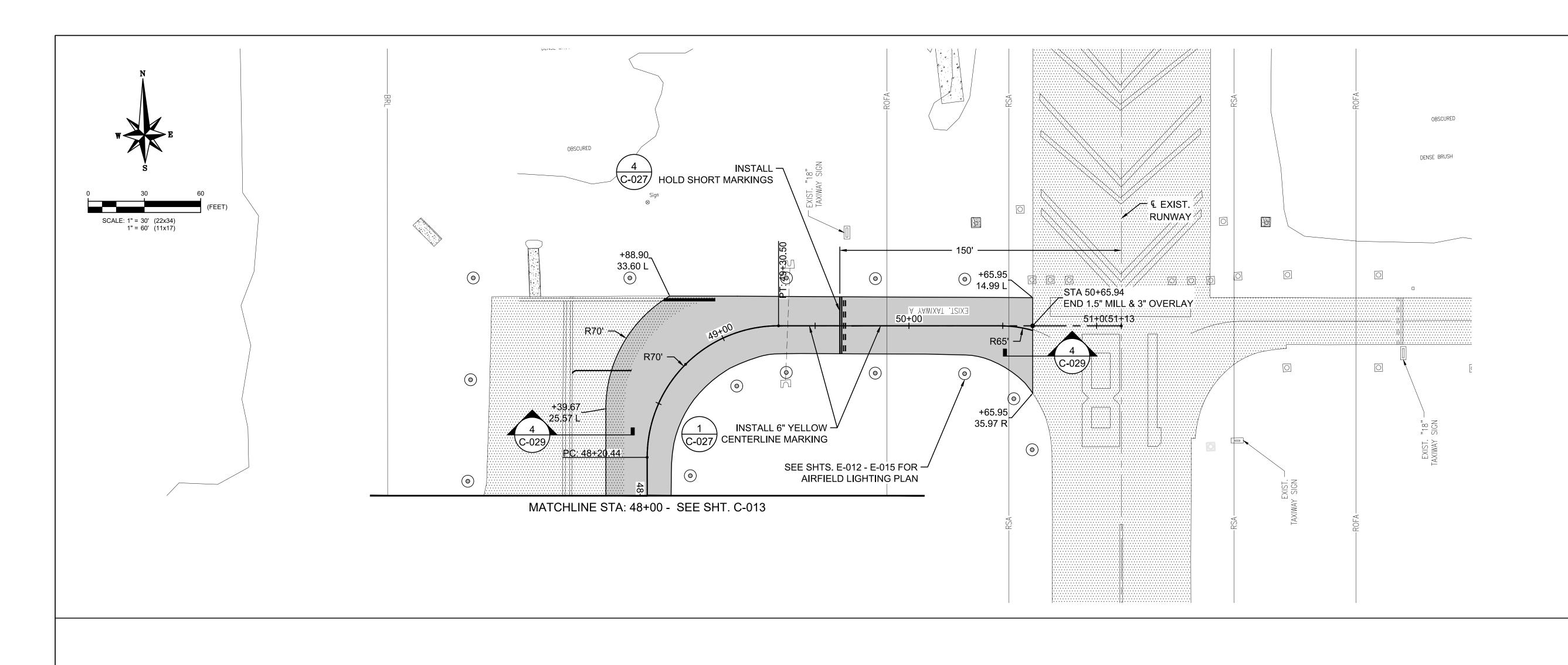
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CONSTRUCTION

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Drawn	C. RIL	.EY		Coordination	L. LEV	VIS	
Dwg check				Approved			
Scale at ANSI D Status BI			D	Rev P1		Security S7	TD
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C-013



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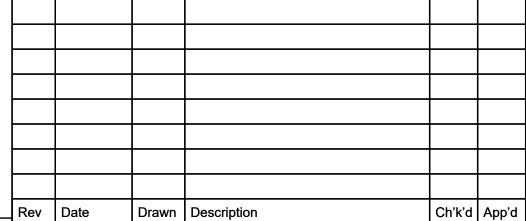


PROPOSED ASPHALT PAVEMENT (DEPTH VARIES - SEE PLANS AND DETAILS)

EXISTING ASPHALT PAVEMENT

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Peter Prince Field Taxiway 'A' Rehabilitation

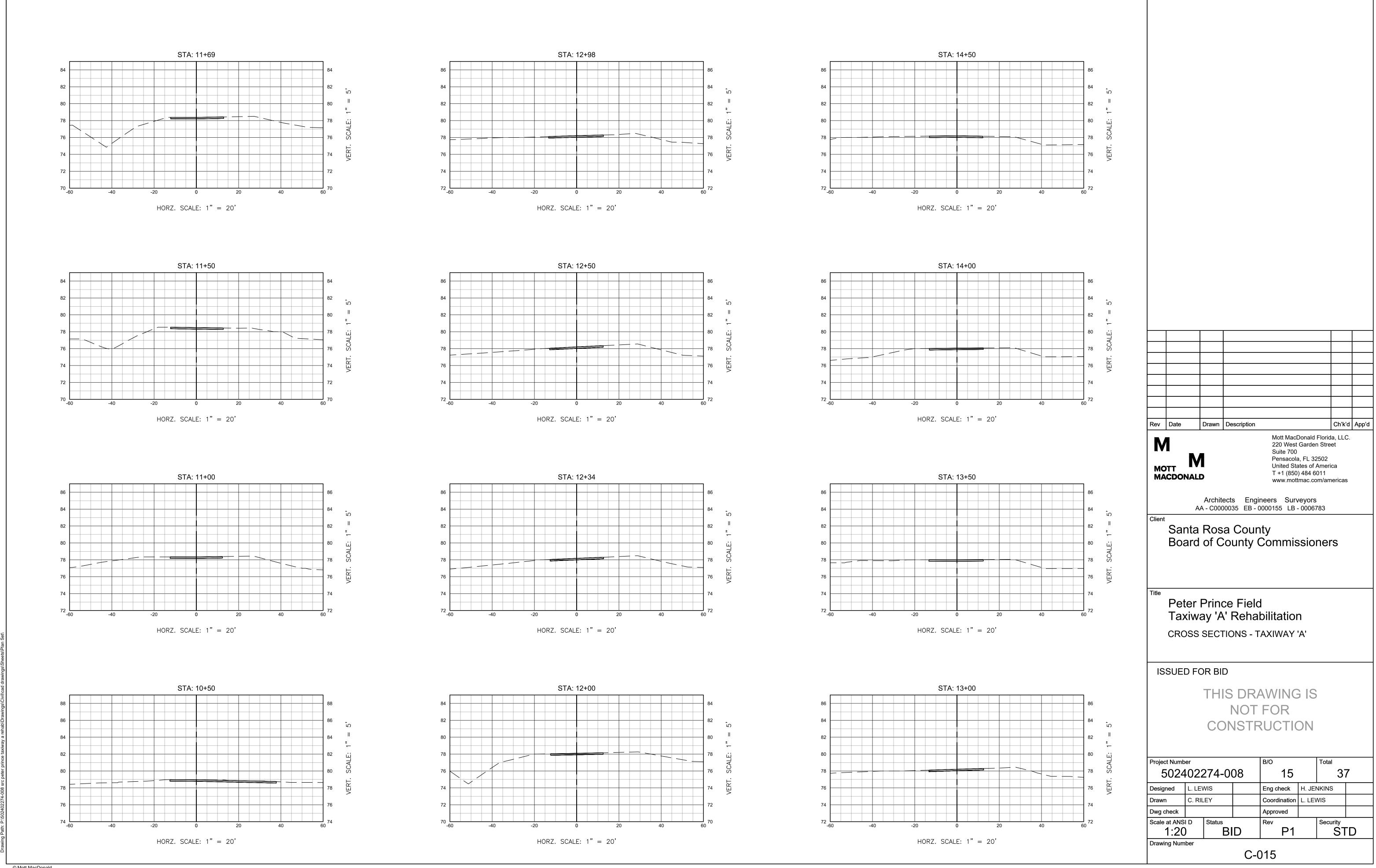
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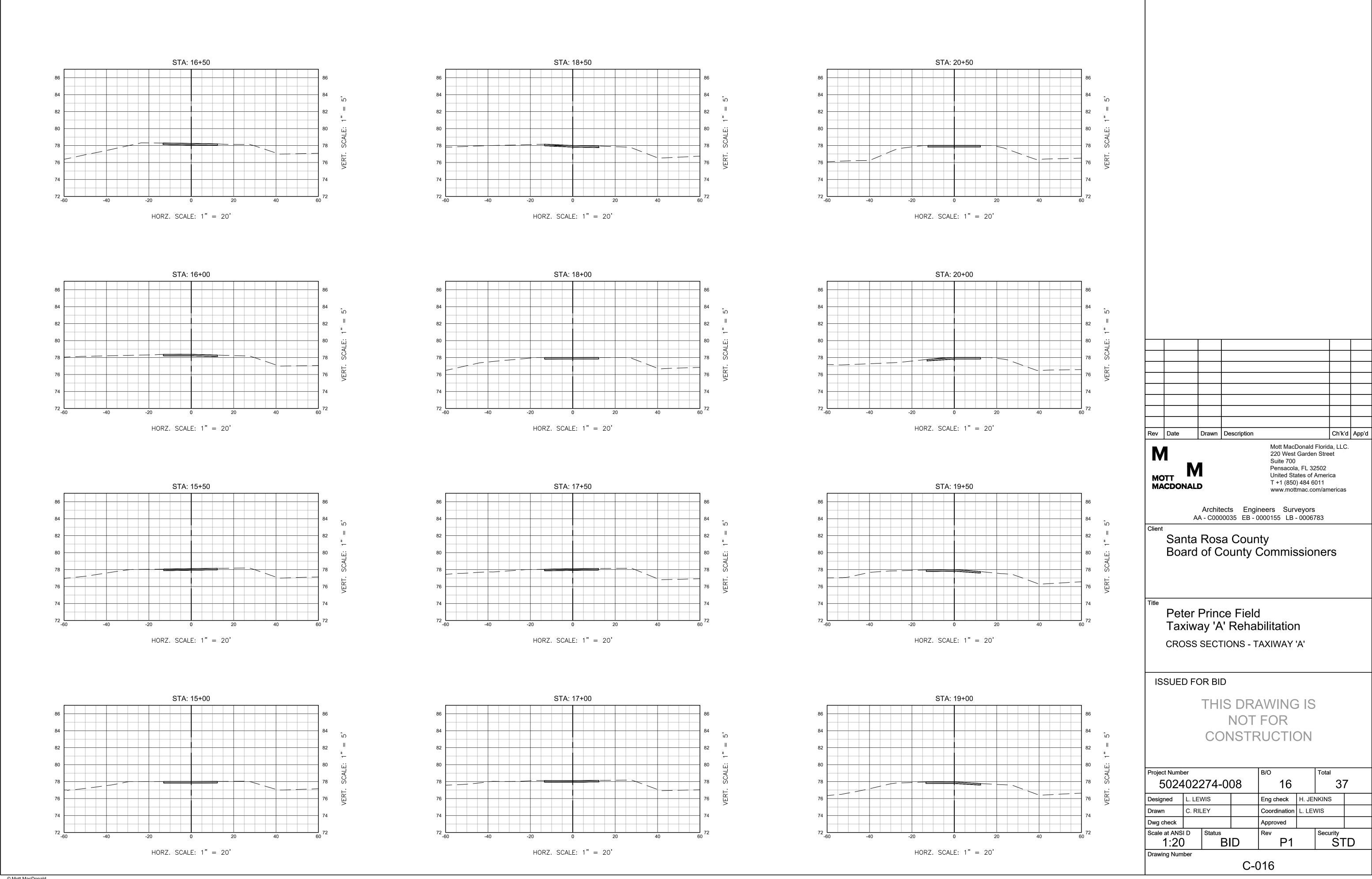
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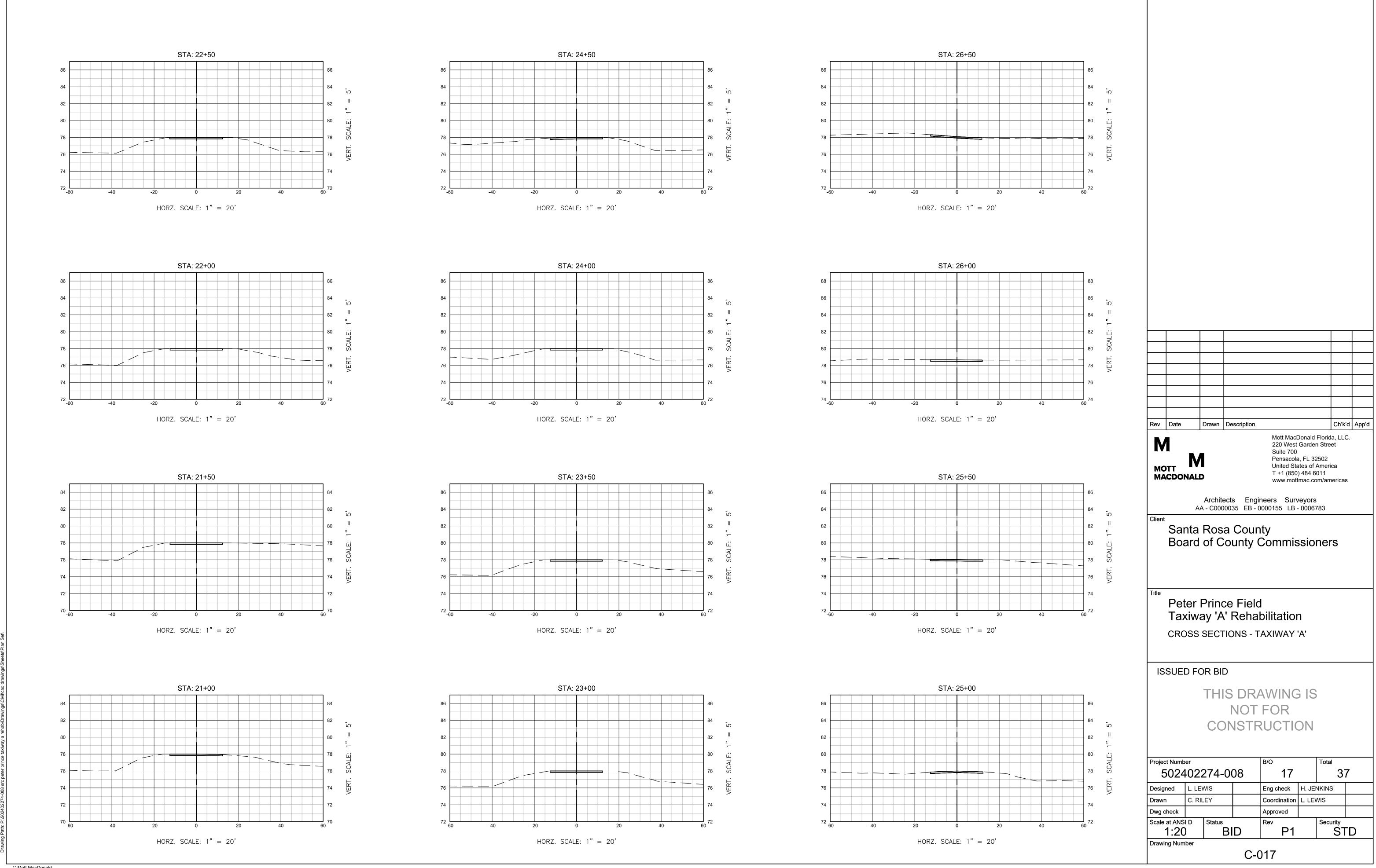
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Drawn	C. RIL	.EY		Coordination	L. LEWIS			
Dwg check				Approved				
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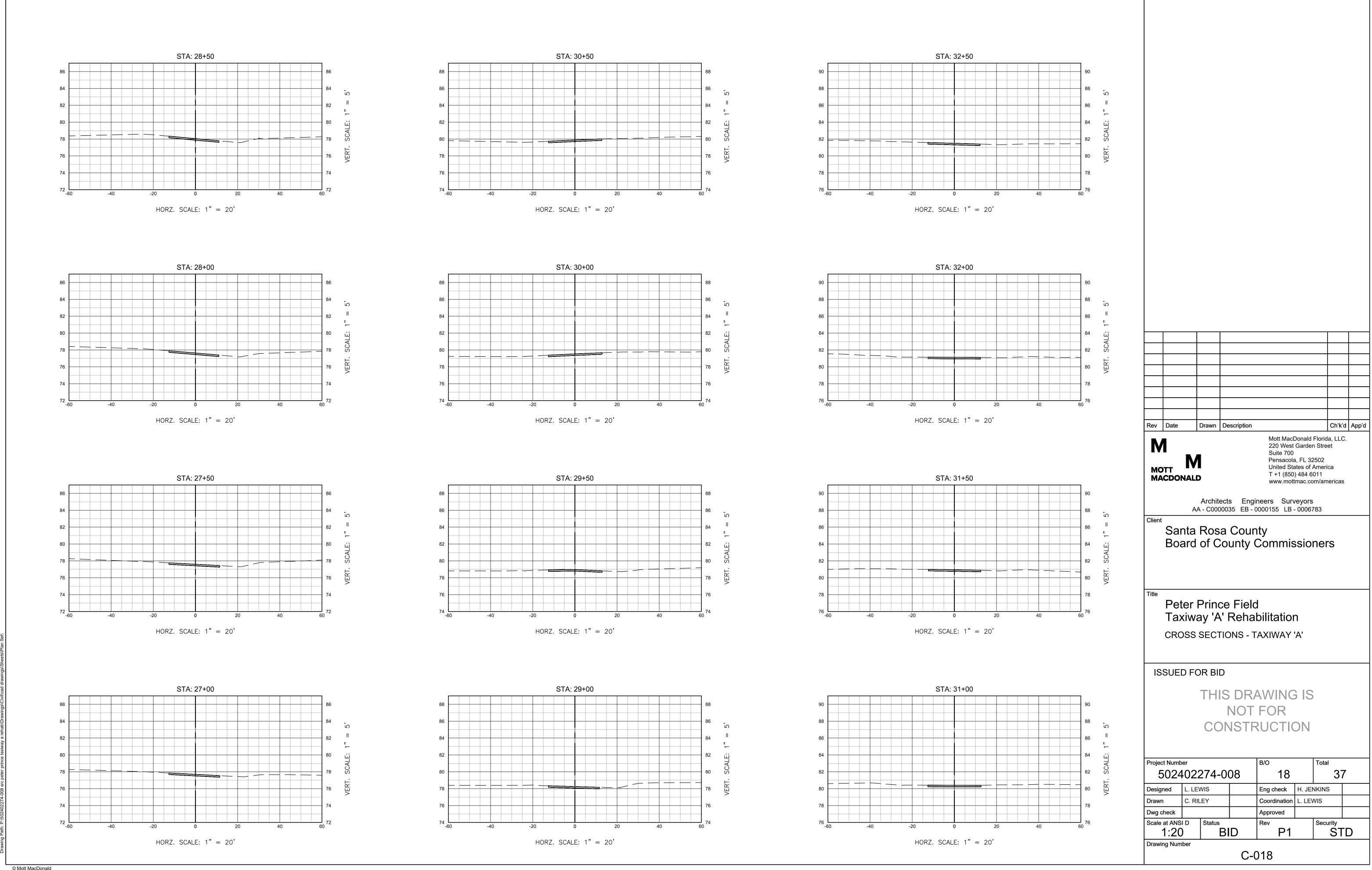
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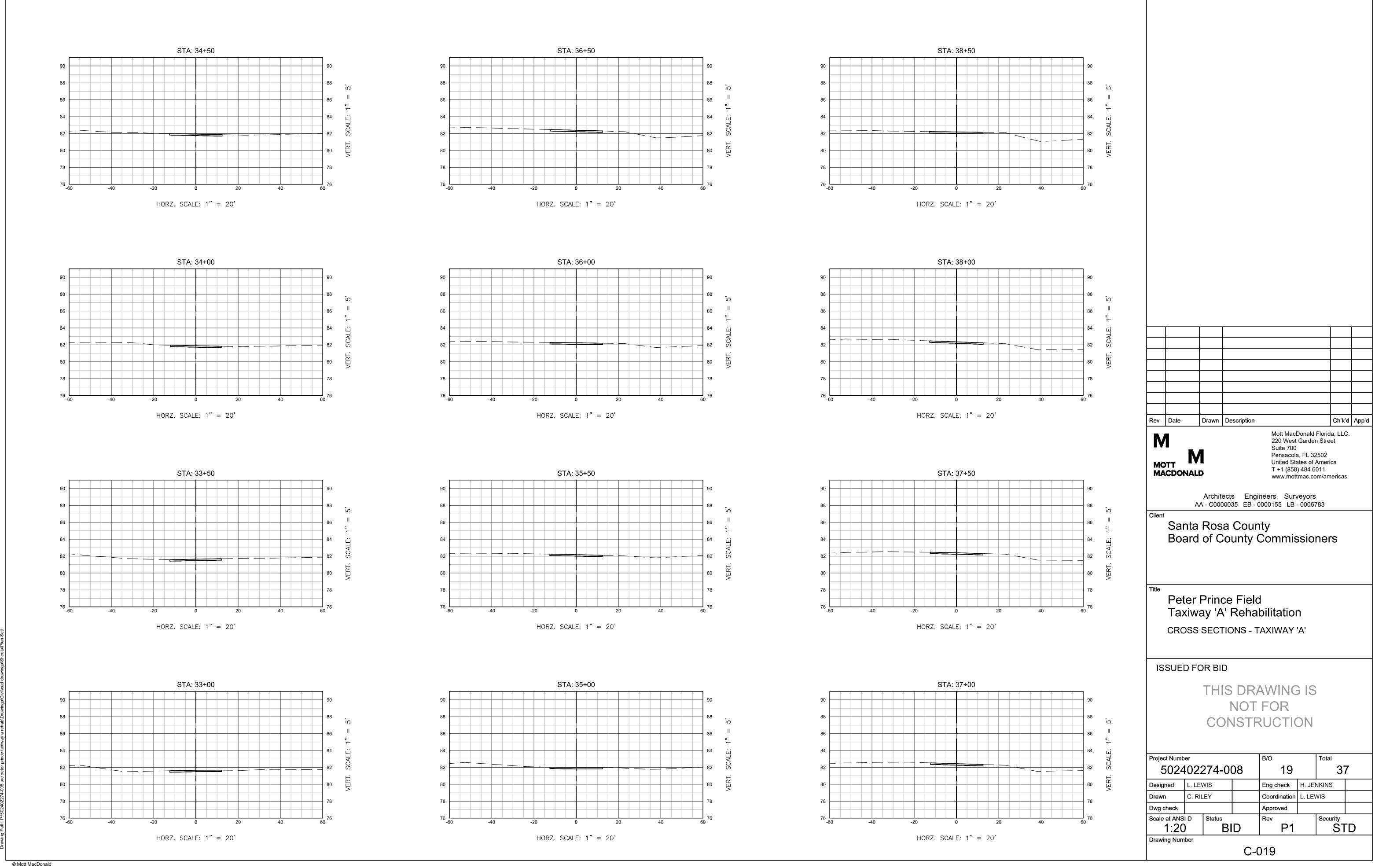


