

**BID DOCUMENTS AND SPECIFICATIONS**  
FOR  
**TAXIWAY A PREVENTATIVE REHABILITATION  
AND LIGHTING IMPROVEMENTS**

AT  
**DESTIN EXECUTIVE AIRPORT**  
DESTIN, FL

**FAA AIP N.A.**

**FDOT PROJECT No: 41819339401**

**Prepared for:**

**Okaloosa County  
Board of County Commissioners**



**Prepared By:**

**RS&H**

**10748 Deerwood Park Boulevard South  
Jacksonville, FL 32256-0597**

**BID DOCUMENTS  
NOVEMBER 2019**

**TABLE OF CONTENTS**

<b>TITLE</b>	<b>INDEX OF PAGES</b>
Title Page	
Table of Contents .....	TOC-i thru iv
Sign and Seal.....	SS-1

**Bid Information**

Invitation to Bid (ITB) & Respondent’s Acknowledgement.....	ITB-1-2
Notice to Bidders .....	NTB-1-2
Instructions to Contractors .....	ITC-1-8
Okaloosa County Standard Clauses .....	OCSC-1 to OCSC-8

**Bid Documents**

Bid Form .....	BF-1 to BF-6
Bid Schedule .....	BF-7 to BF-10
Bid Affidavit .....	BF-11 to BF-12
Bid Bond .....	BF-13 to BF-14
Performance of Work by Subcontractors .....	BF-15 to BF-16
Contractor’s Qualification Questionnaire .....	BF-17 to BF-20
Resolution of Board of Directors .....	BF-21 to BF-22
Form of Noncollusion Affidavit .....	BF-23 to BF-24
Certification of Non-Segregated Facilities .....	BF-25 to BF-26
Sworn Statement Under Section 287.133 (3) (a)	
Florida Statutes on Public Entity Crimes .....	BF-27 to BF-30
Certificate as to Corporate Principal .....	BF-31 to BF-32
Conflict of Interest Disclosure Form .....	BF-33 to BF-34
Drug-Free Workplace Certification .....	BF-35 to BF-36
Certification Regarding Trench Safety .....	BF-37 to BF-38
Indemnification and Hold Harmless .....	BF-39 to BF-40
Insurance Compliance .....	BF-41 to BF-42
Affidavit – Worker’s Compensation .....	BF-43 to BF-44
Recycled Content Form .....	BF-45 to BF-46
Disadvantaged Business Enterprise Program .....	BF-47 to BF-50
DBE Certificate of Compliance Form .....	BF-51 to BF-52
E-Verify Compliance Certification .....	BF-53 to BF-54
Cone of Silence .....	BF-55 to BF-56
Buy American Certificate .....	BF-57 to BF-58
Lobbying – 31 U.S.C. 1352, 49 CFR Part 19, 49 CFR Part 20 .....	BF-59 to BF-60
Equal Employment Opportunity Report Statement .....	BF-61 to BF-62

**TABLE OF CONTENTS**  
**(Continued)**

<b>TITLE</b>	<b>INDEX OF PAGES</b>
<b><u>Contract Forms</u></b>	
Standard Form of Agreement.....	SFA-1 to SFA-8
Performance Bond .....	PFB-1 to PFB-2
Payment Bond.....	PYB-1 to PYB-2
Vendors on Scrutinized Companies List.....	VSCL-1 to VSCL-2
<b><u>General Conditions</u></b> .....	GC-1 to GC-56
<b><u>FAA General Provisions</u></b>	
Section 10 - Definition of Terms .....	GP-10-1 – GP-10-6
Section 20 - Proposal Requirements and Conditions.....	OMITTED
Section 30 - Award and Execution of Contract .....	OMITTED
Section 40 - Scope of Work .....	GP-40-1 – GP-40-4
Section 50 - Control of Work.....	GP-50-1 – GP-50-6
Section 60 - Control of Materials.....	GP-60-1 – GP-60-4
Section 70 - Legal Relations and Responsibility to Public.....	GP-70-1 – GP-70-6
Section 80 - Execution and Progress .....	GP-80-1 – GP-80-7
Section 90 - Measurement and Payment.....	GP-90-1 – GP-90-8
<b><u>Division 01 General Requirements</u></b>	
01010 – Summary of Work.....	01010-1 – 01010-6
01030 – Airport Project Procedures.....	01030-1 – 01030-6
01040 – Project Coordination .....	01040-1 – 01040-4
01070 – Abbreviations and Symbols .....	01070-1 – 01070-4
01090 – Regulations and Definitions.....	01090-1 – 01090-2
01095 – NPDES Permit Compliance.....	01095-1 – 01095-2
01150 – Measurement and Payment .....	01150-1 – 01150-4
01210 - Allowances .....	01210-1 – 01210-4
01300 - Submittals .....	01300-1 – 01300-6
01400 – Quality Control Services.....	01400-1 – 01400-2
01510 – Temporary Facilities .....	01510-1 – 01510-4
01530 – Airfield Temporary Markings and Barricades .....	01530-1 – 01530-2
01600 – Materials and Equipment .....	01600-1 – 01600-4
01700 – Contract Closeout.....	01700-1 – 01700-14
01710 – Cleaning and Disposal .....	01710-1 – 01710-2
01720 – Project Record Document .....	01720-1 – 01720-4
01740 – Warranties and Bonds .....	01740-1 – 01740-2

**TABLE OF CONTENTS**  
**(Continued)**

**TITLE** **INDEX OF PAGES**

---

**Technical Specifications**

C-100 – Contractor Quality Control Program (CQCP) ..... C-100-1-8  
C-102 – Temporary Air and Water Pollution, Soil Erosion, and Siltation Control..... C-102-1-4  
C-105 – Mobilization..... C-105-1-2

P-101 – Preparation/Removal of Existing Pavements ..... P-101-1-4  
P-102 – Safety and Security..... P-102-1-8  
P-105 – Temporary Construction Items..... P-105-1-2

P-153 – Controlled Low-Strength Material (CLSM) ..... P-153-1-3  
P-209 – Crushed Aggregate Base Course ..... P-209-1-6  
P-605 – Joint Sealants for Pavements..... P-605-1-4  
P-608 – Emulsified Asphalt Seal Coat..... P-608-1-10  
P-620 – Runway and Taxiway Painting..... P-620-1-6  
D-701 – Pipe for Storm Drains and Culverts..... D-701-1-7

L-108 – Underground Power Cable for Airports ..... L-108-1-13  
L-110 – Airport Underground Electrical Duct Banks and Conduits ..... L-110-1-8  
L-115 – Electrical Manholes and Junction Structures ..... L-115-1-8  
L-125 – Installation of Airport Lighting Systems..... L-125-1-4

**Appendices**

Appendix A – Construction Safety and Phasing Plan (CSPP)

Page Intentionally Left Blank

OKALOOSA COUNTY BOARD OF COUNTY COMMISSIONERS  
DESTIN EXECUTIVE AIRPORT

TAXIWAY PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS

CONTRACT DOCUMENTS

CIVIL ENGINEERING  
Matthew R. Thomason, P.E.

By: \_\_\_\_\_

Date: \_\_\_\_\_

ELECTRICAL ENGINEERING  
Craig A. Twibel, P.E.

By: \_\_\_\_\_

Date: \_\_\_\_\_

Page Intentionally Left Blank



---

## INVITATION TO BID (ITB) & RESPONDENT'S ACKNOWLEDGEMENT

---

**ITB TITLE:** TAXIWAY A PREVENTATIVE  
REHABILITATION AND LIGHTING IMPROVEMENTS AT  
THE DESTIN EXECUTIVE AIRPORT (DTS)

**ITB NUMBER:**  
ITB AP 11-20

---

<b><u>ISSUE DATE:</u></b>	November 18, 2019	8:00 A.M. (C.S.T.)
<b><u>NON-MANDATORY PRE BID MEETING:</u></b>	December 4, 2019	2:00 P.M. (C.S.T.)
<b><u>LAST DAY FOR QUESTIONS:</u></b>	December 11, 2019	3:00 P.M. (C.S.T.)
<b><u>ITB OPENING DATE &amp; TIME:</u></b>	January 8, 2020	3:00 P.M. (C.S.T.)

---

**NOTE: BIDS RECEIVED AFTER THE BID OPENING DATE & TIME WILL NOT BE CONSIDERED.**

---

Okaloosa County, Florida solicits your company to submit a bid on the above referenced goods or services. All terms, specifications and conditions set forth in this ITB are incorporated into your response. A bid will not be accepted unless all conditions have been met. All bids must have an authorized signature in the space provided below. All bids must be sealed and received by the Okaloosa County Clerk of Court by the "ITB Opening Date & Time" referenced above. Okaloosa County is not responsible for lost or late delivery of bids by the U.S. Postal Service or other delivery services used by the respondent. Neither faxed nor electronically submitted bids will be accepted. Bids may not be withdrawn for a period of one hundred and twenty (120) days after the bid opening unless otherwise specified.

---

**RESPONDENT ACKNOWLEDGEMENT FORM BELOW MUST BE COMPLETED, SIGNED, AND RETURNED AS PART OF YOUR BID. BIDS WILL NOT BE ACCEPTED WITHOUT THIS FORM, SIGNED BY AN AUTHORIZED AGENT OF THE RESPONDENT.**

COMPANY NAME \_\_\_\_\_

MAILING ADDRESS \_\_\_\_\_

CITY, STATE, ZIP \_\_\_\_\_

FEDERAL EMPLOYER'S IDENTIFICATION NUMBER (FEIN): \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_ EXT: \_\_\_\_\_ FAX: \_\_\_\_\_

EMAIL: \_\_\_\_\_

---

I CERTIFY THAT THIS BID IS MADE WITHOUT PRIOR UNDERSTANDING, AGREEMENT, OR CONNECTION WITH ANY OTHER RESPONDENT SUBMITTING A BID FOR THE SAME MATERIALS, SUPPLIES, EQUIPMENT OR SERVICES, AND IS IN ALL RESPECTS FAIR AND WITHOUT COLLUSION OR FRAUD. I AGREE TO ABIDE BY ALL TERMS AND CONDITIONS OF THIS BID AND CERTIFY THAT I AM AUTHORIZED TO SIGN THIS BID FOR THE RESPONDENT.

AUTHORIZED SIGNATURE: \_\_\_\_\_ TYPED OR PRINTED NAME \_\_\_\_\_

TITLE: \_\_\_\_\_ DATE \_\_\_\_\_

---

Rev: September 22, 2015

DESTIN, FL  
DESTIN EXECUTIVE AIRPORT  
TAXIWAY A PREVENTATIVE REHABILITATION  
AND LIGHTING IMPROVEMENTS

ITB-1

INVITATION TO BID  
NOVEMBER 2019  
BID DOCUMENTS



Page Intentionally Left Blank

## **NOTICE TO BIDDERS**

TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS  
at  
DESTIN EXECUTIVE AIRPORT (DTS)  
DESTIN, OKALOOSA COUNTY, FLORIDA

Notice is hereby given that the Board of County Commissioners of Okaloosa County will receive sealed bids until January 8, 2020 at 3:00 P.M. (C.S.T) for the Destin Executive Airport – Taxiway A Preventative Rehabilitation and Lighting Improvements at DTS project. Interested respondents desiring consideration shall provide an original and two (2) copies [total three (3)] of their Invitation to Bid (ITB) response with the respondent's area of expertise identified. Submissions shall be portrait oriented, unbound, and 8 ½"x 11" where practical. **All originals must have original signatures in blue ink.**

Bid Documents can be viewed at <https://www.bidnetdirect.com/florida> or at <http://www.myokaloosa.com/purchasing/home> then accessing the link "View Current Solicitations".

Okaloosa County (COUNTY) desires to apply a bituminous seal coat, install pavement markings, and remove and replace the existing taxiway edge lighting system on Taxiway A at Destin Executive Airport. The project will extend the life of the taxiway pavement by sealing existing cracks in the asphalt pavement and restoring the existing asphalt surface binder. The lighting improvements will allow for a new reliable system in place of the current inconsistent edge lighting and cables. Impacts to existing airport facilities that will be incurred include: partial closures of Taxiway A and Taxiways A1-A6 to aircraft operations.

Funding for this project is being provided by Okaloosa County and Florida Department of Transportation (FDOT) and will be subject to all applicable County, State and Federal requirements.

A non-mandatory Pre-Bid Conference will be conducted at the Destin-Fort Walton Beach Airport, Conference Room No. 1, 1701 State Road 85 North, Eglin AFB, Florida 32542-1498, on December 04, 2019 at 2:00 P.M. (C.S.T). Okaloosa County will transmit to all plan holders of record an Addenda in response to written questions received no later than seven (7) days prior to Bid Opening date. Oral statements may not be relied upon and will not be binding or legally effective.

On January 8, 2020 at 3:00 P.M. (C.S.T.), all bids will be opened and read aloud. All bids must be in sealed envelopes reflecting on the outside thereof the Respondent's name and "DTS Taxiway A Preventative Rehabilitation and Lighting Improvements". The Board of County Commissioners will consider all bids properly submitted at its scheduled bid opening in the Okaloosa County Courthouse located at 101 East James Lee Boulevard, Room 282, Crestview, FL 32536. Bids may be submitted in the Crestview Courthouse prior to bid opening or delivered to the Okaloosa County Courthouse, 101 James Lee Boulevard, Room 282, Crestview, FL 32536. **\*\*NOTE: MUST RING DOORBELL TO GAIN ENTRANCE INTO ROOM 282. THE CLERK WILL COME ACCEPT YOUR PACKAGE OR SHOW YOU TO THE CONFERENCE ROOM FOR THE SCHEDULED BID OPENING\*\***

**NOTE: THE NEW CRESTVIEW COURTHOUSE HAS SECURITY AT ENTRY POINT-PLEASE ALLOW FOR TIME TO GET THROUGH SECURITY WHEN ARRIVING FOR THE BID OPENING.**

NOTE: Crestview, FL is not a next day guaranteed delivery location by most delivery services. Respondents using mail or delivery services assume all risks of late or non-delivery.

**All originals must have original signatures in blue pen ink.**

**OWNER'S CONTACT:**

Jesica Darr  
Contracts & Lease Coordinator  
Okaloosa County Purchasing Department  
5479 Old Bethel Rd., Suite A Crestview, FL 32536  
Tel: 850-689-5960  
jdarr@myokaloosa.com

All bids should be addressed as follows:

**ITB AP 11-20**

**BID ENCLOSED – TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS AT DTS**

Attn: Clerk of the Court  
101 East James Lee Blvd. Room 282  
Crestview, FL 32536

\_\_\_\_\_  
Jeff Hyde  
Purchasing Manager

\_\_\_\_\_  
Date

BOARD OF COUNTY COMMISSIONERS  
OKALOOSA COUNTY, FL

Chair

## INSTRUCTIONS TO CONTRACTORS

### PROJECT IDENTIFICATION:

- a) Project Title:  
**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**
- b) Owner:  
**OKALOOSA COUNTY, FLORIDA**
- c) Engineer:  
**RS&H**

### 1. Defined Terms.

Terms used in the Instructions to Bidders that are defined in the Standard General Conditions of the Project Manual have the meanings assigned to them in the General Conditions.

Certain additional terms used in the Instruction to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.

- 1.1 Bidder – one who submits a Bid directly to Owner as distinct from sub-contractor, who submits a bid to a Bidder.
- 1.2 Issuing Office – the office from which the Project Documents are to be issued and where the bid procedures are to be administered.
- 1.3 Successful Bidder – the lowest, responsible and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes and award.

### 2. Copies of Project Documents.

- 2.1 Complete sets of the Project Documents in the number and for the sum, if any, stated in the Advertisement or Notice to Bidders may be obtained from the Issuing Office.
- 2.2 Complete sets of Project Documents must be used in preparing Bids; neither Owner nor Engineer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Project Documents.
- 2.3 Owner and Engineer in making copies of Project Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

### 3. Qualifications of Contractors.

To demonstrate qualifications to perform the Work, each Contractor must upon Owner's request detailed written evidence such as financial data, previous experience, present commitments and other such data as

may be called for below. Each Bid must contain evidence of Contractors qualification and certification pursuant to the Florida Department of State, Division of Corporations to do business in Florida where the Project is located or covenant to obtain such qualification prior to award of the contract. The County will not enter into a contract with an entity not registered with the Florida Department of State, Division of Corporations and in good standing, certified to do business in the State.

**4. Examination of Documents and Site.**

- 4.1 It is the responsibility of each bidder before submitting a Bid:
  - 4.1.1 To examine thoroughly these documents and other related data identified (including "technical data" referred to below);
  - 4.1.2 To visit the site to become familiar with and satisfy Bidder as to the general, local and site conditions that may affect cost, progress, performance, or furnishing of the Work;
  - 4.1.3 To consider federal, state, and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;
  - 4.1.4 To study and carefully correlate Bidder's knowledge and observations with these Project Documents and such other related data; and
  - 4.1.5 To promptly notify Engineer of all conflicts, errors, ambiguities or discrepancies which Bidder has discovered in or between these Project Documents and such other related documents.
- 4.2 thru 4.5 (omitted)
- 4.6 On request, Owner will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests, and studies as each Bidder deems necessary for submission of a Bid. Bidder must fill all holes and clean up and restore the site to its former conditions upon completion of such explorations, investigations, tests, and studies.
- 4.7 Reference is made to the Supplementary Conditions for the identification of the general nature of work that is to be performed at the site by Owner or others (such as utilities and other prime contractors) that relates to the work for which a Bid is to be submitted. On request, Owner will provide to each Bidder for examination access to or copies of appropriate documents (other than portions thereof related to price) for such work.
- 4.8 The submission of a Bid will constitute and incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception of the Bid is premised upon performing and furnishing the Work required by these Project Documents and applying the specific means, methods, techniques, sequences, or procedures for construction (if any) that may be shown or indicated or expressly required by these Project Documents, the Bidder has given Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in these Project Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.
- 4.9 The provisions of 1-4.1 through 4.8, inclusive, do not apply to Asbestos, Polychlorinated biphenyls (PCBs), Petroleum, Hazardous Waste, or Radioactive Material covered by Paragraph 4.5 of the General Conditions.

**5. Availability of Lands for Work, Etc.**

The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by the successful Bidder in performing the Work are identified in these

Project Documents. All additional land and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by the Successful Bidder. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in these Project Documents.

## **6. Interpretations and Addenda.**

- 6.1 All questions about the meaning or intent of these Project Documents are to be directed to Issuing Office. Interpretations or clarifications considered necessary by Issuing Office in response to such questions will be issued by Addenda on the Purchasing website and bid net as mentioned above. Questions received after the question deadline may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 6.2 Addenda may also be issued to modify these Project Documents as deemed advisable by Owner or Engineer.

## **7. Bid Security.**

- 7.1 Each Bid must be accompanied by Bid security made payable to Owner in an amount of five percent (5%) of Bidders maximum Bid Price in the form of a certified or bank check or a Bid Bond on form attached, issued by a surety meeting the requirements of Paragraph 5.1 of the General Conditions.
- 7.2 The Bid security of Successful Bidder will be retained until such Bidder has executed the Agreement, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnishes the required contract security within fifteen days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of:

the seventh (7th) day after the Effective Date of the Agreement

or

the thirty-sixth (36th) day after the Bid opening,

whereupon Bid security furnished by such Contractors will be returned. Bid security with Bids which are not competitive will be returned within seven (7) days after the issuing of the Intent to Award.

## **8. Contract Times.**

The number of days within which, or the dates by which, the Work is to be substantially completed, reach final completion and ready for final payment (the term "Contract Times" is defined in paragraph 1.12 of the General Conditions) are set forth in the Agreement (or incorporated therein by reference to the attached Bid Form).

## **9. Substitute and "Or-Equal" Items.**

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications. Whenever it is indicated in the Drawings or specified in the specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to the County, acceptance of the substitution "or equal" to material or equipment, will typically be considered by the County after the contract is awarded. However, any proposed substitution that represents a deviation from the design intent, must be approved prior to submission of the bid responses. A determination as to whether a design deviation or particular item that changes the design intent of the plans or specification is acceptable as a substitute or "equal" will be made by the County and Engineer. Design deviations approved prior to bid submittals will be made known to other bidders through an addendum. Specific product substitute materials or equipment and requested "or equal" items to be used will be reviewed during the submittal process and follow the procedures outlined in Paragraphs 6.7.1, 6.7.2. and 6.7.3. of the General Conditions.

## **10. Subcontractors, Suppliers, and Others**

- 10.1 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers and other persons and organizations (including those who are to furnished the principal items of material and equipment) are to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement Apparent Successful Contractor, and any other Contractor so requested, shall with Bid documents submit to Owner a list of all such Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor Supplier, person, or organization if requested by Owner. An Owner or Engineer who after due investigation has reasonable objection to any proposed Subcontractor, Supplier, other person, or organization, may before the Notice of Award is given request apparent Successful Contractor to submit an acceptable substitute without an increase in Bid Price.

If apparent Successful Contractor declines to make any such substitution, Owner may award the contract to the next lowest Contractor that proposes to use acceptable Subcontractors, Suppliers, and other persons and organizations. The declining to make requested substitutions will not constitute grounds for sacrificing the Bid security of any Contractor. Any subcontractor, Supplier, other person or organization listed and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.8.2 of the General Conditions.

## **11. Bid Form.**

- 11.1 All blanks on the Bid Form must be completed by printing in ink or by typewriter. Bid forms shall be made available to bidders in excel format.
- 11.2 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal

must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.

- 11.3 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.
- 11.4 All names must be typed or printed in ink below the signature.
- 11.5 The bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).
- 11.6 The address and telephone number for communications regarding the bid must be shown.
- 11.7 Evidence of authority to conduct business as an out-of-state corporation in the state where the Work is to be performed shall be provided. State contractor license number, if any, must also be show.

**12. Submission of Bids.**

- 12.1 Bidder shall submit the original plus two (2) copies (three total) of their bid to the place indicated in the Advertisement of Notice to Bidder.
- 12.2 Bids shall be submitted at the time and place indicated in the Advertisement of Notice to Bidder and shall be enclosed in an opaque sealed envelope, marked with the Project title and name and address of Bidder and accompanied by the Bid security and other required documents. If the Bid is sent through the mail or other delivery system the sealed envelope shall be enclosed in a separate envelope with the notation "**BID ENCLOSED – TAXIWAY A PREVENTATIVE REHABILITATON AND LIGHTING IMPROVEMENTS**" on the face of it.

**13. Modification and Withdrawal of Bids.**

- 13.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are submitted at any time prior to the opening of Bids.
- 13.2 If, within twenty-four hours after Bids are opened, any Bidder files a duly signed, written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and bid security will be returned. Thereafter, that Bidder will be disqualified from further bids on the Work to be provided under the Project Documents.

**14. Opening of Bids.**

Bids will be opened and (unless obviously non-responsive) read aloud publicly at the place where Bids are to be submitted. An abstract of the amounts of the base Bids and major alternates (if any) will be made available to Bidders after the opening of Bids.

**15. Bids to Remain Subject to Acceptance.**



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

## **16. Disqualification of Bidders**

Any of the following reasons may be considered as sufficient for the disqualification of a Bidder and the rejection of his proposal or proposals:

- A. More than one proposal for the same work from an individual, firm or corporation under the same or different name.
- B. Evidence that the Bidder has a financial interest in the firm of another Bidder for the same work.
- C. Evidence of collusion among contractors. Participants in such conclusion will receive no recognition as contractors for any future work of the County until such participant shall have been reinstated as a qualified contractor.
- D. Uncompleted work that in the judgment of the County might hinder or prevent the prompt completion of additional work if awarded.
- E. Failure to pay or satisfactorily settle all bills due for labor and material on former contracts in force at the time of advertisement for bids.
- F. Default under previous contract.

## **17. Award of Contract.**

- 17.1 Owner reserves the right to reject any or all Bids, including without limitation the rights to reject any or all nonconforming, non-responsive, unbalanced, or conditional Bids and to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the County to make an award to that Bidder, whether because the Bid is not responsible or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.
- 17.2 Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Contractors, proposed Subcontractors, Suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Project Documents to Owner's satisfaction within the prescribed time.
  - 17.2.1 The Owner in its absolute discretion may reject any bid of a Contractor that has failed, in the opinion of the Owner, to complete or perform an Owner-contracted project in a timely fashion, and emphasizes this condition to potential Contractors

- 17.3 If a contract is to be awarded, it shall be awarded to the responsible and responsive bidder who submits the lowest responsive bid. Owner may request from the proposers additional information to be provided to the County prior to Notice of Award.
- 17.4 Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Project Documents to Owner's satisfaction within the prescribed time.

**18. Pre-Bid Conference.**

A **non-mandatory** Pre-Bid Conference will be conducted at the time and place stated in the Notice to Bidders. Engineer, in conjunction with the County's Purchasing Department, will transmit to all plan holders of record such Addenda as Engineer considers necessary in response to written questions received no later than seven (7) days prior to the Bid Opening date. Oral statements may not be relied upon and will not be binding or legally effective.

**19. Sales and Use Taxes.**

Work under this Bid is subject to the provisions of Chapter 212, Florida Statutes, Tax on state, Use and Other Transactions. Other state, local, or federal taxes may be applicable. The contractor is responsible to remit to the appropriate governmental entity all applicable taxes. Any applicable tax shall be included in the total Bid price by the contractor.

Page Intentionally Left Blank

## **OKALOOSA COUNTY STANDARD CLAUSES**

### **INDEMNIFICATION AND HOLD HARMLESS**

**CONTRACTOR** shall indemnify and hold harmless **COUNTY**, its officers and employees from liabilities, damages, losses, and costs including but not limited to reasonable attorney fees, to the extent caused by the negligence, recklessness, or intentional wrongful conduct of the **CONTRACTOR** and other persons employed or utilized by the **CONTRACTOR** in the performance of this Agreement.

NOTE: For Contractor's convenience, this certification form is enclosed and is made a part of the bid package.

### **CONFLICT OF INTEREST**

The award hereunder is subject to the provisions of Chapter 112, Florida Statutes. All respondents must disclose with the proposal the name of any officer, director, or agent who is also a public officer or an employee of the Okaloosa Board of County Commissioners, or any of its agencies.

Furthermore, all respondents must disclose the name of any County officer or employee who owns, directly or indirectly, an interest of five percent (5%) or more in the firm or any of its branches.

Furthermore, the official, prior to or at the time of submission of the proposal, must file a statement with the Clerk of Circuit Court of Okaloosa County if he is an officer or employee of the County, disclosing his or spouse's or child's interest and the nature of the intended business.

NOTE: For Contractor's convenience, a certification form is enclosed and is made a part of the bid package

### **IDENTICAL TIE PROPOSALS**

If there are identical tie proposals, preference shall be given to businesses with drug-free workplace programs. Whenever two or more proposals, which are equal with respect to price, quality and service are received by the County for the procurement of commodities or contractual services, a proposal received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process (see attached certification form).

Established procedures for processing tie proposal will be followed if none or both of the tied vendors have a drug-free workplace program.

NOTE: For Contractor's convenience, a certification form is enclosed and is made a part of the bid package

## **TRENCH SAFETY ACT**

Each contractor must submit with his bid an executed sworn certification that he will comply with the Trench Safety Act, §§ 553.60 - 64, Florida Statutes, on trench safety.

NOTE: For Contractor's convenience, a certification form is enclosed and is made a part of the bid package.

## **PUBLIC ENTITY CRIME INFORMATION**

A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any 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 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 Section 287.107, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

## **BONDING REQUIREMENTS**

Bid Bond, Payment Bond and Performance Bond, and others as required. Reference Article 2, Article 5 and Section 01740.

## **INSURANCE REQUIREMENTS**

### **Contractor's Insurance**

1. The Contractor shall not commence any work in connection with this Agreement until he has obtained all required insurance and such insurance has been approved by the Okaloosa County Risk Manager or designee.
2. All insurance policies shall be with insurers authorized to do business in the State of Florida.
3. All insurance shall include the interest of all entities named and their respective officials, employees & volunteers of each and all other interests as may be reasonably required by Okaloosa County. The coverage afforded the Additional Insured under this policy shall be primary insurance. If the Additional Insured have other insurance that is applicable to the loss, such other insurance shall be on an excess or contingent basis. The amount of the company's liability under this policy shall not be reduced by the existence of such other insurance.
4. The County shall be shown as an Additional Insured with a Waiver of Subrogation on the Certificate of Insurance for all policies.
5. The County shall retain the right to reject all insurance policies that do not meet the requirement of this Agreement. Further, the County reserves the right to change these insurance requirements with 60-day notice to the Contractor.

6. The County reserves the right at any time to require the Contractor to provide copies of any insurance policies to document the insurance coverage specified in this Agreement.
7. The designation of Contractor shall include any associated or subsidiary company which is involved and is a part of the contract and such, if any associated or subsidiary company involved in the project must be named in the Workers' Compensation coverage.
8. Any exclusions or provisions in the insurance maintained by the Contractor that excludes coverage for work contemplated in this agreement shall be deemed unacceptable and shall be considered breach of contract.

### **Workers' Compensation Insurance**

1. The Contractor shall secure and maintain during the life of this Agreement Workers' Compensation insurance for all of his employees employed for the project or any site connected with the work, including supervision, administration or management, of this project and in case any work is sublet, with the approval of the County, the Contractor shall require the Subcontractor similarly to provide Workers' Compensation insurance for all employees employed at the site of the project, and such evidence of insurance shall be furnished to the County not less than ten (10) days prior to the commencement of any and all sub-contractual Agreements which have been approved by the County.
2. Contractor must be in compliance with all applicable State and Federal workers' compensation laws, including the U.S. Longshore Harbor Workers' Act or Jones Act, if applicable.
3. No class of employee, including the Contractor himself, shall be excluded from the Workers' Compensation insurance coverage. The Workers' Compensation insurance shall also include Employer's Liability coverage.

### **Business Automobile Liability**

Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than specified herein. If the contractor does not own vehicles, the contractor shall maintain coverage for Hired & Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Policy. Contractor must maintain this insurance coverage throughout the life of this Agreement. Okaloosa County shall be named as an additional insured.

### **Commercial General Liability Insurance**

1. The Contractor shall carry other Commercial General Liability insurance against all other Bodily Injury, Property Damage and Personal and Advertising Injury exposures.
2. All liability insurance (other than Professional Liability) shall be written on an occurrence basis and shall not be written on a claims-made basis. If the insurance is issued with an aggregate limit of liability, the aggregate limit of liability shall apply only to the locations included in this Agreement. If, as

the result of any claims or other reasons, the available limits of insurance reduce to less than those stated in the Limits of Liability, the Contractor shall notify the County representative in writing. The Contractor shall purchase additional liability insurance to maintain the requirements established in this Agreement. Umbrella or Excess Liability insurance can be purchased to meet the Limits of Liability specified in this Agreement.

3. Commercial General Liability coverage shall include the following:
  - 1.) Premises & Operations Liability
  - 2.) Bodily Injury and Property Damage Liability
  - 3.) Independent Contractors Liability
  - 4.) Contractual Liability
  - 5.) Products and Completed Operations Liability
  
4. Contractor shall agree to keep in continuous force Commercial General Liability coverage for the length of the contract.

**Limits of Liability**

The insurance required shall be written for not less than the following, or greater if required by law, and shall include Employer’s liability with limits as prescribed in this contract.

**Refer to Section 5.4.8.1 of the General Conditions for additional specific insurance requirements.**

	<b><u>LIMIT</u></b>
1. Worker’s Compensation	
1.) State Statutory	
2.) Employer’s Liability	<b><u>\$15,000,000</u></b> each accident
2. Business Automobile	<b><u>\$15,000,000</u></b> each accident (A combined single limit)
3. Commercial General Liability	<b><u>\$15,000,000</u></b> each occurrence for Bodily Injury & Property Damage <b><u>\$15,000,000</u></b> each occurrence Products and completed operations
4. Personal and Advertising Injury	<b><u>\$15,000,000</u></b> each occurrence

**Notice of Claims or Litigation**

The Contractor agrees to report any incident or claim that results from performance of this Agreement. The County representative shall receive written notice in the form of a detailed written report describing the incident or claim within ten (10) days of the Contractor’s knowledge. In the event such incident or claim involves injury and/or property damage to a third party, verbal notification shall be given the same day the Contractor becomes aware of the incident or claim followed by a written detailed report within ten (10) days of verbal notification.

### **Indemnification and Hold Harmless**

To the fullest extent permitted by law, Contractor shall indemnify and hold harmless the County, its officers and employees from liabilities, damages, losses, and costs including but not limited to reasonable attorney fees, to the extent caused by the negligence, recklessness, or wrongful conduct of the Contractor and other persons employed or utilized by the Contractor in the performance of this contract.

**Note: For Contractor's convenience, this certification form is enclosed and is made a part of the bid package.**

### **Certificate of Insurance**

1. Certificates of insurance indicating the job site and evidencing all required coverage must be submitted not less than 10 days prior to the commencement of any of the work. The certificate holder(s) shall be as follows: Okaloosa County, 5479A Old Bethel Road, Crestview, Florida, 32536.
2. The contractor shall provide a Certificate of Insurance to the County with a thirty (30) day notice of cancellation; ten (10 days' notice if cancellation is for nonpayment of premium).
3. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of the contractor to provide the proper notice. Such notification shall be in writing by registered mail, return receipt requested, and addressed to the Okaloosa County Purchasing Department at 5479-A Old Bethel Road, Crestview, FL 32536.

### **General Terms**

Any type of insurance or increase of limits of liability not described above which, the Respondent required for its own protection or on account of statute shall be its own responsibility and at its own expense.

The carrying of the insurance described shall in no way be interpreted as relieving the Respondent of any responsibility under this contract.

Should the Respondent engage a subcontractor or sub-subcontractor, the same conditions will apply under this Agreement to each subcontractor and sub-subcontractor.

The Respondent hereby waives all rights of subrogation against Okaloosa County and its consultants and other indemnities of the Respondent under all the foregoing policies of insurance.

### **Umbrella Insurance**



The Respondent shall have the right to meet the liability insurance requirements with the purchase of an umbrella insurance policy. In all instances, the combination of primary and umbrella liability coverage must equal or exceed the minimum liability insurance limits stated in this Agreement. If using an umbrella insurance policy to meet the requirements, it must include Okaloosa County as an additional insured.

**DELIVERY OF BIDS**

Bid Opening shall be public, on the date and time specified on the NOTICE TO CONTRACTORS. It is the contractor’s responsibility to assure that his bid is delivered at the proper time and place. Offers by telegram, facsimile, or telephone are NOT acceptable. NOTE: Crestview, Florida is “not a next-day-guaranteed delivery location” by delivery services.

**Liquidated Damages:**

- a. In case of failure on the part of the Contractor to complete the work within the time(s) specified in the contract, or within such additional time(s) as may be granted by Okaloosa County, the County will suffer damage, the amount of which is difficult, if not impossible, to ascertain. Therefore, the Contractor shall pay to the County, as liquidated damages, the amount established in the schedule below for each calendar day of delay that actual completion extends beyond the time limit specified until such reasonable time as may be required for substantial and/or final completion of the work. In no way shall costs for liquidated damages be construed as penalty on the contractor.

**Daily Charge**

<b><u>Original Contract Amount</u></b>	<b><u>Per Calendar Day</u></b>
<b>\$50,000 and under</b>	<b>\$ 311</b>
<b>Over \$50,000 but less than \$250,000</b>	<b>972</b>
<b>\$250,000 but less than \$500,000</b>	<b>1584</b>
<b>\$500,000 but less than \$2,500,000</b>	<b>1924</b>
<b>\$2,500,000 but less than \$5,000,000</b>	<b>2694</b>
<b>\$5,000,000 but less than \$10,000,000</b>	<b>3902</b>
<b>\$10,000,000 but less than \$15,000,000</b>	<b>6102</b>
<b>\$15,000,000 but less than \$20,000,000</b>	<b>7022</b>
<b>\$20,000,000 and over</b>	<b>7022 plus 0.2% for any amount over \$20 million</b>

- b. **Determination of Number of Days of Default:** For all contracts, regardless of whether the contract time is stipulated in calendar days or working days, the default days shall be counted in calendar days.
- c. **Conditions under which Liquidated Damages are Imposed:** Should the Contractor or, in case of his default, the Surety, fail to reach substantial and/or final completion of the work within the time stipulated in the contract, or within such extra time as may have been granted by the County, the Contractor or, in case of his default, the Surety, shall pay to the County, not as a penalty, but as liquidated damages, the amount so due as determined by the Code requirements, as provided above.
- d. **Right of Collection:** The County shall have the right to apply as payment on such liquidated damages

any money which is due to the Contractor by the County.

- e. **Permitting Contractor to Finish Work:** Permitting the Contractor to continue and to finish the work, or any part of it, after the expiration of the contract time allowed, including extensions of time granted to the Contractor, shall in no way act as a waiver on the part of the County the liquidated damages due under the contract.
- f. **Completion of Work by County:** In case of default of the contract and the completion of the work by the County, the Contractor and his Surety shall be liable for the liquidated damages under the contract, but no liquidated damages shall be chargeable for any delay in the final completion of the work by the County due to any unreasonable action or delay on the part of the County.

**END OF OKALOOSA COUNTY STANDARD CLAUSES**

Page Intentionally Left Blank

**BID FORM**

**PROJECT IDENTIFICATION:**

TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS  
AT DESTIN EXECUTIVE AIRPORT, OKALOOSA COUNTY, FLORIDA

**CONTRACT IDENTIFICATION AND NUMBER:**

Okaloosa County Bid No.: ITB AP 11-20  
FDOT FIN PROJ No.: 41819339401

**THIS BID IS SUBMITTED TO:**

OKALOOSA COUNTY PURCHASING DEPARTMENT

1. The undersigned Contractor proposes and agrees, if this Bid is accepted, to enter into an agreement with Owner in the form included in these documents to perform and furnish all Work as specified or indicated in these documents for the Bid Price and within the Bid Times indicated in this Bid and in accordance with the other terms and conditions of these documents.
2. Contractor accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Contractors, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for one hundred twenty (120) days after the day of Bid opening. Bidder will sign and deliver the required number of counterparts of the Agreement with the Bonds and other documents required by the Project Requirements within fifteen (15) days after the date of Owner's Notice of Award.
3. In submitting this Bid, Contractor represents as more fully set forth in the Agreement, that:
  - (a) Contractor has examined and carefully studied the Project Documents and the following Addenda receipt of all which is hereby acknowledged: (List Addenda by Addendum Number and Date)

Addendum No. Date

Addendum No. Date

Addendum No. Date

Addendum No. Date

- (b) Contractor has visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, performance, and furnishing of the Work.
- (c) Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, performance, and furnishing of the Work.
- (d) Contractor has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or

subsurface structures at or contiguous to the site (except underground facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.2.1 of the General Conditions. Bidder accepts the determination set forth in Article 4 of the Supplementary Conditions of the extent of the "technical data" contained in such reports and drawings upon which Bidder is entitled to rely as provided in paragraph 4.2 of the General Conditions. Bidder acknowledges that such reports and drawings are not Contract Documents and may not be complete for Bidder's purposes. Bidder acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Project Documents with respect to underground facilities at or contiguous to the site. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all such additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and underground facilities) at or contiguous to the site or otherwise which may affect cost progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder and safety precautions and programs incident thereto. Bidder does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance and furnishing of the Work in accordance with the times, price, and other terms and conditions of these Documents.

- (e) Contractor is aware of the general nature of Work to be performed by Owner and others at the site that relates to Work for which this Bid is submitted as indicated in these documents.
  - (f) Contractor has correlated the information known to Bidder, information and observation obtained from visits to the site, reports and drawings identified in these documents and all additional examinations, investigations, explorations, tests, studies, and data with these documents.
  - (g) Contractor has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in these documents and the written resolution thereof by Engineer is acceptable to Contractor, and these documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.
  - (h) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Contractor has not directly or indirectly induced or solicited any other Contractor to submit a false or sham Bid; Contractor has not solicited or induced any person, firm or corporation to refrain from Project; and Contractor has not sought by collusion to obtain for itself any advantage over any other Contractor or over Owner.
4. Contractor will complete the Work in accordance with these documents for the price found in the Bid Schedule:
- (a) Unit Prices have been computed in accordance with paragraph 11.9.2 of the General Conditions.
  - (b) Contractor acknowledges that quantities are not guaranteed and final payment will be based on actual quantities determined as provided in these documents.
  - (c) The description under each bid item, being briefly stated, implies, although it does not mention, all incidentals and that the prices stated are intended to cover all such work, materials and

incidentals as constitute Bidder's obligations as described in the Specifications, and any details not specifically mentioned, but evidently included in the Contract shall be compensated for in the item which most logically includes it.

(d) Unit prices shall include all sales taxes, and other applicable taxes and fees.

5. **Contract Time**: Contractor agrees that Work will be substantially complete **126** calendar days (Construction Only) after the date when the Contract Time commences to run as provided in paragraph 2.3 of the General Conditions, and will be completed and ready for final payment in accordance with paragraph 14.13 of the general conditions within **30** calendar days after the date when the Contract Time commences to run.
6. **Liquidated Damages**: Contractor accepts the provisions of the Agreement as to the liquidated damages identified in the Okaloosa County Standard Clauses, in the event of failure to achieve substantial completion of the Work within the Substantial Completion time and achieve final completion of the work within the Final Completion time as specified in the Agreement.
7. The following documents are attached to and made a condition of this Bid:
  - a) Bid Schedule
  - b) Bid Affidavit
  - c) Bid Security as required by the Instructions to Contractors in the form of a certified or bank check made payable to The Board of County Commissioners of Okaloosa County or a Bid Bond on form attached, issued by a surety meeting the requirements of Paragraph 5.1 of the General Conditions.
  - d) Required Contractor's Qualification Statement with supporting data.
  - e) Performance of Work by Subcontractors
  - f) Form of Noncollusion Affidavit
  - g) Certification of Non-Segregated Facilities
  - h) Public Entity Crimes
  - i) Certificate as to Corporate Principal
  - j) Certified Copy of Resolution of Board of Directors
  - k) Conflict of Interest Disclosure Form
  - l) Drug-Free Workplace Certification
  - m) Certification of Contractor Regarding Trench Safety
  - n) Indemnification and Hold Harmless

- o) Insurance Compliance
- p) Affidavit – Worker’s Compensation
- q) Recycled Content Form
- r) Disadvantaged Business Enterprise Program
- s) DBE Certificate of Compliance Form
- t) E-Verify Compliance Certification
- u) Cone of Silence
- v) Buy American Certificate
- w) Lobbying – 31 USC 1352
- x) Equal Employment Opportunity Report Statement

8. Communications concerning this Bid shall be addressed to the address of Bidder indicated below.

---

---

---

---

---

---

9. Terms used in this Bid which are defined in the General Conditions or Instructions to Contractors will have the meanings indicated in the General Conditions or Instructions.

10. Contractor acknowledges that the Basis of Award shall be the Total Bid Amount, price and other factors considered. The bid bond amount shall be in the amount of the Total Bid Amount.

SUBMITTED on \_\_\_\_\_, 20\_\_

State Contractor License No. \_\_\_\_\_

If Contractor is:

An Individual

By \_\_\_\_\_ (SEAL)

(Individual's Name)

doing business as \_\_\_\_\_

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_

A Partnership

By \_\_\_\_\_ (SEAL)

(Firm Name)

(General Partner)

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_

A Corporation

By \_\_\_\_\_ (SEAL)

(Corporation Name)

(State of Incorporation)

By \_\_\_\_\_ (SEAL)

(Name of person authorized to sign)

(Title)

(Corporate Seal)

Attest \_\_\_\_\_

(Secretary)

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_

Date of Qualification to do business is \_\_\_\_\_



A Joint Venture

By \_\_\_\_\_ (SEAL)  
(Name)

\_\_\_\_\_  
(Address)

By \_\_\_\_\_ (SEAL)  
(Name)

\_\_\_\_\_  
(Address)

Phone Number and Address for receipt of official communications

\_\_\_\_\_

\_\_\_\_\_  
(Each joint venturer must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above).

## BID SCHEDULE

CONTRACTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

**AIRPORT NAME:** Destin Executive Airport  
**PROJECT DESCRIPTION:** Taxiway A Preventative Rehabilitation and Lighting Improvements

## BID SCHEDULE

Quote Item No.	Item No.	Item Description & Unit Price In Words	Unit	List the UNIT Price	Estimated Quantity	List the Total Price For Estimated Quantity
1	C-100-14.1	Contractor Quality Control Program (CQCP)	LS	\$	1	\$
2	C-105-6.1	Mobilization	LS	\$	1	\$
3	P-102-10.1	Safety and Security	LS	\$	1	\$
4	P-105-5.1	Temporary Construction Item	LS	\$	1	\$
5	P-101-5.1	Bituminous Pavement Removal, Full Depth	SY	\$	400	\$
6	P-101-5.2	Concrete Pavement Removal, Full Depth	SY	\$	90	\$
7	P-101-5.3	Existing Drainage Pipe Removal	LS	\$	1	\$
8	P-209-5.1	Crushed Aggregate Base Course	CY	\$	250	\$

9	P-605-5.1	Bituminous Crack Sealing	LF	\$	25,000	\$
10	P-608-8.1	Asphalt Surface Treatment	SF	\$	32,000	\$
11	P-610-6.1	8" Structural Concrete Pavement	SY	\$	430	\$
12	P-620-5.1	Taxiway Marking with Reflective Beads	SF	\$	5,300	\$
13	P-620-5.2	Taxiway Black Enhancement Marking without Reflective Beads	SF	\$	10,200	\$
14	P-620-5.3	Temporary Taxiway Marking without Reflective Beads	SF	\$	15,500	\$
15	D-701-5.1	18" Class V Storm Drain Pipe Including FDOT 273 Concrete Mitered End Section	LF	\$	140	\$
16	D-701-5.2	Connect to Existing Catch Basin	EA	\$	1	\$
17	T-904-5.1	Sodding	SY	\$	1,250	\$

18	T-905-5.1	Topsoil (Furnished From off the Site)	CY	\$	150	\$
19	L-108-5.1	No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Duct Bank or Conduit	LF	\$	14,500	\$
20	L-108-5.2	No. 2 AWG, Solid Bare Counterpoise Wire, Installed in Trench, Above Duct Bank or Conduit, Including Ground Rods and Ground Connectors	LF	\$	12,000	\$
21	L-110-5.1	Non-Encased Electrical Conduit, 1-Way, 2-Inch	LF	\$	12,000	\$
22	L-110-5.2	Directionally Drilled Electrical Conduit, 2-Way, 2-Inch	LF	\$	700	\$
23	L-115-5.1	L-867D Junction Can	EA	\$	12	\$
24	L-125-5.1	L-861T(L) Taxiway Edge Light and Isolation Transformer on New L-867B Base	EA	\$	196	\$
25	L-125-5.2	Remove Taxiway Edge Light and Isolation Transformer	EA	\$	131	\$

26	L-125-5.3	Guidance Sign Panel Replacement	EA	\$	2	\$
----	-----------	---------------------------------	----	----	---	----

**FOR ALL WORK REQUIRED IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS, SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS, INCLUDING ALL COSTS RELATED TO THE WORK, AND ANY REQUIRED PERMITS, TAXES, BONDS AND INSURANCE, THE UNDERSIGNED SUBMITS A TOTAL BID AMOUNT OF:**

**TOTAL BID (amount in words):**

\_\_\_\_\_ Dollars and  
 \_\_\_\_\_ cents

(\$ \_\_\_\_\_)  
**(amount in numbers)**

The Contractor represents that it has examined the site of the Work and informed itself fully in regard to all conditions pertaining to the place where the work is to be done; that it has examined the plans and specifications for the work and other Contract Documents relative thereto and has read all of the Addenda furnished prior to the opening of the Bids, as acknowledged below; and that it has otherwise fully informed itself regarding the nature, extent, scope and details of the Work to be performed.

If provided with a Notice of Intent to Award the Contract by the Owner, the Contractor shall execute and deliver to the Owner all of the documents required by the Contract Documents, including but not limited to, the Addendum to the Agreement and the Performance and Payment Bonds in the form contained in the Contract Documents, furnish the required evidence of the specified insurance coverages, furnish all necessary permits, license, materials, equipment, machinery, maintenance, tools, apparatus, means of transportation and labor necessary to complete the Work.

Dated and signed at \_\_\_\_\_, \_\_\_\_\_, this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
 (Name of Bidder)

\_\_\_\_\_  
 (Authorized Signature)

\_\_\_\_\_  
 (Title)

\_\_\_\_\_  
 (Mailing Address)

\_\_\_\_\_  
 (City, State, Zip)

\_\_\_\_\_  
 (Federal ID No. or SS No.)

Page Intentionally Left Blank

**BID AFFIDAVIT**

The following affidavit must be executed in order that your quotation may be considered.

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

\_\_\_\_\_ of lawful age, being first duly sworn, upon his oath deposes and says: That he executed the accompanying Quotation of behalf of the Contractor therein named, and that he had lawful authority so to do, and said Contractor has not directly or indirectly, entered into any agreement, expressed or implied, with any Contractor or Contractors, having to its object the controlling of the price or amount of such quotation or any quotations, the limiting of the Quotation or Contractors, the parceling or farming out to any Contractor or Contractors, to other persons of any part of the contract or any of the subject matter or the Quotations, or of the profits thereof, and that he has not and will not divulge the sealed Quotation to any person whomsoever, except those having a partnership or other financial interest with him in said Quotation or Quotations, until after the sealed Quotation or Quotations are opened.

\_\_\_\_\_  
[signature]

\_\_\_\_\_  
[date]

STATE OF \_\_\_\_\_ COUNTY OF \_\_\_\_\_

**PERSONALLY APPEARED BEFORE ME**, the undersigned authority,

*[name of individual signing]*

who, after first being sworn by me, affixed his/her signature in the space provided above on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_.

My Commission Expires:

\_\_\_\_\_

\_\_\_\_\_

Notary Public

Page Intentionally Left Blank



**BID BOND**

**CONTRACTOR** (Name and Address):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SURETY** (Name and Address of Principal Place of Business):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**OWNER** (Name and Address):

Okaloosa County  
602 N. Pearl Street  
Crestview, FL 32536

**BID:**

BID DUE DATE: \_\_\_\_\_  
PROJECT (Brief Description Including Location): \_\_\_\_\_  
Taxiway A Preventative Rehabilitation and Lighting Improvements  
Destin Executive Airport, Destin, Okaloosa County, FL

**BOND:**

BOND NUMBER: \_\_\_\_\_  
DATE: (Not later than Bid Due Date): \_\_\_\_\_  
PENAL SUM: \_\_\_\_\_

IN WITNESS WHEREOF, Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR SURETY  
\_\_\_\_\_  
Contractor's Name and Corporate Seal Surety's Name and Corporate Seal  
By: \_\_\_\_\_ By: \_\_\_\_\_  
Signature and Title Signature and Title  
(Attach Power of Attorney)  
Attest: \_\_\_\_\_ Attest: \_\_\_\_\_  
Signature and Title Signature and Title

**Note:** (1) Above addresses are to be used for giving required notice.  
(2) Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

EJCDC NO. 1910-28-C (1990 Edition)

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to OWNER upon default of Contractor the penal sum set forth on the face of this Bond.
2. Default of Contractor shall occur upon the failure of Contractor to deliver within the time required by the Project Documents the executed Agreement required by the Project Documents and any performance and payment bonds required by the Project Documents and Contract Documents.
3. This obligation shall be null and void if:
  - 3.1. OWNER accepts Contractor's Bid and Contractor delivers within the time required by the Project Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Project Documents and any performance and payment bonds required by the Project Documents and Contract Documents, or
  - 3.2 All Bids are rejected by OWNER, or
  - 3.3 OWNER fails to issue a notice of award to Contractor within the time specified in the Project Documents (or any extension thereof agreed to in writing by Contractor and, if applicable, consented to by Surety when required by paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Contractor and within 30 calendar days after receipt by Contractor and Surety of written notice of default from OWNER, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of and any and all defenses based on or arising out of any time extension to issue notice of award agreed to in writing by OWNER and Contractor, provided that the time for issuing notice of award including extensions shall not in the aggregate exceed 120 days from Bid Due Date without Surety's written consent.
6. No suit or action shall commenced under this Bond prior to 30 calendar days after the notice of default required in paragraph 4 above is received by Contractor and Surety, and in no case later than one year after Bid Due Date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notice required hereunder shall be in writing and sent to Contractor and Surety at their respective addresses shown on the face of this Bond. such notices may be sent by personal deliver, commercial courier or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent or representative who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of any Bond conflicts with any applicable provision of any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

**PERFORMANCE OF WORK BY SUBCONTRACTORS**

The CONTRACTOR hereby states that he proposes, if awarded the Contract, to use the following subcontractors on this project: List below all proposed subcontractors and trade specialties. (List only one subcontractor for each item.)

	<u>Items of Work (Describe)</u>	<b>Subcontractors</b>
<b>1</b>	.....	.....
<b>2</b>	.....	.....
<b>3</b>	.....	.....
<b>4</b>	.....	.....
<b>5</b>	.....	.....
<b>6</b>	.....	.....
<b>7</b>	.....	.....
<b>8</b>	.....	.....
<b>9</b>	.....	.....
<b>10</b>	.....	.....
<b>11</b>	.....	.....
<b>12</b>	.....	.....
<b>13</b>	.....	.....
<b>14</b>	.....	.....
<b>15</b>	.....	.....

Estimated Total Cost of Items that CONTRACTOR states will be performed by Subcontractor:

(\$ \_\_\_\_\_)

Page Intentionally Left Blank





10. Provide a financial statement for your company. This should include a balance and income statement for your most recent fiscal year. A certified audit is preferred but not required. Use an insert sheet, if needed. Only three (3) lowest bidders shall submit this information (if requested by Owner) to the Owner within two (2) business days of the opening of the Bids.

11. State the true, exact, correct and complete name of the partnership, corporation or trade name under which you do business, and the address of the place of business. (If a corporation, state the name of all partners. If a trade name, state the names of the individuals who do business under the trade name.) It is absolutely necessary that information be furnished.

\_\_\_\_\_

Correct Name of Contractor \_\_\_\_\_

(a) The business is a \_\_\_\_\_

(b) The address of principal place of business is:

\_\_\_\_\_  
\_\_\_\_\_

(c) The names of the corporate officers, or partners, or individuals doing business under a trade name, are as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Page Intentionally Left Blank



**CERTIFIED COPY OF RESOLUTION OF  
BOARD OF DIRECTORS OF**

\_\_\_\_\_  
(NAME OF CORPORATION)

"RESOLVED that, \_\_\_\_\_  
(Title) (Person Authorized to Sign) (Title)

of \_\_\_\_\_  
(Name of Corporation)

is authorized to sign and submit the Bid of this corporation for the following Project:

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS  
AT  
DESTIN EXECUTIVE AIRPORT**

and to include in such bid the certificate as to non-collusion, and for any inaccuracies or misstatements in such certificate this corporate Contractor shall be liable under the penalties of perjury.

The foregoing is a true and correct copy of the resolution adopted by

\_\_\_\_\_  
(NAME OF CORPORATION)

at a meeting of its Board of Directors held on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

By \_\_\_\_\_

Title \_\_\_\_\_

(SEAL)

**The above form must be completed if the Contractor is a Corporation.**

Page Intentionally Left Blank

**FORM OF NONCOLLUSION AFFIDAVIT**

(This Affidavit is Part of Bid)

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

\_\_\_\_\_ Being

first duly sworn, deposes and says that he is

\_\_\_\_\_ (Sole owner, a partner, president, secretary, etc.) of

\_\_\_\_\_ the party making the foregoing Proposal or BID that such BID is genuine and not collusive or sham; that said CONTRACTOR has not colluded, conspired, connived, or agreed, directly or indirectly, with any CONTRACTOR or person, to put in a sham BID, or that such other person shall refrain from the project, and has not in any manner, directly or indirectly sought by agreement or collusion, or communication or conference, with any person, to fix the Bid Price of affiant or any other CONTRACTOR, or to fix any overhead, profit or cost element of said Bid Price, or of that of any other CONTRACTOR, or to secure any advantage against OWNER any person interested in the proposed Contract; and that all statements in said Proposal or Bid are true; and further, that such CONTRACTOR has not, directly or indirectly submitted this BID, or the contents thereof, or divulged information or data relative thereto to any association or to any member or agent thereof.

\_\_\_\_\_ (Contractor)

Sworn to and subscribed before me this \_\_\_\_ day of

\_\_\_\_\_, 20\_\_.

Notary Public in and for

\_\_\_\_\_ County,

\_\_\_\_\_.

My Commission Expires:

\_\_\_\_\_, 20\_\_.

Page Intentionally Left Blank

**CERTIFICATION OF NON-SEGREGATED FACILITIES**

(Must be completed and submitted with the Bid)

The Contractor certifies that it does not maintain or provide for its employee any segregated facilities at any segregated facilities at any of its establishments, and that it does not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor certifies further that it will not maintain or provide for its employees segregated facilities at any of its establishments, and that it will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this certification is a violation of the equal opportunity clause in this contract. As used in this certification, the term “segregated facilities” means any waiting room, work areas, restrooms and washrooms, restaurants and other eating areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on basis of race, color, religion, or national origin, because of habit, local custom, or any other reason. The Contractor agrees that (except where it has obtained identical certification from proposed subcontractors for the specific time period) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the equal opportunity clause, and that it will retain such certification in its files.

(Name of Contractor) \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Dated: \_\_\_\_\_

Page Intentionally Left Blank

**SWORN STATEMENT UNDER SECTION 287.133 (3) (a),  
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

**THIS FORM MUST BE SIGNED AND SWORN IN THE PRESENCE OF A NOTARY PUBLIC  
OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.**

1. This sworn statement is submitted to \_\_\_\_\_  
[print name of public entity]

by \_\_\_\_\_  
[print individuals name and title]

for \_\_\_\_\_  
[print name of entity submitting sworn statement]

whose business is \_\_\_\_\_ and (if applicable) its Federal  
Employer Identification Number (FEIN) is \_\_\_\_\_. (If the entity has no FEIN, include the Social  
Security Number of the individual signing this sworn statement: \_\_\_\_.)

2. I understand that a "public entity crime" as defined in Section 287.133 (1) (g), Florida Statutes, 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 of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133 (1) (b), Florida Statutes, 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 record 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.

4. I understand that an "affiliate" as defined in Section 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 person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133 (1) (e) Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the 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, and employees, members, and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true and in relation to the entity submitting this sworn statement. **[Indicate which statement applies.]**

Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has 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 its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the 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.

The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the 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. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the submitting this sworn statement on the convicted vendor list. **[attach a copy of the final order]**



**I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THOROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.107, FLORIDA STATUTES FOR CATEGORY TWO ON ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.**

\_\_\_\_\_  
[signature]

\_\_\_\_\_  
[date]

STATE OF \_\_\_\_\_ COUNTY OF \_\_\_\_\_

**PERSONALLY APPEARED BEFORE ME**, the undersigned authority,

*[name of individual signing]*

who, after first being sworn by me, affixed his/her signature in the space provided above on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_, 20\_.

My Commission Expires:

\_\_\_\_\_  
Notary Public

Page Intentionally Left Blank

**CERTIFICATE AS TO CORPORATE PRINCIPAL**

I, \_\_\_\_\_, certify that I am the Secretary of the Corporation named as Principal in the within bond; that \_\_\_\_\_ who signed the bond on behalf of the Principal, was then \_\_\_\_\_ of said Corporation; that I know his/her signature, and his/her signature hereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

\_\_\_\_\_  
Secretary (Corporate Seal)

**STATE OF FLORIDA  
COUNTY OF**

Before me, a Notary Public, duly commissioned, qualified and acting, personally appeared \_\_\_\_\_ to me well known, who being my first duly sworn upon oath, says that he/she is the Attorney-in-Fact, for the \_\_\_\_\_ and that he has been authorized by \_\_\_\_\_ to execute the foregoing bond on behalf of the Contractor named therein in favor of Okaloosa County.

Subscribed and sworn to before me this \_\_\_ day of \_\_, 20\_\_\_, A.D.

[Attach Power of Attorney to Original Bid Bond and Financial Statement from Surety Company]

\_\_\_\_\_  
Notary Public  
State of Florida-at-Large

My commission Expires:  
  
\_\_\_\_\_

Page Intentionally Left Blank

**CONFLICT OF INTEREST DISCLOSURE FORM**

For purposes of determining any possible conflict of interest, all contractors/proposers, must disclose if any Okaloosa 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)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

FIRM NAME: \_\_\_\_\_

BY (PRINTED): \_\_\_\_\_

BY (SIGNATURE): \_\_\_\_\_

TITLE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_

PHONE NO.: \_\_\_\_\_

Page Intentionally Left Blank

**DRUG-FREE WORKPLACE CERTIFICATION**

**THE BELOW SIGNED CONTRACTOR CERTIFIES** that it has implemented a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection 1.
4. In the statement specified in subsection 1, notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, to any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

DATE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

NAME: \_\_\_\_\_

(Typed or Printed)

\_\_\_\_\_

TITLE: \_\_\_\_\_

\_\_\_\_\_

PHONE #: \_\_\_\_\_

Page Intentionally Left Blank



**CERTIFICATION OF CONTRACTOR REGARDING TRENCH SAFETY**

This certification is required pursuant to the Trench Safety Act, 553.60-64, Florida Statutes regarding Trench Safety. The Act specifically incorporates the Occupational Safety and Health Administration's excavation safety standards, 29 CFR S. 1928.650 Subpart P as the state standard. Any revision to OSHA's safety standards that are consistent with the Florida Statutes shall also be complied with upon its effective date. The act requires that any bidder or prospective contractor, or any of their proposed subcontractors, shall provide written assurance that the contractor will comply with the applicable trench safety standards

---

NAME AND ADDRESS OF CONTRACTOR (Include Zip Code)

---

1. Contractor agrees that he is aware of the Trench Safety Act and the requirements of the Act.

Yes \_\_\_\_\_ No \_\_\_\_\_

2. Contractors agrees to comply with all applicable trench safety standards as set forth in the Act and as referenced in the Act.

Yes \_\_\_\_\_ No \_\_\_\_\_

---

NAME AND TITLE OF SIGNER (Please Print or Type)

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

Page Intentionally Left Blank

**INDEMNIFICATION AND HOLD HARMLESS**

CONTRACTOR shall indemnify and hold harmless COUNTY, its officers and employees from liabilities, damages, losses, and costs including but not limited to reasonable attorney fees, to the extent caused by the negligence, recklessness, or intentional wrongful conduct of the CONTRACTOR and other persons employed or utilized by the CONTRACTOR in the performance of this Agreement.

\_\_\_\_\_  
Contractor's Company Name

\_\_\_\_\_  
Authorized Signature – Manual

\_\_\_\_\_  
Physical Address

\_\_\_\_\_  
Authorized Signature – Typed

\_\_\_\_\_  
Mailing Address

\_\_\_\_\_  
Title

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
FAX Number

\_\_\_\_\_  
Cellular Number

\_\_\_\_\_  
After-Hours Number(s)

\_\_\_\_\_  
Date

Page Intentionally Left Blank

**INSURANCE COMPLIANCE**

This form is to be completed and signed the Contractor and by your insurance agent/carrier certifying that your policy either meets the insurance requirements (as specified in page BOC-2 to BOC-6) or that the insurance company has reviewed the bid requirements and certifies that you were bid any price increase due to required coverage.

**CONTRACTOR**

I certify that the insurance requirements have been reviewed.

Company Name \_\_\_\_\_

Address \_\_\_\_\_

Representative

Name \_\_\_\_\_

Title \_\_\_\_\_

Phone Number \_\_\_\_\_

**INSURANCE COMPANY**

I certify that the insurance requirements have been reviewed with the above contractor.

Company Name \_\_\_\_\_

Address \_\_\_\_\_

Representative

Name \_\_\_\_\_

Title \_\_\_\_\_

Phone Number \_\_\_\_\_

Page Intentionally Left Blank

**AFFIDAVIT - WORKER'S COMPENSATION**

State of \_\_\_\_\_

County of \_\_\_\_\_

SS: \_\_\_\_\_

of \_\_\_\_\_

being duly sworn, deposes and says that he now carries or that he has applied for a Worker's Compensation Policy to cover the operations, as set forth in the preceding contract, and to comply with the provisions thereof.

Signed: \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_, 20 \_\_\_\_

Notary Public

Page Intentionally Left Blank



**RECYCLED CONTENT FORM**

RECYCLED CONTENT INFORMATION:

1. Is the material in the above: VIRGIN \_\_\_\_\_ or RECYCLED \_\_\_\_\_  
(Check the applicable blank)  
If RECYCLED, what percentage \_\_\_\_\_ %.

2. Is your product packaged and/or shipped in material containing recycled content?

Yes \_\_\_\_\_ No \_\_\_\_\_

Specify: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Is your product recyclable after it has reached its intended end use?

Yes \_\_\_\_\_ No \_\_\_\_\_

Specify: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The above is not applicable if there is only a personal service involved with no product involvement.

Name of Contractor:

\_\_\_\_\_

Page Intentionally Left Blank

## DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

The following bid condition applies to this Department of Transportation (DOT) assisted contract. Submission of a bid/proposal by a prospective contractor shall constitute full acceptance of these bid conditions.

1. **DEFINITION** - Disadvantaged Business Enterprise (DBE) as used in this contract shall have the same meaning as defined in 49 CFR Part 26.
  
2. **POLICY** - It is the policy of DOT that DBE's as defined in 49 CFR Part 26 shall have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds. Consequently, the DBE requirements of 49 CFR Part 26 apply to this contract.
  
3. **OBLIGATION** - The contractor agrees to ensure that DBE's as defined In 49 CFR Part 26 have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds. In this regard, all contractors shall take all necessary and reasonable steps in accordance with 49 CFR Part 26 to ensure that DBE's have the maximum opportunity to compete for and perform contracts. Contractors shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of DOT assisted contracts.
  
4. **COMPLIANCE**-All bidders, potential contractors, or subcontractors for this DOT assisted contract are hereby notified that failure to carry out the DOT policy and the DBE obligation, as set forth above, shall constitute a breach of contract which may result in termination of the contract or such other remedy as deemed appropriate by the owner.
  
5. **CONTRACT CLAUSE** - All bidders and potential contractors hereby assure that they will include the above clauses in all subcontracts, which offer further subcontracting opportunities.
  
6. **CONTRACT AWARD** - Bidders are hereby advised that meeting the DBE subcontract goal or making an acceptable good faith effort to meet said goal are conditions of being awarded this DOT assigned contract.

The owner proposes to award the contract to the lowest responsive and responsible bidder submitting a reasonable bid provided he has met the goal for DBE participation or, if failing to meet the goal, he has made an acceptable good faith effort to meet the established goal for DBE participation. Bidder is advised that the owner reserves the right to reject any or all bids submitted.

7. **DBE PARTICIPATION GOAL** –The attainment of the goal established for this contract is to be measured as a percentage of the total dollar value of the contract. The DBE goal established for this contract is **25.17%**. Although no federal funds are included in the current scope of this project the contractor should make a good faith effort to achieve this goal or document good faith to obtain DBEs during the bid process.
  
8. **AVAILABLE DBE'S** – The FDOT maintains an online searchable database of DBE firms at <https://www3.dot.state.fl.us/equalopportunityoffice/biznet>. This program contains listing of DBE's (certified and noncertified). Bidders are encouraged to inspect this list to assist in locating DBEs for the work. Other DBEs may be added to the list in accordance with the owner's approved DBE program. Credit toward the DBE goal will not be counted unless the DBE to be used can be certified

by the owner.

9. **CONTRACTOR'S REQUIRED SUBMISSION** - The owner requires the submission of the following information with the bid:

(DBE percentage should reflect price plus any alternates)

**(BIDDER/FIRM NAME)** \_\_\_\_\_

The undersigned, hereinafter called "Bidder", lists below the names of the DBE subcontractors who will perform the indicated scope of work for the amounts listed. DBE Goal is **25.17%**

<u>Name, Address, and Telephone Number of DBE Subcontractor</u>	<u>Scope of Work</u>	<u>Dollar Amount of Subcontract</u>
1. _____ _____ _____	_____	_____
2. _____ _____ _____	_____	_____
3. _____ _____ _____	_____	_____
4. _____ _____ _____	_____	_____

**Only 60% of the dollars spent with a DBE Supplier will be counted toward participation in any category, and this amount can only satisfy 60% of the total needed to fulfill any goal.**

Total DBE Dollars: \$ \_\_\_\_\_

Total Project Bid (includes alternates): \$ \_\_\_\_\_

DBE Percentage of Total Bid: \_\_\_\_\_%

If the Contractor fails to meet the contract goal established in Section 7 above, the following information must be submitted prior to contract award to assist the owner in determining whether or not the contractor made acceptable good faith efforts to meet the contract goal. This information (when applicable), as well as the DBE information, should be submitted as specified in Section 9 above.

Suggested guidance for use in determining if good faith efforts were made by a contractor are included in 49 CFR Part 26.

A list of the efforts that a contractor may make and the owner may use in making a determination as to the acceptability of a contractor's efforts to meet the goal as included in 49 CFR Part 26 are as follows:

- a. Whether the contractor attended any pre-solicitation or pre-bid meetings that were scheduled by the recipient to inform DBE's of contracting and subcontracting opportunities;
- b. Whether the contractor advertised in general circulation, trade association, and minority-focus media concerning the subcontracting opportunities;
- c. Whether the contractor provided written notice to a reasonable number of specific DBE's that their interest in the contract was being solicited in sufficient time to allow the DBE's to participate effectively;
- d. Whether the contractor followed up initial solicitations of interest by contacting DBE's to determine with certainty whether the DBE's were interested;
- e. Whether the contractor selected portions of work to be performed by DBE's in order to increase the likelihood of meeting the DBE goal (including, where appropriate, breaking down contracts into economically feasible units to facilitate DBE participation);
- f. Whether the contractor provided interested DBE's with adequate information about the plans, specifications, and requirements of the contract;
- g. Whether the contractor negotiated in good faith with interested DBE's, not rejecting DBE's as unqualified without sound reasons based on a thorough investigation of their capabilities.
- h. Whether the contractor made efforts to assist interested DBE's in obtaining bonding, lines of credit, or insurance required by the recipient or contractor; and
- i. Whether the contractor effectively used the services of available minority community organizations; minority contractors' groups; local and state Federal Minority Business Assistance Offices; and other organizations that provide assistance in the recruitment and placement of DBE's.

**NOTE:** The nine items set forth above are merely suggested criteria and the owner may specify that you submit information on certain other actions a contractor took to secure DBE participation in an effort to meet the goals. A contractor may also submit to the owner other information on efforts to meet the goals.

**10. CONTRACTOR ASSURANCE** - The bidder hereby assures that he will meet one of the following as appropriate:

- a. The DBE participation goal as established in the General Conditions.
- b. The DBE participation percentage as shown in Section 9, which was submitted as a condition of contract award.

Agreements between bidder/proposer and a DBE in which the DBE promises not to provide subcontracting quotations to other bidders/proposers are prohibited. The bidder shall make a good faith effort to replace a DBE subcontract that is unable to perform successfully with another DBE subcontractor. Substitution must be coordinated and approved by the owner.

The bidder shall establish and maintain records and submit regular reports, as required, which will identify and assess progress in achieving DBE subcontract goals and other DBE affirmative action efforts.

- 11. PROMPT PAYMENT** - The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than **10** days from the receipt of each payment the prime contractor receives from the owner. The prime contractor agrees further to return retainage payments to each subcontractor within **10** days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the owner. This clause applies to both DBE and non-DBE subcontractors.

**DBE CERTIFICATE OF COMPLIANCE FORM**

The Florida Department of Transportation maintains an online searchable database of DBE firms at (<https://www3.dot.state.fl.us/equalopportunityoffice/biznet>).

Okaloosa County intends to utilize and implement this program in the awarding of this contract.

This is to certify that I have reviewed the plan, bid evaluation procedure, and DBE directory and will make all reasonable efforts to include DBE Contractors as outlined in this document.

\_\_\_\_\_  
Contractor's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title

\_\_\_\_\_  
Notary Public

Page Intentionally Left Blank



**E-VERIFY COMPLIANCE CERTIFICATION**

In accordance with Okaloosa County Policy and Executive Order Number 11-116 from the office of the Governor of the State of Florida, Bidder hereby certifies that the U.S. Department of Homeland Security's E-Verify system will be used to verify the employment eligibility of all new employees hired by the contractor during the contract term, and shall expressly require any subcontractors performing work or providing services pursuant to the contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term; and shall provide documentation of such verification to the OWNER upon request.

---

As the person authorized to sign this statement, I certify that this company complies/will comply fully with the above requirements.

DATE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

NAME: \_\_\_\_\_  
(Typed or Printed)

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

TITLE: \_\_\_\_\_

EMAIL: \_\_\_\_\_

PHONE NO.: \_\_\_\_\_

Page Intentionally Left Blank

**CONE OF SILENCE**

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 Purchasing 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 Purchasing Manager or an appointed representative. It shall be the Purchasing Manager’s 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 \_\_\_\_\_(Signature) representing \_\_\_\_\_  
(Company Name) on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ hereby  
agree to abide by the County’s “Cone of Silence Clause” and understand violation of this policy shall  
result in disqualification of my proposal/submittal.

Page Intentionally Left Blank

**BUY AMERICAN CERTIFICATE**

Except for those items listed by the Bidder below or on a separate and clearly identified attachment to this Bid, the Bidder hereby certifies that steel and each manufactured product, is produced in the United States and that components of unknown origin are considered to have been produced or manufactured outside the United States.

PRODUCT

COUNTRY OF ORIGIN

---

---

---

---

---

---

\_\_\_\_\_  
( Name of Bidder)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Dated: \_\_\_\_\_

Page Intentionally Left Blank

**LOBBYING- 31 U.S.C. 1352, 49 CFR PART 19, 49 CFR PART 20**

APPENDIX A, 49 CFR PART 20—CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned (Contractor) certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for making the lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form—LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions [as amended by “Government wide Guidance for New Restrictions on Lobbying,” 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq.)
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Note: Pursuant to 31 U.S.C. 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.

The Contractor, \_\_\_\_\_, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq.* apply to this certification and disclosure, if any.

\_\_\_\_\_  
Signature of Contractor’s Authorized Official

\_\_\_\_\_  
Name and Title of Contractor’s Authorized Official

\_\_\_\_\_  
Date

Page Intentionally Left Blank



## EQUAL EMPLOYMENT OPPORTUNITY REPORT STATEMENT

Section 60-1.7(b) of the Regulations of the Secretary of Labor requires each bidder or prospective prime Contractor and proposed Subcontractor, where appropriate, to state in the bid or at the outset of negotiations for the Contract whether it has participated in any previous Contract or Subcontract subject to the equal opportunity clause; and if so, whether it has filed with the Joint Reporting Committee, the Director, an agency, or the former President's Committee on Equal Employment Opportunity all reports due under the applicable filing requirements. In any case in which a bidder or prospective prime Contractor or proposed Subcontractor which participated in a previous Contract subject to Executive Order 10925, 11114 or 111246 has not filed a report due under the applicable filing documents, no Contract or Subcontract shall be awarded unless such Contractor submits a report covering the delinquent period or such other period specified by the FAA or the Director, OFCCP.

The Bidder (Proposer) shall complete the following statement by checking the appropriate boxes. Failure to complete these blanks may be grounds for rejection of bid.

1. The Bidder (Proposer) has ( ) has not ( ) developed and has on file at each establishment Affirmative Action Programs pursuant to 41 CFR 60-1.4 and 41 CFR 60-2.
2. The Bidder (Proposer) has ( ) has not ( ) participated in any previous Contract or Subcontract subject to the Equal Opportunity Clause prescribed by Executive Order 10925, or Executive Order 11114, or Executive Order 11246.
3. The Bidder (Proposer) has ( ) has not ( ) filed with the Joint Reporting Committee the annual compliance report on Standard Form 100 (EEO-1 Report).
4. The Bidder (Proposer) has ( ) has not ( ) submitted all compliance reports in connection with any such Contract due under the application filing requirements; and that representations indicating submission of required compliance reports signed by proposed Subcontractors will be obtained prior to award of Subcontractors.
5. The Bidder (Proposer) does ( ) does not ( ) employ fifty (50) or more employees.

If the Bidder (Proposer) has participated in a previous Contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the Bidder (Proposer) shall submit a compliance report on Standard Form 100. "Employee Information EEO-1" prior to the award of Contract.

Standard Form 100 is normally furnished to Contractors annually, based on a mailing list currently maintained by the Joint Reporting Committee. In the event a Contractor has not received the form, he may obtain it by writing to the following address: Joint Reporting Committee, 1800 G Street, Washington, D.C. 20506.

\_\_\_\_\_  
Name of Bidder

By: \_\_\_\_\_  
Signature

Title: \_\_\_\_\_  
Title

Date: \_\_\_\_\_

\*Must be the same signature on Bid Proposal

Page Intentionally Left Blank

**STANDARD FORM OF AGREEMENT**

THIS AGREEMENT is dated as of the \_\_\_\_\_ day of \_\_\_\_\_ in the year 20\_\_ by and between The Board of County Commissioners of Okaloosa County, Florida (hereinafter called Owner) and \_\_\_\_\_ (hereinafter called Contractor).

Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

**Article 1. WORK.**

Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

The project consists of providing all labor, materials and other means of construction necessary for the sealing of cracks with a hot-pour bituminous sealant, application of a bituminous seal coat, and the installation of new runway pavement markings on Runway 17-35 and associated blast pads at Destin Executive Airport in Destin, FL.

**Article 2. ENGINEER.**

The Project has been designed by

**RS&H, INC.**

who is hereinafter called Engineer and who is to act as Owner's representative, assume all duties and responsibilities and have the rights and authority assigned to Engineer in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

**Article 3. CONTRACT TIMES.**

3.1 The Work will be substantially completed within **126** calendar days (Construction Only) after the date when the Contract Times commence to run as provided in paragraph 2.3 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.13 of the General Conditions within **30** calendar days after the date when the Contract Times commence to run.

3.2 *Liquidated Damages.* Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring of such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner the amount specified in Paragraph 3.3 for each day that expires after the time specified in paragraph 3.1 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the time specified in paragraph 3.1 for completion and readiness for final payment or any proper extension thereof granted by Owner, Contractor shall pay Owner the amount specified in Paragraph 3.3 for each day that expires after the time specified in paragraph 3.1 for completion and readiness for final payment. The Contractor hereby expressly waives and relinquishes any right which it may have to seek to characterize the liquidated damages as a penalty, which the parties agree represents a fair and reasonable estimate of the Owner's actual damages at the time of contracting if the Contractor fails to substantially complete the Work in a

timely manner.

3.3.1 Liquidated Damages are based upon the original contract amount, as established by Okaloosa County. Liquidated damages, based upon the original contract amount of \$\_\_\_\_\_, will be \_\_\_\_\_ dollars (\$\_\_\_\_\_) per calendar day.

#### **Article 4. CONTRACT PRICE.**

Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in the Bid Schedule submitted in the Bid Form. The cost of this project is \$\_\_\_\_\_ as per the attached Contractor bid.

As provided in paragraph 11.9 of the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classification are to be made by Engineer as provided in paragraph 9.10 of the General Conditions. Unit prices have been computed as provided in paragraph 11.9.2 of the General Conditions.

#### **Article 5. PAYMENT PROCEDURES**

Contractor shall submit Application for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

5.1 *Progress Payments; Retainage.* Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment as recommended by Engineer, on or about the fifteenth (15th) day of each month during construction as provided in paragraphs 5.1.1 and 5.1.2 below. All such payments will be measured based on the number of units completed. Payments to the Contractor shall in no way imply approval or acceptance of Contractor's work

5.1.1 Prior to Substantial completion, payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and less such amounts as Engineer shall determine, or Owner may withhold, in accordance with paragraph 14.7 of the General Conditions.

90 % of Work completed (with the balance being retainage). Once the Contractor completes at least 50% of the Work based on approved pay applications, the retainage will be reduced from 10% to 5% for the remainder of the project. Therefore, following completion of at least 50% of the Work, the Contractor may be paid 95 % of Work completed (with the balance being retainage).

90 % (with the balance being retainage) of materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to Owner as provided in paragraph 14.2 of the General Conditions). Once the Contractor completes at least 50% of the Work based on approved pay applications, the retainage will be reduced from 10% to 5% for the remainder of the project. Therefore, following completion of at least 50% of the Work, the Contractor may be paid 95 % of materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation

satisfactory to Owner as provided in paragraph 14.2 of the General Conditions).

5.1.2 Upon Substantial Completion, in an amount sufficient to increase total payments to Contractor to 95 % of the Contract Price (with the balance being retainage), less such amounts as Engineer shall determine, or Owner may withhold, in accordance with paragraph 14.7 of the General Conditions.

5.1.3 Retainage requirements may be changed to reflect a proposed change to state regulatory statutes.

5.2 *Final Payment.* Upon final completion and acceptance of the Work in accordance with paragraph 14.13 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said paragraph 14.13.

5.2.1 Contractor's acceptance of final payment shall constitute a full waiver of any and all claims by Contractor against the County arising out of this Agreement or otherwise relating to the Project, except those previously made in writing and identified by Contractor as unsettled at the time of the final Application for Payment. Neither the acceptance of the Work nor payment by the County shall be deemed to be a waiver of the County's right to enforce any obligations of the Contractor hereunder or to the recovery of damages for defective Work not discovered by the Engineer or the County at the time of final inspection.

### 5.3 Payments Withheld

5.3.1 The Engineer or the County may decline to approve any Applications for Payment, or portions thereof, because of subsequently discovered evidence or subsequent inspections. The Engineer or the County may nullify the whole or any part of any inspections. The Engineer or the County may nullify the whole or any part of any approval for payment previously issued and the County may withhold any payments otherwise due Contractor under this Agreement or any other agreement between the County and the Contractor, to such extent as may be necessary in the County's opinion to protect it from loss because of:

5.3.1.1 Defective Work not remedied;

5.3.1.2 Third party claims filed or reasonable evidence indicating probable filing of such claims;

5.3.1.3 Failure of Contractor to make payment properly to subcontractors or for labor, materials or equipment;

5.3.1.4 Reasonable doubt that the Work can be completed for the unpaid balance of the Contract Amount;

5.3.1.5 Reasonable indication that the Work will not be completed within the Contract Time;

5.3.1.6 Unsatisfactory prosecution of the Work by the Contractor;

5.3.1.7 Failure to provide accurate and current "As-Builts"; or

5.3.1.8 Any other material breach of the Contract Documents.

5.3.2 If these conditions in Subsection 5.3.1 are not remedied or removed, the County may after three (3) days written notice, rectify the same at Contractor's expense. The County also may offset against any sums due Contractor the amount of any liquidated or unliquidated obligations of Contractor to the County, whether relating to or arising out of his Agreement or any other agreement between Contractor and the County.

## **Article 6. CONTRACTOR'S REPRESENTATIONS.**

In order to induce Owner to enter into this Agreement Contractor makes the following representations:

6.1 Contractor has examined and carefully studied the Contract Documents (including the Addenda listed in Article 7) and the other related data identified in the Project Documents including "technical data."

6.2 Contractor has visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, performance or furnishing of the Work.

6.3 Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

6.4 Contractor has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.2.1 of the General Conditions. Contractor accepts the determination of the extent of the "technical data" contained in such reports and drawings upon which Contractor is entitled to rely as provided in paragraph 4.2 of the General Conditions. Contractor acknowledges that such reports and drawings are not Contract Documents and may not be complete for Contractor's purposes. Contractor acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor and safety precautions, and programs incident thereto. Contractor does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

6.5 Contractor is aware of the general nature of work to be performed by Owner and others at the site that relates to the Work as indicated in the Contract Documents.

6.6 Contractor has correlated the information known to Contractor, information and observation obtained from visits to the site, reports, and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

6.7 Contractor has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Contractor, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

**Article 7. CONTRACT DOCUMENTS**

The Contract Documents that comprise the entire agreement between Owner and Contractor concerning the Work consist of the following:

- 7.1 This Agreement (pages A-1 to A-5, inclusive)
- 7.2 Performance, Payment, and other Bonds
- 7.3 Notice to Proceed
- 7.4 Okaloosa County Standard Clauses (pages OCSC-1 to OCSC-8, inclusive)
- 7.5 General Conditions (pages GC-1 to GC-56, inclusive)
- 7.6 Specifications package as listed in the table of contents thereof
- 7.7 Drawings consisting of a cover sheet and sheets numbered C001 through C153, inclusive, with each sheet bearing the following general title:

DESTIN EXECUTIVE AIRPORT  
TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS

- 7.8 Addenda numbers \_\_\_\_\_ to \_\_\_\_\_, inclusive
- 7.9 Contractor's Bid (pages \_\_\_ to \_\_\_ and \_\_\_ to \_\_\_, inclusive)
- 7.10 Documentation submitted by Contractor prior to Notice of Award
- 7.11 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto:

All Written Amendments and other documents amending, modifying or supplementing the Contract Documents pursuant to paragraphs 3.5 and 3.6 of the General Conditions

The documents listed in paragraph 7.2 et seq. above are attached to this Agreement (except as expressly noted otherwise above).

There are not Contract Documents other than those listed above in this Article 7. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.5 and 3.6 of the General Conditions.

**Article 8. 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.

**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 OKALOOSA COUNTY RISK MANAGEMENT DEPARTMENT 5479 OLD BETHEL ROAD CRESTVIEW, FL 32536 PHONE: (850) 689-5977 [riskinfo@myokaloosa.com](mailto:riskinfo@myokaloosa.com).**

Contractor must comply with the public records laws, Florida Statute chapter 119, specifically Contractor must:

- 8.1 Keep and maintain public records required by the County to perform the service.
- 8.2 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.
- 8.3 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.
- 8.4 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 consultant shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the consultant 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.

**Article 9. 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.

**Article 10. TERMINATION FOR CONVENIENCE**

Owner may at any time and for any reason terminate Contractor's services and work at Owner's convenience. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement.

Upon such termination, Contractor shall be entitled to payment only as follows: (1) the actual cost of the work completed in conformity with this Agreement; plus, (2) such other costs actually incurred by Contractor as are permitted by the prime contract and approved by Owner; (3) plus ten percent (10%) of the cost of the work referred to in subparagraph (1) above for overhead and profit. There shall be deducted



from such sums as provided in this subparagraph the amount of any payments made to Contractor prior to the date of the termination of this Agreement. Contractor shall not be entitled to any claim or claim of lien against Owner for any additional compensation or damages in the event of such termination and payment. Further, Owner may terminate this contract immediately for failure of contractor to comply with Chapter 119, Florida Statutes.

**Article 11. MISCELLANEOUS.**

- 11.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.
- 11.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 11.3 Owner and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.
- 11.4 Any provisions or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision

**Article 12. OTHER PROVISIONS**

IN WITNESS WHEREOF, Owner, and Contractor have signed this Agreement in triplicate. One counterpart each has been delivered to Owner, Contractor, and Engineer. All portions of the Contract Documents have been signed, initialed or identified by Owner, and Contractor, or identified by Engineer on their behalf.

This Agreement will be effective on \_\_\_\_\_, 20\_\_ (which is the Effective Date of the Agreement).

**OWNER**

**CONTRACTOR**

Okaloosa County, Florida

\_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

Chairman, Board of County Commissioners

Signed: \_\_\_\_\_

Signed: \_\_\_\_\_

[CORPORATE SEAL]

[CORPORATE SEAL]

Attest \_\_\_\_\_

Attest \_\_\_\_\_

Signed: \_\_\_\_\_

Signed: \_\_\_\_\_

Address for giving notices

Address for giving notices

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(If Owner is a public body, attached evidence of authority to sign and resolution or other documents authorizing execution of Agreement).

License No. \_\_\_\_\_

Agent for services of process: \_\_\_\_\_

\_\_\_\_\_  
If Contractor is a corporation, attach evidence of authority to sign).

**PERFORMANCE BOND**

KNOW ALL MEN by these presents; That we (1) \_\_\_\_\_

\_\_\_\_\_ a (2) \_\_\_\_\_

hereinafter called "Principal" and (3) \_\_\_\_\_

of \_\_\_\_\_, State of \_\_\_\_\_, hereinafter called the

"Surety", are held and firmly bound unto (4) \_\_\_\_\_

of \_\_\_\_\_, hereinafter called "OWNER", in the penal sum

of \_\_\_\_\_ dollars (\$ \_\_\_\_\_)

in lawful money of the United States for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the \_\_\_\_ day of \_\_\_\_\_, 20\_\_, a copy of which is hereto attached and make a part hereof for the construction of: \_

TAXIWAY A PREVENTATIVE REHABILITATON AND LIGHTING IMPROVEMENTS AT DESTIN EXEUTIVE AIRPORT, OKALOOSA COUNTY, FLORIDA

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligations on this bond, and it does not hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

ATTEST:

\_\_\_\_\_  
Principal

\_\_\_\_\_  
**(Principal) Secretary**

By: \_\_\_\_\_

\_\_\_\_\_  
Witness as to Surety

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

SEAL:

ATTEST:

\_\_\_\_\_  
Surety

\_\_\_\_\_  
**(Surety) Secretary**

\_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
Witness as to Surety

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

SEAL:

Date of bond must not be prior to date of Contract

1. Correct name of Contractor.
2. A Corporation, A Partnership or an Individual as case may be.
3. Correct name of Surety.
4. Correct name of Owner.
5. If Contractor is Partnership, all partners should execute bond.



wise affect its obligation on this bond, and it does hereby waive notice of any such changes, extension of time, alteration or addition to the terms of the contractor or to the work or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

ATTEST:

\_\_\_\_\_  
Principal

\_\_\_\_\_  
(Principal) Secretary

By:

\_\_\_\_\_

\_\_\_\_\_  
Witness as to Surety

\_\_\_\_\_

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

SEAL:

ATTEST:

\_\_\_\_\_  
Surety

\_\_\_\_\_  
(Surety) Secretary

\_\_\_\_\_  
Attorney-in-Fact

S

\_\_\_\_\_  
Witness as to Surety

\_\_\_\_\_

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

SEAL:

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: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

NAME: \_\_\_\_\_  
(Typed or Printed)

ADDRESS: \_\_\_\_\_

TITLE: \_\_\_\_\_

\_\_\_\_\_

E-MAIL: \_\_\_\_\_

\_\_\_\_\_

PHONE NO.: \_\_\_\_\_

Page Intentionally Left Blank



## GENERAL CONDITIONS

### ARTICLE 1 – DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

- 1.0.1 *AASHTO – The American Association of State Highway and Transportation Officials, the successor association AASHO.*
- 1.0.2 *ACCESS ROAD – The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.*
- 1.1. **Addenda** – Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Project Requirements or the Contract Documents.
- 1.1.1 *ADVERTISEMENT – A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.*
- 1.2. **Agreement** – The written contract between Owner and Contractor covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.
- 1.2.1 *AIP – The Airport Improvement Program, a grant-in-aid program, administered by the Federal Aviation Administration.*
- 1.2.2 *AIR OPERATIONS AREA – For the purpose of these specifications, the term air operations area 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.*
- 1.2.3 *AIRPORT – Airport means the area of land or water which is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.*
- 1.3. **Application for Payment** – The form accepted by Engineer which is to be used by Contractor in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
- 1.4. **Asbestos** – Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
- 1.4.1 *ASTM – The American Society for Testing and Materials.*
- 1.4.2 *AWARD – The acceptance, by the Owner, of the successful contractor's proposal.*
- 1.5. **Bid** – The offer or proposal of the contractor submitted on the prescribed form setting forth the prices for the Work to be performed.

- 1.5.1 *CONTRACTOR* – Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
- 1.6. **Project Documents** – The advertisement or invitation to Bid, instructions to contractors, the Bid Form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).
- 1.7. **Project Requirements** – The advertisement or invitation to Bid, instructions to contractors, and the Bid Form.
- 1.7.1 *BUILDING AREA* – An area on the airport to be used, considered, or intended to be used for airport buildings, or other facilities or rights-of-way together with all airport buildings and facilities located thereon.
- 1.8. **Bonds** – Performance and Payment bonds and other instruments of security.
- 1.8.1 *CALENDAR DAY* – Every day shown on the calendar.
- 1.8.2 *CERTIFICATES OF COMPLIANCES* – Written statements by the manufacturer stating the material furnished is in conformance with the Specifications.
- 1.9. **Change Order** – A document recommended by Engineer, which is signed by Contractor and Owner and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement. *The work covered by a change order shall be within the scope of the contract.*
- 1.10. **Contract Documents** – The Agreement, Addenda (which pertain to the Contract Documents), Contractor's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders and Engineer's written interpretations and clarifications issued pursuant to paragraphs 3.5, 3.6.1, and 3.6.3 on or after the Effective Date of the Agreement. Shop Drawing submittals approved pursuant to paragraphs 6.26 and 6.27 and the reports and drawings referred to in paragraphs 4.2.1.1 and 4.2.2.2 are not Contract Documents.
- 1.11. **Contract Price** – The money payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.9.1 in the case of Unit Price Work).
- 1.12. **Contract Times** – The numbers of days or the dates stated in the Agreement: (i) to achieve Substantial Completion, and (ii) to complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment in accordance with paragraph 14.13.
- 1.12.1 *CONTRACT ITEM (PAY ITEM)* – A specific unit of work for which a price is provided in the Contract.
- 1.13. **Contractor** – The person, firm or corporation with whom Owner has entered into the Agreement.

- 1.14. **Defective** – An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with paragraph 14.8 or 14.10).
- 1.14.1 *DRAINAGE SYSTEM* – *The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.*
- 1.15. **Drawings** – The drawings which show the scope, extent, and character of the Work to be furnished and performed by Contractor and which have been prepared or approved by Engineer and are referred to in the Contract Documents. Shop drawings are not Drawings as so defined.
- 1.16. **Effective Date of the Agreement** – The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
- 1.17. **Engineer** – The person, firm, or corporation named as such in the Agreement.
- 1.18. **Engineer's Consultant** – A person, firm, or corporation having a contract with Engineer to furnish services as Engineer's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions. *The following list of independent professional associates and consultants are considered the Engineer's consultant for this Construction Contract: RS&H, Inc.*
- 1.18.1 *EQUIPMENT* – *All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.*
- 1.18.2 *EXTRA WORK* – *An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which if found by the Engineer to be necessary to complete the work within the intended scope of the contract as previously modified.*
- 1.18.3 *FAA* – *The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his duly authorized representative.*
- 1.18.4 *FEDERAL SPECIFICATIONS* – *The Federal Specifications and Standards, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government. They may be obtained from the Specifications Activity, Printed Materials Supply Division, Building 197, Naval Weapons Plant, Washington, D.C. 20407.*
- 1.19. **Field Order** – A written order issued by Engineer which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Times.
- 1.20. **General Requirements** – Sections of Division 1 of the Specifications.
- 1.21. **Hazardous Waste** – The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

- 1.22. *1.21.1 INSPECTOR – An authorized representative of the Engineer assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.*
- 1.21.2 *INTENTION OF TERMS – Whenever, in these specifications or on the plans, the words, "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of the like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended; and similarly, the words "approved," "acceptable," "Satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer, subject in each case to the final determination of the Owner.*
- 1.21.3 *LABORATORY – The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer.*
- 1.22. **Laws and Regulations; Laws or Regulations** – Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.
- 1.23. **Liens** – Liens, charges, security interests, or encumbrances upon real property or personal property.
- 1.23.1 *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.*
- 1.23.2 *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 25 percent of the total amount of the award contract. All other items shall be considered minor contract items.*
- 1.23.3 *MATERIALS – Any substance specified for use in the construction of the Contract work.*
- 1.23.4 *MIL SPECIFICATIONS – The Military Specifications and Standard, and indices thereto, that are prepared and issued by the Department of Defense.*
- 1.24. **Milestone** – A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
- 1.25. **Notice of Award** – The written notice by Owner to the apparent successful contractor stating that upon compliance by the apparent successful contractor with the conditions precedent enumerated therein, within the time specified, Owner will sign and deliver the Agreement.
- 1.26. **Notice to Proceed** – A written notice given by Owner to Contractor (with a copy to Engineer) fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform Contractor's obligations under the Contract Documents.
- 1.26.1 *FDOT – The Florida State Department of Transportation. When used to designate a person, FDOT shall mean the commissioner or his duly authorized representative.*
- 1.27. **Owner** – The public body or authority, corporation, association, firm, or person with whom Contractor has entered into the Agreement and for whom the Work is to be provided.

- 1.28. **Partial Utilization** – Use by Owner of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.
- 1.28.1 *PAVEMENT* – *The combined surface course, base course, and subbase course, if any, considered as a single unit.*
- 1.28.2 *PAYMENT BOND* – *The approved form of security furnished by the Contractor and his/her surety as a guaranty that he will pay in full all bills and accounts for materials and labor used in the construction of the work.*
- 1.29. **PCBs** – Polychlorinated biphenyls.
- 1.29.1 *PERFORMANCE BOND* – *The approved form of security furnished by the Contractor and his/her surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.*
- 1.30. **Petroleum** – Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.
- 1.30.1 *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.*
- 1.31. **Project** – The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.
- 1.31.1 *PROPOSAL* – *(See Bid).*
- 1.32. **Radioactive Material** – Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
- 1.33. **Resident Project Representative** - The authorized representative of Engineer who may be assigned to the site or any part thereof.
- 1.33.1 *RUNWAY* – *The area on the airport prepared for the landing and takeoff of aircraft.*
- 1.34. **Samples** – Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
- 1.35. **Shop Drawings** – All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
- 1.35.1 **SPECIAL PROVISIONS** – The specific clauses setting forth conditions or requirements peculiar to the project under consideration, covering work or materials involved in the proposal and estimate, which are not thoroughly or satisfactorily stipulated in these specifications.

- 1.36. **Specifications** – Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.
- 1.36.1 *SPONSOR* – For AIP Contracts, the term Sponsor shall have the meaning as the term Owner.
- 1.36.2 *STRUCTURES* – Airport facilities such as bridges; culverts; catch basins; inlets; retaining walls; cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; flexible and rigid pavements; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
- 1.37. **Subcontractor** – An individual, firm, or corporation having a direct contract with Contractor or with any other Subcontractor for performance of a part of the Work at the site.
- 1.37.1 *SUBGRADE* – The soil which forms the pavement foundation.
- 1.37.2 *SUPERINTENDENT* – The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instruction from the Engineer, and who shall supervise and direct the construction.
- 1.38. **Substantial Completion** – The Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer as evidenced by Engineer's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by Engineer's written recommendation of final payment in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.
- 1.38.1 *SUPPLEMENTAL AGREEMENT* – A written agreement between the Contractor and the Owner covering: (1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract; or (2) work that is not within the scope of the originally awarded contract.
- 1.39. **Supplementary Conditions** – The part of the Contract Documents which amends or supplements these General Conditions.
- 1.40. **Supplier** – A manufacturer, fabricator, supplier, distributor, materialman, or vendor having direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.
- 1.40.1 *SURETY* – The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds which are furnished to the Owner by the Contractor.
- 1.40.2 *TAXIWAY* – For the purpose of this document, the term taxiway means the portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways or aircraft parking areas.

- 1.41. **Underground Facilities** – All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone, or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.
- 1.42. **Unit Price Work** – Work to be paid for on the basis of unit prices.
- 1.43. **Work** – The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishings and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.
- 1.44 **Work Change Directive** - A written directive to Contractor, issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 4.2 or 4.3 or to emergencies under paragraph 6.23. A Work Change Directive will not change the Contract Price or the Contract Times, but is evidence that the parties expect that the change directed or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times as provided in paragraph 10.2.
- 1.44.1 *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 6 hours toward completion of the Contract. Unless work is suspended for causes beyond the Contractor's control, Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work, requiring the presence of an inspector, will be considered as working days.
- 1.44.2 *WORK PERIOD* – A work period shall consist of any designated block of time on which the normal working forces of the Contractor may proceed with regular work for at least 5 hours toward completion of the contract. Unless work is suspended for causes beyond the Contractor's control, work occurring on any day, regardless of it being a weekend or holiday, which requires an Inspector, will be considered a work period. Work periods are limited to between 7:00 a.m. and 5:00 p.m. local time Monday through Friday. Weekend work will not be permitted unless contractor obtains written permission from Owner.
- 1.45. **Written Amendment** – A written amendment of the Contract Documents, signed by Owner and Contractor on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

## **ARTICLE 2 – PRELIMINARY MATTERS**

### **Delivery of Bonds:**

- 2.1. When Contractor delivers the executed Agreements to Owner, Contractor shall also deliver to Owner such Bonds as Contractor may be required to furnish in accordance with paragraph 5.1.

**Copies of Documents:**

2.2. Owner shall furnish to Contractor up to five copies (unless otherwise specified in the Supplementary Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

**Commencement of Contract Times; Notice to Proceed:**

2.3. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement, or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Date of the Agreement. In no event will the Contract Time commence to run later than the *one hundred twentieth (120<sup>th</sup>)* day after the day of Bid opening or the *ninetieth (90<sup>th</sup>)* day after the Effective Date of the Agreement, whichever date is earlier.

**Starting the Work:**

2.4. Contractor shall start to perform the Work on the date when the Contract Times commence to run, but no Work shall be done at the site prior to the date on which the Contract Times commence to run.

**Before Starting Construction:**

2.5. Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby; however, Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity or discrepancy in the Contract Documents, unless Contractor knew or reasonably should have known thereof.

2.6. Within ten days after the Construction Notice to Proceed contractor shall submit to Engineer for review:

2.6.1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2.6.2. a preliminary schedule of Shop Drawings and Sample submittals which will list each required submittal and the times for submitting, reviewing and processing such submittal;

2.6.3. a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include and appropriate amount of overhead and profit applicable to each item of Work.

2.7. Before any Work at the site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with paragraphs 5.4, 5.6, and 5.7.



**Preconstruction Conference:**

2.8. Within twenty (20) days prior to Construction Notice to Proceed, but before any Work at the site is started, a conference attended by Contractor, Engineer and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.6, procedures for handling Shop Drawings, and other submittals, processing Applications for Payment and maintaining required records.

**Initially Acceptable Schedules:**

2.9. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with paragraph 2.6. Contractor shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until the schedules are submitted to and acceptable to Engineer as provided below. The progress schedule will be acceptable to Engineer as providing an orderly progression of the Work to completion within any specified Milestones and the Contract Times, but such acceptance will neither impose on Engineer responsibility for the sequencing, scheduling, or progress of Work nor interfere with or relieve Contractor from Contractor's full responsibility therefore, Contractor's schedule of Shop Drawing and Sample submissions will be acceptable to Engineer as providing a workable arrangement for reviewing and processing the required submittals. Contractor's schedule of values will be acceptable to Engineer as to form and substance.

**ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE**

**Intent:**

3.1. The Contract Documents comprise the entire agreement between Owner and Contractor concerning the Work. The Contract Documents are complementary: what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed whether or not specifically called for. When words or phrases, which have a well-known technical or construction industry or trade meaning are used to describe Work, materials, or equipment, such words or phrases shall be interpreted in accordance with the meaning. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in paragraph 9.4.

**3.3. Reference to Standards and Specifications of Technical Societies: Reporting and Resolving Discrepancies:**

3.3.1. Reference to standards, specifications, manuals or codes of any technical society, organization, or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

3.3.2. If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the Work or of any such standard,

specification, manual, or code or of any instruction of any Supplier referred to in paragraph 6.5., Contractor shall report it to Engineer in writing at once, and, Contractor shall not proceed with the Work affected thereby (except in an emergency as authorized by paragraph 6.23) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.5 or 3.6; provide, however, that Contractor shall not be liable to Owner or Engineer for failure to report any such conflict, error, ambiguity or discrepancy unless Contractor knew or reasonably should have known thereof.

