

SCOTTSDALE AIRPORT



Project Specifications for

REHABILITATE GATE 1 TAXILANE AND BYPASS TAXILANE AND IMPLEMENT DRAINAGE IMPROVEMENTS

FAA AIP No. 3-04-0032-049-2025

ADOT No. E6S1A01C

City Project No. AXXX

City Bid No. IFB-032025-249

Prepared for



15000 North Airport Drive, Suite 100
Scottsdale, AZ 85260

Prepared by



8800 East Raintree Drive, Suite 285
Scottsdale, AZ 85260
meadhunt.com



Bradley Mikulecky

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SCOTTSDALE AIRPORT
REHABILITATE GATE 1 TAXILANE AND BYPASS TAXILANE
AND IMPLEMENT DRAINAGE IMPROVEMENTS PROJECT

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DIVISION I

FEDERAL CONTRACT PROVISIONS

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**FAA
Airports**

Federal Contract Provisions for Airport Improvement Program Projects (Last Issued on May 2023)

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Contract Guidance

This project is funded by the Federal Aviation Administration. Federal laws and regulations require that projects funded by federal assistance programs must include specific contract provisions. Contractor(s) including subcontractors are required to:

- Include certain provisions in their subcontracts and sub-tier agreements.
 - Mandatory Language – Whenever a clause or provision has mandatory text, Contractors and subcontractors must incorporate the text of the provision without change, except where specific adaptive input is necessary.
- Incorporate the applicable requirements of these contract provisions by reference for work done under any purchase orders, rental agreements and other agreements for supplies or services.

The prime contractor shall be responsible for compliance with these contract provisions by any subcontractor, lower-tier subcontractor or service provider.

Failure to Comply with Provisions

Contractors' failure to comply with the terms of these contract provisions may be sufficient grounds to:

- 1) Withhold progress payments or final payment;
- 2) Terminate the contract for cause;
- 3) Seek suspension/debarment; or
- 4) Take other actions determined to be appropriate by the Sponsor or the FAA.

A1 ACCESS TO RECORDS AND REPORTS

(Source: 2 CFR § 200.334, 2 CFR § 200.337, FAA Order 5100.38)

FAA policy extends these requirements to the Sponsor’s contracts and subcontracts of AIP funded projects.

ACCESS TO RECORDS AND REPORTS

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

A2 AFFIRMATIVE ACTION REQUIREMENT

(Source: 41 CFR Part 60-4, Executive Order 11246)

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY

1. The Offeror’s or Bidder’s attention is called to the “Equal Opportunity Clause” and the “Standard Federal Equal Employment Opportunity Construction Contract Specifications” set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor’s aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

- Goals for minority participation for each trade: **15.8% (Maricopa County)**
- Goals for female participation in each trade: 6.9%

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

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

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

4. As used in this notice and in the contract resulting from this solicitation, the “covered area” is **State of Arizona, County of Maricopa, City of Scottsdale.**

A3 BREACH OF CONTRACT TERMS

(Source: 2 CFR Part 200, Appendix II(A))

Contract Types – This provision is required for all contracts that exceed the simplified acquisition threshold as stated in 2 CFR Part 200, Appendix II (A). This threshold is occasionally adjusted for inflation and is \$250,000.

BREACH OF CONTRACT TERMS

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

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

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

A4 BUY AMERICAN PREFERENCE

(Source: Title 49 USC § 50101; Executive Order 14005, *Ensuring the Future is Made in All of America by All of America’s Workers*; Bipartisan Infrastructure Law (Pub. L. No. 117-58), Build America, Buy America (BABA)

The Buy American Preference incorporates statutory requirements and policies outlined in the in 49 USC § 50101, Executive Order 14005, and BABA.

Section 50101 of 49 USC requires that all steel and manufactured goods used on AIP projects be produced in the United States. This section also gives the FAA the ability to issue a waiver to a Sponsor to use non-domestic material on an AIP funded project subject to meeting certain conditions. A Sponsor may request that the FAA issue a waiver from the Buy American Preference requirements if the FAA finds that:

- 1) Applying the provision is not in the public interest.

- 2) The steel or manufactured goods are not available in sufficient quantity or quality in the United States.
- 3) The cost of components and subcomponents produced in the United States is more than 60 percent of the total components of a facility or equipment, and final assembly has taken place in the United States. Items that have an FAA standard specification item number (such as specific airport lighting equipment) are considered the equipment.
- 4) Applying this provision would increase the cost of the overall project by more than 25 percent.

Executive Order 14005 advances the Administration’s priority to use terms and conditions of Federal financial assistance awards to maximize the use of goods, products, and materials produced in, and services offered in, the United States. The Order directs, to the extent appropriate and consistent with applicable law, agencies shall partner with the Hollings Manufacturing Extension Partnership (MEP) to conduct supplier scouting in order to identify American companies that are able to produce goods, products, and materials in the United States that meet Federal procurement needs, prior to consideration of using non-domestic products.

The Bipartisan Infrastructure Law, Build America, Buy America (BABA) Act strengthens Made in America Laws and bolsters America’s industrial base, protects national security, and supports high-paying jobs. Under BABA, iron, steel and certain construction materials are required to be 100% produced in the United States.

Under the Bipartisan Infrastructure Law (Pub. L. No. 117-58) BABA three waivers are available for iron and steel, manufactured products, and construction materials when a Federal agency finds that –

- 1) Applying the domestic content procurement preference would be inconsistent with the public interest (a “public interest waiver”);
- 2) Types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality (a “nonavailability waiver”); or
- 3) The inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent (an “unreasonable cost waiver”).

BABA defines construction materials, items that are or consists primarily of non-ferrous metals, plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables), glass (including optic glass), lumber or drywall.

Items that consist of two or more of the aforementioned materials that have been combined together through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed through a manufacturing process, should be treated as manufactured products, rather than as construction materials. For example, a plastic framed sliding window should be treated as a manufactured product while plate glass should be treated as a construction material.

The Buy America Preference requirements flow down from the Sponsor to first tier contractors, who are responsible for ensuring that lower tier contractors and subcontractors are also in compliance.

Note: The Buy American Preference does not apply to temporary equipment a contractor uses as a tool of its trade and which does not remain as part of the project.

Required Documentation

The FAA Buy American Requests. All applications (requests) for an FAA Buy American Preference Waiver includes, at minimum, a completed Content Percentage Worksheet and Final Assembly Questionnaire. Additional information may be requested from the applicant by the FAA. Airport Sponsors, consultants, construction contractors, or equipment manufacturers are responsible for completing and submitting waiver applications. The FAA is unable to make a determination on waiver requests with incomplete information. Sponsors must confirm with the bidder or offeror to assess the adequacy of the waiver request and associated information prior to forwarding a waiver request to the FAA for action. All FAA waivers forms are available from the FAA Buy American Requirements webpage.

Proprietary Confidentiality. Exemption 4 of the Freedom of Information Act protects trade secrets and commercial or financial information obtained from a person [that is] privileged or confidential. Proprietary manufacturing and design information submitted to the Federal Aviation Administration for the purposes of receiving a Buy American Waiver shall not be disclosed outside the FAA. The FAA will provide a written notification to the Airport Sponsor, manufacturer(s), contractor(s) or supplier(s) when a waiver determination is complete.

Buy American Conformance Lists. The FAA Office of Airports maintains listings of projects and products that have received a waiver from the Buy American Preference requirements for project specific and nationwide use. Each of these conformance lists is available online at www.faa.gov/airports/aip/buy_american/. Products listed on the FAA Nationwide Buy American Conformance list do not require additional submittal of domestic content information. Nationwide waivers expire five years from the date issued, unless revoked earlier by the FAA.

Contract Types –

- **Construction Projects** involving the replacement, rehabilitation, reconstruction of airfield surfaces such as on runways, taxiways, taxilanes, aprons, roadways, parking lots, etc.
- **Equipment and Buildings Projects** involving and including the acquisition of equipment such as snow removal equipment, navigational aids, wind cones, and the construction of buildings such as hangars, terminal development, lighting vaults, aircraft rescue & firefighting buildings, etc. - Insert the Certificate of Compliance with FAA Buy American Preference Based on Equipment/Building Projects.

FAA BUY AMERICAN PREFERENCE

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws,¹ U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for

¹ Per Executive Order 14005 “Made in America Laws” means all statutes, regulations, rules, and Executive Orders relating to federal financial assistance awards or federal procurement, including those that refer to “Buy America” or “Buy American,” that require, or provide a preference for, the purchase or acquisition of goods, products, or materials produced in the United States, including iron, steel, and manufactured products offered in the United States.

the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. (See Proposal Forms). The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

A5 CIVIL RIGHTS - GENERAL
(Source: 49 USC § 47123)

Insert this in every contract or agreement.

GENERAL CIVIL RIGHTS PROVISIONS

In all its activities within the scope of its airport program, the Contractor agrees to comply with pertinent statutes, Executive Orders, and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

The above provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract.

A6 CIVIL RIGHTS – TITLE VI ASSURANCE
(Source: 49 USC § 47123; FAA Order 1400.11)

Title VI of the Civil Rights Act of 1964, as amended, (Title VI) prohibits discrimination on the grounds of race, color, or national origin under any program or activity receiving Federal financial assistance.

The text of each individual clause comes from the U.S. Department of Transportation [Order DOT 1050.2](#), Standard Title VI Assurances and Nondiscrimination Provisions, effective April 24, 2013. Where the clause refers to the applicable activity, project, or program, it means the AIP project.

Insert this list in every contract or agreement.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

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

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-Assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27 (Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance);
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-259) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, *et seq.*) (prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations);
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs [70 Fed. Reg. 74087 (2005)];
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC § 1681, *et seq.*).

Compliance with Nondiscrimination Requirements:

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

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

A7 CLEAN AIR AND WATER POLLUTION CONTROL

(Source: 2 CFR Part 200, Appendix II(G); 42 USC § 7401, et seq 33; USC § 1251, et seq)

Contract Types – This provision is required for all contracts and lower tier contracts that exceed \$150,000.

CLEAN AIR AND WATER POLLUTION CONTROL

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC §§ 7401-7671q) and the Federal Water Pollution Control Act as amended (33 USC §§ 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

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

A8 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

(Source: 2 CFR Part 200, Appendix II(E); 2 CFR § 5.5(b); 40 USC § 3702; 40 USC § 3704)

Contract Work Hours and Safety Standards Act Requirements (CWHSSA) (40 USC §§ 3702 & 3704) requires contractors and subcontractors on covered contracts to pay laborers and mechanics employed in the performance of the contracts not less than one and one-half times their basic rate of pay for all hours worked over 40 in a workweek. CWHSSA prohibits unsanitary, hazardous, or dangerous working conditions on federally-assisted projects. The Wage and Hour Division (WHD) within the U.S. Department of Labor (DOL) enforces the compensation requirements of this Act, while DOL’s Occupational Safety and Health Administration (OSHA) enforces the safety and health requirements.

This provision applies to all contracts and lower tier contracts that exceed \$100,000, and employ laborers, mechanics, watchmen, and guards.

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements.

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

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

In the event of any violation of the clause set forth in paragraph (1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of \$29 for each calendar day on which such individual was required or permitted to work in excess

of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

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

4. Subcontractors.

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

A9 COPELAND “ANTI-KICKBACK” ACT

(Source: 2 CFR Part 200, Appendix II(D); 29 CFR Parts 3 and 5)

This provision applies to all construction contracts and subcontracts financed under the AIP that exceed \$2,000.

COPELAND “ANTI-KICKBACK” ACT

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

A10 DAVIS-BACON REQUIREMENTS

(Source: 2 CFR Part 200, Appendix II(D); 29 CFR Part 5; 49 USC § 47112(b); 40 USC §§ 3141-3144, 3146, and 3147)

The Davis-Bacon Act (40 USC §§ 3141-3144, 3146, and 3147) ensures that laborers and mechanics employed under the contract receive pay no less than the locally prevailing wages and fringe benefits as determined by the Department of Labor.

Incorporate into all construction contracts and subcontracts that exceed \$2,000 and include funding from the AIP.

DAVIS-BACON REQUIREMENTS

1. Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

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

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

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

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

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

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

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

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

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the

Contractor shall maintain records that show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

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

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

- (1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i), and that such information is correct and complete;
- (2) That each laborer and mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR Part 3;
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

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

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

(iii) The Contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Sponsor, the Federal Aviation Administration, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, Sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR § 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman’s hourly rate) specified in the Contractor’s or subcontractor’s registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice’s level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will

no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

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

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

5. Compliance with Copeland Act Requirements.

The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR §§ 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR § 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR § 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

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

10. Certification of Eligibility.

(i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).

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

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

A11 DEBARMENT AND SUSPENSION

(Source: 2 CFR Part 180 (Subpart B); 2 CFR Part 200, Appendix II(H); 2 CFR Part 1200; DOT Order 4200.5; Executive Orders 12549 and 12689)

This provision must be included in any AIP-funded contract, regardless of tier, that is awarded by a contractor, subcontractor, supplier, consultant if the amount of the contract is equal to or exceeds \$25,000.

CERTIFICATION OF OFFEROR/BIDDER REGARDING DEBARMENT

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

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

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

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

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

A12 DISADVANTAGED BUSINESS ENTERPRISE

(Source: 49 CFR Part 26)

Race/Gender Neutral Means

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

Prime Contracts (Contracts Covered by a DBE Program)

Contract Assurance (49 CFR § 26.13)

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

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

Prompt Payment (49 CFR § 26.29)

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 14 days from the receipt of each payment the prime contractor receives from City of Scottsdale. The prime contractor agrees further to return retainage payments to each subcontractor within 14 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the City of Scottsdale. This clause applies to both DBE and non-DBE subcontractors.

Termination of DBE Subcontracts (49 CFR § 26.53(f))

The prime contractor must not terminate a DBE subcontractor listed in response to this project's Notice to Bidders / Bid Advertisement (or an approved substitute DBE firm) without prior written consent of City of Scottsdale. This includes, but is not limited to, instances in which the prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent City of Scottsdale. Unless City of Scottsdale consent is provided, the prime contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

City of Scottsdale may provide such written consent only if City of Scottsdale agrees, for reasons stated in the concurrence document, that the prime contractor has good cause to terminate the DBE firm. For purposes of this paragraph, good cause includes the circumstances listed in 49 CFR §26.53.