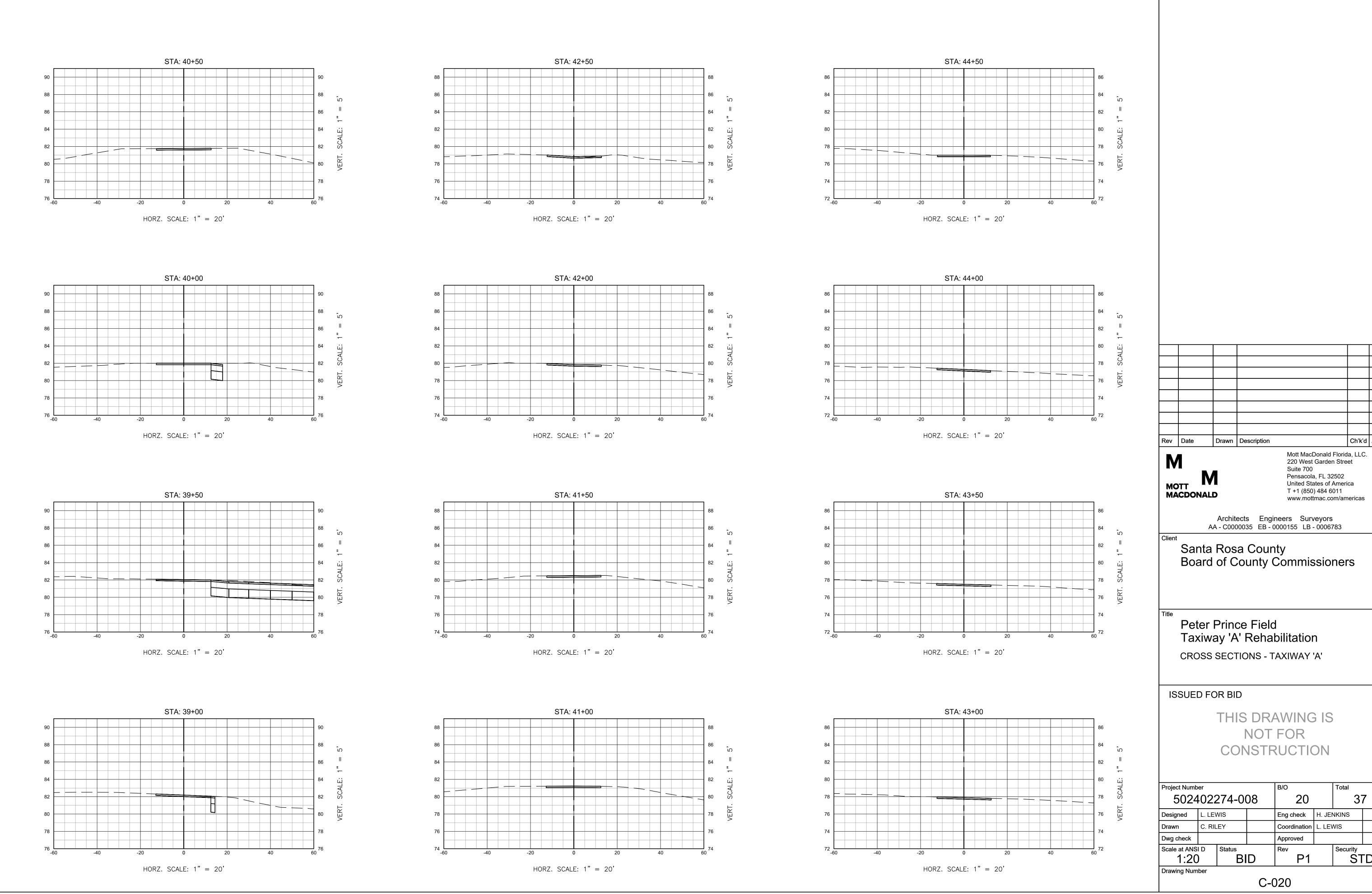


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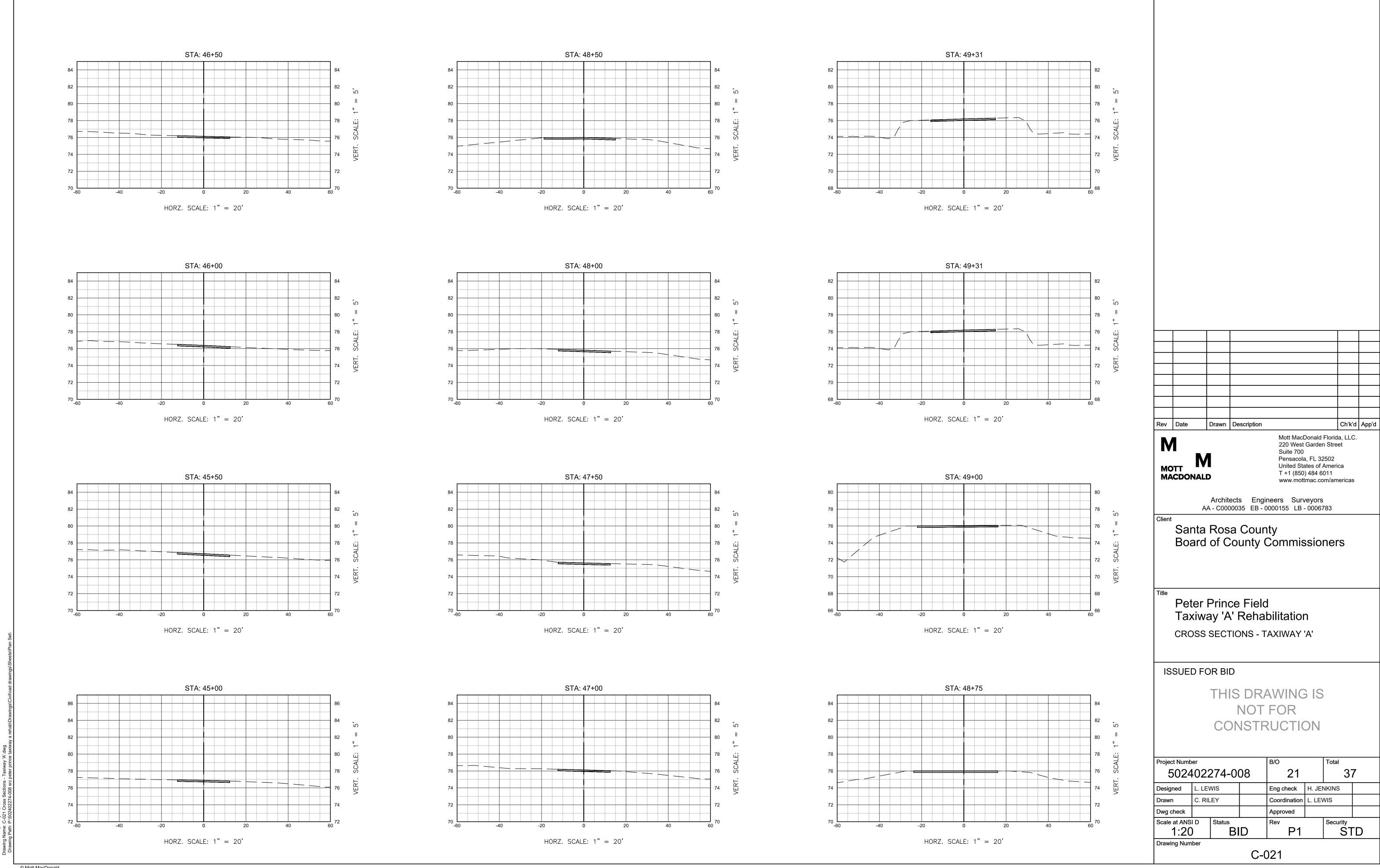
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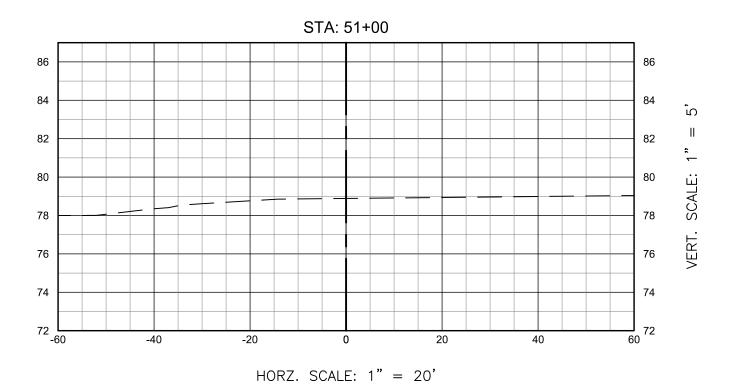
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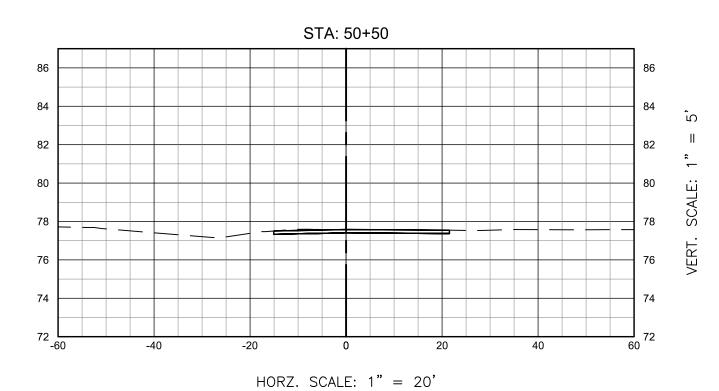
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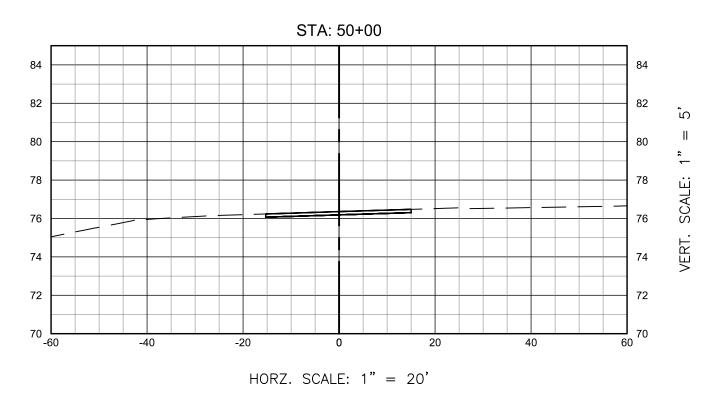
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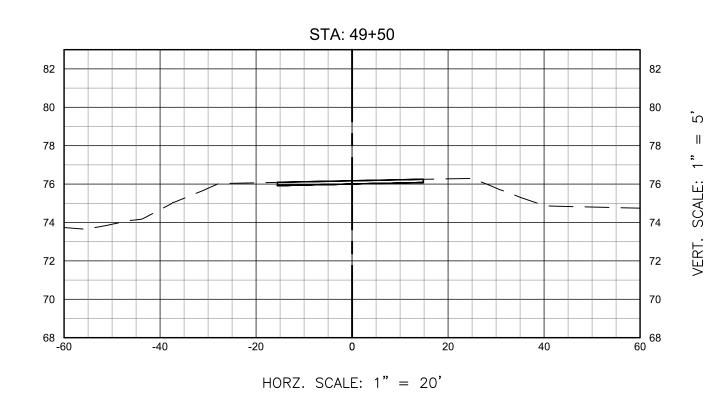
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Rev Date Drawn Description Ch'k'd App'd Mott MacDonald Florida, LLC. 220 West Garden Street Suite 700 Pensacola, FL 32502

United States of America

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Board of County Commissioners

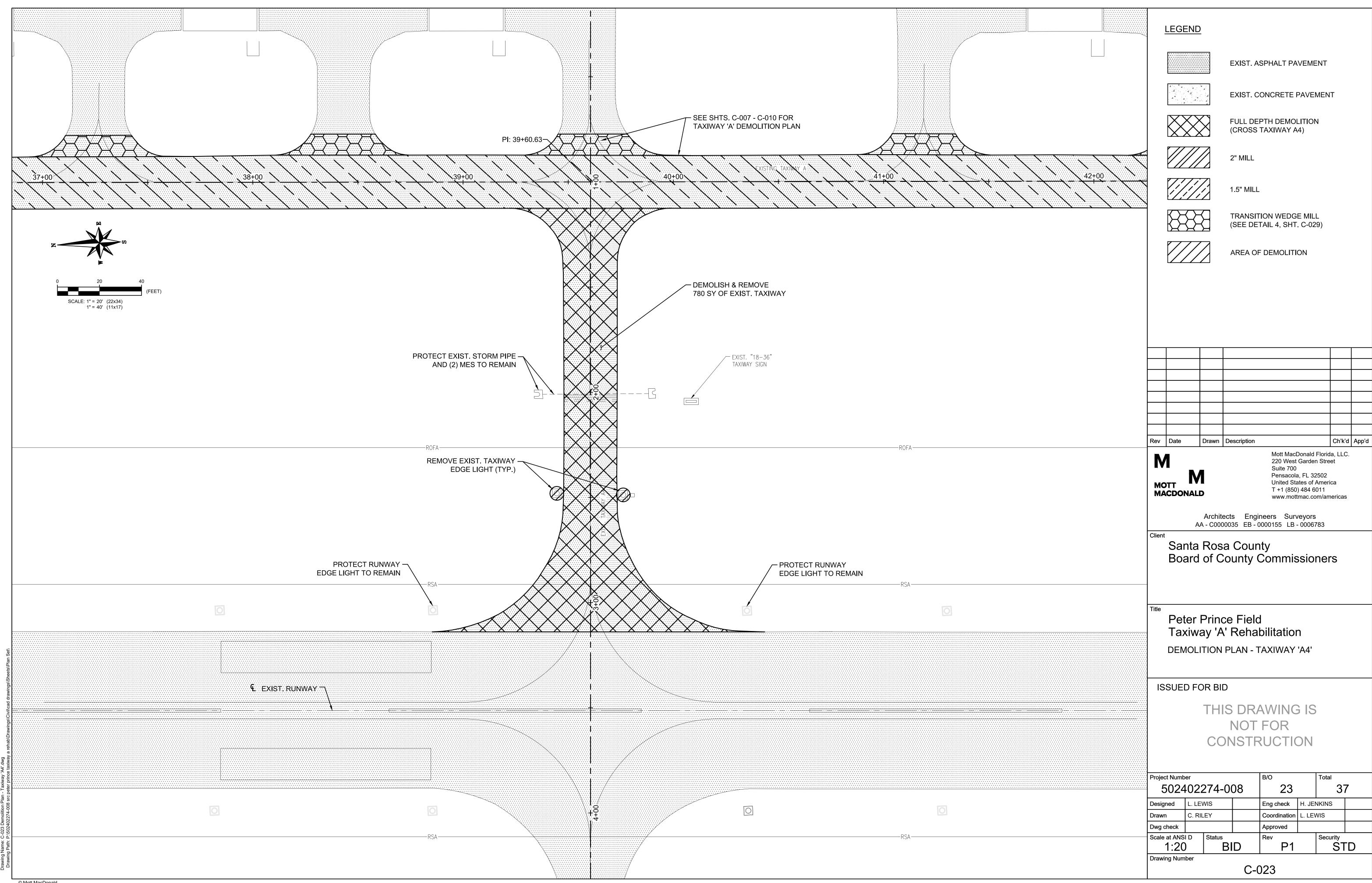
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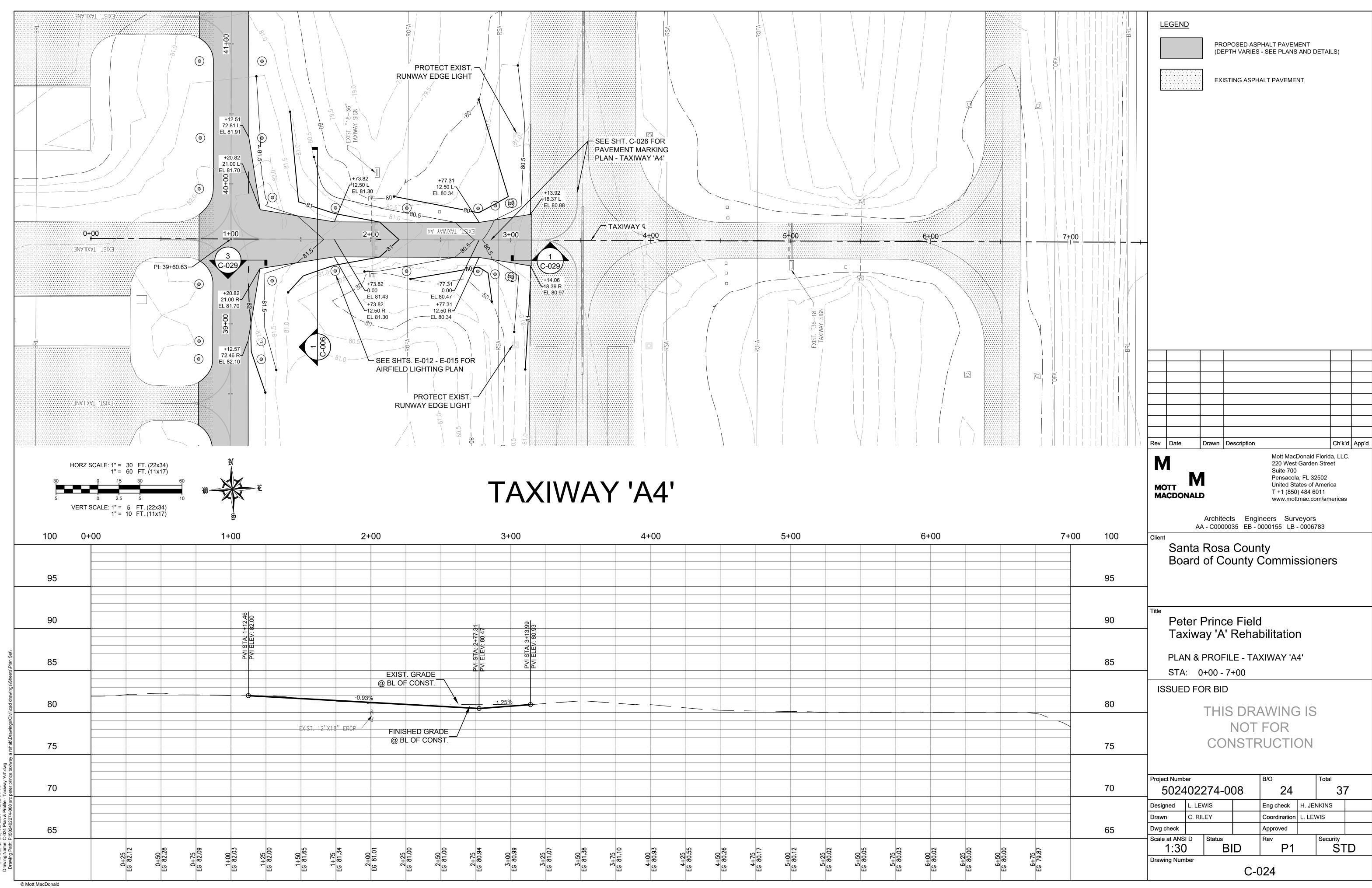
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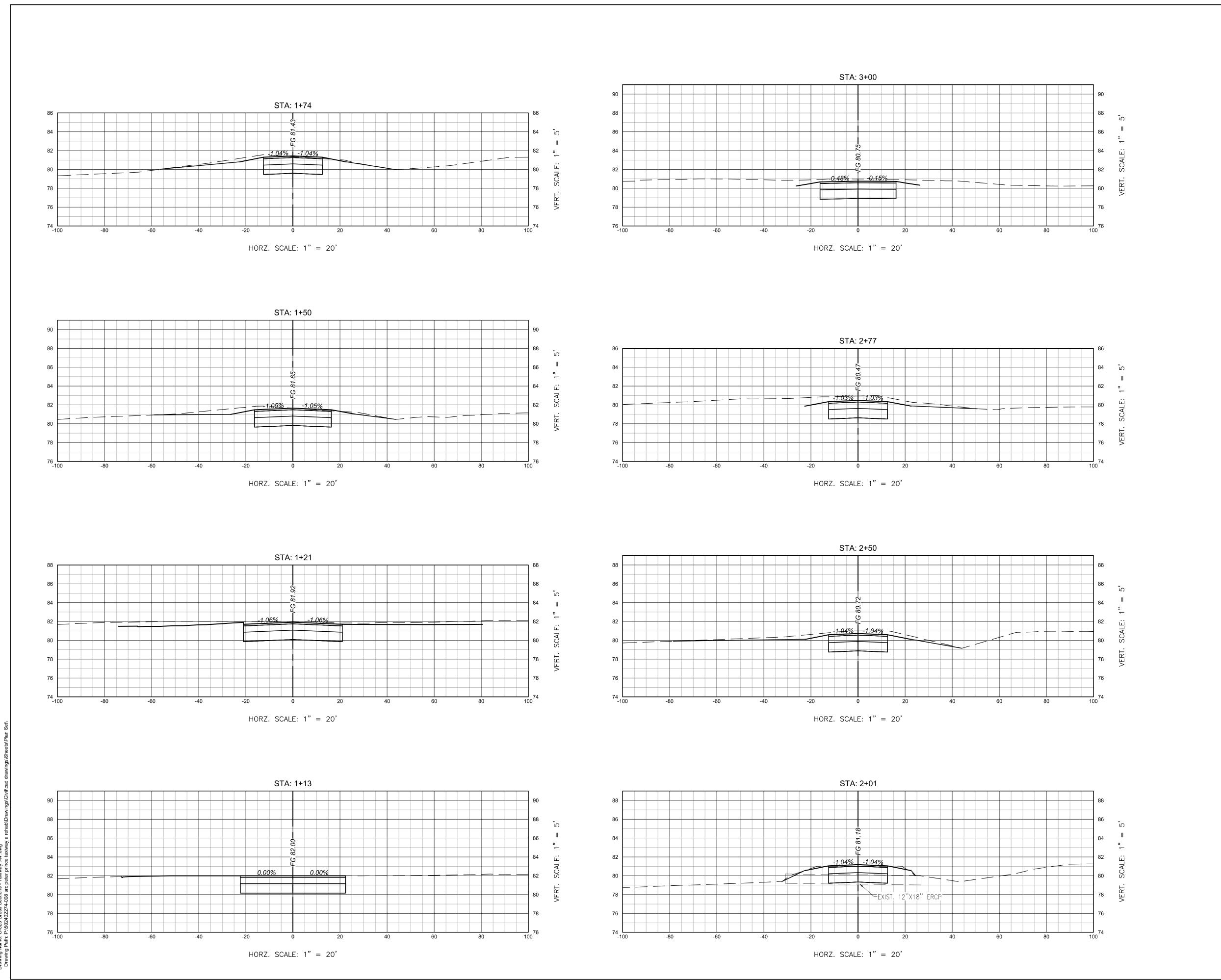
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Designed	L. LEV	VIS		Eng check	H. JEI	NKINS		
Drawn	C. RIL	.EY		Coordination	L. LEWIS			
Dwg check				Approved				
Scale at ANSI D Status 1:20 BIC			D	Rev P1 Security		Security ST	D	
Drawing Num	Drawing Number							
C-022								