3.3.3. Except as otherwise specifically stated in the Contract Documents or as may be provided by amendment or supplement thereto issued by one of the methods indicated in paragraph 3.5 or 3.6, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

3.3.3.1. the provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents): or

3.3.3.2. the provisions of any such Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

No provision of any such standard, specification, manual, code, or instruction shall be effective to change the duties and responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to Owner, Engineer, or any of Engineer's Consultants, agents, or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of paragraph 9.13 or any other provision of the Contract Documents.

3.3.4. Whenever the plans or specifications are in conflict, resolution of such conflict shall be in the following order of precedence subject to agreement by Engineer:

- Contract Agreement
- Addenda, with those of later date having precedence over those of earlier dates
- Bid Documents
- Supplementary Conditions
- General Conditions
- Construction Drawings
- Technical Specifications
- FAA General Provisions
- Florida DOT Standard Specifications

In case of our inconsistency within the Contract Drawings, the order of procedure is as follows:

- Schedules
- Specific Details
- Typical Details
- Construction Drawings

3.4. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved" or terms of like effect or import are used, or the adjectives "reasonable," "suitable,"

"acceptable," "proper," or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of Engineer as to the Work, it is intended that such requirement, direction, review, or judgment will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to Engineer any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.13 or any other provision of the Contract Documents.

**Amending and Supplementing Contract Documents:**

3.5. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

- 3.5.1. a formal Written Amendment.
- 3.5.2. a Change Order (pursuant to paragraph 10.4) or
- 3.5.3. a Work Change Directive (pursuant to paragraph 10.1).

3.6. In addition, the requirements of the Contract Documents may be supplemented and minor variations, and deviations of the Work may be authorized, in one or more of the following ways:

- 3.6.1. a Field Order (pursuant to paragraph 9.5).
- 3.6.2. Engineer's approval of a Shop Drawing or Sample (pursuant to paragraphs 6.26 and 6.27), or
- 3.6.3. Engineer's written interpretation or clarification (pursuant to paragraph 9.4).

**Reuse of Documents:**

3.7. Contractor and any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with Owner (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's Consultant, and (ii) shall not reuse any of such Drawings, Specifications, other documents, or copies on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

**ARTICLE 4 – AVAILABILITY OF LANDS: SUBSURFACE AND PHYSICAL CONDITIONS;  
REFERENCE POINTS**

**Availability of Lands:**

4.1. Owner shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of Contractor. Upon reasonable written request, Owner shall furnish Contractor with a correct statement of record legal title and legal description of the lands upon which the Work it to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's lien against such lands in accordance with applicable Laws and Regulations. Owner shall identify any encumbrances or

restrictions not of general application but specifically related to use of lands so furnished with which Contractor will have to comply in performing the Work. Easements for permanent structures or permanent in existing facilities will be obtained and paid for by Owner, unless otherwise provided in the Contract Documents. If Contractor and Owner are unable to agree on entitlement to or the amount or extent of any adjustments in the Contract Price or the Contract Times as a result of any delay in Owner's furnishing these lands, rights-of-way or easements. Contractor may make a claim therefore as provided in Articles 11 and 12. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

#### **4.2. SubSurface and Physical Conditions:**

4.2.1. **Reports and Drawings:** Reference is made to the *Information Available to Contractors* for identification of:

4.2.1.1. **Subsurface Conditions:** Those reports of explorations and tests of subsurface conditions at or contiguous to the site that have been utilized by Engineer in preparing the Contract Documents; and are available from RS&H upon request.

4.2.1.2. **Physical Conditions:** Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) that have been utilized by Engineer in preparing the Contract Documents.

4.2.2. **Limited Reliance by Contractor Authorized; Technical Data:** Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the *Information Available to Contractors*. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner, Engineer, or any of Engineer's Consultants with respect to:

4.2.2.1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto, or

4.2.2.2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings, or

4.2.2.3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such data, interpretations, opinions, or information.

4.2.3. **Notice of Differing Subsurface or Physical Conditions:** If Contractor believes that any subsurface or physical condition at or contiguous to the site that is uncovered or revealed either:

4.2.3.1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is materially inaccurate, or

4.2.3.2. is of such a nature as to require a change in the Contract Documents, or

4.2.3.3. differs materially from that shown or indicated in the Contract Documents, or

4.2.3.4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.23), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such conditions or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

4.2.4. **Engineer's Review:** Engineer will promptly review the pertinent conditions, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

4.2.5. **Possible Contract Documents Change:** If Engineer concludes that a change in the Contract Documents is required as a result of a condition that meets one or more of the categories in paragraph 4.2.3., a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of such change.

4.2.6. **Possible Price and Times Adjustments:** An equitable adjustment in the Contract Price or in the Contract Times, or both, will be allowed to the extent that the existence of such uncovered or revealed condition causes an increase or decrease in Contractor's cost of, or time required for performance of the Work; subject, however, to the following:

4.2.6.1. such condition must meet any one or more of the categories described in paragraphs 4.2.3.1 through 4.2.3.4. inclusive;

4.2.6.2. a change in the Contract Documents pursuant to paragraph 4.2.5 will not be an automatic authorization of nor a condition precedent to entitlement to any such adjustment:

4.2.6.3. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract price will be subject to the provisions of paragraphs 9.10 and 11.9; and

4.2.6.4. Contractor shall not be entitled to any adjustment in the Contract Price or Times if;

4.2.6.4.1. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner in respect of Contract Price and Contract Times by the submission of a bid or becoming bound under a contract: or

4.2.6.4.2. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the site and contiguous areas required by the Project Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

4.2.6.4.3. Contractor failed to give the written notice within the time and as required by paragraph 4.2.3.

If Owner and Contractor are unable to agree on entitlement to or as to the amount or length of any such equitable adjustment in the Contract Price or Contract Times, a claim may be made therefore as provided in Articles 11 and 12. However, Owner, Engineer, and Engineer's Consultants shall not be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

### **4.3. Physical Conditions – Underground Facilities:**

**4.3.1. Shown or Indicated:** The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the *Information Available to Contractors*:

4.3.1.1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

4.3.1.2. The cost of all of the following will be included in the Contract Price and Contractor shall have full responsibility for: (i) reviewing and checking all such information and data, (ii) locating all Underground Facilities shown or indicated in the Contract Documents, (iii) coordination of the Work with the owners of such Underground Facilities during construction, and (iv) the safety and protection of all such Underground Facilities as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work.

**4.3.2. Not Shown or Indicated:** If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents. Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.23), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence of the Underground Facility. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document such consequences. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or the amount or length of any such adjustment in Contract Price or Contract Times, Contractor may make a claim, therefore, as provided in Articles 11 and 12. However, Owner, Engineer, and Engineer's Consultants shall not be liable to Contractor for any claims, costs, losses or damages incurred or sustained by Contractor on or in connection with any other project or anticipated project.

### **Reference Points:**

**4.4.** Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of Owner, Contractor shall report to Engineer whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

**4.5. Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material:**

4.5.1. Owner shall be responsible for any Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material uncovered or revealed at the site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work and which may present a substantial danger to persons or property exposed thereto in connection with the Work at the site. Owner shall not be responsible for any such materials brought to the site by Contractor, Subcontractor, Suppliers, or anyone else for whom Contractor is responsible.

4.5.2. Contractor shall immediately: (i) stop all Work in connection with such hazardous condition and in any area affected thereby (except in an emergency as required by paragraph 6.23), and (ii) notify Owner and Engineer (and thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such hazardous condition to take corrective action, if any. Contractor shall not be required to resume Work in connection with such hazardous condition or in any such affected area until after Owner has obtained any required permits related thereto and delivered to Contractor special written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of such Work stoppage or such special conditions under which Work is agreed by Contractor to be resumed, either party may make a claim therefore as provided in Articles 11 and 12.

4.5.3. If after receipt of such special written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order such portion of the Work that is in connection with such hazardous condition or in such affected area to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a claim therefore as provided in Articles 11 and 12. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

4.5.4. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, Engineer, Engineer's Consultants and the officers, directors, employees, agents, other consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages arising out of or resulting from such hazardous condition, provided that: (i) any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) nothing in this subparagraph 4.5.4. shall obligate Owner to indemnify any person or entity from and against the consequences of that person's or entity's own negligence.

4.5.5. The provisions of paragraphs 4.2 and 4.3 are not intended to apply to Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site.

**ARTICLE 5 – BONDS AND INSURANCE**

**Performance, Payment, and Other Bonds:**

5.1. Contractor shall furnish Performance and Payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all Contractor's obligations under the Contract Documents. If within ten (10) calendar days after the acceptance of the bid, the successful Respondent shall refuse or neglect to execute the contract and to furnish the required performance and payment bonds properly signed by the Respondent and the surety or sureties satisfactorily to the County, the Respondent shall be deemed to be in default and the County will retain the bid surety as liquidated damages, but not as a penalty. The County reserves the option to accept the bid of any of the other Respondents within ten (10) calendar days from default, in which case such acceptance shall have the same effect on such Respondent as though they were the original, successful Respondent. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff. Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

5.2. If the surety on any Bond furnished by Contractor is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1. Contractor shall within ten days thereafter substitute another bond and surety, both of which must be acceptable to Owner.

### **5.3. Licensed Sureties and Insurers; Certificates of Insurance:**

5.3.1. All Bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.3.2. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain in accordance with paragraph 5.4.

### **Contractor's Liability Insurance:**

5.4. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance and furnishing of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed or furnished by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

5.4.1. claims under workers' compensation, disability benefits and other similar employee benefit acts;



5.4.2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

5.4.3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

5.4.4. claims for damages insured by customary personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or by any other person for any other reason;

5.4.5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

5.4.6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The policies of insurance so required by this paragraph 5.4 to be purchased and maintained shall:

5.4.7. with respect to insurance required by paragraphs 5.4.3 through 5.4.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) Owner, Engineer, Engineer's Consultants and any other persons or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers and employees of all such additional insureds;

5.4.8. include the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

5.4.8.1 Contractor's Liability Insurance and the Owner's Protective Liability Insurance specified above shall be provided in not less than the following amount:

a. Injury or death to more than one person or single occurrence	\$1,000,000
b. On and Off Premises Operations Liability	\$1,000,000
c. Explosion and Collapse Hazard	\$1,000,000
d. Underground Hazard	\$1,000,000
e. Completed Operations and Products Liability	\$1,000,000
f. Property damage in account of all occurrences	\$1,000,000
g. Independent Contractors Liability	\$1,000,000
h. Personal Injury Liability Insurance	\$1,000,000

Contractor's Vehicle Insurance as follows:

1. Injury or death to one person	\$1,000,000
2. Injury or death to more than one person or a single occurrence	\$1,000,000
3. Property Damage	\$1,000,000
4. Business Auto Liability, Including all owned, non owned and hired vehicles	\$1,000,000

An Umbrella Policy may be used to meet the above limits.

All policies shall be drawn to cover a period of not less than one (1) year from the date of issue.

5.4.10. include contractual liability insurance covering Contractor's indemnity obligations under paragraphs 6.12, 6.16, and 6.31 through 6.33;

5.4.11. contain a provision or endorsement that the coverage afforded will not be cancelled, materially changed or renewal refused until at least thirty days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to paragraph 5.3.2 will so provide);

5.4.12. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing or replacing **defective** Work in accordance with paragraph 13.12; and

5.4.13. with respect to completed operations insurance, and any insurance coverage written on an occurrence basis, remain in effect for at least two years after final payment (and Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter).

#### **Owner's Liability Insurance:**

**5.5.** In addition to the insurance required to be provided by Contractor under paragraph 5.4, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents. Any liability insurance carried by Owner is excess and non-contributory to any and all other coverage whether collectable or not.

#### **Property Insurance:**

*5.6 Contractor shall purchase and maintain property insurance upon the Work at the site in amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in these Supplementary Conditions or required by Laws and Regulations). This insurance shall:*

*5.6.1 include the interests of Owner, Contractor, Subcontractors, Engineer, Engineer's Consultants and any other persons or entities identified in the Supplementary Conditions each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;*

*5.6.2 include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);*

*5.6.3 cover materials and equipment in transit for incorporation in the Work or stored at the site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer; and*

*5.6.4 be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with thirty days written notice to each other additional insured to whom a certificate of insurance has been issued.*

#### **5.7. NOT USED**

#### **5.8. NOT USED**

**5.9.** Owner shall not be responsible for purchasing and maintaining any property insurance to protect the interests of Contractor, Subcontractors or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount, will be borne by Contractor, Subcontractor, or others suffering any such loss and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

**5.10. NOT USED**

**5.11. NOT USED**

**Receipt and Application of Insurance Proceeds:**

**5.12.** Any insureds loss under the policies of insurance required by paragraphs 5.6 and 5.7 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.13. Owner shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.

**5.13.** Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

**Acceptance of Bonds and Insurance; Option to Replace:**

**5.14.** If either party (Owner or Contractor) has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within ten days after receipt of the certificates (or other evidence requested) required by paragraph 2.7. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

**Partial Utilization – Property Insurance:**

**5.15.** If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected any changes in coverage necessitated

thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be cancelled or permitted to lapse on account of any such partial use or occupancy.

## **ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES**

### **Supervision and Superintendence:**

6.1. Contractor shall supervise, inspect and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but Contractor shall not be responsible for the negligence of others in the design or specification of a specific means, method, technique, sequence or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. Contractor shall be responsible to see that the completed Work complies accurately with the Contract Documents.

6.2. Contractor shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the site and shall have authority to act on behalf of Contractor. All communications to the superintendent shall be as binding as if given to CONTRACTOR.

### **Labor, Materials and Equipment:**

6.3. Contractor shall provide competent, suitably qualified personnel to survey, lay out and construct the Work as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the site. Except as otherwise required for the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours and Contractor will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without Owner's written consent given after prior written notice to Engineer.

6.4. Unless otherwise specified in the General Requirements, Contractor shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

6.5. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

### **Progress Schedule:**

6.6. Contractor shall adhere to the progress schedule established in accordance with paragraph 2.9 as it may be adjusted from time to time as provided below:

6.6.1. Contractor shall submit to Engineer for acceptance (to the extent indicated in paragraph 2.9) proposed adjustments in the progress schedule that will not change the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

6.6.2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of paragraph 12.1. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

## 6.7. Substitutes and "Or-Equal" Items:

6.7.1. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be accepted by Engineer under the following circumstances:

**6.7.1.1. "Or-Equal":** If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.

**6.7.1.2. Substitute Items:** If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under subparagraph 6.7.1.1, it will be considered a proposed substitute item. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. The procedure for review by the Engineer will include the following as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor. If Contractor wishes to furnish or use a substitute item of material or equipment, Contractor shall first make written application to Engineer for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will

be considered by Engineer in evaluating the proposed substitute. Engineer may require Contractor to furnish additional data about the proposed substitute.

**6.7.1.3. Contractor's Expense:** All data to be provided by Contractor in support of any proposed "or-equal" or substitute item will be at Contractor's expense.

**6.7.2. Substitute Construction Methods or Procedures:** If a specific means, method, technique, sequence or procedure of construction is shown or indicated in an expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence or procedure of construction acceptable to Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by Engineer will be similar to that provided in subparagraph 6.7.1.2.

**6.7.3. Engineer's Evaluation:** Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.7.1.2 and 6.7.2. Engineer will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized without Engineer's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any "or-equal" or substitute. Engineer will record time required by Engineer and Engineer's Consultants in evaluating substitutes proposed or submitted by Contractor pursuant to paragraphs 6.7.1.2 and 6.7.2 and in making changes in the Contract Documents (or in the provisions of any other direct contract with Owner for work on the Project) occasioned thereby. Whether or not Engineer accepts a substitute item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the changes of Engineer and Engineer's Consultants for evaluating each such proposed substitute item.

## **6.8. Concerning Subcontractors, Suppliers and Others:**

*The Contractor shall submit a list of Subcontractors and major Material Suppliers for the Owner's approval within (24) hours after Bid Opening. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualifications from each such Subcontractor, person and organization requested by Owner. If Owner, after due investigation has reasonable objections to any proposed Subcontractor, other person or organization, the Owner may before giving the Notice of Award request the apparent successful Contractor to submit an acceptable Subcontractor without an increase in Bid Price. If the apparent successful Contractor declines to make any such substitution, the Contract shall not be awarded to such Contractor, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. Any Subcontractor, other person or organization so listed and to whom Owner does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner.*

6.8.1. Contractor shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to Owner and Engineer as indicated in paragraph 6.8.2), whether initially or as a substitute, against whom Owner or Engineer may have reasonable objection. Contractor shall not be required to employ any subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom Contractor has reasonable objection.

6.8.2. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials or

equipment) to be submitted to Owner in advance of the specified date prior to the Effective Date of the Agreement for acceptance by Owner and Engineer, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's or Engineer's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the project documents or the Contract Documents) of any such Subcontractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case Contractor shall submit an acceptable substitute, the Contract Price will be adjusted by the difference in the cost occasioned by such substitution and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by Owner or Engineer of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of Owner or Engineer to reject **defective Work**.

6.9.1. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with Contractor just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other person or organization any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.9.2. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with Contractor. Contractor shall require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with the Engineer through Contractor.

6.10. The divisions and sections of the Specifications and the identifications of any drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

6.11. All Work performed by Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.6. or 5.7. the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, Engineer's Consultants and all other additional insureds for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

### **Patent Fees and Royalties:**

6.12. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design,

process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner, Engineer, Engineer's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents.

**Permits:**

6.13. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Contractor shall pay all charges of utility owners for connections to the Work, and Owner shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

**6.14 Laws and Regulations:**

6.14.1. Contractor shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

6.14.2. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses and damages caused by, arising out of or resulting therefrom: however, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor or Contractor's obligations under paragraph 3.3.2.

**Taxes:**

6.15. Contractor shall pay all sales, consumer, use and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

**Use of Premises:**

6.16. Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the site and land and areas identified in and permitted by the Contract Documents, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any adjacent land or areas, resulting from the performance of the Work. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner, Engineer,



Engineer's Consultant and anyone directly or indirectly employed by any of them from and against all claims costs, losses and damages arising out of or resulting from any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

6.17. During the progress of the Work, Contractor shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials. Contractor shall leave the site clean and ready for occupancy by Owner at Substantial Completion of the Work. Contractor shall restore to original condition all property not designated for alteration by the Contract Documents.

6.18. Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

**Record Documents:**

6.19. Contractor shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples and Shop Drawings will be delivered to Engineer for Owner.

**Safety and Protection:**

6.20. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1. all persons on the Work site or who may be affected by the Work;

6.20.2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

6.20.3. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

Contractor shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in paragraph 6.20.2. or 6.20.3. caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or Engineer's Consultant or

anyone employed by any of them or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier or other person or organization directly or indirectly employed by any of them). Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with paragraph 14.13. that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

**Safety Representative:**

6.21. Contractor shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

**Hazard Communication Programs:**

6.22. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the site in accordance with Laws or Regulations.

**Emergencies:**

6.23. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, Contractor, without special instruction or authorization from Owner or Engineer, is obligated to act to prevent threatened damage, injury or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued to document the consequences of such action.

**6.24. Shop Drawings and Samples:**

6.24.1. Contractor shall submit Shop Drawings to Engineer for review and approval in accordance with the accepted schedule of Shop Drawings and Sample submittals (see paragraph 2.9.). All submittals will be identified as Engineer may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to shown Engineer the materials and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by paragraph 6.26.

6.24.2. Contractor shall also submit Samples to Engineer for review and approval in accordance with said accepted schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended and otherwise as Engineer may require to enable Engineer to review the submittal for the limited purposes required by paragraph 6.26. The numbers of each Sample to be submitted will be as specified in the Specifications.

**6.25. Submittal Procedures:**

6.25.1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

6.25.1.1 all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto,

6.25.1.2. all materials with respect to intended use, fabrication, shipping, handling storage, assembly and installation pertaining to the performance of the Work, and

6.25.1.3. all information relative to Contractor's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

Contractor shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

6.25.2 Each submittal will bear a stamp or specific written indication that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

6.25.3. At the time of each submission, Contractor shall give Engineer specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to Engineer for review and approval of each such variation.

6.26. Engineer will review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals accepted by Engineer as required by paragraph 2.9. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer's review and approval will not extend to means, methods, techniques, sequences or procedures of construction (except where a particular means, method, technique, sequence or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. Contractor shall make corrections required by Engineer, and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.27. Engineer's review and approval of Shop Drawings or Samples shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has in writing called Engineer's attention to each such variation at the time of submission as required by paragraph 6.25.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying Shop Drawing or Sample approval; nor will any approval by Engineer relieve Contractor from responsibility for complying with the requirements of paragraph 6.25.1.

6.28. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submissions accepted by Engineer as required by paragraph 2.9, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

### **Continuing the Work:**

6.29. Contractor shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as Owner and Contractor may otherwise agree in writing.

### **6.30. Contractor's General Warranty and Guarantee:**

6.30.1. Contractor warrants and guarantees to Owner, Engineer and Engineer's Consultants that all Work will be in accordance with the Contract Documents and will not be defective. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

6.30.1.1. abuse, modification or improper maintenance or operation by persons other than Contractor, Subcontractors or Suppliers; or

6.30.1.2. normal wear and tear under normal usage.

6.30.2. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

6.30.2.1. observations by Engineer;

6.30.2.2. recommendation of any progress or final payment by Engineer;

6.30.2.3. the issuance of a certificate of Substantial Completion or any payment by Owner to Contractor under the Contract Documents;

6.30.2.4. use or occupancy of the Work or any part thereof by Owner;

6.30.2.5. any acceptance by Owner or any failure to do so;

6.30.2.6. any review and approval of Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer pursuant to paragraph 14.13;

6.30.2.7. any inspection, test or approval by others; or

6.30.2.8. any correction of **defective** Work by Owner.

### **Indemnification:**

6.31. To the fullest extent permitted by Laws and Regulations. Contractor shall indemnify and hold harmless Owner, Engineer, Engineer's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from the performance of the Work, provided that any such claim, cost, loss or damage: (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including

the loss of use resulting therefrom, and (ii) is caused in whole or in part by any negligent act or omission of Contractor, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such person or entity.

6.32. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.31 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any such Subcontractor, Supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

6.33. The indemnification obligations of Contractor under paragraph 6.31 shall not extend to the liability of Engineer and Engineer's Consultants, officers, directors, employees or agents caused by the professional negligence, errors or omissions of any of them.

#### **Survival of Obligations:**

6.34. All representations, indemnifications, warranties and guarantees made in, required by or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the Work and termination or completion of the Agreement.

### **ARTICLE 7 – OTHER WORK**

#### **Related Work at Site:**

7.1. Owner may perform other work related to the Project at the site by Owner's own forces, or let other direct contracts therefore which shall contain General Conditions similar to these, or have other work performed by utility owners. If the fact that such other work is to be performed was not noted in the Contract Documents, then; (i) written notice thereof will be given to Contractor prior to starting any such other work, and (ii) Contractor may make a claim therefore as provided in Articles 11 and 12 if Contractor believes that such performance will involve additional expense to Contractor or requires additional time and the parties are unable to agree as to the amount or extent thereof.

7.2. Contractor shall afford each other contractor who is a party to such a direct contract and each utility owner (and Owner if Owner is performing the additional work with Owner's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents. Contractor shall do all cutting, fitting, and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

7.3. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7. Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure so to report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent or non-apparent defects and deficiencies in such other work.

**Coordination:**

7.4. If Owner contracts with others for the performance of other work on the Project at the site, the following will be set forth in Supplementary Conditions:

7.4.1. the person, firm or corporation who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified;

7.4.2. the specific matters to be covered by such authority and responsibility will be itemized: and

7.4.3. the extent of such authority and responsibilities will be provided.

Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility in respect of such coordination.

**ARTICLE 8 – OWNER'S RESPONSIBILITIES**

8.1. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.2. In case of termination of the employment of Engineer, Owner shall appoint an engineer, whose status under the Contract Documents shall be that of the former Engineer.

8.3. Owner shall furnish the data required of Owner under the Contract Documents promptly and shall make payments to Contractor promptly when they are due as provided in paragraphs 14.4 and 14.13.

8.4. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions at the site and drawings of physical conditions in existing structures at or contiguous to the site that have been utilized by Engineer in preparing the Contract Documents.

8.5. Owner's responsibilities in respect of purchasing and maintaining liability and property insurance are set forth in paragraphs 5.5 through 5.10.

8.6. Owner is obligated to execute Change Orders as indicated in paragraph 10.4.

8.7. Owner's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.8. In connection with Owner's right to stop Work or suspend Work, see paragraphs 13.10 and 15.1. Paragraph 15.2 deals with Owner's right to terminate services of Contractor under certain circumstances.

8.9. The Owner shall not supervise, direct or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the furnishing or performance of the Work. Owner will not be responsible for Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

8.10. Owner's responsibility in respect of undisclosed Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Materials uncovered or revealed at the site is set forth in paragraph 4.5.

8.11. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

## **ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION**

### **Owner's Representative:**

9.1. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of Owner and Engineer.

### **Visits to Site:**

9.2. Engineer will make visits to the site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer will endeavor for the benefit of Owner to determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and on-site observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work. Engineer's visits and on-site observations are subject to all the limitations on Engineer's authority and responsibility set forth in paragraph 9.13, and particularly, but without limitation, during or as a result of Engineer's on-site visits or observations of Contractor's Work. Engineer will not supervise, direct, control or have authority over or be responsible for Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the furnishing or performance of the Work.

### **Project Representative:**

9.3. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more continuous observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.13 and in the Supplementary Conditions. If Owner designates another representative or agent

to represent Owner at the site who is not Engineer's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other person will be as provided in the Supplementary Conditions.

9.3.1 *Engineer may furnish a Resident Project Representative, assistants and other field staff as needed, to assist Owner in observing performance of the Work. The Resident Project Representative is to observe and inspect, in the Owner's interest, the materials furnished and the work done as the work progresses in order to insure full and complete compliance with the contract and to verify quantities of work completed.*

9.3.2 *Owner may also designate one of its employees to represent Owner for these purposes.*

9.3.3 *Engineer, Resident Project Representative, Owner and all such other persons referred to shall have unrestricted access to all parts of the Work. Contractor shall cooperate by supplying necessary facilities and assistance required by above persons to carry out their work of observation and inspection.*

9.3.4 *It is not the function of the Engineer, Resident Project Representative or Owner to supervise or direct the manner in which the work to be done under this Contract is carried on or conducted. The Engineer, Resident Project Representative or Owner is not responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, and they will not be responsible for the Contractor's failure to carry out the work in accordance with the Contract Documents. Nevertheless, Contractor agrees that any method or procedure, which in the opinion of the Engineer or Owner does not achieve the required results or quality of the work specified, shall be discontinued immediately upon the order of the Engineer.*

9.3.5 *All communications between Contractor and Engineer or Contractor and Owner are to be through the Resident Project Representative.*

9.3.6 *Duties and Responsibilities of Resident Project Representative (RPR):*

1) *RPR will act as directed by and under the supervision of Engineer and/or Owner, and will confer with Engineer and Owner regarding RPR's actions. RPR's dealings in matters pertaining to the on-site work shall in general be with Engineer and Contractor keeping Owner advised as necessary. RPR's dealings with subcontractors shall only be through or with the full knowledge and approval of Contractor.*

2) *Review progress schedule, schedule of Shop Drawing submittals and schedule of values prepared by Contractor and consult with Engineer and Owner concerning acceptability.*

3) *Attend meetings with Contractor, such as pre-construction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.*

4) *Serve as Engineer's and Owner's liaison with Contractor, working principally through Contractor's superintendent and assist in understanding the intent of the Contract Documents.*

5) *Advise Engineer, Owner and Contractor of the commencement of any Work requiring a Shop Drawing or sample if the submittal has not been approved by Engineer.*

6) *Conduct on-site observations of the Work in progress to assist Engineer and Owner in determining if the Work is in general proceeding in accordance with the Contract Documents. Report to Engineer and Owner whenever RPR believes that any Work is unsatisfactory, faulty or*



*defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer and Owner of Work that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.*

7) *Report to Engineer and Owner when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.*

8) *Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to Engineer and Owner. Transmit to Contractor decisions as issued by Engineer and/or Owner.*

9) *Maintain orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, Engineer's clarifications and interpretations of the Contract Documents, progress reports, and other Project related documents.*

10) *Keep a diary or log book, recording Contractor hours on the job site, weather conditions, data relative to questions of Work Directive Changes, Change Orders or Changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer and Owner.*

11) *Record names, addresses and telephone numbers of all Contractors, subcontractors and major suppliers of materials and equipment.*

12) *Furnish Engineer and Owner periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and sample submittals.*

13) *Draft proposed Change Orders and Work Directive Changes, obtaining backup material from Contractor and recommend to Engineer and Owner Change Orders, Work Directive Changes, and Field Orders.*

14) *Report immediately to Engineer and Owner upon the occurrence of any accident.*

15) *Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment delivered at the site but not incorporated in the Work.*

16) *During the course of the Work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to Engineer for review and forwarding to Owner prior to final payment for the work.*

17) *Before Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.*

18) *Conduct final inspection in the company of Engineer, Owner and Contractor and prepare a final list of items to be completed or corrected.*

19) *Observe that all items on final list have been completed or corrected and make recommendations to Engineer and Owner concerning acceptance.*

9.3.7 *Limitations of Authority of Resident Project Representative (RPR):*

1) *Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by Engineer or Owner.*

2) *Shall not exceed limitations of Engineer's authority as set forth in the Contract Documents.*

3) *Shall not undertake any of the responsibilities of Contractor, subcontractors or Contractor's superintendent.*

4) *Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.*

5) *Shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work.*

6) *Shall not accept Shop Drawing or sample submittals from anyone other than Contractor.*

9.3.8 *The Engineer and or Owner shall have the authority to reject any work, or materials, or any part thereof, which does not in his opinion conform to the plans, drawings, specifications and contract, and it shall be permissible for him to do so at any time during the progress of the work and until its acceptance.*

*No material of any kind shall be used upon the work until it has been inspected and accepted by the Engineer. All materials rejected shall be removed immediately from the work and not again offered for inspection. Any materials or workmanship found at any time to be defective or not of the quality or character required by the plans and specifications shall be remedied at once regardless of previous inspection.*

*Such inspection shall not relieve the Contractor from any obligation to perform said work strictly in accordance with the plans and specifications and work not so constructed shall be removed and made good by the Contractor at his own expense, and free from all expense to the Owner whenever so ordered by the Owner without reference to any previous oversight or error in inspection.*

**Clarifications and Interpretations:**

9.4. Engineer will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as Engineer may determine necessary, which shall be consistent with the intent of and reasonably inferable from Contract Documents. Such written clarifications and interpretations will be binding on Owner and Contractor. If Owner or Contractor believes that a written clarification or interpretation justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree to the amount or extent thereof, if any, Owner or Contractor may make a written claim therefore as provided in Article 11 or Article 12.

**Authorized Variations in Work:**

9.5. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree as to the amount or extent thereof, Owner or Contractor may make a written claim therefore as provided in Article 11 or 12.

**Rejecting Defective Work:**

9.6. Engineer will have authority to disapprove or reject Work which Engineer believes to be defective, or that Engineer believes will not produce a complete Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or completed.

**Shop Drawings, Change Orders and Payments:**

9.7. In connection with Engineer's authority as to Shop Drawings and Samples, see paragraphs 6.24 through 6.28 inclusive.

9.8. In connection with Engineer's authority as to Change Orders, see Articles 10,11, and 12.

9.9. In connection with Engineer's authority as to Applications for Payment, see Article 14.

**Determinations for Unit Prices:**

9.10. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding upon Owner and Contractor, unless, within ten days after the date of any such decision, either Owner or Contractor delivers to the other and to Engineer written notice of intention to appeal from Engineer's decision and, a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction to exercise such rights or remedies as the appealing party may have with respect to Engineer's decision, unless otherwise agreed in writing by Owner and Contractor. Such appeal will not be subject to procedures of paragraph 9.11.

**Decisions on Disputes:**

9.11. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work there under. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and Claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Times will be referred initially to Engineer in writing with a request for a formal decision in accordance with this paragraph. Written notice of each such claim, dispute or other matter will be delivered by the claimant to Engineer and the other party to the Agreement promptly (but in no event later than thirty days) after the start of the occurrence or event giving rise thereto, and written supporting data will be submitted to Engineer and the other party within sixty days after the start of such occurrence

or event unless Engineer allows an additional period of time for the submission of additional or more accurate data in support of such claim, dispute or other matter. The opposing party shall submit any response to Engineer and the claimant within thirty days after receipt of the claimant's last submittal (unless Engineer allows additional time). Engineer will render a formal decision in writing within thirty days after receipt of the opposing party's submittal, if any, in accordance with this paragraph. Engineer's written decision on such claim, dispute or other matter will be final and binding upon Owner and Contractor unless: a written notice of intention to appeal from Engineer's written decision is delivered by Owner or Contractor to the other and to Engineer within thirty days after the date of such decision and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction to exercise such rights or remedies as the appealing party may have with respect to such claim, dispute or other matter in accordance with applicable Laws and Regulations within sixty days of the date of such decision, unless otherwise agreed in writing by Owner and Contractor.

9.12. When functioning as interpreter and judge under paragraphs 9.10 and 9.11, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by Engineer pursuant to paragraphs 9.10 or 9.11 with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.15) will be a condition precedent to any exercise by Owner or Contractor of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such claim, dispute or other matter.

**9.13. Limitations on Engineer's Authority and Responsibilities:**

9.13.1. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise or performance of any authority or responsibility by Engineer shall create, impose or give rise to any duty owed by Engineer to Contractor, any Subcontractor, and Supplier, any other person or organization, or to any surety for employee or agent of any of them.

9.13.2. Engineer will not supervise, direct, control or have authority over or be responsible for Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the furnishing or performance of the Work. Engineer will not be responsible for Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

9.13.3. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9.13.4. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests, and approvals and Other documentation required to be delivered by paragraph 4.12 will only be to determine generally that their content complies with the requirements of, and in the case of, certificates of inspections, tests and approvals that the results certified indicate compliance with the Contract Documents.

9.13.5. the limitations upon authority and responsibility set forth in this paragraph 9.13 shall also apply to Engineer's Consultants, Resident Project Representative and assistants.

## **ARTICLE 10 – CHANGES IN THE WORK**

10.1. Without invalidating the Agreement and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions or revisions in the Work. Such additions, deletions or revisions will be authorized by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

10.2. If Owner and Contractor are unable to agree as to the extent, if any, of an adjustment in the Contract Price or an adjustment of the Contract Times that should be allowed as a result of a Work Change Directive, a claim may be made therefore as provided in Article 11 or Article 12.

10.3. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraphs 3.5 and 3.6 except in the case of an emergency as provided in paragraph 6.23 or in the case of uncovering Work as provided in paragraph 13.9.

10.4. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

10.4.1. changes in the Work which are (i) ordered by Owner pursuant to paragraph 10.1, (ii) required because of acceptance of defective Work under paragraph 13.13 or correcting defective Work under paragraph 13.14, or (iii) agreed to by the parties;

10.4.2. changes in the Contract Price or Contract Times which are agreed to by the parties; and

10.4.3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to paragraph 9.11;

Provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.29.

10.5. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be Contractor's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

## **ARTICLE 11 – CHANGE OF CONTRACT PRICE**

11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order. Any claim for an adjustment in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to Engineer promptly (but in no event later than ten days) after the start of the occurrence or event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within thirty days after the start of such occurrence or event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of the

claim) and shall be accompanied by claimant's written statement that the adjustment claimed covers all known amounts to which the claimant is entitled as a result of said occurrence or event. All claims for adjustment in the Contract Price shall be determined by Engineer in accordance with paragraph 9.11 if Owner and Contractor cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

11.3 The value of any Work covered by a Change Order or of any claim for an adjustment in the Contract Price will be determined as follows:

11.3.1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraphs 11.9.1. through 11.9.3. inclusive);

11.3.2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 11.6.2):

11.3.3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 11.3.2, on the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a Contractor's fee for overhead and profit (determined as provided in paragraph 11.6).

#### **Cost of the Work Covered by a Change Order:**

11.4. The term Cost of the Work means the sum of all costs necessarily incurred and paid by Contractor in the proper performance of the Work. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5.

11.4.1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include without limitation superintendents, foremen and other personnel employed full-time at the site. Payroll costs for employees not employed full-time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by Owner.

11.4.2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

11.4.3. Payments made by Contractor to the Subcontractors for Work performed or furnished by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner who will then determine, with the advice of Engineer, which bids, if any, will be accepted. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a fee, the Subcontractor's Cost of the

Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in paragraphs 11.4, 11.5, 11.6 and 11.7. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

11.4.5. Supplemental costs including the following:

11.4.5.1. The proportion of necessary transportation, travel and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

11.4.5.2. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of Contractor.

11.4.5.3. Rentals of all construction equipment and machinery and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof – all in accordance with the terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

11.4.5.4. Sales, consumer, use or similar taxes related to the work, and for which Contractor is liable, imposed by Laws and Regulations.

11.4.5.5. Deposits lost for causes other than negligence of Contractor, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

11.4.5.6. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by Owner in accordance with paragraph 5.9), provided they have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee. If, however, any such loss or damage requires reconstruction and Contractor is placed in charge thereof, Contractor is placed in charge thereof, Contractor shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7. The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9. Cost of premiums for additional Bonds and insurance required because of changes in the Work.

11.5. The term Cost of the Work Covered by a Change Order shall not include any of the following:

11.5.1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by Contractor whether at the site or in Contractor's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.4.1 or specifically covered by paragraph 11.4.4 – all of which are to be considered administrative costs covered by the Contractor's fee.

11.5.2. Expenses of Contractor's principal and branch offices other than Contractor's office at the site.

11.5.3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

11.5.4. Cost of premiums for all Bonds and for all insurance whether or not Contractor is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 11.4.5.9 above).

11.5.5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of **defective** Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6. The Contractor's fee allowed to Contractor for overhead and profit shall be determined as follows:

11.6.1. a mutually acceptable fixed fee; or

11.6.2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

11.6.2.1. for costs incurred under paragraphs 11.4.1 and 11.4.2, the Contractor's fee shall be ten percent;

11.6.2.2. for costs incurred under paragraph 11.4.3, the Contractor's fee shall be five percent.

11.6.2.3. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraphs 11.4.1, 11.4.2, 11.4.3 and 11.6.2 is that the Subcontractor who actually performs or furnishes the Work, at whatever tier, will be paid a fee of ten percent of the costs incurred by such Subcontractor under paragraphs 11.4.1 and 11.4.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor:

11.6.2.4. no fee shall be payable on the basis of costs itemized under paragraphs 11.4.4, 11.4.5 and 11.5;



11.6.2.5. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

11.6.2.6. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with paragraphs 11.6.2.1 through 11.6.2.5, inclusive.

11.7. Whenever the cost of any work is to be determined pursuant to paragraphs 11.4 and 11.5, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in form acceptable to Engineer an itemized cost breakdown together with supporting data.

**Cash Allowances:**

**11.8. NOT USED**

**11.9. Unit Price Work:**

11.9.1. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer in accordance with paragraph 9.10.

11.9.2. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

11.9.3. Owner or Contractor may make a claim for an adjustment in the Contract Price in accordance with Article 11 if:

11.9.3.1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

11.9.3.2. there is no corresponding adjustment with respect to any other item of Work; and

11.9.3.3. if Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

**ARTICLE 12 – CHANGE OF CONTRACT TIMES**

12.1. The Contract Times (or Milestones) may only be changed by a Change Order or a Written Amendment. Any claim for an adjustment of the Contract Times (or Milestones) shall be based on written notice delivered by the party making the claim to the other party and to Engineer promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless Engineer allows an additional period of time to ascertain

more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Times (or Milestones) shall be determined by Engineer in accordance with paragraph 9.11 if Owner and Contractor cannot otherwise agree. No claim for an adjustment in the Contract Times (or Milestones) will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

- 12.2. All time limits stated in the Contract Documents are of the essence of the Agreement.
- 12.3. Where Contractor is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of Contractor, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a claim is made therefore as provided in paragraph 12.1. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions or acts of God. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.
- 12.4. Should Contractor be obstructed or delayed in the prosecution of or completion of the Work as a result of unforeseeable causes beyond the control of Contractor, and not due to its fault or neglect, including but not restricted to acts of God or of the public enemy, acts of government, fires, floods, epidemics, quarantine regulation, strikes or lockouts, Contractor shall notify the Owner in writing within forty-eight (48) hours after the commencement of such delay, stating the cause or causes thereof, or be deemed to have waived any right which Contractor may have had to request a time extension.
- 12.5. No interruption, interference, inefficiency, suspension or delay in the commencement or progress of the Work from any cause whatever, including those for which the Owner may be responsible, in whole or in part, shall relieve Contractor of his duty to perform or give rise to any right to damages or additional compensation from the Owner. Contractor expressly acknowledges and agrees that it shall receive no damages for delay. Contractor's sole remedy, if any, against the Owner will be the right to seek an extension to the Contract Time; provided, however, the granting of any such time extension shall not be a condition precedent to the aforementioned "No Damage For Delay" provision. This paragraph shall expressly apply to claims for early completion, as well as to claims based on late completion.

**ARTICLE 13 – TESTS AND INSPECTION: CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

13.1. **Notice of Defects:** Prompt notice of all defective Work of which Owner or Engineer have actual knowledge will be given to Contractor. All defective Work may be rejected, corrected or accepted as provided in this Article 13.

**Access to Work:**

13.2. Owner, Engineer, Engineer's Consultants, other representatives and personnel of Owner, independent testing laboratories and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's site safety procedures and programs so that they may comply therewith as applicable.

## **Tests and Inspections:**

13.3. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

13.4. Contractor shall employ and pay for services of an independent testing laboratory to perform all Quality Control inspections, test or approvals required by the contract documents. Contractor shall allow the Engineer access to all work done in the project for Acceptance Testing by the owner. This testing will be in addition to Quality Control Testing required by the Contractor. Owner shall arrange and pay all costs associated with Acceptance Testing done by an independent testing laboratory of the Owners choosing except:

13.4.1. for inspections, tests or approvals covered by paragraph 13.5 below.

13.4.2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.9 below shall be paid as provided in said paragraph 13.9; and

13.4.3. as otherwise specifically provided in the Contract Documents.

13.4.4. Owner shall perform the following test as part of quality assurance / acceptance testing:

### **All material testing included in the Bidding Documents.**

All other required testing is to be completed by the contractor as part of the contractor's quality control procedures and submittals. This section shall take precedence over all other sections that describe testing requirements.

13.5. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection, or approval. Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Quality Control Testing of materials and equipment shall be the responsibility of the Contractor who shall pay all costs associated with the required testing. Contractor shall provide the Engineer adequate advance notice of intended tests to allow the Engineer to be present during the Testing.

13.6. If any Work (or the work of others) that is to be inspected, tested or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

13.7. Uncovering Work as provided in paragraph 13.6 shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

## **Uncovering Work:**

13.8. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

13.9. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose or otherwise make available for observation, inspection or testing as Engineer may require that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, Contractor shall pay all claims, costs, losses and damages caused by, arising out of or resulting from such uncovering, exposure, observation, inspection and testing and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others; and Owner shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, may make a claim therefore as provided in Article 11. If, however, such Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement and reconstruction; and, if the parties are unable to agree as to the amount or extent therefore, Contractor may make a claim therefore as provided in Articles 11 and 12.

**Owner May Stop the Work:**

13.10. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor or any surety or other party.

**Correction or Removal of Defective Work:**

13.11. If required by Engineer, Contractor shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by Engineer, remove it from the site and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses and damages caused by or resulting from such correction or removal (including but not limited to all costs of repair or replacement of work of others).

**13.12. Correction Period:**

13.12.1. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instruction: (i) correct such defective Work, or, if it has been rejected by Owner, remove it from the site and replace it with Work that is not defective, and (ii) satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor does not promptly comply with the terms of such instructions, or in any emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or the rejected Work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

13.12.2. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

13.12.3. Where defective Work (and damage to other Work resulting therefrom) has been corrected, removed or replaced under this paragraph 13.12, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

**Acceptance of Defective Work:**

13.13. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, also Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness). If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, Owner may make a claim therefore as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

**Owner May Correct Defective Work:**

13.14. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with paragraph 13.11, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days' written notice to Contractor, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph Owner shall proceed expeditiously. In connection with such corrective and remedial action, Owner may exclude Contractor from all or part of the site, take possession of all or part of the Work, and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representative, agents and employees, Owner's other contractors and Engineer and Engineer's Consultants access to the site to enable Owner to exercise the rights and remedies under this paragraph. All claims, costs, losses and damages incurred or sustained by Owner in exercising such rights and remedies will be charged against Contractor and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, Owner may make a claim therefore as provided in Article 11. Such claims, costs, losses and damages will include but not be limited to all costs of repair or replacement of work of others destroyed or damaged by correction, removal or replacement of Contractor's defective Work. Contractor shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies hereunder.

**ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION**

**Schedule of Values:**

---

DESTIN, FL  
DESTIN EXECUTIVE AIRPORT  
TAXIWAY A PREVENTATIVE REHABILITATION  
AND LIGHTING IMPROVEMENTS

GC-45

GENERAL CONDITIONS  
NOVEMBER 2019  
BID DOCUMENTS

14.1. The schedule of values established as provided in paragraph 2.9 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

**Application for Progress Payment:**

14.2. At least ten days before the date established for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect Owner's interest therein, all of which will be satisfactory to Owner. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

**Contractor's Warranty of Title:**

14.3. Contractor warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

**Review of Applications for Progress Payment:**

14.4. Engineer will, within ~~ten~~ *fifteen (15)* days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application. ~~Ten~~ *Thirty (30)* days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by Owner to Contractor.

14.5. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's on-site observations of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

14.5.1. the Work has progressed to the point indicated.

14.5.2. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10, and to any other qualifications stated in the recommendation), and

14.5.3. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

However, by recommending any such payment Engineer will not thereby be deemed to have represented that: (i) exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents or (ii) that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

14.6. Engineer's recommendation of any payment, including final payment, shall not mean that Engineer is responsible for Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the furnishing or performance of Work, or for any failure of Contractor to perform or furnish Work in accordance with the Contract Documents.

14.7. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner referred to in paragraph 14.5. Engineer may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

14.7.1. the Work is defective, or completed Work has been damaged requiring correction or replacement.

14.7.2. the Contract Price has been reduced by Written Amendment or Change Order.

14.7.3. Owner has been required to correct defective Work or complete Work in accordance with paragraph 13.14. or

14.7.4. Engineer has actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.4 inclusive.

Owner may refuse to make payment of the full amount recommended by Engineer because:

14.7.5. claims have been made against Owner on account of Contractors performance or furnishing of the Work.

14.7.6. Liens have been filed in connection with the Work, except where Contractor has delivered a specific Bond satisfactory to Owner to secure the satisfaction and discharge of such Liens,

14.7.7. there are other items entitling Owner to a set-off against the amount recommended, or

14.7.8. Owner has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.7.1 through 14.7.3 or paragraphs 15.2.1 through 15.2.4 inclusive;

but Owner must give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

**Substantial Completion:**

14.8. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion. Within a reasonable time thereafter, Owner, Contractor and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefore. If Engineer considers the Work substantially complete, Engineer will prepare and deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within fourteen days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefore. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said fourteen days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner. At the time of delivery of the tentative certificate of Substantial Completion Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

14.9. Owner shall have the right to exclude Contractor from the Work after the date of Substantial Completion, but Owner shall allow Contractor reasonable access to complete or correct items on the tentative list.

**Partial Utilization:**

14.10. Use by Owner at Owner's option of any substantially completed part of the Work which: (i) has specifically been identified in the Contract Documents, or (ii) Owner, Engineer and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1. Owner at any time may request Contractor in writing to permit Owner to use any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, Owner, Contractor and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefore. If Engineer considers that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.



14.10.2. No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of paragraph 5.15 in respect of property insurance.

*Owner may at any time request Contractor in writing to permit Owner to take over operation of any such part of the work although it is not substantially complete. A copy of such request will be sent to Engineer and within a reasonable time thereafter Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If Contractor does not object in writing to Owner and Engineer that such part of the Work is not ready for separate operation by Owner, Engineer will finalize the list if items to be completed or corrected and will deliver such lists to Owner and Contractor together with a written recommendation as to the division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that part of the Work which will become binding upon Owner and Contractor at the time when Owner takes over such operation (unless they shall have otherwise agreed in writing and so informed Engineer). During such operation and prior to Substantial Completion of such part of the Work, Owner shall allow Contractor reasonable access to complete or correct items on said list and to complete other related Work.*

**Final Inspection:**

14.11. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or **defective**. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

**Final Application for Payment:**

14.12. After Contractor has completed all such corrections to the satisfaction of Engineer and delivered in accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by paragraph 5.4, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents, Contractor may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied (except as previously delivered) by:

(i) consent of the surety, if any, to final payment.

(ii) complete and legally effective releases or waivers (satisfactory to Owner) of all Liens arising out of or filed in connection with the Work. In lieu of such releases or waivers of Liens and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and (ii) all payrolls, material and equipment bills and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a Bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

(iii) certification from surety that payment and performance bond shall remain in effect one (1) year following final payment.

(iv) contractor's advertisement of completion – advertisement for a period of four (4) successive weeks in the newspaper or largest circulation published within the county where the work is performed.

(v) certification from insurance company that any insurance coverage written on a claims-made basis, remain in effect for at least two (2) years following final payment.

**Final Payment and Acceptance:**

14.13. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of paragraph 14.15. Otherwise, Engineer will return the Application to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application. Thirty (30) days after the presentation to Owner of the Application and accompanying documentation, in appropriate form and substance and with Engineer's recommendation and notice of acceptability, the amount recommended by Engineer will become due and will be paid by Owner to Contractor.

14.14. If, through no fault of Contractor, final completion of the Work is significantly delayed and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment and recommendation of Engineer, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

**Waiver of Claims:**

14.15. The making and acceptance of final payment will constitute:

14.15.1. a waiver of all claims by Owner against Contractor, except claims arising from unsettled Liens, from **defective** Work appearing after final inspection pursuant to paragraph 14.11, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

14.15.12. a waiver of all claims by Contractor against Owner other than those previously made in writing and still unsettled.

**ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION**

**Owner May Suspend Work:**

15.1. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes an approved claim therefore as provided in Articles 11 and 12.

**Owner May Terminate:**

15.2. Upon the occurrence of any one or more of the following events:

15.2.1. if Contractor persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.9 as adjusted from time to time pursuant to paragraph 6.6);

15.2.2. if Contractor disregards Laws or Regulations of any public body having jurisdiction;

15.2.3. if Contractor disregards the authority of Engineer; or

15.2.4. if Contractor otherwise violates in any substantial way any provisions of the Contract Documents;

*15.2.5 if Contractor commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if Contractor takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;*

*15.2.6 if a petition is filed against Contractor under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against Contractor under any other federal or state law in effect at the time relating to bankruptcy or insolvency;*

*15.2.7 if Contractor makes a general assignment for the benefit of creditors;*

*15.2.8 if a trustee, receiver, custodian, or agent of Contractor is appointed under applicable law or under contract, whose appointment or authority to take charge of property of Contractor is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of Contractor's creditors;*

*15.2.9 if Contractor admits in writing an inability to pay its debts generally as they become due.*

Owner may, after giving Contractor (and the surety, if any,) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of Contractor, exclude Contractor from the site and take possession of the Work and of all Contractor's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which Owner has paid Contractor but which are stored elsewhere, and finish the Work as Owner may deem expedient. In such case Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses and damages

sustained by Owner arising out of or resulting from completing the Work such excess will be paid to Contractor. If such claims, costs, losses and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and when so approved by Engineer incorporated in a Change Order, provided that when exercising any rights or remedies under this paragraph Owner shall not be required to obtain the lowest price for the Work performed.

15.3. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

15.4. Upon seven days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, elect to terminate the Agreement. In such case, Contractor shall be paid (without duplication of any items):

15.4.1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

15.4.2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

15.4.3. for all claims, costs, losses and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers and other; and

15.4.4. for reasonable expenses directly attributable to termination.

Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

**Contractor May Stop Work or Terminate:**

15.5. If, through no act or fault of Contractor, the Work is suspended for a period of more than ninety days by Owner or under an order of court or other public authority, or Engineer fails to act on any Application for Payment within thirty days after it is submitted or Owner fails for thirty days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Agreement and recover from Owner payment on the same terms as provided in paragraph 15.4. In lieu of terminating the Agreement and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within thirty days after it is submitted, or Owner has failed for thirty days to pay Contractor any sum finally determined to be due, Contractor may upon seven day's written notice to Owner and Engineer stop the Work until payment of all such amounts due Contractor, including interest thereon. The provisions of this paragraph 15.5 are not intended to preclude Contractor from making claim under Articles 11 and 12 for an increase in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping Work as permitted by this paragraph.

## **ARTICLE 16 – MISCELLANEOUS**

### **Giving Notice:**

16.1. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

### **16.2 Computation of Times:**

16.2.1. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

16.2.2. A calendar day of twenty-four hours measured from midnight to the next midnight will constitute a day.

### **Notice of Claim:**

16.3. Should Owner or Contractor suffer injury or damage to person or property because of any error, omission or act of the other part or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 16.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

### **Cumulative Remedies:**

16.4. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon Contractor by paragraphs 6.12, 6.16, 6.30, 6.31, 6.32, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to Owner and Engineer thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

### **Professional Fees and Court Costs Included:**

16.5. Whenever reference is made to "claims, costs, losses and damages," it shall include in each case, but not be limited to, all fees and charges of engineers, architects, attorneys and other professionals and all court or other dispute resolution costs.

### ***Labor Records and Schedules:***

16.6 *The Department of Jurisdiction on such public work shall require all Contractors and Subcontractors to keep the following records on the site of the public work project on which such Contractors, and Subcontractors are engaged:*

16.6.1 *Record of hours worked by each worker, laborer, and mechanic on each day.*

16.6.2 *Record of days worked each week by each worker, laborer, and mechanic.*

16.6.3 *Schedule of occupation or occupations at which each worker, laborer, and mechanic on the project is employed during each workday and week.*

16.6.4 *Schedule of hourly wage rates and supplements paid to each worker, laborer, and mechanic for each occupation.*

**Wage Schedules:**

16.7 *Pursuant to Sections 220.3 and 220-d of the Labor Law, each laborer, worker, or mechanic employed by the Contractor, Subcontractor, or other person shall be paid not less than the prevailing rate of wages for a legal day's work and shall be provided supplements not less than the prevailing supplements as determined by the Industrial Commissioner.*

*The Contractor and every Subcontractor shall post in a prominent and accessible place on the site of the work a legible statement of all wage rates and supplements as specified in the Contract to be paid or provided, as the case may be, for the various classes of mechanics, workers, and laborers employed on the work.*

*The Owner does not represent or warrant that the accompanying schedule of wage rates and supplements with the classification of workers, mechanics, and laborers, as required by Section 220 of the Labor Law, is complete, and it reserves the right to revise such schedule when required. If any occupation is not mentioned in the schedule of wage rates and supplements it shall be requested from the Industrial Commissioner, by the Contractor through the Engineer and such schedules, shall, upon notice to the Contractor, become and be a part of the wage and supplement schedules embodied in the Contract.*

*Also included is the Federal Wage Rate Determination. Laborers, workmen, and mechanics employed on the work done in performance of said Contract shall be paid not less than the rate of wages listed thereon for the trade or occupation of such laborer, etc.*



## Part 1 – General Contract Provisions

### Section 10 Definition of Terms

Where portions of text have been lined through (~~example~~), this text has been deleted and does not apply to this project. Where portions of text have been added with shading (example), this text has been added and is binding to this project. This process is utilized throughout the specifications and contract documents (excluding the plans). 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).
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.



<b>Paragraph Number</b>	<b>Term</b>	<b>Definition</b>
10-12	<b>Calendar Day</b>	Every day shown on the calendar.
10-13	<b>Certificate of Analysis (COA)</b>	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	<b>Certificate of Compliance (COC)</b>	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	<b>Change Order</b>	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	<b>Contract</b>	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, <del>Performance bond, payment bond</del> , any required bonds, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
10-17	<b>Contract Item (Pay Item)</b>	A specific unit of work for which a price is provided in the contract.
10-18	<b>Contract Time</b>	The number of calendar days <del>or working days</del> , stated in the <del>proposal</del> Agreement, allowed for <del>completion of the contract</del> to substantially complete the work, including authorized time extensions. <del>If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.</del>
10-19	<b>Contractor</b>	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	<b>Contractors Quality Control (QC) Facilities</b>	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	<b>Contractor Quality Control Program (CQCP)</b>	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	<b>Control Strip</b>	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	<b>Construction Safety and Phasing Plan (CSPP)</b>	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 <del>the invitation for bids</del> Volume 2 of the Project Manual and becomes part of the project specifications.
10-24	<b>Drainage System</b>	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

<b>Paragraph Number</b>	<b>Term</b>	<b>Definition</b>
<b>10-25</b>	<b>Engineer</b>	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.
<b>10-26</b>	<b>Equipment</b>	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.
<b>10-27</b>	<b>Extra Work</b>	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 complete the work within the intended scope of the contract as previously modified.
<b>10-28</b>	<b>FAA</b>	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
<b>10-29</b>	<b>Federal Specifications</b>	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
<b>10-30</b>	<b>Force Account</b>	<p><b>a.</b> Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis.</p> <p><b>b.</b> Owner Force Account - Work performed for the project by the Owner's employees.</p>
<b>10-30A</b>	<b>Inspector</b>	An authorized representative of the Owner assigned to make all necessary inspections, observations, and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
<b>10-31</b>	<b>Intention of Terms</b>	<p>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.</p> <p>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.</p>
<b>10-32</b>	<b>Lighting</b>	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.

<b>Paragraph Number</b>	<b>Term</b>	<b>Definition</b>
10-32A	<b>Liquidated Damages</b>	Monetary damages paid by the Contractor to the Owner for each Calendar day after the applicable contract time has elapsed until the work is completed and accepted by the Owner.
10-33	<b>Major and Minor Contract Items</b>	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-34	<b>Materials</b>	Any substance specified for use in the construction of the contract work.
10-35	<b>Modification of Standards (MOS)</b>	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	<b>Notice to Proceed (NTP)</b>	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	<b>Owner</b>	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 <b>Okaloosa County Airport Board</b> .
10-38	<b>Passenger Facility Charge (PFC)</b>	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	<b>Pavement Structure</b>	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	<b>Payment bond</b>	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	<b>Performance bond</b>	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	<b>Plans</b>	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	<b>Project</b>	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	<b>Proposal</b>	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications. The term "proposal" may be used interchangeably with the term "bid for" throughout the specifications and contract documents.
10-45	<b>Proposal guaranty</b>	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	<b>Quality Assurance (QA)</b>	Owner's responsibility to assure that construction work completed complies with specifications for payment.

<b>Paragraph Number</b>	<b>Term</b>	<b>Definition</b>
10-47	<b>Quality Control (QC)</b>	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
10-48	<b>Quality Assurance (QA) Inspector</b>	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	<b>Quality Assurance (QA) Laboratory</b>	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	<b>Resident Project Representative (RPR)</b>	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	<b>Runway</b>	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	<b>Runway Safety Area (RSA)</b>	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	<b>Safety Plan Compliance Document (SPCD)</b>	Details how the Contractor will comply with the CSPP.
10-54	<b>Specifications</b>	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	<b>Sponsor</b>	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	<b>Structures</b>	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	<b>Subgrade</b>	The soil that forms the pavement foundation.
10-58	<b>Superintendent</b>	The Contractor's executive representative, having authority and responsibility to act for and represent the Contractor, 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	<b>Supplemental Agreement</b>	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

<b>Paragraph Number</b>	<b>Term</b>	<b>Definition</b>
		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.
<b>10-60</b>	<b>Surety</b>	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
<b>10-61</b>	<b>Taxilane</b>	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
<b>10-62</b>	<b>Taxiway</b>	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.
<b>10-63</b>	<b>Taxiway/Taxilane Safety Area (TSA)</b>	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
<b>10-64</b>	<b>Work</b>	Entire construction required by the Contract, including the furnishing of all labor, products, services, 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.
<b>10-65</b>	<b>Working day</b>	<del>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.</del>
<b>10-66</b>	<b>Owner Defined terms</b>	[ None ]

**END OF SECTION 10**

**Section 20 Proposal Requirements and Conditions**

**THIS SECTION NOT USED. REFER TO INSTRUCTIONS TO BIDDERS FOR BID REQUIREMENTS AND CONDITIONS.**

**END OF SECTION 20**

Page Intentionally Left Blank

**Section 30 Award and Execution of Contract**

**THIS SECTION NOT USED. REFER TO INSTRUCTIONS TO BIDDERS FOR AWARD AND EXECUTION OF CONTRACT.**

**END OF SECTION 30**



Page Intentionally Left Blank

## 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, and incidentals 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.

**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

Page Intentionally Left Blank

## Section 50 Control of Work

**50-01 Authority of the Resident Project Representative (RPR).** The RPR has final authority regarding the interpretation of project specification requirements. The RPR 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 RPR 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.

All defined tolerances shall apply before, during, and after incorporation of the materials into the work. It is the intent of the specifications that all materials meet all of the requirements of the specifications after all material has been set in place in its final form.

The Owner shall keep the FAA advised of the Engineer's determinations as to acceptance of the work that is not in reasonably close conformity to the contract plans and specifications. Change orders or supplemental agreements must be reviewed by the FAA.

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. It is the intent of these plans and specifications to ensure that construction, demolition, and all associated materials, equipment, and appurtenances are completed and installed in compliance with all applicable local, state, and federal regulations. In case of discrepancy or conflicting information, the most stringent requirement shall govern. If it is not readily apparent which requirement is most stringent, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the 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 Cooperation of Contractor.** The Contractor shall be supplied with ~~hard copies or~~ an electronic PDF of the plans and specifications and shall be responsible for printing his or her own hard copies of each. 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.~~ The Contractor shall furnish, at his or her expense, all horizontal and vertical control, all staking and layout of construction work called for on the plans and in accordance with Technical Specification P-104 PROJECT SURVEY AND STAKEOUT and as more stringently required herein or as necessary to properly and adequately control the work.

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): AutoCAD 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.

The Owner and/or his or her authorized representative shall have full authority to inspect all materials on the project site, test all materials at as many locations and at any frequency he or she deems necessary to satisfy him or herself that the final in-place product meets the requirements of the plans and specifications.

**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.

**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

Page Intentionally Left Blank

## 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. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans.

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 located in Volume 2 of the Project manual.

**70-09 Use of explosives.** The use of explosives is not permitted on this project.

**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.

Phase or Description	Required Date or Sequence of Owner’s Beneficial Occupancy	Work Shown on Plan Sheet
Phase 1	40 Calendar Days	C004
Phase 2	40 Calendar Days	C004
Phase 3	10 Calendar Days	C004

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, **current edition, latest change** 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.

Utility Service or Facility	Location	Contact
Information, Compliance and Assistance	Okaloosa County Airport Administration Offices	(850) 651-7160
Emergencies	N/A	911

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 manager 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*.

**70-21 Insurance Requirements.** Refer to specification General Conditions, Article 5 for project insurance requirements.

## END OF SECTION 70

## Section 80 Execution and Progress

**80-01 Subletting of contract.** The Owner and Engineer 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 **25** 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 24 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 ~~weekly~~ ~~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:

Phased AOA Closures	Time Period for Closure	Type of Communications Required	Control Authority
<b>Phase 1</b> South Taxiway A	40 Calendar Days	NOTAM	Airport Ops and FAA ATCT
<b>Phase 2</b> North Taxiway A	40 Calendar Days	NOTAM	Airport Ops and FAA ATCT
<b>Phase 2</b> North Taxiway A1	10 Calendar Days	NOTAM	Airport Ops and FAA ATCT

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction, current edition, latest change 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.

In addition, the following requirements shall apply concerning all workers utilized on the project:

- a. The Contractor shall provide and maintain, at all times on the project site of the work during its progress, adequate and competent superintendence of all operations for and in connection with the work. The Contractor shall provide a capable superintendent acceptable to the Owner. Such representative shall be able to read, write, and speak English fluently and shall be authorized to receive instructions from the Engineer or RPR. Said superintendent shall have authority to see that the work is carried out in accordance with the Contract Documents and in a thorough and workmanlike manner in every respect.
- b. Incompetent, disorderly, intemperate or incorrigible employees of any authority level shall be dismissed from the project by the Contractor or his representative when requested by the Engineer or the Owner, and such persons shall not again be permitted to return to the work site without the written consent of the Owner.
- c. Any Contractor or subcontractor employee who violates the security and/or badging regulations of the Airport will be removed from the Airport and not allowed back on Airport property without the prior approval of the Owner.



- d. The Contractor shall provide at the request of the Owner such reasonable information about his employees as may be necessary, including in part, name, address and eligibility to work on federally funded projects.

Any employee of the Contractor or any subcontractors who violate the badging requirements or leaves unbadged individuals in the Airport Operations Area (AOA) or the Secured Identification Display Area (SIDA) without properly badged individuals serving as escorts will be removed from the Airport and not be allowed back onto the Airport without prior approval by the Owner and/or TSA.

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 or RPR, 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.** For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Schedule	Liquidated Damages Cost	Allowed Construction Time
Phase 1 Complete	per Okaloosa County Standard Clauses	40 Calendar Days
Phase 2 Complete	per Okaloosa County Standard Clauses	40 Calendar Days
Phase 3 Complete	per Okaloosa County Standard Clauses	10 Calendar Days

The maximum construction time allowed for Schedules [ ] will be the sum of the time allowed for individual schedules but not more than [ ] 7 consecutive calendar days from Notice to Proceed. Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

**80-09 Default and termination of contract.** The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following, but not limited to 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**

## 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
<b>Excavation and Embankment Volume</b>	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
<b>Measurement and Proportion by Weight</b>	The term “ton” will mean the short ton consisting of 2,000 pounds (907 kg) 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.
<b>Measurement by Volume</b>	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level

Term	Description
	capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
<b>Asphalt Material</b>	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.
<b>Cement</b>	Cement will be measured by the ton (kg) or hundredweight (km).
<b>Structure</b>	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
<b>Timber</b>	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.
<b>Plates and Sheets</b>	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.
<b>Miscellaneous Items</b>	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.
<b>Scales</b>	<p>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.</p> <p>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%.</p> <p>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.</p> <p>Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them.</p>

Term	Description
	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.
<b>Rental Equipment</b>	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> .
<b>Pay Quantities</b>	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.

a. From the total of the amount determined to be payable on a partial payment, **5%** percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-03. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.

(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.

b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

c. When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.



It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the 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.

Should elements of work require delay in final payment due to seasonal or other reasons, the Owner may retain or withhold an agreed upon amount from items of work associated with the delayed items and hold that retainage, even after final payment less the retained amounts, until the Contractor has fulfilled the elements of work delayed to the satisfaction of the Owner. The Owner shall release the retained amount after all associated work for which the delay item has been accepted by the Owner.

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.

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**

## Section 01010

### Summary of Work

#### PART 1 - GENERAL

- 1.1 RELATED DOCUMENTS: Contract Drawings, General Provisions, Supplementary Conditions, General Requirements, and other Special Provisions and Specifications apply to work of this section.
- 1.2 CONTRACT DOCUMENTS: Indicate the work of the Contract and related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the Contract Documents include, but are not necessarily limited to the following:
- A. Existing site conditions and restrictions on use of the site.
  - B. Mandatory staging/sequencing.
  - C. Requirements for partial utilization of various elements prior to substantial completion of the work.
  - D. Work to be performed concurrently by the Owner.
- 1.3 SUMMARY BY REFERENCES: Work of the Contract can be summarized by references to the Contract, General Provisions, Supplementary Conditions, Specifications, Drawings, and Addenda and Modifications to the contract documents issued subsequent to the initial printing of this Project Manual, including but not necessarily limited to printed material referenced by any of these. It is recognized that work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions, and other forces outside the contract documents.
- 1.4 CONSTRUCTION PHASING: To minimize the impact to aircraft operations and airfield tenants, and to avoid construction during adverse weather seasons, the Contract shall be completed in phases as specified hereinafter as described on the plans. Each phase of the Contract shall be completed within the contract time as specified herein.
- 1.5 CONSTRUCTION TIME:
- A. Time Schedule: The work as described by the contract specifications and as shown on the plans shall be completed and ready for use by the Owner within 126 consecutive calendar days after

the date of Notice-to-Proceed. The time schedule for completion of this project is critical and liquidated damages as prescribed in the Contract will be enforced.

1.6 LIQUIDATED DAMAGES:

- A. Owner and Contractor recognize that time is of the essence and that Owner will suffer financial loss if the work is not substantially complete in accordance with the time(s) specified herein. They also recognize the delays, expenses and difficulties involved in proving in a legal or arbitration preceding the actual loss suffered by Owner if the work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner the daily rate stipulated in the Okaloosa County Standard Clauses contained in the Front End Documents section of the Project Manual for each phase shown in the Liquidated Damages Schedule below.
- B. Contractor further understands and hereby expressly agrees that in addition to liquidated damages specified hereinafter, to pay the Owner the actual costs to Owner for any inspector or inspectors necessarily employed by Owner on the work and the actual costs to Owner for the Engineer’s observation of construction and project representative services including all travel and subsistence expenses after the date specified for Project completion until the work is completed and ready for final payment. Further, the Contractor agrees that the sums to be paid the Owner may be deducted from the sum due the Contractor for work performed as provided in Section 90 of the General Provisions.

1. LIQUIDATED DAMAGES SCHEDULE

<b>Phase</b>	<b>Begin Date</b>	<b>Consecutive Calendar Days to Complete</b>	<b>Liquidated Damages</b>
1	Notice to Proceed - Construction	60	Daily Rate on page OCSC-6
2	Completion Phase 1	40	Daily Rate on page OCSC-6
3	Completion Phase 2	40	Daily Rate on page OCSC-6
4	Completion Phase 3	10	Daily Rate on page OCSC-6

- C. The Contractor shall complete all inspection punch list items determined by the Owner and the Engineer within 30 consecutive calendar days from the date of the Substantial Completion inspection. Failure to do so will result in liquidated damages equal to the daily rate on page OCSC-6.
- D. The daily rate on page OCSC-6 will be based on the original contract amount for the entire project.

1.7 CONCURRENT WORK BY OWNER:

- A. Overlapping Work: The work to be performed may overlap work by others to be performed concurrently. Each Contractor shall coordinate and schedule his work with the knowledge that each may be working the same area simultaneously. Each Contractor will be expected to cooperate with the Engineer, Owner, and other Contractors in the completion of the work.
- B. Disputes: The Engineer, whose decision will be final, will decide any disputes arising between the Contractors.
- C. Coordination: Contractors shall coordinate their schedules and work activities very closely, including holding weekly meetings in the presence of the Engineer's onsite representative. Contractors must cooperate with each other, including working around each other's work activities. Potential delays as a result of lack of coordination will not be considered grounds for claim for additional time extensions and/or additional compensations.

1.8 CONTRACTOR USE OF PREMISES:

- A. Use of the Site: The Contractor shall confine his operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction.
- B. Open Passage: Keep existing drives, entrances, and air operations areas designated to remain open, clear, and available to the Owner, his employees and the public at all times. Do not use these areas for parking or storage of materials.
- C. Storage: Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to the areas indicated. If additional storage is necessary, obtain Engineer's approval.
- D. Vehicle/Equipment Security: Lock automotive type vehicles, such as passenger cars and trucks, and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.

1.9 WORK RESTRICTION:

- A. NAVAID Areas: During the time of construction, the Contractor may be restricted from working in or around certain essential electronic navigational aids necessary to the safe operation of the airport. The Contractor is hereby notified that the Engineer may restrict construction operations in those areas closest to the active runway and taxiways.
- B. Radio Communication: Contractor shall maintain two-way radio communication with the Airport air operations personnel, on their frequency, at all times during construction. Contractor shall have a working radio on site at all times during construction and shall assign responsible

personnel, including flagmen, to continuously monitor the radio. All radios shall be as specified in Section 01510.

- C. Notice to Airmen (NOTAMS): The Contractor shall provide the necessary information on construction conditions so that the Owner can advise the Flight Service Station to issue a NOTAM in accordance with established criteria. All requests for NOTAMS for taxiway closures shall be made at least 48 hours in advance (not including weekends) by the Contractor to the Engineer. All requests for closure of a runway or for moving into a phase that requires the closure of a Navaid shall be made at least 7 days in advance (not including weekends) by the Contractor to the Engineer.
- D. Turf Restoration: All non-paved areas that are disturbed by the Contractor's work, staging area, haul roads, etc. shall be reseeded and restored to original condition by the Contractor. Except where otherwise specified, there will be no separate pay item for this work; it will be considered incidental to and included in the price bid for Item C-105, Mobilization.
- E. Security: Contractor shall provide security within his construction area and shall keep all unauthorized personnel out.
- F. Haul Route on Airfield Pavement: Contractor will not be allowed to use any of the existing runways, taxiways, or aprons as part of the haul road unless authorized in writing by the Engineer.
- G. Access Points: All construction traffic shall enter and exit the project area only through the project access point(s) shown on the plans or approved by the Engineer. Contractor will be responsible for security of entrance gates under use by him/her.
- H. Construction Stakeout: The Contractor shall perform construction stakeout in accordance with Article 50-06 of the General Provisions.
- I. Haul Route: The Contractor shall be responsible for establishing haul routes suitable for supporting all necessary transportation and construction equipment for the duration of the project. Any existing roads or other areas that are used as part of the haul route shall be restored to their original condition after completion of the project. The Contractor will be responsible for all clean-up operations of debris that may be on the haul route and for watering and/or other dust preventive measures to preclude fugitive dust from affecting buildings, occupants, or airfield operations. No separate payment will be made for seeding or mulching, or pavement restoration; such costs will be incidental to and included in the price bid for Item C-105, Mobilization.
- J. Airfield Safety Devices: Contractor shall maintain all airfield safety devices such as staked limit lines for the duration of the project as required. Damaged stakes or flagging shall be replaced immediately.
- K. Vehicular Markings and Lighting: All vehicles and equipment used on the airfield shall meet airport requirements for marking and lighting.



- L. **Contacts During Non-Working Hours:** For the duration of the project, the Contractor shall designate a list of authorized individuals in a prioritized order, to be on 24 hour call, and these individuals shall be equipped with a beeper and cellular phone. These individuals shall be able to respond to any situation arising out of the performance of the work on this project, particularly during nighttime hours, and shall respond and be on the project site within one hour after the phone call or beep.
  
  - M. **Airfield Pavement Cleanup:** The Contractor shall promptly clean any and all debris arising from the project work that is left on operational airfield pavement. The Owner may remove any debris attributable to the Contractor found to be a hazard to aircraft. A fee of \$250/hour will be assessed to the Contractor for all such cleaning and will be deducted on the next Contractor pay request.
- 1.10 **COORDINATION:** The work of this Contract includes coordination by the Contractor of the entire work of the project, including preparation of general coordination drawings, diagrams and schedules, and control of site utilization, from beginning of construction activity through project close-out and warranty periods.
- 1.11 **PARTIAL OWNER OCCUPANCY OR USE:** The Owner reserves the right to use completed and accepted work provided such use does not interfere with completion of other work. Such use will not affect warranty stipulations addressed elsewhere in the contract documents.

PART 2 - PRODUCTS (Not Used.)

PART 3 – EXECUTION

- 3.1 **MEASUREMENT AND PAYMENT:** Except as otherwise specified, no separate measurement or payment will be made for work set forth in this section; such costs will be considered as incidental to and included in the price for Section C-105, Mobilization, or other items as appropriate.

END OF SECTION 01010

Page Intentionally Left Blank

## Section 01030

### Airport Procedures

#### PART 1 - GENERAL

- 1.1 INTRODUCTION: This project will include Contractor operations within or near active Air Operations Areas (AOA). The Airport will conduct some normal aircraft operations during the course of this project, subject to certain restrictions called out in this section or elsewhere in the specifications. Therefore, to provide for the security and safety of Airport users and the Contractor's forces, as well as to minimize interruptions to aircraft operations, the Contractor shall limit his work within the areas designated and conduct his operations as specified.
- 1.2 Any fines or assessments levied against the Sponsor as a result of unauthorized intrusions in the AOA or other violations by the Contractor's personnel or those of his subcontractors will be passed on to the Contractor. In addition, the Contractor will be subject to a fine of \$1,000.00 per incident, assessed by the Sponsor
- 1.3 AIR OPERATION AREA (AOA) SAFETY REQUIREMENTS:
- A. Barricades: Barricades on the airfield may be required to delineate construction limits and/or airfield haul routes.
  - B. Radio Communication: Contractor radio monitoring and communication is not required for this project.
  - C. Runway and Taxiway/Taxilane Closures: Only the Owner will make Closures of runways and taxiways/taxilanes. The Owner shall contact the appropriate FAA Flight Service Station prior to issuing the Notice-to-Proceed so that a Notice-to-Airmen (NOTAM) for runway or taxiway closure can be issued in accordance with established criteria. Notams are not required for a taxilane closure Construction operations within the runway or taxiway safety zone shall not begin until the Contractor receives clearance from the Owner and Engineer assuring that the adjoining runway or taxiway has been closed.
- 1.4 CONSTRUCTION SAFETY REQUIREMENTS:
- A. General:
    - 1. Safety Officer: The Contractor is required to employ a Safety Officer who will be the liaison between the Contractor, the Engineer and the Owner in all safety related matters for the duration of the project. The Safety Officer shall be on call 24 hours per day for emergency maintenance of airport hazard lighting, barricades, and other safety features.

2. Protection of Utilities: The Contractor shall be responsible for field marking and protecting all utilities within the construction limits.
3. Storage of Equipment, Vehicles, and Materials: All equipment, vehicles, and materials must be stored in the designated storage or staging area or in areas acceptable to the Engineer.
4. Vehicular Markings: Contractor vehicles and equipment shall be marked with checkered flags and lighted with flashing beacons to comply with requirements of FAA AC 150/5210-5D. All vehicles and equipment shall display 3' x 3' flags, orange and white "checkerboard" pattern, with the squares being 1' x 1' each. All vehicles and construction equipment working during the night or during periods of low visibility shall be equipped with an amber colored rotating beacon light.
5. Construction Methods Limitation:
  - a. No open flames or burning will be allowed on Airport property except as specifically authorized by the Engineer in writing.
  - b. Stockpiled material shall be constrained in a manner to prevent displacement by jet blast, prop blast, or wind, and shall be kept to a height that will not penetrate FAR Part 77 imaginary air space and shall be located outside the runway and taxiway object free areas and runway protection zone (RPZ).
6. Safety and Accident Protection:
  - a. The Contractor shall comply with all applicable federal, state, and local laws, ordinances, and regulations governing safety, health, and sanitation; shall provide barricades; and shall take any other needed actions, on his own responsibility, that are reasonably necessary to protect the life and health of employees on the job, the safety of airport users, the safety of moving and parked aircraft, and other property during the performance of the work.
  - b. The Safety Officer's duties shall include accident prevention.
7. Navigational Aids: Airport navigational aid critical areas are shown on the drawings or will be indicated by the Engineer. The Contractor shall not enter these areas without the Engineer's approval.
8. FAA Advisory Circular: Except as otherwise specified, FAA AC 150/5370-2G and all its references shall be used in maintaining airport operational safety during construction. A copy of this Advisory Circular is included in the Project Manual.

B. Runway and Taxiway Safety Zones:

1. Limitations: Work on this project takes place in a closed runway or runway approach area. When necessary to accomplish construction in areas adjacent to taxiways and apron

taxilanes, the construction equipment, vehicles, and men are authorized to operate without interruption within the project limits.

2. Request for Facility Closures: Construction activities on runways or taxiways or within the above-restricted areas shall only be performed at times when the runway or taxiways are closed to aircraft. The Contractor through the Engineer thereof must request closure of a runway or taxiway or any portion in writing. This request must indicate the areas needed and a schedule of operations and time(s) required for operations within the area. The Owner reserves the right, however, to shift any approved closure periods to alleviate aircraft congestion or when inclement weather conditions dictate.
3. Equipment Operation Restrictions: Contractor is not permitted to operate equipment within a Taxiway/Taxilane Object Free Area (TOFA) and Runway Obstacle Free Zone (ROFZ) except when the runway or taxiway has been closed to traffic and a NOTAM issued. Before re-opening a closed runway or taxiway all excavated trenches and holes within the ROFZ or TOFA shall be backfilled, tamped and leveled to match existing grades and all equipment and personnel removed from the ROFZ or TOFA. Construction equipment must be removed from the runway and taxiway OFA at the end of each work shift. The Contractor may operate equipment within the apron Taxilane Object Free Area up to the edge of the taxilane on a pull back basis with all personnel and above ground equipment removed from the TOFA prior to aircraft operating on the taxilane. Barricades must also be provided along the edge of the taxilane as prescribed in the plans when any excavation work is in progress within the TOFA.
4. Stockpiles: Stockpiled materials shall not be permitted within the runway or taxiway safety zones.
5. Grading Requirements: All construction within a restricted area shall be performed in such a manner that, at the end of the closure period, it will leave the safety area with no abrupt grade changes or grades in excess of 5 percent, and with no trenches with depth or width greater than 3 inches.

C. Obstructions to Navigation:

1. Violation of Safety Zone Surfaces: Penetration of equipment, vehicles, materials, or men into the safety zones and approach surfaces requires the preparation and distribution of Notices to Airmen (NOTAM) in advance to the actual penetration.
2. Scheduling: When part of the work in this project is in violation of FAR Part 77, the clearance distance requirements from runway and taxiway edges shall be incorporated into the construction sequence schedule. At no time shall the construction limits of the area under construction violate the safety zones without prior notification to and approval by the Engineer.
3. Coordination and Communication: Work within and adjacent to active AOA's shall be coordinated with the Engineer prior to commencement of the activity. The construction

superintendent and the resident inspector, both of which shall be in constant radio contact with ATC, shall accompany work crews in these areas.

- 1.5 SAFETY PLANNING: The Contractor shall integrate and maintain requirements of airport operational safety into each planning and work schedule. The Contractor's Safety Officer shall continuously monitor all planning schedules and work underway for compliance to AC 150/5370-2 (Latest Edition); and shall maintain vigilance to detect areas needing attention due to oversight or altered construction activities. Airport operational safety during construction will be on the agenda at the preconstruction conference and each coordination and progress meeting.
- 1.6 SECURITY REQUIREMENTS: The Contractor has the responsibility for maintaining control of the access gates or any other entrance to the AOA. The Contractor may utilize a gate guard or install an automatic operated gate controller with limited access with numeric keypad. The Contractor may be required to erect temporary fencing to protect the AOA during construction. The Contractor's method of maintaining security shall be set forth in his Security Plan and shall comply with the airport's rules and regulations concerning work in the airport restricted areas. There will be no separate measurement or payment for gate guards or temporary fencing required maintaining the integrity of the AOA.
- 1.7 BARRICADES: Contractor shall provide barricades along active taxiway pavement areas, closed sections of the runway, and elsewhere as shown on the plans or directed by the Engineer while work is proceeding in the runway, taxiway, and apron areas. Barricades shall be sited and relocated during the course of the work to clearly identify areas closed to aircraft operations.
- 1.8 APRON, TAXILANE AND TAXIWAY CLOSURES:
  - A. When any area of the apron or apron taxilane is required to be closed during any phase of the work the Contractor shall schedule his/her work to provide continuous access to tenant hangars adjacent to Airport Administration offices. The Aircraft Parking Apron is to remain open at all times.
  - B. The Contractor shall coordinate and schedule construction access with Owner through Engineer before closure is required so that Owner can issue appropriate NOTAMS.
  - C. Taxilane and taxiway closures shall be scheduled in advance. Contractor shall identify taxiway closures with barricades and by covering taxiway lights within the closure limits. Remove barricades and covers when no longer needed or as directed by Engineer.

## PART 2 - PRODUCTS

- 2.1 BARRICADES: Barricades, when required, shall be constructed as specified in Section 01530

### PART 3 – EXECUTION

- 3.1        **LIMITATION OF CLOSURES:** Only the Owner will make Airfield pavement closures. The Contractor shall request the closure through the Engineer from the Owner.
- 3.2        **BARRICADE INSTALLATION:** Install barricades at locations shown on the drawings and where directed by Engineer. Anchor barricades as specified in Section 01530. Maintain barricades until removal is directed by Engineer. Barricade batteries shall be checked daily to insure adequate operation of the flashers during the night. Replace batteries as required. Upon removal of barricades, repair any damage to pavement or surrounding area caused by barricades.
- 3.3        **MEASUREMENT AND PAYMENT:** Except as otherwise specified in Section 01530, no measurement or payment will be made for work in this section; it will be considered as incidental cost to Mobilization and other items of work.

END OF SECTION 01030

Page Intentionally Left Blank



## Section 01040

### Project Coordination

#### PART 1 - GENERAL

- 1.1 RELATED DOCUMENTS: All contract documents and drawings apply to work of this section.
- 1.2 DESCRIPTION OF WORK: Administrative and supervisory requirements necessary for coordination of work on the project include but are not necessarily limited to the following:
1. Coordination and meetings.
  2. Surveys and records or reports.
  3. Limitations on use of site.
  4. Special reports
  5. General installation provisions.
  6. Cleaning and protection.
  7. Conservation and salvage

#### PART 2 - PRODUCTS (Not applicable)

#### PART 3 – EXECUTION

- 3.1 COORDINATION AND MEETINGS:
- A. General: The Contractor shall prepare a written memorandum on required coordination activities and include such items as required notices, reports and attendance at meetings. Distribute this memorandum to each entity performing work at the Project site. Prepare similar memorandum for separate Contractors where interfacing of their work is required.
  - B. Preconstruction Conference: A Preconstruction Conference will be scheduled after award of Contract and prior to issuance of a Notice to Proceed. Key Project personnel representing the Prime Contractor and all major Subcontractors will be required to attend this Conference. All other parties involved with this Project, such as the Owner, Engineer, and FAA, will also be represented. All affected parties at the Preconstruction Conference will review the entire Construction Schedule carefully. The Contractor shall prepare a detailed Construction Schedule for review prior to and at the Preconstruction Conference.
  - C. Coordination Meetings: The Contractor shall hold General Project Coordination Meetings at regularly scheduled times convenient for all parties involved. These meetings may be as often as weekly if required. These meetings are in addition to specified meetings held for other purposes, such as regular Project meetings and special Pre-installation Meetings. Request

representation at each meeting by every party currently involved in coordination or planning for the work of the entire Project. Conduct meetings in a manner, which will resolve coordination problems. Record results of the meeting and distribute copies to everyone in attendance and to others affected by decision or actions resulting from each meeting.

1. The Contractor shall also conduct daily coordination meetings with the Engineer's representative, FAA and designated Owner's representative to coordinate construction and airport operations.
- D. Progress Meetings: Conduct progress meetings by teleconference weekly and at the project site monthly. Notify the Owner and Engineer of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.
- E. Attendees: In addition to representatives of the Owner and Engineer, each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at these meetings by persons familiar with the project and authorized to conclude matters relating to progress.
- F. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the project, and to airport operational safety during construction.
1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be expedited; secure commitments from parties involved doing so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
  2. Other: Review the present and future needs of each entity present, including such items as:
    - a) Interface requirements.
    - b) Time.
    - c) Sequences.
    - d) Deliveries.
    - e) Off-site fabrication problems.
    - f) Access.
    - g) Site utilization.
    - h) Temporary facilities and services.
    - i) Hours of work.
    - j) Hazards and risks.
    - k) Housekeeping.
    - l) Quality and work standards.
    - m) Change orders.
    - n) Documentation of information for payment requests.

- G. Reporting: No later than 3 days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
- H. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

### 3.2 SURVEYS AND RECORDS/REPORTS:

- A. Construction Staking: The Engineer has established survey base lines for the Contractor. The Contractor shall take all necessary precautions to prevent the loss or damage of primary control points. The Contractor will be responsible for staking required for construction. Working from lines and levels established by the design survey, establish and maintain benchmarks and other dependable markers required for construction. Establish bench marks and markers to set lines and levels for work at each stage of construction and elsewhere as needed to properly locate each element of the project. Calculate and measure required dimensions as shown within recognized tolerances. Drawings shall not be scaled to determine dimensions. Contractor shall advise entities performing work of marked lines and levels provided for their use.
- B. Survey Procedures: Before proceeding with the layout of actual work, verify the layout information shown on the drawings, in relation to the property survey and existing benchmarks. As work proceeds, check every major element for line, level and plumb. Maintain a surveyor's log or record book of such checks; make this log or record book available for the Engineer's reference. Record deviations from required lines and levels, and advise the Engineer promptly upon detection of deviations that exceed indicated or recognized tolerances. Record deviations, which are accepted, and not corrected, on record drawings. Survey work shall be performed by and under supervision of a professional (registered) land surveyor in the State where the project is located.
- C. Quality of Work: The elevations of permanent and temporary benchmarks shall be determined and recorded to the nearest 0.01 foot. Differential leveling and transit traverses shall be of such precision that the error of vertical closure in feet shall not exceed plus or minus 0.1 foot in 5000 feet. The angular error of closure for transit traverses shall not exceed 1.0-minute times the square root of the number of angles turned.
  - 1. Slope stakes shall be placed, as a minimum, at 100-foot stations, breaks in the original ground surface, and at any other intermediate stations necessary to insure accurate location for construction layout and measurement. Slope stakes and cross sections shall be perpendicular to the centerline. Significant breaks in grade shall be determined for cross sections. Distances shall be measured horizontally and recorded to the nearest 0.1 foot. Side shots for interim construction stakes may be taken with a hand level.
- D. Records: All survey data shall be recorded in fully identified, standard hardbound engineering survey field notebooks with consecutively numbered pages. All field notes and printed data

shall include the purpose or description of the work, the date the work was performed, weather data, sketches and the personnel who performed and checked the work. Electronically generated survey data and computations shall be bound, page numbered and cross-referenced in a bound field notebook containing the index for all survey data.

1. The construction survey records shall be available at all times during the progress of the work for examination and use by the Engineer and copies shall be made available to the Engineer upon request. The original field notebooks and other records shall be turned over to and become the property of the Owner prior to final acceptance of the work.
- E. Quality Assurance Survey Services: Contractor shall furnish surveying services required to establish horizontal and vertical location of soil density tests by Owner's QA testing laboratory.
- F. Engineer Services: Engineer will furnish available benchmark and coordinate information at no cost to Contractor.

### 3.3 LIMITATIONS ON USE OF THE SITE:

- A. General: Limitations on site usage as well as specific requirements that impact site utilization are indicated on the drawings and by other contract documents. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.
- B. Waste Disposal: Waste materials shall be disposed of off airport property except as specified otherwise in Contract Documents.

### 3.4 MEASUREMENT AND PAYMENT: No measurement or payment will be made for work in this section; it will be considered as incidental cost to Mobilization and other items of work.

END OF SECTION 01040

## Section 01070

### Abbreviations and Symbols

#### PART 1 - GENERAL

##### DESCRIPTION:

1. Abbreviations that may be used in the Contract Documents including the drawings are listed in this section and have the identifications and meanings shown herein except where otherwise indicated.
2. Symbols are identified on the drawings
3. Related requirements in other parts of the Contract Documents
  - a. Drawing symbols: Contract drawings
  - b. Drawing abbreviations: Contract drawings.

##### ABBREVIATIONS:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AF	Air Force
AGCA	Associated General Contractors of America
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANG	Air National Guard
ANSI	American National Standard Institute
API	American Petroleum Institute
AREA	American Railway Engineering Association
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWG	American Wire Gage
AWS	American Welding Society
AWWA	American Water Works Association
COE	Corps of Engineers
CRSI	Concrete Reinforcing Steel Institute
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FS	Federal Specifications
MUTCD	Manual on Uniform Traffic Control Devices For Streets and Highways
NEMA	National Electrical Manufacturers Association
NEC	National Electrical Code
NWS	National Weather Service
OSHA	Occupational Safety and Health Act
PCA	Portland Cement Association
UL	Underwriter's Laboratories, Inc.
DHPT	Department of Highways and Public Transportation
DOT	Department of Transportation
HD	Highway Department

##### Drawing Abbreviations:

4. The following list is not necessarily all-inclusive; additional abbreviations may be used and defined on the drawings.
5. Some abbreviations used on the drawings may not have the same meaning as that identified in the following list; the non-conforming meanings are identified on the drawings when not self-evident.
6. Some variation in use of periods and capitalization may be found on the drawings.

<u>ABBRV</u>	<u>MEANING</u>	<u>ABBRV</u>	<u>MEANING</u>
AB	Anchor Bolt	ALIGN	Alignment
ABT	About	ALP	Airport layout plan
ABV	Above	ALS	Approach lighting system
AC	Advisory Circular (FAA)	ALT	Alternate
AC	Alternating current	ANT	Antenna
AC	Asphaltic concrete	AOA	Air operational area
ACFT	Aircraft	AP	Airport
ADDN	Addition	APPROX	Approximate
AF	Air Force	ARCH	Architecture
AGG	Aggregate	ARP	Airport reference point
AIP	Airport Improvement	ASPH	Asphalt Program
ATC	Air traffic control	CPP	Corrugated polyethylene pipe
ATCT	Air traffic control tower	CPS	Cycles per second
AVE	Avenue	CTB	Cement treated base course
AVG	Average	AWG	American wire gage
CULV	Culvert	CY	Cubic yard
AWOS	Automatic weather observing systems	B TO B	Back to back
D	Depth	BCN	Beacon
DAT	Datum	BDY	Boundary
DBL	Double	BET	Between
BF	Both faces	BIT	Bituminous
BLDG	Building	DBST	Double bituminous surface treatment
BL	Base line	DC	Direct current
BM	Bench mark	BOT	Bottom
DEF.ANG.	Deflection angle	BRL	Building restriction line
DEG	Degree	DEMO	Demolish
BRK	Brick	DI	Drop inlet
BS	Both sides	DIA	Diameter
BTW	Between	BW	Both ways
DIP	Ductile iron pipe	DIM.	Dimension
DIR	Direction	DIST	Distant
C	Centigrade	DIV	Division
C TO C	Center to center	DO	Ditto
CA	Cable	DSGN	Design
CB	Catch basin	DTD	Dated
DWG	Drawing	CBM	Construction benchmark
CD	Check dam	CEM	Cement
EA	Each	CFM	Cubic feet per minute
EF	Each face	EG	For example
EJ	Expansion joint	EL	Elevation
CFS	Cubic feet per second	CHAM	Chamfer
ENGR	Engineer	CHG	Change
CHK	Check	CI	Cast iron
CIP	Cast iron pipe	CJ	Construction joint
CL	Clear	C/L	Center line
CLR	Clearance	CMP	Corrugated metal pipe
CO	Cleanout	CONC	Concrete
CONST	Construction	CONT	Continue
CORR	Corrugate	EOP	Edge of pavement
EQ	Equal	EQUIP	Equipment
EQUIV	Equivalent	EST	Estimate
EW	Each way	EXC	Excavate
EXIST	Existing	EXT	Exterior
ILS	Instrument landing system	F	Fahrenheit
F TO F	Face to face	FAB	Fabricate
FAR	Federal Aviation Regulation	FBO	Fixed base operator
FDN	Foundation	FF	Finish floor
FG	Finish grade	FH	Fire hydrant
FIG	Figure	FIN	Finish
FLD	Field	FOD	Foreign object damage

<u>ABBRV</u>	<u>MEANING</u>	<u>ABBRV</u>	<u>MEANING</u>
FPM	Feet per minute	FPS	Feet per second
FS	Federal Specification	FT	Foot or feet
FTG	Footing	FW	Fresh water
FWD	Forward	GA	Gage or Gauge
GAL	Gallon	GALV	Galvanize
GEN	General	GFE	Government-furnished equipment
GOVT	Government	GPM	Gallons per minute
GPS	Gallons per second	GRD	Ground or grade
GV	Gate valve	GVGI	Generic visual glide slope indicator
HP	High point	HGR	Hangar
HGT	Height	HH	Hand hole
HIRL	High intensity runway lights	HMAC	Hot mix asphaltic concrete
HOR	Horizontal	HWY	Highway
ID	Inside diameter	IDENT	Identification
IFR	Instrument flight rule	IN.	Inch
INCL	Include	INT	Intersect
INV	Invert	IP	Inlet protection
IP	Iron pipe	JB	Junction Box
JFR	Jet fuel resistant	JMF	Job mix formula
JT	Joint	K	Kip (1,000 lb)
KWY	Keyway	L	Left
LAT	Latitude	LB	Pound
LC	Length of curve	LF	Linear feet
LG	Length or long	LIN	Linear
LIRL	Low intensity runway lights	LITL	Low intensity taxiway lights
LOA	Length over-all	LOC	Localizer
LONG	Longitudinal	LP	Low point
LS	Lump sum	LT	Light
LVC	Length of vertical curve	MAINT	Maintenance
MALS	Medium intensity approach lighting system	MATL	Material
MAX	Maximum	MH	Manhole
MHW	Mean high water	MIN	Minimum
PVI	Point of vertical intersection	MIRL	Medium intensity runway lights
MITL	Medium intensity taxiway lights	MISC	Miscellaneous
MLS	Microwave landing system	MLW	Mean low water
MON	Monument	MSL	Mean sea level
MTL	Metal	NATL	National
NAVAID	Navigational aid	NIC	Not in contract
NO	Number	NOM	Nominal
NOTAM	Notice to airmen	NTS	Not to scale
OA	Over-all	OC	On center
OD	Outside diameter	OFZ	Obstacle free zone
OPS	Operations	ORIG	Original
PAPI	Precision approach path indicator	PAR	Precision approach radar
PAV'T	Pavement	PC	Point of curve
PCC	Portland cement concrete	PFC	Porous friction course
PI	Point of intersection	PIV	Post indicator valve
PJF	Premolded joint filler	POL	Petroleum fuel, oil, and/or lubricants
PL	Plate	PREP	Prepare
PROJ	Project	PROP	Proposed
PSI	Pounds per square inch	PT	Point
PT	Point of tangency	PVC	Polyvinyl chloride
PVC	Point of vertical curve	PVT	Point of vertical tangency
PVMT	Pavement	QA	Quality assurance
QC	Quality control	R	Right
R	Radius	RAIL	Runway alignment indicator lights
RW	Runway	RC	Reinforced concrete
RCP	Reinforced concrete pipe	RD	Road
REF	Reference	REIL	Runway end identifier lights

REINF	Reinforce	RELOC	Relocated
<u>ABBRV</u>	<u>MEANING</u>	<u>ABBRV</u>	<u>MEANING</u>
REP	Repair	REQD	Required
RET	Return	REV	Revise
ROC	Run of crusher	ROW	Right of way
RPM	Revolutions per minute	RPZ	Runway protection zone
RR	Railroad	S	Slope
SABC	Stabilized aggregate base course	SALV	Salvage
SAN	Sanitary	SB	Straw bale
SBST	Single bituminous surface treatment	SCHED	Schedule
SEC	Second	SEC Cor	Section corner
SECT	Section	SEP	Separate
SF	Silt fence	SF	Square feet
SHT	Sheet	SHLD	Shoulder
SIM	Similar	SK	Sketch
SP	Space(s)	SPEC	Specification
SQ	Square	SS	Stainless steel
STA	Station	STD	Standard
STL	Steel	STR	Structural
SUPP	Supplement	SWG	Swing
SYM	Symbol	SYM	Symmetrical
SY	Square yards	SYS	System
T	Thick	T	Ton
T&B	Top and bottom	TBM	Temporary bench mark
TECH	Technical	TEL	Telephone
TEMP	Temperature	THK	Thick
THRU	Through	TL	Taxilane
TOC	Top of curb	TOG	Top of grate
TOL	Tolerance	TOP	Top of pavement
TRANS	Transformer	TSD	Temporary slope drain
TW	Taxiway	TYP	Typical
UD	Underdrain	UG	Underground
UGT	Underground telephone line	USGS	United States Geodetic Survey
VASI	Visual approach slope indicator	VB	Valve box
VC	Vertical curve	VCP	Vitrified clay pipe
VERT	Vertical	VFR	Visual flight rules
VS	Versus	W	Water
W/	With	WGT	Weight
W/O	Without	WL	Water line
WWF	Welded wire fabric	WP	Working point
X	By (used between dimensions)	XSECT	Cross section
YD	Yard		

**SYMBOLS:**

7. As outlined on drawings.

PART 2 - PRODUCTS (Not applicable)

PART 3 – EXECUTION (Not applicable)

END OF SECTION 01070



## Section 01090

### Regulations and Definitions

#### PART 1 - GENERAL

- 1.1 RELATED DOCUMENTS: Drawings, General Provisions, Supplementary Conditions, Specifications, and other contract documents apply to work of this section. See Section 10 of General Provisions for additional definitions.
- 1.2 DESCRIPTION OF REQUIREMENTS:
- A. General: This section specifies procedural and administrative requirements for compliance with governing regulations, codes and standards imposed upon the work. These requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with regulations, codes and standards.
  - B. The term "Regulations" is defined to include laws, statutes, ordinances and lawful orders issued by governing authorities, as well as those rules, conventions and agreements within the construction industry which effectively control the performance of the work regardless of whether they are lawfully imposed by governing authority or not.
  - C. Governing Regulations: Refer to General Provisions, Supplementary Conditions, and General Requirements for requirements related to compliance with governing regulations.
- 1.3 DEFINITIONS:
- A. General Explanation: Certain terms used in contract documents are defined in this article. Definitions and explanations contained in this section are not necessarily complete, but are general for the work to the extent that they are not stated more explicitly in another element of the contract documents.
  - B. General Requirements: Provisions and requirements of Division 1 sections apply to the entire work of the contract and, where so indicated, to other elements which are included in the project.
  - C. Indicated: The term "indicated" is a cross-reference to graphic representations, notes or schedules on the drawings, to other paragraphs or schedules in the specifications, and to similar means of recording requirements in contract documents. Where terms such as "shown", "noted", "scheduled", and "specified" are in lieu of "indicated", it is for the purpose of helping the reader locate the cross-reference, and no limitation of locations is intended except as specifically noted.
  - D. Directed, Requested, etc.: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", "accepted", and "permitted" mean "directed by the Engineer",

"requested by the Engineer", and similar phrases. However, no such implied meaning will be interpreted to extend the Engineer's responsibility into the Contractor's area of construction supervision.

