CONFORMED DOCUMENTS

FOR

RSA, ROFA & OFZ Improvements

AT

Tri-County Airport

Prepared for:

Tri-County Airport Authority

Prepared by:

AVCON, INC.
Engineers & Planners
320 Bayshore Dr, Suite A
Niceville, Florida 32578
Phone: 850.678.0050

October 28, 2026

AVCON Project: 2024.0268.03

Release for Construction

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AGREEMENT

THIS AGREEMENT is dated as of the 28th day of October in the year 2026 by and between the Tri-County Airport Authority (hereinafter called Owner) and Southeast Construction Co., LLC. (hereinafter called Contractor). Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK.

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

RSA ROFA & OFZ Improvements
Tri-County Airport

Article 2. ENGINEER.

The Project has been designed by:

AVCON, INC.
320 Bayshore Drive, Suite A
Niceville, Florida 32578
850-678-0050 office

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 shall be substantially complete within **35** calendar days after the date when the Contract Times commence to run as provided in paragraph 2.3 of the General Conditions. The work shall be completed and ready for final payment in accordance with paragraph 14.13 of the General Conditions within **14 calendar days from receipt of Engineer's certificate of Substantial Completion and inspection punchlist**.

1

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.

3.3 Liquidated damages, based upon the original contract amount of **$ 259,017.50**, will be Five Hundred dollars ($500.00) per calendar day.

Article 4. CONTRACT PRICE.

This is a unit price contract. 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 **$ 259,017.50** 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 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.

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.

95 % of Work completed (with the balance being retainage).

95 % (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).

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.

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 Bidding 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 set forth in paragraph SC-4.2 of the Supplementary Conditions 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-6, inclusive)

7.2 Performance, Payment, and other Bonds

7.3 Notice to Proceed

7.4 General Conditions (pages GC-1 to GC-55, inclusive) and Special Provisions of the project manual

7.5 Specifications package as listed in the table of contents thereof

7.6 Drawings consisting of a cover sheet and sheets numbered G-01 through C-21 , inclusive, with each sheet bearing the following general title:

RSA ROFA & OFZ Improvements
Tri-County Airport

7.7 Addenda numbers issued and acknowledged at Bid.

7.8 Contractor's Bid Proposal, including submitted Bid Form and Bid Schedule

7.9 Documentation submitted by Contractor prior to Notice of Award

7.10 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. MISCELLANEOUS.

8.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

8.2 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.

8.3 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.

8.4 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.

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 October 28, 2026 (which is the Effective Date of the Agreement).

OWNER:

TRI-COUNTY AIRPORT AUTHORITY

Signed: Jack Locke

Printed Name: Jack Locke

Title: Chairman

ATTEST
Signed: Brenda J Wilson

Printed Name: BRENDA S WILSON

Address for giving notices:

1983 Tri-County Airport Road

Bonifay, Florida 32425

CONTRACTOR

Southeast Construction Co. LLC

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

Signed:

Printed Name: Jeff Howell

Title: Member

ATTEST
Signed: Ross Bixby

Printed Name: Ross Bixby

Address for giving notices:

816 Sizemore Highway

Geneva, Alabama 36340

PERFORMANCE BOND

STATE OF FLORIDA
COUNTY OF Holmes

KNOW ALL MEN BY THESE PRESENTS that Southeast Construction Co., LLC, a Principal, hereinafter called Contractor, and Fidelity & Deposit Company of Maryland as Surety, hereinafter called Surety, are held and firmly bound unto the Tri-County Airport Authority as Obligee, hereinafter called Owner, in the amount of Two hundred fifty-nine thousand seventeen and 50/100 Dollars ($ 259,017.50) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____, 20___, entered into a Contract with Owner for the project titled **RSA ROFA & OFZ Improvements** at **Tri-County Airport** in accordance with Drawings and Specifications prepared by AVCON, INC., which Contract is by reference made a part hereof and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that, if the Principal shall in all respects promptly and faithfully perform and comply with the terms and conditions of said Contract and his obligations thereunder and shall indemnify the Owner ~~and the Consulting Engineer~~ and save ~~either or all of them against and~~ ***Owner*** from all costs, expenses and damages arising from the performance of said Contract or the repair of any work there under, then this obligation shall be void; otherwise, this Bond shall remain in full force and effect, in accordance with the following terms and conditions:

1. The Principal and Surety jointly and severally agree to pay the Owner any difference between the sum to which the said Principal would be entitled on the completion of the Contract, and that sum which the Owner may be obliged to pay for the completion of said work by Contract or otherwise, and any damages, direct or indirect ~~or consequential~~, including without limitation those for delay, expenses, costs, and attorney's fees including appellate proceedings, which the said Owner may sustain on account of such work, or on account of the failure of said Contractor to properly and in all things, keep and execute all of the provisions of said Contract.

2. And this Bond shall remain in full force and effect for a period of one (1) year from the date of acceptance of the project by the Owner and shall provide that the Contractor guarantees to repair or replace for said period of one (1) year all work performed and materials and equipment furnished that were not performed and materials and equipment furnished that were not performed or furnished according to the terms of the Contract, and shall make good, defects thereof which have become apparent before the expiration of said period of one (1) year. If any part of the project, in the judgement of the Owner, for the reasons above stated needs to be replaced, repaired or made good during that time, the Owner shall so notify the Contractor in writing. If the Contractor refuses or neglects to do such work within five (5) days from the date of service of such Notice, the Owner shall have the work done by others an the cost thereof shall be paid by the Contractor or his Surety.

3. And 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 work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligations on this bond, and it does hereby waive Notice of any change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

4. The Surety presents and warrants to the Owner that they have a Best's Key Rating Guide General Policyholder's Rating of "A+" and Financial Category of "Class XV."

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) Secretary

Southeast Construction Co., LLC
Principal

By: _____

816 Sizemore Highway
Address

Geneva AL 36340

SEAL:

Witness as to Principal

816 Sizemore Hwy Geneva
Address

ATTEST:

(Surety) Secretary

Fidelity & Deposit Company of Maryland
Surety

SEAL:

_____
Attorney-in-Fact

Witness as to Surety

3646 W. Main St.
Address

3646 W. Main St. Dothan, AL 36305
Address

Dothan, AL 36305

PAYMENT BOND

KNOW ALL MEN by these presents; That we (1) Southeast Construction Co., LLC

_____ a (2) Contractor

hereinafter called "Principal" and (3) Fidelity & Deposit Company

of _____, State of Maryland, hereinafter call

the "Surety", are held and firmly bound unto (4) Tri-County Airport Authority

of _____, hereinafter called "OWNER", in the

penal sum of Two hundred fifty-nine thousand seventeen 50/100 dollars

($ 259,017.50) 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: _____

RSA ROFA & OFZ Improvements

_____

NOW, THEREFORE, if the Principal shall promptly make payments to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work, whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be in any 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) Secretary

Southeast Construction Co., LLC
Principal

By: _____

816 Sizemore Hwy
Address

Geneva, AL 36340

SEAL:

Witness as to Principal

816 Sizemore Highway
Address

ATTEST:

(Surety) Secretary

Fidelity & Deposit Company of Maryland
Surety

SEAL:

Attorney-in-Fact

Witness as to Surety

3646 W. Main St.
Address

3646 W. Main St. Dothan, AL 36305
Address

Dothan, AL 36305

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, Ashlie Grasper, certify that I am the Secretary of the Corporation named as Principal in the within bond; that Jeff Howell who signed the bond on behalf of the Principal, was then Member 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.

Ashlie Grasper
Secretary (Corporate Seal)

STATE OF ~~FLORIDA~~ Alabama
COUNTY OF Houston

Before me, a Notary Public, duly commissioned, qualified and acting, personally appeared Benjamin D. Slingluff to me well known, who being my first duly sworn upon oath, says that he/she is the Attorney-in-Fact, for the Surety and that he has been authorized by Fidelity & Deposit Company of Maryland to execute the foregoing bond on behalf of the Contractor named therein in favor of the Tri-County Airport Authority.

Subscribed and sworn to before me this 30th day of October, 2026 A.D.

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

Elaine Victoria Ethridge
Notary Public
State of ~~Florida~~ Alabama at-Large
My Commission Expires:
4/1/2030

ELAINE VICTORIA ETHRIDGE NOTARY PUBLIC ALABAMA STATE AT LARGE

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Thomas O. McClellan, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Morris M. Slingluff, Judy F. Lietzan, Kevin E. PAYNE, Micah P. HOLLEY, Myron D. Williams, Bejamin D. SLINGLUFF, Steve O. THOMPSON of Dothan, Alabama**, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 15th day of May, A.D. 2026.



ATTEST:
ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Thomas O. McClellan
Vice President

By: Daniel Lutes
Secretary

State of Maryland
County of Baltimore

On this 15th day of May, A.D. 2026, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Thomas O. McClellan, Vice President and Daniel Lutes, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Genevieve M. Maison
Notary Public
My Commission Expire January 27, 2029

EXTRACT FROM BY-LAWS OF THE COMPANIES

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this _____ day of _____, _____.



MJ Pethick

Mary Jean Pethick
Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056
reportsfclaims@zurichna.com
800-626-4577

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

THE FIDELITY AND DEPOSIT COMPANY

OF MARYLAND
1299 Zurich Way Schaumburg, IL 60196

Statement of Financial Condition
As Of December 31, 2025

ASSETS

Bonds		$ 163,187,715
Stocks		18,642,935
Cash and Short-Term Investments		4,039,704
Reinsurance Recoverable		58,043,167
Federal Income Tax Recoverable		0
Other Accounts Receivable		3,360,596
TOTAL ADMITTED ASSETS		$ 247,274,117

LIABILITIES, SURPLUS AND OTHER FUNDS

Reserve for Taxes and Expenses		$ 312,062
Ceded Reinsurance Premiums Payable		47,234,348
Remittances and Items Unallocated		3
Payable to parents, subs and affiliates		12,441,616
Other Liabilities		16,700
Securities Lending Collateral Liability		0
TOTAL LIABILITIES		$ 60,004,729
Capital Stock, Paid Up	$ 5,000,000	
Surplus	182,269,388	
Surplus as regards Policyholders		187,269,388
TOTAL		$ 247,274,117

Securities carried at $78,444,411 in the above statement are deposited with various states as required by law.

Securities carried on the basis prescribed by the National Association of Insurance Commissioners. On the basis of market quotations for all bonds and stocks owned, the Company's total admitted assets on December 31, 2025, would be $241,749,332 and surplus as regards policyholders $181,744,603.

I, LAURA J. LAZARCZYK, Corporate Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company on the 31st day of December 2025.

Laura J. Lazarczyk

Corporate Secretary

State of Illinois
City of Schaumburg } SS:

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 11th day of March 2026.

OFFICIAL SEAL
GRACE IBETH HERRERA
Notary Public, State of Illinois
Commission No. 1018292
My Commission Expires
October 01, 2029

Grace Ibeth Herrera

Notary Public

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 10/28/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Slingluff United Insurance P. O. Box 6947 Dothan AL 36302-6947	**CONTACT NAME:** Terrin Galloway **PHONE (A/C, No, Ext):** 334-792-5101 **FAX (A/C, No):** 334-792-4552 **E-MAIL ADDRESS:** terrin@slingluffunited.com
	INSURER(S) AFFORDING COVERAGE / **NAIC #**
	INSURER A : Auto Owners Insurance — 18988
INSURED SOUTCON-04 Southeast Construction Company, LLC P O Box 177 Geneva AL 36340	**INSURER B :** Owners — 32700
	INSURER C : Technology Insurance Company — 42376
	INSURER D :
	INSURER E :
	INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 1267753835 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X **COMMERCIAL GENERAL LIABILITY** [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC [ ] OTHER:			38281492	3/30/2026	3/30/2027	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG [ ]	$ 1,000,000 $ 300,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
A	**AUTOMOBILE LIABILITY** [X] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [X] NON-OWNED AUTOS ONLY			5300487500	9/2/2026	9/2/2027	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) [ ]	$ 1,000,000 $ $ $ $
A	[X] **UMBRELLA LIAB** [X] OCCUR **EXCESS LIAB** [ ] CLAIMS-MADE [ ] DED [X] RETENTION $ 10,000			5300487501	3/30/2026	3/30/2027	EACH OCCURRENCE AGGREGATE [ ]	$ 5,000,000 $ 5,000,000 $
C	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		TWC4831097	8/10/2026	8/10/2027	[X] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
B	Equipment			38004875	9/29/2026	9/29/2027	Short Term Rental	100,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RSA ROFA & OFZ Improvements

Tri-County Airport Authority and engineer are included as additional insured on a primary and non-contributory basis as regards general liability. Waiver of Subrogation is favor of the certificate holder and engineer as regards general liability.

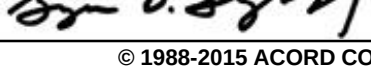
CERTIFICATE HOLDER

Tri-County Airport Authority
1983 Tri-County Airport Road
Bonifay FL 32525

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



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FRONT END DOCUMENTS

NOTICE TO BIDDERS

RSA ROFA & OFZ IMPROVEMENTS at
TRI-COUNTY AIRPORT
BONIFAY, FLORIDA

Notice is hereby given that the Tri-County Airport Authority will receive sealed bids at the Tri-County Airport, 1983 Tri-County Airport Road, Bonifay, Florida 32425 (850-547-6519) until **3:00 pm** local time on ***September 22, 2026***, for the Terminal Access & Security Improvements project at Tri-County Airport, Bonifay, Florida. Bids must be submitted in a sealed enveloped clearly marked "**BID ENCLOSED: RSA ROFA & OFZ IMPROVEMENTS; TRI-COUNTY AIRPORT**." Bids will be opened at the Tri-County Airport in the Airport Terminal Building on ***Tuesday, September 22, 2026***, at ***3:00*** **pm CT**. Bids will be publicly opened and read aloud.

The project consists of providing all labor, materials, machinery, tools, equipment and other means of construction necessary and incidental to the completion of the work shown on the plans and described in these specifications including, but not necessarily limited to the following:

Construction activities to remove vegetative obstructions from the limits of the existing and future RSA, ROFA, and the OFZ. The project shall improve grades within the RSA to comply with FAA grading standards.

1

The contract time for substantial completion of the work included shall be ~~90~~ 35 calendar days from the date of the "Notice to Proceed (NTP)." The final project completion shall be ~~120 calendar days from the date of the "Notice to Proceed (NTP)."~~ **14 calendar days from receipt of Engineer's certificate of Substantial Completion and inspection punchlist.**

Beginning on Tuesday, August 18, 2026, drawings, specifications, and project documents may be examined by appointment at the Airport Terminal Building of the Tri-County Airport at 1983 Tri-County Airport Road, Bonifay, Florida 32425. Appointments may be made by calling 850-281-2239. Digital copies of the above documents may be obtained from the offices of AVCON, INC., 320 Bayshore Drive, Suite A, Niceville, Florida, 32578, (850) 678-0050. Printed copies may be provided at an additional charge.

Bid security in the amount of at least five percent (5%) of the total quote must be submitted with the quote. The quote security may be either a certified check or a proposal guaranty bond executed by a surety company authorized to do business in the State of Florida. Quote security shall be made payable to the Tri-County Airport Authority. The successful contractor must be able to furnish proof of required insurance, a 100% Performance Bond, and a 100% Labor and Materials Payment Bond, and shall begin execution of this contract within five (5) calendar days following the date of the Notice to Proceed.

Funding for this project is being provided by the Florida Department of Transportation and will be subject to all applicable requirements of the State of Florida Public Transportation Grant Agreement (PTGA) grant assurances.

The Tri-County Airport Authority has a Disadvantaged Business Enterprise (DBE) Program for Airport Improvement Program projects which the successful contract must comply with. The DBE participation goal for this project is 0% and compliance requirements are listed in the project documents.

A non-mandatory Pre-Bid Conference will be conducted at the Terminal Building of the Tri-County Airport at 1983 Tri-County Airport Road, Bonifay, Florida 32425 on Tuesday, September 8, 2026, at 3:00 p.m. local time (CT). Questions relating to the Project Documents will be answered at that time. Attendance by prospective prime contractors is strongly recommended.

The Tri-County Airport Authority reserves the right, it its sole and absolute discretion, to reject, to cancel, or withdraw this bid at any time and waive any irregularities in the bid process. The Authority reserves the right to award any contract to the respondent which it deems to offer the best overall service; therefore, the Authority is not bound to award any contract based on the lowest quoted price. The Authority, in its sole and absolute discretion, also reserves the right to waive any minor defects in the process and to accept the bid deemed to be in the Authority's best interest. No faxed Proposals will be accepted.

OWNER'S CONTACT:
Mark Wilson
Airport Manager
Tri-County Airport Authority
1983 Tri-County Airport Road
Bonifay, Florida 32425
Tel: 850-547-6519
Cell: 850-281-2239

ENGINEER'S CONTACT:
Virgil C. "Lee" Lewis, P.E.
Senior Vice President
AVCON, INC.
320 Bayshore Drive, Suite "A"
Niceville, Florida 32578
Tel: 850-678-0050

All bids should be addressed as follows:

BID ENCLOSED: RSA ROFA & OFZ; TRI-COUNTY AIRPORT
Tri-County Airport Authority
Airport Terminal
1983 Tri-County Airport Road
Bonifay, Florida 32425

INSTRUCTIONS TO BIDDERS

PROJECT IDENTIFICATION:

a) Project Title:

RSA ROFA & OFZ IMPROVEMENTS

b) Owner:

TRI-COUNTY AIRPORT AUTHORITY

c) Engineer:

AVCON, INC.

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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-bidder, who submits a bid to a Bidder.

1.2 Issuing Office – the office from which the Bidding Documents are to be issued and where the bidding 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 Bidding Documents.

2.1 Complete sets of the Bidding 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 Bidding 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 Bidding Documents.

2.3 Owner and Engineer in making copies of Bidding 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 Bidders.

To demonstrate qualifications to perform the Work, each Bidder must submit within two (2) business days after Bid opening 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 Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.

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 Bid 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 Bid Documents and such other related documents.

4.2 Reference is made to the Supplementary Conditions for identification of:

4.2.1 Those reports of explorations and tests of subsurface conditions at or contiguous to the site which have been utilized by Engineer in preparation of these Bid Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such reports but not upon other data, interpretations, opinions or information contained in such reports or otherwise relating to the subsurface conditions at the site, nor upon the completeness thereof for the purposes of bidding or construction.

4.2.2 Those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site that have been utilized by Engineer in preparation of these Bid Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such drawings but not upon other data, interpretations, opinions, or information shown or indicated in such drawings or otherwise relating to such structures, nor upon the completeness thereof for the purposes of bidding or construction.

Copies of such reports and drawings will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Bid Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.2 of the General Conditions and has been identified and established in Article 4 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion drawn from any "technical data" or any such data, interpretations, opinions, or information.

4.3 Information and data shown or indicated in these Bid Documents with respect to existing Underground Facilities at or contiguous to the site is based upon information and data furnished to Owner and Engineer by Owners of such Underground Facilities or others, and the Owner and Engineer do not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.

4.4 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in these Bid Documents due to differing or unanticipated conditions appear in Paragraphs 4.2 and 4.3 of the General Conditions.

4.5 Before submitting a Bid each Bidder will be responsible to obtain 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 or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contact Documents.

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 Bid 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 Bid Documents, the Bidder has given Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in these Bid 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 Contractor in performing the Work are identified in these Bid 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 Bid Documents.

6. Interpretations and Addenda.

6.1 All questions about the meaning or intent of these Bidding Documents are to be directed to Engineer. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed, faxed, emailed, or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten (10) days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6.2 Addenda may also be issued to modify these Bidding 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 Bidder's 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 Bidders will be returned. Bid security with Bids which are not competitive will be returned within seven (7) days after the Bid opening.

8. Contract Times.

The number of days within which, or the dates by which, the Work is to be substantially completed and also completed 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 and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. 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 Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement. The procedure for submission of any such application by Contractor and consideration by Engineer is set forth in Paragraphs 6.7.1, 6.7.2 and 6.7.3 of the General Conditions and may be supplemented in the Supplementary 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) to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, apparent Successful Bidder, and any other Bidder so requested,

shall within 24 hours after Bid opening 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 Bidder to submit an acceptable substitute without an increase in Bid Price.

If apparent Successful Bidder declines to make any such substitution, Owner may award the contract to the next lowest Bidder 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 Bidder. 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.

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, telephone number, and email 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 in accordance with Paragraph 3 above. State contractor license number, if any, must also be shown.

12. Submission of Bids.

12.1 Bidder shall submit the original plus seven (7) copies 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 **"RSA ROFA & OFZ IMPROVEMENTS, TRI-COUNTY AIRPORT"** 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 to 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 bidding on the Work to be provided under the Bid 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 bidders. Participants in such conclusion will receive no recognition as bidders for any future work of the County until such participant shall have been reinstated as a qualified bidder.

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 Project 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 In evaluating Bids, Owner will consider the qualifications of Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

17.3 Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. Owner also may consider the operating costs, maintenance requirements, performance data and guarantees of major item of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the 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 Bid Documents to Owner's satisfaction within the prescribed time.

17.5 The Owner in its absolute discretion may reject any bid of a bidder 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 bidders.

17.6 If a contract is to be awarded, it will be awarded to lowest responsive, responsible Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Project.

17.7 The Basis of Award shall be based on the lowest total of either the Base Bid or combination of the total of the Base Bid and Bid Alternative 1, as finally determined by the owner and the funding agencies based on the availability of funding.

17.8 In the event the total construction bids exceed the funding capacity of the Owner, the Owner reserves the right to reject any and all bids.

17.9 The Owner's sole determination shall be binding.

18. Pre-Bid Conference.

A **non-mandatory** Pre-Bid Conference will be conducted at the Terminal Building of the Tri-County Airport at 1983 Tri-County Airport Road, Bonifay, Florida 32425 on Tuesday, September 8, 2026, at 3:00 p.m. local time (CT). Participation is strongly encouraged. Engineer 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 bidder 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 bidder.

BID DOCUMENTS

BID FORM

PROJECT IDENTIFICATION:

RSA ROFA & OFZ IMPROVEMENTS
TRI-COUNTY AIRPORT

THIS BID IS SUBMITTED TO:

TRI-COUNTY AIRPORT AUTHORITY

1. The undersigned Bidder 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. Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, 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 Bidding Requirements within fifteen (15) days after the date of Owner's Notice of Award.

3. In submitting this Bid, Bidder represents as more fully set forth in the Agreement, that:

   (a) Bidder has examined and carefully studied the Bidding Documents and the following Addenda receipt of all which is hereby acknowledged: (List Addenda by Addendum Number and Date)

   Addendum No.: 1 Date: 9/15/2026

   (b) Bidder 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) Bidder 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) Bidder 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 indicted in the Bidding 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) Bidder 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) Bidder 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) Bidder has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Bidder has discovered in these documents and the written resolution thereof by Engineer is acceptable to Bidder, 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; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

4. Bidder will complete the Work in accordance with these documents for the price found in the Bid Schedule:

   Unit Prices have been computed in accordance with paragraph 11.9.2 of the General Conditions.

   Bidder acknowledges that quantities are not guaranteed, and final payment will be based on actual quantities determined as provided in these documents.

5. Bidder agrees that Work associated with the project will be substantially complete ~~90~~ **35** calendar days after the date when the Contract Time commences to run as provided in paragraph 2.3 of the General Conditions. Bidder also agrees that Work associated with the project will be completed and ready for final payment in accordance with paragraph 14.13 of the general conditions within ~~120 calendar days after the date when the Contract Time commences to run.~~ **14 calendar days from receipt of Engineer's certificate of Substantial Completion and inspection punchlist.**

1

6. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.

7. The following documents are attached to and made a condition of this Bid and shall be completed and submitted as part of a responsive bid proposal. Bid proposals that do not include the following documents may be considered unresponsive:

   (a) This bid form (BF-1 to BF-5) fully completed.

   (b) Bid schedule completed, with bid unit prices indicated numerically and in words (BS-1 to BS-15).

   (c) Bid Affidavit (BA-1)

   (d) Bid Security as required by the Instructions to Bidders in the form of a certified or bank check made payable to Tri-County Airport Authority or a Bid Bond on form attached (BB-1 to BB-2), issued by a surety meeting the requirements of Paragraph 5.1 of the General Conditions.

   (e) Required Bidder's Qualification Questionnaire with supporting data. (BQQ-1 to BQQ-3)

   (f) Form of Noncollusion Affidavit (NCA-1)

   (g) Certification of Non-Segregated Facilities (NSF-1)

   (h) Drug-Free Workplace Certification (DFWC-1)

   (i) Indemnification and Hold Harmless (IHH-1)

   (j) Worker's Compensation Affidavit (WCA-1)

   (j) Buy American Certificate (BAC-1)

   (k) Sworn Statement under Section 287.133 (3)(a), Florida Statutes, on Public Entity Crimes (SSPEC-1 to SPPEC-3)

   (l) Disadvantaged Business Enterprise Program (DBEP-1 to DBEP-4)

   (m) DBE Certificate of Compliance Form (DBECF-1)

   (n) Insurance Compliance (IC-1)

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

Ross Bixly ross@secon.llc (334) 360-2418

Jeff Howell jeff@secon.llc (334) 268-7231

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

10. Contractor acknowledges that the Basis of Award shall be the total of the Base Bid and the combination of Additive Bids ultimately awarded by the Authority. The bid bond amount shall be in the amount of the Total Bid Amount.

SUBMITTED on September 22nd ,2026

State Contractor License No. CUC1225795

If Bidder 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 Southeast Construction Co., LLC (SEAL)
(Corporation Name)

Alabama
(State of Incorporation)

By Jeff Howell (SEAL)
(Name of person authorized to sign)

Member
(Title)

(Corporate Seal)

Attest Ashlie Hasper
(Secretary)

Business address: 816 S. Geneva Hwy

Geneva, AL 36340

Phone No.: 334-248-6457

Date of Qualification to do business is 08/05/2020

A Joint Venture

By _____ (SEAL)
(Name)

_____
(Address)

By _____ (SEAL)
(Name)

_____
(Address)

Phone Number, Address, and Email 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 - UNIT PRICES
(This is a Unit Price Contract)

BIDDER: Southeast Construction Co., LLC **DATE:** 9-22-26

AIRPORT NAME: Tri-County Airport
PROJECT DESCRIPTION: RSA ROFA & OFZ Improvements

BID SCHEDULE

Base Bid Schedule –Civil Site Preparation

Bid Item No.	Item No.	Item Description & Unit Price Bid In Words	Unit	Estimated Quantity	Unit Price	Total Amount/ Item
1	101-1	Mobilization Thirty thousand dollars and zero cents	LS	1	$30,000.00	$30,000.00
2	102-1	Maintenance of Traffic Six thousand one hundred dollars and zero cents	LS	1	$6,100.00	$6,100.00
3	102-2	Temporary Demobilization/Remobilization Five hundred twenty five dollars and zero cents	EA	8	$525.00	$4,200.00
4	104-1	Prevention, Control, and Abatement of Erosion and Water Pollution Twenty seven thousand five hundred dollars and zero cents	LS	1	$27,500.00	$27,500.00
5	110-1	Stripping and Stockpiling Five thousand six hundred fifty dollars and zero cents	AC	8.5	$5,650.00	$48,025.00

SHEET REPLACED PER ADDENDUM #1

Bid Item No.	Item No.	Item Description & Unit Price Bid In Words	Unit	Estimated Quantity	Unit Price	Total Amount/ Item
6	120-1	Excavation and Embankment Four dollars and twenty five cents	CY	5,210	$4.25	$22,142.50
7	T-904-1	Sodding Three dollars and twenty five cents	SY	28,000	$3.25	$91,000.00
8	T-904-2	Seeding Zero dollars and sixty five cents	SY	13,000	$0.65	$8,450.00

For all work required to perform the work 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 Base Bid Schedule A Amount of:

TOTAL BASE BID AMOUNT (in words):

Two hundred thirty seven thousand four hundred seventeen Dollars and fifty cents

($ 237,417.50)
(amount in numbers)

Note: Total Bid Amount Schedule A shall equal the total amount for Bid Item No. 1 through 8.

SHEET REPLACED PER ADDENDUM #1

Additive Alternate 1 Schedule – Obstruction Removal (Tree/Shrub Clearing)

Bid Item No.	Item No.	Item Description & Unit Price Bid In Words	Unit	Estimated Quantity	Unit Price	Total Amount/ Item
9	OBST-1	Tree/Shrub Removal Nine thousand two hundred fifty dollars and zero cents	AC	0.7	$9,250.00	$6,475.00

For all work required to perform the work 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 Alternate 1 Schedule Amount of:

TOTAL ADDITIVE ALTERNATE 1 SCHEDULE AMOUNT (in words): Six thousand four hundred seventy five Dollars and zero cents

($ 6,475.00)
(Amount in numbers)

Additive Alternate 2 Schedule – Ditch Grading

Bid Item No.	Item No.	Item Description & Unit Price Bid In Words	Unit	Estimated Quantity	Unit Price	Total Amount/ Item
10	120-2	Ditch Grading Five dollars and fifty cents	LF	2,750	$5.50	$15,125.00

For all work required to perform the work 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 Alternate 1 Schedule Amount of:

TOTAL ADDITIVE ALTERNATE 2 SCHEDULE AMOUNT (in words): Fifteen thousand one hundred twenty five Dollars and zero cents

($ 15,125.00)
(Amount in numbers)

SHEET REPLACED PER ADDENDUM #1

BID SUMMARY (amount in numbers)

(A) TOTAL BASE BID: $ 237,417.50

(B) TOTAL ADDITIVE ALTERNATE 1 BID: $ 6,475.00

(C) TOTAL ADDITIVE ALTERNATE 2 BID: $ 15,125.00

(D) TOTAL BID AMOUNT*: $ 259,017.50

** The Total Bid Amount (D) shall equal the sum of (A) and (B) and (C). The Basis of Award shall be based on the lowest total of either the Base Bid or combination of the total of the Base Bid and the one or more of the additive alternates, as finally determined by the owner and the funding agencies based on the availability of funding.*

The Bidder 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 Bidder 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 Geneva, AL, this 22nd day of September, 2026.

Southeast Construction Co., LLC
Name of Bidder

Authorized Signature

Member
Title

PO Box 177
Mailing Address

Geneva, AL 36340
City, State, Zip

82-5466635
(Federal ID No. or SS No.)

SHEET REPLACED PER ADDENDUM #1

BID AFFIDAVIT

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

STATE OF Alabama

COUNTY OF Geneva

Jeff Howell of lawful age, being first duly sworn, upon his oath deposes and says: That he executed the accompanying Bid on 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 bid or any bids, the limiting of the bid 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 of the bids, or of the profits thereof, and that he has not and will not divulge the sealed bid to any person whomsoever, except those having a partnership or other financial interest with him in said bid or bids, until after the sealed bid or bids are opened.

[signature]

9/22/26
[date]

STATE OF Alabama COUNTY OF Geneva

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 22 day of September 2026.

Subscribed and sworn to before me this 22 day of September, 2026.

My Commission Expires:
May 2 2028

Ashlie Gasper
Notary Public

ASHLIE GASPER
MY COMMISSION EXPIRES
MAY 2, 2028
NOTARY PUBLIC
STATE OF ALABAMA

BID BOND

BIDDER *(Name and Address):*
Southeast Construction Co., LLC
816 Sizemore Hwy
Geneva, AL 36340

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

Fidelity & Deposit Company of Maryland
1299 Zurich Way
Schaumburg, IL 60196

OWNER *(Name and Address)*:
TRI-COUNTY AIRPORT AUTHORITY
1983 Tri-County Airport Road
Bonifay, FL 32425

BID:
BID DUE DATE:
PROJECT *(Brief Description Including Location):*
RSA ROFA & OFZ Improvements- Clearing and Grading

BOND:
BOND NUMBER:
DATE: *(Not later than Bid Due Date):*
PENAL SUM: 5% of the accompanying bid

IN WITNESS WHEREOF, Surety and Bidder, 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.

BIDDER	SURETY
Southeast Construction Co., LLC (Seal)	Fidelity & Deposit Company of Maryland (Seal)
Bidder'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 Bidder, Surety, Owner or other party shall be considered plural where applicable.

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

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to OWNER upon default of Bidder the penal sum set forth on the face of this Bond.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract Documents.

3. This obligation shall be null and void if:

3.1. OWNER accepts Bidder's bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding 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 Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder 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 Bidder and within 30 calendar days after receipt by Bidder 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 Bidder, 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 Bidder 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 Bidder 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 form 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.

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Thomas O. McClellan, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Morris M. Slingluff, Judy F. Lietzan, Kevin E. PAYNE, Micah P. HOLLEY, Myron D. Williams, Bejamin D. SLINGLUFF, Steve O. THOMPSON of Dothan, Alabama**, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 15th day of May, A.D. 2026.

SEAL SEAL SEAL

ATTEST:
ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Thomas O. McClellan
Vice President

By: Daniel Lutes
Secretary

State of Maryland
County of Baltimore

On this 15th day of May, A.D. 2026, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Thomas O. McClellan, Vice President and Daniel Lutes, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Genevieve M. Maison
Notary Public
My Commission Expire January 27, 2029

EXTRACT FROM BY-LAWS OF THE COMPANIES

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 22 day of SEPTEMBER 2026



MJ Pethick

Mary Jean Pethick
Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056
reportsfclaims@zurichna.com
800-626-4577

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

BIDDER'S QUALIFICATION QUESTIONNAIRE

The undersigned guarantees the accuracy of all statements and answers herein contained. (Please print in ink).

1. How many years has your firm been in business as a Contractor?

   6 years

2. List up to three (3) projects of this nature that you have completed in the last three (3) years, and give the name, address and telephone number of a reference from each. Also give the completion date, the original contract bid price and the completed cost of each project listed.

   Shell Field - Speegle Construction; Sam Helms (850) 943-6465

   Eglin Cyberspace - USACE ; 800-291-9405

   OCWS Field Office - AVCON 850-678-0050

3. List projects presently under construction by your firm the dollar volume of the contract and the percentage completion of the contract.

   Available upon Request

4. Have you ever failed to complete work awarded to you; if so, state where and why.

   No

5. Do you plan to sublet any part of this work? If so, give details.

Grassing
Seeding

6. What equipment do you own that is available for this work?

Excavator
Dozer
Motorgrader
Roller
Off-Road Truck
Water Truck

7. What equipment do you plan to rent or purchase for this work?

N/A

8. Have you ever performed work under the direction of a Professional Engineer or Registered Architect? If so, list up to three (3) such firms giving the name of the firm, its address, telephone number and the name of the project. (List most recent projects).

Baker Engineering 850-836-4970
Melvin Engineering 850-482-3045
AVCON, Inc 850-678-0050

9. Give the name, address and telephone number of an individual who represents each of the following and whom the Owner may contact to investigate your financial responsibility: a surety, a bank, and a major material supplier.

Slingluff - Ben Slingluff
Troy Bank & Trust - John Ramage
Vulcan - Herbert Shannon

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 twenty-four (24) hours of the opening of the Bids.

Available Upon Request

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 Bidder Southeast Construction Co., LLC

(a) The business is a Limited Liability Company (Corporation)

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

816 Sizemore Hwy.

Geneva, AL 36340

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

Jeff Howell

Randy Hall

FORM OF NONCOLLUSION AFFIDAVIT

(This Affidavit is Part of Bid)

STATE OF Alabama

COUNTY OF Geneva

Jeff Howell being first duly sworn,

deposes and says that he/she is Partner | Member (sole

owner, a partner, president, secretary, etc.) of Southeast Construction Co., LLC

a party making the foregoing Proposal or Bid that such Bid is genuine and not collusive or sham; that said Bidder has not colluded, conspired, connived, or agreed, directly or indirectly, with any Bidder or person, to put in a sham Bid, or that such other person shall refrain from bidding, 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 Bidder, or to fix any overhead, profit or cost element of said Bid Price, or of that of any other Bidder, 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 Bidder has not, directly or indirectly submitted this Bid, or the contents thereof, or divulged information or date relative thereto to any association or to any member or agent thereof.

Southeast Construction Co., LLC (Bidder)

Sworn to an subscribed before me this 22 day of

September, 2026.

Notary Public in and for

Geneva County,

Alabama.

My Commission Expires:

May 2, 2028.

ASHLIE GASPER MY COMMISSION EXPIRES MAY 2, 2028 NOTARY PUBLIC STATE OF ALABAMA

CERTIFICATION OF NON-SEGREGATED FACILITIES

(Must be completed and submitted with the Bid)

The Bidder 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 Bidder 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 Bidder 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 Bidder 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.

Southeast Construction Co., LLC
(Name of Bidder)

By: Jeff Hunt

Title: Member

Dated: 9/22/26

DRUG-FREE WORKPLACE CERTIFICATION

THE BELOW SIGNED BIDDER 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: 9/22/2026

COMPANY: Southeast Construction Co., LLC

ADDRESS: 816 Sizemore Hwy
Geneva, AL
36340

SIGNATURE: [signature]

NAME: Jeff Gholl
(Typed or Printed)

TITLE: Member

PHONE #: (334) 248-6457

INDEMNIFICATION AND HOLD HARMLESS

To the fullest extent permitted by law, CONTRACTOR shall indemnify and hold harmless Tri-County Airport Authority (OWNER), 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.

Southeast Construction Co., LLC
Bidder's Company Name

816 Sizemore Hwy, Geneva, AL 36340
Physical Address

PO Box 177, Geneva AL 36340
Mailing Address

334-248-6457
Phone Number

334-268-7731
Cellular Number

9-22-2026
Date

Authorized Signature - Manual

Jeff Howell
Authorized Name - Typed

Member
Title

FAX Number

After-Hours Number(s)

WORKER'S COMPENSATION AFFIDAVIT

State of Alabama

County of Geneva

SS: Jeff Hamill

of Southeast Composite Co., LLC

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 22 day of September, 20 26

Notary Public

Ashlie Gasper

ASHLIE GASPER
MY COMMISSION EXPIRES
MAY 2, 2028
NOTARY PUBLIC
STATE OF ALABAMA

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
Available Upon Request	
N/A	

Southeast Construction Co., LLC
(Name of Bidder)

By: _____

Title: _____

Dated: 9/22/26

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 Tri-County Airport Authority
[print name of public entity]

by Jeff Howell, Member
[print individuals name and title]

for Southeast Construction Co, LLC
[print name of entity submitting sworn statement]

whose business is 816 S. Lamar Hwy, Geneva, AL 36340 and (if applicable) its Federal Employer Identification Number (FEIN) is 82-5466635 (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 Paragraph 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 Paragraph 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 Paragraph 287.133 (1) (a), Florida Statutes, means:

   A. A predecessor or successor of a person convicted of a public entity crime; or

   B. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in the management of an affiliate. The ownership by one 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 Paragraph 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.]**

X 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]

9/22/26
[date]

STATE OF Alabama COUNTY OF Geneva

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 22 day of September, 2026.

Subscribed and sworn to before me this 22 day of September, 2026

My Commission Expires:
May 2 2028

Notary Public

ASHLIE GASPER MY COMMISSION EXPIRES MAY 2, 2028 NOTARY PUBLIC STATE OF ALABAMA

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

The following bid condition applies to this U.S. 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** - Al 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 **0%.**

8. **AVAILABLE DBE'S** - The owner has on file a DBE program pending approved by the Federal Aviation Administration. This program contains a listing of DBE's (certified and uncertified). Bidders are encouraged to inspect this list to assist in locating DBE's for the work. Other DBE's 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:

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

MBE's

MBE Subcontractors Names/Addresses/ Identity	Subcontract Work Item	Dollar Value of Subcontract Work

WBE's

Women Subcontractors Names/Addresses/ Identity	Subcontract Work Item	Dollar Value of Subcontract Work

OSE's

Other Socially and Economically Disadvantaged Subcontractors within the DBE Group Names/Addresses/ Identity	Subcontract Work Item	Dollar Value of Subcontract Work

Total Dollar Value of Subcontract Work	
Total Dollar Value of Basic Bid	
Total DBE Percent	**0%**

*(Black, Hispanic, Asian American, American Indian, and other economically disadvantaged.)

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 Tri-County Airport Authority intends to utilize and implement their DBE program in the awarding of this contract. Disadvantaged Business Enterprises listed by the State of Florida Department of Transportation may be viewed at:

http://www.dot.state.fl.us/equalopportunityoffice/dbeprogram.htm

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 pages DBEP 1 through DBEP 4 and in Special Provision No. 6.

Bidder's Signature

9/22/26
Date

Title

Notary Public

ASHLIE GASPER
MY COMMISSION EXPIRES
MAY 2, 2028
NOTARY PUBLIC
STATE OF ALABAMA

INSURANCE COMPLIANCE

This form is to be completed and signed by the Contractor and by your insurance agent/carrier certifying that your policy either meets the insurance requirements as specified for this project or that the insurance company has reviewed the bid requirements and certifies that you were quoted any price increase due to required coverage.

CONTRACTOR

I certify that the insurance requirements have been reviewed.

Company Name Southeast Construction Co., LLC

Address 816 Sizemore Hwy

Geneva, AL 36340

Representative

Name Jeff Howell

Title Mgr.

Phone Number 334-248-6457

INSURANCE COMPANY

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

Company Name Slingluff United Insurance

Address 3646 W. Main Street

Dothan, AL 36305

Representative

Name Benjamin D. Slingluff

Title President

Phone Number (334) 792-5101

INSURANCE REQUIREMENTS

1. The contractor will secure and maintain in a company or companies licensed to do business in the State of Florida the following minimum item of Insurance. The company or companies will have a "Best" rating of at least:

   (a) A/Class I for contracts $250,000 or less
   (b) A/Class II for contracts to $250,000 to $500,000
   (c) A/Class III for contracts to $500,000 to$750,000
   (d) A/Class IV for contracts to $750,000 to $1,000,000
   (e) A/Class V for contracts to $1,000,000 to $1,500,000
   (f) A/Class VI for contracts to$1,500,000 to $2,500,000
   (g) A/Class VII for contracts to $2,500,000 to $3,750,000
   (h) A/Class VIII for contracts to $3,750,000 to $5,000,000
   (i) A/Class IX for contracts to $5,000,000 to $7,500,000
   (j) A/Class X for contracts to $7,500,000 to 12,500,000
   (k) A/Class XI for contracts $12,500,000 to $25,000,000

2. Liability Insurance shall include all major divisions of coverage and be on a comprehensive basis including:

   (a) Premise-Operation (including X-C/U as applicable).
   (b) Independent Contractor's Protective
   (c) Products and Completed Operations
   (d) Personal injury Liability
   (e) Contractual – Including specified provision for Contractor's obligations in contract if available.
   (f) Owned, non-owned and hired motor vehicles.
   (g) Broad form Property Damage including Completed Operations.
   (h) Umbrella Excess Liability if applicable.

3. Required Minimum Coverage and Limits:

   (a) Comprehensive or Commercial General Liability (including Premise-Operations; Independent Contractor's Protective; Products and Completed Operations; Broad Form Property Damage):

      (1) Bodily Injury and Property Damage Combined Single Limit (CSL) $500,000 each occurrence/$1,000,000 General Aggregate
      (2) Products and Completed Operations to be maintained for 3 years after final payment. Owner and Engineer to be included as additional insureds. - $500,000 Aggregate
      (3) Property Damage Liability Insurance shall provide X, C and U Coverage
      (4) Broad Form Property Damage Coverage shall include Completed Operations

   (b) Blanket Contractual Liability - Bodily injury and Property Damage Combined Single Limit (CSL) - $1,000,000 Each Occurrence.

(c) Personal Injury - $500,000 per person.
(d) Business Auto Liability (including owned, non-owned and hired vehicles):

(1) Bodily Injury and Property Damage Combined Single Limits (CSL) $500,000 Each Occurrence or, Split Limits;

a. Bodily Injury;
$500,000 each person
$500,000 each occurrence

b. Property Damage:
$500,000 each occurrence

(e) Umbrella Excess Liability: Occurrence Form; Coverage provided under umbrella must follow coverage provided in primary.

(f) Workers' Compensation:

i. State: Statutory

ii. Applicable Federal (e.g., Longshoreman's & Jones Act) Statutory

iii. Employer's Liability: (Including Maritime if applicable)
$500,000 Per Accident
$500,000 Disease- Each Employee
$500,000 Disease- Policy Limit

4. Other Requirements:

(a) Insurance and Bonds: All insurance and bonds in connection with the work to be performed under the contract shall be countersigned by a licensed agent resident in the State of Florida.

(b) Transmittal of Bond and Proof of Carriage of Insurance: One (1) copy of the Proof of Insurance, as called for above, shall be delivered to the Engineer along with each copy of the Contract Documents and required bonds.

(c) The owner and Engineer shall be named as additional insured in the General Liability Insurance Coverage as provided for in Paragraph 2 above.

INDEMNIFICATION

1. To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, and the Engineer and their agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness,

disease or death, or to injury to or destruction of tangible property (other than the work itself) (2) is caused in whole or part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right to obligation of indemnity which would otherwise exist as to any party or person described in this paragraph.

2. In any and all claims against the Owner, the Engineer or any of their agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts of them may be liable, the indemnification obligation under Paragraph 1. above shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

3. The obligations of the contractor under Paragraph 1. above, shall not extend to the liability of the Engineer, his agents or employees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the Engineer, his agents or employees provided such giving or failure to give is the primary cause of injury or damage.

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE UNDERGROUND UTILITY & EXCAVATION CO HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

HOWELL, JEFFREY CURT

SOUTHEAST SITEWORK CONSTRUCTION COMPANY LLC
816 SIZEMORE HWY
GENEVA AL 36340

LICENSE NUMBER: CUC1225795

EXPIRATION DATE: AUGUST 31, 2026

Always verify licenses online at MyFloridaLicense.com

ISSUED: 07/22/2024

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

Division of Corporations

Sunbiz.org Division of Corporations an official State of Florida website

Detail by Entity Name

Foreign Limited Liability Company
SOUTHEAST SITEWORK CONSTRUCTION COMPANY LLC

Cross Reference Name

SOUTHEAST CONSTRUCTION COMPANY, LLC

Filing Information

Document Number	M20000006984
FEI/EIN Number	82-5466635
Date Filed	08/05/2020
State	AL
Status	ACTIVE

Principal Address

816 Sizemore Highway
Geneva, AL 36340

Changed: 04/28/2022

Mailing Address

P.O. BOX 177
GENEVA, AL 36340

Changed: 04/07/2021

Registered Agent Name & Address

HINOTE, LETHA
694 BALDWIN AVE.
STE:1
DEFUNIAK SPRINGS, FL 32435

Address Changed: 04/28/2022

Authorized Person(s) Detail

Name & Address

Title MGRM

HALL, RANDAL
5730 MT. IDA ROAD
LUVERNE, AL 36049

Title MGRM

HOWELL, JEFFREY C
713 BOB BROWN ROAD
CHANCELLOR, AL 36316

Annual Reports

Report Year	Filed Date
2024	04/01/2024
2025	03/06/2025
2026	03/11/2026

03/11/2026 -- ANNUAL REPORT	View image in PDF format
03/06/2025 -- ANNUAL REPORT	View image in PDF format
04/01/2024 -- ANNUAL REPORT	View image in PDF format
04/10/2023 -- ANNUAL REPORT	View image in PDF format
04/28/2022 -- ANNUAL REPORT	View image in PDF format
04/07/2021 -- ANNUAL REPORT	View image in PDF format
08/05/2020 -- Foreign Limited	View image in PDF format

GENERAL CONDITIONS

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 Bidding 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 bidder's proposal.

1.5. **Bid** – The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.5.1 BIDDER – Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

1.6. **Bidding Documents** – The advertisement or invitation to Bid, instructions to bidders, the Bid form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

1.7. **Bidding Requirements** – The advertisement or invitation to Bid, instructions to bidders, 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: AVCON, 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. 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 bidder stating that upon compliance by the apparent successful bidder 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 non-engineering 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 (120th)* day after the day of Bid opening or the *ninetieth (90th)* 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. 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
Bidding Documents
Supplementary Conditions
General Conditions
Construction Drawings
Technical Specifications
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 Suppler 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 Bidders* 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

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 Bidders*. 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 Bidding 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 Bidders*:

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. 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 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;

5.4.9 *be provided in not less than the amounts established in the Insurance Requirements section of the bidding documents (pages INS-1 to INS-3);*

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 circum- stances. 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 Bidder to submit an acceptable Subcontractor without an increase in Bid Price. If the apparent successful Bidder declines to make any such substitution, the Contract shall not be awarded to such Bidder, 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 bidding 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 of 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 Owner's Project Representative (RPR).

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 Contracted 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, expediters, 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. Where Contractor is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both Owner and Contractor, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be Contractor's sole and exclusive remedy for such delay. In no event shall Owner be liable to Contractor, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from (i) delays caused by or within the control of Contractor, or (ii) delays beyond the control of both parties including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

12.5. Extensions of contract time for delays caused by the effects of inclement weather are justified only when rain or other inclement weather conditions or related adverse soil or base conditions resulting from inclement weather prevent the Contractor from productively performing controlling items of work resulting in:

12.5.1. The Contractor being unable to work at least 50% of the normal work day on predetermined controlling work items; or

12.5.2. The Contractor must make major repairs to work damaged by weather, providing the damage was not attributable to a failure to preform or neglect by the Contractor.

The Construction Inspector or Engineer shall continually monitor the effects of weather and when found justified, recommend to the Owner time extensions on a monthly basis. At the beginning of each week, the Contractor shall submit a weekly construction schedule to the Engineer which identifies the intended work for that week, thus determining the scheduled work days and the controlling items of work. The Engineer and Contractor's representative must agree ahead of time as to the controlling items of work and the number of days of the week to be worked. Weather days will be granted only during the authorized contract time period.

If it is reasonable to conclude, based on the weather forecast, that there is little likelihood of productive work being accomplished on a controlling work item for 50% of that day, a time extension shall be granted and the Contractor shall not be expected to mobilize labor and equipment that day.

Time extensions shall be granted by adding to the contract time additional work days equal to the number of days delayed by inclement weather.

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:

Specification	Testing
02210	In-place field density – ASTM D 1556, ASTM D 1557, ASTM D 2167
02240	In place field density – ASTM D 1556, LBR testing
02232	In place field density – ASTM D 1556 or ASTM D 2167
02514	Making and Curing Concrete Test Specimens – ASTM C 31, Test for Flexural Strength of Concrete – ASTM C 78

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:

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 *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. *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 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 17 – MISCELLANEOUS

Giving Notice:

17.1. 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.

17.2 Computation of Times:

17.2.1. 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.

17.2.2. A calendar day of twenty-four (24) hours measured from midnight to the next midnight will constitute a day.

Notice of Claim:

17.3. 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 17.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

Cumulative Remedies:

17.4. 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:

17.5. 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:

17.6 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:

17.6.1 Record of hours worked by each worker, laborer, and mechanic on each day.

17.6.2 Record of days worked each week by each worker, laborer, and mechanic.

17.6.3 Schedule of occupation or occupations at which each worker, laborer, and mechanic on the project is employed during each workday and week.

17.6.4 Schedule of hourly wage rates and supplements paid to each worker, laborer, and mechanic for each occupation.

Wage Schedules:

17.7 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.

SPECIAL PROVISIONS

SPECIAL PROVISION NO. 1

UTILITIES

A. Description

The Contractor shall be responsible for the coordination and associated costs to protect existing facilities, utilities and features that may be impacted by the project.

B. General

Existing facilities, utilities and features depicted on the construction plans are not guaranteed to be accurate with respect to location, depth, condition or characteristics. Also, there may be additional facilities and features existing that could affect the construction of this project, which are not depicted or described in the construction plans. Prior to bidding, the Contractor shall make a thorough investigation of the project area to satisfy himself/herself as to the location, condition and characteristics of any and all facilities and features, which may affect the work. No additional compensation will be made for any extra expense relating to an existing facility or feature. The Contractor hereby agrees to make no claims against the Owner, the Engineer, and their representatives relating to the existence or lack thereof, location, condition and/or characteristics of any existing facilities or features

C. Protection of Existing Utilities

Airfield lighting cables; electric power lines; telephone lines; computer cables; airport power and control cables; transmission and distribution water lines; and sanitary force mains may be located in the areas of construction. Disruption of these utilities could seriously disrupt the operation of the airport. Actual locations are uncertain, and the Contractor is required to verify all locations.

Power and control cables leading to and from any Navaids and other facilities shall be protected from any possible damage, including crossing with unauthorized equipment, etc. No grading will be permitted over the cables under any conditions unless shown on the drawings or approved by the Engineer. These provisions intend to make perfectly clear the need for protection of Navaids and other facility cables by the Contractor at all times.

If damage occurs to any utilities, the Contractor may be assessed a fee of $2,000 liquidated damages per cut, which shall only represent the expense incurred by the Owner in coordinating the repair, and which shall not prevent the Owner or others from recovering from the Contractor costs or expenses of any other nature due to damages to utilities. The Contractor will also reimburse the appropriate utility owner for all material and labor costs to repair damaged utilities.

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 exhibits or encountered in the work. Any inaccuracy or omission in such information will not relieve Contractor of his 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 Owner of all utility services or other facilities of his plan of operations. Such notification shall be in writing addressed to the appropriate point-of-contact as provided herein. A copy of each notification shall be given to the Engineer.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in his plan of operation that would affect such Owners.

Prior to commencing the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner in writing, through the Project Manager, of the plan of operations. 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 written notification. Such notification shall be given through the Project Manager by the most expeditious means to reach the utility Owners point-of-contact no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor's failure to give two (2) days notice shall be cause for the Project Manager to suspend construction 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 excavation methods acceptable to the Project Manager within three (3) feet of the outside limits, at such points as may be required to insure protection from damage due to the Contractors operations. Excavation methods could include the use of hand digging tools, the use of non-ferrous hand tools and could exclude the use of long-handled metal spades.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, he shall immediately notify the proper utility company and the Project Manager 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 Project Manager continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility Owner.

The Contractor shall bear all direct and indirect costs of damage and restoration of service to any utility service or facility due to his operations, whether or not due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor or his surety.

Airport owned facilities and properties and privately owned facilities located on airport property, including underground cables, pavements, piping, buildings, turfed areas, vehicles and other facilities/improvements, that are damaged by the Contractor shall, at the election of the Owner, (1) be replaced/repaired by the Contractor to the satisfaction of the Owner or (2) be replaced/repaired by the Owner at the Contractor's expense.

All utilities not shown in the plans and found by the Contractor shall be recorded by the Contractor and submitted to the Airport Manager or Project Manager as Record Drawings. Refer to Special Provision No. 7 for additional requirements for Record Drawings.

END OF SP-1

SPECIAL PROVISION NO. 2

AIRPORT SAFETY AND SECURITY REQUIREMENTS

A. General

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 and security during construction. Satisfying these safety and security requirements 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:

FAA AC 150/5200-18C (or latest edition), Airport Safety Self Inspection
FAA AC 150/5370-2H (or latest edition), Operational Safety on Airport During Construction
FAA AC 150/5210-5D (or latest edition), Painting, Marking, and Lighting of Vehicles Used on an Airport

Copies of each of these documents may be examined through coordination with the Engineer.

B. Airport Safety and Security Coordinator

A qualified individual shall act as the duly authorized representative of the Contractor to coordinate safety and security issues for the duration of the contract. This individual will be responsible for the overall coordination of safety and security matters during construction and ensuring that all procedures and requirements are followed. The individual shall be physically present on the airport at all times during the period of construction when activity related to fulfilling the Contractor's responsibilities is taking place.

The individual shall be the Owner’s point of contact and is also responsible for coordinating all construction activity with any organizations prior to the start of construction at any location within the Project Area, at any time the construction schedule or procedure that would affect safety or security is altered and upon completion of work. In addition, the Owner’s point of contact shall maintain a file of all advisories issued; periodically review advisories issued to assure currency and appropriately cancel portions of previously issued advisories when construction covered by that advisory is completed or otherwise terminated.

C. Contractor Safety and Security Coordinator

The Contractor shall appoint a qualified individual as its duly authorized representative to coordinate safety and security issues for the duration of the contract. The Contractor’s point of contact shall thoroughly understand the safety and security requirements of the contract and shall have sufficient authority to implement its provisions without significant deviation.

The Contractor shall be accountable for safety and security requirement compliance. The Contractor’s point of contact for safety and security shall be especially knowledgeable regarding the requirements of FAA AC's 150/5200-18C and 150/5370-2H, Airport Self Inspection Guide and Operational Safety on Airports During Construction, respectively. The Contractor shall be thoroughly

familiar with all contract requirements relevant to the handling of hazardous materials and all applicable trade practices related to maintain safety and security during construction.

D. Construction Sequence

The construction sequence defined in the plans and specifications has been developed to minimize possible adverse safety and security impacts. The Contractor may deviate from this sequence provided the Engineer authorizes the deviation in writing.

E. Traffic Control

1. Vehicle Identification - The Contractor shall establish and maintain a list of the minimum number of vehicles believed to be necessary for completing the work required in each area of construction. This list shall be submitted to the Owner for permission to operate each vehicle on the list. To be authorized to operate on the Airport each vehicle shall:

    a. be marked/flagged for high daytime visibility and lighted for nighttime operations. These vehicles shall display in full view above the vehicle a 3'x3' or larger orange and white checkerboard flag, each check being 1' square, for daytime identification. For nighttime identification each vehicle shall be equipped with a flashing amber (yellow) dome light, mounted on top of the vehicle and have an intensity that conforms to the requirement for maintenance or emergency vehicles. Vehicles that are not marked and/or lighted shall be escorted by a vehicle appropriately marked and/or lighted.

    In addition, vehicles authorized to operate on any portion of the airport operations area other than the approved haul route for this contract shall also be equipped with a two-way radio capable of communicating on the Airport frequency.

    All marking, lighting, installation of radios and similar safety and/or security measures including providing escort vehicles and properly trained radio operators shall be provided by the Contractor.