Before transmitting to City of Scottsdale its request to terminate and/or substitute a DBE subcontractor, the prime contractor must give notice in writing to the DBE subcontractor, with a copy to the City of Scottsdale, of its intent to request to terminate and/or substitute, and the reason for the request.

The prime contractor must give the DBE five days to respond to the prime contractor's notice and advise City of Scottsdale and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the City of Scottsdale should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), City of Scottsdale may provide a response period shorter than five days.

In addition to post-award terminations, the provisions of this section apply to preaward deletions of or substitutions for DBE firms put forward by offerors in negotiated procurements.

A13 DISTRACTED DRIVING

(Source: Executive Order 13513, DOT Order 3902.10)

Insert this provision in all AIP funded contracts that exceed the micro-purchase threshold of 2 CFR § 200.320 (currently set at \$10,000).

TEXTING WHEN DRIVING

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

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$10,000 that involve driving a motor vehicle in performance of work activities associated with the project.

A14 PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

(Source: 2 CFR § 200, Appendix II(K); 2 CFR § 200.216)

Sponsors and subgrant recipients are prohibited from using AIP grant funds to:

- a) Procure or obtain,*
- b) Extend or renew a contract to procure or obtain, or*
- c) Enter into a contract to procure or obtain certain covered telecommunications equipment.*

These restrictions apply to telecommunication equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system or as critical technology as part of any system. Covered telecommunications equipment is equipment produced or provided by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of either).

Include the following provision in all AIP funded contracts and lower-tier contracts.

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to use and procurement of certain telecommunications and video surveillance services or equipment in compliance with the National Defense Authorization Act [Public Law 115-232 § 889(f)(1)].

A15 DRUG FREE WORKPLACE REQUIREMENTS

(Source: 49 CFR Part 32; Drug-Free Workplace Act of 1988 (41 USC § 8101-8106, as amended))

The Drug-Free Workplace Act of 1988 requires some Federal contractors and *all* Federal grantees to agree that they will provide drug-free workplaces as a condition of receiving a contract or grant from a Federal agency. This provision applies to all AIP funded projects, but not to the contracts between the grantee (the Sponsor) and a contractor, subcontractors, suppliers, or subgrantees.

A16 EQUAL EMPLOYMENT OPPORTUNITY (EEO)

(Source: 2 CFR Part 200, Appendix II(C); 41 CFR § 60-1.4; 41 CFR § 60-4.3; Executive Order 11246)

Contractor must incorporate these clauses without modification in any contract or subcontract when the amount exceeds \$10,000.

The purpose of this provision is to provide equal opportunity for all persons, without regard to race, color, religion, sex, or national origin who are employed or seeking employment with contractors performing under a federally-assisted construction contract. There are two provisions — a contract clause and a specification clause.

EQUAL OPPORTUNITY CONTRACT CLAUSE

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

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff, or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under this section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any such rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The Contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance: *Provided*, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

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

1. As used in these specifications:

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

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

3. If the Contractor is participating (pursuant to 41 CFR part 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

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

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

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

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

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

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

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

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

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

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

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

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

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

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

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

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

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

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and

employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

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

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

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

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

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

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

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

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these

specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

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

A17 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

(Source: 29 USC § 201, et seq, 2 CFR § 200.430)

The U.S. Department of Labor (DOL) Wage and Hour Division administers the Fair Labor Standards Act (FLSA). This act prescribes federal standards for basic minimum wage, overtime pay, record keeping, and child labor standards.

All consultants, subconsultants, contractors, and subcontractors employed under this federally assisted project must comply with the FLSA.

FEDERAL FAIR LABOR STANDARDS ACT CLAUSE

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

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

A18 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

(Source: 31 USC § 1352 – Byrd Anti-Lobbying Amendment; 2 CFR Part 200, Appendix II(I); 49 CFR Part 20, Appendix A)

Contractor must include Lobbying Certification and this language (not modified) in subcontracts exceeding \$100,000.

CERTIFICATION REGARDING LOBBYING

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

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

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

A19 PROHIBITION OF SEGREGATED FACILITIES

(Source: 2 CFR Part 200, Appendix II(C); 41 CFR Part 60-1)

This clause must be included in any AIP funded projects that contains the Equal Employment Opportunity clause of 41 CFR § 60-1.4. This obligation flows down to subcontract and sub-tier purchase orders containing the Equal Employment Opportunity clause.

PROHIBITION OF SEGREGATED FACILITIES

- (a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Employment Opportunity clause in this contract.
- (b) "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees that are segregated by explicit directive or are in fact segregated on the

basis of race, color, religion, sex, sexual orientation, gender identity, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

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

A20 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

(Source: 29 CFR Part 1910)

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

A21 PROCUREMENT OF RECOVERED MATERIALS

(Source: 2 CFR § 200.323, 2 CFR Part 200, Appendix II(J), 40 CFR Part 247, 42 USC § 6901, et seq (Resource Conservation and Recovery Act (RCRA))

PROCUREMENT OF RECOVERED MATERIALS

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

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

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

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

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

A22 RIGHT TO INVENTIONS

(Source: 2 CFR Part 200, Appendix II(F); 37 CFR Part 401)

Not Applicable.

A23 SEISMIC SAFETY

(Source: 49 CFR Part 41)

Not Applicable.

A24 TAX DELINQUENCY AND FELONY CONVICTIONS

(Source: Section 8113 of the Consolidated Appropriations Act, 2022 (Public Law 117-103) and similar provisions in subsequent appropriations acts; DOT Order 4200.6 – Appropriations Act Requirements for Procurement and Non-Procurement Regarding Tax Delinquency and Felony Convictions)

This provision applies to all contracts funded in whole or part with AIP.

CERTIFICATION OF OFFEROR/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

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

Certifications

- 1) The applicant represents that it is () is not () a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
- 2) The applicant represents that it is () is not () a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

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

Term Definitions

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

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

A25 TERMINATION OF CONTRACT

(Source: 2 CFR Part 200, Appendix II(B); FAA Advisory Circular 150/5370-10, Section 80-09)

Contract Types – All contracts and subcontracts in excess of \$10,000 must address *termination for cause and termination for convenience*. The provision must address the manner (i.e., notice, opportunity to cure, and effective date) by which the contract will be affected and the basis for settlement (e.g., incurred expenses, completed work, profit, etc.).

TERMINATION FOR CONVENIENCE (CONSTRUCTION & EQUIPMENT CONTRACTS)

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

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

Owner agrees to pay Contractor for:

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

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

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

TERMINATION FOR CAUSE (CONSTRUCTION)

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

TERMINATION FOR CAUSE (EQUIPMENT)

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

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

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

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

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

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

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

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

A26 TRADE RESTRICTION CERTIFICATION

(Source: 49 USC § 50104, 49 CFR Part 30)

Contractor will incorporate this provision for certification without modification in all lower tier subcontracts. (The trade restriction certification and clause apply to all AIP funded projects.)

Unless waived by the Secretary of Transportation, AIP funds may not be used on a product or service from a foreign country included in the current list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR).

TRADE RESTRICTION CERTIFICATION

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

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

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

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

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

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

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

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely

on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

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

A27 VETERAN'S PREFERENCE

(Source: 49 USC § 47112(c))

This provision applies to all AIP funded projects that involve labor to carry out the project.

VETERAN'S PREFERENCE

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

A28 DOMESTIC PREFERENCES FOR PROCUREMENTS

(Source: 2 CFR § 200.322; 2 CFR Part 200, Appendix II(L))

Must be included in all subawards, including all contracts and purchase orders for work or products under the grant.

CERTIFICATION REGARDING DOMESTIC PREFERENCES FOR PROCUREMENTS

The Bidder or Offeror certifies by signing and submitting this bid or proposal that, to the greatest extent practicable, the Bidder or Offeror has provided a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including, but not limited to, iron, aluminum, steel, cement, and other manufactured products) in compliance with 2 CFR § 200.322.

END OF FEDERAL CONTRACT PROVISIONS

DIVISION 2

PROJECT SPECIFIC REQUIREMENTS FOR AIRPORT CONSTRUCTION

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Item SP-100 Special Provisions for Airport Construction

DESCRIPTION

100-1.1 General. This section provides for construction safety in an airport environment; limitations on construction operations; minimum requirements for construction management and scheduling; and site-specific information pertaining to potential impacts on construction activities. Unless otherwise noted, all costs associated with related work shall be included in the Contract pay item for Airfield Safety and Traffic Control.

100-1.2 Construction Safety and Phasing Plan. A Construction Safety and Phasing Plan (CSPP) has been prepared for this project and is included as Part 2 of “Project-Specific Requirements for Airport Construction”. Contractor shall comply with the CSPP. Included as part of the requirements of the CSPP is the Safety Plan Compliance Document (SPCD) to be completed by the Contractor.

100-1.3 Airfield Safety and Traffic Control. Airfield Safety and Traffic Control shall include the special requirements with respect to safely conducting construction activities, coordinating construction with aircraft operations, and maintaining the construction site in a manner that is compatible with aircraft. Unless otherwise noted, all costs associated with related work (including work required as described in the CSPP) shall be included in the Contract pay item for Airfield Safety and Traffic Control.

100-1.4 Construction Schedule and Progress Schedule. A construction schedule and progress schedule shall be submitted to the Engineer by the Contractor within five (5) working days prior to the preconstruction conference. A City-approved schedule will be required prior to issuing a Notice to Proceed for the Construction Element.

Schedule shall be a Critical Path Method (CPM) Baseline type. Schedule shall indicate the complete sequence of each construction category, indicating a time bar for each major category or unit of work to be performed. Work shall be properly sequenced and indicate being fully completed within the scheduled time of completion or substantial completion. The schedule shall also include manpower, equipment utilization and resource needs (resource loading) in order to meet the schedule.

Schedule shall be coordinated with all other Contractors, subcontractors and material suppliers prior to submission. Contractor shall update the schedule for each weekly construction meeting or whenever there is a significant change in progress, whether in a particular phase or total job progress.

Progress schedule shall incorporate, submittals, product data, and sample submissions. Schedule shall indicate preparation time, approval time, resubmissions, fabrications, delivery dates and installation time.

100-1.5 Certified Payroll Requirements (State of Arizona)

- **Fringe Benefits Statement**

- All Fringe Benefits Statements (FBS) must include the total fringe and fringe benefit hourly amount breakdown for each craft classification, along with its respective group or step number, applicable to the project for journeymen and apprentices to whom payroll is being provided.
- The FBS must be signed by the payroll administrator. If for any reason an employee / employer is exempt from fringe benefit payments, it must be explained and documented on the FBS as to why fringe is not being provided, such as “Owner / Operator” or due to legal exemption status.

- The verifiably correct contractor / subcontractor, project name / number, and craft classification naming convention(s) shall be included on the FBS, along with the FBS effective date and expiration date.
- The FBS shall indicate whether fringes are partially or fully paid in cash.
- **Certified Payroll Wage Hour Report**
 - All certified payroll reports must clearly indicate whether the worker is a journeyman or apprentice and include vital information for verification, i.e., work classification; group or step number; hours worked each day; and base rate of pay for straight time, overtime, and double-time. Per contractual obligation, all workers will be paid according to the Davis-Bacon Act (DBA) prevailing wage determination rates, as reflected on the General Decision applicable to the project bid specifications (see <https://sam.gov/wage-determination> or <https://beta.sam.gov/>). The wage and fringe rate paid by the contractor / subcontractor must be equal to or greater than the DBA prevailing wage determination rate.
 - If a worker did not perform physical labor as laborer or mechanic but provided supervision over others on the job site, it shall be indicated on the payroll receipt or reporting form, e.g., WHD-DoL WH-347. These individuals and those performing administrative, survey, quality control, and testing work are exempt from certified payroll.
 - The WHD-DoL WH-347 form used for certified payroll submittal must be current and not expired.
 - Certified payroll shall be submitted weekly or bi-weekly, based on contractor / subcontractor pay periods, to the certified payroll checker after the first week of onsite work on the project.
 - All work weeks and non-performance weeks on the project must be accounted for. The contractor payroll administrator shall submit all payroll reports to the certified payroll checker. The subcontractors' payroll administrators shall submit all payroll reports to the contractor's payroll administrator that oversees the subcontractors, who subsequently submits them to the certified payroll checker.
 - Payroll errors and / or omissions must be corrected and / or added, noted as such on a "Revised" certified payroll report, then resubmitted for review and verification of compliance.
- **Statement of Compliance**
 - Each Certified Payroll Wage Hour Report shall be accompanied by a signed and dated Statement of Compliance (page 2 of the WHD-DoL WH-347 form). Project-related information and payroll / worker exemptions and remarks shall be recorded in the spaces provided. Item (4) (a) or (b) boxes applicable to the project shall be checked.
 - The correct project naming conventions and documentation of the appropriate 'work week' shall be included for compliance verification.
- **Non-Performance Weeks**
 - Each week, or consecutive weeks, in which no work was performed on the project site must be documented with a Statement of Non-Performance or a Non-Performance Week Statement of Compliance prepared and signed by the payroll administrator.
 - Extended / consecutive periods of non-performance weeks shall be submitted as individual weekly reports in lieu of a summary report of non-performance weeks. An exception may be granted for submittal of a summary report of non-performance weeks as a single Statement of Non-Performance and / or Statement of Compliance if approved by the certified payroll checker prior to submittal.

- **Wage Deduction Authorization**

- A current Wage Deduction Authorization (WDA) form signed and dated by an individual worker shall be submitted to the certified payroll checker by the contractor / subcontractor payroll administrator in conjunction with each applicable certified payroll report.
- The WDA is required for verification of a worker's voluntary and authorized deduction type(s) and amount(s), e.g., medical, dental, vision, 401K, child support, loans, payroll advances, garnishment, and other payroll deductions that fall outside the category of legal deductions, e.g., Federal and State withholding tax.
- WDAs are retained for three years along with all other certified payroll reporting records.