- E. Approved: Where used in conjunction with the Engineer's response to submittals, requests, applications, inquiries, reports and claims by the Contractor, the term "approved" will be held to limitations of the Engineer's responsibilities and duties as specified in General Provisions and Supplementary Conditions. In no case will the Engineer's approval be interpreted as a release of the Contractor from responsibilities to fulfill requirements of contract documents or acceptance of the work, unless otherwise provided by requirements of the contract documents.
  - F. Project Site: The term "project site" means the space available to the Contractor for performance of the work, either exclusively or in conjunction with others performing other construction as part of the project. The extent of the project site is shown on the drawings.
  - G. Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations."
  - H. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations."
  - I. Provide: The term "provides" means "to furnish and install, complete and ready for the intended use."
  - J. Installer: The "installer" is the "the entity" (person or firm) engaged by the Contractor, its subcontractor or sub-subcontractor for performance of a particular element of construction at the project site, including installation, erection, application and similar required operations. It is a requirement that installers are experienced in the operations they are engaged to perform.
- 1.4 SUBMITTALS: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

PART 2 - PRODUCTS (Not applicable)

PART 3 – EXECUTION (Not applicable)

END OF SECTION 01090

## Section 01095

### NPDES Permit Conformance

#### PART 1 – General Information:

- A. The NPDES program is established under 40CFR122.2
- B. The United States Environmental Protection Agency (EPA) issued a National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Construction Activities that are classified as “Associated with Industrial Activity.” This Construction General Permit covers all areas administered by EPA Region 4, which includes Florida. The Construction General Permit was published in Federal Register/Vol. 63, No. 61/Tuesday, March 31, 1998 and is available on EPA's web site or from the Owner.
- C. The NPDES permit program requires a Construction General Permit if the construction activity will disturb five acres or greater, or will disturb less than five acres but is part of a larger common plan of development or sale whose total land disturbing activities total five acres or greater (or is designated by the NPDES permitting authority); and will discharge storm water runoff from the construction site into a municipal separate storm water sewer system (MS4) or waters of the United States.
- D. For this contract, the Engineer has determined that a Construction General Permit is not required.
- E. Detailed guidance on the development of the SWPPP is contained in EPA Publication EPA 832-R-92-005 dated September 1992, titled Storm Water Management for Construction Activities – Developing Pollution Prevention Plans and Best Management Practices.

#### PART 2 - Specific Requirements:

- A. The Contractor shall develop, implement and comply with a plan specifically designed for this construction site and including Best Management Practices (BMPs) and controls which prevent the pollution of storm water discharges.
- B. The Contractor shall incorporate into the SWPPP all applicable requirements specified in state or local sediment and erosion control plans or permits or storm water management plans or permits. The Contractor shall submit a certification that the SWPPP reflects these requirements and that these requirements will be complied with during the term of the contract.
- C. Prior to commencement of construction, the SWPPP must be prepared and certified by the Contractor. ~~Notice of Intent (NOI) must be forwarded to the Environmental Protection Agency (with an information copy to the Owner) at least 48 hours prior to any land clearing.~~

- D. Recordkeeping: The Contractor shall maintain the Plan and the associated records and reports, including documentation of the required inspections. These documents shall be maintained at the job site until the site is finally stabilized. Thereafter, the Contractor (Permittee) shall keep the SWPPP and all reports for at least three years.
- E. Report Submittal: The Contractor shall include with each payment request two (2) sets of information copies of all required inspection reports, certifications and notifications. Inspection reports to be submitted shall include both weekly reports and special reports required after rainfall events in excess of 0.5". The regulations specifically require an onsite rain gauge. It is recommended that the Contractor record rainfall amount daily. Payment requests will not be processed in the absence of these submittals.
- F. ~~When the construction activity has ceased and all areas affected by the work are stabilized, the Contractor shall prepare, certify and submit the required Notice of Termination to the Environmental Protection Agency and the Owner. Final payment application will not be processed in the absence of these submissions.~~
- G. ~~Attached are two fact sheets from the EPA pertaining to the Construction General Permit, a copy of the NOI and NOT, and EPA's "A Brief Guide to Requirements for Developing and Implementation Pollution Prevention Plans for Construction Sites."~~

PART 3 - PRODUCTS (Not applicable)

PART 4 – EXECUTION (Not applicable)

END OF SECTION 01095

## Section 01150

### Measurement and Payment

#### PART 1 – GENERAL

##### 1.1 DESCRIPTION:

- A. Method of Measurement and Payment: This section supplements Section 90 of the General Provisions and establishes the method of measurement and payment for work performed under this contract.
- B. Unit Price: Except where lump sum is indicated, payment for work performed shall be made on a unit price basis in accordance with the accepted bid and the method of payment provided in the General Provisions.
- C. Related Requirements in Other Parts of the Specifications:
  - 1. Bid (Proposal)
  - 2. Agreement.
  - 3. Conditions of the Contract.
- D. Related Requirements Specified in Other Sections:
  - 1. Summary of Work - Section 01010.
  - 2. Submittals - Section 01300.
  - 3. Contract Closeout - Section 01700.
- E. Work With No Identified Payment Items: No additional payment will be made for items of work for which a separate payment item is not specified or contained in the Bid Schedule; such work shall be deemed incidental to the project and payment for said work shall be considered as included in the various unit bid prices.

##### 1.2 APPLICATIONS FOR PAYMENT:

- A. Submittal Schedule: Submit Applications for Payment to the Engineer in accordance with the schedule established by Conditions of the Contract and Agreement between Owner and Contractor.
- B. Format and Data Required:
  - 1. Submit Applications for Partial Payment on the form required by Owner with itemized data typed on 8 1/2 x 11 inch white paper continuation sheets.
  - 2. Provide itemized data on continuation sheet: Format, schedules, line items and values: Those of the Schedule of Values accepted by the Engineer.
- C. Preparation of Application for Each Progress Payment:
  - 1. Application Form:

- a. Fill in required information, including that for Change Orders executed prior to the date of submittal of application.
  - b. Fill in summary of dollar values to agree with the respective totals indicated on the continuation sheets.
  - c. Execute certification with the signature of a responsible officer of the contract firm.
2. Continuation Sheets:
- a. Fill in total list of all scheduled component items of work, with item number and the scheduled dollar value for each item.
  - b. Fill in the dollar value in each column for each scheduled line item when work has been performed or products stored. Round off values to the nearest dollar, or as provided in the bid.
3. List each Change Order executed prior to the date of submission, at the end of the continuation sheets.
- a. List by Change Order and description, as for an original component item of work.
    - 1) Submit Applications for Payment to Owner at the times stipulated in the Agreement.
  - b. Number: Four copies of each Application.

D. Substantiating Data:

- 1. When the Owner or Engineer require substantiating data, Contractor shall submit suitable information with cover letter identifying:
  - a. Project.
  - b. Application number and date.
  - c. Detailed list of enclosures.
  - d. For stored products: Item number and identification as shown on application.
  - e. Description of specific material.
- 2. Submit one copy of data and cover letter for each copy of application.

E. Preparation of Application for Final Payment:

- 1. Fill in application form as specified for progress payments.
- 2. Use continuation sheet for presenting the final statement of accounting as specified in Section 01700 - Contract Closeout.

1.3 CHANGE ORDER PROCEDURES:

A. Format and Data Required:

- 1. Change Orders shall be prepared and submitted and will be processed in accordance with requirements of General Provisions and Funding Agency Requirements.
- 2. Engineer will transmit Certificate for Change to Owner and Agency for approval.
- 3. When Owner and Agency approval is received, Change Order will be included under next partial Application for Payment.

1.4 MEASURES AND WEIGHTS:

- A. Contractor Assistance: To aid the Owner in determining all quantities, the Contractor shall, whenever so requested, provide scales, equipment and assistance for weighing or for measuring any of the materials at no cost to the Owner.
- B. Weights and Measures: Quantities for payment will be the actual weight or actual measure, and no special or trade or so-termed customary allowances will be made, nor will any material, which is lost or misplaced, be included for payment.
- C. Use of Plan Meter: For estimating quantities in which computation of areas by geometric methods would be comparatively laborious, it is agreed that the plan meter shall be considered an instrument of precision to the measurement of such areas.
- D. Precedence of Dimensions: Figured dimensions on drawings shall take precedence over measurement by scale, and detailed working drawings are to take precedence over general drawings and shall be considered as explanatory of them and not as indicating extra work

PART 2 - PRODUCTS (Not applicable)

PART 3 – EXECUTION (Not applicable)

END OF SECTION 01150

Page Intentionally Left Blank



## Section 01210

### Allowances

#### PART 1 – GENERAL

##### 1.1 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
  - 1. ~~Certain materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.~~ Allowances are not anticipated in this contract.
- B. Types of allowances include the following:
  - 1. ~~Lump sum allowances.~~
- C. Related Sections include the following:
  - 1. Item 24 of Section B – Special Conditions in the ITB for Claims and Disputes.

##### 1.2 SELECTION, PURCHASE, AND COORDINATION:

- A. At the earliest practical date after award of the Contract, advise Engineer of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Engineer's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Engineer from the designated supplier.
- D. Contact Utility Companies and authorize engineering for line relocations, drops, connections, services, materials, and miscellaneous fees.

##### 1.3 SUBMITTALS:

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Cost Proposals.
- B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

- C. Copy Engineer on all correspondence and invoices.

1.4 LUMP-SUM ALLOWANCES:

- A. Allowances shall include cost to Contractor of specific products and materials ordered by Owner under allowance and shall include taxes, freight, and delivery to Project site.
- B. Contractor's costs for receiving and handling at Project site, labor, coordination, installation (unless noted otherwise), incidental installation materials and equipment, overhead and profit, and similar costs related to products and materials ordered by Owner under allowance shall be included as part of the Contract Sum as part of the allowance.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 EXAMINATION:

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.
- B. Verify adequacy and conformance with plan requirements.

3.2 PREPARATION:

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 PHASING:

Allow sufficient time for delivery and installation. Delays on behalf of other parties supplying materials or services shall not be justification for claims for delays or damages.

3.4 SCHEDULE OF ALLOWANCES:

- A. Allowance Number One: For the purchase, delivery and installation of one new intercom system for the west gate, 2-360 degree security cameras mounted on light poles in the credit card parking lot and 2 -360 degree security cameras mounted on high mast light poles in the west apron expansion. Includes integration with Air Operations Center (AOC) communications and security system.
- B. Allowance Number Two: For the purchase, delivery and installation of a flush station on the OCWS 20" water main as detailed in the plans. Includes 20" water line, fittings, valves and concrete pad.

3.5 ACTUAL COSTS:

- A. Engineer/Architect shall review and approve all cost proposals, materials, and planned utility allowance work limits for conformance with requirements. Only actual costs will be paid to the Contractor with no mark-up by Contractor (as specified in 1.04B). Cost overruns for allowances shall be paid by Change Order, if required.

END OF SECTION 01210

Page Intentionally Left Blank

## Section 01300

### Submittals

#### PART 1 – GENERAL

##### 1.1 SUBMITTALS BY CONTRACTOR:

- A. Construction Progress Schedule.
- B. Certifications as specified in the various sections.
- C. Shop Drawings and Project Data as specified in the various sections.
- D. Miscellaneous:
  - 1. Weekly Payroll.
  - 2. EEO Reports.
  - 3. DBE Expenditure Report.
  - 4. Safety Plan.
  - 5. Security Plan.
  - 6. Warranties and Bonds.
  - 7. QC Plan.
  - 8. Equipment Manuals
  - 9. Other(s) as required.

##### 1.2 PROGRESS SCHEDULE:

- A. Bar-Chart Schedule: Submit a CPM or linear type bar-chart schedule seven (7) calendar days prior to the preconstruction conference date established for the work. On the schedule, indicate a time bar for each major category or unit of work to be performed at the site, properly sequenced and coordinated with other elements of work. Show completion of the work sufficiently in advance of the date established for substantial completion of work.
  - 1. Superimpose an S-curve on the schedule to show the "estimated" total dollar-volume of work performed at any date during the contract time, with a column of cost figures in the left hand margin ranging from zero to the contract sum.
  - 2. Submittal Tabulation: With the bar-chart submittal, submit tabulation, by date, of the submittals, which are required during the first 30 days of construction time. At the Contractor's option, submittal dates may be shown on the bar-chart schedule, in lieu of being tabulated.
- B. Phasing: Arrange schedule with notations to show how sequence of work is affected by requirements for phased completion, limitations of continued utilization, non-interruptible services, use prior to substantial completion, site restrictions, runway and/or taxiway closures, provisions for future work, seasonal variations, environmental control, and similar provisions of total project. Phase I schedule is required at the preconstruction meeting. Each subsequent

phasing schedule is required at least two weeks before the phase is to begin. Refer to other sections of the General Requirements and other contract documents for requirements.

- C. Distribution: Following the initial submittal to and response by the Engineer, print and distribute progress schedules to the Engineer (3 copies), Owner, separate contractors, principal subcontractors and suppliers or fabricators, and others with a need-to-know schedule-compliance requirement. Post copies in the project meeting room and temporary field office. When revisions are made, distribute updated issues to the same entities and post updated issues in the same locations. Delete entities from distribution when they have completed their assigned work and are no longer involved in the performance of scheduled work.
- D. Update: Contractor shall update the schedule monthly for duration of construction.

### 1.3 SHOP DRAWINGS AND PRODUCT DATA:

- A. Scope: Submit shop drawings, certifications, and product data for all products to be incorporated in the work.
- B. Shop Drawings Shall:
  - 1. Be original drawings, prepared by the Contractor, subcontractor, supplier, or distributor, which illustrate some portion of the work; showing fabrication, layout, setting, or erection details.
  - 2. Be prepared by a qualified detailer.
  - 3. Identify details by reference to sheet and detail numbers shown on Contract Drawings.
- C. Product Data Shall:
  - 1. Include manufacturer's standard schematic drawings. The Contractor shall:
    - a. Modify drawings to delete information, which is not applicable to project.
    - b. Supplement standard information to provide additional information applicable to project.
  - 2. Include manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data. The Contractor shall:
    - a. Clearly mark each copy to identify pertinent materials or products.
    - b. Show dimensions and clearances required.
    - c. Show performance characteristics and capacities.
- D. The Contractor Shall:
  - 1. Be responsible for all submittals.
  - 2. Review shop drawings and product data prior to submission
  - 3. Verify:
    - a. Field measurements.
    - b. Field construction criteria.
    - c. Catalog numbers and similar data.
  - 4. Coordinate each submittal with the requirements of the work and of the Contract Documents.

5. Notify the Engineer, in writing at time of submission, of deviations in submittals from requirements of the Contract Documents.
6. Begin no work, which requires submittals until the return of submittals with the Engineer's stamp and initials or signature indicating review.
7. After the Engineer's review, distribute copies.

E. Contractor's Responsibilities:

1. Contractor's responsibility for errors and omissions in submittals is not relieved by the Engineer's review of submittals.
2. Contractor's responsibility for deviations in submittals from requirements of the Contract Documents is not relieved by the Engineer's review of submittal, unless the Engineer gives written acceptance of specific deviations.

F. Submission Requirements Include:

1. The shop drawings shall be submitted in sufficient time to allow discussion and correction prior to beginning the work. Work shall not be performed nor materials ordered prior to the review of the drawings except at the Contractor's risk.
2. Submit 6 copies of all shop drawings after which 4 copies will be returned for correction or marked reviewed as noted. Any drawings returned for correction must be resubmitted with same number of copies as required above. As an alternative, submittals/shop drawings may be submitted electronically in pdf format.
3. All submittals must be accompanied by a transmittal letter, in duplicate, containing:
  - a. Date.
  - b. Project title and number.
  - c. Contractor's name and address.
  - d. The number of each shop drawing and product data submitted.
  - e. Notification of deviations from Contract Documents.
  - f. Other pertinent data.
4. Submittals shall include the following, as applicable:
  - a. Date and revision dates.
  - b. Project title and number.
  - c. The names of:
    - 1) Engineer.
    - 2) Contractor.
    - 3) Subcontractor.
    - 4) Supplier.
    - 5) Manufacturer.
    - 6) Separate detailer when pertinent.
  - d. Identification of product or material.
  - e. Relation to adjacent structure or materials.
  - f. Field dimensions, clearly identified as such.
  - g. Specification item or section number.
  - h. Applicable standards, such as ASTM number or Federal Specification.
  - i. A blank space, 5 in. x 5 in., for the Engineer's stamp.
  - j. Identification of deviations from the Contract Documents.

- k. Contractor's stamp, initialed or signed, certifying Contractor's review of submittal, verification of field measurements, and compliance with Contract Documents.
  
- G. Resubmission Requirements Include:
  - 1. Revision of initial drawings as required and resubmittal as specified for initial submittal.
  - 2. An indication on the drawings of any changes, which have been made, other than those requested by the Engineer.
  - 3. On product data resubmittals, include new data as required for initial submittal.
  
- H. Distribution to Others: After review and approval, the Contractor shall distribute copies of shop drawings and product data which carry the Engineer's stamp to others as may be required.
  
- I. Shop Drawings and Product Data:
  - 1. Submit notarized certifications cosigned by manufacturer/supplier and Contractor for:
    - a. Storm drainage pipe, castings and structure materials.
    - b. Fencing components.
    - c. Pavement sub base, base, and surfacing and related materials.
    - d. Grass seed.
    - e. Structural concrete materials.
    - f. Reinforcing steel.
    - g. Pavement marking paint.
    - h. Electrical wire and fixtures.
    - i. Lighting components.
    - j. All other products as required by the drawings, specifications, and Engineer.
  - 2. Submit shop drawings, product data and steel placement plans for:
    - a. All cast-in-place or precast structures.
    - b. Catch basin and manhole grate cover and frame castings.
    - c. Airport lighting equipment and materials.
    - d. Concrete and asphalt mix designs.
    - e. All other products as required by the drawings, specifications, and Engineer.

1.4 MISCELLANEOUS:

- A. Equipment Manual: Prepare an Installation, Operation, and Maintenance Manual for all airport lighting and other installed as a part of this contract. This manual shall be a vinyl notebook with ring bound compilation of manufacturers' instructions and maintenance manuals. Prepare this manual, marking out sections, which do not apply, and present four (4) copies to the Owner through the Engineer after the final inspection is complete. Final payment will not be processed until the Owner has received and accepted the Manual.
  
- B. Weekly Payrolls:
  - 1. In accordance with Section 120 of the General Provisions submit certified weekly payrolls for prime contractor and all subcontractors working at project site.
  - 2. Submit payrolls no later than 7 calendar days after pay period. Payrolls will be considered current if received within 10 calendar days after last workday of payroll



workweek. A workweek is the seven day period between midnight Sunday and midnight the following Sunday.

3. The Contractor is responsible for submission of payrolls by his subcontractors.
4. Submit a typed summary sheet with each payroll submission listing by week when contractor and each subcontractor worked at site.
5. A payroll submission is only required for weeks when Contractor or subcontractor is actually working at the site.

C. EEO Reports:

1. Contractor shall submit Monthly Employment Utilization Report and Annual EEO-1 Report to the appropriate Federal Labor Area Office in accordance with Section 120 of the General Provisions. Submit copy of submittal to Owner for his records.
2. Prime Contractor shall insure that all his first tier subcontractors submit these reports and shall submit a sworn statement to Owner monthly certifying that all subcontractor reports have been submitted as required.

D. DBE Expenditure Reports: With each application for payment, the Contractor shall submit his DBE expenditure report indicating the name, date and amount disbursed to his DBE subcontractors for the period as well as for the project to date expenditure.

E. Security Plan: At preconstruction conference, submit for approval proposed security plan describing specifically how security will be maintained at each access point and work area by Contractor's forces.

F. Warranties and Bonds: Submit as specified in Section 01740.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

END OF SECTION 01300

Page Intentionally Left Blank

## Section 01400

### Quality Control Service

#### PART 1 – GENERAL

- 1.1 RELATED DOCUMENTS: Drawings, General Provisions, Supplementary Conditions, Specifications, and other Contract Documents apply to work of this section.
- 1.2 DESCRIPTION OF REQUIREMENTS:
- A. General: Required inspection and testing services are intended to assist in the determination of probable compliance of the work with requirements specified or indicated. These required services do not relieve the Contractor of responsibility for compliance with these requirements or for compliance with requirements of the Contract Documents.
  - B. Specified Inspection and Tests: Inspection, tests and related actions specified in this section and elsewhere in the Contract Documents are not intended to limit the Contractor's own quality control procedures which facilitate overall compliance with requirements of the Contract Documents.
  - C. Contractor Quality Control: Requirements for the Contractor to provide quality control services as required by the Engineer, the Owner, and the provisions of this section do not limit governing authorities or other authorized entities.
  - D. Contractor's Quality Control Personnel and Laboratory: Contractor shall conform to the requirements of General Provisions Section 100 and all technical specifications as listed in this manual.
- 1.3 RESPONSIBILITIES:
- A. Contractor Responsibilities: Contractor is responsible for his own quality control testing and inspection to insure the quality of his means and methods of construction will produce the specified quality of work, and for any tests and inspections required by regulatory agencies. Costs for these services shall be included in the contract sum. The Contractor may employ and pay an independent agency, testing laboratory or other qualified firm to perform quality control services specified, or qualified contractor personnel may perform these services.
  - B. The Contractor shall submit for Engineer's approval a Quality Control (QC) Plan delineating his methods for each item requiring inspections, tests, and similar services.
  - C. Quality Assurance: The Owner will engage and pay for the services of an independent agency to perform inspections and tests of materials for Quality Assurance. The Owner's quality assurance testing shall in no way relieve the Contractor of the responsibility for providing the quality materials, workmanship and testing required to comply with these specifications.
  - D. Retest Responsibility: Where results of required inspections, tests, or similar services prove unsatisfactory and do not indicate compliance with the requirements of the Contract Documents, then retests are the responsibility of the Contractor, and shall be deducted from monies due the

Contractor on his monthly pay request, regardless of whether the original test was the Contractor's responsibility. Retesting of work revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original work.

E. Responsibility for Associated Services: The Contractor is required to cooperate with the independent agencies performing required inspections, tests, and similar services. Provide such auxiliary services as are reasonably requested. Notify the testing agency sufficiently in advance of operations to permit assignment of personnel. These auxiliary services include but are not necessarily limited to the following:

1. Providing access to the work.
2. Taking samples or providing assistance with taking samples.
3. Delivery of samples to test laboratories.
4. Security and protection of samples and test equipment at the project site.
5. Surveying services required establishing horizontal and vertical location of tests by Engineer's quality assurance testing laboratory.

1.4 SCHEDULE OF SERVICES: Each specification section identifies principal inspections, tests and similar services required by the Contractor Documents.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION: Upon completion of inspection, testing, sample-taking, and similar services performed on the work, repair damaged work and test sites to eliminate deficiencies. Protect work exposed by or for quality control service activities, and protect repaired work. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

3.2 MEASUREMENT AND PAYMENT: No measurement or payment will be made for work in this section; it will be considered as incidental cost to Mobilization and other items of work.

END OF SECTION 01400

## Section 01510

### Temporary Facilities

#### PART 1 – GENERAL

##### 1.1 DESCRIPTION:

- A. Contractor shall furnish, install and maintain temporary utilities required for construction and other temporary facilities as indicated; remove on completion of work.
- B. ~~No construction shall be started until the Engineer's field office is erected, furnished as herein specified, and made available to the Engineer. The office shall be erected at a location designated by the Engineer and shall be separate from any building used by the Contractor.~~
- C. Related requirements are specified in other sections of the specifications.

##### 1.2 REQUIREMENTS OF REGULATORY AGENCIES:

- A. Comply with National Electric Code.
- B. Comply with Federal, State, and Local codes and regulations and with utility company requirements.

#### PART 2 - PRODUCTS

- 2.1 MATERIALS, GENERAL: Materials, furniture, and equipment may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

#### PART 3 – EXECUTION

- 3.1 TEMPORARY ELECTRICITY AND LIGHTING: Provide temporary electrical service required for power and lighting, and pay all costs for service and for power used.
- 3.2 TEMPORARY WATER:
  - A. Provide water for construction purposes; pay all costs for installation, maintenance and removal, and service charges for water used.
  - B. The site is served by an onsite well or municipal water system The Contractor shall make arrangements for securing and providing necessary water as required for the performance of the work.

3.3 TEMPORARY SANITARY FACILITIES:

- A. Provide sanitary facilities in compliance with laws and regulations.
- B. Service, clean and maintain facilities and enclosures.

3.4 TEMPORARY SUPPORT FACILITIES:

- A. General: Provide reasonably neat and uniform in appearance temporary support facilities acceptable to the Engineer and the Owner.
- B. Sitting: Locate field offices, storage and fabrication sheds and other support facilities for easy access to the work. Position office so that windows give the best possible view of construction activities.
- C. Maintenance: Maintain field offices, on-site plants, storage and fabrication sheds, temporary sanitary facilities, waste collection and disposal systems, and project identification and temporary signs until near substantial project completion. Immediately prior to substantial completion remove these facilities

~~D. Testing Laboratory: Furnish a building or trailer at the asphalt concrete plant(s) for performing asphalt concrete quality assurance testing. The building or trailer shall be equipped with all necessary equipment and supplies to sample and conduct all required plant testing. The laboratory shall meet FDOT and OSHA regulations.~~

~~E. Airfield Communications:~~

- ~~1. Contractor shall furnish his construction personnel with sufficient truck and hand held radios to monitor Eglin Ground Control. The Contractor shall furnish 1 hand held radio(s) for use by the Engineer. All radios shall be capable of two way communications with ATC and shall be Communication Specialists, TR 720 Handheld AM Transceivers or approved equal. When working within active runway or taxiway safety areas, project superintendents shall be in constant radio contact with ATC and shall be responsible for controlling the movement of project equipment, vehicles and personnel.~~
- ~~2. Provide the following accessories: 114 VAC wall charger, plug in earphone, car cigarette lighter DC charger, one spare battery, case with belt loop, antenna, and operating manual. Radio shall cover Aviation NAV band \_\_\_\_\_ mH, and COM band \_\_\_\_\_ mH.~~
- ~~3. All radios will remain the property of the Contractor.~~
- ~~4. The Contractor will not be directly compensated for providing two way radios as this work is considered incidental to the work covered by the various contract items.~~

F. Engineer's Field Office: Not required for this project.

G. Staging Area: Contractor shall prepare his staging area and access road by grading, drainage, and placing a four (4) inch thick stone base of coarse aggregate (#57 stone) over the entire

staging area and access road(s). The Contractor shall apply a periodic top dressing to the stone base in order to minimize any fugitive dust or mud during the construction period. Upon completion of the project, the stone base shall be completely removed, the site graded to drain, and then turfed in accordance with Section 570 of the FDOT Standard Specifications.

H. Access and Haul Roads:

1. Locations of access and haul roads will be approved by the Engineer and are shown on the drawings. These roads will be located to minimize conflict with Airport operations and shall be maintained, well defined, and confined to the minimum area required. Damaged roads shall be promptly repaired by the Contractor to the satisfaction of the Engineer at no cost to the Owner.
2. The Contractor shall utilize existing construct the access and haul roads and shall maintain the roads as required to create no dust. All project traffic must be routed through these areas. The Contractor shall provide all markings required to clearly define the access and haul roads.
3. The Contractor will be responsible for obtaining any necessary driveway permit(s) from local or state agencies for access and haul roads.
4. If access or haul roads cross a utility, the Contractor shall protect the utility as directed by the Owner of the utility.
5. There shall be no direct payment for the construction, maintenance, and removal of access and haul roads.

I. Facilities for Night Work:

1. Night work is not required for this contract. However, if the Contractor elects to perform construction activities at night, Contractor shall furnish, install and maintain temporary construction lights to illuminate night work areas during hours of darkness. The equipment used for lighting shall provide a sufficient amount of light to illuminate the work areas satisfactorily for construction and inspection. The Contractor may be required to provide additional lighting units, as directed by the Engineer. Upon completion of each nighttime operation, the lighting equipment shall be removed from the construction area and stored in the Contractor's storage area.
2. The Contractor will be required to coordinate lighting positions with ATC prior to any night work. This coordination will be accomplished and requested through the Engineer.
3. No direct payment shall be made for this item.

3.5 EXECUTION, GENERAL: Maintain and operate systems to assure continuous service.

3.6 REMOVAL:

- A. Completely remove temporary materials and equipment when their use is no longer required.
- B. Clean and repair damage caused by temporary installations or use of temporary facilities. Restore grassed and paved areas to their pre-construction condition.

3.7 MEASUREMENT AND PAYMENT: There shall be no separate measurement and payment for Temporary Facilities. All provisions and removal costs shall be included in Item C-105, Mobilization.

END OF SECTION 01510



## Section 01530

### Airfield Temporary Markings and Barricades

#### PART 1 – GENERAL

##### 1.1 DESCRIPTION:

- A. Provide temporary barricades and as required for safety of aircraft and contractor's work forces, and to maintain use of the various portions of the air operations area during construction.
- B. Comply with referenced FAA Advisory Circulars and the safety and staging plan.
- C. Related work specified elsewhere:
  - 1. Construction safety: General Provisions and General Requirements
  - 2. Staging and safety plan: Contract Drawings and General Requirements

#### PART 2 - PRODUCTS

##### 2.1 BARRICADES:

- A. Low Profile Barricades: Plastic, with alternating diagonal 4” wide reflective white and orange stripes and one battery powered flashing or steady burning red light as shown in the drawings with lights spaced at no more than 10 ft.. Low profile barricades shall be no more than 18 inches high and water filled or anchored with sand bags. An alternate type II barricade that meets the requirements in FAA A/C 150/5370-2G may be used when approved by the Engineer.
- B. Lighted X Barricade: Lighted X to be provided by Owner and maintained by Contractor. Barricade shall be operational at all times during the runway closure. These barricades are to be placed over the runway designation markings.

##### 2.2 PAVEMENT PAINT MARKINGS: As specified in Item P-620.

#### PART 3 – EXECUTION

##### 3.1 GENERAL:

- A. Install at locations shown on the drawings and where directed by Engineer. Generally, place barricades a maximum of 25 feet on centers or as indicated on the drawings. Anchor barricades and markers with sandbags or other methods approved by Engineer.
- B. Maintain barricades until removal is directed by Engineer. The barricade flasher batteries shall be checked daily to insure that flashers are operational. Replace batteries as required.

- C. Remove barricades and markers as directed by Engineer. Repair any damage to pavement or surrounding area caused by markers or barricades.

3.2 MEASUREMENT AND PAYMENT: Work in this section will not be measured. All work and materials covered by this section will be paid for in the lump sum price for Temporary Construction Items, Section P-105.

END OF SECTION 01530

## Section 01600

### Materials and Equipment

#### PART 1 – GENERAL

##### 1.1 REQUIREMENTS:

- A. Material, Equipment, and Products Incorporated into the Work shall conform to applicable specifications and standards; shall comply with size, make, type and quality specified, or as specifically approved in writing by the Engineer; and shall not be used for any purpose other than that for which it is designed or is specified.
- B. Manufactured and Fabricated Products shall be designed, fabricated and assembled in accordance with the best engineering and shop practices. Like parts of duplicate units shall be manufactured to standard sizes and gages, to be interchangeable. Products shall be suitable for service conditions. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless Engineer specifically approves variations in writing.
- C. Related Requirements in Other Parts of the Project Manual: Conditions of the Contract.
- D. Standardization: Unless otherwise approved by the Engineer, items and equipment of a similar type and function shall be furnished by one manufacturer to standardize on replacement parts, service calls, operation and maintenance matters, and to avoid a division of responsibility among several manufacturers.
- E. A single supplier shall be used on principal items of equipment and systems where one or more components are not manufactured by the principal supplier; this is required to place performance and service responsibilities for the entire unit or system with only one supplier or manufacturer.

##### 1.2 PRODUCTS SUBSTITUTIONS AND OPTIONS:

- A. Products List: Contractor shall submit a complete list of products to be incorporated into the work (with the name of the installing contractor) at the Preconstruction Conference required by these specifications.
- B. Contractor's Options:
  - 1. For products specified only by reference standard, select any product meeting that standard.
  - 2. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named, which complies with the specifications.

3. Airport lighting equipment covered by FAA specifications require certification under the Airport Lighting Equipment Certification Program described in Advisory Circular 150/5345-53, latest edition. Select equipment from the Certified Airport Lighting Equipment list appended to the Advisory Circular. An updated list is published biannually.

C. Product Substitutions: Contractor shall submit, at the Preconstruction Conference, all requests for product substitutions. No requests for substitutions will be accepted from manufacturers or suppliers.

Submit a separate written request for each product, supported with complete data, with drawings and samples as appropriate, including:

1. Comparison of the qualities of the proposed substitution with the product specified.
2. Changes required in other elements of the work because of the substitution.
3. Effect on the construction schedule.
4. Cost data comparing the proposed substitution with the product specified.
5. Any required license fees or royalties.
6. Availability of maintenance service, and source of replacement materials.

Engineer shall be the judge of the equality and acceptability of the proposed substitution. If Engineer determines the proposed substitute product is not "equal" to the specified product, the Contractor must provide the specified product, subject to Engineer's shop drawing review and approval.

No further requests for substitutions will be considered after Preconstruction Conference.

- D. Contractor's Representation: A request for a substitution constitutes a representation that Contractor:
1. Has investigated the proposed product and determined that it is equal to or superior in all respects to that specified.
  2. Will provide the same warranties or bonds for the substitution as for the product specified.
  3. Will coordinate the installation of an accepted substitution into the work, and make such other changes as may be required to make the work complete in all respects.
  4. Waives all claims for additional costs, under his responsibility, which may subsequently arise.
- E. Engineer's Review: Engineer will review requests for substitutions with reasonable promptness and notify Contractor, in writing, of the decision to accept or reject the requested substitution.

### 1.3 MANUFACTURER'S INSTRUCTIONS:

- A. Printed Instructions: When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, Contractor shall obtain and distribute copies of such instructions to parties involved in the installation, including copies to Engineer. Maintain one

set of complete instructions at the job site during installation and until completion and acceptance.

- B. Strict Compliance: Handle, install, connect, clean, condition, and adjust products in strict accord with such instructions and in conformity with specified requirements. Should job conditions or specified requirements conflict with manufacturer's instruction, consult with Engineer for further instructions. Do not proceed with work without clear instructions.
- C. Complete Compliance: Perform work in accord with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

#### 1.4 TRANSPORTATION AND HANDLING:

- A. Deliveries: Contractor shall arrange deliveries of products in accord with construction schedules; coordinate to avoid conflict with work and conditions at the site. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible. Immediately on delivery, inspect shipments to assure compliance with requirements of contract documents and approved submittals, and that products are properly protected and undamaged.
- B. Handling: Provide equipment and personnel to handle products by methods to prevent soiling or damage of products or packaging.

#### 1.5 STORAGE AND PROTECTION:

- A. Storage: Store products in accord with manufacturer's instructions, with seals and labels intact and legible. Store products subject to damage by the elements in weather tight enclosures. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
- B. Exterior Storage: Store fabricated products above the ground, on blocking or skids; prevent soiling or staining. Cover products, which are subject to deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.

Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.

- C. Storage Inspection: Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.
- D. Protection after Installations: Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove when no longer needed.

#### PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01600

## Section 01700

### Contract Closeout

#### PART 1 – GENERAL

##### REQUIREMENTS:

Comply with requirements stated in conditions of the contract and in specifications for administrative procedures in closing out the work.

Related requirements in other parts of the Project Manual including fiscal provisions, legal submittals and additional administrative requirements: Conditions of the contract.

Related requirements specified in other sections:

1. Closeout submittals required of trades: The respective sections of specifications.
2. Project Record Documents: Section 01720.
3. Warranties and Bonds: Section 01740.

##### SUBSTANTIAL COMPLETION:

The conditions and procedures for inspection and Contractor's, Engineer's and Owner's responsibilities pertaining to substantial completion are as specified in the General Provisions and in the Supplementary Conditions.

#### PART 2 - PRODUCTS (Not Applicable)

#### PART 3 – EXECUTION

##### FINAL INSPECTION:

Shall be in accordance with conditions and procedures outlined in the Contract Documents. When Engineer finds that the work is acceptable under the Contract Documents, he will request required Contractor's Closeout Submittals.

##### REINSPECTION FEES:

Should Engineer perform reinspections due to failure of the work to comply with the claims of status of completion made by the Contractor, the Owner will compensate Engineer for such additional services. The Owner will deduct the amount of such compensation from the final payment due the Contractor.

##### CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER:

Evidence of compliance with requirements of governing authorities: Certificates of Inspection.

Project Record Documents: Conform to requirements of Section 01720.

Warranties and Bonds: Conform to requirements of Section 01740.

Evidence of payment and release of liens: To requirements of General Provisions and Supplementary Conditions.

Certificates of Insurance for products and completed operations.

Once the Engineer has determined the work is acceptable under the Contract Documents, he will furnish the Contractor appropriate number of copies of the following forms, copies of which are attached:

1. Contractor Warranty Form
2. Affidavit of Payment
3. Affidavit of Release of Liens
4. Final Waiver of Lien
5. Consent of Surety for Final Payment
6. Final DBE Participation Report
7. Advertisement of Completion

PAYMENT: No separate payment will be made under this section for work described or specified herein.



**AFFIDAVIT OF PAYMENT**

To All Whom It May Concern:

WHEREAS, the undersigned has been employed by **CONTRACTOR** to furnish labor and materials for **PROJECT** work, under a contract for the improvement of property described as **PROJECT** in the **CITY** County of **COUNTY**, State of Florida of which **OWNER** is the Owner, NOW, THEREFORE, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

The undersigned, as the Contractor for the above-named Contract pursuant to the Conditions of the Contract hereby certifies that to the best of his knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services, who have or may have liens against any property of the Owner arising in any manner out of the performance of the Contract referenced above. EXCEPTIONS: (If none, write "None". If required by the Owner, the Contractor shall furnish bond satisfactory to the Owner for each exception.)

ATTACHMENTS:

1. Consent of Surety to Final Payment. (Whenever Surety is involved, Consent of Surety is required.)
2. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
3. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers.
4. Contractor's Affidavit of Release of Liens.

\_\_\_\_\_  
CONTRACTOR (Name of sole ownership, corporation or partnership)

\_\_\_\_\_  
(Signature of Authorized Representative)

(Affix corporate seal here)

\_\_\_\_\_  
TITLE

Page Intentionally Left Blank

**AFFIDAVIT OF RELEASE OF LIEN**

To All Whom It May Concern:

WHEREAS, the undersigned has been employed by **CONTRACTOR** to furnish labor and materials for **PROJECT** work, under a contract for the improvement of property described as **PROJECT** in the **CITY** County of **COUNTY**, State of Florida of which **OWNER** is the Owner,

NOW, THEREFORE, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

The undersigned, as the Contractor for the above-named Contract pursuant to the Conditions of the Contract hereby certifies that to the best of his knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services, who have or may have liens against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS: (If none, write "None". If required by the Owner, the Contractor shall furnish bond satisfactory to the Owner for each exception.)

**ATTACHMENTS:**

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
3. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers.

\_\_\_\_\_  
SUBCONTRACTOR (Name of sole ownership, corporation or partnership)

\_\_\_\_\_  
(Signature of Authorized Representative)

(Affix corporate seal here)

\_\_\_\_\_  
TITLE

Page Intentionally Left Blank

**FINAL WAIVER OF LIEN**

To All Whom It May Concern:

WHEREAS, the undersigned has been employed by **CONTRACTOR** to furnish labor and materials for **PROJECT** work, under a contract for the improvement of property described as **PROJECT** in the **CITY** County of **COUNTY**, State of Florida of which **OWNER** is the Owner,

NOW, THEREFORE, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

for and in consideration of the sum of \_\_\_\_\_ Dollars paid simultaneously herewith, the receipt whereof is hereby acknowledged by the undersigned, the undersigned does hereby waive and release any lien rights to, or claim of lien with respect to and on said above-described premises, and the improvements thereon, and on the monies or other considerations due to become due from the owner, on account of labor, services, material, fixtures, apparatus of machinery heretofore or which may hereafter be furnished by the under- signed to or for the above-described premises by virtue of said contract.

\_\_\_\_\_  
CONTRACTOR (Name of sole ownership, corporation or partnership)

\_\_\_\_\_  
(Signature of Authorized Representative)

(Affix corporate seal here)

\_\_\_\_\_  
TITLE

Page Intentionally Left Blank

**CONTRACTOR WARRANTY FORM**

Project Name **PROJECT**

Location **LOCATION**

Owner **OWNER**

We, **CONTRACTOR**, Contractor for the above referenced project, do hereby warrant that all labor and materials furnished and work performed are in accordance with the Contract Documents and authorized modifications thereto, and will be free from defect due to defective materials or workmanship for a period of one year from Date of Substantial Completion. This warranty commences on

\_\_\_\_\_  
(Date of Substantial Completion Affixed by Engineer)

and expires on :

\_\_\_\_\_  
(One Year From Commencement Date)

This warranty covers that portion of the project described below:

Should any defect develop during the warranty period due to improper materials, workmanship or arrangement, the defect shall, upon written notice by the Owner, be made good by the Undersigned at no expense to the Owner.

Nothing in the above shall be deemed to apply to work which has been abused or neglected by the Owner.

\_\_\_\_\_  
Date

\_\_\_\_\_  
CONTRACTOR (Name of sole ownership, corporation or partnership)

\_\_\_\_\_  
(Signature of Authorized Representative)

(Affix corporate seal here)

---

TITLE

Page Intentionally Left Blank



**CONSENT OF SURETY FOR FINAL PAYMENT**

Project Name **PROJECT**

Location **LOCATION**

Owner **OWNER**

Type of Contract Construction

Amount of Contract \$ \_\_\_\_\_

In accordance with the provisions of the above-named contact between the Owner and the Contractor, the following named surety:

**SURETY**

on the Payment Bond of the following named Contractor:

**CONTRACTOR**

hereby approves of final payment to the Contractor, and further agrees that said final payment to the Contractor shall not relieve the Surety Company named herein of any of its obligations to the following named Owner: as set forth in said Surety company's bond:

**OWNER**

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand and seal this DAY day of MONTH 20 \_\_\_\_.

\_\_\_\_\_  
SURETY

\_\_\_\_\_  
(Signature of Authorized Representative)

(Affix corporate seal here)

---

TITLE

IF SIGNED BY ATTORNEY-IN-FACT, POWER OF ATTORNEY MUST BE ATTACHED.

Page Intentionally Left Blank

**ADVERTISEMENT OF COMPLETION**

\_\_\_\_\_  
(Contractor)

\_\_\_\_\_  
(Address)

gives notice of completion of \_\_\_\_\_  
(Project)

and sets \_\_\_\_\_ as the date of final settlement.

All persons and firms should file all claims for payment to the below address prior to the settlement date:

Okaloosa County (Owner)  
ATTN: Contracts and Leases Coordinator  
5479A Old Bethel Road  
Destin, FL 32536

By: \_\_\_\_\_ (Name)

\_\_\_\_\_ (Title)

Leg: \_\_\_\_\_ (Publication Dates)

Page Intentionally Left Blank

## Section 01710

### Cleaning and Disposal

#### PART 1 – GENERAL

- 1.1 DESCRIPTION: Contractor shall execute cleaning during progress of the work and at completion of the work as required by the General Provisions and other specification documents.
- 1.2 DISPOSAL REQUIREMENTS:
- A. Conduct cleaning and disposal operations to comply with all local, state and federal codes, ordinances, regulations, and anti-pollution laws; and with airport and construction safety requirements.
  - B. All disposals of waste materials shall be off airport property at locations approved by the Engineer.
  - C. Contractor shall be responsible for arranging for and obtaining off-site disposal areas, including payment for all costs associated with such disposal.
- 1.3 SUBMITTALS: Prior to beginning work, submit a Disposal Plan for the satisfactory disposal of all waste materials and debris. Submit two (2) copies of the disposal site owner's written permission for such disposal with Disposal Plan.

#### PART 2 - PRODUCTS

- 2.1 MATERIALS:
- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
  - B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.
  - C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

#### PART 3 – EXECUTION

- 3.1 CLEANING: Execute periodic cleaning to keep the work, site and adjacent properties free from accumulations of waste materials, rubbish, windblown debris, and dust resulting from construction operations. Provide on-site containers for the collection of waste materials, debris and rubbish. Remove waste materials, debris and rubbish from the site periodically and dispose of at approved locations.

- 3.2 BARRIERS AND PROTECTION: Protect existing structures and vegetation from cleaning and disposal operations as required.
- 3.3 DUST CONTROL: Schedule cleaning and other operations so that dust and other contaminants resulting there from will not fall on wet or newly coated surfaces, will not damage or contaminate aircraft, and will not unduly affect the work of other airport tenants.
- 3.4 DISPOSAL OF DEBRIS AND WASTE MATERIALS:
- A. If permitted by Owner and local, state and federal regulations, Contractor may dispose of combustible materials on-site by burning. Unguarded fires will not be permitted. Burning will be restricted as follows:
1. Burning of poison oak, poison ivy or other plants of similar nature will be prohibited.
  2. Tires or other combustible waste material shall not be used to augment burning.
  3. Burning operations that may in any way be hazardous to air operations will not be allowed.
- B. Non-combustible and waste materials and ashes shall be removed from the site and disposed of in accordance with the Disposal Plan.
- 3.5 PAYMENT: No separate payment will be made under this section for work described or specified herein.

END OF SECTION 01710

## Section 01720

### Project Record Document

#### PART 1 – GENERAL

##### 1.1 GENERAL REQUIREMENTS:

- A. Contractor shall maintain at the site as specified herein for the Owner one record copy of:
  - 1. Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change orders and other modifications.
  - 5. Engineer field orders or written instructions.
  - 6. Approved shop drawings, product data and samples.
  - 7. Field test records.
  - 8. Laboratory test records.
  
- B. Related requirements in other parts of the Project Manual: Conditions of the Contract.

#### PART 2 - PRODUCTS (Not Used)

#### PART 3 – EXECUTION

##### 3.1 MAINTENANCE OF DOCUMENTS AND SAMPLES:

- A. Store record documents and samples in Contractor's field office apart from documents used for construction.
- B. File documents and samples in accordance with data filing format of the Construction Specifications Institute - MASTERFORMAT.
- C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- D. Make documents and samples available at all times for inspection by Engineer.

##### 3.2 RECORDING:

- A. Stamp or label each document "PROJECT RECORDS" in 3/4-inch letters.
- B. During daily progress of the work, the job superintendent for the Contractor shall record information concurrently with construction progress.

Do not conceal any work until required information is recorded.

- C. Drawings: Legibly mark to record actual construction in color codes designated by the Engineer.
- D. All field data for record information shall be obtained by a surveyor who is a Registered Land Surveyor (RLS) in the state of Florida.
- E. Record Information includes but is not limited to the following:
  - 1. Depths of various elements of foundation in relation to finish reference datum.
  - 2. Horizontal and vertical locations of pavements and underground utilities and appurtenances, referenced to permanent surface improvements or finish reference datum.
  - 3. Field changes of dimension and detail.
  - 4. Changes made by field order or by change order.
  - 5. Details not on original contract drawings.
  - 6. Extent and dimensions of pavement removal.
  - 7. Any other changes in the plans.
  - 8. Storm drainage system construction:
    - a. Exact distance between all catch basins, manholes, points of intersection, and line terminals or headwalls.
    - b. The invert elevation of the end of all pipes, stub outs, and headwalls.
    - c. The rim (top of frame) or top of grate and invert elevations of all manholes, catch basins, and other structures.
  - 9. Electrical construction identification:
    - a. Exact distance between all manholes and points of intersection.
    - b. Exact size and location of duct bank or cable run and what circuits it feeds.
    - c. Exact location of any lines abandoned in place.
    - d. Exact location, type, and size of runway and taxiway edge lights, centerline lights, and/or touchdown zone lights.
    - e. Rim and invert elevation of all manholes and duct banks.
    - f. Depth of cover on direct burial lines.
    - g. Locations of cable splices.
    - h. Location and description of signs.
- F. Specifications and addenda: Legibly mark each section to record:
  - 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
  - 2. Changes made by field order or by change order.
- G. All horizontal control dimensions shall be to the nearest tenth of a foot. Elevations shall be to the nearest one-hundredth of a foot.
- H. Set one (1) Concrete Benchmark and document location and elevation data.



3.3 SUBMITTAL:

- A. Upon completion of the work as described in Section 01010 "Scope of Work", the Contractor shall submit on hard copy and electronic media (AutoCAD 2013 or later from Autodesk), record drawings of all work completed to the Engineer. Record drawings shall include all elevation data points which shall be submitted in 3-d format and shall include, as a minimum the northing, easting, elevation (all in feet) and descriptor for each data point. The Engineer will provide Contractor with AutoCAD drawings of all original construction drawings. Any design information in the drawings that has been changed shall be marked with a strike thru and as-built information shall be added such that the drawings contain the original design and the as- built configuration.
- B. At the close of the job and prior to receipt of final payment, the Contractor shall deliver to the Engineer for the Owner two complete hard copy sets of Record Documents meeting the requirements of 3.3(A) plus the number of sets required by all regulatory agencies. The final Pay Request will not be processed until receipt and acceptance by the owner and all regulatory agencies of the record drawings for the project. All hard copy submittals shall be signed and sealed by a Professional Land Surveyor licensed in the State of Florida.
- C. Accompany submittal with transmittal letter containing:
  - 1. Date.
  - 2. Project title and number.
  - 3. Contractor's name and address.
  - 4. Title and number of each record document.
  - 5. Signature of Contractor or his authorized representative.

3.4 PAYMENT: No separate payment will be made under this section for work described or specified herein.

END OF SECTION 01720

Project Intentionally Left Blank

## Section 01740

### Warranties and Bonds

#### PART 1 – GENERAL

##### 1.1 GENERAL REQUIREMENTS:

- A. Contractor shall:
  - 1. Compile specified warranties and bonds.
  - 2. Compile specified service and maintenance contracts.
  - 3. Co-execute submittals to verify compliance with Contract Documents.
  - 4. Review submittals to verify compliance with Contract Documents.
  - 5. Submit to Engineer for review and transmittal to Owner.
  
- B. Related requirements in other parts of the Project Manual: Conditions of the Contract.
  - 1. Bid Bonds: Instructions to bidders.
  - 2. Performance Bond and Payment Bond: Conditions of the contract.
  - 3. General warranty of construction: Conditions of the contract.
  
- C. Related requirements specified in other sections:
  - 1. Warranties and Bonds required for specific products:  
Each respective section of specifications.
  - 2. Provisions and duration of Warranties and Bonds:  
The respective section of specifications, which specifies the product.
  - 3. Contract closeout: Section 01700
  - 4. Equipment Manuals: Section 01300

#### PART 2 - PRODUCTS (Not Used)

#### PART 3 – EXECUTION

##### 3.1 SUBMITTAL REQUIREMENTS:

- A. Assemble warranties, bonds, and service and maintenance contracts, executed by each of the respective manufacturers, suppliers, and subcontractors.
  
- B. Number of original signed copies required: Two (2) each.
  
- C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.
  - 1. Product or work item.
  - 2. Firm, with name of principal, address and telephone number.
  - 3. Scope.

4. Date of beginning of warranty, bond, or service and maintenance contract.
5. Duration of warranty, bond, or service and maintenance contract.
6. Provide information for Owner's personnel:
  - a. Proper procedure in case of failure.
  - b. Instances, which might affect the validity of warranty or bond.
7. Contractor, name of responsible principal, address and telephone number.

### 3.2 FORM OF SUBMITTALS:

- A. Prepare in duplicate packets.
- B. Format:
  1. Size 8 1/2 inches x 11 inches. Punch sheets for 3-ring binder. Fold larger sheets to fit into binders.
  2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS". List:
    - a. Project title and number.
    - b. Owner's name.
    - c. Contractor's name and address.
- C. Binders: Commercial quality, 3-ring, with durable and cleanable plastic covers.

### 3.3 TIME OF SUBMITTALS:

- A. Submit within ten (10) days after date of substantial completion, and prior to final request for payment.
- B. For items of work where acceptance is delayed materially beyond the date of substantial completion, provide updated submittal within ten (10) days after acceptance, listing the date of acceptance as the start of the warranty period.

### 3.4 SUBMITTALS REQUIRED: Submit warranties, bonds, and service and maintenance contracts as specified in the respective sections of specifications.

### 3.5 PAYMENT: No separate payment will be made under this section for work described or specified herein.

END OF SECTION 01740

### 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, off-site 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 **on-site** 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.** Contractor Quality Control Program (CQCP) is for the personnel, tests, facilities and documentation required to implement the CQCP. The CQCP will be paid as a lump sum with the following schedule of partial payments:

- a. With first pay request, 25% with approval of CQCP and completion of the Quality Control (QC)/Quality Assurance (QA) workshop.
- b. When 25% or more of the original contract is earned, an additional 25%.
- c. When 50% or more of the original contract is earned, an additional 20%.
- d. When 75% or more of the original contract is earned, an additional 20%
- e. After final inspection and acceptance of project, the final 10%.

### BASIS OF PAYMENT

**100-14 Payment will be made under:**

Item C-100-14.1 Contractor Quality Control Program (CQCP)

### 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**

Page Intentionally Left Blank

## 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-901 shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover. Selected grass species shall not create a wildlife attractant.

**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.** 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 **linear foot**.~~

**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** Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the RPR and measured as provided in paragraph 102-4.1 will be paid for under:

No direct payment will be made for temporary water pollution, soil erosion, and siltation control.

Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

Temporary control features not covered by contract items that are ordered by the RPR will be paid for in accordance with Section 90, paragraph 90-05 *Payment for Extra 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.

Advisory Circulars (AC)

AC 150/5200-33

*Hazardous Wildlife Attractants on or Near Airports*

DESTIN, FL  
DESTIN EXECUTIVE AIRPORT  
TAXIWAY PREVENTATIVE REHABILITATION  
& LIGHTING IMPROVEMENTS

C-102-3

TEMPORARY AIR AND WATER POLLUTION,  
SOIL EROSION, AND SILTATION CONTROL  
OCTOBER, 2019  
BID DOCUMENTS

AC 150/5370-2            *Operational Safety on Airports During Construction*  
ASTM International (ASTM)  
ASTM D6461            *Standard Specification for Silt Fence Materials*  
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” partial payments will be allowed as follows:

- a. With first pay request, 25%.
- b. When 25% or more of the original contract is earned, an additional 25%.
- c. When 50% or more of the original contract is earned, an additional 40%.
- d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by Section 90, paragraph 90-11, *Contractor Final Project Documentation*, the final 10%.

### BASIS OF PAYMENT

**105-6 Payment will be made under:**

Item C-105-6.1 Mobilization -- per 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.

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 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. ~~If the material is to be wasted on the airport site, it shall be reduced to a maximum size of [ ]~~. 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 underlying material that is to remain in place, shall be recompact 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. ~~If the material is to be wasted on the airport site, it shall be broken to a maximum size of [ ] inches (mm)~~.

**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 1/4 inch (6 mm). Any excess joint or crack sealer shall be removed from the pavement surface.

**101-3.3 Removal of Foreign Substances/contaminates prior to seal-coat.** 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.

**High-pressure water** 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 underlying 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 (+0 mm and -6mm) 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 **routing**. 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 100% of ASTM D1557.

**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 100% of ASTM D1557, when outside of paved areas must be compacted to 95% of ASTM D698.

#### METHOD OF MEASUREMENT

**101-4.1 Pavement removal.** The unit of measurement for pavement removal shall be the number of square yards (square meters) removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal.

**101-4.7 Removal of Pipe and other Buried Structures.** The unit of measurement for removal of pipe and other buried structures will be made at the contract unit price for each completed and accepted item. This price shall be full compensation for all labor, equipment, tools, and incidentals necessary to complete this item in accordance with paragraph 101-3.9.4.

#### BASIS OF PAYMENT

**101-5.1 Payment.** Payment shall be made at contract unit price for the unit of measurement as specified above. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Item P 101-5.1	Bituminous Pavement Removal, Full Depth – per square yard
Item P-101-5.2	Concrete Pavement Removal, Full Depth – per square yard
Item P-101-5.3	Removal of Pipe – per linear foot

## 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

**END OF ITEM P-101**





## ITEM P-102 SAFETY AND SECURITY

### GENERAL

**102-1.1** The provisions of this safety and security plan and associated procedures are applicable within the boundaries of the Airport. A complete understanding of all procedures and requirements contained herein is required to ensure safety during construction. The Airport has completed a Construction Safety and Phasing Plan (CSPP), see attached at end of this item section. It is required that the contractor comply with this CSPP at all times during the project. The contractor shall be required to submit for approval a Safety Plan Compliance Document (SPCD) which details how the contractor will comply with the CSPP. This safety plan is a part of this Contract and deviations from the requirements established herein will be sufficient cause for Contract termination.

Required reference material associated with this safety plan includes the latest edition of the following:

FAA AC 150/5200-18, Airport Safety Self-Inspection

FAA AC 150/5210-5, Painting, Marking and Lighting of Vehicles Used on an Airport

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

Copies of these documents can be obtained online or from the Engineer.

### CONTRACTOR SAFETY AND SECURITY OFFICER

**102-2.1 CONTRACTOR SAFETY AND SECURITY OFFICER (CSSO).** The Contractor shall appoint its on-site Construction Superintendent or other qualified individual(s) as its duly authorized representative to serve as Contractor Safety and Security Officer (CSSO) for the duration of the Contract. The CSSO shall thoroughly understand the safety and security requirements of the Contract, the necessity for them and shall have sufficient authority to implement its provisions without significant deviation. The Contractor shall notify the Engineer in writing of the name of the individual(s) selected for the assignment.

The CSSO shall represent the Contractor on safety and security requirements compliance. The CSSO shall be especially knowledgeable regarding the requirements of FAA AC's 150/5200-18, Airport Self Inspection Guide, latest edition, and 150/5370-2 Operational Safety on Airports During Construction, latest edition.

**102-2.2 RESPONSIBILITIES OF THE CONTRACTOR SAFETY AND SECURITY OFFICER.** Prior to the desired date for commencement of any work on the project, the CSSO shall accomplish the following:

**a.** Develop and submit in writing a detailed work sequence schedule with dates and times specified for all milestone events. This sequence schedule shall conform, as a minimum, to the events specified in Section 3.1, Construction Sequence, and shall be subject to the approval of the Engineer. To assure adequate time for coordination, this document shall be submitted at least one week prior to the date of the Preconstruction Conference.

**b.** Develop and submit in writing a detailed outline of the procedures to be followed to maintain safety and security of both Contractor operations and the integrity of airport landside and airside operations during the prosecution of contract work. This plan shall detail, in addition, the procedures to be followed in the event of an accident or fire involving Contractor personnel and the Contractor's efforts to maintain fire protection and security. These procedures shall be subject to the approval of the Engineer and reflect any change as may be deemed necessary.

c. Conduct at least one meeting of all Contractor supervisory personnel prior to the start of contract work. The purpose of this meeting is to review the approved Work sequence schedule and safety and security procedures. Attendance at this meeting by the CSSO, all Contractor supervisory personnel and the Engineer is mandatory. This meeting shall also be open to other employees of the Contractor and others as the Engineer may deem appropriate. Minutes of this meeting shall be taken by the CSSO, copies provided to each supervisor and kept on file in the Contractor's construction office for periodic review and updating.

d. Develop a safety and security orientation program and provide a briefing for all employees of the Contractor and subcontractors that will be used on the project. A similar briefing will be given to new employees prior to their use on contract work. In addition, the CSSO shall be responsible for briefing, from time to time, all Contractor personnel on any changes to safety and security measures deemed necessary.

e. Submit a Safety Plan Compliance Document (SPCD) to the airport operator describing how it will comply with the requirements of the CSPP and supplying any details that could not be determined before contract award. The SPCD must include a certification statement by the contractor that indicates it understands the operational safety requirements of the CSPP and it asserts it will not deviate from the approved CSPP and SPCD unless written approval is granted by the airport operator. Any construction practice proposed by the contractor that does not conform to the CSPP and SPCD may impact the airport's operational safety and will require a revision to the CSPP and SPCD and re-coordination with the airport operator and the FAA in advance.

- a. **The Safety Plan Compliance Document (SPCD)** should include a general statement by the construction contractor that he/she has read and will abide by the CSPP. In addition, the SPCD must include all supplemental information that could not be included in the CSPP prior to the contract award. The contractor statement should include the name of the contractor, the title of the project CSPP, the approval date of the CSPP, and a reference to any supplemental information (that is, "I, Name of Contractor, have read the Title of Project CSPP, approved on Date, and will abide by it as written and with the following additions as noted:"). The supplemental information in the SPCD should be written to match the format of the CSPP indicating each subject by corresponding CSPP subject number and title. If no supplemental information is necessary for any specific subject, the statement, "No supplemental information," should be written after the corresponding subject title. The SPCD should not duplicate information in the CSPP:

- i. **Coordination.** Discuss details of proposed safety meetings with the airport operator and with contractor employees and subcontractors.
- ii. **Phasing.** Discuss proposed construction schedule elements, including:
  1. Duration of each phase.
  2. Daily start and finish of construction, including "night only" construction.
  3. Duration of construction activities during:
  4. Normal runway operations.
  5. Closed runway operations.
  6. Modified runway "Aircraft Reference Code" usage.
- iii. **Areas and operations affected by the construction activity.** These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.

- iv. **Protection of NAVAIDs.** Discuss specific methods proposed to protect operating NAVAIDs.
- v. **Contractor access.** Provide the following:
  - 1. Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).
  - 2. Listing of individuals requiring driver training (for certificated airports and as requested).
  - ~~3. Radio communications.~~
  - ~~4. Types of radios and backup capabilities.~~
  - ~~5. Who will be monitoring radios.~~
  - ~~6. Whom to contact if the ATCT cannot reach the contractor's designated person by radio.~~
  - ~~7. Details on how the contractor will escort material delivery vehicles.~~
- vi. **Wildlife management.** Discuss the following:
  - 1. Methods and procedures to prevent wildlife attraction.
  - 2. Wildlife reporting procedures.
- vii. **Foreign Object Debris (FOD) management.** Discuss equipment and methods for control of FOD, including construction debris and dust.
- viii. **Hazardous material (HAZMAT) management.** Discuss equipment and methods for responding to hazardous spills.
- ix. **Notification of construction activities.** Provide the following:
  - 1. Contractor points of contact.
  - 2. Contractor emergency contact.
  - 3. Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.
  - 4. Batch plant details, including 7460-1 submittal.
- x. **Inspection requirements.** Discuss daily (or more frequent) inspections and special inspection procedures.
- xi. **Underground utilities.** Discuss proposed methods of identifying and protecting underground utilities.
- xii. **Penalties.** Penalties should be identified in the CSPP and should not require an entry in the SPCD.
- xiii. **Special conditions.** Discuss proposed actions for each special condition identified in the CSPP.
- xiv. **Runway and taxiway visual aids.** Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:
  - 1. Equipment and methods for covering signage and airfield lights.
  - 2. Equipment and methods for temporary closure markings (paint, fabric, other).
  - 3. Types of temporary Visual Guidance Slope Indicators (VGSI).
- xv. **Marking and signs for access routes.** Discuss proposed methods of demarcating access routes for vehicle drivers.
- xvi. **Hazard marking and lighting.** Discuss proposed equipment and methods for identifying excavation areas.
- xvii. **Protection of runway and taxiway safety areas.** including object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:

1. Equipment and methods for maintaining Taxiway Safety Area standards.
  2. Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
- xviii. **Other limitations on construction** should be identified in the CSPP and should not require an entry in the SPCD.
- b. Have available at all times copies of the CSPP and SPCD for reference by the airport operator and its representatives, and by subcontractors and contractor employees.
  - c. Ensure that construction personnel are familiar with safety procedures and regulations on the airport. Provide a point of contact who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport. Contractor shall provide 24-hour coverage.
  - d. Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site whenever active construction is taking place.
  - e. Conduct inspections sufficiently frequently to ensure construction personnel comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.
  - f. Restrict movement of construction vehicles and personnel to permitted construction areas by flagging, barricading, erecting temporary fencing, or providing escorts, as appropriate and as specified in the CSPP and SPCD.
  - g. Ensure that no contractor employees, employees of subcontractors or suppliers, or other persons enter any part of the air operations area (AOA) from the construction site unless authorized.
  - h. The Contractor shall submit and receive approval of SPCD prior to issuance of Notice to Proceed.

## CONSTRUCTION SEQUENCING

**102-3.1 CONSTRUCTION SEQUENCE.** The Contractor shall prepare a construction schedule and submit to the Engineer at least one week prior to the pre-construction conference.

**102-3.2 CLOSING RUNWAYS.** The Contractor shall acquaint his supervisors and employees with the sequence of construction and its relationship to airport activity and aircraft operations that are inherent to this airport. No runway, taxiway, apron or airport roadway shall be closed without the written approval of the Owner, to enable necessary NOTAMS and/or advisories to airport fixed based operators (FBOs), tenants and users.

The Contractor shall contact the Owner/Engineer a minimum of 72 hours prior to any requested closing. Any deviations to closures listed in contractor's initial schedule for phasing shall be coordinate 2 weeks in advance.

Any construction activity within 250 feet of the centerline of an active runway (runway safety area) or within 93 feet of the centerline of an active taxiway or apron (taxilane object free area) requires the closure of the affected area. These safety areas are shown on the phasing plan.

The Engineer will arrange for an inspection prior to return to service of any facility, that has been closed for work, on or adjacent thereto, or that has been used for a crossing point or haul route by the Contractor.

## **MARKING AND LIGHTING**

**102-4.1** Proper marking and lighting of areas on the airfield associated with the construction shall be the responsibility of the Contractor and shall be described by the SPCD. This will include properly marking and lighting closed runways, taxiways, taxilanes, and aprons, the limits of construction, material storage areas, equipment storage areas, haul routes, parking areas and other areas defined as required for the Contractor's exclusive use. The Contractor shall erect and maintain around the perimeter of these areas suitable marking and warning devices visible for day and night use. Temporary barricades, flagging, and flashing warning lights shall be required at critical access points. The type and location of marking and warning devices will be approved by the Engineer.

Special emphasis shall be given to open trenches, excavations, heavy equipment marshalling areas, and stockpiled material located in the airport operations area, which shall be predominantly marked by the Contractor with flags and lighted by approved light units during hours of restricted visibility and darkness. All marking shall be in accordance with FAA Advisory Circular (AC) 150/5340-1, latest edition.

## **TRAFFIC CONTROL**

**102-5.1 VEHICLE IDENTIFICATION.** The Contractor shall establish and maintain a list of Contractor and subcontractor vehicles authorized to operate on the site. Contractor employee vehicles shall be restricted to the Contractor's staging area and are not allowed in the Airport Operations Area (AOA) at any time. To be authorized to operate on the airport, each Contractor or subcontractor's vehicle shall:

**a.** be marked/flagged for high daytime visibility and lighted for nighttime operations. Vehicles that are not marked and/or lighted shall be escorted by a vehicle appropriately marked and/or lighted. Vehicles requiring escort shall be identified on the list.

**b.** be identified with the name and/or logo of the Contractor and be of sufficient size to be identified at a distance. Vehicles needing intermittent identification could be marked with tape or with commercially available magnetically attached markers. Vehicles that are not appropriately identified shall be escorted by a vehicle that conforms to this requirement. Vehicles requiring escort shall be identified on the list.

**c.** be operated in a manner that does not compromise the safety of either landside or airside airport operations. If, in the opinion of the Engineer, any vehicle is operated in a manner not fully consistent with this requirement, the Engineer has the right to restrict operation of the vehicle or prohibit its use on the airport.

**102-5.2 ACCESS TO THE SITE OF CONSTRUCTION.** The Contractor's access to the site shall be as shown on the Contract Layout Plan. No other access points shall be allowed unless approved by the Engineer and Owner. All Contractor traffic authorized to enter the site shall be experienced in the route or guided by Contractor personnel. The Contractor shall be responsible for traffic control to and from the various construction areas on the site, and for the operation and security of the access gate to the site. A Contractor's flagman or traffic control person shall monitor and coordinate all Contractor traffic at the access gate with Airport Security. The Contractor shall not permit any unauthorized construction personnel or traffic on the site. Access gates to the site shall be locked and secured at all times when not attended by the Contractor. If the Contractor chooses to leave any access gate open, it shall be attended by Contractor personnel who are familiar with the requirements of the Airport Security Program. The Contractor is responsible for the immediate cleanup of any debris deposited along the access route as a result of his construction traffic. Directional signing from the access gate along the delivery route to the storage area,

plant site or work site shall be as directed by the Engineer. In addition, the following requirements are applicable:

**a.** All Contractor traffic authorized to travel on the airport shall have been briefed as part of the Contractor's construction safety and security orientation program, be thoroughly familiar with the access procedures and route for travel or be escorted by personnel authorized by the Contractor Safety and Security Officer (CSSO).

**b.** The Contractor shall install work site identification signs at the authorized access point(s). If, in the opinion of the Engineer, directional signs are needed for clarity, they shall be installed along the route authorized for access to each construction site.

**c.** Under no circumstance will Contractor personnel be permitted to drive their individually owned vehicles to any construction site on the airport. All vehicles must be parked in the area designated for employee parking and out of secured airport property.

**d.** In addition to the inspection and cleanup required at the end of each shift, the Contractor is responsible for the immediate cleanup of any debris generated along the construction site access route(s) as a result of construction related traffic or operations whether or not created by Contractor personnel.

**102-5.3 MATERIAL SUPPLIERS.** All material suppliers, subcontractors and visitors to the work site are obligated to follow the same safety and security operating procedures as the Contractor. All material suppliers shall make their deliveries using the same access points and routes as the Contractor and shall be advised of the appropriate delivery procedures at the time the materials order is placed. The Contractor shall not use the Airport address for any delivery but shall use the street address appropriate to the location of the entrance of the work site. If it is not practical to conform to the vehicle identification requirements of Section 102-5.1 and the safety and security operations program requirements of Section 102-2.2, the Contractor shall be prepared to escort all suppliers, subcontractors and visitors while they are on the airport.

**102-5.4 PERSONNEL IDENTIFICATION.** All employees, agents, vendors, invitees, etc. of the Contractor or subcontractors requiring access to the construction site shall, in accordance with the project CSPP, be required to display identification and be under escort by properly authorized personnel.

## GENERAL SAFETY REQUIREMENTS

**102-6.1** All Contractor vehicles that are authorized to operate on the airport outside of the designated construction area limits or haul routes as defined herein shall display in full view above the vehicle a flashing amber (yellow) dome-type light or a three-foot by three-foot, or larger, orange and white checkerboard flag, each checkerboard color being one-foot square. Vehicles must be under control of a Contractor mobile (two-way) radio operator (flagmen) monitoring the Airport frequency. Vehicle operators must be vigilant for conflict with any aircraft and give way to any operating aircraft.

All Contractor vehicles that are required to operate outside of the construction area limits as defined herein and cross active airfield pavements or clear zones shall do so under the direct control of a flagman who is monitoring the Airport ground frequency. Flagmen and two-way radios shall be furnished by the Contractor. Flagmen shall be instructed in the use of two-way radios prior to use. All aircraft traffic on runways, taxiways and aprons shall have priority over Contractor's traffic.

Construction vehicles not in use for extended periods during the work day, or during nights and weekends (nonwork periods) shall be parked away from active runways, taxiways, and aprons in designated vehicle marshalling areas.

**102-6.2** In order to protect all aircraft traffic, aviation related businesses, terminal apron areas, etc. from potential damage caused by foreign object debris (FOD) generated by construction activities, the Contractor

shall provide a vacuum truck as required at the startup of construction to vacuum all pavements affected by construction daily or as required by the Engineer. The vacuum truck shall remain on-site for the duration of the project and shall be available at the discretion of the Owner to vacuum pavement areas adjacent to the construction areas to ensure no FOD is present on pavements within 500 feet of any construction area. Protecting the aircraft, airport tenants, users, public, etc. against FOD is a critical safety issue therefore the cost of the vacuum truck will be included in the cost established for this specification item.

### **CONSTRUCTION CONTROL**

**102-7.1** A primary and alternate responsible Contractor's representative shall be designated by the Contractor. The Contractor's representatives shall be available locally on a 24-hour basis. Names of the primary and alternate, including phone number, shall be made available to the Engineer by the Contractor. The Contractor shall insure that the names and phone numbers are kept current and made available to the Engineer.

### **CONSTRUCTION TECHNIQUES**

**102-8.1** Construction shall be planned and conducted throughout this project in such a manner as to allow the maintenance of completely safe airport operations. Every effort shall be made to reduce the impact of construction activity on overall airport operations. To this end the Contractor's activities shall be conducted in such a manner so as to preclude, except where absolutely required, open excavations, trenches, ditches and above ground obstacles such as booms on cranes or obstacle markers such as wooden saw horses. The primary responsibility for assuring that the safest possible construction techniques are followed rests with the Contractor Safety and Security Officer (CSSO).

### **METHOD OF MEASUREMENT**

**102-9.1** The item of Safety and Security and Safety Plan Compliance Document shall be measured as a lump sum item when required and furnished for the life of the Contract.

### **BASIS OF PAYMENT**

**102-10.1** Payment shall be made for airport safety and security measures for personnel and/or materials related to this specification item and incidentally required to satisfy the specified objective(s) under the items listed below. This compensation shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item

PARTIAL PAYMENTS. Partial payments will be made in accordance with the following:

<u>Percentage of Original Contract Earned</u>	<u>Allowable Percent of the Lump Sum Price for the Item</u>
5	15
15	20
25	25
50	50
75	75
100 (or Contract Completion)	100

RS&H

Payment shall be made under:

Item P-102-10.1          Safety and Security – per lump sum

**TESTING REQUIREMENTS**

**102-11.1** None.

**END OF ITEM P-102**



## ITEM P-105 TEMPORARY CONSTRUCTION ITEMS

### DESCRIPTION

**105-1.1** This item consists of furnishing all labor, materials and equipment for temporary construction items necessary for the safe and proper execution of work and not otherwise included in other contract bid items. The Contractor will be expected to supply and utilize the items listed below and other items contained in the plans and specifications, with the cost of all temporary construction. Temporary construction items to be provided include, but are not limited to the following: flaggers, bonded security guards, portable floodlighting, protection of existing utilities to ensure service continuity, jumper cables and splices to maintain airfield lighting systems and control cable functions, steel plates for temporary covering of excavations and structures as required, construction barricades, test pitting, and men and equipment as needed to keep all areas free of debris.

### MATERIALS

**105-2.1 LOW PROFILE BARRICADES.** Low profile barricades shall be placed in accordance with the details shown in the plans and shall be placed in accordance with the Phasing Plan and Phasing Notes drawings.

**105-2.2 PORTABLE FLOODLIGHTING.** Portable floodlighting shall be provided, as required, for construction which must occur during nighttime operations. The Contractor shall provide sufficient units so that all work areas are illuminated to a level of 5 horizontal foot-candles. The lighting levels shall be calculated and measured in accordance with the current standards of the Illumination Engineering Society.

**105-2.3 STEEL PLATES.** Steel plates of adequate size and thickness shall be furnished as necessary to cover temporary excavations, unfinished structures or surfaces requiring protection or for safety purposes. Plates shall be securely fastened down and shall be adequate to safely support any anticipated loadings to be imposed.

**105-2.4 ELECTRICAL ITEMS.** Any temporary jumpers needed for the continuation of the centerline or edge lighting circuits shall used new L-824, 5 KV, Type C cable with L-823 splices to connect to the existing transformers.

**105-2.5 RUNWAY CLOSURE MARKINGS (LIGHTED Xs).** Lighted X's for use during the runway closures as identified in the project plans.

**105-2.6 ACCESS GATE / HAUL ROUTE.** Temporary site access gate to Contractor Staging Area, as shown on the plans, shall be included. Construction and maintenance of haul routes to access the work area, and re-establishment of turf/fencing to original condition.

**105-2.7 TEMPORARY ELECTRICAL JUMPERS.** Electrical cable, connections and appurtenances necessary to keep active airfield pavement lighting operational during construction. Areas to be kept in operation during specific phases are indicated on the plans.

**105-2.8 MISCELLANEOUS ITEMS.** Other items as identified in these construction documents or project plans that are not specifically paid for via other methods.

### CONSTRUCTION METHODS

**105-3.1 CONSTRUCTION BARRICADES.** Barricades shall be placed around each phase of the work in accordance with the Phasing Plan and shall remain in place until completion of work in each phase.

**105-3.2 FLAGGERS AND BONDED SECURITY GUARDS.** Flaggers and guards shall be provided, as necessary, to control the Contractor's traffic during the prosecution of work. All Contractor vehicles or equipment that are required to cross active airfield pavement or safety areas shall do so under the direct control of a competent flagger equipped with an airfield radio.

**105-3.3 PORTABLE FLOODLIGHTING.** Portable floodlighting is required for construction during periods of limited visibility (i.e., nighttime). Illumination requirements shall be those contained in Paragraph 105-2.2, or otherwise within individual specifications.

### METHOD OF MEASUREMENT

**105-4.1** No direct measurement will be made for this item. Payment will be made on a lump sum basis.

### BASIS OF PAYMENT

**105-5.1** Payment will be made at the lump sum bid price for Temporary Construction Items. This payment shall be full compensation for furnishing all materials and labor for placing, moving and removing construction barricades and steel plates, providing flaggers, furnishing portable floodlighting, test pitting, and for any other labor, materials, equipment, tools and incidentals necessary for temporary items required for construction of this work.

Partial payments will be allowed as follows:

- a. With first pay request, 25%.
- b. When 25% or more of the original contract is earned, an additional 25%.
- c. When 50% or more of the original contract is earned, an additional 40%.
- d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by Section 90-11 of the General Provisions, the final 10%.

\* The Percent of Contract Amount Earned equals the work completed to date (including the total of all previous mobilization) plus or minus work completed associated with executed change orders, if any, divided by the Total Original Contract Amount plus or minus the Total Executed Change Order Amounts, if any.

Payment will be made under:

Item P-105-5.1                      Temporary Construction Items - Per Lump Sum.

### TESTING REQUIREMENTS

**105-6.1** None.

### END OF ITEM P-105

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

**DESCRIPTION**

**153-1.1** This item shall consist of furnishing, transporting, and placing a controlled low-strength material (CLSM) as flowable backfill in trenches or at other locations shown on the plans or as directed by the Resident Project Representative (RPR).

**MATERIALS**

**153-2.1 Materials.**

**a. Cement.** Cement shall conform to the requirements of ASTM C150 Type I, II, and V.

**b. Fly ash.** Fly ash shall conform to ASTM C618, Class C or F.

**c. Fine aggregate (sand).** Fine aggregate shall conform to the requirements of ASTM C33 except for aggregate gradation. Any aggregate gradation which produces the specified performance characteristics of the CLSM and meets the following requirements, will be accepted.

Sieve Size	Percent Passing by weight
3/4 inch (19.0 mm)	100
No. 200 (75 µm)	0 - 12

**d. Water.** Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

**MIX DESIGN**

**153-3.1 Proportions.** The Contractor shall submit, to the RPR, a mix design including the proportions and source of aggregate, fly ash, cement, water, and approved admixtures. No CLSM mixture shall be produced for payment until the RPR has given written approval of the proportions. The proportions shall be prepared by a laboratory and shall remain in effect for the duration of the project. The proportions shall establish a single percentage or weight for aggregate, fly ash, cement, water, and any admixtures proposed. Laboratory costs are incidental to this item.

**a. Compressive strength.** CLSM shall be designed to achieve a 28-day compressive strength of 100 to 200 psi (690 to 1379 kPa) when tested in accordance with ASTM D4832, with no significant strength gain after 28 days.

**b. Consistency.** Design CLSM to achieve a consistency that will produce an approximate 8-inch (200 mm) diameter circular-type spread without segregation. CLSM consistency shall be determined per ASTM D6103.

**CONSTRUCTION METHODS**

**153-4.1 Placement.**

**a. Placement.** CLSM may be placed by any reasonable means from the mixing unit into the space to be filled. Agitation is required during transportation and waiting time. Placement shall be performed so structures or pipes are not displaced from their final position and intrusion of CLSM into unwanted areas is avoided. The material shall be brought up uniformly to the fill line shown on the plans or as directed by the RPR. Each placement of CLSM shall be as continuous an operation as possible. If CLSM is placed in more than one lift, the base lift shall be free of surface water and loose foreign material prior to placement of the next lift.

**b. Contractor Quality Control.** The Contractor shall collect all batch tickets to verify the CLSM delivered to the project conforms to the mix design. The Contractor shall verify daily that the CLSM is consistent with 153-3.1a and 153-3.1b. Adjustments shall be made as necessary to the proportions and materials as needed. The Contractor shall provide all batch tickets to the RPR.

**c. Limitations of placement.** CLSM shall not be placed on frozen ground. Mixing and placing may begin when the air or ground temperature is at least 35°F (2°C) and rising. Mixing and placement shall stop when the air temperature is 40°F (4°C) and falling or when the anticipated air or ground temperature will be 35°F (2°C) or less in the 24-hour period following proposed placement. At the time of placement, CLSM shall have a temperature of at least 40°F (4°C).

**153-4.2 Curing and protection**

**a. Curing.** The air in contact with the CLSM shall be maintained at temperatures above freezing for a minimum of 72 hours. If the CLSM is subjected to temperatures below 32°F (0°C), the material may be rejected by the RPR if damage to the material is observed.

**b. Protection.** The CLSM shall not be subject to loads and shall remain undisturbed by construction activities for a period of 48 hours or until a compressive strength of 15 psi (105 kPa) is obtained. The Contractor shall be responsible for providing evidence to the RPR that the material has reached the desired strength. Acceptable evidence shall be based upon compressive tests made in accordance with paragraph 153-3.1a.

**153-4.3 Quality Assurance (QA) Acceptance.** CLSM QA acceptance shall be based upon batch tickets provided by the Contractor to the RPR to confirm that the delivered material conforms to the mix design.

**METHOD OF MEASUREMENT**

**153-5.1 Measurement.**

No separate measurement for payment shall be made for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

**BASIS OF PAYMENT**

**153-6.1 Payment.**

No payment will be made separately or directly for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

**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 C33	Standard Specification for Concrete Aggregates
ASTM C150	Standard Specification for Portland Cement
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D4832	Standard Test Method for Preparation and Testing of Controlled Low-Strength Material (CLSM) Test Cylinders
ASTM D6103	Flow Consistency of Controlled Low Strength Material (CLSM)



## 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, or crushed slag 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, or slag that 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
<b>Coarse Aggregate</b>		
Resistance to Degradation	Loss: 45% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate <b>or</b> 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 100% with at least one fractured face <sup>1</sup>	ASTM D5821
Flat Particles, Elongated Particles, or Flat and Elongated Particles	10% maximum, by weight, of flat, elongated, or flat and elongated particles <sup>2</sup>	ASTM D4791
Bulk density of slag	Weigh not less than 70 pounds per cubic foot (1.12 Mg/cubic meter)	ASTM C29
<b>Fine Aggregate</b>		
Liquid limit	Less than or equal to 25	ASTM D4318
Plasticity Index	Not more than five (5)	ASTM D4318

<sup>1</sup> 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.

<sup>2</sup> 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).

**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.

**Gradation of Aggregate Base**

Sieve Size	Design Range Percentage by Weight passing	Contractor's Final Gradation	Job Control Grading Band Tolerances <sup>1</sup> (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 <sup>2</sup> (425 µm)	10-30		±5
No. 200 <sup>2</sup> (75 µm)	0-10		±3

<sup>1</sup> 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.

<sup>2</sup> The fraction of material passing the No 200 (75 µm) sieve shall not exceed two-thirds the fraction passing the No 40 (425 µm) sieve.

### 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.** Separation geotextile shall be Class 2, 0.02 sec<sup>-1</sup> permittivity per ASTM D4491, Apparent opening size per ASTM D4751 with 0.60 mm maximum average roll value.



## 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.

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. Re-proof 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 subbase material delivered to the jobsite. The laboratory specimens shall be compacted and tested in accordance with ASTM D1557. The moisture content of the material during placing operations shall be within  $\pm 2$  percentage points of the optimum moisture content as determined by ASTM D1557. 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. Sampling locations will be determined on a random basis per ASTM D3665

**a. Density.** The RPR shall perform all density tests.

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 1557. 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 cubic yards 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 price per cubic 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.

Payment will be made under:

Item P-209-5.1	Crushed Aggregate Base Course - per cubic yard
----------------	--

### 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- $\mu\text{m}$ (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/ft <sup>3</sup> (600 kN-m/m <sup>3</sup> ))
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/ft <sup>3</sup> (2700 kN-m/m <sup>3</sup> ))
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
American Association of State Highway and Transportation Officials (AASHTO)	
M288	Standard Specification for Geosynthetic Specification for Highway Applications

**END OF ITEM P-209**

## 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 **ASTM D6690**.

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.** The material furnished shall be a compressible, non-shrinking, non-staining, non-absorbing material that is non-reactive with the joint sealant in accordance with ASTM D5249. The backer-rod material shall be  $25\% \pm 5\%$  larger in diameter than the nominal width of the joint. Backer rod is not anticipated for crack sealing on this project, unless recommended by sealant manufacturer.

**605-2.3 Bond breaking tapes.** Provide a bond breaking tape or separating material that is a flexible, non-shrinkable, non-absorbing, non-staining, and non-reacting adhesive-backed tape. The material shall have a melting point at least  $5^{\circ}\text{F}$  ( $3^{\circ}\text{C}$ ) greater than the pouring temperature of the sealant being used when tested in accordance with ASTM D789. The bond breaker tape shall be approximately  $1/8$  inch (3 mm) wider than the nominal width of the joint and shall not bond to the joint sealant. Bond breaking tape is not anticipated for crack sealing on this project, unless recommended by sealant manufacturer.

### 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  $50^{\circ}\text{F}$  ( $10^{\circ}\text{C}$ ) 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, **10** 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. Concrete saw.** Provide a self-propelled power saw, with water-cooled diamond or abrasive saw blades, for cutting joints to the depths and widths specified.

**c. Sandblasting equipment.** Sandblasting is not allowed.

**d. 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.

**e. 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.

**f. 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 waterblaster** 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 sandblasted clean. ~~Sandblasting shall be accomplished in a minimum of two passes. One pass per joint face with the nozzle held at an angle directly toward the joint face and not more than 3 inches (75 mm) from it.~~ 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.** When the joint opening is of a greater depth than indicated for the sealant depth, plug or seal off the lower portion of the joint opening using a backer rod in accordance with paragraph 605-2.2 to prevent the entrance of the sealant below the specified depth. Take care to ensure that the backer rod is placed at the specified depth and is not stretched or twisted during installation.

**d. Bond-breaking tape.** Where inserts or filler materials contain bitumen, or the depth of the joint opening does not allow for the use of a backup material, insert a bond-separating tape breaker in accordance with paragraph 605-2.3 to prevent incompatibility with the filler materials and three-sided adhesion of the sealant. Securely bond the tape to the bottom of the joint opening so it will not float up into the new sealant.

**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~~)  $\pm$  1/16 inch (~~2 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** Joint sealing material shall be measured by the **linear foot (meter)** of sealant in place, completed, and accepted.

### BASIS OF PAYMENT

**605-5.1** Payment for joint sealing material shall be made at the contract unit price **per linear foot (meter)**. The price shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-605-5.1	Bituminous Crack Sealing -- per linear foot ( <del>meter</del> )
----------------	--

### 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 D5249	Standard Specification for Backer Material for Use with Cold- and Hot-Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints
<b>ASTM D6690</b>	<b>Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt</b>

Advisory Circulars (AC)

AC 150/5340-30

Design and Installation Details for Airport Visual Aids

**END ITEM P-605**



## Item P-608 Emulsified Asphalt Seal Coat

### DESCRIPTION

**608-1.1** This item shall consist of the application of a emulsified asphalt surface treatment composed of an emulsion of natural and refined asphalt materials, water and a polymer additive, for taxiways and runways with the application of a suitable aggregate to maintain adequate surface friction; and airfield secondary and tertiary pavements including low-speed taxiways, shoulders, overruns, roads, parking areas, and other general applications with or without aggregate applied as designated on the plans. The terms seal coat, asphalt sealer, and asphalt material are interchangeable throughout this specification. The term emulsified asphalt means an emulsion of natural and refined asphalt materials.

### MATERIALS

**608-2.1 Aggregate.** The aggregate material shall be a dry, clean, dust and dirt free, sound, durable, angular shaped manufactured specialty sand, such as that used as an abrasive, with a Mohs hardness of 6 to 8. The Contractor shall submit the specialty sand manufacturer's technical data and a manufacturer's Certificate of Analysis (COA) indicating that the specialty sand meets the requirements of the specification to the RPR prior to start of construction. The sand must be approved for use by the RPR and shall meet the following gradation limits when tested in accordance with ASTM C136 and ASTM C117:

#### Aggregate Material Gradation Requirements<sup>1</sup>

Sieve Designation (square openings)	Individual Percentage Retained by Weight
No. 10 (2.00 mm)	0
No. 14 (1.41 mm)	0-4
No. 16 (1.18 mm)	0-8
No. 20 (850 µm)	0-35
No. 30 (600 µm)	20-50
No. 40 (425 µm)	10-45
No. 50 (300 µm)	0-20
No. 70 (212 µm)	0-5
No. 100 (150 µm)	0-2
No. 200 (75 µm)	0-2

<sup>1</sup> Locally available sand or abrasive material that is slightly outside of the gradation requirements may be approved by the RPR with concurrence by the seal coat manufacturer for the use of locally available sand or abrasive material. The RPR and manufacturer's field representative should verify acceptance during application of Control strips indicated under paragraph 608-3.2.

The Contractor shall provide a certification showing particle size analysis and properties of the material delivered for use on the project. The Contractor's certification may be subject to verification by testing the material delivered for use on the project.

**608-2.2 Asphalt Emulsion.** The asphalt emulsion shall meet the properties in the following table:

**Concentrated Asphalt Emulsion Properties**

Properties	Specification	Limits
Viscosity, Saybolt Furol at 77°F (25°C)	ASTM D7496	20 – 100 seconds
Residue by Distillation or Evaporation	ASTM D6997 or ASTM D6934	57% minimum
Sieve Test	ASTM D6933	0.1% maximum
24-hour Stability	ASTM D6930	1% maximum
5-day Settlement Test	ASTM D6930	5.0% maximum
Particle Charge <sup>1</sup>	ASTM D7402	Positive 6.5 maximum pH

<sup>1</sup> pH may be used in lieu of the particle charge test which is sometimes inconclusive in slow setting, asphalt emulsions.

The asphalt material base residue shall contain not less than 20% gilsonite, or uintaite and shall not contain any tall oil pitch or coal tar material and shall contain no less than one percent (1%) polymer.

**Tests on Residue from Distillation or Evaporation**

Properties	Specification	Limits
Viscosity at 275°F (135°C)	ASTM D4402	1750 cts maximum
Solubility in 1, 1, 1 trichloroethylene	ASTM D2042	97.5% minimum
Penetration	ASTM D5	50 dmm maximum
Asphaltenes	ASTM D2007	15% minimum
Saturates	ASTM D2007	15% maximum
Polar Compounds	ASTM D2007	25% minimum
Aromatics	ASTM D2007	15% minimum

The asphalt emulsion, when diluted in the volumetric proportion of **one part concentrated asphalt material to one part hot water** shall have the following properties:

### One-to-One Dilution Emulsion Properties

Properties	Specification	Limits
<b>In Ready-to-Apply Form, one part concentrate to one part water, by volume</b>		
Viscosity, Saybolt Furol at 77°F (25°C)	ASTM D7496	5 – 50 seconds
Residue by Distillation or Evaporation	ASTM D6997 or ASTM D6934	28.5% minimum
Pumping Stability <sup>1</sup>		Pass

<sup>1</sup> Pumping stability is tested by pumping one pint (475 ml) of seal coat diluted one (1) part concentrate to one (1) part water, at 77°F (25°C), through a 1/4-inch (6 mm) gear pump operating 1750 rpm for 10 minutes with no significant separation or coagulation.

The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the emulsified asphalt delivered to the project. If the asphalt emulsion is diluted at other than the manufacturer's facility, the Contractor shall provide a supplemental COA from an independent laboratory verifying the asphalt emulsion properties.

The COA shall be provided to and approved by the RPR before the emulsified asphalt is applied. The furnishing of the vendor's certified test report 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.

The asphalt material storage and handling temperature shall be between 50°F - 160°F (10°C - 70°C) and the material shall be protected from freezing, or whenever outside temperature drops below 40°F (4°C) for prolonged time periods.

Contractor shall provide a list of airport pavement projects, exposed to similar climate conditions, where this product has been successfully applied within at least 5 years of the project.

**608-2.3 Water.** Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use. Water used in making and diluting the emulsion shall be potable, with a maximum hardness of 90ppm calcium and 15ppm magnesium; deleterious iron, sulfates, and phosphates maximum 7ppm, and less than 1ppm of organic byproducts. Water shall be a minimum of 140°F (60°C) prior to adding to emulsion.

**608-2.4 Polymer.** The polymer shall meet the properties in the following table:

#### Polymer Properties

Properties	Limits
Solids Content	47% to 65%, Percent by Weight
Weight	8.0 to 9.0 pounds/gallon (1.07 to 1.17 kg/L)
pH	3.0 to 8.0
Particle Charge	Nonionic/Cationic
Mechanical Stability	Excellent
Film Forming Temperature, °C	+5°C, minimum
Tg, °C	22°C, maximum

The manufacturer shall provide a copy of the Certificate of Analysis (COA) for the polymer used in the seal coat; and the Contractor shall include the COA with the emulsified asphalt COA when submitting to the RPR.

**608-2.5 Seal Coat with Aggregate.** The Contractor shall submit friction test data from no less than one of the airport projects identified under 608-2.2. The test data must be from the same project and include technical details on application rates, aggregate rates, and point of contact at the airport to confirm use and success of sealer with aggregate.

Friction test data in accordance with AC 150/5320-12, at 40 or 60 mph (65 or 95 km/h) wet, must include as a minimum; the friction value prior to sealant application; two values, between 24 and 96 hours after application, with a minimum of 24 hours between tests; and one value between 180 days and 360 days after the application. The results of the tests between 24 and 96 hours shall indicate friction is increasing at a rate to obtain similar friction value of the pavement surface prior to application, and the long-term test shall indicate no apparent adverse effect with time relative to friction values and existing pavement surface.

Seal coat material submittal without required friction performance will not be approved. Friction tests performed on this project cannot be used as a substitute of this requirement.

### COMPOSITION AND APPLICATION RATE

**608-3.1 Application Rate.** The approximate amounts of materials per square yard (square meter) for the asphalt surface treatment shall be as provided in the table for the treatment area(s) at the specified dilution rate(s) as noted on the plans. The actual application rates will vary within the range specified to suit field conditions and will be recommended by the manufacturer's representative and approved by the RPR from the test area/sections evaluation.

Application Rate

Dilution Rate	Quantity of Emulsion gal/yd <sup>2</sup> (l/m <sup>2</sup> )	Quantity of Aggregate lb/yd <sup>2</sup> (kg/m <sup>2</sup> )
1:1	0.10-0.17 (0.45-0.77)	0.20-0.50 (0.11-0.27)

**608-3.2 Control areas and control strips.** Prior to full application, the control strip must be accepted by the RPR. The surface preparation, personnel, equipment, and method of operation used on the test area(s) and control strip(s) shall be the same as used on the remainder of the work.

A qualified manufacturer's representative shall be present in the field to assist the Contractor in applying control areas and/or control strips to determine the appropriate application rate of both emulsion and aggregate to be approved by the RPR.

A test area(s) and control strip(s) shall be applied for each differing asphalt pavement surface identified in the project. The test area(s) and control strip(s) shall be used to determine the material application rate(s) of both emulsion and sand prior to full production.

**a. For taxiway, taxilane and apron surfaces.** Prior to full application, the Contractor shall place test areas at varying application rates as recommended by the Contractor's manufacturer's representative to determine appropriate application rate(s). The test areas will be located on representative section(s) of the pavement to receive the asphalt surface treatment designated by the RPR.

**b. For runway and high-speed exit taxiway surfaces.** Prior to full application, the Contractor shall place a series of control strips a minimum of 300 feet (90 m) long by 12 feet (3.6 m) wide, or width of

anticipated application, whichever is greater, at varying application rates as recommended by the manufacturer's representative and acceptable to the RPR to determine appropriate application rate(s). The control strips should be separated by a minimum of 200 feet between control strips. The area to be tested will be located on a representative section of the pavement to receive the asphalt surface treatment designated by the RPR. The control strips should be placed under similar field conditions as anticipated for the actual application. The skid resistance of the existing pavement shall be determined for each control strip with a continuous friction measuring equipment (CFME). The skid resistance of existing pavement can be immediately adjacent to the control strip or at the same location as the control strip if testing prior to application. The Contractor may begin testing the skid resistance of runway and high-speed exit taxiway control strips after application of the asphalt surface treatment has fully cured, generally 8 to 36 hours after application of the control strips depending on site and environmental conditions. Aircraft shall not be permitted on the runway or high speed exit taxiway control strips until such time as the Contractor validates that its surface friction meets the maintenance planning friction levels in AC 150/5320-12, Table 3-2 when tested at speeds of 40 and 60 mph (65 and 95 km/h) wet with approved CFME.

If the control strip should prove to be unsatisfactory, necessary adjustments to the application rate, placement operations, and equipment shall be made. Additional control strips shall be placed and additional skid resistance tests performed and evaluated. Full production shall not begin without the RPR's approval of an appropriate application rate(s). Acceptable control strips shall be paid for in accordance with paragraph 608-8.1.

## CONSTRUCTION METHODS

**608-4.1 Worker safety.** The Contractor shall obtain a Safety Data Sheet (SDS) for both the asphalt emulsion product and sand and require workmen to follow the manufacturer's recommended safety precautions.

**608-4.2 Weather limitations.** The asphalt emulsion shall be applied only when the existing pavement surface is dry and when the weather is not foggy, rainy, or when the wind velocity will prevent the uniform application of the material. No material shall be applied in strong winds that interfere with the uniform application of the material(s), or when dust or sand is blowing or when rain is anticipated within eight (8) hours of application completion. The atmospheric temperature and the pavement surface temperature shall both be at, or above 60°F (16°C) and rising. Seal coat shall not be applied when pavement temperatures are expected to exceed 130°F within the subsequent 72 hours if traffic will be opened on pavement within those 72 hours. During application, account for wind drift. Cover existing buildings, structures, runway edge lights, taxiway edge lights, informational signs, retro-reflective marking and in-pavement duct markers as necessary to protect against overspray before applying the emulsion. Should emulsion get on any light or marker fixture, promptly clean the fixture. If cleaning is not satisfactory to the RPR, the Contractor shall replace any light, sign or marker with equivalent equipment at no cost to the Owner.

**608-4.3 Equipment and tools.** The Contractor shall furnish all equipment, tools, and machinery necessary for the performance of the work.

**a. Pressure distributor.** 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 hundred (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.

The Contractor will provide verification of truck set-up (via a test-shot area), including but not limited to, nozzle tip size appropriate for application per nozzle manufacturer, spray-bar height and pressure and pump speed appropriate for the viscosity and temperature of sealer material, 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 12-foot (3.7-m), minimum, spray bar with individual nozzle control. The distributor truck shall be capable of specific application rates in the range of 0.05 to 0.25 gallons per square yard (0.15 to 0.80 liters per square meter). These rates shall be computer-controlled rather than mechanical. 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.

The distributor truck shall effectively heat and mix the material to the required temperature prior to application in accordance with the manufacturer's recommendations.

The distributor shall be equipped with a hand sprayer to spray the emulsion in areas not accessible to the distributor truck.

**b. Aggregate spreader.** The asphalt distributor truck will be equipped with an aggregate spreader mounted to the distributor truck that can apply sand to the emulsion in a single pass operation without driving through wet emulsion. The aggregate spreader shall be equipped with a variable control system capable of uniformly distributing the sand at the specified rate at varying application widths and speeds. The aggregate spreader must be adjusted to produce an even and accurate application of specified aggregate. Prior to any seal coat application, the aggregate spreader will be calibrated onsite to ensure acceptable uniformity of spread. The RPR will observe the calibration and verify the results. The aggregate spreader will be re-calibrated each time the aggregate rate is changed either during the application of test strips or production. The Contractor may consult the seal coat manufacturer representative for procedure and guidance. The sander shall have a minimum hopper capacity of 3,000 pounds (1361 kg) of sand. Push-type hand sanders will be allowed for use around lights, signs and other obstructions, if necessary.

**c. Power broom/blower.** A power broom and/or blower shall be provided for removing loose material from the surface to be treated.

**d. Equipment calibration.** Asphalt distributors must be calibrated within the same construction season 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.

**608-4.4 Preparation of asphalt pavement surfaces.** Clean pavement surface immediately prior to placing the seal coat so that it is free of dust, dirt, grease, vegetation, oil or any type of objectionable surface film. Remove oil or grease from the asphalt pavement by scrubbing with a detergent, washing thoroughly with clean water, and then treat these areas with a spot primer. Any additional surface preparation, such as crack repair, shall be in accordance with Item P-101, paragraph 101-3.6.

**608-4.5 Emulsion mixing.** The application emulsion shall be obtained by blending asphalt material concentrate, water and polymer, if specified. Always add heated water to the asphalt material concentrate, never add asphalt material concentrate to heated water. Mix one part heated water to **one part** asphalt material concentrate, by volume.

Add 1% polymer, by volume, to the emulsion mix. If the polymer is added to the emulsion mix at the plant, submit weight scale tickets to the RPR. As an option, the polymer may be added to the emulsion mix at the job site provided the polymer is added slowly while the asphalt distributor truck circulating pump is running. The mix must be agitated for a minimum of 15 minutes or until the polymer is mixed to the satisfaction of the RPR.

**608-4.6 Application of asphalt emulsion.** The asphalt emulsion shall be applied using a pressure distributor upon the properly prepared, clean and dry surface at the application rate recommended by the manufacturer's representative and approved by the RPR from the test area/sections evaluation for each designated treatment area. The asphalt emulsion should be applied at a temperature between 130°F (54°C) and 160°F (70°C) or in accordance with the manufacturer's recommendation.

If low spots and depressions greater than 1/2 inch (12 mm) in depth in the pavement surface cause ponding or puddling of the applied materials, the pavement surface shall be lightly broomed with a broom or brush type squeegee until the pavement surface is free of any pools of excess material.

During all applications, the surfaces of adjacent structures shall be protected to prevent their being spattered or marred.

**608-4.7 Application of aggregate material.** Immediately following the application of the asphalt emulsion, friction sand at the rate recommended by the manufacturer's representative and approved by the RPR from the test area/sections evaluation for each designated application area, shall be spread uniformly over the asphalt emulsion in a single-pass operation simultaneous with the sealer application. The aggregate shall be spread to the same width of application as the asphalt material and shall not be applied in such thickness as to cause blanketing.

Sprinkling of additional aggregate material, and spraying additional asphalt material over areas that show up having insufficient cover or bitumen, shall be done by hand whenever necessary. In areas where hand work is necessitated, the sand shall be applied before the sealant begins to break.

Minimize aggregate from being broadcast and accumulating on the untreated pavement adjacent to an application pass. Prior to the next application pass, the Contractor shall clean areas of excess or loose aggregate and remove from project site.

## QUALITY CONTROL (QC)

**608-5.1 Manufacturer's representation.** The manufacturer's representative knowledgeable of the material, procedures, and equipment described in the specification is responsible to assist the Contractor and RPR in determining the appropriate application rates of the emulsion and aggregate, as well as recommendations for proper preparation and start-up of seal coat application. Documentation of the manufacturer representative's experience and knowledge for applying the seal coat product shall be furnished to the RPR a minimum of 10 work days prior to placement of the control strips. The cost of the manufacturer's representative shall be included in the Contractor's bid price.

**608-5.2 Contractor qualifications.** The Contractor shall provide documentation to the RPR that the seal coat Contractor is qualified to apply the seal coat, including personnel, and equipment, and has made at least three (3) applications similar to this project in the past two (2) years.