    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 an 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 Airport staff or the Engineer, any vehicle is operated in a manner not fully consistent with these requirements, the Owner has the right to restrict operation of the vehicle or prohibit its use on the airport.

2. Access to the Site of Construction
    a. General Construction - the Contractor's access to the airport, employee parking and marshalling area(s) and route across the airport to the construction sites shall be as designated by the Owner. No other airport access point or cross-airport route shall be permitted unless approved in advance by the Owner. In addition, the following requirements are applicable:

(1) 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 Owner.

(2) The Contractor shall install work site identification signs at the authorized access point(s) if required by the Owner. If in the opinion of the Owner, directional signs are needed for clarity they shall be installed along the route authorized for access to each construction site.

(3) Under no circumstance will Contractor personnel be permitted to drive their individually owned vehicles to any construction on the airport. All vehicles must be parked in the area designated for employee parking; transportation to the work site shall be provided by the Contractor for those employees that are not otherwise occupying authorized vehicles.

(4) In addition to the periodic cleanup of the site, 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.

(5) There shall be no travel by foot within an active aircraft operational area. The Contractor shall arrange transportation for all employees between the designated marshalling area and each construction site, as necessary.

3. Material Suppliers, Subcontractors and Visitors - All material suppliers, subcontractors and visitors to the work site are obligated to follow the same safety and security operating procedures as the prime 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. If it is not practical to conform to the vehicle identification and/or safety and security orientation program requirements, the Contractor shall be prepared to escort all suppliers, subcontractors and visitors while they are on the work site or within a secured area.

F. Basis of Payment

No separate payment shall be made for airport safety and security measures or personnel or materials related to this item and incidentally required to satisfy the specified objective(s). Adequate compensation shall be included by the Contractor in the lump sum price for Mobilization. This compensation shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item. This compensation shall also be full compensation for adhering to Airport access requirements which include application for badges, time to procure a badge, and time required to badge subcontractors.

END OF SP-2

SPECIAL PROVISION NO. 3
PROTECTION OF AIRPORT CABLES, NAVAIDS AND OTHER FACILITIES

A. The Contractor is hereby informed that there are FAA NAVAID facilities installed on the Airport including, without limitation, ASR, UHF and VHF and VHF receivers and transmitters; U.S. Weather Bureau facilities; airfield lighting systems; electric cables and controls relating to such NAVAIDS and facilities. Such NAVAIDS, weather bureau and other facilities, and electric and control cables must be fully protected during the entire construction time. Work under this contract can be accomplished in the vicinity of these facilities and cables only at pre-approved periods of time.

Approval is subject to withdrawal at any time because of changes in the weather, emergency conditions on the airfield areas, anticipation of emergency conditions, and for any other reason determined by the Engineer acting under the orders and instructions of the airport management and the designated FAA representative. Any instruction to the Contractor to clear any given area, at any time, by the Engineer, the Airport Management or the FAA (by radio or other means) shall be immediately executed. Construction work will be commenced in the cleared area only when additional instructions are issued by the Engineer.

B. Power and control cables leading to and from any FAA NAVAIDS, Weather Bureau and other facilities, will be marked in the field by the local FAA Airway Facilities Sector personnel for the information of the Contractor, before starting any work in their general vicinity. Thereafter, through the entire time of this construction, the Contractor shall not allow any construction equipment to cross these cables without first protecting the cable with steel boiler plate, or similar structural devices, for three feet (3') either side of the marked cable route. All excavation within three feet (3') of existing cables shall be accomplished by hand digging only.

C. This Special Provision is included to make perfectly clear the need for protection of FAA NAVAIDS, Weather Bureau and other facilities and cables by the Contractor at all times.

D. At the option of the FAA, the Contractor shall either immediately repair, with identical material by skilled workmen, and at his own expense, any underground multi-conductor control cables serving FAA NAVAIDS, weather reporting equipment and other airport facilities which are damaged by its workmen or equipment. The FAA may repair the cable at the expense of the Contractor as verified by time and material expense records provided by FAA.

E. Prior approval from the Engineer and the FAA must be obtained for the materials, workmen, time of day or night and method of repairs for any temporary or permanent repairs the Contractor proposes to make to any FAA NAVAID or facility damaged by the Contractor. This also applies to any other airport facilities and/or cables damaged by the Contractor.

F. Should the repair require splicing, it shall be the discretion of the local FAA Airway Facilities Sector Manager as to who shall perform the work. Where the FAA performs the work, it shall be at the Contractor's expense.

G. No repair or splice work shall be backfilled or covered prior to final operational approval by the Airway Facilities Sector Manager.

END OF SP-3

SPECIAL PROVISION NO. 4

STAGING AND PHASING PROVISIONS FOR CONTRACTOR OPERATIONS

The Contractor shall prepare a written plan for his staging and phasing procedures in conformance with the Contract Drawings for all work. It shall be understood that the outline requirements presented are the minimum requirements. The Contractor is expected to provide added detailing as appropriate to fully inform the Project Manager of his/her intended method of operations and his/her schedules for proposed work.

The Engineer reserves the right to make changes to this plan to facilitate changes to the airport operations, which are in the best interest of the airport.

All costs associated with preparing the storage and staging area site shall be borne by the Contractor. This includes, but is not limited to, clearing and grading of the site, desired stabilization of the work yard surface, construction of any temporary utilities, access roads, all security fencing, etc.

END OF SP-4

SPECIAL PROVISION NO. 5

VISIBLE WARNING MARKERS FOR TAXIWAYS AND AIRCRAFT OPERATIONS AREAS

The Contractor shall furnish and maintain visible warning markers whenever any aircraft operations area (AOA) is closed to air traffic.

The Contractor shall place or remove the markers, at such times as the Engineer may direct, to allow the maximum use of the aircraft operations area by air traffic.

Contractor is responsible for maintaining markers in good condition at all times. Contractor shall repair and/or repaint markers as necessary or as directed by the Engineer.

Closed taxiways may be marked by appropriately placed barricades of the type shown on the contract drawings and as directed by the Engineer. Barricade lighting shall be red and shall be capable of being powered by battery or by connection to the runway, apron or taxiway edge light circuit.

Cost of markers and barricades shall be incidental to construction costs for the project. Contractor shall provide his method and plan for markings to the Project Manager, in writing, for approval prior to mobilizing.

END OF SP-5

SPECIAL PROVISION NO. 6

TIME OF COMPLETION

A. General

This project consists of several project elements, which are defined throughout the contract documents. The specific details pertaining to contract sequence and time are an important aspect of the project for planning of the various operational requirements of the airport. The Contractor shall be required to comply with the general intent of the phasing, scheduling and duration of the project as outlined in the contract documents or as otherwise approved by submittals allowed by the documents.

B. Construction Time

1. The construction plans and specifications set forth the time allocated to each of the elements of work required as part of this contract. The work shall be completed within the times established or as otherwise approved or liquidated damages in the amounts specified hereafter shall be assessed.

2. The Contractor must request and receive written approval from the Project Manager for acceptance of the work included in each of the phases or work prior to satisfying the requirements of being "complete." 1

1 3. The specified times for each of the project phases shall be outlined in these specifications or as otherwise agreed to in writing among the Owner, Project Manager and Contractor based upon the actual contract work awarded.
Substantial Completion contract time = **35 Calendar Days** (This is a calendar day contract);
Total contract time = **14 Calendar Days from receipt of Engineer's certificate of Substantial Completion and inspection punchlist.**

C. Construction Schedule

1. The Contractor shall prepare and submit a detailed schedule for his operations within the general limits and phasing restrictions included in the contract documents. This schedule shall be based upon the actual work ultimately awarded. This schedule shall be reviewed with the County, Project Manager and Contractor in order to establish the final approved schedule as it relates to this Special Provision.

END OF SP-6

SPECIAL PROVISION NO. 7

AIRPORT PROJECT PROCEDURES

A. Permits

Contractor shall be required to procure and pay for all construction permits if required, and arrange for all inspections and similar procedural items as required by the code enforcement authorities having jurisdiction.

B. Airport Operations

Airport operations shall be maintained throughout this Contract. The Contractor shall in no way curtail or handicap normal operational characteristics of the airport facility except as specifically indicated and specified in these Contract Documents.

C. Limits of Construction

Any surface graded or disturbed outside the construction limits as shown on the plans will be restored and sodded or seeded and mulched as directed by the Engineer at the Contractor's expense.

D. Construction Layout and Stakes

Contractor shall furnish all lines, grades and measurements necessary for the proper prosecution and control of the work and contracted for under these specifications. The Contractor will establish horizontal and vertical control points only. Contractor is thereafter responsible to maintain these control points for use by subsequent contractors.

E. Verification of Existing Conditions

Prior to bidding and commencing with construction, the Contractor shall familiarize himself as to the existing conditions. Should the Contractor discover any inaccuracies, errors or omissions between the actual existing conditions and the Contract Documents, he shall within seven (7) calendar days prior to Bid Opening, notify the Engineer in writing. Submission of Bid by the Contractor shall be held as an acceptance of the existing conditions by the Contractor.

F. Safety and Protection

1. Safety: Inasmuch as each work area will be accessible to and used by the public, the Owner and other companies doing business at the Airport during the construction period, it is the Contractor's responsibility to maintain each work area in a safe, hazard free condition at all times. Should the Owner find the area unsafe at any time, they will notify the Contractor, and the Contractor shall take whatever steps necessary to remedy the unsafe condition. Should the Contractor not be immediately available for corrective action, the Owner will remedy the problem and the Contractor shall reimburse the Owner for the expense of such correction.

2. Protection of Property: Fixed structures, equipment, paving, landscaping and vehicles (automobiles, trucks, etc.) shall be protected with drop cloths, shielding and other appropriate measures to ensure maximum protection of all property and vehicles.

G. Pre-Construction Conference

Before beginning work at the site, the Contractor shall attend a pre-construction conference and bring with him the superintendent employed for this project. In the event the Contractor is unable to attend, he shall send a letter of introduction with the superintendent in which he advises the superintendent's full name and states that he is assigned to the project and will be in full responsible charge. This conference will be called by the Engineer, who will arrange for the Owner's representative and other interested parties to be present. At this time, all parties will discuss the project under contract and prepare a program of procedure in keeping with requirements of the drawings and specifications. The superintendent will henceforth make every effort to expeditiously coordinate all phases of the work, including the required reporting procedure, to obtain the end result within the full purpose and intent of the drawings and specifications for the project.

H. Coordination and Progress Meetings

1. Weekly Coordination and Progress Meetings: The Contractor / Engineer will hold weekly general project coordination and progress meetings at regularly scheduled times convenient for all parties involved. These meetings are in addition to specific meetings held for other purposes, such as special project meetings and special pre-installation meetings. The Engineer will require representation at each meeting by every party currently involved in coordination or planning for the work of the entire project. Meetings will be conducted in a manner which will resolve coordination problems.

2. The Engineer will record results of the meeting and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

I. Administrative/Supervisory Personnel

The Contractor shall provide a full-time Project Management Team consisting of a Contractor’s Engineer, Project Superintendent and other supervisory personnel for the duration of the Project. The names and qualifications of this team for this work shall be submitted to the Owner as part of the Bidder Qualification Form. They shall have a minimum of five (5) years of experience on suitable projects of equal difficulty. Either the Contractor’s Engineer or the Project Superintendent shall be at the construction site at all periods when work is in progress. This person shall have full authority to act in the Contractor's behalf. It is agreed and understood that, if requested in writing by the Owner, the Contractor shall replace any member of the team with another meeting the required qualifications within three (3) days of the receipt of the request.

J. Special Reports

1. Reporting Unusual Events: When an event of an unusual and significant nature occurs at the site, the Contractor shall prepare and submit a special report to the Engineer. List chain of events, persons participating, response by the Contractor's personnel, an evaluation of the results or effects and similar pertinent information. Advise the Owner and Engineer as soon as possible when such events are known.

2. Submit special reports directly to the Owner within one day of occurrence. Submit a copy of the report to the Engineer and other entities that are affected by the occurrence within one day of the occurrence.

K. Schedule of Work

1. Prepare and submit, in triplicate, for the Engineer's information, progress schedules for the work.

2. Progress schedules shall relate to the entire project to the extent required by the Contract Documents and shall provide for expeditious and practicable execution of the work.

3. Progress schedules shall be updated monthly.

4. Percent complete shall be based on actual construction in place or dollar volume of the work. If dollar volume of the work reflects the greater percent complete, the maximum percent complete shall in no case exceed 5 percent of the value of the in-place construction.

L. Progress Schedule

1. Preliminary Schedule: Within 15 days after date of Notice of Award and Acceptance or at the Pre-Construction Conference, whichever is earlier, the Contractor shall submit his preliminary network phasing diagram (Preliminary Schedule) indicating a comprehensive overview of the Project including an activity line for each of the work segments to be performed at the site.

   a. Arrange the schedule to indicate required sequencing of work and to show time allowances for submittals, inspections, and similar time margins.

   b. The submitted schedule will be reviewed by the Engineer and Owner for conformance to Critical Dates and overall project completion time criteria. Lack of this information will be cause for rejection of the schedule.

   c. Following initial submittal of the schedule to and response by the Engineer, print and distribute the Progress Schedule to entities with a need-to-know responsibility, including three (3) copies to the Engineer. Revise at intervals matching payment requests, and redistribute and repost. Provide the copies required with payment requests.

M. Maintenance of Schedule

The Contractor's Progress Schedule must be updated on a monthly basis, and a copy thereof submitted with each of the Contractor's Applications for Payment. The updated Progress Schedule shall not only indicate revisions to the Schedule for upcoming work but show "as-built" schedule progress data. The Engineer will not recommend for payment by the Owner an Application for Payment without the Contractor's submission of a Monthly Schedule Update.

1. If the Contractor's Monthly Schedule Update reflects, or the Engineer determines, that the Contractor is at least ten percent (10%) behind the original Progress Schedule or fourteen (14) or more calendar days behind the original Progress Schedule for:

   a. the work as a whole;

b. a major Contract item;
c. an item of work which is on the critical path; or
d. an item of work not on the original critical path that, because of the delay or anticipated delay became a critical path item; then the Contractor must submit with the Monthly Schedule Update his proposed plan for bringing the work back on schedule and completing the Work within the Contract time.

2. The Progress Schedule shall be coordinated by the Owner's Project Administrator with the overall schedule for the Airport Projects. The Contractor is required to revise the Progress Schedule promptly in accordance with the conditions of the work, subject to approval by the Owner's Project Coordinator and the Engineer.

3. The Contractor shall comply fully with all time and other requirements of the Contract Documents. Recommendation of an Application of Payment by the Engineer and payment thereon by the Owner, without the submission of a Monthly Schedule Update, shall not constitute a waiver of the requirements of such updates, nor shall it relieve the Contractor from the obligation to complete the Work within the Contract Time.

4. Should a review of work indicate a critical path (milestone) item has fallen behind the approved schedule, at the option of the Engineer, funds equal to the established liquidated damages for the number of calendar days behind schedule will be withheld until that critical path item is brought back on schedule.

N. Changes in the Schedule

1. Minor Changes: Each week, prior to the weekly coordination meeting during the time of the contract, the Contractor shall notify the Engineer and Engineer of any minor changes that are anticipated in the schedule for the following week.

2. Major Changes: If for any reason a major change in the approved schedule is anticipated, the Contractor shall make the necessary changes to the schedule and resubmit the revised schedule for approval.

Copies of the approved schedule shall be posted in the Contractor's field office with completed work identified in colored pencil.

O. Maintenance of Traffic

1. The Contractor shall not obstruct nor create a hazard to any traffic during the prosecution of the work and shall be responsible for repair of all damage to existing pavement or facilities caused by his operations.

2. Beginning date of Contractor's Responsibility: The Contractor's responsibility for maintenance of traffic shall begin on the day he starts the work and continue until Final Completion and Acceptance of the Project.

3. Sections Not Requiring Traffic Maintenance: The Contractor will not be required to maintain traffic over those portions of the Project where no work is to be accomplished or where

construction operations will not affect aircraft operations. The Contractor, however, shall not obstruct nor create a hazard to any traffic during the prosecution of the work and shall be responsible for repair of any damage to existing pavement or facilities caused by his operations.

4. Traffic During Construction: All construction vehicles are required to use existing traffic routes. Normal traffic lanes are not to be used as staging areas for arriving delivery vehicles. The Contractor's employees shall utilize the designated Contractor employee parking area.

5. Contractor Signing: The Contractor may furnish and install construction traffic directional signs along the existing traffic route. The signs shall depict Contractor's logo or name, directional arrows and "deliveries". Signs shall be of sufficient size to have 6" high message and shall be located at each decision point. All signs and their locations shall be approved by the Engineer. NO OTHER SIGNS ARE PERMITTED.

6. Material Deliveries: The Contractor shall make his own material and equipment deliveries. No deliveries shall be made by vendors or suppliers without escort by a representative of the Contractor.

7. Notification: On days when construction traffic is expected to be extra heavy or when oversized pieces of equipment are to be delivered, give minimum forty-eight (48) hours notice to the Engineer.

8. All Contractor material orders for the work site shall be delivered to the areas designated as the Contractor's receiving area. All deliveries shall be made only during the Contractor's working hours.

9. Interference Request:

    a. The Contractor shall be responsible for notifying the Owner in writing and securing approval for any and all interruptions or interference with traffic (pedestrian, automobile or other necessary function of the Airport.

    b. The request shall include a traffic control plan indicating barricades, lighting and flagger where required.

    c. Such notification shall be made as soon as possible but in no case less than 48 hours prior to interference.

    d. It is suggested that the Contractor utilize a standard form addressed to the Owner with a blank space for a description of the interference, the exact area affected, the exact times and dates the interference will take place and blanks for the Owner's approval. The forms shall be submitted in duplicate. No interference will be allowed until the Contractor has received back a copy of the approved interference request form.

10. Personnel Traffic:

    a. General: All construction personnel shall be restricted to construction areas. They shall wear shirts with sleeves and long pants at all times.

    b. Use of Public Areas: The Contractor's workmen shall not utilize public areas for taking their "work breaks" or "lunch breaks." Areas for this purpose can be designated by the Owner upon request. No Public Toilets shall be used by any workmen at any time.

P. Daily Clean-Up and Trash Removal

1. Debris from this work shall be promptly removed from the site at least daily. It shall not be allowed to become a hazard to the safety of the public.

2. The Contractor shall be responsible for clean-up and trash removal. Accumulation of trash and debris will not be allowed and the Engineer may at any time direct the Contractor to immediately remove his trash and debris from the site of the work when in the opinion of the Owner such trash constitutes a nuisance or in any way hinders the work or the Airports operations. If the Contractor should fail to remove his trash and debris from the site of the work in a timely manner, the Owner may have this work performed and deduct the cost of such from Contractor's payment.

Q. Cleaning and Protection

1. General: During handling and installation of work at the project site, clean and protect work in progress and adjoining work on the basis of continuous daily maintenance. Apply protective covering on installed work to ensure freedom from damage or deterioration.

2. Clean and perform maintenance on installed work as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

3. Limiting Exposures of Work: To the extent possible through appropriate control and protection methods, supervise performance of the work in such a manner and by such means which will ensure that none of the work, whether completed or in progress, will be subjected to harmful, dangerous, damaging or otherwise deleterious exposure during the construction period. Such exposures include, where applicable, but not by way of limitation the following:

    a. Excessive static or dynamic loading
    b. Excessive internal or external pressures
    c. Solvents
    d. Chemicals
    e. Light
    f. Puncture
    g. Abrasion
    h. Heavy Traffic

i. Soiling
j. Combustion
k. High speed operation, improper lubrication, unusual wear
l. Improper shipping or handling
m. Theft
n. Vandalism

4. Protection at Openings: The Contractor shall provide protection at all openings in structures and finishes to maintain the building weather and dust tight. All protection shall be of solid material and substantial so that it will not be disturbed by wind and weather normal to the area and season, and also tight fitting to prevent noise infiltration.

5. Protection of Improvements:

a. Damage to Existing Facilities: Existing surfaces and materials of the Owner's property not requiring work by the Contract Documents that is damaged by the Contractor's operations shall be immediately repaired. Repaired surfaces and materials shall match existing adjacent undamaged surfaces and materials. Repair work shall be coordinated with the Engineer and Owner with regard to time and method.

b. Accidental Demolition: All structures or parts thereof that may become damaged due to accident or Contractor's error shall be restored to their original condition at no cost to the Owner. Materials and equipment being used in the repair or replacement resulting from damage shall be new and shall perform at the manufacturer's published capacities. If the existing equipment or materials cannot be identified, or if unavailable, the selection of the replacement will be subject to approval by the Engineer in writing.

6. Overhead Protection

a. No cranes or other construction equipment shall cross over non-construction personnel, their travel ways or ride systems.

b. The plan of operation of cranes and other hoisting equipment shall be established in writing by the Contractor. This plan of operation shall be subject to approval by the Engineer.

R. Conservation and Salvage

1. General: It is a requirement for supervision and administration of the Work that construction operations be carried out with the maximum possible consideration given to conservation of energy, water and materials. In addition, maximum consideration shall be given to salvaging materials and equipment involved in performance of the work but not incorporated therein. Refer to other sections for required disposition of salvaged materials which are the Owner's property.

S. Testing Cost Borne by Owner

Unless otherwise specified herein, all initial construction "Quality Assurance" testing costs shall be borne by the Owner. An independent testing laboratory selected and responsible to the Engineer shall perform all "Quality Assurance" testing required by the technical specifications or as directed by the Owner and/or the Engineer.

T. Testing Cost Borne by Contractor

The Contractor shall bear the cost of all "Quality Control" testing to include the following conditions:

1. If substitute materials or equipment are proposed by the Contractor, he shall pay the cost of all tests which may be necessary to satisfy the Engineer that specification requirements are satisfied. The Contractor shall pay for the Engineer's time spent in review and administrating such proposed substitution.

2. If materials or workmanship are used which fail to meet specification requirements, the Contractor shall pay the cost of all re-testing, including laboratory costs, deemed necessary by the Engineer to determine the safety or suitability of the material or element. The Contractor shall make arrangements with the Owner's Testing Laboratory to have all re-testing costs billed directly to the Contractor, or deducted from amounts due to the Contractor unless otherwise directed by the Engineer in writing. The Contractor shall take prompt action to insure that all re-testing costs are paid in a reasonable time period.

3. The Contractor shall pay for all testing costs including, but not limited to, power, fuel, and equipment cost, which may be required for complete testing of all equipment and systems for proper operation.

4. The Contractor shall pay for all testing required for materials, job mix designs, equipment, structures and related items included in all shop drawings and other submittals as required by the Technical Specifications to be submitted and approved by the Engineer prior to construction.

5. The Contractor shall bear all costs necessary for the Quality Control testing as stipulated in General Provisions Section 100.

U. Project Documentation

1. Project Drawings: The successful Contractor will be furnished, at no charge, four (4) copies of drawings and specifications. Additional copies may be purchased at actual cost of reproduction.

   A field set of drawings and specifications shall remain on the job site at all times and shall be available at all times to the Engineer. The field set shall be continuously updated to reflect the "as-built" condition of all work included in this Contract.

The Contractor shall immediately include plainly and conspicuously on the field set of drawings, and at appropriate paragraphs in the specifications, all changes or corrections made by addenda and change orders as they are issued.

Approved copies of all shop drawings and other submittals are to be kept on the job site at all times and shall be available at all times to the Engineer.

Changes and deviations from the existing conditions shall be submitted in writing for approval prior to installation. In no case shall any unspecified equipment or materials be installed without prior approval by the Engineer.

2. Record Documents:

a. Definition: Record copies are defined to include those documents or copies relating directly to performance of the work, which the Contractor is required to prepare or maintain for the Owner's records, recording the work as actually performed. In particular, record copies show changes in the work in relation to the way in which work was shown and specified by the original contract documents and show additional information of value to the Owner's records but not indicated by the original Contract Documents.

Record copies include newly-prepared drawings (if any are specified), marked-up copies of contract drawings, shop drawings, specifications, addenda and change orders, marked-up product data submittals, record samples, field records for variable and concealed conditions such as excavations and foundations, and miscellaneous record information on work which is otherwise recorded only schematically or not at all.

b. Record Drawings: The Contractor shall maintain a set of Record Drawings at the job site. These shall be kept legible and current and shall be available for inspection at all times by the Engineer. Show all changes or work added on these Record Drawings in a contrasting color.

(1) Mark-up Procedure: During progress of the work, maintain a white-print set (blue-line or black-line) of contract drawings and shop drawings, with mark-up of actual installations which vary substantially from the work as originally shown. Mark whatever drawing is most capable of showing actual physical condition, fully and accurately. Where shop drawings are marked up, mark cross-reference on contract drawings at corresponding location. Mark with erasable colored pencil, using separate colors where feasible to distinguish between changes for different categories of work at the same general location. Mark-up important additional information, which was either shown schematically or omitted from original drawings. Give particular attention to information on work concealed, which would be difficult to identify or measure and record at a later date. Note alternate numbers, change order numbers and similar identification. Require each person preparing the mark-up to initial and date the mark-up

and indicate the name of the firm. Label each sheet "PROJECT RECORD" in 1-1/2 inch high letters.

In showing changes in the work, use the same legends as used on the original drawings. Indicate exact locations by dimensions and exact elevations by job datum. Give dimensions from a permanent point.

(2) Preparation of Transparencies: In preparation for certification of substantial completion on the last major portion of the work, review the completed mark-up of record drawings and shop drawings with the Engineer. The Engineer will then proceed with preparation of a full set of corrected transparencies for contract drawings. The Engineer will date each updated drawing and label each sheet "PROJECT RECORD" in 1-1/2 inch high letters. Printing as required herein is the responsibility of the Engineer.

(3) Copies, Distribution: Upon completion of transparency record drawings, the Engineer shall prepare three blueline or blackline prints of each drawing, regardless of whether changes and additional information were recorded thereon. The Engineer shall then organize each of the three copies into manageable sets, bind with durable paper cover sheets, and print suitable titles and dates. The mark-up set of prints maintained during the construction period shall be bound in the same manner. The Engineer will retain one copy set. At the completion of the project, the Engineer shall submit one set of mylars and one set of prints with changes noted thereon to the Owner.

c. Record Drawings shall contain the names, addresses and phone numbers of the General Contractor and the major subcontractors.

d. The Engineer shall be the sole judge of the acceptability of the Record Drawings. Receipt and acceptance of the As-Built drawings is a pre-requisite for Final Payment.

3. Record Specifications

a. During the progress of the work, maintain one copy of specifications, including addenda, change orders and similar modifications issued in printed form during construction. Mark-up variations (of substance) in actual work in comparison with text of specifications and modifications as issued. Give particular attention to substitutions, selection of options, and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record drawing information and product data where applicable. Upon completion of the mark-up, submit to the Engineer for the Owner's records. Label the front cover "PROJECT RECORD" in 1-1/2 inch high letters.

b. Where the manual is printed on one side of the page only, mark variations on the blank left-hand pages of the Project Manual, facing printed right-hand pages containing original text affected by variation.

4. Record Product Data
During progress of the work, maintain one copy of each product data submittal and mark up significant variations in the actual work in comparison with submitted information. Include both variations in product as delivered to site and variations from the manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the work which cannot otherwise be readily discerned at a later date by direct observation. Note related change orders and mark-ups of record drawings and specifications. Upon completion of the mark-up, submit a complete set of product data submittals to the Engineer for the Owner's records. Label each data submittal "PROJECT RECORD" in 1-1/2 inch high letters.

5. Record Sample Submittal
Immediately prior to the date(s) of substantial completion, the Engineer and Owner's personnel will meet with the Contractor on site and will determine if any of the submitted samples maintained by the Contractor during progress of the work are to be transmitted to the Owner for record purposes. Comply with the Engineer's instructions for packaging, identification marking and delivery to the Owner's sample storage space. Dispose of other samples in the manner specified for disposal of surplus and waste materials, unless otherwise indicated by the Engineer.

6. Miscellaneous Record Submittals
Refer to other sections of these specifications for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the work. Immediately prior to the date(s) of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Engineer for the Owner's records. Categories of requirements resulting in miscellaneous work records are recognized to include, but are not limited to, the following:

a. Required field records on excavations, foundations, underground construction, wells and similar work.

b. Accurate survey showing locations and elevations of underground lines, including invert elevations of drainage piping, valves, tanks and manholes.

c. Surveys by a Registered Land Surveyor establishing lines and levels of finished construction.

d. Soil treatment certification.

e. Inspection and Test Reports: Where not processed as shop drawings or product data.

f. Asphalt or PCC concrete pavement or structural mix design record.

g. Concrete block certification.

7. Project Closeout
Closeout is hereby defined to include general requirements near end of Contract Time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by the Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in other sections. Time of closeout is directly related to substantial completion, and therefore may be a single time period for the entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. The time variation, if any, shall be applicable to other provisions of this section.

8. Prerequisites to Substantial Completion

a. Prior to requesting the Engineer's inspection for certification of substantial completion, for either the entire work or portions thereof, complete the following and list known exceptions in request:

(1) In the progress payment request coincident with or first following the date claimed, show 100% completion for the portion of work claimed as "substantially completed", or list incomplete items, value of incompletion, and reasons for being incomplete.

(2) Include supporting documentation for completion as indicated in the Contract Documents.

(3) Submit statement showing accounting of changes to the Contract Sum.

(4) Advise the Owner of pending insurance change-over requirements.

(5) Obtain and submit releases enabling the Owner's full and unrestricted use of the work and access to services and utilities, including, where required, occupancy permits, operating certificates, and similar releases.

(6) Deliver tools, spare parts, extra stocks of materials, and similar physical items to the Owner.

(7) Make the final change-over of locks and transmit keys to the Owner and advise Owner's personnel of change-over in security provisions.

(8) Complete start-up testing of systems and instructions of Owner's operating-maintenance personnel. Discontinue or change over and remove from the project site, temporary facilities and services, along with construction tools and facilities, mock-ups and similar elements.

b. Inspection Procedures: Upon receipt of the Contractor's request, the Engineer will proceed with inspection or advise the Contractor of prerequisites not fulfilled. Following initial inspection, the Engineer will prepare a Certificate of Substantial

Completion or advise the Contractor of the work which must be performed prior to issuance of the Certificate and will perform a repeat inspection when requested and assured by the Contractor that the work has been substantially completed. Results of the completed inspection will form the initial "punchlist" for final acceptance.

9. Prerequisites to Final Acceptance

a. Prior to requesting the Engineer's final inspection for certification of final acceptance as required by the General Provisions, the Contractor shall complete the following and list known exceptions in the request:

(1) Submit a certified copy of the Engineer's final punchlist of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by the Engineer.

(2) Submit final meter readings for utilities, measured record of stored fuel, and similar data as of time of substantial completion or when the Owner took possession of and responsibility for corresponding elements of the work.

(3) Complete final cleaning up requirements, including touch-up of marred surfaces.

(4) Touch up and otherwise repair and restore marred exposed finishes.

b. Re-inspection Procedures: Following Substantial Completion, the Contractor shall correct or remedy all Punchlist items to the satisfaction of the Engineer and Owner within a two (2) week period after the Date of Substantial Completion. If subsequent inspections are necessary after the two week period in order to eliminate all deficiencies, the cost of all subsequent inspections with respect to the Owner and Engineer's time shall be paid by the Contractor. When ready, the Contractor shall request in writing a final inspection of the work. Upon completion of re-inspection, the Engineer will prepare a Certificate of Final Acceptance or advise the Contractor of work not completed or obligations not fulfilled as required for Final Acceptance. If necessary, the procedures will be repeated.

10. Prerequisites to Final Payment

a. Final Payment: Final Payment will be made after final acceptance of the project by the Engineer and Owner upon request by the Contractor on condition that the Contractor:

(1) Furnish properly executed complete releases of lien from all materialmen and subcontractors who have furnished materials or labor for the Work and submit supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.

(2) Furnish the Contractor's Affidavit of Release of Liens (2 copies) that all materialmen and subcontractors have been paid in full. In the event they have not been paid in full, the Owner shall retain a sufficient sum to pay them in full and at his option may make direct payment as provided in Chapter 84, Florida Statutes, as amended, to obtain complete releases of lien.

(3) Furnish Contractor's Affidavit of Debts and Claims (2 copies).

(4) Furnish required sets of record drawings and maintenance and operating instructions of new mechanical equipment.

(5) Furnish guarantees signed by subcontractors, material suppliers, and countersigned by the Contractor for operating equipment.

(6) Submit specific warranties, workmanship-maintenance bonds, maintenance agreements, final certifications and similar documents.

(7) Furnish a signed guarantee, in form acceptable to the Engineer and Owner agreeing to repair or replace as decided by the Engineer, all work and materials that prove defective within one (1) year (or more) from the date of final acceptance, including restoration of all other work damaged in making such repairs or replacements.

(8) Furnish Consent of Surety to final payment.

(9) Submit updated final statement, accounting for final changes to Contract Sum.

(10) Submit evidence of final, continuing insurance coverage complying with insurance requirements.

(11) Certify that all Social Security, Unemployment and all other taxes (City, State, Federal Government) have been paid.

(12) Provide receipt, as applicable, of affidavits certifying all labor standards of local, State, or Federal requirements have been complied with by the Contractor.

(13) Submit actual DBE participation percentages.

11. Record Document Submittals

Specific requirements for record documents are shown in the section, PROJECT RECORD DOCUMENTS. Other requirements are indicated in the General Provisions. General submittal requirements are indicated in "Submittals" sections. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-

resistive location; provide access to record documents for the Engineer's reference during normal working hours.

a. Record Drawings: The Engineer shall organize record drawing sheets into manageable sets, bind with durable paper cover sheets and print suitable titles, dates and other identification on the cover of each set.

b. Record Specifications: Upon completion of mark-ups, submit to the Engineer for the Owner's records.

c. Record Product Data: Upon completion of mark-ups, submit complete sets to the Engineer for the Owner's records.

d. Record Sample Submittal: Comply with the Engineer's instructions for packaging, identification, marking and delivery to the Owner's sample storage space.

e. Miscellaneous Record Submittals: Complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Engineer for the Owner's records.

f. Maintenance Manuals: Complete, place in order, properly identify and submit to the Engineer for the Owner's records.

12. Closeout Procedures
General Operating and Maintenance Instructions: Arrange for each installer of work requiring continuing maintenance or operation, to meet with the Owner's personnel at the project site to provide basic instructions needed for proper operation and maintenance of the entire work. Include instructions by manufacturer's representatives where installers are not expert in the required procedures. Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuel, identification system, control sequences, hazards, cleaning and similar procedures and facilities. For operational equipment, demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy, efficiency adjustments, and similar operations. Review maintenance and operations in relation with applicable warranties, agreements to maintain bonds, and similar continuing commitments.

V. Final Cleaning

1. Provide final cleaning of the work, at the time indicated, consisting of cleaning each surface or unit of work to normal "clean" condition in a manner acceptable to the Engineer and Owner.

2. Removal of Protection: Remove temporary protection devices and facilities which were installed during the course of the work to protect previous completed work during the remainder of the construction period.

3. Compliances: Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at site, bury debris or excess materials on the

Owner's property. Do not discharge volatile or other harmful or dangerous materials into drainage systems. Remove waste materials from site and dispose of in a lawful manner.

Where extra materials of value remaining after the completion of the associated work have become the Owner's property, dispose of these as directed by the Owner.

END OF SP-7

SPECIAL PROVISION NO. 8

VEHICLE OPERATION ON THE AOA

A. Authorization of Vehicles/Equipment

All vehicles that enter the Air Operations Area of Tri-County Airport shall comply with the following:

1. All vehicles shall be limited to designated access routes and/or construction areas unless specifically authorized by the Owner.
3. All construction vehicles/mechanized equipment authorized within the construction area, the Movement Area, or related safety areas shall be marked with a 3' x 3' orange and white checkered flag with each box being 1’ square, located on the upper most portion of the vehicle/motorized equipment, or be escorted by a vehicle so equipped.
4. All vehicles authorized to operate on the Movement Area or associated object free areas are required to announce their intentions on the Unicom frequency before entering those areas and to monitor the frequency.
5. During nighttime hours, all equipment operating or parked on the Airport exceeding 20 feet in height shall be lit with a red obstruction light in accordance with Advisory Circular 70/7460-1. This light is to be located on the uppermost portion of the equipment.

B: Vehicle/Equipment Restrictions

1. Bicycles, motorcycles and two-wheel scooters are prohibited on the AOA.

2. All vehicles/equipment must be appropriately secured such that neither aircraft nor wind blast will result in their movement.

C. Right-of-Way

Vehicles/equipment shall be operated in a manner that does not interfere with aircraft operations. All vehicles/equipment shall yield right of way to all aircraft and emergency vehicles.

D. Vehicle/Equipment Operating Rules

The Contractor shall be responsible for ensuring compliance with the following rules by all individuals authorized to drive outside the construction area:

1. Vehicle/mechanized equipment operators shall obey all traffic signs.

2. The established speed limit within the AOA -10 m.p.h.

3. At no time shall the operator of a vehicle/mechanized equipment drive under any portion of an aircraft.

4. A vehicle/equipment shall not stop or be parked:

a. so as to block a driveway, AOA access gate, fire lane, or aircraft; or
b. in areas other than those prearranged and approved by the Owner; or
c. within 15 feet of a fire hydrant, unless authorized by the Owner.

5. Vehicles/mechanized equipment shall not be operated in a careless or negligent manner within the AOA.

6. Vehicles/equipment shall not be operated by individuals under the influence of any substance which impairs the ability to do so in a safe manner.

E. Night or Low Visibility Operation

1. Vehicle/mechanized equipment operators are not permitted to move about the airport, outside the designated construction area at night unless the vehicle has operating headlights, taillights, brake lights or under the escort of a properly lighted vehicle. Headlights shall be set on dim when moving about the airport at night.

2. Vehicle/mechanized equipment authorized on the Movement Area and/or associated safety areas shall be equipped with an electrically powered, amber color, 360-degree omni-direction, rotating light, mounted on the vehicle such that it is conspicuous from any direction.

F. Runway/Taxiway Access

At no time shall a vehicle enter the Movement Area and/or associated safety areas unless it is authorized by the Owner.

G. Vehicle/Equipment Accidents

All accidents which involve bodily injury or property damage must be reported immediately to the Owner at 850-703-6808. Emergency 911 should be called where applicable.

H. Removal of Vehicle/Equipment

The Owner may remove or impound, at the owner's expense, any vehicle/equipment which is disabled, abandoned, improperly parked, or represents an operational hazard.

I. Insurance

All vehicles authorized driving privileges on the Airport are required to maintain vehicle liability coverage as established by the contract.

END OF SP-8

TECHNICAL SPECIFICATIONS

SECTION 101

MOBILIZATION

101-1 Description

Perform preparatory work and operations in mobilizing for beginning work on the project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, and sanitary and other facilities.

Include the costs of bonds and any required insurance and any other preconstruction expense necessary for the start of the work, excluding the cost of construction materials.

101-2 Basis of Payment

101-2.1 When a Separate Item is Included in the Proposal: When the proposal includes a separate item of payment for this work, the work and incidental costs specified as being covered under this Section will be paid for at the Contract lump sum price for the item of Mobilization.

Payment will be made under:

Item No. 101-1 Mobilization - per Lump Sum (LS)

101-2.2 Partial Payments: When the proposal includes a separate pay item for Mobilization and the Notice to Proceed has been issued, partial payments will be made in accordance with the following:

For contracts of 120 contract days duration or less, partial payment will be made at 50% of the bid price per month for the first two months.

For contracts in excess of 120 contract days duration, partial payment will be made at 25% of the bid price per month for the first four months. In no event shall more than 50% of the bid price be paid prior to commencing construction on the project site.

Total partial payments for Mobilization on any project, including when more than one project or job is included in the Contract, will be limited to 10% of the original Contract amount for that project. Any remaining amount will be paid upon completion of all work on the Contract.

Retainage, as in the Contract Documents, will be applied to all partial payments.

Partial payments made on this item will in no way act to preclude or limit any of the provisions for partial payments otherwise provided for by the Contract.

101-2.3 When No Separate Item is Included in the Proposal: When the proposal does not include a separate item for Mobilization, all work and incidental costs specified as being covered under this Section will be included for payment under the several scheduled items of the overall Contract, and no separate payment will be made therefore.

END OF SECTION 101

SECTION 102

MAINTENANCE OF TRAFFIC

102-1 Description
Maintain traffic within the limits of the project for the duration of the construction period, including any temporary suspensions of the work. Construct and maintain detours. Provide facilities for access to residences, businesses, etc., along the project. Furnish, install and maintain traffic control and safety devices during construction. Furnish and install work zone pavement markings for maintenance of traffic (MOT) in construction areas. Provide any other special requirements for safe and expeditious movement of traffic specified in the Plans. MOT includes all facilities, devices and operations as required for safety and convenience of the public within the work zone.

Do not maintain traffic over those portions of the project where no work is to be accomplished or where construction operations will not affect existing roads. Do not obstruct or create a hazard to any traffic during the performance of the work, and repair any damage to existing pavement open to traffic. Basis of Payment

102-2 Materials.
Meet the following requirements:

Bituminous Adhesive.....Section 970
Temporary Raised Pavement Markers.....Section 990
Paint.....Section 971
Removable Tape.....Section 990
Glass Spheres.....Section 971
Temporary Traffic Control Device Materials.....Section 990
Retroreflective and Nonreflective Sheeting for Temporary Traffic Control Devices.....Section 994

102-2.1 Temporary Traffic Control Devices: Use only the materials meeting the requirements of Section 990, Section 994, Standard Plans and the Manual on Uniform Traffic Control Devices (MUTCD).

102-2.2 Detour: Provide all materials for the construction and maintenance of all detours.

102-2.3 Commercial Materials for Driveway Maintenance: Provide materials of the type typically used for base, including reclaimed asphalt pavement (RAP) material, and having stability and drainage properties that will provide a firm surface under wet conditions.

102-3 Specific Requirements.
102-3.1 Beginning Date of Contractor's Responsibility: Maintain traffic starting the day work begins on the project or on the first day Contract Time is charged, whichever is earlier.

102-3.2 Worksite Traffic Supervisor: Provide a Worksite Traffic Supervisor who is responsible for initiating, installing, and maintaining all temporary traffic control devices as described in this Section and the Contract Documents. Provide all equipment and materials needed to set up, take down, maintain traffic control, and handle traffic-related situations. Use approved alternate Worksite Traffic Supervisors when necessary.

The Worksite Traffic Supervisor must meet the personnel qualifications specified in Section 105. The Worksite Traffic Supervisor is to perform the following duties:

1. On site direction of all temporary traffic control on the project.

2. Is on site during all set up and take down, and performs a drive through inspection immediately after set up.

3. Is on site during all nighttime operations ensuring proper temporary traffic control.

4. Immediately corrects all safety deficiencies and corrects minor deficiencies that are not immediate safety hazards within 24 hours.

5. Is available on a 24 hour per day basis and present at the site within 45 minutes after notification of an emergency situation and is prepared to respond to maintain temporary traffic control or to provide alternate traffic arrangements.

6. Conducts daily daytime and weekly nighttime inspections of projects with predominately daytime work activities, and daily nighttime and weekly daytime inspections of projects with predominantly nighttime work activities of all traffic control devices, traffic flow, pedestrian, bicyclist, and business accommodations.

   Advise the project personnel of the schedule of these inspections and give them the opportunity to join in the inspection as deemed necessary. Pedestrians are to be accommodated with a safe, accessible travel path around work sites separated from mainline traffic in compliance with the Americans with Disabilities Act (ADA) Standards for Transportation Facilities. Maintain existing or detour bicycle facilities satisfactorily throughout the project limits. Existing businesses in work areas are to be provided with adequate entrances for vehicular and pedestrian traffic during business hours.

The Owner may disqualify and remove from the project a Worksite Traffic Supervisor who fails to comply with the provisions of this Section. The Owner may temporarily suspend all activities, except traffic, erosion control and such other activities that are necessary for project maintenance and safety, for failure to comply with these provisions.

102-3.3 Lane Closures: Approval for all lane closures, mobile operations, and traffic pacing operations is required. Submit routine requests to the Engineer fourteen calendar days in advance of planned lane closures, mobile operations, and traffic pacing operations. For unforeseen events that require cancelling or rescheduling lane closures, mobile operations, and traffic pacing operations, revise the lane closure request as soon as possible.

102-4 Alternative Traffic Control Plan.

The Contractor may propose an alternative traffic control plan (TCP) to the plan presented in the Contract Documents. The Contractor's Engineer of Record must sign and seal the alternative plan and submit to the Engineer. Prepare the TCP in conformance with and in the form outlined in the current version of the FDOT Design Manual. Indicate in the plan a TCP foreach phase of activities. Take responsibility for identifying and assessing any potential impacts to a utility that may be caused by the alternate TCP proposed by the Contractor, and notify the Owner in writing of any such potential impacts to utilities.

For projects with nighttime lane closure restrictions where paving is expected to extend into the winter months, the Contractor may propose an alternative TCP allowing for daytime lane closures for friction course paving. The alternative TCP must be a lane closure analysis based on actual traffic counts and prepared in accordance with the FDOT Design Manual.

Engineer's approval of the alternate TCP does not relieve the Contractor of sole responsibility for all utility impacts, costs, delays or damages, whether direct or indirect, resulting from Contractor initiated changes in the design or construction activities from those in the original Contract Specifications, Design Plans (including TCPs) or other Contract Documents and which effect a change in utility work different from that shown in the Utility Plans, joint project agreements or utility relocation schedules.

The Owner reserves the right to reject any alternative TCP. Obtain the Engineer's written approval before beginning work using an alternate TCP. The Engineer's written approval is required for all modifications to the TCP. The Engineer will only allow changes to the TCP in an emergency without the proper documentation.

102-5 Traffic Control.

102-5.1 Standards: FDOT Standard Plans are the minimum standards for the use in the development of all TCPs. The MUTCD, Part VI is the minimum national standard for traffic control for highway construction, maintenance, and utility operations. Follow the basic principles and minimum standards contained in these documents for the design, application, installation, maintenance, and removal of all traffic control devices, warning devices and barriers which are necessary to protect the public and workers from hazards within the project limits.

102-5.2 Maintenance of Roadway Surfaces: Maintain all lanes that are being used for the MOT, including those on detours and temporary facilities, under all weather conditions. Keep the lanes reasonably free of dust, potholes and rutting. Provide the lanes with the drainage facilities necessary to maintain a smooth riding surface under all weather conditions.

102-5.3 Number of Traffic Lanes: Maintain one lane of traffic in each direction. Maintain two lanes of traffic in each direction at existing four (or more) lane cross roads, where necessary to avoid undue traffic congestion. Construct each lane used for MOT at least as wide as the traffic lanes existing in the area before commencement of construction. Do not allow traffic control and warning devices to encroach on lanes used for MOT.

The Engineer may allow the Contractor to restrict traffic to one-way operation for short periods of time provided that the Contractor employs adequate means of traffic control and does not unreasonably delay traffic. When a construction activity requires restricting traffic to one-way operations, locate the flaggers within view of each other when possible. When visual contact between flaggers is not possible, equip them with 2-way radios, official, or pilot vehicles, or use traffic signals.

102-5.4 Crossings and Intersections: Provide and maintain adequate accommodations for intersecting and crossing traffic. Do not block or unduly restrict any median opening, road or street crossing the project unless approved by the Engineer. Before beginning any construction, submit to the Engineer the names and phone numbers of persons that can be contacted when signal operation malfunctions.

102-5.5 Access for Residences and Businesses: Provide continuous access to all residences and all places of business.

102-5.6 Protection of the Work from Injury by Traffic: Where traffic would be injurious to a base, surface course, or structure constructed as a part of the work, maintain all traffic outside the limits of such areas until the potential for injury no longer exists.

102-5.7 Flagger: Provide flaggers to control traffic when traffic in both directions must use a single lane and in other situations as required. All flaggers must meet the personnel qualifications specified in Section 105.

102-5.8 Conflicting Pavement Markings: Where the lane use or where normal vehicle or pedestrian paths are altered during construction, remove all pavement markings (paint, tape, thermoplastic, raised pavement markers, etc.) that will conflict with the adjusted vehicle or pedestrian paths. Use of paint to cover conflicting pavement markings is prohibited. Remove conflicting pavement markings using a method that will not damage the surface texture of the pavement and which will eliminate the previous marking pattern regardless of weather and light conditions.

Remove all pavement markings that will be in conflict with "next phase of operation" vehicle pedestrian paths as described above, before opening to vehicle traffic or use by pedestrians.

Cost for removing conflicting pavement markings (paint, tape, thermoplastic, raised pavement markers, etc.) to be included in Maintenance of Traffic, lump sum.

102-5.9 Vehicle and Equipment Visibility: Equip all pickups and automobiles used on the project with a minimum of one Class 2 warning light that meets the Society of Automotive Engineers Recommended Practice SAE J595, dated November 1, 2008, or SAE J845, dated December 1, 2007, and incorporated herein by reference. Existing lights that meet SAE J845, dated March, 1992, or SAE J1318, dated April, 1986, may be used to their end of service life. The warning lights must be a high intensity amber or white rotating, flashing, oscillating or strobe light. Lights must be unobstructed by ancillary vehicle equipment such as ladders, racks or booms and be visible 360 degrees around the vehicle. If the light is obstructed, additional lights will be required. The lights must be operating when the vehicle is in a work area where a potential hazard exists, when operating at less than the average speed for the facility while performing work activities, making frequent stops or called for in the Plans or Standard Plans.

Equip all other vehicles and equipment with a minimum of 4 square feet of retroreflective sheeting or warning lights.

102-5.10 No Waiver of Liability: Conduct operations in such a manner that no undue hazard results due to the requirements of this Article. The procedures and policies described herein in no way acts as a waiver of any terms of the liability of the Contractor or his surety.

102-6 Detours.

102-6.1 General: Construct and maintain detour facilities wherever it becomes necessary to divert traffic, including pedestrians and bicyclists, from any existing facility, or wherever construction operations block the flow of traffic.

102-6.2 Construction: Plan, construct, and maintain detours for the safe passage of traffic in all conditions of weather. Provide the detour with all facilities necessary to meet this requirement.

Where pedestrian facilities are detoured, blocked or closed during the work, provide safe alternate accessible routes through or around the work zone meeting the requirements of the ADA Standards for Transportation Facilities. When temporary walkway surfaces and ramps are required to be constructed, ensure surfaces are stable, firm, slip resistant, and kept free of any obstructions and hazards such as holes, debris, mud, construction equipment and stored materials.

When the Plans call for the Owner to furnish detour bridge components, construct the pile bents in accordance with the Plans, unless otherwise authorized by the Engineer.

Provide two Contractor representatives, who will be directly involved in the erection of Owner-owned temporary bridging, to attend a mandatory one-day training session to be conducted at the Owner's storage facility. No bridging will be released to the Contractor prior to the completion of this training.

Submit the following: company name, phone number, office address, project contact person, names of the representatives who will attend the training described above, project number, detour bridge type, bridge length, span length, location and usage time frames, to the Engineer at least 30 calendar days before the intended pick-up date, to obtain the storage facility location and list of components for the project. Upon receipt, the Engineer will, within 10 calendar days submit an approved material list to the Contractor and the appropriate Owner storage yard.

Submit the name of the representative with authority to pick up components, to the Engineer at least 10 calendar days before the proposed pick-up date. The Owner is not obligated to load the bridge components without this notice. Take responsibility and sign for each item loaded at the time of issuance.

Provide timber dunnage, and transport the bridge components from the designated storage facility to the job site. Unload, erect, and maintain the bridge, then dismantle the bridge and load and return the components to the designated storage facility.

Notify the Engineer in writing at least 10 calendar days before returning the components. Include in this notice the name of the Contractor's representative authorized to sign for return of the bridge components. The yard supervisor is not obligated to unload the bridge components without this notice.

The Owner will provide equipment and an operator at the Owner's storage facility to assist in loading and unloading the bridge components. Furnish all other labor and equipment required for loading and unloading the components.

The Owner's representative will record all bridge components issued or returned on the Detour Bridge Issue and Credit Ticket. The tickets must be signed by a Owner and a Contractor representative, after loading or unloading each truck to document the quantity and type of bridging issued or returned.

Bind together all bridge components to be returned in accordance with the instructions given by the storage facility. The yard supervisor will repack components that are not packed in compliance with

these instructions. Upon request, written packing instructions will be made available to the Contractor, before dismantling of the bridge for return to the Owner's storage facility.

Assume responsibility for any shortage or damage to the bridge components. Monies due the Contractor will be reduced at the rate of $35.00 per hour plus materials for repacking, repairs or replacement of bridge components.

The skid resistance of open steel grid decking on the detour bridge may decrease gradually after opening the bridge to traffic. The Owner will furnish a pneumatic floor scabbler machine for roughening the roadway surface of the detour bridge decking. Provide an air compressor at the job site with 200 cubic feet per minute capacity, 90 psi air pressure for the power supply of the machine, and an operator. Transport the scabbler machine to and from the Owner's structures shop. Repair any damage to the scabbler machine caused by operations at no expense to the Owner. Perform scabbling when determined necessary by the Engineer. The Owner will pay for the cost of scabbling as Unforeseeable Work in accordance with 4-4.

Return the bridge components to the designated storage facility beginning no later than 10 calendar days after the date the detour bridge is no longer needed, the date the new bridge is placed in service, or the date Contract Time expires, whichever is earliest. Return the detour bridging at an average of not less than 200 feet per week. Upon failure to return the bridge components to the Owner within the time specified, compensate the Owner for the bridge components not returned at the rate of $5.00 per 10 feet, per day, per bridge, for single lane; and $10.00 per 10 feet, per day, per bridge, for dual lane until the bridge components are returned to the Owner.

102-6.3 Construction Methods: Select and use construction methods and materials that provide a stable and safe detour facility. Construct the detour facility to have sufficient durability to remain in good condition, supplemented by maintenance, for the entire period that the detour is required.

102-6.4 Removal of Detours: Remove detours when they are no longer needed and before the Contract is completed. Take ownership of all materials from the detour and dispose of them, except for the materials on loan from the Owner with the stipulation that they are returned.

102-6.5 Detours Over Existing Roads and Streets: When the Owner specifies that traffic be detoured over roads or streets outside the project area, do not maintain such roads or streets. However, maintain all signs and other devices placed for the purpose of the detour.

102-6.6 Operation of Existing Movable Bridges: The Owner will maintain and operate existing moveable bridges that are to be removed by the Contractor until such time as they are closed to traffic. During this period, make immediate repairs of any damage to such structures caused by use or operations related to the work at no expense to the Owner, but do not provide routine repairs or maintenance. In the event that use or operations result in damage to a bridge requiring repairs, give such repairs top priority to any equipment, material, or labor available.

102-6.7 Special Detour: A special detour is defined as a diversion or lane shift for vehicular traffic that requires temporary pavement.

102-6.8 Pedestrian Special Detour: A pedestrian special detour is defined as a temporary pedestrian way that requires temporary pavement or other stable, firm, slip-resistant surface.

102-7 Traffic Control Officer.
Provide uniformed law enforcement officers, including marked law enforcement vehicles, to assist in controlling and directing traffic in the work zone when the following types of work is necessary on projects:

1. When directing traffic/overriding the signal in a signalized intersection.

2. When Standard Plans, Index 102-619 is used on freeway facilities (interstates, toll roads, and expressways) at nighttime for work within the travel lane.

3. When Standard Plans, Index 102-655 Traffic Pacing is called for in the Plans or approved by the Engineer.

4. When pulling conductor/cable above an open traffic lane on limited access facilities, when called for in the Plans or approved by the Engineer.

5. When Standard Plans, Index 102-625 Temporary Road Closure 5 Minutes or Less is used.

6. When performing lane closures during nighttime operations on roadways with posted speed limits 55 mph or greater.

At the Contractor's option, traffic control officers may be used for operations other than those listed above.

Cost for traffic control officers will be paid for as described in 102-11.2.

The Owner will not consider any claim arising from the failure of a traffic control officer to be present or available on the project. A noncompensable time extension may be granted when a state or local emergency requires all area law enforcement officers to be on-duty and not available for hire.

102-8 Driveway Maintenance.

102-8.1 General: Ensure that each residence and business has safe, stable, and reasonable access.

102-8.2 Construction Methods: Place, level, manipulate, compact, and maintain the material, to the extent appropriate for the intended use. As permanent driveway construction is accomplished at a particular location, the Contractor may salvage and reuse previously placed materials that are suitable for reuse on other driveways.

102-9 Temporary Traffic Control Devices.

102-9.1 General: Use only devices that are listed on the APL. Immediately remove or cover, using any method of covering approved by the Engineer, any existing or temporary devices that do not apply to current conditions.

The use of NCHRP Report 350 Recommended Procedures for the Safety Performance Evaluation of Highway Features devices purchased prior to January 1, 2020 is permitted on projects let prior to January 1, 2030. All devices manufactured or purchased on or after January 1, 2020 must be MASH compliant in accordance with Section 990.

The APL number is to be permanently marked on the device at a readily visible location. Sheeting used on devices and pavement markings are exempt from this requirement.

Notify the Engineer in writing of any scheduled operation that will affect traffic patterns or safety sufficiently in advance of commencing such operation to permit review of the plan for the proposed installation of temporary traffic control devices.

Assign an employee the responsibility of maintaining the position and condition of all temporary traffic control devices throughout the duration of the Contract. Keep the Engineer advised at all times of the identification and means of contacting this employee on a 24 hour basis.