Rev Date Drawn Description Ch'k'd App'd

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Santa Rosa County Board of County Commissioners

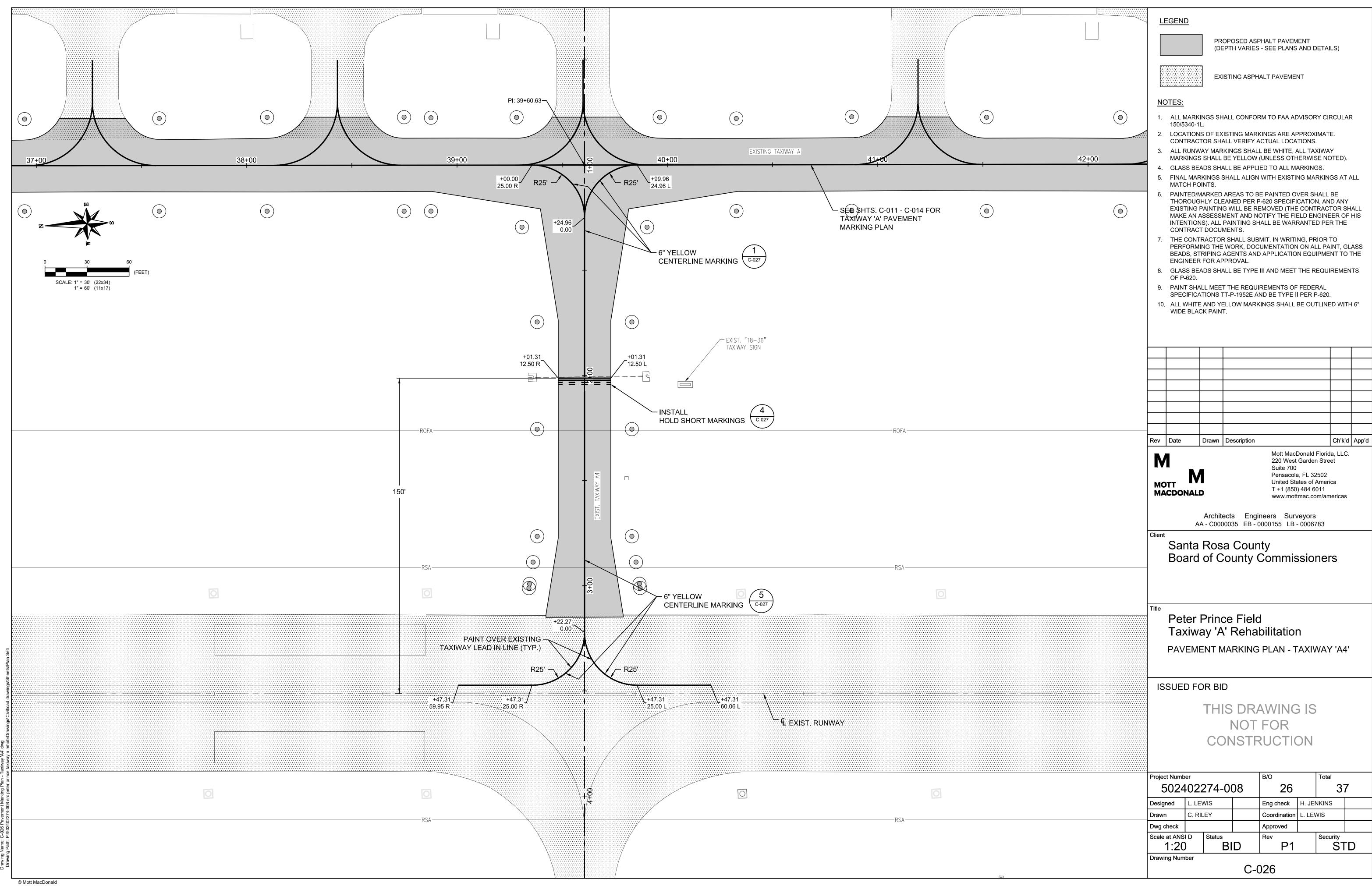
Peter Prince Field Taxiway 'A' Rehabilitation

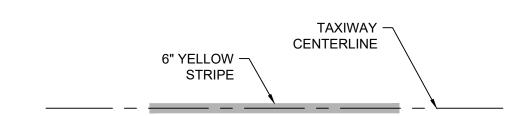
CROSS SECTIONS - TAXIWAY 'A4'

ISSUED FOR BID

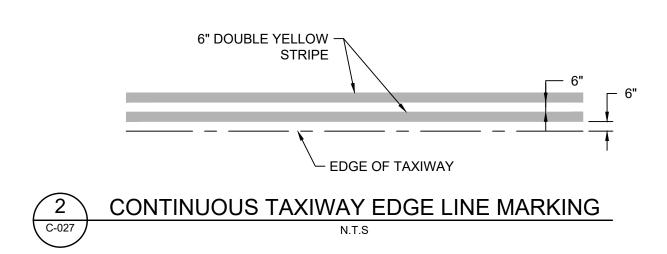
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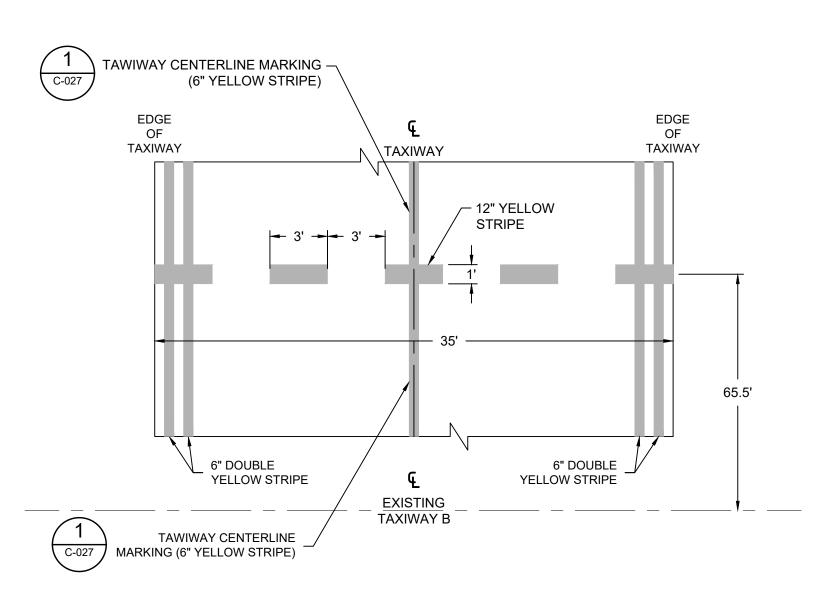
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Drawn	C. RIL	.EY		Coordination	L. LEWIS					
Dwg check				Approved						
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Drawing Num	Drawing Number									
C-025										



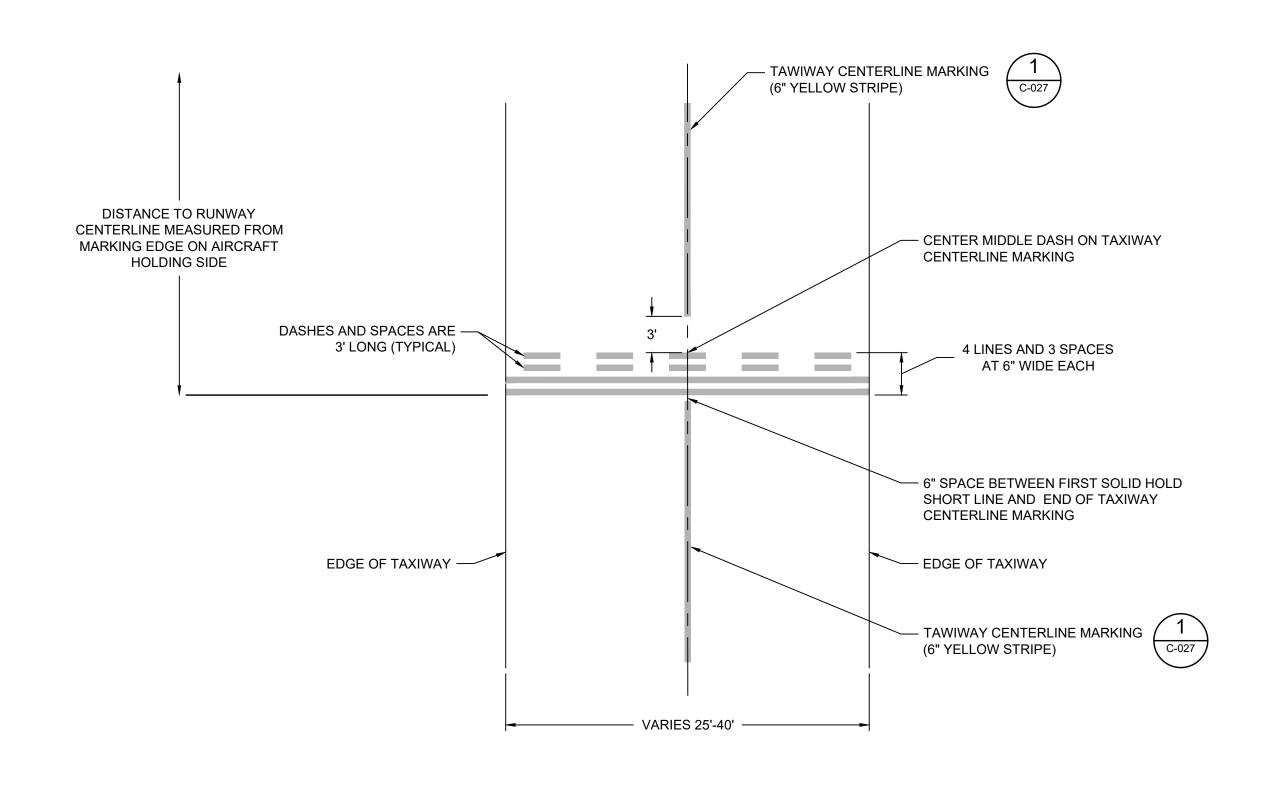


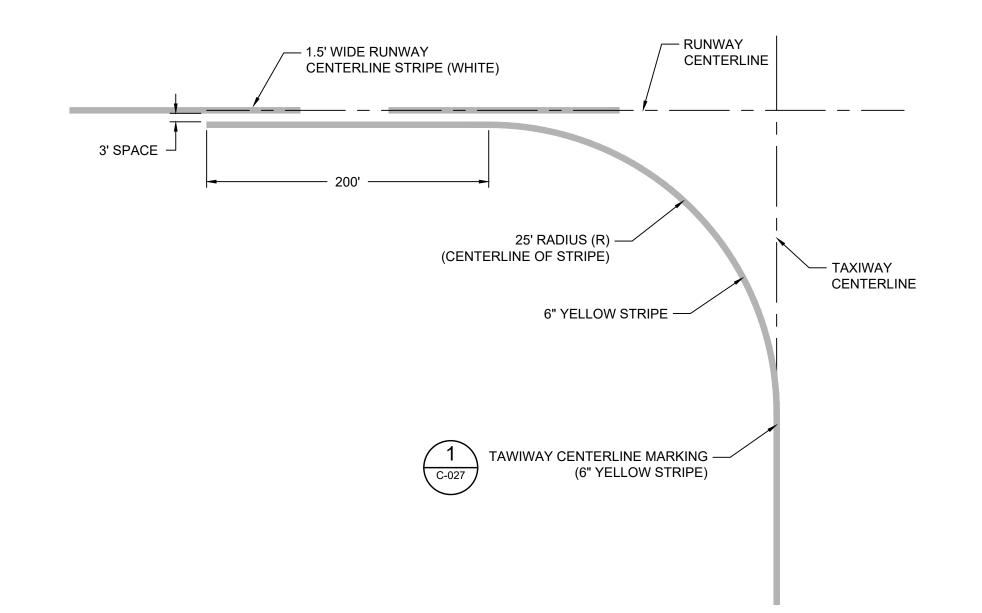
1 TAXIWAY CENTERLINE MARKING





TAXIWAY TO TAXIWAY INTERMEDIATE HOLD MARKING
N.T.S





HOLD SHORT MARKINGS

5 TAXIWAY CENTERLINE MARKING
N.T.S

NOTES:

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Rev	Date	Drawn	Description	Ch'k'd	App'd

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Santa Rosa County Board of County Commissioners

Peter Prince Field
Taxiway 'A' Rehabilitation
PAVEMENT MARKING DETAILS

ISSUED FOR BID

THIS DRAWING IS

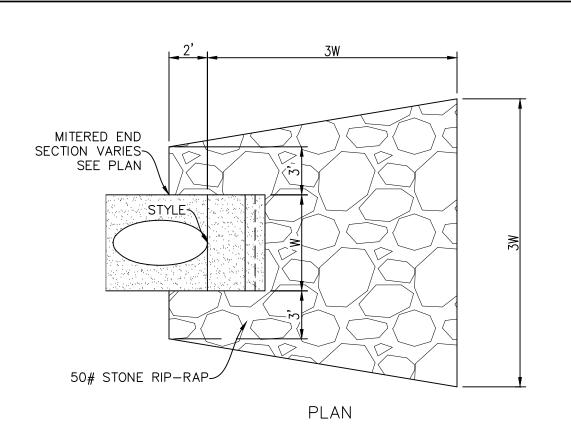
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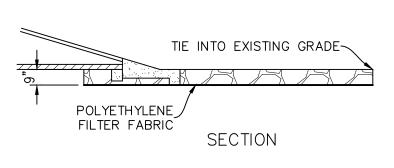
CONSTRUCTION

Project Number 502402274-008				B/O 27	7otal 3		7		
Designed	L. LEV	VIS		Eng check	H. JEI	NKINS			
Drawn	C. RILEY			Coordination	L. LEV	VIS			
Dwg check				Approved					
Scale at ANSI D Status NTS BID		D	Rev P1		Security STD				
Drawing Num	Drawing Number								

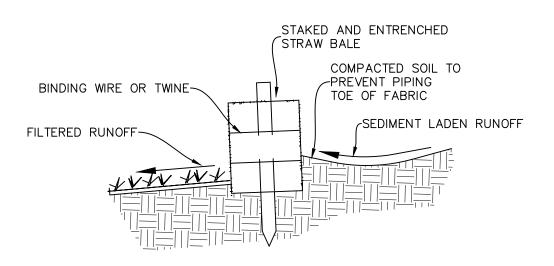
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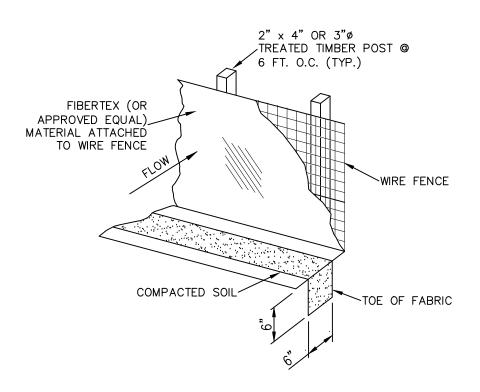




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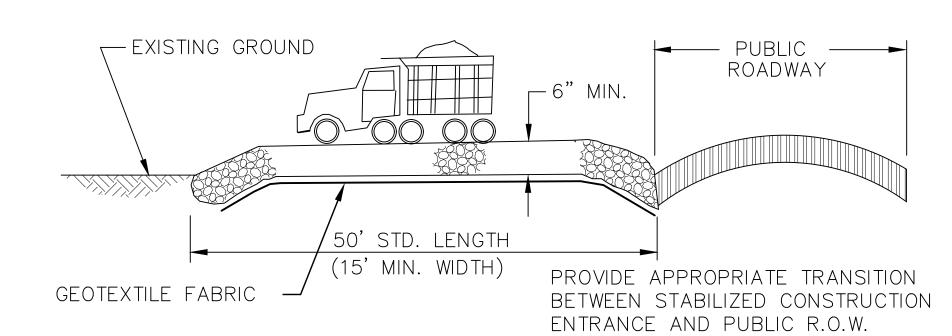


DETAIL OF PROPERLY INSTALLED STRAW BALE N.T.S.



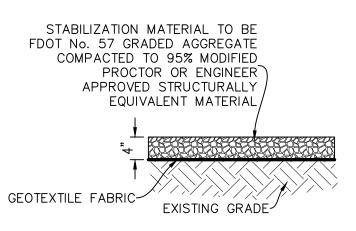
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N.T.S.

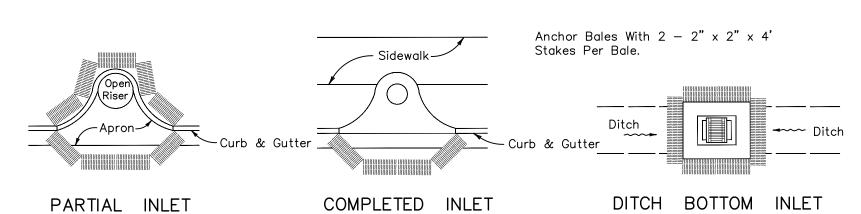


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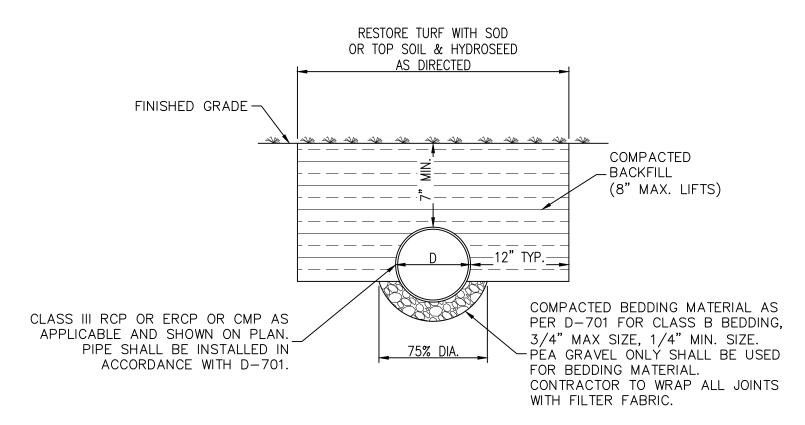
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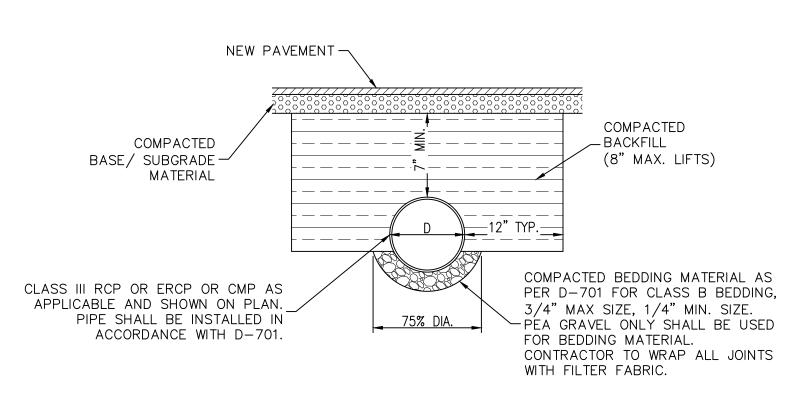
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ACCESS DRIVE SECTION
N.T.S.