## MATERIAL ACCEPTANCE

**608-6.1 Application rate.** The rate of application of the asphalt emulsion shall be verified at least twice per day.

**608-6.2 Friction tests.** Friction tests in accordance with AC 150/5320-12, Measurement, Construction, and Maintenance of Skid-Resistant Airport Pavement Surfaces, shall be performed on all runway and high-speed taxiways that received a seal coat. Each test includes performing friction tests at 40 mph and 60 mph (65 or 95 km/h) both wet, 15 feet (4.5 m) to each side of runway centerline with approved continuous friction measuring equipment (CFME). The Contractor shall coordinate testing with the RPR and provide the RPR a written report of friction test results. The RPR shall be present for testing.

### METHOD OF MEASUREMENT

**608-7.1 Asphalt surface treatment.** The quantity of asphalt surface treatment shall be measured by the square yards of material applied in accordance with the plans and specifications and accepted by the RPR.

The Contractor must furnish the RPR with the certified weigh bills when materials are received for the asphalt material used under this contract. The Contractor must not remove material from the tank car or storage tank until initial amounts and temperature measurements have been verified.

### BASIS OF PAYMENT

**608-8.1** Payment shall be made at the contract unit price per square yard for the asphalt surface treatment applied and accepted by the RPR, and the contract unit price per lump sum for runway friction testing. This price shall be full compensation for all surface preparation, furnishing all materials, delivery and application of these materials, for all labor, equipment, tools, and incidentals necessary to complete the item, and any costs associated with furnishing a qualified manufacturer's representative to assist with control strips.

**608-8.2** Payment shall be made at the contract unit price per lump sum for friction testing and all work required to meet AC 150/5320-12.

Payment will be made under:

Item P-608-8.1	Asphalt Surface Treatment – per square yard
----------------	---

### 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	Standard Test Method for Materials Finer than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D5	Standard Test Method for Penetration of Asphalt Materials
ASTM D244	Standard Test Methods and Practices for Emulsified Asphalts
ASTM D2007	Standard Test Method for Characteristic Groups in Rubber Extender and Processing Oils and Other Petroleum-Derived Oils by the Clay-Gel Absorption Chromatographic Method
ASTM D2042	Standard Test Method for Solubility of Asphalt Materials in Trichloroethylene
ASTM D2995	Standard Practice for Estimating Application Rate of Bituminous Distributors



ASTM D4402	Standard Test Method for Viscosity Determination of Asphalt at Elevated Temperatures Using a Rotational Viscometer
ASTM D5340	Standard Test Method for Airport Pavement Condition Index Surveys
Advisory Circulars (AC)	
AC 150/5320-12	Measurement, Construction, and Maintenance of Skid-Resistant Airport Pavement Surfaces
AC 150/5320-17	Airfield Pavement Surface Evaluation and Rating (PASER) Manuals
AC 150/5380-6	Guidelines and Procedures for Maintenance of Airport Pavements

**END OF ITEM P-608**

Page Intentionally Blank

## Item P-610 Concrete for Miscellaneous Structures

### DESCRIPTION

**610-1.1** This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

### MATERIALS

**610-2.1 General.** Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

**a. Reactivity.** Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 28 days (30 days from casting). If the expansion either or both test specimen is greater than 0.08% at 28 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.

If the expansion is greater than 0.20% the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation.

**610-2.2 Coarse aggregate.** The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project. The aggregates shall have no known history of detrimental pavement staining. Steel blast furnace slag shall not be permitted. Coarse aggregate material requirements and deleterious limits are shown in the table below; washing may be required to meet aggregate requirements.

### Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
1 1/2 inch (37.5 mm)	467 or 4 and 67
1 inch (25 mm)	57
3/4 inch (19 mm)	67
<del>1/2 inch (12.5 mm)</del>	7

### 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
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles at 5:1 for any size group coarser than 3/8 (9.5 mm) sieve <sup>1</sup>	ASTM D4791
Bulk density of slag <sup>2</sup>	Weigh not less than 70 pounds per cubic foot (1.12 Mg/cubic meter)	ASTM C29

<sup>1</sup> 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).

<sup>2</sup> Only required if slag is specified.

The amount of deleterious material in the coarse aggregate shall not exceed the following limits:

### Limits for Deleterious Substances in Coarse Aggregate

Deleterious material	ASTM	Percentage by Mass
Clay Lumps and friable particles	ASTM C142	1.0
Material finer than No. 200 sieve (75 µm)	ASTM C117	1.0 <sup>1</sup>
Lightweight particles	ASTM C123 using a medium with a density of Sp. Gr. of 2.0	0.5
Chert <sup>2</sup> (less than 2.40 Sp Gr.)	ASTM C123 using a medium with a density of Sp. Gr. of 2.40)	1.0

<sup>1</sup> The limit for material finer than 75-µm is allowed to be increased to 1.5% for crushed aggregates consisting of dust of fracture that is essentially free from clay or shale. Test results supporting acceptance of increasing limit to 1.5% with statement indicating material is dust of fracture must be submitted with Concrete mix. Acceptable techniques to characterizing these fines include methylene blue adsorption or X-ray diffraction analysis.

<sup>2</sup> Chert and aggregates with less than 2.4 specific gravity.

#### 610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Not Used

**610-2.3 Fine aggregate.** Grading of the fine aggregate, as delivered to the mixer, shall conform to the requirements of ASTM C33 and the parameters identified in the fine aggregate material requirements below. Fine aggregate material requirements and deleterious limits are shown in the table below.

Fine Aggregate Material Requirements		
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
Sand Equivalent	[ 45 ] minimum	ASTM D2419
Fineness Modulus (FM)	$2.50 \leq FM \leq 3.40$	ASTM C136
Limits for Deleterious Substances in Fine Aggregate for Concrete		
Clay lumps and friable particles	1.0% maximum	ASTM C142
Coal and lignite	0.5% using a medium with a density of Sp. Gr. of 2.0	ASTM C123
Total Deleterious Material	1.0% maximum	

#### 610-2.4 Cement. Cement shall conform to the requirements of ASTM C150 Type I, II, or V.

### 610-2.5 Cementitious materials.

**a. Fly ash.** Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. When fly ash is used as a partial replacement for cement, the replacement rate shall be determined from laboratory trial mixes, and shall be between 20 and 30% by weight of the total cementitious material. The reports can be used for acceptance or the material may be tested independently by the RPR.

**b. Slag cement (ground granulated blast furnace (GGBF)).** Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

**610-2.6 Water.** Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

**610-2.7 Admixtures.** The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

**a. Air-entraining admixtures.** Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

**b. Water-reducing admixtures.** Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

**c. Other chemical admixtures.** The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

**610-2.8 Premolded joint material.** Premolded joint material for expansion joints shall meet the requirements of ASTM 1751.

**610-2.9 Joint filler.** The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

**610-2.10 Steel reinforcement.** Reinforcing shall consist of **Reinforcing Steel** conforming to the requirements of ASTM A615. Dowel bars shall be plain steel bars conforming to ASTM A615 and shall be free from burring or other deformation restricting slippage in the concrete.

**a. Dowel Bars.** Before delivery to the construction site each dowel bar shall be epoxy coated per ASTM A1078, Type 1, with a coating thickness after curing greater than 10 mils. Patched ends are not required for Type 1 coated dowels. The dowels shall be coated with a bond-breaker recommended by the manufacturer. Dowel sleeves or inserts are not permitted. Grout retention rings shall be fully circular metal or plastic devices capable of supporting the dowel until the grout hardens.

**b. Tie Bars.** ~~Tie bars shall be deformed steel bars and conform to the requirements of ASTM A615. Tie bars designated as Grade 60 in ASTM A615 or ASTM A706 shall be used for construction requiring bent bars.~~

**610-2.11 Materials for curing concrete.** Curing materials shall conform to ASTM C171.

**610-2.12 Joint seal.** The joint seal for the joints in the concrete pavement shall meet the requirements of Item P-605 and shall be of the type specified in the plans.

**610-2.13 Concrete Mix submittal.** The concrete mix shall be submitted to the RPR at least **30** days prior to the start of operations. The submitted concrete mix shall not be more than 180 days old and must use the materials to be used for production for the project. Production shall not begin until the concrete mix is approved in writing by the RPR.

Each of the submitted concrete mixes (i.e, slip form, side form machine finish and side form hand finish) shall be stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items and quantities as a minimum:

- Certified material test reports for aggregate in accordance with paragraph 610-2.2. Certified reports must include all tests required; reporting each test, test method, test result, and requirement specified (criteria).
- Combined aggregate gradations and analysis; and including plots of the fine aggregate fineness modulus.
- Reactivity Test Results.
- Coarse aggregate quality test results, including deleterious materials.
- Fine aggregate quality test results, including deleterious materials.
- Mill certificates for cement and supplemental cementitious materials.
- Certified test results for all admixtures
- Specified compressive strength, slump, and air content.
- Recommended proportions/volumes for proposed mixture and trial water-cementitious materials ratio, including actual slump and air content.
- Flexural and compressive strength summaries and plots, including all individual beam and cylinder breaks.
- Correlation ratios for acceptance testing and Contractor QC testing, when applicable.
- Historical record of test results documenting production standard deviation, when applicable.

## CONSTRUCTION METHODS

**610-3.1 General.** The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

**610-3.2 Concrete Mixture.** The concrete shall develop a compressive strength of 4,400 psi (30,337 kPa) and a flexural strength of 620 psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39 and beams made in accordance with ASTM C31 and tested in accordance with ASTM C78. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard (280 kg per cubic meter). The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 3.5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

The following procedure establishes the correlation between compressive and flexural strength for the concrete mix. Each concrete mix will require a separate correlation.

#### Cylinders/Beams

- a. Fabricate all beams and cylinders for each mixture from the same batch or blend of batches. Fabricate and cure all beams and cylinders in accordance with ASTM C192, using 6 × 6-inch (150 × 150 mm) steel beam forms and 6 × 12-inch (150 × 300 mm) single-use cylinder forms.
- b. Cure test beams from each mixture for 3, 7, 14, and 28 day flexural tests; three (3) beams to be tested per age.
- c. Cure test cylinders from each mixture for 3, 7, 14, and 28 day compressive strength tests; three (3) cylinders to be tested per age.
- d. Test beams in accordance with ASTM C78, cylinders in accordance with ASTM C39.
- e. Using the average strength for each age, plot all results on separate graphs for each w/c versus:
  - 3-day flexural strength
  - 7-day flexural strength
  - 14-day flexural strength
  - 28-day flexural strength
  - 3-day compressive strength
  - 7-day compressive strength
  - 14-day compressive strength
  - 28-day compressive strength
- f. From the above expected strengths for the selected mixture determine the following Correlation Ratios:
  - (1) Ratio of the 14-day compressive strength of the selected mixture to the 28-day flexural strength of the mixture (for acceptance).
  - (2) Ratio of the 7-day compressive strength of the selected mixture to the 28-day flexural strength of the mixture (for Contractor QC control).



g. If there is a change in materials, additional mixture design studies shall be made using the new materials and new Correlation Ratios shall be determined.

h. No concrete pavement shall be placed until the Engineer has approved the Contractor's mixture proportions. The approved water-cementitious materials ratio shall not exceed the maximum value specified.

**610-3.3 Mixing.** Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

**610-3.4 Forms.** Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

**610-3.5 Placing reinforcement.** All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

**610-3.6 Embedded items.** Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

**610-3.7 Concrete Consistency.** The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

**610-3.8 Placing concrete.** All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet (1.5 m). Concrete shall be deposited as

nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

**610-3.9 Vibration.** Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

**610-3.10 Joints.** Joints shall be constructed as indicated on the plans.

**a. Dowels and Tie Bars for Joints**

~~(1) Tie bars. Tie bars shall consist of deformed bars installed in joints as shown on the plans. Tie bars shall be placed at right angles to the centerline of the concrete slab and shall be spaced at intervals shown on the plans. They shall be held in position parallel to the pavement surface and in the middle of the slab depth. When tie bars extend into an unpaved lane, they may be bent against the form at longitudinal construction joints, unless threaded bolt or other assembled tie bars are specified. Tie bars shall not be painted, greased, or enclosed in sleeves. When slip form operations call for tie bars, two-piece hook bolts can be installed.~~

(2) **Dowel bars.** Dowel bars shall be placed across joints in the proper horizontal and vertical alignment as shown on the plans. The dowels shall be coated with a bond-breaker or other lubricant recommended by the manufacturer and approved by the RPR. Dowels bars at longitudinal construction joints shall be bonded in drilled holes.

(3) **Placing dowels and tie bars.** Horizontal spacing of dowels shall be within a tolerance of  $\pm 3/4$  inch (19 mm). The vertical location on the face of the slab shall be within a tolerance of  $\pm 1/2$  inch (12 mm). The method used to install dowels shall ensure that the horizontal and vertical alignment will not be greater than 1/4 inch per foot (6 mm per 0.3 m), except for those across the crown or other grade change joints. Dowels across crowns and other joints at grade changes shall be measured to a level surface. Horizontal alignment shall be checked perpendicular to the joint edge. The portion of each dowel intended to move within the concrete or expansion cap shall be wiped clean and coated with a thin, even film of lubricating oil or light grease before the concrete is placed. Dowels shall be installed as specified in the following subparagraphs.

(a) **Contraction joints.** Dowels and tie bars in longitudinal and transverse contraction joints within the paving lane shall be held securely in place by means of rigid metal frames or basket assemblies of an approved type. The basket assemblies shall be held securely in the proper location by means of suitable pins or anchors. Do not cut or crimp the dowel basket tie wires.

At the Contractor's option, dowels and tie bars in contraction joints may be installed by insertion into the plastic concrete using approved equipment and procedures per the paver manufacturer's design. Approval of installation methods will be based on the results of the control strip showing that the dowels and tie bars are installed within specified tolerances as verified by cores or non-destructive rebar location devices approved by the RPR.

(b) **Construction joints.** Install dowels and tie bars by the cast-in-place or the drill-and-dowel method. Installation by removing and replacing in preformed holes will not be permitted. Dowels and tie bars shall be prepared and placed across joints where indicated, correctly aligned, and securely held in the proper horizontal and vertical position during placing and finishing operations, by means of devices fastened to the forms.

(c) **Joints in hardened concrete.** Install dowels in hardened concrete by bonding the dowels into holes drilled into the concrete. The concrete shall have cured for seven (7) days or reached a minimum compressive strength of 3100 psi (21.4 MPa) before drilling begins. Holes 1/8 inch (3 mm) greater in diameter than the dowels shall be drilled into the hardened concrete using rotary-core drills.

Rotary-percussion drills may be used, provided that excessive spalling does not occur. Spalling beyond the limits of the grout retention ring will require modification of the equipment and operation. Depth of dowel hole shall be within a tolerance of  $\pm 1/2$  inch (12 mm) of the dimension shown on the drawings. On completion of the drilling operation, the dowel hole shall be blown out with oil-free, compressed air. Dowels shall be bonded in the drilled holes using epoxy resin. Epoxy resin shall be injected at the back of the hole before installing the dowel and extruded to the collar during insertion of the dowel so as to completely fill the void around the dowel. Application by buttering the dowel will not be permitted. The dowels shall be held in alignment at the collar of the hole by means of a suitable metal or plastic grout retention ring fitted around the dowel.

**e. Sawing of joints.** Sawing shall commence, without regard to day or night, as soon as the concrete has hardened sufficiently to permit cutting without chipping, spalling, or tearing and before uncontrolled shrinkage cracking of the pavement occurs and shall continue without interruption until all joints have been sawn. All slurry and debris produced in the sawing of joints shall be removed by vacuuming and washing. Curing compound or system shall be reapplied in the initial saw-cut and maintained for the remaining cure period.

Joints shall be cut in locations as shown on the plans. The initial joint cut shall be a minimum 1/8 inch (3 mm) wide and to the depth shown on the plans. Prior to placement of joint sealant or seals, the top of the joint shall be widened by sawing as shown on the plans.

**610-3.11 Finishing.** All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

**a. Surface texture.** The surface of the pavement shall be finished as designated below for all newly constructed concrete pavements. It is important that the texturing equipment not tear or unduly roughen the pavement surface during the operation. The texture shall be uniform in appearance and approximately 1/16 inch (2 mm) in depth. Any imperfections resulting from the texturing operation shall be corrected to the satisfaction of the RPR.

**b. Brush or broom finish.** Shall be applied when the water sheen has practically disappeared. The equipment shall operate transversely across the pavement surface. Brush or broom finish shall be completed in all structural concrete slab locations.

**610-3.12 Curing and protection.** All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

**610-3.13 Cold weather placing.** When concrete is placed at temperatures below 40°F (4°C), follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

**610-3.14 Hot weather placing.** When concrete is placed in hot weather greater than 85°F (30 °C), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

The forms and/or the underlying surface shall be sprinkled with water immediately before placing the concrete. The concrete shall be placed at the coolest temperature practicable, and in no case shall the temperature of the concrete when placed exceed 90°F (32°C). The aggregates and/or mixing water shall be cooled as necessary to maintain the concrete temperature at or not more than the specified maximum.

The concrete placement shall be protected from exceeding an evaporation rate of 0.2 psf (0.98 kg/m<sup>2</sup> per hour) per hour. When conditions are such that problems with plastic cracking can be expected, and particularly if any plastic cracking begins to occur, the Contractor shall immediately take such additional measures as necessary to protect the concrete surface. If the Contractor's measures are not effective in preventing plastic cracking, paving operations shall be immediately stopped.

Concrete should be continuous moisture cured for the entire curing period and shall commence as soon as the surfaces are finished and continue for at least 24 hours. However, if moisture curing is not practical beyond 24 hours, the concrete surface shall be protected from drying with application of a liquid membrane-forming curing compound while the surfaces are still damp. Other curing methods may be approved by the RPR.

**610-3.15 Opening to construction traffic.** The pavement shall not be opened to traffic until test specimens molded and cured in accordance with ASTM C31 have attained a compressive strength of 3,100 pounds per square inch (21,400 kPa) when tested in accordance with ASTM C39. If such tests are not conducted, the pavement shall not be opened to traffic until 14 days after the concrete was placed. Prior to opening the pavement to construction traffic, all joints shall either be sealed or protected from damage to the joint edge and intrusion of foreign materials into the joint. As a minimum, backer rod or tape may be used to protect the joints from foreign matter intrusion.

### QUALITY ASSURANCE (QA)

**610-4.1 Quality Assurance sampling and testing.** Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

**610-4.2 Defective work.** Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

### METHOD OF MEASUREMENT

**610-5.1** Structural concrete slab placement shall be measured by the number of square yards (square meters) based on the dimensions shown on the plans of concrete complete in place and accepted.

**610-5.2** Concrete for all work not pertaining to the structural slab placement shall be considered incidental and no separate measurement shall be made for concrete complete in place and accepted.

### BASIS OF PAYMENT

**610-6.1** Payment for the structural concrete slab placement shall be made at the contract price by the number of square yards (square meters). Concrete for all work not pertaining to the structural slab placement shall be considered incidental and no separate measurement shall be made. This price shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-610-6.1            8" Structural Concrete Pavement - per square yards (square meters)

## 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 A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

**END OF ITEM P-610**

## 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.

**Table 1. Marking Materials**

Paint <sup>1</sup>				Glass Beads <sup>2</sup>	
Type	Color	Fed Std. 595 Number	Application Rate Maximum	Type	Application Rate Minimum
Waterborne	White	37925	115 ft <sup>2</sup> /gal	III	10 lb/gal
Waterborne	Yellow	33538 or 33655	115 ft <sup>2</sup> /gal	III	10 lb/gal
Waterborne	Black	37038	115 ft <sup>2</sup> /gal	III	---

<sup>1</sup> See paragraph 620-2.2a

<sup>2</sup> See paragraph 620-2.2b

**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 **Type I, Gradation A.**~~

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 contaminants 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 manufacturer's 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:

#### Marking Dimensions and Spacing Tolerance

Dimension and Spacing	Tolerance
36 inch (910 mm) or less	±1/2 inch (12 mm)
greater than 36 inch to 6 feet (910 mm to 1.85 m)	±1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	±2 inch (50 mm)
greater than 60 feet (18.3 m)	±3 inch (76 mm)

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

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 readings 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

Material	Retro-reflectance mcd/m <sup>2</sup> /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 <sup>1</sup>	100	75	10

<sup>1</sup> 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

**620-4.1** The quantity of markings shall be paid for shall be measured **by the number of square feet (square meters) of painting .**

**620-4.2** The quantity of black enhancement markings shall be paid for shall be measured **by the number of square feet (square meters) of painting .**

**620-4.3** The quantity of temporary markings to be paid for shall **be the number of square feet (square meters) of painting** performed in accordance with the specifications and accepted by the RPR. Temporary marking includes surface preparation, application ~~and complete removal~~ of the temporary marking.

### BASIS OF PAYMENT

**620-5.1** Payment for markings shall be made at the contract price for **by the number of square feet (square meters) of painting.**

**620-5.2** Payment for black enhancement markings shall be made at the contract price for **by the number of square feet (square meters) of painting.**

**620-5.3** Payment for temporary markings shall be made at the contract price for **the number of square feet (square meters) of painting.** This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-620-5.1	Taxiway Marking with Reflective Beads -- per square foot
Item P-620-5.2	Taxiway Black Enhancement Marking without Reflective Beads -- per square foot
Item P-620-5.3	Temporary Taxiway Marking without Reflective beads – per square foot
Item P-620-5.4	Taxiway Marking Removal – per square foot

### 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 D476	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 D-701 Pipe for Storm Drains and Culverts

### DESCRIPTION

**701-1.1** This item shall consist of the construction of pipe culverts and storm drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

### MATERIALS

**701-2.1** Materials shall meet the requirements shown on the plans and specified below. Underground piping and components used in drainage systems for terminal and aircraft fueling ramp drainage shall be noncombustible and inert to fuel in accordance with National Fire Protection Association (NFPA) 415.

**701-2.2 Pipe.** The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements:

ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
----------	---

**701-2.3 Concrete.** Concrete for pipe cradles shall have a minimum compressive strength of 2000 psi (13.8 MPa) at 28 days and conform to the requirements of ASTM C94.

**701-2.4 Rubber gaskets.** Rubber gaskets for rigid pipe shall conform to the requirements of ASTM C443. Rubber gaskets for PVC pipe, polyethylene, and polypropylene pipe shall conform to the requirements of ASTM F477. Rubber gaskets for zinc-coated steel pipe and precast galvanized pipe shall conform to the requirements of ASTM D1056, for the "RE" closed cell grades. Rubber gaskets for steel reinforced thermoplastic ribbed pipe shall conform to the requirements of ASTM F477.

**701-2.5 Joint mortar.** Pipe joint mortar shall consist of one part Portland cement and two parts sand. The Portland cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

**701-2.6 Joint fillers.** Poured filler for joints shall conform to the requirements of ASTM D6690.

**701-2.7 Plastic gaskets.** Plastic gaskets shall conform to the requirements of ASTM C990.

**701-2.8. Controlled low-strength material (CLSM).** Controlled low-strength material shall conform to the requirements of Item P-153. When CLSM is used, all joints shall have gaskets.

**701-2.9 Precast box culverts.** Manufactured in accordance with and conforming to ASTM C1433.

**701-2.10 Precast concrete pipe.** Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or American Concrete Pipe Association QCast Plant Certification program.

### CONSTRUCTION METHODS

**701-3.1 Excavation.** The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but it shall not be less than

the external diameter of the pipe plus 12 inches (300 mm) on each side. The trench walls shall be approximately vertical.

The Contractor shall comply with all current federal, state and local rules and regulations governing the safety of men and materials during the excavation, installation and backfilling operations. Specifically, the Contractor shall observe that all requirements of the Occupational Safety and Health Administration (OSHA) relating to excavations, trenching and shoring are strictly adhered to. The width of the trench shall be sufficient to permit satisfactorily jointing of the pipe and thorough compaction of the bedding material under the pipe and backfill material around the pipe, but it shall not be greater than the widths shown on the plans trench detail.

Where rock, hardpan, or other unyielding material is encountered, the Contractor shall remove it from below the foundation grade for a depth of at least 8 inch (200 mm) or 1/2 inch (12 mm) for each foot of fill over the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the pipe. The excavation below grade should be filled with granular material to form a uniform foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The RPR shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

The excavation for pipes placed in embankment fill shall not be made until the embankment has been completed to a height above the top of the pipe as shown on the plans.

**701-3.2 Bedding.** The bedding surface for the pipe shall provide a foundation of uniform density to support the pipe throughout its entire length.

**a. Rigid pipe.** The pipe bedding shall be constructed uniformly for the full length of the pipe barrel, as required on the plans. The maximum aggregate size shall be 1 in when the bedding thickness is less than 6 inches, and 1-1/2 in when the bedding thickness is greater than 6 inches. Bedding shall be loosely placed uncompacted material under the middle third of the pipe prior to placement of the pipe.

**b. Flexible pipe.** For flexible pipe, the bed shall be roughly shaped to fit the pipe, and a bedding blanket of sand or fine granular material shall be provided as follows:

#### Flexible Pipe Bedding

Pipe Corrugation Depth		Minimum Bedding Depth	
inch	mm	inch	mm
1/2	12	1	25
1	25	2	50
2	50	3	75
2-1/2	60	3-1/2	90

**c. Other pipe materials.** For PVC, polyethylene, polypropylene, or fiberglass pipe, the bedding material shall consist of coarse sands and gravels with a maximum particle size of 3/4 inches (19 mm). For pipes installed under paved areas, no more than 12% of the material shall pass the No. 200 (0.075 mm) sieve. For all other areas, no more than 50% of the material shall pass the No. 200 (0.075 mm) sieve. The bedding shall have a thickness of at least 6 inches (150 mm) below the bottom of the pipe and extend up around the pipe for a depth of not less than 50% of the pipe's vertical outside diameter.

**701-3.3 Laying pipe.** The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or groove ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment coincides with the flow line.

Elliptical and elliptically reinforced concrete pipes shall be placed with the manufacturer's reference lines designating the top of the pipe within five degrees of a vertical plane through the longitudinal axis of the pipe.

**701-3.4 Joining pipe.** Joints shall be made with (1) cement mortar, (2) cement grout, (3) rubber gaskets, (4) plastic gaskets, or (5) coupling bands.

Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints to retain the poured grout. Rubber ring gaskets shall be installed to form a flexible watertight seal.

**a. Concrete pipe.** Concrete pipe may be either bell and spigot or tongue and groove. Pipe sections at joints shall be fully seated and the inner surfaces flush and even. Concrete pipe joints shall be sealed with rubber gaskets meeting ASTM C443 when leak resistant joints are required.

**b. Metal pipe.** Metal pipe shall be firmly joined by form-fitting bands conforming to the requirements of ASTM A760 for steel pipe and AASHTO M196 for aluminum pipe.

**c. PVC, Polyethylene, or Polypropylene pipe.** Joints for PVC, Polyethylene, or Polypropylene pipe shall conform to the requirements of ASTM D3212 when leak resistant joints are required. Joints for PVC and Polyethylene pipe shall conform to the requirements of AASHTO M304 when soil tight joints are required. Fittings for polyethylene pipe shall conform to the requirements of AASHTO M252 or ASTM M294. Fittings for polypropylene pipe shall conform to ASTM F2881, ASTM F2736, or ASTM F2764.

**d. Fiberglass pipe.** Joints and fittings shall be as detailed on the plans and in accordance with the manufacturers recommendations. Joints shall meet the requirements of ASTM D4161 for flexible elastomeric seals.

**701-3.5 Embedment and Overfill.** Pipes shall be inspected before any fill material is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and re-laid or replaced at the Contractor's expense.

#### **701-3.5-1 Embedment Material Requirements**

**a. Concrete Pipe.** Embedment material and compaction requirements shall be in accordance with the applicable Type of Standard Installation (Types 1, 2, 3, or 4) per ASTM C1479. If a concrete cradle or CLSM embedment material is used, it shall conform to the plan details.

**b. Plastic and fiberglass Pipe.** Embedment material shall meet the requirements of ASTM D3282, A-1, A-2-4, A-2-5, or A-3. Embedment material shall be free of organic material, stones larger than 1.5 inches in the greatest dimension, or frozen lumps. Embedment material shall extend to 12 inches above the top of the pipe.

**c. Metal Pipe.** Embedment material shall be granular as specified in the contract document and specifications, and shall be free of organic material, rock fragments larger than 1.5 inches in the greatest dimension and frozen lumps. As a minimum, backfill materials shall meet the requirements of ASTM D3282, A-1, A-2, or A-3. Embedment material shall extend to 12 inches above the top of the pipe.

**701-3.5-2 Placement of Embedment Material**

The embedment material shall be compacted in layers not exceeding 6 inches (150 mm) on each side of the pipe and shall be brought up one foot (30 cm) above the top of the pipe or to natural ground level, whichever is greater. Thoroughly compact the embedment material under the haunches of the pipe without displacing the pipe. Material shall be brought up evenly on each side of the pipe for the full length of the pipe.

When the top of the pipe is above the top of the trench, the embedment material shall be compacted in layers not exceeding 6 inches (150 mm) and shall be brought up evenly on each side of the pipe to one foot (30 cm) above the top of the pipe. All embedment material shall be compacted to a density required under Item P-152.

Concrete cradles and flowable fills, such as controlled low strength material (CLSM) or controlled density fill (CDF), may be used for embedment provided adequate flotation resistance can be achieved by restraints, weighing, or placement technique.

It shall be the Contractor's responsibility to protect installed pipes and culverts from damage due to construction equipment operations. The Contractor shall be responsible for installation of any extra strutting or backfill required to protect pipes from the construction equipment.

**701-3.6 Overfill**

Pipes shall be inspected before any overfill is in place. Any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor's expense. Evaluation of any damage to RCP shall be evaluated based on AASHTO R73.

Overfill material shall be placed and compacted in layers as required to achieve compaction to at least 95 percent standard proctor per ASTM D1557. The soil shall contain no debris, organic matter, frozen material, or stones with a diameter greater than one half the thickness of the compacted layers being placed.

**701-3.7 Inspection Requirements**

An initial post installation inspection shall be performed by the RPR no sooner than 30 days after completion of installation and final backfill. Clean or flush all lines prior to inspection.

Incorporate specific inspection requirements for the various types of pipes beneath the general inspection requirements.

Reinforced concrete pipe shall be inspected, evaluated, and reported on in accordance with ASTM C1840, "Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe." Any issues reported shall include still photo and video documentation. The zoom ratio shall be provided for all still or video images that document any issues of concern by the inspection firm.

**METHOD OF MEASUREMENT**

**701-4.1** The length of pipe shall be measured in linear feet (m) of pipe in place, completed, and accepted. It shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. Differing pipe class and sizes shall be measured separately. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

**701-4.2.** ~~{ Precast box culverts shall be measured by individual unit and size. }~~ [ Not used. ]



~~701-4.3~~ [—The volume of concrete for pipe cradles shall be the number of cubic yards (cubic meters) of concrete that is completed in place and accepted.—] [ Not used. ]

~~701-4.4~~ [—The volume of rock, hardpan, or other unyielding material shall be the number of cubic yards (cubic meters) excavated. No payment shall be made for the cushion material placed for the bed of the pipe.—] [ Not used. ]

### BASIS OF PAYMENT

**701-5.0** These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item D-701-5.1	18" Class V Storm Drain Pipe Including FDOT 273 Concrete Mitered end Section – per linear foot
----------------	--

### 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 M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M219	Standard Specification for Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M243	Standard Specification for Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter

ASTM International (ASTM)

ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
-----------	---

ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM A849	Standard Specification for Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe
ASTM B745	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C94	Standard Specification for Ready Mixed Concrete
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber
ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals

ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based on Outside Diameter
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications
National Fire Protection Association (NFPA)	
NFPA 415	Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways

**END ITEM D-701**



## 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 herein~~, 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 herein~~.

*Sod shall be type: Pensacola Bahia, sand grown.*

*Sod supplier shall visit the site after topsoil stripping stockpile is available for sample and inspection by the sod supplier and prior to submitting a technical submittal for the sod to the Engineer. As part of the technical submittal, the sod supplier shall submit a certification in writing to the Engineer for approval stating that the sod is suitable for the proposed soil conditions. The technical submittal shall also include a recommended watering and fertilizer schedule (based on time of year) and fertilizer type as recommended by the sod supplier.*

*Sod shall not contain bird attractants such as millet or soda apple.*

**904-2.2 Lime.** Not required.

**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.

*Fertilizer shall be the type recommended by the sod supplier and placed at the schedule and application rate as recommended by the sod supplier. Fertilizers shall be 10-10-10 (n-p-k) commercial fertilizer and shall be spread at the rate of 400 pounds per acre.*

**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 *herein*. ~~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 *herein*. 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 elods, 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. *The contractor will be required to water sodded areas three days per week until the sod is well established, has good color and is approved by the Engineer. The Contractor shall water every other day such that the sod is watered at least three times per week. It is imperative that the Contractor water consistently to ensure proper sod growth.*

**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 (square meters) of the surface covered with sod and accepted.

**BASIS OF PAYMENT**

**904-5.1** This item will be paid for on the basis of the contract unit price per square yard (square meter) for sodding, which price shall be full compensation for all labor, equipment, material, staking, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item T-904-5.1 Sodding - per square yard (square meter)

**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**



## 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 *as recommended by the sod supplier* 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 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 4 inches (100 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.

**905-4.2** Topsoil obtained off 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 shall be measured by volume in cubic yards (meters) computed by the method of end areas.

#### **BASIS OF PAYMENT**

**905-5.1** Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoil (obtained on the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

**905-5.2** Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoil (obtained off the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

<del>Item T-905-5.1</del>	<del>Topsoil (Obtained on Site or Removed from Stockpile) - per cubic yard</del>	
Item T-905-5.1	Topsoil (Furnished from Off the Site) - per cubic yard	

#### **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 $\mu\text{m}$ (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 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. The Contractor’s submittals shall be 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 C, 5,000 volts, non-shielded, with cross-linked polyethylene insulation. Conductors for use on 20 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #6 AWG, L-824 Type C, 5,000 volts, non-shielded, with cross-linked polyethylene insulation. L-824 conductors for use on the L-830 secondary of airfield lighting series circuits shall be sized in accordance with the manufacturer’s recommendations. All other conductors shall comply with FAA and National Electric Code (NEC) requirements. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or 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. 2 AWG bare solid copper wire for counterpoise and/or No. 2 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-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 3M™ 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 Item P-610, Concrete for Miscellaneous Structures.

**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 Scotch™ Electrical Tapes –Scotch™ 88 (1-1/2 inch (38 mm) wide) and Scotch™ 130C® linerless rubber splicing tape (2-inch (50 mm) wide), as manufactured by the Minnesota Mining and Manufacturing Company (3M™), or an approved equivalent.

**108-2.10 Electrical coating.** Electrical coating shall be Scotchkote™ as manufactured by 3M™, or an approved equivalent.

**108-2.11 Existing circuits.** Whenever the scope of work requires connection to an existing circuit, the 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 turving 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 topsoiling, fertilizing, seeding, mulching 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. 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 contaminants 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 #2 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.

**b. Isolation.** 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.

When a nonmetallic light base is used, the grounding electrode shall be bonded to the metallic light fixture or metallic base plate with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

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 3M™ Scotchkote™, or approved equivalent, or coated with coal tar Bitumastic® material to prevent surface exposure to corrosive soil or moisture.

**108-3.10 Testing.** The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the 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 500 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** The cost of all excavation, backfill, dewatering and restoration regardless of the type of material encountered shall be included in the unit price bid for the work.

**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 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit – per linear foot
- Item L-108-5.2      No. 2 AWG, Solid, Bare Copper Counterpoise Wire, Installed in Trench, Above the Duct Bank or Conduit, Including Connections/Terminations and Ground Rods - per linear foot

**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-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 Item P-610, Concrete for Miscellaneous Structures.

**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 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 not 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 topsoiling, fertilizing, seeding, mulching 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.

### 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 Non-Encased Electrical Conduit, 1-Way, 2-Inch - per linear foot
- Item L-110-5.2 Directionally Drilled Electrical Conduit, 2-Way, 2-Inch- per linear foot

**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**

**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.

**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. The structure shall be designed to withstand 100,000 lb aircraft loads, unless otherwise shown on the plans. Openings or knockouts shall be provided in the structure as detailed on the plans.

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. If 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.** All concrete used in structures shall conform to the requirements of Item P-610, Concrete for Miscellaneous Structures.

**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 specified shall withstand a maximum tire pressure of 250 psi and maximum load of 100,000 lbs.

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.** Cable trays shall be of galvanized steel, plastic or aluminum. Cable trays shall be located as shown on the plans.

**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.** Pulling-in irons shall be manufactured with 7/8-inch (22 mm) diameter hot-dipped galvanized steel or stress-relieved carbon steel roping designed for concrete applications (7 strand, 1/2-inch (12 mm) diameter with an ultimate strength of 270,000 psi (1862 MPa)). Where stress-relieved carbon steel roping is used, a rustproof sleeve shall be installed at the hooking point and all exposed surfaces shall be encapsulated with a polyester coating to prevent corrosion.

**115-2.16 Ground rods.** Ground rods shall be one piece, copper clad steel. 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 pigtailed 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                      L-867D Junction Can - 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)

**END OF ITEM L-115**

**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 perform 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. 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.

All LED light fixtures, with the exception of obstruction lighting (AC 150/5345-43) must be warranted by the manufacturer for a minimum of 4 years after date of installation inclusive of all electronics." Obstruction lighting warranty is set by the individual manufacturer.

**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 Used

**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.

**Lights**

Type	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-861T(L)	N/A	1	N/A	4	L-867B	Blue	10/15W	14" Height

**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

**125-2.9 Runway End Identifier Light (REIL).** Not Used.

**125-2.10 Precision Approach Path Indicator (PAPI).** Not Used.

**125-2.11 Circuit Selector Cabinet.** Not Used

**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 (elevated) and L-868 (in pavement), 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** Taxiway lights will be measured by the number installed as completed units in place, ready for operation, and accepted by the RPR. Taxiway lights to be removed will be measured by the number completely removed and backfilled/compacted to match surrounding existing grade.

**BASIS OF PAYMENT**

**125-5.1** Payment will be made at the Contract unit price for each complete runway or taxiway light installed or removed 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:

- Item L-125-5.1 L-861T(L) Taxiway Edge Light and Isolation Transformer on New L-867B Base Can - per each
- Item L-125-5.2 Remove Taxiway Edge Light and Isolation Transformer - per each
- Item L-125-5.3 Guidance Sign Panel Replacement - 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 150/5340-18 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**

*APPENDIX A – CSPP*



Page Intentionally Left Blank





*TAXIWAY A PREVENTATIVE  
REHABILITATION AND  
LIGHTING IMPROVEMENTS  
CONSTRUCTION  
SAFETY AND PHASING  
PLAN (CSPP)*

*BID DOCUMENTS  
OCTOBER 2019*

Destin Executive Airport  
Okaloosa County  
Destin, FL

**RS&H**

*TAXIWAY A PREVENTATIVE  
REHABILITATION AND  
LIGHTING IMPROVEMENTS  
CONSTRUCTION  
SAFETY AND PHASING  
PLAN (CSPP)*

---

Volume No. 1 of 1  
October 2019  
Destin, FL

AIP Project No.:  
N/A

RS&H No.:  
201-0251-012

Prepared by RS&H, Inc. at the  
direction of Okaloosa County  
Airports.



## TABLE OF CONTENTS

Section 1 – Purpose.....	1
Section 2 – Project Scope.....	2
Section 3 – Plan Requirements .....	3
3.1 Coordination .....	3
3.1.1 PRE-Design Conference.....	3
3.1.2 Pre-Bid Conference .....	3
3.1.3 Pre-Construction Conference.....	3
3.1.4 Contractor Progress Meetings.....	4
3.1.5 Scope or Schedule Changes .....	5
3.1.6 FAA ATO Coordination .....	5
3.2 Phasing.....	5
3.2.1 Phase Elements .....	5
3.2.2 PRECONSTRUCTION PHASE.....	6
3.2.3 Phase 1 .....	6
3.2.4 Phase 2 .....	7
3.2.5 Phase 3 .....	7
3.2.6 Phase 1A.....	8
3.2.7 Phase 2A.....	8
3.2.8 CLOSEOUT .....	9
3.3 Areas and Operations Affected by the Construction Activity .....	9
3.3.1 Identification of Affected Areas.....	9
3.3.2 Mitigation of Effects.....	9
3.3.3 Temporary Changes to Runway and/or Taxiway Operations.....	9
3.3.4 Detours for ARFF and Other Airport Vehicles.....	10
3.3.5 Maintenance of Essential Utilities.....	10
3.3.6 Temporary Changes to Air Traffic Control Procedures.....	10
3.4 Protection of Navigation Aids (NAVAIDS) .....	10
3.5 Contractor Access.....	10
3.5.1 Location of Stockpiled Construction Materials.....	10
3.5.2 Vehicle and Pedestrian Operations.....	11
3.6 Wildlife Management.....	12
3.7 Foreign Object Debris (FOD) Management.....	13
3.8 Hazardous Materials (HAZMAT) Management .....	13
3.9 Notification of Construction Activities.....	13
3.9.1 Points of Contact/List of Responsible Representatives .....	13
3.9.2 Emergency Notification Procedures.....	14
3.10 Coordination with ARFF Personnel .....	14
3.11 Notification to the FAA.....	14

3.11.1 Part 77 ..... 14

3.11.2 Part 157 ..... 14

3.11.3 NAVAIDS ..... 15

3.12 Inspection Requirements ..... 15

    3.12.1 Daily (or more frequent) inspections ..... 15

    3.12.2 Final inspections ..... 15

    3.12.3 Underground Utilities ..... 15

3.13 Penalties ..... 16

3.14 Special Conditions ..... 16

3.15 Runway and Taxiway Visual Aids ..... 16

    3.15.1 General ..... 16

    3.15.2 Markings ..... 16

    3.15.3 Lighting and Visual NAVAIDS ..... 16

    3.15.4 Signs ..... 17

3.16 Marking and Signs for Access Routes ..... 17

3.17 Hazard Marking and Lighting ..... 17

    3.17.1 Purpose ..... 17

    3.17.2 Equipment ..... 17

3.18 Other Limitations on Construction ..... 18

    3.18.1 Prohibitions ..... 18

    3.18.2 Restrictions ..... 18

Appendix A: Project Specific Exhibits ..... A

Reference 1: Safety and Phasing Plan Checklist ..... 1

Reference 2: Construction Project Daily Safety Inspection Checklist ..... 1

## LIST OF FIGURES

Figure 1: Airport Diagram Project Location ..... 2

## SECTION 1 – PURPOSE

Aviation safety is the primary consideration at airports, especially during construction. The airport operator's Construction Safety and Phasing Plan (CSPP) and the Contractor's Safety Plan Compliance Document (SPCD) are the primary tools to ensure safety compliance when coordinating construction activities with airport operations. These documents identify all aspects of the construction project that pose a potential safety hazard to airport operations and outline respective mitigation procedures for each hazard.

The CSPP sets forth benchmarks and requirements for the project to help ensure the highest levels of safety, security and efficiency at the airport at the time of construction. Guideline requirements for the CSPP are developed from FAA Advisory Circular 150/5370-2G *Operational Safety on Airports During Construction*.

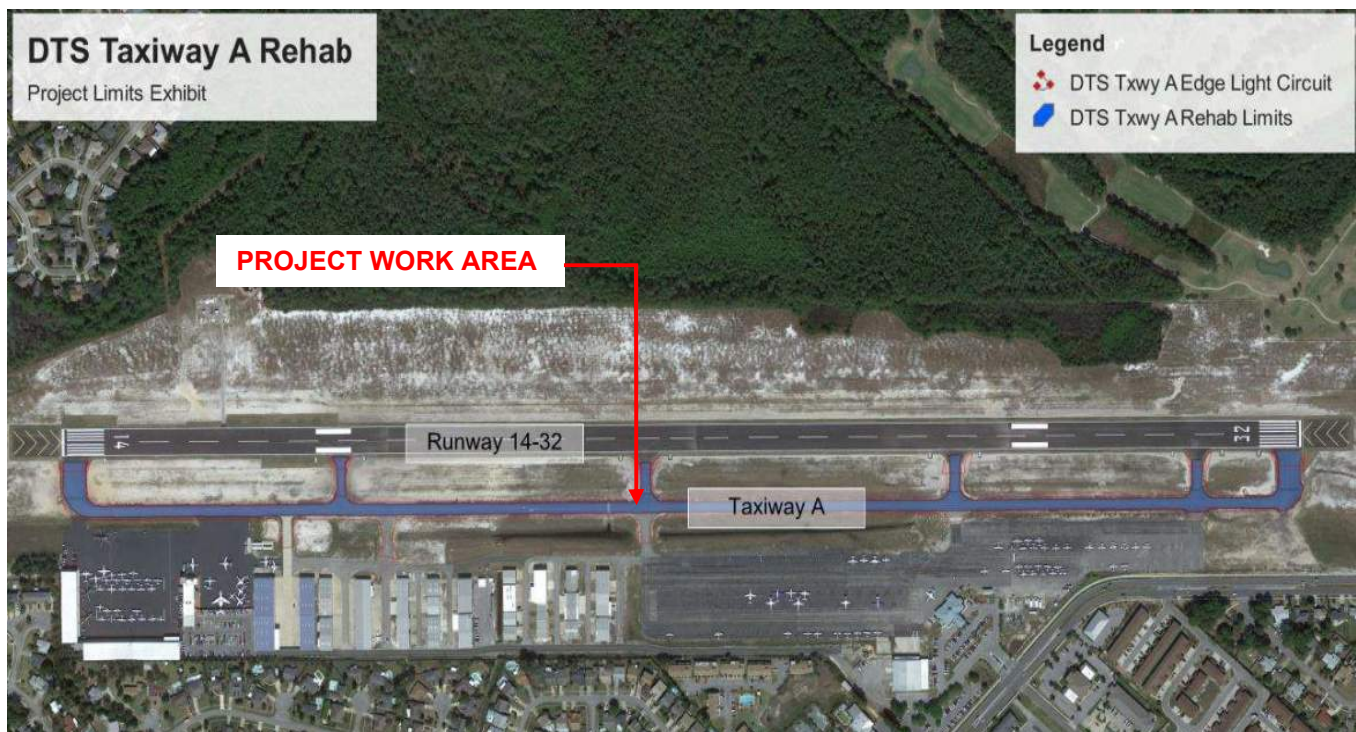
The CSPP is a standalone document, written to correspond with the safety and security requirements set forth in AC 150/5370-2G, the airport safety and security requirements, and local codes and requirements. The CSPP is to be used by all personnel involved in the project. The CSPP covers the actions of not only the construction personnel and equipment, but also the action of inspection personnel and airport staff. This document has been developed in order to minimize interruptions to airport operations, reduce construction costs, and maximize the performance and safety of construction activity. Strict adherence to the provisions of the CSPP by all personnel assigned to or visiting the construction site is mandatory for AIP funded construction projects.

The Contractor shall be required to submit a Safety Plan Compliance Document (SPCD) to the airport operator describing how the Contractor will comply with the requirements set forth in this CSPP. The SPCD must be submitted to the airport operator for approval prior to issuance of the Notice to Proceed. In the event the Contractor's activities are found in non-compliance with the provisions of the CSPP or the SPCD, the Airport Engineer will direct the Contractor, in writing, to immediately cease those operations in violation. In addition, a safety meeting will be conducted for the purpose of reviewing those provisions in the CSPP/SPCD which were violated. The Contractor will not be allowed to resume any construction operations until conclusion of the safety meeting and all corrective actions required by the Contractor have been implemented.

## SECTION 2 – PROJECT SCOPE

Okaloosa County Airports has requested a proposal from RS&H, Inc. (Consultant) to provide design, bidding, and construction administration services for the application of a bituminous seal coat installation of new painted pavement markings on the Taxiway A and associated connector taxiway pavements at Destin Executive Airport (DTS). The existing bituminous taxiway pavement is beginning to show signs of weathering and deterioration of the bituminous binder holding the fine aggregate. A bituminous seal coat application will extend the life of the pavement and delay the need for more costly rehabilitation measures. After the application of the new seal coat, all affected pavement will receive new painted pavement markings.

In addition to the bituminous pavement rehabilitation, Taxiway A will also receive improvements to its edge lighting system. The existing stake mounted edge lights will be removed along with the abandonment of its current cabling as the Airport is experiencing continuity issues with the system. To create a reliable lighting system, new concrete encased LED taxiway edge lights will be installed, and the associated cable will be placed within PVC conduit to allow the new system to meet its 20+ year design life.



**FIGURE 1: AIRPORT DIAGRAM PROJECT LOCATION**

## SECTION 3 – PLAN REQUIREMENTS

### 3.1 COORDINATION

Pre-design, pre-bid, and pre-construction conferences are used to introduce the subject of airport operational safety during construction. In addition, construction progress meetings, scope of schedule changes, and meetings with the airport will be coordinated as required through the performance of the contract.

#### 3.1.1 PRE-DESIGN CONFERENCE

A pre-design kickoff conference was held via conference call with Airport staff. This meeting was used to discuss various items relating to design parameters, airport safety, routing of aircraft and equipment, sequencing of construction operations, environmental considerations, and any other requirements pertinent to the project. This design review conference was essential in identifying and outlining potential affects and/or conflicts to airport operations during construction and ensuring any accommodations can be incorporated into the design documents.

#### 3.1.2 PRE-BID CONFERENCE

The Consultant will conduct a pre-bid conference to help clarify and explain construction methods, procedures, and safety measures required by the contract, prior to the bid opening date. The meeting will discuss items including construction methods, construction procedures (i.e. statistical acceptance testing), operational safety requirements, Disadvantaged Business Enterprise (DBE) and other civil rights and labor requirements.

One of the primary focuses of the Pre-bid Conference is to cover relevant information concerning the Contractor's requirements for developing and submitting an SPCD for review and approval, including both general and specific elements required in the SPCD. In addition, information on how the Contractor shall format the document to illustrate their plans for compliance with those provisions detailed out within this CSPP will also be provided.

Any changes or modifications recommended during the conference will be included in an addendum to the bid documents.

Copies of the proceedings, containing all items discussed, including responses to questions, will be made available to each of the participants, upon request.

#### 3.1.3 PRE-CONSTRUCTION CONFERENCE

A pre-construction conference will be conducted by the Consultant to discuss operational safety, testing, quality control, quality acceptance, security, safety, labor requirements, environmental factors, and other issues. This meeting, among all parties affected by the construction, should assist in a better understanding of potential problems and possible solutions for the course of the performance of this contract.

The pre-construction conference shall be conducted as soon as practicable after the contract has been awarded and before issuance of the notice to proceed.

The invited participants for this meeting shall include the following parties:

- Design Team
- Airport management.
- Testing laboratory representative.
- Contractor and subcontractor(s).
- Contractor's project superintendent.
- Airport users impacted by the proposed construction.
- Federal, state, or local agencies affected by the proposed construction.

The FAA Airports regional or field office should ensure that all appropriate FAA offices (Air Traffic, Flight Standards, etc.), military installations, and Federal agencies that may have an interest in the project are notified.

The RS&H Team will prepare an agenda prior to the pre-construction conference. This will include but is not limited to:

- The scope of the project and the sequence and timing of all operations.
- Relationship between the Airport representative and the Contractor.
- Relationship between the FAA and the sponsor.
- Identification of the Contractor's superintendent and a discussion of his/her authority and responsibilities.
- Designation of sponsor representative responsible for notifying the Flight Service Station serving the airport of the proposed start and completion dates of construction or of any circumstances requiring a NOTAM. Planned coordination (Airport Management), control and communications needed for those closures and crossings identified for this project are discussed in detail in Section 3.9, *Notification of construction activities*.
- Scheduling of work and the need to perform certain items at various stages of the project, including operational safety problems that might arise because of the proposed work.
- Notice to proceed date.
- Safety during construction, including the responsibility for marking and lighting of closed and hazardous areas. See AC 150/5370-2G *Operational Safety on Airports During Construction*, AC 150/5340-1L, *Standards for Airport Markings*, and AC 150/5340-30J *Design and Installation Details for Airport Visual Aids*, current edition, for detailed information.
- Security requirements.
- The need for continuing vigilance for potential or existing hazards relative to any of the items associated with construction operations on an active or closed airfield surface.

#### 3.1.4 CONTRACTOR PROGRESS MEETINGS

Weekly construction meetings shall be held to discuss work progress and to address current or potential security and safety concerns. These meetings may be adjusted to a day-to-day basis as necessary for specific work items. Operational safety and security shall be a standing agenda item for discussion during these weekly/daily construction progress meetings.



### 3.1.5 SCOPE OR SCHEDULE CHANGES

Changes in the scope and/or duration of the project may necessitate revisions to the CSPP. The FAA Airports Regional or District office shall be promptly notified of any proposed changes to this CSPP. Changes to this document require review and approval by the airport operator and the FAA prior to implementation. In addition, coordinate proposed changes with any and all appropriate local or federal government agencies (i.e. EPA, OSHA, TSA, state environmental agencies, etc.).

### 3.1.6 FAA ATO COORDINATION

Coordination with FAA ATO will be performed by Airport staff to schedule airway facility shutdowns and restarts. Taxiway A will be partially closed for the duration of the project. Upon phase and project completion, a taxiway inspection must be coordinated and scheduled well in advance of the intended facility restart.

## 3.2 PHASING

Construction phasing for this project will be coordinated with the local Air Traffic Control Tower personnel and airport users. The sequenced construction phases established in this CSPP have been incorporated into the project design and are reflected in the contract drawings and specifications. All phase durations to be coordinated with Airport Operations, but restrictions on closures are noted.

### 3.2.1 PHASE ELEMENTS

The sequence of construction for this project has been phased in order to maintain aircraft operations at an acceptable level of efficiency at the airport for the duration of this contract. General elements of sequencing and phasing are as follows:

- Construction Staging Areas
  - Staging areas will be located in association with the current phase of construction. The location of the Phase 1 staging areas will be in the FBO parking lot located outside of the AOA fence between the north and south apron. An alternative Phase 1 staging area, upon coordination with the Airport, is located on the northwest corner of the south apron or the south edge of the south apron. Staging areas for Phase 1 will be coordinated between Airport Operations and construction personnel.
  - The location of the Phase 2 construction staging area will be in the FBO parking lot located outside of the AOA fence between the north and south apron. An alternative Phase 2 staging area, upon coordination with the Airport, is located on the northwest corner of the south apron.
  - The location of the Phase 3 construction staging area and access will be identical to that of Phase 2.
  - Staging areas and access gates for each phase can be seen in the exhibits in Appendix A of this document.
- Construction Access and Haul Routes
  - Reference Appendix A Exhibits for routing layouts. Applicable control along Contractor haul routes for both safety and security must be maintained at all times. This is especially critical at those locations that require the Contractor to cross or move through active airfield surfaces. Reference Section 3.5.2 VEHICLE AND PEDESTRIAN OPERATIONS, Section 3.16

MARKING AND SIGNS FOR ACCESS ROUTES, and Section 3.18 PROTECTION OF RUNWAY AND TAXIWAY SAFETY AREAS of this document for additional information. Airport Rescue and Fire Fighting (ARFF) Access Routes—Emergency ARFF access in and around the site will be maintained by the Contractor, as required, for the duration of this project. Contractor must prominently mark open trenches and excavations within the construction site, with approval from Airport Operations and Engineering, and light them with red lights during hours of restricted visibility or darkness.

- Required Hazard Marking and Lighting
  - Taxiway edge lighting shall remain illuminated on all areas open to aircraft operations. Therefore, a temporary lighting “jumper” plan will be discussed and coordinated with Airport Operations during the pre-bid and pre-construction meetings. Areas closed to aircraft operations in both Phase 1 and 2 shall have the current edge lighting circuit disconnected and de-energized to ensure safe removal and installation of the new taxiway edge lighting system.
  - Reference Section 3.16 MARKING AND SIGNS FOR ACCESS ROUTES, Section 3.17 HAZARD MARKING AND LIGHTING, and Section 3.18 PROTECTION OF RUNWAY AND TAXIWAY SAFETY AREAS of this document for additional information.
- Lead Times for Required Notifications
  - The Contractor is required to coordinate with the Construction Manager and Airport Operations. Lead times for required notifications shall be established at the pre-construction meeting.

Phase specific elements addressed and taken into consideration during the development of the construction phasing for this project are as follows:

- Preconstruction Phase - Mobilization and Submittals
- Phase 1 – South Taxiway A Construction Phase
- Phase 2 – North Taxiway A Construction Phase
- Phase 3- Taxiway A1 Construction Phase
- Phase 1A – South Taxiway A Final Pavement Markings
- Phase 2A – North Taxiway A Final Pavement Markings
- Closeout – Grant Closeout and Demobilization.

### 3.2.2 PRECONSTRUCTION PHASE

- The Contractor will be given 60 days maximum for the Preconstruction Phase.
- The Preconstruction Phase will not include any construction activities other than establishing the Contractor’s staging area.
- This Phase is designated for coordination between the Contractor and the Airport for access to and from the staging area and the construction site, as well as other security items such as badging.
- This Phase will also provide time for Contractor submittals to be compiled, submitted and reviewed to potentially avoid delays during construction.

### 3.2.3 PHASE 1

- The following airfield aircraft traffic operations will be modified during this Phase:
  - Taxiway A south of Taxiway A3 including Taxiways A4, A5, and A6 will be closed to aircraft operations.
- The contractor must complete Phase 1 within 40 calendar days of commencement.

- Reference the exhibits of Attachment A of this document for the barricade locations and additional safety measures.
- All work in Phase 1 may be completed during daytime or nighttime construction hours upon coordination with the Airport.
- Taxi routes: Taxiway A south of Taxiway A3 will be closed to aircraft operations. Aircraft landing on Runway 14 will be required to back-taxi on Runway 14-32 to exit at Taxiways A1-A3.
- Impacts to NAVAIDs: No changes are anticipated.
- Marking Changes: Temporary airfield pavement markings installed at the end of the phase as shown on the project proposed marking plan.
- Guidance Sign Changes: All guidance signs referencing Taxiway A4, A5, and A6 shall be blacked out or de-energized during Phase 1 construction.
- Reference the exhibits of Attachment A of this document for detailed project scope notes.

### 3.2.4 PHASE 2

- The following airfield aircraft traffic operations will be modified during this Phase:
  - Taxiway A between Taxiway A1 and Taxiway A3 including Taxiways A2 and A3 will be closed to aircraft operations.
- The contractor must complete Phase 2 within 40 calendar days of commencement.
- Reference the exhibits of Attachment A of this document for the barricade locations and additional safety measures.
- All work in Phase 2 may be completed during daytime or nighttime construction hours upon coordination with the Airport.
- Taxi routes: Taxiway A between Taxiway A1 and Taxiway A3 will be closed to aircraft operations. Aircraft landing on Runway 32 will be required to exit Runway 14-32 at Taxiway A1 (to north apron) or back-taxi on Runway 14-32 to exit at Taxiways A4-A6.
- Impacts to NAVAIDs: No changes are anticipated.
- Marking Changes: Temporary airfield pavement markings installed at the end of the phase as shown on the project proposed marking plan.
- Guidance Sign Changes: All guidance signs referencing Taxiway A2, and A3 shall be blacked out or de-energized during Phase 2 construction.
- Reference the exhibits of Attachment A of this document for detailed project scope notes.

### 3.2.5 PHASE 3

- The following airfield aircraft traffic operations will be modified during this Phase:
  - Taxiway A1 and the stub connector between the North Apron and Taxiway A1 be closed to aircraft operations.
- The contractor must complete Phase 3 within 10 calendar days of commencement.
- Reference the exhibits of Attachment A of this document for the barricade locations and additional safety measures.
- All work in Phase 3 may be completed during daytime or nighttime construction hours upon coordination with the Airport.
- Taxi routes: Taxiway A1 will be closed to aircraft operations. Aircraft landing on Runway 32 will be required to back-taxi on Runway 14-32 to exit at Taxiways A2-A6.
- Impacts to NAVAIDs: No changes are anticipated.

- Marking Changes: Temporary airfield pavement markings installed at the end of the phase as shown on the project proposed marking plan.
- Guidance Sign Changes: All guidance signs referencing Taxiway A1 shall be blacked out or de-energized during Phase 3 construction.
- Reference the exhibits of Attachment A of this document for detailed project scope notes.

### 3.2.6 PHASE 1A

- The following airfield aircraft traffic operations will be modified during this Phase:
  - Taxiway A south of Taxiway A3 including Taxiways A4, A5, and A6 will be closed for up-to three work shifts for the installation of permanent pavement markings.
- The Contractor must coordinate work requiring taxiway closure with Airport Operations.
- Reference the exhibits of Attachment A of this document for the barricade locations and additional safety measures.
- All work in Phase 1A may be completed during daytime or nighttime construction hours.
- Work within Phases 1A will commence no sooner than 30 calendar days from the last application of bituminous seal coat in Phase 1 construction areas.
- Taxi routes: Taxiway A south of Taxiway A3 will be closed to aircraft operations. Aircraft landing on Runway 14 will be required to back-taxi on Runway 14-32 to exit at Taxiways A1-A3.
- Impacts to NAVAIDs: No changes are anticipated.
- Marking Changes: Permanent runway pavement markings will be installed over previously installed temporary pavement markings on Taxiway A south of Taxiway A3.
- Guidance Sign Changes: All guidance signs referencing Taxiway A4, A5, and A6 shall be blacked out or de-energized during Phase 1 closures.
- Reference the exhibits of Attachment A of this document for detailed project scope notes.

### 3.2.7 PHASE 2A

- The following airfield aircraft traffic operations will be modified during this Phase:
  - Taxiway A between Taxiway A1 and Taxiway A3 including Taxiways A1, A2, and A3 will be closed for up-to three work shifts for the installation of permanent pavement markings.
- The Contractor must coordinate work requiring taxiway closure with Airport Operations.
- Reference the exhibits of Attachment A of this document for the barricade locations and additional safety measures.
- All work in Phase 2A may be completed during daytime or nighttime construction hours.
- Work within Phases 2A will commence no sooner than 30 calendar days from the last application of bituminous seal coat in Phase 2 construction areas.
- Taxi routes: Taxiway A between Taxiway A1 and Taxiway A3 will be closed to aircraft operations. Aircraft landing on Runway 32 will be required to back-taxi on Runway 14-32 to exit at Taxiways A4-A6.
- Impacts to NAVAIDs: No changes are anticipated.
- Marking Changes: Permanent runway pavement markings will be installed over previously installed temporary pavement markings on Taxiway A between Taxiway A1 and A3.
- Guidance Sign Changes: All guidance signs referencing Taxiway A1, A2, and A3 shall be blacked out or de-energized during Phase 2A closures.
- Reference the exhibits of Attachment A of this document for detailed project scope notes.

### 3.2.8 CLOSEOUT

- The Contractor will be given 14 days maximum for the Closeout Phase.
- The Closeout Phase will not include any construction activities other than demobilizing from the site and restoration of the Contractor's staging area.
- This Phase is designated for Contractor demobilization from the site and the submittal of all required closeout documentation.

## 3.3 AREAS AND OPERATIONS AFFECTED BY THE CONSTRUCTION ACTIVITY

Runways, taxiways and other airfield surfaces shall remain in use by aircraft to the maximum extent possible without compromising safety. The performance of this contract will require closures of Taxiways A, A1, A2, A3, A4, A5, and A6. These phase areas are graphically illustrated in the attached exhibits, Appendix A, Section 3.2 *Phasing*.

### 3.3.1 IDENTIFICATION OF AFFECTED AREAS

See 2.b *Construction Safety Drawings* above for graphical identification of areas affected by construction operations. Of particular concern are the following:

- Closing, of Taxiway A and Taxiways A1-A6.
- Closing of Aircraft Rescue and Fire Fighting (ARFF) access routes: The Contractor is required to maintain access in and around the project work area for all ARFF vehicles.
- Closing of access routes used by airport and airline support vehicles: No impacts to airport operations other than the airfield closures listed above.
- Interruption of utilities, including water supplies for firefighting: No utility impacts will be encountered by this project. Work pertaining to existing utilities will be performed without impacting service to Airport.
- Approach/Departure surfaces affected by heights of objects: Equipment shall not exceed 50 feet in height.

Construction areas: These areas include the project work area, storage/stockpile areas, staging areas, and Contractor haul routes near active airfield surfaces. These areas are identified graphically in attached exhibits. The associated Phase 1 and 2 specified locations will be the staging area for all materials and equipment used by the Contractor and shall be coordinated with Airport Operations prior to each construction phase.

### 3.3.2 MITIGATION OF EFFECTS

This CSPP has established specific requirements and operational procedures necessary to maintain the safety and efficiency of airport operations during the construction of this project.

All coordination pertaining to airport operations during construction will go through the Airport Engineer and the Operations Manager. Any required NOTAM's to be issued will be sent through the Airport's Construction Management Representative and issued by Airport Operations.

### 3.3.3 TEMPORARY CHANGES TO RUNWAY AND/OR TAXIWAY OPERATIONS

The affected taxiways identified in the previous section for reduced access or identified as being closed entirely to aircraft traffic, will be barricaded using low profile, lighted barricades placed as shown in the exhibits provided in Appendix A. In addition, required NOTAM's shall be issued on the various temporary changes to aircraft access through the affected areas.

#### 3.3.4 DETOURS FOR ARFF AND OTHER AIRPORT VEHICLES

The project work site shall remain open to all ARFF vehicles in emergency situations. The Contractor is required to maintain access in and around the project work area for all ARFF vehicles. Proper routing of this traffic will be effectively communicated to all supervisory personnel involved in the construction project.

#### 3.3.5 MAINTENANCE OF ESSENTIAL UTILITIES

Special attention shall be given to preventing unscheduled interruption of utility services and facilities. Where required due to construction purposes, the FAA shall locate all of their underground utilities. The Contractor shall locate and/or arrange for the location of all the underground utilities. When an underground cable or utility is damaged due to the Contractor's negligence the Contractor shall immediately repair the affected cable or utility at his/her own expense. Full coordination between airport staff, field inspectors, and construction personnel will be exercised to ensure that all airport power and control cables are fully protected prior to any excavation. Locations of cabling and other underground utilities will be marked prior to beginning excavation.

#### 3.3.6 TEMPORARY CHANGES TO AIR TRAFFIC CONTROL PROCEDURES

Changes to air traffic control procedures must be coordinated with airport ATO.

### 3.4 PROTECTION OF NAVIGATION AIDS (NAVAIDS)

Before commencing construction activity, parking vehicles, or storing construction equipment and materials near a NAVAID, coordination with the appropriate FAA ATO to evaluate the effects of construction activity and the required distances and direction from the NAVAID is required. Construction activities, materials/equipment storage, and vehicle parking near electronic NAVAIDs require special consideration since they may interfere with lines of site and signals essential to air navigation.

### 3.5 CONTRACTOR ACCESS

This CSPP details those areas to which the Contractor must have access, and how Contractor personnel will access those project work areas.

#### 3.5.1 LOCATION OF STOCKPILED CONSTRUCTION MATERIALS

Stockpiled materials and equipment storage are not permitted within the RSA/TSA, OFZ or OFA of an operational runway or taxiway. Stockpiled materials and equipment adjacent to these areas are to be prominently marked and lighted during hours of restricted visibility or darkness. Stockpiled material shall be constrained in a manner to prevent movement resulting from either aircraft jet blast or wind conditions in excess of ten miles per hour. In addition, stockpiled material shall have silt fence located around the material to prevent FOD from moving onto the airfield pavements or polluting watercourses.

Open trenches exceeding 3 inches in depth and 5 inches in width or stockpiled material are not permitted within the limits of safety areas of operational runways or taxiways. Stockpiled material shall not be permitted within the protected areas of the runways or allowed to penetrate any of the protected airspace.

In addition, all demolished pavement materials and unclassified excavation materials shall be removed and legally disposed of off airport property and not stockpiled on airport property.

Reference Section 3.7 *Foreign Object Debris (FOD) Management* and Section 3.18 *Protection of Runway and Taxiway Safety Areas* for additional information regarding stockpile management.

### 3.5.2 VEHICLE AND PEDESTRIAN OPERATIONS

Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the AOA. The airport operator will coordinate requirements for vehicle operations with the affected airport tenants, Contractors and the FAA air traffic manager. Specific vehicle and pedestrian requirements for this project are as follows:

All construction vehicles and personnel shall be restricted to the immediate work areas specified by the contract for this project. These areas include the haul routes into the work area, the designated Contractor staging area and the area under construction. Use of alternate haul routes or staging areas by the Contractor shall not be permitted without prior notification and approval by Airport Operations.

Access or haul routes used by Contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Construction traffic must remain on the haul road, never straying from the approved paths. Maintenance and upkeep of the haul roads are the responsibility of the Contractor. Dust must be removed from the haul roads by mechanical sweeping. Application of water on dirt or gravel haul routes must be provided as often as necessary. Haul roads in any airport traffic areas must be especially monitored for dust and debris to prevent any potential Foreign Object Debris (FOD) situations. The Contractor is responsible for any damage caused by construction traffic on the haul roads, regardless of whether in an approved or un-approved traffic area. Following construction completion, the Contractor shall grade, reseed, clean or otherwise restore the haul route areas to their original conditions prior to construction activities. Special attention must be given to ensure that if construction traffic is to share or cross any ARFF routes that ARFF right of way is not impeded at any time, and that construction traffic on haul roads do not interfere with NAVAIDs or approach surfaces of operational runways. Work necessary in maintaining the haul roads and compliance with safety and security requirements is considered incidental to the project, and therefore, shall not be directly paid for.

Contractor parking and equipment staging areas shall be coordinated with the Airport. Contractor must service all construction vehicles within the limits of the project work area or the Contractor staging area. Parked construction vehicles must be outside the OFZ and never in the safety area of an active runway or taxiway. In some cases, a complex setup procedure makes movement of specialized equipment infeasible (i.e. slip form paving machines and concrete hard forms); inactive equipment must not be parked on closed taxiways or runways. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the equipment must be well lighted. Employees shall also park construction vehicles outside the OFA when not in use by construction personnel (for example, overnight, on weekends, or during other periods when construction is not active). Parking areas must not obstruct the clear line of sight by the ATCT to any taxiways or runways under air traffic control nor obstruct any runway visual aids, signs, or navigation aids. The FAA must also study those areas to determine effects

on airport design criteria, surfaces established by 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace (Part 77), and on NAVAIDs and Instrument Approach Procedures (IAP).

Vehicles entering the AOA, prior to construction, shall have their tires inspected for FOD. The inspections shall consist of a complete walk around the vehicle to check the tires for FOD and remove any loose materials.

At no time will vehicles or personnel enter portions of the secure AOA outside the contract area unless permitted and accompanied by an airport approved escort.

Operations personnel shall maintain radio communication with air traffic control and monitoring air traffic control frequencies at all times.

All vehicles operating on the airport and in the general vicinity of the safety area or in aircraft movement areas must be marked with flashing yellow/amber beacons or orange and white flags during daylight hours. In addition, the vehicles and equipment will have identifying symbols at a minimum of 8-inch block-type characters of contrasting color that are easily legible. During hours of darkness or low visibility they shall be marked with at least flashing yellow/amber beacons.

Beacons and flags must be maintained to standards and in good working and operational condition. Beacons must be located on the uppermost part of the vehicle structure, visible from any direction, and flash 75 +/- 15 flashes per minute. Flags shall be 3' by 3' with alternating 1' by 1' international orange and white squares and shall be replaced by the Contractor if they become faded, discolored, or ragged as determined by Airport Operations.

No personnel may operate vehicles in the area of operations unless they have first completed and passed an approved driver training class. All personnel operating vehicles on site must attend and complete the airport's driver training course prior to operating vehicles onsite.

At no time shall active taxiways or runways be crossed by construction equipment without notification and proper approval/clearance from Airport Operations and air traffic control.

Aircraft traffic will continue to use existing runways, aprons, and taxiways of the Airport during the time that work under a contract is being performed. The Contractor shall, at all times, conduct the work as to create no hindrance, hazard, or obstacle to aircraft using the Airport.

Airport operators and Contractors must also maintain a high level of security during construction when access points are created in the security fencing to permit construction vehicle access. Temporary gates shall be equipped and/or manned by construction personnel to prevent unauthorized access by vehicles, animals or people. Procedures conforming to Airport security protocols should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit "piggybacking" behind another person or vehicle. Access shall be made available at all times to all airport emergency vehicles traveling to operations areas within the proximity of the construction work zone.

### 3.6 WILDLIFE MANAGEMENT

Construction Contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports.

- **Trash.** Food scraps from construction personnel activity must be collected.



- **Standing water.** Water shall not be allowed to collect and pool for more than any single 24-hour period.
- **Tall grass and seeds.**
- **Poorly maintained fencing and gates.**
- **Disruption of existing wildlife habitat.** Not applicable to this project.

### 3.7 FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT

Special care and measures shall be taken to prevent Foreign Object Debris / Damage (FOD) when working in an airport environment. The Contractor shall be held responsible for implementing an approved FOD Management Plan as a part of the SPCD. The FOD Management Plan will have procedures for prevention, regular cleanup, and containment of construction material and debris. The Contractor will ensure all vehicles related to the construction project using paved surfaces in the AOA shall be free of any debris that could create a FOD hazard. Special attention will be given to the cleaning of cracks and pavement joints. All taxiways, aprons, and runways must remain clean. Waste containers with attached lids shall be required on construction sites.

Special attention should be given to securing lightweight construction material (concrete insulating blankets, tarps, insulation, etc.). Specific securing procedures and/or chain-link enclosures may be required.

Contractors will provide their own equipment for vehicle and equipment washing and clean up. All personnel will be responsible for picking up FOD or reporting spills/hazards. Immediate access to a power sweeper is required when construction occurs on any pavement area inside the AOA, unless an appropriate alternative has been approved by the Airport Engineer and Airport Operations Manager.

### 3.8 HAZARDOUS MATERIALS (HAZMAT) MANAGEMENT

Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel, hydraulic fluid, or other chemical fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. To that end, the Contractor is required to develop and implement spill prevention and response procedures for vehicle operations. The Contractor shall incorporate these procedures into the SPCD. This includes maintenance of appropriate MSDS data and appropriate prevention and response equipment on-site. Refer to FAA AC 150/5320-15 *Management of Airport Industrial Waste* for more information.

### 3.9 NOTIFICATION OF CONSTRUCTION ACTIVITIES

Following is information and procedures for immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport.

#### 3.9.1 POINTS OF CONTACT/LIST OF RESPONSIBLE REPRESENTATIVES

Information, Compliance, and Assistance:

(850) 651-7160

Notices to Airmen (NOTAM)

Only the airport operator may initiate or cancel NOTAMs on airport conditions and is the only entity that can close or open a runway or taxiway. The airport operator must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants

and the local air traffic facility (control tower, approach control, or air traffic control center), and must provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The airport operator must file and maintain a list of authorized representatives with the FSS. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operation of FAA owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the airport operator. See FAA AC 150/5370 2G, Section 3.a.1 regarding issuing NOTAMs for partially closed runways versus runways with displaced thresholds.

Any NOTAMs for planned airfield closures for this project must be coordinated through the airport operations manager and the airports duly appointed construction management representative. Reference Section 3.2 *Phasing* for planned closures for this project, which require issuance of a NOTAM.

### 3.9.2 EMERGENCY NOTIFICATION PROCEDURES

In the event of an emergency, the Contractor shall be required to Airport Dispatch by calling (850) 651-7160.

In the event of an aircraft emergency, severe weather conditions, or any issue as determined by the Airport that may affect aircraft operations, the Contractor's personnel and/or equipment may be required to immediately vacate the area(s) affected. Points of contact for the various parties involved with the project shall be identified and shared at the pre-construction meeting among the various parties, reference Section 3.1.3 *Pre-construction Conference*. Specific emergency notification procedures shall be incorporated into the Contractor's SPCD.

## 3.10 COORDINATION WITH ARFF PERSONNEL

The Contractor shall coordinate, through the duly appointed airport representative, with ARFF personnel, mutual aid providers, and other emergency services if construction requires the following:

- The deactivation and subsequent reactivation of water lines or fire hydrants, or
- The re-routing, blocking and restoration of emergency access routes, or
- The use of hazardous materials on the airfield.

Procedures and methods for addressing any planned or emergency response actions on the airfield concerning this project shall be established and implemented prior to the start of construction.

## 3.11 NOTIFICATION TO THE FAA

### 3.11.1 PART 77

Any person proposing construction or alteration of objects that affect navigable airspace, as defined in Part 77, must notify the FAA. This includes construction equipment and proposed parking areas for this equipment (i.e. cranes, graders, other equipment) on airports. FAA Form 7460-1, Notice of Proposed Construction or Alteration, can be used for this purpose and submitted to the appropriated FAA Airports Regional or District Office.

### 3.11.2 PART 157

With some exceptions, Title 14CFR Part 157, Notice of Construction, Alteration, Activation, and Deactivation of Airports, requires that the airport operator notify the FAA in writing whenever a non-Federally funded project involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport. Notification involves submitting FAA Form 7480-1, Notice of Landing Area Proposal, to the nearest FAA Airports Regional or District Office. It is not anticipated that Part 157 notifications will be required for this project.

### 3.11.3 NAVAIDS

For emergency (short-notice) notification about impacts to both airports owned and FAA owned NAVAIDS, contact: (850) 651-7160, Airport Operations.

#### 3.11.3.1 Airport Owned/FAA Maintained.

If construction operations require a shutdown of more than 24 hours, or more than 4 hours daily on consecutive days, of a NAVAID owned by the airport but maintained by the FAA, provide a 45-day minimum notice to FAA ATO/Technical Operations prior to facility shutdown.

#### 3.11.3.2 FAA Owned

The airport operator must notify the appropriated FAA ATO Service Area Planning and Requirements (P&R) Group a minimum of 45 days prior to implementing an event that causes impacts to NAVAIDS. (Impacts to FAA equipment covered by a Reimbursable Agreement (RA) do not have to be reported by the airport operator). Coordinate work for an FAA owned NAVAID shutdown with the local FAA ATO/Technical Operations office, including any necessary reimbursable agreements and flight checks. Detail procedures that address unanticipated utility outages and cable cuts that could impact FAA NAVAIDS. In addition, provide seven days' notice to schedule the actual shutdown.

## 3.12 INSPECTION REQUIREMENTS

### 3.12.1 DAILY (OR MORE FREQUENT) INSPECTIONS

Inspections shall be conducted by the Contractor at least daily, but more frequently if necessary, to ensure conformance with the CSPP. A sample checklist is provided in Reference 1 of this document. In addition to Contractor's required inspections, airport operations will inspect the construction site three (3) times a day to ensure compliance with the CSPP and the SPCD. The Engineer will have full-time inspectors monitoring activity throughout construction.

### 3.12.2 FINAL INSPECTIONS

A final inspection with the Engineer and Airport will take place prior to allowing airport operations to resume.

### 3.12.3 UNDERGROUND UTILITIES

Special attention shall be given to preventing unscheduled interruption of utility services and facilities. Where required due to construction purposes, the FAA shall locate all of their underground cables. The Contractor shall locate and/or arrange for the location of all the underground cables. When an

underground cable is damaged due to the Contractor's negligence the Contractor shall immediately repair the cable affected at his/her own expense. Full coordination between airport staff, field inspectors, and construction personnel will be exercised to ensure that all airport power and control cables are fully protected prior to any excavation. Locations of cabling will be marked prior to beginning excavation.

### 3.13 PENALTIES

Failure on the part of the Contractor to adhere to prescribed requirements may have consequences that jeopardize the health, safety or lives of customers and employees at the airport. The Airport may issue warnings on the first offense based upon the circumstances of the incident. Individuals involved in non-compliance violations may be required to be prohibited from working at the airport, pending an investigation of the matter.

Penalties for violations related to airport safety and security procedures will be established by the Airport and/or may be assessed by the FAA, TSA, or a court of competent jurisdiction.

Note: Project shutdown or misdemeanor citations may be issued on a first offense. When construction operations are suspended, activity shall not resume until all deficiencies are rectified.

### 3.14 SPECIAL CONDITIONS

In the event of an aircraft emergency, the Contractor's personnel and/or equipment may be required to immediately vacate the area. The Contractor will receive notification from airport operations when special conditions require the construction site to be vacated. In any event, extreme care should be exercised should construction personnel identify any ARFF (Airport Rescue and Fire-Fighting) vehicle moving toward the Runway with emergency lights displayed. This will generally mean that an emergency situation is imminent.

### 3.15 RUNWAY AND TAXIWAY VISUAL AIDS

Marking, lighting, signs, and visual NAVAIDs. Those areas where aircraft will be operating shall be clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, the Contractor shall inspect and verify that these areas remain clearly marked and visible at all times and that marking, lighting, signs and visual NAVAIDs remain in place and operational.

#### 3.15.1 GENERAL

Airport markings, lighting, signs, and visual NAVAIDs must be clearly visible to pilots, not misleading, confusing, or deceptive. All must be secured in place to prevent movement by prop wash, jet blast, wing vortices, or other wind currents and constructed of materials that would minimize damage to an aircraft in the event of inadvertent contact.

#### 3.15.2 MARKINGS

Markings must be in compliance with the standards of AC 150/5340-1L, *Standards for Airport Markings*, current edition, and the drawings and technical specifications of this project.

#### 3.15.3 LIGHTING AND VISUAL NAVAIDS

All taxiway edge lights in those sections of taxiways closed to aircraft traffic will be either de-energized or blacked out by use of an appropriately cut length of PVC pipe. Centerline lighting that conflicts with the closed taxiway routing shall be either de-energized, removed from the circuit by use of jumpers or

as detailed in the project drawing set. Lighting must conform to AC 150/5340-30, *Design and Installation Details for Airport Visual Aids*, AC 150/5345-50, *Specification for Portable Runway and Taxiway Lights*, and AC 150/5345-53, *Airport Lighting Certification Program*.

#### 3.15.4 SIGNS

All taxiway signs in those sections of taxiways closed to aircraft traffic will be either de-energized or blacked out by use of a non-transparent material. Signs are required to conform to AC 150-5345-44, *Specification for Runway and Taxiway Signs*, AC 50/5340-18, *Standards for Airport Sign Systems*, and AC 150/5345-53, *Airport Lighting and Certification Program*.

### 3.16 MARKING AND SIGNS FOR ACCESS ROUTES

Location of haul routes on the airport site shall be as specified in the project drawing set and as provided graphically in the attached exhibits, reference Appendix A, Sheets C003 and C004. It shall be the Contractor's responsibility to coordinate off-site haul routes with the appropriate owner who has jurisdiction over the affected route. The haul routes, to the extent possible, shall be marked and signed in accordance with FAA airfield signage requirements found in AC 150\5340-18, Latest Edition, the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or state highway specifications. Signs adjacent to areas used by aircraft must meet the airfield general frangibility requirements located in FAA AC 150\5220-23, and as required by the airport and subsequent approval by the Owner. Meeting airfield frangibility requirements may require modification to size and height guidance in the MUTCD.

### 3.17 HAZARD MARKING AND LIGHTING

#### 3.17.1 PURPOSE

Hazard marking and lighting prevents pilots from entering areas closed to aircraft, and prevents construction personnel from entering areas open to aircraft. To that end, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles shall be installed and maintained by the Contractor for the duration of construction operations. Hazard marking and lighting shall also be used for the identification of open manholes, small areas under repair, stockpiled material, waste areas, and taxiway object free areas (TOFA's).

#### 3.17.2 EQUIPMENT

Type 1-Low profile barricades of the type detailed in the project drawings shall be placed at the edge of existing taxiway safety areas. Layout locations for this equipment are shown in the project drawing set and attached exhibits, reference Appendix A, Exhibits C002 thru C004. Barricade spacing shall be such that a breach is physically prevented barring a deliberate act. The Contractor shall have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The Contractor must file the contact person's information with the airport operator. Lighting should be checked for proper operation at least once per day, preferably at dusk.

### 3.18 OTHER LIMITATIONS ON CONSTRUCTION

#### 3.18.1 PROHIBITIONS

The following prohibitions are in effect for the duration of this project:

- No use of equipment with a height of over 50 feet (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.
- No use of open flames welding or torches unless fire safety precautions are provided and the airport operator has approved their use.
- No use of electrical blasting caps or explosives of any kind on or within 1,000 ft (300 m) of the airport property.
- No use of flare pots within the AOA.

#### 3.18.2 RESTRICTIONS

- Construction shall not occur inside the Runway Safety Area (RSA) of an active runway at any point in time.

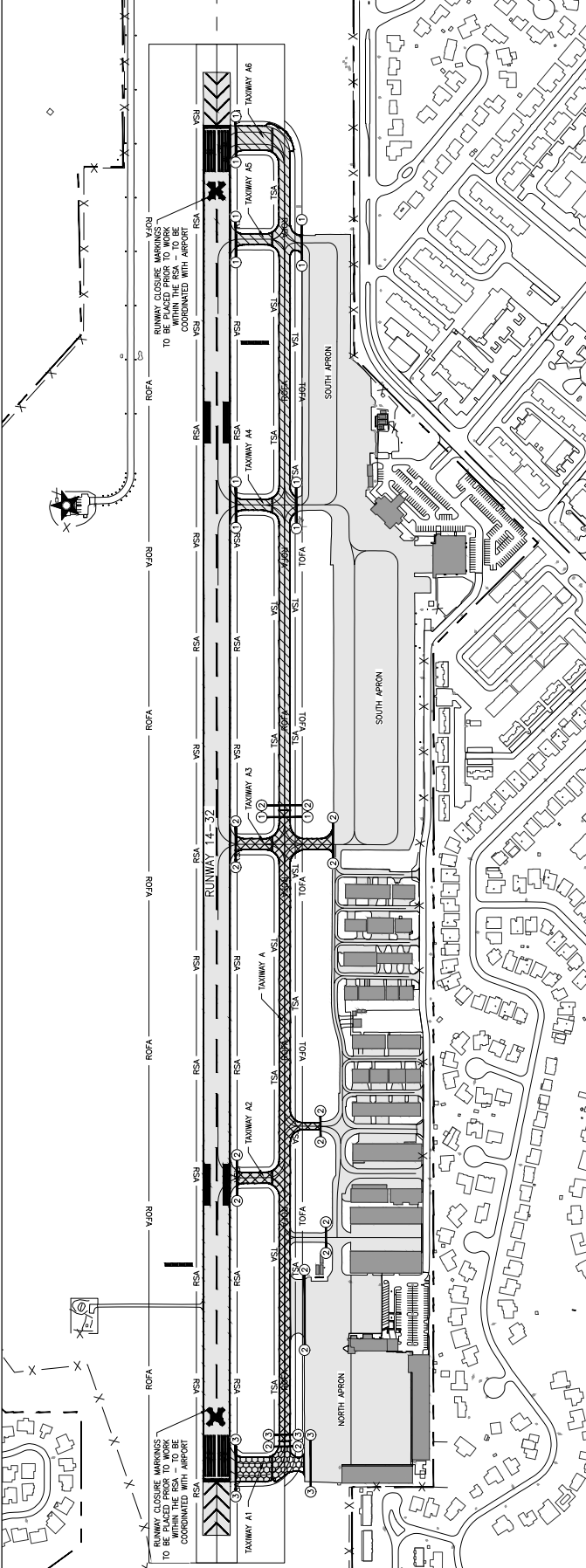
## APPENDIX A: PROJECT SPECIFIC EXHIBITS







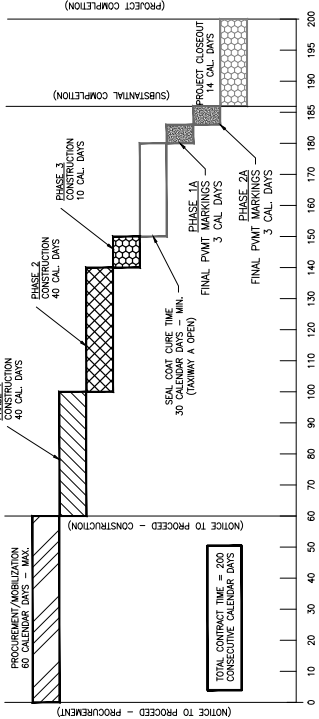




**GENERAL PHASING NOTES:**

- THE CONSTRUCTION PHASING OUTLINED IN THE PLANS IS BROKEN INTO ONE OVERALL PHASE OF CONSTRUCTION. ALL PHASES OF WORK ARE WITHIN THE PHASING DRAWINGS AND SHALL BE COMPLETED DURING THAT RESPECTIVE PHASE.
- CONSTRUCTION SEQUENCE:
  - PROCUREMENT OF MATERIALS AND SUPPLIES.
  - MOBILIZATION AND PREPARATION OF EQUIPMENT; NO CONSTRUCTION PERFORMED.
  - PHASE 1 & 2 OF CONSTRUCTION - INCLUDES INSTALLATION OF ALL DEMOLITION, INSTALLATION OF TEMPORARY LIGHTING CONTROLS, TAXIWAY EDGE LIGHT CLEANING AND PREPARATION, INSTALLATION OF TEMPORARY PROPOSED PAVEMENT MARKINGS, REPAIRS OF BARRICADES, AND COORDINATING ALL AIRCRAFT FOR THE DURATION OF THIS PHASE.
  - PHASE 1A & 2A CONSTRUCTION - AFTER A MINIMUM OF 30 CALENDAR DAYS HAS PASSED SINCE THE ASSOCIATED PHASE FINAL APPLICATION OF BITUMINOUS MARKINGS WITH REFLECTIVE BEADS OVER THE TEMPORARY MARKINGS INSTALLED IN PHASE 1, CONTRACTOR WILL BE GIVEN UP-TO THREE DAYS TO COMPLETE WORK FOR FINAL PAVEMENT MARKINGS WITH THE ENGINEER AND THE AIRPORT OPERATIONS A MINIMUM OF 7 CALENDAR DAYS BEFORE COMMENCING THE WORK IN PHASE 1A AND 2A.
  - CLOSURE - INCLUDES RESTORATION OF STAGING AREA TO ORIGINAL CONDITION, REQUIRED CLOSURE PAPERWORK, AND FINAL INVOICING.
- DUE TO THE IMPORTANCE OF MAINTAINING AIRFIELD OPERATIONS AND SAFETY AND SECURITY DURING CONSTRUCTION, THE CONTRACTOR IS REMINDED THAT THIS WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME. THE CONTRACTOR'S RESPONSIBILITY IS TO BE WORKING WITHIN AND TO AHEAD OF THE BARRICADES EMPLOYED IN THE PROVISIONS UNDER SAFETY AND SECURITY.
- THE CONTRACTOR SHALL AT ALL TIMES COORDINATE HIS/HER EFFORTS WITH THE RPR AND AIRPORT STAFF. IF ANY PROBLEMS ARISE DURING THE WORK, THE CONTRACTOR SHALL IMMEDIATELY REPORT SUCH PROBLEMS TO CONTINUING RPR AND AIRPORT STAFF TO RESOLVE SUCH PROBLEMS PRIOR TO CONTINUING THE WORK.
- THE CONTRACTOR SHALL PERFORM ALL FINAL CLEANUP WORK PRIOR TO A FINAL INSPECTION. THE CONTRACTOR SHALL ALSO CONTINUOUSLY CLEAN UP DURING EACH PHASE OF THE PROJECT.
- THE CONTRACTOR SHALL RUN A WACUM TRUCK, AS NECESSARY TO MAINTAIN BE DONE TO AIRCRAFT WHICH IS ATTRIBUTABLE TO FOREIGN OBJECT DEBRIS (FOD). ANY DAMAGE TO AIRCRAFT WHICH IS ATTRIBUTABLE TO FOD FROM THE CONSTRUCTION, SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL OBTAIN REMEDIATION BY THE AIRPORT, RPR, OR THEIR AUTHORIZED REPRESENTATIVES.

- THE CONTRACTOR'S FIELD OFFICES AREA FOR PHASE 3 OF EQUIPMENT SUPPLIES AND FIELD OFFICES SHALL BE LOCATED IN THE STAGING AREA SHOWN ON THE PLANS. ALL AREAS DESIGNATED FOR STORAGE OF EQUIPMENT SHALL BE APPROVED BY THE AIRPORT MANAGEMENT AND RPR PRIOR TO MOBILIZATION OF ANY EQUIPMENT OR FIELD OFFICES AND CERTIFIED BY THE AIRPORT MANAGEMENT AND RPR. ALL AREAS MUST MEET ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- APPROPRIATE EROSION CONTROL MEASURES SHALL BE ACCOMPLISHED PRIOR TO BEGINNING THE RESPECTIVE PHASE. REMOVAL OF TEMPORARY EROSION CONTROL MEASURES SHALL BE ACCOMPLISHED BY THE CONTRACTOR ENTIRELY AT HIS/HER OWN RISK. THE COMPLETION OF ANY PHASE OF WORK AND SUBSEQUENT USAGE BY THE OWNER DOES NOT DEFINE FINAL ACCEPTANCE OF THE WORK. IN THAT PHASE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE ENTIRE PROJECT HAS OCCURRED AND ALL ASSOCIATED PUNCH LIST ITEMS HAVE BEEN COMPLETED TO THE SATISFACTION OF THE AIRPORT MANAGEMENT AND RPR, THEN THE ENTIRE PROJECT WILL BE ACCEPTED.
- THE CONTRACTOR SHALL SUBMIT TO THE RPR AND OWNER A DETAILED CONSTRUCTION SCHEDULE. THE SCHEDULE SHALL BE A GANTT CHART. THE CONTRACT DOCUMENTS PROVIDE A CONSTRUCTION SEQUENCE AND SAFETY PARAMETERS WHICH MUST BE INCORPORATED INTO THE CONSTRUCTION SCHEDULE.
- ALL CONSTRUCTION SHALL BE INSTALLED UNDER THE SUPERVISION OF AIRPORT MANAGEMENT AND THE RPR. THE DURATION OF EACH PHASE SHOWN ON THE PHASING PLAN REFLECT THE GENERAL VIGNETTE OF THESE BARRICADES ARE TO BE PLACED. THE EXACT LOCATIONS SHALL BE DETERMINED PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE TWO (2) LIGHTS PER PHASE. RUNWAY CLOSED MARKERS AT EACH THRESHOLD, ALL RUNWAY LIGHTING AND SNAKE MARKERS SHALL BE TURNED OFF AND LOCKED OUT/MAINTAINED OUT AT THE VAULT DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH AIRPORT STAFF TO REASSEMBLE RUNWAY LIGHTS AND LOCK OUT/MAINTAINED OUT CIRCUITS AT THE ELECTRICAL VAULT PRIOR TO THE WORK. CONTRACTOR SHALL COORDINATE WITH THE OWNER TO 72-HOURS PRIOR TO WORK IN ORDER FOR THE OWNER TO ISSUE A NOTAM.



**SCHEMATIC CONSTRUCTION SEQUENCING**

**LEGEND**

[Hatched Box]	PHASE 1 CONSTRUCTION
[Cross-hatched Box]	PHASE 2 CONSTRUCTION
[Dotted Box]	PHASE 3 CONSTRUCTION
[Solid Line]	AIRPORT PROPERTY LINE
[Dashed Line]	RUNWAY SAFETY AREA (RSA)
[Dotted Line]	RUNWAY OBJECT FREE AREA (ROFA)
[Dotted Line]	TAXIWAY SAFETY AREA (TSA)
[Circle with Line]	LOW PROFILE BARRICADE NUMBERED WITH ASSOCIATED PHASE



**CALL OR HOURS BEFORE YOU BID**  
RS&H  
201-463-2317  
www.rsandh.com  
FL Lic. No. AC20081028200  
EIN: 33-1028200

NO.	REVISIONS	DATE
1	ISSUED FOR BIDDING	10/15/2019
2	REVISED FOR BIDDING	10/15/2019
3	REVISED FOR BIDDING	10/15/2019

DESIGNED BY: [Name]  
DRAWN BY: [Name]  
CHECKED BY: [Name]  
DATE: 10/15/2019

**OVERALL PHASING PLAN**

PROJECT NUMBER: **C004**

BID DOCUMENTS



REFERENCE 1: SAFETY AND PHASING PLAN CHECKLIST



**APPENDIX C. SAFETY AND PHASING PLAN CHECKLIST**

This appendix is keyed to Chapter 2. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not a required submittal.

**Table C-1. CSPP Checklist**

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
<b>General Considerations</b>					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	<u>2.5</u>				
Operational safety is a standing agenda item for construction progress meetings.	<u>2.5</u>				
Scheduling of the construction phases is properly addressed.	<u>2.6</u>				
Any formal agreements are established.	<u>2.5.3</u>				
<b>Areas and Operations Affected by Construction Activity</b>					
Drawings showing affected areas are included.	<u>2.7.1</u>				
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	<u>2.7.1.1</u>				
Access routes used by ARFF vehicles affected by the project are addressed.	<u>2.7.1.2</u>				
Access routes used by airport and airline support vehicles affected by the project are addressed.	<u>2.7.1.3</u>				
Underground utilities, including water supplies for firefighting and drainage.	<u>2.7.1.4</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	<u>2.7.1.5</u>				
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	<u>2.7.1</u>				
Temporary changes to taxi operations are addressed.	<u>2.7.2.1</u>				
Detours for ARFF and other airport vehicles are identified.	<u>2.7.2.2</u>				
Maintenance of essential utilities and underground infrastructure is addressed.	<u>2.7.2.3</u>				
Temporary changes to air traffic control procedures are addressed.	<u>2.7.2.4</u>				
<b>NAVAIDs</b>					
Critical areas for NAVAIDs are depicted on drawings.	<u>2.8</u>				
Effects of construction activity on the performance of NAVAIDs, including unanticipated power outages, are addressed.	<u>2.8</u>				
Protection of NAVAID facilities is addressed.	<u>2.8</u>				
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	<u>2.8</u>				
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	<u>2.8, 2.13.1, 2.13.5.3.1, 2.18.1</u>				
<b>Contractor Access</b>					
The CSPP addresses areas to which contractor will have access and how	<u>2.9</u>				



Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
the areas will be accessed.					
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	<u>2.9</u>				
The location of stockpiled construction materials is depicted on drawings.	<u>2.9.1</u>				
The requirement for stockpiles in the ROFA to be approved by FAA is included.	<u>2.9.1</u>				
Requirements for proper stockpiling of materials are included.	<u>2.9.1</u>				
Construction site parking is addressed.	<u>2.9.2.1</u>				
Construction equipment parking is addressed.	<u>2.9.2.2</u>				
Access and haul roads are addressed.	<u>2.9.2.3</u>				
A requirement for marking and lighting of vehicles to comply with <i>AC 150/5210-5, Painting, Marking and Lighting of Vehicles Used on an Airport</i> , is included.	<u>2.9.2.4</u>				
Proper vehicle operations, including requirements for escorts, are described.	<u>2.9.2.5, 2.9.2.6</u>				
Training requirements for vehicle drivers are addressed.	<u>2.9.2.7</u>				
Two-way radio communications procedures are described.	<u>2.9.2.9</u>				
Maintenance of the secured area of the airport is addressed.	<u>2.9.2.10</u>				
<b>Wildlife Management</b>					
The airport operator's wildlife management procedures are addressed.	<u>2.10</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
<b>Foreign Object Debris Management</b>					
The airport operator's FOD management procedures are addressed.	<u>2.11</u>				
<b>Hazardous Materials Management</b>					
The airport operator's hazardous materials management procedures are addressed.	<u>2.12</u>				
<b>Notification of Construction Activities</b>					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	<u>2.13</u>				
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	<u>2.13.1</u>				
A list of local ATO/Technical Operations personnel is included.	<u>2.13.1</u>				
A list of ATCT managers on duty is included.	<u>2.13.1</u>				
A list of authorized representatives to the OCC is included.	<u>2.13.2</u>				
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	<u>2.8, 2.13.2, 2.18.3.3.9</u>				
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	<u>2.13.2</u>				
Emergency notification procedures for medical, fire fighting, and police	<u>2.13.3</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	<u>2.13.4</u>				
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	<u>2.13.5</u>				
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	<u>2.13.5.3.2</u>				
<b>Inspection Requirements</b>					
Daily and interim inspections by both the airport operator and contractor are specified.	<u>2.14.1, 2.14.2</u>				
Final inspections at certificated airports are specified when required.	<u>2.14.3</u>				
<b>Underground Utilities</b>					
Procedures for protecting existing underground facilities in excavation areas are described.	<u>2.15</u>				
<b>Penalties</b>					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	<u>2.16</u>				
<b>Special Conditions</b>					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	<u>2.17</u>				
<b>Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs</b>					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	<u>2.18.1</u>				
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	<u>2.18.1, 2.18.3, 2.18.4.2, 2.20.2.4</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with <u>AC 150/5340-1</u> , <i>Standards for Airport Markings</i> , is specified.	<u>2.18.2</u>				
Detailed specifications for materials and methods for temporary markings are provided.	<u>2.18.2</u>				
The requirement for lighting to conform to <u>AC 150/5340-30</u> , <i>Design and Installation Details for Airport Visual Aids</i> ; <u>AC 150/5345-50</u> , <i>Specification for Portable Runway and Taxiway Lights</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.3</u>				
The use of a lighted X is specified where appropriate.	<u>2.18.2.1.2</u> , <u>2.18.3.2</u>				
The requirement for signs to conform to <u>AC 150/5345-44</u> , <i>Specification for Runway and Taxiway Signs</i> ; <u>AC 150/5340-18</u> , <i>Standards for Airport Sign Systems</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.4</u>				
<b>Marking and Signs For Access Routes</b>					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to <u>AC 150/5340-18</u> and, to the extent practicable, with the MUTCD and/or State highway specifications.	<u>2.18.4.2</u>				
<b>Hazard Marking and Lighting</b>					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	<u>2.20.1</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	<u>2.20.1</u>				
The CSPP considers less obvious construction-related hazards.	<u>2.20.1</u>				
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	<u>2.20.2.1</u>				
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	<u>2.20.2.1</u>				
Red lights meeting the luminance requirements of the State Highway Department are specified.	<u>2.20.2.2</u>				
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 inch high.	<u>2.20.2.3</u>				
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	<u>2.20.2.3</u>				
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	<u>2.20.2.5</u>				
Markings for temporary closures are specified.	<u>2.20.2.5</u>				
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	<u>2.20.2.7</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
<b>Work Zone Lighting for Nighttime Construction</b>					
If work is to be conducted at night, the CSPP identifies construction lighting units and their general locations and aiming in relationship to the ATCT and active runways and taxiways.	<u>2.21</u>				
<b>Protection of Runway and Taxiway Safety Areas</b>					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	<u>2.22.1.1,</u> <u>2.22.3.1</u>				
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	<u>2.22.1.2,</u> <u>2.22.3.2</u>				
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	<u>2.22.3.3</u>				
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open, subject to approved exceptions.	<u>2.22.1.4</u>				
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	<u>2.22.1.4</u>				
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	<u>2.22.1.4</u>				
Grading and soil erosion control to maintain RSA/TSA standards are	<u>2.22.3.5</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	<u>2.22.2</u>				
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	<u>2.22.3</u>				
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	<u>2.22.4</u>				
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	<u>2.22.4.3.6</u>				
Provisions for protection of runway approach/departure areas and clearways are included.	<u>2.22.6</u>				
<b>Other Limitations on Construction</b>					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	<u>2.23.1.2</u>				
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	<u>2.23.1.3</u>				





REFERENCE 2: CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST



**APPENDIX D. CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST**

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project including information such as the date, time and name of the person conducting the inspection.