Maintain temporary traffic control devices in the correct position, properly oriented, clearly visible and clean, at all times. All applicable temporary traffic control devices must meet the classification category of Acceptable as defined in the American Traffic Safety Services Association (ATSSA) Quality Guidelines for Temporary Traffic Control Devices and Features. Temporary concrete barriers must meet the classification category of Acceptable defined in the FDOT's Temporary Concrete Barrier Evaluation Guide, which may be viewed at the following URL: https://fdotwww.blob.core.windows.net/sitefinity/docs/defaultsource/programmanagement/implemented/urlinspecs/files/docs/default-source/contentdocs/programmanagement/implemented/urlinspecs/files/temporaryconcretebarrierguide.pdf.pdf?_sfvrsn=343b4c97_10. Pedestrian longitudinal channelizing devices (LCDs) must meet the classification category of Acceptable as defined in the Pedestrian LCD Evaluation Guide, which may be viewed at the following URL: https://fdotwww.blob.core.windows.net/sitefinity/docs/defaultsource/programmanagement/implemented/urlinspecs/files/lcdevaluationguide.pdf?sfvrsn=166e0f16_2. Immediately repair, replace or clean damaged, defaced or dirty devices. Traffic control devices must not be cleaned while installed/used. Use of warning lights on any temporary traffic control device is prohibited, with the exception of the trailer mounted portable regulatory signs.

Employ an approved independent Channelizing Device Supplier (CDS) to provide and maintain the condition of the following non-fixed channelizing devices: drums, cones, vertical panels, barricades, tubular markers, and longitudinal channelizing devices. Cones may be provided and maintained by the Contractor.

The CDS shall not be affiliated with the Contractor and shall be approved by the Engineer in accordance with 102-9.1.1. The CDS shall submit a monthly certification on letterhead that the channelizing devices mentioned above installed/used within the work zone meet classification category of Acceptable as defined in the Pedestrian LCD Evaluation Guide and the ATSSA Quality Guidelines for Temporary Traffic Control Devices and Features. The CDS shall submit the monthly certification on letterhead for channelizing devices installed/used within the work zone. The CDS certification shall include the following statement, "I certify that I have provided and maintained the following devices <list devices covered under the certification> in accordance with Pedestrian LCD Evaluation Guide and the ATSSA Quality Guidelines for Temporary Traffic Control Devices and Features." If the Contractor chooses to provide and maintain cones, the Contractor must submit a monthly Contractor certification on letterhead that all cones installed/used within the work zone meet acceptable standards as outlined in the ATSSA Quality Guidelines for Temporary Traffic Control Devices and Features. The Contractor certification shall include the following statement, "I certify that I have provided and maintained cones in accordance with the ATSSA Quality Guidelines for Temporary Traffic Control Devices and Features."

102-9.1.1 Approved Independent Channelizing Device Supplier (CDS) Requirements: Submit the following documents to the Engineer for independent CDS approval at the preconstruction

conference. A CDS may elect to provide a one-time submittal of this information to the State Construction Office for review and pre-approval. FDOT approved CDSs are listed on the State Construction Office website. Inform the Engineer at the preconstruction conference of this approval.

1. A letter on company letterhead signed and dated by the owner of the company or company officer with the following information and statements:

    a. The company's owners, stockholders, and officers.

    b. A statement declaring that the company will not perform as a CDS on any project where there is common ownership, directly or indirectly, between the company and the Contractor.

    c. A statement declaring that the company will furnish and maintain the condition of all channelizing devices with the exception of cones as required in 1029.1 with its own forces.

    d. A statement declaring at least five years of experience in providing channelizing device supplier services, with its own inventory of channelizing devices.

    e. On a separate sheet, list a sample project history of the company's experience as a channelizing device supplier for the five years declared in item 1(d) above including the following information:

        1. Project name and number and a brief description of CDS work performed,

        2. Beginning and ending date of CDS project activities,

        3. Location of project (city, state),

        4. Monetary amount of CDS work on project,

        5. Owner of project, contact person and phone number with area code,

        6. Name of Contractor (client) that the work was performed for and phone number with area code.

2. A maintenance plan for approval by the Owner that outlines the frequency and methods for maintaining the condition of all channelizing devices, except cones owned and maintained by the Contractor, installed/used in the work zone.

102-9.2 Work Zone Signs: Furnish, install, maintain, remove and relocate signs in accordance with the Plans and Standard Plans, Index 102-600.

102-9.2.1 Post Mounted Signs: Meet the requirements of 990-8.

102-9.2.2 Portable Signs: Use only approved systems, which includes sign stands and attachment hardware (nuts, bolts, clamps, brackets, braces, etc.), meeting the vendor requirements specified on the APL drawings.

102-9.2.3 Barrier Mounted Signs: If post mounting criteria cannot be achieved in accordance with Standard Plans, Index 102-600 and a barrier or traffic railing exists, use temporary sign criteria provided in Standard Plans, Index 700-013.

102-9.3 Business Signs: Provide and place signs in accordance with the Plans and Standard Plans, Index 102 series. Furnish signs having retroreflective sheeting meeting the requirements of Section 990.

102-9.4 Project Information Signs: Provide and place signs in accordance with the Plans and Standard Plans, Index 102 series. Furnish signs having retroreflective sheeting meeting the requirements of Section 990.

102-9.5 Channelizing Devices: Furnish, install, maintain, remove and relocate channelizing devices in accordance with the Plans and Standard Plans.

102-9.5.1 Retroreflective Collars for Traffic Cones: Use collars for traffic cones listed on the APL that meet the requirements of Section 990. Use cone collars at night designed to properly fit the taper of the cone when installed. Place the upper 6-inch collar a uniform 3-1/2 inches distance from the top of the cone and the lower 4-inch collar a uniform 2 inches distance below the bottom of the upper 6-inch collar. Collars must be capable of being removed for temporary use or attached permanently to the cone in accordance with the manufacturer's recommendations. Provide a white sheeting having a smooth outer surface and that has the property of a retroreflector over its entire surface.

102-9.5.2 Longitudinal Channelizing Devices (LCDs): Use LCDs listed on the APL and meeting the requirements of Section 990 and the Standard Plans. LCDs must be interlocked except for the stand-alone unit placed perpendicular to a sidewalk. For LCDs requiring internal ballasting, an indicator that clearly identifies the proper ballast level will be required. For LCDs requiring external ballasting, the ballasting methods must be detailed in the APL drawings including ballasting type and minimum weight.

Ensure that joints on the pedestrian LCDs are free of sharp edges and have a maximum offset of 1/2 inch in any plane.

Use alternating orange and white solid color vehicular LCDs. Vehicular LCDs may be substituted for drums, vertical panels, or barricades.

102-9.6 Temporary Barrier: Furnish, install, maintain, remove and relocate temporary barrier in accordance with the Plans and Standard Plans. Obtain and use precast temporary concrete barrier from a manufacturing plant that is on the FDOT's Production Facility Listing. Temporary concrete barrier must meet the material and construction requirements of Section 521 unless noted otherwise in the Standard Plans. Proprietary temporary concrete, steel, or water filled barrier used must be listed on the APL.

The maximum allowable height increase between consecutive temporary barrier units in the direction of traffic is 1 inch.

Temporary barrier must comply with Standard Plans, Index 102-100 or 102-120. Install temporary barriers as either anchored or freestanding as shown in the Plans or the Standard Plans. An

anchored unit is defined as having at least one stake or bolt into the underlying pavement or bridge deck. All other units, including those with keeper pins, are considered freestanding.

Remove temporary asphalt pads and repair all attachment scars to permanent structures and pavements after barrier removal. Make necessary repairs due to defective material, work, or Contractor operations at no cost to the Owner. Restore barrier damaged by the traveling public within 24 hours after notification as authorized by the Engineer.

Trailer mounted barriers listed on the APL may be used at the option of the Contractor. Trailer mounted barriers listed on the APL must have an FHWA eligibility letter and be successfully crash tested in accordance with MASH TL-3 criteria. All trailer mounted barriers must be equipped with an APL listed truck mounted attenuator, an APL listed vehicle mounted arrow board and vehicle warning lights in accordance with this Section.

102-9.6.1 Temporary Barrier Meeting the Requirements of Standard Plans, Index 102-120 and 102-110: Ensure the marking requirements of the respective Index are met.

102-9.6.2 Proprietary Precast Temporary Concrete Barrier Fabricated prior to 2005: Submit a certification stating that all unmarked barrier units meet the requirements of the Specifications and the Standard Plans. Certifications will be project specific and non-transferable.

102-9.6.3 Proprietary Precast Temporary Concrete Barrier Fabricated in 2005 or later: Ensure each barrier unit has permanent clear markings, showing the manufacture date, serial number, manufacturer's name or symbol, and the APL number. Label the markings on a plate, plaque, or cast in the unit. Proprietary barrier fabricated prior to 2016 and marked with the "INDX 521" in lieu of the APL number will be permitted.

102-9.6.4 Temporary Concrete Barrier Repair: Before beginning the repair, remove all laitance, loose material, and any other deleterious matter to sound concrete or a minimum depth of one inch. Additionally, when reinforcing bars, inserts or weldments are exposed, remove the concrete to provide a minimum one inch clearance all around. Fill the repair area with an approved high performance concrete repair material in accordance with 930-5 and the manufacturer's recommendations. Restore surfaces and edges to the original dimensions and shape of the barrier.

Repairs are not allowed on barrier units that have one or more of the following deficiencies: structural cracking or cracks that exist through the entire cross-section; unit-to-unit connection assemblies or anchor slots are broken or no longer in a fixed position.

Do not paint repaired barriers.

102-9.7 Barrier Delineators: Install barrier delineators on top of temporary barrier and vehicular LCDs meeting the requirements of Section 705.

102-9.8 Temporary Glare Screen: Use temporary glare screens listed on the APL that meet the requirements of Section 990. Furnish, install, maintain, remove and relocate glare screen systems in conjunction with temporary barrier at locations identified in the Plans.

The anchorage of the glare screen to the barrier must be capable of safely resisting an equivalent tensile load of 600 pounds per foot of glare screen, with a requirement to use a minimum of three fasteners per barrier section.

When glare screen is utilized on temporary barrier, barrier delineators will not be required.

102-9.9 Temporary Crash Cushion (Redirective or Gating): Furnish, install, maintain and subsequently remove temporary crash cushions in accordance with the details and notes shown in the Plans, Standard Plans, and requirements of the pre-approved alternatives listed on the APL.

Temporary crash cushions can be either new or used functionally sound refurbished devices. Performance of intended function is the only condition for acceptance. All metallic components must be galvanized in accordance with Section 967.

Anchor abutting temporary barrier in accordance the Standard Plans or APL drawings, as required. Bidirectional installations must have a transition panel installed between the crash cushion and the abutting barrier. Delineate the crash cushion in accordance with Section 544. Maintain the crash cushions until their authorized removal. Do not place any materials or equipment within the length of the crash cushion.

Remove temporary asphalt or concrete pads and repair all attachment scars to permanent structures and pavements after crash cushion removal. Make necessary repairs due to defective material, work, or Contractor operations at no cost to the Owner. Restore crash cushions damaged by the traveling public within 24 hours after notification as authorized by the Engineer.

102-9.10 Temporary Guardrail: Furnish temporary guardrail in accordance with the Plans and Standard Plans. Meet the requirements of Section 536.

102-9.11 Arrow Board: Furnish arrow boards that meet the requirements of Section 990 as required by the Plans and Standard Plans to advise approaching traffic of lane closures or shoulder work. Ensure that the arrow board display panel is raised to a fully upright position and is fully visible to motorists. Type B arrow boards may be used on low to intermediate speed (0 mph to 50 mph) facilities or for maintenance or moving operations on any speed facility. Type C arrow boards must be used for all other operations on high-speed (50 mph and greater) facilities and may be substituted for Type B arrow boards on any speed facility.

102-9.12 Portable Changeable Message Sign (PCMS): Furnish PCMSs or truck mounted changeable message signs that meet the requirements of Section 990 as required by the Plans and Standard Plans to supplement other temporary traffic control devices used in work zones. Ensure that the PCMS display panel is raised to a fully upright position and is fully visible to motorists.

Messages must have no more than two phases. The display time for each phase must be at least two seconds but no more than three seconds. The sum of the display time must be a maximum of six seconds.

102-9.13 Portable Regulatory Signs (PRS): Furnish PRSs that meet the requirements of Section 990 as required by the Plans and Standard Plans. Ensure that the PRS sign panel is raised to a fully upright position and is fully visible to motorists.

Activate portable regulatory signs only during active work activities and deactivate when no work is being performed.

102-9.14 Radar Speed Display Unit (RSDU): Furnish RSDUs that meet the requirements of Section 990 as required by the Plans and Standard Plans to inform motorists of the posted speed and their actual speed. Ensure that the RSDU display panel is mounted in accordance with the manufacturer's recommendations.

Activate the radar speed display unit only during active work activities and deactivate when no work is being performed.

102-9.15 Temporary Signalization and Maintenance: Provide temporary signalization and maintenance at existing, temporary, and new intersections including but not limited to the following:

1. Installation of temporary poles and span wire assemblies as shown in the Plans,

2. Temporary portable traffic signals as shown in the Plans,

3. Adding or shifting signal heads,

4. Trouble calls,

5. Maintaining intersection and coordination timing and preemption devices. Coordination timing will require maintaining functionality of system communications.

Restore any loss of operation within 12 hours after notification. Provide alternate temporary traffic control until the signalization is restored.

Provide traffic signal equipment that meets the requirements of the Standard Plans and 603-2. The Engineer may approve used signal equipment if it is in acceptable condition. Replacement components for traffic signal cabinet assemblies will be provided by the maintaining agency. For temporary signals used for lane closure operations on two-lane, twoway roadways meet the requirements in 102-9.21.

102-9.16 Temporary Traffic Detection and Maintenance: Provide temporary traffic detection and maintenance at existing, temporary, and new signalized intersections. Provide temporary traffic detection equipment listed on the APL. Restore any loss of detection within 12 hours. Ensure 90% accuracy per signal phase, measured at the initial installation and after any lane shifts, by comparing sample data collected from the detection system with ground truth data collected by human observation. Collect the sample and ground truth data for a minimum of five minutes during a peak and five minutes during an off-peak period with a minimum three detections for each signal phase. Perform the test in the presence of the Engineer.

102-9.17 Truck Mounted Attenuators and Trailer Mounted Attenuators: Furnish, operate and maintain APL listed truck mounted and trailer mounted attenuators in accordance with the manufacturer's recommendations.

For posted speeds of 50 mph or greater, use either truck mounted attenuators or trailer mounted attenuators that meet TL-3 criteria. For posted speeds of 45 mph or less, use either truck mounted attenuators or trailer mounted attenuators that meet TL-2 or TL-3 criteria.

Attenuators will not be paid for separately. Include the cost of the truck with either a truck mounted attenuator or a trailer mounted attenuator in Maintenance of Traffic, lump sum. Payment includes all costs, including furnishing, operating maintaining and removal when no longer required, and all materials, labor, tools, equipment and incidentals required for attenuator maintenance.

102-9.18 Temporary Raised Rumble Strip Set: Furnish, install, maintain, remove, and reinstall temporary raised rumble strips per the manufacturer's recommendations and in accordance with Standard Plans, Index 102-603.

The temporary raised rumble strip may be either a removable polymer striping tape or a molded engineered polymer material.

102-9.19 Automated Flagger Assistance Devices (AFAD): Furnish, install, maintain, remove, and relocate AFADs in accordance with the Plans, Standard Plans, Index 102-603, and APL vendor drawings.

Position AFADs where they are clearly visible to oncoming traffic. AFADs may be placed on the centerline if they have been successfully crash tested in accordance with MASH TL-3 criteria. A gate arm is required in accordance with Section 990 if a single AFAD is used on the shoulder to control one direction of traffic.

The devices may be operated either by a single flagger at one end of the traffic control zone, from a central location, or by a separate flagger near each device location. Use only flaggers trained in accordance with Section 105 and in the operation of the AFAD. When in use, each AFAD must be in view of, and attended at all times by, the flagger operating the device.

Provide two flaggers on-site and use one of the following methods in the deployment of AFADs:

1. Place an AFAD at each end of the temporary traffic control zone, or

2. Place an AFAD at one end of the temporary traffic control zone and a flagger at the opposite end.

A single flagger may simultaneously operate two AFADs as described in (1) or a single AFAD as described in (2) if all of the following conditions are met:

1. The flagger has an unobstructed view of the AFAD(s),

2. The flagger has an unobstructed view of approaching traffic in both directions,

3. For two AFADs, the AFADs are less than 800 feet apart. For one AFAD, the AFAD and the flagger are less than 800 feet apart.

4. Two flaggers are available on-site to provide normal flagging operations should an AFAD malfunction.

AFADs may be either a remotely controlled Stop/Slow AFAD mounted on either a trailer or a movable cart system, or a remotely controlled Red/Yellow Lens AFAD.

Illuminate the flagging station when the AFAD is used at night. When the AFAD is not in use, remove or cover signs and move the AFAD device outside the clear zone or shield it with a barrier.

AFADs will not be paid for separately. AFADs may be used as a supplement or an alternate to flaggers in accordance with the Plans, Standard Plans, Index 102-603, and the APL vendor drawings. Include the cost for AFADs in Maintenance of Traffic, Lump Sum.

102-9.20 Temporary Lane Separator: Furnish, install, maintain, remove and relocate temporary lane separator in accordance with the Plans and Standard Plans, Index 102-600. Anchor the portable temporary lane separator with a removable anchor bolt. Use epoxy on bridge decks where anchoring is not allowed. Remove the epoxy from the bridge deck by hydroblasting or other method approved by the Engineer.

102-9.21 Temporary Signals for Lane Closures on Two-Lane, Two-Way Roadways: Furnish, install, maintain, remove, and relocate temporary signals for lane closure operations on two-lane, two-way roadways at the locations shown in the Plans. Temporary signals may be used, at the Contractor's option, as an alternate to flaggers for lane closure operations on twolane, two-way roadways in accordance with Standard Plans, Index 102-606. Temporary signals can either be portable signals or span wire signals and must be listed on the APL.

102-10 Work Zone Pavement Marking.

102-10.1 Description: Furnish and install work zone pavement markings for MOT in construction areas and in close conformity with the lines and details shown in the Plans and Standard Plans. Centerlines, lane lines, edge lines, stop bars, standard crosswalks, and turn arrows will be required in work zones prior to opening the road to traffic.

102-10.2 Painted Pavement Markings:

102-10.2.1 General: Use painted pavement markings meeting the requirements of Section 710. Use standard paint unless otherwise identified in the Plans or approved by the Engineer.

102-10.3 Removable Tape:

102-10.3.1 General: Use removable tape listed on the APL as shown in the Plans and meeting the requirements of 990-4.

102-10.3.2 Application: Apply removable tape with a mechanical applicator to provide pavement lines that are neat, accurate and uniform. Equip the mechanical applicator with a film cut-off device and with measuring devices that automatically and accumulatively measure the length of each line placed within an accuracy tolerance of plus or minus 2%. Ensure removable tape adheres to the road surface. Removable tape may be placed by hand on short sections, 500 feet or less, if it is done in a neat accurate manner.

102-10.3.3 Retroreflectivity: Apply white and yellow pavement markings that will attain an initial retroreflectivity of not less than 300 mcd/lx·m2 for white and contrast markings and not less than 250 mcd/lx·m2 for yellow markings. Black portions of contrast tapes and black masking tapes must be non-reflective and have a reflectance of less than 5 mcd/lx m2. At the end of the

102-10.4 Temporary Raised Pavement Markers (RPMs): Use Class B RPMs except for work that consists of ground-in rumble strips at centerline locations. For ground-in rumble strips at centerline locations, use temporary RPMs in accordance with Section 710. Provide only temporary RPMs listed on the APL. Install all markers in accordance with the manufacturer's recommendations, the Standard Plans, and Section 706. After initial installation, replace broken or missing temporary RPMs in locations where more than three consecutive temporary RPMs are broken or missing at no expense to the Owner.

102-11 Method of Measurement.

102-11.1 No separate measurement shall be made for Maintenance of Traffic. Include the cost of any work and all materials, including signage, barricades, informational signage, and any other materials necessary to meet the requirements of the Florida Department of Transportation per the contract documents for maintenance of traffic under the lump sum price for Maintenance of Traffic.

102-11.2 For Temporary Demobilization/Remobilization, the quantities to be paid for will be the number of times during the week that Runway 01-19 is required to be temporarily opened for aircraft operations on a weekday and all runway closure markers, construction barricades, and equipment are removed from the airfield and stored in the specified staging area during this temporary opening period, not to exceed two hours.

102-12 Submittals.

102-12.1 Submittal Instructions: Prepare a certification of quantities for certified MOT payment items for each project in the Contract. Submit the certification of quantities to the Engineer. The Owner will not pay for any disputed items until the Engineer approves the certification of quantities.

102-12.2 Contractor's Certification of Quantities: Request payment by submitting a certification of quantities no later than Twelve O'clock noon Monday after the estimate cut-off date or as directed by the Engineer, based on the amount of work done or completed. Ensure the certification consists of the following:

1. Contract Number, FPID Number, Certification Number, Certification Date and the period that the certification represents.

2. The basis for arriving at the amount of the progress certification, less payments previously made and less an amount previously retained or withheld. The basis will include a detail breakdown provided on the certification of items of payment in accordance with 102-13. After the initial setup of the MOT items and counts, the interval for recording the counts will be made weekly on the certification sheet unless there is a change. This change will be documented on the day of occurrence. Some items may necessitate a daily interval of recording the counts.

102-13 Basis of Payment.

102-13.1 Price and payment for Maintenance of Traffic, including all signage, markings, barricades, detours, and other materials necessary to meet the contract requirements shall be made at the contract lump sum price for Maintenance of Traffic. This price shall be full compensation for all work and costs specified under this specification, including all labor, equipment, tools, and incidentals to complete the work, including re-opening Runway 01-19 each Friday evening and closing Runway 01-19 on Monday mornings.

102-13.2 Price and payment for Temporary Demobilization/Remobilization will be full compensation for temporarily opening Runway 01-19 on a weekday as requested by the airport to allow unscheduled operations. Price includes all associated work described herein or shown in the Plans, including sweeping/cleaning of dirt and debris from airfield pavements, relocation of all runway closure markers, construction barricades, and equipment from the airfield and stored in the specified staging area during this temporary opening period.

102-13.3 Payment Items: Payment will be made under:

Item 102-1	***Maintenance of Traffic***	***- Lump Sum (LS)***
Item 102-2	***Temporary Demobilization/Remobilization***	***-per Each (EA)***

END OF SECTION 102

SHEET REPLACED PER ADDENDUM #1

SECTION 104

PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION

104-1 Description.
Provide erosion control measures where work is accomplished in conjunction with the project, to prevent erosion, pollution of water, detrimental effects to public or private property adjacent to the project right-of-way and damage to work on the project.

104-2 General.
Coordinate the installation of temporary erosion control devices with the construction of the permanent erosion control devices to ensure economical, effective, and continuous control of erosion and water pollution throughout the life of the Contract.

104-3 Control of Contractor's Operations Which May Result in Water Pollution.
Prevent contaminants, pollutants or hazardous substances, as defined in Section 376.301, Florida Statutes, from migrating from the construction site or from materials and equipment into any surface waters, wetlands, groundwater or property beyond the project limits. Conduct and schedule operations to avoid and minimize pollution or siltation from the project to surface waters, wetlands, groundwater, or property beyond the project limits.

Do not drive in, operate, or place construction equipment or materials in surface waters, wetlands, groundwater, or property beyond the project limits without permitted authority for permanent or temporary impacts. Water crossings or other wetlands impacts must be authorized by permit. Obstructing or impeding the water flow or movement of the water or wildlife must be authorized by permit.

Where pumps are used to remove highly turbid waters from enclosed construction areas such as cofferdams or forms, treat the water by one or more of the following methods prior to discharge from the project: pumping into grassed swales or appropriate upland vegetated areas or constructed sediment basins, or confined by an appropriate enclosure such as turbidity barriers when other methods are not practical. Do not discharge, water that does not meet State water quality standards or does not meet the criteria specified in any applicable permit.

Remove sediment accumulated during construction from all existing or newly constructed stormwater facilities prior to final acceptance. Ensure that all stormwater conveyances and stormwater facilities meet final grade requirements at final acceptance. Remove silt or regrade as necessary to comply with the lines and grades shown in the Plans.

Do not enter onto lands or waters outside the limits of construction as staked, except as authorized by the Engineer. Do not allow water that does not meet state water quality standards or does not meet the permitted criteria to exit the project limits.

Obtain the Engineer's approval for the location and method of operation in borrow pits, material pits, and disposal areas furnished for waste material from the project (other than commercially operated sources) such that erosion during and after completion of the work will not result in detrimental siltation or water pollution.

104-4 Materials for Temporary Erosion Control.
The Engineer will not require testing of materials used in construction of temporary erosion control devices other than as provided for geotextile fabric in 985-3 unless such material is to be incorporated into the completed project. When no testing is required, the Engineer will base acceptance on visual inspection.

The Contractor may use new or used materials for the construction of temporary silt fence, staked turbidity barriers, and floating turbidity barrier not to be incorporated into the completed project, subject to the approval of the Engineer.

104-5 Preconstruction Requirements.
Prior to the Preconstruction Conference, submit an Erosion and Sediment Control Plan meeting the requirements or special conditions of all permits authorizing project construction. If no permits are required or the approved permits do not contain special conditions or specifically address erosion and water pollution, the project's Erosion and Sediment Control Plan will be governed by 7-1.1, 7-2.2, 7-8.1, 7-8.2, and Section 104.

When a DEP Generic Permit for Stormwater Discharge from Large and Small Construction Activities permit is issued, the Contractor's Erosion and Sediment Control Plan shall be prepared to accompany the Owner's Stormwater Pollution Prevention Plan. Ensure the Erosion and Sediment Control Plan includes procedures to control off-site tracking of soil by vehicles and construction equipment and a procedure for cleanup and reporting of non-storm water discharges, such as contaminated groundwater or accidental spills. Do not begin any soil disturbing activities before receiving the Engineer's written approval of the Erosion and Sediment Control Plan, including the required signed certification statements.

Failure to sign and submit any required documents or certification statements will be considered a default of the Contract. Any soil disturbing activities performed without the required signed documents or certification statements is considered a violation of the DEP Generic Permit for Stormwater Discharge from Large and Small Construction Activities.

Prepare a site-specific Erosion and Sediment Control Plan in accordance with the planned sequence of operations and present it in a format acceptable to the Owner. The Erosion and Sediment Control Plan shall describe, but not be limited to, the following items or activities:

1. For each phase of construction operations or activities, supply the following information:
    a. Locations of all erosion control devices
    b. Types of all erosion control devices
    c. Estimated time erosion control devices will be in operation
    d. Monitoring schedules for maintenance of erosion control devices
    e. Methods of maintaining erosion control devices
    f. Dewatering plan
    g. Locations of all stored fuel or other containments, pollutants or hazardous waste
    h. Spill prevention and response measures and disposal and removal methods
    i. Submit any changes to the Erosion and Sediment Control Plan within seven calendar days
2. The name and telephone number of the person responsible for monitoring and maintaining the erosion control devices.
3. Submit for approval the Erosion and Sediment Control Plans meeting paragraphs 3a, 3b, or 3c below:

a. Projects permitted by the Southwest Florida Water Management District (SWFWMD), require the following:

   Submit the Erosion and Sediment Control Plan to the Engineer for review and to the appropriate SWFWMD Office for review and approval. Include the SWFWMD permit number on all submitted data or correspondence.

   The Contractor may schedule a meeting with the appropriate SWFWMD Office to discuss the Erosion and Sediment Control Plan in detail, to expedite the review and approval process. Advise the Engineer of the time and place of any meetings scheduled with SWFWMD.

   Do not begin construction activities until the Erosion and Sediment Control Plan receives written approval from both SWFWMD and the Engineer.

b. Projects permitted by the South Florida Water Management District or the St. Johns River Water Management District, require the following:

   Obtain the Engineer's approval of the Erosion and Sediment Control Plan.

   Do not begin construction activities until the Erosion and Sediment Control Plan receives written approval from the Engineer.

c. Projects authorized by permitting agencies other than the Water Management Districts or projects for which no permits are required require the following:

   The Engineer will review and approve the Contractor's Erosion and Sediment Erosion Control Plan.

   Do not begin construction activities until the Erosion and Sediment Control Plan receives written approval from the Engineer.

104-6 Construction Requirements.

104-6.1 Limitation of Exposure of Erodible Earth: Do not allow the surface area of erodible earth that clearing and grubbing operations, excavation and filling operations, or other earth disturbing activities to exceed 750,000 square feet without specific prior written approval by the Engineer. This limitation applies separately to clearing and grubbing operations and excavation and filling operations.

The Engineer may further limit the surface areas of unprotected erodible earth exposed by the construction operation and may direct the Contractor to provide additional erosion or pollution control measures to prevent contamination of any surface waters, wetlands, or groundwater or to prevent detrimental effects on property outside the project limits or damage to the project.

104-6.2 Incorporation of Erosion and Sediment Control Devices: Incorporate permanent erosion and sediment control devices into the project at the earliest practical time. Complete the installation of temporary erosion and sediment control devices prior to the commencement of any earthwork. Use temporary erosion and sediment control devices found in the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (E&SC Manual) to control erosion and sediment generated by construction operations, to correct unforeseen conditions during construction, and to control

erosion and sediment prior to the incorporation of permanent erosion and sediment control devices. An electronic version of the E&SC Manual can be found at the following URL: https://www.fdot.gov/programmanagement/Implemented/URLinSpecs/FLErosionSedimentManual.shtm

104-6.3 Scheduling of Successive Operations: Schedule operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations, and the duration of exposure of uncompleted construction to the elements is as short as practicable.

Schedule and perform clearing and grubbing such that grading operations can be incorporated immediately thereafter. Schedule and perform grading operations so that permanent erosion control devices can follow immediately thereafter if conditions on the project permit.

104-6.4 Details for Temporary Erosion and Sediment Control Devices:

104-6.4.1 General: Use temporary erosion, sediment and water pollution control devices found in the E&SC Manual. These devices consist of, but are not limited to, temporary sod, rolled erosion control products, sediment containment systems, runoff control structures, sediment barriers, inlet protection systems, silt fences, turbidity barriers, and chemical treatment. For design details for some of these devices, refer to the E&SC Manual. Perform installation, inspection, maintenance, and removal of all temporary erosion and sediment control devices in accordance with applicable permits, manufacturer's directions, and the Contract Documents.

104-6.4.2 Temporary Sod: The Engineer may designate certain areas of sod constructed in accordance with Section 570, as a temporary erosion control device. Do not use seed as a temporary erosion control device. The Engineer may waive the turf establishment requirements of Section 570 for areas of temporary sod that will not be a part of the permanent construction.

104-6.4.3 Runoff Control Structures: Construct runoff control structures in accordance with the details shown in the Contract Documents.

104-6.4.4 Sediment Containment Systems: Construct sediment containment systems in accordance with the details shown in the Contract Documents. Clean out sediment containment systems as necessary in accordance with the Contract Documents.

104-6.4.5 Sediment Barriers: Provide and install sediment barriers according to details shown in the Contract Documents or, as directed by the Engineer to protect against downstream accumulation of sediment. Sediment Barriers include, but are not limited to synthetic bales, silt fence, fiber logs and geosynthetic barriers. Reusable barriers that have had sediment deposits removed may be reinstalled on the project as approved by the Engineer.

104-6.4.6 Silt Fence:

104-6.4.6.1 General: Furnish, install, maintain, and remove silt fences, in accordance with the applicable permits, the manufacturer's directions, and the Contract Documents.

104-6.4.6.2 Materials and Installation: Use a geotextile fabric made from woven or nonwoven fabric, meeting the physical requirements of Section 985 according to those applications for erosion control.

Choose the type and size of posts and wire mesh reinforcement (if required). Do not use products which have a separate layer of plastic mesh or netting. Provide a durable and effective silt fence that controls sediment in accordance with the Contract Documents.

Erect silt fence at upland locations and at temporary locations shown in the Contract Documents or where continuous construction activities change the natural contour and drainage runoff. Do not attach silt fence to existing trees unless approved by the Engineer.

104-6.4.6.3 Inspection and Maintenance: Inspect all silt fences in accordance with any applicable permit. If the project does not have a permit, inspect within 24 hours after each rain event and at least daily during prolonged rainfall. Immediately correct any deficiencies. In addition, make a daily review of the location of silt fences in areas where construction activities have changed the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, repair or replace silt fences in accordance with the Contract Documents or as directed by the Engineer.

Remove sediment deposits when the deposit reaches approximately 1/2 the height of the silt fence or as directed by the Engineer. Shape any remaining sediment deposits to conform with the finished grade and prepare the area for turf in accordance with Section 570.

104-6.4.7 Floating Turbidity Barriers and Staked Turbidity Barriers: Furnish, install, maintain, and remove floating turbidity barriers in accordance with the applicable permits, the manufacturer's directions, and the Contract Documents. The Contractor may need to deploy turbidity barriers around isolated areas of concern (such as, seagrass beds, coral communities) both within as well as outside the project limits. The Engineer will identify such areas. Place the barriers prior to the commencement of any work that could impact the area of concern. Ensure that the type of barrier used and the deployment and maintenance of the barrier will minimize dispersion of turbid waters from the project. The Engineer may approve alternate methods or materials.

Install and maintain turbidity barriers to avoid or minimize the degradation of the water quality of the surrounding waters and minimize damage to areas where the floating barriers are installed.

104-6.4.8 Inlet Protection System: Furnish and install inlet protection systems as shown in the Contract Documents.

104-6.4.9 Rolled Erosion Control Products (RECPs):

104-6.4.9.1 General: Install RECPs in locations where temporary protection from erosion is needed. Two common applications are described below.

1. Use RECPs composed of natural or synthetic fiber mats, plastic sheeting, or netting as protection against erosion, when directed by the Engineer, during temporary pauses in construction caused by inclement weather or other circumstances. Remove the material when construction resumes.

2. Use RECPs as erosion control blankets, at locations shown in the Plans, to facilitate plant growth while permanent grassing is being established. For the purpose described, use non-toxic, biodegradable, natural or synthetic woven fiber mats. Install erosion control

blankets capable of sustaining a maximum design velocity of 6.5 ft/sec as determined from tests performed by Utah State University, Texas Transportation Institute or an independent testing laboratory approved by the Owner. Submit to the Engineer, certified test reports from the manufacturer showing that the erosion control blankets meet the requirements of this Specification. Certification must be attested, by a person having legal authority to bind the manufacturing company. Also, furnish two 4 by 8 inch samples for product identification. The manufacturers test records shall be made available to the Owner upon request. Leave the material in place, as installed, to biodegrade.

104-6.4.10 Chemical Treatment: Provide chemical treatment in accordance with the Contract Documents. Chemical treatment may be used to clarify turbid or sediment laden water that does not meet state water quality standards or to supplement other erosion and sediment control devices to aid in their performance. The contractor must provide the required toxicity testing information in accordance with the Contract Documents to the Engineer for review and acceptance prior to using any chemical treatment on the project site.

104-6.5 Removal of Temporary Erosion Control Devices: In general, remove or incorporate into the soil any temporary erosion control devices upon incorporation of the permanent erosion control devices into the project. The Engineer may direct that temporary devices be left in place.

104-7 Maintenance of Erosion and Sediment Control Devices.

104-7.1 General: Provide routine maintenance of permanent and temporary erosion and sediment control devices, at no expense to the Owner, until the project is complete and accepted. If reconstruction or replacement of erosion and sediment control devices is necessary due to the Contractor's negligence or carelessness or, in the case of temporary erosion and sediment control devices, improper installation, lack of maintenance, excessive wear, design-life exceedance or failure by the Contractor to install permanent erosion control devices as scheduled, the Contractor shall repair or replace such erosion control devices at no expense to the Owner. If reconstruction of permanent or temporary erosion and sediment control devices is necessary due to factors beyond the control of the Contractor, the Owner will pay for replacement under the appropriate Contract pay item or items.

Inspect all erosion and sediment control devices at least once every seven calendar days and within 24 hours of the end of a storm event that is 0.50 inches or greater. Maintain all erosion and sediment control devices as required in the Stormwater Pollution Prevention Plan, the Contractor's Erosion and Sediment Control Plan, and if applicable, as specified in the State of Florida Department of Environmental Protection Generic Permit for Stormwater Discharge from Large and Small Construction Activities.

104-8 Protection During Suspension of Contract Time.

Initiate stabilization measures within seven calendar days upon suspension of construction activities. If it is necessary to suspend the construction operations for any appreciable length of time, shape the disturbed areas to facilitate stormwater runoff and construct earthen berms along the top edges of embankments to intercept stormwater runoff. Provide temporary slope drains in areas that are highly erodible to avoid pollution of surface waters, wetlands, groundwater, or property beyond the project limits. Locate slope drains at intervals of approximately 500 feet and stabilize by paving or covering with waterproof materials. Should such preventive measures fail, immediately take action as necessary to

effectively prevent erosion and siltation. During suspension of operations, the Engineer may direct the Contractor to perform additional erosion and sediment control work as necessary.

104-9 Method of Measurement.
Erosion Control shall be measured based on percent complete of the total project. Erosion control measures are required until the project area has been fully stabilized. No separate measurement for individual erosion control devices shall be provided.

Upon acceptance by the Engineer, the quantity of floating turbidity barriers, sediment barriers, staked turbidity barriers, and inlet protection devices will be paid for regardless of whether materials are new, used, or relocated from a previous installation on the project. Protection of newly constructed inlets and drainage systems is incidental to their installation. No separate payment will be made for temporary erosion control devices used to protect newly constructed drainage systems.

104-10 Basis of Payment.
Prices and payments will be full compensation for all work specified in this Section, including construction and routine maintenance of temporary erosion control devices.

Any additional costs resulting from compliance with the requirements of this Section, other than construction, routine maintenance, and removal of temporary erosion control devices, will be included in the Contract unit prices for the item or items to which such costs are related. Temporary sod used as a temporary erosion control device in accordance with 104-6.4.2 should be incidental to this item and no separate payment shall be made.

Separate payment will not be made for the cost of constructing temporary earth berms along the edges of the roadways to prevent erosion during grading and subsequent operations. The Contractor shall include these costs in the Contract prices for grading items.

In case of repeated failure on the part of the Contractor to control erosion, pollution, or siltation, the Engineer reserves the right to employ outside assistance or to use the Owner's own forces to provide the necessary corrective measures. Any such costs incurred, including engineering costs, will be charged to the Contractor and appropriate deductions made from the monthly progress estimate.

Payment will be made under:

Item No. 104-1 Prevention, Control, and Abatement of Erosion and Water Pollution - per Lump Sum (LS)

END OF SECTION 104

SECTION 110 CLEARING AND GRUBBING

110-1 Description.
Clear and grub within the areas shown in the Plans. Remove and dispose of all trees, stumps, roots and other such protruding objects, buildings, structures, appurtenances, existing flexible asphalt pavement, and other facilities necessary to prepare the area for the proposed construction. Remove and dispose of all product and debris not required to be salvaged or not required to complete the construction.

Perform miscellaneous work necessary for the complete preparation of the overall project site as specified in 110-10.

110-2 Standard Clearing and Grubbing.

110-2.1 Work Included: Completely remove and dispose of all buildings, timber, brush, trees, stumps, roots, rubbish, debris, existing flexible pavement and base, drainage structures, culverts, and pipes. Remove all other obstructions resting on or protruding through the surface of the existing ground and the surface of excavated areas.

Perform standard clearing and grubbing within the following areas:

1. All areas where excavation is to be done, including borrow pits, lateral ditches, right-of-way ditches, etc.

2. All areas where roadway embankments will be constructed.

3. All areas where structures will be constructed, including pipe culverts and other pipe lines.

110-2.2 Depths of Removal of Roots, Stumps, and Other Debris: In all areas where excavation is to be performed, or roadway embankments are to be constructed, remove roots and other debris to a depth of 12 inches below the ground surface. Remove roots and other debris from all excavated material to be used in the construction of roadway embankment or roadway base. Plow the surface to a depth of at least 6 inches, and remove all roots thereby exposed to a depth of at least 12 inches. Completely remove and dispose of all stumps within the roadway right-of-way.

Remove all roots, etc., protruding through or appearing on the surface of the completed excavation within the roadway area and for structures, to a depth of at least 12 inches below the finished excavation surface.

Remove or cut off all stumps, roots, etc., below the surface of the completed excavation in borrow pits, material pits, and lateral ditches.

In borrow and material pits, do not perform any clearing or grubbing within 3 feet inside the right-of-way line.

Within all other areas where standard clearing and grubbing is to be performed, remove roots and other debris projecting through or appearing on the surface of the original ground to a depth of 12 inches below the surface, but do not plow or harrow these areas.

110-2.3 Boulders: Remove any boulders encountered in the roadway excavation (other than as permitted under the provisions of 120-7.2) or found on the surface of the ground. When approved by the Engineer place boulders in neat piles inside the right of way. The Contractor may stockpile

boulders encountered in Department-furnished borrow areas, which are not suitable for use in the embankment construction, within the borrow area.

110-2.4 Asbestos Containing Materials (ACM) Not Identified Prior to the Work: When encountering or exposing any condition indicating the presence of asbestos, cease operations immediately in the vicinity and notify the Engineer, in accordance with 110-6.5.

110-3 Selective Clearing and Grubbing.

110-3.1 General: Remove and dispose of vegetation, obstructions, etc., as shown in the Plans. Provide acceptable fill material, and grade and compact holes or voids created by the removal of the stumps. Perform all selective clearing and grubbing in accordance with ANSI A300.

No staging, storing, stockpiling, parking or dumping will be allowed in selective clearing and grubbing areas. Only mechanical equipment related to selective clearing and grubbing activities will be allowed in selective clearing and grubbing areas. Protect trees to remain from trunk, branch and root damage.

110-3.2 Trees to Remain: Protect trees as shown in the Plans or directed by the Engineer.

At the driplines of areas designated as trees to remain, construct a tree protection barrier in accordance with Standard Plans, Index 110-100.

When pruning cuts or root pruning to existing trees is shown in the Plans, work is to be supervised on site by an International Society of Arboriculture (ISA) Certified Arborist performed in accordance with ANSI A300.

110-3.3 Protection of Plant Preservation Areas: Areas to remain natural may be designated in the Plans. Protect these areas with a tree protection barrier in accordance with Standard Plans, Index 110-100. No clearing and grubbing, staging, storage, stockpiling, parking or dumping is allowed in these areas. Do not bring equipment into these areas.

110-4 Protection of Property Remaining in Place.

Protect property to remain in place in accordance with 7-11.

110-5 Removal of Buildings.

110-5.1 Parts to be Removed: Completely remove all parts of the buildings, including utilities, plumbing, foundations, floors, basements, steps, connecting concrete sidewalks or other pavement, septic tanks, and any other appurtenances, by any practical manner which is not detrimental to other property and improvements.

Remove utilities to the point of connection to the utility authority's cut-in. After removing the sewer connections to the point of cut-in, construct a concrete plug at the cut-in point, as directed by the Engineer, except where the utility owners may elect to perform their own plugging. Contact the appropriate utility companies prior to removal of any part of the building to ensure disconnection of services.

Submit demolition schedule 15 working days before beginning any demolition or renovation of a building.

110-5.2 Removal by Others: Where buildings within the area to be cleared and grubbed are so specified to be removed by others, remove and dispose of any foundations, curtain walls, concrete

floors, basements or other foundation parts which might be left in place after such removal of buildings by others.

110-6 Removal of Existing Bridges.

110-6.1 General: The work under this Article includes bridges, as defined in 1-3.

Remove and dispose of the materials from existing bridges. Remove

1. those bridges and approach slabs, or portions of bridges, shown in the Plans to be removed,

2. those bridges and approach slabs, or portions of bridges, found within the limits of the area to be cleared and grubbed, and directed by the Engineer to be removed,

3. those bridges and approach slabs, or portion of bridges, which are necessary to be removed in order to complete the work, and

4. other appurtenances or obstructions which may be designated in the Contract Documents to be included as an item of payment for the work under this Article.

Submit schedule information and demolition plan for approval 15 working days before beginning any demolition or renovation of any structures.

110-6.2 Method of Removal:

110-6.2.1 General: Remove the structures in such a way so as to leave no obstructions to any proposed new bridge or to any waterways. Pull, cut off, or break off pilings to the requirements of the permit or other Contract Documents, or if not specified, not less than 2 feet below the finish ground line. In the event that the Plans indicate channel excavation to be done by others, consider the finish ground line as the limits of such excavation. For materials which are to remain the property of the Department or are to be salvaged for use in temporary bridges, avoid damage to such materials, and entirely remove all bolts, nails, etc. from timbers to be so salvaged. Mark structural steel members for identification as directed.

110-6.2.2 Removal of Steel Members with Hazardous Coatings: Submit to the Engineer for approval the "Contractor's Lead in Construction Compliance Program", QP2 certification from the Society for Protective Coatings (SSPC) from the firm actually removing and disposing of these steel members before any members are disturbed.

Vacuum power tool clean any coated steel member to bare metal as defined by SSPC-SP11 a minimum of 4 inches either side of any area to be heated (e.g. torch cutting, sawing, grinding, etc.) in accordance with 29 CFR 1926.354. Abrasive blasting is prohibited.

110-6.3 Partial Removal of Bridges: On concrete bridges to be partially removed and widened, remove concrete by manually or mechanically operated pavement breakers, by concrete saws, by chipping hammers, or by hydro-demolition methods. Do not use explosives. Where concrete is to be removed to neat lines, use concrete saws or hydro-demolition methods capable of providing a reasonably uniform cleavage face. If the equipment used will not provide a uniform cut without surface spalling, first score the outlines of the work with small trenches or grooves. For all demolition methods, submit for review and approval of the Engineer, a demolition plan that describes the method of removal, equipment to be used, types of rebar splices or couplers, and method of straightening or cutting rebar. In addition, for hydrodemolition, describe the method for control of water or slurry runoff and

measures for safe containment of concrete fragments that are thrown out by the hydro-demolition machine.

110-6.4 Authority of U.S. Coast Guard: For bridges in navigable waters, when constructing the project under authority of a U.S. Coast Guard permit, the U.S. Coast Guard may inspect and approve the work to remove any existing bridges involved therein, prior to acceptance by the Department.

110-6.5 Asbestos Containing Materials (ACM) Not Identified Prior to the Work: When encountering or exposing any condition indicating the presence of asbestos, cease operations immediately in the vicinity and notify the Engineer.

Make every effort to minimize the disturbance of the ACM. Immediately provide provisions for the health and safety of all jobsite personnel and the public that may be exposed to any ACM. Provisions shall meet all applicable Federal, State, and Local Rules and Regulations regarding potentially hazardous conditions due to ACM.

The Engineer will notify the District Contamination Impact Coordinator (DCIC) who will engage the services of the Department's Contamination Assessment/Remediation Contractor (CAR). Provide access to the potential contamination area. Preliminary investigation by the CAR Contractor will determine the course of action necessary for site security and the steps necessary to resolve the contamination issue.

The CAR Contractor will perform an asbestos survey to delineate the asbestos areas and identify any staging or holding areas that will be needed for assessment or abatement of the asbestos material. The CAR Contractor will maintain jurisdiction over activities within areas contaminated with ACM including staging and holding areas.

The CAR Contractor will be responsible for the health and safety of workers within these delineated areas. Provide continuous access to these areas for the CAR Contractor and representatives of regulatory or enforcement agencies having jurisdiction.

Coordinate with the CAR Contractor and Engineer to develop a work plan with projected completion dates for the final resolution of the contamination, in coordination with any regulatory agencies as appropriate. Use the work plan and schedule as a basis for planning the completion of all work efforts. The Engineer may grant Contract Time extensions according to the provisions of 8-7.3.2.

Cooperate with the CAR Contractor to expedite integration of the CAR Contractor's operations into the construction project. Adjustments to quantities or to Contract unit prices will be made according to work additions or reductions on the part of the Prime Contractor in accordance with 4-3.

The Engineer will inform the Prime Contractor when operations may resume in the affected area.

110-7 Removal of Existing Concrete.

Remove and dispose of existing rigid portland cement concrete pavement, sidewalk, slope pavement, ditch pavement, curb, and curb and gutter, etc., where shown in the Plans.

Remove all gravity walls, noise/sound walls, retaining walls, MSE walls, perimeter walls, and roadway concrete barriers, where shown in the Plans. All ancillary elements of these concrete features being removed including, but not limited to, leveling pads, copings, reinforcing steel or straps, footings, etc, are incidental and included in the cost of the removal.

110-8 Ownership of Materials.
Except as may be otherwise specified in the Contract Documents, take ownership of all buildings, structures, appurtenances, and other materials removed and dispose of them in accordance with 110-9.

110-9 Disposal of Materials.

110-9.1 General: Either stack materials designated to remain the property of the Department in neat piles within the right-of-way, load onto the Department's vehicles, or deliver to location designated in the Plans.

Dispose of timber, stumps, brush, roots, rubbish, and other material resulting from clearing and grubbing in areas and by methods meeting the applicable requirements of all Federal, State and Local Rules and Regulations. Do not block waterways by the disposal of debris.

With the approval of the Engineer, wood chips may be evenly distributed to a depth of no more than one inch in designated areas in the Department's right-of-way.

110-9.2 Burning Debris: Where burning of such materials is permitted, perform all such burning in accordance with the applicable Federal, State and Local rules and regulations. Perform all burning at locations where trees and shrubs adjacent to the cleared area will not be harmed.

110-9.3 Timber and Crops: The Contractor may sell any merchantable timber, fruit trees, and crops that are cleared under the operations of clearing and grubbing for his own benefit, subject to the provisions of 7-1.2, which may require that the timber, fruit trees, or crops be burned at or near the site of their removal, as directed by the Engineer. The Contractor is liable for any claims which may arise pursuant to the provisions of this Subarticle.

110-9.4 Disposal of Treated Wood: Treated wood must be handled and disposed of properly during removal. Treated wood should not be cut or otherwise mechanically altered in a manner that would generate dust or particles without proper respiratory and dermal protection. The treated wood must be disposed of in at least a lined solid waste facility or through recycling/reuse. Treated wood shall not be disposed by burning or placement in a construction and demolition (C&D) debris landfill.

110-9.5 Hazardous Materials/Waste: Handle, transport, and dispose of hazardous materials/waste in accordance with all Federal, State, and Local Rules and Regulations including, but not limited to, the following:

1. SSPC Guide 7
2. Federal Water Pollution Control Act, and
3. Resource Conservation and Recover Act (RCRA).

Accept responsibility for the collection, sampling, classification, packaging, labeling, accumulation time, storage, manifesting, transportation, treatment and disposal of hazardous materials/waste, both solid and liquid. Separate all solid and liquid waste and collect all liquids used at hygiene stations and handle as hazardous materials/waste. Obtain written approval from the Engineer for all hazardous materials/waste stabilization methods before implementation.

Obtain an EPA/FDEP Hazardous Waste Identification Number (EPA/FDEP ID Number) before transporting and/or disposal of any hazardous materials/waste.

List the Department as the generator for hazardous materials/waste resulting from removal or demolition of Department materials.

Submit the following for the Engineers' approval before transporting, treatment or disposal of any hazardous materials/waste:

1. Name, address and qualifications of the transporter,

2. Name, address and qualifications of the treatment facility,

3. Proposed treatment and/or disposal of all Hazardous Materials/Waste.

4. EPA/FDEP Hazardous Waste Identification Number Application Form.

5. Manifest forms.

Transport all hazardous materials/waste in accordance with applicable Federal, State, and Local Rules and Regulations including, but not limited to, the 40 CFR 263 Standards. Submit all final Hazardous Materials/Waste manifest/bills of lading and certificates of disposal to the Engineer within 21 days of each shipment.

110-9.5.1 Steel Members with Hazardous Coating: Dispose of steel members with hazardous coating in one of the following manners:

1. Deliver the steel members and other hazardous waste to a licensed recycling or treatment facility capable of processing steel members with hazardous coating.

2. Deliver the steel members with hazardous coating to a site designated by the Engineer for use as an offshore artificial reef. Deliver any other hazardous materials/waste to a licensed hazardous materials/waste recycling treatment facility.

Dismantle and/or cut steel members to meet the required dimensions of the recycling facility, treatment facility or offshore artificial reef agency.

All compensation for the cost of removal and disposal of hazardous materials/waste will be included in the Cost of Removal of Existing Structures.

110-9.5.2 Certification of Compliance: Submit certification of Compliance from the firm actually removing and disposing of the hazardous materials/waste stipulating, the hazardous materials/waste has been handled, transported and disposed of in accordance with this Specification. The Certification of Compliance shall be attested to by a person having legal authority to bind the company.

Maintain all records required by this Specification and ensure these records are available to the Department upon request.

110-10 Miscellaneous Operations.

110-10.1 Water Wells Required to be Plugged: Fill or plug all water wells within the right-of-way, including areas of borrow pits and lateral ditches, that are not to remain in service, in accordance with applicable Federal, State, and Local Rules and Regulations.

Cut off the casing of cased wells at least 12 inches below the ground line or 12 inches below the elevation of the finished excavation surface, whichever is lower. Water wells, as referred to herein, are defined either as artesian or non-artesian, as follows:

1. An artesian well is an artificial hole in the ground from which water supplies may be obtained and which penetrates any water-bearing rock, the water in which is raised to the surface by natural flow or which rises to an elevation above the top of the waterbearing bed. Artesian wells are further defined to include all holes drilled as a source of water that penetrate any water-bearing beds that are a part of the artesian water system of Florida, as determined by representatives of the applicable Water Management District.

2. A non-artesian (water-table) well is a well in which the source of water is an unconfined aquifer. The water in a non-artesian well does not rise above the source bed.

110-10.2 Leveling Terrain: Within the areas between the limits of construction and the outer limits of clearing and grubbing, fill all holes and other depressions, and cut down all mounds and ridges. Make the area of a sufficient uniform contour so that the Department's subsequent mowing and cutting operations are not hindered by irregularity of terrain. Perform this work regardless of whether the irregularities were the result of construction operations or existed originally.

110-10.3 Mailboxes: When the Contract Documents require furnishing and installing mailboxes, permit each owner to remove the existing mailbox. Work with the Local Postmaster to develop a method of temporary mail service for the period between removal and installation of the new mailboxes. Install the mailboxes in accordance with the Standard Plans.

110-11 Method of Measurement.

No separate measurement shall be made for Clearing and Grubbing. Include the cost of any work and all materials, including signage, barricades, informational signage, and any other materials necessary to meet the requirements of the Florida Department of Transportation per the contract documents for Miscellaneous Demolition under the lump sum price for Miscellaneous Demolition.

110-12 Basis of Payment.

110-12.1 Miscellaneous Demolition: Price and payment for Clearing and Grubbing including all signage, markings, barricades, detours, and other materials necessary to meet the Florida Department of Transportation requirements per the contract requirements shall be made at the contract lump sum price for Miscellaneous Demolition. This price shall be full compensation for all work and costs specified under this specification, including all labor, equipment, tools, and incidentals to complete the work.

110-12.2 Payment Items:

Item No. 110-1 Stripping and Stockpiling -per Lump Sum (LS)

END OF SECTION 110

SECTION 120

EXCAVATION AND EMBANKMENT

120-1 120-1 Description.

120-1.1 General: Excavate and construct embankments as required for the roadway, ditches, channel changes and borrow material. Use suitable excavated material or authorized borrow to prepare subgrades and foundations. Construct embankments in accordance with Standard Plans, Index 120-001. Compact and dress excavated areas and embankments.

Meet the requirements of Section 110 for excavation of material for clearing and grubbing and Section 125 for excavation and backfilling of structures and pipe. Material displaced by the storm sewer or drainage structure system is not included in the earthwork quantities shown in the Plans.

120-1.2 Unidentified Areas of Contamination: When encountering or exposing any abnormal condition indicating the presence of contaminated materials, cease operations immediately in the vicinity and notify the Engineer. The presence of tanks or barrels; discolored earth, metal, wood, ground water, etc.; visible fumes; abnormal odors; excessively hot earth; smoke; or other conditions that appear abnormal may indicate the presence of contaminated materials and must be treated with extreme caution.

Make every effort to minimize the spread of contamination into uncontaminated areas. Immediately provide for the health and safety of all workers at the job site and make provisions necessary for the health and safety of the public that may be exposed to any potentially hazardous conditions. Ensure provisions adhere to all applicable laws, rules or regulations covering potentially hazardous conditions and will be in a manner commensurate with the gravity of the conditions.

The Engineer may grant the Contract Time extensions according to the provisions of 8-7.3.2.

The Engineer will direct the Prime Contractor when operations may resume in the affected area.

120-2 Classifications of Excavation.

120-2.1 General: The Owner may classify excavation specified under this Section for payment as any of the following: regular excavation, subsoil excavation, lateral ditch excavation, and channel excavation.

If the proposal does not show subsoil excavation or lateral ditch excavation as separate items of payment, include such excavation under the item of regular excavation.

If the proposal shows lateral ditch excavation as a separate item of payment, but does not show channel excavation as a separate item of payment, include such excavation under the item of lateral ditch excavation. Otherwise, include channel excavation under the item of regular excavation.

120-2.2 Regular Excavation: Regular excavation includes roadway excavation and borrow excavation, as defined below for each.

120-2.2.1 Roadway Excavation: Roadway excavation consists of the excavation and the utilization or disposal of all materials necessary for the construction of the roadway, ditches, channel changes, etc., except as may be specifically shown to be paid for separately and that portion of the lateral ditches within the limits of the roadway right-of-way as shown in the Plans.

120-2.2.2 Borrow Excavation: Borrow excavation consists of the excavation and utilization of material from authorized borrow pits, including only material that is suitable for the construction of roadway embankments or of other embankments covered by the Contract.

A Cost Savings Initiative Proposal (CSIP) submittal based on using borrow material from within the project limits will not be considered.

120-2.3 Subsoil Excavation: Subsoil excavation consists of the excavation and disposal of muck, clay, rock, or any other material that is unsuitable in its original position and that is excavated below the finished grading template. For stabilized bases and sand bituminous road mixes, consider the finished grading template as the top of the finished base, shoulders and slopes. For all other bases and rigid pavement, consider the finished grading template as the finished shoulder and slope lines and bottom of completed base or rigid pavement. For pond and ditches that identify the placement of a blanket material, consider the finished grading template as the bottom of the blanket material. Subsoil excavation also consists of the excavation of all suitable material within the above limits as necessary to excavate the unsuitable material. Consider the limits of subsoil excavation indicated in the Plans as being particularly variable, in accordance with the field conditions actually encountered.