- **Questions**

- The prime contractor (upon execution of contract award) and / or certified payroll checker are first points of contact for questions by the contractor related to certified payroll reporting.
- The prime contractor's payroll administrator handling subcontractor certified payroll reporting is a second point of contact for questions by subconsultants.

100-1.6 Lines and Grades. Contractor shall provide construction staking and survey layout in accordance with the requirements of these Special Provisions and Technical Specifications. Contractor shall protect and preserve all marks set by others and shall be liable for replacement of marks destroyed during construction. Survey shall be performed by or under the supervision of a Registered Land Surveyor in the State of Arizona.

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

Copies of survey notes shall be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make quality acceptance checks for conformance with plan grades, alignments and grade tolerances required by the applicable technical specifications. Surveys shall be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided electronically in the following formats: AutoCAD Civil 3D Drawings, PNEZD text files, and/or stamped surveyed drawings.

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner. The Contractor shall notify the RPR / Engineer immediately of any discrepancies between spot elevations at match points in the field and on the plans.

RPR shall be given 48 hours' notice of subgrade, subbase course, and crushed aggregate base course completion, each lift of asphalt surface course completed, and pavement marking layout so finished grades and layouts may be checked. Contractor shall include all associated costs in the Contract pay item for Construction Staking and Survey Layout.

100-1.7 Record Drawings. Contractor shall maintain Record Drawings of all work continuously as the job progresses. A separate set of prints, for this purpose only, shall be kept at the job site at all times. It shall be required that these Drawings be up to date and be reviewed by the RPR at the time each progress

bill is submitted. All deviations from the Drawings, exact locations and sizes of all utilities and electrical lines, equipment details, and all stub outs and connections for future expansion, shall be incorporated. Documentation of Record Drawings shall be included in other items of work and no separate payment will be made.

100-1.8 Material Testing and Retesting. All Quality Control shall be performed by the Contractor; all acceptance testing will be performed by the Engineer as detailed in these Special Provisions and Technical Specifications. Quality Control Testing shall include but is not limited to:

- A. Compaction testing for pavements prior to acceptance testing by Engineer, if required. The Contractor is allotted one acceptance test per area per material per lot. In the event the acceptance tests do not pass, and the Engineer is required to retest the area, the cost for each retest shall be borne by the Contractor at the actual cost.
- B. Grade and smoothness verification for and pavements.
- C. Mix design conformance and other material testing required for asphalt surface course.
- D. Prequalification material testing for pavements.

Contractor shall include all associated costs in the Contract pay item for P-401 Asphalt Surface Course.

100-1.9 Schedule of Values. A schedule of value(s) shall be provided for each lump sum bid item within five (5) days of request, but not later than ten (10) working days before the first progress payment. The schedule of values shall be in the form of a detailed, itemized cost breakdown of the lump sum amount that includes the profit and overhead costs for each item including a line-by-line breakdown of labor and materials. All work to be performed by subcontractors shall be listed. The schedule of values, once established, will serve as the basis for estimating or evaluating the percentage of lump sum work completed for progress payments. Progress payments on Unit Price Work will be based on the number of units completed. The schedule of values may also be used to evaluate the impact of unbalanced pricing.

100-1.10 Phasing and Time Limitations. The Project is divided into two main elements, Mobilization and Construction. A separate Notice to Proceed shall be issued for the Mobilization Element and the Construction Element. The Notice to Proceed for the Construction Element will not be issued until the Mobilization Element is substantially complete. The Construction Element shall be completed in two (2) phases. Each of the work elements and affected airfield areas within the aircraft operations area (AOA) are detailed in the CSPP and summarized below. If the Contractor fails to meet any of these time limitations, liquated damages will be assessed as described in Section 100-1.11 refer to the CSPP for detailed phasing and time limitations for the specific work areas. A summary of contract time is divided as follows:

- A. **Mobilization Element.** Notice to Proceed (NTP) with Mobilization shall be given immediately after award of Contract. All work included in Mobilization shall be completed prior to the NTP for Construction is issued and shall be completed within thirty (30) calendar days. During this Element of the project, no work shall be conducted that in any way restricts Airport operations except as noted below. Mobilization work shall include, but not be limited to, the following:
 - 1) Processing of required submittals including the Contractor's construction schedule.
 - 2) Preparation and submission of the Safety Plan Compliance Document.
 - 3) Preparation and submission of the Stormwater Pollution Prevention Plan.
 - 4) All prequalification testing, review, and approval.
 - 5) Mix design preparation, review, and approval.
 - 6) Procurement of airfield safety devices including low-profile barricades, flashing lights, flags, temporary signage, and traffic cones.

- 7) Procurement of long lead materials or equipment.
- 8) All miscellaneous Mobilization efforts required to commence construction.

Prior to the commencement of work at the site, a preconstruction conference will be held at a mutually agreed time at the Airport, which shall be attended by the Contractor's project management team, including the superintendent, and all primary subcontractors. Other attendees will include, but are not limited to, the Engineer, RPR, representatives of the Airport, FAA and other agency representatives, as appropriate. Unless previously submitted to the Engineer, the Contractor shall bring to the conference the following:

- 1) A preliminary construction schedule in accordance with Section 100-1.4.
- 2) Procurement schedule of equipment, materials, and items requiring long lead time.
- 3) List of Key Personnel, Telephone Numbers, and Emergency Telephone Numbers.

The purpose of this conference is to identify key project personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The agenda will include, but is not limited to, the following:

- 1) Project administration
- 2) Contractor's schedule(s)
- 3) Closure periods and critical work sequencing
- 4) Airport operational requirements
- 5) Field decisions and change orders
- 6) Use of project site, staging areas, security, haul routes, and housekeeping
- 7) Major work priorities

All preliminary work required in the Contract Documents and as determined by the Contractor to pursue an efficient sequence of construction to completion, shall be completed during the Mobilization Element to minimize delays once the Notice to Proceed within construction is issued. The work will begin on the date specified in the NTP and the construction calendar day count will begin on this date.

- B. Construction Element.** The NTP for Construction shall be issued at the City's discretion after the Mobilization Element is complete and necessary permits are issued. Time limitations for all Project elements shall be completed as described below. In all scenarios listed below, the Contractor shall honor all bid prices through the project completion.

The Construction Element shall be performed in the sequence and time limitations defined in the CSPP and as summarized below. All construction start dates are dependent on when an Airport AIP Grant is issued by the FAA for the Project. The anticipated NTP for mobilization is September 2024.

Element / Phase	Requirement
Phase 1	<u>6 Calendar Days</u>
Final Marking Application	30 Calendar Days Following the Completion of Asphalt Paving - <u>1 Calendar Day</u> (Coordination with Engineer and Airport Operations required for specific date and hours)

100-1.11 Liquidated Damages. If the approved time limitation for any phase of work is not met, liquidated damages per each calendar day will be assessed in accordance with Maricopa Association of Government (MAG) Uniform Standard Specifications for Public Works Construction, Section 108.9 *Failure to Complete on Time*. In addition to the liquidated damages assessed per calendar day, the Contractor shall pay for the time required for the RPR to inspect all construction activities. The Scottsdale Airport, at its own discretion, may allow additional time for delays caused by factors beyond the Contractor's control.

100-1.12 Material and Equipment Submittals. All materials and equipment used to construct this work shall be submitted to the Engineer for approval prior to ordering the materials and equipment. Manufacturer's catalogs (or excerpts thereof) and affidavits of compliance with the Contract Documents shall be submitted for all materials to be used on the project. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the Drawings and Contract Documents. The Engineer reserves the right to reject any and all equipment, materials or procedures, which, in the Engineer's opinion, do not meet the system design and the standards and codes specified. Issuance of a Notice to Proceed is dependent on the proper level of detail of these submittals. Submit electronic submittals via Newforma Project Center, whenever possible.

Alternate products may be approved by the Engineer upon submittal of the product information and are subject to the acceptance of the FAA. The Engineer will not consider an alternate product that does not have adequate demonstrated experience and meets all performance requirements of this specification. Contractor shall allow a minimum of ten (10) working days for evaluation of requests for substitution or deviation from the Contract Documents.

100-1.13 Barricades and Traffic Cones. The Contractor shall provide all low-profile barricades and traffic cones as shown on the CSPP for use during this project. Low-profile barricades shall be safety orange in color and shall measure eight (8) feet in length, ten (10) inch in width and a maximum of eighteen (18) inches in height. They shall be high impact, UV resistant, high-density polyethylene, equipped with orange/white reflective striping on each side and two (2) red flashing, solar or battery powered hazard lights. The barricades shall be spaced a maximum of four (4) feet apart and filled with water. Additionally, the Contractor shall provide traffic cones as required to barricade hazardous areas at the project site and to place along designated haul routes and at limits of paving. Traffic cones shall be florescent orange with reflective stripes and supplied with a weighted base. Traffic cones shall be spaced a maximum of five (5) feet apart. The Contractor shall be responsible for determining the number of barricades and traffic cones needed for the project and having an adequate amount available for use during the project for each phase. The Contractor shall be responsible for placing, filling with water, maintaining and moving the barricades and traffic cones as necessary during the project and as directed by the Airport or RPR. All barricades and traffic cones shall remain property of the Contractor.

100-1.14 Runway Closure Markers. Not Required.

100-1.15 Radio Communication with Air Traffic Control Tower. All traffic on the Airport is controlled by the Air Traffic Control Tower (ATCT) between the hours of 0600 to 2100. The Contractor shall have no direct contact with ATCT during the project. All communication with ATCT shall be coordinated with Airport Operations.

100-1.16 Access and Security.

- A. Contractor Access.** Contractor access to the project site shall be via the Airport Drive Vehicle Access Gate on at the north end of Airport Drive. Contractor shall coordinate use of Airport Drive Vehicle Access Gate with Airport Operations and obtain required approvals and/or permits from the City of Scottsdale. A traffic control plan shall be prepared in accordance with the City of Scottsdale Transportation Department and Manual on Uniform Traffic Control Devices (MUTCD). All approved haul routes on Airport property within the AOA are indicated on the CSPP. Any deviations to the haul routes by the Contractor will require review and approval by the Airport. All access points and haul routes shall be kept clean and free of debris. Dust control shall be maintained at all times. Traffic control across active airfield pavements shall be coordinated with the Airport. A full-time gate guard will be required during all hauling operations or when the gate cannot be secured. Damage to pavements, structures, gates, fences, utilities or other existing improvements shall be repaired by the Contractor at the Contractor's expense.
- B. Access Security Control.** The Contractor shall be responsible for maintaining Airport security at all locations designated for construction access. When not actively in use, the gates or temporary security fencing shall be kept closed and locked. During periods of operation, the gate must be secured after each vehicle enters and departs. A gate guard shall be posted and provided by the Contractor so that inadvertent entry onto the Airport by an unauthorized vehicle and/or pedestrian is prevented. All construction access points shall be kept clear of equipment and materials. The Contractor shall provide the gate guard with a list of authorized personnel for the project. The gate guard will be responsible for keeping a record of personnel access. At a minimum, the gate guard will record the company name, driver name, entrance time and exit time for each individual allowed access to the AOA. Airport badging is not required.

100-1.17 Construction Delay due to Unfavorable Weather Due to potential timing of grant and contract award, as well as material procurement, the anticipated timeframe is for construction to be ready to commence in the fall or early winter, after the preconstruction meeting is held. Once the Mobilization Element is complete and materials have been procured, or a firm schedule for procurement is established, the Contractor shall evaluate the upcoming weather forecast and determine if winter weather and / or lack of an adequate labor force, materials may have an impact on commencing and completing construction in a timely manner. The Contractor, Airport, and Engineer will arrive at a mutual determination as to whether the Construction Element should be delayed as a result of the weather. Due to the nature and geometry of the Project, suspending work once it has started will result in an incomplete product.

A Notice to Proceed with the Construction Element will be issued once the conditions described herein are met; and the Contractor, Airport, and Engineer determine the Project can be satisfactorily completed without an anticipated suspension due to weather. Additional payment will not be made in the event a delay of the Construction Element is necessary. The Contractor shall honor all bid prices when construction commences.

100-1.18 Hearing Protection. Due to the nearby aircraft operations, the Contractor shall provide all necessary hearing protection for workers.

100-1.19 Application for Payment and Required Items. Applications for payment shall follow the standard City format based on the schedule of items included in the proposal forms. The Contractor shall also supplement the pay application with amounts being paid to subcontractors and the amounts being paid to DBE firms. Subcontractor and DBE amounts shall be delineated by bid items in the proposal forms.

100-1.20 Construction Water, Electricity, and Other Utilities. The source of construction water, electricity, or other utilities required for the project shall be coordinated by the Contractor. The Contractor shall pay all applicable fees and make all necessary arrangements with the appropriate local utility to secure construction utility service for the duration of the contract, including identifying and coordination of an acceptable utility source for the project. No direct payment will be made for this work. The Contractor shall include all costs associated with construction utility service in General Conditions.

100-1.21 Vacuum Sweeper Truck. All pavement surfaces used for hauling or otherwise become covered with dirt, debris, gravel, or FOD as a direct or indirect result of construction activities, shall be swept and vacuumed immediately. The Contractor shall maintain a vacuum sweeper truck without metal bristles onsite throughout the project duration. The vacuum sweeper truck shall be included in the Contract pay item for Airfield Safety and Traffic Control.

100-1.22 Dust Control. Contractor shall complete a dust control application and obtain a permit from Maricopa County through the online dust portal. Contractor shall submit an electronic copy of the dust control permit to the RPR. Contractor shall control dust at all times during the project and coordinate with Airport Operations and RPR to determine what methods of controlling dust are acceptable and allowable on the jobsite. Contractor shall include all costs associated with dust control in the Contract pay item for Prepare and Implement Stormwater Pollution Prevention Plan and General Conditions.