**Table D-1. Potentially Hazardous Conditions**

<b>Item</b>	<b>Action Required (Describe)</b>	<b>No Action Required (Check)</b>
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and		

<b>Item</b>	<b>Action Required (Describe)</b>	<b>No Action Required (Check)</b>
approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Obliterated or faded temporary markings on active operational areas.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		

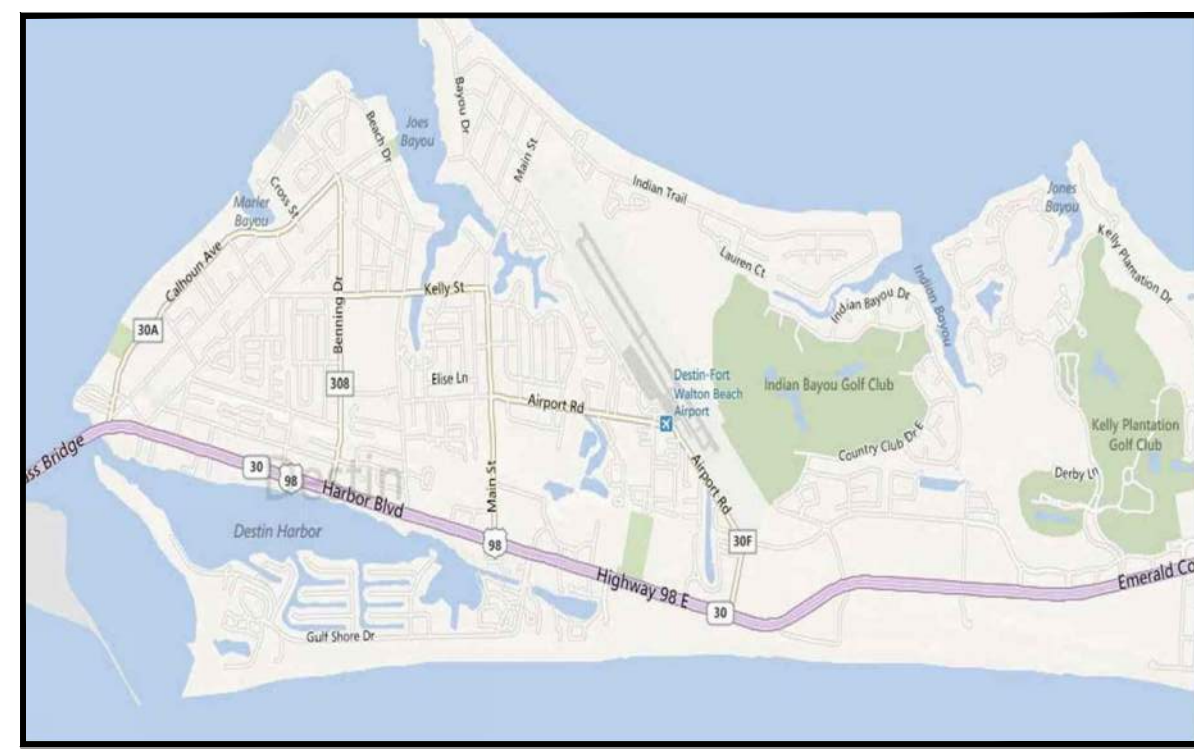
<b>Item</b>	<b>Action Required (Describe)</b>	<b>No Action Required (Check)</b>
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		

<b>Item</b>	<b>Action Required (Describe)</b>	<b>No Action Required (Check)</b>
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase.		

# DESTIN EXECUTIVE AIRPORT (DTS)

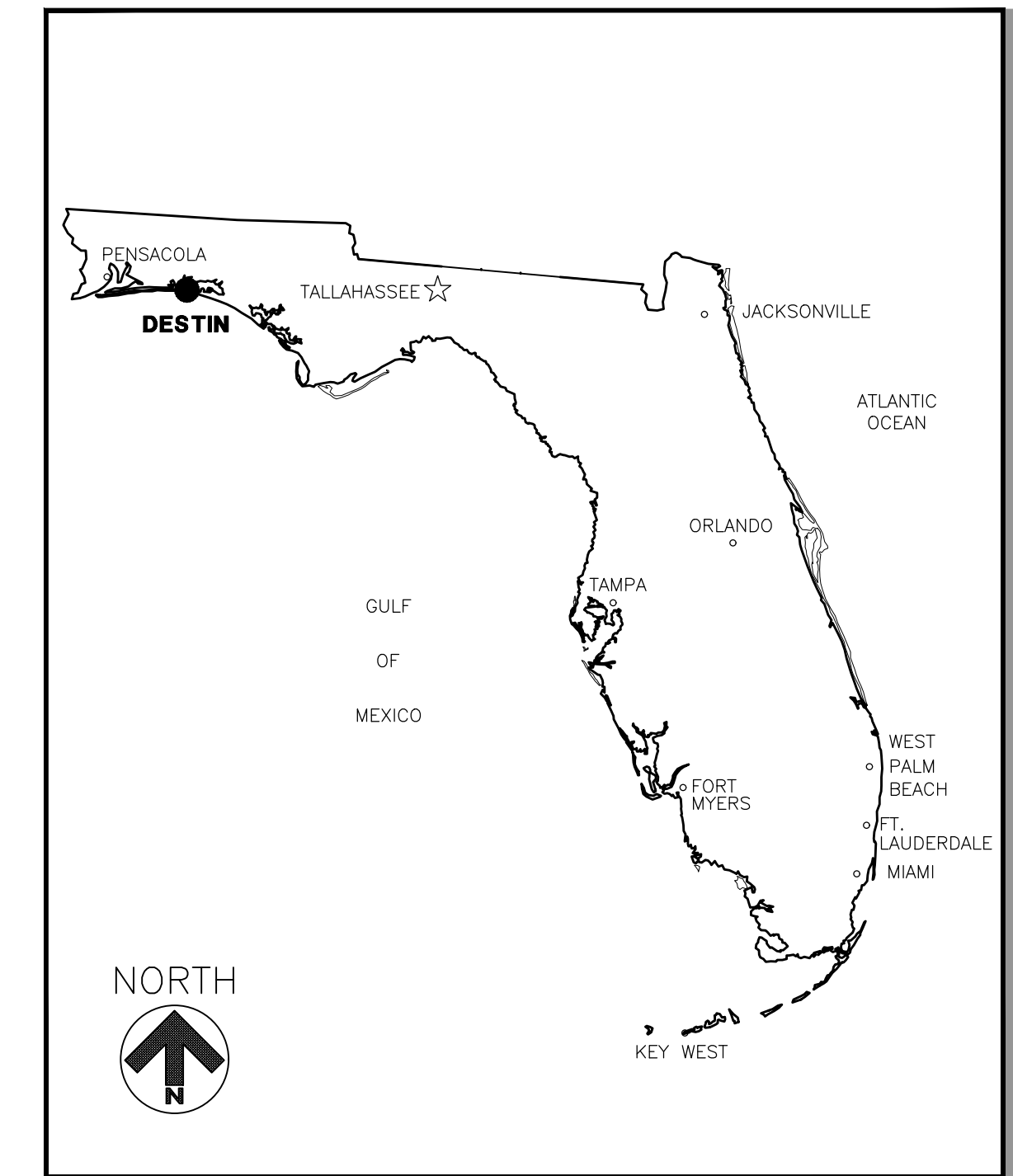
DESTIN, FLORIDA

## TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS



**LOCATION MAP**  
N.T.S.

FAA AIP NO. N.A.



**VICINITY MAP**  
N.T.S.



11 North Water Street, Suite 10290  
Mobile, AL 36602  
251-460-3233 FAX 904-256-2501  
www.rsandh.com  
FL Cert. Nos. AAC001888 • IB26000956 •  
EB0005620 • LCC000210 • GB236

OCTOBER 3, 2019  
BID DOCUMENTS

RS&H PROJECT NO. 201-0251-012

SET NO. \_\_\_\_\_



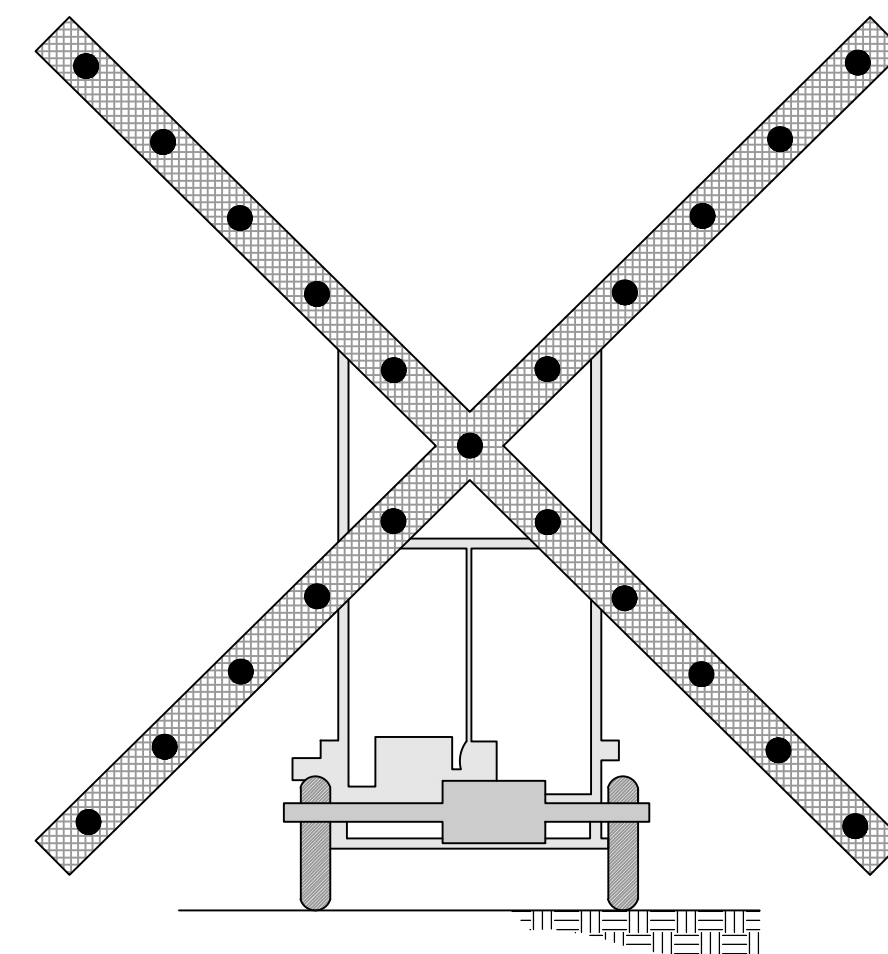


**SAFETY**

- GENERAL INTENT:** THE CONTRACTOR SHALL CONFORM WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS AND GUIDELINES AS SET FORTH IN FEDERAL AVIATION ADMINISTRATION (FAA) AC NO. 150/5370-2 SERIES, ALONG WITH THESE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL DESIGNATE TO THE RPR, AIRPORT CONSTRUCTION MANAGER AND AIRPORT OPERATIONS, IN WRITING, THE NAME OF HIS "CONTRACTOR SAFETY/SECURITY OFFICER (CSSO)." THE CSSO SHALL REPRESENT THE CONTRACTOR ON SAFETY REQUIREMENTS FOR THE CONTRACT. THE CONTRACTOR OR CSSO SHALL THOROUGHLY ACQUAINT ALL SUPERVISORS AND EMPLOYEES WORKING AT THE AIRPORT ON THE IMPORTANCE OF FOLLOWING ESTABLISHED SAFETY AND SECURITY PROCEDURES THAT ARE INHERENT TO THIS ACTIVE AIR CARRIER AIRPORT. ADDITIONALLY, THE CONTRACTOR SHALL CONDUCT THE CONSTRUCTION ACTIVITIES TO CONFORM TO ALL ROUTINE AND EMERGENCY AIR TRAFFIC REQUIREMENTS AND GUIDELINES ON SAFETY AS SPECIFIED IN PARAGRAPH NUMBER 9 BELOW.
- CONTRACTOR VEHICLES:** ALL CONTRACTOR AND SUBCONTRACTOR VEHICLES THAT ARE AUTHORIZED TO OPERATE ON THE PROJECT SHALL BE REQUIRED TO HAVE THEIR COMPANY LOGO ON BOTH SIDES OF THE VEHICLE AND A FLASHING AMBER LIGHT OR A 3' X 3' ORANGE AND WHITE CHECKERBOARD FLAG, EACH CHECKERBOARD COLOR BEING 1-FOOT SQUARE. ALL VEHICLES SHALL HAVE AIRPORT-ISSUED VEHICLE IDENTIFICATION PRIOR TO ENTERING THE AIR OPERATIONS AREA. ANY VEHICLE OPERATING ON THE PROJECT DURING THE HOURS OF DARKNESS SHALL UTILIZE ITS FLASHING AMBER LIGHT, MOUNTED ON TOP OF THE VEHICLE AND OF SUCH INTENSITY TO CONFORM TO LOCAL CODES FOR MAINTENANCE AND EMERGENCY VEHICLES.  
  
ALL AIRCRAFT TRAFFIC ON RUNWAYS, TAXIWAYS AND APRONS SHALL HAVE PRIORITY OVER CONTRACTOR'S TRAFFIC.
- COORDINATION OF WORK AREA CLOSURES:** NO RUNWAY, TAXIWAY, APRON OR AIRPORT ROADWAY SHALL BE CLOSED WITHOUT WRITTEN APPROVAL OF AIRPORT OPERATIONS. TO ENABLE NECESSARY "NOTICES TO AIRMEN" (NOTAM) OR ADVISORIES TO AIRPORT SERVICES OR TENANTS, A MINIMUM OF 48 HOURS WRITTEN NOTICE REQUESTING CLOSING SHALL BE DIRECTED TO AIRPORT OPERATIONS, WHO WILL COORDINATE THE REQUEST.  
  
ANY CONSTRUCTION ACTIVITY WITHIN 250 FEET OF THE RUNWAY CENTERLINE OR 130 FEET FROM THE CENTERLINE OF A TAXIWAY, OR OPEN EXCAVATIONS IN EXCESS OF THREE INCHES DEEP WITHIN THE ABOVE AREAS, WILL REQUIRE CLOSURE OF THE AFFECTED RUNWAY OR TAXIWAY, UNLESS OTHERWISE APPROVED IN WRITING BY AIRPORT OPERATIONS.
- COORDINATION OF WELDING AND TORCH CUTTING:** OPEN FLAME WELDING OR TORCH CUTTING OPERATIONS ARE PROHIBITED IN THIS PROJECT.
- STOCKPILED MATERIALS:** STOCKPILED MATERIAL WITHIN THE AOA SHALL BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT RESULTING FROM AIRCRAFT JET BLAST, PROPELLERS OR WIND CONDITIONS IN EXCESS OF TEN KNOTS. STOCKPILE HEIGHT SHALL BE LESS THAN 15 FEET AND BE LOCATED IN AN AIRPORT APPROVED LOCATION.
- OPEN TRENCHES:** OPEN TRENCHES, EXCAVATIONS AND STOCKPILED MATERIAL LOCATED IN THE AOA SHALL BE PROMINENTLY MARKED WITH FLAGS AND LIGHTED BY APPROVED AMBER LIGHTS UNITS (ACCEPTABLE TO THE OWNER) DURING HOURS OF RESTRICTED VISIBILITY AND DARKNESS.
- FOREIGN OBJECT DEBRIS (FOD):** DEBRIS, WASTE AND LOOSE MATERIAL CAPABLE OF CAUSING DAMAGE TO AIRCRAFT LANDING GEARS, PROPELLERS OR BEING INGESTED IN JET ENGINES SHALL BE PROPERLY CONTROLLED AND PICKED UP AT ALL TIMES. IF THESE MATERIALS ARE OBSERVED, THE CONTRACTOR SHALL REMOVE THEM IMMEDIATELY.
- INSPECTION OF WORK AREAS:** THE RPR AND AIRPORT OPERATIONS WILL INSPECT, PRIOR TO OPENING FOR AIRCRAFT USE, ANY RUNWAY OR TAXIWAY THAT HAS BEEN CLOSED FOR WORK, ON OR ADJACENT THERETO, OR THAT HAS BEEN USED FOR A CROSSING POINT OR HAUL ROUTE BY THE CONTRACTOR.
- FAA ADVISORY CIRCULARS:** THE CONTRACTOR IS DIRECTED TO COMPLY WITH AND ACQUAINT HIS/HER EMPLOYEES WITH THE FOLLOWING SAFETY GUIDELINES, RELATED MATERIALS AND FAA ADVISORY CIRCULARS:  
  
150/5200-18C "AIRPORT SAFETY-SELF INSPECTION"  
150/5210-5D "PAINTING, MARKING OR LIGHTING OF VEHICLES USED ON AN AIRPORT"  
150/5370-2G "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION"  
  
COPIES OF THESE DOCUMENTS ARE AVAILABLE AT THE FOLLOWING WEBSITE:  
  
WWW.FAA.GOV/AIRPORTS\_AIRTRAFFIC/AIRPORTS/RESOURCES/ADVISORY\_CIRCULARS  
  
OR COPIES MAY BE OBTAINED FROM AIRPORT OPERATIONS. CONTRACTOR RESPONSIBLE FOR STAYING UP-TO-DATE WITH ANY UPDATES OR REVISIONS TO THE ADVISORY CIRCULARS LISTED ABOVE.
- CONSTRUCTION DELAYS:** THE AIRPORT OR RPR MAY HALT CONSTRUCTION DURING THE PROJECT AT ANY TIME IF IT IS DETERMINED TO BE IN THE BEST INTEREST OF AIRPORT ACTIVITIES OR SAFETY. THE CONTRACTOR MAY BE DIRECTED TO REMOVE EQUIPMENT AND/OR EVACUATE THE SITE IN ORDER TO ENABLE AIRCRAFT OPERATIONS. NECESSARY EXTENSIONS IN CONTRACT TIME WILL BE GRANTED OR A STOP WORK ORDER WILL BE ISSUED DUE TO THESE DELAYS, HOWEVER, THERE WILL BE NO ADJUSTMENTS IN CONTRACT PRICE DUE TO THESE DELAYS.
- HAUL ROUTES:** TRUCK HAUL ROUTES ON THE AIRFIELD SHALL BE COORDINATED WITH AIRPORT OPERATIONS (SEE SHEET C003 FOR ON-AIRPORT HAUL ROUTES). OTHER MEANS TO CLEARLY MARK THE ROUTES TO THE WORK SITE MAY BE REQUIRED AND APPROVED BY AIRPORT OPERATIONS.
- AIRFIELD LIGHTING AND SIGNS:** WORK CLOSING RUNWAYS OR TAXIWAYS WILL REQUIRE THE CONTRACTOR TO COVER THE APPROPRIATE SIGN PANELS WITH BLACK PLASTIC AND THE APPROPRIATE AIRFIELD LIGHTING TO SHOW THAT THEY ARE NOT AVAILABLE FOR USE. AIRPORT PERSONNEL WILL ASSIST AND SHOW THE CONTRACTOR WHICH SIGNS AND AIRFIELD LIGHTING ARE AFFECTED. DURING THE RUNWAY SHUTDOWN PERIOD, AIRFIELD LIGHTING AND SIGNAGE WILL BE TURNED OFF IN THE ELECTRICAL VAULT.

**LIGHTED RUNWAY CLOSURE NOTES:**

- LIGHTED CLOSURE MARKERS SHALL BE PLACED ON THE END OF EACH CLOSED RUNWAY END WHENEVER RUNWAY 14-32 IS CLOSED.
- THE OWNER SHALL PROVIDE TWO (2) LIGHTED RUNWAY CLOSURE MARKERS FOR THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE OWNER-PROVIDED LIGHTED RUNWAY CLOSURE MARKERS AND ENSURING THE MARKERS ARE OPERATIONAL DURING THE ENTIRE PROJECT.
- CONTRACTOR SHALL MAINTAIN (INCLUDING FUEL), MOVE AND REMOVE CLOSURE MARKERS ONLY AT THE DIRECTION OF THE AIRPORT AND/OR RPR. CLOSURE MARKERS SHALL REMAIN IN PLACE FOR THE DURATION OF ANY RUNWAY 14-32 CLOSURE AND SHALL RUN CONTINUOUSLY, UNLESS OTHERWISE DIRECTED BY AIRPORT STAFF.
- PAYMENT FOR THE CONTRACTOR PROVIDED LIGHTED RUNWAY CLOSURE MARKER, PLACEMENT, MAINTENANCE, AND GENERATOR FUEL SHALL BE INCLUSIVE OF THE P-105-5.1 TEMPORARY CONSTRUCTION ITEMS PAY ITEM.



**3 LIGHTED RUNWAY CLOSURE MARKER**  
SCALE: N.T.S.

**CONTRACTOR'S SAFETY AND SECURITY REQUIREMENTS**

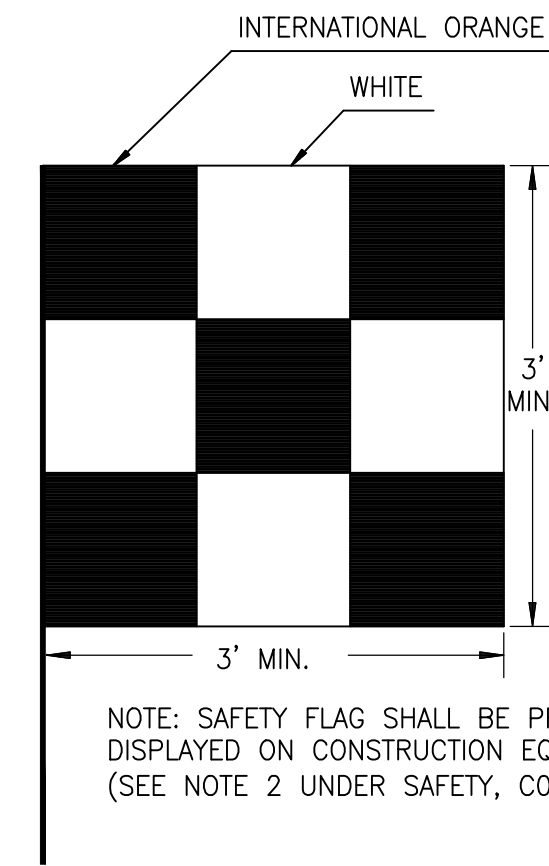
- GENERAL INTENT:** IT IS INTENDED THAT THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE AIRPORT SECURITY PLAN AND WITH THE SECURITY REQUIREMENTS SPECIFIED HEREIN BY AIRPORT OPERATIONS. THE CONTRACTOR SHALL DESIGNATE TO THE RPR AND AIRPORT OPERATIONS, IN WRITING, THE NAME OF HIS "CONTRACTOR SAFETY/SECURITY OFFICER (CSSO)." THE CSSO SHALL REPRESENT THE CONTRACTOR ON THE SECURITY REQUIREMENTS FOR THE CONTRACT.
- CONTRACTOR PERSONNEL SECURITY ORIENTATION:** THE CSSO SHALL BE RESPONSIBLE FOR BRIEFING ALL CONTRACTOR AND SUB-CONTRACTOR PERSONNEL ON SECURITY REQUIREMENTS. ALL NEW CONTRACTOR EMPLOYEES SHALL BE BRIEFED ON SECURITY REQUIREMENTS PRIOR TO WORKING IN THE CONSTRUCTION AREA.
- ACCESS TO THE SITE:** CONTRACTOR'S ACCESS TO THE SITE SHALL BE AS SHOWN ON THE PLANS. NO OTHER ACCESS POINTS SHALL BE ALLOWED UNLESS APPROVED BY AIRPORT OPERATIONS. ALL CONTRACTOR TRAFFIC AUTHORIZED TO ENTER THE SITE SHALL BE EXPERIENCED IN THE ROUTE OR GUIDED BY EXPERIENCED CONTRACTOR PERSONNEL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL TO AND FROM THE VARIOUS CONSTRUCTION AREAS ON THE SITE, AND FOR OPERATION AND SECURITY OF THE ACCESS GATE TO THE SITE. A CONTRACTOR'S FLAGMAN OR TRAFFIC CONTROL PERSON SHALL MONITOR AND COORDINATE ALL CONTRACTOR TRAFFIC AT ANY AOA ACCESS GATE WITH SECURITY. THE CONTRACTOR SHALL NOT PERMIT ANY UNAUTHORIZED CONSTRUCTION PERSONNEL OR TRAFFIC ON THE SITE. ACCESS GATES TO THE AOA SHALL BE LOCKED AND SECURED AT ALL TIMES WHEN NOT ATTENDED BY THE CONTRACTOR. IF THE CONTRACTOR CHOOSES TO LEAVE ANY ACCESS GATE OPEN, IT SHALL BE ATTENDED BY CONTRACTOR PERSONNEL WHO ARE FAMILIAR WITH THE REQUIREMENTS OF THE AIRPORT OPERATIONS SECURITY PROGRAM. THE CONTRACTOR IS RESPONSIBLE FOR THE IMMEDIATE CLEANUP OF ANY DEBRIS DEPOSITED ALONG THE ACCESS ROUTE AS A RESULT OF HIS CONSTRUCTION TRAFFIC. DIRECTIONAL SIGNAGE FROM THE ACCESS GATE ALONG THE DELIVERY ROUTE TO THE STORAGE AREA, PLANT SITE OR WORK SITE SHALL BE AS DIRECTED BY AIRPORT OPERATIONS.
- MATERIALS DELIVERY TO THE SITE:** ALL CONTRACTOR'S MATERIAL ORDERS FOR DELIVERY TO THE WORK SITE WILL USE A DELIVERY ADDRESS, THE STREET NAME ASSIGNED TO THE ACCESS POINT AT THE CONTRACTOR'S STAGING SITE AT THE AIRPORT. THE NAME "DESTIN EXECUTIVE AIRPORT" SHALL NOT BE USED IN THE DELIVERY ADDRESS AT ANY TIME. THIS WILL PRECLUDE DELIVERY TRUCKS FROM ENTERING INTO THE AIRPORT ADMINISTRATION BUILDING, OR TAKING SHORT CUTS THROUGH THE PERIMETER GATES AND ENTERING INTO AIRCRAFT OPERATIONS AREAS INAPPROPRIATELY.
- CONSTRUCTION AREA LIMITS:** THE LIMITS OF CONSTRUCTION, MATERIAL STORAGE AREAS, PLANT SITE, EQUIPMENT STORAGE AREA, PARKING AREA AND OTHER AREAS DEFINED AS REQUIRED FOR THE CONTRACTOR'S EXCLUSIVE USE DURING CONSTRUCTION SHALL BE MARKED BY THE CONTRACTOR. THE CONTRACTOR SHALL ERECT AND MAINTAIN AROUND THE PERIMETER OF THESE AREAS SUITABLE FENCING, MARKING AND/OR WARNING DEVICES VISIBLE FOR DAY/NIGHT USE AT THE LOCATIONS SHOWN IN THE PLANS. TEMPORARY BARRICADES, FLAGGING AND FLASHING WARNING LIGHTS WILL BE REQUIRED AT CRITICAL ACCESS POINTS. TYPE OF MARKING AND WARNING DEVICES SHALL BE APPROVED BY AIRPORT OPERATIONS.
- SECURITY IDENTIFICATION:** ALL EMPLOYEES, AGENTS, VENDORS, INVITEES, ETC. OF THE CONTRACTOR OR SUBCONTRACTORS REQUIRING ACCESS TO THE AOA SHALL BE IN ACCORDANCE WITH THE AIRPORT SECURITY PROGRAM. AIRPORT BADGING WILL NOT BE REQUIRED FOR CONTRACTOR EMPLOYEES ON THIS PROJECT.
- VEHICLE IDENTIFICATION:** THE CONTRACTOR, THROUGH THE CSSO, SHALL ESTABLISH AND MAINTAIN A LIST OF CONTRACTOR AND SUBCONTRACTOR VEHICLES AUTHORIZED TO OPERATE ON THE SITE AND SHALL ENSURE A VEHICLE IDENTIFICATION PERMIT, ISSUED BY AIRPORT OPERATIONS, IS PROPERLY DISPLAYED ON EACH VEHICLE THAT ENTERS THE AOA. IN ADDITION, EACH CONTRACTOR VEHICLE ENTERING THE PROJECT SITE REGARDLESS OF ITS WORK WITHIN THE AOA OR NOT SHALL BE REQUIRED TO DISPLAY, ON BOTH SIDES OF THE VEHICLE EITHER PERMANENT OR MAGNETIC SIGNS THAT IDENTIFY THE NAME OF THE CONTRACTOR AND A FLASHING AMBER LIGHT OR A 3' X 3' ORANGE AND WHITE CHECKERBOARD FLAG, EACH CHECKERBOARD COLOR BEING 1-FOOT SQUARE.
- VEHICLE PARKING:** CONTRACTOR EMPLOYEE VEHICLES SHALL BE RESTRICTED TO THE CONTRACTOR'S EMPLOYEE PARKING AREA IDENTIFIED ON THE PLANS AND ARE NOT ALLOWED OUTSIDE THE DESIGNATED AREA AT ANY TIME.
- FINES:** PAYMENT OF ALL FINES ASSESSED TO OKALOOSA AIRPORTS DUE TO VIOLATIONS BY THE CONTRACTOR OF FEDERAL AVIATION ADMINISTRATION (FAA) SECURITY OR SAFETY REQUIREMENTS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

**CONTACT INFORMATION:**

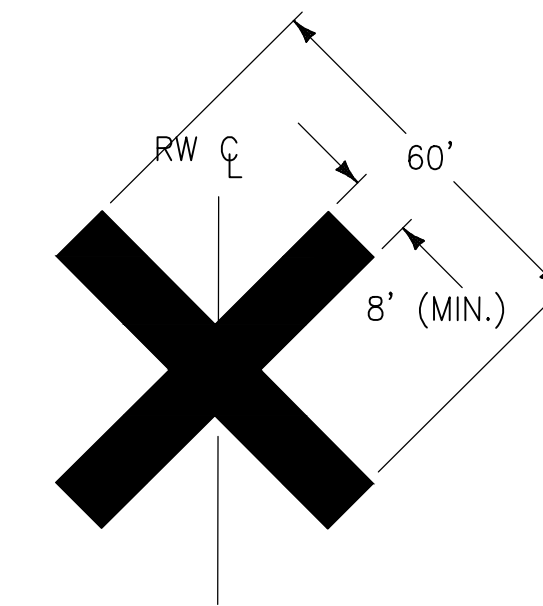
EMERGENCIES: 911  
MR. ROBERT "CHAD" ROGERS - AIRPORTS GENERAL AVIATION AND PROJECTS MANAGER: (850) 612-6862

**GENERAL SAFETY AND SECURITY NOTES**

- SAFETY IS PARAMOUNT:** IF ANY OF THE CONTRACTOR'S PERSONNEL OR A MEMBER OF THE AIRPORT STAFF SEES AN UNSAFE SITUATION ON THE PROJECT, THEY ARE OBLIGATED TO STOP THE WORK, RESTORE A SAFE CONDITION AND NOTIFY A SUPERVISOR OF THE PROBLEM. AT THAT POINT THE RPR, AIRPORT REPRESENTATIVE AND THE CONTRACTOR WILL MEET, RESOLVE THE SITUATION AND CONTINUE THE EFFORT.
- COMMUNICATIONS:** PROPER COMMUNICATIONS ARE ESSENTIAL TO THE SUCCESS OF THE PROJECT. ALL COMMUNICATIONS WILL BE HANDLED IN THE FOLLOWING MANNER. A REQUEST FROM A SUBCONTRACTOR WILL BE GIVEN TO THE CONTRACTOR. HE WILL EVALUATE IT AND DETERMINE IF THE OWNER NEEDS TO BE RESPONSIVE. IF SO HE WILL GIVE IT TO THE RPR WHO WILL GIVE IT TO AIRPORT OPERATIONS, WHO WILL DISSEMINATE IT TO THE APPROPRIATE AIRPORT DIVISION FOR A RESPONSE. THE RETURN INFORMATION WILL FOLLOW DOWN THE SYSTEM TO THE CONTRACTOR FOR HIS ACTION. EXCEPTION: IN CASE OF AN EMERGENCY, DIRECT COMMUNICATION IS AUTHORIZED TO QUICKLY RESOLVE THE SITUATION. ONCE STABILIZED, THE CONSTRUCTION TEAM (CONTRACTOR AND OWNER) WILL BE NOTIFIED OF THE SITUATION AND WHAT ACTIONS HAVE BEEN TAKEN.
- CHANGES:** ONLY ENGINEER AND OWNER APPROVAL IS AUTHORIZED TO MAKE CHANGES IN THE CONTRACT THAT WILL AFFECT THE CONTRACT AMOUNT AND THOSE REQUESTS MUST BE DONE THROUGH THE CHANGE ORDER SYSTEM.
- CONSTRUCTION SAFETY PHASING PLAN COMPLIANCE:** THE CONTRACTOR SHALL PROVIDE A SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) THAT OUTLINES HOW THE CONTRACTOR WILL COMPLY WITH THE REQUIREMENTS OF THE CONSTRUCTION SAFETY PHASING PLAN (CSPP). THIS REQUIREMENT IS DETAILED IN THE PROJECT SPECIFICATIONS SECTION P-102, SAFETY AND SECURITY.



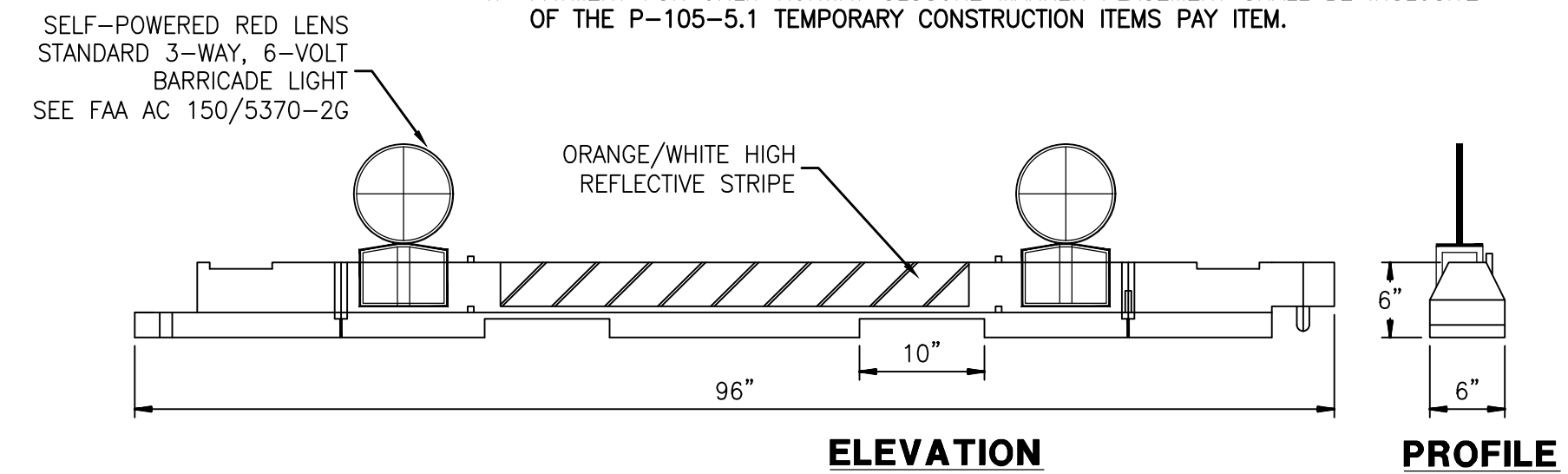
**1 CONSTRUCTION SAFETY FLAG**  
SCALE: N.T.S.



**2 UNLIT RUNWAY CLOSURE MARKER**  
SCALE: N.T.S.

**UNLIT RUNWAY CLOSURE MARKER NOTES:**

- CONTRACTOR SHALL PROVIDE ONE UNLIT RUNWAY CLOSED MARKER FOR DAYTIME IDENTIFICATION AT EACH THRESHOLD. THE UNLIT MARKER SHALL BE PLACED OVER THE RUNWAY DESIGNATION MARKINGS.
- UNLIT RUNWAY CLOSURE MARKER SHALL BE YELLOW AND PROPERLY WEIGHTED TO THE PAVEMENT TO PREVENT DISLOCATION FROM WIND.
- UNLIT RUNWAY CLOSURE MARKER SHALL BE PLACED OVER RUNWAY DESIGNATION MARKING WHENEVER RUNWAY 14-32 IS CLOSED FOR CONSTRUCTION.
- PAYMENT FOR UNLIT RUNWAY CLOSURE MARKER PLACEMENT SHALL BE INCLUSIVE OF THE P-105-5.1 TEMPORARY CONSTRUCTION ITEMS PAY ITEM.



**4 LOW PROFILE AIRFIELD BARRICADE DETAIL**  
SCALE: N.T.S.

**LOW PROFILE BARRICADE NOTES:**

- LOW LEVEL LIGHTED BARRICADES SHALL BE FURNISHED AND PLACED AT THE LOCATIONS SHOWN IN THE PROJECT PHASING PLAN.
- BARRICADES SHALL BE PC9642 LOW-PROFILE BARRICADES MANUFACTURED BY NEUBERT AERO CORPORATION OF CLEARWATER, FL OR APPROVED EQUAL.
- WEIGH DOWN EACH BARRICADE BY FILLING WITH WATER.
- THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN THE PLACEMENT, LOCATION AND OPERATION OF THE LIGHTS FOR THE DURATION OF THE PROJECT. BARRICADES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND THE RPR AND ANY DEFICIENCIES FOUND SHALL BE CORRECTED IMMEDIATELY.
- ALL COSTS ASSOCIATED WITH THE MATERIALS, LABOR, MAINTENANCE AND REMOVAL OF LOW PROFILE BARRICADES SHALL BE INCIDENTAL TO THE P-105-5.1 TEMPORARY CONSTRUCTION ITEMS BID ITEM.



11 North Water Street, Suite 10290  
Mobile, AL 36602  
251-460-3233 FAX 904-256-2501  
www.rsandh.com

FL Cert. Nos. AAC001888 / B20000955  
E8005820 / LC0000210 / G828



**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
IT'S THE LAW! DIAL 811  
Know what's below. Call before you dig.  
SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
REVIEWED BY: MRT  
DRAWN BY: AGS  
DESIGNED BY: MRT

AEP PROJECT NUMBER  
201-0251-012

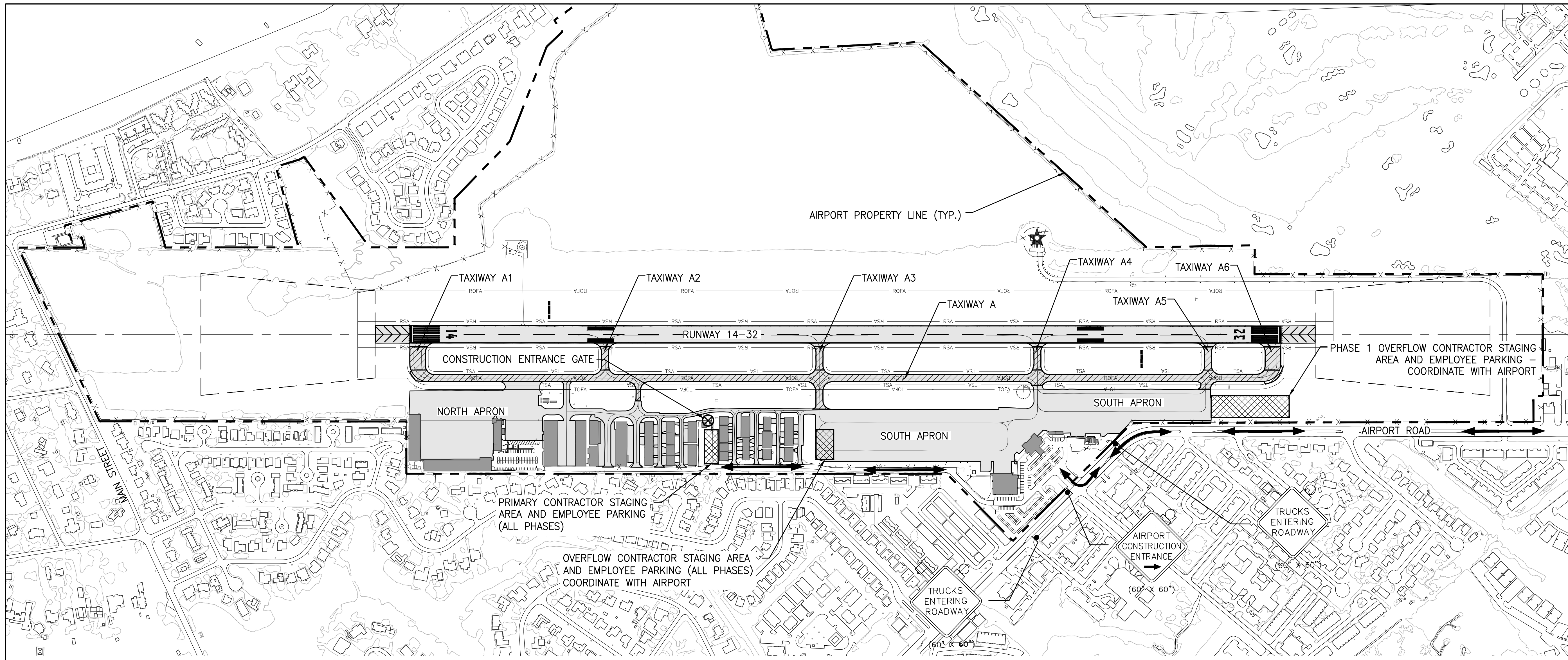
© 2019 REYNOLDS, SMITH AND HILLS, INC.  
SHEET TITLE

**SAFETY AND SECURITY NOTES AND DETAILS**

SHEET NUMBER

**C002**

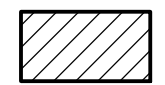
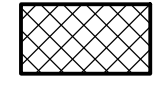



**BID DOCUMENTS**

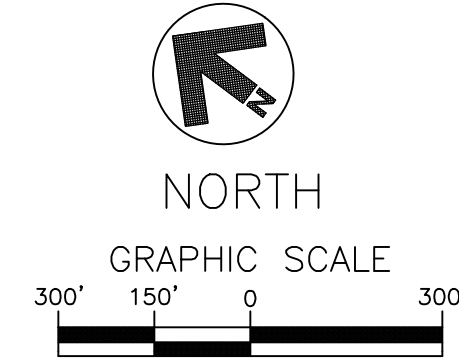


**GENERAL CONTRACT NOTES**

- HAUL ROUTES:** LOCATION OF HAUL ROUTES ON THE AIRPORT SITE SHALL BE AS SPECIFIED ON THE PLANS OR AS APPROVED BY THE RPR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF-SITE HAUL ROUTES (STATE HIGHWAYS, COUNTY ROADS OR CITY STREETS) WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE AND OBTAIN HAUL PERMITS NECESSARY AS REQUIRED BY THE LOCAL JURISDICTION. ON-SITE HAUL ROUTES SHALL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UPON COMPLETION OF BEING USED AS A HAUL ROUTE. THE PRE- AND POST-CONSTRUCTION CONDITION OF ON-SITE HAUL ROUTES SHALL BE JOINTLY INSPECTED AND DETERMINED BY THE CONTRACTOR AND THE PROJECT RPR. FENCING, DRAINAGE, GRADING AND OTHER MISCELLANEOUS CONSTRUCTION REQUIRED TO CONSTRUCT TEMPORARY HAUL ROUTES OR ACCESS POINTS ON THE AIRPORT WILL BE THE CONTRACTOR'S TOTAL RESPONSIBILITY AND SHALL BE APPROVED BY THE RPR PRIOR TO THE WORK. CONSTRUCTION AND MAINTENANCE OF ON-SITE HAUL ROUTE WILL BE PAID FOR UNDER ITEM P-105-1 TEMPORARY CONSTRUCTION ITEMS. ALL ON-SITE FAA ACCESS ROADS TO FAA FACILITIES SHALL REMAIN OPEN AND MAINTAINED AT ALL TIMES. PHOTOGRAPHS AND A VIDEO OF THE HAUL ROUTES SPECIFIED IN THE PLANS MUST BE PROVIDED BY THE CONTRACTOR BEFORE AND AFTER CONSTRUCTION TO THE RPR. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO HAUL ROUTES RESULTING FROM CONSTRUCTION TRAFFIC AS DETERMINED BY THE PROJECT RPR. ANY SERVICE, ACCESS OR FAA ROADWAY CROSSED BY CONSTRUCTION TRAFFIC SHALL BE PROTECTED AGAINST DAMAGE AND ALL DAMAGE OCCURRING WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE WITH NO ADDITIONAL COMPENSATION OR CONTRACT TIME. ANY PAVEMENTS DAMAGED BY THE CONSTRUCTION EQUIPMENT SHALL BE REMOVED AND REPLACED TO AT LEAST 10 FEET ON EACH SIDE OF THE MOST EXTREME OUTER TIRE MARKS TO ENSURE ALL PAVEMENT TRAVERSED BY THE CONSTRUCTION EQUIPMENT IS REMOVED AND REPLACED. RESTORATION OF SITE TO EXISTING CONDITION WILL BE INCIDENTAL TO ITEM P-105-5.1 TEMPORARY CONSTRUCTION ITEMS.
- WASTE DISPOSAL AND BORROW AREAS:** WASTE MATERIAL REMOVED FROM THE CONSTRUCTION AREA SHALL BE LEGALLY DISPOSED OF OFF THE AIRPORT PROPERTY. NO MATERIAL SHALL BE WASTED ON THE AIRPORT SITE UNLESS APPROVED BY THE AIRPORT. ANY ON-AIRPORT APPROVED WASTE AND DISPOSAL AREA SHALL BE SEEDED AND RESTORED IN A SMOOTH, GRADED AND DRAINABLE CONDITION AT NO ADDITIONAL COST TO THE OWNER. PRIOR TO DEMOLITION AND REMOVAL WORK BEGINNING, THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM THE SITE WHICH HE/SHE PLANS TO DUMP WASTE MATERIAL AND PROVIDE IT TO THE AIRPORT.
- CONTRACTOR UTILITIES:** STAGING AREAS DO NOT HAVE UTILITIES. ANY UTILITIES REQUIRED BY THE CONTRACTOR SHALL BE COORDINATED WITH THE UTILITY COMPANIES AND SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- PROTECTION AND REPAIR OF DAMAGE TO EXISTING CABLES:** ALL UNDERGROUND CABLES SHALL BE PROTECTED AND DAMAGES REPAIRED EXPEDITIOUSLY AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER.
- CONSTRUCTION LIMITS AND FLAGMEN:** ALL CONTRACTOR VEHICLES AND TRAFFIC SHALL REMAIN WITHIN THE DESIGNATED CONSTRUCTION LIMITS OR HAUL ROUTES. ABSOLUTELY NO CONTRACTOR VEHICLES WILL BE ALLOWED ON ACTIVE AIRFIELD OPERATIONS AREAS. FLAGMEN SHALL BE PROVIDED AT ALL TIMES WHENEVER CONSTRUCTION ACCESS IS REQUIRED THROUGH A DESIGNATED GATE.
- PERMITS:** IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AND PAY FOR ALL APPLICABLE PERMITS FOR CONSTRUCTION AND EQUIPMENT.
- COORDINATION OF CONSTRUCTION ACTIVITIES:** THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MAINTAINING CONSTANT COORDINATION BETWEEN THE SUBCONTRACTORS AND THE RPR. ALL CONSTRUCTION ACTIVITIES PLANNED BY THE CONTRACTOR SHALL BE REVIEWED AND APPROVED BY THE RPR.
- EXCESS CONSTRUCTION MATERIALS:** ALL ON SITE EXCESS AND/OR STORED MATERIAL SHALL BE REMOVED FROM AIRPORT PROPERTY AND DISPOSED OF.
- UTILITIES:** IT WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT ANY PUBLIC UTILITIES THAT ARE IN OR ADJACENT TO THE WORK AREA. THE UTILITIES WILL BE FLAGGED ONE TIME BY THE VARIOUS UTILITY COMPANIES. THESE FLAGS SHALL BE PROTECTED AND MAINTAINED BY THE CONTRACTOR AT ALL TIMES. IF FLAGS ARE LOST OR REMOVED BY THE CONTRACTOR, THEY WILL BE FLAGGED AGAIN AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES SHALL BE PROTECTED AND DAMAGES REPAIRED EXPEDITIOUSLY AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER.
- EMPLOYEE PARKING:** CONTRACTOR EMPLOYEE PARKING SHALL BE IN THE AREAS DESIGNATED ON THE PLANS OR IN ANOTHER AREA DESIGNATED BY AIRPORT PERSONNEL. CONTRACTOR EMPLOYEE VEHICLES WILL BE ALLOWED TO PARK IMMEDIATELY PAST THE ACCESS GATE IN THE AOA AREA. NO CONTRACTOR EMPLOYEE PERSONAL VEHICLES WILL BE ALLOWED OUTSIDE OF THE STAGING AREAS SHOWN ON THIS PLAN.
- SITE ACCESS:** THE CONTRACTOR SHALL ACCESS THE SITE THROUGH THE EXISTING CARD READER GATE AT THE LOCATION SHOWN ON THIS SHEET. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THIS ENTRANCE IN ITS EXISTING CONDITION PRIOR TO CONSTRUCTION. ACCESS GATE SHALL BE EITHER CLOSED AND LOCKED OR MANNED BY A CONTRACTOR EMPLOYEE AT ANY TIME. ANY SUBCONTRACTOR OR MATERIAL/EQUIPMENT DELIVERY SHALL BE ESCORTED ONTO AND OFF OF THE AIRFIELD BY A REPRESENTATIVE OF THE PRIME CONTRACTOR.
- CONSTRUCTION SIGNAGE:** CONTRACTOR SHALL INSTALL TWO-SIDED "AIRPORT CONSTRUCTION ENTRANCE" SIGN AND WITH THE PROPER ARROW DIRECTION AT THE AIRPORT CONSTRUCTION ENTRANCE ON AIRPORT ROAD. CONTRACTOR SHALL INSTALL "TRUCKS ENTERING HIGHWAY" SIGN MIN. 300 FT EACH DIRECTION (NORTH/SOUTH) FROM ENTRANCE. PLACEMENT AND MAINTENANCE OF CONSTRUCTION SIGNAGE TO BE INCLUSIVE OF PAY ITEM P-105-5.1 TEMPORARY CONSTRUCTION ITEMS.

**LEGEND**

-  LIMITS OF TAXIWAY A CRACK-SEAL, SEAL COAT, LIGHTING IMPROVEMENTS
-  CONTRACTOR STAGING AREA AND CONTRACTOR EMPLOYEE PARKING
-  CONTRACTOR HAUL AND ACCESS ROUTES
-  AIRPORT PROPERTY LINE
-  CONTRACTOR'S GATE GUARD/FLAGMAN



**RS&H**  
 11 North Water Street, Suite 10290  
 Mobile, AL 36602  
 251-460-3233 FAX 904-256-2501  
 www.rsandh.com  
 FL Cert. Nos. AAC091888 \* B20009955 \*  
 EB0005820 \* LC0000210 \* GB238



**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
 DIAL 811  
 IT'S THE LAW!  
 Know what's below.  
 Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: MRT  
 DRAWN BY: AGS  
 DESIGNED BY: MRT  
 AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS, INC.  
 SHEET TITLE

**CONTRACT LAYOUT PLAN AND GENERAL NOTES**

SHEET NUMBER  
**C003**  
 BID DOCUMENTS

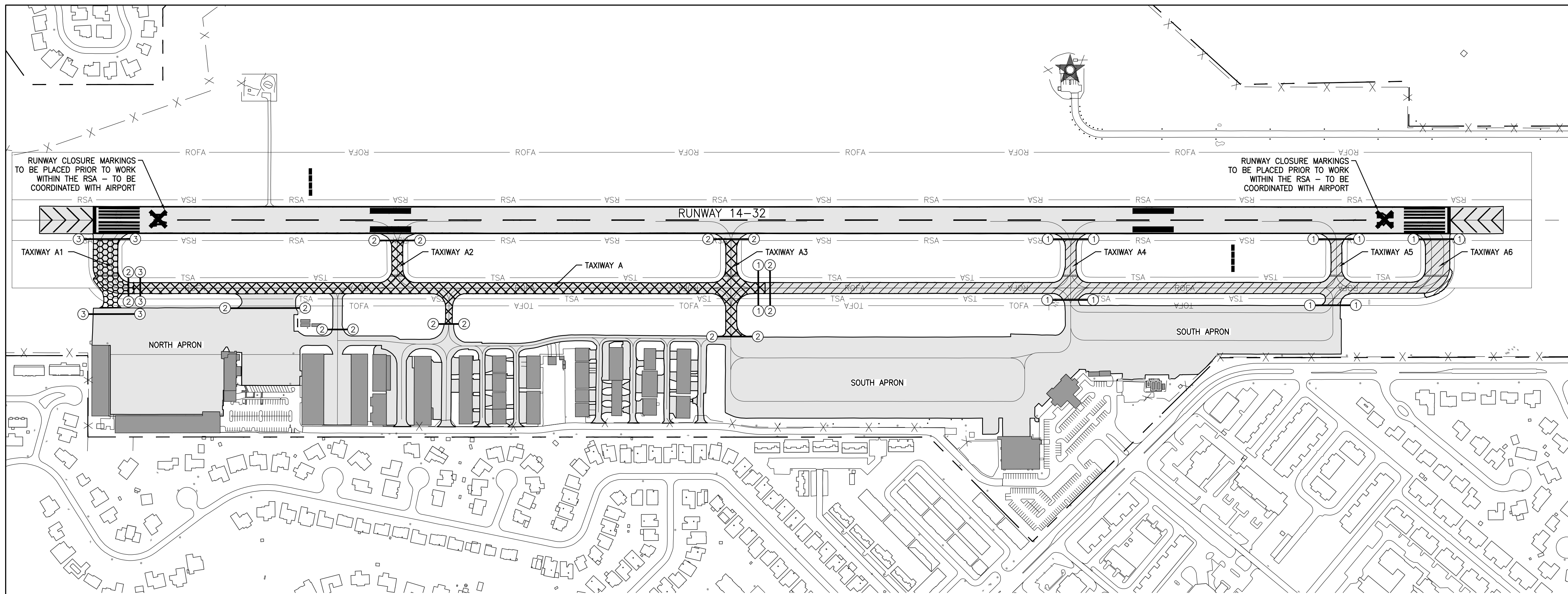


**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS



**GENERAL PHASING NOTES:**

1. THE CONSTRUCTION PHASING OUTLINED IN THE PLANS IS BROKEN INTO THREE PHASES OF CONSTRUCTION. ALL PHASES OF WORK ARE WITHIN THE AIRCRAFT OPERATIONS AREA (AOA). ALL WORK WITHIN THE LIMITS SHOWN ON THE PHASING DRAWINGS SHALL BE COMPLETED DURING THAT RESPECTIVE PHASE.

**CONSTRUCTION NARRATIVE:**

PROCUREMENT – INCLUDES PROCUREMENT OF MATERIALS AND SUPPLIES, MOBILIZATION AND PREPARATION OF EQUIPMENT. NO CONSTRUCTION PERFORMED.

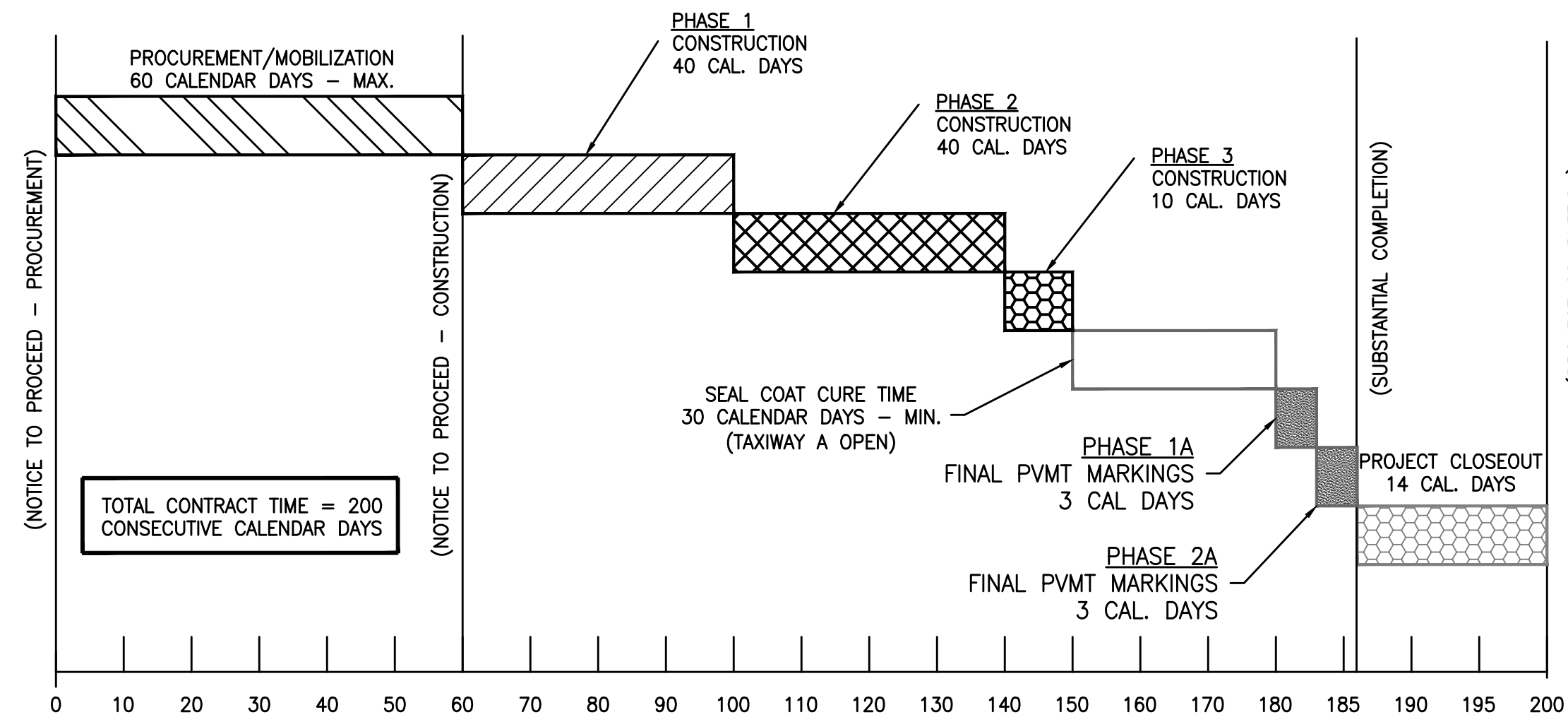
PHASE 1, 2 & 3 OF CONSTRUCTION – INCLUDES INSTALLATION OF ALL BARRICADES, LOCK OUT/TAG OUT OF AIRFIELD ELECTRICAL SYSTEMS, INSTALLATION OF TEMPORARY LIGHTING CONTROLS, TAXIWAY EDGE LIGHT DEMOLITION, INSTALLATION OF NEW TAXIWAY EDGE LIGHTS, INSTALLATION OF CONDUIT AND CABLE, BITUMINOUS CRACK SEALING ON TAXIWAY A, PAVEMENT CLEANING AND PREPARATION, INSTALLATION OF TEMPORARY PROPOSED PAVEMENT MARKINGS, REMOVAL OF BARRICADES, AND REOPENING ALL AIRFIELD PAVEMENTS. TAXIWAY A IN PHASE 1, 2 & 3 AREAS AS INDICATED SHALL BE CLOSED TO AIRCRAFT FOR THE DURATION OF THIS PHASE.

PHASE 1A & 2A CONSTRUCTION – AFTER A MINIMUM OF 30 CALENDAR DAYS HAS PASSED SINCE THE ASSOCIATED PHASE FINAL APPLICATION OF BITUMINOUS SEAL COAT, THE CONTRACTOR SHALL INSTALL FINAL RUNWAY PAVEMENT MARKINGS WITH REFLECTIVE BEADS OVER THE TEMPORARY MARKINGS INSTALLED IN PHASE 1. CONTRACTOR WILL BE GIVEN UP-TO THREE DAYS TO COMPLETE THE FINAL RUNWAY PAVEMENT MARKINGS. CONTRACTOR SHALL COORDINATE THE WORK FOR FINAL RUNWAY PAVEMENT MARKINGS WITH THE ENGINEER AND AIRPORT OPERATIONS A MINIMUM OF 7 CALENDAR DAYS BEFORE COMMENCING THE WORK IN PHASE 1A AND 2A.

CLOSEOUT – INCLUDES RESTORATION OF STAGING AREA TO ORIGINAL CONDITION, DEMOBILIZATION OF ALL MATERIAL AND EQUIPMENT, SUBMISSION OF ALL REQUIRED CLOSEOUT PAPERWORK, AND FINAL INVOICING.

2. DUE TO THE IMPORTANCE OF MAINTAINING AIRFIELD OPERATIONS AND SAFETY AND SECURITY DURING CONSTRUCTION, THE CONTRACTOR IS REMINDED THAT WHILE WORKING WITHIN THESE AREAS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE APPRAISED OF, AND TO IMPLEMENT, THE GUIDELINES ESTABLISHED IN THE PROVISIONS UNDER SAFETY AND SECURITY.
3. THE CONTRACTOR SHALL, AT ALL TIMES, COORDINATE HIS/HER EFFORTS WITH THE RPR AND AIRPORT STAFF. IF ANY PROBLEMS ARISE DURING THE CONSTRUCTION SEQUENCING, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE RPR AND AIRPORT STAFF TO RESOLVE SAID PROBLEMS PRIOR TO CONTINUING THE WORK.
4. THE CONTRACTOR SHALL PERFORM ALL FINAL CLEANUP WORK PRIOR TO A FINAL INSPECTION. THE CONTRACTOR SHALL ALSO CONTINUOUSLY CLEAN UP DURING EACH PHASE OF THE PROJECT.
5. THE CONTRACTOR SHALL RUN A VACUUM TRUCK, AS NECESSARY TO MAINTAIN CLEAN WORK AREAS AND HAUL ROUTES. IT IS IMPERATIVE THAT NO DAMAGE BE DONE TO ANY AIRCRAFT DUE TO FOREIGN OBJECT DEBRIS (FOD). ANY DAMAGE DONE TO AIRCRAFT WHICH IS ATTRIBUTABLE TO FOD FROM THE CONSTRUCTION AREAS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE WITH NO REIMBURSEMENT BY THE AIRPORT, RPR OR THEIR AUTHORIZED REPRESENTATIVES.

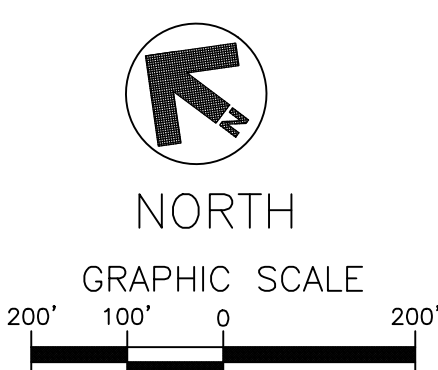
6. THERE ARE NOT RESTRICTIONS TO CONTRACTOR WORK HOURS ON THIS PROJECT.
7. THE CONTRACTOR'S FIELD OPERATIONS AREAS FOR STORAGE OF EQUIPMENT, SUPPLIES AND FIELD OFFICES SHALL BE LOCATED IN THE STAGING AREA SHOWN ON THE PLANS. ALL AREAS DESIGNATED FOR STORAGE OF EQUIPMENT OVERNIGHT, FOR STORAGE OF FUELING FACILITIES, MATERIALS AND OFFICES SHALL BE APPROVED BY THE AIRPORT MANAGEMENT AND RPR PRIOR TO MOBILIZATION OF ANY EQUIPMENT OR FIELD OFFICES AND CERTIFIED BY THE CONTRACTOR THAT THE FACILITIES MEET ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS.
8. APPROPRIATE EROSION CONTROL MEASURES SHALL BE ACCOMPLISHED PRIOR TO BEGINNING THE RESPECTIVE PHASE. REMOVAL OF TEMPORARY EROSION CONTROL SHALL BE ACCOMPLISHED BY THE CONTRACTOR EITHER AT THE COMPLETION OF THE ASSOCIATED PHASE OR THEREAFTER AS DIRECTED BY THE RPR.
9. THE COMPLETION OF ANY PHASE OF WORK AND SUBSEQUENT USEAGE BY THE OWNER DOES NOT DEFINE FINAL ACCEPTANCE OF THE WORK IN THAT PHASE. WHEN ALL PHASES AND SUBPHASES ARE COMPLETE AND A FINAL INSPECTION OF THE ENTIRE PROJECT HAS OCCURED AND ALL ASSOCIATED PUNCH LIST ITEMS HAVE BEEN COMPLETED TO THE SATISFACTION OF THE AIRPORT MANAGEMENT AND RPR, THEN THE ENTIRE PROJECT WILL BE ACCEPTED.
10. THE CONTRACTOR SHALL SUBMIT TO THE RPR AND OWNER A DETAILED CONSTRUCTION SCHEDULE 4 WEEKS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACT DOCUMENTS PROVIDE A CONSTRUCTION SEQUENCE AND SAFETY PARAMETERS WHICH MUST BE INCORPORATED INTO THE CONSTRUCTION SCHEDULE.
11. ALL BARRICADES SHALL BE INSTALLED WHERE DIRECTED BY AIRPORT MANAGEMENT AND THE RPR. THE LOCATIONS OF BARRICADES SHOWN ON THE PHASING PLAN REFLECT THE GENERAL VICINITY OF WHERE BARRICADES ARE TO BE INSTALLED. THE EXACT LOCATIONS SHALL BE DETERMINED PRIOR TO PLACEMENT.
12. DURING CONSTRUCTION THE CONTRACTOR WILL PROVIDE TWO (2) LIGHTED RUNWAY CLOSED MARKERS AT EACH THRESHOLD. THE LIGHTED MARKERS SHALL BE PLACED AT THE RUNWAY NUMBERS. ALL RUNWAY LIGHTING AND SIGNAGE MUST BE SHUT DOWN AND LOCKED OUT/TAGGED OUT AT THE VAULT DURING RUNWAY CLOSURE.
13. CONTRACTOR SHALL COORDINATE WITH AIRPORT STAFF TO DISCONNECT RUNWAY LIGHTS AND LOCK OUT/TAG OUT CIRCUITS AT THE ELECTRICAL VAULT PRIOR TO WORK ON THE RUNWAY. CONTRACTOR SHALL COORDINATE WITH THE OWNER 72-HOURS PRIOR TO WORK IN ORDER FOR THE OWNER TO ISSUE A NOTAM.



**SCHEMATIC CONSTRUCTION SEQUENCING**

**LEGEND**

- PHASE 1 CONSTRUCTION
- PHASE 2 CONSTRUCTION
- PHASE 3 CONSTRUCTION
- AIRPORT PROPERTY LINE
- RSA RUNWAY SAFETY AREA (RSA)
- ROFA RUNWAY OBJECT FREE AREA (ROFA)
- TSA TAXIWAY SAFETY AREA (TSA)
- LOW PROFILE BARRICADE NUMBERED WITH ASSOCIATED PHASE



CALL 48 HOURS BEFORE YOU DIG  
DIAL 811  
IT'S THE LAW!  
Know what's below.  
Call before you dig.  
SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
REVIEWED BY: MRT  
DRAWN BY: AGS  
DESIGNED BY: MRT

AEP PROJECT NUMBER  
201-0251-012  
© 2019 REYNOLDS, SMITH AND HILLS, INC.  
SHEET TITLE

**OVERALL PHASING PLAN**

SHEET NUMBER  
**C004**  
BID DOCUMENTS



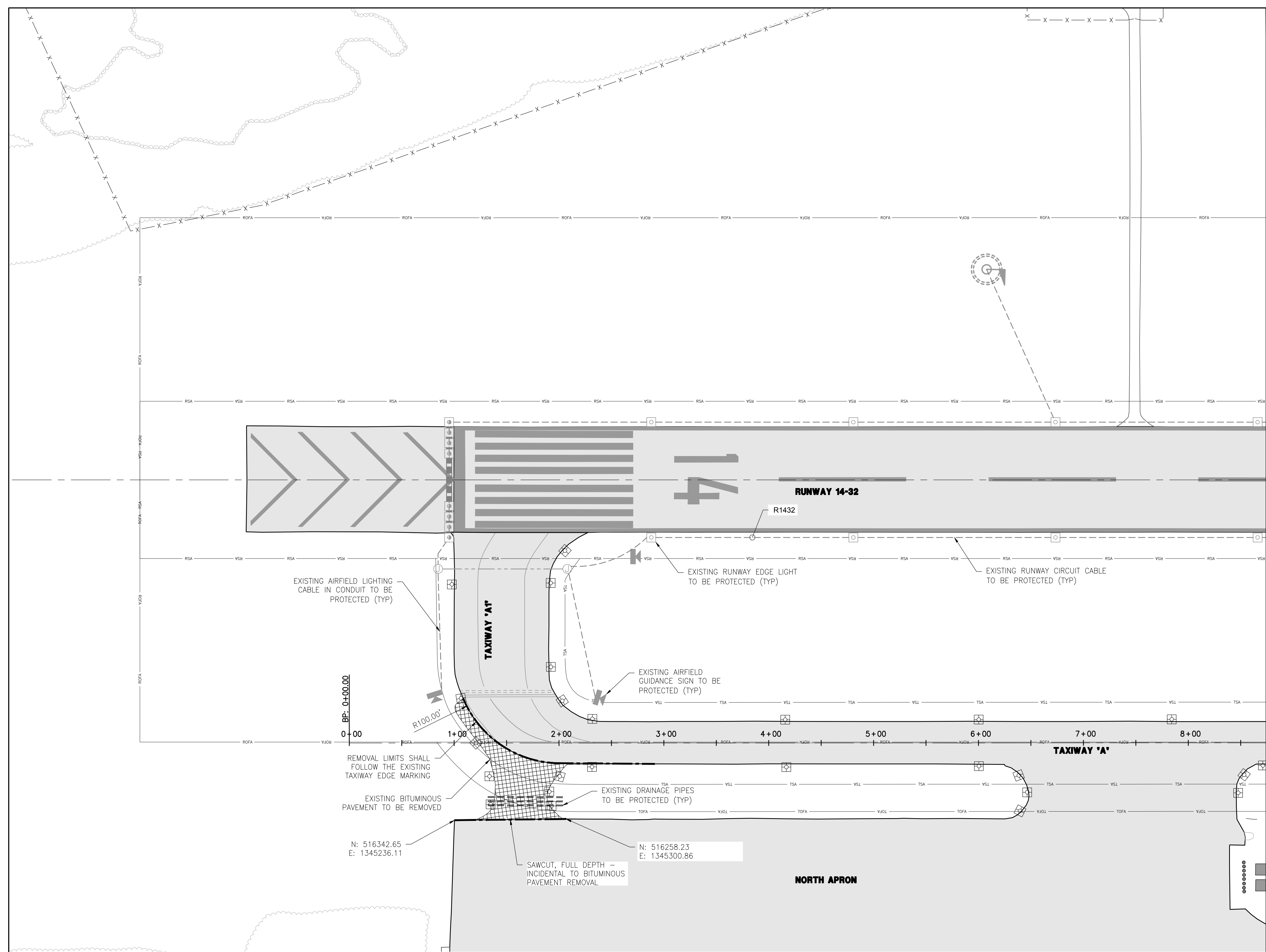


**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

- LEGEND**
- EXISTING AIRFIELD PAVEMENT TO BE PROTECTED
  - ASPHALT PAVEMENT REMOVAL, FULL DEPTH
  - CONCRETE PAVEMENT REMOVAL, FULL DEPTH
  - EXISTING STORM PIPE TO BE PROTECTED
  - EXISTING STORM PIPE TO BE REMOVED
  - RUNWAY SAFETY AREA (RSA)
  - RUNWAY OBJECT FREE AREA (ROFA)
  - TAXIWAY SAFETY AREA (TSA)
  - TAXIWAY OBJECT FREE AREA (TOFA)
  - EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
  - EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
  - EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE SHEETS E101-E105
  - EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
  - BITUMINOUS PAVEMENT SAWCUT - FULL DEPTH, INCIDENTAL TO PAVEMENT REMOVAL

MATCHLINE SHEET C102 STA. 84+75.00



**PROJECT DEMOLITION NOTES**

1. THE DESTIN EXECUTIVE AIRPORT RESERVES THE RIGHT TO SALVAGE ANY DEMOLISHED MATERIALS. THE CONTRACTOR SHALL COORDINATE THROUGH THE OWNER/ENGINEER TO DETERMINE ITEMS WHICH THE AIRPORT WILL MAINTAIN OWNERSHIP. THESE ITEMS SHALL BE PROTECTED AND PROVIDED TO THE OWNER AT A LOCATION TO BE DETERMINED. ANY ITEMS NOT BEING SALVAGED TO THE OWNER SHALL BE THE PROPERTY OF THE CONTRACTOR AND THEY SHALL BE RESPONSIBLE FOR DISPOSAL OFFSITE PER ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
2. THE CONTRACTOR SHALL FOLLOW ALL PHASING PLAN AND MAINTAIN FULL OPERATIONS TO ALL AIRPORT BUILDINGS, PARKING AND ROADWAYS UNLESS WRITTEN AUTHORIZATION HAS BEEN PROVIDED BY THE ENGINEER.
3. CONTRACTOR SHALL PROVIDE ALL REQUIRED WARNING SIGNAGE AND BARRICADES PER STATE AND LOCAL REGULATIONS ON PUBLIC ROADWAYS.
4. ALL REFUSE SHALL BE CLEARED FROM THE PROJECT SITE TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL DISPOSE OF REFUSE OFFSITE IN ACCORDANCE WITH ALL STATE AND LOCAL REQUIREMENTS.
5. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN THE NECESSARY LOCAL PERMITS THAT ARE REQUIRED.
6. THERE ARE EXISTING UNDERGROUND ELECTRICAL AND COMMUNICATIONS CABLES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. LOCATION OF EXISTING UTILITIES MAY BE DONE BY CALLING SUNSHINE STATE ONE CALL 811 TO NOTIFY LOCAL UTILITIES. THIS IS REQUIRED BY LAW.
7. THE CONTRACTOR SHALL PROTECT ALL EXISTING PAVEMENT TO REMAIN.
8. THE CONTRACTOR SHALL REPLACE ANY PAVEMENT TO REMAIN THAT IS DAMAGED BY THE CONTRACTOR TO THE NEAREST PAVEMENT DISTRESS AT NO ADDITIONAL COST TO THE OWNER.
9. UNLESS EXPLICITLY SHOWN TO REMOVE, RELOCATE, OR IN ANY OTHER WAY ALTER AN EXISTING STRUCTURE, IT SHALL BE ASSUMED THE STRUCTURE SHALL BE PROTECTED IN PLACE. CONFIRM ANY POTENTIAL DISCREPANCIES OR CONFLICTS WITH THE ENGINEER.

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811  
 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

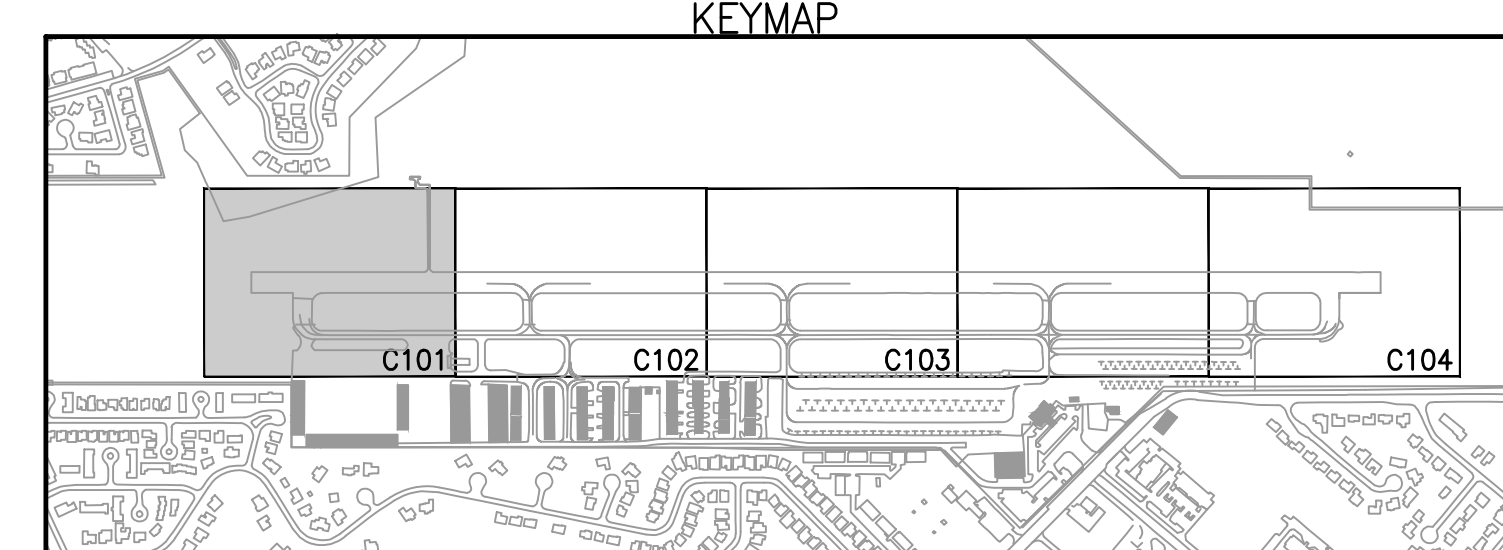
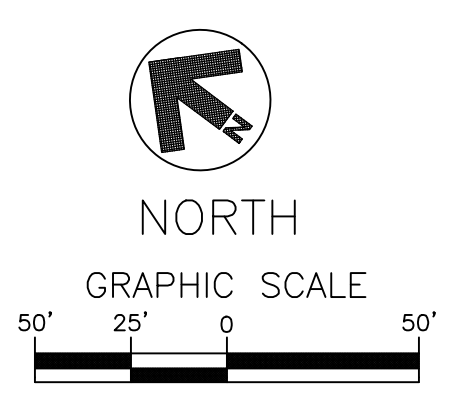
DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: MRT  
 DRAWN BY: AGS  
 DESIGNED BY: MRT

AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS, INC.  
 SHEET TITLE

**DEMOLITION PLAN (SHEET 1 OF 4)**

SHEET NUMBER  
**C101**  
**BID DOCUMENTS**

**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.





**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

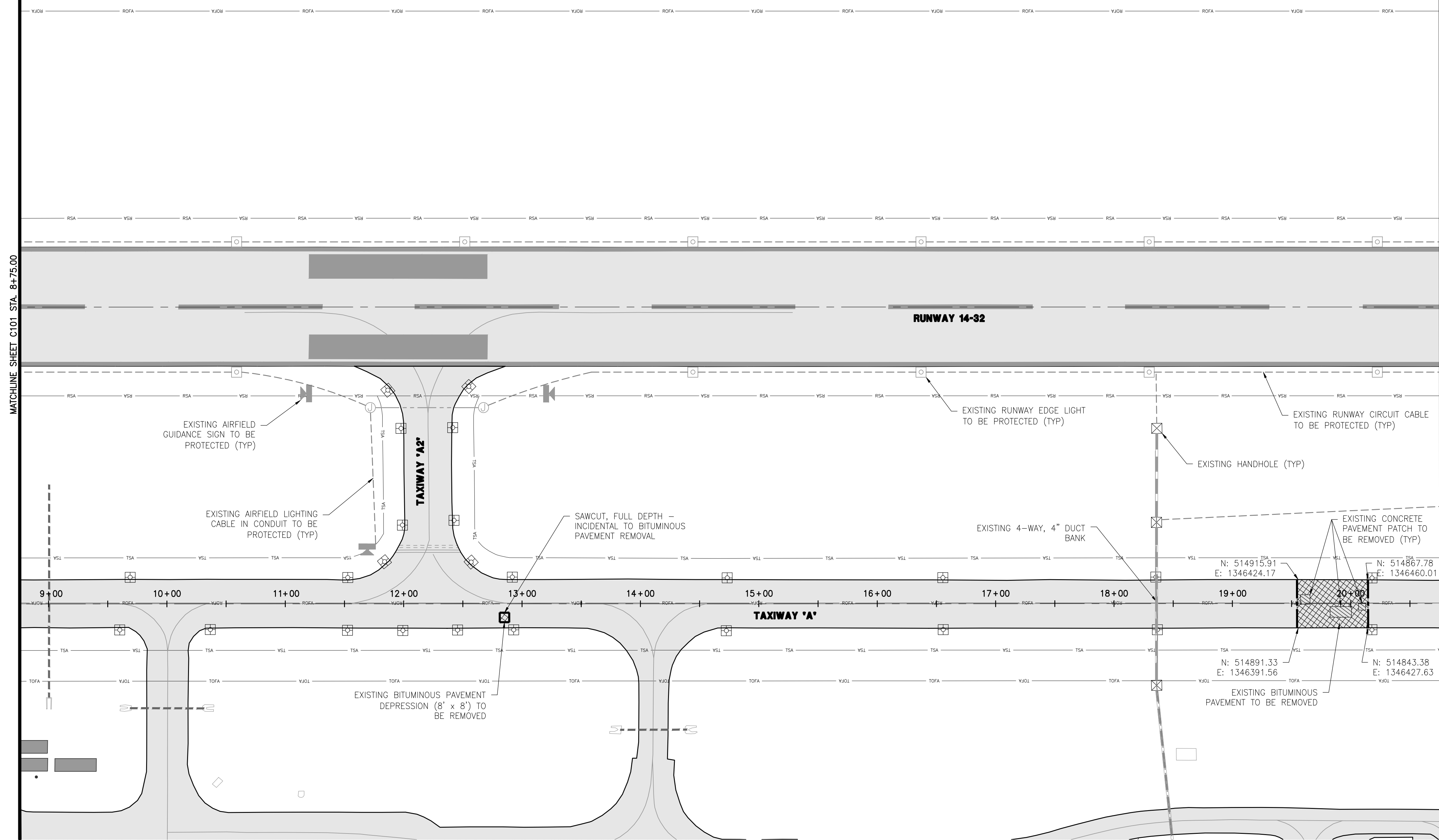
CONSULTANTS

**LEGEND**

- EXISTING AIRFIELD PAVEMENT TO BE PROTECTED
- ASPHALT PAVEMENT REMOVAL, FULL DEPTH
- CONCRETE PAVEMENT REMOVAL, FULL DEPTH
- EXISTING STORM PIPE TO BE PROTECTED
- EXISTING STORM PIPE TO BE REMOVED
- RUNWAY SAFETY AREA (RSA)
- RUNWAY OBJECT FREE AREA (ROFA)
- TAXIWAY SAFETY AREA (TSA)
- TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE SHEETS E101-E105
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- BITUMINOUS PAVEMENT SAWCUT - FULL DEPTH, INCIDENTAL TO PAVEMENT REMOVAL

MATCHLINE SHEET C101 STA. 8+75.00

MATCHLINE SHEET C103 STA. 20+75.00



**PROJECT DEMOLITION NOTES**

1. THE DESTIN EXECUTIVE AIRPORT RESERVES THE RIGHT TO SALVAGE ANY DEMOLISHED MATERIALS. THE CONTRACTOR SHALL COORDINATE THROUGH THE OWNER/ENGINEER TO DETERMINE ITEMS WHICH THE AIRPORT WILL MAINTAIN OWNERSHIP. THESE ITEMS SHALL BE PROTECTED AND PROVIDED TO THE OWNER AT A LOCATION TO BE DETERMINED. ANY ITEMS NOT BEING SALVAGED TO THE OWNER SHALL BE THE PROPERTY OF THE CONTRACTOR AND THEY SHALL BE RESPONSIBLE FOR DISPOSAL OFFSITE PER ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
2. THE CONTRACTOR SHALL FOLLOW ALL PHASING PLAN AND MAINTAIN FULL OPERATIONS TO ALL AIRPORT BUILDINGS, PARKING AND ROADWAYS UNLESS WRITTEN AUTHORIZATION HAS BEEN PROVIDED BY THE ENGINEER.
3. CONTRACTOR SHALL PROVIDE ALL REQUIRED WARNING SIGNAGE AND BARRICADES PER STATE AND LOCAL REGULATIONS ON PUBLIC ROADWAYS.
4. ALL REFUSE SHALL BE CLEARED FROM THE PROJECT SITE TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL DISPOSE OF REFUSE OFFSITE IN ACCORDANCE WITH ALL STATE AND LOCAL REQUIREMENTS.
5. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN THE NECESSARY LOCAL PERMITS THAT ARE REQUIRED.
6. THERE ARE EXISTING UNDERGROUND ELECTRICAL AND COMMUNICATIONS CABLES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. LOCATION OF EXISTING UTILITIES MAY BE DONE BY CALLING SUNSHINE STATE ONE CALL 811 TO NOTIFY LOCAL UTILITIES. THIS IS REQUIRED BY LAW.
7. THE CONTRACTOR SHALL PROTECT ALL EXISTING PAVEMENT TO REMAIN.
8. THE CONTRACTOR SHALL REPLACE ANY PAVEMENT TO REMAIN THAT IS DAMAGED BY THE CONTRACTOR TO THE NEAREST PAVEMENT DISTRESS AT NO ADDITIONAL COST TO THE OWNER.
9. UNLESS EXPLICITLY SHOWN TO REMOVE, RELOCATE, OR IN ANY OTHER WAY ALTER AN EXISTING STRUCTURE, IT SHALL BE ASSUMED THE STRUCTURE SHALL BE PROTECTED IN PLACE. CONFIRM ANY POTENTIAL DISCREPANCIES OR CONFLICTS WITH THE ENGINEER.

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: MRT  
 DRAWN BY: AGS  
 DESIGNED BY: MRT

AEP PROJECT NUMBER  
201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS, INC.

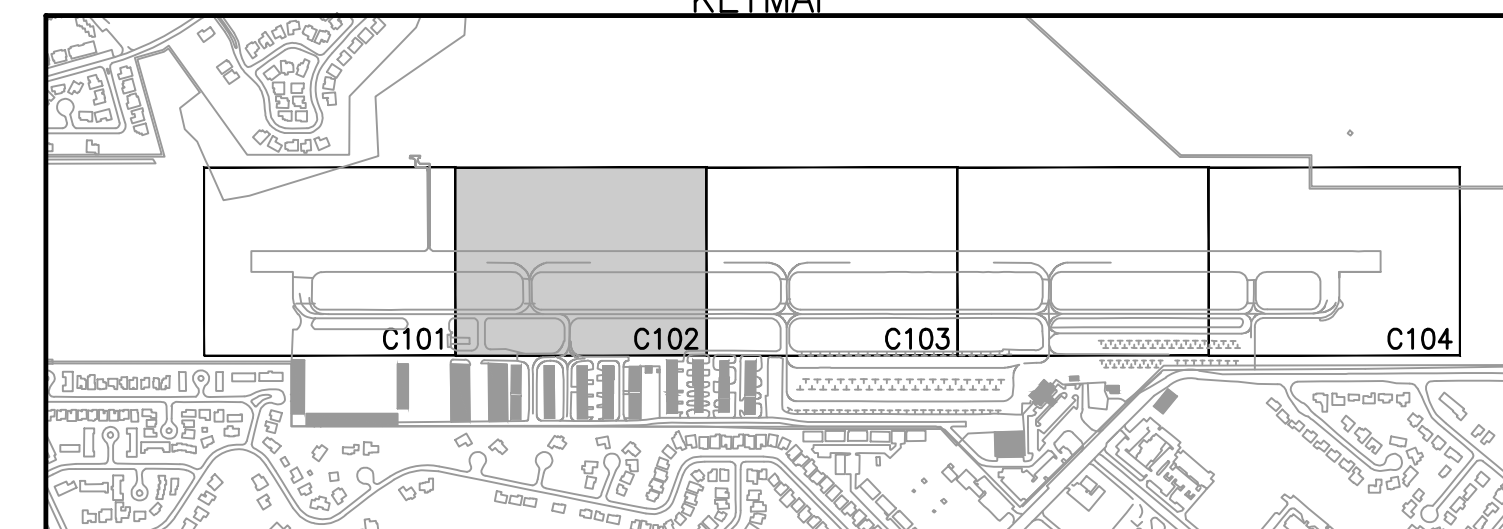
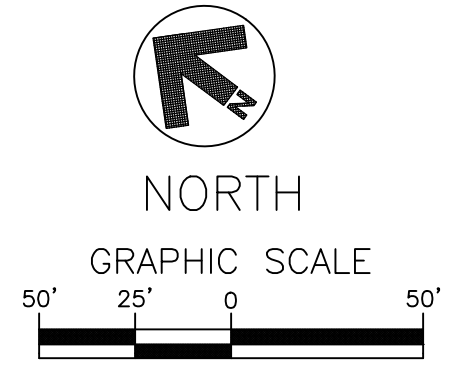
SHEET TITLE

**DEMOLITION PLAN (SHEET 2 OF 4)**

SHEET NUMBER  
**C102**

**BID DOCUMENTS**

**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.





**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

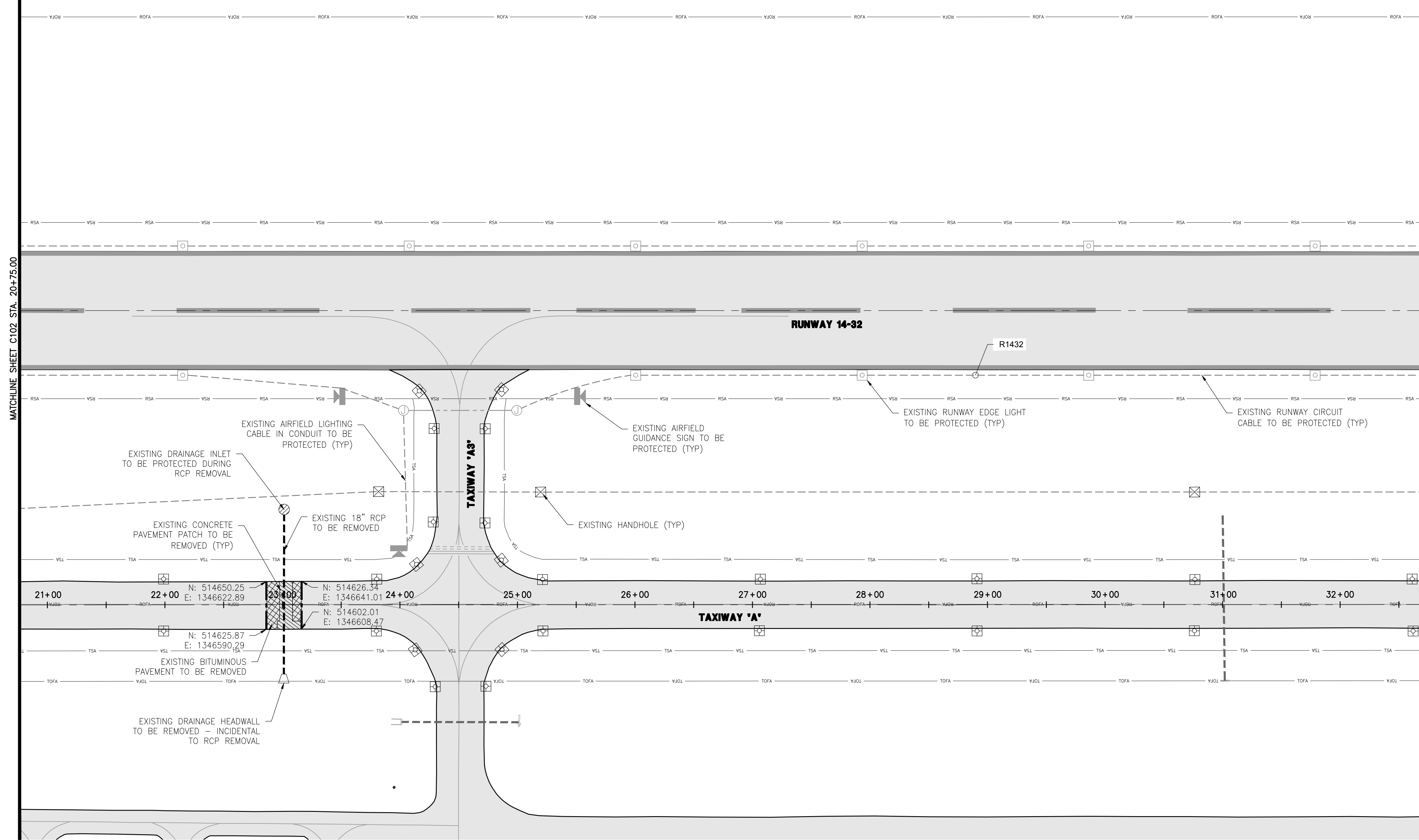
CONSULTANTS

**LEGEND**

- EXISTING AIRFIELD PAVEMENT TO BE PROTECTED
- ASPHALT PAVEMENT REMOVAL, FULL DEPTH
- CONCRETE PAVEMENT REMOVAL, FULL DEPTH
- EXISTING STORM PIPE TO BE PROTECTED
- EXISTING STORM PIPE TO BE REMOVED
- RUNWAY SAFETY AREA (RSA)
- RUNWAY OBJECT FREE AREA (ROFA)
- TAXIWAY SAFETY AREA (TSA)
- TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE SHEETS E101-E105
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- BITUMINOUS PAVEMENT SAWCUT - FULL DEPTH, INCIDENTAL TO PAVEMENT REMOVAL

MATCHLINE SHEET C102 STA. 20+75.00

MATCHLINE SHEET C104 STA. 42+75.00



**PROJECT DEMOLITION NOTES**

1. THE DESTIN EXECUTIVE AIRPORT RESERVES THE RIGHT TO SALVAGE ANY DEMOLISHED MATERIALS. THE CONTRACTOR SHALL COORDINATE THROUGH THE OWNER/ENGINEER TO DETERMINE ITEMS WHICH THE AIRPORT WILL MAINTAIN OWNERSHIP. THESE ITEMS SHALL BE PROTECTED AND PROVIDED TO THE OWNER AT A LOCATION TO BE DETERMINED. ANY ITEMS NOT BEING SALVAGED TO THE OWNER SHALL BE THE PROPERTY OF THE CONTRACTOR AND THEY SHALL BE RESPONSIBLE FOR DISPOSAL OFFSITE PER ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
2. THE CONTRACTOR SHALL FOLLOW ALL PHASING PLAN AND MAINTAIN FULL OPERATIONS TO ALL AIRPORT BUILDINGS, PARKING AND ROADWAYS UNLESS WRITTEN AUTHORIZATION HAS BEEN PROVIDED BY THE ENGINEER.
3. CONTRACTOR SHALL PROVIDE ALL REQUIRED WARNING SIGNAGE AND BARRICADES PER STATE AND LOCAL REGULATIONS ON PUBLIC ROADWAYS.
4. ALL REFUSE SHALL BE CLEARED FROM THE PROJECT SITE TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL DISPOSE OF REFUSE OFFSITE IN ACCORDANCE WITH ALL STATE AND LOCAL REQUIREMENTS.
5. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN THE NECESSARY LOCAL PERMITS THAT ARE REQUIRED.
6. THERE ARE EXISTING UNDERGROUND ELECTRICAL AND COMMUNICATIONS CABLES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. LOCATION OF EXISTING UTILITIES MAY BE DONE BY CALLING SUNSHINE STATE ONE CALL 811 TO NOTIFY LOCAL UTILITIES. THIS IS REQUIRED BY LAW.
7. THE CONTRACTOR SHALL PROTECT ALL EXISTING PAVEMENT TO REMAIN.
8. THE CONTRACTOR SHALL REPLACE ANY PAVEMENT TO REMAIN THAT IS DAMAGED BY THE CONTRACTOR TO THE NEAREST PAVEMENT DISTRESS AT NO ADDITIONAL COST TO THE OWNER.
9. UNLESS EXPLICITLY SHOWN TO REMOVE, RELOCATE, OR IN ANY OTHER WAY ALTER AN EXISTING STRUCTURE, IT SHALL BE ASSUMED THE STRUCTURE SHALL BE PROTECTED IN PLACE. CONFIRM ANY POTENTIAL DISCREPANCIES OR CONFLICTS WITH THE ENGINEER.

CALL 48 HOURS BEFORE YOU DIG

**811**

IT'S THE LAW! DIAL 811

Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: MRT  
 DRAWN BY: AGS  
 DESIGNED BY: MRT

AEP PROJECT NUMBER  
201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS, INC.

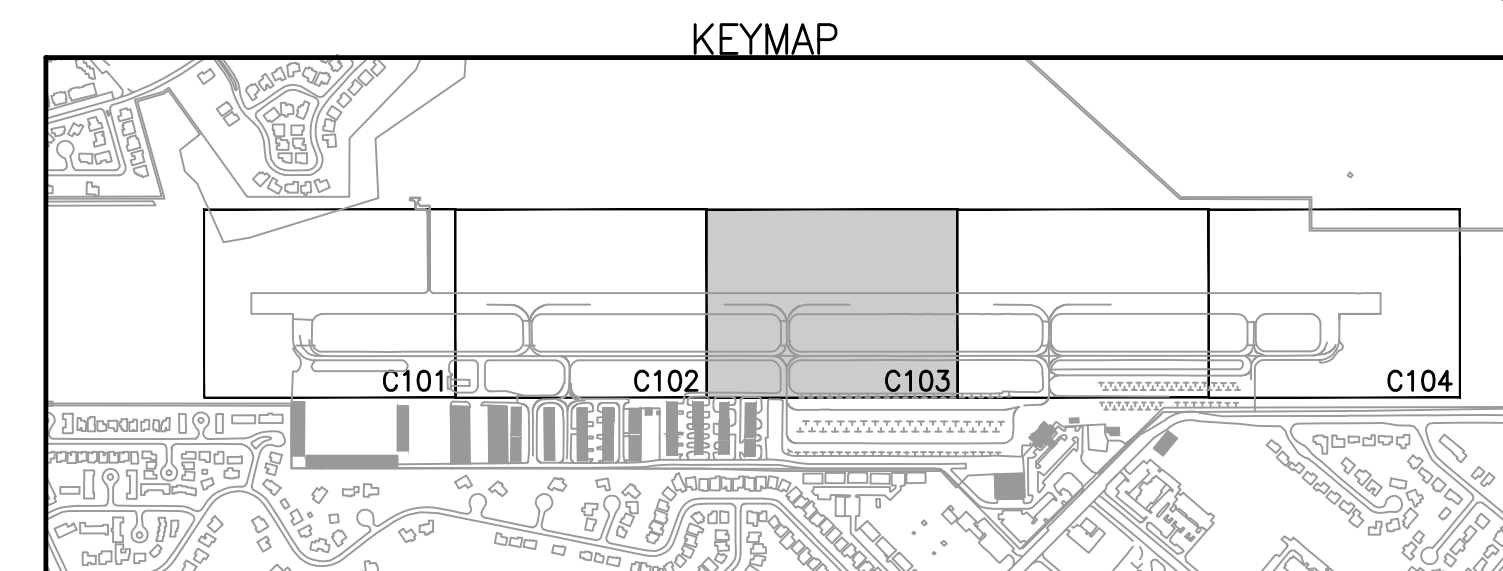
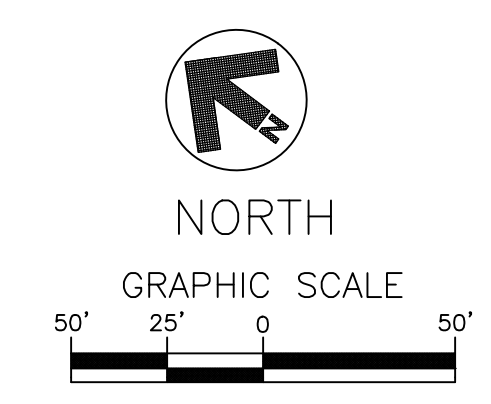
SHEET TITLE

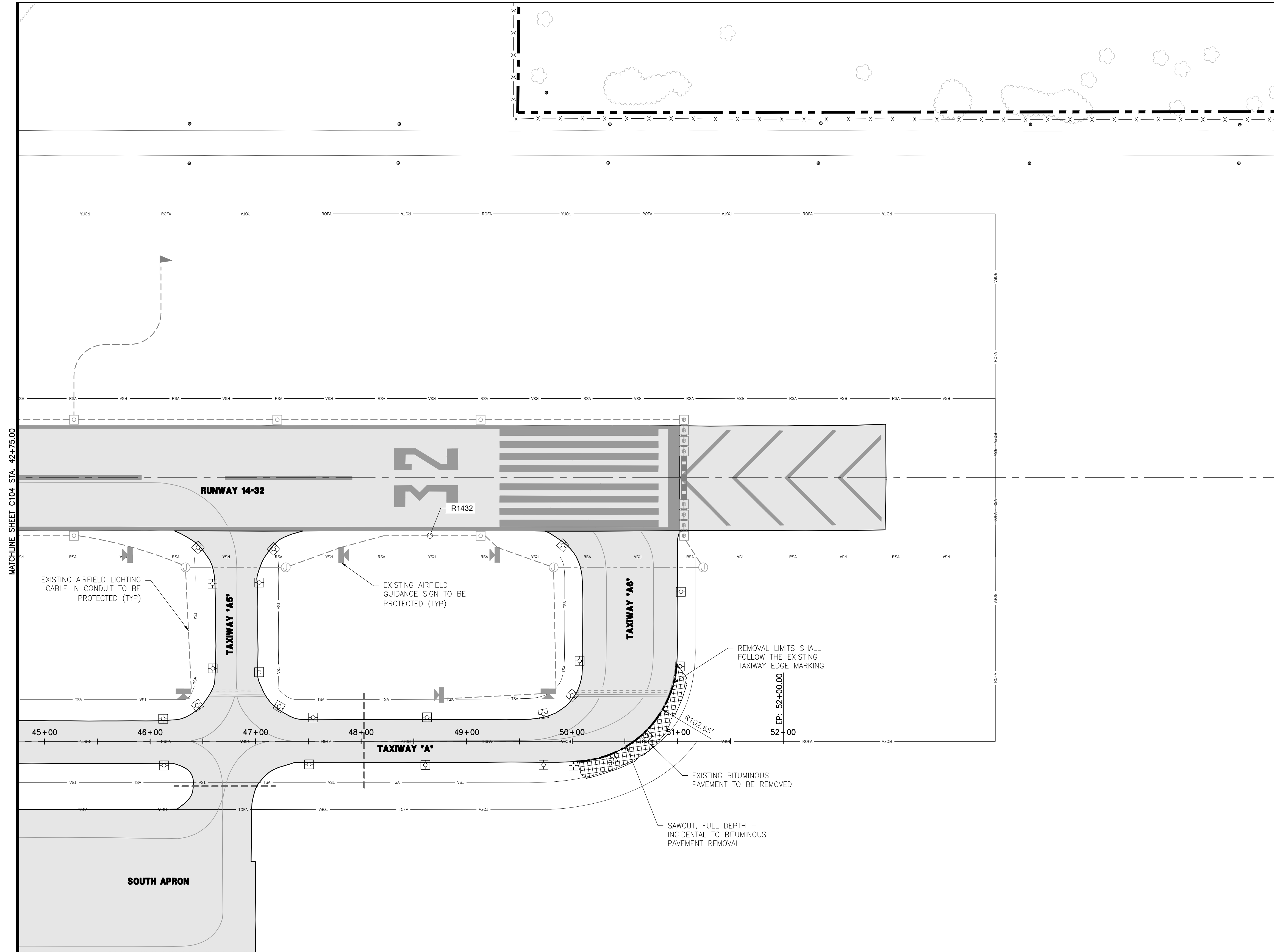
**DEMOLITION PLAN (SHEET 3 OF 4)**

SHEET NUMBER  
**C103**

**BID DOCUMENTS**

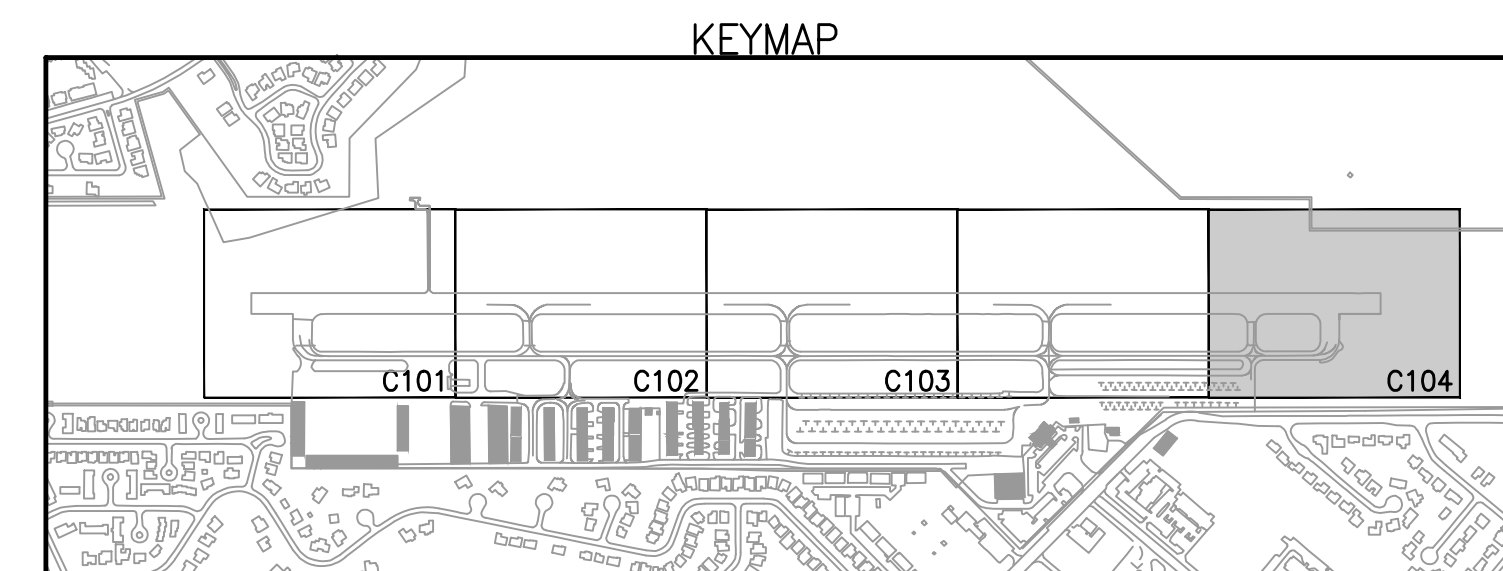
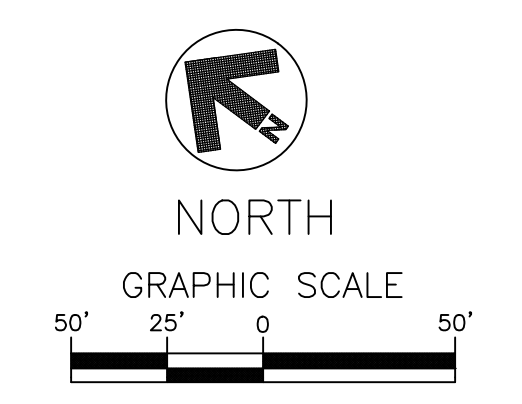
**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.