The quantity of material required to replace the excavated material and to raise the elevation of the roadway to the bottom of the template will be paid for under embankment or borrow excavation (Truck Measure).

120-2.4 Lateral Ditch Excavation: Lateral ditch excavation consists of all excavation of inlet and outlet ditches to structures and roadway, changes in channels of streams, and ditches parallel to the roadway right-of-way. Dress lateral ditches to the grade and cross-section shown in the Plans.

120-2.5 Channel Excavation: Channel excavation consists of the excavation and satisfactory disposal of all materials from the limits of the channel as shown in the Plans.

120-3 Preliminary Soils Investigations.
When the Plans contain the results of a soil survey, do not assume such data is a guarantee of the depth, extent, or character of material present.

120-4 Removal of Unsuitable Materials and Existing Roads.

120-4.1 Subsoil Excavation: Where muck, rock, clay, or other material within the limits of the roadway is unsuitable in its original position, excavate such material to the cross-sections shown in the Plans or indicated by the Engineer, and backfill with suitable material. Shape backfill material to the required cross-sections. Where the removal of plastic soils below the finished earthwork grade is required, meet a construction tolerance, from the lines shown in the Plans as the removal limits, of plus or minus 0.2 feet in depth and plus or minus 6 inches (each side) in width.

120-4.2 Construction over Existing Old Road: Where a new roadway is to be constructed over an old one, plow or scarify the old road, and break it up full width, regardless of height of fill. If the Plans provide that paving materials may be incorporated into the fill, distribute such material in a manner so as not to create voids. Recompact the old road meeting the requirements of 120-10.2.

120-4.3 Obliterating Old Road: Where the Plans call for obliteration of portions of an old road outside of the proposed new roadway, obliterate such sections of the old road by grading to fill ditches and to restore approximately the original contour of the ground or a contour which produces a pleasing appearance.

120-5 Disposal of Surplus and Unsuitable Material.

120-5.1 Ownership of Excavated Materials: Dispose of surplus and excavated materials as shown in the Plans or, if the Plans do not indicate the method of disposal, take ownership of the materials and dispose of them outside the right-of-way.

120-5.2 Disposal of Muck on Side Slopes: As an exception to the provisions of 120-5. 1, when approved by the Engineer, in rural undeveloped areas, the Contractor may place muck (A-8 material) on the slopes, or store it alongside the roadway, provided there is a clear distance of at least 6 feet between the roadway grading limits

and the muck, and the Contractor dresses the muck to present a neat appearance. In addition, the Contractor may also dispose of this material by placing it on the slopes in developed areas where, in the opinion of the Engineer, this will result in an aesthetically pleasing appearance and will have no detrimental effect on the adjacent developments. Where the Engineer permits the disposal of muck or other unsuitable material inside the right-of-way limits, do not place such material in a manner which will impede the inflow or outfall of any channel or side ditches. The Engineer will determine the limits adjacent to channels within which such materials may be disposed.

120-5.3 Disposal of Paving Materials: Unless otherwise noted, take ownership of paving materials, such as paving brick, asphalt block, concrete slab, sidewalk, curb and gutter, etc., excavated in the removal of existing pavements, and dispose of them outside the right-ofway. If the materials are to remain the property of the Owner, place them in neat piles as directed. Existing limerock base that is removed may be incorporated in the stabilized portion of the subgrade. If the construction sequence will allow, incorporate all existing limerock base into the project as allowed by the Contract Documents.

120-5.4 Disposal Areas: Where the Contract Documents require disposal of excavated materials outside the right-of-way, and the disposal area is not indicated in the Contract Documents, furnish the disposal area without additional compensation. Provide areas for disposal of removed paving materials out of sight of the project and at least 300 feet from the nearest roadway right-of-way line of any State maintained road. If the materials are buried, disregard the 300 foot limitation.

120-6 Borrow.

120-6.1 Materials for Borrow: Do not open borrow pits until the Engineer has approved their location.

Do not provide borrow materials that are polluted as defined in Chapter 376 of the Florida Statutes (oil of any kind and in any form, gasoline, pesticides, ammonia, chlorine, and derivatives thereof, excluding liquefied petroleum gas) in concentrations above any local, State, or Federal standards.

Prior to placing any borrow material that is the product of soil incineration, provide the Engineer with a copy of the Certificate of Materials Recycling and Post Burn Analysis showing that the material is below all allowable pollutant concentrations.

120-6.2 Furnishing of Borrow Areas: To obtain the Engineer's approval to use an offsite construction activity area that involves excavation such as a borrow pit or local aggregate pit, request in writing, a review for - cultural resources involvement. Send the request to the Division of Historical Resources (DHR), Department of State, State Historic Preservation Officer, Tallahassee, FL. As a minimum, include in the request the Project Identification Number, the County, a description of the property with Township, Range, Section, etc., the dimensions of the area to be affected, and a location map. Do not start any work at the off-site construction activity area prior to receiving clearance from the DHR that no additional research is warranted.

For certain locations, the DHR will require a Cultural Resources Assessment (CRA) Survey before approval can be granted. When this is required, secure professional archaeological services to complete an historical and archaeological survey report. Submit the report to the DHR and to the Owner. The Engineer will determine final approval or rejection of off-site construction activity areas based on input from the DHR.

Before receiving approval or before use of borrow areas, obtain written clearance from the Engineer concerning compliance with the Federal Endangered Species Act and other Wildlife Regulations as specified in 7-1.4 and Section 4(f) of the USDOT Act as specified in 71.8.

The Owner will adjust Contract Time in accordance with 8-7 for any suspension of operations required to comply with this Article. The Owner will not accept any monetary claims due to delays or loss of off-site construction activity areas.

Except where the Plans specifically call for the use of a particular borrow or dredging area, the Contractor may substitute borrow or dredging areas of his own choosing provided the Engineer determines the materials from such areas meet the Owner's standards and other requirements for stability for use in the particular sections of the work in which it is to be placed, and the Contractor absorbs any increase in hauling or other costs. Stake the corners of the proposed borrow area and provide the necessary equipment along with an operator in order for the Engineer to investigate the borrow area. The Engineer will determine test locations, collect samples, and perform tests to investigate the proposed borrow area based on soil strata and required soil properties. The Engineer will approve use of materials from the proposed area based on test results and project requirements. Final acceptance of materials will be based on Point of Use Test as described in 6-1.2.4.

Before using any borrow material from any substitute areas, obtain the Engineer's approval, in writing, for the use of the particular areas, and, where applicable, ensure that the Engineer has cross-sectioned the surface. Upon such written approval by the Engineer, consider the substitute areas as designated borrow areas.

When furnishing the dredging or borrow areas, supply the Owner with evidence that the necessary permits, rights, or waivers for the use of such areas have been secured.

Do not excavate any part of a Contractor furnished borrow area which is less than 300 feet from the right-of-way of the project or any State Road until the Engineer has approved a plan for landscaping and restoring the disturbed area. Perform this landscaping and land restoration at no expense to the Owner, prior to final acceptance of the project. Do not provide a borrow area closer than 25 feet to the right-of-way of any state road. In Owner furnished borrow pits, do not excavate material within 5 feet of adjacent property lines.

Upon completion of excavation, neatly shape, dress, grass, vegetate, landscape, and drain all exposed areas including haul roads, as necessary so as not to present an objectionable appearance.

Meet the requirements of Section 104 when furnishing borrow areas, regardless of location.

120-6.3 Borrow Material for Shoulder Build-up: When so indicated in the Plans, furnish borrow material with a specific minimum bearing value, for building up of existing shoulders. Blend materials as necessary to achieve this specified minimum bearing value prior to placing the materials on the shoulders. Take samples of this borrow material at the pit or blended stockpile. Include all costs of providing a material with the required bearing value in the Contract unit price for borrow material.

120-6.4 Haul Routes for Borrow Pits: Provide and maintain, at no expense to the Owner, all necessary roads for hauling the borrow material. Where borrow area haul roads or trails are used by others, do not cause such roads or trails to deteriorate in condition.

Arrange for the use of all non-public haul routes crossing the property of any railroad. Incur any expense for the use of such haul routes. Establish haul routes which will direct construction vehicles away from developed areas when feasible, and keep noise from hauling operations to a minimum. Advise the Engineer in writing of all proposed haul routes.

120-6.5 Authorization for Use of Borrow: When the item of borrow excavation is included in the Contract, use borrow only when sufficient quantities of suitable material are not available from roadway and drainage excavation, to properly construct the embankment, subgrade, and shoulders, and to complete the backfilling of structures. Do not use borrow material until so ordered by the Engineer, and then only use material from approved borrow pits.

120-7 Materials for Embankment.

120-7.1 Use of Materials Excavated from the Roadway and Appurtenances: Assume responsibility for determining the suitability of excavated material for use on the project in accordance with the applicable

Contract Documents. Consider the sequence of work and maintenance of traffic phasing in the determination of the availability of this material.

120-7.2 General Requirements for Embankment Materials: Construct embankments of acceptable material including reclaimed asphalt pavement (RAP), recycled concrete aggregate (RCA) and portland cement concrete rubble, but containing no muck, stumps, roots, brush, vegetable matter, rubbish, reinforcement bar or other material that does not compact into a suitable and enduring roadbed. Do not use RAP or RCA in the top 3 feet of slopes and shoulders that are to be grassed or have other type of vegetation established. Do not use RAP or RCA in stormwater management facility fill slopes.

Remove all waste material designated as undesirable. Use material in embankment construction in accordance with plan details or as the Engineer directs.

Complete the embankment using maximum particle sizes (in any dimension) as follows:

1. In top 12 inches: 3-1/2 inches (in any dimension).

2. 12 to 24 inches: 6 inches (in any dimension).

3. In the depth below 24 inches: not to exceed 12 inches (in any dimension) or the compacted thickness of the layer being placed, whichever is less.

Spread all material so that the larger particles are separated from each other to minimize voids between them during compaction. Compact around these rocks in accordance with 120-9.2.

When and where approved by the Engineer, the Contractor may place larger rocks (not to exceed 18 inches in any dimension) outside the one to two slope and at least 4 feet or more below the bottom of the base. Compact around these rocks to a firmness equal to that of the supporting soil. Construct grassed embankment areas in accordance with 120-9.2.5. Where constructing embankments adjacent to bridge end bents or abutments, do not place rock larger than 3-1/2 inches in diameter within 3 feet of the location of any end-bent piling.

120-7.3 Materials Used at Pipes, Culverts, etc.: Construct embankments over and around pipes, culverts, and bridge foundations with selected materials.

120-8 Embankment Construction.

120-8.1 General: Construct embankments in sections of not less than 300 feet in length or for the full length of the embankment. Do not construct another LOT over an untested LOT without the Engineer's approval in writing.

For construction of mainline pavement lanes, turn lanes, ramps, parking lots, concrete box culverts and retaining wall systems, a LOT is defined as a single lift of finished embankment not to exceed 500 feet.

For construction of shoulder-only areas, shared use paths, and sidewalks areas, a LOT is defined as a single lift of finished embankment not to exceed 2000 feet.

Isolated compaction operations will be considered as separate LOTs. For multiple phase construction, a LOT shall not extend beyond the limits of the phase.

120-8.2 Dry Fill Method:

120-8.2.1 General: Construct embankments to meet the compaction requirements in 120-9 and in accordance with the acceptance program requirements in 120-10.

As far as practicable, distribute traffic over the work during the construction of embankments so as to cover the maximum area of the surface of each layer.

Construct embankment using the dry fill method whenever normal dewatering equipment and methods can accomplish the needed dewatering.

120-8.2.1.1 Maximum Compacted Lift Thickness Requirements: Construct the embankment in successive layers with lifts up to a maximum listed in the table below based on the e mbankment material classification group.

Group	AASHTO Soil Class	Maximum Lift Thickness	Thick Lift Control Test Section Requirements
1	A-3	12 inches	Not Needed
	A-2-4 (No. 200 Sieve ≤ 15%)		
2	A-1	6 inches without Control Test Section	Maximum of 12 inches per 120-8.2.1.2
	A-2-4 (No. 200 Sieve > 15%)		
	A-2-5, A-2-6, A-2-7, A-4, A-5, A-6		
	A-7 (Liquid Limit <50)		

120-8.2.1.2 Thick Lift Requirements: For embankment materials classified as Group 2 in the table above, the option to perform thick lift construction in successive layers of not more than 12 inches compacted thickness may be used after meeting the following requirements:

1. Notify the Engineer and obtain approval in writing prior to beginning construction of a test section.

    a. Demonstrate the possession and control of compacting equipment sufficient to achieve density required by 120-10.2 for the full depth of a thicker lift.

2. Construct a test section of the length of one full LOT of not less than 500 feet.

3. Perform five Quality Control (QC) tests at random locations within the test section.

    a. All five QC tests and must meet the density required by 120-10.2.

    b. Identify the test section with the compaction effort and soil classification.

4. Obtain Engineer's approval in writing for the compaction effort after completing a successful test section.

In case of a change in compaction effort or soil classification, failing QC test or when the QC tests cannot be verified, construct a new test section. The Contractor may elect to place material in 6 inches compacted thickness at any time. Construct all layers approximately parallel to the centerline profile of the road.

The Engineer reserves the right to terminate the Contractor's use of thick lift construction. Whenever the Engineer determines that the Contractor is not achieving satisfactory results, revert to the 6 inch compacted lifts.

120-8.2.1.3 Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, sumps and siphons.

When normal dewatering does not adequately remove the water, the Engineer may require the embankment material to be placed in the water or on low swampy ground in accordance with 120-9.2.3.

120-8.2.2 Placing in Unstable Areas: When depositing fill material in water, or on low swampy ground that will not support the weight of hauling equipment, construct the embankment by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the hauling equipment while placing subsequent layers. Once sufficient material has been placed so that the hauling equipment can be supported, construct the remaining portion of the embankment in layers in accordance with the applicable provisions of 120-9.2.2.

120-8.2.3 Placing on Steep Slopes: When constructing an embankment on a hillside sloping more than 20 degrees from the horizontal, before starting the fill, deeply plow or cut steps into the surface of the original ground on which the embankment is to be placed.

120-8.2.4 Placing Outside the Standard Minimum Slope: The standard minimum slope is defined as the plane described by a one (vertical) to two (horizontal) slope downward from the roadway shoulder point or the gutter line, in accordance with Standard Plans, Index 120-001 and 120-002. Where material that is unsuitable for normal embankment construction is to be used in the embankment outside the standard minimum slope, place such material in layers of not more than 18 inches in thickness, measured loose. The Contractor may also place material which is suitable for normal embankment, outside such standard minimum slope, in 18 inch layers. Maintain a constant thickness for suitable material placed within and outside the standard minimum slope, unless placing in a separate operation.

120-8.3 Hydraulic Method:

120-8.3.1 Method of Placing: When the hydraulic method is used, as far as practicable, place all dredged material in its final position in the embankment by such method. Place and compact any dredged material that is reworked, or moved and placed in its final position by any other method, as specified in 120-9.2. Baffles or any other form of construction may be used if the slopes of the embankments are not steeper than indicated in the Plans. Remove all timber used for temporary bulkheads or baffles from the embankment, and fill and thoroughly compact all voids. When placing fill on submerged land, construct dikes prior to beginning of dredging, and maintain the dikes throughout the dredging operation.

120-8.3.2 Excess Material: Do not use any excess material placed outside the prescribed slopes or below the normal high-water table to raise the fill areas. Remove only the portion of this material required for dressing the slopes.

120-8.3.3 Protection of Openings in Embankment: Leave openings in the embankments at the bridge sites. Remove any material which invades these openings or existing channels without additional compensation to provide the same existing channel depth as before the construction of the embankment. Do not excavate or dredge any material within 200 feet of the toe of the proposed embankment.

120-8.4 Reclaimed Asphalt Pavement (RAP) Method:

120-8.4.1 General: Use only RAP material stored at facilities with an approved Florida Department of Environmental Protection Stormwater permit or, transferred directly from a milling project to the Owner project. Certify the source if RAP material is from an identifiable Owner project. Do not use RAP material in the following areas: construction areas that are below the seasonal high groundwater table elevation; MSE Wall backfill; underneath MSE Walls or the top 6 inches of embankment.

Prior to placement, submit documentation to the Engineer for his approval, outlining the proposed location of the RAP material.

120-8.4.2 Soil and RAP Mixture: Place the RAP material at the location and spread uniformly, using approved methods to obtain a maximum layer thickness of 4 inches. Mix this 4 inches maximum layer of RAP with a loose soil layer 8 to 10 inches thick. After mixing, meet all embankment utilization requirements of Standard Plans, Index 120-001 for the location used. The total RAP and other embankment material shall not exceed 12 inches per lift after mixing and compaction if the contractor can demonstrate that the density of the mixture can be achieved. Perform mixing using rotary tillers or other equipment meeting the approval of the Engineer. The Engineer will determine the order in which to spread the two materials. Mix both materials to the full depth. Ensure that the finished layer will have the thickness and shape required by the typical section. Demonstrate the feasibility of this construction method by successfully completing a 500-foot-long test section.

120-8.4.3 Alternate Soil and RAP Layer Construction: Construct soil in 6-to-12-inch compacted lifts and RAP in alternate layers with 6-inch maximum compacted lifts. Use soil with a minimum LBR value of 40 to prevent failure during compaction of the overlying RAP layer. Demonstrate the feasibility of this construction method by successfully completing a 500-foot-long test section.

120-9 Compaction Requirements.

120-9.1 Moisture Content: Compact the materials at a moisture content such that the specified density can be attained. If necessary to attain the specified density, add water to the material, or lower the moisture content by manipulating the material or allowing it to dry, as is appropriate.

120-9.2 Compaction of Embankments:

120-9.2.1 General: Uniformly compact each layer, using equipment that will achieve the required density, and as compaction operations progress, shape and manipulate each layer as necessary to ensure uniform density throughout the embankment.

120-9.2.2 Compaction Over Unstable Foundations: Where the embankment material is deposited in water or on low swampy ground, and in a layer thicker than 12 inches (as provided in 120-8.2.2), compact the top 6 inches (compacted thickness) of such layer to the density as specified in 120-10.2.

120-9.2.3 Compaction Where Plastic Material Has Been Removed: Where unsuitable material is removed and the remaining surface is of the A-4, A-5, A-6, or A-7 Soil Groups (see AASHTO M145), as determined by the Engineer, compact the surface of the excavated area by rolling with a sheepsfoot roller exerting a compression of at least 250 psi on the tamper feet, for the full width of the roadbed (subgrade and shoulders). Perform rolling before beginning any backfill, and continue until the roller feet do not penetrate the surface more than 1 inch. Do not perform such rolling where the remaining surface is below the normal water table and covered with water. Vary the procedure and equipment required for this operation at the discretion of the Engineer.

120-9.2.4 Compaction of Grassed Shoulder Areas: For the upper 6 inch layer of all shoulders which are to be grassed, since no specific density is required, compact only to the extent directed.

120-9.2.5 Compaction of Grassed Embankment Areas: Do not compact the outer layers of any embankments where plant growth will be established. Leave this layer in a loose condition to a minimum depth of 6 inches for the subsequent seeding or planting operations. Do not place RAP or RAP blended material within the top 12 inches of areas to be grassed.

120-9.3 Compaction for Pipes, Culverts, etc.: Compact the backfill of trenches to the densities specified for embankment or subgrade, as applicable, and in accordance with the requirements of 125-9.2.

Thoroughly compact embankments over and around pipes, culverts, and bridges in a manner which will not place undue stress on the structures, and in accordance with the requirements of 125-9.2.

120-9.4 Compaction of Subgrade: If the Plans do not provide for stabilizing, compact the subgrade as defined in 1-3 in both cuts and fills, to the density specified in 120-10.2. For cut areas, determine Standard Proctor Maximum Density in accordance with FM 1-T099 at a frequency of one per mile or when there is a change in soil type, whichever occurs first. For undisturbed soils, do not apply density requirements where constructing paved shoulders 5 feet or less in width.

Where trenches for widening strips are not of sufficient width to permit the use of standard compaction equipment, perform compaction using vibratory rollers, trench rollers, or other type compaction equipment approved by the Engineer.

Maintain the required density until the base or pavement is placed on the subgrade.

120-10 Acceptance Program.

120-10.1 General Requirements:

120-10.1.1 Initial Equipment Comparison: Before initial production, perform an initial nuclear moisture density gauge comparison with the Verification and Independent Assurance (IA) gauges. When comparing the computed dry density of one nuclear gauge to a second gauge, three sets of calculations must be performed (IA to QC, IA to Verification, and QC to Verification). Ensure that the difference between any two computed dry densities does not exceed 2 lb/ft3 between gauges from the same manufacturer, and 3 lb/ft3 between gauges from different manufacturers. Repair or replace any gauge that does not compare favorably with the IA gauge.

Perform a comparison analysis between the QC nuclear gauge and the Verification nuclear gauge any time a nuclear gauge or repaired nuclear gauge is first brought to the project. Repair and replace any QC gauge that does not compare favorably with the Verification gauge at any time during the remainder of the project. Calibrate all QC gauges annually.

120-10.1.2 Initial Production LOT: Before construction of any production LOT, prepare a 500 foot initial control section consisting of one full LOT. Notify the Engineer in writing at least 24 hours prior to production of the initial control section. Perform all QC tests required in 120-10.1.4. When the initial QC test results pass specifications, the Engineer will perform a Verification test to verify compliance with the specifications. Do not begin constructing another LOT until successfully completing the initial production LOT. The Engineer will notify the Contractor in writing of the initial production LOT approval within three working days after receiving the Contractor's QC data when test results meet the following conditions:

1. QC and Verification tests must meet the density requirements.

2. Difference between QC and Verification computed dry density results shall meet the requirements of 120-10.1.1.

If Verification test result fails the density requirements of 120-10.2, correct the areas of non-compliance. The QC and Verification tests will then be repeated.

120-10.1.3 Density over 105%: When a QC computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, the Engineer will perform an Independent Verification (IV) density test within 5 feet. If the IV density results in a value greater than 105%, the Engineer will investigate the compaction methods, examine the applicable Standard Proctor Maximum Density and material description. The Engineer may collect and test an IV Standard Proctor Maximum Density sample for acceptance in accordance with the criteria of 120-10.2.

120-10.1.4 Quality Control (QC) Tests:

120-10.1.4.1 Standard Proctor Maximum Density Determination: Determine the QC standard Proctor maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed in 120-10.2.

120-10.1.4.2 Density Testing Requirements: Ensure compliance to the requirements of 120-10.2 by Nuclear Density testing in accordance with FM 1-T238. Determine the in-place moisture content for each density test. Use FM 1-T238, FM 5-507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D4643 (Laboratory Determination of Moisture Content of Granular Soils by use of a Microwave Oven) for moisture determination.

120-10.1.4.3 Soil Classification: Perform soil classification tests on the sample collected in 120-10.1.4.1, in accordance with AASHTO T88, T89, T90, and FM 1-T267. Classify soils in accordance with AASHTO M145 in order to determine compliance with embankment utilization requirements as specified in Standard Plans, Index 120-001.

120-10.1.5 Owner Verification: The Engineer will conduct Verification tests in order to accept all materials and work associated with 120-10.1.4. The Engineer will verify the QC results if they meet the Verification Comparison Criteria, otherwise the Engineer will implement Resolution procedures.

The Engineer will select test locations, including Station, Offset, and Lift, using a random number generator, based on the LOTs under consideration. Each Verification test evaluates all work represented by the QC testing completed in those LOTs.

In addition to the Verification testing, the Engineer may perform additional Independent Verification (IV) testing. The Engineer will evaluate and act upon the IV test results in the same manner as Verification test results.

When the project requires less than four QC tests per material type, the Engineer reserves the right to accept the materials and work through visual inspection.

120-10.1.6 Reduced Testing Frequency: Obtain the Engineer's written approval for the option to reduce density testing frequency to one test every two LOTs if Resolution testing was not required for 12 consecutive verified LOTs, or if Resolution testing was required, but the QC test data was upheld and all substantiating tests are recorded in the Earthwork Records System (ERS).

Generate random numbers based on the two LOTs under consideration. When QC test frequency is reduced to one every two LOTs, obtain the Engineer's approval to place more than one LOT over an untested LOT. Assure similar compaction efforts for the untested LOTs. If the Verification test fails, and QC test data is not upheld by Resolution testing, the QC testing will revert to the original frequency of one QC test per LOT. Do not apply reduced testing frequency in construction of shoulder-only areas, shared use paths, sidewalks, and first and last lift.

120-10.1.7 Payment for Resolution Tests: If the Resolution laboratory results compare favorably with the QC results, the Owner will pay for Resolution testing. No additional compensation, either monetary or time, will be made for the impacts of any such testing.

If the Resolution laboratory results do not compare favorably with the QC results, the costs of the Resolution testing will be deducted from monthly estimates. No additional time will be granted for the impacts of any such testing.

120-10.2 Acceptance Criteria: Obtain a minimum QC density of 100% of the standard Proctor maximum density as determined by FM 1-T099, Method C, with the following exceptions: embankment constructed by the hydraulic method as specified in 120-8.3; material placed outside the standard minimum slope as specified

in 120-8.2.4 except when a structure is supported on existing embankment; and, other areas specifically excluded herein.

120-10.3 Additional Requirements:

120-10.3.1 Frequency: Conduct QC sampling and testing at a minimum frequency listed in the table below. The Engineer will perform Verification sampling and tests at a minimum frequency listed in the table below.

Test Name	Quality Control	Verification	Verification of Shoulder-Only Areas, Shared Use Paths, and Sidewalks
Standard Proctor Maximum Density	One per soil type	One per soil type	One per soil type
Density	One per LOT	One per four LOTS and for wet conditions, the first lift not affected by water	One per two LOTs
Soil Classification and Organic Content	One per Standard Proctor Maximum Density	One per Standard Proctor Maximum Density	One per Standard Proctor Maximum Density

120-10.3.2 Test Selection and Reporting: Determine test locations including stations and offsets, using the random number generator approved by the Engineer. Do not use notepads or worksheets to record data for later transfer to the Density Log Book. Notify the Engineer upon successful completion of QC testing on each LOT prior to placing another lift on top.

120-10.4 Verification Comparison Criteria and Resolution Procedures:

120-10.4.1 Standard Proctor Maximum Density Determination: The Engineer will verify the QC results if the results compare within 4.5 lb/ft3 of the Verification test result. Otherwise, the Engineer will take one additional sample of material from the soil type in question. The State Materials Office (SMO) or an AASHTO accredited laboratory designated by the SMO will perform Resolution testing. The material will be sampled and tested in accordance with FM 1-T099, Method C.

The Engineer will compare the Resolution test results with the QC test results. If all Resolution test results are within 4.5 lb/ft3 of the corresponding QC test results, the Engineer will use the QC test results for material acceptance purposes for each LOT with that soil type. If the Resolution test result is not within 4.5 lb/ft3 of the Contractor's QC test, the Verification test result will be used for material acceptance purposes.

120-10.4.2 Density Testing: When a Verification or IV density test fails the acceptance criteria, retest the site within a 5 foot radius and the following actions will be taken:

1. If the QC retest meets the acceptance criteria and meets the 12010.1.1 criteria when compared with the Verification or IV test, the Engineer will accept those LOTs.

2. If the QC retest does not meet the acceptance criteria and compares favorably with the Verification or IV test, rework and retest the LOT. The Engineer will re-verify those LOTs.

3. If the QC retest and the Verification or IV test do not compare favorably, complete a new comparison analysis as defined in 120-10.1.1. Once acceptable comparison is achieved, retest the LOTs. The Engineer will perform new verification testing. Acceptance testing will not begin on a new LOT until the Contractor has a gauge that meets the comparison requirements.

Record QC test results in the density logbook. Submit the original, completed density logbook to the Engineer at final acceptance.

120-10.4.3 Soil Classification: The Engineer will verify the QC test results if the Verification and the QC test results both match the soil utilization symbol listed in Standard Plans, Index 120-001. Otherwise, the Engineer will test the sample retained for Resolution testing. The SMO or an AASHTO accredited laboratory designated by the SMO will perform the Resolution testing. The material will be sampled and tested in accordance with AASHTO T88, T89, and T90, and classified in accordance with AASHTO M145.

The Engineer will compare the Resolution test results with the QC test results. If the Resolution test matches the QC soil utilization symbol, the Engineer will use the QC soil utilization symbol for material acceptance purposes. If the Resolution test result does not match the Contractor's QC soil utilization symbol, the Verification test results will be used for material acceptance purposes.

120-10.4.4 Organic Content: The Engineer will verify the QC test results if the Verification test results satisfy the organic content test criteria in Standard Plans, Index 120-001. Otherwise, the Engineer will test the sample retained for Resolution testing. The SMO or an AASHTO accredited laboratory designated by the SMO will perform Resolution testing. The material will be sampled and tested in accordance with FM 1-T267. If the Resolution test results satisfy the required criteria, material of that soil type will be verified and accepted. If the Resolution test results do not meet the required criteria, reject the material and reconstruct with acceptable material.

120-10.5 Disposition of Defective Materials: Assume responsibility for removing and replacing all defective material, as defined in Section 6.

Alternately, submit an Engineering Analysis Scope in accordance with 6-4 to determine the disposition of the material.

120-11 Maintenance and Protection of Work.

While construction is in progress, maintain adequate drainage for the roadbed at all times. Maintain a shoulder at least 3 feet wide adjacent to all pavement or base construction in order to provide support for the edges.

Maintain all earthwork construction throughout the life of the Contract, and take all reasonable precautions to prevent loss of material from the roadway due to the action of wind or water. Repair, at no expense to the Owner except as otherwise provided herein, any slides, washouts, settlement, subsidence, or other mishap which may occur prior to final acceptance of the work. Perform maintenance and protection of earthwork construction in accordance with Section 104.

Maintain all channels excavated as a part of the Contract work against natural shoaling or other encroachments to the lines, grades, and cross-sections shown in the Plans, until final acceptance of the project.

120-12 Construction.

120-12.1 Construction Tolerances: Shape the surface of the earthwork to conform to the lines, grades, and cross-sections shown in the Plans. In final shaping of the surface of earthwork, maintain a tolerance of 0.3 foot above or below the cross-section with the following exceptions:

1. Shape the surface of shoulders to within 0.1 foot of the cross-section shown in the Plans.

2. Shape the earthwork to match adjacent pavement, curb, sidewalk, structures, etc.

3. Shape the bottom of conveyance ditches so that the ditch impounds no water.

4. When the work does not include construction of base or pavement, shape the entire roadbed (shoulder point to shoulder point) to within 0.1 foot above or below the Plan cross-section.

5. When the work includes permitted linear stormwater management facilities, shape the swales and ditch blocks to within 0.1 feet of the cross-section shown in the Plans.

Ensure that the shoulder lines do not vary horizontally more than 0.3 foot from the true lines shown in the Plans.

120-12.2 Operations Adjacent to Pavement: Carefully dress areas adjacent to pavement areas to avoid damage to such pavement. Complete grassing of shoulder areas prior to placing the final wearing course. Do not manipulate any embankment material on a pavement surface.

When shoulder dressing is underway adjacent to a pavement lane being used to maintain traffic, exercise extreme care to avoid interference with the safe movement of traffic.

120-13 Method of Measurement.

120-13.1 General: When payment for excavation is on a volumetric basis, the quantity to be paid for will be the volume, in cubic yards, calculated by the method of average end areas, unless the Engineer determines that another method of calculation will provide a more accurate result. The material will be measured in its original position by field survey or by photogrammetric means as designated by the Engineer, unless otherwise specified under the provisions for individual items.

Where subsoil excavation extends outside the lines shown in the Plans or authorized by the Engineer including allowable tolerances, and the space is backfilled with material obtained in additional authorized roadway or borrow excavation, the net fill, plus shrinkage allowance, will be deducted from the quantity of roadway excavation or borrow excavation to be paid for, as applicable.

The quantity of all material washed, blown, or placed beyond the authorized roadway cross-section will be determined by the Engineer and will be deducted from the quantity of roadway excavation or borrow excavation to be paid for, as applicable.

Subsoil excavation that extends outside the lines shown in the Plans or authorized by the Engineer including allowable tolerances will be deducted from the quantity to be paid for as subsoil excavation.

~~**120-13.2 Roadway Excavation:** The measurement will include only the net volume of material excavated between the original ground surface and the surface of the completed earthwork, except that the measurement will also include all unavoidable slides which may occur in connection with excavation classified as roadway excavation.~~

~~The pay quantity will be the plan quantity provided that the excavation was accomplished in substantial compliance with the plan dimensions and subject to the provisions of 9-3.2 and 9-3.4. On designated 3-R Projects, regular excavation will be paid for at the Contract lump sum price provided that the excavation was accomplished in substantial compliance with the plan dimension.~~

~~**120-13.3 Borrow Excavation:** Measurement will be made on a loose volume basis, measured in trucks or other hauling equipment at the point of dumping on the road. If measurement is made in vehicles, level the material to facilitate accurate measurement.~~

~~Unsuitable material excavated from borrow pits where truck measurement is provided for and from any borrow pits furnished by the Contractor, will not be included in the quantity of excavation to be paid for.~~

120-13.4 Ditch Grading: The measurement will the linear feet of ditch grading indicated in the Plans or as directed by the Engineer. The measurement will include the full length shown in the Plans or directed by the Engineer and acceptably completed. Excavation included for other payment contract pay items will not be included in this measurement.

~~**120-13.5 Channel Excavation:** The measurement will include only material excavated within the lines and grades indicated in the Plans or in accordance with authorized Plan changes. The measurement will include the full station-to-station length shown in the Plans including any authorized changes thereto.~~

~~If shoaling occurs subsequent to excavation of a channel and the Engineer authorized the shoaled material to remain in place, the volume of any such material remaining within the limits of channel excavation shown in the Plans will be deducted from the measured quantity of channel excavation.~~

~~**120-13.6 Subsoil Excavation:** The measurement will include only material excavated within the lines and grades indicated in the Plans (including the tolerance permitted therefore) or as directed by the Engineer.~~

~~When no item for subsoil excavation is shown in the Contract but subsoil excavation is subsequently determined to be necessary, such unanticipated subsoil excavation will be paid for as provided in 4-4.~~

SHEET REPLACED PER ADDENDUM #1

120-13.7 Embankment: No separate measurement shall be made for Embankment.

~~The quantity will be at the plan quantity. Where payment for embankment is not to be included in the payment for the excavation, and is to be paid for on a cubic yard basis for the item of embankment, the plan quantities to be paid for will be calculated by the method of average end areas unless the Engineer determines that another method of calculation will provide a more accurate result. The measurement will include only material actually placed above the original ground line, within the lines and grades indicated in the Plans or directed by the Engineer. The length used in the computations will be the station-to-station length actually constructed. The original ground line used in the computations will be as determined prior to placing of embankment subject to the provisions of 9-3.2, and no allowance will be made for subsidence of material below the surface of the original ground.~~

~~If there are authorized changes in plan dimensions or if errors in plan quantities are detected, plan quantity will be adjusted as provided in 9-3.2.~~

~~Where the work includes excavation of unsuitable material below the finished grading template or original ground line, whichever is lower as defined in 120-3.3, the original ground line is defined as the surface prior to beginning excavation, except that this surface is not outside the permissible tolerance of lines and grades for subsoil excavation as indicated in the Plans or as directed by the Engineer. Any overrun or underrun of plan quantity for subsoil excavation which results in a corresponding increase or decrease in embankment will be considered as an authorized plan change for adjustment purposes as defined in 9-3.2.2.~~

~~No payment will be made for embankment material used to replace unsuitable material excavated beyond the lines and grades shown in the Plans or ordered by the Engineer.~~

~~In no case will payment be made for material allowed to run out of the embankment on a flatter slope than indicated on the cross-section. The Contractor shall make his own estimate on the volume of material actually required to obtain the pay section.~~

120-14 Basis of Payment.

120-14.1 General: Prices and payments for the various work items included in this Section will be full compensation for all work described herein, including excavating, dredging, hauling, placing, and compacting; dressing the surface of the earthwork; maintaining and protecting the complete earthwork; and hauling.

The Owner will not allow extra compensation for any reworking of materials. The Owner will compensate for the cost of grassing or other permanent erosion control measures directed by the Engineer as provided in the Contract for similar items of roadway work.

120-14.2 Excavation:

120-14.2.1 Items of Payment: When no classification of material is indicated in the Plans, and bids are taken only on regular excavation, the total quantity of all excavation specified under this Section will be paid for at the Contract unit price for Excavation and Embankment. Payment shall include all costs, for excavating, dredging, hauling, placing, and compacting; dressing the surface of the earthwork and maintaining and protecting the complete earthwork.

~~When separate classifications of excavation are shown in the proposal, the quantities of each of the various classes of materials so shown will be paid for at the Contract unit prices per cubic yard for regular excavation, lateral ditch excavation, subsoil excavation, and channel excavation, as applicable, and any of such classifications not so shown will be included under the item of regular excavation (except that if there is a classification for lateral ditch excavation shown and there is no classification for channel excavation, any channel excavation will be included under the item of lateral ditch excavation). As an exception on designated projects, regular excavation will be paid for at the Contract lump sum price.~~

~~**120-14.2.2 Basic Work Included in Payments:** Prices and payments will be full compensation for all work described under this Section, except for any excavation, or embankment which is specified to be included for payment under other items. Such prices and payments will include hauling; any reworking that may be necessary to accomplish final disposal as shown in the Plans; the dressing of shoulders, ditches and slopes; removal of trash, vegetation, etc., from the previously graded roadway where no item for clearing and grubbing is shown in the Plans; and compacting as required.~~

~~**120-14.2.3 Additional Depth of Subsoil Excavation:** Where subsoil excavation is made to a depth of 0 to 5 feet below the depth shown in the Plans, such excavation will be paid for at the unit price bid.~~

~~Where subsoil excavation is made to a depth greater than 5 feet, and up to 15 feet, deeper than the depth shown in the Plans, such excavation will be paid for at the unit price bid plus 25% of such unit price. Additional extra depth, more than 15 feet below such plan depth, will be considered as a change in the character of the work and will be paid for as unforeseeable work.~~

~~Where no subsoil excavation is shown in a particular location on the original Plans, payment for extra depth of subsoil will begin 5 feet below the lowest elevation on the grading template.~~

~~**120-14.2.4 Borrow Excavation:** When the item of borrow excavation is included in the Contract, price and payment will also include the cost of furnishing the borrow areas and any necessary clearing and grubbing thereof, the removal of unsuitable material that it is necessary to excavate in order to obtain suitable borrow material, and also the costs incurred in complying with the provisions of 120-6.3.~~

~~**120-14.2.5 Materials Excluded from Payment for the Excavation:** No payment will be made for the excavation of any materials which is used for purposes other than those shown in the Plans or designated by the Engineer. No payment will be made for materials excavated outside the lines and grades given by the Engineer, unless specifically authorized by the Engineer. As an exception, in operations of roadway excavation, all slides and falls of insecure masses of material beyond the regular slopes that are not due to lack of precaution on the part of the Contractor, will be paid for at the Contract unit price for the material involved. The removal of slides and falls of material classified as lateral ditch excavation or as subsoil excavation will not be paid for separately, but will be included in the Contract unit price for the pay quantity of these materials, measured as provided in 120-14.~~

120-14.3 Ditch Grading: Price and payment for **Ditch Grading** per linear foot will be full compensation for all work specified in this Section, including all excavating, dredging, placing and compacting of material for constructing the embankment complete, dressing of the surface, maintenance and protection of the completed earthwork, and the removal of associated rubbish and vegetation.

120-14.4 Embankment: ***No separate payment shall be made for Embankment*.** Price and payment for **Excavation and Embankment** will be full compensation for all work specified in this Section, including all material for constructing the embankment, all excavating, dredging, pumping, placing and compacting of material for constructing the embankment complete, dressing of the surface, maintenance and protection of the completed earthwork, and the removal of rubbish, vegetation, etc. Also, such price and payment will specifically include all costs of any excavation regardless of whether the materials are utilized in the embankment.

120-14.4.1 Payment Items: Payment will be made under:

Item No. 120-1	***Excavation and Embankment***	***-per Cubic Yard (CY)***
Item No. 120-2	***Ditch Grading***	***-per Linear Foot (LF)***

END OF SECTION 120

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 Argentine Bahia, and any vegetation more than 6 inches (150 mm) in height shall be mowed to a height of 3 inches (75 mm) or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the special provisions.

904-2.2 LIME. Not required.

904-2.3 FERTILIZER. Not required.

904-2.4 WATER. The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass.

904-2.5 SOIL FOR REPAIRS. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

904-3.1 GENERAL. Areas to be solid, strip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition that are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the RPR before the various operations are started. The Contractor shall demonstrate to the RPR before starting the various operations that the application of required materials will be made at the specified rates.

904-3.2 PREPARING THE GROUND SURFACE. After grading of areas has been completed and before applying fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

904-3.3 APPLYING FERTILIZER AND GROUND LIMESTONE. Following ground surface preparation, fertilizer shall be uniformly spread at a rate which will provide not less than the minimum quantity of each fertilizer ingredient, as stated in the special provisions. If use of ground limestone is required, it shall then be spread at a rate that will provide not less than the minimum quantity stated in the special provisions. These materials shall be incorporated into the soil to a depth of not less than 2 inches (50 mm) by discing, raking, or other suitable methods. Any stones larger than 2 inches (50 mm) in any diameter, large clods, roots, and other litter brought to the surface by this operation shall be removed.

904-3.4 OBTAINING AND DELIVERING SOD. After inspection and approval of the source of sod by the RPR, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 inches (50 mm). Sod sections or strips shall be cut in uniform widths, not less than 10 inches (250 mm), and in lengths of not less than 18 inches (0.5 m), but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside. The Contractor may be required to mow high grass before cutting sod.

The sod shall be transplanted within 24 hours from the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, approval to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

904-3.5 LAYING SOD. Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the RPR, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches (100 mm) immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and ensure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workmen, when replacing it, shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the

sod after compaction shall be set approximately one inch (25 mm) below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than one (1) vertical to 2-1/2 horizontal and in v-shaped or flat-bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 inches (300 mm) in length and have a cross-sectional area of not less than 3/4 sq inch (18 sq mm). The pegs shall be driven flush with the surface of the sod.

904-3.6 WATERING. Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

904-3.7 ESTABLISHING TURF. The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work. All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the RPR. The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. Weeds or other undesirable vegetation shall be mowed and the clippings raked and removed from the area.

904-3.8 REPAIRING. When the surface has become gullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the RPR, and shall then be sodded as specified in paragraph 904-3.5.

METHOD OF MEASUREMENT

904-4.1 This item shall be measured on the basis of the area in square yards (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-904-1	**Sodding**	**- per Square Yard (SY)**
Item T-904-2	**Seeding**	**- per Square Yard (SY)**

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

TR-1: TREE CLEARING

DESCRIPTION

SECTION 1: SCOPE OF WORK: This item shall consist of all labor, supervision, equipment, services, and expertise necessary to perform tree clearing services for all areas within the work limits designated on the plans. Tree clearing services can consist of cutting and/or grinding/milling of undesirable, tall-growing "canopy-sized" vegetation that can grow to interfere with airfield operations.

1.1 Clearing shall consist of cutting and mulching, or grinding of canopy vegetative species, including snags, within the wetlands and uplands identified, and within the clearing limits to height of not more than six (6) inches above grade. The material shall be removed and disposed of offsite or mulched on-site. Clearing activities also include the removal of brush and shrubs but will NOT include work that impacts the soil, including grubbing, grading and/or ripping or tearing of vegetation from the ground. ***Minimal soil disturbance across all clearing areas will be strictly enforced. It shall be assumed that all clearing areas are located in wetlands.***

1.2 Herbicide Treatment: Not used.

SECTION 2: CLEARING METHODS

2.1 ***All WORK, including the movement of vehicles and equipment onto and within airport property shall conform to the ACCESS PLAN***. The work limits to be cleared as denoted on the plans shall be field identified with staking and flagging materials by the Contractor. The work area is within an active airport. Dewatering and/or grubbing activities are not anticipated for this project.

The Clearing Contractor shall have all the appropriate licenses and certifications to perform the work as described below. The Clearing Contractor shall be solely responsible for any damages resulting from the actions of the Contractor, to any wetland or upland system beyond the areas defined in the plans.

All equipment utilized for the clearing activities shall be thoroughly cleaned, prior to utilization on-site, in order to reduce the transport of nuisance and exotic seed sources.

2.2 Limits of Clearing - The Contractor shall clear the staked or indicated area of all canopy species, brush, and shrubs. To minimize potential damage, trees that are cut shall be felled toward the center of the area being cleared. The Contractor shall preserve and protect from injury the adjacent fence and all trees and vegetation not scheduled to be removed that exist adjacent to the identified work area.

2.3 Best Management Practices - The Clearing Contractor shall follow all Best Management Practices (BMP's) for water quality and work with wetlands, while preforming the clearing activities.

2.4 Size of stump to remain - Canopy species shall be cut or milled to height of not more than six (6) inches above grade. All stumps and root systems shall be left in place.

2.5 Low Impact Areas –Minimal soil disturbance in all clearing areas is required. The Clearing Contractor will need to incorporate low-impact clearing procedures that incorporates a variety of approaches, techniques and equipment to minimize disturbance and to protect the remaining wetland habitat and functions. ***The utilization of adequate wetland mats is required for any equipment used to remove felled canopy and logs, within the clearing limits specified in the plans.***

It is anticipated that the utilization of wetland mats will minimize soil disturbance, and provide safe and stable work areas. Inspections of the applied matting should be performed daily during clearing activities to ensure that the matting is functioning properly and that damaged and/or deteriorating matting is corrected immediately. Mats shall be removed immediately following the clearing event. Mats shall be removed in a manner that prevents rutting or significant indentations identified during mat removal. In addition to matting, use of some, or all of the following low-impact clearing methods should be considered for the clearing activities:

- Soil and weather conditions
- Adhere to BMP's for Water Quality
- Use a variety of tree clearing equipment, as appropriate to minimize impacts to wetland areas to the extent practicable

As an alternative to wetland mats, felled logs may be used to support equipment in the clearing areas if the Contractor can demonstrate a procedure that results in minimal disturbance to the existing soil and the Engineer provides approval. All other requirements of this section shall still apply.

2.6 Mulching and Chipping – if the Clearing Contractor selects to cut and mulch the trees on site, mulch and chipping byproduct must not be left in piles, but should be distrubted throughout the limits of clearing at a uniform thickness.

Payment shall be made under:

Item OBST-1	***Tree/Shrub Removal***	***--Acre (AC)***

END OF ITEM

APPENDIX A

U.S. Department
of Transportation

Federal Aviation
Administration

Advisory Circular

Subject: Painting, Marking, and Lighting of Vehicles Used on an Airport	**Date:** April 1, 2010	**AC No:** AC 150/5210-5D
	Initiated by: AAS-100	**Change:**

1. PURPOSE. This advisory circular (AC) provides guidance, specifications, and standards for painting, marking, and lighting of vehicles operating in the airport air operations area (AOA). The approved lights, colors, and markings herein assure the conspicuity of vehicles operating in the AOA from both the ground and the air.

2. CANCELLATION. This AC cancels AC 150/5210-5C, Painting, Marking, and Lighting of Vehicles Used on an Airport, dated August 31, 2007.

3. APPLICATION. The Federal Aviation Administration (FAA) recommends the guidelines and standards in this Advisory Circular for vehicles operating in the airport AOA. In general, use of this AC is not mandatory. ***However***, use of this AC is mandatory for vehicles funded with federal grant monies through the Airport Improvement Program (AIP) and/or with revenue from the Passenger Facility Charges (PFC) Program. See Grant Assurance No. 34, "Policies, Standards, and Specifications," and PFC Assurance No. 9, "Standard and Specifications."

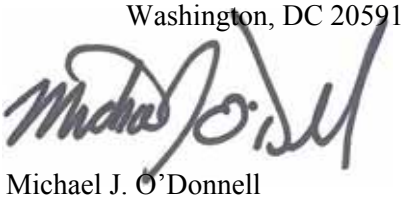
Vehicles covered by this AC that do not meet this standard may be used until the vehicle is repainted or replaced, but no later than **December 31, 2010.**

4. PRINCIPAL CHANGES. This AC contains new specifications and recommendations for the painting, marking, and lighting of Towbarless Tow Vehicles (TLTVs).

5. METRIC UNITS. To promote an orderly transition to metric units, this AC includes both English and metric dimensions. The metric conversions may not be exact equivalents, and until there is an official changeover to the metric system, the English dimensions will govern.

6. COMMENTS OR SUGGESTIONS for improvements to this AC should be sent to:

Manager, Airport Engineering Division
Federal Aviation Administration
ATTN: AAS-100
800 Independence Avenue, S.W.
Washington, DC 20591



Michael J. O'Donnell
Director of Airport Safety and Standards

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PAINTING, MARKING, AND LIGHTING OF VEHICLES USED ON AN AIRPORT

1. SOURCES OF APPLICABLE DOCUMENTS.

a. American National Standards Institute, Inc. (ANSI), 25 West 43rd St. 4th Floor, New York, NY 10036. Website: **www.ansi.org**

b. American Society for Testing & Materials (ASTM), ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959. Website: **www.astm.org**

c. The National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, Massachusetts 02169-7471. Website: **www.nfpa.org**

d. The U. S. General Services Administration (GSA), Centralized Mailing List Services, 501 West Felix Street, Whse 9, South End P.O. Box 6477, Fort Worth, Texas 76115-6477. Website: **www.gsa.gov**

e. The Superintendent of Documents, U.S. Government Printing Office, 732 North Capitol St. NW, Washington, DC 20401.

f. Society of Automotive Engineers, Inc. (SAE), 400 Commonwealth Drive, Warrendale, PA 15096-0001. Website: **www.sae.org**

g. FAA Advisory Circulars: U.S. Department of Transportation, Subsequent Distribution Office, Ardmore East Business Center, 3341 Q 75th Ave., Landover, MD 20785. Website: **www.faa.gov**

h. FAA Engineering Briefs: **www.faa.gov/airports/engineering/engineering_briefs/**

2. DEFINITIONS.

The following definitions apply in this AC:

a. **Vehicle –** All conveyances, except aircraft, used on the ground to transport persons, cargo, equipment or those required to perform maintenance, construction, service, and security duties.

b. **Air Operations Area (AOA) –** The portion of airport that encompasses the landing, take off, taxiing, and parking areas for aircraft.

c. **Airport Emergency Vehicles** – Vehicles that are authorized in the AOA for emergency purposes (e.g., ambulances, aircraft rescue and fire fighting (ARFF) vehicles and emergency response vehicles) as authorized by the airport traffic control tower (ATCT) or an authorized on-site accident/incident commander.

d. **Airport Operations Vehicles –** Vehicles routinely used by airport operations personnel for airport inspection and duties associated with airfield operations (such as airfield condition reporting and Incident Command) on the AOA and Movement Area.

e. **Airport Security Vehicles –** Vehicles that are authorized in the AOA for security purposes, as needed (e.g. police cars).

f. Airfield Service Vehicles – Vehicles that are routinely used in the AOA for airfield service, maintenance, or construction (e.g. snow blowers, snowplows, maintenance trucks, and tractors).

g. Aircraft Support Vehicles – Vehicles that are routinely used in the AOA to support aircraft operations (e.g. aircraft pushback tractors, baggage/cargo tractors or trucks, air conditioning and aviation fuel trucks). These vehicles are typically owned by airlines, vendors, or contractors and are not eligible for Federal funding.

h. Reduced Visibility – Prevailing visibility is less than one statute mile (1609 meters) and/or the runway visual range (RVR) is less than 6,000 feet (1830 meters).

i. Movement Area – The runways, taxiways, and other areas of an airport/heliport that are used for taxiing/hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports/heliports with an operating airport traffic control tower (ATCT), specific approval for entry onto the movement area must be obtained from air traffic control (ATC).

j. Other Vehicles – Vehicles that are not routinely authorized in the AOA (e.g. construction vehicles). These vehicles are typically owned by airlines, vendors, or contractors and are not eligible for Federal funding.

k. Peak Intensity – Peak intensity, for purposes of this document, means the maximum magnitude of luminescence as measured in candela.

l. Towbarless Tow Vehicle (TLTV) – a type of aircraft support vehicle whose main purpose is to tow aircraft in the AOA by way of nose gear capture.

3. VEHICLE PAINTING.

NOTE: *Airport vehicle paint and markings are a safety of flight requirement. The approved colors/markings herein assure conspicuity of vehicles operating in the AOA from both the ground and air.*

a. Airport Emergency Vehicles.

(1) Ambulances. Ambulance vehicles are painted per the most current version of Federal Specification KKK-A-1822, *Federal Specification for the Star-of-Life Ambulance*. Ambulances are not considered vehicles routinely operating on the AOA.

(2) Aircraft Rescue and Fire Fighting (ARFF) Vehicles. Yellowish-green is the vehicle color standard. Color specifications are per Appendix A.

NOTE: *A yellowish-green color provides optimum visibility during all light levels encountered during a 24-hour day and under variations of light that result from weather and seasonal changes.*

b. Airport Operations Vehicles. Airport operations vehicles may be painted in colors designated by the airport operator. The characteristics must be coordinated with the respective ATCT and identified in the tower letter of agreement.

c. Airport Security Vehicles. Comply with specific state or local requirements.

d. Airfield Service Vehicles. Chrome yellow is the vehicle color standard. Color specifications are per Appendix A. When vehicles are equipped with bumper bars 8 inches (200 mm) or more in depth, the bars must be painted in alternate stripes 4 inches (100 mm) in width of chrome yellow and black inclined 45° to the vertical.

e. Aircraft Support Vehicles.

(1) Any color or combination of colors other than yellowish-green or chrome yellow. The bumper bar paint scheme in paragraph 3.d (of alternating chrome yellow and black stripe) is recommended.

(2) TLTVs. International orange is the vehicle color standard. Retroreflective tape covering more than 25 percent of the vehicle's vertical surfaces may be used as a temporary measure to meet this standard prior to scheduled vehicle painting.

f. Other Vehicles. Any color or combination of colors other than solid black or white.

4. VEHICLE MARKING.

a. Airport Emergency Vehicles.

(1) Ambulances. Ambulances are marked per the most current version of Federal Specification KKK-A-1822.

(2) ARFF Vehicles. Emergency rescue and fire fighting vehicles are marked with the letters "ARFF, "Fire," or "Rescue" and in accordance with 4.c.(1)-(5) of this AC.

b. Airport Operations Vehicles. Airport operations vehicles may be marked as designated by the airport operator. Marking must be coordinated with the respective ATCT and identified in the tower letter of agreement.

c. Airfield Service Vehicles and Aircraft Support Vehicles.

(1) Airport operator owned vehicles must display an identification number on each side and on the roof (the hood should be used if the vehicle has no roof).

(2) Side numbers will be a minimum of 16 inches (410 mm) in height and conspicuously located.

(3) Roof numbers will be a minimum of 24 inches (610 mm) in height and affixed with their bases toward the front of the vehicle. The identification numbers should provide sharp color contrast to the vehicle color.

(4) In addition to the identification numbers, airport operator-owned vehicles must display either the name of the airport and/or the airport insignia.

(5) To further improve night-time recognition of vehicles, a minimum 8 inch (200 mm) wide horizontal band of high gloss white paint or white reflective tape (Retroreflective, ASTM-D 4956-09, *Standard Specification for Retroreflective Sheeting for Traffic Control*, Type III & above) must be used around the vehicle's surface. Figures 1, 2, and 3 show suggested locations for the horizontal reflective band.

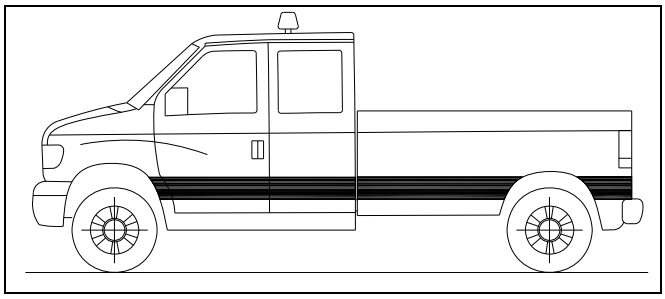

Figure 1: Suggested location for the horizontal reflective band, Option 1

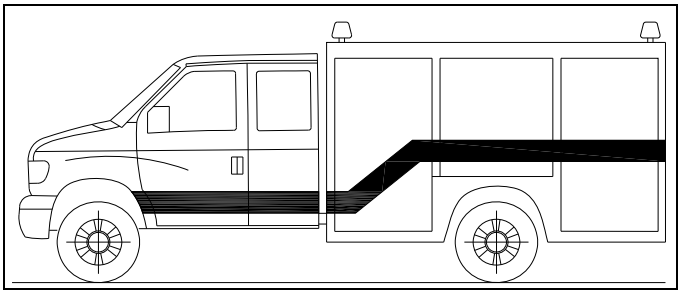

Figure 2: Suggested location for the horizontal reflective band, Option 2

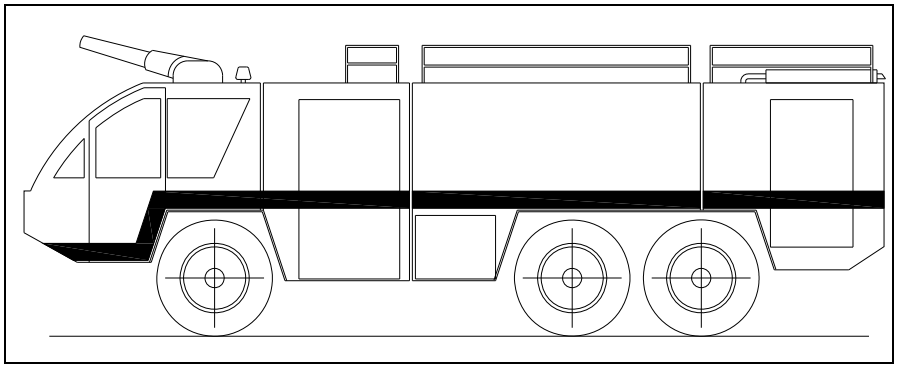

Figure 3: Suggested location for the horizontal reflective band, Option 3

(6) TLTVs. Retroreflective tape is used to outline the shape of a TLTV. If the vertical edge of the vehicle is rounded, the tape should be placed on the rounded portion to reflect light in both the horizontal and vertical planes. Where the placement of the tape may interfere with, or may be worn down by, maintenance or operational activities, tape is not required. Suggested locations for the retroreflective bands are shown in Figure 4.