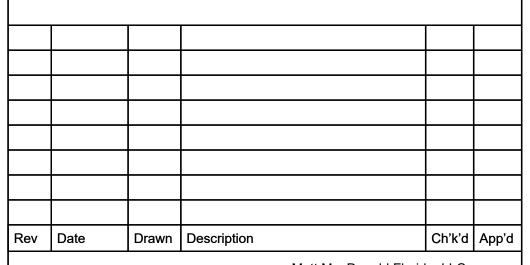
PROTECTION AROUND INLETS OR SIMILAR STRUCTURES



PIPE INSTALLATION DETAILS IN GRASS AREAS/ BERMS



PIPE INSTALLATION DETAILS UNDER PAVEMENT



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Taxiway 'A' Rehabilitation

DETAILS

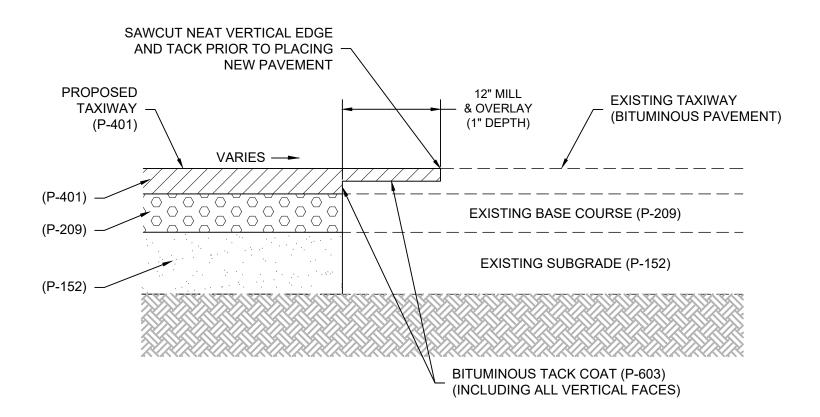
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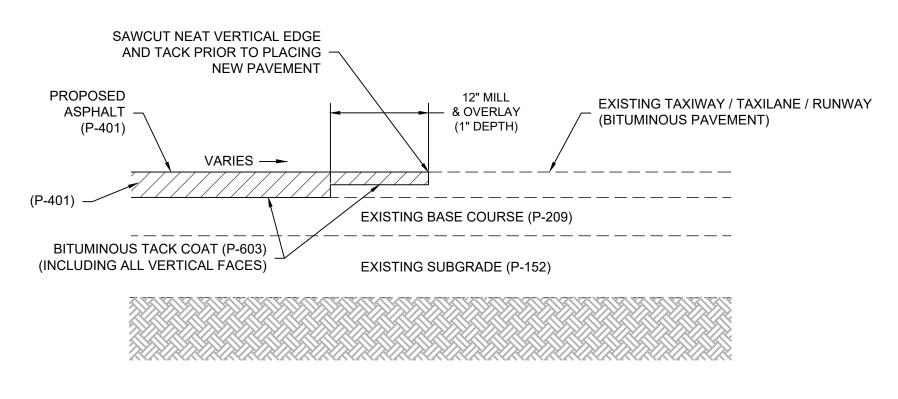
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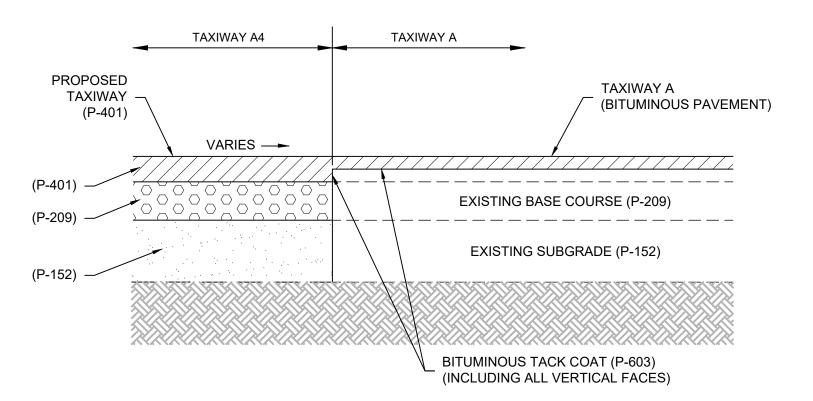
Project Numb	Project Number				B/O					
502402274-008				28	3		7			
Designed	L. LEV	VIS	Eng check	H. JENKINS						
Drawn	C. RILEY			Coordination	L. LEWIS					
Dwg check				Approved						
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Drawing Num	Drawing Number									
C-028										



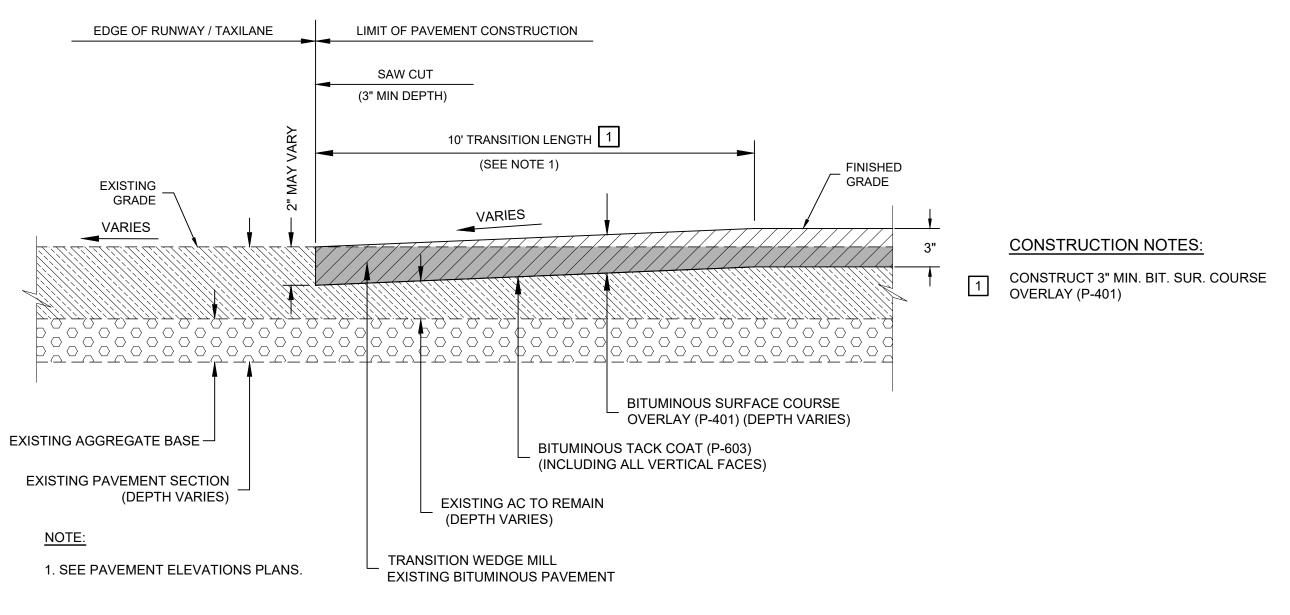












STRUCTURAL PAVEMENT TRANSITION

N.T.S.

C-029

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	·			·	
Rev	Date	Drawn	Description	Ch'k'd	App'd

M MOTT MACDONALD Mott MacDonald Florida, LLC. 220 West Garden Street Suite 700 Pensacola, FL 32502 United States of America T +1 (850) 484 6011 www.mottmac.com/americas

Architects Engineers Surveyors
AA - C0000035 EB - 0000155 LB - 0006783

Santa Rosa County
Board of County Commissioners

Peter Prince Field
Taxiway 'A' Rehabilitation

DETAILS

ISSUED FOR BID

THIS DRAWING IS

NOT FOR

CONSTRUCTION

Project Numb	Project Number					Total		
502402274-008				29		3	37	
Designed	L. LEV	VIS		Eng check	H. JENKINS			
Drawn	C. RIL	.EY		Coordination	L. LEWIS			
Dwg check				Approved				
	Scale at ANSI D Status NTS BII			Rev P1		Security S7	ΓD	
Drawing Num	Drawing Number							
C-029								

User Name: RIL36256 Time Stamp: May 05, 2021 - 12:54:41 Drawing Name: C-029 Details, dwg

GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. NATIONAL ELECTRIC SAFETY CODE, N.F.P.A., O.S.H.A. REGULATIONS AND ALL OTHER EXISTING CODES AND REGULATIONS OF AUTHORITIES WHICH HAVE JURISDICTION.
- THE CONTRACT DRAWINGS ARE DIAGRAMMATIC IN NATURE AND NOT EVERY DETAIL OR CONDUIT IS SHOWN. EXISTING CONDITIONS AND DIMENSIONS SHALL BE VERIFIED IN THE FIELD BEFORE COMMENCING ANY FABRICATION, ORDERING ANY MATERIAL, OR PERFORMING ANY WORK, ANY DEPARTURE FROM CONCEPT SHOWN ON THE CONTRACT DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ALL ELECTRICAL **EQUIPMENT SHOWN ON THE DRAWINGS AND/OR** REQUIRED FOR THE FULL INTEGRITY OF THE CONTRACT SHALL BE FURNISHED, INSTALLED AND CONNECTED BY THE CONTRACTOR, EXCEPT WHERE EQUIPMENT SHOWN IS IDENTIFIED AS "EXISTING" OR OTHERWISE NOTED ON THE DRAWINGS.
- UNLESS OTHERWISE NOTED, EQUIPMENT AND MATERIALS TO BE PROVIDED SHALL BEAR LISTING AND LABELING BY A NATIONALLY RECOGNIZED TESTING AGENCY WHERE SUCH STANDARD HAD BEEN ESTABLISHED FOR THAT TYPE OF EQUIPMENT/MATERIAL.
- THE CONTRACTOR SHALL SUBMIT DETAILED EQUIPMENT LAYOUT PLANS, SECTIONS, AND MOUNTING DETAILS SHOWING PROPOSED LOCATION OF ALL EQUIPMENT AND REQUIRED WORKING/SERVICE CLEARANCES PRIOR TO INSTALLATION.
- CONTRACTOR SHALL VISIT THE PROJECT SITE AND **EXAMINE AND CONFIRM EXISTING CONDITIONS. ALL** CHANGES SHALL BE PRESENTED DURING SHOP DRAWING SUBMITTALS FOR ENGINEER'S APPROVAL.
- CONDUITS SHALL CONTAIN AN INSULATED GROUND WIRE BONDED TO ENCLOSURES AND SIZED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEC. IF SIZE IS NOT SHOWN ON THE CONTRACT DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE CONDUIT FITTINGS, CONNECTORS, CLAMPS, HARDWARE, HANGERS, AND SUPPORTS AS NECESSARY FOR A COMPLETE INSTALLATION.
- THE CONTRACTOR SHALL PROVIDE TAGS FOR EQUIPMENT, CONDUITS, AND CABLES THAT ARE INSTALLED UNDER THIS CONTRACT. TAG IDENTIFICATIONS SHALL BE IN ACCORDANCE WITH CONTRACT DRAWINGS. TAGS FOR CONDUITS SHALL BE AS DESCRIBED IN SPECIFICATIONS.
- UNUSED OPENINGS IN CONDUITS, BOXES, DISCONNECT SWITCHES, CABINETS, AND PANEL BOARDS SHALL BE CAPPED OR PLUGGED.
- 10. UPDATE EXISTING PANELBOARD DIRECTORIES TO REFLECT THE CIRCUITING IN EXISTING PANELBOARDS AFFECTED BY THIS ALTERATION.
- CONTRACTOR SHALL PROVIDE THE NECESSARY MATERIALS, LABOR AND ATTENDANCE FOR THE OPERATION OF TEMPORARY LIGHT AND CONSTRUCTION POWER AS REQUIRED DURING WORKING HOURS FOR THE ENTIRE CONSTRUCTION
- CONTRACTOR SHALL MAINTAIN CONTINUITY OF ANY EXISTING CIRCUITS AFFECTED BY THIS ALTERATION. RECONNECT ALL ALTERED OR REROUTED WORK TO ITS FULLY FUNCTIONAL STATE PRIOR TO ALTERATION.
- 13. PROVIDE ALL NECESSARY TEMPORARY WIRING TO MAINTAIN EXISTING INSTALLATIONS WHICH MUST REMAIN IN SERVICE DURING CONSTRUCTION PERIOD.
- 14. ALL BRANCH CIRCUITS OVER 75 FEET IN LENGTH SHALL BE RUN WITH #10 CONDUCTOR, UNLESS OTHERWISE NOTED.
- 15. SCHEDULE ALL DISCONNECTION AND INTERRUPTIONS OF ELECTRICAL SERVICE, COMMUNICATIONS AND SUPERVISORY SYSTEMS WITH THE OWNER AND ENGINEER.
- 16. CONTRACTORS SHALL FOLLOW ALL OWNER SITE SAFETY WORK PROCESSES AND PROCEDURES, FOR EXAMPLE, WORK PERMITS, SAFETY TASK ANALYSIES, LOCKOUT TAGOUT (LOTO), LOCK, TAG AND TRY, AND RED TAG, ETC.
- CONTRACTORS SHALL COORDINATE ALL WORK ACTIVITIES WITH OPERATIONS, MAINTENANCE, AND OTHER CONTRACTORS.

ABBREVIATIONS ABBREVIATIONS

WP

XFMR

STAINLESS STEEL SS ABOVE COUNTER TOP (6") SPD SURGE PROTECTION DEVICE AMP FRAME SW **SWITCH SWBD SWITCHBOARD** ABOVE FINISHED FLOOR SYM SYMMETRICAL AIR HANDLING UNIT AMPERE INTERRUPTING CAPACITY TEL TELEPHONE TWIS TWISTED INDIVIDUAL SHIELD AMMETER **TWOS** TWISTED OUTER SHIELD **APPROXIMATELY** AMMETER SELECTION SWITCH TYP **TYPICAL** UG **ASYMMETRICAL** AMP TRIP

AM **APPROX** ASYM ΑT AUTOMATIC TRANSFER SWITCH ATS **AUXILIARY** AMERICAN WIRE GAUGE BUILDING

A OR AMP

ACT

AFF

AHU

AIC

CT

Cu

DIA

DWG(S)

ELEC

EM

EMT

EXP

EF

EG

EGC

ETC

FCR

GALV

GEC

GEN

GFCI

H-O-A

HVAC

ISBR

ISCA

kVA

kWH

LFMC

LTG

MCC

MIN

MLO

MTD

NEMA

NFPA

NO

NTS

O.C.

O/F

OHE

OSHA

PERM

PFC

PH, Ø

PLC

PNL

PVC

PWR

R&R

RE

REF

RGS

RMS

RECEP1

OCPD

MECH

JB OR J

GF

GFI

FL, FLR

G OR GND

EXIST

ESTOP

EX, EXIST.

AUX AWG **BLDG** CONDUIT C, CDT **CONDUIT** C, /C **CONDUCTOR** CB **CIRCUIT BREAKER** CKT CIRCUIT CLF **CURRENT LIMITING FUSE** CO **COMPANY** COL **COLUMN** CNTL CONTROL **CONTINUOUS STATISTICAL** CSLD

LEAK DETECTION

CABLE

DEPTH

DIAMETER

DRAWING(S)

EMERGENCY

DS OR DISC DISCONNECT SWITCH

EXISTING

CURRENT TRANSFORMER

ELECTRIC, ELECTRICAL

EMERGENCY STOP

EXPLOSION PROOF

EQUIPMENT GROUND

FLOAT CONTROL RELAY

EXHAUST FAN

ET CETERA

EXISTING

FUSE

FLOOR

FEET

GROUND

GALVANIZED

GENERATOR

GROUND FAULT

HORSEPOWER

GAUGE

INCH

INFRARED

JUNCTION BOX

KILOWATTS

LENGTH

LIGHTING

MAXIMUM

MH OR MTG MOUNTING HEIGHT

MINIMUM

MOUNTED

NEUTRAL

NUMBER

MCB OR MB MAIN CIRCUIT BREAKER

MECHANICAL

MANUFACTURER

MAIN LUGS ONLY

NON-FUSIBLE

NORMALLY OPEN

OVERHEAD ELECTRICAL

OCCUPATIONAL SAFETY &

POWER FACTOR CAPACITOR

POLYVINYLCHLORIDE CONDUIT

REMOVE AND RELOCATE

RIGID GALVANIZED STEEL

ROOT MEAN SQUARE

NOT TO SCALE

ON CENTER

OVERFILL

POLE

PHASE

PANEL

POWER

RELOCATE

RELOCATED

RECEPTACLE

REFERENCE

SEAL FITTING SHIELDED

PERMANENT

NORMALLY CLOSED

NATIONAL ELECTRICAL CODE

NATIONAL ELECTRICAL MFRS ASSOCIATION

NATIONAL FIRE PROTECTION ASSOCIATION

OVERCURRENT PROTECTIVE DEVICE

HEALTH ADMINISTRATION

PROGRAMMABLE LOGIC CONTROLLER

KILOVOLT - AMPS

KILOWATT-HOUR

LIGHTNING ARRESTOR

MOTOR CONTROL CENTER

MECHANICAL EQUIPMENT ROOM

ELECTRICAL METALLIC TUBING

EQUIPMENT GROUND CONDUCTOR

GROUNDING ELECTRODE CONDUCTOR

GROUND FAULT CIRCUIT INTERRUPT

INTRINSICALLY SAFE BARRIER RELAY

LIQUIDTIGHT FLEXIBLE METAL CONDUIT

INSTANTANEOUS SHORT CIRCUIT AVAILABLE

GROUND FAULT INTERRUPTING

HEATING, VENTILATION & AIR

INTERMEDIATE METAL CONDUIT

HAND-OFF-AUTOMATIC

ISOLATED GROUND

UNDERGROUND UNDERWRITER'S LABORATORIES UL UV ULTRAVIOLET **VOLTS VOLT AMPS** VA **VOLTS ALTERNATING CURRENT** VAC VDC VOLTS DIRECT CURRENT VFD VARIABLE FREQUENCY DRIVE VM VOLTMETER **VMS VOLTMETER SELECTOR SWITCH** WATT WITH W/ W/O WITHOUT WM WATTMETER

WEATHER PROOF

TRANSFORMER

ONE-LINE DIAGRAM

CONNECTION TO ELECTRICAL INDICATED

UTILITY. VOLTAGE. PHASES AS

UTILITY METER

GENERATOR - 'XX' DESIGNATES POWER RATING - 'YY' DESIGNATES VOLTAGE

 $\subset X:Y$ (z

(**∀**)X:Y

 \bigcirc (Z)

 \angle XX kVA

YY-ZZV

CURRENT TRANSFORMER (CT) 'X:Y' INDICATES RATIO 'Z' INDICATES QUANTITY (1 PER PHASE UNLESS OTHERWISE INDICATED)

POTENTIAL TRANSFORMER (PT). 'X:Y' INDICATES RATIO 'Z' INDICATES QUANTITY (1 PER PHASE UNLESS OTHERWISE INDICATED)

TWO WINDING TRANSFORMER. PHASES AS DETERMINED BY OCPD -'Z' INDICATES % IMPEDANCE ANSI STANDARD IF NOT SPECIFIED DESIGNATION

-'WW' INDICATES STRUCTURE -'XX' INDICATES POWER RATING -'YY' INDICATES PRIMARY VOLTAGE -'QQ' INDICATES SECONDARY **VOLTAGE WINDINGS AS INDICATED** -'A' INDICATES DELTA CONNECTION -' 'S' INDICATES WYE CONNECTION WITH GROUNDED NEUTRAL

XX kVA YY-ZZV Z% XFMR:W XX kVA

YY-ZZV

Z%

THREE WINDING TRANSFORMER -'W' INDICATES STRUCTURE DESIGNATION -'XX' INDICATES POWER RATING (BY

WINDING) -'YY' INDICATES VOLTAGE RATING (BY WINDING) -'Z' INDICATES IMPEDANCE (BY WINDING) -'A' INDICATES DELTA CONNECTION

-' 'INDICATES WYE CONNECTION WITH GROUNDED NEUTRAL

 Δ

XX kVA

YY-ZZV

oNL o⊏

TRANSFER SWITCH - 'W' INDICATES A: AUTOMATIC M: MANUAL

- 'XX' INDICATES RATING IN AMPS - 'Y' INDICATES NUMBER OF POLES

BYPASS ISOLATION TRANSFER SWITCH -'XX' INDICATES AMPERE RATING -'Y' INDICATES NUMBER OF POLES

XXA/Y

-'XX' INDICATES AMPERE RATING -'Y' INDICATES NUMBER OF POLES

52 XXAT YYAF MEDIUM & HIGH VOLTAGE CIRCUIT

BREAKER - 'XX' INDICATES TRIP RATING IN AMPS - 'YY' INDICATES FRAME RATING

XXAT/W

□ XXA Z

LOW VOLTAGE MOLDED CASE CIRCUIT BREAKER. - 'XX' INDICATES TRIP RATING IN AMPS (IF

TRIP INTEGRAL) - 'YY' INDICATES FRAME RATING, ID SPECIFIED - 'W' INDICATES NUMBER OF POLES (3

UNLESS OTHERWISE NOTED) - 'Z' DESIGNATES TYPE: BLANK: THERMAL MAGNETIC LSI: ELECTRONIC TRIP MCP: MOTOR CIRCUIT PROTECTOR GFI: GROUND FAULT INTERRUPTING

- 'XX' INDICATES TRIP RATING IN AMPS - 'Z' INDICATES CLASSIFICATION (IF SPECIFIED)

ANGLED BRACKETS INDICATE DRAWOUT DEVICE

ONE-LINE DIAGRAM

(xx)

PROTECTIVE RELAY, METERING, OR INTERLOCKING DEVICE. 'XX' DESIGNATIONS: A: AMMETER V: VOLTMETER

PF: POWER FACTOR K: KIRK KEY INTERLOCK ELECTRICAL INTERLOCK 25: SYNCHRONISM CHECK 27: UNDER VOLTAGE **46: CURRENT UNBALANCE**

59: OVER VOLTAGE

47: PHASE-SEQUENCE VOLTAGE 50: INSTANTANEOUS OVERCURRENT 51: TIME OVERCURRENT 52: AC CIRCUIT BREAKER 55: POWER FACTOR

64: GROUND PROTECTIVE RELAY 81: FREQUENCY 86: LOCKING OUT RELAY * SPECIFIC MINIMUM FUNCTIONS TO BE LISTED BY ANSI/IEEE DEVICE NUMBERS

FULL VOLTAGE NON REVERSING CONTACTOR 'X' DESIGNATES NEMA SIZE OR: BC: BYPASS CONTACTOR OC: OUTPUT ISOLATION CONTACTOR

IC: INPUT ISOLATION CONTACTOR

LIGHTING CONTACTOR XXA/Y -'XX' DESIGNATES AMPERE RATING -'Y DESIGNATES NUMBER OF POLES

E-ELECTRONIC.

 $F \pm R \pm X$

XXA

XXA

XXA/Y

XX HP

WW

XX HP

LIGHTING CONTACTOR XXA/Y -'XX' DESIGNATES AMPERE RATING -'Y DESIGNATES NUMBER OF POLES

> MOTOR OVERLOAD RATED FOR DEVICE PROTECTING. CLASS 20 UNLESS OTHERWISE INDICATED. -'X' DESIGNATES TYPE: T-THERMAL

FULL VOLTAGE REVERSING CONTACTOR -'X' DESIGNATES NEMA SIZE -'F' INDICATES FORWARD CONTACTOR. -'R' INDICATES REVERSING CONTACTOR

TWO SPEED STARTER -'X' DESIGNATES NEMA SIZE -'H' INDICATES HIGH SPEED CONTACTOR.

-'L' INDICATES LOW SPEED CONTACTOR

REDUCED VOLTAGE AUTOTRANSFORMER -'X' DESIGNATES NEMA SIZE.

-'Y' INDICATES TAP PERCENTAGE. VARIABLE FREQUENCY DRIVE VFD

-'XX' INDICATES MINIMUM AMP RATING (IF NOT SPECIFIED, VFD TO MATCH HORSEPOWER RATING OF MOTOR SUPPLIED).

REDUCED VOLTAGE SOFT START. **RVSS** -'XX' INDICATES MINIMUM AMP RATING (IF NOT SPECIFIED, RVSS TO MATCH HORSEPOWER RATING OF MOTOR SUPPLIED).

NON-FUSED DISCONNECT SWITCH - 'XX' DESIGNATES AMPERE RATING OF DISCONNECT. - 'Y' DESIGNATES NUMBER OF POLES

> **FUSED DISCONNECT SWITCH** - 'XX' DESIGNATES AMPERE RATING OF FUSE.