100-1.23 Cooperation between Contractors. Construction may be underway by other forces and by other contractors within or adjacent to the limits of the work in this contract. The Contractor shall cooperate with all such other contractors or other forces to the end that any delay or hindrance to their work will be avoided. The right is reserved to perform other or additional work at or near the site (including material sources) at any time, by the use of other forces.

Each Contractor shall be responsible to the other for any damage to work to persons or property caused to the other by his operations, and for loss caused the other due to his unnecessary delays or failure to finish the work within the time specified for completion.

100-1.24 Removal and Disposal of Waste. Contractor is responsible for the cost to remove and dispose all waste products including excess material which will not be incorporated into the work under this contract. The waste product referred to herein shall become property of the Contractor and disposed of off Airport property. The cost to dispose of these materials including any associated hauling and environmental testing shall be included in the applicable bid item.

100-1.25 Construction Activity. Closure of the AOA will be required when work is conducted within 200 feet of the runway centerline and within 65.5 feet of the taxiway centerline. Runway and/or taxiway closures are not required for this Project.

Contractor shall submit to the Engineer in writing, a detailed work plan for each phase of the project. The work plan shall include, but not be limited to, sequence of removals, temporary electrical facilities, installation sequence of underground wet and dry utilities, earthwork operations, paving sequence and marking application. The work plan shall include details for controlling construction equipment and vehicular movements within the AOA and on haul routes. This plan shall be submitted at the preconstruction conference. No work may commence until the work plan is approved by the Engineer.

Contractor shall be responsible for determining means and methods to meet the safety standards included in this section and in the project CSPP.

100-1.26 Remove and Replace Aircraft Gate Loop Detector. The Contractor shall locate and remove the gate loop detector embedded in the asphalt pavement of the taxiway at Aircraft Access Gate 1. Prior to milling, the Contractor shall remove the existing aircraft access gate loop detector and it shall become the property of the Contractor and disposed of off-site. After asphalt paving operations are complete, the Contractor shall sawcut the asphalt, install new loop detectors and make the appropriate connections to the existing HySecurity Gate Operator. Loop detectors shall be 14-gauge wire, installed and sealed per the manufacturer’s recommendation. Sealant shall meet the requirements of ASTM D6690.

METHOD OF MEASUREMENT

100-2.1 Airfield Safety and Traffic Control will be measured as a lump sum item.

100-2.2 Construction Staking and Survey Layout will be measured as a lump sum item.

100-2.3 The quantity of Remove and Replace Aircraft Access Gate Loop Detector shall be made per each completed and accepted in the field.

BASIS OF PAYMENT

100-3.1 Airfield Safety and Traffic Control will be paid for at the Contract lump sum price. This price shall include full compensation for all labor, materials, tools, equipment, CSPP compliance, SPCD preparation and compliance, and incidentals necessary to complete the work as specified in the Contract Documents. Based upon the contract lump sum price for “Airfield Safety and Traffic Control” partial payments will be allowed as follows:

- a. With first pay request, 90%.
- c. After final inspection, project work area and staging area clean-up, and removal of all airfield safety and traffic control measures, the final 10%.

100-3.2 Construction Staking and Survey Layout will be paid for at the Contract lump sum price and shall include all staking and survey required to construct the project to the lines and grades as indicated on the Plans to meet the specified tolerances. Based upon the contract lump sum price for “Construction Staking and Survey Layout” partial payments will be allowed as follows:

- a. With first pay request, 90%.
- c. After final inspection, project work area and staging area clean-up, and removal of all airfield safety and traffic control measures, the final 10%.

100-3.3 Remove and Replace Vehicle Access Gate Loop Detector shall be paid for at the Contract unit price. This price shall include full compensation for furnishing all material and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item SP-100-3.1	Airfield Safety and Traffic Control – per lump sum
Item SP-100-3.2	Construction Staking and Survey Layout – per lump sum
Item SP-100-3.3	Remove and Replace Aircraft Gate Loop Detector – per each

END OF ITEM SP-100

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Item SP-102 Crushed Aggregate Slope Protection Rock

DESCRIPTION

102-1.1 This item consists of a protection course composed of crushed aggregates constructed on a prepared base in accordance with these Specifications and in conformity to the dimensions and typical cross sections shown on the Plans. Existing crushed aggregate slope protection rock (CASPR) shall be salvaged from on-site material and reused as shown on the plans. Salvaged material will not require recertification.

MATERIALS

102-2.1 Aggregate. Aggregates shall consist of clean, sound, durable particles of crushed stone or crushed gravel and shall be free from coatings of clay, silt, organic matter, clay lumps or balls, or other materials or coatings. The color of the provided material shall match existing CASPR located at the Airport.

The crushed aggregate shall contain no more than 15 percent, by weight, of flat or elongated pieces as defined in ASTM D693 and shall have at least 60 percent by weight of particles with at least two fractured faces and 75 percent with at least one fractured face. The area of each face shall be equal to at least 75 percent of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

The percentage of wear shall not be greater than 40 percent when tested in accordance with ASTM C535. The sodium sulfate soundness loss shall not exceed 12 percent, after five cycles, when tested in accordance with ASTM C88.

102-2.2 Gradation Requirements. The gradation (job mix) of the final mixture shall fall within the design range indicated in Table 1, when tested in accordance with ASTM C117 and C136. The final gradation shall be continuously well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on an adjacent sieve or vice versa.

Table 1. Requirements for Gradation of CASPR

ASTM D448 – Size No. 24 (Modified)	
Sieve Size (inches)	Design Range Percentage by Weight Passing
3	100
2-3/4	100
2-1/2	90-100
2	45-80
1-1/2	25-60
3/4	0-10
1/2	0-5

102-2.3 Sampling and Testing. The Contractor shall take samples of the CASPR in accordance with ASTM D75 to verify initial CASPR requirements and gradation. Material shall meet the requirements in paragraph 102-2.2. The samples shall be taken from the in-place, un-compacted material at sampling points and intervals designated by the RPR. A five-gallon sample of CASPR material shall be brought to the Airport to verify material color and gradation is comparable with existing onsite material. Onsite sample verification shall be completed as a part of the material prequalification efforts prior to construction.

CONSTRUCTION METHODS

102-3.1 Removal. Existing CASPR material temporarily removed for unclassified excavation and/or embankment operations, shall be salvaged and stockpiled at locations shown on the Plans. Existing CASPR material called out to be hauled off shall become the property of the Contractor and shall be disposed off site.

102-3.2 Preparing underlying subgrade and/or subbase. The underlying subgrade and/or subbase shall be prepared, checked, and accepted by the RPR in accordance with Item P-152 before CASPR placement and spreading operations begin. In those areas on which CASPR is to be placed, the top 6 inches of subgrade shall be compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D1557. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318. Re-proof rolling of the subgrade and/or subbase may be required if the Contractor fails to ensure proper drainage or protection of the subgrade and/or subbase. Any ruts or soft, yielding areas due to improper drainage conditions, hauling, or any other cause, shall be corrected before CASPR is placed at the Contractor's expense. A pre-emergent herbicide shall be applied to the surface of the subgrade prior to placement of the CASPR. Pre-emergent herbicide shall be considered incidental to CASPR work and no separate measurement or payment shall be made.

102-3.3 Production. The aggregate shall be uniformly blended during crushing operations or mixed in a plant. The plant shall blend and mix the materials to meet the Specifications and to secure the proper moisture content. On-site salvaged aggregates shall not require remixing at a plant.

102-3.4 Hauling. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

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

102-3.5 Placement. CASPR shall be placed at a minimum depth of four (4) inches. The underlying subgrade and/or subbase should be cleaned of loose and foreign material prior to placement of CASPR. Upon completion of CASPR placement, Contractor will apply sufficient water to the entire surface area in order to settle all fines to the bottom of the course.

102-3.6 Finishing. The surface of the CASPR shall be finished by blading and rolling with automated equipment specifically designed for this purpose. The finished surface shall be rolled a minimum of three (3) passes with a steel wheel power roller weighing not less than 8 tons.

102-3.7 Surface Tolerances. In those areas on which CASPR is to be placed, the surface shall be tested for smoothness and accuracy of grade. Any portion lacking the required smoothness or failing in accuracy of grade shall be reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. Smoothness. The finished surface shall not vary more than +/- 1/2 inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.

b. Grade. The grade shall be measured on a 50-foot grid and shall be within +/- 0.10 feet of the specified grade.

102-3.8 Thickness. Depth tests shall be made by test holes at least 3 inches in diameter that extend through the CASPR. The thickness of the CASPR shall be within +1 and -1/2 inch of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch, the Contractor shall correct such areas at no additional cost by adding new material of proper gradation, blended and recompacted to grade. The Contractor shall replace, at his expense, CASPR where depth tests have been taken. Additional test holes may be required to identify the limits of deficient areas.

102-3.9 Maintenance. CASPR shall be maintained in a condition that will meet all specification requirements. When material has been exposed to excessive rain or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meet all specification requirements. Any damage resulting to the CASPR from routing equipment over the CASPR shall be repaired by the Contractor at the Contractor's expense.

METHOD OF MEASUREMENT

102-4.1 The quantity of crushed aggregate slope protection rock, push back and restore, to be paid for will be determined by measurement of the number of square yards of material actually pushed back from the edge of pavement, salvaged, restored, and accepted by the RPR as complying with the Plans and Specifications.

102-4.2 The quantity of crushed aggregate slope protection rock, place and compact, to be paid for will be determined by measurement of the number of square yards of material actually placed, compacted, and constructed and accepted by the RPR as complying with the Plans and Specifications.

BASIS OF PAYMENT

102-5.1 Payment shall be made at the contract unit price per square yard for "Crushed Aggregate Slope Protection Rock, Push Back and Restore." This price shall be full compensation for furnishing all materials, for hauling, preparing, and placing these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

102-5.2 Payment shall be made at the contract unit price per square yard for "Crushed Aggregate Slope Protection Rock, Place and Compact." This price shall be full compensation for furnishing all materials, for preparing and placing these materials including removal and stockpiling, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item SP-102-5.1 Crushed Aggregate Slope Protection Rock, Place and Compact – per square yard

TESTING REQUIREMENTS

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

ASTM International (ASTM)

ASTM C29	Unit Weight of Aggregate
ASTM C88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Materials Finer than (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C535	Resistance to Abrasion of Large Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Sieve or Screen Analysis of Fine and Coarse Aggregate
ASTM D75	Sampling Aggregate
ASTM D448	Standard Classification for Sizes of Aggregate for Road and Bridge Construction
ASTM D693	Crushed Stone, Crushed Slag, and Crushed Gravel for Dry- or Water-Bound Macadam Base Courses and Bituminous Macadam Base and Surface Courses of Pavements
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³)
ASTM D 4318	Liquid Limit, Plastic Limit, and Plasticity Index of Soils

END OF ITEM SP-102

Scottsdale Airport



CONSTRUCTION SAFETY AND PHASING PLAN

**Rehabilitate Gate 1 Taxilane
and Bypass Taxilane and
Implement Drainage Improvements**

**FAA AIP No. 3-04-0032-049-2025
City Project No. XXXX**

Prepared by



meadhunt.com

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CONSTRUCTION SAFETY AND PHASING PLAN

1. OVERVIEW

The City of Scottsdale (City) is required to adhere to the standards contained in the various Federal Aviation Administration (FAA) Advisory Circular (AC) 150 series as part of the City's grant assurance obligations in return for accepting federal funds under the Airport Improvement Program (AIP) for the design and construction of airport projects. The goal of this Construction Safety and Phasing Plan (CSPP), prepared by Mead & Hunt, Inc. (Engineer), is to achieve and maintain a desirable level of operational safety during construction. This plan provides information, responsibilities, and procedures to implement the requirements of the contract safety provisions and FAA AC 150/5370-2G, *Operational Safety on Airports During Construction*.

Hazardous practices and marginal conditions created by construction activities can decrease, or jeopardize, operational safety on the Scottsdale Airport (Airport). To minimize disruption of normal aircraft operations and avoid situations that compromise the Airport's operational safety, all construction activity that occurs within the boundaries of the Airport must be carefully planned, scheduled, and coordinated with the City and FAA.

This CSPP is intended to provide general information to all contractors, subcontractors, or suppliers (Contractor) on the requirements and procedures for accident prevention, safety, and security at the Airport during the Rehabilitate Gate 1 and Bypass Taxiway and Implement Drainage Improvements Project (Project). Contractors shall conduct their operations in a manner that will provide safe working conditions for all personnel, in addition to providing protection of Airport tenants and users who may be affected by the Project's construction activities.

Nothing contained in this CSPP is intended to relieve the Contractor of the obligations assumed by the Contractor under contract with the City, or as required by law. Safety must be an integral part of each job. Full participation, cooperation, and support are necessary to ensure the safety and health of all persons and property involved in the Project.

The purpose of marking, barricading, and lighting airside construction areas is to delineate potentially hazardous areas and prevent unauthorized incursions into the area by personnel, vehicles, and equipment during construction. Visible barricade lines will be established prior to construction activity within the Air Operations Area (AOA). All vehicles will be marked in accordance with FAA AC 150/5210-5D, *Painting, Marking, and Lighting of Vehicles Used on an Airport*.

Requirements and procedures in this CSPP may be altered on a case-by-case basis given that the City can determine that safety is not compromised and the proposed alternative is more responsive to operational or Project needs. Any such alterations or deviations shall be at the sole discretion of the City.

The critical operational areas at the Airport are defined as follows:

- 1.1 The AOA, for the purpose of this document, is defined as any part of the Airport utilized for aircraft operations and includes any area inside the perimeter fence. (See *Attachment 1*.)
- 1.2 Runway Safety Area (RSA) and Taxiway Object Free Area (TOFA) / Taxiway Object Free Area (TLOFA), as described in FAA AC 150/5370-2G, *Operational Safety on Airports During Construction*, are restricted areas. The dimensions are described in FAA AC 150/5300-13B, *Airport Design – Change 1*.

2. AIRPORT CONTACT NUMBERS

The following are the contact persons and mobile phone numbers for this Project.