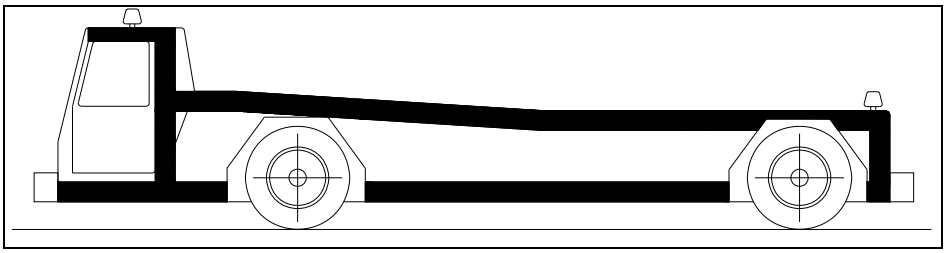

Figure 4: Suggested placement of retroreflective tape on a TLTV

d. Airport Security and Other Vehicles.

(1) Vehicles other than those that routinely traverse any portion of the AOA under the control of ATC, which are not escorted by a vehicle in constant two-way radio communication with ATC and properly equipped and authorized to operate in the AOA, must be provided with a flag on a staff attached to the vehicle so that the flag will be readily visible.

(2) At airports without air traffic control facilities, flags must be provided on all vehicles.

(3) The flag must be at least a 3-foot by 3-foot (0.9 meter by 0.9 meter) square having a checkered pattern of international orange and white squares at least 1 foot (300 mm) on each side (see Appendix A for the fabric color specification).

5. VEHICLE LIGHTING.

a. Airfield Service, Aircraft Support, and Airport Operations Vehicles.

(1) The standard for identification lighting is a yellow flashing light that is mounted on the uppermost part of the vehicle structure. A steady yellow light designates vehicles limited to non-movement areas.

(2) The light must be visible from any direction, day and night, including from the air.

(3) Color specifications for vehicle identification lights are per Appendix B.

(4) TLTVs. An LED light bar placed above the operator's cab may be used in place of the rotating yellow flashing light. In addition, a yellow flashing light (of any type) must be installed on the upper left-rear and right-rear corners of the TLTV, and must be activated when an aircraft is in tow. The size of the rear flashing lights must be large enough to meet the requirements of Section 5.c, but not so large as to interfere with the normal or towing operations of the TLTV.

b. Airport Emergency, Security, and Other Vehicles, which are not escorted by a properly lighted vehicle, must be identified during periods of low visibility by a light.

c. Characteristics of Flashing Lights:

(1) Ambulance lights must meet the specifications in the most current version of Federal Specification KKK-A-1822, and ARFF vehicles must meet NFPA, state, and local requirements.

(2) Lights must have peak intensity within the range of 40 to 400 candelas (effective) from 0° (horizontal) up to 10° above the horizontal and for 360° horizontally. The upper limit of 400 candelas (effective) is necessary to avoid damage to night vision.

(3) From 10° to 15° above the horizontal plane, the light output must be $1/10^{th}$ of peak intensity or between 4 and 40 candelas (effective).

(4) Lights must flash at 75 ± 15 flashes per minute.

NOTES:

1. The effective intensity of a flashing light is equal to the intensity of a steady-burning (fixed) light of the same color that produces the same visual range under identical conditions of observation.

2. If xenon flashtubes are used, refer to AC 150/5345-43, Specification for Obstruction Lighting Equipment, for guidance concerning methods of calculating effective intensity.

d. Light Colors.

(1) Airport Emergency Vehicles.

(a) **Ambulances.** Per the most current version of Federal Specification KKK-A-1822.

(b) **ARFF Vehicles.** Red or a combination of red-and-white flashing lights per the chromaticity requirements in Appendix B.

(2) Airport Security Vehicles. Signal blue or a combination of red and signal blue flashing light per the chromaticity requirements in Appendix B.

(3) Airfield Service, Aircraft Support, Airport Operations, and Other Vehicles. Yellow flashing light per the chromaticity requirements in Appendix B.

APPENDIX A. COLOR SPECIFICATIONS

A-1. SPECIFICATIONS. Colors specified in Table A-1 are per the Commission Internationale de l'Eclairage (CIE) L*a*b* system of color specification. For a description of this system, refer to American Society for Testing & Materials (ASTM) D 2244, *Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.*

Table A-1. Specification for vehicle and flag colors

Standard Illuminant D65 **Usage**	**Chrome Yellow**			**Yellowish-Green**			**International Orange**		
	Vehicle Paint			**Vehicle Paint**			**Vehicle Paint / Flag Fabric**		
CIELAB DATA	**L***	**a***	**b***	**L***	**a***	**b***	**L***	**a***	**b***
Centroid Color	72.8	24.4	77.6	78.3	-10.2	80.4	45.0	53.5	52.0
Point 1	72.8	31.8	82.9	78.3	-9.0	92.0	45.0	61.4	47.8
Point 2	72.8	25.5	66.7	78.3	-7.6	73.2	45.0	53.9	41.4
Point 3	72.8	18.0	69.3	78.3	-11.0	69.3	45.0	53.5	53.4
Point 4	72.8	22.4	86.0	78.3	-13.4	86.2	45.0	49.7	60.4
Light Limit	77.8			83.3			49.9		
Dark Limit	67.8			73.3			41.6		
Max ΔE	11.1			11.7			10.7		

A-2. COLOR TESTS. Acceptable colors are those that meet the gloss rating test and either a visual or an instrumental color test as follows:

NOTE: *Flag fabric colors must meet either the instrumental tests in Table A-1 or the visual method described in paragraph A-2b(1).*

a. Gloss Rating Test. This test is performed per ASTM D 523, *Standard Test Method for Specular Gloss,* on a paint sample of the color to be applied on the vehicle. An acceptable color sample is high gloss with a minimum gloss rating of 70 units, for 60° geometry.

b. Color Test Methods:

(1) Visual. Prepare a master specimen of the color (per Table A-1) and gloss (per paragraph A-2a). This specimen will be the master color and be used as the basis of comparison per ASTM D 5531-05, *Standard Guide for the Preparation, Maintenance, and Distribution of Physical Product Standards for Color and Geometric Appearance of Coatings.* To verify the paint color of a vehicle visually, vehicle paint samples must be

prepared and viewed per ASTM D 1729-96 (Reapproved 2009), *Standard Practice for Visual Appraisal of Colors and Color Differences of Diffusely-Illuminated Opaque Materials.*

(2) Instrumental. This test requires a test specimen sample and reference to Table A-1. All test specimen measurements should be conducted per ASTM E 1164-09a *Standard Practice for Obtaining Spectrometric Data for Object-Color Evaluation.* Test specimen tolerances must be per Table A-1 per the following:

(a) Plot the centroid color using the a* and b* CIELAB coordinate data from Table A-1 on graph paper or by entry of the coordinate data into a computer program. Plot and connect points 1 through 4 from the same table to form a quadrilateral; noting that the centroid color is within this figure. See Figure A-1 for plots of all three color specifications in Table A-1.

(b) Perform color sample measurements per ASTM E 1164-09a. If necessary, convert measurements to CIELAB L*, a*, and b* color space. See ASTM E 308-08, *Standard Practice for Computing the Colors of Objects by Using the CIE System,* for color space conversion formulae.

(c) An acceptable color is one that meets:

(i) the chromaticity requirements of the color samples a* and b* CIELAB coordinate data by falling within the quadrilateral;

(ii) the L* data lightness requirement by falling within the range defined by the light and dark data of Table A-1;

(iii) the total color difference (ΔE) by not exceeding the limits in Table A-1 when the CIELAB data are computed in the following formula:

$$\Delta E = (\Delta L^{*2} + \Delta a^{*2} + \Delta b^{*2})^{\frac{1}{2}}$$

where ΔL*, Δa*, and Δb* values are the differences between those values for the centroid color in Table A-1 and those of the color sample measurements.

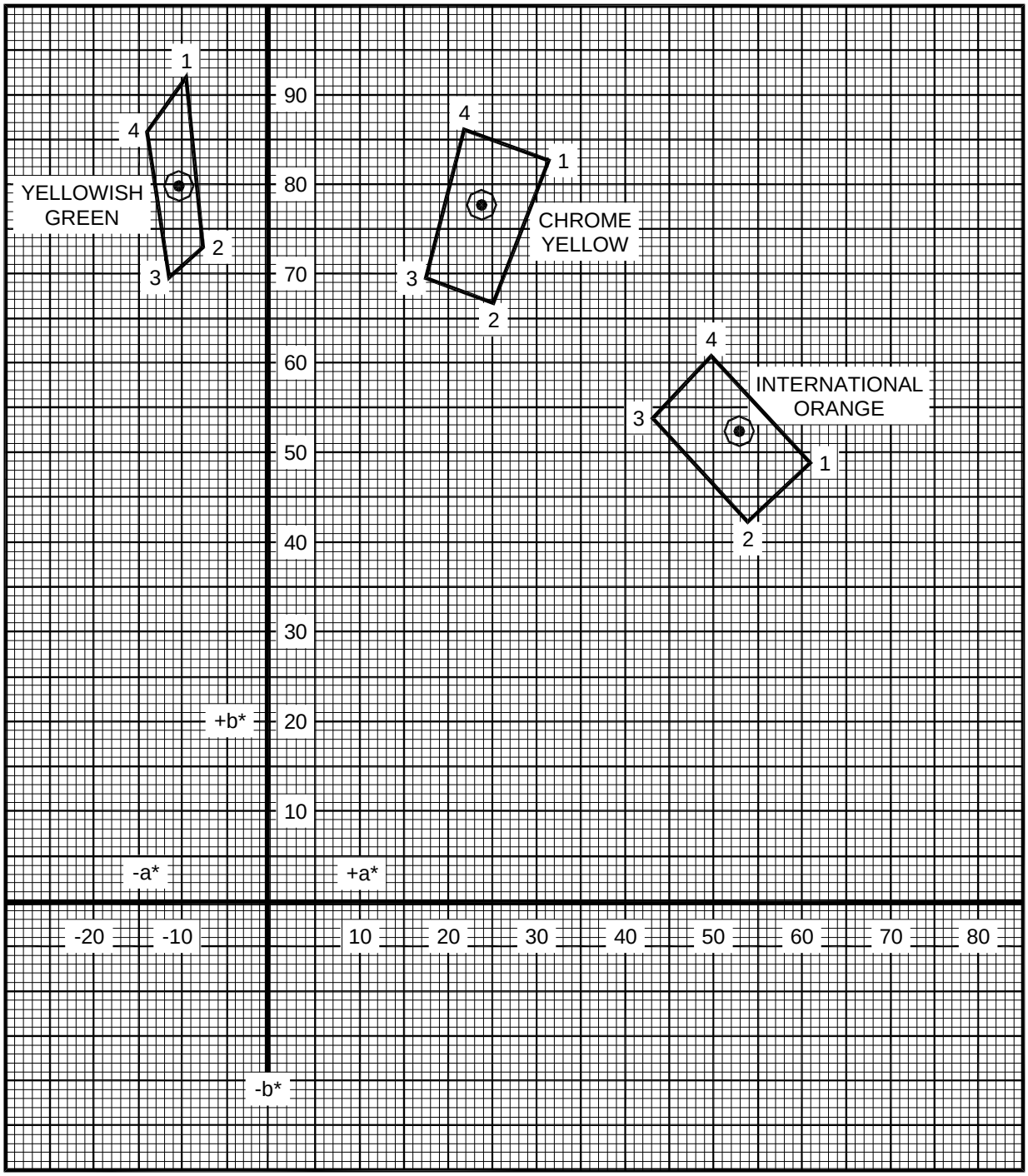

Figure A-1. Plot of selected color paint specifications

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APPENDIX B. COLOR SPECIFICATIONS FOR VEHICLE IDENTIFICATION LIGHTS

B-1. SPECIFICATIONS. The Society of Automotive Engineers (SAE) Standard J578 Revised December 2006, *Color Specification*, defines the acceptable color boundary limits and measurement of emitted red, white, signal blue, and yellow light for vehicle lights. This standard applies to the overall emitted color of light from the device in lieu of emitted light from any small area of the lens. The color of emitted light must fall within the color boundaries per SAE J578 Revised December 2006 (color boundary equations are in the standard) using color measurement methods detailed in the standard. See FAA Engineering Brief #67, Light Sources Other Than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures, for additional information and Alternative Lighting Devices.

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APPENDIX B

U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Airport Safety Self-Inspection	**Date:** 9/27/2022	**AC No:** 150/5200-18D
	Initiated By: AAS-300	**Change:**

1 **Purpose.**

This advisory circular (AC) provides information to airport operators on airport self-inspection programs and identifies the items included in these programs.

2 **Cancellation.**

This AC cancels AC 150/5200-18C, *Airport Safety Self-Inspection,* dated April 23, 2004.

3 **Application.**

This AC provides voluntary guidance for all airport operators in developing self-inspection programs. It also provides the standards for developing and implementing self-inspection programs at airports certificated under Title 14 Code of Federal Regulations (CFR) part 139 (hereinafter referred to as part 139) which are acceptable to the Administrator. Part 139 regulations require an airport operator at a certificated airport to develop a self-inspection program acceptable to the Administrator as a means of compliance with § 139.327, Self-Inspection Program. The standards in this AC may be applicable for projects funded with federal grant monies through the Airport Improvement Program (AIP) and with revenue from the Passenger Facility Charges (PFC) Program. See Grant Assurance No. 34, "Policies, Standards, and Specifications," and PFC Assurance No. 9, "Standards and Specifications." Mandatory terms such as "must" apply only to those who conduct inspections at airports that are obligated by Federal grant funds or PFC agreements or those who seek to demonstrate compliance by use of the specific method described by this AC.

4 **Principal Changes.**

The AC incorporates the following principal changes:

a. Changed the numbering system to reflect the beta testing within the Federal Aviation Administration.

b. Added in Chapter 2, specific role definitions for the Airport Certificate Holder, Airport Manager and or Operations Director.

c. The Recommended Inspection Frequency section moved to chapter 7 “Inspection Requirements by Type.”

d. Knowledge and Equipment for Self-Inspection changed to reflect changes to part 139.

e. Added record keeping requirements to Knowledge and Equipment for Self-Inspection.

f. Changed “Regularly Scheduled Inspection” to “Daily Inspection” for clarity.

g. Added part 139 references to each section.

h. Updated the checklist to reflect changes to part 139.

i. Added photos to show equipment placards and markings.

5 **Related CFR and Reference Materials.**

Appendix A lists related reference materials.

6 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.



John R. Dermody
Director of Airport Safety and Standards

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CHAPTER 1. BACKGROUND

1.1 A self-inspection program is integral to airport safety. Inspecting features that affect airside operations are critical to ensuring that components of various systems—for example, lighting, marking, and signs—are functioning properly. Additionally, an effective inspection process can identify hazards, e.g. fuel product leaks, exposed ignition sources, that represent safety risks which, when addressed early, can be mitigated successfully and at lower cost.

1.1.1 Through an airport self-inspection program, the airport operator:

1. Monitors airport conditions through a daily inspection schedule
2. Identifies specific conditions that pose a risk to airport safety
3. Takes appropriate corrective actions to address deficiencies on the airport
4. Maintains a self-inspection log (can be electronic) to note deficiencies and the date and time corrective measures were taken, and
5. Identifies trends through recurring deficiencies.

1.2 Through an airport self-inspection program, operators of certificated airports can maintain a level of airport safety by complying with the provisions of part 139. This AC identifies the components and responsibilities of each section of part 139 and provides a basis for developing a comprehensive self-inspection program for the individual airport. Sample checklists to assist airport operators are located in Appendix B.

CHAPTER 2. RESPONSIBILITIES

2.1 Airport Certificate Holder.

The Airport Certificate Holder has overall responsibility for airside safety but can delegate this responsibility to an Airport Manager, Operations Director, or other entity. This AC uses the terms airport certificate holder and airport operator interchangeably, as they are in the regulation, to denote responsibility.

2.2 The Airport Manager or Operations Director.

The Airport Manager or Operations Director authorizes Operations/Maintenance Personnel to perform inspections in the self-inspection program. At certificated airports, operations/maintenance personnel must be thoroughly familiar with part 139; they must be familiar with the airport and properly trained in vehicle/pedestrian operations; and given pertinent sections of the Airport Certification Manual (ACM), which identify their duties and responsibilities. The training must address specifically the following operational areas:

- §139.305, Paved areas
- §139.307, Unpaved areas, if applicable
- §139.309, Safety areas
- § 139.311, Marking, signs, and lighting
- § 139.323, Traffic and wind direction indicators
- § 139.325, Airport emergency plan
- § 139.327, Self-inspection plan
- § 139.329, Pedestrians and ground vehicles
- § 139.335, Public protection
- § 139.337, Wildlife hazard management
- § 139.339, Airport condition reporting
- § 139.341, Identifying, marking, and lighting construction and other unserviceable areas
- § 139.343, Non-complying conditions
- ACM WHMP (Wildlife Hazard Management Plan)
- Types of self-inspections
- Airport self-inspection procedures
- Self-inspection records

Note 1: Chapter 7 addresses each of the above part 139 subjects in more detail.

Note 2: The terms “operations personnel”, “maintenance personnel” and “inspector(s)” are used interchangeably.

CHAPTER 3. THE SELF-INSPECTION PROGRAM

3.1 The effective self-inspection program is comprehensive and thorough. However, it depends on alert and well-trained personnel who understand their duties and responsibilities and have the resources to carry them out.

3.2 Inspection Personnel can be most effective in performing inspections when they have clear instructions, checklists, and access to informational resources. ACs in the 150 Series provide the standards for certificated airports. Self-inspection personnel must have access to these resources. Inspection personnel are also responsible for developing and using techniques that preclude complacency generated by routine. For example, inspectors can vary the pattern of the inspection and view the airport from different perspectives. Avoiding a repetitive inspection pattern enables the inspector to be more aware; fixed inspection patterns, while easy to learn, generally, over time, do not provide for an adequate inspection and have the potential for missing deficiencies during the inspection process.

3.2.1 For example, runway inspections are usually conducted in both directions. During the runway inspection, when time allows, the inspector should inspect all stub taxiways up to the runway side of the runway hold position. When inspecting taxiways adjacent to a runway, the inspector should inspect all stub taxiways up to the taxiway side of the runway hold position. These areas are often overlooked. Any practices and procedures that vary the inspection pattern can greatly benefit airport safety.

3.2.2 While inspecting parallel taxiways, self-inspection personnel should check the stub taxiways and holding positions as stub taxiways are sometimes bypassed during the inspection of the movement area. During nighttime inspections, the runway inspections should be conducted in both directions to check runway lighting and signs in both directions. Some airports have a Letter of Agreement (LOA) with the ATCT addressing self-inspection routes depending on the direction of aircraft landing/takeoff operations.

3.3 Inspection of areas that have been assigned to individual air carriers, fixed base operators, or other tenants can be made the responsibility of the user. The transfer of this responsibility is usually accomplished through Letters of Agreement (LOAs) or through lease agreements, which are legally binding. However, oversight of these areas and accountability for them are within the purview of the airport operator, and, at certificated airports, the Federal Aviation Administration (FAA) holds the certificate holder ultimately responsible for operating the airport safely. Advice from airport counsel can guide the certificate holder in writing agreements and LOAs that identify user responsibilities.

NOTE: Tenants are generally only responsible for leased portions of non-movement areas with rare exceptions such as at military installations where certain taxiways or arresting gear installations are maintained by DOD.

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CHAPTER 4. TYPES OF SELF-INSPECTIONS

4.1 There are different types of inspections in an effective self-inspection program; each type is appropriate to specific activities on the airport. They are:

4.1.1 Daily inspection schedule.

The airport must be inspected daily except otherwise required by the Airport Certification Manual. Larger airports normally conduct multiple inspections daily. The Part 139 requirement to inspect daily does not mean that only one self-inspection is required each day. Typically, the first daily inspection is conducted early in the morning before the first air carrier operation. An effective self-inspection program includes a daylight inspection and a separate nighttime inspection to evaluate lighting systems and glass bead visibility. Optimally, self-inspections should occur when aircraft activity is minimal, in order to create the least impact on airport operations. Part of this inspection must occur during the hours of darkness at those airports that serve air carriers during hours of darkness. Airport operators holding an FAA Airport Operating Certificate—Class I, II, III, or IV—must conduct a daily airport inspection, to include a nighttime inspection to be in compliance. The daily airport inspection requirement, including a nighttime inspection, is required regardless of whether or not the airport receives air carrier service except as otherwise required by the ACM. Air carrier service is not a prerequisite for complying with § 139.327 (a) (1).

4.1.2 Continuous surveillance inspection.

Those activities and facilities that airport management has identified and documented in the ACM as requiring continuous surveillance are inspected whenever personnel are in these areas. Hazardous conditions can occur at any time and in a short period can pose significant safety risks.

4.1.3 Special inspection.

Special inspections of activities and facilities must take place after receipt of a complaint or when an unusual condition or unusual event occurs on the airport, such as a significant meteorological event or an accident or incident. Special inspections must also occur at the end of construction activities, at the end of a construction shift, at the end of the day, and at the end of the construction project, to ensure that there are no unsafe conditions related to the construction activity. This special inspection must occur prior to construction personnel leaving the airport, in the event that corrective actions are necessary. Document special inspections on the appropriate portions of the Airport Daily Safety Self-Inspection checklist. Some airports use a separate inspection checklists for special inspections.

4.1.4 Periodic condition inspection.

Periodic condition inspections are conducted to focus on slowly changing conditions that may not be noticed during daily inspections. For example, a periodic condition inspection of markings may be conducted in the Spring to evaluate the condition of airfield markings to determine the priority for repainting markings when weather

condition permit painting work. A periodic condition inspection of markings may also be conducted in the Fall to evaluate the condition of markings to determine if any marginal airfield markings are in need of repainting before cold weather prevents repainting of markings. Periodic condition inspections may be conducted to focus on the condition of pavement lips and safety areas, especially where turf is not yet well established after construction projects. Settling of soil can expose pavement lips and erosion in safety areas are common problems after construction projects. A periodic condition inspection may be conducted during or immediately after heavy rain to check for drainage problems that may occur from turf damming or plugged drains in safety areas. At airports with potential rubber buildup problems, periodic condition inspection are conducted with Continuous Friction Measuring Equipment (CFME) to monitor the pavement for friction problems and obscuration of the runway centerline marking.

CHAPTER 5. INSPECTION RECORDS

5.1 An effective safety self-inspection program includes procedures for capturing and tracking information about deficiencies and other phenomena from the inspection checklists. In addition, the airport operator must include a work order system so that deficiencies noted on the checklists can be corrected and documented in a timely manner.

5.2 The Inspection Log constitutes a record of conditions noted and can act as proof of follow-up corrective actions taken. Inspection logs can be electronic but the airport operator must be able to print hard copies when necessary. Information from the individual checklists is also an important administrative tool for airport management, providing a daily snapshot of the condition of the airport. Over defined periods, this information can indicate trends and identify problem areas and systems that must be addressed. This helps to direct financial planning and budgetary requirements. Certificated airports must retain checklist records for 12 consecutive calendar months [§139.301 (b) (5)]. Certificate holders are required to prepare and maintain for at least 12 consecutive calendar months, a record of each inspection, showing the conditions found and all corrective actions taken [§139.327 (c)].

5.2.1 Airports can use electronic record keeping programs specifically designed to meet self-inspection requirements. These must be available to the Administrator in an acceptable form during any inspection conducted by the FAA. The log of the regularly scheduled inspection checklists documents that safety inspection responsibilities are being met.

5.2.2 The operator must issue a Notice to Air Missions (NOTAM), as appropriate, reporting deficient conditions that could have an immediate and critical impact on the safety of aircraft operations. When corrective actions take place, the operator cancels the NOTAM. Certificated airports can use other notification systems and procedures in addition to the NOTAM system but not in lieu of NOTAMS, if acceptable to the Administrator.

CHAPTER 6. KNOWLEDGE AND EQUIPMENT FOR THE SELF-INSPECTION PROGRAM

6.1 Knowledge Requirements.

Airport inspection personnel who perform inspections must have a general knowledge of the ACM and a specific knowledge of the sections of the ACM that pertain to their duties and responsibilities [§139.303 (a)(c)]. The following areas require training at the specific airport at which they perform inspections:

1. Airport familiarization, including runway and taxiway configuration, airport marking, lighting, and sign systems, and the location and types of facilities that affect airside operations
2. Part 139 and the FAA AC standards and as applied specifically to the airport. The airport operator must provide training on these standards and provide access to these references [§139.303 (b)]
3. Procedures for conducting self-inspections and discrepancy reporting procedures as addressed in the Self-Inspection Program section of the ACM.
4. Procedures for access to, and operation in, movement areas and safety areas as specified under §139.329 at the specific airport
5. Airport communication procedures, including radio communication between air traffic control tower and personnel, use of the common traffic advisory frequency (CTAF) (aka UNICOM) as appropriate, and procedures for reporting unsafe airport conditions. During hours with no operational control tower, the operations inspector must also listen for aircraft and other vehicle operators.
6. At certificated airports, applicable sections of the approved ACM, as mentioned above, including the airport's:
7. Marking, Lighting, and Sign Plans
8. Airport Emergency Plan (AEP)
9. Wildlife Hazard Management Plan
10. Snow and Ice Control Plan (as applicable)
11. Construction Safety and Phasing Plan (CSPP) for projects (as applicable)
12. NOTAM requirements, notification, and distribution procedures (AC 150/5200-28, *Notice to Air Missions (NOTAMs) for Airport Operators)*

6.2 Records.

At certificated airports, the ACM must contain initial and recurrent training requirements for personnel conducting the airport inspections, and the certificate holder must maintain accurate records of the training received by the inspection personnel and the inspections they perform.

6.3 Equipment.

6.3.1 The self-inspection personnel performing inspections must have a two-way ground control radio capable of communicating with the Airport Traffic Control Tower on controlled airports and on the CTAF (aka UNICOM) at uncontrolled airports or at controlled airports when the tower is closed. Inspectors must know and use correct radio communication phraseology, procedures, and techniques, as referenced in the Aeronautical Information Manual (AIM). Airport police or others authorized to conduct all or part of the self-inspection must also know and use correct radio communication phraseology, procedures, and techniques as referenced in the AIM.

6.3.2 In addition, vehicles used during the inspection process must be equipped with:

1. A beacon for nighttime and low-visibility inspections; and
2. Either a beacon or orange-and-white checkered flag prominently posted on the vehicle for daytime inspections in order to provide maximum visibility.

6.4 Checklists.

Self-inspection personnel must document inspections on checklists that include all areas subject to inspection. A copy of the checklist from the previous inspection may be useful to provide information concerning deficiencies already noted/reported and/or corrective action taken. Uncorrected deficiencies should continue to be documented on inspection checklists until they are resolved. All conditions found must be documented on the inspection checklists, even if corrected during the inspection. All corrective actions must be documented, either on the checklist or on a work order.

CHAPTER 7. INSPECTION REQUIREMENTS BY TYPE

7.1 Daily Inspection.

The daily inspection of the airport's physical facilities concentrates on the areas described below. The inspector uses the airport diagram or an airport map and identifies deficiencies, including necessary details and locations, on it. The term "reporting" means that a comment is made on the checklist and, if applicable, marked on the airport diagram. Photographing the deficiency is an excellent method for documenting the condition in addition to noting the deficiency on the checklist.

7.1.1 §139.305, Paved Areas.

The inspection of pavement surface condition is critical to airport safety. Pavement inspection is conducted daily (e.g., in the early morning before flight operations begin). Additional inspections can be conducted as appropriate at the discretion of the airport operator to ensure pavement surfaces are clear. At airports with a history of pavement heaves, more frequent inspections are appropriate during high heat conditions. During the pavement inspection, the inspector:

7.1.1.1 Checks the pavement lips,—the area between full-strength pavement, and shoulders and between paved shoulders and safety areas. This observation has two purposes: first to check for water drainage problems due to turf damming, and, secondly, to assure that pavement lips do not exceed 3 inches. The inspection includes a check for vegetative growth along runway and taxiway edges that may impede drainage from the pavement surface.

7.1.1.2 Determines the presence of any cracks wide enough to cause loss of directional control in an aircraft. The inspector reports and marks location of cracks on the airport diagram for continued monitoring during future inspections. The inspection also includes the identification of holes that could cause directional control problems for an aircraft [Reference § 139.305 (a)(2)].

7.1.1.3 Checks the condition of pavement areas for cracks, scaling, spalling, bumps, low spots, and debris that could cause foreign object damage to aircraft.

7.1.1.4 Checks for low spots that are conducive to ponding during rainstorms and for areas where water may remain on the runway surface and cause hydroplaning.

7.1.1.5 Checks for mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits, and other contaminants that must be removed promptly and as completely as possible.

7.1.1.6 Checks markings (see Par. 7.1.4). Refers to the ACs that contain methods and procedures for maintaining paved surfaces at the specific airport that are acceptable to the Administrator.

7.1.2 §139.307, Unpaved Areas.

At airports where applicable, the airport operator must maintain the condition of gravel, turf, or other unpaved runway, taxiway, or loading ramp and parking area on the airport, which is available for air carrier use, in a manner acceptable to the Administrator. Unpaved surfaces in the state of Alaska are predominantly involved in this Section of the regulation. During the inspection of unpaved areas, the inspector:

1. Checks the slope from the edge of the full-strength surface downward to the existing terrain and confirms that it is no steeper that 2:1.
2. Checks that the full-strength surfaces have an adequate crown or grade to assure sufficient drainage to prevent ponding.
3. Checks to ensure that the full-strength surfaces are adequately compacted and sufficiently stable to prevent rutting and loosening or build-up of surface material, which could impair directional control of aircraft or prevent drainage.
4. Checks that there are no holes or depressions that exceed 3 inches in depth or are of a breadth capable of impairing directional control or causing damage to an aircraft.
5. Checks for mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits, and other contaminants that must be removed promptly and as completely as possible.
6. Refers to the ACs that contain methods and procedures for the maintenance and configuration of unpaved areas at the specific airport, which are acceptable to the Administrator.

7.1.3 §139.309, Safety Areas.

At certificated airports, the ACM must document the dimensions of the runway and taxiway safety areas. The inspector must know the dimensions of the runway and taxiway safety areas at the airport. During the safety area inspection, the inspector:

1. Inspects each safety area to ensure that it is cleared and graded and has no potentially hazardous ruts, humps, depressions, or other surface variations.
2. Inspects each safety area to ensure drainage by grading or storm sewers to prevent water accumulation.
3. Confirms that each safety area is capable under dry conditions of supporting aircraft rescue and firefighting (ARFF) personnel and equipment, snow removal equipment, and the occasional inadvertent aircraft excursion, without causing major damage to the aircraft.
4. Checks to ensure no object, except those fixed by function (such as runway lights, signs, or navigational aids), is located there. Objects in the safety areas must be constructed on frangibly mounted structures of the lowest practical height. At

certificated airports, the frangible point must be no higher than 3 inches above grade. Refer to Table 6-1 in AC 150/5300-13, *Airport Design*, current edition, for a list of NAVAID facilities authorized to be located in the RSA because they are fixed-by-function.

5. Determines that the base for any object located in safety areas is at grade level. This includes light fixtures, traffic and wind indicators, and NAVAIDs. This is especially important at airports subject to winter thaws. The inspector must check manhole and handhole covers to ensure they are at grade level and can support vehicles and the inadvertent aircraft excursion.

6. Identifies and documents any damage caused by wildlife. Documents evidence of wildlife activity, e.g., burrowing animals, birds, insects, mammals, etc., on the airport in accordance with part 139.337 and the ACM. Confirms wildlife hazard notification is accomplished through NOTAMS and other methods acceptable to the Administrator.

7. Notes equipment and objects, such as construction equipment or material that are temporarily located in a safety area. At certificated airports, this requires knowledge of the construction safety plan, which specifies locations of material and equipment. The inspection must confirm the airport has issued appropriate NOTAMs in accordance with §§139.309, .339, and .341.

8. Checks for any construction activity or vehicle/equipment located in the safety area. Keep in mind that during some construction projects the runway or taxiway may be restricted to small aircraft that do not need a full safety area for operations. Also keep in mind that in rare circumstances where a taxiway is indispensable for aircraft movement, a straight section of taxiway may be opened with trenches/excavations in the safety area, subject to restrictions. Self-inspection personnel should be familiar with the Construction Safety Phasing Plan (CSPP) for projects and identify any safety area issues related to construction activity that is not in accordance with the CSPP.

7.1.4 §139.311, Marking.

Airport markings provide information to pilots during takeoff, landing, and taxiing. Airport marking must be properly maintained and must comply with standards specified in AC 150/5340-1*, Standards for Airport Markings*, current edition. Part 139 regulations provide compliance with these standards is mandatory for operators of certificated airports and compliance may be required for airport operators of airports where Federal funds have been used for runway and taxiway construction/ rehabilitation and the grant assurances remain in effect. The inspector must be familiar with the appropriate marking required at the airport in the approved Marking Plan. During the inspection, the inspector:

1. Confirms that the marking of each runway meets the specifications for takeoff and landing minimums.

2. Confirms that each taxiway has a centerline and taxiway edge markings, as appropriate (AC 150/5340-1 specifies when edge marking is required).
3. Checks holding position marking for visibility and correct layout.
4. Checks ILS critical area/POFZ/APCH markings if installed on the airport.
5. Checks surface painted holding position signs (SPHPS) and enhanced taxiway centerline markings for visibility and correct layout.
6. Refers to the appropriate sections of AC 150/5340-1 for information regarding marking that differentiates movement area from non-movement area and the associated marking for operations in the non-movement area (e.g. vehicle roadways, taxi lanes, parking for fueling vehicles and other ramp marking).
7. Checks markings for correct color, peeling, blistering, chipping, fading, and obscuration because of rubber buildup and notes on the airport maps the location of any marking that is obscured, faded, or deteriorating.
8. During and after construction projects, checks new markings for compliance with marking standards.
9. Checks markings with glass beads during periods of darkness to determine if the reflectivity level is adequate at night. In addition, the inspector confirms that the glass beads are adequately embedded to avoid being ingested by aircraft engines.
10. Reports deviations from standard marking and their location on the airport map. Inspectors must monitor and document non-complying marking. New markings installed during construction projects must be checked for compliance to marking standards.

7.1.5 §139.311, Signs.

Signs provide important information to pilots while taxiing and to vehicle and equipment operators on the airport. Signs must be in accordance with the standards specified in the current versions of AC 150/5340-18*, Standards for Airport Sign Systems*, and AC 150/5345-44, *Specification for Runway and Taxiway Signs,* current editions. Part 139 regulations provide compliance with these standards is mandatory for operators of certificated airports and compliance may be required for airport operators of airports where Federal funds have been used for runway and taxiway construction/rehabilitation and the grant assurances remain in effect. The inspector must know the appropriate sign standards and specifications at the airport and ensure that signs comply with the approved Sign Plan. In addition, at Class I, II, and IV airports, the signs required by §139.311 (b)(1) must be internally illuminated. At Class III airports, the signs required by §139.311 (b)(1)(ii) and (b)(1)(iii) must be internally illuminated. During the inspection, the inspector:

1. Checks signs to ensure they are in accord with the approved Sign Plan and that they identify taxiways and runways correctly. Signs must be easy to read, located properly, and follow the color and retro-reflectivity standards.
2. Checks to ensure that all lighted signs are operational and not obscured by vegetation, dirt, snow, etc.

3. Checks to ensure that signs are properly tethered.
4. Checks signs to ensure they are frangibly mounted (the frangible mount being no greater than 3 inches above the base) and that the concrete bases are level, secure, and properly maintained at grade level.
5. Checks to see that sign panels are not missing, askew, cracked, broken, or otherwise damaged or compromised.
6. Most importantly, confirms that signs have the correct legend and arrow orientation as well as that all dividers are placed correctly and are the correct color.
7. During and after construction projects, checks new signs for compliance with sign standards and, at certificated airports, confirms they are in accordance with the approved Sign Plan.
8. During periods of darkness, checks to ensure that signs are properly illuminated and that mandatory instruction signs are illuminated with the associated runway lighting system. However, at some locations where runways are inactive, (lower priority runway during snow events or inactive runways during low visibility operations below 1200 RVR), holding position signs on taxiways crossing inactive runways may be connected to the taxiway circuit.
9. Checks signs for correct operational intensity settings and that they do not flicker or change intensity when runway light intensity is changed.
10. Check runway exit signs to ensure they are illuminated when the runway lights are illuminated. Runway exit signs are typically connected to the runway circuit, however, if they are connected to the taxiway circuit, there may be a local procedure to turn on the associated taxiway lights whenever the runway lights are turned on to meet this standard.
11. Reports non-standard signs or any sign that is not functioning properly, is faded, or is damaged. At certificated airports, the inspector ensures the airport has issued a NOTAM about any malfunctioning holding position sign or ILS critical area sign, per §139.339. Inspectors must document and monitor any non-standard sign.

7.1.6 §139.311, Lighting.

7.1.6.1 The airport operator is required to provide and maintain lighting systems for air carrier operations when the airport is open at night and during conditions below visual flight rules (VFR) minimums. Lighting is also required in Alaska during periods in which a prominent unlighted object cannot be seen from a distance of 3 statute miles or when the sun is more than six degrees below the horizon. The lighting systems required by §139.311 (c) consist of runway lighting, taxiway lighting, approach lighting (as authorized), an airport beacon, and obstruction lighting. Several ACs provide information and guidance on lighting and contain the lighting standards for certificated airports. During the inspection, the inspector checks the taxiway lighting/reflector system to ensure that they

are the proper color, oriented correctly and meet operational tolerance limits specified in AC 150/5340-26, *Maintenance of Airport Visual Aid Facilities,* current edition. Taxiway lighting consists of one of the four following systems.

1. Centerline lights,
2. Centerline reflectors,
3. Edge lights, or
4. Edge reflectors.

7.1.6.2 During the inspection (which can be accomplished over a 24-hour period), the inspector will:

1. Check each runway lighting system to ensure that it meets the specifications for takeoff and landing minimums, as authorized by the Administrator. This can include runway centerline and touchdown zone lights, displaced threshold lights, if installed, lead-on/lead-off lights, Runway End Lights (RENLs), stop bars, LAHSO and Runway Status Lights and the runway threshold/runway end lighting system.
2. Check all runway lights and threshold/end lights, to ensure they are the proper color and oriented correctly, this includes the specified lighting configuration for ILS-capable runways.
3. Check all taxiway lights and runway guard lights, if installed, (both elevated and in-pavement) for meeting operating tolerance limits.
4. Check the approach lighting system for each runway to ensure that it meets the specifications for takeoff and landing minimums, as authorized by the Administrator, unless an entity other than the certificate holder provided and/or maintains the system. However, if the inspector notes and documents a deficiency in a system not owned by the airport, the owner of the system is notified so that corrections or repairs can be made as well as documented that the deficiency has been corrected.
5. Check the operation of the airport beacon and ensure the proper color is being reflected for airport type.
6. Check obstruction lighting and marking within the airport's authority to ensure correct and effective operation.
7. Check apron edge lights, if installed.
8. Check all lights, lighting fixtures, and lighting systems to ensure that they are free of vegetation and obscuration by deposits of foreign material.
9. Check the following for proper shielding, if installed:

10. Apron lights, vehicle parking area lights, lighting in fuel storage areas, roadways, buildings
11. Floodlights used in construction areas.
12. If inspector notes a deficiency with an approach lighting system, the deficiency is documented and the owner or entity responsible for maintenance is notified so that corrections can be made. Document all fixtures missing and lights that are not working (e.g., burned out) or appear dim.
13. Check that lights function properly through the manual or radio features and that photocell controls function properly, if installed.
14. Check all light bases to ensure proper alignment, correct height, and grading to prevent erosion and ensure that fixtures are frangibly mounted, the point of which is no more than 3 inches above the base.
15. For Low Visibility Operations/Surface Movement Guidance and Control System (LVO\SMGCS) operations below RVR1200, conduct an initial inspection of stop bar lights, if installed, runway guard lights, clearance bar lights, taxiway centerline lights, and taxiway edge lights installed on the low-visibility routes in accordance with the airport's LVO/SMGCS plan.
16. For operations below RVR1200 with any LVO/SMGCS lighting systems that are not electronically monitored, periodically inspect every 2 to 4 hours during low visibility operations. The inspections must be conducted according to the airport's LVO/SMGCS plan, which is referenced in the ACM.
17. For operations below RVR600 with any LVO/SMGCS lighting systems that are not electronically monitored, inspect every 2 hours. The inspections must be conducted according to the airport's LVO/SMGCS plan, which is referenced in the ACM.

7.1.6.3 Light inspections must occur during periods of darkness in order to evaluate lighting systems effectively. This is when they provide the primary visual aid for pilots. While the inspector observes airport lighting owned and maintained by the airport operator as a priority, the inspector must also document and report immediately any lighting discrepancy owned or operated by others to the appropriate, responsible owner, in the interest of safety. In Alaska, lighting systems must be inspected during periods of darkness or during periods in which a prominent unlighted object cannot be seen from a distance of three miles or the sun is more than six degrees below the horizon.

7.1.7 §139.313, Snow and Ice Control.

7.1.7.1 Snow and Ice Control Plans (SICP) are unique to each airport. Therefore, the inspector must be familiar with the contents of the plan for the specific

airport. AC 150/5200-30, *Airport Field Condition Assessments and Winter Operations Safety*, current edition, contains guidance and procedures for snow and ice removal. At airports where snow and ice occur throughout the winter season, preparation and tabletop exercises usually begin off-season. Familiarization with the Snow and Ice Plan can begin with the airport's off-season preparation especially when new techniques, equipment, and authorized materials are involved in the snow removal and ice control processes. Many airports conduct a "Lessons Learned" session or series of sessions after the winter season. These sessions can be helpful to the Inspector as well.

7.1.7.2 During the snow and ice control inspection, the inspector, in accordance with the SICP:

1. Checks runways and taxiways to ensure that snow banks and drifts next to the runways and taxiways provide clearance for aircraft wing tips, engines, and propellers.
2. Checks to ensure that snow is not piled across the runway threshold or across runway/runway intersections.
3. Checks runway and taxiway lights and signs to ensure that they are not obscured by snow or damaged by snow removal operations.
4. Checks for foreign objects that may have been left on the pavement from snow removal operations i.e. chunks of ice or debris from the snow removal equipment.
5. Checks taxiway intersections and access routes to ensure that snow removal operations have provided adequate clearances for ARFF equipment.
6. Checks to ensure that critical areas for the operation of electronic NAVAIDs are clear.
7. Checks for and reports slippery pavement conditions, using RCAM as described in AC 150/5200-30 to determine Runway Condition Codes or a MU value from a friction measurement device. There is no correlation between friction measurement numbers and braking action reports of Good, Fair, Poor, or Nil. These reports are transmitted to the ATCT.
8. Checks for snow and /or ice accumulation that the snow and ice removal operation has missed and for any condition resulting from removal operations that creates a hazard on the airside. The inspector must report such accumulations or conditions as a deficiency requiring corrective action. At certificated airports, the inspector must ensure the operator issued NOTAMs for snow, ice, slush, or water on the movement area or loading ramps and parking areas as specified under § 139.339.

7.1.8 §§ 139.315, .317, .319 Aircraft Rescue and Fire Fighting.

Sections 139.315, .317, and .319 address Index Determination, Equipment and Agents, and Operational Requirements. During the inspection of ARFF capabilities, the inspector:

1. Checks the status of ARFF response, which includes the availability of equipment, fire fighters, and extinguishing agent (s) to meet Index if applicable, and operational readiness. At certificated airports, the inspector ensures that ARFF capabilities comply with the index and provisions of the approved ACM. The inspector must report deficiencies for corrective action.
2. Ensures alarm and emergency notification communication systems are operable and verifies that it makes all of the appropriate notifications.
3. Checks for construction or maintenance activity on the movement area, which could require ARFF or affect response routes, and ensures that notification has been given to, and received by, the appropriate ARFF official.
4. Reports and monitors ARFF vehicle(s), equipment, extinguishing agent(s), and any ARFF personnel capability that is not available or inoperative as well as any change to the airport's critical aircraft that may require a change to ARFF Index. At certificated airports, the airport operator must notify the FAA Regional Airports Division if an ARFF vehicle required for Index is inoperative and cannot be replaced immediately, as specified in §139.319(g). The airport operator must also issue a NOTAM about the unavailability of any rescue and fire fighting capability, as specified under §139.339.

7.1.9 §139.321, Handling and storing of hazardous substances and materials.

This section requires the certificate holder or airport operator who acts a cargo handling agent to establish and maintain procedures for the protection of persons and property on the airport during the handling and storing of any material regulated by the Hazardous Materials Regulations (49 CFR 171through 180). The daily inspection of aircraft fueling operations, if certified, must focus on the requirements of §139.321 as well as the local fire code. This includes fuel storage areas and facilities, mobile fuelers, fuel hydrants, fueling cabinets, load racks, self-fueling and requirements for DPF equipped fuel service vehicles and the procedures and practices of fueling personnel. The inspection must also include security, fire protection, general housekeeping, and any other fuel dispensing facilities and procedures. The certificate holder must schedule the more detailed fueling operation inspection on a quarterly basis (see Quarterly Fueling Operations under Periodic Condition Inspection). The National Fire Protection Association publishes the document cited in AC 150/5230-4 (NFPA 407), which contains information about fueling procedures and practices at fuel storage facilities, fuel dispensing, and bonding.

7.1.9.1 During the daily inspection of aircraft fueling operations, the inspector:

1. Determines that fueling personnel are performing fueling operations in a safe and secure manner, in accordance with NFPA 407 and the

local fire code including ramp operations and refilling operations at the fuel storage facility.

2. Checks to ensure that the appropriate signs for the fuel farm are installed, that Emergency Shut-Off placards are installed at both the fuel farm and on mobile fuelers and any other location where required by NFPA 407 and the ACM.
3. Checks to ensure that the fuel storage facility is properly protected, that access is secured when not occupied by an authorized user.
4. Reports and monitors any unsafe fueling practice(s) and violation(s) of part 139, the ACM, and the local fire code. At certificated airports, the inspector must document and report non-compliance items.
5. Refers to NFPA 407 for a complete understanding and application of the standards and requirements for fueling operations and the handling and storing of hazardous materials and substances.

7.1.10 §139.323, Traffic and wind direction indicators.

The inspection of NAVAIDs concentrates on the visual navigational aids owned by the airport operator. However, the inspector must also observe the condition of any navigational aids owned or operated by others, including those owned by the FAA, and report any observed problems immediately to the NAVAID owner. During the inspection of NAVAIDs, the inspector:

1. Determines that a segmented circle, if installed, should be clear of obstructing vegetation that could impair the visibility of the circle elements.
2. Determines that the airport rotating beacon is visible and working properly.
3. Checks any wind cones to ensure they are situated correctly, swing freely, do not have faded or frayed cone fabric, and, if lighted, that all lights are operating.
4. Determines whether the Runway End Lights are flashing in proper sequence and mounted on frangible couplings.
5. Checks Visual Glide Slope Indicators (VASIs, PLASIs, or PAPIs) to ensure that the lights are working and mounted on frangible couplings.
6. Determines that the Approach Lighting Systems (ALS) are functioning properly.
7. Checks all installations for proper alignment.
8. Reports any NAVAID that is malfunctioning, inoperable or misaligned, damaged, or missing, to the owner or entity responsible for maintenance.
9. Refers to the appropriate ACs on airport NAVAIDS and their maintenance.

7.1.11 §139.325, Emergency Plan.

Operations personnel must be familiar with activities for which they are responsible in the Airport Emergency Plan, e.g., communications, gate access, coordination

procedures, and their role after an event on the airport [§139.325 (g)(3)(4)]. Inspection of facilities involved in the Emergency Plan, e.g., gates and access points for mutual aid, are integral elements of the daily checklist.

7.1.12 §139.331, Obstructions.

7.1.12.1 The operations personnel must perform a visual check of obstructions shown on the airport diagram or map and determine that they are properly marked and lighted. If an object is found and thought to create an obstruction, the inspector marks its approximate position on the airport diagram or map and reports this to the airport operator so that its status may be determined or if proper notification to the FAA, such as is required through part 77 or Airport Layout Plan review, has been provided.

7.1.12.2 During the inspection of obstructions, the inspector must also determine if vegetation or trees have grown to a height that necessitates additional further action. The inspection must also include, as appropriate:

1. A check on the airport for any construction equipment that may be penetrating protected airspace for flight operations. These obstructions can include piles of material in safety areas, cranes, heavy equipment, and pick-up trucks. If the construction safety plan allows materials and equipment in the safety areas, the inspector must check to ensure that there is no obstruction or derogation of navigation signals or negative effect on aircraft landing and takeoff operations.
2. A check off-airport for construction in the vicinity that could impact operations at the airport (e.g., cranes, radio towers). The inspector monitors off-airport construction and includes a comment on the checklist to alert others to be aware of potential penetrations of the airspace around the airport; this is coordinated with the ATCT, if appropriate.
3. Reporting and monitoring of any obstruction light that is missing, inoperative, or damaged and of any object that appears to be an obstruction and is not properly marked or lighted to the entity responsible for maintenance.
4. Reference to the ACs appropriate to obstructions and the methods for marking and lighting them and addressing them as potential hazards.

7.1.13 §139.333, Protection of NAVAIDs.

This section requires the certificate holder to ensure that the operation of an electronic or visual NAVAID and air traffic control facilities on the airport are not compromised. This requirement includes the protection of NAVAIDs from vandalism and theft, and if the NAVAIDS are owned by an entity other than the certificate holder, assistance in

protecting them. The inspector must check NAVAIDs to confirm there is no derogation of signal and no impediment to a visual aid.

7.1.14 §139.335, Public protection.

7.1.14.1 During the inspection, the inspector checks gates, fencing, locks, and other safeguards that prevent inadvertent entry by unauthorized persons and vehicles onto airport property, especially onto movement area. In addition, protection from jet blast by the use of blast fencing requires inspection to ensure that the fencing is in place and is intact. The inspector reports and monitors any damaged or missing safeguard.

7.1.14.2 In accordance with the airport's security plan, the inspector must report any unauthorized persons or vehicles in the movement area. Airports regulated by the Transportation Security Administration may have additional requirements for reporting and responding to unauthorized persons and vehicles or suspicious activity.

7.1.15 §139.337, Wildlife hazard management.

7.1.15.1 Because of damage to aircraft and the potential loss of life associated with wildlife strikes, operations personnel must be vigilant in checking for evidence of insect, bird, and animal activity on the airport. During inspections of runways and taxiways and their associated safety areas, the inspector must identify and locate on the airport diagram or map any activity that indicates the presence of wildlife. If the inspector observes wildlife of a size, or in numbers, capable of causing an event described in §139.337 (b)(1-3), then the inspector must inform the airport operator and document evidence of wildlife activity, e.g., loafing, burrowing, nesting, perching, feeding, or using the airport as a throughway or flyway. This evidence should be documented in a wildlife log; in accordance with federal, state and local wildlife permit requirements as described in a Wildlife Hazard Management Plan. The inspector must also be aware of the proximity of wildlife attractants, such as landfills, parks, golf courses, construction, ponds and/or other water sources, etc., as potential sources of wildlife visits to the airport.

7.1.15.2 Evidence of wildlife activity found during the daily self-inspection must be properly documented and also reported to the appropriate authority on the airport, e.g., the wildlife biologist. All dead wildlife found and all wildlife aircraft strikes must be reported to the Regional Office Airports Division and on the FAA Form 5200-7, *Bird/Other Wildlife Strike Report.* This form may be obtained from the FAA website, http://www.faa.gov. Additionally, the inspector must check fencing and gates for wildlife accessibility to the airport and ensure that wildlife control equipment is available and operational.

7.1.16 §139.339, Airport condition reporting.

During periods of time when a condition on the airport requires notification, the inspector must monitor for changes that will require action on the part of the airport certificate holder (e.g., that snow plowing operations are being conducted in accordance with the SICP). Each certificate holder must prepare and keep, for at least 12 consecutive calendar months, a record of each dissemination of airport condition to air carriers (§139.339 (d)).

7.1.17 §139.341, Construction and other unserviceable areas.

Operations personnel must be familiar with the construction safety procedures and guidance provided in AC 150/5370-2, *Operational Safety on Airports During Construction*, current edition. At certificated airports, the inspector must also be familiar with the construction safety procedures contained in the ACM and in the specific approved Construction Safety Phasing Plan (CSPP). During the construction inspection, the inspector must:

1. Check all construction adjacent to movement areas to ensure these areas are identified with conspicuous marking and lighting.
2. Determine that stockpiled material and construction materials are properly stored and not left in safety areas or movement area unless properly secured. Any material remaining on the airside must be secure from being moved by wind, jet blast, or prop wash.
3. Determine that construction equipment (such as bulldozers, cranes, etc.) are marked and lighted and parked clear of the safety areas.
4. Ensure construction barricades are properly positioned to define the limits of construction and hazardous areas and, check to ensure lights are working properly and are positioned correctly.
5. Check to ensure that debris and foreign objects are continuously being picked up around construction areas.
6. Check for open trenches in the safety areas or adjacent to movement areas and that barricades, as required, are in place to prevent mishaps.
7. Check operation of lighting in areas adjacent to construction before the construction crews depart for the day. In particular, ensure that mandatory instruction signs remain lighted with the associated runway lights.
8. Check NOTAMs daily during construction projects to ensure they accurately reflect the conditions on the airport.
9. Verify that closed taxiways or runways are properly marked and lighted to include lighted Xs.
10. Report and monitor any dangerous condition created by construction activity, including damage to signs, lights, markings, and NAVAIDs, or equipment and supplies left in movement areas and safety areas.

7.2 **Continuous Surveillance Inspection.**

Continuous surveillance inspections are conducted any time inspection personnel are in an area designated as subject to continuous inspection in the ACM. This inspection also monitors conditions from previous inspections. It consists of a general observation of activities for compliance with part 139 and airport rules and regulations, procedures, etc., as well as to find deficiencies in the physical facilities, which are readily apparent. Appendix B contains a sample Continuous Inspection Checklist. Continuous surveillance of airport physical facilities and activities can involve any of the activities of the daily inspection but must cover at least the areas described below.

7.2.1 §139.329, Pedestrians and ground vehicles.

The inspector:

1. Determines if vehicle drivers are following the airport regulations for procedures on the airside and monitors their communications. This includes the operations of all ground vehicles, maintenance vehicles, mowing equipment, and other vehicles and equipment that may be in the safety areas. Attention to these activities is critical during construction, winter operations, special events, and unusual conditions.
2. Reports and monitors any vehicle operator who is not complying with part 139 and the airport rules and regulations.
3. Reports any ground vehicle incident or accident observed and any ground vehicle signs and markings that are damaged, missing, or obscured.

7.2.2 §139.321, Handling and storing of hazardous substances and materials.

The inspector must:

1. Observe that proper bonding is being used, deadman controls are not blocked, no smoking prohibitions are in effect (this can include a random check of vehicles to ensure that smoking trays and lighters have been removed), and aircraft are not being fueled inside hangars.
2. Check for proper parking of mobile fuelers to ensure these vehicles are at least 10 feet apart and 50 feet from buildings.
3. Check for fuel leaks or spills in the fuel storage area, in hydrants, and around mobile fuelers.
4. Determine that the fuel farm is secure and free of flammable materials, including litter and vegetation.
5. Report and monitors previously reported unsafe fueling conditions/fueling operations discussed above and other violations of the local fire code and the airport's specific fuel fire safety procedures.

7.2.3 §139.313, Snow and Ice Control.

During the continuous surveillance inspection of snow and ice removal operations, the inspector must:

1. Check snow and ice-covered pavements and reports and monitors all surfaces where snow and ice may affect the safety of aircraft operations.
2. Monitor snow and ice removal NOTAMs to ensure they remain current and issues timely corrections, as necessary. If the airport uses other means to notify tenants of snow and ice removal operations, e.g., faxed or electronic messages, the inspector monitors this information for accuracy.

7.2.4 §139.341 Identifying, marking, and lighting construction and other unserviceable areas.

Operations personnel must monitor construction projects continuously to ensure airport safety, since many construction projects include workers who are not familiar with aviation operations. The inspector must:

1. Check construction projects to ensure that the contractor is following the construction safety plan.
2. Report any of the following conditions:
3. Unauthorized use of runways, taxiways, and aprons by construction personnel and equipment.
4. Conditions that can result in runway incursions. This includes ensuring that construction areas are properly barricaded and that cones, markings, lights, etc., are properly positioned to provide warnings to pilots and vehicle operators.
5. Construction equipment that is being operated in the ILS/MLS critical area(s), unless coordinated with the ATCT.
6. Open, unlocked, and/or unattended perimeter gates; construction vehicles and personnel not following access and escort procedures.
7. Construction vehicles not properly marked or missing appropriate flags and/or beacons.
8. Foreign object debris on haul roads adjacent to movement areas, which can be tracked onto taxiways, aprons, and ramp areas.
9. Confusing or missing signs, marking, or lighting that could potentially confuse or mislead pilots or vehicle operators.