MATCHLINE SHEET C104 STA. 42+75.00

**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.



**LEGEND**

- EXISTING AIRFIELD PAVEMENT TO BE PROTECTED
- ASPHALT PAVEMENT REMOVAL, FULL DEPTH
- CONCRETE PAVEMENT REMOVAL, FULL DEPTH
- EXISTING STORM PIPE TO BE PROTECTED
- EXISTING STORM PIPE TO BE REMOVED
- RUNWAY SAFETY AREA (RSA)
- RUNWAY OBJECT FREE AREA (ROFA)
- TAXIWAY SAFETY AREA (TSA)
- TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE SHEETS E101-E105
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- BITUMINOUS PAVEMENT SAWCUT - FULL DEPTH, INCIDENTAL TO PAVEMENT REMOVAL

**PROJECT DEMOLITION NOTES**

1. THE DESTIN EXECUTIVE AIRPORT RESERVES THE RIGHT TO SALVAGE ANY DEMOLISHED MATERIALS. THE CONTRACTOR SHALL COORDINATE THROUGH THE OWNER/ENGINEER TO DETERMINE ITEMS WHICH THE AIRPORT WILL MAINTAIN OWNERSHIP. THESE ITEMS SHALL BE PROTECTED AND PROVIDED TO THE OWNER AT A LOCATION TO BE DETERMINED. ANY ITEMS NOT BEING SALVAGED TO THE OWNER SHALL BE THE PROPERTY OF THE CONTRACTOR AND THEY SHALL BE RESPONSIBLE FOR DISPOSAL OFFSITE PER ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
2. THE CONTRACTOR SHALL FOLLOW ALL PHASING PLAN AND MAINTAIN FULL OPERATIONS TO ALL AIRPORT BUILDINGS, PARKING AND ROADWAYS UNLESS WRITTEN AUTHORIZATION HAS BEEN PROVIDED BY THE ENGINEER.
3. CONTRACTOR SHALL PROVIDE ALL REQUIRED WARNING SIGNAGE AND BARRICADES PER STATE AND LOCAL REGULATIONS ON PUBLIC ROADWAYS.
4. ALL REFUSE SHALL BE CLEARED FROM THE PROJECT SITE TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL DISPOSE OF REFUSE OFFSITE IN ACCORDANCE WITH ALL STATE AND LOCAL REQUIREMENTS.
5. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN THE NECESSARY LOCAL PERMITS THAT ARE REQUIRED.
6. THERE ARE EXISTING UNDERGROUND ELECTRICAL AND COMMUNICATIONS CABLES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. LOCATION OF EXISTING UTILITIES MAY BE DONE BY CALLING SUNSHINE STATE ONE CALL 811 TO NOTIFY LOCAL UTILITIES. THIS IS REQUIRED BY LAW.
7. THE CONTRACTOR SHALL PROTECT ALL EXISTING PAVEMENT TO REMAIN.
8. THE CONTRACTOR SHALL REPLACE ANY PAVEMENT TO REMAIN THAT IS DAMAGED BY THE CONTRACTOR TO THE NEAREST PAVEMENT DISTRESS AT NO ADDITIONAL COST TO THE OWNER.
9. UNLESS EXPLICITLY SHOWN TO REMOVE, RELOCATE, OR IN ANY OTHER WAY ALTER AN EXISTING STRUCTURE, IT SHALL BE ASSUMED THE STRUCTURE SHALL BE PROTECTED IN PLACE. CONFIRM ANY POTENTIAL DISCREPANCIES OR CONFLICTS WITH THE ENGINEER.

**RS&H**  
 11 North Water Street, Suite 10290  
 Mobile, AL 36602  
 251-460-3233 FAX 904-256-2501  
 www.rsandh.com  
 FL Cert. Nos. AAC001886 \* B22600056 \*  
 EB0005620 \* LCC000210 \* GS238

**DESTIN EXECUTIVE AIRPORT**  
 GOLFMAN KELLEY FIELD  
 DESTIN, FLORIDA

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811  
 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**REVISIONS**

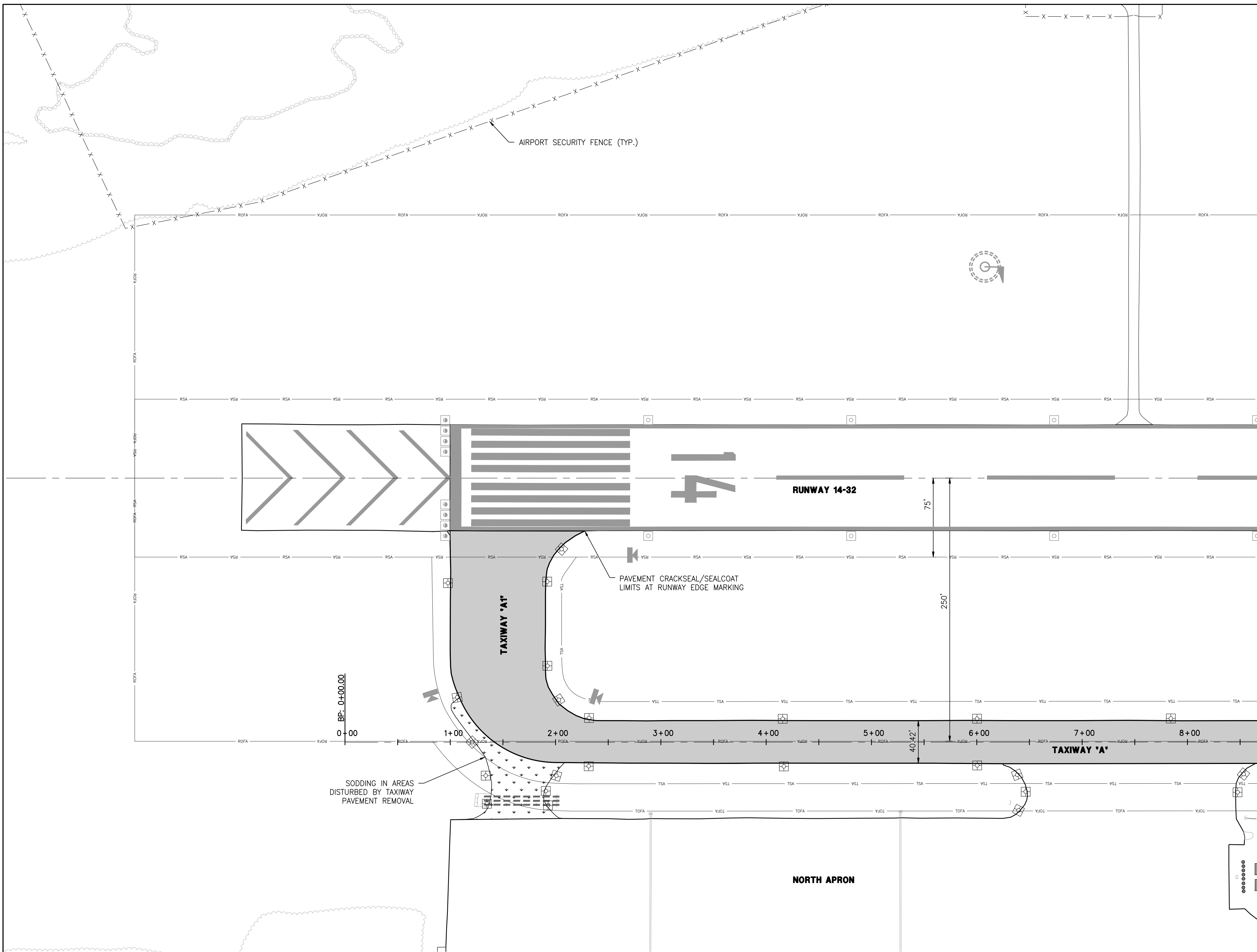
NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: MRT  
 DRAWN BY: AGS  
 DESIGNED BY: MRT  
 AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS, INC.  
 SHEET TITLE

**DEMOLITION PLAN (SHEET 4 OF 4)**

SHEET NUMBER  
**C104**  
 BID DOCUMENTS





### LEGEND

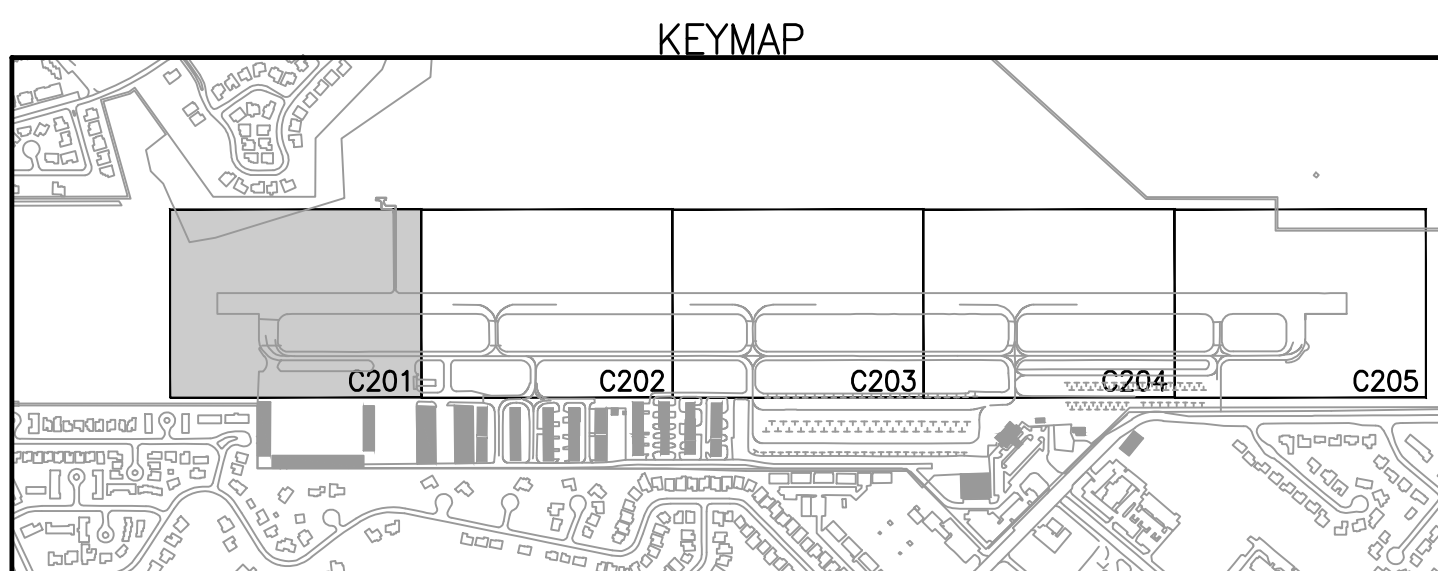
- LIMITS OF TAXIWAY CRACK-SEALING AND SEALCOAT TREATMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED SODDING
- EXISTING STORM PIPE TO BE PROTECTED
- PROPOSED 18" RCP
- RUNWAY SAFETY AREA (RSA)
- RUNWAY OBJECT FREE AREA (ROFA)
- TAXIWAY SAFETY AREA (TSA)
- TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE SHEETS E101-E105
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED DURING CRACKSEAL/SEALCOAT

MATCHLINE SHEET C202 STA. 84+75.00

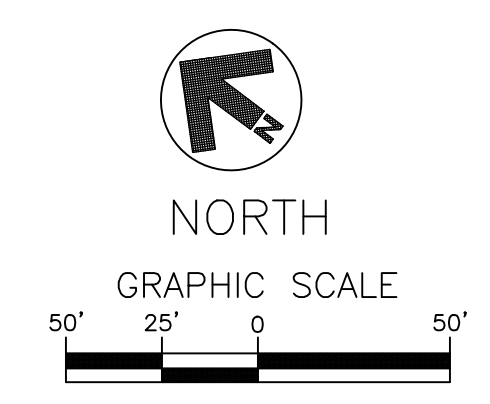
BP: 0+00.00

### PROJECT CONSTRUCTION NOTES

1. THE CONSTRUCTION CONSISTS OF THE FOLLOWING OPERATIONS:
  - 1.1. BITUMINOUS CRACK-SEALING OF EXISTING CRACKS GREATER THAN 1/8" WIDE ON TAXIWAY PAVEMENT WITH ASTM D6690 HOT POUR SEALANT.
  - 1.2. CLEANING AND PREPARATION OF TAXIWAY PAVEMENT FOR BITUMINOUS SEAL COAT TREATMENT.
  - 1.3. EXISTING PAVEMENT REMOVAL.
  - 1.4. REMOVAL AND REPLACEMENT OF EXISTING DRAINAGE
  - 1.5. CONCRETE PANEL REPLACEMENT.
  - 1.6. APPLICATION OF BITUMINOUS SEAL COAT ON ALL TAXIWAY A PAVEMENTS.
  - 1.7. INSTALLATION OF TEMPORARY TAXIWAY PAVEMENT MARKINGS. SEE SHEETS C701-C705.
  - 1.8. INSTALLATION OF PERMANENT TAXIWAY PAVEMENT MARKINGS AFTER 30 CALENDAR DAYS FROM FINAL SEAL COAT PLACEMENT. SEE SHEETS C701-C705
2. AS SHOWN BY THE HATCHED AREA ON THIS PLAN SHEET, THE LIMITS OF THE PAVEMENT CRACK-SEALING, SEAL COAT APPLICATION, AND NEW PAVEMENT MARKINGS IS THE PARALLEL TAXIWAY A AND RUNWAY/APRON CONNECTORS.
3. THE CONTRACTOR SHALL ACCURATELY DOCUMENT THE LOCATION OF ALL EXISTING TAXIWAY PAVEMENT MARKINGS PRIOR TO THE INSTALLATION OF THE PROPOSED BITUMINOUS SEAL COAT TO ENSURE NEW PAVEMENT MARKINGS ARE INSTALLED IN THE SAME LOCATION AS THE EXISTING MARKINGS.



**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.



11 North Water Street, Suite 10290  
 Mobile, AL 36602  
 251-460-3233 FAX 904-256-2501  
 www.rsandh.com

FL Cert. Nos. AAC001886 \* B22600056 \*  
 EB0005620 \* LCC000210 \* GS238

**DESTIN EXECUTIVE AIRPORT**  
 DESTIN, FLORIDA

### TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811  
 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

### REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: MRT  
 DRAWN BY: AGS  
 DESIGNED BY: MRT  
 AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS, INC.  
 SHEET TITLE

### PAVEMENT REHABILITATION PLAN (SHEET 1 OF 5)

SHEET NUMBER  
**C201**  
 BID DOCUMENTS







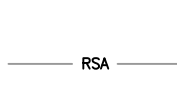








**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

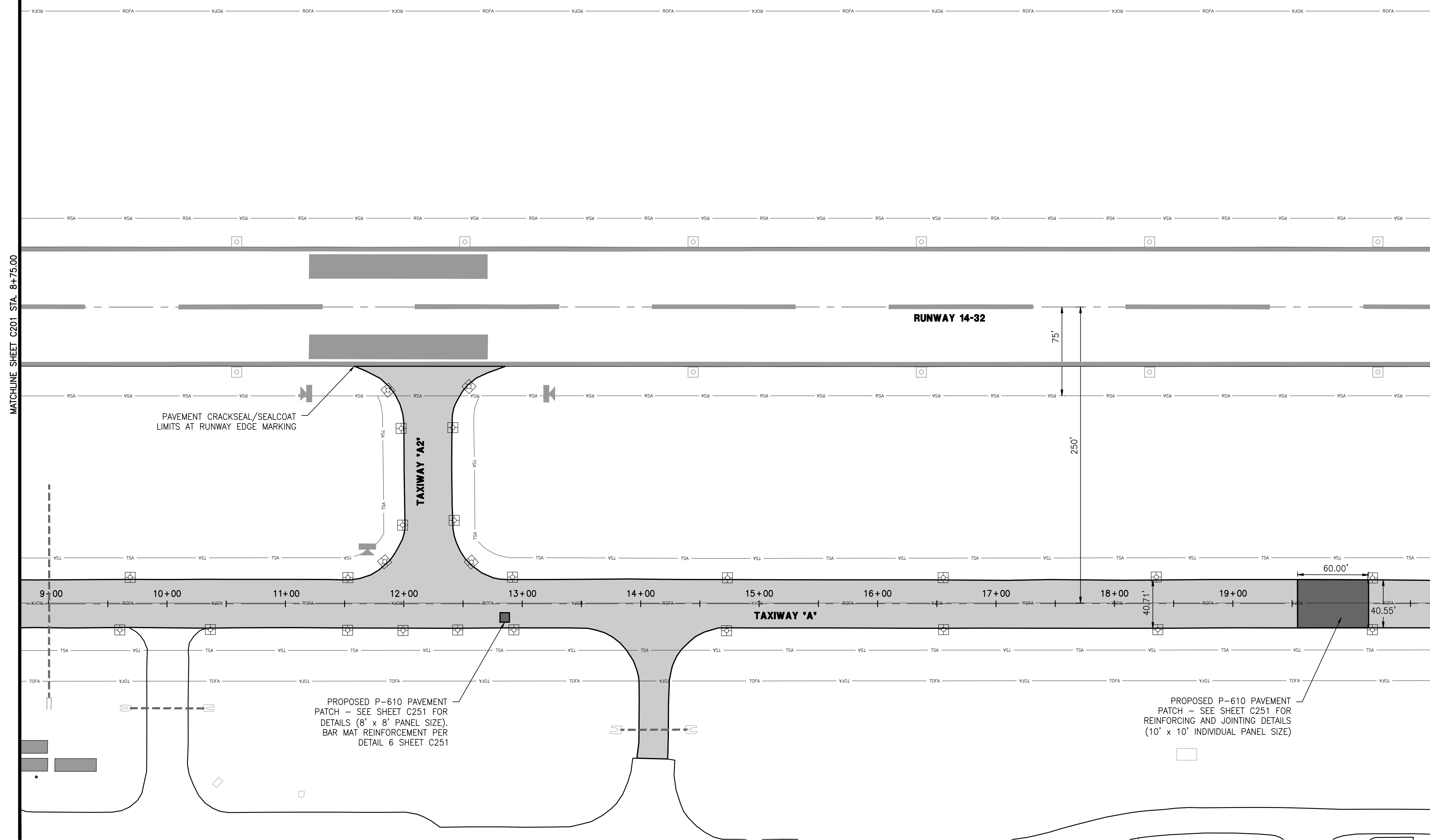
CONSULTANTS

**LEGEND**

-  LIMITS OF TAXIWAY CRACK-SEALING AND SEALCOAT TREATMENT
-  PROPOSED CONCRETE PAVEMENT
-  PROPOSED SODDING
-  EXISTING STORM PIPE TO BE PROTECTED
-  PROPOSED 18" RCP
-  RUNWAY SAFETY AREA (RSA)
-  RUNWAY OBJECT FREE AREA (ROFA)
-  TAXIWAY SAFETY AREA (TSA)
-  TAXIWAY OBJECT FREE AREA (TOFA)
-  EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
-  EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
-  EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE SHEETS E101-E105
-  EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED DURING CRACKSEAL/SEALCOAT

MATCHLINE SHEET C201 STA. 8+75.00

MATCHLINE SHEET C203 STA. 20+75.00

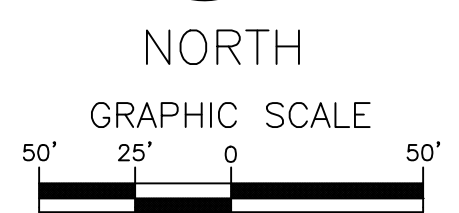
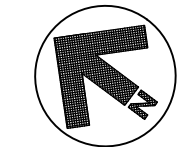
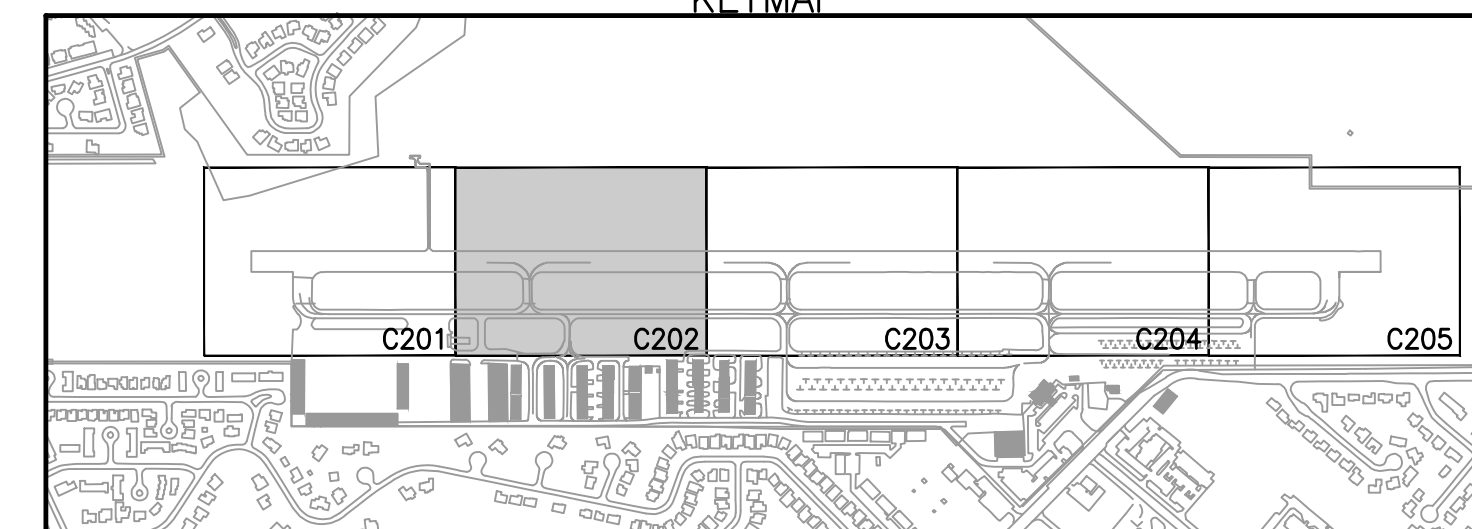


PAVEMENT CRACKSEAL/SEALCOAT LIMITS AT RUNWAY EDGE MARKING

PROPOSED P-610 PAVEMENT PATCH - SEE SHEET C251 FOR DETAILS (8' x 8' PANEL SIZE). BAR MAT REINFORCEMENT PER DETAIL 6 SHEET C251

PROPOSED P-610 PAVEMENT PATCH - SEE SHEET C251 FOR REINFORCING AND JOINTING DETAILS (10' x 10' INDIVIDUAL PANEL SIZE)

**KEYMAP**




**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.

**PROJECT CONSTRUCTION NOTES**

1. THE CONSTRUCTION CONSISTS OF THE FOLLOWING OPERATIONS:
  - 1.1. BITUMINOUS CRACK-SEALING OF EXISTING CRACKS GREATER THAN 1/8" WIDE ON TAXIWAY PAVEMENT WITH ASTM D6690 HOT POUR SEALANT.
  - 1.2. CLEANING AND PREPARATION OF TAXIWAY PAVEMENT FOR BITUMINOUS SEAL COAT TREATMENT.
  - 1.3. EXISTING PAVEMENT REMOVAL.
  - 1.4. REMOVAL AND REPLACEMENT OF EXISTING DRAINAGE
  - 1.5. CONCRETE PANEL REPLACEMENT.
  - 1.6. APPLICATION OF BITUMINOUS SEAL COAT ON ALL TAXIWAY A PAVEMENTS.
  - 1.7. INSTALLATION OF TEMPORARY TAXIWAY PAVEMENT MARKINGS. SEE SHEETS C701-C705.
  - 1.8. INSTALLATION OF PERMANENT TAXIWAY PAVEMENT MARKINGS AFTER 30 CALENDAR DAYS FROM FINAL SEAL COAT PLACEMENT. SEE SHEETS C701-C705
2. AS SHOWN BY THE HATCHED AREA ON THIS PLAN SHEET, THE LIMITS OF THE PAVEMENT CRACK-SEALING, SEAL COAT APPLICATION, AND NEW PAVEMENT MARKINGS IS THE PARALLEL TAXIWAY A AND RUNWAY/APRON CONNECTORS.
3. THE CONTRACTOR SHALL ACCURATELY DOCUMENT THE LOCATION OF ALL EXISTING TAXIWAY PAVEMENT MARKINGS PRIOR TO THE INSTALLATION OF THE PROPOSED BITUMINOUS SEAL COAT TO ENSURE NEW PAVEMENT MARKINGS ARE INSTALLED IN THE SAME LOCATION AS THE EXISTING MARKINGS.

CALL 48 HOURS BEFORE YOU DIG



IT'S THE LAW!  
 DIAL 811

Know what's below.  
 Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: **MRT**  
 DRAWN BY: **AGS**  
 DESIGNED BY: **MRT**  
 AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS, INC.  
 SHEET TITLE

**PAVEMENT REHABILITATION PLAN (SHEET 2 OF 5)**

SHEET NUMBER  
**C202**

**BID DOCUMENTS**



**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

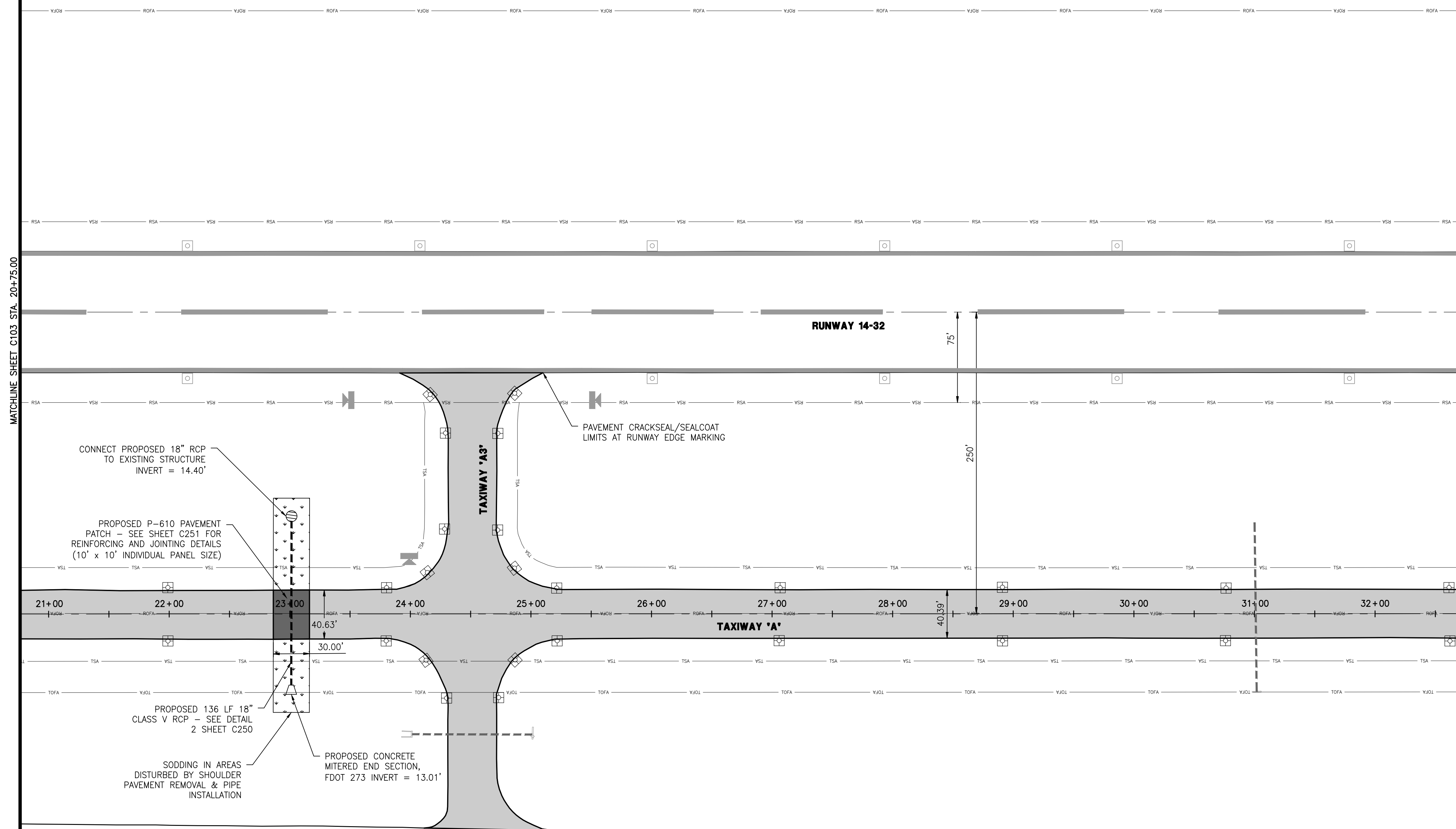
CONSULTANTS

**LEGEND**

- LIMITS OF TAXIWAY CRACK-SEALING AND SEALCOAT TREATMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED SODDING
- EXISTING STORM PIPE TO BE PROTECTED
- PROPOSED 18" RCP
- RUNWAY SAFETY AREA (RSA)
- RUNWAY OBJECT FREE AREA (ROFA)
- TAXIWAY SAFETY AREA (TSA)
- TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE SHEETS E101-E105
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED DURING CRACKSEAL/SEALCOAT

MATCHLINE SHEET C103 STA. 20+75.00

MATCHLINE SHEET C204 STA. 32+75.00



**PROJECT CONSTRUCTION NOTES**

1. THE CONSTRUCTION CONSISTS OF THE FOLLOWING OPERATIONS:
  - 1.1. BITUMINOUS CRACK-SEALING OF EXISTING CRACKS GREATER THAN 1/8" WIDE ON TAXIWAY PAVEMENT WITH ASTM D6690 HOT POUR SEALANT.
  - 1.2. CLEANING AND PREPARATION OF TAXIWAY PAVEMENT FOR BITUMINOUS SEAL COAT TREATMENT.
  - 1.3. EXISTING PAVEMENT REMOVAL.
  - 1.4. REMOVAL AND REPLACEMENT OF EXISTING DRAINAGE
  - 1.5. CONCRETE PANEL REPLACEMENT.
  - 1.6. APPLICATION OF BITUMINOUS SEAL COAT ON ALL TAXIWAY A PAVEMENTS.
  - 1.7. INSTALLATION OF TEMPORARY TAXIWAY PAVEMENT MARKINGS. SEE SHEETS C701-C705.
  - 1.8. INSTALLATION OF PERMANENT TAXIWAY PAVEMENT MARKINGS AFTER 30 CALENDAR DAYS FROM FINAL SEAL COAT PLACEMENT. SEE SHEETS C701-C705
2. AS SHOWN BY THE HATCHED AREA ON THIS PLAN SHEET, THE LIMITS OF THE PAVEMENT CRACK-SEALING, SEAL COAT APPLICATION, AND NEW PAVEMENT MARKINGS IS THE PARALLEL TAXIWAY A AND RUNWAY/APRON CONNECTORS.
3. THE CONTRACTOR SHALL ACCURATELY DOCUMENT THE LOCATION OF ALL EXISTING TAXIWAY PAVEMENT MARKINGS PRIOR TO THE INSTALLATION OF THE PROPOSED BITUMINOUS SEAL COAT TO ENSURE NEW PAVEMENT MARKINGS ARE INSTALLED IN THE SAME LOCATION AS THE EXISTING MARKINGS.

CALL 48 HOURS BEFORE YOU DIG  
IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.  
SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

REVISIONS

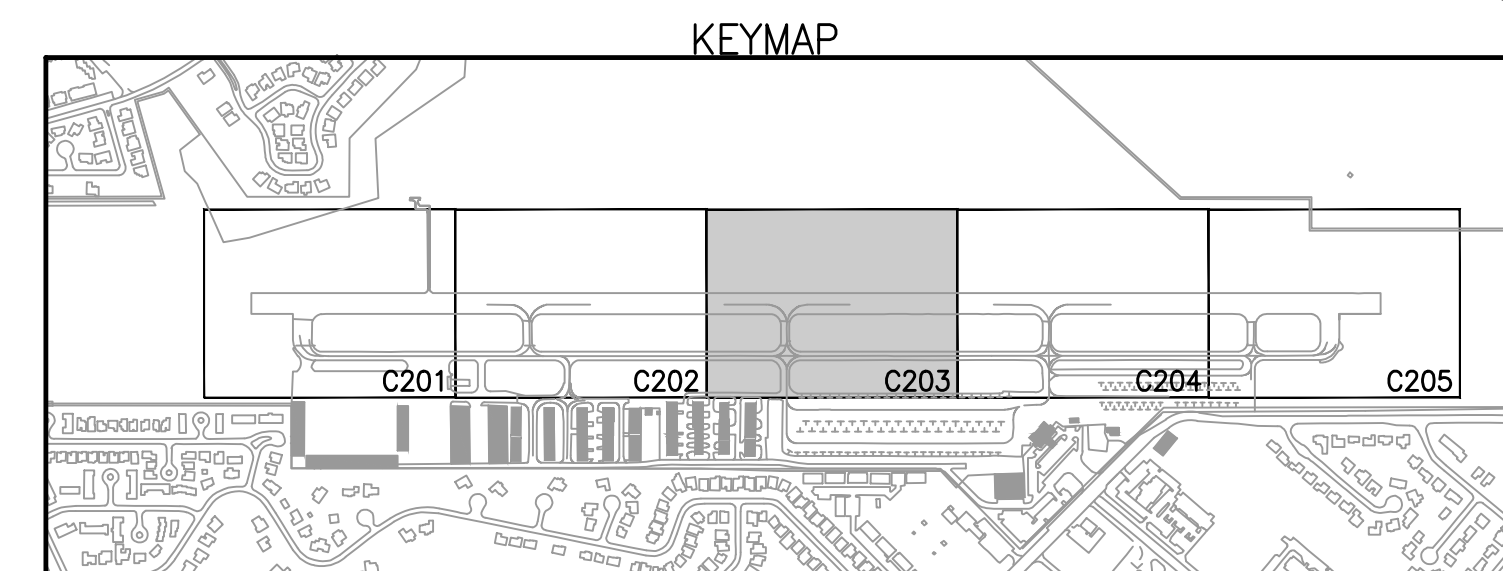
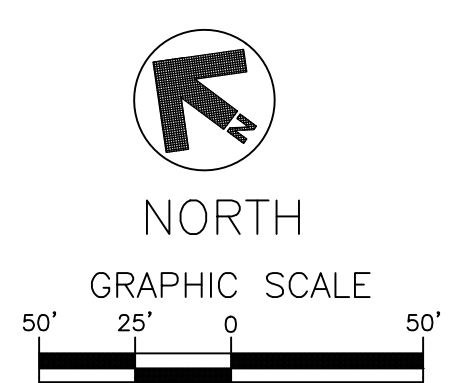
NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
REVIEWED BY: MRT  
DRAWN BY: AGS  
DESIGNED BY: MRT  
AEP PROJECT NUMBER 201-0251-012  
© 2019 REYNOLDS, SMITH AND HILLS, INC.  
SHEET TITLE

**PAVEMENT REHABILITATION PLAN (SHEET 3 OF 5)**

SHEET NUMBER  
**C203**  
BID DOCUMENTS

**WARNING!!!**  
THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.





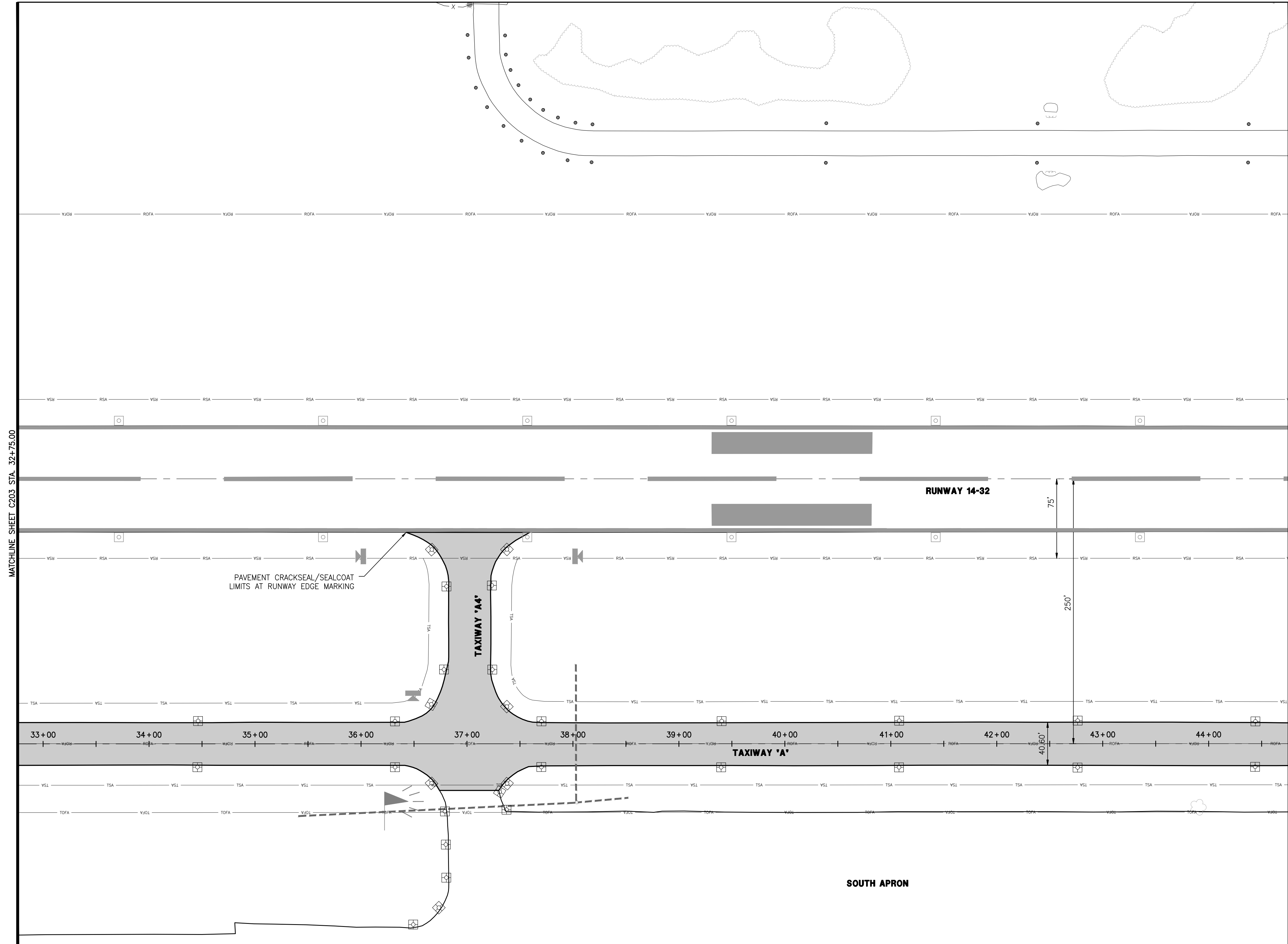
**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

**CONSULTANTS**

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811  
 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**LEGEND**

- LIMITS OF TAXIWAY CRACK-SEALING AND SEALCOAT TREATMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED SODDING
- EXISTING STORM PIPE TO BE PROTECTED
- PROPOSED 18" RCP
- RUNWAY SAFETY AREA (RSA)
- RUNWAY OBJECT FREE AREA (ROFA)
- TAXIWAY SAFETY AREA (TSA)
- TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
- EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE SHEETS E101-E105
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED DURING CRACKSEAL/SEALCOAT



MATCHLINE SHEET C203 STA. 32+75.00

MATCHLINE SHEET C205 STA. 44+75.00

**PROJECT CONSTRUCTION NOTES**

1. THE CONSTRUCTION CONSISTS OF THE FOLLOWING OPERATIONS:
  - 1.1. BITUMINOUS CRACK-SEALING OF EXISTING CRACKS GREATER THAN 1/8" WIDE ON TAXIWAY PAVEMENT WITH ASTM D6690 HOT POUR SEALANT.
  - 1.2. CLEANING AND PREPARATION OF TAXIWAY PAVEMENT FOR BITUMINOUS SEAL COAT TREATMENT.
  - 1.3. EXISTING PAVEMENT REMOVAL.
  - 1.4. REMOVAL AND REPLACEMENT OF EXISTING DRAINAGE
  - 1.5. CONCRETE PANEL REPLACEMENT.
  - 1.6. APPLICATION OF BITUMINOUS SEAL COAT ON ALL TAXIWAY A PAVEMENTS.
  - 1.7. INSTALLATION OF TEMPORARY TAXIWAY PAVEMENT MARKINGS. SEE SHEETS C701-C705.
  - 1.8. INSTALLATION OF PERMANENT TAXIWAY PAVEMENT MARKINGS AFTER 30 CALENDAR DAYS FROM FINAL SEAL COAT PLACEMENT. SEE SHEETS C701-C705
2. AS SHOWN BY THE HATCHED AREA ON THIS PLAN SHEET, THE LIMITS OF THE PAVEMENT CRACK-SEALING, SEAL COAT APPLICATION, AND NEW PAVEMENT MARKINGS IS THE PARALLEL TAXIWAY A AND RUNWAY/APRON CONNECTORS.
3. THE CONTRACTOR SHALL ACCURATELY DOCUMENT THE LOCATION OF ALL EXISTING TAXIWAY PAVEMENT MARKINGS PRIOR TO THE INSTALLATION OF THE PROPOSED BITUMINOUS SEAL COAT TO ENSURE NEW PAVEMENT MARKINGS ARE INSTALLED IN THE SAME LOCATION AS THE EXISTING MARKINGS.

**REVISIONS**

NO.	DESCRIPTION	DATE

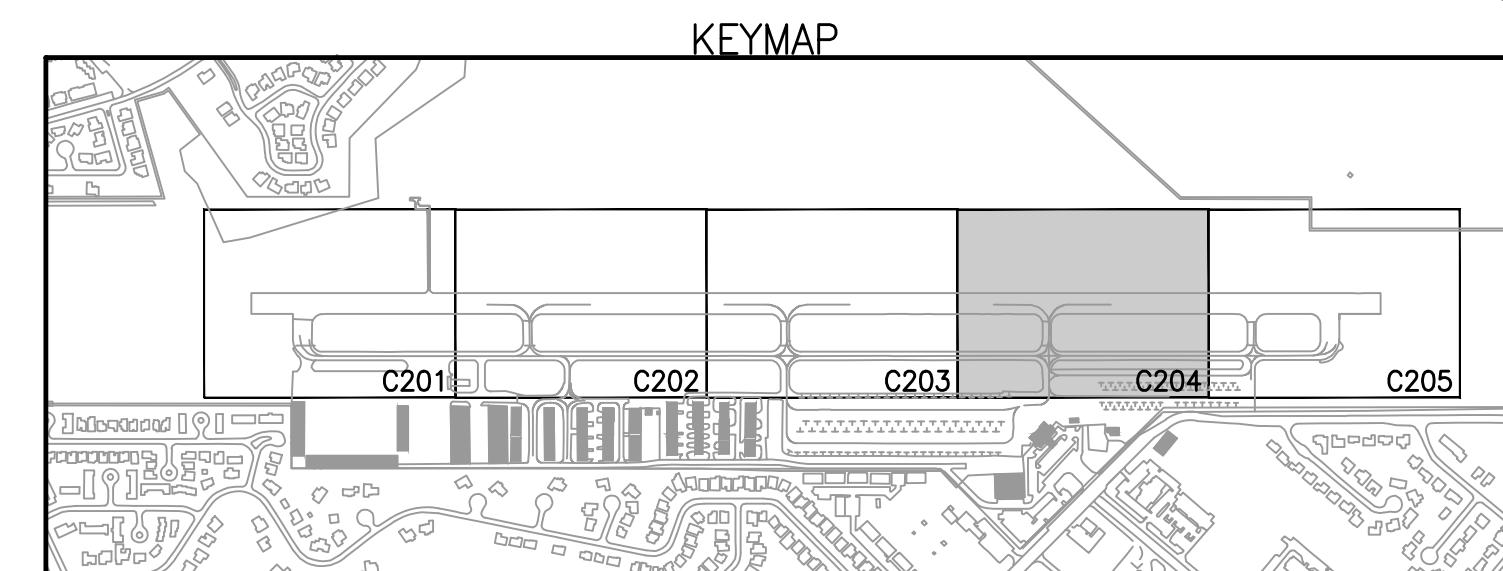
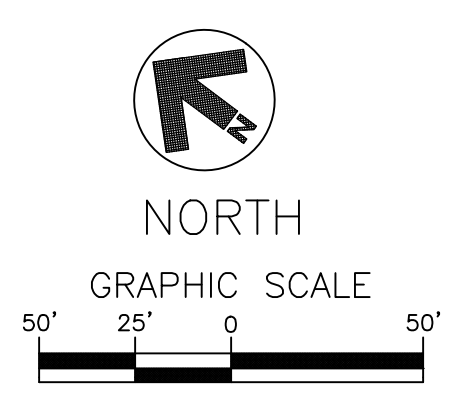
DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: **MRT**  
 DRAWN BY: **AGS**  
 DESIGNED BY: **MRT**  
 AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS, INC.  
 SHEET TITLE

**PAVEMENT REHABILITATION PLAN (SHEET 4 OF 5)**

SHEET NUMBER  
**C204**

**BID DOCUMENTS**

**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.





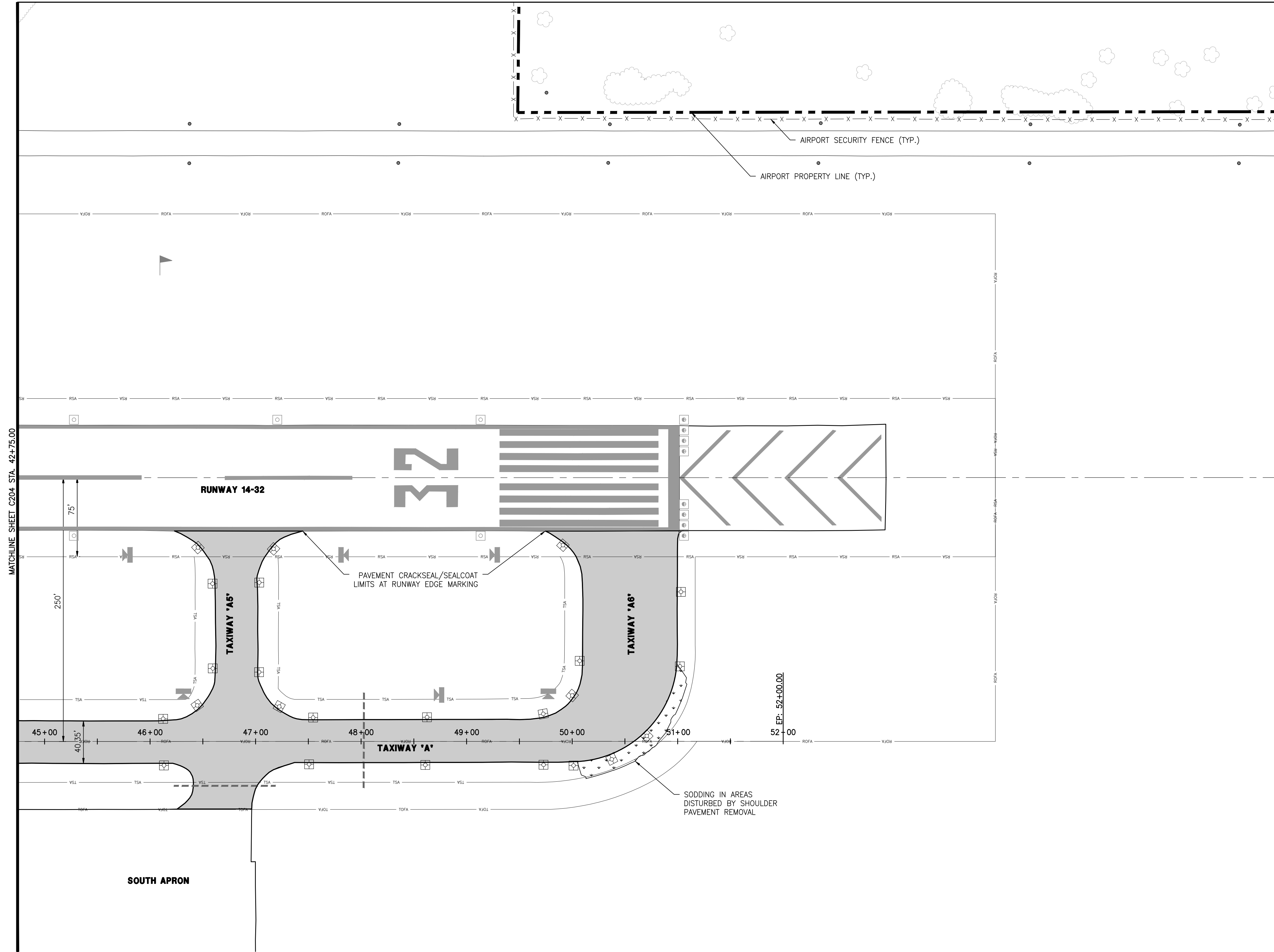
**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

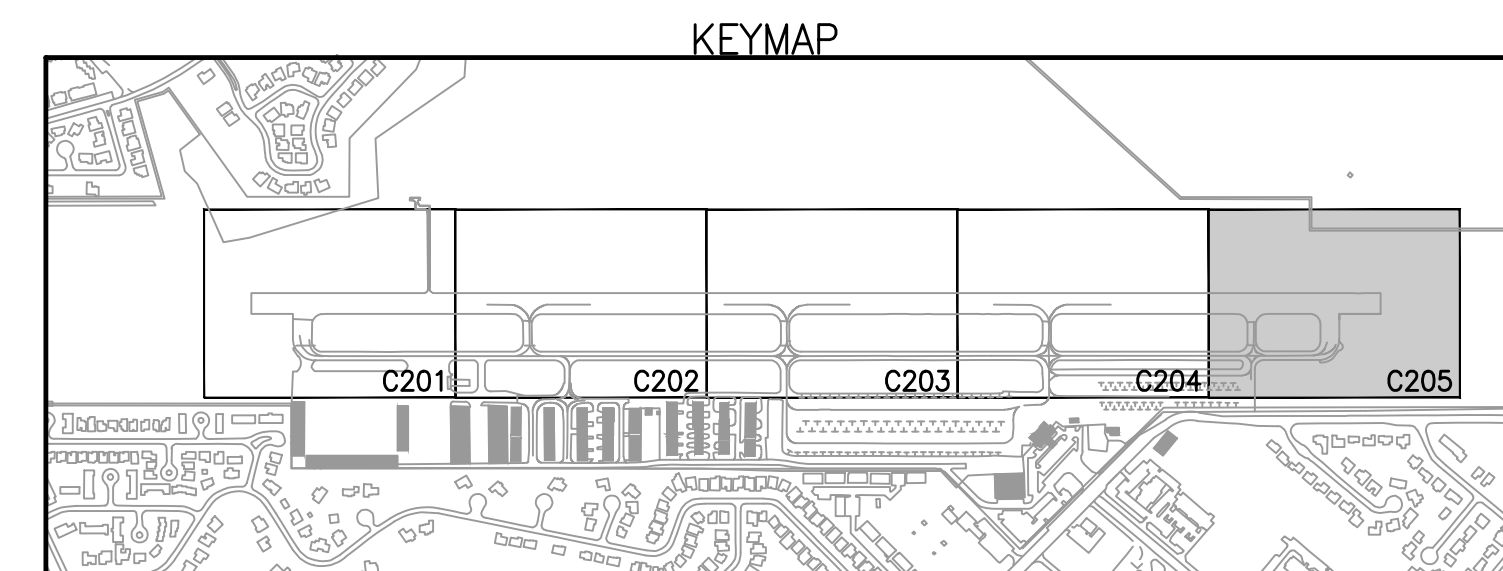
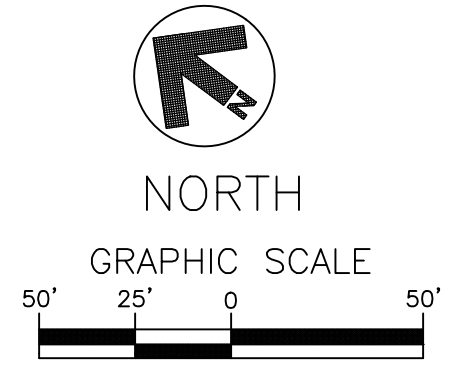
- LEGEND**
- LIMITS OF TAXIWAY CRACK-SEALING AND SEALCOAT TREATMENT
  - PROPOSED CONCRETE PAVEMENT
  - PROPOSED SODDING
  - EXISTING STORM PIPE TO BE PROTECTED
  - PROPOSED 18" RCP
  - RUNWAY SAFETY AREA (RSA)
  - RUNWAY OBJECT FREE AREA (ROFA)
  - TAXIWAY SAFETY AREA (TSA)
  - TAXIWAY OBJECT FREE AREA (TOFA)
  - EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
  - EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED DURING CRACKSEAL/SEALCOAT
  - EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE SHEETS E101-E105
  - EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED DURING CRACKSEAL/SEALCOAT



MATCHLINE SHEET C204 STA. 42+75.00

E.P. 52+00.00

**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.



**PROJECT CONSTRUCTION NOTES**

1. THE CONSTRUCTION CONSISTS OF THE FOLLOWING OPERATIONS:
  - 1.1. BITUMINOUS CRACK-SEALING OF EXISTING CRACKS GREATER THAN 1/8" WIDE ON TAXIWAY PAVEMENT WITH ASTM D6690 HOT POUR SEALANT.
  - 1.2. CLEANING AND PREPARATION OF TAXIWAY PAVEMENT FOR BITUMINOUS SEAL COAT TREATMENT.
  - 1.3. EXISTING PAVEMENT REMOVAL.
  - 1.4. REMOVAL AND REPLACEMENT OF EXISTING DRAINAGE
  - 1.5. CONCRETE PANEL REPLACEMENT.
  - 1.6. APPLICATION OF BITUMINOUS SEAL COAT ON ALL TAXIWAY A PAVEMENTS.
  - 1.7. INSTALLATION OF TEMPORARY TAXIWAY PAVEMENT MARKINGS. SEE SHEETS C701-C705.
  - 1.8. INSTALLATION OF PERMANENT TAXIWAY PAVEMENT MARKINGS AFTER 30 CALENDAR DAYS FROM FINAL SEAL COAT PLACEMENT. SEE SHEETS C701-C705
2. AS SHOWN BY THE HATCHED AREA ON THIS PLAN SHEET, THE LIMITS OF THE PAVEMENT CRACK-SEALING, SEAL COAT APPLICATION, AND NEW PAVEMENT MARKINGS IS THE PARALLEL TAXIWAY A AND RUNWAY/APRON CONNECTORS.
3. THE CONTRACTOR SHALL ACCURATELY DOCUMENT THE LOCATION OF ALL EXISTING TAXIWAY PAVEMENT MARKINGS PRIOR TO THE INSTALLATION OF THE PROPOSED BITUMINOUS SEAL COAT TO ENSURE NEW PAVEMENT MARKINGS ARE INSTALLED IN THE SAME LOCATION AS THE EXISTING MARKINGS.

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811  
 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: MRT  
 DRAWN BY: AGS  
 DESIGNED BY: MRT  
 AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS, INC.  
 SHEET TITLE

**PAVEMENT REHABILITATION PLAN (SHEET 5 OF 5)**

SHEET NUMBER  
**C205**  
 BID DOCUMENTS

**GENERAL NOTES:**

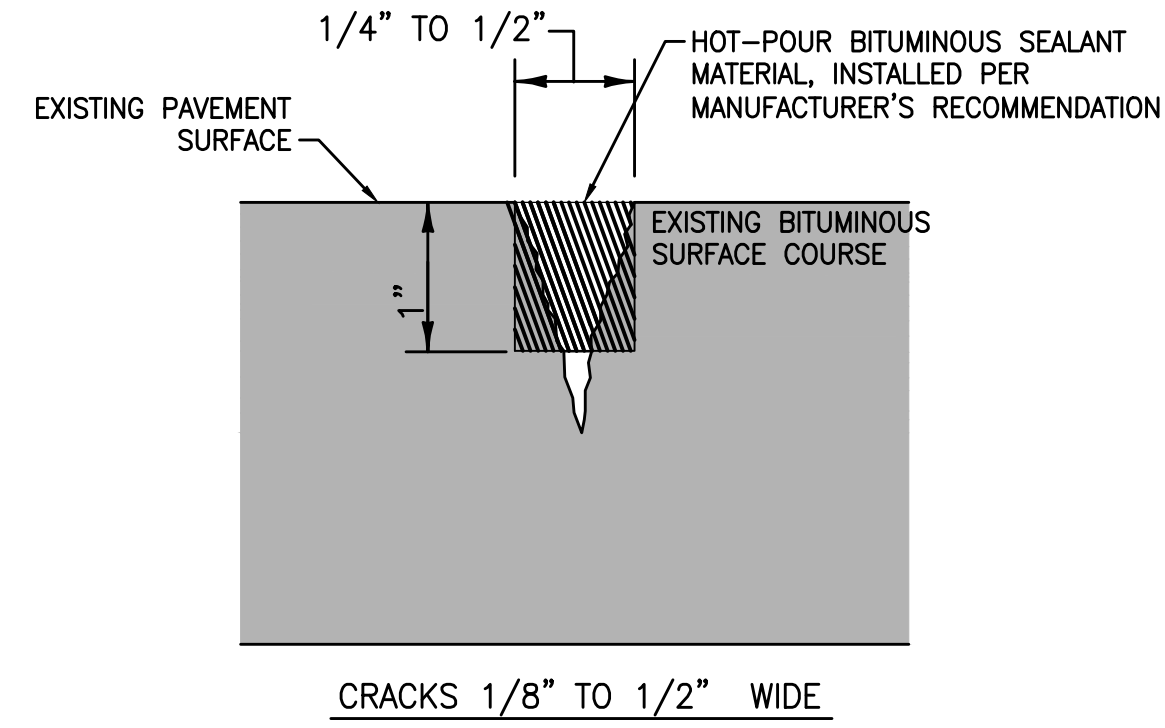
1. CONTRACTOR SHALL ROUTE AND SEAL ALL LONGITUDINAL AND TRANSVERSE CRACKS THAT ARE GREATER THAN 1/4" WIDE WITHIN THE REHABILITATION LIMITS SHOWN ON SHEET C201 - C205 AND WHICH ARE DEEMED NECESSARY BY THE AIRPORT. BEFORE THE START OF THE CONSTRUCTION PHASE, THE CONTRACTOR AND THE AIRPORT SHALL IDENTIFY AND MARK ALL CRACKS FOR REPAIR. SEE CRACK SEALING NOTES ON THIS SHEETS.

**CRACK SEALING NOTES:**

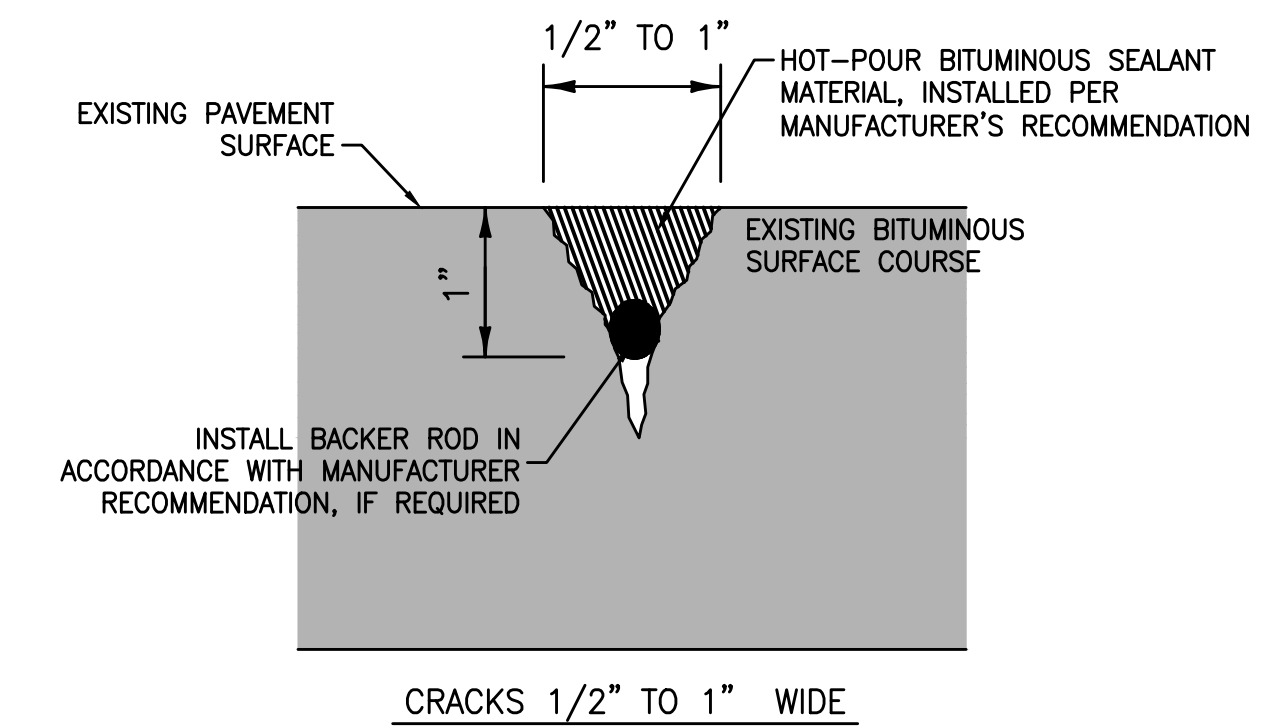
1. REMOVE ALL VEGETATION FROM ALL CRACKS AND TREAT WITH AN APPROVED HERBICIDE PRIOR TO SEALING. HERBICIDE SHALL BE APPLIED ONLY IN JOINTS WHERE VEGETATION IS PRESENT AND SHALL BE APPLIED A MINIMUM OF 24 HOURS IN ADVANCE OF JOINT SEALANT APPLICATION AND SHALL BE COMPLETELY DRY PRIOR TO SEALING. HERBICIDE SHALL BE COMPATIBLE WITH JOINT SEALANT MATERIAL. HEAT LANCE MAY BE USED TO REMOVE VEGETATION, PRIOR TO CRACK SEALING.
2. CONTRACTOR SHALL ROUTE OUT A SEALANT RESERVOIR FOR ALL CRACKS AT THE PAVEMENT SURFACE.
3. RESERVOIR DIMENSIONS SHALL BE PER THE MANUFACTURERS RECOMMENDATIONS, AND NO SHALLOWER THAN 3/4" DEEP.
4. CRACKS SHALL BE THOROUGHLY CLEANED USING HIGH PRESSURE, DRY AND OIL FREE COMPRESSED AIR (90+ PSI, OR AS SPECIFIED BY THE MANUFACTURER, WHICHEVER IS GREATER) IMMEDIATELY PRIOR TO PRODUCT INSTALLATION AND AFTER ALL WIDENING AND DEBRIS HAVE BEEN REMOVED.
5. EXISTING CRACKS GREATER THAN 1/2" ARE NOT ANTICIPATED ON THIS PROJECT. DETAIL IS PROVIDED IN THE EVENT WIDER CRACKS ARE OBSERVED PRIOR TO CONSTRUCTION.

**PAVEMENT SEAL COAT NOTES:**

1. BITUMINOUS SEAL COAT SHALL BE INSTALLED AFTER CRACK SEAL MATERIAL HAS FULLY CURED AND PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
2. ALL PAINT MARKINGS SHALL BE THOROUGHLY CLEANED USING POWER BROOM AND/OR VACUUM TRUCK IMMEDIATELY PRIOR TO THE INSTALLATION OF THE SEAL COAT TREATMENT.
3. PAVEMENT SHALL BE CAREFULLY CLEANED AND PREPARED FOR THE SEAL COAT TREATMENT PER THE MANUFACTURER REQUIREMENTS. THIS SHALL INCLUDE THE REMOVAL OF DUST, DIRT, VEGETATION, AND OTHER LOOSE DEBRIS FROM THE PAVEMENT SURFACE.
4. PAVEMENT CLEANING SHALL BE POWER BROOMING AND AIR BLASTING, VACUUM TRUCK OR OTHER APPROVED METHODS.
5. ANY EXCESS JOINT REPAIR MATERIAL, INCLUDING SURFACE OVERFILL, LEFT FROM THE CRACK REPAIR OPERATION SHALL BE REMOVED BEFORE APPLYING SEALCOAT.
6. CONTRACTOR TO EXERCISE CARE TO NOT GET SEAL COAT TREATMENT ON ADJACENT LIGHTING, EXPOSED DUCTS, AND CONCRETE FOUNDATIONS. THE COST OF PROTECTING ITEMS AGAINST SEAL COAT OVERSPRAY SHALL BE CONSIDERED INCIDENTAL TO THE SEAL COAT PAY ITEM (P-608-8.1).
7. ALL COSTS ASSOCIATED WITH THE PAVEMENT PREPARATION INCLUDING CLEANING, HERBICIDE APPLICATION, OR EXCESS CRACK SEAL OVERFILL REMOVED SHALL BE INCLUDED IN THE PAVEMENT SEAL COAT PAY ITEM, P-608-8.1.



CRACKS 1/8" TO 1/2" WIDE

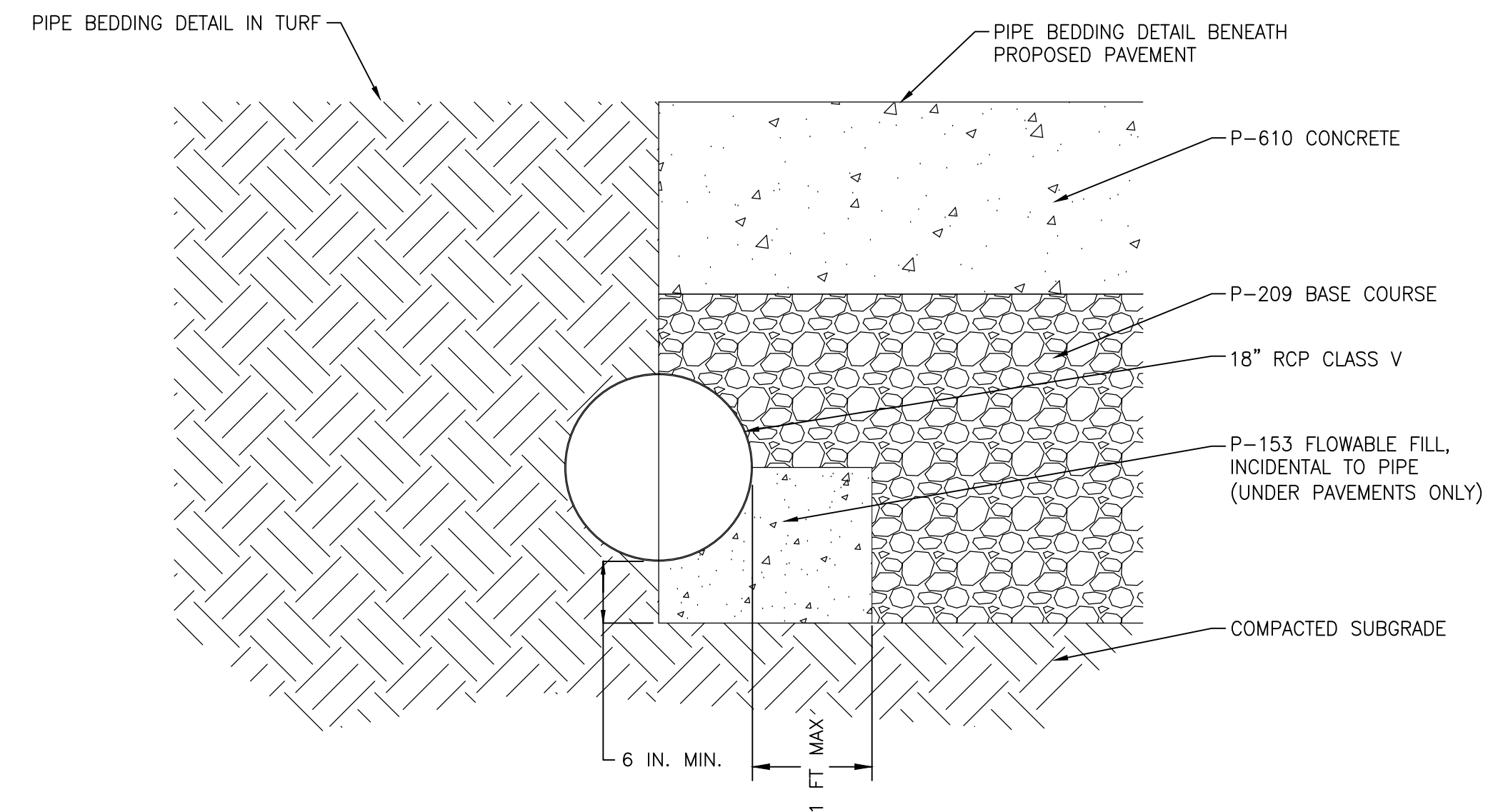


CRACKS 1/2" TO 1" WIDE

**1 TYPICAL BITUMINOUS CRACK REPAIR DETAILS**  
NTS

**CRACK SEALING PROCEDURE:**

1. APPLY HERBICIDE, ATRAZENE OR APPROVED EQUAL.
2. ROUTE IDENTIFIED CRACKS PER MANUFACTURER'S RECOMMENDATION.
3. BLOW OUT DEBRIS WITH AIR COMPRESSOR.
4. APPLY BITUMINOUS SEALANT MATERIAL TO WITHIN 1/8" OF THE PAVEMENT SURFACE. DO NO OVERFILL CRACK.



**2 PIPE BEDDING DETAIL**  
NTS

**NOTES:**

1. THE DETAIL ABOVE DEPICTS THE TYPICAL SECTION OF THE BEDDING DETAILS OF BOTH PIPE INSTALLED BENEATH PROPOSED PAVEMENT AND IN TURF.



**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019

REVIEWED BY: MRT

DRAWN BY: AGS

DESIGNED BY: MRT

AEP PROJECT NUMBER  
201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS, INC.

SHEET TITLE

**PAVEMENT REPAIR AND DRAINAGE NOTES AND DETAILS**

SHEET NUMBER

**C250**

**BID DOCUMENTS**



**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
IT'S THE LAW! DIAL 811  
Know what's below. Call before you dig.  
SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

**REVISIONS**

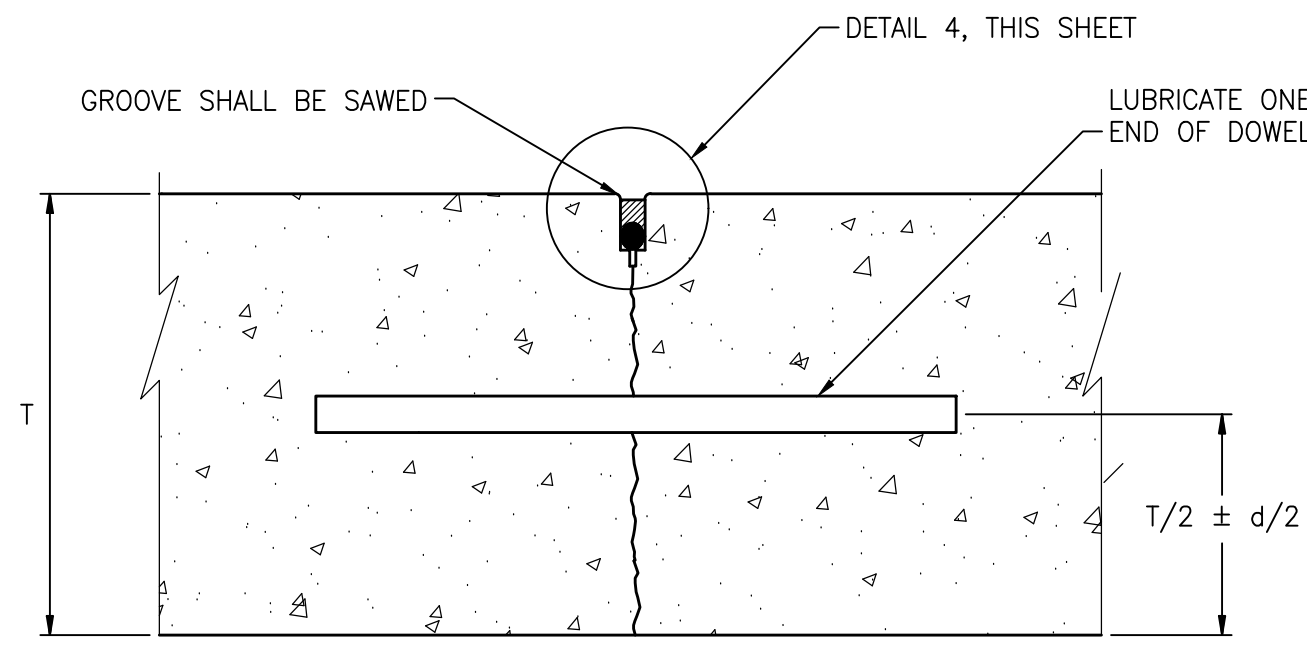
NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
REVIEWED BY: MRT  
DRAWN BY: AGS  
DESIGNED BY: MRT

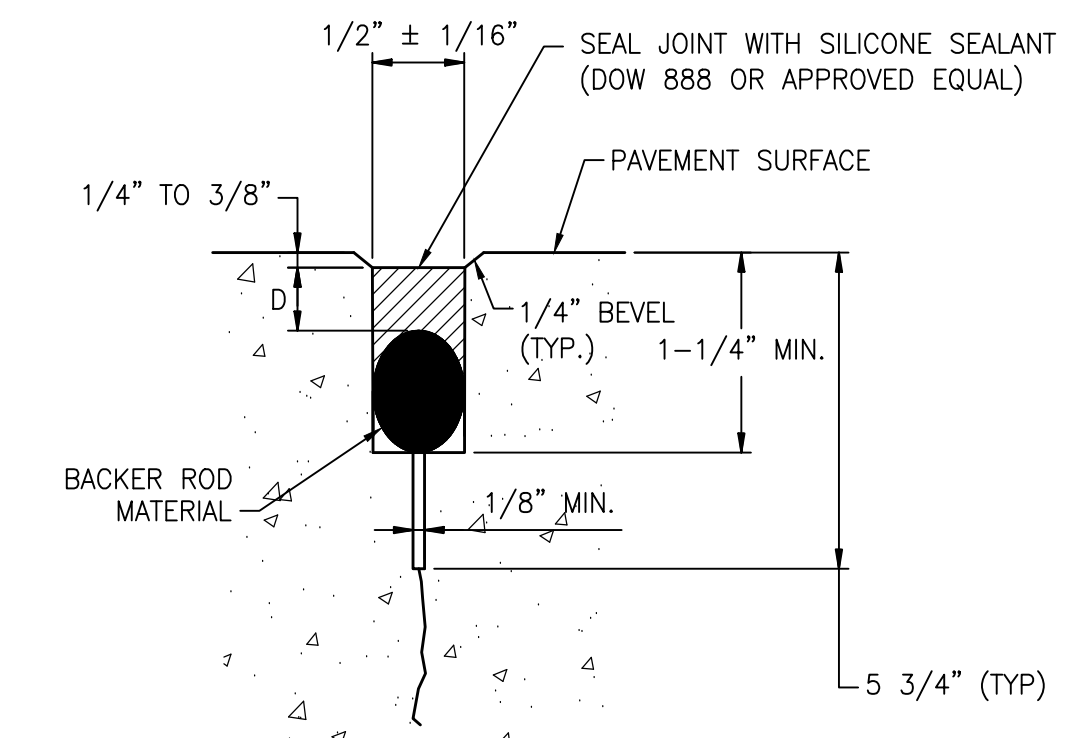
AEP PROJECT NUMBER  
201-0251-012  
© 2019 REYNOLDS, SMITH AND HILLS, INC.  
SHEET TITLE

**PAVEMENT SECTION AND JOINTING NOTES AND DETAILS**

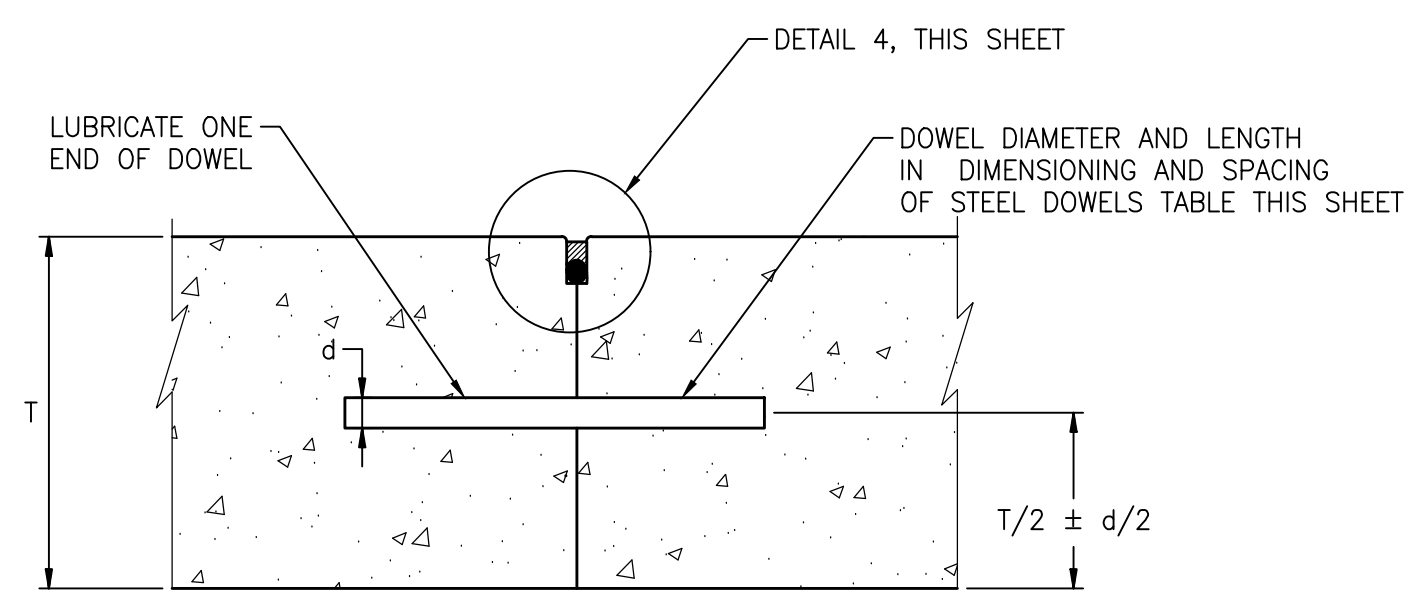
SHEET NUMBER  
**C251**  
BID DOCUMENTS



**1 TYPE C DOWELED CONTRACTION JOINT**  
C251 SCALE: NTS

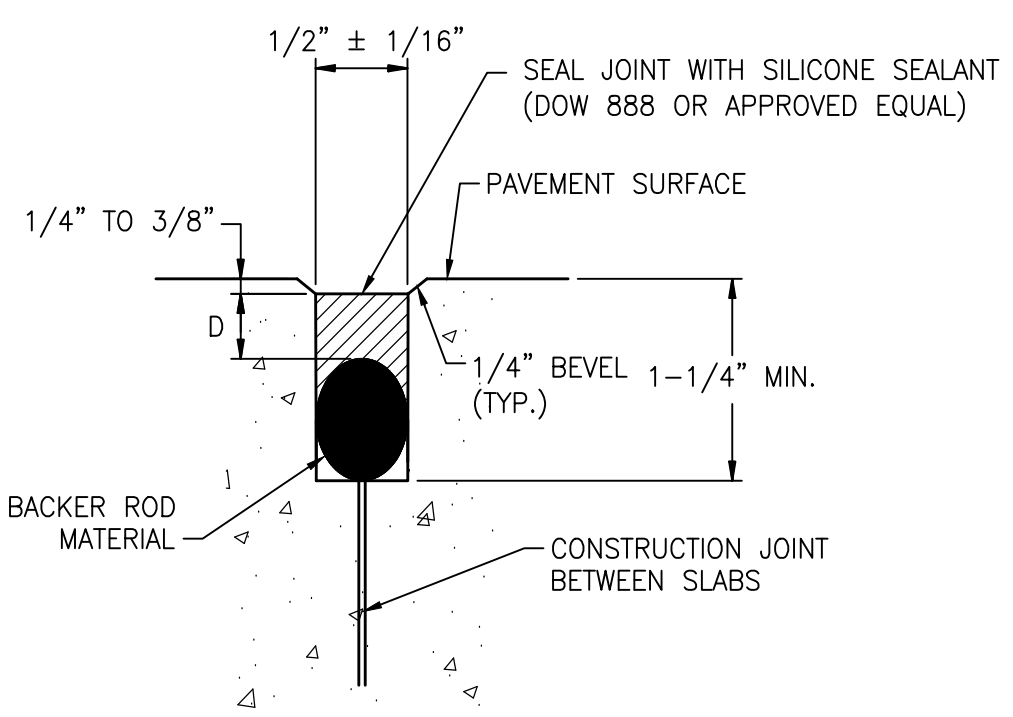


**2 CONTRACTION JOINT DETAIL**  
C251 SCALE: NTS

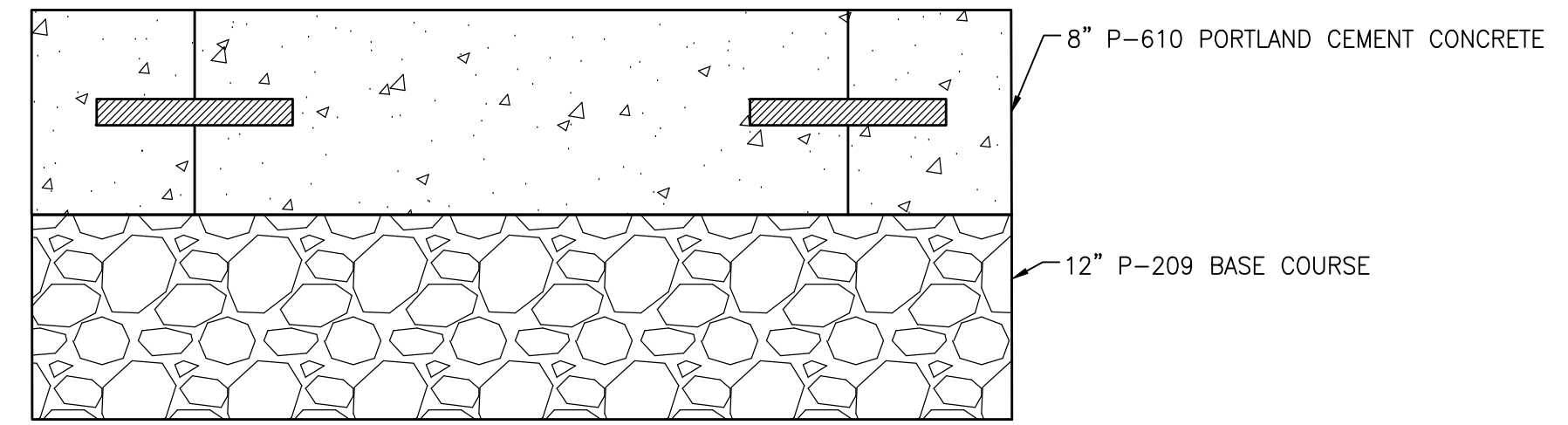


NOTE:  
ALL JOINTS MUST BE ADEQUATELY CLEANED AFTER SAWCUTTING, IMMEDIATELY PRIOR TO THE INSTALLATION OF JOINT SEALANT.

**3 TYPE E DOWELED CONSTRUCTION JOINT**  
C251 SCALE: NTS

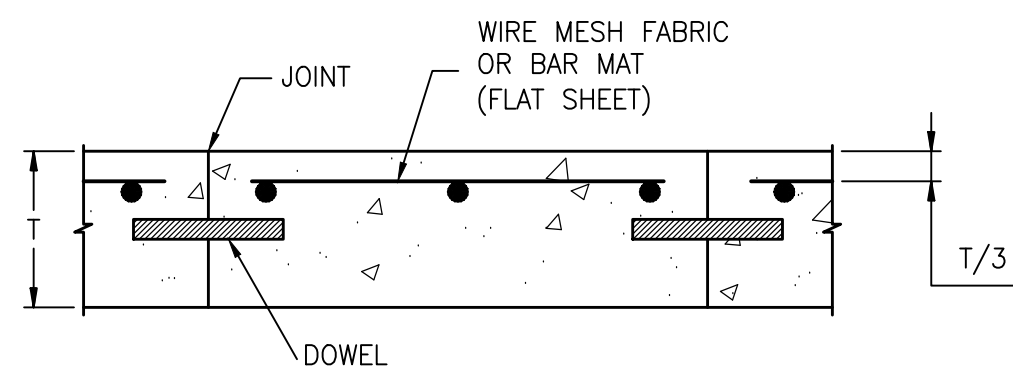


**4 CONSTRUCTION JOINT DETAIL**  
C251 SCALE: NTS



- NOTES:
- REFER TO DETAIL 2 SHEET C250 FOR PIPE BEDDING REQUIREMENTS UNDER PAVED AREAS.
  - CONCRETE JOINTS SHALL BE EVENLY SPACED AT A 10'. AIRPORT REPRESENTATIVES AND THE RPR SHALL BE CONSULTED FOR CONCRETE JOINT LAYOUT PRIOR TO PLACEMENT OF P-610 CONCRETE.
  - ALL CONCRETE PANELS SHALL BE REINFORCED PER DETAIL 6 THIS SHEET

**5 CONCRETE TYPICAL PAVEMENT SECTION**  
C251 SCALE: NTS



PAVEMENT THICKNESS, T	TWO WAY WIRE FABRIC		BAR MAT SIZE AND SPACING SAME IN BOTH DIRECTIONS
	SIZE	SPACING	
8 INCH	W5 X W5	6" x 6"	#3 @ 12" C-C

**6 REINFORCED CONCRETE PANEL**  
C251 SCALE: NTS

**DIMENSIONING AND SPACING OF STEEL DOWELS TABLE**

THICKNESS OF SLAB (T)	DIAMETER (d)	LENGTH	SPACING
8 IN.	1 IN.	18 IN.	12 IN.

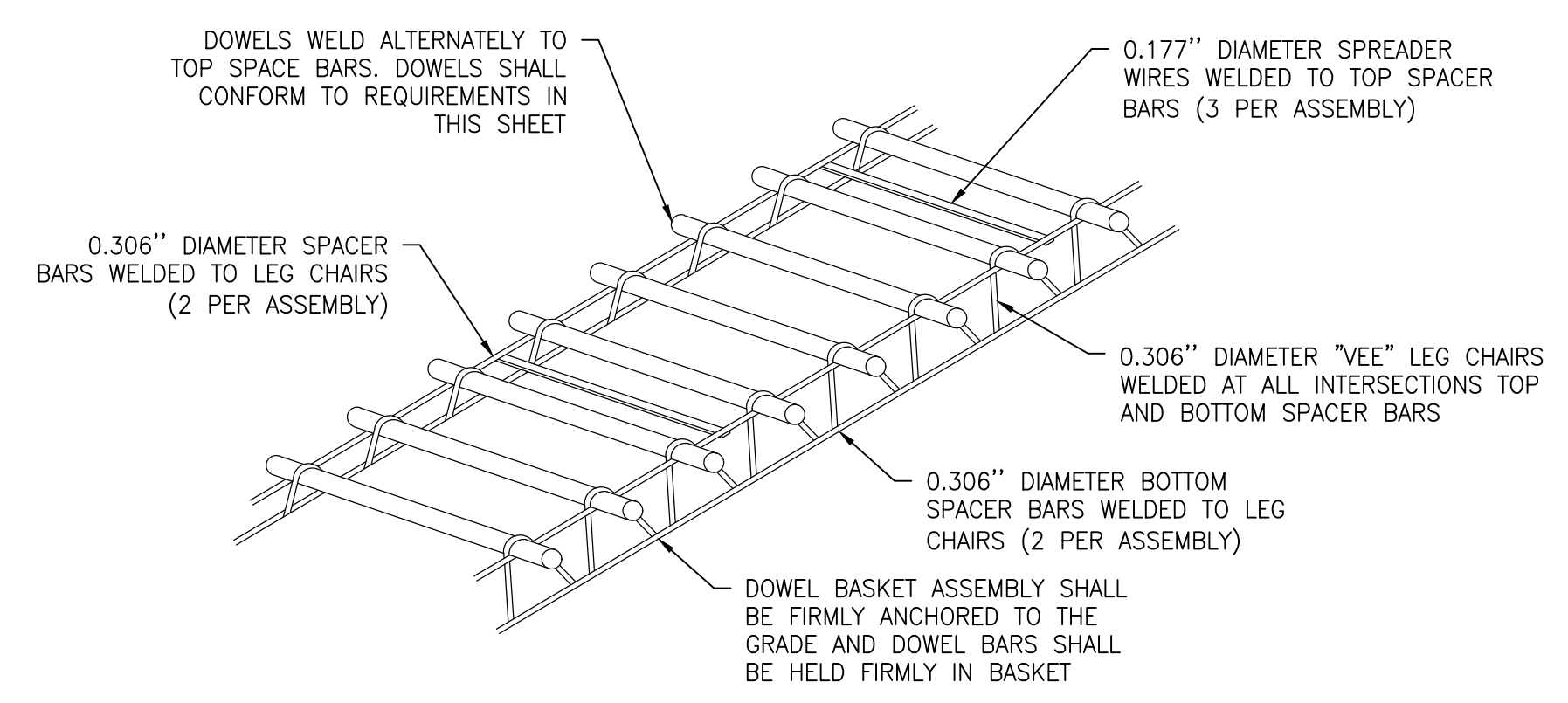
**DOWEL BAR NOTES:**

- LUBRICATION BOND BREAKER SHALL BE USED ON DOWEL BARS EXCEPT WHERE APPROVED PULLOUT TEST INDICATE IT IS NOT NECESSARY.
- DOWELS ARE TO BE EPOXY COATED STEEL BARS CONFORMING TO ASTM A615 AND AASHTO M254.
- DOWELS SHALL BE PLACED IN J-LEG TYPE CRADLE WITH SPACERS.

**JOINTING NOTES:**

- SAWCUT AND SEAL OF JOINTS SHALL BE CONSIDERED INCIDENTAL TO PAVEMENT CONSTRUCTION AND WILL NOT BE PAID FOR SEPARATELY.
- PRIOR TO INSTALLATION IN CONTRACTION, JOINT DOWELS SHALL BE LIGHTLY GREASED WITH A THIN COAT OF HIGH MELTING POINT GREASE OR APPROVED EQUAL AS INDICATED. IN CONSTRUCTION JOINT, ONLY THE FREE END SHALL BE GREASED, AND ONLY AFTER INSERTION AND GROUTING INTO PLACE.
- ALL CONSTRUCTION JOINT DOWELS SHALL BE GANG-DRILLED AND EPOXY GROUTED. INSERTION EQUIPMENT WILL NOT BE ALLOWED.
- DRILLING METHOD FOR DOWELS SHALL BE CAPABLE OF MAINTAINING DRILL HOLES PARALLEL TO THE CONCRETE SURFACE AND PERPENDICULAR TO THE JOINT LINES. DRILL HOLES SHALL BE ACCURATELY LAID OUT SO THAT THE MAXIMUM DEVIATION DOES NOT EXCEED 1". DRILL HOLE DIAMETER TO BE OF SUFFICIENT SIZE TO ACCEPT THE TYPE AND SIZE DOWEL REQUIRED.
- AFTER DRILLING IS COMPLETE AND PRIOR TO THE INSTALLATION OF THE DOWELS, THE HOLES SHALL BE THOROUGHLY CLEANED TO REMOVE DRILLING DUST, CONCRETE CHIPS AND ANY OTHER MATERIAL DETRIMENTAL TO DEVELOPING BOND.
- EPOXY GROUT SHALL BE INJECTED UNIFORMLY TO THE ENTIRE CIRCUMFERENCE OF THE DOWEL HOLE SURFACE (CONTRACTOR SHALL NOT DIP AND INSERT DOWEL) AND SUFFICIENT MATERIAL PLACED IN THE HOLE SO THAT A SLIGHT AMOUNT WILL BE FORCED OUT FROM AROUND THE ENTIRE CIRCUMFERENCE WHEN THE DOWEL IS INSERTED AND TAPPED TO THE CORRECT POSITION. SMALL WEDGES MAY BE USED TO SUPPORT THE DOWEL IN CORRECT ALIGNMENT UNTIL THE MATERIAL HARDENS. THE TOLERANCE FOR DOWEL ALIGNMENT IN EITHER THE HORIZONTAL OR VERTICAL DIRECTION IS 1/4" PER FOOT OF DOWEL BAR.
- ALL LONGITUDINAL AND TRANSVERSE CONTRACTION JOINT DOWELS SHALL BE INSTALLED USING AN ENGINEER-APPROVED WELDED BASKET ASSEMBLY ANCHORED TO THE STABILIZED BASE WITH A MINIMUM OF 4 GALVANIZED STRAPS AND NAILS PER ASSEMBLY. POSITION ANCHOR STRAPS ON ALTERNATING SIDES OF THE BASKET ASSEMBLY.
- A TRANSVERSE CONSTRUCTION JOINT SHALL BE INSTALLED AT A PLANNED JOINT WHEN PAVING OPERATIONS ARE INTERRUPTED FOR MORE THAN 30 MINUTES. IF THE INTERRUPTION OCCURS BETWEEN PLANNED JOINTS, THE FRESH CONCRETE SHALL BE REMOVED BACK TO THE PREVIOUSLY INSTALLED JOINT. UNLESS OTHERWISE APPROVED, NO JOINTS WILL BE ALLOWED BETWEEN THE JOINTS SHOWN ON THE CONCRETE PAVING JOINT LAYOUT PLAN.
- EDGES OF CONCRETE SLABS SHALL BE COVERED WITH AN APPROVED CURING MATERIAL AT THE SAME TIME AS SURFACE IS CURED. AT FORMED LOCATIONS, SLAB SIDES SHALL BE CURED WHEN FORMS ARE REMOVED.
- IN THICKENED EDGE AREAS WHERE DOWELS OR REINFORCING STEEL IS REQUIRED, PROVIDE ADDITIONAL SUPPORT, AS APPROVED BY THE ENGINEER, TO MAINTAIN THE SAME DEPTH FROM THE SURFACE AS FOR OTHER CONCRETE PAVEMENT.
- CONCRETE IN REINFORCED PANELS SHALL BE PLACED IN ONE COURSE. ANY WWF SHALL BE INSTALLED USING ENGINEER-APPROVED HI-CHAIRS ANCHORED TO THE STABILIZED BASE COURSE 3' ON CENTER MAXIMUM. THE WWF SHALL RETAIN ITS SPECIFIED POSITION DURING CONCRETE PLACEMENT. WWF VIBRATED DOWN FROM THE TOP AFTER CONCRETE IS PLACED WILL NOT BE ALLOWED.
- SEALANT RESERVOIR SHAPE FACTOR, W/D, SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS.
- BACKER ROD MATERIAL MUST BE COMPATIBLE WITH THE TYPE OF SEALANT USED AND SIZED TO PROVIDE THE DESIRED SHAPE.
- ALL WORK AND MATERIALS REQUIRED FOR JOINTS IS INCIDENTAL TO PCC PAVEMENT PAY ITEMS.
- COST OF MODIFYING UNDERLYING PAVEMENT COURSES TO ACCOMMODATE THE CONCRETE PAVEMENT THICKENED EDGE TO BE INCLUDED IN THE COST OF OTHER ITEMS. NO SEPARATE PAYMENT WILL BE MADE FOR SAID MODIFICATIONS. THE STABILIZED BASE SHALL BE CONSTRUCTED FULL THICKNESS UNDER THE THICKENED EDGE.
- ALL JOINT SEALANT RESERVOIRS SHOWN ON THIS SHEET SHALL BE VERIFIED BY THE SEALANT MANUFACTURER PRIOR TO CONSTRUCTION. REFER TO SECTION P-605 OF THE SPECIFICATIONS FOR FURTHER INFORMATION.

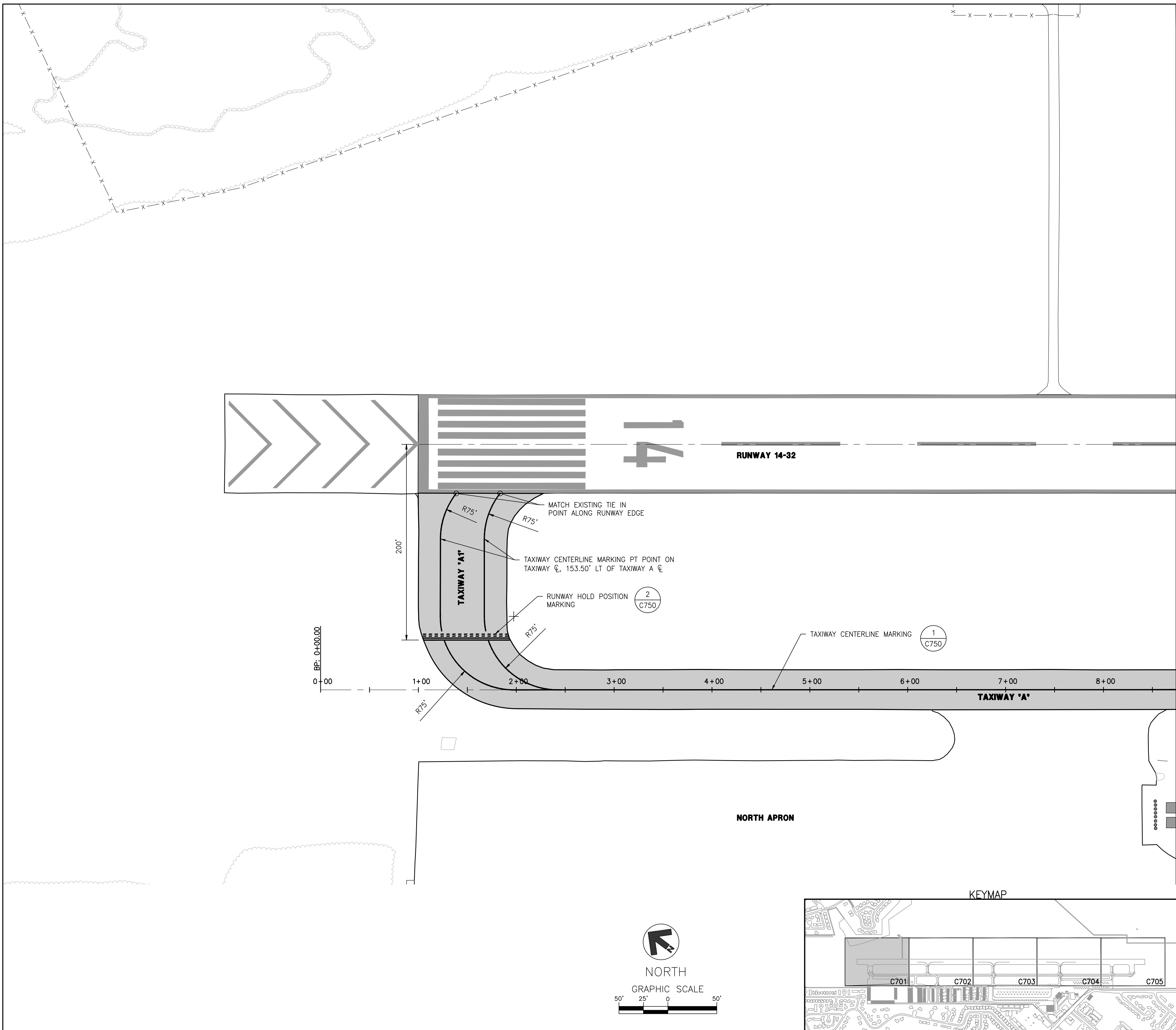
**7 PCC - AC JOINT DETAIL**  
C251 SCALE: NTS



**8 DOWEL BASKET ASSEMBLY**  
C251 SCALE: NTS

**REINFORCING NOTES:**

- TRANSVERSE LAP SHALL NOT BE LESS THAN 6 INCHES.
- LONGITUDINAL LAP SHALL NOT BE LESS THAN 12 INCHES.
- END AND SIDE CLEARANCES SHALL BE BETWEEN 2 INCHES AND 6 INCHES.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED, CONFORMING TO ASTM A615 AND AASHTO M254.