TITLE	NAME	MOBILE PHONE
Director – Operations and Maintenance	Matt Johnson	(480) 312-2674
Airport Operations	On-duty Personnel	(480) 312-8478
Engineer of Record	Brad Mikulecky	(630) 995-6222
Construction Manager	Greg Mead	(602) 432-4621
Resident Project Representative (RPR)	TBD	TBD

Injuries are to be reported to the City and Airport Operations personnel immediately. Medical and Police assistance may be reached by calling 911. All mobile phone numbers should be placed on the Project phone list that shall be kept in all Contractor supervisor vehicles.

3. PROJECT SCOPE OF WORK

This Project scope of work includes design engineering services to rehabilitate two separate taxilane pavements.

The first taxilane (Work Area 1) is in front of Aircraft Access Gate 1 near the Airport Operations Center. Work Area 1 is 40 feet wide and extends 330 feet southeast from Aircraft Access Gate 1. There will be no modifications to existing drainage patterns, and the finished grade of the taxilane will generally follow the existing grade. The Work Area 1 pavement rehabilitation includes the following scope of work:

- Remove aircraft access gate loop detector
- Taxilane pavement removal, 3-inch depth
- Pave asphalt surface course, 3-inch depth
- Replace aircraft access gate loop detector
- Application of pavement markings

The second taxilane (Work Area 2) is referred to as the Bypass Taxilane. Work Area 2 is southeast of the Airport Operations Center and northwest of Taxiway A, between Taxiway A7 and A8, and is approximately 225 feet long and 60 feet wide. The existing vehicle service road between the Bypass Taxilane and Airport Operations Center will be removed and replaced with crushed aggregate slope protection rock (CASPR). There will be no modifications to existing drainage patterns, and the finished grade of the taxilane will generally follow the existing grade. Work Area 2 pavement rehabilitation includes the following scope of work:

- Perimeter road pavement removal, full depth
- Taxilane pavement removal, 2.5-inch depth
- Pave asphalt surface course, 2.5-inch depth
- Placement of new CASPR within existing perimeter road
- Application of pavement markings

There are no drainage or electrical improvements included in this Project.

Private-based aircraft currently utilize the Project area at the Airport. Various piston, turboprop, and jet engine aircraft operate within the two work areas. The Project has been staged to accommodate minimal disruption to aircraft operations in the area and optimize construction sequencing. The location of these improvements is depicted on Plan Sheet G-081. (See *Attachment 1*.)

4. CONSTRUCTION SAFETY AND PHASING PLAN REQUIREMENTS

The requirements outlined below correspond with the subjects contained in FAA AC 150/5370-2G, Chapter 2, Section 2.4. The FAA's Construction Safety and Phasing Plan Checklist was utilized in the preparation of this CSPP, and all items required on the checklist have been addressed.

4.1 Coordination

Airport staff will coordinate with the tenants and operators affected by this Project in advance of the start of construction. The Air Traffic Control Tower (ATCT) will be included in the coordination of airfield facility temporary closures. Additional information regarding notification of construction activities is contained in Section 12 of this CSPP. The locations of these facilities are depicted in *Attachment 1*.

Prior to the start of construction, the Airport will host a mandatory preconstruction meeting with the Contractor and at least one representative from each of its subcontracting companies. The meeting will discuss all items listed on the Construction Safety and Phasing Plan Checklist and items in this CSPP, to include:

- 4.1.1** Submission of the Contractor's preliminary construction schedule, barricade plan, list of equipment, list of subcontractors, Contractor's emergency phone number list, and items required by the Project Safety Plan Compliance Document (SPCD).
- 4.1.2** Identification of the Contractor's superintendent and a discussion of his authority and responsibilities.
- 4.1.3** Designation of the City representative responsible for notifying the flight service station (FSS) serving the Airport of the proposed start and completion dates of construction, or any circumstances requiring a Notice to Air Mission (NOTAM).
- 4.1.4** Scheduling of work and the need to perform certain items at various stages of the Project, including operational safety issues which might arise because of the proposed work.
- 4.1.5** Establishing a desired date for issuance of a Notice to Proceed (NTP).

4.2 Contractor Progress Meetings

Progress meetings to discuss construction scheduling and safety issues will be held on a regular basis at the Airport for the duration of the Project. The agenda will include a standing item to discuss safety issues at these meetings.

4.3 Scope or Schedule Changes

After the initial approval of the Contractor's schedule, the construction schedule will be a standing agenda item for discussion at the construction progress meetings. Any changes to the Project scope of work or change of schedule will require approval by the City.

4.4 FAA Air Traffic Organization (ATO) Coordination

Airport staff will coordinate with the ATCT before and during construction of this Project to verify construction activities are on schedule and progressing according to plan. Submittal of the Project CSPP will be in accordance with FAA requirements.

5. PHASING

This Project has been phased to minimize operational impact to airfield tenants / operators that utilize the Gate 1 Taxilane, Bypass Taxilane, and surrounding areas. The scope of work for this Project is described in Section 3 of this CSPP. The construction limits for each phase of work are shown on Plan Sheet G-081 (See *Attachment 1*). A general description of the construction work and special phasing requirements are as follows.

<u>Location</u>	Gate 1 Taxilane, near the Airport Operations Center, and Bypass Taxilane, southeast of the Airport Operations Center and northwest of Taxiway A between Taxiway A7 and A8.
<u>Total Duration</u>	Six (6) Calendar Days.
<u>Runway Closures</u>	None.
<u>Operational Impact</u>	Vehicle traffic through project limits is prohibited. The Contractor shall yield to aircraft operations when traveling between the two work areas.
<u>Contractor Restrictions</u>	None.
<u>Work Elements</u>	Description: <ul style="list-style-type: none">• Place traffic cones and barricades• Pavement removal, 2.5-inch depth• Pavement removal, 3-inch depth• Pavement removal, full depth• Scarify and grade full depth pavement removal area• Place and compact new CASPR within existing perimeter road• Pave asphalt surface course, 2.5-inch depth• Pave asphalt surface course, 3-inch depth• Apply pavement markings

Total contract time allowed for construction work shall be six (6) calendar days.

6. AREAS AND OPERATIONS AFFECTED BY CONSTRUCTION

This CSPP presents possible safety problems that could occur during a typical airport construction project. Any of these safety problems could occur if this plan is not followed in any part of the Project areas. The rehabilitation of taxilane pavements will impact operations and facilities as described above. The work is not expected to impede firefighting access. Details depicting the phasing limit, general barricade placement, access routes, and other information are contained in *Attachment 1*.

7. PROTECTION OF NAVIGATIONAL AIDS (NAVAIDS)

The Airport Precision Approach Path Indicators (PAPIs) and Runway End Identifier Lights (REILs) are located outside of the Project areas and will not be affected while construction is taking place.

8. CONTRACTOR ACCESS

Maintaining control of construction personnel within the AOA is crucial for the safety of workers and aircraft. Contractor personnel will only be permitted access to the Airport at designated locations and will be restricted from entering all active Runway Object Free Areas (ROFA), Runway Object Free Zones (ROFZ), Runway Safety Areas (RSA), Taxiway Object Free Areas (TOFA), and Taxilane Object Free Areas (TLOFA). Contractor access and haul routes are depicted on the Project plan and contained in *Attachment 1*. Contractor' personnel will not be allowed to leave the Project area or move between Work Areas 1 and 2 unless escorted by Airport Operations personnel. Cones and barricades will be used to keep Contractor personnel from inadvertently entering active aircraft areas. The Contractor will acknowledge and comply with the following requirements.

8.1 Location of Stockpiled Construction Materials

The staging area is located within Work Area 1 outside of the ROFA. Stockpiled material must be stored in the staging yard until needed for placement. Stockpiled soils and aggregate materials shall be watered and consolidated as necessary to prevent airborne particulates. Material stockpile heights in excess of 15 feet will not be allowed.

8.2 Vehicle and Pedestrian Operations

No unauthorized entry to the AOA will be permitted. Workers and equipment will be restricted to the approved access points and haul routes to work areas. The Contractor shall provide a trained gate guard at all times when the access gate is not secured. The gate guard shall prevent any unauthorized vehicles and pedestrians from entering the AOA. The gate guard shall also ensure that authorized construction and delivery vehicles are properly marked and lit prior to allowing them to enter the AOA.

8.2.1 Construction Equipment / Personnel Parking

Contractor employee parking shall be allowed in the parking lot in front of the Airport Business Center, near the intersection of East Butherus Drive and North Airport Drive, as shown in *Attachment 1*. No personal vehicles will be allowed in the AOA. Contractor personnel shall not park in parking lots of private businesses along East Butherus Drive or North Airport Drive. Construction equipment will be parked at the designated staging area when not in use. No construction equipment will be left unattended at the work locations.

8.2.2 Access and Haul Roads

The location of construction traffic routing is depicted in Plan Sheet G-081, included as *Attachment 1*, and the Project plan set. Access to the work areas will be delineated with traffic cones or other approved traffic control devices. The Contractor entry point will be at the Airport Drive Vehicle Access Gate. The exit point will be at the Airport Operations Center Vehicle Access Gate. Both access gates will be closed for tenant traffic during construction.

8.2.3 Marking and Lighting of Vehicles

All Contractor and Airport Operations vehicles involved with this Project will comply with FAA AC 150/5210-5D, *Painting, Marking, and Lighting of Vehicles Used on an Airport*, by mounting a three-foot-by-three-foot orange and white checked flag and an amber beacon on the highest part of the vehicle while at the Airport. Vehicles operating at night are required to use an amber beacon. All hauling vehicles are required to have a three-foot-by-three-foot orange and white checked flag at all times within the AOA during the day. All hauling vehicles are required to

have a flashing amber beacon on the highest part of the vehicle at all times within the AOA during nighttime operations.

8.2.4 Description of Proper Vehicle Operations

In the event that the Contractor leaves the closed Project area and gets disoriented, the Contractor shall remain in place and call Airport Operations.

8.2.5 Required Escorts

An escort from Airport Operations will be required for the Contractor to move between Work Areas 1 and 2.

8.2.6 Requirement for Vehicle Drivers

The Contractor will be required to train all personnel in ground vehicle operations. This will be done for all vehicle drivers who will be at the Airport on a daily basis and not merely transitory, such as delivery vehicles. These daily drivers will be required to read the FAA Guide to Ground Vehicle Operations. The Contractor will be required to secure the signatures of all personnel who have reviewed the guide prior to the start of construction. All vehicle drivers must be aware of their environment at the Airport and confirm by personal observation that no aircraft are approaching their position (either in the air or on the ground) when crossing any area of the Airport open to aircraft operations.

8.2.7 Situational Awareness

Contractor forces will be restricted to the closed areas in which work is to be performed. The Contractor shall train personnel to recognize and avoid the hazards of jet blast when in proximity to active areas. The Contractor shall train its personnel to be aware of all aircraft that are operating in the area.

8.2.8 Two-Way Communication Procedure

This section is not applicable for this Project. Airport Operations personnel will communicate with the ATCT during all construction operations.

8.2.9 Maintaining the Secured Area of the Airport Security

The access points and haul route identified on Plan Sheet G-081 are the only access points approved for use by the Contractor (See *Attachment 1*). When not actively in use, the gates will be kept closed and locked. During periods of operation, the gates must be closed after each vehicle enters or departs, or a gate guard shall be posted at the access gates so that an inadvertent entry onto the Airport by an unauthorized vehicle and / or pedestrian is prevented.

9. WILDLIFE MANAGEMENT

The Contractor shall be required to remove any / all food or construction-related trash after each shift. The Contractor shall also ensure that their water supply tankers and lines are not leaking to prevent the attraction of birds, or other animals, to the site as a result of standing water.

10. FOREIGN OBJECT DEBRIS MANAGEMENT

Foreign Object Debris (FOD) management will be controlled by only allowing Contractor personnel to travel on the established haul routes. They will not be allowed to travel freely on the runway and taxiway system. The

Contractor shall have a power vacuum sweeper available at all times when working on this Project. The Contractor shall continuously monitor and clean all haul routes and surrounding apron areas during their work shifts and at the direction of Airport Operations and the RPR. Airport Operations personnel will conduct inspections at the conclusion of each working day.

11. HAZARDOUS MATERIALS (HAZMAT) MANAGEMENT

With the exception of fuel and other fluids for vehicles, there is no hazardous material associated with this Project. If the Contractor does spill a small amount of fuel or other fluid, they shall immediately contain and remove it from the Airport and legally dispose of it.

If the Contractor spills any fuel or other fluid in excess of five gallons, the Airport Operations personnel shall be immediately notified so that the Airport spill procedures can be followed.

12. NOTIFICATION OF CONSTRUCTION ACTIVITIES

In order to maintain the desired levels of operational safety on airports during construction activities, Airport Operations personnel will follow the procedures listed below for the immediate notification of Airport Rescue and Fire Fighting (ARFF) personnel, Airport users, and the FAA of any condition adversely affecting operational safety during this Project.

12.1 List of Responsible Representatives

Prior to the start of construction activities and after receipt of the Contractor list of personnel (Project Directory), the Engineer will compile a list of all stakeholders for the Project to include applicable points of contact for the Airport, Engineer, and Contractor who will be permitted access to the work areas.

This Project Directory will include office contact phone numbers, email addresses, and 24-hour emergency point of contact mobile phone numbers. This list of critical phone numbers must be kept in all Contractor supervisor vehicles at all times. Airport Operations personnel shall also keep this list in their vehicles during the Project.

12.2 Notice to Air Mission (NOTAM) Issuance

Airport personnel will issue all NOTAMs associated with this Project, in accordance with FAA AC 150/5200-28F, *Notice to Air Missions (NOTAMs) for Airport Operators*, as amended.

12.3 Emergency Notification Procedures

The City provides Fire and Police response for the Airport. Contacting these services for an emergency shall be done by calling 911.

12.4 Coordination with Fire Department Personnel

Scottsdale Fire Department personnel will be advised of the construction activity via email or face-to-face meetings. Fire services will be minimally affected.

12.5 Notifications to the FAA (Filing of Form 7460-1)

FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, will be prepared and submitted by the Engineer.