7.2.5 §139.335, Public Protection.

Operations personnel must follow instructions regarding gate closures when leaving and entering the airside, to prevent illegal “piggybacking.” They must also be more aware of activities during special airport events and construction projects. Safeguards to protect the public and to protect the airport require extra vigilance, because they are imposed at a level above the normal routine to accommodate an activity that is not part of the airport’s normal routine. The inspector must:

1. Check for unauthorized personnel, vehicles, and animals, particularly in areas reserved for aircraft passengers, when the general public is present or has access to the air carrier ramp and other portions of the movement area, e.g., remote aircraft parking locations.

2. Check for inoperable or blocked gates, particularly those that would impede access by aircraft rescue and firefighting equipment or mutual aid.
3. Check for open or unlocked gates and missing or damaged signs posted to prevent unauthorized access to the airfield.
4. Check for damaged or missing jet blast fences.

7.2.6 §139.337, Wildlife Hazard Management.

The continuous inspection is especially important with respect to the identification of wildlife hazards, and the inspector must check for and report the following conditions:

1. Any animal, bird, or condition on or adjacent to the runways, taxiways, aprons, and ramps, which serves as evidence of wildlife activity. The inspector must report any wildlife activity to the appropriate office (e.g., wildlife biologist, airport operator) for follow-up action to determine if there is a potential wildlife hazard problem.
2. Potential hazards created by existing or proposed landfills, golf courses, parks, or natural conditions and noted on the wildlife log.
3. Wildlife strikes and carcasses found on the airfield. The inspector reports these on FAA Form 5200-7, Bird/Other Wildlife Strike Report, which is available on the FAA website at www.faa.gov.

7.2.7 §139.305, .307, 309, Foreign Object Debris (FOD).

The inspector must continuously check for and remove any debris in movement areas, non-movement areas, aircraft parking areas, and loading ramps.

7.3 Periodic Condition Inspection.

Periodic condition inspections consist of specific checks of physical facilities on a regularly scheduled basis. Usually these inspections occur on a weekly or quarterly basis. Checks can require use of equipment (e.g., Walker Bar to measure VASI glide slope angles, a transit to survey approach slopes, or continuous friction measurement equipment). It can also involve checking specific features of physical facilities. Periodic inspection of airport physical facilities and activities must include at least the areas described in this section and those included in the ACM. A basic checklist is included in Appendix B.

7.3.1 §139.305, Pavement areas.

The inspector must check pavement surfaces, including grooved pavement that facilitates drainage, for rubber buildup, polishing, loose aggregate, or other items that can affect friction. The inspector must report rubber build-up that must be removed in the interest of maintaining the pavement integrity of the touchdown zone area.

7.3.2 §139.31,1 Marking, signs and lighting.

The inspector must check marking for conspicuity during daylight and hours of darkness. Marking with glass beads must be check for effectiveness and for age, when

beads can become loose and act as debris and a hazard to aircraft engines. The inspector notes pavement marking to ensure they are correct and visible and that marking on concrete or faded asphalt is outlined with a black border when conspicuity is at issue.

7.3.2.1 The inspector must check signs for accuracy, position, and to determine the integrity of the base and the frangible mount. The inspector also checks sign faces for peeling, color fading, cracks, and other deterioration. The inspector reports any deficiency for correction.

7.3.2.2 The inspector must check runway and taxiway lights for intensity and color and the integrity of the cans, the fixtures, and associated bases to ensure that electrical connections are secure and not compromised either by winter operations of mowing activities.

7.3.3 §139.321, Three month Fueling inspections.

Operations personnel at certificated airports are required to ensure that fire safety standards, contained in NFPA 407 are being observed. These inspections should be conducted every three consecutive months. During the inspections of the fueling facilities, the inspector also ensures that the local fire code is being observed as well. The fire safety standards for fueling operations must be listed in the ACM, and the three month inspections must confirm that fueling operations comply with the appropriate section of the ACM. Sample inspection checklists for fuel storage areas and mobile fuelers are included in Appendix B. Certificated airports must maintain records of the three month inspections for 12 consecutive calendar months. At fuel storage areas ("fuel farms") and loading/unloading stations, the inspector must:

1. Check fuel storage areas for adequate fencing and security to prevent unauthorized access or tampering.
2. Check for "No Smoking" placards that are clearly visible from all sides.
3. Check fuel storage areas for materials such as trash or vegetation that could contribute to the spread of fire and for equipment malfunctions, leaks, or activities that could be ignition sources.
4. Check fueling equipment to ensure that it is in good operating condition and free of fuel leaks.
5. Check piping for reasonable protection from damage by vehicles, if piping is above ground.
6. Check fuel storage areas for at least two accessible and serviceable fire extinguishers.
7. Check hoses to ensure correct procedures are being used and that abrasion of the hoses is avoided. Where the open hose discharge capacity of the equipment is more than 200 gallons per minute, at least one wheeled extinguisher with at least 125 lbs. of agent is also required.
8. Check for explosion-proof equipment, switches, and wiring that is reasonably protected from heat, abrasion, or impact, which could cause an ignition source.

9. Check for piping, filters, tanks, and pumps being electrically bonded together and interconnected to an adequate grounding rod.
10. Check for a serviceable bond/ground wire with clip at each loading/unloading facility for grounding tankers and mobile fuelers.
11. Check loading stations for deadman control features.
12. Ensure that there is boldly marked emergency cutoff placarding and that the emergency shutoff is capable of stopping all fuel flow with one physical movement. The emergency cutoff must be located outside the probable fuel spill area near the route that normally is used to leave the spill area or to reach the fire extinguishers.
13. Check for clearly visible coding and/or labeling of fuel products.

7.3.4 Mobile fuelers.

During the three month inspection, the inspector inspects all mobile fuelers or a random sample of mobile fuelers at large facilities each quarter. The inspector must track any samples used so that all mobile fuelers in a fleet are inspected in the course of a year. The inspector must:

1. Ensure they meet fire safety standards and ensure that they are in good operating condition and free of fuel leaks.
2. Check mobile fuelers for parking at least 50 feet from a building and at least 10 feet from each other. At airports with a mobile fueler maintenance building, the inspector must ensure it is compliance with directives issued by the local fire marshal.
3. Check for flammability decals on all sides (Lettering should be at least 3 inches high), check for hazardous materials placards on all sides (Hazmat number for Jet A mobile fuelers is #1863 and for 100LL mobile fuelers #1203), check the cab for a “No Smoking” sign, and confirm that ash trays, cigarette lighters, and any other smoking equipment have been removed.
4. Check for two fire extinguishers, accessible from each side of the mobile fueler. Fire extinguishers must be charged, sealed, and tagged from the last fire extinguisher inspection.
5. Check dry chemical extinguishers to ensure they are only B-C rated. (ABC rated multi-purpose dry chemical extinguishers are not to be used on mobile fuelers, as they are highly corrosive to aircraft and can cause significant damage to aircraft engines.)
6. Check emergency fuel cutoff valves to ensure markings are large and legible and the valves are operable. Emergency fuel cutoff must be accessible from both sides.
7. Check electrical equipment, switches, wiring, and tail light lens covers for explosion proof construction and reasonable protection from heat, abrasion, or impact, which could be an ignition source. Crazed lens covers indicate age and deterioration and must be replaced.

8. Check for serviceable bonding wires and clamps.
9. Check nozzles for deadman control feature.
10. Check the vehicle exhaust system for exhaust leaks and for adequate shielding if it extends under the fuel tank portion of the vehicle.
11. As appropriate, check hydrant fueling stations for product leaks and proper maintenance.

7.3.5 Hydrant Fuelers.

As appropriate, the inspector must check hydrant fueling stations for product leaks and proper maintenance.

7.4 Traffic and Wind Direction Indicators and the Protection of NAVAIDs, §139.323 and §139.333 Navigational Aids (NAVAIDs).

The inspector must check for alignment and monitor for calibration NAVAIDs on and owned by the airport, where applicable. For equipment not owned by the airport, the inspector must contact the owner and report any malfunction or problem.

7.4.1 § 139.323, Navigational Aids (NAVAIDs).

The inspector must check the aiming of Runway End Lights and Visual Glide Slope Indicators owned by the airport.

7.4.2 § 139.333, Navigational Aids (NAVAIDs).

7.4.2.1 **Lighting.**

The inspector must check lighting and lighting controls and:

1. Determine whether power generator and circuit resistance tests are being conducted, as scheduled.
2. Ensure lights with adjustable optical systems are checked for proper aiming, as scheduled.

7.5 § 139.331, Obstructions.

7.5.1 The inspector must check to ensure there is adequate protection from overhead power lines adjacent to aircraft parking areas.

7.5.2 The inspector must continually monitor trees, vegetation, and structures near the airport that could affect approach surfaces to the runways, encroach on safety areas, or penetrate part 77 surfaces.

7.6 § 139.317 and § 139.319 Aircraft Rescue and Fire Fighting.

ARFF, while a special discipline in its own right, must be inspected to ensure for readiness in terms of the airport's Index and requirements under the regulation. The inspector must:

1. Periodically determine if ARFF personnel and equipment are capable of meeting response times, as required by part 139 and in accordance with the provision of the ACM.
2. Ensure that recurrent training and hot-fire drills are being conducted as required by part 139.319(i)(2) and as described in the ACM. The documentation of training must meet the requirements of § 319.301(b)(2).
3. Check to ensure that equipment, equipment changes, and additions of equipment are included in the ACM as required by part 139.

7.7 Special Condition Inspections.

Special condition inspections occur after a complaint is made or an unusual condition, weather, or other event occurs. See chapter 4 above in this AC. A special inspection must be conducted after an accident or incident and must be conducted prior to the end of construction activity, so that the responsible construction personnel can take corrective action can be taken by. Depending on circumstances, special condition inspections may include the inspection of any of the specific facilities or activities under the other three inspection types. A special condition inspection of airport physical facilities and activities must include at least the areas described in this section, which are also included in Appendix B.

7.7.1 §139.305, Pavement Areas.

After a rain or thunderstorm, the inspector checks the pavement areas for ponding and edge damming.

7.7.2 §139.311, Markings and Signs.

The inspector must:

1. Determine if markings are visible at night especially when the pavement is wet following heavy rain.
2. After construction or maintenance operations, ensure that new pavement markings are correct (e.g., precision vs. non-precision runway marking).

7.7.3 §139.309, Safety Areas.

The inspector must:

1. Check the storm sewer system, verify that inlets are not clogged and drainage channels are free of debris, and mark the location on the airport diagram or map of any standing water. This includes checking that all inlet covers are in place and sewer covers are at grade level.

2. Check construction and maintenance activities to ensure that no hazardous conditions have been created (equipment left in safety areas, unacceptable pavement lips created by ground alteration work, ruts from construction equipment or from mowing equipment, etc.), before reopening a runway or taxiway when the construction or maintenance activity has been performed in the adjacent safety area(s).
3. When an aircraft has left the pavement and entered a safety area, check to ensure that no ruts or holes have been made by the aircraft tires or by personnel and equipment during the recovery operation and if present, ensure that corrections are made as soon as practicable.
4. Inspect engineered materials arresting system (EMAS), if installed, for damage and for deterioration.
5. Physically drive or walk the safety areas to check for deficiencies.

7.7.4 §139.313, Snow and Ice.

Several special inspections may be needed during a winter storm until the airport is back to a normal operation. The inspector must:

1. After snow and ice removal operations, check to ensure that no foreign objects remain on the areas where snow removal operations have occurred. If a friction measurement device is used, issue the appropriate numbers obtained from the equipment. Operations personnel are not authorized to correlate friction measurement numbers with braking action reports. If a friction measurement device is not available, issue braking action reports to Air Traffic.
2. Conduct a special sign inspection after snow and ice storms for signs that are obscured by snow or ice or that may have been damaged by plows or by snow thrown by blowers.

7.8 **Construction.**

7.8.1 §139.341, Construction.

The inspector must:

1. Ensure that construction areas are barricaded and lighted properly.
2. Check construction equipment to ensure that they are parked within the pre-arranged areas.
3. Conduct night inspections to ensure barricades, warning lighting, and reflectors are adequate to keep aircraft away from the construction area.
4. Check the location of construction material and stockpiles to ensure that they are outside of safety areas and do not block any signs.
5. Check any movement areas adjacent to construction areas or movement areas traversed by construction vehicles to ensure there is no FOD present.

6. Check movement areas around construction sites for potentially confusing marking, lighting, and signs that could cause pilot confusion or result in a runway incursion.

7.8.2 §139.339, Condition Reporting.

The inspector must ensure that notification of airport conditions is disseminated to airport users.

7.8.2.1 The inspector ensures that appropriate NOTAMs are issued for unsafe airport conditions that are identified during an inspection but cannot be corrected immediately. After issuing NOTAMs, follow-up is required to ensure that the NOTAMs have been processed and published.

7.8.2.2 The inspector must check that NOTAMs issued are also canceled at the appropriate time.

APPENDIX A. REFERENCE AND RELATED READING MATERIAL

A.1 This AC contains safety practices for all airports. The current versions of the documents listed below provide further detail.

A.2 **Related Reading Material.**

- 14 CFR part 139, Certification of Airports, February 10, 2004 (As amended May 3, 2004 and June 4, 2004)
- 14 CFR part 77, Objects Affecting Navigable Airspace
- NFPA 407, Standards for Aircraft Fuel Servicing

A.3 **FAA Advisory Circulars.**

FAA ACs are available on the FAA website at http://www.faa.gov/regulations_policies/advisory_circulars/.

- AC 150/5200-33, *Hazardous Wildlife Attractants on or Near Airports*
- AC 150/5210-22, *Airport Certification Manual (ACM).* This reference is pertinent for certificated airports only.
- AC 150/5370-10, *Standards for Specifying Construction of Airports*

- **Airport Emergencies**
  - AC 150/5200-31, *Airport Emergency Plan*
  - AC 150/5210-13, *Airport Water Rescue Plans, and Equipment*
- **Aircraft Rescue and Fire Fighting (ARFF)**
  - AC 150/5200-12, *First Responders' Responsibility for Protecting Evidence at the Scene of an Aircraft Accident/Incident*
  - AC 150/5210-6, *Aircraft Fire and Rescue Facilities and Extinguishing Agents*
  - AC 150/5210-7, *Aircraft Rescue and Firefighting Communications*
  - AC 150/5210-13, *Airport Water Rescue Plans and Equipment*
  - AC 150/5210 14, *Aircraft Rescue Fire Fighting Equipment, Tools and Clothing*
  - AC 150/5210 15, *Aircraft Rescue and Firefighting Station Building Design*
  - AC 150/5210-17, *Programs for Training of Aircraft Rescue and Firefighting Personnel*
  - AC 150/5210-19, *Driver's Enhanced Vision System (DEVS)*
  - AC 150/5210-23, *ARFF Vehicle and High Reach Extendable Turret (HRET) Operation Training and Qualifications*
  - AC 150/5220-4, *Water Supply Systems for Aircraft Fire and Rescue Protection*

- AC 150/5220-10, *Guide Specification for Aircraft Rescue and Fire Fighting Vehicles*
- AC 150/5220-17, *Design Standards for an Aircraft Rescue and Fire Fighting (ARFF) Training Facility*

- **Ground Vehicles**
  - AC 90-67, *Light Signals from the Control Tower for Ground Vehicles, Equipment, and Personnel*
  - AC 150/5210-5, *Painting, Marking and Lighting of Vehicles Used on an Airport*
  - AC 150/5210-20, *Ground Vehicle Operations on Airports*
- **Hazardous Materials**
  - AC 20-43, *Aircraft Fuel Control*
  - AC 150/5230-4, *Aircraft Fuel Storage, Handling, and Dispensing on Airports*
- **Marking, Signs, and Lighting**
  - AC 150/5210-5, *Painting, Marking, and Lighting of Vehicles Used on an Airport*
  - AC 150/5340-1, *Standards for Airport Markings*
  - AC 150-5340-5, *Segmented Circle Airport Marker System*
  - AC 150/5340-18, *Standards for Airport Sign Systems*
  - AC 150/5340-26, *Maintenance of Airport Visual Aid Facilities*
  - AC 150/5345-28, *Precision Approach Path Indicator (PAPI) Systems*
  - AC 150/5345-43, *Specification for Obstruction Lighting Equipment*
  - AC 150/5345-44, *Specification for Taxiway and Runway Signs*

Note: ACs in the 150/5345 series provide additional detailed information about lighting.

- **Paved Areas**
  - AC 150/5210-24, *Airport Foreign Object Debris FOD Management*
  - AC 150/5320-6, *Airport Pavement Design and Evaluation*
  - AC 150/5380-6, *Guidelines and Procedures for Maintenance of Airport Pavements*
- **Safety Areas**
  - AC 150/5220-22, *Engineered Material Arresting Systems (EMAS) for Aircraft Overruns*
  - AC 150/5300-13, *Airport Design*
  - AC 150/5370-2, *Operational Safety on Airports During Construction*

- **Self-Inspection Program**
  - AC 150/5210-18, *Systems for Interactive Training of Airport Personnel*
- **Snow and Ice Control**
  - AC 150/5200-28, *Notice to Air Missions (NOTAMs) for Airport Operators*
  - AC 150/5200-30, *Airport Winter Safety and Operations*
  - AC 150/5220-20, *Airport Snow and Ice Control Equipment*
- **Traffic and Wind Direction Indicators**
  - AC 150/5340-5, *Segmented Circle Airport Marker System*
  - AC 150/5345-27, *Specification for Wind Cone Assemblies*

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APPENDIX B. SUGGESTED AIRPORT SAFETY SELF-INSPECTION CHECKLISTS

B.1 An airport safety self-inspection checklist should cover the condition of the facilities and equipment on the airport for it to be a part of a good safety inspection program. The checklist should be useful for the airport and its operation. An airfield map or airport diagram of the airport is highly recommended on the back of the checklist; it can help readily identify the location of problems found during the daily inspection.

B.2 The suggested checklists consist of a listing of facilities and equipment and a series of conditions that are inspected. Two examples of daily self-inspection checklists are provided. The first is intended to be used electronically and contains more information on conditions to be inspected that can be readily accessed on an electronic device. The second example is intended for those airport operators that use a paper checklist and it has been condensed so it can be printed on a single sheet of paper, with the airport map printed on the other side.

B.3 The blank squares indicate the conditions the inspector will evaluate for each facility. A check (√) in one of these squares indicates the condition of the facility and equipment is satisfactory. On the other hand, an "x" in one of these squares indicates the condition of the facility and equipment is unsatisfactory.

B.4 When a condition is unsatisfactory, the inspector:

1. Enters an "x" for each applicable square;
2. Provides a note in the Remark/Action Taken section;
3. The location of the condition should be identified in the airport map or diagram; and
4. Initiates appropriate follow-up action, including NOTAMs. The inspector should document corrective action on either the self-inspection checklists or on a separate work order system.

Note: These checklists are ideal for electronic conversion to PDAs and laptop computers and are available online as appendices in this AC (https://www.faa.gov/airports/resources/advisory_circulars/).

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AIRPORT DAILY SAFETY SELF-INSPECTION CHECKLIST

DATE: _____ **DAY**: _____ √ Satisfactory
X Unsatisfactory

Day Inspector/Time: _____ **Night Inspector/Time:** _____

FACILITIES	CONDITIONS	D	N	REMARKS	RESOLVED BY (Date/Initials)
§139.305 Paved areas	Pavement lips over 3"				
	Hole – 5" diam. 3" deep				
	Cracks/spalling/heaves				
	FOD: gravel/debris/sand				
	Rubber deposits				
	Ponding/edge dams				
	Drainage				
	Vegetative growth				
	Surface variations				
§139.307 Unpaved areas	Slope from edge				
	Full strength compaction				
	Holes, depressions				
	FOD, loose aggregate				
§139.309 Safety areas	Ruts/humps/erosion				
	Drainage/construction				
	Support equipment/aircraft				
	Frangible bases, grading				
	Unauthorized objects				
	Wildlife damage/evidence				
	Construction equipment/material				
§139.311 Marking	Clearly visible/standard				
	Runway markings Correct? Color?				
	Taxiway markings Correct? Color?				
	Holding position markings				
	Glass beads				
	Movement/non-movement area separation markings				

FACILITIES	CONDITIONS	D	N	REMARKS	RESOLVED BY (Date/Initials)
§139.311 Signs	Standard/meet sign plan location/position				
	Obscured/operable				
	Damaged/retroreflective				
	Faded, color				
	Tethers intact				
§139.311 Lighting	Obscured/dirty/operable				
	Consistent intensity				
	Damaged/missing				
	Faulty aim/adjustment				
	Runway lighting x				
	Precision runway lighting				
	Taxiway lighting				
	Pilot control lighting				
	Appropriate shielding				
139.313 Snow & ice control	Surface conditions				
	Snowbank clearances				
	Lights & signs obscured				
	NAVAIDs free and clear				
	Emergency ARFF access				
	Braking conditions				
§139.315; .317; .319 Aircraft rescue and fire fighting	Equipment/crew availability				
	Communications/alarms				
	Response routes affected				
§139.321 Handling and storing of hazardous substances and materials (Fueling Operations)	Fencing/gates/signs				
	Fuel marking/labeling				
	Fire extinguishers				
	Frayed wires				
	Fuel leaks/vegetation				
	Abraded hoses				
	Condition of mobile fuelers				
§139.331 Obstructions	Obstruction lights operable				
	Cranes/trees				
	Vegetation				

FACILITIES	CONDITIONS	D	N	REMARKS	RESOLVED BY (Date/Initials)
§139.333 Protection of NAVAIDs	Rotating beacon operable				
	Wind indicators: Number? Lighted at night?				
	RENLs/VGSI systems				
	Electronic components operational				
§139.335 Public protection	Fencing/gates/signs				
	Jet blast problems				
§139.337 Wildlife hazard management	Wildlife present/location				
	Complying with WHMP				
	Dead birds/other evidence				
§139.341 Identifying, marking, and lighting construction and other unserviceable areas	Barricades/lights				
	Equipment parking				
	Material stockpiles				
	Confusing signs/markings				
	Index capability				

Comments/Remarks: _____

Airfield map on reverse

AIRPORT DAILY SAFETY SELF-INSPECTION CHECKLIST

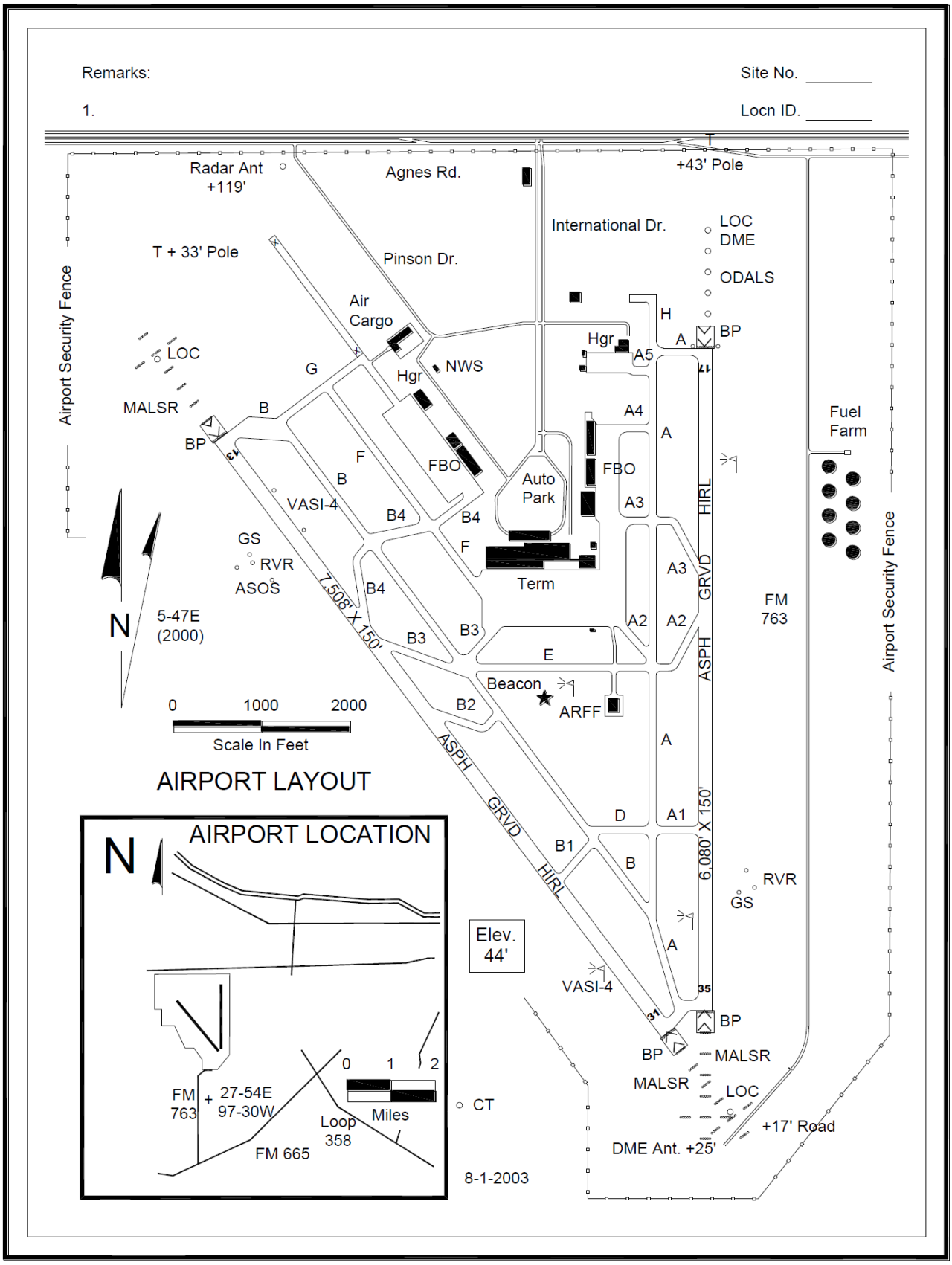
DATE:_____ **DAY**:_____ ✔ Satisfactory ✕ Unsatisfactory

Day Inspector/Time: _____ **Night Inspector/Time:** _____

FACILITIES	CONDITIONS	D	N	REMARKS	RESOLVED BY (Initial & date)
Pavement Areas	Pavement lip over 3"				
	Hole - 5" diam. 3" deep				
	Cracks/spalling/heaves				
	FOD: gravel/debris/sand				
	Ponding/edge dams				
Safety Areas	Ruts/humps/erosion				
	Drainage/construction				
	Support equipment/aircraft				
	Frangible bases				
	Unauthorized objects				
Markings	Clearly visible/standard				
	Runway markings				
	Taxiway markings				
	Holding position markings				
	SPHPS/ETCL markings				
	Glass beads				
Signs	Standard/IAW Sign Plan				
	Obscured/inoperable				
	Damaged/retroreflective				
Lighting	Obscured/dirty/inoperable				
	Damaged/missing/aiming				
	Lighting systems inoperable				
	IAW FAA standards				
	Pilot Control Lighting				
NAVAIDS	Rotating beacon inoperable				
	Wind indicators				
	VASI/PAPI/REIL systems				
	FAA ILS system/ALS/VGSI				
Obstructions	Obstruction lights operable				
	New cranes not reported				
Snow & Ice	Surface conditions				
	Snowbank clearance				
	Signs obscured				
	NAVAID interference				
	NOTAMs current				
Public Protection	Fencing/gates/signs				
	Jet blast problems				
Wildlife Hazards	Wildlife present/location				
	Complying with WHMP				

Airfield Map/Airport Diagram on Reverse

Sample Airfield Map/Airport Diagram



CONTINUOUS SURVEILLANCE INSPECTION CHECKLIST

DATE: _____ **DAY:** _____ √ **Satisfactory**
TIME: _____ **INSPECTOR:** _____ **X Unsatisfactory**

FACILITIES	CONDITIONS	√	REMARKS/ACTIONS TAKEN
§139.313 Snow & ice control	**Surface conditions**		
	Snow banks		
	NOTAMS		
§139.321 Handling and storage of hazardous substances and materials (Fueling Operations)	**Fire/explosion hazards, spills**		
	Signing/no smoking		
	Fueling equipment:		
	• **hydrants**		
	• **mobile fuelers**		
	• **fuel farm**		
	Use of bonding & deadman		
§139.335 Public protection	**Unauthorized persons**		
	Unauthorized vehicles		
	Gates secure and locked		
§139.337 Wildlife hazard management	**Birds/animals**		
	Evidence (describe)		
§139.341 Identifying, marking, and lighting construction and other unserviceable areas	**Safety plan**		
	Runway incursions		
	Runway & taxiway use		
	FOD		
Miscellaneous: **§139.329 Pedestrians and ground vehicles** **§139.335 Public protection** **§139.305; .307; .311**	**Pedestrians in movement areas**		
	Passenger Load/Unload procedures		
	Debris in movement area/safety area		

Additional Remarks: _____

_____

_____

_____

_____

_____

Airfield map on reverse

PERIODIC CONDITION INSPECTION CHECKLIST

DATE: _____ DAY: _____ **√ Satisfactory**
TIME: _____ INSPECTOR: _____ **X Unsatisfactory**

FACILITIES	CONDITIONS	√	REMARKS/ACTIONS TAKEN
§139.305 Paved areas	Rubber deposits – Friction deterioration		
	Pavement Polishing/Rutting		
	Pavement Lips/Turf damming		
§139.311 Marking and signs	Visible/night conspicuity/glass beads		
	Condition of markings - Runways		
	Condition of markings - Taxiways		
§139.311 Lighting	Standby Power Generator Check		
	Circuit Resistance Test		
	Aim/Adjustment of lighting fixtures		
	Condition of lenses – Cleaning needed		
§139.319 Aircraft rescue and fire fighting: Operational requirements	Response Times		
	Live Fire Drills		
	Training		
	ARFF truck maintenance		
§139.321 Handling and storing of hazardous substances and materials (Fueling Operations)	Hydraulic fluid; deicing materials – proper handling		
	Exhaust leaks		
	Fuel storage area		
	Fire extinguishers – Fuel storage area		
	Access secured		
	Hoses – no abraded		
	Fuel labeling		
	Emergency fuel shutoff		
	Mobile fuelers		
	Fire Extinguishers – Fuel trucks		
	Fuel Marking/Labeling		
	Frayed Wiring		
	Abraded hoses		
	Proper Fuel Storage Procedures		
	Fire extinguishers – Apron		
§139.333 Protection of NAVAIDS	RENLs/VGSI Aiming		
	Electronic equipment		
§139.331 Obstructions	Surveyed Trees/Structures		
	Overhead Power Lines		
	Construction cranes		
Additional Remarks:			

Airfield map on reverse

SPECIAL INSPECTION CHECKLIST

DATE:_____ **TIME:** _____ **INSPECTOR:**_____

TYPE INSPECTION: Accident Weather Maintenance Snow Wildlife

REASON FOR INSPECTION: _____

_____

Check Conditions Applicable to the Special Inspection

FACILITIES	CONDITIONS	✓ X	REMARKS	RESOLVED BY (Initial & date)
Pavement Areas	FOD/débris/Ponding			
	Cracks/heaves/blowups			
	Surface conditions			
	Snowbanks/windrows			
Safety Areas	Ruts/surface variations			
	Drainage/construction			
	Débris			
	Unauthorized objects			
Markings	Clearly visible			
	IAW FAA standards			
	Hold Positions			
	Glass beads			
Signs	Obscured/inoperable			
	Damaged/Missing			
	IAW Sign & Marking Plan			
	IAW FAA standards/spec.			
Lighting	Inoperable, damaged, or missing			
	Obscured			
	IAW FAA standards			
	Faulty aim/adjustment			
	Lighting systems operational			
	Pilot Control Lighting			
NAVAIDS	Rotating beacon			
	Wind indicators/Obst lights			
	VASI/PAPI/REIL systems			
	FAA ILS & approach lights			
Wildlife Hazards	Wildlife present/location			
	Complying with WHMP			
Fencing	Damaged/Erosion problem			
NOTAMS	Issued as appropriate/current			

Airfield Map on Reverse

CONSTRUCTION IN PROGRESS INSPECTION CHECKLIST

Airport Name:	Inspection Date:	Construction Project:
Inspector:	Inspection Time:	S=Satisfactory U=Unsatisfactory N/A = Not Applicable Remarks Required

Area: Runway	S	U	N/A	REMARKS
1. **Closed runway** - Yellow X or lighted X properly located and functional				
2. **Temporary displaced threshold** marking/lighting, marking removal is correct				
3. **Partial runway closure** marking/lighting, marking removal is correct				
4. **Runway Distance Remaining signs** relocated or covered in appropriate direction for partial runway closure				
5. **Runway Caution Zone lighting** adjusted for partial runway closure				
6. **Closed Runway Exit** – Lead-off line obliterated for high speed exit and other long term exit closure, Yellow X adjacent to runway, barricades at hold position, runway exit signs covered, taxiway lights off or covered				
7. **Barricades** – At hold position, easily collapsible, orange/white reflective, less than 18" high, 4' spacing or continuously linked, secured, red lights spacing 10' or less				
8. **Runway Object Free Area** – No parked equipment in ROFA and no stockpiled material unless necessary and FAA approved				
9. **Crossing Taxiways for Closed Runway** – Hold signs illuminated for night operations				
10. **No construction activity in RSA** of active runway, unless aircraft restriction in effect for smaller RSA				
11. **Part time runway closure** – RSA meets Part 139 requirements before opening – declared distance				
12. Construction related **NOTAMS** issued and current				

Area: Closed Taxiways	S	U	N/A	REMARKS
1. **Taxiway centerlines obliterated** to closed areas for long term closures				
2. **Barricades** are easily collapsible, have orange/white diagonal reflective stripes and are secured				
• **Barricades** are located outside TSA and are less than 18" high, not counting red lights/flags				
• **Barricade** spacing for aircraft 30 ft – minimum 3 barricades for closed taxiway where Const. not present				
• **Barricade** spacing 4' for vehicles/equipment or continuously linked to exclude pedestrians				
• **Barricade red lights** spacing 10' or less and maintained operable				
3. **Taxiway direction signs** for closed taxiways do not need to be covered as they provide info to pilots				
4. **Outbound runway destination signs** are covered for closed runways where appropriate				
5. **Orange Construction Signs** – IAW standards				
6. **No construction activity in TSA** of active taxiway, unless aircraft restriction in effect for smaller TSA				
7. **Straight Taxiway Open with excavations in TSA** Restrictions in place/no equipment or objects in TSA				
8. **Taxiway object free area** – Clear of equipment if necessary to protect aircraft wing tip clearance				
9. **Taxiway lights** are disconnected or covered in closed areas				
10. **Construction crossing points** on active taxiways are controlled by flag persons, have FOD control				
11. Construction related **NOTAMS** issued and current				

POST CONSTRUCTION INSPECTION CHECKLIST

Airport Name:	Inspection Date:	Construction Project:
Inspector:	Inspection Time:	S=Satisfactory U=Unsatisfactory N/A = Not Applicable Remarks Required

Area:	S	U	N/A	REMARKS
1. **Paved areas swept and free of FOD**				
2. **No pavement lips** over 3"				
3. **Pavement is sufficiently drained** to prevent ponding that could affect directional control of aircraft or obscure markings				
4. **No Potentially hazardous surface variations** present in the safety areas/ graded				
5. **No Objects in the safety areas** except those that are required and are frangibly mounted				
6. **Safety areas are adequately drained** to prevent water accumulations				
7. **No exposed concrete bases** located in the safety areas (potentially hazardous surface variation)				
8. **Old markings** which are no longer needed are removed IAW Marking AC standards				
9. **Required markings and glass beads** are provided and are IAW Marking AC standards				
10. **Required signs** are provided and are IAW Sign AC standards/Sign & Marking Plan				
11l. **Required SPHPS** are provided and are IAW Marking AC standards				
12. **Required lighting** is provided and is IAW lighting AC standards				
13. **Supplemental wind cone** is provided at the takeoff end of runways and do not have logos				
14.				
15.				

Other	S	U	N/A	REMARKS
1. **ACM/Sign & Marking Plan** updated if needed				
2. **5010 data** updated if needed				
3. **Airport Diagram Change** submitted to NFDC website if needed				
4.				
5.				

Remarks

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Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Safety and Operations Division, Federal Aviation Administration ATTN: AAS-300, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Safety and Standards at (202) 267-5257.

Subject: AC 150/5200-18D Date: _____

Please check all appropriate line items:

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:

_____
_____
_____

☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

_____
_____
_____

☐ Other comments:

_____
_____
_____

☐ I would like to discuss the above. Please contact me at (phone number, email address).

_____

Submitted by: _____ Date: _____

APPENDIX C

U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Operational Safety on Airports During Construction	**Date:** 12/13/2017 **Initiated By:** AAS-100	**AC No:** 150/5370-2G **Change:**

1 **Purpose.**

This AC sets forth guidelines for operational safety on airports during construction.

2 **Cancellation.**

This AC cancels AC 150/5370-2F, *Operational Safety on Airports during Construction*, dated September 29, 2011.

3 **Application.**

This AC assists airport operators in complying with Title 14 Code of Federal Regulations (CFR) Part 139, *Certification of Airports*. For those certificated airports, this AC provides one way, but not the only way, of meeting those requirements. The use of this AC is mandatory for those airport construction projects receiving funds under the Airport Improvement Program (AIP). See Grant Assurance No. 34, *Policies, Standards, and Specifications*. While we do not require non-certificated airports without grant agreements or airports using Passenger Facility Charge (PFC) Program funds for construction projects to adhere to these guidelines, we recommend that they do so to help these airports maintain operational safety during construction.

4 **Related Documents.**

ACs and Orders referenced in the text of this AC do not include a revision letter, as they refer to the latest version. Appendix A contains a list of reading material on airport construction, design, and potential safety hazards during construction, as well as instructions for obtaining these documents.

5 **Principal Changes.**

The AC incorporates the following principal changes:

1. Notification about impacts to both airport owned and FAA-owned NAVAIDs was added. See paragraph 2.13.5.3, NAVAIDs.

2. Guidance for the use of orange construction signs was added. See paragraph 2.18.4.2, Temporary Signs.
3. Open trenches or excavations may be permitted in the taxiway safety area while the taxiway is open to aircraft operations, subject to restrictions. See paragraph 2.22.3.4, Excavations.
4. Guidance for temporary shortened runways and displaced thresholds has been enhanced. See Figure 2-1 and Figure 2-2.
5. Figures have been improved and a new Appendix F on the placement of orange construction signs has been added.

Hyperlinks (allowing the reader to access documents located on the internet and to maneuver within this document) are provided throughout this document and are identified with underlined text. When navigating within this document, return to the previously viewed page by pressing the "ALT" and " ←" keys simultaneously.

Figures in this document are schematic representations and are not to scale.

6 **Use of Metrics.**

Throughout this AC, U.S. customary units are used followed with "soft" (rounded) conversion to metric units. The U.S. customary units govern.

7 **Where to Find this AC.**

You can view a list of all ACs at http://www.faa.gov/regulations_policies/advisory_circulars/. You can view the Federal Aviation Regulations at http://www.faa.gov/regulations_policies/faa_regulations/.

8 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.

John R. Dermody
Director of Airport Safety and Standards

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CHAPTER 1. PLANNING AN AIRFIELD CONSTRUCTION PROJECT

1.1 Overview.

Airports are complex environments, and procedures and conditions associated with construction activities often affect aircraft operations and can jeopardize operational safety. Safety considerations are paramount and may make operational impacts unavoidable. However, careful planning, scheduling, and coordination of construction activities can minimize disruption of normal aircraft operations and avoid situations that compromise the airport's operational safety. The airport operator must understand how construction activities and aircraft operations affect one another to be able to develop an effective plan to complete the project. While the guidance in this AC is primarily used for construction operations, the concepts, methods and procedures described may also enhance the day-to-day airport maintenance operations, such as lighting maintenance and snow removal operations.

1.2 Plan for Safety.

Safety, maintaining aircraft operations, and construction costs are all interrelated. Since safety must not be compromised, the airport operator must strike a balance between maintaining aircraft operations and construction costs. This balance will vary widely depending on the operational needs and resources of the airport and will require early coordination with airport users and the FAA. As the project design progresses, the necessary construction locations, activities, and associated costs will be identified and their impact to airport operations must be assessed. Adjustments are made to the proposed construction activities, often by phasing the project, and/or to airport operations to maintain operational safety. This planning effort will ultimately result in a project Construction Safety and Phasing Plan (CSPP). The development of the CSPP takes place through the following five steps:

1.2.1 Identify Affected Areas.

The airport operator must determine the geographic areas on the airport affected by the construction project. Some, such as a runway extension, will be defined by the project. Others may be variable, such as the location of haul routes and material stockpiles.

1.2.2 Describe Current Operations.

Identify the normal airport operations in each affected area for each phase of the project. This becomes the baseline from which the impact on operations by construction activities can be measured. This should include a narrative of the typical users and aircraft operating within the affected areas. It should also include information related to airport operations: the Aircraft Approach Category (AAC) and Airplane Design Group (ADG) of the airplanes that operate on each runway; the ADG and Taxiway Design Group (TDG)[1] for each affected taxiway; designated approach visibility minimums;

[1] Find Taxiway Design Group information in AC 150/5300-13, *Airport Design.*

available approach and departure procedures; most demanding aircraft; declared distances; available air traffic control services; airport Surface Movement Guidance and Control System (SMGCS) plan; and others. The applicable seasons, days and times for certain operations should also be identified as applicable.

1.2.3 Allow for Temporary Changes to Operations.

To the extent practical, current airport operations should be maintained during the construction. In consultation with airport users, Aircraft Rescue and Fire Fighting (ARFF) personnel, and FAA Air Traffic Organization (ATO) personnel, the airport operator should identify and prioritize the airport's most important operations. The construction activities should be planned, through project phasing if necessary, to safely accommodate these operations. When the construction activities cannot be adjusted to safely maintain current operations, regardless of their importance, then the operations must be revised accordingly. Allowable changes include temporary revisions to approach procedures, restricting certain aircraft to specific runways and taxiways, suspension of certain operations, decreased weights for some aircraft due to shortened runways, and other changes. An example of a table showing temporary operations versus current operations is shown in Appendix E.

1.2.4 Take Required Measures to Revise Operations.

Once the level and type of aircraft operations to be maintained are identified, the airport operator must determine the measures required to safely conduct the planned operations during the construction. These measures will result in associated costs, which can be broadly interpreted to include not only direct construction costs, but also loss of revenue from impacted operations. Analysis of costs may indicate a need to reevaluate allowable changes to operations. As aircraft operations and allowable changes will vary widely among airports, this AC presents general guidance on those subjects.

1.2.5 Manage Safety Risk.

The FAA is committed to incorporating proactive safety risk management (SRM) tools into its decision-making processes. FAA Order 5200.11, *FAA Airports (ARP) Safety Management System (SMS)*, requires the FAA to conduct a Safety Assessment for certain triggering actions. Certain airport projects may require the airport operator to provide a Project Proposal Summary to help the FAA determine whether a Safety Assessment is required prior to FAA approval of the CSPP. The airport operator must coordinate with the appropriate FAA Airports Regional or District Office early in the development of the CSPP to determine the need for a Safety Risk Assessment. If the FAA requires an assessment, the airport operator must at a minimum:

1. Notify the appropriate FAA Airports Regional or District Office during the project "scope development" phase of any project requiring a CSPP.
2. Provide documents identified by the FAA as necessary to conduct SRM.
3. Participate in the SRM process for airport projects.
4. Provide a representative to participate on the SRM panel.

5. Ensure that all applicable SRM identified risks elements are recorded and mitigated within the CSPP.

1.3 **Develop a Construction Safety and Phasing Plan (CSPP).**

Development of an effective CSPP will require familiarity with many other documents referenced throughout this AC. See Appendix A for a list of related reading material.

1.3.1 List Requirements.

A CSPP must be developed for each on-airfield construction project funded by the Airport Improvement Program (AIP) or located on an airport certificated under Part 139. For on-airfield construction projects at Part 139 airports funded without AIP funds, the preparation of a CSPP represents an acceptable method the certificate holder may use to meet Part 139 requirements during airfield construction activity. As per FAA Order 5200.11, projects that require Safety Assessments do not include construction, rehabilitation, or change of any facility that is entirely outside the air operations area, does not involve any expansion of the facility envelope and does not involve construction equipment, haul routes or placement of material in locations that require access to the air operations area, increase the facility envelope, or impact line-of-sight. Such facilities may include passenger terminals and parking or other structures. However, extraordinary circumstances may trigger the need for a Safety Assessment and a CSPP. The CSPP is subject to subsequent review and approval under the FAA's Safety Risk Management procedures (see paragraph 1.2.5).

1.3.2 Prepare a Safety Plan Compliance Document (SPCD).

The Safety Plan Compliance Document (SPCD) details how the contractor will comply with the CSPP. Also, it will not be possible to determine all safety plan details (for example specific hazard equipment and lighting, contractor's points of contact, construction equipment heights) during the development of the CSPP. The successful contractor must define such details by preparing an SPCD that the airport operator reviews for approval prior to issuance of a notice-to-proceed. The SPCD is a subset of the CSPP, similar to how a shop drawing review is a subset to the technical specifications.

1.3.3 Assume Responsibility for the CSPP.

The airport operator is responsible for establishing and enforcing the CSPP. The airport operator may use the services of an engineering consultant to help develop the CSPP. However, writing the CSPP cannot be delegated to the construction contractor. Only those details the airport operator determines cannot be addressed before contract award are developed by the contractor and submitted for approval as the SPCD. The SPCD does not restate nor propose differences to provisions already addressed in the CSPP.

1.4 Who Is Responsible for Safety During Construction?

1.4.1 Establish a Safety Culture.

Everyone has a role in operational safety on airports during construction: the airport operator, the airport's consultants, the construction contractor and subcontractors, airport users, airport tenants, ARFF personnel, Air Traffic personnel, including Technical Operations personnel, FAA Airports Division personnel, and others, such as military personnel at any airport supporting military operations (e.g. national guard or a joint use facility). Close communication and coordination between all affected parties is the key to maintaining safe operations. Such communication and coordination should start at the project scoping meeting and continue through the completion of the project. The airport operator and contractor should conduct onsite safety inspections throughout the project and immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

1.4.2 Assess Airport Operator's Responsibilities.

An airport operator has overall responsibility for all activities on an airport, including construction. This includes the predesign, design, preconstruction, construction, and inspection phases. Additional information on the responsibilities listed below can be found throughout this AC. The airport operator must:

1.4.2.1 Develop a CSPP that complies with the safety guidelines of Chapter 2, Construction Safety and Phasing Plans, and Chapter 3, Guidelines for Writing a CSPP. The airport operator may develop the CSPP internally or have a consultant develop the CSPP for approval by the airport operator. For tenant sponsored projects, approve a CSPP developed by the tenant or its consultant.

1.4.2.2 Require, review and approve the SPCD by the contractor that indicates how it will comply with the CSPP and provides details that cannot be determined before contract award.

1.4.2.3 Convene a preconstruction meeting with the construction contractor, consultant, airport employees and, if appropriate, tenant sponsor and other tenants to review and discuss project safety before beginning construction activity. The appropriate FAA representatives should be invited to attend the meeting. See AC 150/5370-12, *Quality Management for Federally Funded Airport Construction Projects.* (Note "FAA" refers to the Airports Regional or District Office, the Air Traffic Organization, Flight Standards Service, and other offices that support airport operations, flight regulations, and construction/environmental policies.)

1.4.2.4 Ensure contact information is accurate for each representative/point of contact identified in the CSPP and SPCD.

1.4.2.5 Hold weekly or, if necessary, daily safety meetings with all affected parties to coordinate activities.

1.4.2.6 Notify users, ARFF personnel, and FAA ATO personnel of construction and conditions that may adversely affect the operational safety of the airport via Notices to Airmen (NOTAM) and other methods, as appropriate. Convene a meeting for review and discussion if necessary.

1.4.2.7 Ensure construction personnel know applicable airport procedures and changes to those procedures that may affect their work.

1.4.2.8 Ensure that all temporary construction signs are located per the scheduled list for each phase of the project.

1.4.2.9 Ensure construction contractors and subcontractors undergo training required by the CSPP and SPCD.

1.4.2.10 Ensure vehicle and pedestrian operations addressed in the CSPP and SPCD are coordinated with airport tenants, the airport traffic control tower (ATCT), and construction contractors.

1.4.2.11 At certificated airports, ensure each CSPP and SPCD is consistent with Part 139.

1.4.2.12 Conduct inspections sufficiently frequently to ensure construction contractors and tenants comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.

1.4.2.13 Take immediate action to resolve safety deficiencies.

1.4.2.14 At airports subject to 49 CFR Part 1542, *Airport Security*, ensure construction access complies with the security requirements of that regulation.

1.4.2.15 Notify appropriate parties when conditions exist that invoke provisions of the CSPP and SPCD (for example, implementation of low-visibility operations).

1.4.2.16 Ensure prompt submittal of a Notice of Proposed Construction or Alteration (Form 7460-1) for conducting an aeronautical study of potential obstructions such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. A separate form may be filed for each potential obstruction, or one form may be filed describing the entire construction area and maximum equipment height. In the latter case, a separate form must be filed for any object beyond or higher than the originally evaluated area/height. The FAA encourages online submittal of forms for expediency at https://oeaaa.faa.gov/oeaaa/external/portal.jsp. The appropriate FAA Airports Regional or District Office can provide assistance in determining which objects require an aeronautical study.

1.4.2.17 Ensure prompt transmission of the Airport Sponsor Strategic Event Submission, FAA Form 6000-26, located at https://oeaaa.faa.gov/oeaaa/external/content/AIRPORT_SPONSOR_STRATEGIC_EVENT_SUBMISSION_FORM.pdf, to assure proper coordination for NAS Strategic Interruption per Service Level Agreement with ATO.

1.4.2.18 Promptly notify the FAA Airports Regional or District Office of any proposed changes to the CSPP prior to implementation of the change. Changes to the CSPP require review and approval by the airport operator and the FAA. The FAA Airports Regional or District office will determine if further coordination within the FAA is needed. Coordinate with appropriate local and other federal government agencies, such as Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), Transportation Security Administration (TSA), and the state environmental agency.

1.4.3 Define Construction Contractor's Responsibilities.

The contractor is responsible for complying with the CSPP and SPCD. The contractor must:

1.4.3.1 Submit a Safety Plan Compliance Document (SPCD) to the airport operator describing how it will comply with the requirements of the CSPP and supply any details that could not be determined before contract award. The SPCD must include a certification statement by the contractor, indicating an understanding of the operational safety requirements of the CSPP and the assertion of compliance with 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.

1.4.3.2 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.

1.4.3.3 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. Many projects will require 24-hour coverage.

1.4.3.4 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 when active construction is taking place.

1.4.3.5 Conduct sufficient inspections to ensure construction personnel comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.

1.4.3.6 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.

1.4.3.7 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.

1.4.3.8 Ensure prompt submittal through the airport operator of Form 7460-1 for the purpose of conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, and other equipment), stock piles, and haul routes when different from cases previously filed by the airport operator. The FAA encourages online submittal of forms for expediency at https://oeaaa.faa.gov/oeaaa/external/portal.jsp.

1.4.3.9 Ensure that all necessary safety mitigations are understood by all parties involved, and any special requirements of each construction phase will be fulfilled per the approved timeframe.

1.4.3.10 Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

1.4.4 Define Tenant's Responsibilities.

If planning construction activities on leased property, Airport tenants, such as airline operators, fixed base operators, and FAA ATO/Technical Operations sponsoring construction are strongly encouraged to:

1. Develop, or have a consultant develop, a project specific CSPP and submit it to the airport operator. The airport operator may forgo a complete CSPP submittal and instead incorporate appropriate operational safety principles and measures addressed in the advisory circular within their tenant lease agreements.
2. In coordination with its contractor, develop an SPCD and submit it to the airport operator for approval issued prior to issuance of a Notice to Proceed.
3. Ensure that construction personnel are familiar with safety procedures and regulations on the airport during all phases of the construction.
4. Provide a point of contact of who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport.
5. 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 when active construction is taking place.
6. Ensure that no tenant or contractor employees, employees of subcontractors or suppliers, or any other persons enter any part of the AOA from the construction site unless authorized.
7. Restrict movement of construction vehicles to construction areas by flagging and barricading, erecting temporary fencing, or providing escorts, as appropriate, as specified in the CSPP and SPCD.
8. Ensure prompt submittal through the airport operator of Form 7460-1 for conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. The FAA encourages online submittal of forms for expediency at https://oeaaa.faa.gov/oeaaa/external/portal.jsp.
9. Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

CHAPTER 2. CONSTRUCTION SAFETY AND PHASING PLANS

2.1 Overview.

Aviation safety is the primary consideration at airports, especially during construction. The airport operator's 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. They must provide information necessary for the Airport Operations department to conduct airfield inspections and expeditiously identify and correct unsafe conditions during construction. All aviation safety provisions included within the project drawings, contract specifications, and other related documents must also be reflected in the CSPP and SPCD.

2.2 Assume Responsibility.

Operational safety on the airport remains the airport operator's responsibility at all times. The airport operator must develop, certify, and submit for FAA approval each CSPP. It is the airport operator's responsibility to apply the requirements of the FAA approved CSPP. The airport operator must revise the CSPP when conditions warrant changes and must submit the revised CSPP to the FAA for approval. The airport operator must also require and approve a SPCD from the project contractor.

2.3 Submit the CSPP.

Construction Safety and Phasing Plans should be developed concurrently with the project design. Milestone versions of the CSPP should be submitted for review and approval as follows. While these milestones are not mandatory, early submission will help to avoid delays. Submittals are preferred in 8.5 × 11 inch or 11 × 17 inch format for compatibility with the FAA's Obstruction Evaluation / Airport Airspace Analysis (OE / AAA) process.

2.3.1 Submit an Outline/Draft.

By the time approximately 25% to 30% of the project design is completed, the principal elements of the CSPP should be established. Airport operators are encouraged to submit an outline or draft, detailing all CSPP provisions developed to date, to the FAA for review at this stage of the project design.

2.3.2 Submit a CSPP.

The CSPP should be formally submitted for FAA approval when the project design is 80 percent to 90 percent complete. Since provisions in the CSPP will influence contract costs, it is important to obtain FAA approval in time to include all such provisions in the procurement contract.

2.3.3 Submit an SPCD.

The contractor should submit the SPCD to the airport operator for approval to be issued prior to the Notice to Proceed.

2.3.4 Submit CSPP Revisions.

All revisions to a previously approved CSPP must be re-submitted to the FAA for review and approval/disapproval action.

2.4 Meet CSPP Requirements.

2.4.1 To the extent possible, the CSPP should address the following as outlined in Chapter 3, Guidelines for Writing a CSPP. Details that cannot be determined at this stage are to be included in the SPCD.

1. Coordination.
    a. Contractor progress meetings.
    b. Scope or schedule changes.
    c. FAA ATO coordination.
2. Phasing.
    a. Phase elements.
    b. Construction safety drawings.
3. Areas and operations affected by the construction activity.
    a. Identification of affected areas.
    b. Mitigation of effects.
4. Protection of navigation aids (NAVAIDs).
5. Contractor access.
    a. Location of stockpiled construction materials.
    b. Vehicle and pedestrian operations.
6. Wildlife management.
    a. Trash.
    b. Standing water.
    c. Tall grass and seeds.
    d. Poorly maintained fencing and gates.
    e. Disruption of existing wildlife habitat.
7. Foreign Object Debris (FOD) management.
8. Hazardous materials (HAZMAT) management.
9. Notification of construction activities.

a. Maintenance of a list of responsible representatives/ points of contact.

b. NOTAM.

c. Emergency notification procedures.

d. Coordination with ARFF Personnel.

e. Notification to the FAA.

10. Inspection requirements.

a. Daily (or more frequent) inspections.

b. Final inspections.

11. Underground utilities.

12. Penalties.

13. Special conditions.

14. Runway and taxiway visual aids. Marking, lighting, signs, and visual NAVAIDs.

a. General.

b. Markings.

c. Lighting and visual NAVAIDs.

d. Signs, temporary, including orange construction signs, and permanent signs.

15. Marking and signs for access routes.

16. Hazard marking and lighting.

a. Purpose.

b. Equipment.

17. Work zone lighting for nighttime construction (if applicable).

18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces.

a. Runway Safety Area (RSA).

b. Runway Object Free Area (ROFA).

c. Taxiway Safety Area (TSA). Provide details for any adjustments to Taxiway Safety Area width to allow continued operation of smaller aircraft. See paragraph 2.22.3.

d. Taxiway Object Free Area (TOFA). Provide details for any continued aircraft operations while construction occurs within the TOFA. See paragraph 2.22.4.

e. Obstacle Free Zone (OFZ).

f. Runway approach/departure surfaces.

19. Other limitations on construction.

a. Prohibitions.

b. Restrictions.

2.4.2 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:

1. Coordination. Discuss details of proposed safety meetings with the airport operator and with contractor employees and subcontractors.
2. Phasing. Discuss proposed construction schedule elements, including:
   a. Duration of each phase.
   b. Daily start and finish of construction, including "night only" construction.
   c. Duration of construction activities during:
      i. Normal runway operations.
      ii. Closed runway operations.
      iii. Modified runway "Aircraft Reference Code" usage.
3. Areas and operations affected by the construction activity. These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.
4. Protection of NAVAIDs. Discuss specific methods proposed to protect operating NAVAIDs.
5. Contractor access. Provide the following:
   a. Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).
   b. Listing of individuals requiring driver training (for certificated airports and as requested).
   c. Radio communications.
      i. Types of radios and backup capabilities.
      ii. Who will be monitoring radios.
      iii. Who to contact if the ATCT cannot reach the contractor's designated person by radio.

d. Details on how the contractor will escort material delivery vehicles.