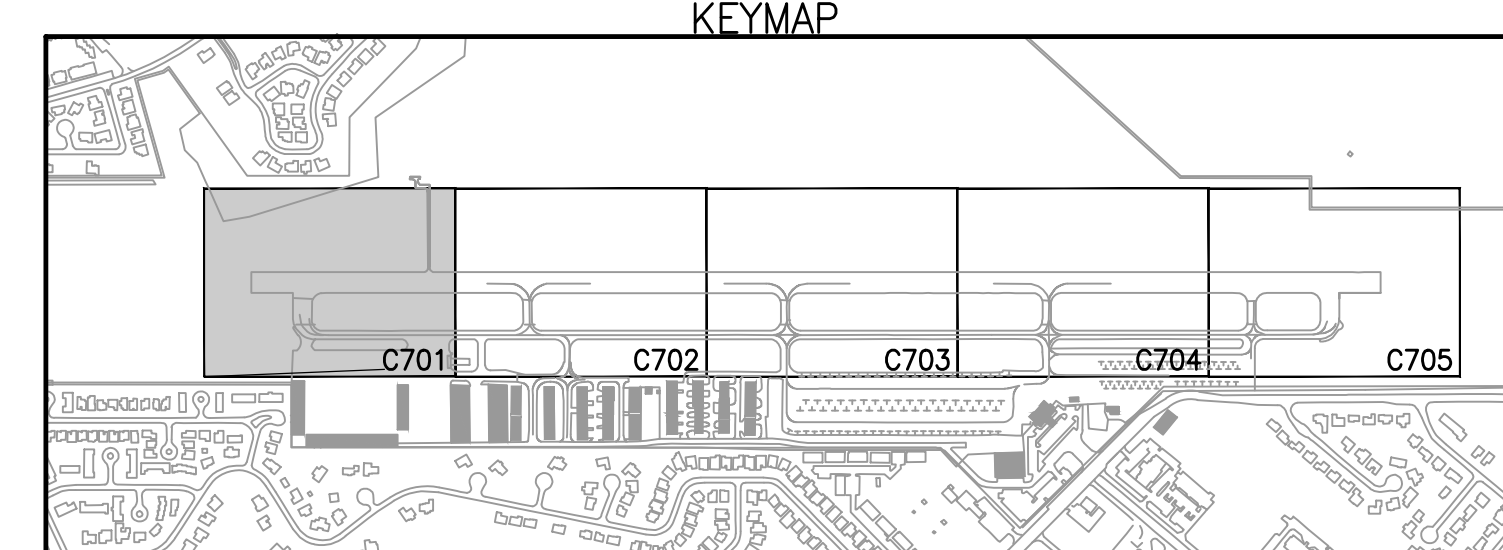
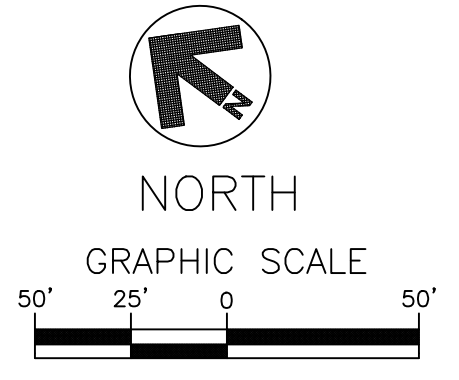
MATCHLINE SHEET C202 STA. 84+75.00

**LEGEND**

- LIMITS OF RUNWAY CRACK-SEALING AND SEALCOAT TREATMENT
- PROPOSED PAVEMENT MARKINGS
- EXISTING PAVEMENT MARKINGS

**NOTES**

1. AS SHOWN BY THE HATCHED AREA ON THIS PLAN SHEET, THE LIMITS OF THE PAVEMENT CRACK-SEALING, SEAL COAT APPLICATION, AND NEW PAVEMENT MARKINGS IS THE PARALLEL TAXIWAY A AND RUNWAY/APRON CONNECTORS.
2. THE CONTRACTOR SHALL ACCURATELY DOCUMENT THE LOCATION OF ALL EXISTING RUNWAY TAXIWAY MARKINGS PRIOR TO THE INSTALLATION OF THE PROPOSED BITUMINOUS SEAL COAT TO ENSURE NEW PAVEMENT MARKINGS ARE INSTALLED IN THE SAME LOCATION AS THE EXISTING MARKINGS.
3. REFER TO SHEETS C201 - C205 FOR CRACKSEAL/SEALCOAT PLAN
4. REFER TO SHEET C750 FOR PAVEMENT MARKING DETAILS
5. PROPOSED PAVEMENT MARKINGS SHALL TIE IN WITH EXISTING PAVEMENT MARKINGS.



**RS&H**  
 11 North Water Street, Suite 10290  
 Mobile, AL 36602  
 251-460-3233 FAX 904-256-2501  
 www.rsandh.com  
 FL Cert. Nos. AAC001886 \*IB26000956\*  
 EB0005620 \*LCC000219\* GS238

**DESTIN EXECUTIVE AIRPORT**  
 GLENNAN KELLY FIELD  
 DESTIN EXECUTIVE AIRPORT  
 DESTIN, FLORIDA

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811  
 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: MRT  
 DRAWN BY: AGS  
 DESIGNED BY: MRT  
 AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS, INC.  
 SHEET TITLE

**PAVEMENT MARKING PLAN (SHEET 1 OF 5)**

SHEET NUMBER  
**C701**

**BID DOCUMENTS**





**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: MRT  
 DRAWN BY: AGS  
 DESIGNED BY: MRT




AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS, INC.  
 SHEET TITLE

**PAVEMENT MARKING PLAN (SHEET 2 OF 5)**

SHEET NUMBER  
**C702**

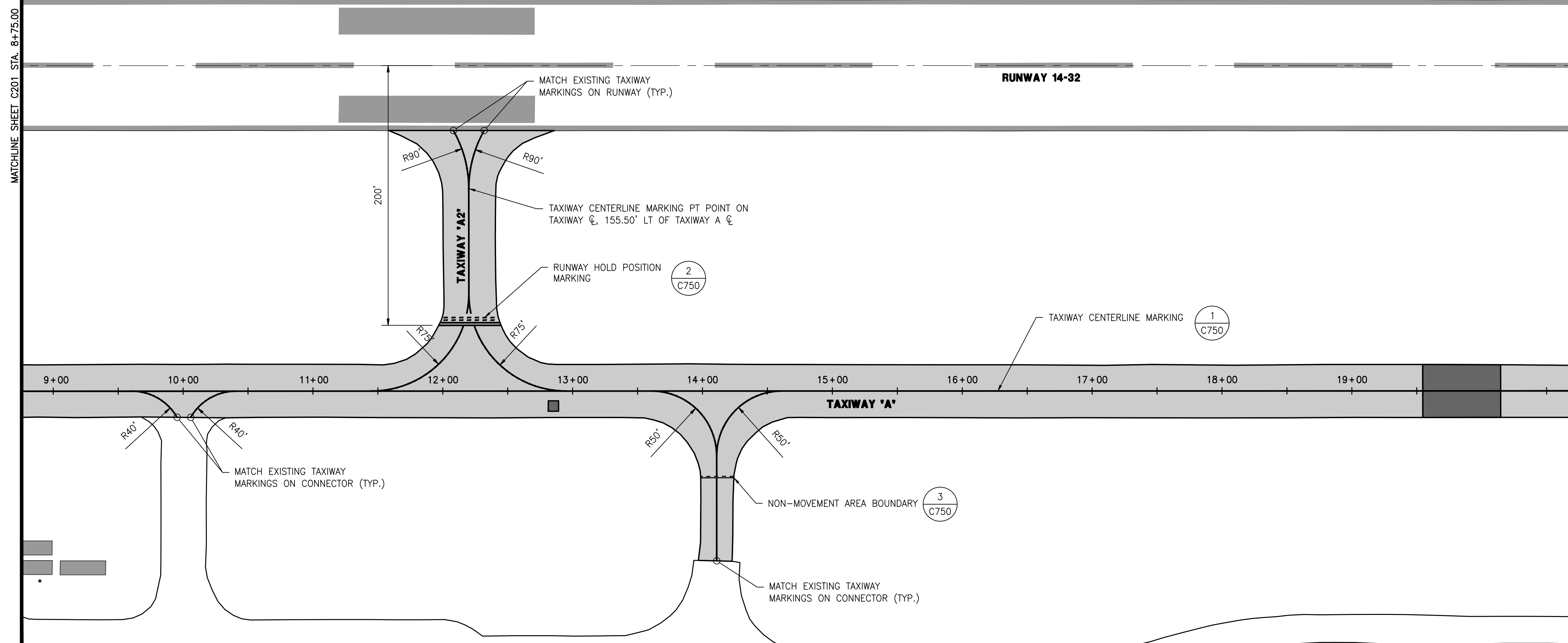
**BID DOCUMENTS**

**LEGEND**

-  LIMITS OF RUNWAY CRACK-SEALING AND SEALCOAT TREATMENT
-  PROPOSED PAVEMENT MARKINGS
-  EXISTING PAVEMENT MARKINGS

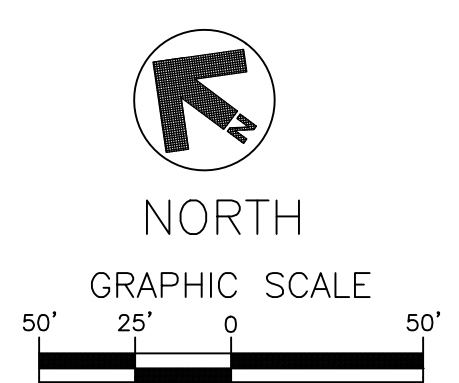
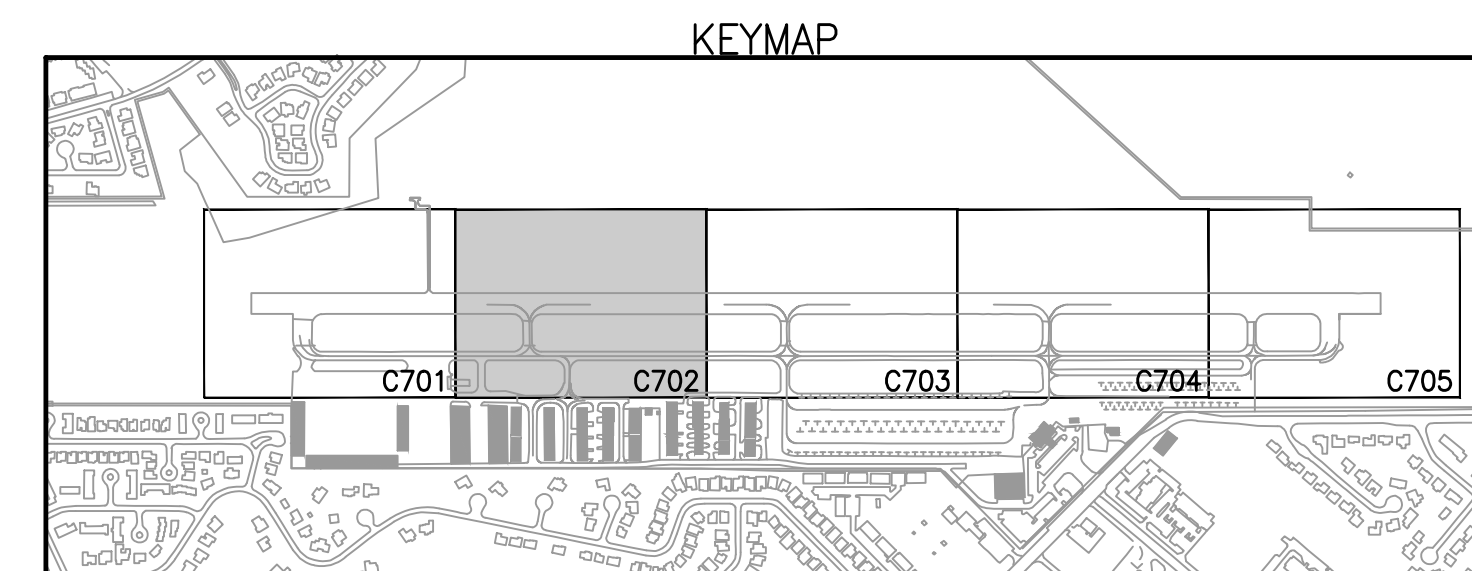
MATCHLINE SHEET C203 STA. 20+75.00

MATCHLINE SHEET C201 STA. 8+75.00



**NOTES**

1. AS SHOWN BY THE HATCHED AREA ON THIS PLAN SHEET, THE LIMITS OF THE PAVEMENT CRACK-SEALING, SEAL COAT APPLICATION, AND NEW PAVEMENT MARKINGS IS THE PARALLEL TAXIWAY A AND RUNWAY/APRON CONNECTORS.
2. THE CONTRACTOR SHALL ACCURATELY DOCUMENT THE LOCATION OF ALL EXISTING RUNWAY TAXIWAY MARKINGS PRIOR TO THE INSTALLATION OF THE PROPOSED BITUMINOUS SEAL COAT TO ENSURE NEW PAVEMENT MARKINGS ARE INSTALLED IN THE SAME LOCATION AS THE EXISTING MARKINGS.
3. REFER TO SHEETS C201 - C205 FOR CRACKSEAL/SEALCOAT PLAN
4. REFER TO SHEET C750 FOR PAVEMENT MARKING DETAILS
5. PROPOSED PAVEMENT MARKINGS SHALL TIE IN WITH EXISTING PAVEMENT MARKINGS.








**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

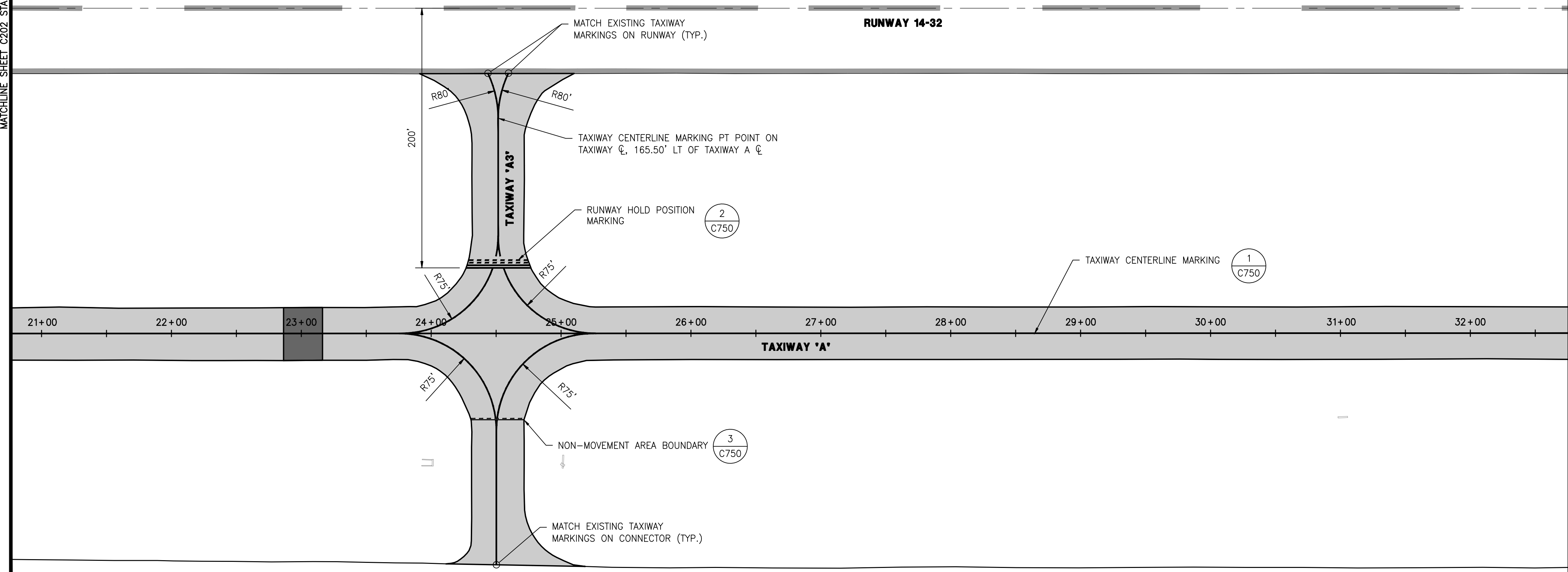
CONSULTANTS

**LEGEND**

-  LIMITS OF RUNWAY CRACK-SEALING AND SEALCOAT TREATMENT
-  PROPOSED PAVEMENT MARKINGS
-  EXISTING PAVEMENT MARKINGS

MATCHLINE SHEET C202 STA. 20+75.00

MATCHLINE SHEET C204 STA. 32+75.00



**NOTES**

1. AS SHOWN BY THE HATCHED AREA ON THIS PLAN SHEET, THE LIMITS OF THE PAVEMENT CRACK-SEALING, SEAL COAT APPLICATION, AND NEW PAVEMENT MARKINGS IS THE PARALLEL TAXIWAY A AND RUNWAY/APRON CONNECTORS.
2. THE CONTRACTOR SHALL ACCURATELY DOCUMENT THE LOCATION OF ALL EXISTING RUNWAY TAXIWAY MARKINGS PRIOR TO THE INSTALLATION OF THE PROPOSED BITUMINOUS SEAL COAT TO ENSURE NEW PAVEMENT MARKINGS ARE INSTALLED IN THE SAME LOCATION AS THE EXISTING MARKINGS.
3. REFER TO SHEETS C201 - C205 FOR CRACKSEAL/SEALCOAT PLAN
4. REFER TO SHEET C750 FOR PAVEMENT MARKING DETAILS
5. PROPOSED PAVEMENT MARKINGS SHALL TIE IN WITH EXISTING PAVEMENT MARKINGS.

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: MRT  
 DRAWN BY: AGS  
 DESIGNED BY: MRT

AEP PROJECT NUMBER  
 201-0251-012

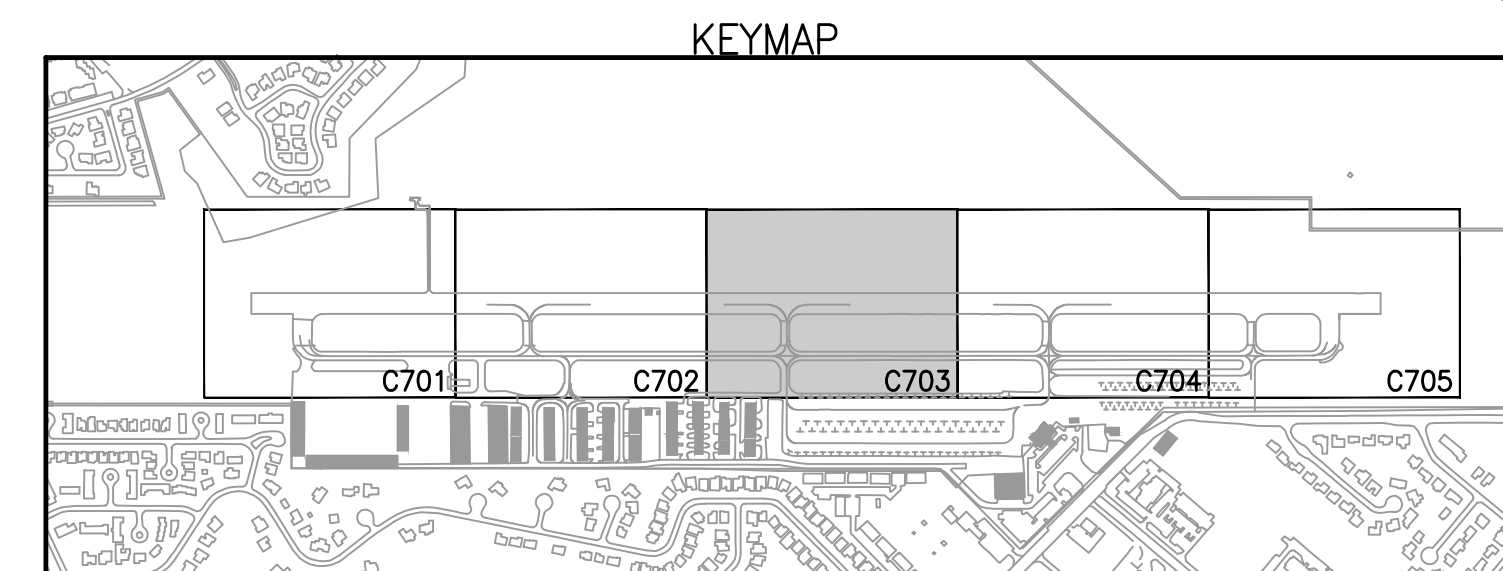
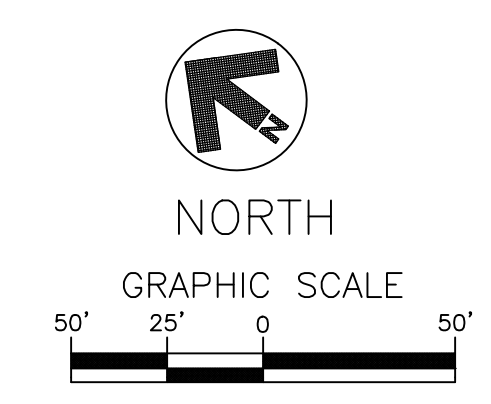
© 2019 REYNOLDS, SMITH AND HILLS, INC.

SHEET TITLE

**PAVEMENT MARKING PLAN (SHEET 3 OF 5)**

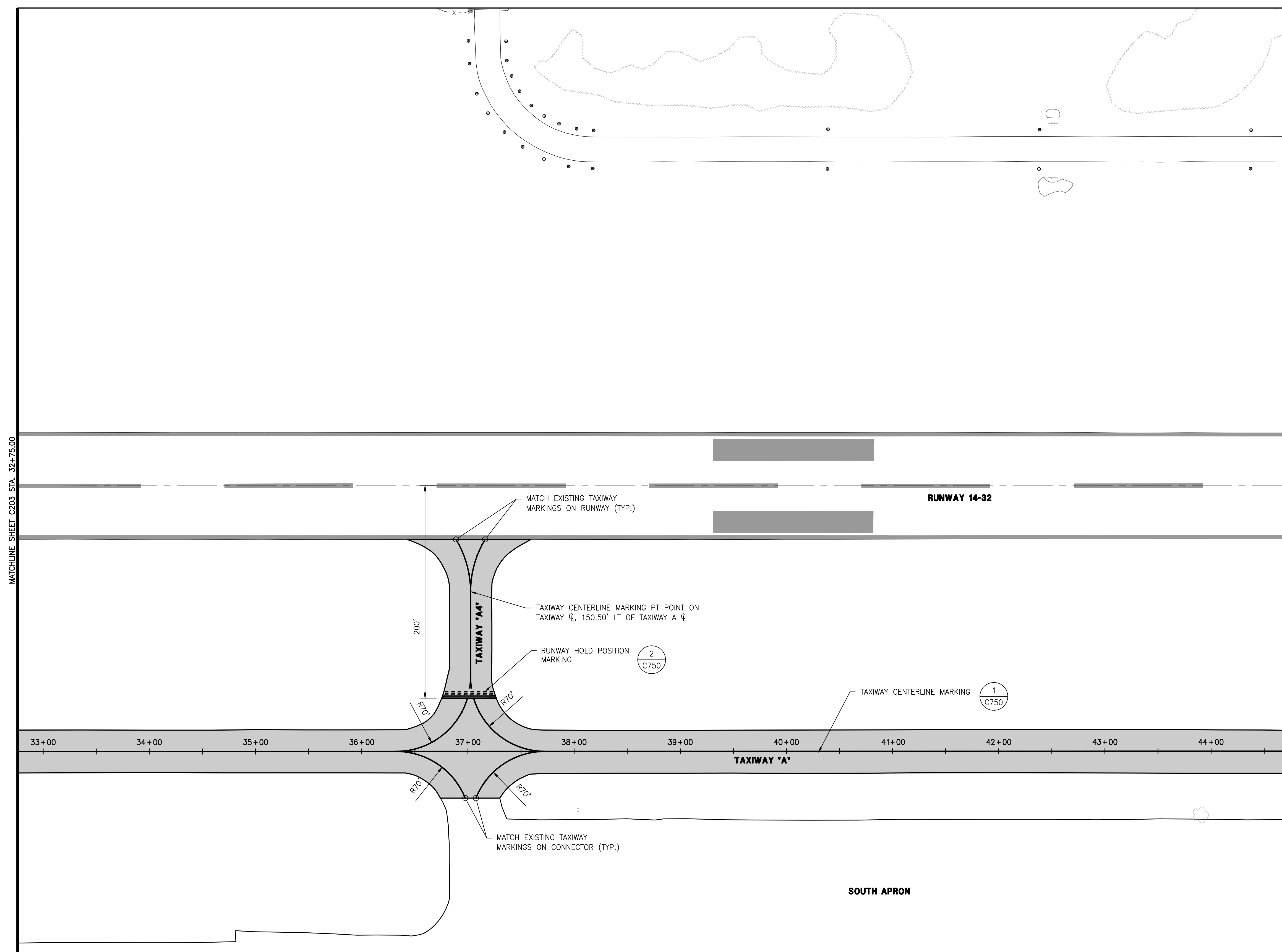
SHEET NUMBER  
**C703**

**BID DOCUMENTS**






MATCHLINE SHEET C203 STA. 32+75.00

MATCHLINE SHEET C205 STA. 44+75.00



### LEGEND

-  LIMITS OF RUNWAY CRACK-SEALING AND SEALCOAT TREATMENT
-  PROPOSED PAVEMENT MARKINGS
-  EXISTING PAVEMENT MARKINGS



11 North Water Street, Suite 10290  
 Mobile, AL 36602  
 251-460-3233 FAX 904-256-2501  
 www.rsandh.com

FL Cert. Nos. AAC001886 \* B226000956 \*  
 EB0005620 \* LCC000210 \* GS238



**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

### TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

### NOTES

1. AS SHOWN BY THE HATCHED AREA ON THIS PLAN SHEET, THE LIMITS OF THE PAVEMENT CRACK-SEALING, SEAL COAT APPLICATION, AND NEW PAVEMENT MARKINGS IS THE PARALLEL TAXIWAY A AND RUNWAY/APRON CONNECTORS.
2. THE CONTRACTOR SHALL ACCURATELY DOCUMENT THE LOCATION OF ALL EXISTING RUNWAY TAXIWAY MARKINGS PRIOR TO THE INSTALLATION OF THE PROPOSED BITUMINOUS SEAL COAT TO ENSURE NEW PAVEMENT MARKINGS ARE INSTALLED IN THE SAME LOCATION AS THE EXISTING MARKINGS.
3. REFER TO SHEETS C201 - C205 FOR CRACKSEAL/SEALCOAT PLAN
4. REFER TO SHEET C750 FOR PAVEMENT MARKING DETAILS
5. PROPOSED PAVEMENT MARKINGS SHALL TIE IN WITH EXISTING PAVEMENT MARKINGS.

### REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: MRT  
 DRAWN BY: AGS  
 DESIGNED BY: MRT

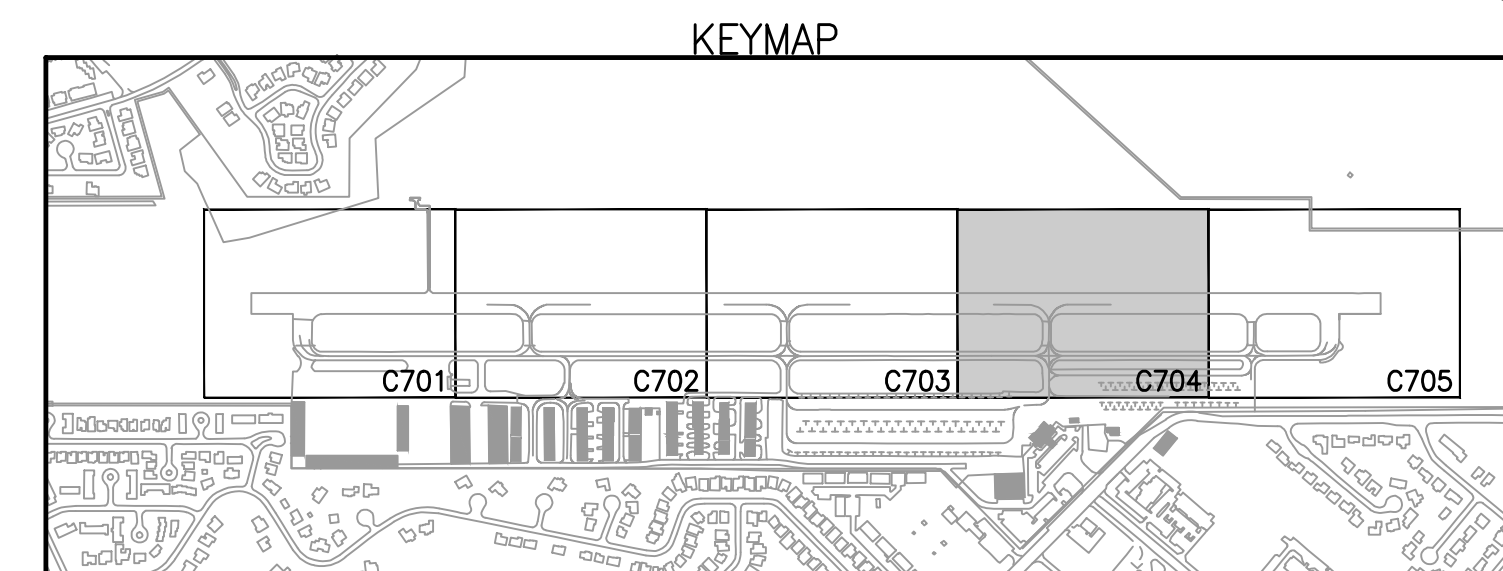
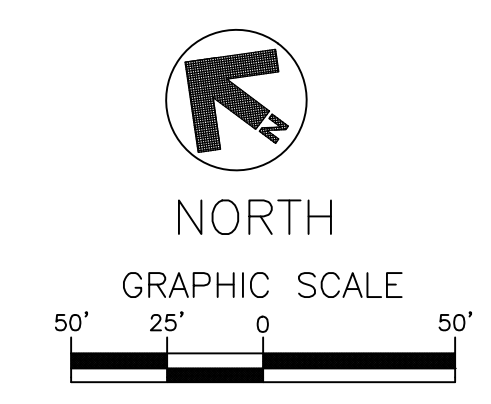
AEP PROJECT NUMBER  
 201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS, INC.  
 SHEET TITLE

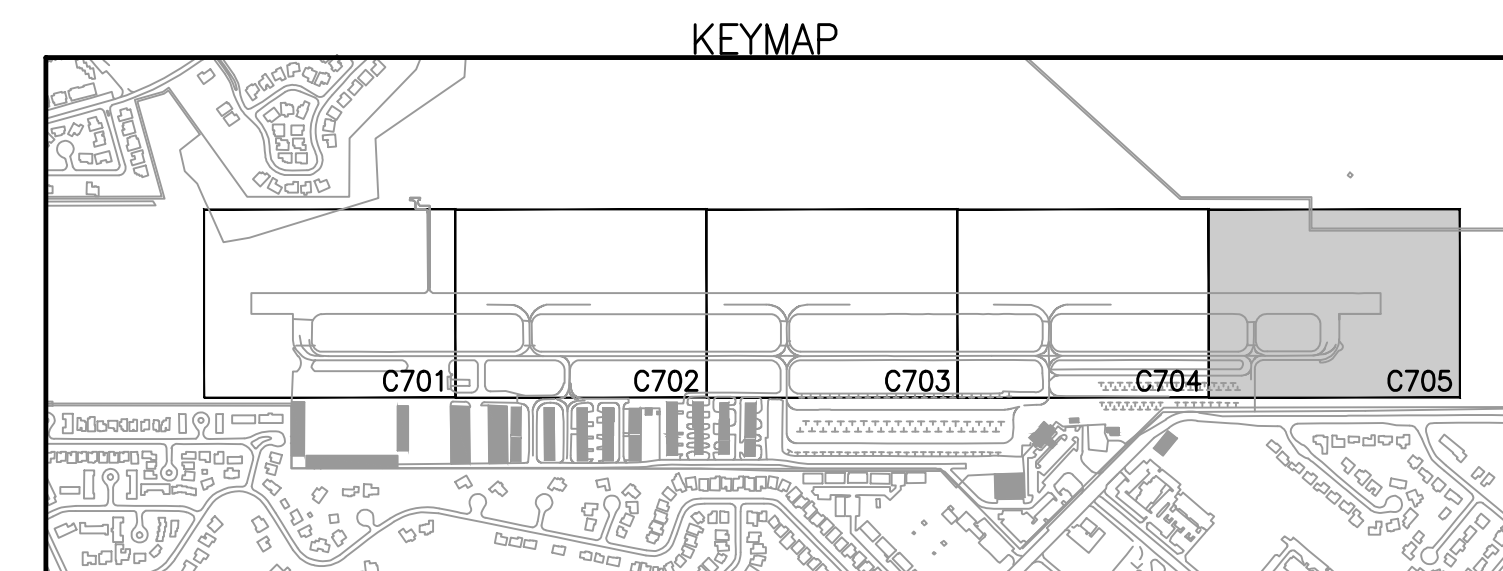
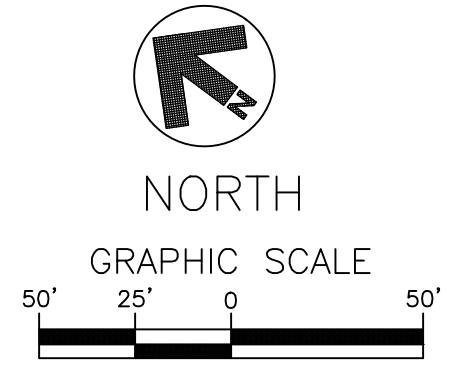
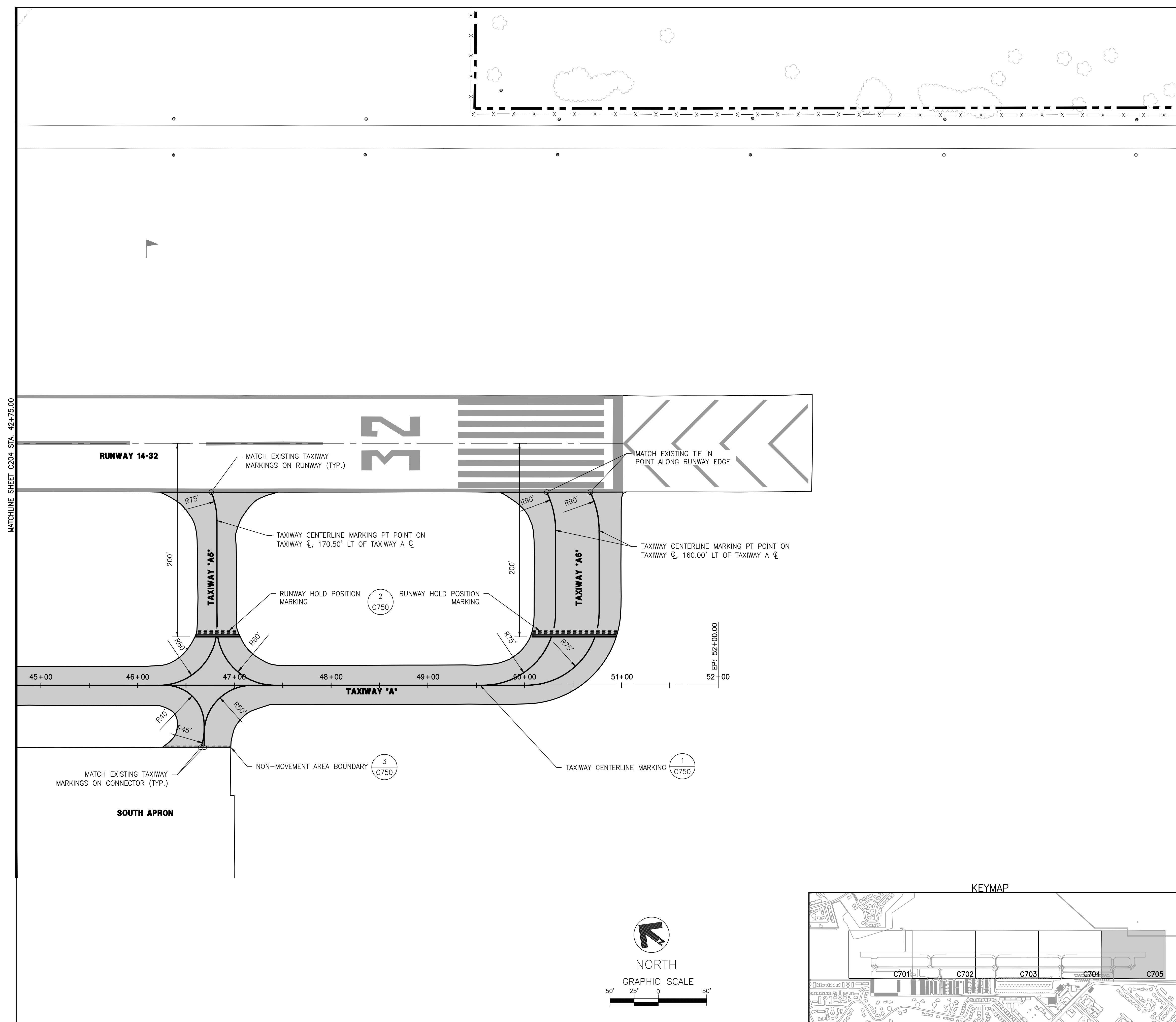
## PAVEMENT MARKING PLAN (SHEET 4 OF 5)

SHEET NUMBER  
**C704**

BID DOCUMENTS



MATCHLINE SHEET C204 STA. 42+75.00



**LEGEND**

- LIMITS OF RUNWAY CRACK-SEALING AND SEALCOAT TREATMENT
- PROPOSED PAVEMENT MARKINGS
- EXISTING PAVEMENT MARKINGS

**NOTES**

1. AS SHOWN BY THE HATCHED AREA ON THIS PLAN SHEET, THE LIMITS OF THE PAVEMENT CRACK-SEALING, SEAL COAT APPLICATION, AND NEW PAVEMENT MARKINGS IS THE PARALLEL TAXIWAY A AND RUNWAY/APRON CONNECTORS.
2. THE CONTRACTOR SHALL ACCURATELY DOCUMENT THE LOCATION OF ALL EXISTING RUNWAY TAXIWAY MARKINGS PRIOR TO THE INSTALLATION OF THE PROPOSED BITUMINOUS SEAL COAT TO ENSURE NEW PAVEMENT MARKINGS ARE INSTALLED IN THE SAME LOCATION AS THE EXISTING MARKINGS.
3. REFER TO SHEETS C201 - C205 FOR CRACKSEAL/SEALCOAT PLAN
4. REFER TO SHEET C750 FOR PAVEMENT MARKING DETAILS
5. PROPOSED PAVEMENT MARKINGS SHALL TIE IN WITH EXISTING PAVEMENT MARKINGS.



11 North Water Street, Suite 10290  
Mobile, AL 36602  
251-460-3233 FAX 904-256-2501  
www.rsandh.com

FL Cert. Nos. AAC001886 \* EB26000956 \*  
EB0005620 \* LCC000210 \* GS238



**DESTIN EXECUTIVE AIRPORT**

DESTIN, FLORIDA

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

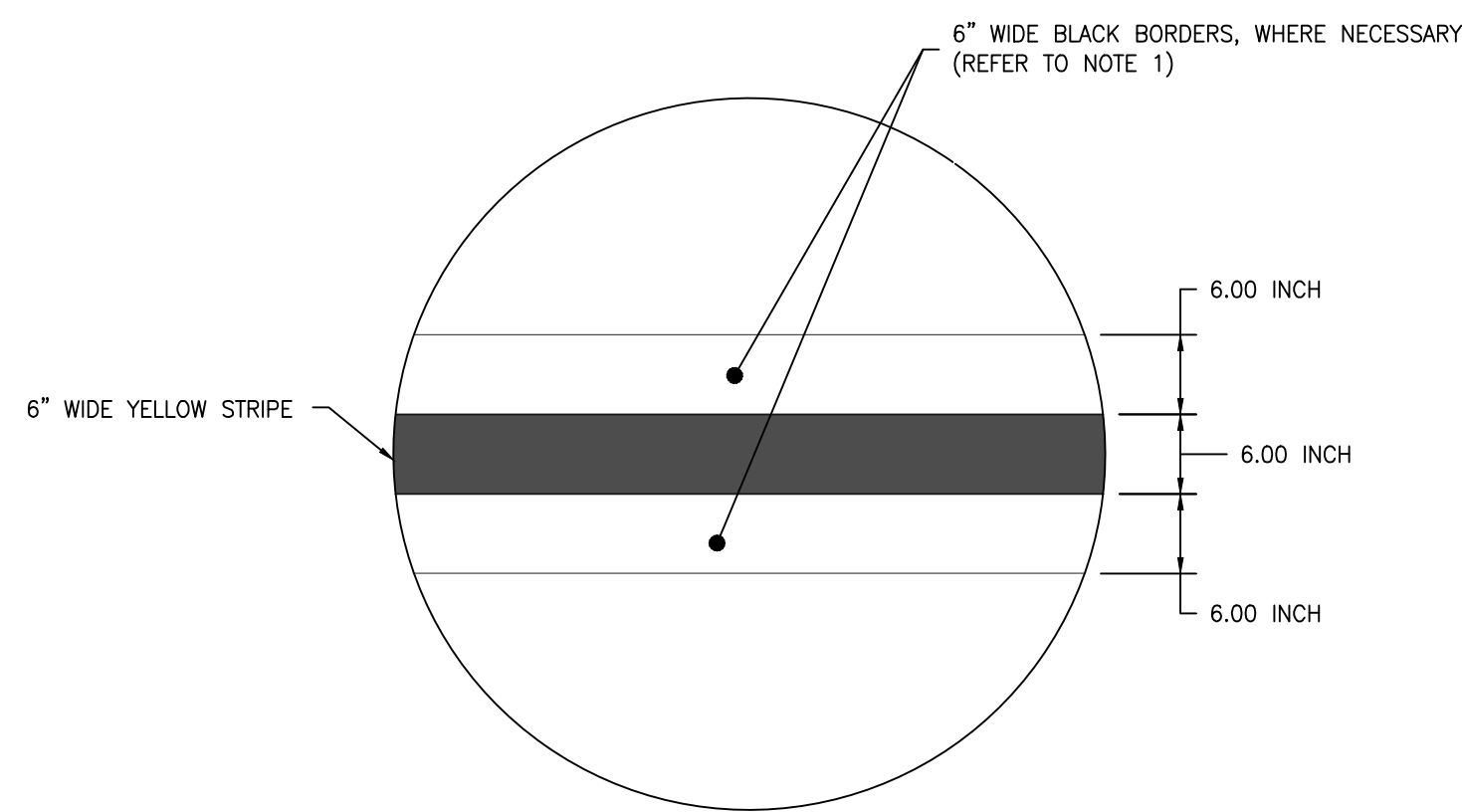
DATE ISSUED: OCTOBER 3, 2019  
REVIEWED BY: MRT  
DRAWN BY: AGS  
DESIGNED BY: MRT

AEP PROJECT NUMBER  
201-0251-012  
© 2019 REYNOLDS, SMITH AND HILLS, INC.  
SHEET TITLE

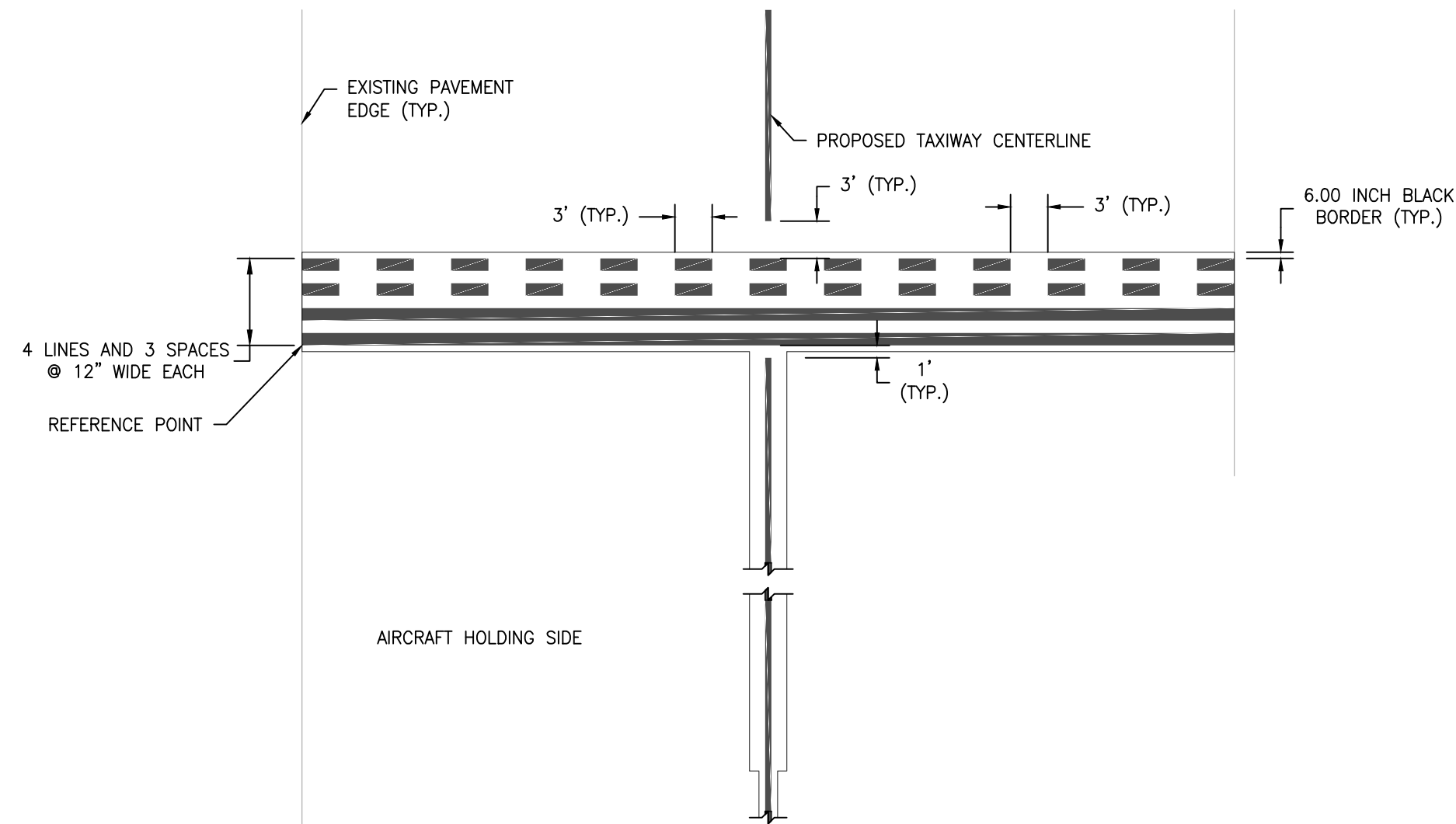
**PAVEMENT MARKING PLAN (SHEET 5 OF 5)**

SHEET NUMBER  
**C705**

**BID DOCUMENTS**



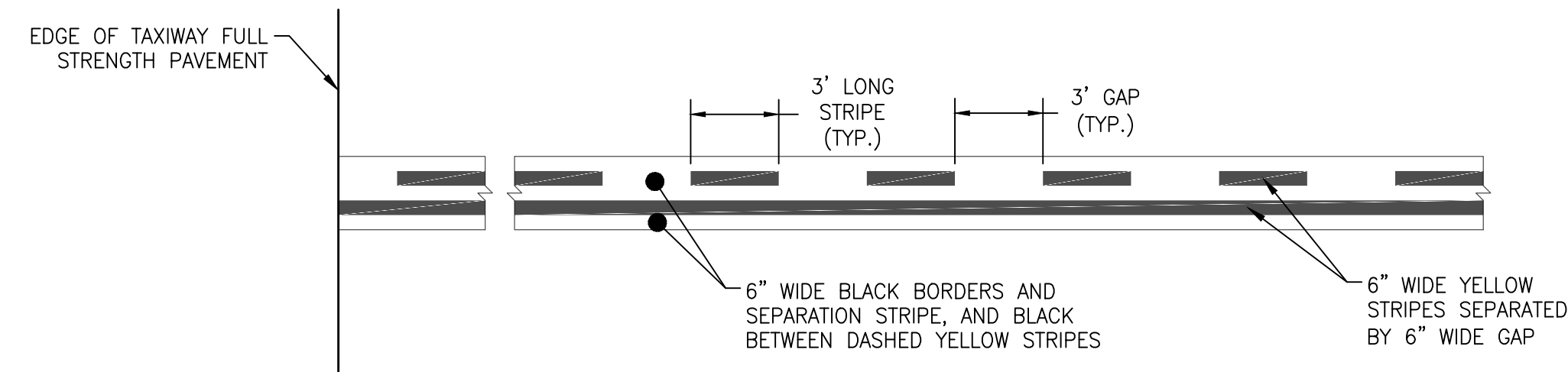
**1 TAXIWAY CENTERLINE MARKING**  
C750 SCALE: N.T.S.



**2 RUNWAY HOLDING POSITION MARKING**  
C750 SCALE: N.T.S.

**GENERAL NOTES:**

- BLACK BORDERS AND SEPARATION STRIPES SHALL NOT CONTAIN GLASS BEADS.



NOTE: BLACK BORDERS AND SEPARATION STRIPE, AND BLACK BETWEEN DASHED YELLOW STRIPES SHALL BE MARKED ON ALL EXISTING AND PROPOSED PAVEMENT SURFACES.

**3 NON-MOVEMENT AREA BOUNDARY**  
C750 SCALE: N.T.S.

**GENERAL NOTES:**

- THE CONTRACTOR SHALL ACCURATELY DOCUMENT THE LOCATION OF ALL EXISTING NON-MOVEMENT AREA BOUNDARY MARKINGS PRIOR TO THE INSTALLATION OF THE PROPOSED BITUMINOUS SEAL COAT TO ENSURE NEW PAVEMENT MARKINGS ARE INSTALLED IN THE SAME LOCATION AS THE EXISTING MARKINGS.

**NOTES:**

- REFLECTORIZED (TYPE III GLASS BEADS) PAINT SHALL BE USED FOR ALL PERMANENT PAVEMENT MARKINGS, EXCEPT FOR BLACK OUTLINE.
- TAXIWAY MARKINGS ARE YELLOW.
- ALL TAXIWAY MARKINGS SHALL BE OUTLINED WITH A 6" BLACK BORDER UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING WHEN BLACK OUTLINE IS PLACED AROUND MARKINGS (FIRST OR LAST).
- IF THE CONTRACTOR CHOOSES TO INSTALL BLACK MARKING FIRST, PRIOR TO YELLOW MARKINGS INSTALLATION, CONTRACTOR SHALL ONLY BE PAID FOR WIDTH OF THE BLACK ENHANCEMENT PLUS 6" UNDER WHITE MARKINGS.
- IF CONTRACTOR CHOOSES TO PAINT BLACK MARKINGS AFTER WHITE HAS BEEN INSTALLED, CONTRACTOR SHALL NOT ALLOW BLACK PAINT OVERSPRAY ONTO THE YELLOW MARKINGS AND THERE WILL BE CLEAN STRAIGHT WHITE LINES FOR ALL MARKINGS.



11 North Water Street, Suite 10290  
Mobile, AL 36602  
251-460-3233 FAX 904-256-2501  
www.rsandh.com

FL Cert. Nos. AAC001888 \* B20000955 \*  
EB0005820 \* LCC000210 \* G6238



**DESTIN EXECUTIVE AIRPORT**  
DESTIN, FLORIDA

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
IT'S THE LAW! DIAL 811  
Know what's below. Call before you dig.  
SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
REVIEWED BY: MRT  
DRAWN BY: AGS  
DESIGNED BY: MRT

AEP PROJECT NUMBER  
201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS, INC.

SHEET TITLE

**PAVEMENT MARKING DETAILS**

SHEET NUMBER

**C750**

**BID DOCUMENTS**

## ELECTRICAL LEGEND

	EXISTING L-861(L) ELEVATED RUNWAY EDGE LIGHT
	EXISTING L-861E(L) ELEVATED RUNWAY THRESHOLD LIGHT
	EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED
	PROPOSED L-861T(L) ELEVATED TAXIWAY EDGE LIGHT, ISOLATION TRANSFORMER, AND L-867B BASE CAN, UNLESS OTHERWISE NOTED
	EXISTING SINGLE FACE OR DOUBLE FACE INTERNALLY ILLUMINATED GUIDANCE SIGN
-----	EXISTING 2" PVC CONDUIT AND CABLE
	EXISTING X - Y DIRECTIONALLY BORED DUCTBANK; 'X' INDICATES QUANTITY OF CONDUITS AND 'Y' INDICATES SIZE.
	EXISTING CONCRETE ENCASED DUCT BANK; 'X' INDICATES QUANTITY OF CONDUITS AND 'Y' INDICATES SIZE.
	PROPOSED 1-WAY, 2" DIRECT-BURIED CONDUIT WITH #8 L-824 5KV, TYPE C CABLE WITH 1/C #6 COUNTERPOISE, SLASHES INDICATE NUMBER OF L-824 CABLES
	PROPOSED DIRECTIONALLY BORED DUCTBANK; 'X' INDICATES QUANTITY OF CONDUITS AND 'Y' INDICATES SIZE
	EXISTING JUNCTION BOX
	PROPOSED L-867D JUNCTION CAN
	EXISTING ELECTRICAL HANDHOLE
	EXISTING WIND CONE

## ABBREVIATIONS

AOA - AIRCRAFT OPERATIONS AREA	NTS - NOT TO SCALE
AWG - AMERICAN WIRE GAUGE	OC - ON CENTER
B - BASELINE	OFA - OBJECT FREE AREA
BSD - BARE SOFT DRAWN SOLID COPPER	PAPI - PRECISION APPROACH PATH INDICATOR
C - CENTERLINE	PC - POINT OF CURVATURE
C - CONDUIT	PCC - PORTLAND CEMENT CONCRETE
CONC - CONCRETE	PG - PROPOSED GRADE
COS - COLORADO SPRINGS AIRPORT	PT - POINT OF TANGENCY
CP - COUNTERPOISE	PVC - POLYVINYL CHLORIDE
Ø, DIA - DIAMETER	RPR - RESIDENT PROJECT REPRESENTATIVE
DEB - DIRECT EARTH BURIED	RW - RUNWAY
DWG - DRAWING	RPZ - RUNWAY PROTECTION ZONE
E - EASTING	RSA - RUNWAY SAFETY AREA
EL/ELEV - ELEVATION	RT - RIGHT
EOP - EDGE OF PAVEMENT	SCH - SCHEDULE
ES - EQUAL SPACES	SGN - SIGN
EX/EXST/EXIST - EXISTING	SIDA - SECURITY IDENTIFICATION DISPLAY AREA
FAA - FEDERAL AVIATION ADMINISTRATION	SS - STAINLESS STEEL
FOC - FIBER OPTIC CABLE	STA - STATION
FOD - FOREIGN OBJECT DEBRIS	STD - STANDARD
GND - GROUND	SW - SWITCH
GRS - GALVANIZED RIGID STEEL CONDUIT	T/L - TAXILANE
GS - GLIDE SLOPE ANTENNA	TW - TAXIWAY
I/C - NUMBER OF CONDUCTORS/CONDUCTOR	TBR - TO BE REMOVED
IE/INV - INVERT ELEVATION / INVERT	TDZ - TOUCHDOWN ZONE
ILS - INSTRUMENT LANDING SYSTEM	TSA - TAXIWAY SAFETY AREA
KV - KILOVOLT	TYP., (TYP) - TYPICAL
LF - LINEAR FEET	UE - UNDERGROUND ELECTRICAL UTILITY FEEDER
LT - LEFT	UG - UNDERGROUND ELECTRICAL DUCT
MAX - MAXIMUM	W - WATER
MCB - MAIN CIRCUIT BREAKER	XFMR - TRANSFORMER
MIN - MINIMUM	
N - NORTHING NAD - NORTH AMERICAN DATUM	
NGVD - NATIONAL GEODETIC VERTICAL DATUM	
NOTAM - NOTICE TO AIRMEN	

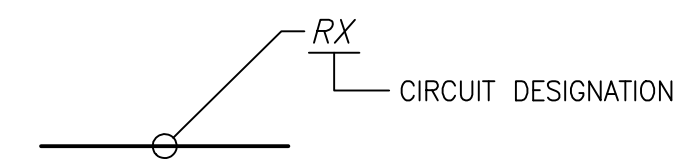
## GENERAL NOTES:

- ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE, THE NATIONAL ELECTRICAL SAFETY CODE, FAA ADVISORY CIRCULARS AND ORDERS, AND APPLICABLE LOCAL BUILDING CODES, LAWS AND ORDINANCES.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES, INSPECTIONS, FEES AND APPROVALS.
- THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO REMOVE, RELOCATE, MODIFY AND INSTALL THE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS. ITEMS NOT SHOWN BUT NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.
- ALL ITEMS ARE NEW UNLESS SPECIFICALLY NOTED OTHERWISE. NEW MATERIALS SHALL BE U.L. LISTED.
- ALL MATERIALS SCHEDULED FOR REMOVAL SUCH AS EXISTING LIGHTS, COVERS, TRANSFORMERS, ETC. WHICH ARE DEEMED SALVAGEABLE BY THE AIRPORT SHALL BE DELIVERED TO THE LOCATION ON AIRPORT PROPERTY AS INDICATED BY THE OWNER'S REPRESENTATIVE. ALL NON-SALVAGEABLE MATERIALS REMOVED SUCH AS STRUCTURES, CONCRETE FOUNDATIONS, CABLE, CONDUIT, LIGHT BASES, ETC. SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS.
- THE LOCATIONS OF UTILITIES, DUCT BANKS AND CONDUITS SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL NOT BE SCALED FOR EXACT LOCATIONS. NOT ALL UTILITIES MAY BE SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE APPROPRIATE UTILITY/AGENCY PRIOR TO STARTING WORK FOR THE LOCATION OF EXISTING UTILITIES AND TO ALLOW THEM TIME TO PROPERLY LOCATE ALL UTILITIES. ANY INTERRUPTION OF AN EXISTING SYSTEM OR UTILITY SERVICE SHALL BE COORDINATED AND APPROVED BY THE AUTHORITY, AGENCY OR UTILITY HAVING JURISDICTION.
- ALL EXISTING SYSTEMS AND UTILITIES TO REMAIN SHALL BE PROTECTED FROM DAMAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGED SYSTEM OR UTILITY AND SHALL REPLACE OR MAKE REPAIRS IMMEDIATELY, AT THEIR OWN EXPENSE, IN ACCORDANCE WITH THE AUTHORITY, AGENCY OR UTILITY HAVING JURISDICTION. DAMAGED SYSTEMS OR UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL UTILIZE A LOCATE SERVICE AS WELL AS HAVE A CABLE TRACER AVAILABLE TO LOCATE THE EXISTING CABLES. ALL EXCAVATION WITHIN FOUR FEET OF ANY UNDERGROUND UTILITY TO REMAIN SHALL BE PERFORMED BY HAND DIGGING METHODS.
- THE IDENTITY AND ROUTING OF ALL CABLES SHOWN ON THE PLANS SHALL BE VERIFIED IN THE FIELD. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND RECORDED IN THE AS-BUILT DRAWINGS TO PROVIDE AN ACCURATE RECORD OF CONDITIONS. THESE PLANS DO NOT PURPORT TO SHOW ALL EXISTING CABLES AND CONCEALED UTILITIES WHICH WILL REQUIRE STAKE OUT PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY EXISTING CIRCUIT ROUTING PRIOR TO COMMENCING WORK.
- DEWATERING FOR THE INSTALLATION OF STRUCTURES, FOUNDATIONS, DUCT BANKS, AND CONDUIT IS INCIDENTAL TO THE RESPECTIVE PAY ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE TO PAY FOR AND OBTAIN ANY AND ALL PERMITS REQUIRED FOR DEWATERING.
- THE PROJECT PAY ITEMS ARE PROVIDED TO BE INCLUSIVE OF ALL WORK PERFORMED AS SHOWN IN THE PLANS. ALL WORK TO BE IDENTIFIED WITH A SPECIFIC PAY ITEM IS TO BE CONSIDERED REQUIRED WORK TO COMPLETE THE PROJECT AND IS TO BE SUBSIDIARY TO THE COST OF PROJECT PAY ITEMS PROVIDED.
- ITEMS SHOWN SCREENED (LIGHT) ARE EXISTING ITEMS AND ITEMS SHOWN IN SOLID (BOLD) ARE ITEMS TO BE MODIFIED, REMOVED OR INSTALLED UNDER THIS CONTRACT UNLESS NOTED OTHERWISE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THAT ALL AIRFIELD LIGHTING CIRCUITS, EXCEPT THOSE THAT ARE SERVING CLOSED TAXIWAYS OR RUNWAYS, ARE OPERATIONAL USING TOWER AND/OR VAULT CONTROLS AT THE END OF EACH WORK DAY AND SHALL SO CERTIFY TO THE OWNER'S REPRESENTATIVE BEFORE LEAVING THE SITE EACH DAY. ALL INOPERABLE CIRCUITS REQUIRED FOR THE OPERATION OF THE AIRPORT SHALL BE IMMEDIATELY RESTORED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS, INCLUDING REPAIRS MADE BY AIRPORT PERSONNEL.
- THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE SAFETY AND PHASING PLANS.
- THE CONTRACTOR SHALL COMPLY WITH THE AIRPORT MAINTENANCE 'LOCK-OUT/TAG-OUT' PROCEDURES AND NFPA 70E.
- FOR EVERY LIGHT FIXTURE AND SIGN INSTALLED UNDER THIS CONTRACT THE CONTRACTOR SHALL OBTAIN THE EXACT LOCATION VIA SURVEY AND BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL CONDUCT INSULATION RESISTANCE TO GROUND (MEGGER) TESTS ON EACH CIRCUIT AFFECTED BY THIS WORK BEFORE COMMENCING WORK ON THAT CIRCUIT. THE CONTRACTOR SHALL PREPARE AND PROVIDE TO THE OWNER'S REPRESENTATIVE A WRITTEN REPORT, BY CIRCUIT, OF THESE RESULTS. THE CONTRACTOR SHALL REPEAT THIS TEST ON EACH AFFECTED CIRCUIT AFTER COMPLETION OF THE WORK. RESULTS OF BOTH TESTS SHALL BE PROVIDED TO THE OWNER'S REPRESENTATIVE.
- ALL ITEMS SHALL BE SHOWN IN ACTUAL LOCATION INSTALLED. ALL UNDERGROUND DUCTS, CONDUITS, DRAINS, GROUND GRIDS, FORCE MAINS, ETC. (ALL UNDERGROUND UTILITIES) INSTALLED BY THE CONTRACTOR OR LOCATED BY THE CONTRACTOR DURING CONSTRUCTION OF THIS PROJECT SHALL BE SURVEYED. THE DATA SHALL BE SUFFICIENTLY ACCURATE TO LOCATE THE UTILITY AT A LATER DATE. THE DATA SHALL INCLUDE NORTH-SOUTH AND EAST-WEST COORDINATES AND AN ELEVATION. ALL STRUCTURES INSTALLED BY THE CONTRACTOR SHALL BE SURVEYED. THE CENTER OF THE STRUCTURE SHALL BE LOCATED BY A NORTH-SOUTH AND EAST-WEST COORDINATE AND AN ELEVATION. CHANGE THE EQUIPMENT SCHEDULES TO AGREE WITH ITEMS ACTUALLY FURNISHED. AT THE END OF THE PROJECT, ALL CHANGES SHALL BE TRANSFERRED TO A SET OF RE-PRODUCIBLE DESIGN DRAWINGS MARKED 'AS-BUILT' AND DATED AND STAMPED BY THE ELECTRICAL CONTRACTOR.
- BY SUBMITTING A BID, THE CONTRACTOR ASSURES THE OWNER THAT THE PRODUCT(S) PROVIDED ARE NOT 'END OF LIFE' OR 'END OF PRODUCT LINE' ITEMS AND THAT SPARE PARTS SHALL BE AVAILABLE TO THE OWNER FOR A PERIOD OF AT LEAST 10 YEARS BEYOND THE WARRANTY PERIOD. THE CONTRACTOR AGREES TO REPLACE ANY ITEM OF WHICH PARTS ARE NOT AVAILABLE FOR THE SPECIFIED 10 YEAR PERIOD WITH NEW MANUFACTURED PRODUCT OF EQUIVALENT OF BETTER FUNCTION AND TYPE.
- THE SPARE PARTS TABLE ON THIS SHEET LISTS THE ELECTRICAL SPARE PARTS REQUIRED TO BE FURNISHED BY THE CONTRACTOR. ALL SPARE PARTS SHALL BE IDENTICAL TO THE SAME PARTS APPROVED AND INSTALLED IN THE PROJECT. THE COST OF ALL DEFINED SPARE PARTS TO BE FURNISHED TO THE OWNER SHALL BE INCLUDED IN THE VARIOUS UNIT BID ITEMS FOR WHICH THE SPARE PARTS ARE PROVIDED.
- A MINIMUM OF THREE COPIES OF INSTRUCTION BOOKS MUST BE SUPPLIED WITH EACH TYPE OF EQUIPMENT. FOR MORE SOPHISTICATED TYPES OF EQUIPMENT SUCH AS REGULATORS, PAPI, REIL, ETC., THE INSTRUCTION BOOK MUST CONTAIN THE FOLLOWING:
  - A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.
  - THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
  - INSTALLATION INSTRUCTIONS.
  - START-UP INSTRUCTIONS.
  - PREVENTATIVE MAINTENANCE REQUIREMENTS.
  - CHART FOR TROUBLESHOOTING.
  - COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/CONNECTION/COMPONENT; "BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OR THE NARRATIVE MUST SHOW VOLTAGES/CURRENT/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLESHOOTING THE EQUIPMENT. WHEN THE EQUIPMENT HAS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS MUST BE INDICATED FOR ALL THE DIFFERENT MODES.
  - PARTS LIST WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS, SUCH AS RESISTORS, DIODES, ETC. IT MUST INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.
  - SAFETY INSTRUCTIONS.

## SPARE PARTS TABLE

ITEM TYPE	SPARE PARTS REQUIRED
ELEVATED FIXTURES: (15 EACH)	FRANGIBLE COUPLINGS
	COLUMN MOUNTS, BOLTS, & SCREWS
	HEAD ASSEMBLIES
	BASE PLATES
	LAMPS/LENSES

## CIRCUIT IDENTIFICATION:



### CIRCUIT IDENTIFICATION NOTES:

- DARK TEXT ON E200 SERIES SHEETS INDICATES CABLE TO BE FURNISHED AND INSTALLED ON E200 SERIES SHEETS.
- LIGHT TEXT INDICATES EXISTING CABLE TO REMAIN ON E200 SERIES SHEET.

## AIRFIELD LIGHTING CIRCUIT SCHEDULE

CIRCUIT	DESCRIPTION	CIRCUIT
R1432	RUNWAY 14-32	1/C NO. 8 AWG, L-824 CABLE, TYPE C
P32	PAPI 32	1/C NO. 8 AWG, L-824 CABLE, TYPE C
P14	PAPI 14	1/C NO. 8 AWG, L-824 CABLE, TYPE C
TWY A	TAXIWAY A	1/C NO. 8 AWG, L-824 CABLE, TYPE C

**RS&H**

11 North Water Street, Suite 10290  
Mobile, AL 36602  
251-460-3233 FAX 904-256-2501  
www.rsandh.com

FL Cert. Nos. AAC001886 \* B22690056 \*  
EB0005620 \* LCC000210 \* G8238



**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG



IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

### REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019

REVIEWED BY: CAT

DRAWN BY: AGS

DESIGNED BY: AGS

AEP PROJECT NUMBER  
201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS INC.

SHEET TITLE  
**AIRFIELD ELECTRICAL LEGEND, NOTES AND ABBREVIATIONS**

SHEET NUMBER

**E001**

**BID DOCUMENTS**



**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

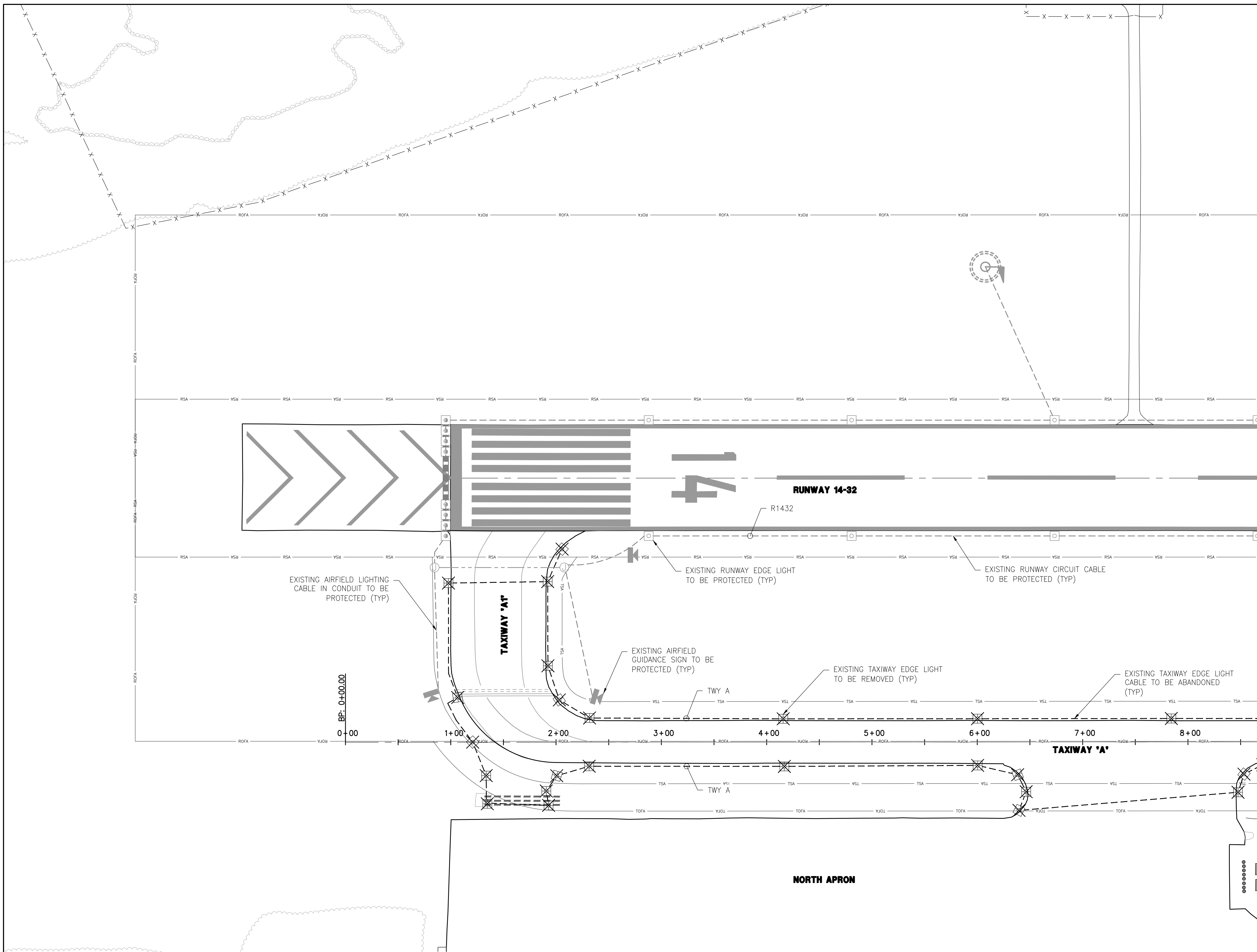
CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**LEGEND**

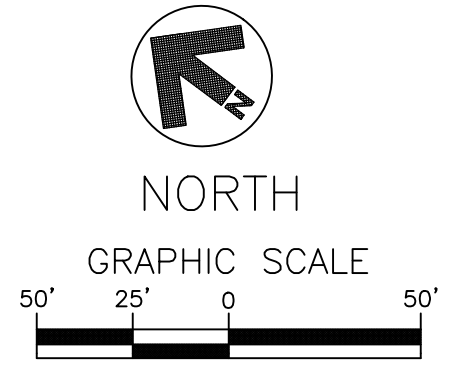
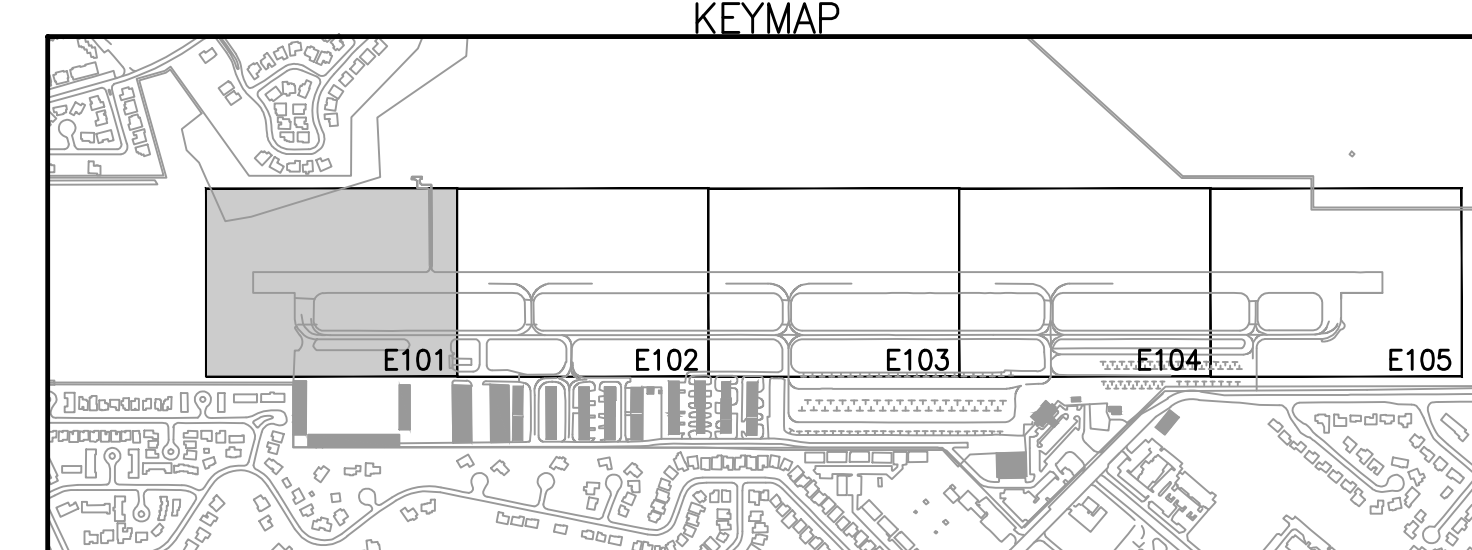
- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- TSA — TAXIWAY SAFETY AREA (TSA)
- TOFA — TAXIWAY OBJECT FREE AREA (TOFA)
- ○ EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED
- ○ EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED
- ⊗ EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE E101-E105
- ⬇ EXISTING JUNCTION CAN TO BE PROTECTED
- - - EXISTING DIRECT BURIED PVC DUCT BANK
- - - EXISTING AIRFIELD LIGHTING CABLE TO BE PROTECTED
- - - EXISTING DIRECT BURIED AIRFIELD CABLE TO BE ABANDONED
- - - EXISTING STORM PIPE TO BE PROTECTED
- - - EXISTING STORM PIPE TO BE REMOVED

MATCHLINE SHEET E102 STA. 84+75.00



**NOTES**

1. THE CONTRACTOR SHALL PROTECT ALL EXISTING ELECTRICAL CABLE TO REMAIN.
2. THE CONTRACTOR SHALL REPLACE ANY ELECTRICAL ITEMS TO REMAIN THAT ARE DAMAGED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. COORDINATE DEMOLITION OF THE AIRFIELD LIGHTING SYSTEMS WITH THE PHASING PLAN ON SHEET C004.
4. ALL MATERIALS SCHEDULED FOR REMOVAL SUCH AS EXISTING LIGHTS, COVERS, TRANSFORMERS, ETC. WHICH ARE DEEMED SALVAGEABLE BY THE AIRPORT SHALL BE DELIVERED TO THE LOCATION ON AIRPORT PROPERTY AS INDICATED BY THE OWNER'S REPRESENTATIVE. ALL NON-SALVAGEABLE MATERIALS REMOVED SUCH AS STRUCTURES, CONCRETE FOUNDATIONS, CABLE, CONDUIT, LIGHT BASES, ETC. SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS.
5. THE CONTRACTOR SHALL REMOVE ALL EDGE TAXIWAY REFLECTORS FROM THE AIRFIELD NOT SHOWN IN THE PLANS.
6. CONTRACTOR TO PROVIDE FIELD SPLICE KITS AND TEMPORARY JUMPERS AS REQUIRED TO MAINTAIN THE RUNWAY CIRCUIT CONTINUITY. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE TEMPORARY WORK ITEMS BID ITEM.
7. SEE SHEET E001 FOR LEGEND, NOTES AND ABBREVIATIONS



**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: CAT  
 DRAWN BY: AGS  
 DESIGNED BY: AGS  
 AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS INC.  
 SHEET TITLE

**ELECTRICAL DEMOLITION PLAN (SHEET 1 OF 5)**

SHEET NUMBER  
**E101**  
 BID DOCUMENTS



**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**LEGEND**

- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- TSA — TAXIWAY SAFETY AREA (TSA)
- TOFA — TAXIWAY OBJECT FREE AREA (TOFA)
- ○ EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED
- ○ EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED
- ⊗ EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE E101-E105
- ⊕ EXISTING JUNCTION CAN TO BE PROTECTED
- EXISTING DIRECT BURIED PVC DUCT BANK
- EXISTING AIRFIELD LIGHTING CABLE TO BE PROTECTED
- EXISTING DIRECT BURIED AIRFIELD CABLE TO BE ABANDONED
- EXISTING STORM PIPE TO BE PROTECTED
- EXISTING STORM PIPE TO BE REMOVED

**NOTES**

1. THE CONTRACTOR SHALL PROTECT ALL EXISTING ELECTRICAL CABLE TO REMAIN.
2. THE CONTRACTOR SHALL REPLACE ANY ELECTRICAL ITEMS TO REMAIN THAT ARE DAMAGED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. COORDINATE DEMOLITION OF THE AIRFIELD LIGHTING SYSTEMS WITH THE PHASING PLAN ON SHEET C004.
4. ALL MATERIALS SCHEDULED FOR REMOVAL SUCH AS EXISTING LIGHTS, COVERS, TRANSFORMERS, ETC. WHICH ARE DEEMED SALVAGEABLE BY THE AIRPORT SHALL BE DELIVERED TO THE LOCATION ON AIRPORT PROPERTY AS INDICATED BY THE OWNER'S REPRESENTATIVE. ALL NON-SALVAGEABLE MATERIALS REMOVED SUCH AS STRUCTURES, CONCRETE FOUNDATIONS, CABLE, CONDUIT, LIGHT BASES, ETC. SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS.
5. THE CONTRACTOR SHALL REMOVE ALL EDGE TAXIWAY REFLECTORS FROM THE AIRFIELD NOT SHOWN IN THE PLANS.
6. CONTRACTOR TO PROVIDE FIELD SPLICE KITS AND TEMPORARY JUMPERS AS REQUIRED TO MAINTAIN THE RUNWAY CIRCUIT CONTINUITY. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE TEMPORARY WORK ITEMS BID ITEM.
7. SEE SHEET E001 FOR LEGEND, NOTES AND ABBREVIATIONS

**REVISIONS**

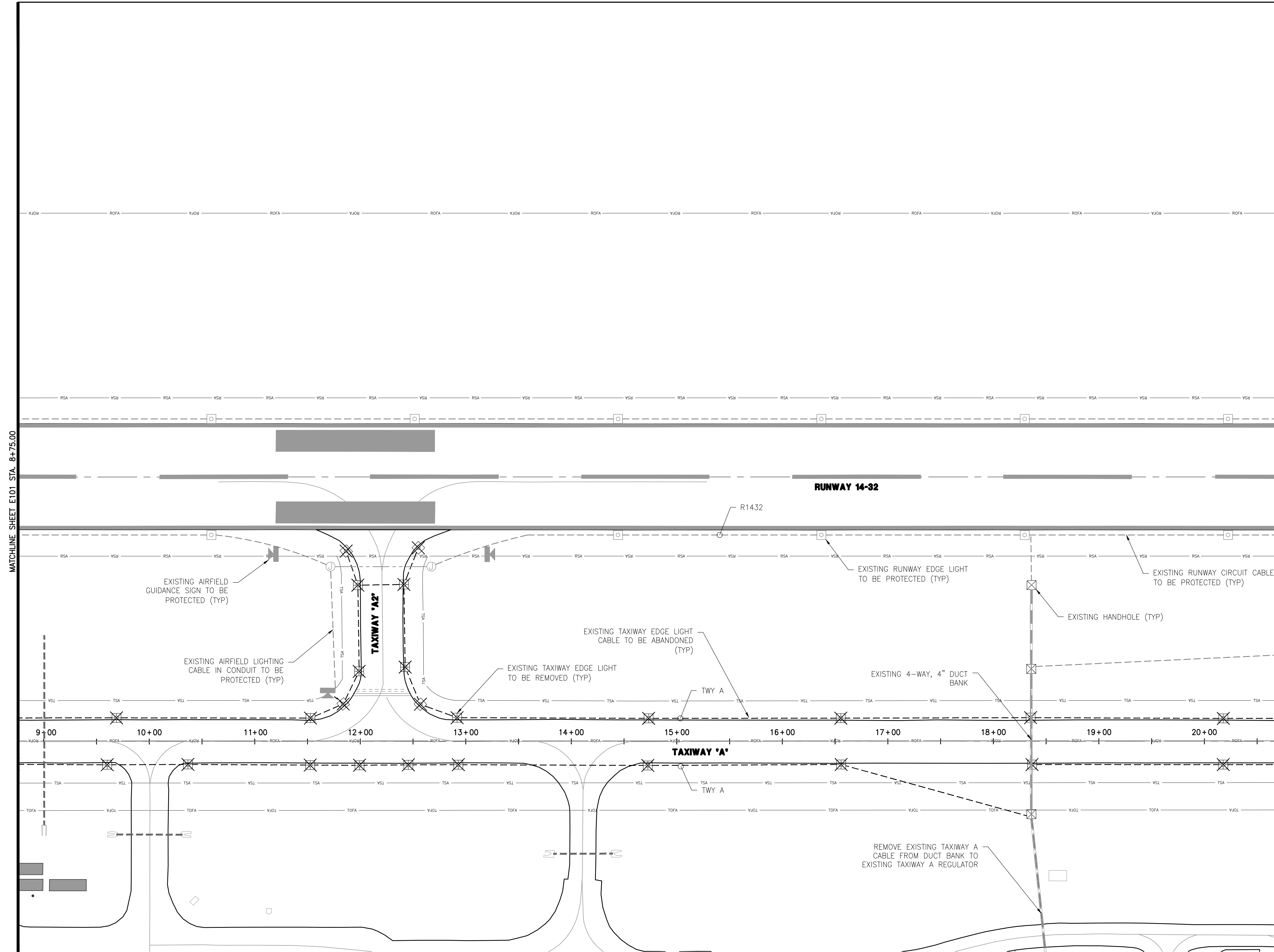
NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: CAT  
 DRAWN BY: AGS  
 DESIGNED BY: AGS  
 AEP PROJECT NUMBER  
 201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS INC.  
 SHEET TITLE

**ELECTRICAL DEMOLITION PLAN (SHEET 2 OF 5)**

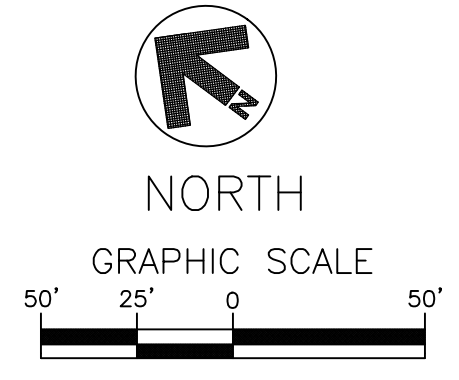
SHEET NUMBER  
**E102**  
 BID DOCUMENTS



MATCHLINE SHEET E101 STA. 8+75.00

MATCHLINE SHEET E103 STA. 20+75.00

**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.







**DESTIN EXECUTIVE AIRPORT**  
 DESTIN, FLORIDA

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

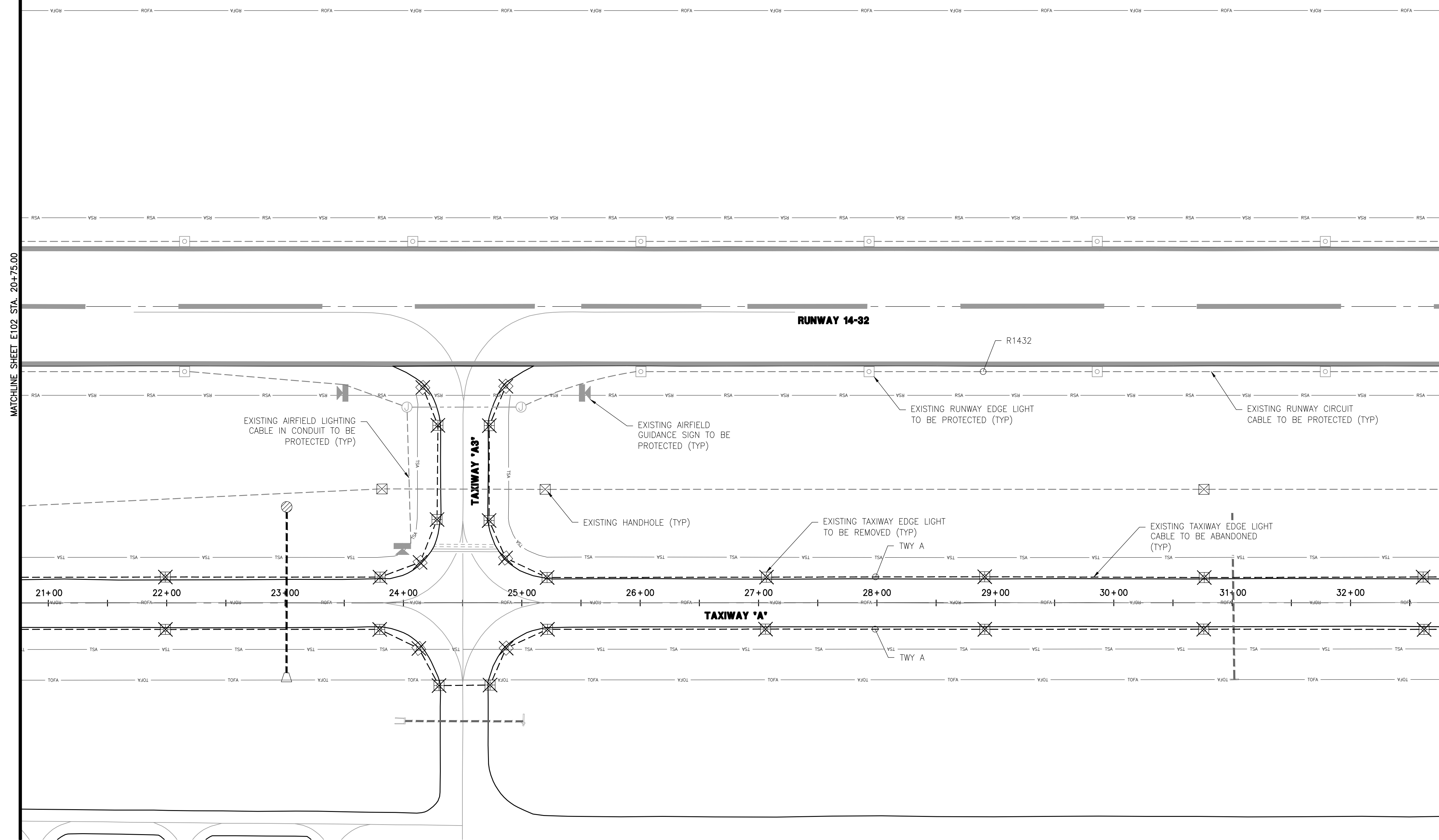
CONSULTANTS

**LEGEND**

- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- TSA — TAXIWAY SAFETY AREA (TSA)
- TOFA — TAXIWAY OBJECT FREE AREA (TOFA)
- ○ EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED
- ○ EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED
- ▬ EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED
- ⊗ EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE E101-E105
- ⬇ EXISTING JUNCTION CAN TO BE PROTECTED
- - - - EXISTING DIRECT BURIED PVC DUCT BANK
- - - - EXISTING AIRFIELD LIGHTING CABLE TO BE PROTECTED
- - - - EXISTING DIRECT BURIED AIRFIELD CABLE TO BE ABANDONED
- - - - EXISTING STORM PIPE TO BE PROTECTED
- - - - EXISTING STORM PIPE TO BE REMOVED

MATCHLINE SHEET E102 STA. 20+75.00

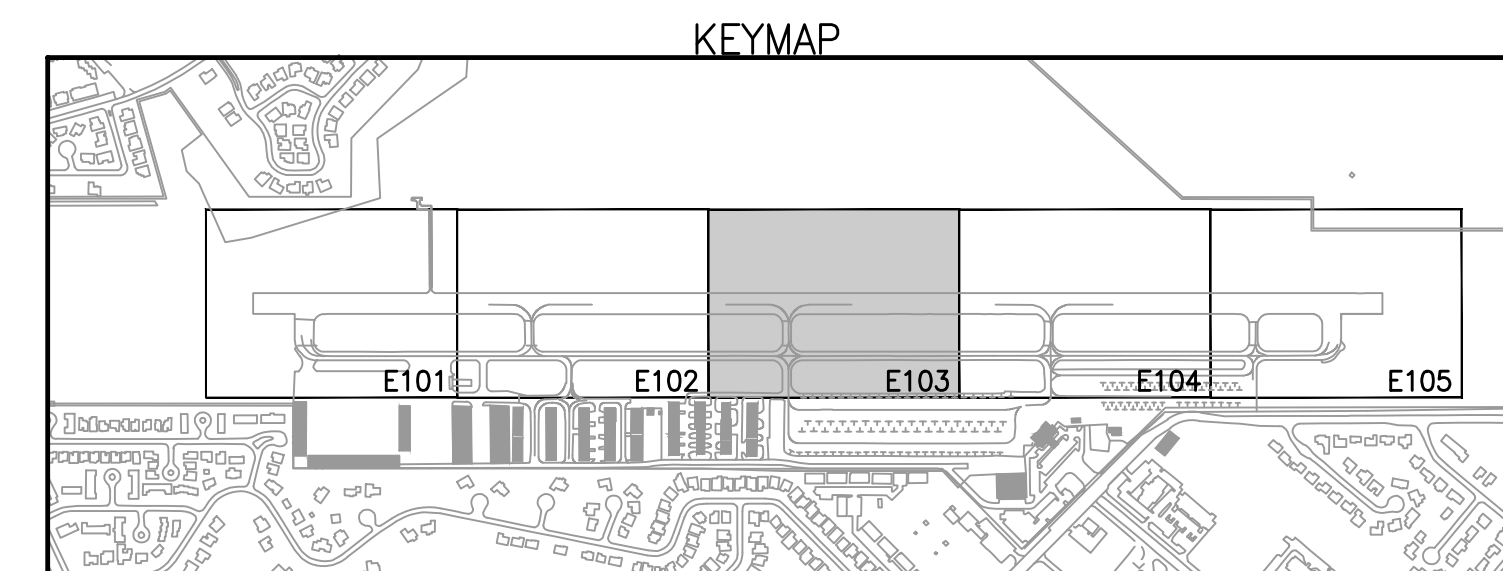
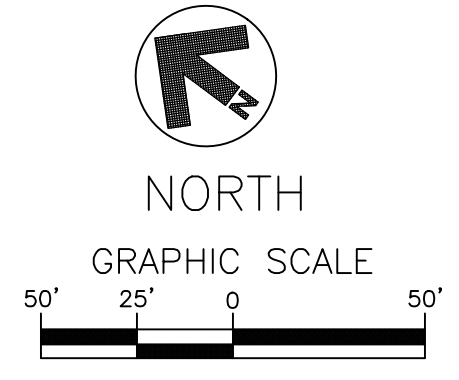
MATCHLINE SHEET E104 STA. 32+75.00



**NOTES**

1. THE CONTRACTOR SHALL PROTECT ALL EXISTING ELECTRICAL CABLE TO REMAIN.
2. THE CONTRACTOR SHALL REPLACE ANY ELECTRICAL ITEMS TO REMAIN THAT ARE DAMAGED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. COORDINATE DEMOLITION OF THE AIRFIELD LIGHTING SYSTEMS WITH THE PHASING PLAN ON SHEET C004.
4. ALL MATERIALS SCHEDULED FOR REMOVAL SUCH AS EXISTING LIGHTS, COVERS, TRANSFORMERS, ETC. WHICH ARE DEEMED SALVAGEABLE BY THE AIRPORT SHALL BE DELIVERED TO THE LOCATION ON AIRPORT PROPERTY AS INDICATED BY THE OWNER'S REPRESENTATIVE. ALL NON-SALVAGEABLE MATERIALS REMOVED SUCH AS STRUCTURES, CONCRETE FOUNDATIONS, CABLE, CONDUIT, LIGHT BASES, ETC. SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS.
5. THE CONTRACTOR SHALL REMOVE ALL EDGE TAXIWAY REFLECTORS FROM THE AIRFIELD NOT SHOWN IN THE PLANS.
6. CONTRACTOR TO PROVIDE FIELD SPLICE KITS AND TEMPORARY JUMPERS AS REQUIRED TO MAINTAIN THE RUNWAY CIRCUIT CONTINUITY. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE TEMPORARY WORK ITEMS BID ITEM.
7. SEE SHEET E001 FOR LEGEND, NOTES AND ABBREVIATIONS

**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.



CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811  
 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: CAT  
 DRAWN BY: AGS  
 DESIGNED BY: AGS  
 AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS INC.  
 SHEET TITLE

**ELECTRICAL DEMOLITION PLAN (SHEET 3 OF 5)**

SHEET NUMBER  
**E103**  
 BID DOCUMENTS



**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.  
SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

**LEGEND**

- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- TSA — TAXIWAY SAFETY AREA (TSA)
- TOFA — TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED
- ▶ EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED
- ⊗ EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE E101-E105
- Ⓣ EXISTING JUNCTION CAN TO BE PROTECTED
- EXISTING DIRECT BURIED PVC DUCT BANK
- EXISTING AIRFIELD LIGHTING CABLE TO BE PROTECTED
- EXISTING DIRECT BURIED AIRFIELD CABLE TO BE ABANDONED
- EXISTING STORM PIPE TO BE PROTECTED
- EXISTING STORM PIPE TO BE REMOVED

**NOTES**

1. THE CONTRACTOR SHALL PROTECT ALL EXISTING ELECTRICAL CABLE TO REMAIN.
2. THE CONTRACTOR SHALL REPLACE ANY ELECTRICAL ITEMS TO REMAIN THAT ARE DAMAGED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. COORDINATE DEMOLITION OF THE AIRFIELD LIGHTING SYSTEMS WITH THE PHASING PLAN ON SHEET C004.
4. ALL MATERIALS SCHEDULED FOR REMOVAL SUCH AS EXISTING LIGHTS, COVERS, TRANSFORMERS, ETC. WHICH ARE DEEMED SALVAGEABLE BY THE AIRPORT SHALL BE DELIVERED TO THE LOCATION ON AIRPORT PROPERTY AS INDICATED BY THE OWNER'S REPRESENTATIVE. ALL NON-SALVAGEABLE MATERIALS REMOVED SUCH AS STRUCTURES, CONCRETE FOUNDATIONS, CABLE, CONDUIT, LIGHT BASES, ETC. SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS.
5. THE CONTRACTOR SHALL REMOVE ALL EDGE TAXIWAY REFLECTORS FROM THE AIRFIELD NOT SHOWN IN THE PLANS.
6. CONTRACTOR TO PROVIDE FIELD SPLICE KITS AND TEMPORARY JUMPERS AS REQUIRED TO MAINTAIN THE RUNWAY CIRCUIT CONTINUITY. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE TEMPORARY WORK ITEMS BID ITEM.
7. SEE SHEET E001 FOR LEGEND, NOTES AND ABBREVIATIONS

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
REVIEWED BY: CAT  
DRAWN BY: AGS  
DESIGNED BY: AGS

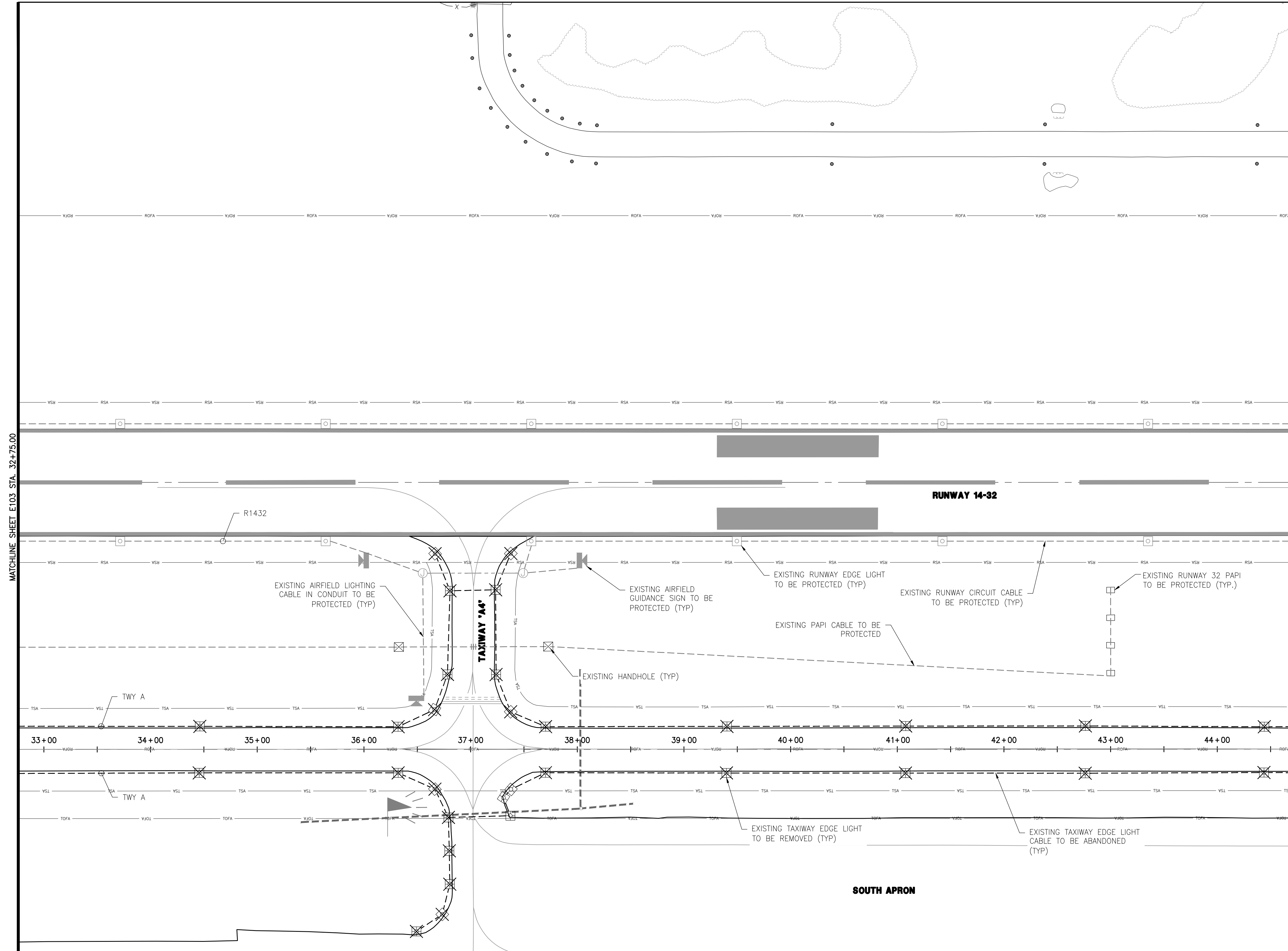
AEP PROJECT NUMBER  
201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS INC.  
SHEET TITLE

**ELECTRICAL DEMOLITION PLAN (SHEET 4 OF 5)**

SHEET NUMBER  
**E104**

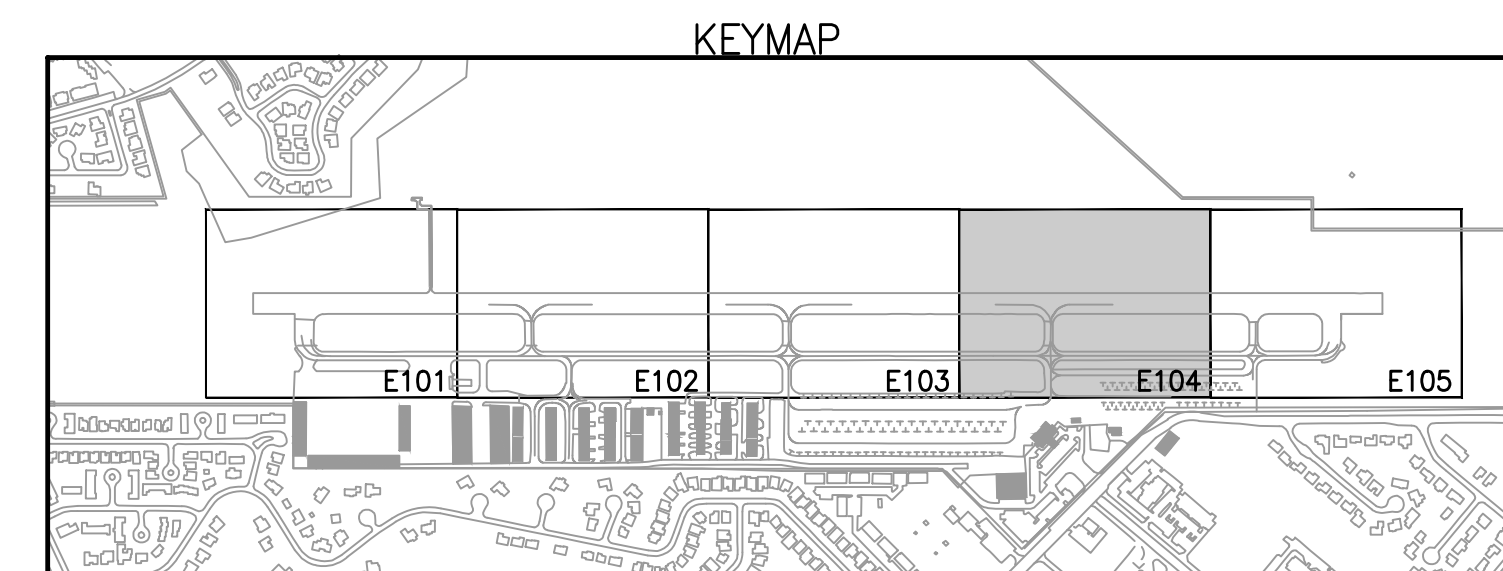
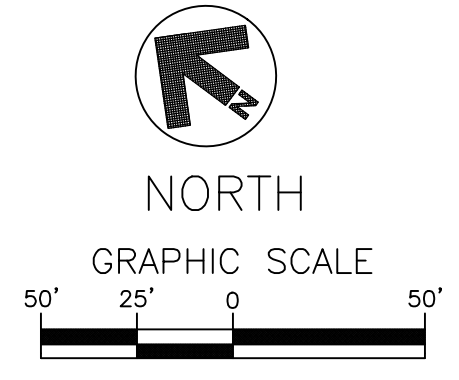
**BID DOCUMENTS**



MATCHLINE SHEET E103 STA. 32+75.00

MATCHLINE SHEET E105 STA. 44+75.00

**WARNING!!!**  
THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRaversing THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.