13. INSPECTION REQUIREMENTS

Contractor personnel and City representatives will be responsible for conducting inspection of work areas to ensure that those areas are safe for aircraft operations.

13.1 Daily Inspections

Airport Operations personnel shall conduct a post-construction inspection at the end of each shift. The Airport Special Inspection Post Construction Form is included as *Attachment 3*.

The Contractor will be advised that Airport Operations will have the final authority to determine whether or not the Airport is safe for aircraft operations. Significant penalties have been established to ensure that the Contractor understands the seriousness of this issue.

Temporarily closed areas will only open after the Project area is complete. These areas will remain closed to all aircraft traffic from the time that construction in the Project area is started until it is completed and suitable for opening, as determined by Airport Operations personnel.

13.2 Final Inspections

A final inspection will be conducted by the Engineer and City prior to the commissioning of any construction-impacted areas open to air traffic. The Engineer and City will have the final authority in determining if the area is suitable for aircraft use.

14. UNDERGROUND UTILITIES

Known utilities are shown on the construction plans. The Contractor must comply with Arizona Blue Stake requirements. There are electrical, water, storm drain, and fiber optic utilities crossing the apron, and the Contractor will be required to pothole at locations for existing utility conflicts, if encountered. In the unlikely event a utility is disrupted, the Contractor is responsible for contacting that utility company and requesting the repair.

15. PENALTIES

If Contractor personnel fail to comply with any Airport rules or the provisions of this CSPP, the Project will be immediately stopped by Airport Operations personnel. Violations of the rules and regulations are subject to the Airport enforcement policies which includes civil penalties of up to \$250.00 per occurrence. The penalties also include the assessment of liquidated damages, in accordance with the contract, for failure to complete the Project on time.

16. SPECIAL CONDITIONS

Airport Operations personnel will be required to monitor the ATCT frequency while on the construction site. If an aircraft alert is issued by an inbound aircraft, the Airport Operations personnel will contact the construction site supervisor, advise Contractor personnel to stop construction, and immediately move all personnel off to the Airport perimeter fence line closest to them. Contractor personnel cannot resume work until Airport Operations personnel have issued the "all clear".

17. RUNWAY AND TAXIWAY VISUAL AIDS

Runway and taxiway visual aids and NAVAIDs, as discussed in Section 7 of this CSPP, will not be impacted by the Project.

18. MARKINGS AND SIGNS FOR ACCESS ROUTES

The Contractor will be required to submit a traffic control plan for operations both on and off the Airport to the City for approval prior to the start of construction. The Contractor's approved traffic control plan will be distributed to all vehicle drivers working in the AOA.

Routing will include the Airport apron and taxilane areas. Routes will be marked by traffic cones or other devices, as approved by the Airport. See *Attachment 1* for additional information.

19. HAZARD MARKING AND LIGHTING

The CSPP depicts general locations of anticipated construction barricade locations to identify work limits during each phase of the Project and provide pilots with recognizable limits of potential hazards. A detail depicting the barricade devices to be used is included in Plan Sheet G-082 (See *Attachment 1*).

Airport Operations personnel will direct placement of all barricades and hazard markings to be used for the Project. The Contractor must prominently mark open trenches and excavations at the construction site and light them with red omni-directional lights during hours of restricted visibility or darkness. The Contractor shall check lighting on the barricades for proper operation at least once per day, preferably at dusk.

20. PROTECTION OF SAFETY AREAS, OBJECT FREE AREAS, AND APPROACH AND DEPARTURE SURFACES

Runway and taxiway safety areas, Obstacle Free Zones (OFZ), Object Free Areas (OFA), and Approach / Departure Surfaces are described in FAA AC 150/5300-13B, *Airport Design – Change 1*. When working in these areas, construction will be limited in accordance with the Project specifications.

20.1 Runway Safety Area (RSA)

The RSA has an established setback limit of 200 feet from Runway 3-21 centerline and 1,000 feet from the Runway 3-21 threshold. The Contractor shall remain clear of the RSA at all times while the runway is open. This Project is outside of the RSA.

20.2 Runway Object Free Area (ROFA)

The ROFA has an established setback limit of 400 feet from Runway 3-21 centerline and 1,000 feet from the runway threshold.

20.3 Taxiway Safety Area (TSA)

The TSA has an established setback limit of 39.5 feet from the taxiway centerline. No construction will be permitted within the TSA of any taxiway open for aircraft operations. This Project is outside of all TSAs.

20.4 Taxiway Object Free Area (TOFA)

The TOFA has an established setback limit of 65.5 feet from the taxiway centerline. No construction will be permitted within the TOFA of any taxiway open for aircraft operations. This Project is outside of all TOFAs.

20.5 Taxilane Object Free Area (TLOFA)

The TLOFA has an established setback limit of 57.5 feet from the taxilane centerline. No construction will be permitted within the TLOFA of any taxilane open for aircraft operations.

20.6 Obstacle Free Zones (OFZ)

The OFZ has an established setback limit of 200 feet from Runway 3-21 centerline. The Contractor shall remain clear of the OFZ at all times while the runway is open. This Project is outside of the OFZs.

20.7 Construction Activity in a Runway Approach / Departure Area

This Project does not require partial closure of the runway or the need to displace the existing runway threshold.

20.8 Coordination of RSA / TSA Adjustments

This Project does not require RSA / TSA adjustments.

20.9 Blasting Operations

This Project does not require blasting operations.

20.10 Open Trenches or Excavations

No open trenches, excavations, or stockpiled materials will be permitted within the taxiway / taxilane and runway safety areas while the associated taxiways / taxilanes or runway are open to aircraft operations, in accordance with Project specifications.

20.11 Covering of Excavations

Excavations within the taxiway / taxilane and runway safety areas that cannot be backfilled before the associated taxiway / taxilane or runway is reopened must be covered with steel plates capable of supporting a 100,000-pound dual wheel aircraft load.

20.12 Marking of Open Trenches or Excavation

At the end of each working shift, the Contractor shall clearly mark open trenches or excavation areas with barricades, in accordance with Project specifications.

20.13 Removal of Equipment

Construction equipment must be stored in the Project staging area at the end of each shift. The Contractor shall place all equipment not in use during the shift within the Project staging area.

20.14 Other Limitations on Construction

20.14.1 The Contractor must at all times conduct the work in conformance with requirements of the City and FAA.

20.14.2 The use of open flame welding or torches is prohibited unless approved by the Airport.

20.14.3 The use of blasting caps is not applicable to this Project.

20.14.4 The use of flare pots is not applicable to this Project.

20.14.5 The Contractor shall at all times conduct their work in a manner that does not create any hindrance, hazard, or obstacle to aircraft using the Airport.

20.14.6 The Airport environment requires a high degree of care to control debris and dust. Spilled material on active roadways and aircraft parking aprons shall be swept up immediately.

- 20.14.7** Sanitary facilities must be provided by the Contractor for use by Contractor personnel. Public facilities at the Airport are not to be used. Sanitary facilities must be located at the Contractor staging area, unless otherwise approved by the City.
- 20.14.8** Contractor vehicles will obey all posted speed limits on Airport roadways. The maximum speed when operating inside the Airport perimeter fence is 15 mph maximum, consistent with safety.
- 20.14.9** All personnel operating a motor vehicle on Airport property shall have a valid state-issued driver's license.
- 20.14.10** Use of audio earphones and headsets are prohibited on the Airport unless directly related to job requirements.
- 20.14.11** Beacons and flags must be maintained in good working condition, and flags shall be replaced if they become faded, discolored, or ragged.
- 20.14.12** Lighted barricades shall be maintained, kept in good working order, and replaced if they are not operating properly.

21. SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) OVERVIEW

The Contractor is required to read, acknowledge, and abide by this CSPP. Additionally, all required information for compliance will not be available until a construction award for the Project has been made by the City. The following section provides for supplemental information and acknowledgement of the requirements of this CSPP. The Contractor shall not duplicate information in the subject requirements as contained in this CSPP, and if no supplemental information is needed then the Contractor shall enter "No Supplemental Information." The Contractor shall provide the information and execute the acknowledgement statement as part of the Project submittals. Additional guidance is contained in FAA AC 150/5370-2G, *Operational Safety on Airports During Construction*.

22. CONTRACTOR CONTACT NUMBERS AND SUPPLEMENTAL INFORMATION

General Contractor: _____
Address: _____
Office / Mobile Phone: _____
Fax: _____

Contractor Personnel

TITLE	NAME	MOBILE PHONE
Project Manager:	_____	_____
Project Superintendent:	_____	_____
Safety Officer:	_____	_____

Construction Schedule

The Notice to Proceed (NTP) Date is: _____
The Official Start Date is: _____
The Project Duration is: 6 Calendar Days
The Project Completion Date is: _____

Acknowledgement: I, _____, _____ have read the **Rehabilitate Gate 1 Taxilane and Bypass Taxilane and Implement Drainage Improvements Project** Construction Safety and Phasing Plan, approved on _____, and will abide by it as written and with the following additions as noted.

Supplemental Information: (Insert "No Supplemental Information" if none is needed.)

1. Coordination:
2. Phasing:
3. Areas and Operations Affected by Construction:
4. Protection of NAVAIDs:
5. Contractor Access:
6. Wildlife Management:
7. Foreign Object Debris (FOD) Management:
8. Hazardous Material (HAZMAT) Management:
9. Notification of Construction Activities:
10. Inspection Requirements:
11. Underground Utilities:
12. Penalties:
13. Special Conditions:
14. Runway and Taxiway Visual Aids:
15. Marking and Signs for Access Routes:
16. Hazard Marking and Lighting:
17. Protection of Runway and Taxiway Safety Areas, Object Free Areas, and Obstacle Free Zones:
18. Other Limitations on Construction:

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ATTACHMENTS

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ATTACHMENT 1
CONSTRUCTION SAFETY AND PHASING PLAN SHEETS

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SCOTTSDALE AIRPORT
REHABILITATE GATE 1 TAXILANE AND BYPASS TAXILANE AND
IMPLEMENT DRAINAGE IMPROVEMENTS
15000 N AIRPORT DRIVE
SCOTTSDALE, ARIZONA, 85260

ISSUED
NOT FOR CONSTRUCTION

ISSUE FOR BID

AIP NO: 3-04-0032-049-2025
MKH NO: 2886300-242372.01
DATE: MARCH 2025
DESIGNED BY: CLH
DRAWN BY: ENE
CHECKED BY: BJM
DO NOT SCALE DRAWINGS

SHEET CONTENTS
CONSTRUCTION
SAFETY AND PHASING
PLAN

SHEET NO. 6 of 14

G-081

GENERAL PHASING NOTES:

1. THE MAXIMUM HEIGHT OF CONSTRUCTION EQUIPMENT IS 15-FEET. CONTRACTOR SHALL COORDINATE WITH ENGINEER AND AIRPORT OPERATIONS DURING THE MOBILIZATION PHASE OF THE PROJECT IF EQUIPMENT WILL EXCEED THE MAXIMUM HEIGHT REQUIREMENT.
2. ALL CONSTRUCTION VEHICLES AND EQUIPMENT OPERATING ON AIRPORT PROPERTY OUTSIDE DAYTIME HOURS SHALL BE PROVIDED WITH A 360 DEGREE FLASHING AMBER BEACON ATTACHED TO THE VEHICLE SO THAT THE LIGHTS WILL BE READILY VISIBLE.
3. ALL CONSTRUCTION VEHICLES AND EQUIPMENT PARKED WITHIN THE AOA AFTER A SHIFT IS COMPLETED SHALL BE EQUIPPED WITH A FLAG AND PARKED OUTSIDE THE ROFA.
4. ALL HAUL TRUCKS SHALL BE EQUIPPED WITH A FLAG AND A 360 DEGREE FLASHING AMBER BEACON AT ALL TIMES WITHIN THE AOA.
5. ALL HAUL ROUTES NOT ON ACTIVE PAVEMENT SHALL BE DELINEATED WITH TRAFFIC CONES, UNLESS OTHERWISE APPROVED BY AIRPORT OPERATIONS STAFF.
6. ALL PAVEMENT USED FOR HAULING SHALL BE SWEEP/VACUUMED PRIOR TO OPENING TO AIRCRAFT TRAFFIC AFTER EACH SHIFT OR TRUCK HAUL, AS APPROVED BY AIRPORT OPERATIONS.
7. EXACT LOCATIONS OF THE PLACEMENT OF BARRICADES SHALL BE AS APPROVED BY THE AIRPORT.
8. PARKING FOR CONSTRUCTION PERSONNEL SHALL BE IN THE PARKING LOT OF THE AVIATION BUSINESS CENTER.
9. CONTRACTOR SHALL BUILD TEMPORARY SLOPES AS NECESSARY TO MEET GRADING STANDARDS INSIDE THE PROJECT AREA. ALL COSTS TO BE INCLUDED IN THE AIRFIELD SAFETY AND TRAFFIC CONTROL BID ITEM.
10. A VACUUM SWEEPER MUST BE MAINTAINED ONSITE FOR THE PROJECT DURATION AND BE CAPABLE OF PICKING UP DEBRIS ON PAVED SURFACES. ELGIN CROSSWIND OR EQUIVALENT. THE VACUUM SWEEPER IS REQUIRED TO HAVE NYLON BRISTLES. A VACUUM SWEEPER WITH METAL BRISTLES IS NOT ALLOWED.
11. CONTRACTOR STAGING AREA SHALL BE WITHIN PHASE LIMITS AND SHALL UTILIZE THE AIRPORT DRIVE VEHICLE ACCESS GATE FOR AIRFIELD ACCESS. CONTRACTOR SHALL COORDINATE WITH AIRPORT OPERATIONS TO COMPLETE REQUIRED AIRFIELD DRIVING SAFETY TRAINING FOR ALL CONTRACTOR PERSONNEL EXPECTED TO ESCORT HAULING TRUCKS ON AIRFIELD. CONTRACTOR IS RESPONSIBLE FOR ANY EQUIPMENT, GATE, PAVEMENT, OR FENCE DAMAGES CAUSED BY HAULING.
12. CONTRACTOR SHALL COORDINATE CONSTRUCTION SCHEDULE WITH AIRPORT OPERATIONS AND ENGINEER BEFORE SECOND APPLICATION OF PAVEMENT MARKINGS. THIS IS CONSIDERED INCIDENTAL TO PAVEMENT MARKING APPLICATION.
13. TOTAL CONTRACT TIME IS 6 CONSECUTIVE CALENDAR DAYS.