6. Wildlife management. Discuss the following:
   a. Methods and procedures to prevent wildlife attraction.
   b. Wildlife reporting procedures.
7. Foreign Object Debris (FOD) management. Discuss equipment and methods for control of FOD, including construction debris and dust.
8. Hazardous Materials (HAZMAT) management. Discuss equipment and methods for responding to hazardous spills.
9. Notification of construction activities. Provide the following:
   a. Contractor points of contact.
   b. Contractor emergency contact.
   c. Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.
   d. Batch plant details, including 7460-1 submittal.
10. Inspection requirements. Discuss daily (or more frequent) inspections and special inspection procedures.
11. Underground utilities. Discuss proposed methods of identifying and protecting underground utilities.
12. Penalties. Penalties should be identified in the CSPP and should not require an entry in the SPCD.
13. Special conditions. Discuss proposed actions for each special condition identified in the CSPP.
14. Runway and taxiway visual aids. Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:
   a. Equipment and methods for covering signage and airfield lights.
   b. Equipment and methods for temporary closure markings (paint, fabric, other).
   c. Temporary orange construction signs.
   d. Types of temporary Visual Guidance Slope Indicators (VGSI).
15. Marking and signs for access routes. Discuss proposed methods of demarcating access routes for vehicle drivers.
16. Hazard marking and lighting. Discuss proposed equipment and methods for identifying excavation areas.
17. Work zone lighting for nighttime construction (if applicable). Discuss proposed equipment, locations, aiming, and shielding to prevent interference with air traffic control and aircraft operations.

18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:
    a. Equipment and methods for maintaining Taxiway Safety Area standards.
    b. Equipment and methods to ensure the safe passage of aircraft where Taxiway Safety Area or Taxiway Object Free Area standards cannot be maintained.
    c. Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
19. Other limitations on construction should be identified in the CSPP and should not require an entry in the SPCD.

2.5 **Coordination.**

Airport operators, or tenants responsible for design, bidding and conducting construction on their leased properties, should ensure at all project developmental stages, such as predesign, prebid, and preconstruction conferences, they capture the subject of airport operational safety during construction (see AC 150/5370-12, *Quality Management for Federally Funded Airport Construction Projects*). In addition, the following should be coordinated as required:

2.5.1 Progress Meetings.

Operational safety should be a standing agenda item for discussion during progress meetings throughout the project developmental stages.

2.5.2 Scope or Schedule Changes.

Changes in the scope or duration at any of the project stages may require revisions to the CSPP and review and approval by the airport operator and the FAA (see paragraph 1.4.2.17).

2.5.3 FAA ATO Coordination.

Early coordination with FAA ATO is highly recommended during the design phase and is required for scheduling Technical Operations shutdowns prior to construction. Coordination is critical to restarts of NAVAID services and to the establishment of any special procedures for the movement of aircraft. Formal agreements between the airport operator and appropriate FAA offices are recommended. All relocation or adjustments to NAVAIDs, or changes to final grades in critical areas, should be coordinated with FAA ATO and may require an FAA flight inspection prior to restarting the facility. Flight inspections must be coordinated and scheduled well in advance of the intended facility restart. Flight inspections may require a reimbursable agreement between the airport operator and FAA ATO. Reimbursable agreements should be coordinated a minimum of 12 months prior to the start of construction. (See paragraph 2.13.5.3.2 for required FAA notification regarding FAA-owned NAVAIDs.)

2.6 **Phasing.**

Once it has been determined what types and levels of airport operations will be maintained, the most efficient sequence of construction may not be feasible. In this case, the sequence of construction may be phased to gain maximum efficiency while allowing for the required operations. The development of the resulting construction phases should be coordinated with local Air Traffic personnel and airport users. The sequenced construction phases established in the CSPP must be incorporated into the project design and must be reflected in the contract drawings and specifications.

2.6.1 Phase Elements.

For each phase the CSPP should detail:

- Areas closed to aircraft operations.
- Duration of closures.
- Taxi routes and/or areas of reduced TSA and TOFA to reflect reduced ADG use.
- ARFF access routes.
- Construction staging, disposal, and cleanout areas.
- Construction access and haul routes.
- Impacts to NAVAIDs.
- Lighting, marking, and signing changes.
- Available runway length and/or reduced RSA and ROFA to reflect reduced ADG use.
- Declared distances (if applicable).
- Required hazard marking, lighting, and signing.
- Work zone lighting for nighttime construction (if applicable).
- Lead times for required notifications.

2.6.2 Construction Safety Drawings.

Drawings specifically indicating operational safety procedures and methods in affected areas (i.e., construction safety drawings) should be developed for each construction phase. Such drawings should be included in the CSPP as referenced attachments and should also be included in the contract drawing package.

2.7 **Areas and Operations Affected by Construction Activity.**

Runways and taxiways should remain in use by aircraft to the maximum extent possible without compromising safety. Pre-meetings with the FAA ATO will support operational simulations. See Appendix E for an example of a table showing temporary operations versus current operations. The tables in Appendix E can be useful for coordination among all interested parties, including FAA Lines of Business.

2.7.1 Identification of Affected Areas.

Identifying areas and operations affected by the construction helps to determine possible safety problems. The affected areas should be identified in the construction safety drawings for each construction phase. (See paragraph 2.6.2.) Of particular concern are:

2.7.1.1 **Closing, or Partial Closing, of Runways, Taxiways and Aprons, and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing, landing, or takeoff in either direction on that pavement is prohibited. A displaced threshold, by contrast, is established to ensure obstacle clearance and adequate safety area for landing aircraft. The pavement prior to the displaced threshold is normally available for take-off in the direction of the displacement and for landing and takeoff in the opposite direction. Misunderstanding this difference, may result in issuance of an inaccurate NOTAM, and can lead to a hazardous condition.

2.7.1.1.1 Partially Closed Runways.

The temporarily closed portion of a partially closed runway will generally extend from the threshold to a taxiway that may be used for entering and exiting the runway. If the closed portion extends to a point between taxiways, pilots will have to back-taxi on the runway, which is an undesirable operation. See Figure 2-1 for a desirable configuration.

2.7.1.1.2 Displaced Thresholds.

Since the portion of the runway pavement between the permanent threshold and a standard displaced threshold is available for takeoff and for landing in the opposite direction, the temporary displaced threshold need not be located at an entrance/exit taxiway. See Figure 2-2.

2.7.1.2 Closing of aircraft rescue and fire fighting access routes.

2.7.1.3 Closing of access routes used by airport and airline support vehicles.

2.7.1.4 Interruption of utilities, including water supplies for fire fighting.

2.7.1.5 Approach/departure surfaces affected by heights of objects.

2.7.1.6 Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads.

Figure 2-1. Temporary Partially Closed Runway

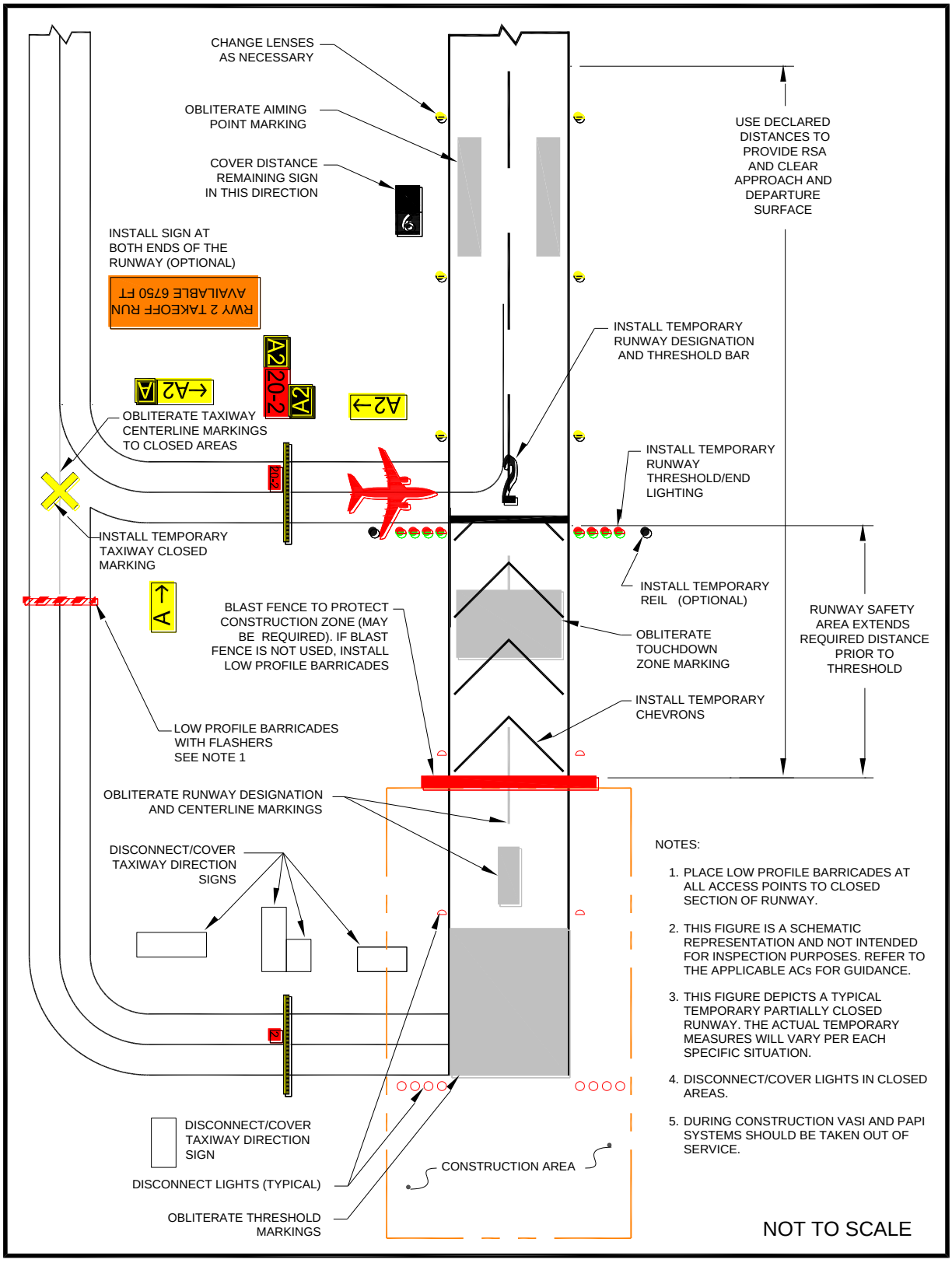
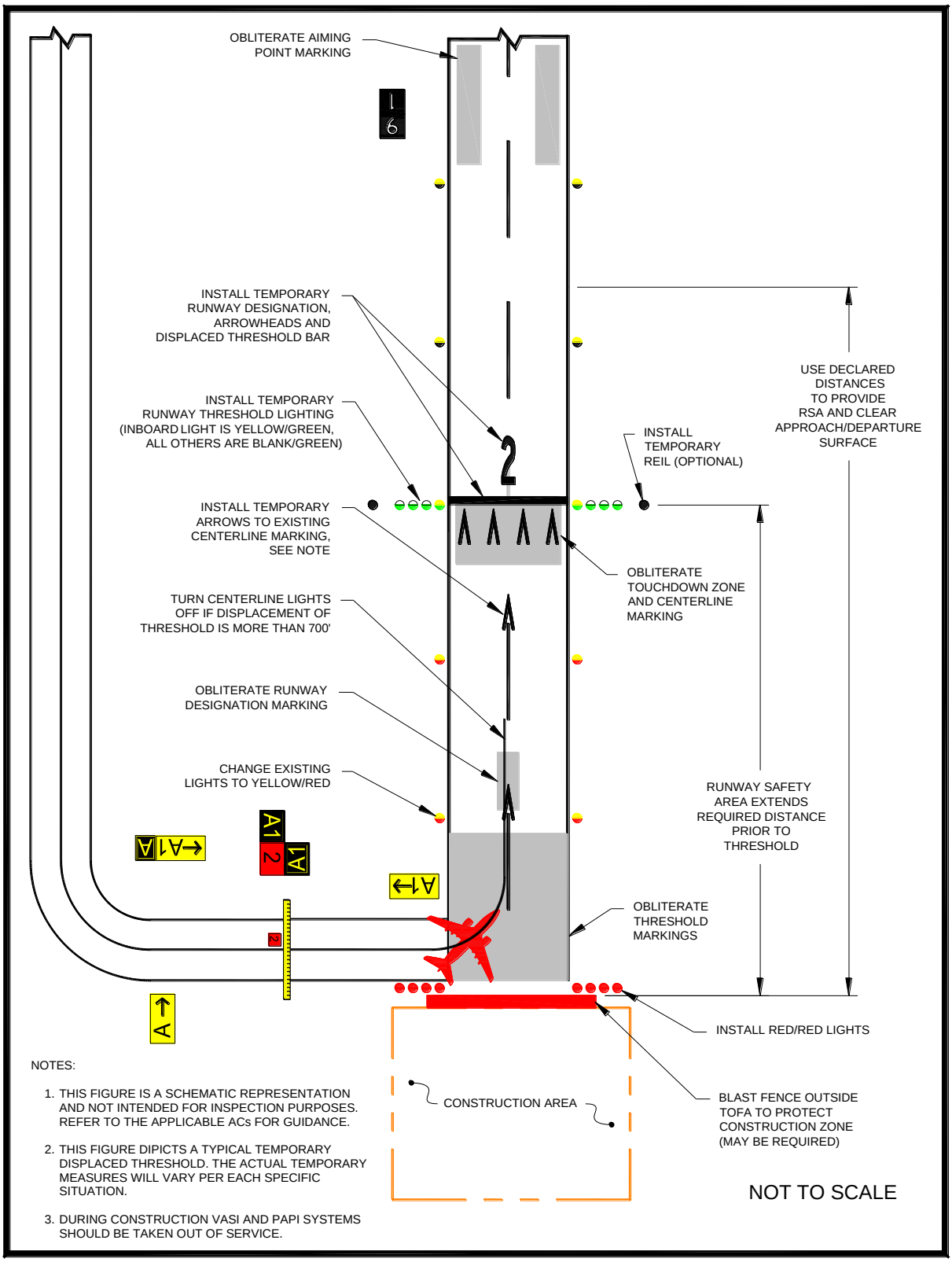


Figure 2-2. Temporary Displaced Threshold



Note: See paragraph 2.18.2.5.

2.7.2 Mitigation of Effects.

Establishment of specific procedures is necessary to maintain the safety and efficiency of airport operations. The CSPP must address:

2.7.2.1 Temporary changes to runway and/or taxi operations.

2.7.2.2 Detours for ARFF and other airport vehicles.

2.7.2.3 Maintenance of essential utilities.

2.7.2.4 Temporary changes to air traffic control procedures. Such changes must be coordinated with the ATO.

2.8 Navigation Aid (NAVAID) Protection.

Before commencing construction activity, parking vehicles, or storing construction equipment and materials near a NAVAID, coordinate with the appropriate FAA ATO/Technical Operations office to evaluate the effect of construction activity and the required distance and direction from the NAVAID. (See paragraph 2.13.5.3.) Construction activities, materials/equipment storage, and vehicle parking near electronic NAVAIDs require special consideration since they may interfere with signals essential to air navigation. If any NAVAID may be affected, the CSPP and SPCD must show an understanding of the "critical area" associated with each NAVAID and describe how it will be protected. Where applicable, the operational critical areas of NAVAIDs should be graphically delineated on the project drawings. Pay particular attention to stockpiling material, as well as to movement and parking of equipment that may interfere with line of sight from the ATCT or with electronic emissions. Interference from construction equipment and activities may require NAVAID shutdown or adjustment of instrument approach minimums for low visibility operations. This condition requires that a NOTAM be filed (see paragraph 2.13.2). Construction activities and materials/equipment storage near a NAVAID must not obstruct access to the equipment and instruments for maintenance. Submittal of a 7460-1 form is required for construction vehicles operating near FAA NAVAIDs. (See paragraph 2.13.5.3.)

2.9 Contractor Access.

The CSPP must detail the areas to which the contractor must have access, and explain how contractor personnel will access those areas. Specifically address:

2.9.1 Location of Stockpiled Construction Materials.

Stockpiled materials and equipment storage are not permitted within the RSA and OFZ, and if possible should not be permitted within the Object Free Area (OFA) of an operational runway. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval. The airport operator must ensure that stockpiled materials and equipment adjacent to these areas are prominently marked and lighted during hours of restricted visibility or darkness. (See paragraph 2.18.2.) This includes determining and

verifying that materials are stabilized and stored at an approved location so as not to be a hazard to aircraft operations and to prevent attraction of wildlife and foreign object damage from blowing or tracked material. See paragraphs 2.10 and 2.11.

2.9.2 Vehicle and Pedestrian Operations.

The CSPP should include specific vehicle and pedestrian requirements. 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 should coordinate requirements for vehicle operations with airport tenants, contractors, and the FAA air traffic manager. In regard to vehicle and pedestrian operations, the CSPP should include the following, with associated training requirements:

2.9.2.1 **Construction Site Parking.**

Designate in advance vehicle parking areas for contractor employees to prevent any unauthorized entry of persons or vehicles onto the AOA. These areas should provide reasonable contractor employee access to the job site.

2.9.2.2 **Construction Equipment Parking.**

Contractor employees must park and service all construction vehicles in an area designated by the airport operator outside the OFZ and never in the safety area of an active runway or taxiway. Unless a complex setup procedure makes movement of specialized equipment infeasible, inactive equipment must not be parked on a closed taxiway or runway. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the equipment must be well lighted. Employees should 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). See paragraph 2.13.1 for further information.

2.9.2.3 **Access and Haul Roads.**

Determine the construction contractor’s access to the construction sites and haul roads. Do not permit the construction contractor to use any access or haul roads other than those approved. Access routes used by contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Pay special attention 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 does not interfere with NAVAIDs or approach surfaces of operational runways. Address whether access gates will be blocked or inoperative or if a rally point will be blocked or inaccessible.

2.9.2.4 Marking and lighting of vehicles in accordance with AC 150/5210-5, *Painting, Marking, and Lighting of Vehicles Used on an Airport.*

2.9.2.5 Description of proper vehicle operations on various areas under normal, lost communications, and emergency conditions.

2.9.2.6 Required escorts.

2.9.2.7 **Training Requirements for Vehicle Drivers to Ensure Compliance with the Airport Operator's Vehicle Rules and Regulations.**

Specific training should be provided to vehicle operators, including those providing escorts. See AC 150/5210-20, *Ground Vehicle Operations on Airports*, for information on training and records maintenance requirements.

2.9.2.8 **Situational Awareness.**

Vehicle drivers must confirm by personal observation that no aircraft is approaching their position (either in the air or on the ground) when given clearance to cross a runway, taxiway, or any other area open to airport operations. In addition, it is the responsibility of the escort vehicle driver to verify the movement/position of all escorted vehicles at any given time. At non-towered airports, all aircraft movements and flight operations rely on aircraft operators to self-report their positions and intentions. However, there is no requirement for an aircraft to have radio communications. Because aircraft do not always broadcast their positions or intentions, visual checking, radio monitoring, and situational awareness of the surroundings is critical to safety.

2.9.2.9 **Two-Way Radio Communication Procedures.**

2.9.2.9.1 General.

The airport operator must ensure that tenant and construction contractor personnel engaged in activities involving unescorted operation on aircraft movement areas observe the proper procedures for communications, including using appropriate radio frequencies at airports with and without ATCT. When operating vehicles on or near open runways or taxiways, construction personnel must understand the critical importance of maintaining radio contact, as directed by the airport operator, with:

1. Airport operations
2. ATCT

3. Common Traffic Advisory Frequency (CTAF), which may include UNICOM, MULTICOM.
4. Automatic Terminal Information Service (ATIS). This frequency is useful for monitoring conditions on the airport. Local air traffic will broadcast information regarding construction related runway closures and "shortened" runways on the ATIS frequency.

2.9.2.9.2 Areas Requiring Two-Way Radio Communication with the ATCT.

Vehicular traffic crossing active movement areas must be controlled either by two-way radio with the ATCT, escort, flagman, signal light, or other means appropriate for the particular airport.

2.9.2.9.3 Frequencies to be Used.

The airport operator will specify the frequencies to be used by the contractor, which may include the CTAF for monitoring of aircraft operations. Frequencies may also be assigned by the airport operator for other communications, including any radio frequency in compliance with Federal Communications Commission requirements. At airports with an ATCT, the airport operator will specify the frequency assigned by the ATCT to be used between contractor vehicles and the ATCT.

2.9.2.9.4 Proper radio usage, including read back requirements.

2.9.2.9.5 Proper phraseology, including the International Phonetic Alphabet.

2.9.2.9.6 Light Gun Signals.

Even though radio communication is maintained, escort vehicle drivers must also familiarize themselves with ATCT light gun signals in the event of radio failure. See the FAA safety placard "Ground Vehicle Guide to Airport Signs and Markings." This safety placard may be downloaded through the Runway Safety Program Web site at http://www.faa.gov/airports/runway_safety/publications/ (see "Signs & Markings Vehicle Dashboard Sticker") or obtained from the FAA Airports Regional Office.

2.9.2.10 **Maintenance of the secured area of the airport, including:**

2.9.2.10.1 Fencing and Gates.

Airport operators and contractors must take care to maintain security during construction when access points are created in the security fencing to permit the passage of construction vehicles or personnel. Temporary gates should be equipped so they can be securely closed and locked to prevent access by animals and unauthorized people. Procedures 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. The Department of Transportation (DOT) document DOT/FAA/AR-

00/52, *Recommended Security Guidelines for Airport Planning and Construction*, provides more specific information on fencing. A copy of this document can be obtained from the Airport Consultants Council, Airports Council International, or American Association of Airport Executives.

2.9.2.10.2 Badging Requirements.

Airports subject to 49 CFR Part 1542, *Airport Security*, must meet standards for access control, movement of ground vehicles, and identification of construction contractor and tenant personnel.

2.10 Wildlife Management.

The CSPP and SPCD must be in accordance with the airport operator's wildlife hazard management plan, if applicable. See AC 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports,* and CertAlert 98-05, *Grasses Attractive to Hazardous Wildlife.* Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports, such as:

2.10.1 Trash.

Food scraps must be collected from construction personnel activity.

2.10.2 Standing Water.

2.10.3 Tall Grass and Seeds.

Requirements for turf establishment can be at odds with requirements for wildlife control. Grass seed is attractive to birds. Lower quality seed mixtures can contain seeds of plants (such as clover) that attract larger wildlife. Seeding should comply with the guidance in AC 150/5370-10, *Standards for Specifying Construction of Airports,* Item T-901, Seeding. Contact the local office of the United Sates Department of Agriculture Soil Conservation Service or the State University Agricultural Extension Service (County Agent or equivalent) for assistance and recommendations. These agencies can also provide liming and fertilizer recommendations.

2.10.4 Poorly Maintained Fencing and Gates.

See paragraph 2.9.2.10.1.

2.10.5 Disruption of Existing Wildlife Habitat.

While this will frequently be unavoidable due to the nature of the project, the CSPP should specify under what circumstances (location, wildlife type) contractor personnel should immediately notify the airport operator of wildlife sightings.

2.11 Foreign Object Debris (FOD) Management.

Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. Construction contractors must not leave or place FOD on or near active aircraft movement areas. Materials capable of creating FOD must be continuously removed during the construction project. Fencing (other than security fencing) or covers may be necessary to contain material that can be carried by wind into areas where aircraft operate. See AC 150/5210-24, *Foreign Object Debris (FOD) Management.*

2.12 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 or hydraulic fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. See AC 150/5320-15, *Management of Airport Industrial Waste.*

2.13 Notification of Construction Activities.

The CSPP and SPCD must detail procedures for the immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport. It must address the notification actions described below, as applicable.

2.13.1 List of Responsible Representatives/points of contact for all involved parties, and procedures for contacting each of them, including after hours.

2.13.2 NOTAMs.

Only the airport operator may initiate or cancel NOTAMs on airport conditions, and is the only entity that can close or open a runway. 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 either enter the NOTAM into NOTAM Manager, or 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. Refer to AC 150/5200-28, *Notices to Airmen (NOTAMs) for Airport Operators,* for a sample NOTAM form. 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 paragraph 2.7.1.1 about issuing NOTAMs for partially closed runways versus runways with displaced thresholds.

2.13.3 Emergency notification procedures for medical, fire fighting, and police response.

2.13.4 Coordination with ARFF.

The CSPP must detail procedures for coordinating through the airport sponsor with ARFF personnel, mutual aid providers, and other emergency services if construction requires:

1. The deactivation and subsequent reactivation of water lines or fire hydrants, or
2. The rerouting, blocking and restoration of emergency access routes, or
3. The use of hazardous materials on the airfield.

2.13.5 Notification to the FAA.

2.13.5.1 **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 appropriate FAA Airports Regional or District Office. See Appendix A to download the form. Further guidance is available on the FAA web site at oeaaa.faa.gov.

2.13.5.2 **Part 157.**

With some exceptions, Title 14 CFR 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. See Appendix A to download the form.

2.13.5.3 **NAVAIDs.**

For emergency (short-notice) notification about impacts to both airport owned and FAA owned NAVAIDs, contact: 866-432-2622.

2.13.5.3.1 Airport Owned/FAA Maintained.

If construction operations require a shutdown of 24 hours or greater in duration, 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, using Strategic Event Coordination (SEC) Form 6000.26 contained within FAA Order 6000.15, *General Maintenance Handbook for National Airspace System (NAS) Facilities*.

2.13.5.3.2 FAA Owned.

1. The airport operator must notify the appropriate 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, using SEC Form 6000.26.
2. 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. Refer to active Service Level Agreement with ATO for specifics.

2.14 **Inspection Requirements.**

2.14.1 Daily Inspections.

Inspections should be conducted at least daily, but more frequently if necessary to ensure conformance with the CSPP. A sample checklist is provided in Appendix D, Construction Project Daily Safety Inspection Checklist. See also AC 150/5200-18, *Airport Safety Self-Inspection.* Airport operators holding a Part 139 certificate are required to conduct self-inspections during unusual conditions, such as construction activities, that may affect safe air carrier operations.

2.14.2 Interim Inspections.

Inspections should be conducted of all areas to be (re)opened to aircraft traffic to ensure the proper operation of lights and signs, for correct markings, and absence of FOD. The contractor should conduct an inspection of the work area with airport operations personnel. The contractor should ensure that all construction materials have been secured, all pavement surfaces have been swept clean, all transition ramps have been properly constructed, and that surfaces have been appropriately marked for aircraft to operate safely. Only if all items on the list meet with the airport operator's approval should the air traffic control tower be notified to open the area to aircraft operations. The contractor should be required to retain a suitable workforce and the necessary equipment at the work area for any last minute cleanup that may be requested by the airport operator prior to opening the area.

2.14.3 Final Inspections.

New runways and extended runway closures may require safety inspections at certificated airports prior to allowing air carrier service. Coordinate with the FAA Airport Certification Safety Inspector (ACSI) to determine if a final inspection will be necessary.

2.15 **Underground Utilities.**

The CSPP and/or SPCD must include procedures for locating and protecting existing underground utilities, cables, wires, pipelines, and other underground facilities in excavation areas. This may involve coordinating with public utilities and FAA ATO/Technical Operations. Note that "One Call" or "Miss Utility" services do not include FAA ATO/Technical Operations.

2.16 **Penalties.**

The CSPP should detail penalty provisions for noncompliance with airport rules and regulations and the safety plans (for example, if a vehicle is involved in a runway incursion). Such penalties typically include rescission of driving privileges or access to the AOA.

2.17 **Special Conditions.**

The CSPP must detail any special conditions that affect the operation of the airport and will require the activation of any special procedures (for example, low-visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, Vehicle / Pedestrian Deviation (VPD) and other activities requiring construction suspension/resumption).

2.18 **Runway and Taxiway Visual Aids.**

This includes marking, lighting, signs, and visual NAVAIDs. The CSPP must ensure that areas where aircraft will be operating are clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, verify that these areas remain clearly marked and visible at all times and that marking, lighting, signs, and visual NAVAIDs that are to continue to perform their functions during construction remain in place and operational. Visual NAVAIDs that are not serving their intended function during construction must be temporarily disabled, covered, or modified as necessary. The CSPP must address the following, as appropriate:

2.18.1 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, and other wind currents and constructed of materials that will minimize damage to an aircraft in the event of inadvertent contact. Items used to secure such markings must be of a color similar to the marking.

2.18.2 Markings.

During the course of construction projects, temporary pavement markings are often required to allow for aircraft operations during or between work periods. During the design phase of the project, the designer should coordinate with the project manager,

airport operations, airport users, the FAA Airports project manager, and Airport Certification Safety Inspector for Part 139 airports to determine minimum temporary markings. The FAA Airports project manager will, wherever a runway is closed, coordinate with the appropriate FAA Flight Standards Office and disseminate findings to all parties. Where possible, the temporary markings on finish grade pavements should be placed to mirror the dimensions of the final markings. Markings must be in compliance with the standards of AC 150/5340-1, *Standards for Airport Markings*, except as noted herein. Runways and runway exit taxiways closed to aircraft operations are marked with a yellow X. The preferred visual aid to depict temporary runway closure is the lighted X signal placed on or near the runway designation numbers. (See paragraph 2.18.2.1.2.)

2.18.2.1 **Closed Runways and Taxiways.**

2.18.2.1.1 Permanently Closed Runways.

For runways, obliterate the threshold marking, runway designation marking, and touchdown zone markings, and place an X at each end and at 1,000-foot (300 m) intervals. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X.

2.18.2.1.2 Temporarily Closed Runways.

For runways that have been temporarily closed, place an X at each end of the runway directly on or as near as practicable to the runway designation numbers. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X. See Figure 2-3. See also paragraph 2.18.3.3.

2.18.2.1.3 Partially Closed Runways and Displaced Thresholds.

When threshold markings are needed to identify the temporary beginning of the runway that is available for landing, the markings must comply with AC 150/5340-1. An X is not used on a partially closed runway or a runway with a displaced threshold. See paragraph 2.7.1.1 for the difference between partially closed runways and runways with displaced thresholds. Because of the temporary nature of threshold displacement due to construction, it is not necessary to re-adjust the existing runway centerline markings to meet standard spacing for a runway with a visual approach. Some of the requirements below may be waived in the cases of low-activity airports and/or short duration changes that are measured in days rather than weeks. Consider whether the presence of an airport traffic

control tower allows for the development of special procedures. Contact the appropriate FAA Airports Regional or District Office for assistance.

Figure 2-3. Markings for a Temporarily Closed Runway

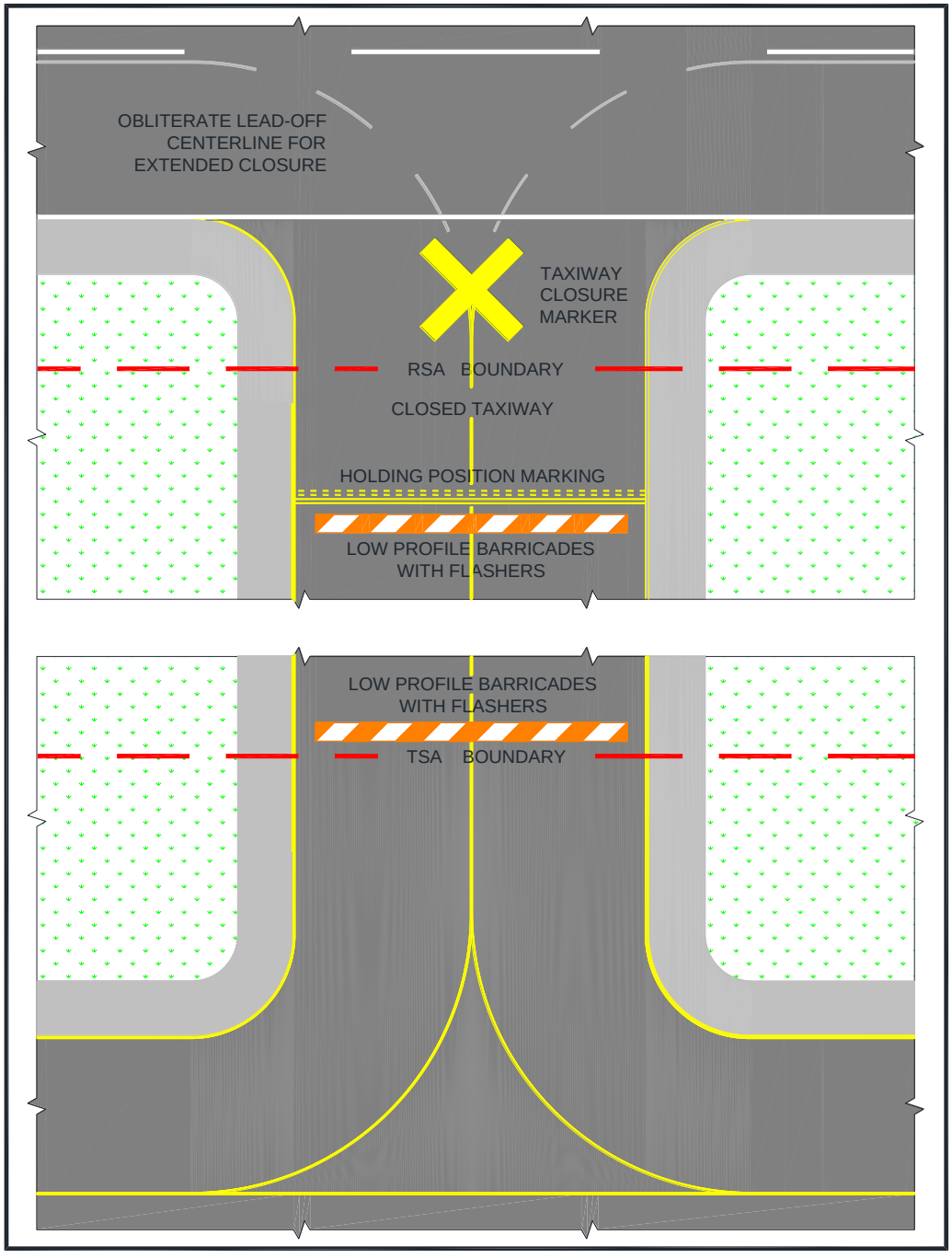


1. **Partially Closed Runways.** Pavement markings for temporary closed portions of the runway consist of a runway threshold bar, runway designation, and yellow chevrons to identify pavement areas that are unsuitable for takeoff or landing (see AC 150/5340-1). Obliterate or cover markings prior to the moved threshold. Existing touchdown zone markings beyond the moved threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See Figure 2-4.
2. **Displaced Thresholds.** Pavement markings for a displaced threshold consist of a runway threshold bar, runway designation, and white arrowheads with and without arrow shafts. These markings are required to identify the portion of the runway before the displaced threshold to provide centerline guidance for pilots during approaches, takeoffs, and landing rollouts from the opposite direction. See AC 150/5340-1. Obliterate markings prior to the displaced threshold. Existing touchdown zone markings beyond the displaced threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See Figure 2-2.

2.18.2.1.4 Taxiways.

1. **Permanently Closed Taxiways.** AC 150/5300-13 *Airport Design*, notes that it is preferable to remove the pavement, but for pavement that is to remain, place an X at the entrance to both ends of the closed section. Obliterate taxiway centerline markings, including runway leadoff lines, leading to the closed taxiway. See Figure 2-4.

Figure 2-4. Temporary Taxiway Closure



2. **Temporarily Closed Taxiways.** Place barricades outside the safety area of intersecting taxiways. For runway/taxiway intersections, place an X at the entrance to the closed taxiway from the runway. If the taxiway will be closed for an extended period, obliterate taxiway centerline markings, including runway leadoff lines and taxiway to taxiway turns, leading to the closed section. Always obliterate runway lead-off lines for high speed exits, regardless of the duration of the closure. If the centerline markings will be reused upon reopening the taxiway, it is preferable to paint over the marking. This will result in less damage to the pavement when the upper layer of paint is ultimately removed. See Figure 2-4.

2.18.2.1.5 Temporarily Closed Airport.

When the airport is closed temporarily, mark all the runways as closed.

2.18.2.2 If unable to paint temporary markings on the pavement, construct them from any of the following materials: fabric, colored plastic, painted sheets of plywood, or similar materials. They must be properly configured and appropriately secured to prevent movement by prop wash, jet blast, or other wind currents. Items used to secure such markings must be of a color similar to the marking.

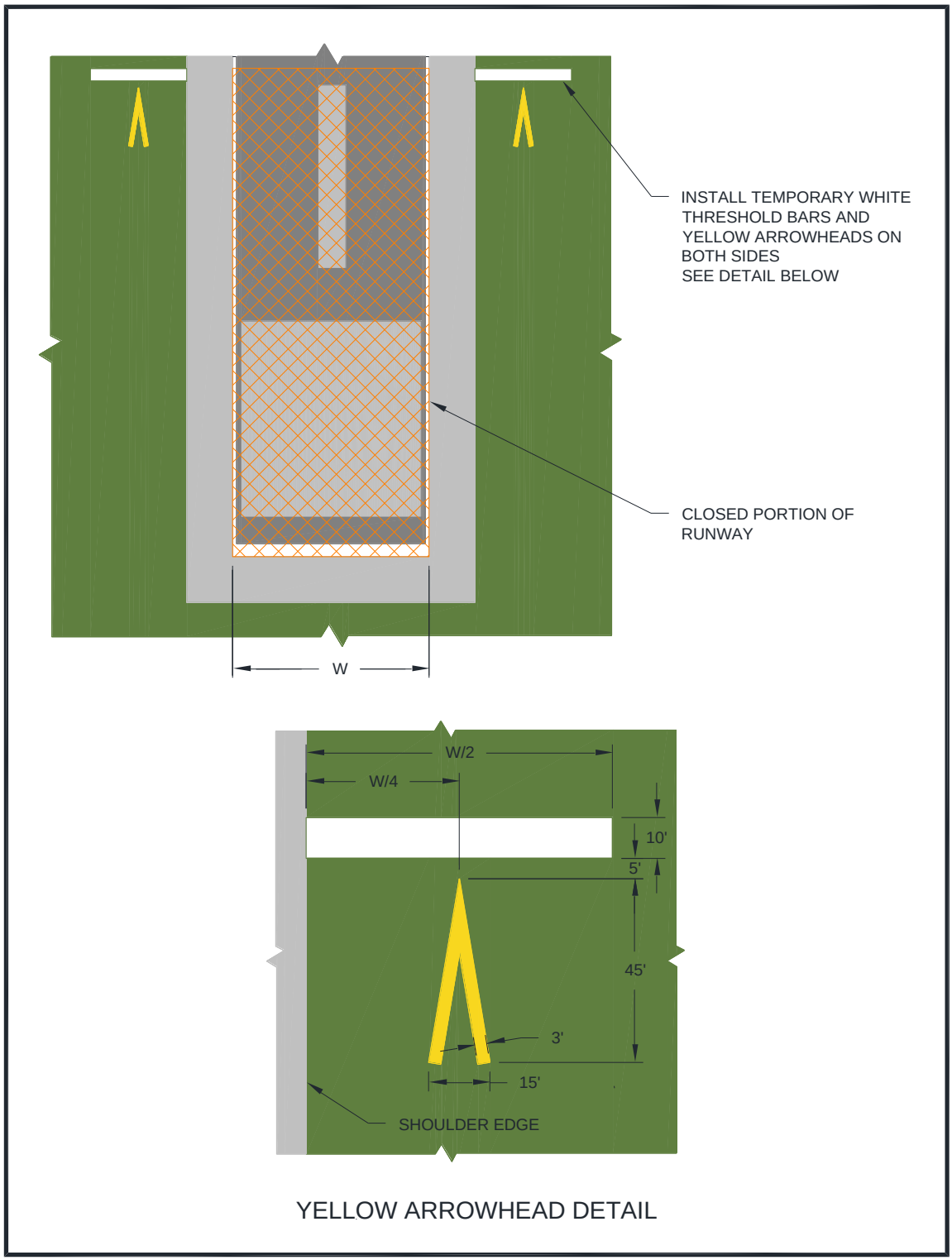
2.18.2.3 It may be necessary to remove or cover runway markings, including but not limited to, runway designation markings, threshold markings, centerline markings, edge stripes, touchdown zone markings and aiming point markings, depending on the length of construction and type of activity at the airport. When removing runway markings, apply the same treatment to areas between stripes or numbers, as the cleaned area will appear to pilots as a marking in the shape of the treated area.

2.18.2.4 If it is not possible to install threshold bars, chevrons, and arrows on the pavement, "temporary outboard white threshold bars and yellow arrowheads", see Figure 2-5, may be used. Locate them outside of the runway pavement surface on both sides of the runway. The dimensions must be as shown in Figure 2-5. If the markings are not discernible on grass or snow, apply a black background with appropriate material over the ground to ensure they are clearly visible.

2.18.2.5 The application rate of paint to mark a short-term temporary runway and taxiway markings may deviate from the standard (see Item P-620, "Runway and Taxiway Painting," in AC 150/5370-10), but the dimensions must meet the existing standards. When applying temporary markings at night, it is recommended that the fast curing, Type II paint be used to help offset the higher humidity and cooler temperatures often experienced at night. Diluting the paint will substantially increase cure time and is not recommended. Glass beads are not recommended for temporary markings. Striated markings may also be used for certain temporary markings. AC

150/5340-1, *Standards for Airport Markings*, has additional guidance on temporary markings.

Figure 2-5. Temporary Outboard White Threshold Bars and Yellow Arrowheads



2.18.3 Lighting and Visual NAVAIDs.

This paragraph refers to standard runway and taxiway lighting systems. See below for hazard lighting. Lighting installation must be in conformance with AC 150/5340-30, *Design and Installation Details for Airport Visual Aids,* and fixture design in conformance with AC 150/5345-50, *Specification for Portable Runway and Taxiway Lights.* When disconnecting runway and taxiway lighting fixtures, disconnect the associated isolation transformers. See AC 150/5340-26, *Maintenance of Airport Visual Aid Facilities*, for disconnect procedures and safety precautions. Alternately, cover the light fixture in such a way as to prevent light leakage. Avoid removing the lamp from energized fixtures because an excessive number of isolation transformers with open secondaries may damage the regulators and/or increase the current above its normal value. Secure, identify, and place any above ground temporary wiring in conduit to prevent electrocution and fire ignition sources. Maintain mandatory hold signs to operate normally in any situation where pilots or vehicle drivers could mistakenly be in that location. At towered airports certificated under Part 139, holding position signs are required to be illuminated on open taxiways crossing to closed or inactive runways. If the holding position sign is installed on the runway circuit for the closed runway, install a jumper to the taxiway circuit to provide power to the holding position sign for nighttime operations. Where it is not possible to maintain power to signs that would normally be operational, install barricades to exclude aircraft. Figure 2-1, Figure 2-2, Figure 2-3, and Figure 2-4 illustrate temporary changes to lighting and visual NAVAIDs.

2.18.3.1 **Permanently Closed Runways and Taxiways.**

For runways and taxiways that have been permanently closed, disconnect the lighting circuits.

2.18.3.2 **Temporarily Closed Runways and New Runways Not Yet Open to Air Traffic.**

If available, use a lighted X, both at night and during the day, placed at each end of the runway on or near the runway designation numbers facing the approach. (Note that the lighted X must be illuminated at all times that it is on a runway.) The use of a lighted X is required if night work requires runway lighting to be on. See AC 150/5345-55, *Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure.* For runways that have been temporarily closed, but for an extended period, and for those with pilot controlled lighting, disconnect the lighting circuits or secure switches to prevent inadvertent activation. For runways that will be opened periodically, coordinate procedures with the FAA air traffic manager or, at airports without an ATCT, the airport operator. Activate stop bars if available. Figure 2-6 shows a lighted X by day. Figure 2-7 shows a lighted X at night.

Figure 2-6. Lighted X in Daytime



Figure 2-7. Lighted X at Night



2.18.3.3 **Partially Closed Runways and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing and landing or taking off in either direction. A displaced threshold, by contrast, is put in place to ensure obstacle clearance by landing aircraft. The pavement prior to the displaced threshold is available for takeoff in the direction of the displacement, and for landing and takeoff in the opposite direction. Misunderstanding this difference and issuance of a subsequently inaccurate NOTAM can result in a hazardous situation. For both partially

closed runways and displaced thresholds, approach lighting systems at the affected end must be placed out of service.

2.18.3.3.1 Partially Closed Runways.

Disconnect edge and threshold lights on that part of the runway at and behind the threshold (that is, the portion of the runway that is closed). Alternately, cover the light fixtures in such a way as to prevent light leakage. See Figure 2-1.

2.18.3.3.2 Temporary Displaced Thresholds.

Edge lighting in the area of the displacement emits red light in the direction of approach and yellow light (white for visual runways) in the opposite direction. If the displacement is 700 feet or less, blank out centerline lights in the direction of approach or place the centerline lights out of service. If the displacement is over 700 feet, place the centerline lights out of service. See AC 150/5340-30 for details on lighting displaced thresholds. See Figure 2-2.

2.18.3.3.3 Temporary runway thresholds and runway ends must be lighted if the runway is lighted and it is the intended threshold for night landings or instrument meteorological conditions.

2.18.3.3.4 A temporary threshold on an unlighted runway may be marked by retroreflective, elevated markers in addition to markings noted in paragraph 2.18.2.1.3. Markers seen by aircraft on approach are green. Markers at the rollout end of the runway are red. At certificated airports, temporary elevated threshold markers must be mounted with a frangible fitting (see 14 CFR Part 139.309). At non-certificated airports, the temporary elevated threshold markings may either be mounted with a frangible fitting or be flexible. See AC 150/5345-39, *Specification for L-853, Runway and Taxiway Retroreflective Markers.*

2.18.3.3.5 Temporary threshold lights and runway end lights and related visual NAVAIDs are installed outboard of the edges of the full-strength pavement only when they cannot be installed on the pavement. They are installed with bases at grade level or as low as possible, but not more than 3 inch (7.6 cm) above ground. (The standard above ground height for airport lighting fixtures is 14 inches (35 cm)). When any portion of a base is above grade, place properly compacted fill around the base to minimize the rate of gradient change so aircraft can, in an emergency, cross at normal landing or takeoff speeds without incurring significant damage. See AC 150/5370-10.

2.18.3.3.6 Maintain threshold and edge lighting color and spacing standards as described in AC 150/5340-30. Battery powered, solar, or portable lights that meet the criteria in AC 150/5345-50 may be used. These systems are intended primarily for visual flight rules (VFR) aircraft operations but may

be used for instrument flight rules (IFR) aircraft operations, upon individual approval from the Flight Standards Division of the applicable FAA Regional Office.

2.18.3.3.7 When runway thresholds are temporarily displaced, reconfigure yellow lenses (caution zone), as necessary, and place the centerline lights out of service.

2.18.3.3.8 Relocate the Visual Glide Slope Indicator (VGSI), such as Visual Approach Slope Indicator (VASI) and Precision Approach Path Indicator (PAPI); other airport lights, such as Runway End Identifier Lights (REIL); and approach lights to identify the temporary threshold. Another option is to disable the VGSI or any equipment that would give misleading indications to pilots as to the new threshold location. Installation of temporary visual aids may be necessary to provide adequate guidance to pilots on approach to the affected runway. If the FAA owns and operates the VGSI, coordinate its installation or disabling with the local ATO/Technical Operations Office. Relocation of such visual aids will depend on the duration of the project and the benefits gained from the relocation, as this can result in great expense. See FAA JO 6850.2, *Visual Guidance Lighting Systems,* for installation criteria for FAA owned and operated NAVAIDs.

2.18.3.3.9 Issue a NOTAM to inform pilots of temporary lighting conditions.

2.18.3.4 **Temporarily Closed Taxiways.**

If possible, deactivate the taxiway lighting circuits. When deactivation is not possible (for example other taxiways on the same circuit are to remain open), cover the light fixture in a way as to prevent light leakage.

2.18.4 Signs.

To the extent possible, signs must be in conformance with AC 150/5345-44, *Specification for Runway and Taxiway Signs*, and AC 150/5340-18, *Standard for Airport Sign Systems.*

2.18.4.1 **Existing Signs.**

Runway exit signs are to be covered for closed runway exits. Outbound destination signs are to be covered for closed runways. Any time a sign does not serve its normal function or would provide conflicting information, it must be covered or removed to prevent misdirecting pilots. Note that information signs identifying a crossing taxiway continue to perform their normal function even if the crossing taxiway is closed. For long term construction projects, consider relocating signs, especially runway distance remaining signs.

2.18.4.2 **Temporary Signs.**

Orange construction signs comprise a message in black on an orange background. Orange construction signs may help pilots be aware of changed conditions. The airport operator may choose to introduce these signs as part of a movement area construction project to increase situational awareness when needed. Locate signs outside the taxiway safety limits and ahead of construction areas so pilots can take timely action. Use temporary signs judiciously, striking a balance between the need for information and the increase in pilot workload. When there is a concern of pilot "information overload," the applicability of mandatory hold signs must take precedence over orange construction signs recommended during construction. Temporary signs must meet the standards for such signs in Engineering Brief 93, *Guidance for the Assembly and Installation of Temporary Orange Construction Signs.* Many criteria in AC 150/5345-44, *Specification for Runway and Taxiway Signs,* are referenced in the Engineering Brief. Permissible sign legends are:

1. CONSTRUCTION AHEAD,
2. CONSTRUCTION ON RAMP, and
3. RWY XX TAKEOFF RUN AVAILABLE XXX FT.

Phasing, supported by drawings and sign schedule, for the installation of orange construction signs must be included in the CSPP or SPCD.

2.18.4.2.1 Takeoff Run Available (TORA) signs.

Recommended: Where a runway has been shortened for takeoff, install orange TORA signs well before the hold lines, such as on a parallel taxiway prior to a turn to a runway hold position. See EB 93 for sign size and location.

2.18.4.2.2 Sign legends are shown in Figure F-1.

Note: See Figure E-1, Figure E-2, Figure E-3, Figure F-2, and Figure F-3 for examples of orange construction sign locations.

2.19 **Marking and Signs for Access Routes.**

The CSPP should indicate that pavement markings and signs for construction personnel will conform to AC 150/5340-18 and, to the extent practicable, with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or State highway specifications. Signs adjacent to areas used by aircraft must comply with the frangibility requirements of AC 150/5220-23, *Frangible Connections,* which may require modification to size and height guidance in the MUTCD.

2.20 **Hazard Marking, Lighting and Signing.**

2.20.1 Hazard marking, lighting, and signing prevent pilots from entering areas closed to aircraft, and prevent construction personnel from entering areas open to aircraft. The CSPP must specify prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles. Hazard marking and lighting must also be specified to identify open manholes, small areas under repair, stockpiled material, waste areas, and areas subject to jet blast. Also consider less obvious construction-related hazards and include markings to identify FAA, airport, and National Weather Service facilities cables and power lines; instrument landing system (ILS) critical areas; airport surfaces, such as RSA, OFA, and OFZ; and other sensitive areas to make it easier for contractor personnel to avoid these areas.

2.20.2 Equipment.

2.20.2.1 **Barricades.**

Low profile barricades, including traffic cones, (weighted or sturdily attached to the surface) are acceptable methods used to identify and define the limits of construction and hazardous areas on airports. Careful consideration must be given to selecting 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. The spacing of barricades must be such that a breach is physically prevented barring a deliberate act. For example, if barricades are intended to exclude aircraft, gaps between barricades must be smaller than the wingspan of the smallest aircraft to be excluded; if barricades are intended to exclude vehicles, gaps between barricades must be smaller than the width of the excluded vehicles, generally 4 feet (1.2 meters). Provision must be made for ARFF access if necessary. If barricades are intended to exclude pedestrians, they must be continuously linked. Continuous linking may be accomplished through the use of ropes, securely attached to prevent FOD.

2.20.2.2 **Lights.**

Lights must be red, either steady burning or flashing, and must meet the luminance requirements of the State Highway Department. Batteries powering lights will last longer if lights flash. Lights must be mounted on barricades and spaced at no more than 10 feet (3 meters). Lights must be operated between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. They may be operated by photocell, but this may require that the contractor turn them on manually during periods of low visibility during daytime hours.

2.20.2.3 **Supplement Barricades with Signs (for example) As Necessary.**

Examples are “No Entry” and “No Vehicles.” Be aware of the increased effects of wind and jet blast on barricades with attached signs.

2.20.2.4 **Air Operations Area – General.**

Barricades are not permitted in any active safety area or on the runway side of a runway hold line. Within a runway or taxiway object free area, and on aprons, use orange traffic cones, flashing or steady burning red lights as noted above, highly reflective collapsible barricades marked with diagonal, alternating orange and white stripes; and/or signs to separate all construction/maintenance areas from the movement area. Barricades may be supplemented with alternating orange and white flags at least 20 by 20 inch (50 by 50 cm) square and securely fastened to eliminate FOD. All barricades adjacent to any open runway or taxiway / taxilane safety area, or apron must be as low as possible to the ground, and no more than 18 inches high, exclusive of supplementary lights and flags. Barricades must be of low mass; easily collapsible upon contact with an aircraft or any of its components; and weighted or sturdily attached to the surface to prevent displacement from prop wash, jet blast, wing vortex, and other surface wind currents. If affixed to the surface, they must be frangible at grade level or as low as possible, but not to exceed 3 inch (7.6 cm) above the ground. Figure 2-8 and Figure 2-9 show sample barricades with proper coloring and flags.

Figure 2-8. Interlocking Barricades



Figure 2-9. Low Profile Barricades



2.20.2.5 **Air Operations Area – Runway/Taxiway Intersections.**

Use highly reflective barricades with lights to close taxiways leading to closed runways. Evaluate all operating factors when determining how to mark temporary closures that can last from 10 to 15 minutes to a much longer period of time. However, even for closures of relatively short duration, close all taxiway/runway intersections with barricades. The use of traffic cones is appropriate for short duration closures.

2.20.2.6 **Air Operations Area – Other.**

Beyond runway and taxiway object free areas and aprons, barricades intended for construction vehicles and personnel may be many different shapes and made from various materials, including railroad ties, sawhorses, jersey barriers, or barrels.

2.20.2.7 **Maintenance.**

The construction specifications must include a provision requiring the contractor to 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.

2.21 Work Zone Lighting for Nighttime Construction.

Lighting equipment must adequately illuminate the work area if the construction is to be performed during nighttime hours. Refer to AC 150/5370-10 for minimum illumination levels for nighttime paving projects. Additionally, it is recommended that all support equipment, except haul trucks, be equipped with artificial illumination to safely

illuminate the area immediately surrounding their work areas. The lights should be positioned to provide the most natural color illumination and contrast with a minimum of shadows. The spacing must be determined by trial. Light towers should be positioned and adjusted to aim away from ATCT cabs and active runways to prevent blinding effects. Shielding may be necessary. Light towers should be removed from the construction site when the area is reopened to aircraft operations. Construction lighting units should be identified and generally located on the construction phasing plans in relationship to the ATCT and active runways and taxiways.

2.22 **Protection of Runway and Taxiway Safety Areas.**

Runway and taxiway safety areas, OFZs, OFAs, and approach surfaces are described in AC 150/5300-13. Protection of these areas includes limitations on the location and height of equipment and stockpiled material. An FAA airspace study may be required. Coordinate with the appropriate FAA Airports Regional or District Office if there is any doubt as to requirements or dimensions (see paragraph 2.13.5) as soon as the location and height of materials or equipment are known. The CSPP should include drawings showing all safety areas, object free areas, obstacle free zones and approach departure surfaces affected by construction.

2.22.1 Runway Safety Area (RSA).

A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway (see AC 150/5300-13). Construction activities within the existing RSA are subject to the following conditions:

2.22.1.1 No construction may occur within the existing RSA while the runway is open for aircraft operations. The RSA dimensions may be temporarily adjusted if the runway is restricted to aircraft operations requiring an RSA that is equal to the RSA width and length beyond the runway ends available during construction. (See AC 150/5300-13). The temporary use of declared distances and/or partial runway closures may provide the necessary RSA under certain circumstances. Coordinate with the appropriate FAA Airports Regional or District Office to have declared distances information published, and appropriate NOTAMs issued. See AC 150/5300-13 for guidance on the use of declared distances.

2.22.1.2 The airport operator must coordinate the adjustment of RSA dimensions as permitted above with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.

2.22.1.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations.

2.22.1.4 **Excavations.**

2.22.1.4.1 Open trenches or excavations are not permitted within the RSA while the runway is open. Backfill trenches before the runway is opened. If backfilling excavations before the runway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the runway across the trench without damage to the aircraft.

2.22.1.4.2 Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.1.5 **Erosion Control.**

Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and fire fighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.2 Runway Object Free Area (ROFA).

Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA if not necessary. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval.

2.22.3 Taxiway Safety Area (TSA).

2.22.3.1 A taxiway safety area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. (See AC 150/5300-13.) Since the width of the TSA is equal to the wingspan of the design aircraft, no construction may occur within the TSA while the taxiway is open for aircraft operations. The TSA dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a TSA that is equal to the TSA width available during construction. Give special consideration to TSA dimensions at taxiway turns and intersections. (see AC 150/5300-13).

2.22.3.2 The airport operator must coordinate the adjustment of the TSA width as permitted above with the appropriate FAA Airports Regional or District Office and the FAA air traffic manager and issue a NOTAM.

2.22.3.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations.

2.22.3.4 **Excavations.**

1. Curves. Open trenches or excavations are not permitted within the TSA while the taxiway is open. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the taxiway across the trench without damage to the aircraft.
2. Straight Sections. Open trenches or excavations are not permitted within the TSA while the taxiway is open for unrestricted aircraft operations. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations to allow the safe passage of ARFF equipment and of the heaviest aircraft operating on the taxiway across the trench without causing damage to the equipment or aircraft. In rare circumstances where the section of taxiway is indispensable for aircraft movement, open trenches or excavations may be permitted in the TSA while the taxiway is open to aircraft operations, subject to the following restrictions:
    a. Taxiing speed is limited to 10 mph.
    b. Appropriate NOTAMs are issued.
    c. Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.
    d. Low mass, low-profile lighted barricades are installed.
    e. Appropriate temporary orange construction signs are installed.
3. Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.3.5 **Erosion control.**

Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.4 Taxiway Object Free Area (TOFA).