**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**LEGEND**

- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- TSA — TAXIWAY SAFETY AREA (TSA)
- TOFA — TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED
- ▬ EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED
- ⊗ EXISTING TAXIWAY EDGE LIGHT TO BE REMOVED - SEE E101-E105
- ⬇ EXISTING JUNCTION CAN TO BE PROTECTED
- EXISTING DIRECT BURIED PVC DUCT BANK
- EXISTING AIRFIELD LIGHTING CABLE TO BE PROTECTED
- EXISTING DIRECT BURIED AIRFIELD CABLE TO BE ABANDONED
- EXISTING STORM PIPE TO BE PROTECTED
- EXISTING STORM PIPE TO BE REMOVED

**NOTES**

1. THE CONTRACTOR SHALL PROTECT ALL EXISTING ELECTRICAL CABLE TO REMAIN.
2. THE CONTRACTOR SHALL REPLACE ANY ELECTRICAL ITEMS TO REMAIN THAT ARE DAMAGED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. COORDINATE DEMOLITION OF THE AIRFIELD LIGHTING SYSTEMS WITH THE PHASING PLAN ON SHEET C004.
4. ALL MATERIALS SCHEDULED FOR REMOVAL SUCH AS EXISTING LIGHTS, COVERS, TRANSFORMERS, ETC. WHICH ARE DEEMED SALVAGEABLE BY THE AIRPORT SHALL BE DELIVERED TO THE LOCATION ON AIRPORT PROPERTY AS INDICATED BY THE OWNER'S REPRESENTATIVE. ALL NON-SALVAGEABLE MATERIALS REMOVED SUCH AS STRUCTURES, CONCRETE FOUNDATIONS, CABLE, CONDUIT, LIGHT BASES, ETC. SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS.
5. THE CONTRACTOR SHALL REMOVE ALL EDGE TAXIWAY REFLECTORS FROM THE AIRFIELD NOT SHOWN IN THE PLANS.
6. CONTRACTOR TO PROVIDE FIELD SPLICE KITS AND TEMPORARY JUMPERS AS REQUIRED TO MAINTAIN THE RUNWAY CIRCUIT CONTINUITY. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE TEMPORARY WORK ITEMS BID ITEM.
7. SEE SHEET E001 FOR LEGEND, NOTES AND ABBREVIATIONS

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: CAT  
 DRAWN BY: AGS  
 DESIGNED BY: AGS

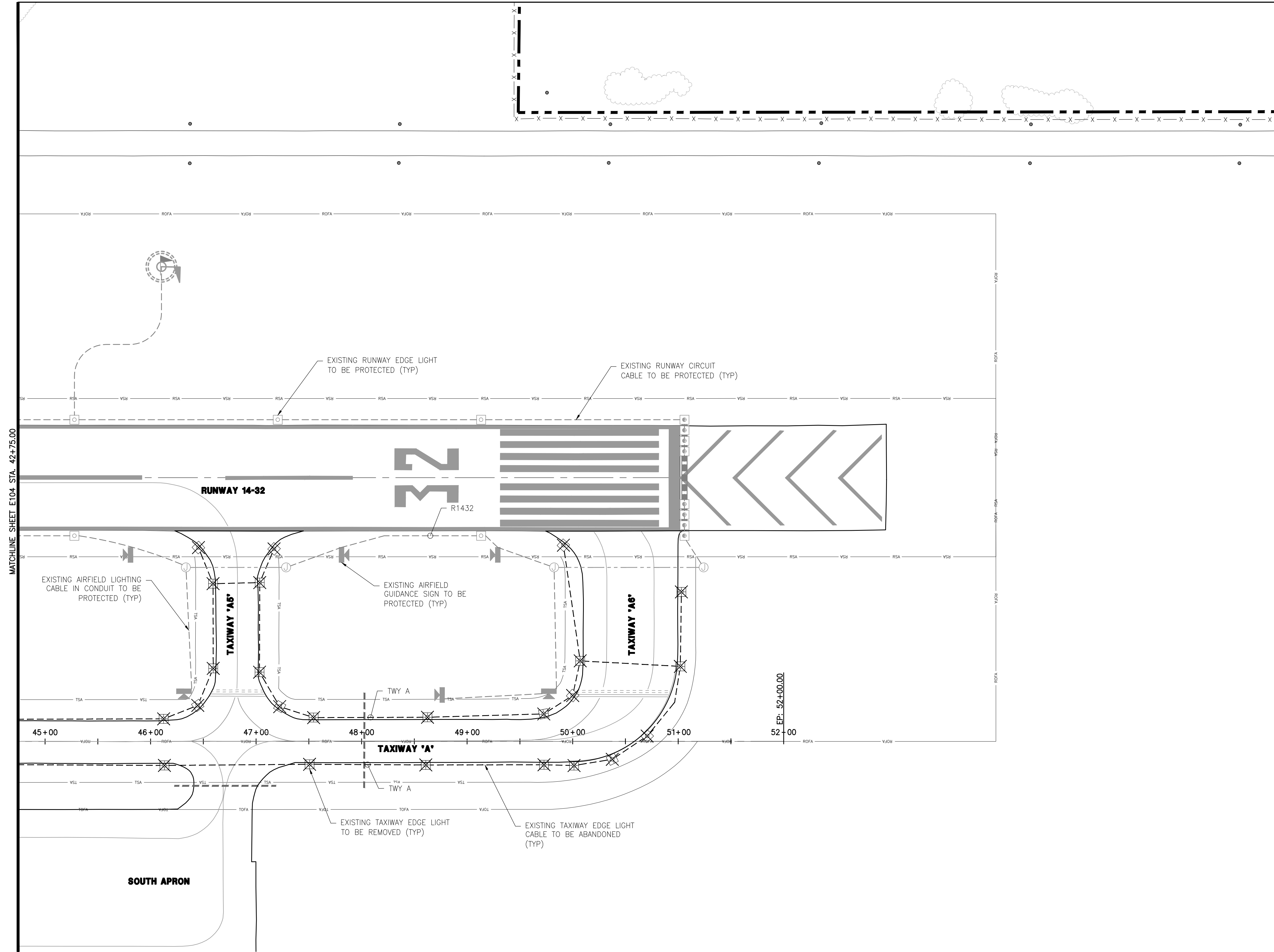
AEP PROJECT NUMBER  
 201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS INC.  
 SHEET TITLE

**ELECTRICAL DEMOLITION PLAN (SHEET 5 OF 5)**

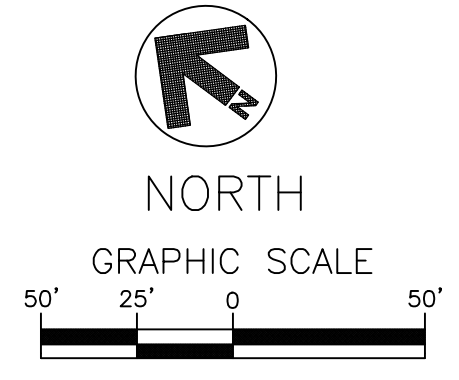
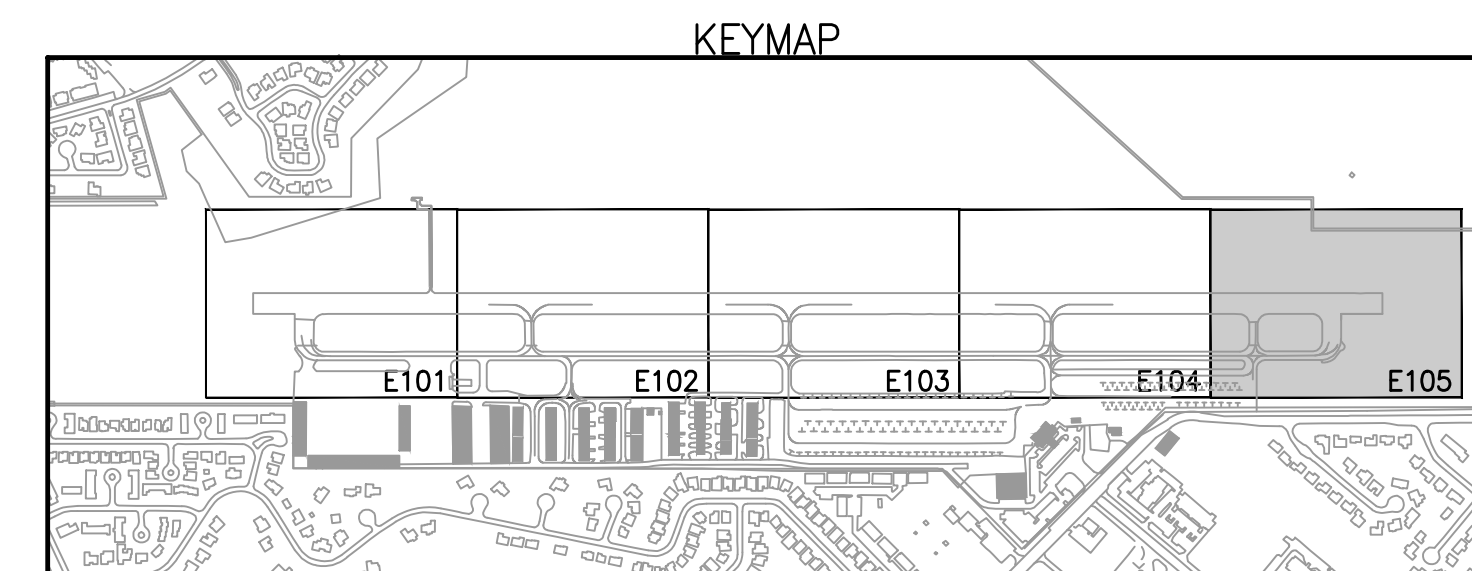
SHEET NUMBER  
**E105**

**BID DOCUMENTS**

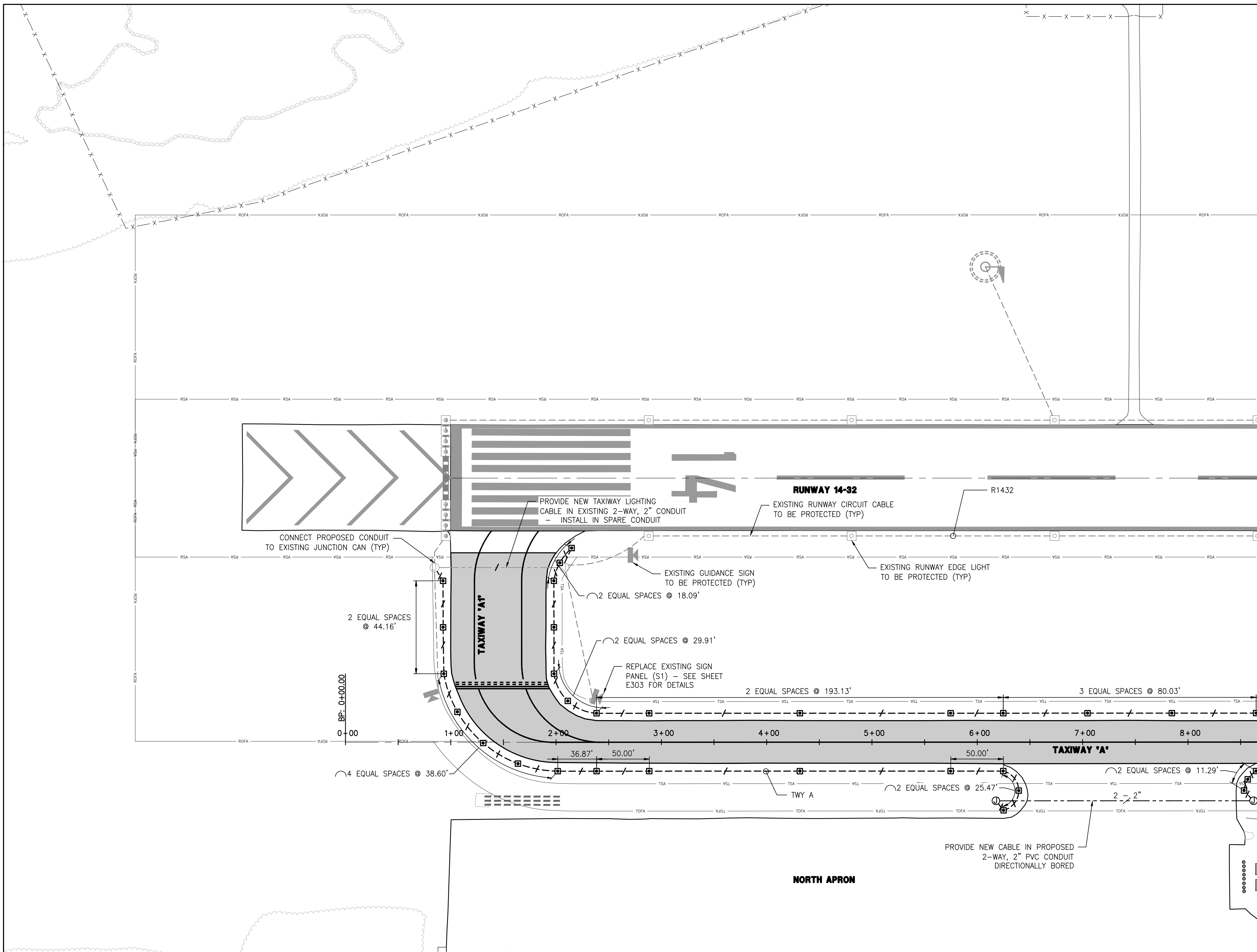


MATCHLINE SHEET E104 STA. 42+75.00

E.P. 52+00.00



**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.



- ### LEGEND
- LIMITS OF RUNWAY CRACK-SEALING AND SEALCOAT TREATMENT
  - RUNWAY SAFETY AREA (RSA)
  - RUNWAY OBJECT FREE AREA (ROFA)
  - TAXIWAY SAFETY AREA (TSA)
  - TAXIWAY OBJECT FREE AREA (TOFA)
  - EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED
  - EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED
  - EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED
  - PROPOSED TAXIWAY EDGE LIGHT FIXTURE AND BASE CAN - SEE SHEET E301
  - EXISTING JUNCTION CAN TO BE PROTECTED
  - PROPOSED L-867 JUNCTION CAN - SEE DETAIL ON SHEET E302
  - EXISTING DUCT BANK
  - EXISTING AIRFIELD LIGHTING CABLE TO BE PROTECTED
  - PROPOSED 1-WAY, 2" DIRECT-BURIED CONDUIT WITH #8 L-824 5KV, TYPE C CABLE WITH 1/C #2 COUNTERPOISE, SLASHES INDICATE NUMBER OF L-824 CABLES
  - PROPOSED X - Y DIRECTIONALLY BORED DUCTBANK; 'X' INDICATES QUANTITY OF CONDUITS AND 'Y' INDICATES SIZE. FURNISH AND INSTALL PULL-ROPE IN EACH CONDUIT AND CAP EACH END OF EACH CONDUIT.
  - EXISTING STORM PIPE TO BE PROTECTED
  - PROPOSED STORM PIPE TO BE PROTECTED

- ### NOTES
- SEE SHEET E001 FOR ADDITIONAL INFORMATION
  - ALL TAXIWAY EDGE LIGHTS SHALL BE PLACED 7.5' FROM THE EDGE OF FULL STRENGTH PAVEMENT.
  - PROPOSED CONDUIT SHALL BE CONNECTED TO EXISTING JUNCTION CANS WHERE INDICATED.
  - FOR EVERY LIGHT FIXTURE AND SIGN INSTALLED UNDER THIS CONTRACT THE CONTRACTOR SHALL OBTAIN THE EXACT LOCATION VIA SURVEY AND BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

**RS&H**  
 11 North Water Street, Suite 10290  
 Mobile, AL 36602  
 251-460-3233 FAX 904-256-2501  
 www.rsandh.com  
 FL Cert. Nos. AAC001886 \* B22690056 \*  
 EB0005620 \* LCC000210 \* G8238

**DESTIN EXECUTIVE AIRPORT**  
 GLENN KELLER FIELD  
 10000 DESTIN BLVD  
 DESTIN, FLORIDA 32541  
**DESTIN EXECUTIVE AIRPORT**  
**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811  
 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

REVISIONS		
NO.	DESCRIPTION	DATE

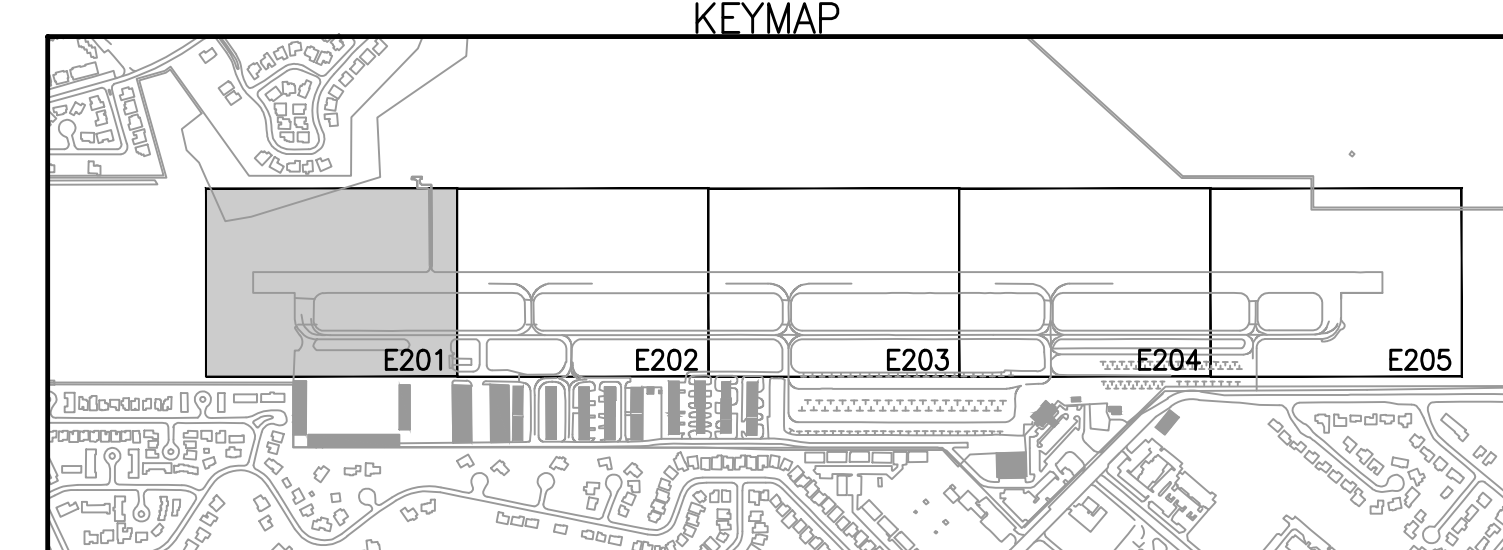
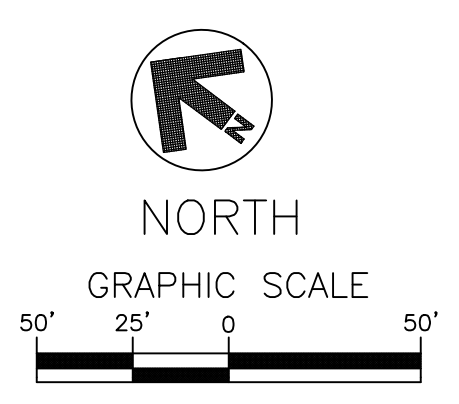
DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: CAT  
 DRAWN BY: AGS  
 DESIGNED BY: AGS  
 AEP PROJECT NUMBER  
 201-0251-012  
 © 2019 REYNOLDS, SMITH AND HILLS INC.  
 SHEET TITLE

**PROPOSED LIGHTING PLAN (SHEET 1 OF 5)**

SHEET NUMBER  
**E201**

**BID DOCUMENTS**

**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.





**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

**LEGEND**

- LIMITS OF RUNWAY CRACK-SEALING AND SEALCOAT TREATMENT
- RSA RUNWAY SAFETY AREA (RSA)
- ROFA RUNWAY OBJECT FREE AREA (ROFA)
- TSA TAXIWAY SAFETY AREA (TSA)
- TOFA TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED
- PROPOSED TAXIWAY EDGE LIGHT FIXTURE AND BASE CAN - SEE SHEET E301
- EXISTING JUNCTION CAN TO BE PROTECTED
- PROPOSED L-867 JUNCTION CAN - SEE DETAIL ON SHEET E302
- EXISTING DUCT BANK
- EXISTING AIRFIELD LIGHTING CABLE TO BE PROTECTED
- PROPOSED 1-WAY, 2" DIRECT-BURIED CONDUIT WITH #8 L-824 5KV, TYPE C CABLE WITH 1/C #2 COUNTERPOISE, SLASHES INDICATE NUMBER OF L-824 CABLES
- PROPOSED X - Y DIRECTIONALLY BORED DUCTBANK; 'X' INDICATES QUANTITY OF CONDUITS AND 'Y' INDICATES SIZE. FURNISH AND INSTALL PULL-ROPE IN EACH CONDUIT AND CAP EACH END OF EACH CONDUIT.
- EXISTING STORM PIPE TO BE PROTECTED
- PROPOSED STORM PIPE TO BE PROTECTED

**NOTES**

1. SEE SHEET E001 FOR ADDITIONAL INFORMATION
2. ALL TAXIWAY EDGE LIGHTS SHALL BE PLACED 7.5' FROM THE EDGE OF FULL STRENGTH PAVEMENT.
3. PROPOSED CONDUIT SHALL BE CONNECTED TO EXISTING JUNCTION CANS WHERE INDICATED.
4. FOR EVERY LIGHT FIXTURE AND SIGN INSTALLED UNDER THIS CONTRACT THE CONTRACTOR SHALL OBTAIN THE EXACT LOCATION VIA SURVEY AND BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

CALL 48 HOURS BEFORE YOU DIG  
IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.  
SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
REVIEWED BY: CAT  
DRAWN BY: AGS  
DESIGNED BY: AGS

AEP PROJECT NUMBER  
201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS, INC.  
SHEET TITLE

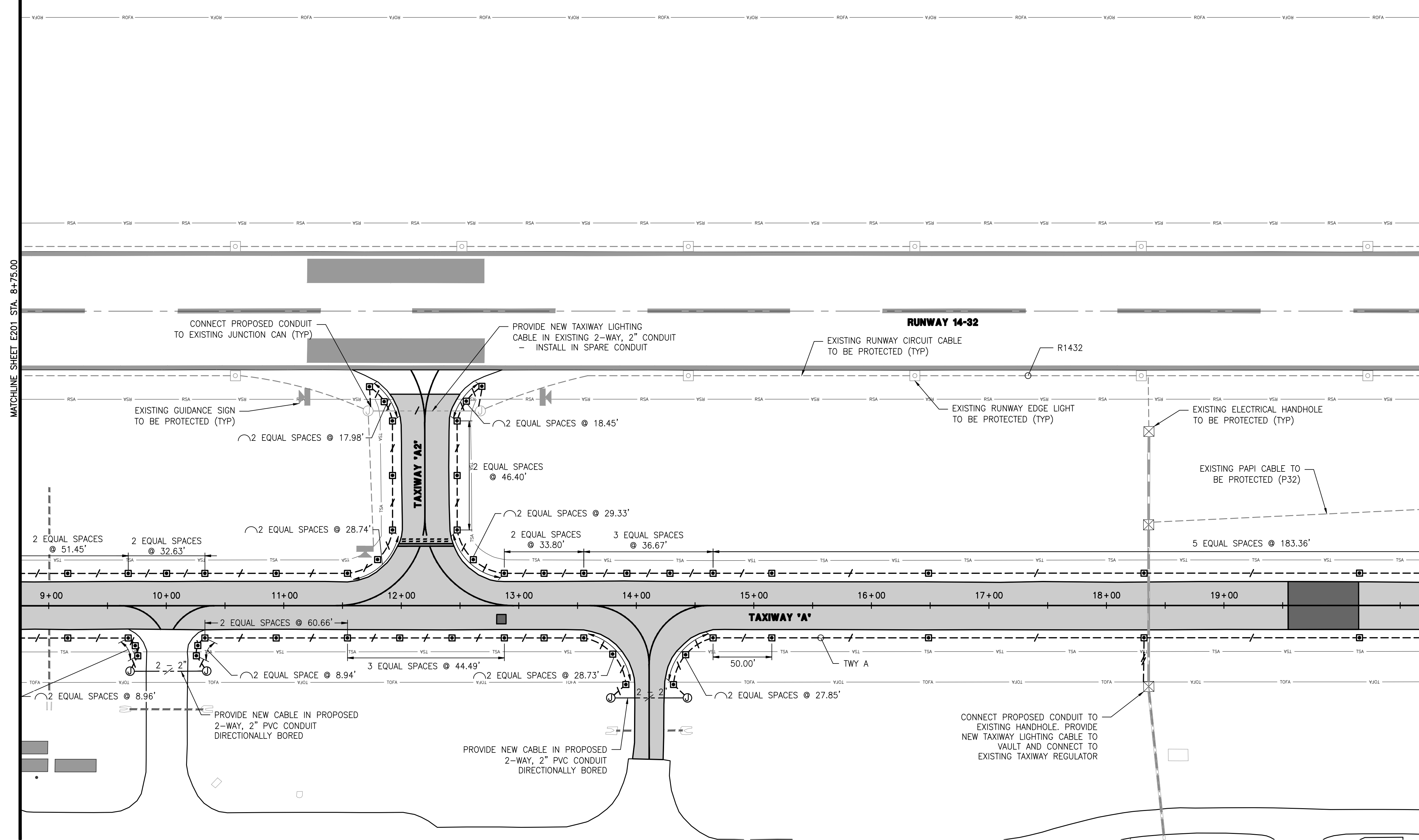
**PROPOSED LIGHTING PLAN (SHEET 2 OF 5)**

SHEET NUMBER  
**E202**

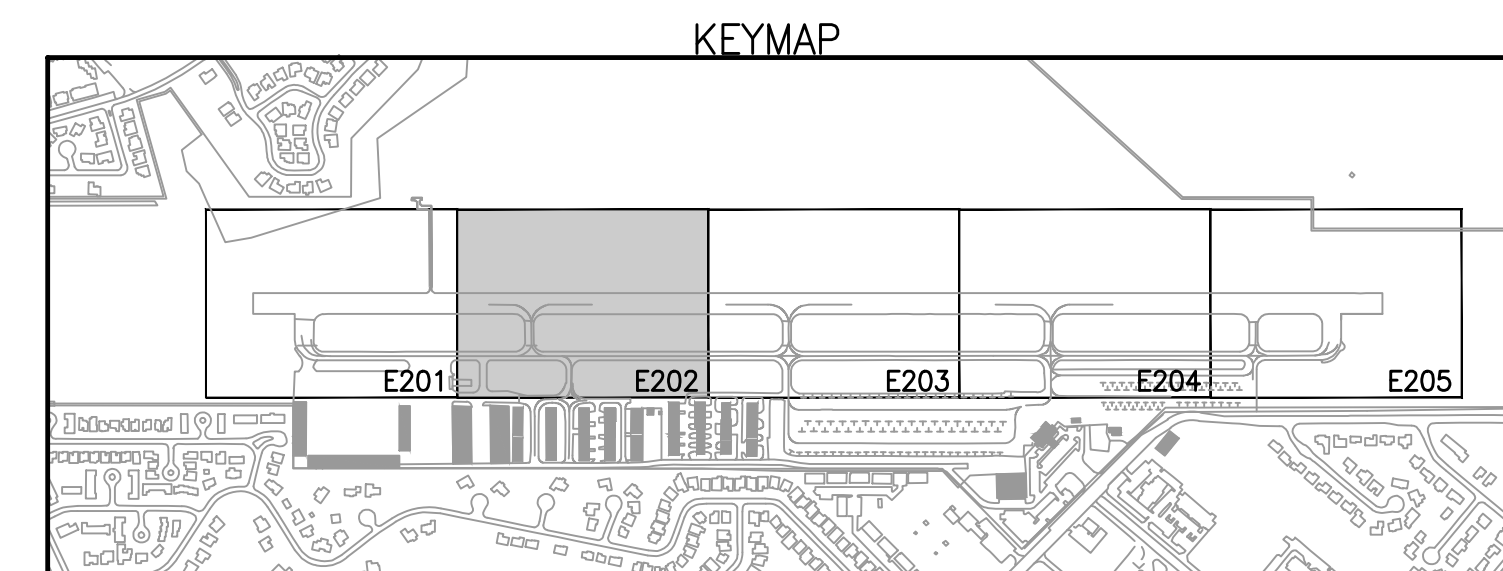
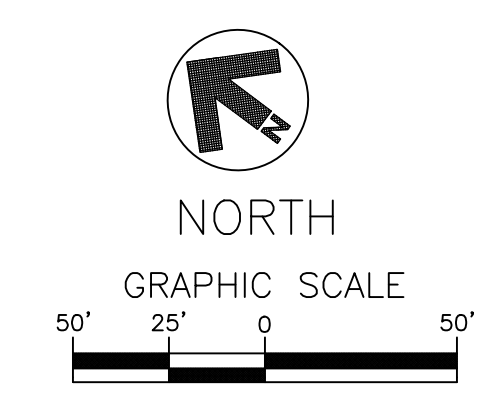
**BID DOCUMENTS**

MATCHLINE SHEET E201 STA. 8+75.00

MATCHLINE SHEET E203 STA. 20+75.00



**WARNING!!!**  
THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.





**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

**LEGEND**

- LIMITS OF RUNWAY CRACK-SEALING AND SEALCOAT TREATMENT
- RSA RUNWAY SAFETY AREA (RSA)
- ROFA RUNWAY OBJECT FREE AREA (ROFA)
- TSA TAXIWAY SAFETY AREA (TSA)
- TOFA TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED
- PROPOSED TAXIWAY EDGE LIGHT FIXTURE AND BASE CAN - SEE SHEET E301
- EXISTING JUNCTION CAN TO BE PROTECTED
- PROPOSED L-867 JUNCTION CAN - SEE DETAIL ON SHEET E302
- EXISTING DUCT BANK
- EXISTING AIRFIELD LIGHTING CABLE TO BE PROTECTED
- PROPOSED 1-WAY, 2" DIRECT-BURIED CONDUIT WITH #8 L-824 5KV, TYPE C CABLE WITH 1/C #2 COUNTERPOISE, SLASHES INDICATE NUMBER OF L-824 CABLES
- PROPOSED X - Y DIRECTIONALLY BORED DUCTBANK; 'X' INDICATES QUANTITY OF CONDUITS AND 'Y' INDICATES SIZE. FURNISH AND INSTALL PULL-ROPE IN EACH CONDUIT AND CAP EACH END OF EACH CONDUIT.
- EXISTING STORM PIPE TO BE PROTECTED
- PROPOSED STORM PIPE TO BE PROTECTED

**NOTES**

1. SEE SHEET E001 FOR ADDITIONAL INFORMATION
2. ALL TAXIWAY EDGE LIGHTS SHALL BE PLACED 7.5' FROM THE EDGE OF FULL STRENGTH PAVEMENT.
3. PROPOSED CONDUIT SHALL BE CONNECTED TO EXISTING JUNCTION CANS WHERE INDICATED.
4. FOR EVERY LIGHT FIXTURE AND SIGN INSTALLED UNDER THIS CONTRACT THE CONTRACTOR SHALL OBTAIN THE EXACT LOCATION VIA SURVEY AND BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
REVIEWED BY: CAT  
DRAWN BY: AGS  
DESIGNED BY: AGS

AEP PROJECT NUMBER  
201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS INC.  
SHEET TITLE

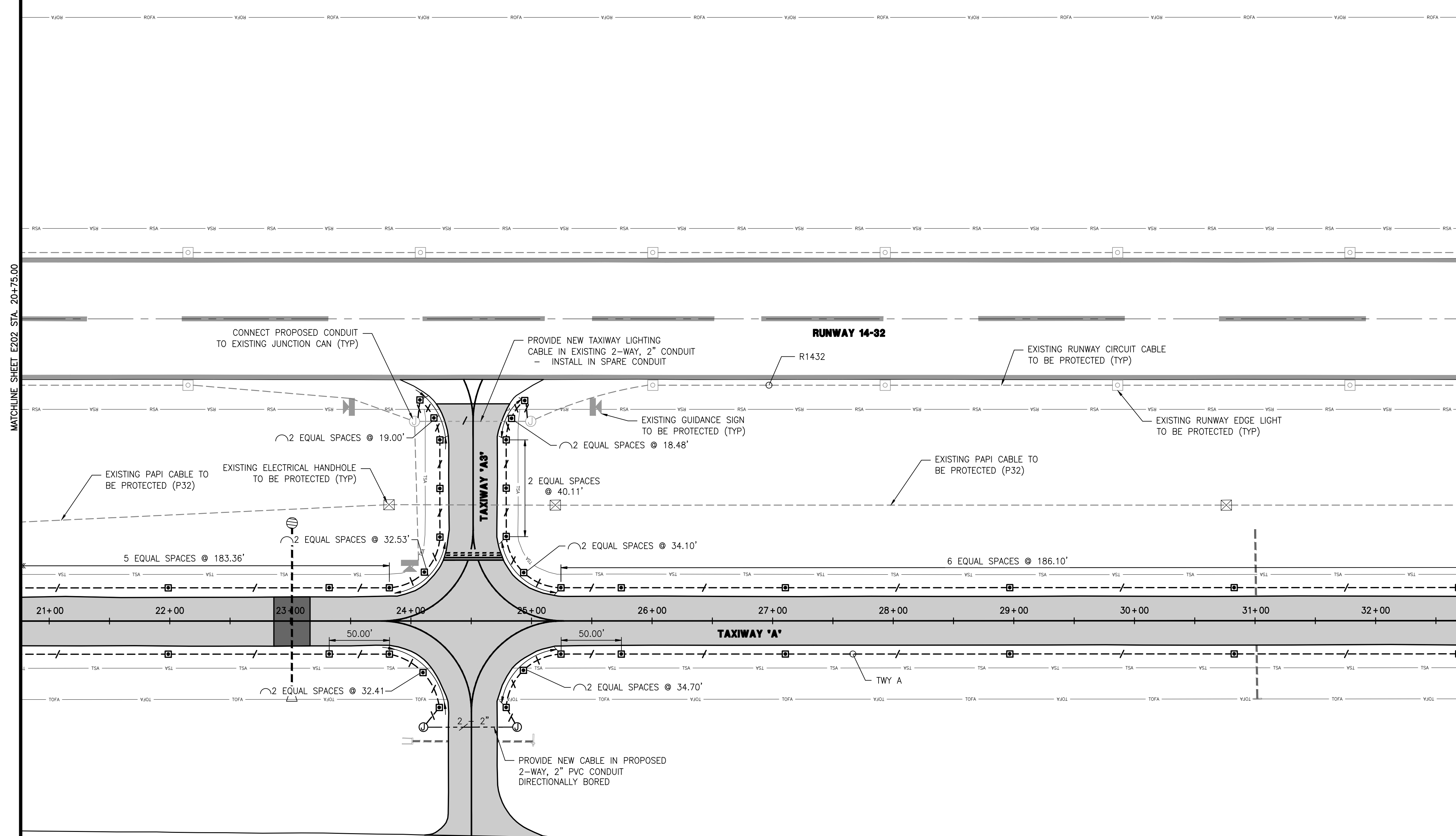
**PROPOSED LIGHTING PLAN (SHEET 3 OF 5)**

SHEET NUMBER  
**E203**

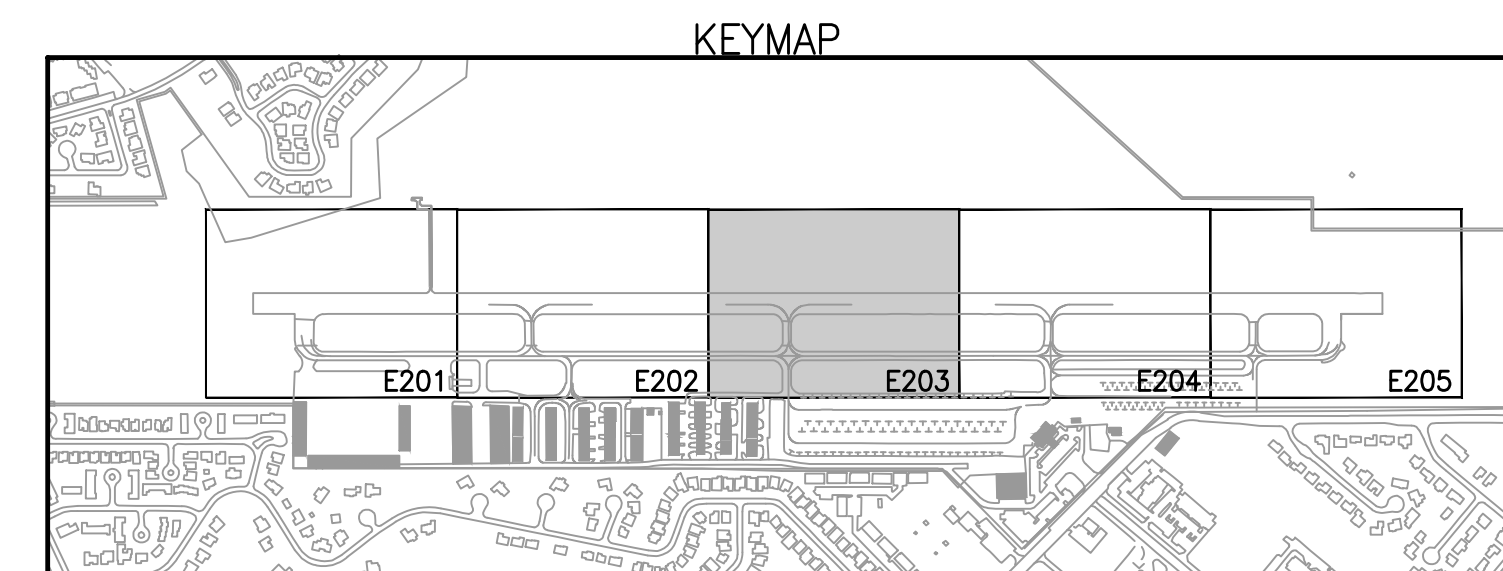
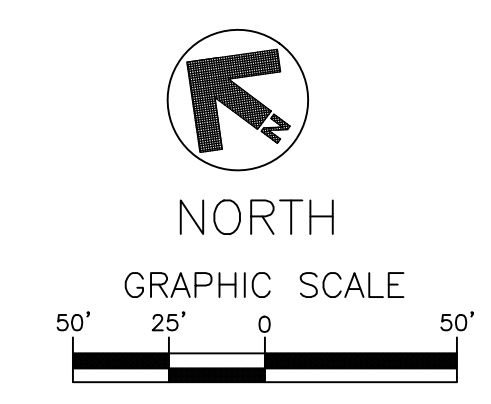
**BID DOCUMENTS**

MATCHLINE SHEET E202 STA. 20+75.00

MATCHLINE SHEET E204 STA. 32+75.00



**WARNING!!!**  
THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.





**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

**LEGEND**

- LIMITS OF RUNWAY CRACK-SEALING AND SEALCOAT TREATMENT
- RUNWAY SAFETY AREA (RSA)
- RUNWAY OBJECT FREE AREA (ROFA)
- TAXIWAY SAFETY AREA (TSA)
- TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED
- PROPOSED TAXIWAY EDGE LIGHT FIXTURE AND BASE CAN - SEE SHEET E301
- EXISTING JUNCTION CAN TO BE PROTECTED
- PROPOSED L-867 JUNCTION CAN - SEE DETAIL ON SHEET E302
- EXISTING DUCT BANK
- EXISTING AIRFIELD LIGHTING CABLE TO BE PROTECTED
- PROPOSED 1-WAY, 2" DIRECT-BURIED CONDUIT WITH #8 L-824 5KV, TYPE C CABLE WITH 1/C #2 COUNTERPOISE, SLASHES INDICATE NUMBER OF L-824 CABLES
- PROPOSED X - Y DIRECTIONALLY BORED DUCTBANK; 'X' INDICATES QUANTITY OF CONDUITS AND 'Y' INDICATES SIZE. FURNISH AND INSTALL PULL-ROPE IN EACH CONDUIT AND CAP EACH END OF EACH CONDUIT.
- EXISTING STORM PIPE TO BE PROTECTED
- PROPOSED STORM PIPE TO BE PROTECTED

**NOTES**

1. SEE SHEET E001 FOR ADDITIONAL INFORMATION
2. ALL TAXIWAY EDGE LIGHTS SHALL BE PLACED 7.5' FROM THE EDGE OF FULL STRENGTH PAVEMENT.
3. PROPOSED CONDUIT SHALL BE CONNECTED TO EXISTING JUNCTION CANS WHERE INDICATED.
4. FOR EVERY LIGHT FIXTURE AND SIGN INSTALLED UNDER THIS CONTRACT THE CONTRACTOR SHALL OBTAIN THE EXACT LOCATION VIA SURVEY AND BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

CALL 48 HOURS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811  
 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
 CALL 48 HOURS BEFORE DIGGING  
 FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: CAT  
 DRAWN BY: AGS  
 DESIGNED BY: AGS

AEP PROJECT NUMBER  
 201-0251-012

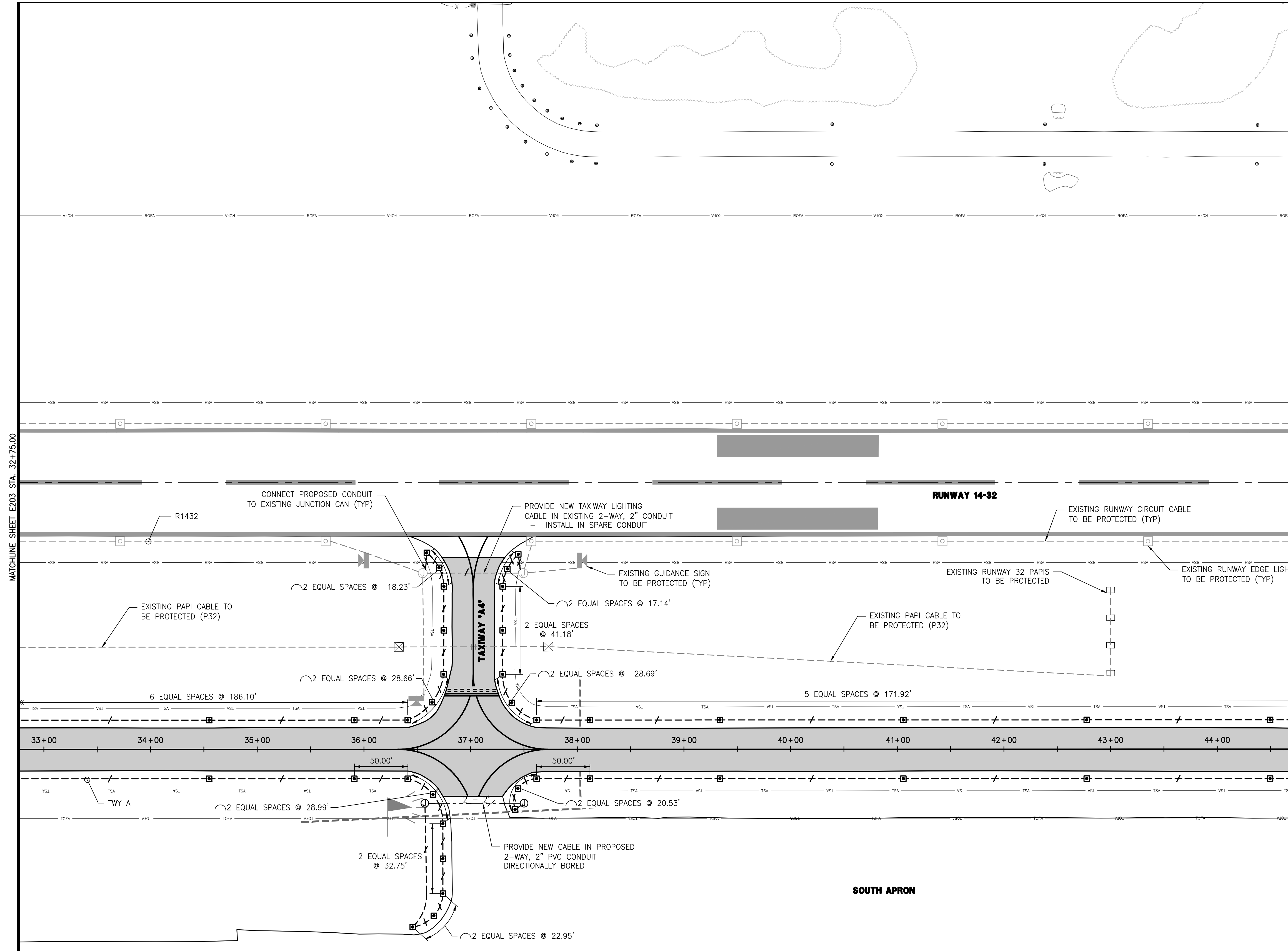
© 2019 REYNOLDS, SMITH AND HILLS, INC.

SHEET TITLE

**PROPOSED LIGHTING PLAN (SHEET 4 OF 5)**

SHEET NUMBER  
**E204**

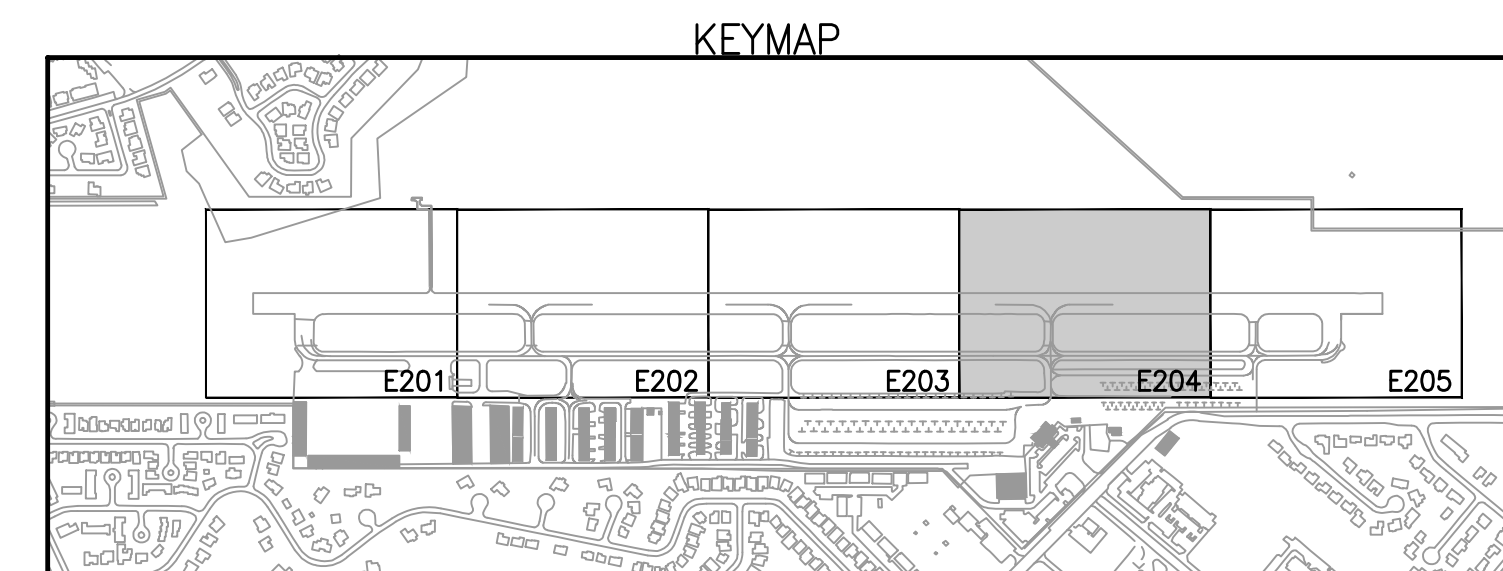
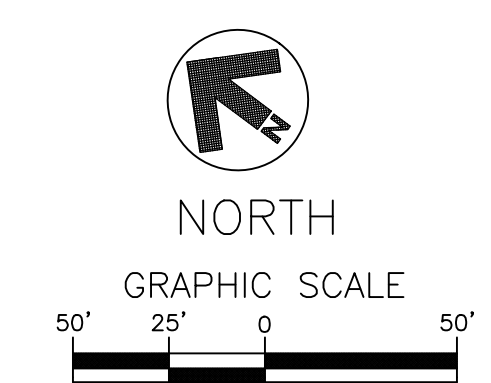
**BID DOCUMENTS**



MATCHLINE SHEET E203 STA. 32+75.00

MATCHLINE SHEET E205 STA. 44+75.00

**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.





**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

**LEGEND**

- LIMITS OF RUNWAY CRACK-SEALING AND SEALCOAT TREATMENT
- RSA RUNWAY SAFETY AREA (RSA)
- ROFA RUNWAY OBJECT FREE AREA (ROFA)
- TSA TAXIWAY SAFETY AREA (TSA)
- TOFA TAXIWAY OBJECT FREE AREA (TOFA)
- EXISTING RUNWAY EDGE LIGHT TO BE PROTECTED
- EXISTING RUNWAY THRESHOLD LIGHT TO BE PROTECTED
- EXISTING AIRFIELD GUIDANCE SIGN TO BE PROTECTED
- PROPOSED TAXIWAY EDGE LIGHT FIXTURE AND BASE CAN - SEE SHEET E301
- EXISTING JUNCTION CAN TO BE PROTECTED
- PROPOSED L-867 JUNCTION CAN - SEE DETAIL ON SHEET E302
- EXISTING DUCT BANK
- EXISTING AIRFIELD LIGHTING CABLE TO BE PROTECTED
- PROPOSED 1-WAY, 2" DIRECT-BURIED CONDUIT WITH #8 L-824 5KV, TYPE C CABLE WITH 1/C #2 COUNTERPOISE, SLASHES INDICATE NUMBER OF L-824 CABLES
- PROPOSED X - Y DIRECTIONALLY BORED DUCTBANK; 'X' INDICATES QUANTITY OF CONDUITS AND 'Y' INDICATES SIZE. FURNISH AND INSTALL PULL-ROPE IN EACH CONDUIT AND CAP EACH END OF EACH CONDUIT.
- EXISTING STORM PIPE TO BE PROTECTED
- PROPOSED STORM PIPE TO BE PROTECTED

**NOTES**

1. SEE SHEET E001 FOR ADDITIONAL INFORMATION
2. ALL TAXIWAY EDGE LIGHTS SHALL BE PLACED 7.5' FROM THE EDGE OF FULL STRENGTH PAVEMENT.
3. PROPOSED CONDUIT SHALL BE CONNECTED TO EXISTING JUNCTION CANS WHERE INDICATED.
4. FOR EVERY LIGHT FIXTURE AND SIGN INSTALLED UNDER THIS CONTRACT THE CONTRACTOR SHALL OBTAIN THE EXACT LOCATION VIA SURVEY AND BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 850-942-9697

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
 REVIEWED BY: CAT  
 DRAWN BY: AGS  
 DESIGNED BY: AGS

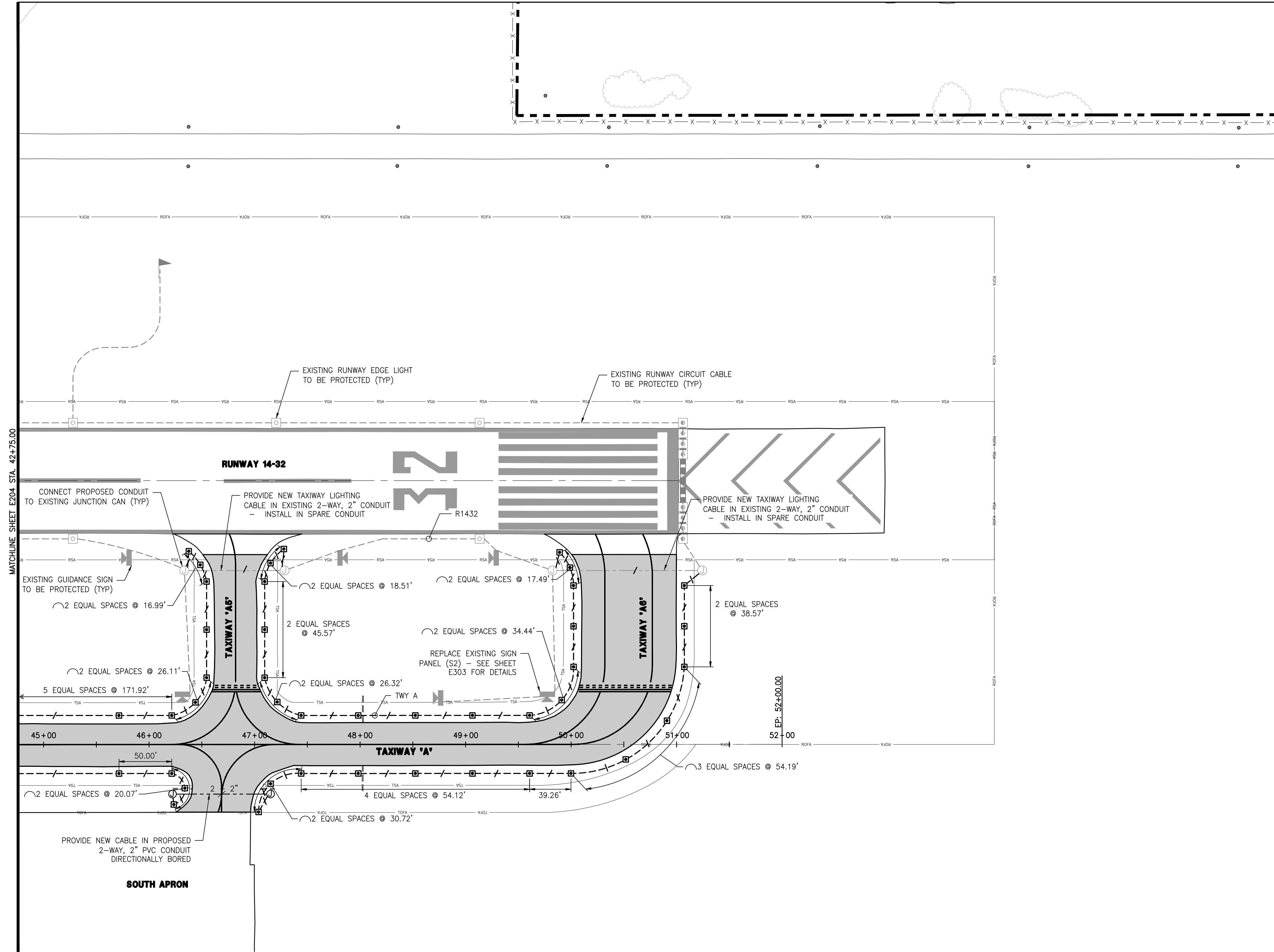
AEP PROJECT NUMBER  
 201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS, INC.  
 SHEET TITLE

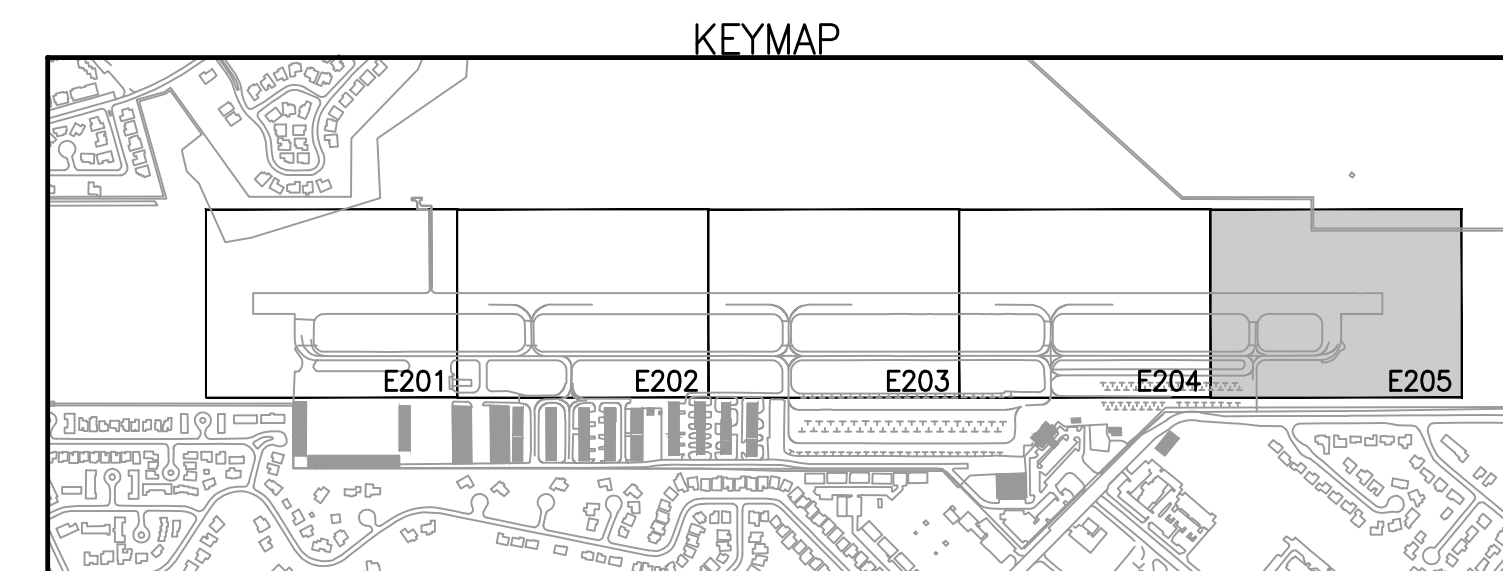
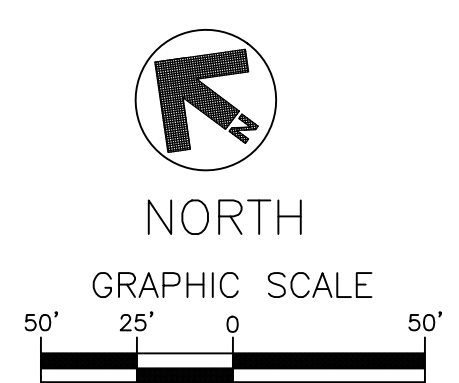
**PROPOSED LIGHTING PLAN (SHEET 5 OF 5)**

SHEET NUMBER  
**E205**

**BID DOCUMENTS**

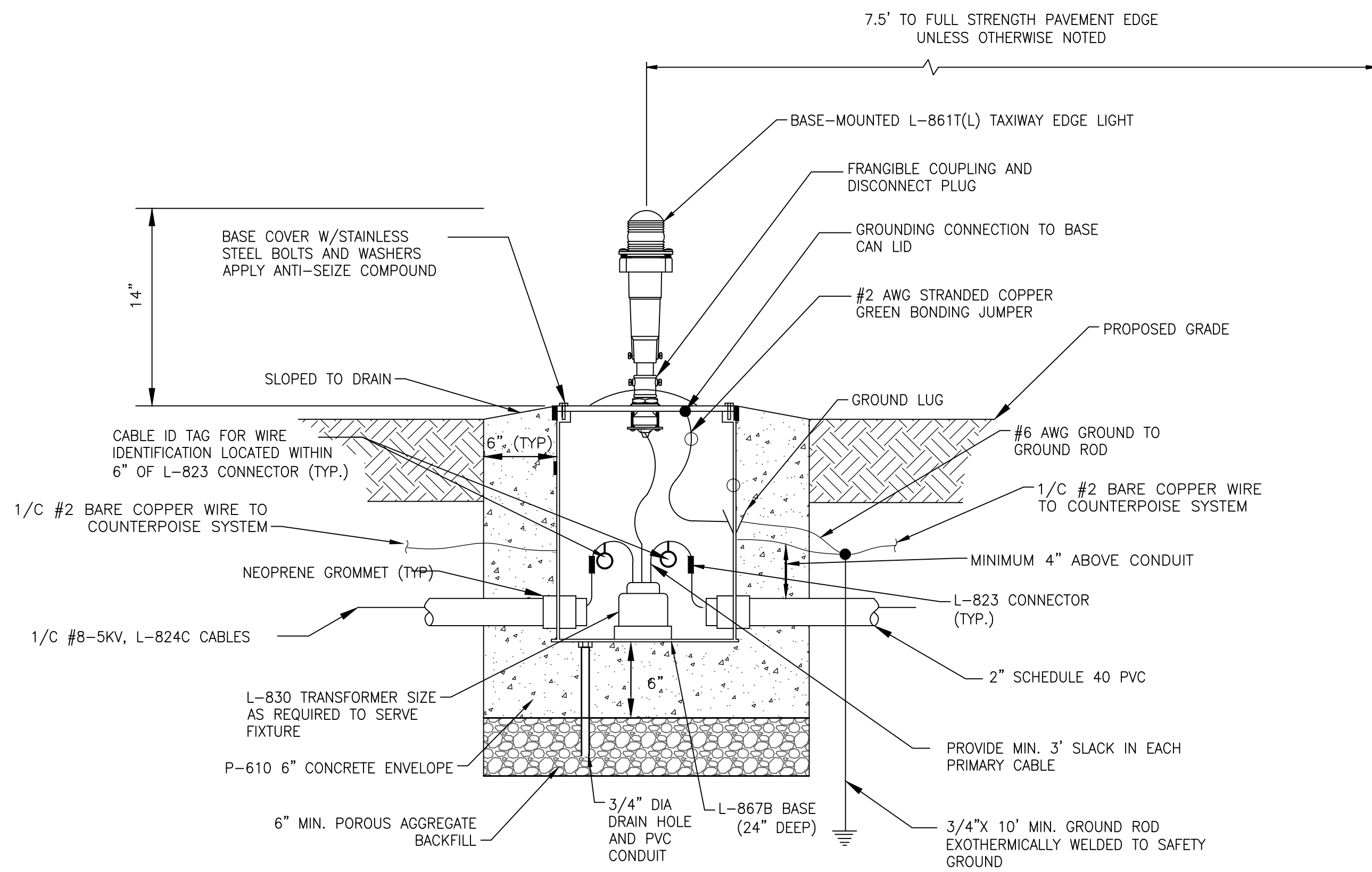


MATCHLINE SHEET E204 STA. 42+75.00



**WARNING!!!**  
 THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES AND FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.

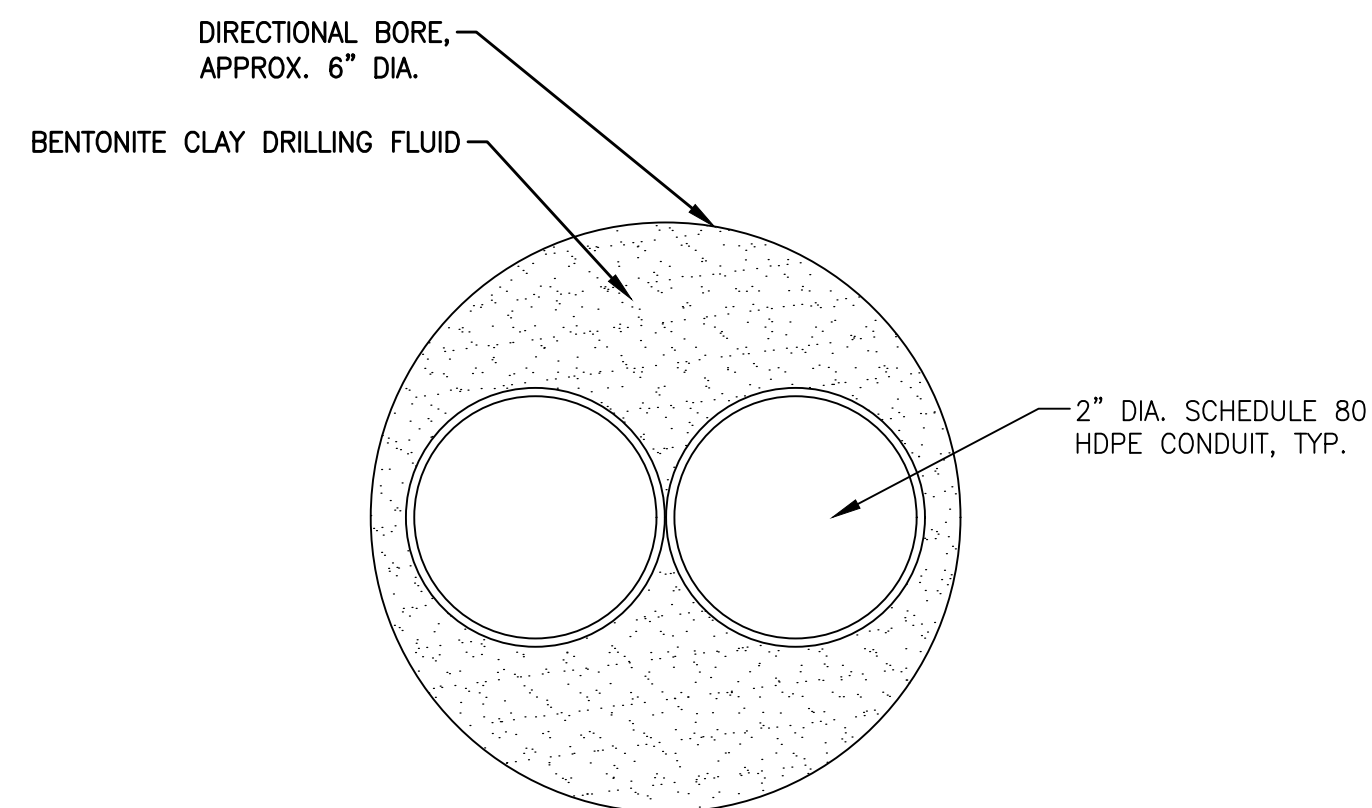




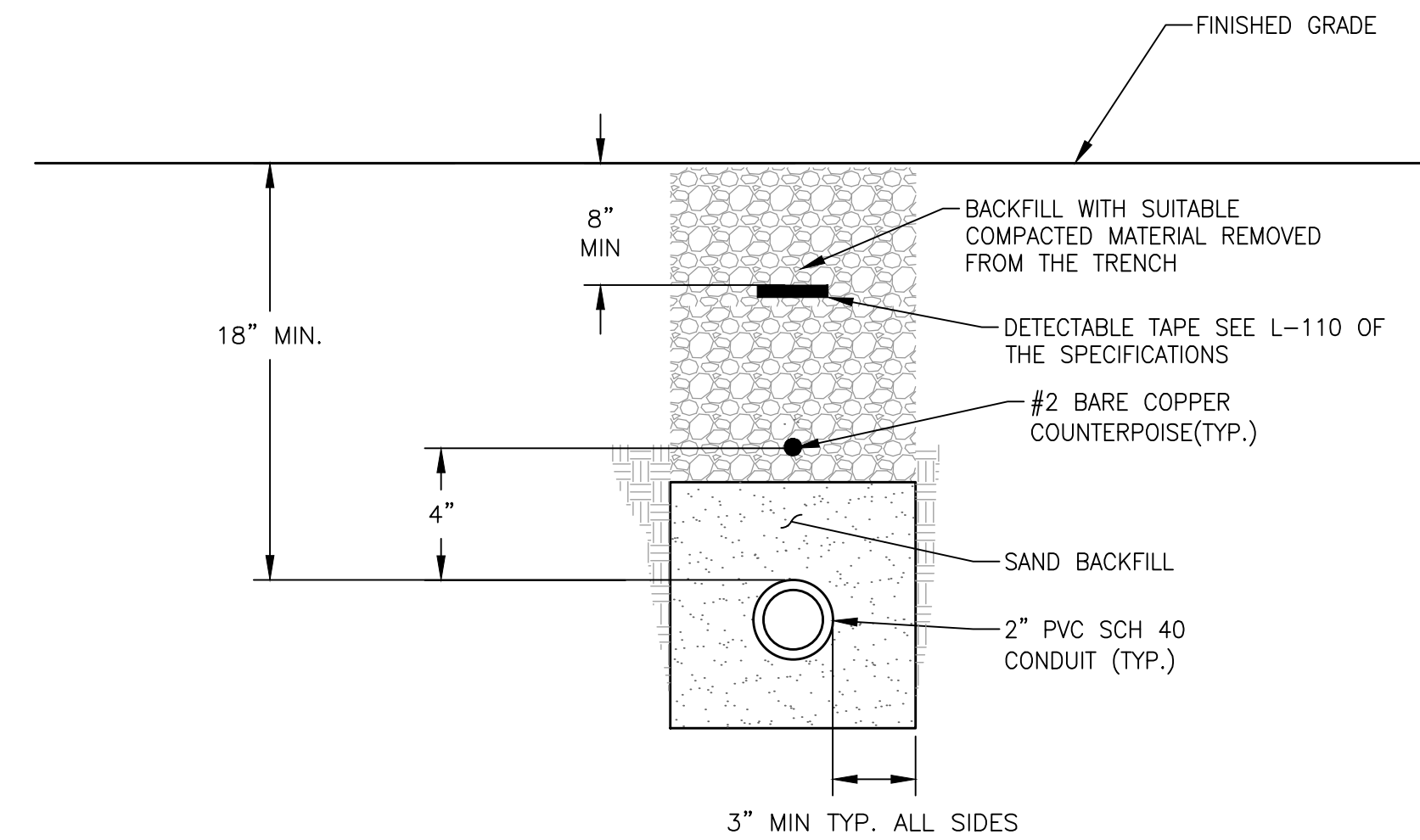
**1**  
E301 **NEW ELEVATED LIGHT DETAIL - TAXIWAY EDGE LIGHTS**  
SCALE: NTS

**NOTES:**

1. PROVIDE EXTERNAL GROUND LUG TO TERMINATION OF 1-1/C. #6 COUNTERPOISE GROUND TO LIGHT BASE, PROVIDE 3/4" X 10' GROUND ROD AT EACH LIGHT BASE. GROUND ROD SHALL BE BURIED A MINIMUM OF 12" BELOW GRADE. CONNECT 1-1/C. #6 BARE COPPER CABLE TO GROUND ROD WITH EXOTHERMIC WELD AND TO LIGHT BASE EXTERNAL LUG. PROVIDE PROPER CABLE CONNECTORS TO ALLOW CONNECTION OF MULTIPLE GROUNDING CABLES OR PROVIDE ADDITIONAL GROUND LUGS TO ENSURE ALL GROUNDING CABLES ARE CONNECTED PROPERLY. COUNTERPOISE SHALL BE BURIED IN SAME TRENCH AS CONDUIT AND SHALL BE A MINIMUM OF 4" ABOVE THE CONDUIT.
2. THE LIGHT BASE DRAIN INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO THE LIGHT BASE INSTALLATION AND SHALL BE INCLUDED IN THE PRICE OF THE LIGHT.



**3**  
E301 **TYPICAL DIRECTIONAL DRILLED CONDUIT SECTION**  
NTS



**2**  
E301 **1-WAY, 2' DIRECT BURIED CONDUIT**  
NTS

**NOTES:**

1. GRADING, SODDING, AREA RESTORATION, AND DEWATERING FOR THE INSTALLATION OF BASE CANS, MANHOLES, DUCT BANKS OR CONDUITS IS INCIDENTAL TO THE RESPECTIVE PAY ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE TO PAY FOR AND OBTAIN ANY AND ALL PERMITS REQUIRED FOR DEWATERING.
2. THE P-610 CONCRETE AROUND CONDUITS, DUCTS AND BASE CANS SHALL BE COMPLETELY CONSOLIDATED BY MECHANICAL MEANS AND SHALL BE FREE OF ANY VOIDS.
3. ALL LOOSE MATERIAL SHALL BE REMOVED FROM ALL EXCAVATIONS FOR ELECTRICAL EQUIPMENT, RACEWAYS, MANHOLES, PADS, ETC. THE BOTTOM OF THE EXCAVATION SHALL BE COMPACTED TO 95% COMPACTION IN ACCORDANCE WITH ASTM D1557 PRIOR TO THE INSTALLATION OF THE ELECTRICAL ITEM AND BACKFILL.
4. THE CONTRACTOR SHALL INSTALL A NYLON PULL WIRE IN EACH UNUSED DUCT OR CONDUIT INSTALLED AND PLUG OR CAP THE DUCT. THE WIRE SHALL BE SECURELY ATTACHED TO THE PLUG/CAP AT EACH END OF THE DUCT OR CONDUIT. NEW PULL WIRES SHALL BE INSTALLED IN EACH UNUSED DUCT OR CONDUIT IN DUCT BANK EXTENSIONS.
5. THE CONTRACTOR SHALL INSTALL A PLASTIC COATED, DETECTABLE MAGNETIC THREE (3) INCH WIDE TAPE EIGHT (8) INCHES MINIMUM BELOW GRADE ABOVE ALL DUCTBANKS OR CONDUITS NOT INSTALLED UNDER AIRFIELD PAVEMENT.

**DIRECTIONAL DRILLED CONDUIT NOTES:**

1. DIRECTIONAL DRILLED CONDUIT PROFILE SHALL APPLY FOR ALL AREAS NOTED ON THE PLANS.
2. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A COMPREHENSIVE WORK PLAN OUTLINING THE EQUIPMENT, MANPOWER, PROCEDURES AND SCHEDULE TO BE USED FOR HDD OPERATIONS. THE PLAN WILL ALSO SPECIFICALLY DEAL WITH THE METHOD OF ACCESS THROUGH THE PAVEMENT AND RESTORATION OF THE LAUNCHING AND RECEIVING PITS. THIS PLAN MUST BE APPROVED IN WHOLE, PRIOR TO BEGINNING OPERATIONS IN THE FIELD RELATIVE TO HORIZONTAL DIRECTIONAL DRILLING. THE CONTRACTOR SHALL SUBMIT SPECIFICATIONS ON ALL MATERIALS (CONDUIT, FLUID, ETC.) TO BE USED IN HDD OPERATIONS.
3. PRIOR TO THE START OF WORK THE CONTRACTOR SHALL LOCK OUT AND TAG OUT ALL CIRCUITS WITHIN THE DRILL ZONE. THESE CIRCUITS SHOULD BE IDENTIFIED A MINIMUM OF 72 HOURS BEFORE WORK FOR SUBMISSION OF NOTAMS. THE CIRCUITS TO BE LOCKED OUT AND TAGGED OUT WILL BE DISCUSSED AGAIN WITH THE OPERATIONS AGENT AT THE SAFETY BRIEFING.
4. THE DIRECTIONAL BORING EQUIPMENT SHALL CONSIST OF A DIRECTIONAL DRILLING RIG OF SUFFICIENT CAPACITY TO PERFORM THE BORE AND PULL BACK THE PIPE, A DRILLING FLUID MIXING AND DELIVERY SYSTEM OF SUFFICIENT CAPACITY TO SUCCESSFULLY COMPLETE THE CROSSING, A GUIDANCE SYSTEM TO ACCURATELY GUIDE BORING OPERATIONS AND TRAINED AND COMPETENT PERSONNEL TO OPERATE THE SYSTEM. ALL EQUIPMENT SHALL BE IN GOOD, SAFE OPERATING CONDITION WITH THE NECESSARY SUPPLIES, MATERIALS, AND SPARE PARTS ON HAND TO MAINTAIN THE SYSTEM IN GOOD WORKING ORDER FOR THE DURATION OF THIS PROJECT.
5. THE GUIDANCE SYSTEM SHALL BE OF A PROVEN TYPE AND SHALL BE SET UP AND OPERATED BY PERSONNEL EXPERIENCED WITH THIS SYSTEM. THE OPERATOR SHALL BE AWARE OF ANY MAGNETIC ANOMALIES AND SHALL CONSIDER SUCH INFLUENCES IN THE OPERATION OF THE GUIDANCE SYSTEM IF USING A MAGNETIC SYSTEM.
6. A SELF-CONTAINED, CLOSED, DRILLING FLUID MIXING SYSTEM SHALL BE OF SUFFICIENT SIZE TO MIX AND DELIVER DRILLING FLUID COMPOSED OF BENTONITE CLAY, POTABLE WATER AND APPROPRIATE ADDITIVES. MIXING SYSTEM SHALL BE ABLE TO MOLECULARLY SHEAR INDIVIDUAL BENTONITE PARTICLES FROM THE DRY POWDER TO AVOID CLUMPING AND ENSURE THOROUGH MIXING. MIXING SYSTEM SHALL CONTINUALLY AGITATE THE DRILLING FLUID DURING DRILLING OPERATIONS.
7. DRILLING FLUID SHALL BE COMPOSED OF CLEAN WATER AND AN APPROPRIATE ADDITIVE. WATER SHALL BE FROM A CLEAN SOURCE WITH A PH OF 8.5 TO 10. WATER WITH A LOWER PH OR WITH EXCESSIVE CALCIUM SHALL BE TREATED WITH THE APPROPRIATE AMOUNT OF SODIUM CARBONATE OR APPROVED EQUAL. THE WATER AND ADDITIVES SHALL BE MIXED THOROUGHLY AND BE ABSENT OF ANY CLUMPS OR CLODS. NO HAZARDOUS ADDITIVES MAY BE USED. DRILLING FLUID SHALL BE MAINTAINED AT A VISCOSITY SUFFICIENT TO SUSPEND CUTTINGS AND MAINTAIN THE INTEGRITY OF THE BORE WALL.
8. PRIOR TO ANY ALTERATIONS TO THE WORK SITE, THE CONTRACTOR SHALL PHOTOGRAPH OR VIDEO TAPE THE ENTIRE WORK AREA, INCLUDING ENTRY AND EXIT POINTS. ONE COPY OF WHICH SHALL BE GIVEN TO THE ENGINEER AND ONE COPY TO REMAIN WITH THE CONTRACTOR FOR A PERIOD OF ONE YEAR FOLLOWING THE COMPLETION OF THE PROJECT.
9. THE ENTIRE DRILL PATH SHALL BE ACCURATELY SURVEYED WITH ENTRY AND EXIT STAKES PLACED IN THE APPROPRIATE LOCATIONS WITHIN THE AREAS INDICATED ON THE PLANS.
10. THE INITIAL BORE ANGLE SHALL BE SUCH THAT THE RESULTANT CONDUIT PATH YIELDS A POSITIVE DRAINAGE PATH TO PREVENT THE ACCUMULATION OF WATER AND DEBRIS.
11. A PILOT HOLE SHALL BE DRILLED ON THE BORE PATH WITH NO DEVIATIONS GREATER THAN 5% OF DEPTH OVER A LENGTH OF 100 FEET. IN THE EVENT THAT THE PILOT HOLE DOES DEVIATE MORE THAN 5% OF DEPTH IN 100 FEET, THE CONTRACTOR WILL NOTIFY THE ENGINEER AND THE ENGINEER MAY REQUIRE THE CONTRACTOR TO PULL BACK AND RE-DRILL FROM THE LOCATION ALONG THE BORE PATH BEFORE THE DEVIATION.
12. THE CONTRACTOR SHALL MAINTAIN A DAILY PROJECT LOG OF DRILLING OPERATIONS AND A GUIDANCE SYSTEM LOG WITH A COPY GIVEN TO THE ENGINEER AT THE COMPLETION OF THE PROJECT. AS-BUILT DRAWINGS SHALL BE CERTIFIED AS TO ACCURACY BY THE CONTRACTOR.



**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG  
DIAL 811  
IT'S THE LAW!  
Know what's below.  
Call before you dig.  
SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

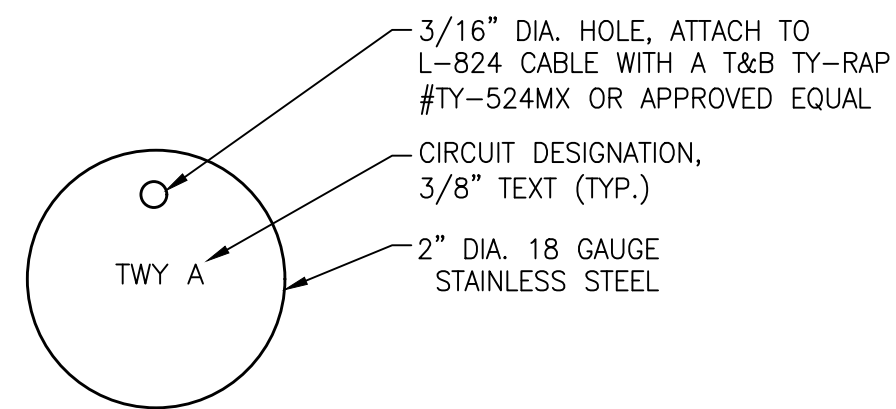
DATE ISSUED: OCTOBER 3, 2019  
REVIEWED BY: CAT  
DRAWN BY: AGS  
DESIGNED BY: AGS

AEP PROJECT NUMBER  
201-0251-012  
© 2019 REYNOLDS, SMITH AND HILLS, INC.  
SHEET TITLE

**ELEVATED LIGHT DETAILS AND NOTES**

SHEET NUMBER  
**E301**

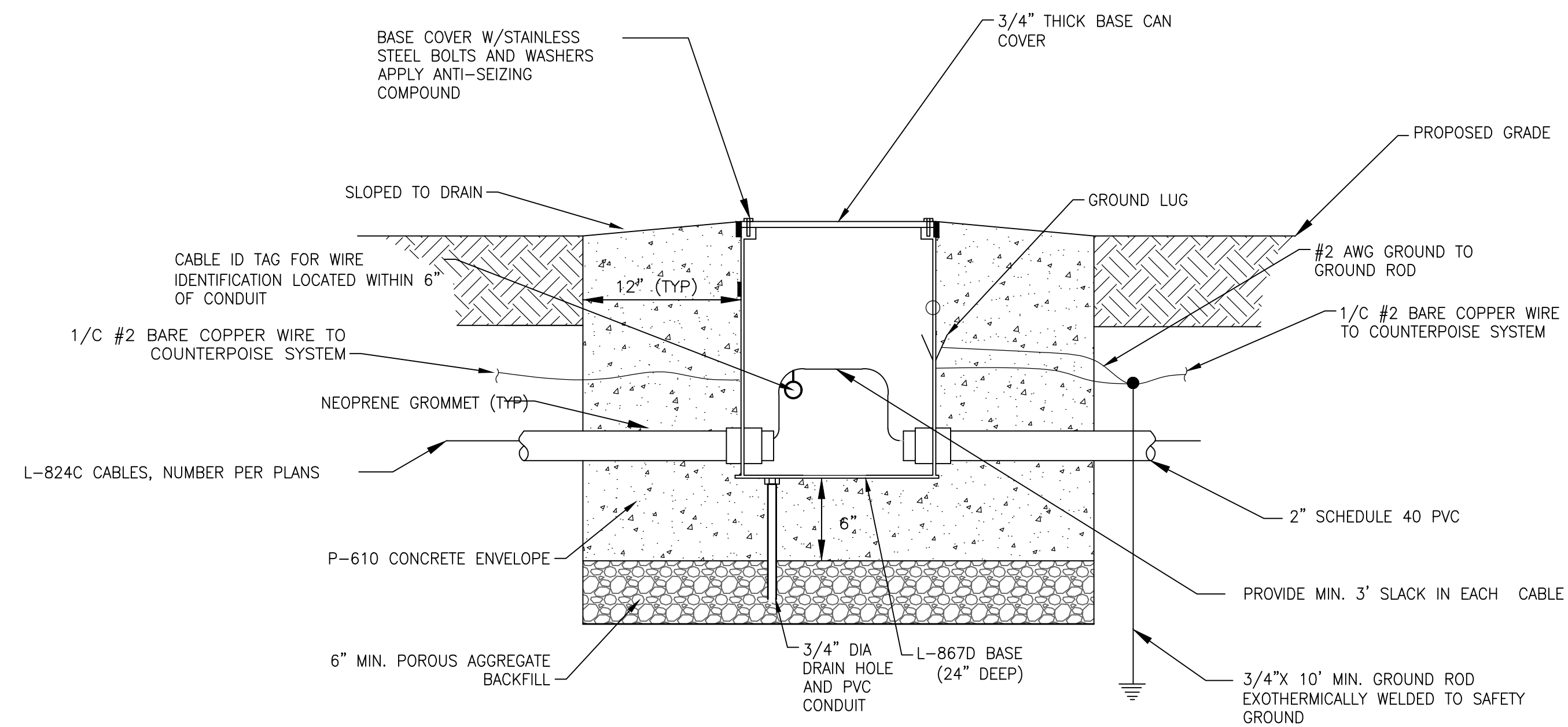
**BID DOCUMENTS**



**CABLE ID TAG NOTES:**

1. ALL CABLES SHALL BE TAGGED IN THE ELECTRICAL VAULT. EACH CABLE SHALL HAVE TWO TAGS, ONE NEAR EACH ENTRY. INSTALL TAG IMMEDIATELY AFTER CABLE IS PULLED.
2. CABLE CIRCUIT IDENTIFICATION:  
TWY A – TAXIWAY A

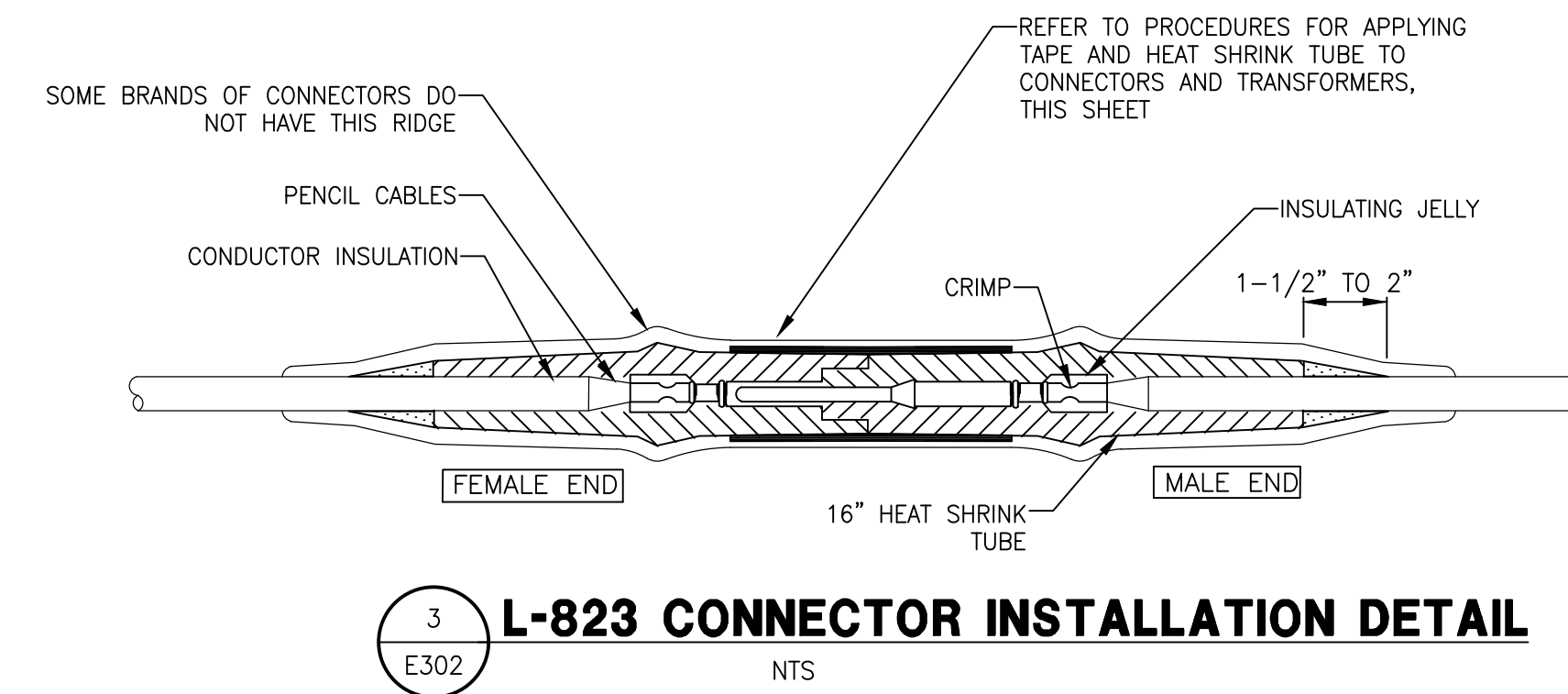
**1 CABLE ID TAG DETAIL**  
SCALE: NTS



**2 NEW JUNCTION CAN DETAIL**  
SCALE: NTS

**NOTES:**

1. ALL JUNCTION CAN INSTALLATION TECHNIQUES, METHODS, MATERIALS, ETC. SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE START OF WORK.
2. THE JUNCTION CAN SHALL HAVE A MINIMUM OF FOUR (4) 2" PVC PORTS.
3. THE JUNCTION CAN COVER MOUNTING BOLTS SHALL EXTEND THRU THE BASE CAN MOUNTING FLANGE INTO THE BASE CAN A MIN. OF 1/2". THE BOLTS SHALL HAVE ENOUGH THREAD LENGTH SO THEY DO NOT SHOULDER OUT BEFORE THE COVER IS SECURELY TIGHTENED.
4. P-610 CONCRETE AROUND JUNCTION CANS AND DUCT/CONDUIT SHALL BE COMPLETELY CONSOLIDATED BY MECHANICAL MEANS AND SHALL BE FREE OF ANY VOIDS.
5. USE A NON-CURING SEALANT BETWEEN LIGHT BASE SECTIONS, SPACER RINGS, AND OTHER RINGS, GE RTV-118 OR APPROVED EQUIVALENT.
6. GRADING, SODDING, AREA RESTORATION, AND DEWATERING FOR THE INSTALLATION OF BASE CANS IS INCIDENTAL TO THE RESPECTIVE PAY ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE TO PAY FOR AND OBTAIN ANY AND ALL PERMITS REQUIRED FOR DEWATERING.
7. ALL LOOSE MATERIAL SHALL BE REMOVED FROM ALL EXCAVATIONS FOR ELECTRICAL EQUIPMENT, RACEWAYS, MANHOLES, PADS, ETC. THE BOTTOM OF THE EXCAVATION SHALL BE COMPACTED TO 95% COMPACTION IN ACCORDANCE WITH ASTM D1557 PRIOR TO THE INSTALLATION OF THE ELECTRICAL ITEM AND BACKFILL.
8. L-867 JUNCTION CANS SHALL HAVE CIRCUIT INFO STENCILED ON COVER. SEE EXAMPLE: TWY A



**3 L-823 CONNECTOR INSTALLATION DETAIL**  
NTS

**PROCEDURES FOR MAKING VIABLE ELECTRICAL CONNECTION**

1. CLEAN THE CABLE THOROUGHLY 12" MIN. FROM THE END.
2. REMOVE INSULATION WITH A CABLE END PENCILLER TOOL (SIEMENS # WS 49, CROUSE-HINDS # 10036-36 OR ENGINEER APPROVED EQUAL). DO NOT NICK THE CONDUCTOR.
3. CAREFULLY INSERT CABLE INTO CONNECTOR TO THE PROPER DEPTH. INSTALL PIN AND / OR RECEPTACLE WITH A CRIMPING TOOL WHICH MUST BE COMPLETELY CLOSED BEFORE THE TOOL MAY BE REMOVED. (SIEMENS #TMB25S, CROUSE-HINDS #33228 OR ENGINEER APPROVED EQUAL). CRIMPING DIES SHALL BE PROPERLY SIZED FOR THE CABLE AND CONNECTOR USED.
4. BE SURE CABLE AND CONNECTOR FITTINGS ARE CLEAN. COAT THE CABLE INSULATION WITH INSULATING JELLY FROM THE CONNECTOR.
5. CLEAN CONNECTOR AND CABLE INSULATION WITH WAX OR GREASE SOLVENT TO REMOVE SURFACE SILICONE JELLY.
6. CLEAN CONNECTOR AND CABLE INSULATION WITH WAX OR GREASE SOLVENT TO REMOVE SURFACE SILICONE JELLY.
7. COMPLETE CONNECTION BY MATING THE PLUG AND RECEPTACLE. CAUTION: BE SURE THE CABLE DOES NOT SLIP OUT WHEN THE CONNECTION IS MADE.
8. ANY CONNECTOR WHICH IS CONTAMINATED BY DIRT OR OTHER DAMAGING MATERIAL SHALL BE REMOVED AND NOT REINSTALLED.
9. CENTER HEAT SHRINK OVER THE CONNECTOR. APPLY HEAT EVENLY BEGINNING AT THE CENTER AND WORKING AROUND CABLE TO ENDS. DO NOT OVER HEAT.
10. THE HEAT SOURCE SHALL BE ELECTRIC HEAT GUN OR A PROPANE TORCH WITH A FLAME SPREADER. FLAME SPREADER SHALL BE APPROVED BY THE ENGINEER.

**PROCEDURES FOR APPLYING TAPE AND HEAT SHRINK TUBE TO CONNECTORS AND TRANSFORMERS:**

1. FIRST CLEAN AND DRY ALL AREAS TO BE TAPED AND OR SEALED WITH HEAT SHRINK TUBE USING CLEANING AND DRYING PADS SUPPLIED WITH HEAT SHRINK TUBE KIT, "CROUSE-HINDS HSK-A1" OR EQUIVALENT. TYPICALLY 12" ON EACH SIDE OF A CONNECTION.
2. TAPE CONNECTION WITH 3/4" WIDE RUBBER TAPE, "3M-130C" OR EQUIVALENT, WITH MINIMUM OF 1-1/2" ON EACH SIDE OF CONNECTION FOR A MINIMUM OF 3" TOTAL. RUBBER TAPE SHALL BE APPLIED STICKY SIDE OUT AND AT LEAST HALF-LAPPED AND STRETCHED TO MANUFACTURER SPECIFICATIONS. COVER RUBBER TAPE WITH VINYL TAPE, "3M SUPER 33+" OR EQUIVALENT, STARTING AND FINISHING AT LEAST 1/2" BEFORE THE START AND AFTER THE END OF THE RUBBER TAPE, STICKY SIDE IN, AND AT LEAST HALF-LAPPED.
3. BUTT END OF CONNECTORS SHALL BE SEALED WITH 3/4" WIDE RUBBER TAPE, "3M-130C" OR EQUIVALENT WITH MINIMUM OF 3/4" INCH ON EACH SIDE OF THE BUTT END OF THE CONNECTOR FOR A MINIMUM OF 1-1/2" TOTAL. RUBBER TAPE SHALL BE APPLIED STICKY SIDE OUT AND AT LEAST HALF-LAPPED AND STRETCHED TO MANUFACTURER SPECIFICATIONS. COVER RUBBER TAPE WITH VINYL TAPE, "3M SUPER 33+" OR EQUIVALENT, STARTING AND FINISHING AT LEAST 1/2" BEFORE THE START AND AFTER THE END OF THE RUBBER TAPE, STICKY SIDE IN, AND AT LEAST HALF-LAPPED. THERE IS NO NEED TO SEAL MOLDED CONNECTOR ENDS WITH TAPE BEFORE APPLYING HEAT SHRINK TUBE.
4. USE THE HEAT SHRINK TUBE FROM CROUSE-HINDS HSK-A1 HEAT SHRINK TUBE KIT OR EQUIVALENT, WHICH IS 16" LONG WITH INNER GLUE THE LAST 4" OF EACH END. CENTER OVER CONNECTION AND HEAT TO SHRINK TO MANUFACTURER SPECIFICATIONS.
5. AFTER HEAT SHRINK TUBE AND GLUE HAS COOLED, SEAL THE END OF THE SHRINK TUBE AND EXPOSED GLUES BY USING RUBBER AND VINYL TAPE. USE 3/4" WIDE RUBBER TAPE, "3M-130C" OR EQUIVALENT WITH A MINIMUM OF 3/4" INCH ON EACH SIDE OF THE EXPOSED GLUE. RUBBER TAPE SHALL BE APPLIED STICKY SIDE OUT AND AT LEAST HALF-LAPPED AND STRETCHED TO MANUFACTURER SPECIFICATIONS. COVER RUBBER TAPE WITH VINYL TAPE "3M SUPER 33+" OR EQUIVALENT STARTING AND FINISHING AT LEAST 1/2" BEFORE THE START AND AFTER THE END OF THE RUBBER TAPE, STICKY SIDE IN, AND AT LEAST HALF-LAPPED.

CALL 48 HOURS BEFORE YOU DIG  
IT'S THE LAW! DIAL 811  
Know what's below. Call before you dig.  
SUNSHINE STATE ONE CALL OF FLORIDA, INC.  
CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019  
REVIEWED BY: CAT  
DRAWN BY: AGS  
DESIGNED BY: AGS  
AEP PROJECT NUMBER  
201-0251-012  
© 2019 REYNOLDS, SMITH AND HILLS, INC.  
SHEET TITLE

**JUNCTION CAN DETAILS AND NOTES**

SHEET NUMBER  
**E302**

**BID DOCUMENTS**

**PROPOSED GUIDANCE SIGNAGE**

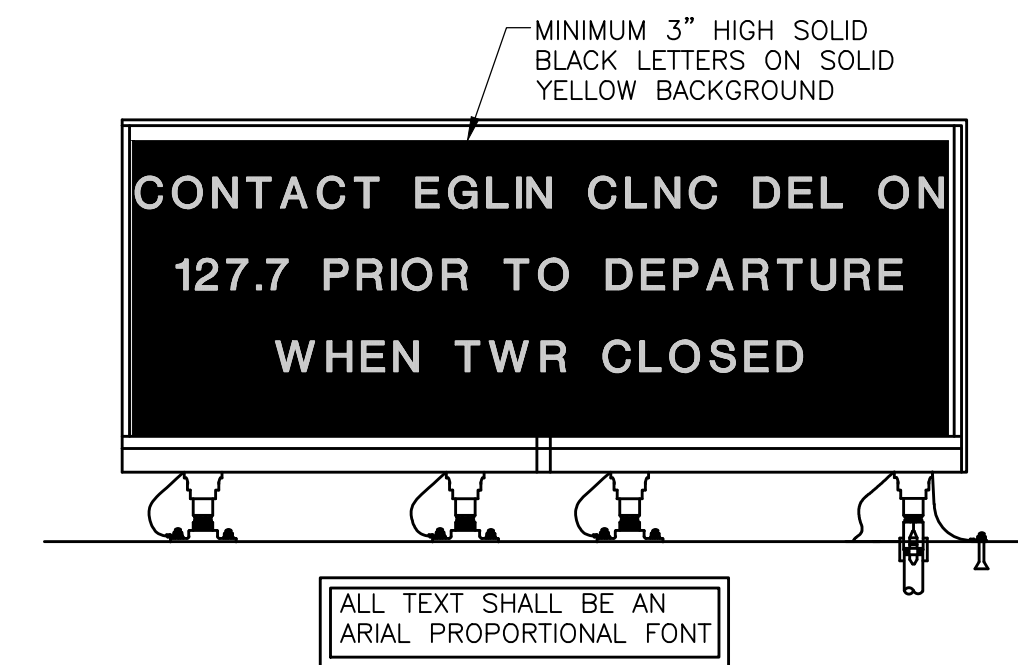
SIGN	MODULES	STATUS	SIDE A LEGEND						SIDE B LEGEND						SIDE A COLOR						SIDE B COLOR						NORTHING	EASTING	CIRCUIT					
			1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6								
(S1)	2	NEW PANEL	CLEARANCE							X	X	X	X	X	X	B/Y	B/Y							B	B							516298.98	1345418.96	14-32
(S2)	2	NEW PANEL	CLEARANCE							X	X	X	X	X	X	B/Y	B/Y							B	B							512514.57	1348251.27	14-32

**NOTES:**

- EXISTING LIGHTED SIGNS ARE LED-TYPE, ADB SIGNATURE SERIES, SIZE 1, CLASS II.
- SEE SIGN DETAIL 1 THIS SHEET FOR EXTENDED CLEARANCE MESSAGE
- ALL SIGNS READ LEFT TO RIGHT WHILE FACING THE SIGN.

**SIGN SCHEDULE LEGEND**

- Y/B = YELLOW LEGEND ON BLACK BACKGROUND (LOCATION SIGN)
- B/Y = BLACK LEGEND ON YELLOW BACKGROUND
- W/R = WHITE LEGEND WITH BLACK OUTLINE ON RED BACKGROUND
- W/B = WHITE LEGEND ON BLACK BACKGROUND
- B = BLACK
- X = BLANK



**1 CUSTOMIZED SIGN MESSAGE DETAIL**  
E303 SCALE: NTS

**NOTES:**

- CONTRACTOR SHALL SUBMIT THE PROPOSED SIGN PANEL MESSAGE TO THE AIRPORT AND ENGINEER PRIOR TO ORDERING OR INSTALLATION



11 North Water Street, Suite 10290  
Mobile, AL 36602  
251-460-3233 FAX 904-256-2501  
www.rsandh.com

FL Cert. Nos. AAC001888 \* B20009959 \*  
EB0005620 \* LCC0000210 \* G8238



**DESTIN EXECUTIVE AIRPORT**

**DESTIN, FLORIDA**

**TAXIWAY A PREVENTATIVE REHABILITATION AND LIGHTING IMPROVEMENTS**

CONSULTANTS

CALL 48 HOURS BEFORE YOU DIG



IT'S THE LAW! DIAL 811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING  
FAA FACILITIES 850-942-9697

**REVISIONS**

NO.	DESCRIPTION	DATE

DATE ISSUED: OCTOBER 3, 2019

REVIEWED BY: CAT

DRAWN BY: AGS

DESIGNED BY: AGS

AEP PROJECT NUMBER  
201-0251-012

© 2019 REYNOLDS, SMITH AND HILLS, INC.

SHEET TITLE

**SIGN PANEL REPLACEMENT DETAILS AND NOTES**

SHEET NUMBER

**E303**

**BID DOCUMENTS**