PHASE NOTES:

1. CONTRACTOR STAGING AREA SHALL BE WITHIN WORK AREA 1 OUTSIDE OF THE ROFA.
2. CONTRACTOR SHALL COMPLETE CONSTRUCTION OF WORK AREA 1 AND WORK AREA 2 CONCURRENTLY.
3. CONTRACTOR EXPECTED WORK HOURS ARE DURING DAYTIME BETWEEN HOURS OF FROM 0600 - 2000.

WORK AREA 1:

- PLACE TRAFFIC CONES AND BARRICADES
- TAXILANE PAVEMENT REMOVAL, 3-INCH DEPTH
- REMOVE AND REPLACE AIRCRAFT ACCESS GATE LOOP DETECTOR
- PAVE ASPHALT SURFACE COURSE, 3-INCH DEPTH
- APPLY PAVEMENT MARKINGS

WORK AREA 2:

- PLACE TRAFFIC CONES AND BARRICADES
- PERIMETER ROAD PAVEMENT REMOVAL, FULL DEPTH
- TAXILANE PAVEMENT REMOVAL, 2.5-INCH DEPTH
- PAVE ASPHALT SURFACE COURSE, 2.5-INCH DEPTH
- SCARIFY AND GRADE FULL DEPTH PAVEMENT REMOVAL AREA
- PLACE AND COMPACT NEW CASPR WITHIN EXISTING PERIMETER ROAD
- APPLY PAVEMENT MARKINGS

TOTAL DURATION:

- 6 CONSECUTIVE CALENDAR DAYS

RUNWAY CLOSURES:

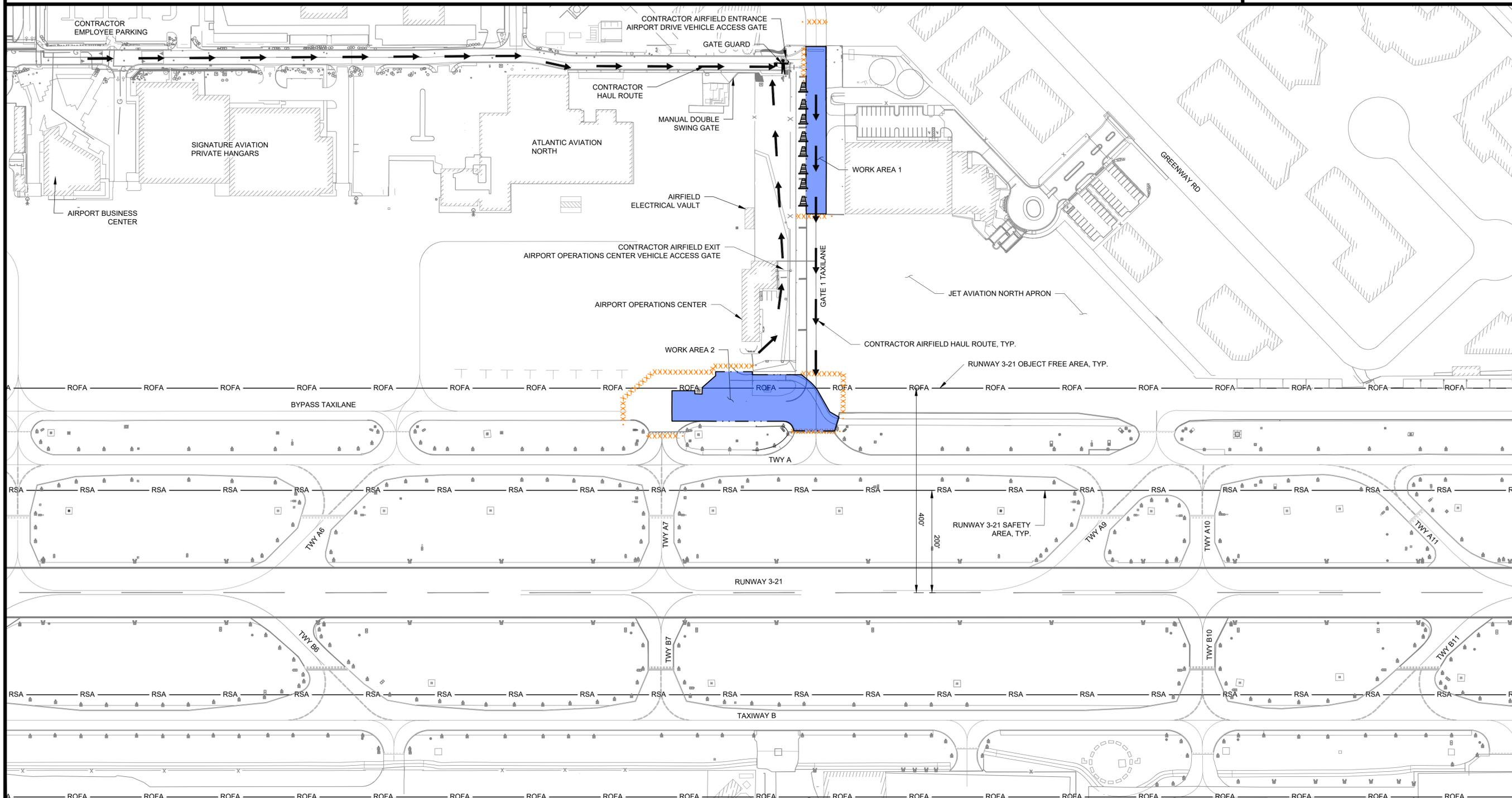
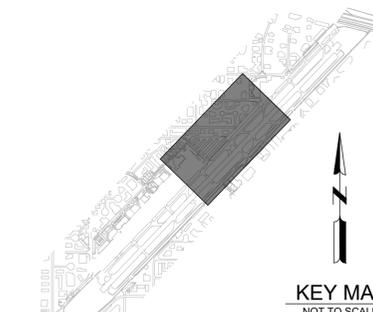
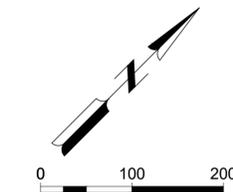
- NONE

OPERATIONAL IMPACT:

- VEHICLE TRAFFIC THROUGH PROJECT LIMITS PROHIBITED
- CONTRACTOR SHALL OBTAIN ESCORT WHEN TRAVELING BETWEEN WORK AREA 1 AND WORK AREA 2
- CONTRACTOR SHALL YIELD TO AIRCRAFT OPERATIONS WHEN TRAVELING BETWEEN WORK AREA 1 AND WORK AREA 2

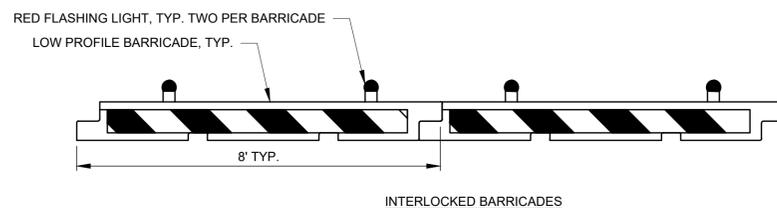
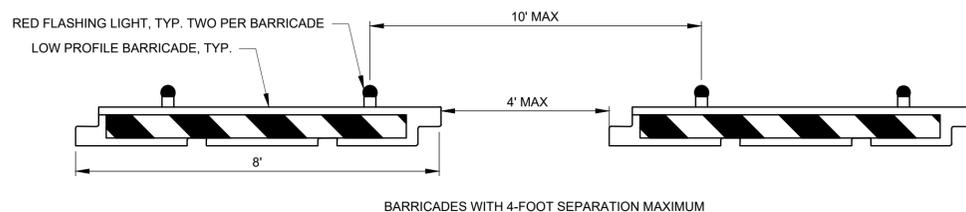
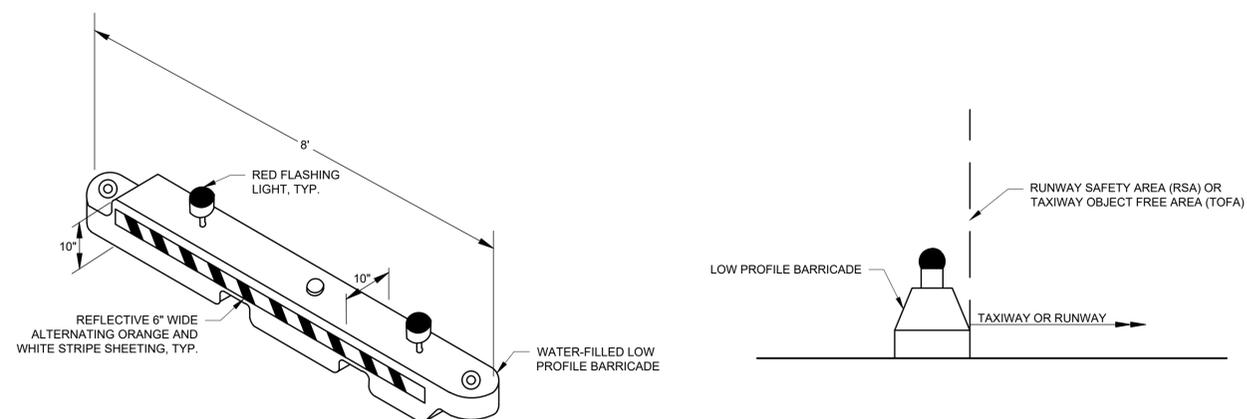
LEGEND:

-  PHASE 1
-  CONTRACTOR HAUL ROUTE
-  CONTRACTOR PROVIDED LOW PROFILE BARRICADES, SEE DETAIL 1/G-082
-  AIRPORT PROVIDED TRAFFIC CONE



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NOTES:

1. CONTRACTOR SHALL DETERMINE THE NUMBER OF LOW PROFILE BARRICADES AND LIGHTS REQUIRED TO COMPLETE THE PROJECT BASED ON THE PHASING REQUIREMENTS SHOWN ON THESE PLANS. CONTRACTOR SHALL CONFIRM BARRICADE LOCATIONS AT THE PRE-CONSTRUCTION MEETING.
2. INSTALL LOW PROFILE BARRICADES WHERE INDICATED ON PLANS OR AS INSTRUCTED BY THE RPR OR AIRPORT OPERATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING, MOVING, LIGHTING, AND MAINTAINING THE BARRICADES DURING THE ENTIRE PROJECT.
4. BARRICADES SHALL BE FILLED WITH WATER AT ALL TIMES DURING CONSTRUCTION AND WEIGHTED AGAINST JET BLAST.
5. INSTALL SOLAR/BATTERY POWERED LIGHTS EQUALLY SPACED PER EACH BARRICADE AS SHOWN ON THESE PLANS. LIGHTS SHALL MAINTAIN SUCH INTENSITY SO AS TO BE READILY IDENTIFIED FROM DISTANCES OF 200' OR GREATER DURING PERIODS OF DARKNESS.
6. BARRICADES SHALL BE PLACED ACROSS ENTIRE BYPASS TAXILANE PAVEMENT TO PREVENT AIRCRAFT AND VEHICLE ENTRANCE TO PROJECT AREA.
7. BARRICADES SHALL BE MAINTAINED IN GOOD CONDITION AND FREE OF LEAKS AT ALL TIMES. CONTRACTOR TO REPLACE LEAKING OR DAMAGED BARRICADES AT THEIR EXPENSE.
8. CONTRACTOR SHALL ASSUME ALL BARRICADES ARE INTERLOCKED, HOWEVER, CONTRACTOR TO CONFIRM WITH THE AIRPORT ON THE LOCATION OF INTERLOCKED BARRICADES VERSUS BARRICADES WITH SPACING.

1 LOW PROFILE BARRICADE
NO SCALE

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SCOTTSDALE AIRPORT
REHABILITATE GATE 1 TAXILANE AND BYPASS TAXILANE AND
IMPLEMENT DRAINAGE IMPROVEMENTS
15000 N AIRPORT DRIVE
SCOTTSDALE, ARIZONA, 85260

ISSUED
NOT FOR CONSTRUCTION

ISSUE FOR BID

AIP NO: 3-04-0032-049-2025
MKH NO: 2886300-242372.01
DATE: MARCH 2025
DESIGNED BY: CLH
DRAWN BY: CLH
CHECKED BY: BJM
DO NOT SCALE DRAWINGS

SHEET CONTENTS
CONSTRUCTION
SAFETY AND PHASING
DETAILS

SHEET NO. 7 of 14

G-082

ATTACHMENT 2
DAILY SAFETY INSPECTION CHECKLIST
(for Contractor use)

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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.

Potentially Hazardous Conditions

Item	Action Required	or	None
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.			<input type="checkbox"/>
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.			<input type="checkbox"/>
Runway resurfacing projects resulting in lips exceeding 3 in (7.6 cm) from pavement edges and ends.			<input type="checkbox"/>
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.			<input type="checkbox"/>
Equipment or material near NAV AIDs 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.			<input type="checkbox"/>
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 approach zones.			<input type="checkbox"/>
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.			<input type="checkbox"/>
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.			<input type="checkbox"/>

Item	Action Required	or	None
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.			<input type="checkbox"/>
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.			<input type="checkbox"/>
Wildlife attractants – such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water – on or near airports.			<input type="checkbox"/>
Obliterated or faded temporary markings on active operational areas.			<input type="checkbox"/>
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.			<input type="checkbox"/>
Failure to issue, update, or cancel NOT AMs about airport or runway closures or other construction related airport conditions.			<input type="checkbox"/>
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.			<input type="checkbox"/>
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport building.			<input type="checkbox"/>
Lack of radio communications with construction vehicles in airport movement areas.			<input type="checkbox"/>
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.			<input type="checkbox"/>
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.			<input type="checkbox"/>
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.			<input type="checkbox"/>

Item	Action Required	or	None
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).			<input type="checkbox"/>
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.			<input type="checkbox"/>
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.			<input type="checkbox"/>
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.			<input type="checkbox"/>
Site burning, which can cause possible obscuration.			<input type="checkbox"/>
Construction work taking place outside designated work areas and out of phase.			<input type="checkbox"/>

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ATTACHMENT 3
AIRPORT SPECIAL INSPECTION FORM
(for Airport use)

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Log Entered

Entered By

Event Date/Time

Days Open

SDL SPECIAL INSPECTION - POST CONSTRUCTION

SPECIAL INSPECTION - POST CONSTRUCTION

(complete prior to reopening a portion of the air operations area)

Date of Inspection:

Time of Inspection:

Enter Satisfactory, Unsatisfactory, Corrected or Not Applicable

Pavement

Other Deficiencies

F.O.D.