Unlike the Runway Object Free Area, aircraft wings regularly penetrate the taxiway object free area during normal operations. Thus, the restrictions are more stringent. Except as provided below, no construction may occur within the taxiway object free area while the taxiway is open for aircraft operations.

2.22.4.1 The taxiway object free area dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a taxiway object free area that is equal to the taxiway object free area width available. Give special consideration to TOFA dimensions at taxiway turns and intersections.

2.22.4.2 Offset taxiway centerline and edge pavement markings (do not use glass beads) may be used as a temporary measure to provide the required taxiway object free area. Where offset taxiway pavement markings are provided, centerline lighting, centerline reflectors, or taxiway edge reflectors are required. Existing lighting that does not coincide with the temporary markings must be taken out of service.

2.22.4.3 Construction activity, including open excavations, may be accomplished without adjusting the width of the taxiway object free area, subject to the following restrictions:

2.22.4.3.1 Taxiing speed is limited to 10 mph.

2.22.4.3.2 NOTAMs issued advising taxiing pilots of hazard and recommending reduced taxiing speeds on the taxiway.

2.22.4.3.3 Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.

2.22.4.3.4 If desired, appropriate orange construction signs are installed. See paragraph 2.18.4.2 and Appendix F.

2.22.4.3.5 Five-foot clearance is maintained between equipment and materials and any part of an aircraft (includes wingtip overhang). If such clearance can only be maintained if an aircraft does not have full use of the entire taxiway width (with its main landing gear at the edge of the usable pavement), then it will be necessary to move personnel and equipment for the passage of that aircraft.

2.22.4.3.6 Flaggers furnished by the contractor must be used to direct and control construction equipment and personnel to a pre-established setback distance for safe passage of aircraft, and airline and/or airport personnel. Flaggers must also be used to direct taxiing aircraft. Due to liability issues, the airport operator should require airlines to provide flaggers for directing taxiing aircraft.

2.22.5 Obstacle Free Zone (OFZ).

In general, personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. If a penetration to the OFZ is necessary, it may be possible to continue aircraft operations through operational restrictions. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6 Runway Approach/Departure Areas and Clearways.

All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces, as defined in AC 150/5300-13. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6.1 Construction activity in a runway approach/departure area may result in the need to partially close a runway or displace the existing runway threshold. Partial runway closure, displacement of the runway threshold, as well as closure of the complete runway and other portions of the movement area also require coordination through the airport operator with the appropriate FAA air traffic manager (FSS if non-towered) and ATO/Technical Operations (for affected NAVAIDS) and airport users.

2.22.6.2 **Caution About Partial Runway Closures.**

When filing a NOTAM for a partial runway closure, clearly state that the portion of pavement located prior to the threshold is not available for landing and departing traffic. In this case, the threshold has been moved for both landing and takeoff purposes (this is different than a displaced threshold). There may be situations where the portion of closed runway is available for taxiing only. If so, the NOTAM must reflect this condition).

2.22.6.3 **Caution About Displaced Thresholds.**

Implementation of a displaced threshold affects runway length available for aircraft landing over the displacement. Depending on the reason for the displacement (to provide obstruction clearance or RSA), such a displacement may also require an adjustment in the landing distance available and accelerate-stop distance available in the opposite direction. If project scope includes personnel, equipment, excavation, or other work within the existing RSA of any usable runway end, do not implement a displaced threshold unless arrivals and departures toward the construction activity are prohibited. Instead, implement a partial closure.

2.23 **Other Limitations on Construction.**

The CSPP must specify any other limitations on construction, including but not limited to:

2.23.1 Prohibitions.

2.23.1.1 No use of tall equipment (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.

2.23.1.2 No use of open flame welding or torches unless fire safety precautions are provided and the airport operator has approved their use.

2.23.1.3 No use of electrical blasting caps on or within 1,000 feet (300 meters) of the airport property. See AC 150/5370-10.

2.23.2 Restrictions.

2.23.2.1 Construction suspension required during specific airport operations.

2.23.2.2 Areas that cannot be worked on simultaneously.

2.23.2.3 Day or night construction restrictions.

2.23.2.4 Seasonal construction restrictions.

2.23.2.5 Temporary signs not approved by the airport operator.

2.23.2.6 Grades changes that could result in unplanned effects on NAVAIDs.

CHAPTER 3. GUIDELINES FOR WRITING A CSPP

3.1 General Requirements.

The CSPP is a standalone document written to correspond with the subjects outlined in paragraph 2.4. The CSPP is organized by numbered sections corresponding to each subject listed in paragraph 2.4, and described in detail in paragraphs 2.5 - 2.23. Each section number and title in the CSPP matches the corresponding subject outlined in paragraph 2.4 (for example, 1. Coordination, 2. Phasing, 3. Areas and Operations Affected by the Construction Activity, and so on). With the exception of the project scope of work outlined in Section 2. Phasing, only subjects specific to operational safety during construction should be addressed.

3.2 Applicability of Subjects.

Each section should, to the extent practical, focus on the specific subject. Where an overlapping requirement spans several sections, the requirement should be explained in detail in the most applicable section. A reference to that section should be included in all other sections where the requirement may apply. For example, the requirement to protect existing underground FAA ILS cables during trenching operations could be considered FAA ATO coordination (Coordination, paragraph 2.5.3), an area and operation affected by the construction activity (Areas and Operations Affected by the Construction Activity, paragraph 2.7.1.4), a protection of a NAVAID (Protection of Navigational Aids (NAVAIDs), paragraph 2.8), or a notification to the FAA of construction activities (Notification of Construction Activities, paragraph 2.13.5.3.2). However, it is more specifically an underground utility requirement (Underground Utilities, paragraph 2.15). The procedure for protecting underground ILS cables during trenching operations should therefore be described in 2.4.2.11: "The contractor must coordinate with the local FAA System Support Center (SSC) to mark existing ILS cable routes along Runway 17-35. The ILS cables will be located by hand digging whenever the trenching operation moves within 10 feet of the cable markings." All other applicable sections should include a reference to 2.4.2.11: "ILS cables shall be identified and protected as described in 2.4.2.11" or "See 2.4.2.11 for ILS cable identification and protection requirements." Thus, the CSPP should be considered as a whole, with no need to duplicate responses to related issues.

3.3 Graphical Representations.

Construction safety drawings should be included in the CSPP as attachments. When other graphical representations will aid in supporting written statements, the drawings, diagrams, and/or photographs should also be attached to the CSPP. References should be made in the CSPP to each graphical attachment and may be made in multiple sections.

3.4 **Reference Documents.**

The CSPP must not incorporate a document by reference unless reproduction of the material in that document is prohibited. In that case, either copies of or a source for the referenced document must be provided to the contractor. Where this AC recommends references (e.g. as in paragraph 3.9) the intent is to include a reference to the corresponding section in the CSPP, not to this Advisory Circular.

3.5 **Restrictions.**

The CSPP should not be considered as a project design review document. The CSPP should also avoid mention of permanent ("as-built") features such as pavements, markings, signs, and lighting, except when such features are intended to aid in maintaining operational safety during the construction.

3.6 **Coordination.**

Include in this section a detailed description of conferences and meetings to be held both before and during the project. Include appropriate information from AC 150/5370-12. Discuss coordination procedures and schedules for each required FAA ATO Technical Operations shutdown and restart and all required flight inspections.

3.7 **Phasing.**

Include in this section a detailed scope of work description for the project as a whole and each phase of work covered by the CSPP. This includes all locations and durations of the work proposed. Attach drawings to graphically support the written scope of work. Detail in this section the sequenced phases of the proposed construction. Include a reference to paragraph 3.8, as appropriate.

3.8 **Areas and Operations Affected by Construction.**

Focus in this section on identifying the areas and operations affected by the construction. Describe corresponding mitigation that is not covered in detail elsewhere in the CSPP. Include references to paragraphs below as appropriate. Attach drawings as necessary to graphically describe affected areas and mechanisms proposed. See Appendix F for sample operational effects tables and figures.

3.9 **NAVAID Protection.**

List in this section all NAVAID facilities that will be affected by the construction. Identify NAVAID facilities that will be placed out of service at any time prior to or during construction activities. Identify individuals responsible for coordinating each shutdown and when each facility will be out of service. Include a reference to paragraph 3.6 for FAA ATO NAVAID shutdown, restart, and flight inspection coordination. Outline in detail procedures to protect each NAVAID facility remaining in service from interference by construction activities. Include a reference to paragraph 3.14 for the

issuance of NOTAMs as required. Include a reference to paragraph 3.16 for the protection of underground cables and piping serving NAVAIDs. If temporary visual aids are proposed to replace or supplement existing facilities, include a reference to paragraph 3.19. Attach drawings to graphically indicate the affected NAVAIDS and the corresponding critical areas.

3.10 **Contractor Access.**

This will necessarily be the most extensive section of the CSPP. Provide sufficient detail so that a contractor not experienced in working on airports will understand the unique restrictions such work will require. Due to this extent, it should be broken down into subsections as described below:

3.10.1 Location of Stockpiled Construction Materials.

Describe in this section specific locations for stockpiling material. Note any height restrictions on stockpiles. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify stockpiles. Include a reference to paragraph 3.11 for provisions to prevent stockpile material from becoming wildlife attractants. Include a reference to paragraph 3.12 for provisions to prevent stockpile material from becoming FOD. Attach drawings to graphically indicate the stockpile locations.

3.10.2 Vehicle and Pedestrian Operations.

While there are many items to be addressed in this major subsection of the CSPP, all are concerned with one main issue: keeping people and vehicles from areas of the airport where they don't belong. This includes preventing unauthorized entry to the AOA and preventing the improper movement of pedestrians or vehicles on the airport. In this section, focus on mechanisms to prevent construction vehicles and workers traveling to and from the worksite from unauthorized entry into movement areas. Specify locations of parking for both employee vehicles and construction equipment, and routes for access and haul roads. In most cases, this will best be accomplished by attaching a drawing. Quote from AC 150/5210-5 specific requirements for contractor vehicles rather than referring to the AC as a whole, and include special requirements for identifying HAZMAT vehicles. Quote from, rather than incorporate by reference, AC 150/5210-20 as appropriate to address the airport's rules for ground vehicle operations, including its training program. Discuss the airport's recordkeeping system listing authorized vehicle operators.

3.10.3 Two-Way Radio Communications.

Include a special section to identify all individuals who are required to maintain communications with Air Traffic (AT) at airports with active towers, or monitor CTAF at airports without or with closed ATCT. Include training requirements for all individuals required to communicate with AT. Individuals required to monitor AT frequencies should also be identified. If construction employees are also required to communicate by radio with Airport Operations, this procedure should be described in detail. Usage of vehicle mounted radios and/or portable radios should be addressed. Communication procedures for the event of disabled radio communication (that is, light

signals, telephone numbers, others) must be included. All radio frequencies should by identified (Tower, Ground Control, CTAF, UNICOM, ATIS, and so on).

3.10.4 Airport Security.

Address security as it applies to vehicle and pedestrian operations. Discuss TSA requirements, security badging requirements, perimeter fence integrity, gate security, and other needs. Attach drawings to graphically indicate secured and/or Security Identification Display Areas (SIDA), perimeter fencing, and available access points.

3.11 Wildlife Management.

Discuss in this section wildlife management procedures. Describe the maintenance of existing wildlife mitigation devices, such as perimeter fences, and procedures to limit wildlife attractants. Include procedures to notify Airport Operations of wildlife encounters. Include a reference to paragraph 3.10 for security (wildlife) fence integrity maintenance as required.

3.12 FOD Management.

In this section, discuss methods to control and monitor FOD: worksite housekeeping, ground vehicle tire inspections, runway sweeps, and so on. Include a reference to paragraph 3.15 for inspection requirements as required.

3.13 HAZMAT Management.

Describe in this section HAZMAT management procedures: fuel deliveries, spill recovery procedures, Safety Data Sheet (SDS), Material Safety Data Sheet (MSDS) or Product Safety Data Sheet (PSDS) availability, and other considerations. Any specific airport HAZMAT restrictions should also be identified. Include a reference to paragraph 3.10 for HAZMAT vehicle identification requirements. Quote from, rather than incorporate by reference, AC 150/5320-15.

3.14 Notification of Construction Activities.

List in this section the names and telephone numbers of points of contact for all parties affected by the construction project. We recommend a single list that includes all telephone numbers required under this section. Include emergency notification procedures for all representatives of all parties potentially impacted by the construction. Identify individual representatives – and at least one alternate – for each party. List both on-duty and off-duty contact information for each individual, including individuals responsible for emergency maintenance of airport construction hazard lighting and barricades. Describe procedures to coordinate immediate response to events that might adversely affect the operational safety of the airport (such as interrupted NAVAID service). Explain requirements for and the procedures for the issuance of Notices to Airmen (NOTAMs), notification to FAA required by 14 CFR Part 77 and Part 157 and in the event of affected NAVAIDs. For NOTAMs, identify an individual, and at least one alternate, responsible for issuing and cancelling each specific type of Notice to

Airmen (NOTAM) required. Detail notification methods for police, fire fighting, and medical emergencies. This may include 911, but should also include direct phone numbers of local police departments and nearby hospitals. Identify the E911 address of the airport and the emergency access route via haul roads to the construction site. Require the contractor to have this information available to all workers. The local Poison Control number should be listed. Procedures regarding notification of Airport Operations and/or the ARFF Department of such emergencies should be identified, as applicable. If airport radio communications are identified as a means of emergency notification, include a reference to paragraph 3.10. Differentiate between emergency and nonemergency notification of ARFF personnel, the latter including activities that affect ARFF water supplies and access roads. Identify the primary ARFF contact person and at least one alternate. If notification is to be made through Airport Operations, then detail this procedure. Include a method of confirmation from the ARFF department.

3.15 **Inspection Requirements.**

Describe in this section inspection requirements to ensure airfield safety compliance. Include a requirement for routine inspections by the resident engineer (RE) or other airport operator's representative and the construction contractors. If the engineering consultants and/or contractors have a Safety Officer who will conduct such inspections, identify this individual. Describe procedures for special inspections, such as those required to reopen areas for aircraft operations. Part 139 requires daily airfield inspections at certificated airports, but these may need to be more frequent when construction is in progress. Discuss the role of such inspections on areas under construction. Include a requirement to immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

3.16 **Underground Utilities.**

Explain how existing underground utilities will be located and protected. Identify each utility owner and include contact information for each company/agency in the master list. Address emergency response procedures for damaged or disrupted utilities. Include a reference to paragraph 3.14 for notification of utility owners of accidental utility disruption as required.

3.17 **Penalties.**

Describe in this section specific penalties imposed for noncompliance with airport rules and regulations, including the CSPP: SIDA violations, VPD, and others.

3.18 **Special Conditions.**

Identify any special conditions that may trigger specific safety mitigation actions outlined in this CSPP: low visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, VPD, and other activities requiring construction suspension/resumption. Include a reference to paragraph 3.10 for compliance with airport safety and security measures and for radio communications as required. Include

a reference to paragraph 3.14 for emergency notification of all involved parties, including police/security, ARFF, and medical services.

3.19 **Runway and Taxiway Visual Aids.**

Include marking, lighting, signs, and visual NAVAIDS. Detail temporary runway and taxiway marking, lighting, signs, and visual NAVAIDs required for the construction. Discuss existing marking, lighting, signs, and visual NAVAIDs that are temporarily, altered, obliterated, or shut down. Consider non-federal facilities and address requirements for reimbursable agreements necessary for alteration of FAA facilities and for necessary flight checks. Identify temporary TORA signs or runway distance remaining signs if appropriate. Identify required temporary visual NAVAIDs such as REIL or PAPI. Quote from, rather than incorporate by reference, AC 150/5340-1, *Standards for Airport Markings;* AC 150/5340-18, *Standards for Airport Sign Systems;* and AC 150/5340-30, as required. Attach drawings to graphically indicate proposed marking, lighting, signs, and visual NAVAIDs.

3.20 **Marking and Signs for Access Routes.**

Detail plans for marking and signs for vehicle access routes. To the extent possible, signs should be in conformance with the Federal Highway Administration MUTCD and/or State highway specifications, not hand lettered. Detail any modifications to the guidance in the MUTCD necessary to meet frangibility/height requirements.

3.21 **Hazard Marking and Lighting.**

Specify all marking and lighting equipment, including when and where each type of device is to be used. Specify maximum gaps between barricades and the maximum spacing of hazard lighting. Identify one individual and at least one alternate responsible for maintenance of hazard marking and lighting equipment in the master telephone list. Include a reference to paragraph 3.14. Attach drawings to graphically indicate the placement of hazard marking and lighting equipment.

3.22 **Work Zone Lighting for Nighttime Construction.**

If work is to be conducted at night, specify all lighting equipment, including when and where each type of device is to be used. Indicate the direction lights are to be aimed and any directions that aiming of lights is prohibited. Specify any shielding necessary in instances where aiming is not sufficient to prevent interference with air traffic control and aircraft operations. Attach drawings to graphically indicate the placement and aiming of lighting equipment. Where the plan only indicates directions that aiming of lights is prohibited, the placement and positioning of portable lights must be proposed by the Contractor and approved by the airport operator’s representative each time lights are relocated or repositioned.

3.23 **Protection of Runway and Taxiway Safety Areas.**

This section should focus exclusively on procedures for protecting all safety areas, including those altered by the construction: methods of demarcation, limit of access, movement within safety areas, stockpiling and trenching restrictions, and so on. Reference AC 150/5300-13, as required. Include a reference to paragraph 3.10 for procedures regarding vehicle and personnel movement within safety areas. Include a reference to paragraph 3.10 for material stockpile restrictions as required. Detail requirements for trenching, excavations, and backfill. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify open excavations as required. If runway and taxiway closures are proposed to protect safety areas, or if temporary displaced thresholds and/or revised declared distances are used to provide the required Runway Safety Area, include a reference to paragraphs 3.14 and 3.19. Detail procedures for protecting the runway OFZ, runway OFA, taxiway OFA and runway approach surfaces including those altered by the construction: methods of demarcation, limit of cranes, storage of equipment, and so on. Quote from, rather than incorporate by reference, AC 150/5300-13, as required. Include a reference to paragraph 3.24 for height (i.e., crane) restrictions as required. One way to address the height of equipment that will move during the project is to establish a three-dimensional "box" within which equipment will be confined that can be studied as a single object. Attach drawings to graphically indicate the safety area, OFZ, and OFA boundaries.

3.24 **Other Limitations on Construction.**

This section should describe what limitations must be applied to each area of work and when each limitation will be applied: limitations due to airport operations, height (i.e., crane) restrictions, areas which cannot be worked at simultaneously, day/night work restrictions, winter construction, and other limitations. Include a reference to paragraph 3.7 for project phasing requirements based on construction limitations as required.

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APPENDIX A. RELATED READING MATERIAL

Obtain the latest version of the following free publications from the FAA on its Web site at http://www.faa.gov/airports/.

Table A-1. FAA Publications

Number	Title and Description
AC 150/5200-28	*Notices to Airmen (NOTAMs) for Airport Operators* Guidance for using the NOTAM System in airport reporting.
AC 150/5200-30	*Airport Field Condition Assessments and Winter Operations Safety* Guidance for airport owners/operators on the development of an acceptable airport snow and ice control program and on appropriate field condition reporting procedures.
AC 150/5200-33	*Hazardous Wildlife Attractants On or Near Airports* Guidance on locating certain land uses that might attract hazardous wildlife to public-use airports.
AC 150/5210-5	*Painting, Marking, and Lighting of Vehicles Used on an Airport* Guidance, specifications, and standards for painting, marking, and lighting vehicles operating in the airport air operations areas.
AC 150/5210-20	*Ground Vehicle Operations to include Taxiing or Towing an Aircraft on Airports* Guidance to airport operators on developing ground vehicle operation training programs.
AC 150/5300-13	*Airport Design* FAA standards and recommendations for airport design. Establishes approach visibility minimums as an airport design parameter, and contains the Object Free area and the obstacle free-zone criteria.
AC 150/5210-24	*Airport Foreign Object Debris (FOD) Management* Guidance for developing and managing an airport foreign object debris (FOD) program

Number	Title and Description
AC 150/5320-15	*Management of Airport Industrial Waste* Basic information on the characteristics, management, and regulations of industrial wastes generated at airports. Guidance for developing a Storm Water Pollution Prevention Plan (SWPPP) that applies best management practices to eliminate, prevent, or reduce pollutants in storm water runoff with particular airport industrial activities.
AC 150/5340-1	*Standards for Airport Markings* FAA standards for the siting and installation of signs on airport runways and taxiways.
AC 150/5340-18	*Standards for Airport Sign Systems* FAA standards for the siting and installation of signs on airport runways and taxiways.
AC 150/5345-28	*Precision Approach Path Indicator (PAPI) Systems* FAA standards for PAPI systems, which provide pilots with visual glide slope guidance during approach for landing.
AC 150/5340-30	*Design and Installation Details for Airport Visual Aids* Guidance and recommendations on the installation of airport visual aids.
AC 150/5345-39	*Specification for L-853, Runway and Taxiway Retroreflective Markers*
AC 150/5345-44	*Specification for Runway and Taxiway Signs* FAA specifications for unlighted and lighted signs for taxiways and runways.
AC 150/5345-53	*Airport Lighting Equipment Certification Program* Details on the Airport Lighting Equipment Certification Program (ALECP).
AC 150/5345-50	*Specification for Portable Runway and Taxiway Lights* FAA standards for portable runway and taxiway lights and runway end identifier lights for temporary use to permit continued aircraft operations while all or part of a runway lighting system is inoperative.
AC 150/5345-55	*Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure*

Number	Title and Description
AC 150/5370-10	*Standards for Specifying Construction of Airports* Standards for construction of airports, including earthwork, drainage, paving, turfing, lighting, and incidental construction.
AC 150/5370-12	*Quality Management for Federally Funded Airport Construction Projects*
EB 93	*Guidance for the Assembly and Installation of Temporary Orange Construction Signs*
FAA Order 5200.11	FAA Airports (ARP) Safety Management System (SMS) Basics for implementing SMS within ARP. Includes roles and responsibilities of ARP management and staff as well as other FAA lines of business that contribute to the ARP SMS.
FAA Certalert 98-05	*Grasses Attractive to Hazardous Wildlife* Guidance on grass management and seed selection.
FAA Form 7460-1	Notice of Proposed Construction or Alteration
FAA Form 7480-1	Notice of Landing Area Proposal
FAA Form 6000.26	National NAS Strategic Interruption Service Level Agreement, Strategic Events Coordination, Airport Sponsor Form

Obtain the latest version of the following free publications from the Electronic Code of Federal Regulations at http://www.ecfr.gov/.

Table A-2. Code of Federal Regulation

Number	Title
Title 14 CFR Part 77	Safe, Efficient Use and Preservation of the Navigable Airspace
Title 14 CFR Part 139	Certification of Airports
Title 49 CFR Part 1542	Airport Security

Obtain the latest version of the Manual on Uniform Traffic Control Devices from the Federal Highway Administration at http://mutcd.fhwa.dot.gov/.

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APPENDIX B. TERMS AND ACRONYMS

Table B-1. Terms and Acronyms

Term	Definition
Form 7460-1	Notice of Proposed Construction or Alteration. For on-airport projects, the form submitted to the FAA regional or airports division office as formal written notification of any kind of construction or alteration of objects that affect navigable airspace, as defined in 14 CFR Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*. (See guidance available on the FAA web site at https://oeaaa.faa.gov.) The form may be downloaded at http://www.faa.gov/airports/resources/forms/, or filed electronically at: https://oeaaa.faa.gov.
Form 7480-1	Notice of Landing Area Proposal. Form submitted to the FAA Airports Regional Division Office or Airports District Office as formal written notification whenever a project without an airport layout plan on file with the FAA 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 The form may be downloaded at http://www.faa.gov/airports/resources/forms/.
Form 6000-26	Airport Sponsor Strategic Event Submission Form
AC	Advisory Circular
ACSI	Airport Certification Safety Inspector
ADG	Airplane Design Group
AIP	Airport Improvement Program
ALECP	Airport Lighting Equipment Certification Program
ANG	Air National Guard
AOA	Air Operations Area, as defined in 14 CFR Part 107. Means a portion of an airport, specified in the airport security program, in which security measures are carried out. This area includes aircraft movement areas, aircraft parking areas, loading ramps, and safety areas, and any adjacent areas (such as general aviation areas) that are not separated by adequate security systems, measures, or procedures. This area does not include the secured area of the airport terminal building.
ARFF	Aircraft Rescue and Fire Fighting
ARP	FAA Office of Airports
ASDA	Accelerate-Stop Distance Available
AT	Air Traffic
ATCT	Airport Traffic Control Tower
ATIS	Automatic Terminal Information Service
ATO	Air Traffic Organization
Certificated Airport	An airport that has been issued an Airport Operating Certificate by the FAA under

Term	Definition
	the authority of 14 CFR Part 139, *Certification of Airports*.
CFR	Code of Federal Regulations
Construction	The presence of construction-related personnel, equipment, and materials in any location that could infringe upon the movement of aircraft.
CSPP	Construction Safety and Phasing Plan. The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
CTAF	Common Traffic Advisory Frequency
Displaced Threshold	A threshold that is located at a point on the runway other than the designated beginning of the runway. The portion of pavement behind a displaced threshold is available for takeoffs in either direction or landing from the opposite direction.
DOT	Department of Transportation
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FOD	Foreign Object Debris/Damage
FSS	Flight Service Station
GA	General Aviation
HAZMAT	Hazardous Materials
HMA	Hot Mix Asphalt
IAP	Instrument Approach Procedures
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LDA	Landing Distance Available
LOC	Localizer antenna array
Movement Area	The runways, taxiways, and other areas of an airport that are used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading aprons and aircraft parking areas (reference 14 CFR Part 139).
MSDS	Material Safety Data Sheet
MUTCD	Manual on Uniform Traffic Control Devices
NAVAID	Navigation Aid
NAVAID Critical Area	An area of defined shape and size associated with a NAVAID that must remain clear and graded to avoid interference with the electronic signal.
Non-Movement Area	The area inside the airport security fence exclusive of the Movement Area. It is important to note that the non-movement area includes pavement traversed by aircraft.

Term	Definition
NOTAM	Notices to Airmen
Obstruction	Any object/obstacle exceeding the obstruction standards specified by 14 CFR Part 77, subpart C.
OCC	Operations Control Center
OE / AAA	Obstruction Evaluation / Airport Airspace Analysis
OFA	Object Free Area. An area on the ground centered on the runway, taxiway, or taxi lane centerline provided to enhance safety of aircraft operations by having the area free of objects except for those objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. (See AC 150/5300-13 for additional guidance on OFA standards and wingtip clearance criteria.)
OFZ	Obstacle Free Zone. The airspace below 150 ft (45 m) above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway and for missed approaches. The OFZ is subdivided as follows: Runway OFZ, Inner Approach OFZ, Inner Transitional OFZ, and Precision OFZ. Refer to AC 150/5300-13 for guidance on OFZ.
OSHA	Occupational Safety and Health Administration
OTS	Out of Service
P&R	Planning and Requirements Group
NPI	NAS Planning & Integration
PAPI	Precision Approach Path Indicator
PFC	Passenger Facility Charge
PLASI	Pulse Light Approach Slope Indicator
Project Proposal Summary	A clear and concise description of the proposed project or change that is the object of Safety Risk Management.
RA	Reimbursable Agreement
RE	Resident Engineer
REIL	Runway End Identifier Lights
RNAV	Area Navigation
ROFA	Runway Object Free Area
RSA	Runway Safety Area. A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway, in accordance with AC 150/5300-13.
SDS	Safety Data Sheet
SIDA	Security Identification Display Area
SMS	Safety Management System

Term	Definition
SPCD	Safety Plan Compliance Document. Details developed and submitted by a contractor to the airport operator for approval providing details on how the performance of a construction project will comply with the CSPP.
SRM	Safety Risk Management
SSC	System Support Center
Taxiway Safety Area	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway, in accordance with AC 150/5300-13.
TDG	Taxiway Design Group
Temporary	Any condition that is not intended to be permanent.
Temporary Runway End	The beginning of that portion of the runway available for landing and taking off in one direction, and for landing in the other direction. Note the difference from a displaced threshold.
Threshold	The beginning of that portion of the runway available for landing. In some instances, the landing threshold may be displaced.
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available. The length of the runway less any length of runway unavailable and/or unsuitable for takeoff run computations. See AC 150/5300-13 for guidance on declared distances.
TSA	Taxiway Safety Area, or Transportation Security Administration
UNICOM	A radio communications system of a type used at small airports.
VASI	Visual Approach Slope Indicator
VGSI	Visual Glide Slope Indicator. A device that provides a visual glide slope indicator to landing pilots. These systems include precision approach path indicator (PAPI), visual approach slope indicator (VASI), and pulse light approach slope indicator (PLASI).
VFR	Visual Flight Rules
VOR	Very High Frequency Omnidirectional Radio Range
VPD	Vehicle / Pedestrian Deviation

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	
General Considerations					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	2.5				
Operational safety is a standing agenda item for construction progress meetings.	2.5				
Scheduling of the construction phases is properly addressed.	2.6				
Any formal agreements are established.	2.5.3				
Areas and Operations Affected by Construction Activity					
Drawings showing affected areas are included.	2.7.1				
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	2.7.1.1				
Access routes used by ARFF vehicles affected by the project are addressed.	2.7.1.2				
Access routes used by airport and airline support vehicles affected by the project are addressed.	2.7.1.3				
Underground utilities, including water supplies for firefighting and drainage.	2.7.1.4				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	2.7.1.5				
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	2.7.1				
Temporary changes to taxi operations are addressed.	2.7.2.1				
Detours for ARFF and other airport vehicles are identified.	2.7.2.2				
Maintenance of essential utilities and underground infrastructure is addressed.	2.7.2.3				
Temporary changes to air traffic control procedures are addressed.	2.7.2.4				
NAVAIDs					
Critical areas for NAVAIDs are depicted on drawings.	2.8				
Effects of construction activity on the performance of NAVAIDS, including unanticipated power outages, are addressed.	2.8				
Protection of NAVAID facilities is addressed.	2.8				
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	2.8				
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	2.8, 2.13.1, 2.13.5.3.1, 2.18.1				
Contractor Access					
The CSPP addresses areas to which contractor will have access and how	2.9				

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.	2.9				
The location of stockpiled construction materials is depicted on drawings.	2.9.1				
The requirement for stockpiles in the ROFA to be approved by FAA is included.	2.9.1				
Requirements for proper stockpiling of materials are included.	2.9.1				
Construction site parking is addressed.	2.9.2.1				
Construction equipment parking is addressed.	2.9.2.2				
Access and haul roads are addressed.	2.9.2.3				
A requirement for marking and lighting of vehicles to comply with AC 150/5210-5, *Painting, Marking and Lighting of Vehicles Used on an Airport,* is included.	2.9.2.4				
Proper vehicle operations, including requirements for escorts, are described.	2.9.2.5, 2.9.2.6				
Training requirements for vehicle drivers are addressed.	2.9.2.7				
Two-way radio communications procedures are described.	2.9.2.9				
Maintenance of the secured area of the airport is addressed.	2.9.2.10				
Wildlife Management					
The airport operator’s wildlife management procedures are addressed.	2.10				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Foreign Object Debris Management					
The airport operator's FOD management procedures are addressed.	2.11				
Hazardous Materials Management					
The airport operator's hazardous materials management procedures are addressed.	2.12				
Notification of Construction Activities					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	2.13				
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.	2.13.1				
A list of local ATO/Technical Operations personnel is included.	2.13.1				
A list of ATCT managers on duty is included.	2.13.1				
A list of authorized representatives to the OCC is included.	2.13.2				
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	2.8, 2.13.2, 2.18.3.3.9				
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	2.13.2				
Emergency notification procedures for medical, fire fighting, and police	2.13.3				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	2.13.4				
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	2.13.5				
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	2.13.5.3.2				
Inspection Requirements					
Daily and interim inspections by both the airport operator and contractor are specified.	2.14.1, 2.14.2				
Final inspections at certificated airports are specified when required.	2.14.3				
Underground Utilities					
Procedures for protecting existing underground facilities in excavation areas are described.	2.15				
Penalties					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	2.16				
Special Conditions					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	2.17				
Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	2.18.1				
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	2.18.1, 2.18.3, 2.18.4.2, 2.20.2.4				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with AC 150/5340-1, *Standards for Airport Markings*, is specified.	2.18.2				
Detailed specifications for materials and methods for temporary markings are provided.	2.18.2				
The requirement for lighting to 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*, is specified.	2.18.3				
The use of a lighted X is specified where appropriate.	2.18.2.1.2, 2.18.3.2				
The requirement for signs 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 Certification Program*, is specified.	2.18.4				
Marking and Signs For Access Routes					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to AC 150/5340-18 and, to the extent practicable, with the MUTCD and/or State highway specifications.	2.18.4.2				
Hazard Marking and Lighting					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	2.20.1				

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.	2.20.1				
The CSPP considers less obvious construction-related hazards.	2.20.1				
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.	2.20.2.1				
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	2.20.2.1				
Red lights meeting the luminance requirements of the State Highway Department are specified.	2.20.2.2				
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.	2.20.2.3				
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	2.20.2.3				
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	2.20.2.5				
Markings for temporary closures are specified.	2.20.2.5				
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	2.20.2.7				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Work Zone Lighting for Nighttime Construction					
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.	2.21				
Protection of Runway and Taxiway Safety Areas					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	2.22.1.1, 2.22.3.1				
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.	2.22.1.2, 2.22.3.2				
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	2.22.3.3				
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.	2.22.1.4				
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	2.22.1.4				
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	2.22.1.4				
Grading and soil erosion control to maintain RSA/TSA standards are	2.22.3.5				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	2.22.2				
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	2.22.3				
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	2.22.4				
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.	2.22.4.3.6				
Provisions for protection of runway approach/departure areas and clearways are included.	2.22.6				
Other Limitations on Construction					
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.	2.23.1.2				
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	2.23.1.3				

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

Item	Action Required (Describe)	No Action Required (Check)
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and		

Item	Action Required (Describe)	No Action Required (Check)
approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Obliterated or faded temporary markings on active operational areas.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		

Item	Action Required (Describe)	No Action Required (Check)
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		

Item	Action Required (Describe)	No Action Required (Check)
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase.		

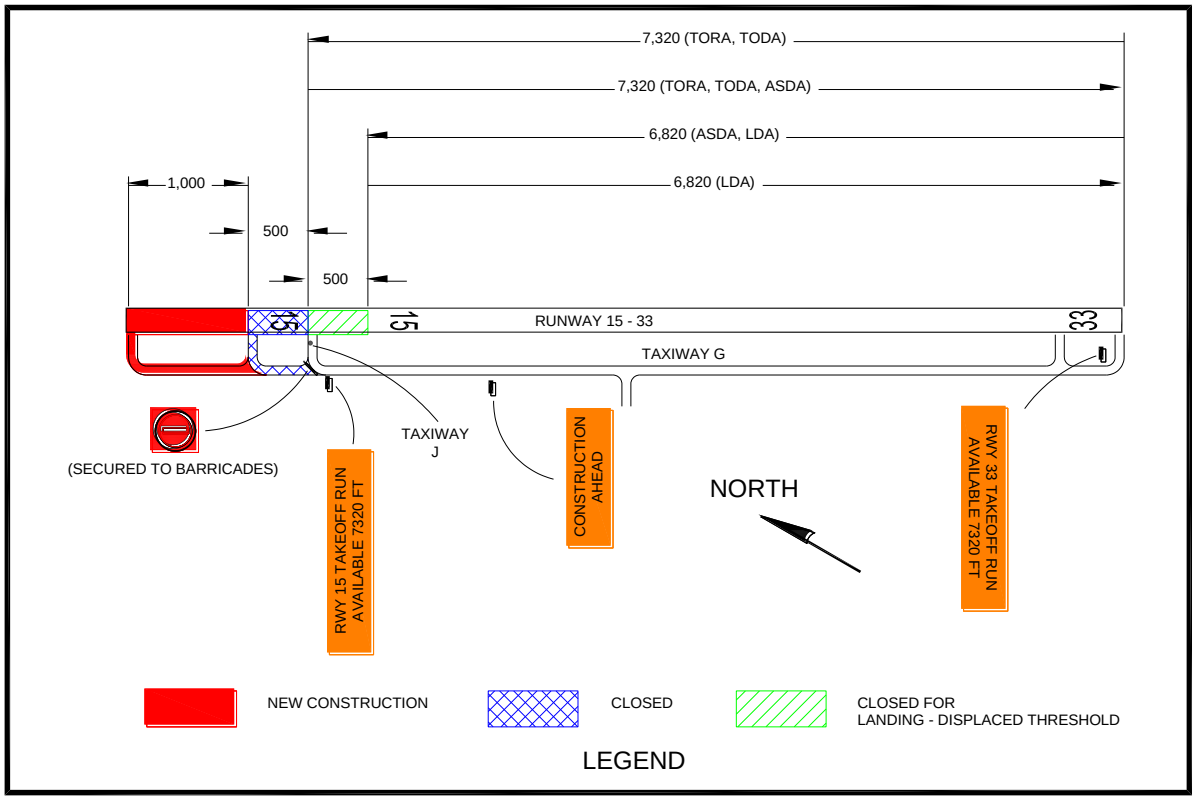
APPENDIX E. SAMPLE OPERATIONAL EFFECTS TABLE

E.1 **Project Description.**

Runway 15-33 is currently 7820 feet long, with a 500 foot stopway on the north end. This project will remove the stopway and extend the runway 1000 feet to the north and 500 feet to the south. Finally, the existing portion of the runway will be repaved. The runway 33 glide slope will be relocated. The new runway 33 localizer has already been installed by FAA Technical Operations and only needs to be switched on. Runway 15 is currently served only by a localizer, which will remain in operation as it will be beyond the future RSA. Appropriate NOTAMS will be issued throughout the project.

E.1.1 During Phase I, the runway 15 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 15 takeoff and the departure end of runway 33 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 33 will be adjusted to provide the required RSA and applicable departure surface. Excavation near Taxiway G will require its ADG to be reduced from IV to III. See Figure E-1.

Figure E-1. Phase I Example

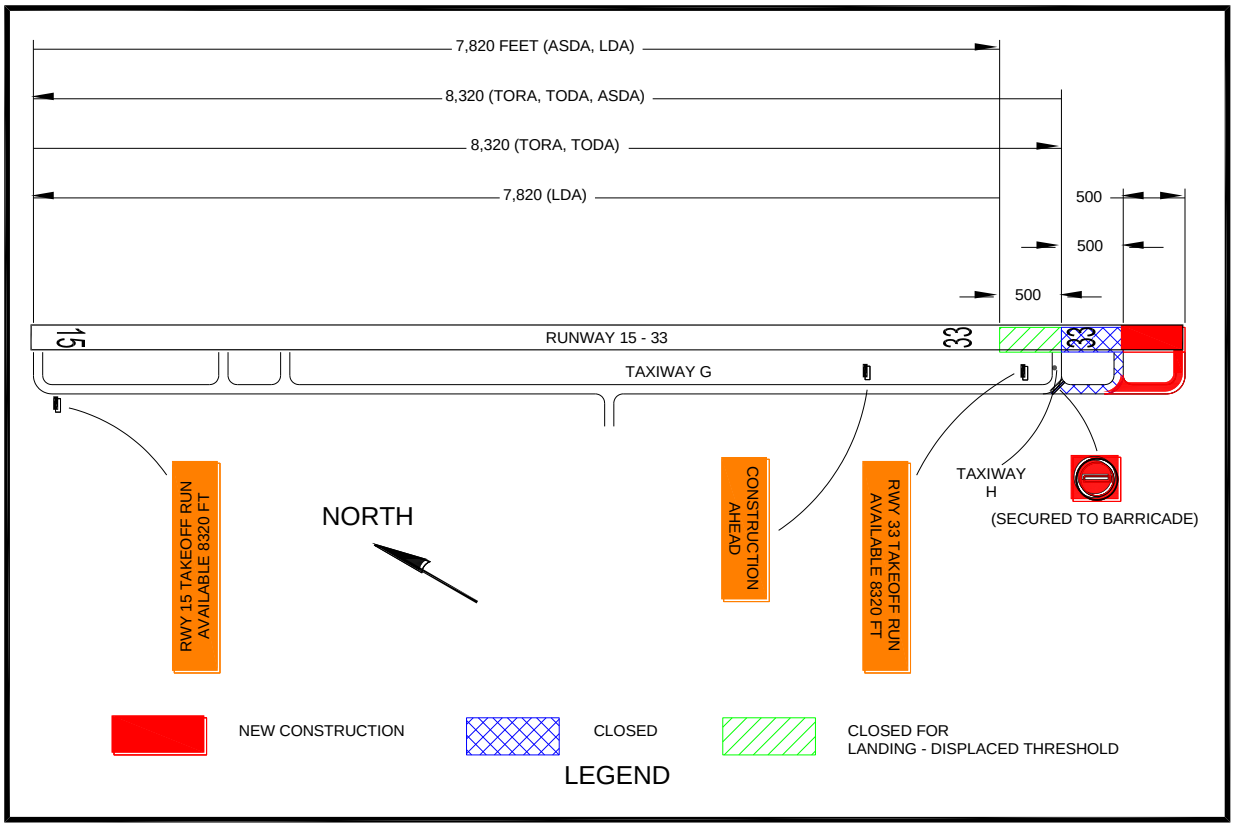


Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 33 departures, the maximum equipment height in the construction area is 12.5 feet (500/40 = 12.5).

E.2 During Phase II, the runway 33 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 33 takeoff and the departure end of runway 15 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 15 will be adjusted to provide the required RSA and applicable departure surface. See Figure E-2.

Figure E-2. Phase II Example



Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 15 departures, the maximum equipment height in the construction area is 12.5 feet (500/40 = 12.5).

E.3 During Phase III, the existing portion of the runway will be repaved with Hot Mix Asphalt (HMA) and the runway 33 glide slope will be relocated. Construction will be accomplished between the hours of 8:00 pm and 5:00 am, during which the runway will be closed to operations.

Figure E-3. Phase III Example

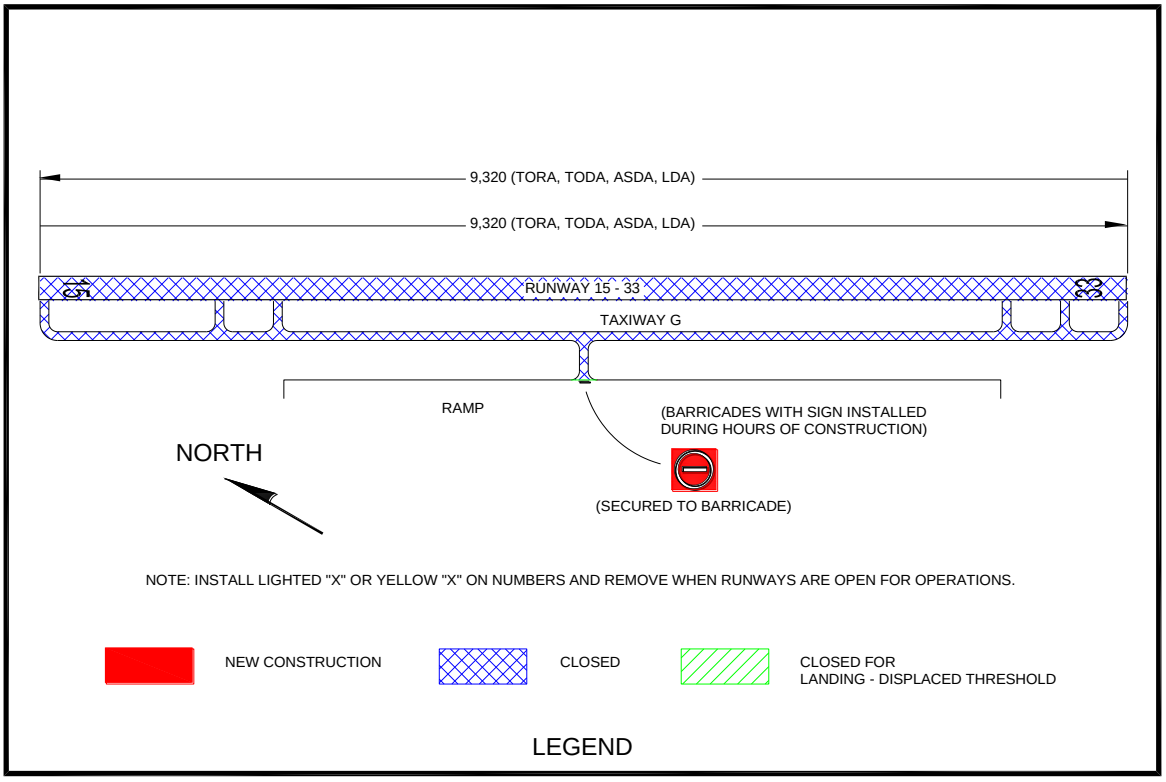


Table E-1. Operational Effects Table

Project	**Runway 15-33 Extension and Repaving**			
Phase	**Normal (Existing)**	**Phase I: Extend Runway 15 End**	**Phase II: Extend Runway 33 End**	**Phase III: Repave Runway**
Scope of Work	N/A	Extend Runway 15-33 1,000 ft on north end with Hot Mix Asphaltic Concrete (HMA).	Extend Runway 15-33 500 ft on south end with Hot Mix Asphaltic Concrete (HMA).	Repave existing runway with HMA Relocate Runway 33 Glide Slope
Effects of Construction Operations	N/A	Existing North 500 ft closed	Existing South 500 ft closed	Runway closed between 8:00 pm and 5:00 am Edge lighting out of service
Construction Phase	N/A	Phase I (Anticipated)	Phase II (Anticipated)	Phase III (Anticipated)
Runway 15 Average Aircraft Operations	Carrier: 52 /day GA: 26 /day Military: 11 /day	Carrier: 40 /day GA: 26 /day Military: 0 /day	Carrier: 45 /day GA: 26 /day Military: 5 /day	Carrier: 45 / day GA: 20 / day Military: 0 /day
Runway 33 Average Aircraft Operations	Carrier: 40 /day GA: 18 /day Military: 10 /day	Carrier: 30 /day GA: 18 /day Military: 0 /day	Carrier: 25 /day GA: 18 /day Military: 5 /day	Carrier: 20 /day GA: 5 /day Military: 0 /day
Runway 15-33 Aircraft Category	C-IV	C-IV	C-IV	C-IV
Runway 15 Approach Visibility Minimums	1 mile	1 mile	1 mile	1 mile
Runway 33 Approach Visibility Minimums	¾ mile	¾ mile	¾ mile	1 mile

Note: Proper coordination with Flight Procedures group is necessary to maintain instrument approach procedures during construction.

Project		Runway 15-33 Extension and Repaving			
Phase		Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Runway 15 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	7,820	7,320	7,820	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 33 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	8,320	6,820	8,320	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 15 Approach Procedures		LOC only	LOC only	LOC only	LOC only
		RNAV	RNAV	RNAV	RNAV
		VOR	VOR	VOR	VOR
Runway 33 Approach Procedures		ILS	ILS	ILS	LOC only
		RNAV	RNAV	RNAV	RNAV
		VOR	VOR	VOR	VOR
Runway 15 NAVAIDs		LOC	LOC	LOC	LOC
Runway 33 NAVAIDs		ILS, MALSR	ILS, MALSR	ILS, MALSR	LOC, MALSR
Taxiway G ADG		IV	III	IV	IV
Taxiway G TDG		4	4	4	4
ATCT (hours open)		24 hours	24 hours	24 hours	0500 - 2000
ARFF Index		D	D	D	D

Project	Runway 15-33 Extension and Repaving			
Phase	**Normal (Existing)**	**Phase I: Extend Runway 15 End**	**Phase II: Extend Runway 33 End**	**Phase III: Repave Runway**
Special Conditions	Air National Guard (ANG) military operations	All military aircraft relocated to alternate ANG Base	Some large military aircraft relocated to alternate ANG Base	All military aircraft relocated to alternate ANG Base
Information for NOTAMs		Refer above for applicable declared distances. Taxiway G limited to 118 ft wingspan	Refer above for applicable declared distances.	Refer above for applicable declared distances. Airport closed 2000 – 0500. Runway 15 glide slope OTS.

Note: This table is one example. It may be advantageous to develop a separate table for each project phase and/or to address the operational status of the associated NAVAIDs per construction phase.

Complete the following chart for each phase to determine the area that must be protected along the runway and taxiway edges:

Table E-2. Runway and Taxiway Edge Protection

Runway/Taxiway	Aircraft Approach Category* A, B, C, or D	Airplane Design Group* I, II, III, or IV	Safety Area Width in Feet Divided by 2*

*See AC 150/5300-13 to complete the chart for a specific runway/taxiway.

Complete the following chart for each phase to determine the area that must be protected before the runway threshold:

Table E-3. Protection Prior to Runway Threshold

Runway End Number	Airplane Design Group* I, II, III, or IV	Aircraft Approach Category* A, B, C, or D	Minimum Safety Area Prior to the Threshold*	Minimum Distance to Threshold Based on Required Approach Slope*	
			ft	ft	: 1
			ft	ft	: 1
			ft	ft	: 1
			ft	ft	: 1

*See AC 150/5300-13 to complete the chart for a specific runway.

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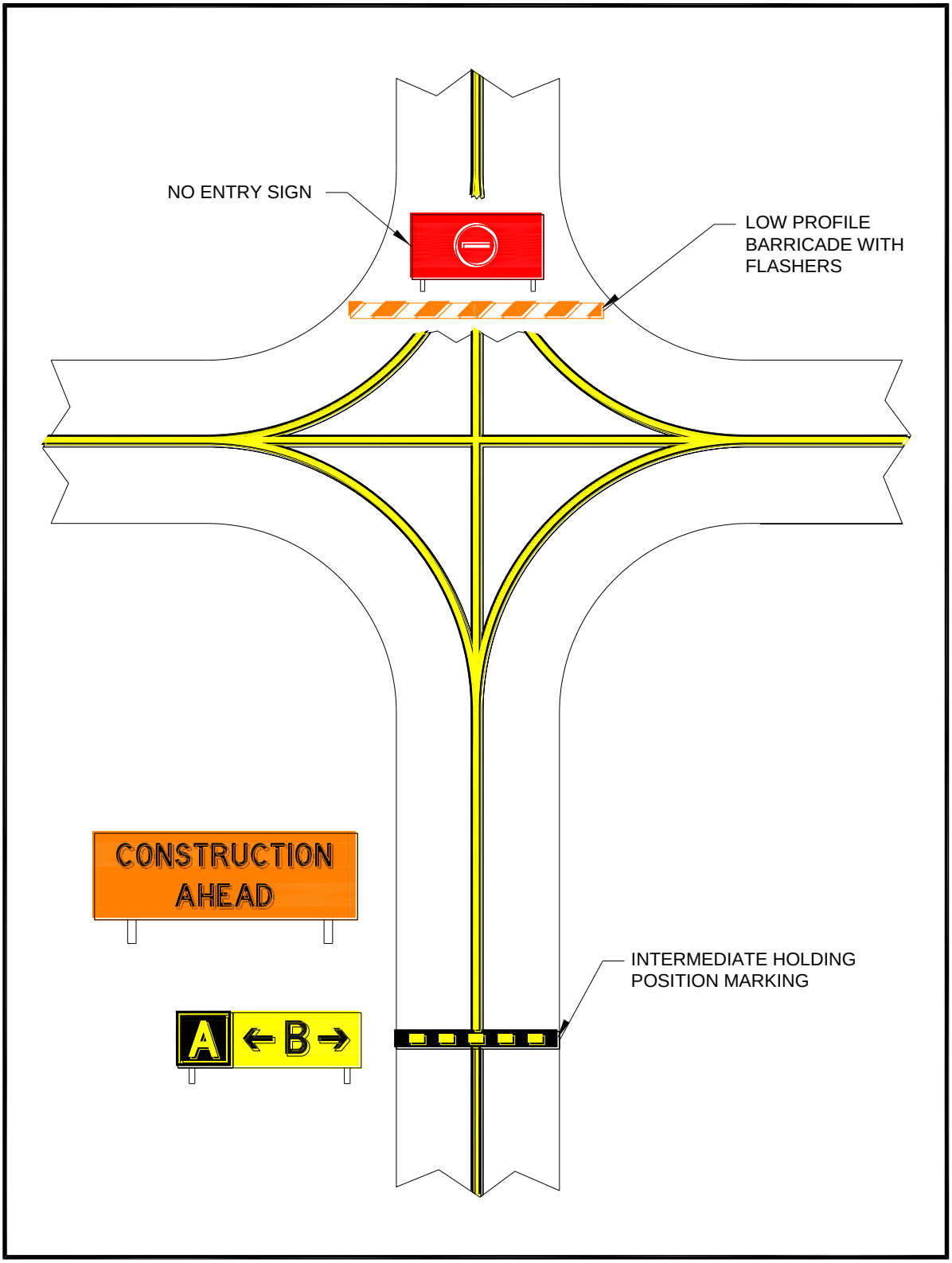
APPENDIX F. ORANGE CONSTRUCTION SIGNS

Figure F-1. Approved Sign Legends

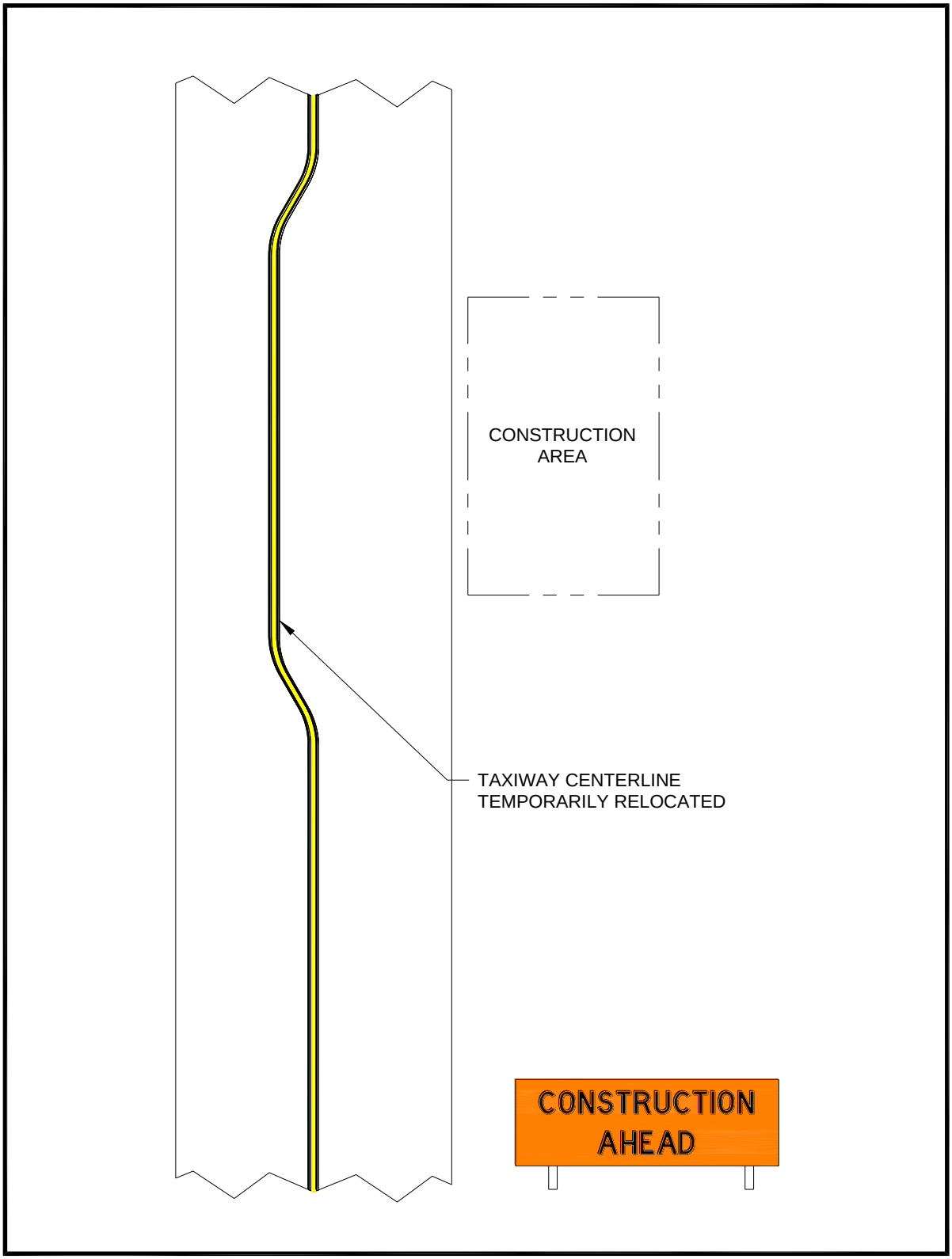


Figure F-2. Orange Construction Sign Example 1



Note: For proper placement of signs, refer to EB 93.

Figure F-3. Orange Construction Sign Example 2



Note: For proper placement of signs, refer to EB 93.

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Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Engineering Division, Federal Aviation Administration ATTN: AAS-100, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Safety and Standards at (202) 267-5383.

Subject: AC 150/5370-2G Date: _____

Please check all appropriate line items:

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:

_____
_____
_____

☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

_____
_____
_____

☐ Other comments:

_____
_____
_____

☐ I would like to discuss the above. Please contact me at (phone number, email address).

_____

Submitted by: _____ Date: _____

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