DISCONNECT AMPERE RATING TO BE EQUAL TO FUSE RATING OR THE NEXT LARGEST TRADE - 'Y' DESIGNATES NUMBER OF POLES

INDUCTION MOTOR -'WW' INDICATES EQUIPMENT DESIGNATION. -'XX' INDICATES HORSEPOWER RATING.

SYNCHRONOUS MOTOR -'WW' INDICATES EQUIPMENT DESIGNATION. -'XX' INDICATES HORSEPOWER RATING.

PANELBOARD - 'X' INDICATES STRUCTURE DESIGNATION.

ONE-LINE DIAGRAM

UNINTERRUPTIBLE POWER SUPPLY. UPS

SPD 0 0-1 LIGHTNING ARRESTORS

SURGE SUPPRESSION DEVICE.

- 'XX' INDICATES IC: INTERMEDIATE CLASS DC: DISTRIBUTION CLASS SC: STATION CLASS

EARTH GROUND

LINE OR LOAD REACTOR. 'Z' DESIGNATES % IMPEDANCE.

ightarrow dash XXkVAR CAPACITOR - 'XX' INDICATES kVAR RATING

> RESISTOR - 'ZZ' INDICATES IMPEDANCE IN OHMS

> > MISCELLANEOUS ELECTRICAL EQUIPMENT, SUCH AS PANEL, ETC. EQUIPMENT TYPE AND RATINGS TO BE INDICATED.

ELECTRICAL EQUIPMENT BOUNDARY. INDICATES MULTIPLE DEVICES ENCLOSED WITHIN BORDER ARE LOCATED WITHIN THE SAME ENCLOSURE, OR MOUNTED TO SAME

4: 4 WIRE + GROUND

PORTABLE POWER CONNECTION • • XXA -'XX' INDICATES AMPERE RATING -'Y' DESIGNATES TYPE: 3: 3 WIRE + GROUND

PANEL RACK.

Rev Date Drawn Description Ch'k'd App'd

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Santa Rosa County **Board of County Commissioners**

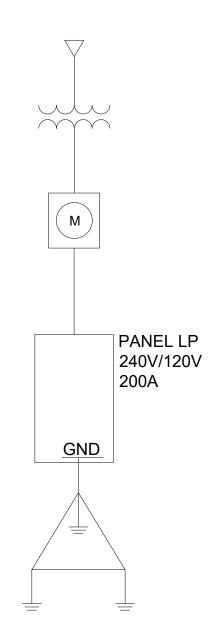
Peter Prince Field Taxiway 'A' Rehabilitation

ELECTRICAL LEGEND. ABBREVIATIONS AND NOTES

ISSUED FOR BID

THIS DRAWING IS NOT FOR CONSTRUCTION

Due is at Niversh				D/O		T-4-1		
Project Numb				B/O		Total		
5024	502402274-008					37		
Designed	A. GIE	3BS		Eng check				
Drawn	H. ER	SKINE		Coordination				
Dwg check				Approved				
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Drawing Number								
	E-001							



ONE-LINE DIAGRAM

PTIONS OLTS L	9	PANEL: LV						:					
OLTS L	<u> </u>												
	OLTS L-L: 240 MAIN OVERCURF		MAIN OVERCURRENT:	200A MCB	BUS MATERIAL:		Cu	MOUNTING:	SURFACE				
OLTS L	N:	120	I	MAIN BUS RATING:		NEUTRAL SIZE:		100%	ENCLOSURE TYPE:	NEMA 12			
PHASE:		1	I	MINIMUM A.I.C.:	10kA				GROUND:	EQUIPME	ENT		
VIRE:		3											
OAD DA	ATA												
CKT#	BKR.	POLE	TYPE	DESCRIPTION	VA	L1	L2	VA	DESCRIPTION	TYPE	POLE	BKR.	CKT#
1	20	1		VAULT LIGHTING	200	4200		4000	RUNWAY 18-36		2	60	2
3	20	1		VAULT RECEPTACLE	200		4200	4000	REGULATOR		2		4
5	20	1		BEACON POWER	1000	1000			SPARE		2	25	6
7	20	1		WINDCONE POWER	700		700		SFARL		2		8
9	20	1		PHOTO CONTROL CIRCUIT	100	200		100	RADIO CONTROLLER		1	20	10
11	20	1		EXHAUST FAN	100		200	100	PHOTOCELL/CONTROL		1	20	12
13	20	1		SPARE		4000		4000	TAXIWAY T-1		2 60	60	14
15	20	1		SPARE			4000	4000	REGULATOR			80	16
17	30	2		PAPI, RUNWAY 18-36	2000	6000		4000	TAXIWAY T-2		2	60	18
19	30	2		1 Al 1, NONWA1 10-30	2000		6000	4000	REGULATOR		2	00	20
21	20	1		SPARE		0			SPARE		1	20	20
23	20	1		SPARE			0		SPARE		1	20	22
25	20	1		SPARE		0			SPARE		1	20	26
27	20	1		SPARE			0		SPARE		1	20	28
29	20	1		SPARE		0			SPARE		1	20	30
			TOTAL (CONNECTED LOAD (VA)	PER PHASE:	15400	15100						
				NNECTED LOAD (AMPS)			126						
				TOTAL CONNECTE) / () 4 () / () / () /	20500]	NIE/	CARTICLE 220 LOAD (VAL	3807	75		
TOTAL CONNECTED LOAD (VA): AVERAGE CONNECTED LOAD (AMPS):													
IOTEO			A	VLKAGE CONNECTED L	JAU (AIVIPS).	127	/	AVERAGE AI	NITICLE ZZU LUAD (AIVIPS).	159	1		
IOTES:			-	ATIONS BASED ON REMO									

Rev Date Drawn Description Ch'k'd App'd

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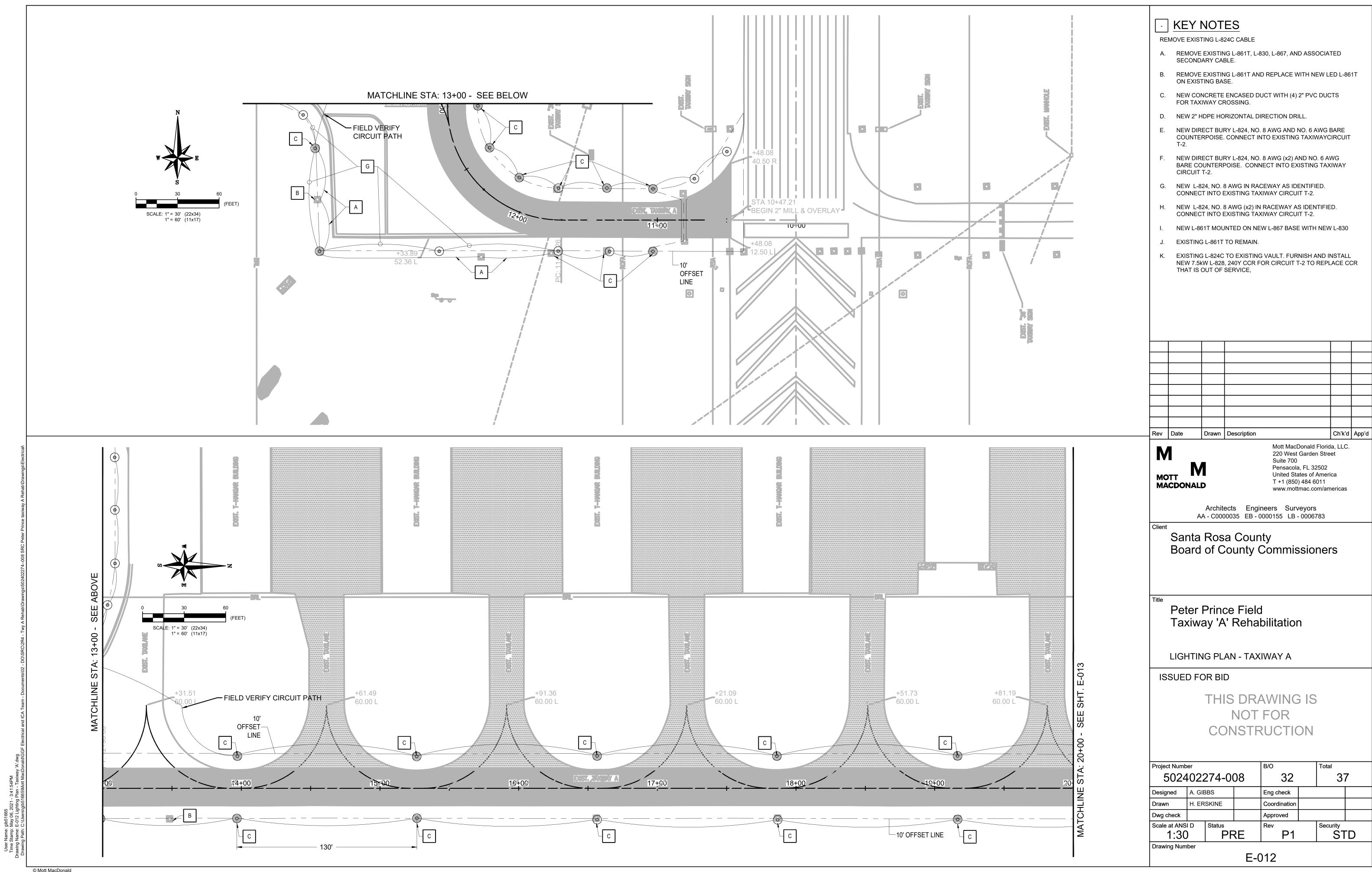
ONE-LINE DIAGRAM

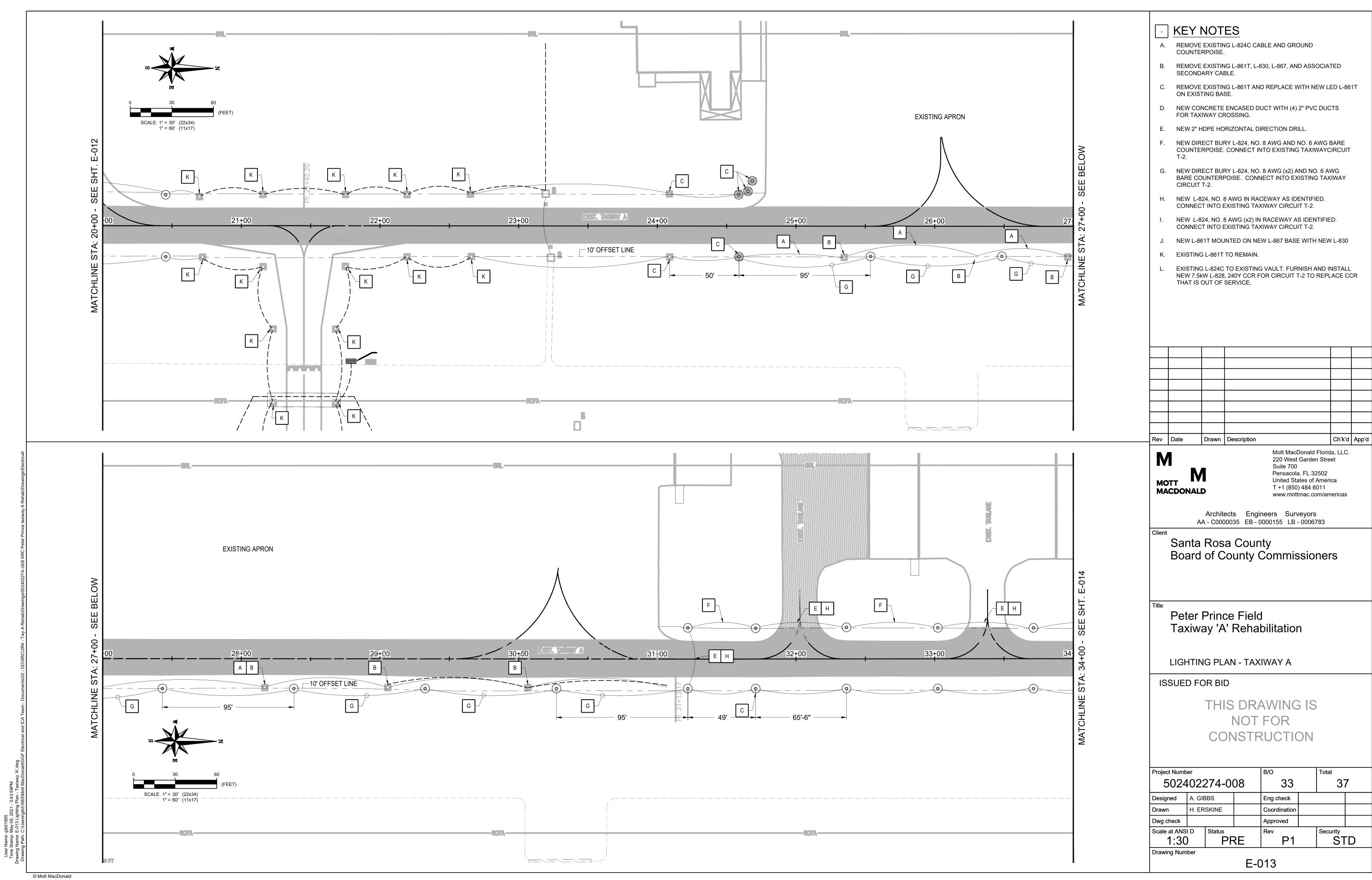
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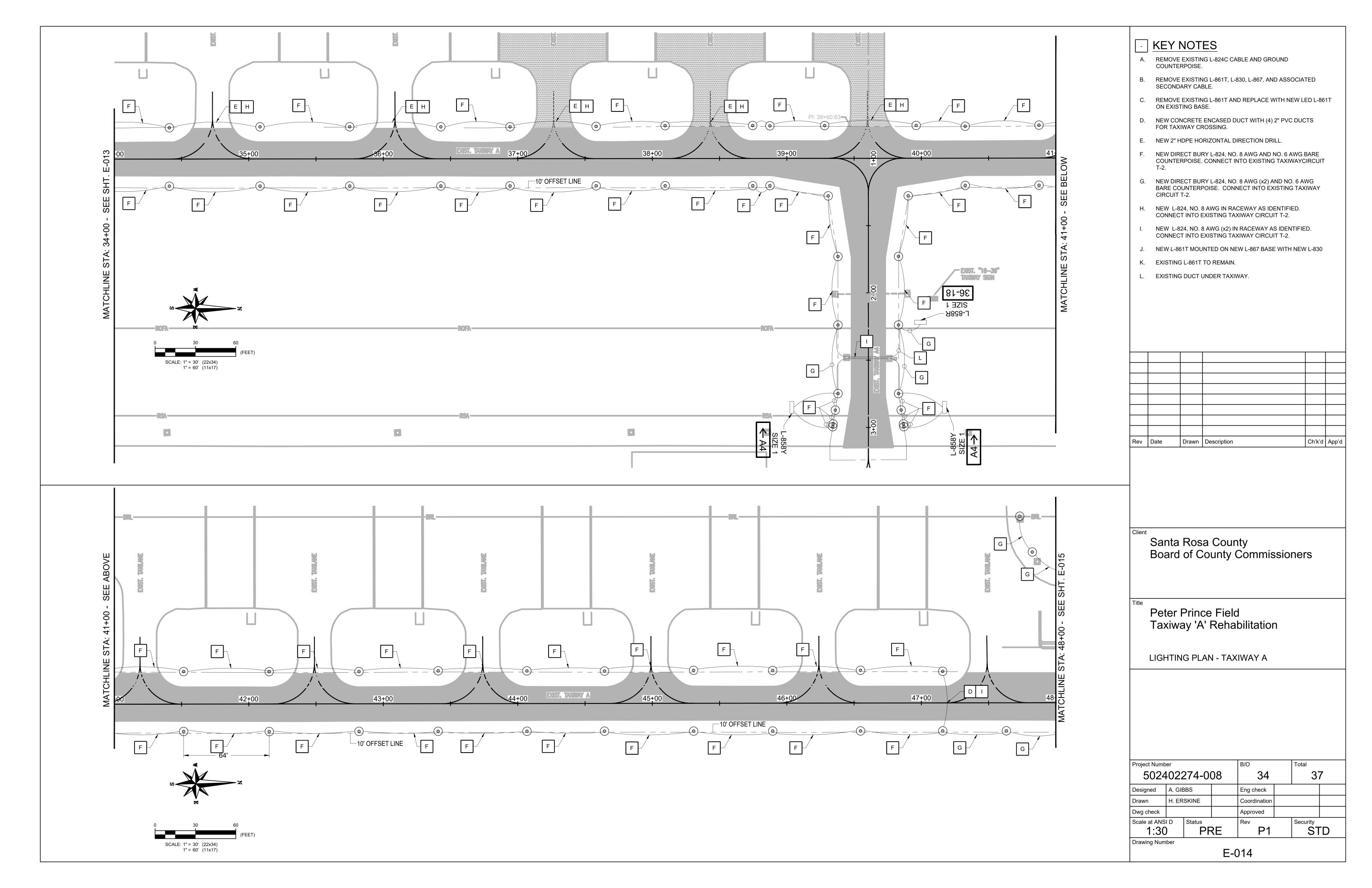
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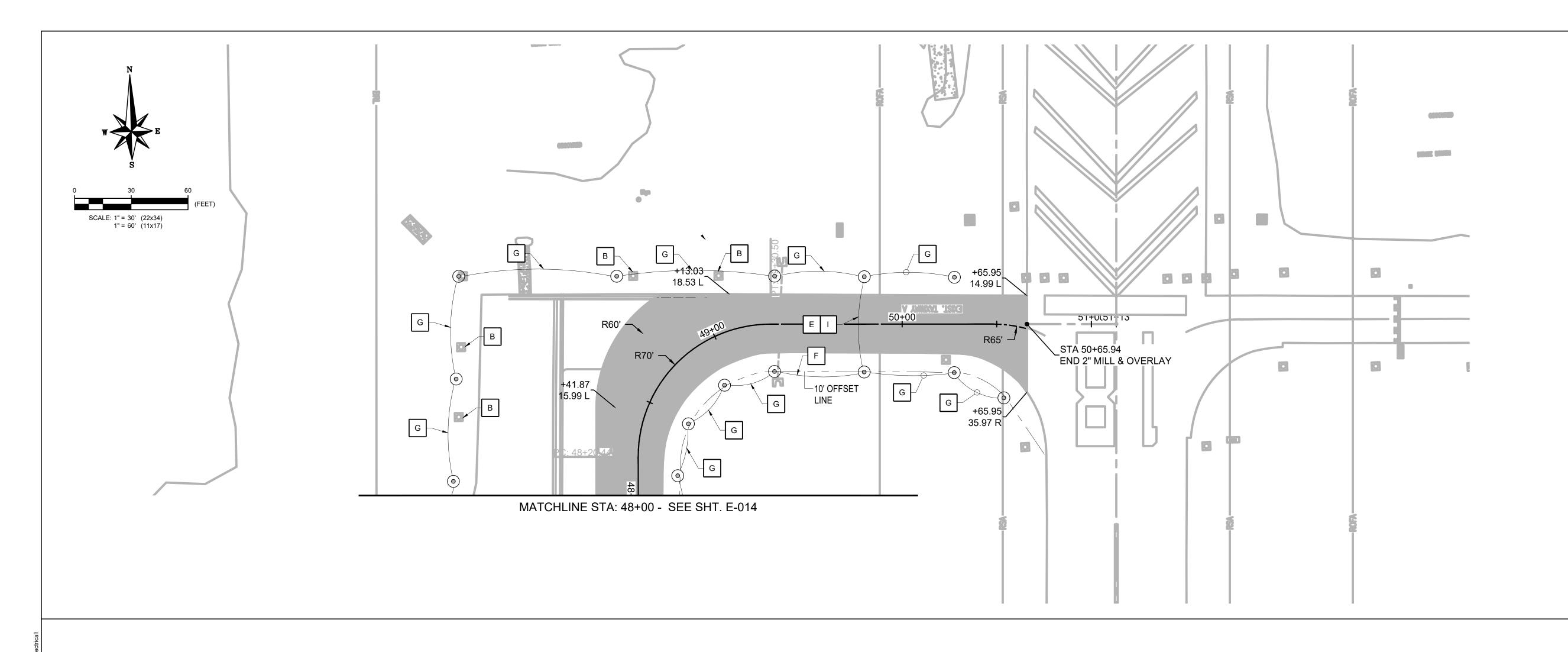
Project Numb			B/O		Total		
5024	274-00	80	31		37		
Designed	esigned A. GIBBS			Eng check			
Drawn	Drawn H. ERSKINE			Coordination			
Dwg check	Dwg check			Approved			
Scale at ANSI D Status NO SCALE F		Status PF	RE	Rev P1		Security S1	D
Drawing Number							
E-002							

User Name: gib51665 Time Stamp: May 06, 2021 - 3:40:51PM Drawing Name: E-002 ONE-LINE DIAGRAM.d\ Drawing Path: C:\Users\gib51665\Mott MacDc









- KEY NOTES

REMOVE EXISTING L-824C CABLE

- A. REMOVE EXISTING L-861T, L-830, L-867, AND ASSOCIATED SECONDARY CABLE.
- REMOVE EXISTING L-861T AND REPLACE WITH NEW LED L-861T ON EXISTING BASE.
- C. NEW CONCRETE ENCASED DUCT WITH (4) 2" PVC DUCTS FOR TAXIWAY CROSSING.
- D. NEW 2" HDPE HORIZONTAL DIRECTION DRILL.
- NEW DIRECT BURY L-824, NO. 8 AWG AND NO. 6 AWG BARE COUNTERPOISE. CONNECT INTO EXISTING TAXIWAYCIRCUIT
- NEW DIRECT BURY L-824, NO. 8 AWG (x2) AND NO. 6 AWG BARE COUNTERPOISE. CONNECT INTO EXISTING TAXIWAY CIRCUIT T-2.
- G. NEW L-824, NO. 8 AWG IN RACEWAY AS IDENTIFIED. CONNECT INTO EXISTING TAXIWAY CIRCUIT T-2.
- NEW L-824, NO. 8 AWG (x2) IN RACEWAY AS IDENTIFIED. CONNECT INTO EXISTING TAXIWAY CIRCUIT T-2.
- NEW L-861T MOUNTED ON NEW L-867 BASE WITH NEW L-830
- J. EXISTING L-861T TO REMAIN.
- K. EXISTING L-824C TO EXISTING VAULT. FURNISH AND INSTALL NEW 7.5kW L-828, 240Y CCR FOR CIRCUIT T-2 TO REPLACE CCR THAT IS OUT OF SERVICE,

Rev Date Ch'k'd App'd Drawn Description

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Board of County Commissioners

Peter Prince Field Taxiway 'A' Rehabilitation

LAYOUT & PAVEMENT MARKING PLAN - TAXIWAY A

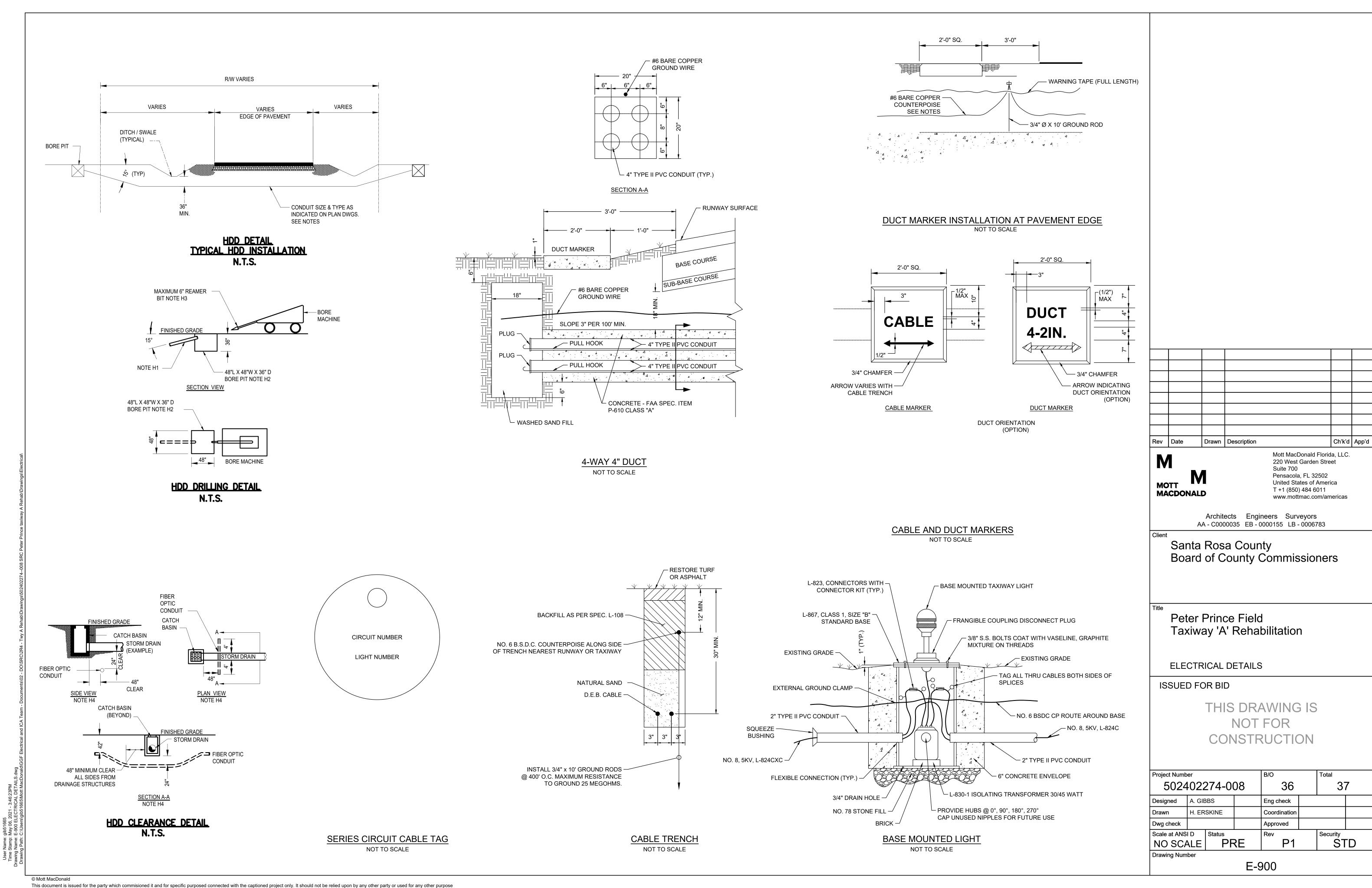
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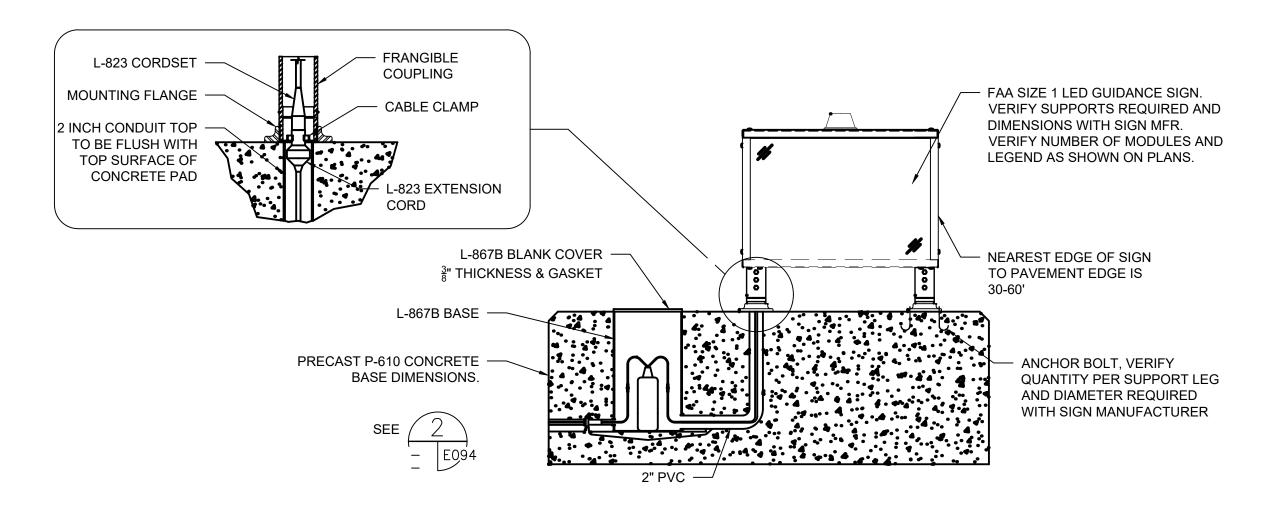
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Project Numb			B/O		Total		
5024	274-0	80	35	37		7	
Designed	A. GIE	3BS		Eng check			
Drawn	H. ER	SKINE		Coordination			
Dwg check				Approved			
Scale at ANSI D 1:30		Status PF	RE	Rev P1		Security ST	D
Drawing Number							

E-015

User Name: gib51665 Time Stamp: May 06, 2021 - 3:46:10PM rawing Name: E-015 Lighting Plan - Taxiv Drawing Path: C:\Users\gib51665\Mott M





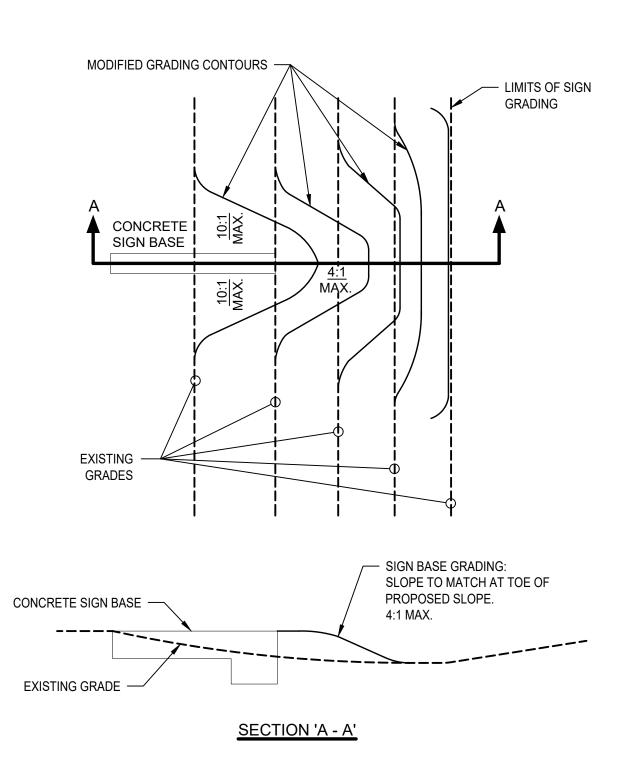
COORDINATE ALL — 211.2" (4 MODULE) -**DIMENSIONS WITH** MANUFACTURER 168.9" (3 MODULE) -- NEW FAA SIZE 1 LED LIGHTED **GUIDANCE SIGN** — 126.62" (2 MODULE) —— — 84.5" (1 MODULE) — GROUND ROD. PROVIDE #6 B.C. BOND TO GROUND COORDINATE LUG ON SIGN POWER LEG. WITH MFR 12" 12" DIA. 24" DEEP L-867 BASE WITH ISOLATION XFMR. PROVIDE W/ BRICK SUPPORT PER #4 REBAR TIE — FAA STDS. 2" RGS CONDUIT W/ COUPLING FOR 2" PVC AS REQUIRED BY — 2" PVC SWEEP CONDUIT. STUB OUT IN 3 MANUFACTURER DIRECTIONS, CAP UNUSED CONDUIT AT EDGE OF BASE POWER COORDINATE W/ SIGN LEG/SUPPORT, MANUFACTURER FOR **VERIFY WITH** EXACT BOLT PATTERN EACH SIGN SIZE

REMOTE MOUNTED TAXIWAY GUIDANCE SIGN DETAILS

NOT TO SCALE

NEW TAXIWAY GUIDANCE SIGN - NEW BASE DETAIL

NOT TO SCALE



/— #4 SPIRAL ON 10" CENTER BASE (8) #4 VERTICAL

CONCRETE REINFORCEMENT DETAIL

NOT TO SCALE

NEW SIGN - GRADING DETAIL

NOT TO SCALE

Project Number Total 502402274-008 37 Designed A. GIBBS Eng check H. ERSKINE Drawn Coordination Dwg check Approved Scale at ANSI D Security PRE STD NO SCALE Drawing Number

This document is issued for the party which commisioned it and for specific purposed connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

E-901

MACDONALD Architects Engineers Surveyors
AA - C0000035 EB - 0000155 LB - 0006783

Rev Date

MOTT

Santa Rosa County
Board of County Commissioners

Ch'k'd App'd

Mott MacDonald Florida, LLC.

www.mottmac.com/americas

220 West Garden Street

Pensacola, FL 32502 United States of America

T +1 (850) 484 6011

Suite 700

Peter Prince Field Taxiway 'A' Rehabilitation

Drawn Description

ELECTRICAL DETAILS

ISSUED FOR BID

THIS DRAWING IS NOT FOR CONSTRUCTION

CONTRACT ID

(Federal Funding)

		(Teucrai I	difdiffs)			
day of, 2 of Florida, (hereinafte Milton, FL 32570, authorized to do busi Federal I.D. # is	r referred to as the andness in the State	ween Santa ne "County" , e of Florida	Rosa Count), with a ma a	ty, a political	l subdivision os of 6495 Caro	of the state line Street,
		RECIT	ΓALS			
WHEREAS,	the County	y is in		of a covices"); and	entractor to	provide
WHEREAS,	INSERT HOW	YOU PRO	CURED; ar	nd		
WHEREAS, provide the desired So	Contractor is a dervices; and	certified and	insured en	tity with the	necessary exp	perience to
the Services to t	County for as in er de li	a lount of le belo .		ses and the r	nutual covena	Dollars
the parties agree as fo		Sideration o	r the p	ses and the r	nataar covena	nts nerem,
1. Recitals and A Agreement and made Agreement and are in	e part hereof for	r reference.			•	
Attachment "A" – Co Attachment "B" – Ins Attachment "C" – Tit Attachment "D" – Sc Attachment "E" – Spe Attachment "F" – Gra	urance Requirer le VI list of pert rutinized Compa ecial Conditions	ments; inent nondis nnies Certifi – Additiona	scrimination cation; al Federal R	Requirements	3;	;
2. <u>Services</u> .	Contractor	agrees	to perfo	orm the	following	services,
The Services to be	provided are f	urther detai	led in the	Contractor'	's proposal a	ttached as
	1	1				

Attachment "A" and incorporated herein by reference. The Services shall be performed by Contractor to the full satisfaction of the County. Contractor agrees to have a qualified representative to audit and inspect the Services provided on a regular basis to ensure all Services are being performed in accordance with the County's needs and pursuant to the terms of this Agreement and shall report to the County accordingly. Contractor agrees to immediately inform the County via telephone and in writing of any problems that could cause damage to the County. Contractor will require its employees to perform their work in a manner befitting the type and scope of work to be performed.

3.	Term	and	Renewal.	The	term	of	this	Agreement		begin
		from	the date of f			-		uhioat to th		()
		n accore	dance with S Waiver of L	ection 7 of	f this Ag	reemer	nt. The	terms of S	ection 23	•
This ag	greemer	nt may 1	not be renewe	ed; or						
This ag	greemer	-	be renewed u	-		_	nent of	the parties	for a peri	od of up
4. materi		nsation and	a. The Contra	_	s to provin	ride th	e Servi t Sllar		County, i	ncluding of _).
a.	Contra		sall s	4 I	he ir o					upon ave been
			that invoice tional docum						ovide the	e County
b.	Disbur	sement	. Check one:							
		7	There are no i	eimbursab	le expens	es asso	ociated	with this Ag	greement	
		7	The following	g are reimb	ursable e	xpense	s assoc	iated with th	nis Agree	ment:
c.	be revi	ewed b	edule. Invoice by the initiation ices have been the Finance De	ng County en rendered	Departme in confo	ent. Parmity	ayment with the	will be dist e Agreemen	oursed as t, the inv	set forth oice will

number assigned by the County after execution of this Agreement. Invoices will be paid in accordance with the State of Florida Local Government Prompt Payment Act.

d. Availability of Funds. The County's performance and obligation to pay under this Agreement is contingent upon annual appropriation for its purpose by the County Commission.

Contractor shall make no other charges to the County for supplies, labor, taxes, licenses, permits, overhead or any other expenses or costs unless any such expenses or cost is incurred by Contractor with the prior written approval of the County. If the County disputes any charges on the invoices, it may make payment of the uncontested amounts and withhold payment on the contested amounts until they are resolved by agreement with the Contractor. Contractor shall not pledge the County's credit or make it a guarantor of payment or surety for any contract, debt, obligation, judgment, lien, or any form of indebtedness. The Contractor further warrants and represents that it has no obligation or indebtedness that would impair its ability to fulfill the terms of this Agreement.

- **5.** Ownership of Documents and Equipment. All documents prepared by the Contractor pursuant to this Agreement and related Services to this Agreement are intended and represented for the ownership of the County only. Any other use by Contractor or other parties shall be approved in writing by the County. If requested, Contractor shall deliver the documents to the County within fifteen (15) calendar days.
- period of any work 6. Insurance. being performed surance coverage en re ar intain prod required as set forth in ted herein, to protect the ned 1 and atta County and Contra by Contractor, its age agents, or employees.

7. Termination and Remedies for Breach.

a.	If, through any cause within its reasonable control, the Contractor shall fail to fulfill in
	a timely manner or otherwise violate any of the covenants, agreements or stipulations
	material to this Agreement, the County shall have the right to terminate the Services
	then remaining to be performed. Prior to the exercise of its option to terminate for cause,
	the County shall notify the Contractor of its violation of the particular terms of the
	Agreement and grant Contractor () days to cure such default. If the default
	remains uncured after () days the County may terminate this Agreement,
	and the County shall receive a refund from the Contractor in an amount equal to the
	actual cost of a third party to cure such failure. If Contractor fails, refuses or is unable
	to perform any term of this Agreement, County shall pay for services rendered as of the
	date of termination.

i. In the event of termination, all finished and unfinished documents, data and other work product prepared by Contractor (and sub-Contractor (s)) shall be delivered to the County and the County shall compensate the Contractor for all Services

satisfactorily performed prior to the date of termination, as provided in Section 4 herein.

- ii. Notwithstanding the foregoing, the Contractor shall not be relieved of liability to the County for damages sustained by it by virtue of a breach of the Agreement by Contractor and the County may reasonably withhold payment to Contractor for the purposes of set-off until such time as the exact amount of damages due the County from the Contractor is determined.
- b. <u>Termination for Convenience of County.</u> The County may, for its convenience and without cause immediately terminate the Services then remaining to be performed at any time by giving written notice. The terms of Paragraph a(i) and a(ii) above shall be applicable hereunder.
- c. <u>Termination for Insolvency</u>. The County also reserves the right to terminate the remaining Services to be performed in the event the Contractor is placed either in voluntary or involuntary bankruptcy or makes any assignment for the benefit of creditors.
- d. <u>Termination for failure to adhere to the Public Records Law</u>. Failure of the Contractor to adhere to the requirements of Chapter 119 of the Florida Statutes and Section 9 below, may result in immediate termination of this Agreement.
- ment hall be interpreted 8. Governing and construed in according with over ed by the aws o nd te of Elorida. All parties of any dispute or onti sdic arising of anis Agreement, and agree and accept the any action involving the enforcement or interpretation of any rights hereunder shall be brought exclusively in the Judicial Circuit in and for Santa Rosa County, Florida, and venue for litigation arising out of this Agreement shall be exclusively in such state courts, forsaking any other jurisdiction which either party may claim by virtue of its residency or other jurisdictional device. In the event it becomes necessary for the County to file a lawsuit to enforce any term or provision under this Agreement, then the County shall be entitled to its costs and attorney's fees BY ENTERING INTO THIS AGREEMENT, at the pretrial, trial and appellate levels. CONTRACTOR AND COUNTY HEREBY EXPRESSLY WAIVE ANY RIGHTS EITHER PARTY MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS AGREEMENT. Nothing in this Agreement is intended to serve as a waiver of sovereign immunity, or of any other immunity, defense, or privilege enjoyed by the County pursuant to Section 768.28. Florida Statutes.
- **9. Public Records.** Any record created by either party in accordance with this Contract shall be retained and maintained in accordance with the public records law, Florida Statutes, Chapter 119. Contractor must comply with the public records laws, Florida Statute chapter 119, specifically Contractor must:
 - a. Keep and maintain public records required by the County to perform the service.

- b. Upon request from the County's custodian of public records, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in chapter 119 Florida Statutes or as otherwise provided by law.
- c. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the County.
- d. Upon completion of the contract, transfer, at no cost, to the County all public records in possession of the contractor or keep and maintain public records required by the County to perform the service. If the contractor transfers all public records to the public agency upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon completion of the contract, the contractor shall meet all applicable requirements for retaining the public records. All records stored electronically must be provided to the public agency, upon the request from the public agency's custodian of public records, in a format that is compatible with the information technology systems of the public agency.

IF THE CONTRACTOR (A) UE WINS REGARDING THE APPLICATION OF CHAPTER 19, The RID. STATISTICES, TO THE CONTRACTOR'S DUTY O PROVIDE PUBLIC EL ORES RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS WANDA PITTS, (850) 963-1925, wandap@santarosa.fl.gocv, 6945 Caroline Street, Milton, FL 32570.

- **10.** Audit. The County and/or its designee shall have the right from time to time at its sole expense to audit the compliance by the Contractor with the terms, conditions, obligations, limitations, restrictions, and requirements of this Contract and such right shall extend for a period of three (3) years after termination of this Contract.
- 11. <u>Notices</u>. All notices and other communications required or permitted to be given under this Agreement by either party to the other shall be in writing and shall be sent (except as otherwise provided herein) (i) by certified mail, first class postage prepaid, return receipt requested, (ii) by guaranteed overnight delivery by a nationally recognized courier service, or (iii) by facsimile with confirmation receipt (with a copy simultaneously sent by certified mail, first class postage prepaid, return receipt requested or by overnight delivery by traditionally recognized courier service), addressed to such party as follows:

If to the County:	With a copy to: Department 6495 Caroline Street, Suite Milton, FL 32570
If to the Contractor:	

- 12. <u>Assignment</u>. Contractor shall not assign this Agreement or any part thereof, without the prior consent in writing of the County. If Contractor does, with approval, assign this Agreement or any part thereof, it shall require that its assignee be bound to it and to assume toward Contractor all of the obligations and responsibilities that Contractor has assumed toward the County.
- 13. Subcontracting. Contractor shall not subcontract any services or work to be provided to County without the prior written approval of the County's Representative. The County reserves the right to accept the use of a subcontractor or to reject the selection of a particular subcontractor and to inspect all facili as to the capability de of the subcontrac to perform r reeme s acceptance of a reaso subcontractor shall not t lbly with eld. T he (ontrag ouraged to seek minority ..erp. o participation in su acting opposities. Additionally, any subcontract entered into between the Contractor are subcontractor will need to be approved by the County prior to it being entered into and said agreement shall incorporate in all required terms in accordance with local, state and federal regulations.
- 14. <u>Civil Rights</u>. 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.
- **15.** <u>Compliance with Nondiscrimination Requirements</u>. During the performance of this Agreement, the Contractor, for itself, its assignees, and successors in interest, agrees as follows:
 - a. <u>Compliance with Regulations</u>: The Contractor 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 and attached hereto as Attachment "C".
 - b. <u>Nondiscrimination</u>: The Contractor, with regard to the work performed by it during the Agreement, 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.

- c. <u>Solicitations for Subcontracts, including Procurements of Materials and Equipment</u>: 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.
- d. <u>Information and Reports</u>: 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 County or other governmental entity 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 County or the other governmental entity, as appropriate, and will set forth what efforts it has made to obtain the information.
- e. <u>San sions for None and ance:</u> In the event of a Courtra or's tencompliance with the non-discriment of a processor of his courtrant, the Country vill impose such contract sanctions as a another public ble state or lede a givernmenta. Ly may determine to be appropriate, including, but not limited to:
 - a. Withholding payments to the Contractor under the Agreement until the Contractor complies; and/or
 - b. Cancelling, terminating, or suspending the Agreement, in whole or in part.
- f. <u>Incorporation of Provisions</u>: 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 County 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 County to enter into any litigation to protect the interests of the County. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.
- **16.** <u>Procurement of Recovered Materials</u>. Contractor and any subcontractors 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 ava

- 17. Debarment and usersics. Contration as part of the troot repent response, Attachment "A" has submitted. "Contration that ion a small spin, and, if applicable, are not presently debarred or suspended by any Federal defartment or agency from participating in this transaction. Contractor now agrees to verify, to the extent applicable, that for each lower tier subcontractor that exceeds \$25,000 as a "covered transaction" under the Services to be provided is not presently disbarred or otherwise disqualified from participating in the federally assisted services. The Contractor agrees to accomplish this verification by:
 - 1. Checking the System for Award Management at website: http://www.sam.gov.
 - 2. Collecting a certification statement similar to the Certification of Offerer /Bidder Regarding Debarment, above.
 - 3. Inserting a clause or condition in the covered transaction with the lower tier contract.
- **18.** <u>Minority/Women's Business Enterprises</u>. Contractor must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible, in accordance with 2 CFR 200.321. If subcontracts are to be let, prime contractor will require compliance by all sub-contractors. Information regarding certified M/WBE firms can be obtained from (the following list is not exhaustive):

- Florida Department of Management Services (Office of Supplier Diversity);
- Florida Department of Transportation;
- Minority Business Development Center in most large cities; and
- Local Government M/DBE programs in many large counties and cities.
- 19. <u>Compliance with Laws</u>. Contractor shall secure any and all permits, licenses and approvals that may be required in order to perform the Services, shall exercise full and complete authority over Contractor's personnel, shall comply with all workers' compensation, employer's liability and all other federal, state, county, and municipal laws, ordinances, rules and regulations required of an employer performing services such as the Services, and shall make all reports and remit all withholdings or other deductions from the compensation paid to Contractor's personnel as may be required by any federal, state, county, or municipal law, ordinance, rule, or regulation.
- **20.** Conflict of Interest. The Contractor covenants that it presently has no interest and shall not acquire any interest, directly or indirectly which could conflict in any manner or degree with the performance of the Services. The Contractor further covenants that in the performance of this Agreement, no person having any such interest shall knowingly be employed by the Contractor. The Contractor guarantees that he/she has not offered or given to any member of, delegate to the Congress of the United States, any or part of this contract or to any benefit arising therefrom.
- 21. Independent Contractor. Contractor enters into this Agreement as, and shall continue to be, an independent consector An y Carrac or and Contractor's nly ractoor employees. Under ny of rcumster sha l Coı loyees look to the on gent r r County as his/her employed or a pa ner, incip Corractor, nor any of Contractor's employees, shan be entitled to any benef s accorded to the county's employees, including without limitation worker's compensation, disability insurance, vacation or sick pay. Contractor shall be responsible for providing, at Contractor's expense, and in Contractor's name, unemployment, disability, worker's compensation and other insurance as well as licenses and permits usual and necessary for conducting the services to be provided under this Agreement.
- **22.** <u>Third Party Beneficiaries</u>. It is specifically agreed between the parties executing this Agreement that it is not intended by any of the provisions of any part of the Agreement to create in the public or any member thereof, a third party beneficiary under this Agreement, or to authorize anyone not a party to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Agreement.
- 23. <u>Indemnification and Waiver of Liability</u>. The Contractor agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless the County, its agents, representatives, officers, directors, officials and employees from and against claims, damages, losses and expenses (including but not limited to attorney's fees, court costs and costs of appellate proceedings) relating to, arising out of or resulting from the Contractor's negligent acts, errors, mistakes or omissions relating to professional Services performed under this Agreement. The Contractor's duty to defend, hold harmless and indemnify the County its agents, representatives, officers, directors, officials and employees shall arise in connection with any claim, damage, loss or expense that is attributable to bodily injury; sickness; disease; death; or injury to impairment, or destruction of

tangible property including loss of use resulting therefrom, caused by any negligent acts, errors, mistakes or omissions related to Services in the performance of this Agreement including any person for whose acts, errors, mistakes or omissions the Contractor may be legally liable. The parties agree that TEN DOLLARS (\$10.00) represents specific consideration to the Contractor for the indemnification set forth herein.

The waiver by a party of any breach or default in performance shall not be deemed to constitute a waiver of any other or succeeding breach or default. The failure of the County to enforce any of the provisions hereof shall not be construed to be a waiver of the right of the County thereafter to enforce such provisions.

24. Taxes and Assessments. Contractor agrees to pay all sales, use, or other taxes, assessments and other similar charges when due now or in the future, required by any local, state or federal law, including but not limited to such taxes and assessments as may from time to time be imposed by the County in accordance with this Agreement. Contractor further agrees that it shall protect, reimburse and indemnify County from and assume all liability for its tax and assessment obligations under the terms of the Agreement.

The County is exempt from payment of Florida state sales and use taxes. The Contractor shall not be exempted from paying sales tax to its suppliers for materials used to fulfill contractual obligations with the County, nor is the Contractor authorized to use the County's tax exemption number in securing such materials.

The Contractorshall be respectible for sayment of its own and a share of its employees' payroll, payroll taxes, and be refits with respect to this Agreement.

25. Prohibition Against Contracting with Scrutnized Companies. Pursuant to Florida Statutes Section 215.4725, contracting with any entity that is listed on the Scrutinized Companies that Boycott Israel List or that is engaged in the boycott of Israel is prohibited. Contractors must certify that the company is not participating in a boycott of Israel. Any contract for goods or services of One Million Dollars (\$1,000,000) or more shall be terminated at the County's option if it is discovered that the entity submitted false documents of certification, is listed on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or has been engaged in business operations in Cuba or Syria after July 1, 2018.

Any contract entered into or renewed after July 1, 2018 shall be terminated at the County's option if the company is listed on the Scrutinized Companies that Boycott Israel List or engaged in the boycott of Israel. Contractors must submit the certification that is attached to this agreement as Attachment "D". Submitting a false certification shall be deemed a material breach of contract. The County shall provide notice, in writing, to the Contractor of the County's determination concerning the false certification. The Contractor shall have ninety (90) days following receipt of the notice to respond in writing and demonstrate that the determination was in error. If the Contractor does not demonstrate that the County's determination of false certification was made in error, then the County shall have the right to terminate the contract and seek civil remedies pursuant to Florida Statute Section 215.4725.

26. <u>Special Conditions – Additional Federal Requirements.</u> As some or all of the Services to be provided under this Agreement may be funded with federal funds. Contractor agrees to adhere to the required additional federal requirements set forth in Attachment "E" and incorporated herein by reference.		
27. Grant or Agreement Requirements. The County is in receipt of a grant or agreement identified as (attached as Attachment "F" and incorporated herein by reference) with		
which shall be funding some or all of the Services to be provided under this Agreement. Contractor agrees to adhere to all of the requirements of the Grant or Agreement.		
28. <u>Inconsistencies and Entire Agreement</u> . If there is a conflict or inconsistency between		
any term, statement, requirement, or provision of any attachment attached hereto, any document		
or events referred to herein, or any document incorporated into this Agreement, the term,		
statement, requirement, or provision contained in this Agreement shall prevail and be given		
superior effect and priority over any conflicting or inconsistent term, statement, requirement or		

29. Severability. If any term or condition of this Contract shall be deemed, by a court having appropriate jurisdictor invaling one per bookly, we retrained of the terms and conditions of this Contract shall remain in full force and affect. This Contract shall not be more strictly construed against either party here above as of the fact that the party noty I we trafted or prepared any or all the terms and provious states.

provision contained in any other document or attachment, including but not limited to Attachments

- **30.** Entire Agreement. This Agreement contains the entire agreement of the parties, and may be amended, waived, changed, modified, extended or rescinded only by in writing signed by the party against whom any such amendment, waiver, change, modification, extension and/or rescission is sought.
- **31.** Representation of Authority to Contractor/Signatory. The individual signing this Agreement on behalf of Contractor represents and warrants that he or she is duly authorized and has legal capacity to execute and deliver this Agreement. The signatory represents and warrants to the County that the execution and delivery of this Agreement and the performance of the Services and obligations hereunder have been duly authorized and that the Agreement is a valid and legal agreement binding on the Contractor and enforceable in accordance with its terms.

(Remainder of Page Intentionally Left Blank)

11

listed in Section 1.

on the day and year first written above.

WITNESS:

BY:

Signature

Print Name

ATTEST:

SANTA ROSA COUNTY, FLORIDA

BY:

Donald C. Spencer, Clerk of Court

Santa Rosa County, Florida

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in duplicate

Attachment "A"

Attachment "B" Insurance Requirements

Attachment "C" Civil Rights Clauses

Attachment "C"

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this Agreement, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor"), as applicable, 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 expedding the definition of the terms ies I the l le all the cti deral-aid recipients, ncl og ors whet er suc grams Federally funded or sub-recipa pı not);
- Titles II and III of the Americans with Disabilitie 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).

Attachment "D" Scrutinized Contractors Certificate

Attachment "E" Special Conditions Additional Federal Requirements

Attachment "F" Grant or Agreement for

with

Special Conditions <u>Federal Requirements</u> With EEO and Davis – Bacon Act

The following special conditions apply to the Agreement and are incorporated herein by reference:

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

Byrd Anti Lobbying Amendment (31 U.S. C. 1352). The Certification regarding Lobbying executed by Contractor and attached as part of Attachment "A" to the Agreement is hereby acknowledged and made part of the Agreement by reference.

Work Hour and Safety Standards (40 U.S.C. 3701-3708). The Certification regarding Work Hours and Safety Standards executed by Contractor and attached as part of Attachment "A" to the Agreement is hereby acknowledged and made part of the Agreement by reference.

Equal Employme. Opportunit (2 FR | art 2 0, opportunit I(4 41 4 FR § 61-1.4; 41 CFR 61-4.3; Executive of the error of 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 subcontact or purchase order unless exempted by rules regulations, or dei ant to section 204 pr i purs of Executive Order 24, 965,) tł t such bro ns wm be binding upon hbε each subcontracto 11 respect to any ontra or v ch subcontract or purchase order as the administering age by may direct as a means of enforcing such provisions, including sanctions for 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 area Godluding goals and association, its affirmative action obligations on all work in the Pla timetables) shall be in accordance with mat P n for trad have u ions s sl ll be participating in the Plan Co tracto ble t de onstr articipation in and compliance with the provisions of any such Hometown Each contractor or subcontractor participating in an approved plan is individually require 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.
- 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 vomen to each construction project. The Ca endents, and other me igation to onsite supervis personnel re of nd c ut the maintain such wor n, envir me t, wi fic ttenti ı spe 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 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 in Contractor's EEs, policy externacy by a clusin sit in easy advertising in the news medit specifically including mitority and small news in dia, 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 min itic and e con rete benefits of om es 1 orce participation. the program are reflect tra or's inor y a d fem makes a good faith offor inc vidu goal an rovide access to documentation which demonstrates the effectiveness of ctions 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 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 assily understandable and retrievable form; however, to the degree that existing records satist this requirement, contractors shall not be required to main aim a parall relords.
- 15. Nothing hereit provide shall be construct as a firmation, por the oplication 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).

Davis-Bacon Act (2 CFR Part 200; 29 CFR Part 5).

- 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 erformed by a classification in the wage determination;
- (2) The classification is lift ed in the area by the construction and try and
- (3) The proposed wage rate, including any bona file 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 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

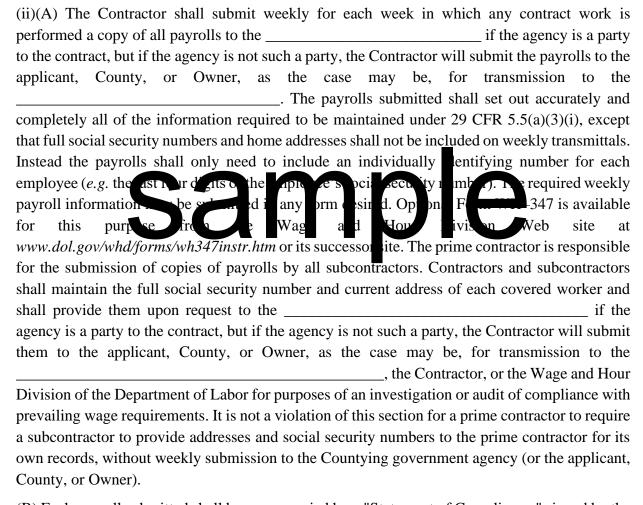
receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

- (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. n action or upon D written request of an auof th or withhold or cause to be withheld from the contract mer Federal commact with the same under this contract or a prime contractor, or any other federally-assisted contract ubject 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, _ _____ may, after written notice to the Contractor, County, 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.



(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 d updan paragraph (3)(i) of this section availa le for inspection rized presentatives of or tr ption the County, nent of Labor and shall or th working hours on the job. If the v employees d permit such represe Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, County, 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. Exc d to work at less than the predeterm. pursuant to and orme ate. un ess th k per as re eiv individually regis red ich evienced by formal rogr ap pri rov 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 may by 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 lebe men 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.



SANTA ROSA COUNTY PROCUREMENT DEPARTMENT

6495 Caroline Street, Suite L| Milton, Florida 32570 850-983-1870 procurement@santarosa.fl.gov

BID SUBMISSION CHECKLIST

ITB # 21-032 Peter Prince Field Taxiway "A" Rehabilitation
Sealed Bid Package with Bid Name and Number, Firm name and Address with Contact information clearly marked on the outside of envelope/box.
1 Original Bid Package and 1 Copy with 1 Electronic Copy in .pdf on a CD or USB Drive
Bid Submittal Checklist attached to top of Original Bid Package
Bid Bond
Bid Form and Schedule of Values, Unit Pricing
Cone of Silence
Sworn Statement Public Entity Crimes
Debarment Form
References Form
Conflict of Interest Form
Copy of current Required Insurance declaration page with Santa Rosa County named interest, or, Letter of Insurability from Carrier stating that the levels of coverage will be obtained.
Contractors license
Addendum (s)
proof of System for Award Management "active status" (SAM.gov)
proof of "active status" with the Florida Department of State Division of Corporations (sunbiz.org)
All required documentation submitted must be updated with most current and complete information from date of bid opening) including notarizations where required. Failure to submit all required forms may result in your submittal being deemed non-responsive. ATTACH THIS PAGE TO THE TOP OF YOUR BID SUBMISSION
Firm: Panhandle Grading & Paving, Inc.
By Donald Long (Print) Signature:
Title: Vice President
Date: 6/14/2021

Bid Bond

CONTRACTOR:

(Name, legal status and address)
Panhandle Grading & Paving, Inc.
2665 Solo Dos Familiaf

2665 Solo Dos Familiaf Pensacola, FL 32534

SURETY:

(Name, legal status and principal place of business)

Arch Insurance Company A MO Corporation Harborside 3, 210 Hudson Street, Suite 300 Jersey City, NJ 07311 - 1107

Jersey City, NJ 07311 - 11

OWNER:

(Name, legal status and address)

Board of County Commissioners of Santa Rosa County, Florida
6495 Caroline Street, Suite L

Milton, FL 32570

BOND AMOUNT: Five Percent of Amount Bid (5%)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

PROJECT:

(Name, location or address, and Project number, if any)
Peter Prince Field Taxiway "A" Rehabilitation

Project Number, if any: ITB# 21-032

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed the 9th day of June, 2021.

Panhandle Grading & Paving, Inc.
(Principal) (Seal)

(Title) Rone led Long, V.P.

Arch Insurance Company
(Surety) (Seal)

(Title) Mark W. Edwards, II, Attorney-in-Fact

NASBP

By arrangement with the American Institute of Architects, the National Association of Surety Bond Producers (NASBP) (www.nasbp.org) makes this form document available to its members, affiliates, and associates in Microsoft Word format for use in the regular course of surety business. NASBP votches that the original text of this document conforms exactly to the text in AIA Document A310-2010, Bid Bond, and Subsequent modifications may be made to the original text of this document by users, so careful review of its wording and consultation with an attorney are encouraged before its completion, execution or acceptance.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Note, Loan, Letter of Credit, Currency Rate, Interest Rate or Residential Value Guarantees.

POWER OF ATTORNEY

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Alisa B. Ferris, Anna Childress, Jeffrey M. Wilson, Mark W. Edwards H, Richard H. Mitchell, Robert R. Freel and William M. Smith of Birmingham, AL (EACH)

R. E. Daniels and Shelby E. Daniels of Pensacola, FL (EACH)

its true and lawful Attorney(s)in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed: Any and all bonds, undertakings, recognizances and other surety obligations, in the penal sum not exceeding Ninety Million Dollars (\$90,000,000,000).

This authority does not permit the same obligation to be split into two or more bonds In order to bring each such bond within the dollar limit of authority as set forth

herein

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on December 10, 2020, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process.'

This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on December 10, 2020:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on December 10, 2020. and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company. In Testimony Whereof, the Company has caused this instrument to be signed and its corporate seal to be affixed by their authorized officers, this 23rd day gurance of April, 2021.

> CURPORATE SEAL 1971

Attested and Certified

Regan A. Shulman, Secretary

STATE OF PENNSYLVANIA SS COUNTY OF PHILADELPHIA SS Arch Insurance Company

Stephen C. Ruschak, Executive Vice President

I, Michele Tripodi, a Notary Public, do hereby certify that Regan A. Shulman and Stephen C. Ruschak personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.

Missouri

Commonwealth of Pennsylvania HOTARIAL SEAL MICHELE TREPOOI, Notary Public City of Philadelphia, Phila. County My Commission Expires July 31, 2021

Michele Tripodi, Notary Public My commission expires 07/31/2021

CERTIFICATION

I, Regan A. Shulman, Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated April 23, 2021 on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said Stephen C. Ruschak, who executed the Power of Attorney as Executive Vice President, was on the late of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this الم_20

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company de urainco. except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS: Arch Insurance - Surety Division

3 Parkway, Suite 1500 Philadelphia, PA 19102 CTYRPORAYE SÈAL 1971 Missouri

To verify the authenticity of this Power of Attorney, please contact Arch Insurance Company at SuretyAuthentic@archinsurance.com Please refer to the above named Attorney-in-Fact and the details of the bond to which the power is attached.

AICPOA040120



SANTA ROSA COUNTY PROCUREMENT DEPARTMENT

6495 Caroline Street, Suite L| Milton, Florida 32570 850-983-1870

procurement@santarosa.fl.gov

BID FORM

(May be copied by the Bidder on his own letterhead)

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	•	,	

Santa Rosa County Procurement Department

Attention Procurement Officer 6495 Caroline Street, Suite L Milton, Florida 32570

REFERENCE:

ITB # 21-032 Peter Prince Field Taxiway "A" Rehabilitation

	BASE BID PRICE: \$ 972,716.94
To wh	nom it may concern,
consis	have received and reviewed the Bidding Documents sting of Drawings and Specifications (Project Manual) entitled ITB # 21-032 Peter Prince Taxiway "A" Rehabilitation, prepared by Mott MacDonald.
I have	also received Addenda Numbers #1 and have included their provisions in my Bid.
In sub	omitting the Bid, I agree:
1.	To hold my bid in full force and effect for a period of sixty (60) calendar days after the

- time of the opening of this Bid.
- To accept the provisions of the Instructions to Bidders regarding disposition of Bid 2. Guarantee.
- To enter into and execute a Contract within 10 (ten) calendar days after said Contract 3. is delivered to me, if awarded on the basis of this Bid.
- To accomplish the work in accordance with the Contract Documents. 4.
- To commence work under this Contract on or before a date to be specified in written 5. "Notice of Proceed" by the County Attorney and to complete project within one hundred fifty (150) calendar days thereafter.
- To pay as liquidated damages, the sum of \$2,000.00 for each consecutive calendar 6. day after completion date, as called for in the Contract Agreement as modified.
- Provide Santa Rosa County with performance Bonds and adhere to Supplementary 7. Conditions.

I will construct this project for the lump sum price of:

TOTAL BID Nine Hundred Seventy Two Thousand Seven Hundred Sixteen & 94/100 \$ 972,716. 94

procurement@santarosa.fl.gov

This is a lump sum project. The purpose for providing a bid format is to provide unit prices in case of change order. There is no implied statement by the engineer or Santa Rosa County as to the accuracy of the stated quantities within the bid tab or that the bid tab is all inclusive of the work items within the plans. It is the contractor's responsibility to carefully review the plans, specifications, and project to determine what is needed to do the whole job, and to reflect this in his LUMP SUM BID. This basis of award will be the total base bid for the project.

FIRM:	Panhandle Grading & Paving, Inc.	
BY (print)	Donald Long	
SIGNATUI	RE:	
TITLE:	Vice President	
DATE:	6/14/2021	
MAILING	ADDRESS 2665 Solo Dos Familiaf	
	Pensacola, FL 32534	
PHONE	(850) 478-5250 FAX (850) 479-5901	<u></u>
EMAIL	josh@panhandlegradingandpaving.com	

Item No.	FAA AC 150/5370-	Description	Quantity	Unit	L	Init Price		Total
	10H Reference							100
1	C-105	Mobilization @ 10% of overall Cost (Max)	1	LS	\$	97,400.00	\$	97,400.00
2	40-05	MOT	1	LS	\$	101,493.50	\$	101,493.50
3	P-620	Striping (all striping)	1	LS	\$	53,118.45	\$	53,118.45
		L Resurface Twy A						
4	P-101	Mill Ex. Asphalt Pavement, 1.5" avg. Depth	6,409	SY	\$	2.65	\$	16,983.85
5	P-101	Mill Ex. Asphalt Pavement, 2" avg. Depth	6,109	SY	\$	2.65	\$	16,188.85
6	P-603	Bituminous Tack Coat	1,239	GAL	\$	3.60	\$	4,460.40
7	P-401	3" Bituminous Surface Course	1,057	TN	\$	139.60	\$	147,557.20
8	P-401	2" Bituminous Surface Course	672	TN	\$	139.60	\$	93,811.20
-		Re-Construct A4				**************************************	4.18	
9	P-101	Pavement Removal	786	SY	\$	15.99	\$	12,568.14
10	P-152	12" Stabilized Subgrade	1,009	SY	\$	5.00	\$	5,045.00
11	P-209	6" Crushed Aggregate Base Course	862	SY	\$	24.50	\$	21,119.00
12	P-602	Bituminous Prime Coat	236	GAL	\$	3.60	\$	849,60
13	P-401	3" Bituminous Surface Course	130	TN	\$	139,60	\$	18,148.00
14	T-904	Sod 1,229			\$	3.15	\$	3,871.35
14	1-904	Lighting			ΙΨ			
45	L-108-5.1	No. 8 AWG Cable, Installed in Trench, Duct Bank or Conduit	14,660	LF	T _{\$}	2.75	\$	40,315.00
15	L-108-5.1	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed in	14.660	LF	- 		\$	62,158.40
1.6	L-108-5.2	Trench, , Including Connections/Terminations - per linear foot (meter)			\$	4.24		
17	L-108-5.3	Copper Clad Ground Rod	105	EA	\$	117.70	\$	12,358.50
18	L-109-7.1	Furnishing and Installation of Airport Transformer Vault Equipment in Place (7.5 kW CCR)	1	EA	\$	16,522.00	\$	16,522.00
19	L-110-5.1	Type III 2" HDPE Installed by Directional Drill	780	LF	\$	39.60	\$	30,888.00
20	L-861T-1	LED Elevated Taxiway Edge Light, inclusive of L-867 base, L-830 Transformer, concrete, installed complete	102	EA	\$	1,347.50	\$	137,445.00
21	L-861T-2	Remove Existing Elevated Taxiway Edge Light, Inclusive of L-867 base, L-830	13	EA	\$	533.50	\$	6,935.50
22	L-861T-3	Remove and Replace Elevated Taxiway Edge Light on existing L-867 base, L-830 Transformer, concrete, installed complete	28	EA	\$	1,210.00	\$	33,880.00
23	L-858Y	Size 1 Taxiway sign, inclusive of foundation, L-830 Transformer,	2	EA	\$	13,200.00	\$	26,400.00
24	L-858R	Size 1 Taxiway Mandatory instruction sign, inclusive of foundation, L- 830 Transformer, concrete, installed complete	1	EA	\$	13,200.00	\$	13,200.00
	<u> </u>	Transferring, estimated and an arrangement			To	otal Amount Bid	\$	972,716.94

6495 Caroline Street, Suite L | Milton, Florida 32570 850-983-1870 procurement@santarosa.fl.gov

CONE OF SILENCE FORM

SRC Procurement Form COS 013_01_091619

The Board of County Commissioners have established a solicitation silence policy (Cone of Silence) that prohibits oral and written communication regarding all formal solicitations for goods and services (ITB, RFP, ITQ, ITN, and RFQ) or other competitive solicitation between the bidder (or its agents or representatives) or other entity with the potential for a financial interest in the award (or their respective agents or representatives) regarding such competitive solicitation, and any County Commissioner or County employee, selection committee member or other persons authorized to act on behalf of the Board including the County's Architect, Engineer or their subconsultants, or anyone designated to provide a recommendation to award a particular contract, other than the Procurement Department Staff.

The period commences from the time of advertisement until contract award.

Any information thought to affect the committee or staff recommendation submitted after bids are due, should be directed to the Procurement Officer or an appointed representative. It shall be the Procurement Officers decision whether to consider this information in the decision process.

Any violation of this policy shall be grounds to disqualify the respondent from consideration during the selection process.

All respondents must agree to comply with this policy by signing the following statement and including it with their submittal.

I, Donald Long		representing Panhandle Grading & Paving, Inc.
(Print)		(Company)
On this 14 of Silence" cla proposal/submi	use and understan	2021 hereby agree to abide by the County's "Cone d violation of this policy shall result in disqualification of my



6495 Caroline Street, Suite L| Milton, Florida 32570 850-983-1870 procurement@santarosa.fl.gov

SWORN STATEMENT UNDER SETION 287.133 (3) (A) FLORIDA STATUTE ON PUBLIC ENTITY CRIMES

SRC Procurement Form SSPEC 016 01 091619

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

<i>7</i> 1(12	
1.	This sworn statement is submitted with Bid, Proposal or Contract for: ITB # 21-032 Peter Prince Field Taxiway "A" Rehabilitation
2.	This sworn statement is submitted by, Panhandle Grading & Paving, Inc. , whose business address is, 2665 Solo Dos Familiaf Pensacola, FL 32534 , and (if applicable) Federal Employer Identification Number (FEIN) is 59-1879185 (if the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement).
3.	My name is Donald Long and my relationship to the entity named above is Vice President (title).
4.	I understand that a "public entity crime" as defined in paragraph 287.133 (1) (g) Florida Statute, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States including, but not limited to, any bid or contract for goods or services to be provided to any public entity or any agency or public subdivision of any other state or of the United States and involved antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy or material misrepresentation.
5.	I understand that "convicted" or "convicted" as defined in paragraph 287.133 (1) (b), <u>Florida Statutes</u> , means a finding of guilt or a conviction of a public entity crime with or without an adjudication of guilt, in any federal or state trial court of records relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.
6.	I understand that an "affiliate" as defined in Paragraph 287 .133 (1) (a), Florida Statutes, means:
	a. A predecessor or successor of a person convicted of a public entity crime; or
	b. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one of shares constituting a controlling income among persons when not for fair interest in another person, or a pooling of equipment or income among persons when not for fair market value under an length agreement, shall be a prima facie case that one person controls another person. A person who knowingly convicted of a public entity crime, in Florida during the preceding 36 months shall be considered an affiliate.
7.	I understand that a "person" as defined in paragraph 287 .133 (1) (e), <u>Florida Statutes</u> , means any natural person or entity organized under the laws of the state or of the United States with the legal power to enter into a binding contract provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are

active in management of an entity.



SANTA ROSA COUNTY PROCUREMENT DEPARTMENT

	PROCOREIVIENT DEPARTIVENT
PRID	6495 Caroline Street, Suite L Milton, Florida 32570 850-983-1870 procurement@santarosa.fl.gov
	8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies)
	Neither the entity submitting this sworn statement, nor any officers, directors, executive, partners, shareholders, employees, member, or agents who are active in management of the entity, nor affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.
	The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989 And (please attach a copy of the final order)
<u></u>	The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in public interest to remove the person or affiliate from the convicted vendor list. (Please attach a copy of the final order)
	The person or affiliate has not been placed on the convicted vendor list. (Please describe any action taken by, or pending with, the department of General Services)
TI EI Y PI A	INDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR HE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ITITY ONLY AND THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR EAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE IBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD MOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY HANGE IN THE INFORMATION CONTAINED IN THIS FORM
	onald Long, V.P.
	6/14/2021 gnature Date
P: at	ERSONALLY APPEARED BEFORE ME, the undersigned authority, who, after first being sworn by me, fixed his/her signature at the space provided above on this day of, 20, and is a identification.
C	OUNTY OF: E3Camb 14 Out Nothing The Nothing The Commission of the
\mathbb{N}	y Commission expires:





6495 Caroline Street, Suite L| Milton, Florida 32570 8

850-983-1870

procurement@santarosa.fl.gov

DEBARMENT FORM

SRC Procurement Form Debar 022_00_082719

Certification Regarding Debarment, Suspension, And Other Responsibility Matters

- 1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or Local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
 - d. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or Local) terminated for cause or default.
- 2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Name: Donald Long	Title: Vice President
Signature:	
Firm: Panhandle Grading & Paving, Inc.	
Street Address: 2665 Solo Dos Familaif	
City: Pensacola	<u>.</u>
State: Florida Zip Code: 32534	
Solicitation Name Peter Prince Field Taxiway "A" Reha	abilitation # XX-XXX 21-032

6495 Caroline Street, Suite L| Milton, Florida 32570 850-983-1870

procurement@santarosa.fl.gov

REFERENCES FORM

SRC Procurement Form Memo 024_00_082719

List work which best illustrates current qualifications relevant to this solicitation accomplished by personnel that will be assigned to the County's project. List at least three but no more than five (5) projects. (This form may be reproduced.)

YOUR FIRMS NAME Panhandle Grading & Paving, Inc.	
PROPOSAL POINT OF CONTACT Josh Hamner	PHONE <u>850-478-5250</u>
EMAIL josh@panhandlegradingandpaving.com	
REFERENCE I.	
PROJECT NAME: Peter Prince airfield Runway Rehabilitat	ion
AGENCY: Santa Rosa County	
ADDRESS: 6051 Old Bagdad Highway, Suite 300	A COLUMN TO THE RESIDENCE OF THE PROPERTY OF T
CITY, STATE, ZIP CODE: Milton, FL 32583	
CONTACT PERSON: Rebecca Jones	
TITLE: Santa Rosa County Engineer	
EMAIL: rebeccaj@santarosa.fl.gov	
TELEPHONE: 850.981.7100	
PROJECT COST: \$ 1,146,403.95	
COMPLETION DATE: June 2017	
SCOPE of Project (list tasks, attach samples of deliverab	les, outlines or descriptions of items:
(You may attach information to this form)	
Paint Removal, Runway Closure, Milling, Paving, Striping, El	ectrical
List key personnel assigned to this project that will work	on the County project (include
assignments. You may attach information to this form):	
Brad McLaughlin - PM	
Didd Moddagami Fin	



SANTA ROSA COUNTY PROCUREMENT DEPARTMENT

6495 Caroline Street, Suite L| Milton, Florida 32570 850-983-1870 procurement@santarosa.fl.gov

REFERENCE II.

PROJECT NAME: Peter Prince Airfield Taxiway Project
AGENCY: Santa Rosa County
ADDRESS: 6495 Caroline St
CITY, STATE, ZIP CODE: Milton, Fl 32570
CONTACT PERSON: Brandy Kea
ΓΙΤLE: Santa Rosa County Procurement
EMAIL: brandyk@santarosa.fl.gov
TELEPHONE: 850.983.1859
PROJECT COST: \$ 701,227.29
COMPLETION DATE: September 2019
SCOPE of Project (list tasks, attach samples of deliverables, outlines or descriptions of items:
(You may attach information to this form)
Milling, Paving, Stabilized Subgrade, Base Course, Striping, Electrical, Sod
List key personnel assigned to this project that will work on the County project (include assignments. You may attach information to this form): Brad McLaughlin - PM
Ryan Long - Asphalt Superintendent
REFERENCE III. PROJECT NAME: Pensacola International Airport Economy Lot 1
AGENCY: City of Pensacola
ADDRESS: 222 W. Main Street
CITY, STATE, ZIP CODE: Pensacola, FL 32502
CONTACT PERSON: Brad Hinote
TITLE: Engineering Project Manager
EMAIL: bradhinote@cityofpensacola.com
TELEPHONE: 850.435.1646
PROJECT COST: \$ 1,106,228.84
COMPLETION DATE: September 2019
SCOPE of Project (list tasks, attach samples of deliverables, outlines or descriptions of items:
(You may attach information to this form)
Excavation, Milling, Paving, Striping, Curb & Gutter, electrical
List key personnel assigned to this project that will work on the County project (include
assignments. You may attach information to this form):
Brad McLaughlin - PM
Ryan Long - Asphalt Superintendent

6495 Caroline Street, Suite L| Milton, Florida 32570 850-983-1870 procurement@santarosa.fl.gov

CONFLICT OF INTEREST DISCLOSURE FORM

SRC Procurement Form COS 027_00_091319

For purposes of determining any possible conflict of interest, all respondents, must disclose if any Santa Rosa Board of County Commissioner, employee(s), elected officials(s), or if any of its agencies is also an owner, corporate officer, agency, employee, etc., of their business.

Indicate either "yes" (a county employee, elected official, or agency is also associated with your business), or "no". If yes, give person(s) name(s) and position(s) with your business.

Yes: No:X	
Name(s)	Position(s)
All respondents must agree to comply with this including it with their submittal.	s policy by signing the following statement and
FIRM NAME: Panhandle Grading & Paving, Inc.	
BY (PRINTED): Donald Long	
BY (SIGNATURE):	
TITLE: Vice President	
ADDRESS: 2665 Solo Dos Familiaf	Pensacola State FL Zip Code 32534
PHONE NO: 850-478-5250	
E-MAIL: josh@panhandlegradingandpaving.com	
Date: 6/14/2021	



June 7, 2021

Santa Rosa County Attention Procurement Officer 6495 Caroline Street, Suite L Milton, FL 32570

Re:

Panhandle Grading & Paving, Inc.

ITB # 21-032 Peter Prince Field Taxiway "A" Rehabilitation

6-14-2021 Bid Date

To Whom It May Concern:

Panhandle Grading & Paving, Inc. will be able to obtain the levels of insurance as required by the bid package should they be awarded the bid.

Sincerely,

Shelby E. Daniels

Principal



STATE OF FLORIDA

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE GENERAL CONTRACTOR HEREIN SCERTIFIED UNDER THE PROVISIONS OF CHAPTER 489 FLORIDA STATUTES

MGLAUGHLIN, BRADLEYARPH

PANHANDIE GRADING & PAVING=INC 2665 SOLO DOS FAMILIAF PENSACOLA EL 32534

LICENSE NUMBER 6GC1515655

EXPIRATION DATE: AUGUST 31, 2022

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SANTA ROSA COUNTY BUSINESS TAX RECEIPT

RECEIPT NUMBER

2021

2020

128-20-00210320

ACCOUNT NO.



SANTA ROSA COUNTY PROCUREMENT DEPARTMENT

6495 Caroline Street, Suite L1 Milton, Florida 32570

850-983-1870

procurement@santarosa.fl.gov

ADDENDUM FORM

To:

Planholders

From:

Procurement Office

Date:

May 25, 2021

Ref:

Addendum #1 for ITB # 21-032 Peter Prince Field Taxiway "A" Rehabilitation

The following clarifications, amendments, additions, deletions, revisions and modifications form a part of the contract documents and change the original documents in the manner and to the extent stated.

*Please Notice that the construction staging area has been relocated as shown in the updated sheet attached.

This Addendum is furnished to all known prospective Proposers. Please sign and include one copy of this Addendum, with original signature, with your proposal as an acknowledgement of your having received same.

NAME/TITLE: Donald Long, V.P.

SIGNATURE: >

COMPANY: Panhandle Grading & Paving, Inc.

DATE: 6/14/2021

See attached.



PANHANDLE GRADING & PAVING, INC.

DUNS Unique Entity ID

SAM Unique Entity ID MP1NG3SJMRR3

CAGE / NCAGE

096274089

0C007

Purpose of Registration

Expiration Date Jul 10, 2021

Registration Status Active

All Awards

Mailing Address

Physical Address P.O. Box 3717 2665 Solo Dos Familiaf

Pensacola, Florida 32516

United States

United States

Business information

Pensacola, Florida 32534

Doing Business as

Division Name

Division Number

(blank)

(blank)

(blank)

Congressional District Florida 01

State / Country of Incorporation Florida / United States

URL . (blank)

Registration Dates

Activation Date

Submission Date

Initial Registration Date

Jul 10, 2020 Jul 14, 2020

Mar 4, 2002

Entity Dates

Entity Start Date

Fiscal Year End Close Date

Jan 1, 1979

Dec 31

Immediate Owner

CAGE

Legal Business Name

(blank)

(blank)

Highest Level Owner

CAGE (blank) Legal Business Name

(blank)

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2.C.F.R. 200 Appendix XII. Their responses are not displayed in SAM. They are sent to FAPIIS.gov for display as applicable. Maintaining an active registration in SAM demonstrates the registrant responded to the proceedings questions.

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types **Business Types**

Entity Structure

Entity Type

Organization Factors

Corporate Entity (Not Tax Exempt)

Business or Organization

Subchapter S Corporation

Profit Structure

For Profit Organization

Government Types

(blank)

Einancial Information

Accepts Credit Card Payments

No

Debt Subject To Offset

No

Points of Contact

Electronic Business

Mary Siddems, Controller

8504785250

PATTI RITTENBERRY 8504785250

P.O. Box 3717

Pensacola, Florida 32516

United States

P.O. Box 3717

Pensacola, Florida 32516

United States

Government Business

P.O. Box 3717

Mary Siddens

8504785250

Pensacola, Florida 32516

United States

Mike Long

P.O. Box 3717

8504785250

Pensacola, Florida 32516

United States

Service Classifications

NAICS Codes

Primary

NAICS Codes

237310 Yes

238910

NAICS Title

Highway, Street, And Bridge Construction

Site Preparation Contractors

Disaster Response

Yes, this entity appears in the disaster response registry.

States

Counties

(blank)

Metropolitan Statistical Areas

(blank)

Alabama Florida

Take a thomas a substitution contained a substitution of a substitution of the substit

State of Florida Department of State

I certify from the records of this office that PANHANDLE GRADING & PAVING, INC. is a corporation organized under the laws of the State of Florida, filed on January 22, 1979.

The document number of this corporation is 607410.

I further certify that said corporation has paid all fees due this office through December 31, 2021, that its most recent annual report/uniform business report was filed on March 22, 2021, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Twenty-second day of March, 2021



RAUNINGUL Secretary of State

Tracking Number: 9010790885CC

To authenticate this certificate, visit the following site, enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

Attachment "B" Insurance Requirements

Santa Rosa County Insurance Requirements March 2021

Workers' Compensation – meet statutory limits in compliance with the Workers Compensation Laws of Florida. This policy must include Employer Liability with a limit of \$100,000 for each accident, \$500,000 disease policy limit and \$100,000 disease each employee limit.

Commercial General Liability – coverage shall provide minimum limits of liability of \$1,000,000 per occurrence, \$2,000,000 Aggregate, for bodily injury and property damage. This shall include coverage for:

- a. Premises/operations
- b. Products/complete operations
- c. Contractual liability
- d. Independent contractors

Business Auto Liability – coverage shall provide minimum limits \$500,000. Combined Single Limit for bodily injury and property damage. If Split limit coverage is provided Limits of 500,000 per person/500,000 per accident and 500,000 for property damage are required.

This shall include coverage for:

- a. Owned autos
- b. Hired autos
- c. Non-owned autos

Special Requirements:

- 1) Prior to execution of a contract or agreement, certificates of insurance will be produced that shall provide for the following:
- a. Santa Rosa County shall be named as an additional insured on all coverages except workers' compensation.
- b. Santa Rosa County will be given thirty (30) days' notice prior to cancellation or modification of any stipulated insurance.
- 2) It is the responsibility of the contractor to ensure that all subcontractors comply with all insurance requirements.
- 3) It should be noted that these are minimum requirements which are subject to modification in response to specialized or high hazard operations.

In the event of unusual circumstances, the County Administrator, or his designee, may adjust these insurance requirements.

Insurance Checklist Proposal/Project ITB 21-032 Required Coverage (Marked by "X")

Required Coverage (Marked by A)
1Workers Compensation
Proprietor/Executive Officers Exclusion not allowed
2 Commercial General Liability
Including Premises operations-Products completed ops
Contractual Liability and Personal and advertising
Liability
3. X Automobile Liability – including Hired and Non-
Owned
4. Professional Liability coverage
4 Professional Liability coverage5 Asbestos Removal Liability
6Medical Malpractice
7Garage Liability
8Garage Keepers Liability
Minimum Limits
\$100,000. Employers Liab.
\$100,000. Accident –Disease
\$500,000. Disease policy Limit
\$1,000,000. CSL
\$2,000,000. Annual Aggregate
\$1,000,000. CSL
\$1,000,000. Per Occurrence
\$2,000,000. Per Occurrence
\$1,000,000 Per Occurrence
\$1,000,000. BI/PD- Occurrence
\$500,000. Comprehensive
\$500,000. Collision
9. Inland Marine- Bailee's Insurance \$
10Moving and Rigging Floater Endorsement to CGL
11. Crime/Dishonesty Bond \$
11Crime/Dishonesty Bond \$
13Owner's Protective Liability \$
14Excess/Umbrella Liability \$
General Requirements
A. Carrier rating shall be A.M. Best rating of B++V or Better.
B. Notice of Cancellation or Non-renewal or material change in coverage shall be provided to
Santa
Rosa County at least 30 days prior to action.
C. Santa Rosa County shall be named as Additional Insured on all policies except Workers'
Compensation.
Approved by the BOCC March 23, 2021

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Attachment "C" Civil Rights Clauses

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Attachment "C"

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this Agreement, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor"), as applicable, 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).

Attachment "D" Scrutinized Contractors Certificate

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VENDORS ON SCRUTINIZED COMPANIES LISTS

By executing this Certificate, the bid proposer, certifies that it is not: (1) listed on the Scrutinized Companies that Boycott Israel List, created pursuant to section 215.4725, Florida Statutes, (2) engaged in a boycott of Israel, (3) listed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to section 215.473, Florida Statutes, or (4) engaged in business operations in Cuba or Syria. Pursuant to section 287.135(5), Florida Statutes, the County may disqualify the bid proper immediately or immediately terminate any agreement entered into for cause if the bid proposer is found to have submitted a false certification as to the above or if the Contractor is placed on the Scrutinized Companies that Boycott Israel List, is engaged in a boycott of Israel, has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or has been engaged in business operations in Cuba or Syria, during the term of the Agreement. If the County determines that the bid proposer has submitted a false certification, the County will provide written notice to the bid proposer. Unless the bid proposer demonstrates in writing, within 90 calendar days of receipt of the notice, that the County's determination of false certification was made in error, the County shall bring a civil action against the bid proposer. If the County's determination is upheld, a civil penalty shall apply, and the bid proposer will be ineligible to bid on any Agreement with a Florida agency or local governmental entity for three years after the date of County's determination of false certification by bid proposer.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

DATE:	06/22/2021	SIGNATURE:
COMPANY:	Panhandle Grading & Paving, Inc.	NAME: Donald Long (Typed or Printed)
ADDRESS:	2665 Solo Dos Familiaf Pensacola, FL 32534	TITLE: Vice President E-MAIL: josh@panhandlegradingandpaving.com
PHONE NO.:	850.478.5250	

Attachment "E" Special Conditions Additional Federal Requirements

Special Conditions <u>Federal Requirements</u> With EEO and Davis – Bacon Act

The following special conditions apply to the Agreement and are incorporated herein by reference:

Clean Air Act (42 U.S.C. 7401-7671q.) and Federal Water Pollution Control Act (33 U.S.C. 1251-1387) 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 County assumes responsibility for notifying the Environmental Protection Agency (EPA).

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

Byrd Anti Lobbying Amendment (31 U.S. C. 1352). The Certification regarding Lobbying executed by Contractor and attached as part of Attachment "A" to the Agreement is hereby acknowledged and made part of the Agreement by reference.

Work Hour and Safety Standards (40 U.S.C. 3701-3708). The Certification regarding Work Hours and Safety Standards executed by Contractor and attached as part of Attachment "A" to the Agreement is hereby acknowledged and made part of the Agreement by reference.

Equal Employment Opportunity (2 CFR Part 200, Appendix II(C); 41 CFR § 61-1.4; 41 CFR 61-4.3; Executive Order 11246). 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

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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 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.
- 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.

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- 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 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 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 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).

Davis-Bacon Act (2 CFR Part 200; 29 CFR Part 5).

- 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 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 County 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 County may, after written notice to the Contractor, County, 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 Santa Rosa County 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, County, or Owner, as the case may be, for transmission to the County 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 County 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, County, or Owner, as the case may be, for transmission to the County, 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 Countying government agency (or the applicant, County, 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 County, 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, County, 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 may by 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.