Other

Markings

Retroreflectivity

Daytime Visibilty

Safety Areas

Ruts/Humps

Pavement Edges

Sign/Light Base Edges

Stockpiles

Barricades (removed)



Location of Deficiency/Actions Taken:

Certified Payroll Requirements – State of Arizona

Project Name: SDL Rehabilitate Gate 1 Taxilane and Bypass Taxilane and Implement Drainage Improvements

Project Number: 2886300-242372.01 — **Location:** Maricopa County — **FAA AIP No.** 3-04-0032-049-2025

Fringe Benefits Statement

All Fringe Benefits Statements must include every work classification name and number, group number, and step number for journeyman and apprentices to whom payroll is being provided on the job. They must be signed and dated by the payroll administrator and submitted before work on site or along with the first payroll. If an employee / employer is exempt from fringe benefits, it must be explained why fringe is not being provided.

The payroll administration shall verify that the correct project name / number convention is included along with the current fringe rate effective date. This date may require annual update.

Certified Payroll Wage Hour Report

Use fillable Form DoL WHD WH-347

All certified payroll must clearly indicate whether an individual is a journeyman or apprentice and include all vital information for verification, i.e., work classification number and name; group number or step number; hours worked on project; and base wage rate for straight time, overtime, and double-time. Per contractual obligation, all individuals must be paid the Davis-Bacon Act prevailing wage and benefit rates / General Decision wage rates or higher.

It must be indicated if an employee did not work on site as a laborer or mechanic and solely provided supervision over other workers. These individuals are exempt from certified payroll.

The correct naming convention for the project and project number(s) must be included and verified along with the appropriate 'work ending' week date.

All consecutive weeks of either payroll or non-performance weeks must be accounted for as individual weekly reports. The 'Final' certified payroll report must be identified as such by the contractor or subcontractor payroll administrator.

Statement of Compliance

Each certified payroll work week report as well as each non-performance week report must be accompanied by a signed and dated Statement of Compliance (page 2 of the DoL WHD WH-347 form). All appropriate boxes must be checked in Section (4) and all notes regarding any exceptions are to be recorded on this form.

Please verify that the correct naming convention for the project is included along with documentation of the appropriate 'work ending' week date.

Non-Performance Week(s)

Each consecutive week in which no work was performed on site must be documented with a signed and dated Statement of Non-Performance and Statement of Compliance.

Extended periods of non-performance weeks may be submitted on one certified payroll form within a one-month period; however, individual weekly reports are recommended.

WDAs

Current Wage Deduction Authorization (WDA) forms signed and dated by the work must be submitted with certified payroll reports where the medical, dental, vision, 401K, child support, loans, and other payroll deductions are applicable. These authorized deductions exclude required tax and Social Security deductions. WDAs are required for verification in the certified payroll review process and are retained post-project.

Questions

The prime contractor is the first point of contact for all questions related to certified payroll reporting. A second point of contact is Zorra Ram Kaur, Mead & Hunt, Inc., via email at zorra.ramkaur@meadhunt.com or phone at 480-718-1896.

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DIVISION 3

FAA STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS

(Advisory Circular 150/5370-10H)

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DIVISION 3 – Part 1

FAA General Contract Provisions

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Part 1 – General Contract Provisions

Section 10 Definition of Terms

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	AASHTO	The American Association of State Highway and Transportation Officials.
10-02	Access Road	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	Advertisement	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	Airport	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	Airport Improvement Program (AIP)	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	Air Operations Area (AOA)	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	Apron	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	ASTM International (ASTM)	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	Award	The Owner's notice to the successful bidder of the acceptance of the submitted bid.

Paragraph Number	Term	Definition
10-10	Bidder	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
10-11	Building Area	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	Calendar Day	Every day shown on the calendar.
10-13	Certificate of Analysis (COA)	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	Certificate of Compliance (COC)	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	Change Order	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	Contract	A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
10-17	Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.
10-18	Contract Time	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.

Paragraph Number	Term	Definition
10-19	Contractor	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-20	Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	Contractor Quality Control Program (CQCP)	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	Construction Safety and Phasing Plan (CSPP)	The overall plan for safety and phasing of a construction project developed by the airport operator or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-24	Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-25	Engineer	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-26	Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	Extra Work	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.

Paragraph Number	Term	Definition
10-28	FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-30	Force Account	<p>a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis.</p> <p>b. Owner Force Account - Work performed for the project by the Owner's employees.</p>
10-31	Intention of Terms	<p>Whenever, in these specifications or on the plans, the words “directed,” “required,” “permitted,” “ordered,” “designated,” “prescribed,” or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words “approved,” “acceptable,” “satisfactory,” or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner.</p> <p>Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.</p>
10-32	Lighting	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-33	Major and Minor Contract Items	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-34	Materials	Any substance specified for use in the construction of the contract work.

Paragraph Number	Term	Definition
10-35	Modification of Standards (MOS)	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	Notice to Proceed (NTP)	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	Owner	The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. Where the term "Owner" is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is City of Scottsdale.
10-38	Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	Payment bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
10-41	Performance bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-42	Plans	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
10-43	Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	Proposal	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.

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

Paragraph Number	Term	Definition
10-55	Sponsor	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	Structures	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	Subgrade	The soil that forms the pavement foundation.
10-58	Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.
10-59	Supplemental Agreement	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%; (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	Taxilane	A taxiway designed for low-speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.

Paragraph Number	Term	Definition
10-64	Work	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-65	Working day	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.
10-66	Owner Defined terms	None

END OF SECTION 10

Section 20 Proposal Requirements and Conditions

20-01 Advertisement (Notice to Bidders). The "Advertisement for Bids" included in the front of this Specifications 'Book' has been published at such places and at such times as required by local law or ordinances and is made a part of the "Contract Documents."

The Bid Advertisement provides the following information for Bidders:

- time and place for submitting sealed proposals;
- description of the proposed work;
- instructions about obtaining proposal forms, plans, and specifications;
- Contractor's requirements (license, registration, etc.);
- required Federal Provisions solicitation language;
- the proposal guaranty required; and
- the Owner's right to reject any and all bids.

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

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

Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

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

Mobilization is limited to 10 percent of the total project cost.

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

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

- a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.
- b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.
- c. Documented record of Contractor default under previous contracts with the Owner.
- d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection by bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which the bidder may make or obtain from their own examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 Preparation of proposal. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

20-08 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the

exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

- a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.
- b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.
- c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.
- d. If the proposal contains unit prices that are obviously unbalanced.
- e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.
- f. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral shall be made payable to the Owner.

20-11 Delivery of proposal. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-12 Withdrawal or revision of proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of bidders. A bidder shall be considered disqualified for any of the following reasons:

- a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
- b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in “default” for any reason specified in paragraph 20-04, *Issuance of Proposal Forms*, of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner’s Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner’s Engineer a written request for interpretation no later than 7 days prior to bid opening.

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

END OF SECTION 20

Section 30 Award and Execution of Contract

30-01 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in Section 20, paragraph 20-09, *Irregular Proposals*.

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

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within 120 calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

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

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 *Approval of Contract*.

30-04 Return of proposal guaranty. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, *Consideration of Proposals*. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, *Requirements of Contract Bonds*.

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds*, of this section, within 15 calendar days from the date mailed or otherwise delivered to the successful bidder.

30-07 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the

fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract*, of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

Section 40 Scope of Work

40-01 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of work and quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

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

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

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available

to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (<http://mutcd.fhwa.dot.gov/>), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways.

40-06 Removal of existing structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and use of materials found in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

- a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,
- b. Remove such material from the site, upon written approval of the RPR; or
- c. Use such material for the Contractor's own temporary construction on site; or,
- d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

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Section 50 Control of Work

50-01 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

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

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within

standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

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

50-04 List of Special Provisions.

ORDER OF PRECEDENCE

1. Permits issued by jurisdictional regulatory agencies
2. Change Orders
3. Contract/Agreement
4. Addenda
5. City of Scottsdale Instructions to Bidders
6. Technical Specifications
7. Project Plans
8. FAA General Contract Provisions
9. Cited FAA Advisory Circulars
10. City of Scottsdale General Terms and Conditions
11. City of Scottsdale Construction Special Terms and Conditions

50-05 Cooperation of Contractor. The Contractor shall be supplied with five hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 Cooperation between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

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

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

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

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): AutoCAD Civil3D Drawings, PNEZD text files, and stamped surveyed drawings.

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

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

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

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

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, *Contractor's Responsibility for Work*.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

50-12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, *Maintenance during Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

END OF SECTION 50

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Section 60 Control of Materials

60-01 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program* and *Addendum*, that is in effect on the date of advertisement.

60-02 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

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

60-03 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by “brand name or equal” and the Contractor elects to furnish the specified “or equal,” the Contractor shall be required to furnish the manufacturer’s certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

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

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

60-04 Plant inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

- a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.
- b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
- c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) field office. An Engineer/RPR field office is not required.

60-06 Storage of materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor’s plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner’s permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 Owner furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

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Section 70 Legal Regulations and Responsibility to Public

70-01 Laws to be observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows: Not Applicable

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, health, and safety provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public convenience and safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

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

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is on sheet(s) G-081 to G-091 of the project plans.

70-09 Use of explosives. The use of explosives is not permitted on this project.

70-10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for damage claims. The Contractor shall indemnify and hold harmless the Engineer/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such “phasing” of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified. See Division 3 Project Specific Requirements for Airport Construction, Part 2, in the Project Specifications for specific CSPP requirements.

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

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

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

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

70-14 Contractor’s responsibility for work. Until the RPR’s final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor’s responsibility for utility service and facilities of others. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any

public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

- City of Scottsdale Facilities Department – Underground Fiber Optic Cable
- City of Scottsdale Airport – Underground Electrical Cable
- City of Scottsdale Water Department – Underground Water, Sewer and Stormwater Pipes
- Arizona Public Service (APS) – Primary and Secondary Underground and Overhead Electric
- Southwest Gas – Natural Gas
- CenturyLink – Internet, Phone, and TV
- Cox Communications – Internet, Phone, and TV

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to “The Person to Contact” as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed by Others*. A copy of each notification shall be given to the RPR.

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

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor’s opinion, the Owner’s assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner’s “Person to Contact” no later than two normal business days prior to the Contractor’s commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor’s failure to give the two days’ notice shall be cause for the Owner to suspend the Contractor’s operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor’s operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-16 Furnishing rights-of-way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No waiver of legal rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, *Extra Work*, and Section 90, paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

70-21 Insurance Requirements. See City of Scottsdale Construction Special Terms and Conditions for project specific insurance requirements.

END OF SECTION 70

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Section 80 Execution and Progress

80-01 Subletting of contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least 25 percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

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

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

80-02 Notice to proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within 10 days of the NTP date. The Contractor shall notify the RPR at least 24 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 10 days prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

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

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall

show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a weekly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 Limitation of operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

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

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently. See Division 3 Project Specific Requirements for Airport Construction, Part 2, in the Project Specifications for specific CSPP requirements.

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

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

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

80-05 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

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

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary suspension of the work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and extension of contract time. The number of working days shall be stated in the proposal and contract and shall be known as the Contract Time.

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

80-07.1 Contract time based on working days. Contract time based on working days shall be calculated weekly by the Resident Project Representative (RPR). The RPR will furnish the Contractor a copy of their weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved Change Orders or Supplemental Agreements covering Extra Work).

The weekly statement of contract time charged is based on the following considerations:

(1) Time will be charged for days on which the Contractor could proceed with scheduled work under construction at the time for at least six (6) hours with the normal work force employed on such items. When normal work force is a double-shift, use 12 hours; and when the normal work force is on a triple-shift, use 18 hours. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the scheduled work items under construction or temporary suspension of the entire work which have been ordered by the Owner for reasons not the fault of the Contractor, shall not be charged against the contract time.

(2) The RPR will not make charges against the contract time prior to the effective date of the notice to proceed.

(3) The RPR will begin charges against the contract time on the first working day after the effective date of the notice to proceed.

(4) The RPR will not make charges against the contract time after the date of final acceptance as defined in Section 50, paragraph 50-14, Final Acceptance.

(5) The Contractor will be allowed one (1) week in which to file a written protest setting forth their own objections to the RPR's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in the Section 20, paragraph 20-05, Interpretation of Estimated Proposal Quantities. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional

engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract. See Division 2, Project Specific Requirements for Airport Construction, Part 1, Item SP-100 Special Provisions for Airport Construction for schedule of liquidated damages. SThe maximum construction time allowed for this Project shall be in accordance with Division 2, Project Specific Requirements for Airport Construction, Part 1, Item SP-100 Special Provisions for Airport Construction. Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

80-09 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

- a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or
- b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or
- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the execution of the work, or
- e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for national emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract

price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

Section 90 Measurement and Payment

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

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term “lump sum” when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, “lump sum” work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term “ton” will mean the short ton consisting of 2,000 pounds avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level

Term	Description
	capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon or ton. When measured by volume, such volumes will be measured at 60°F or will be corrected to the volume at 60°F using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton or hundredweight.
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	<p>Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.</p> <p>Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted.</p> <p>In the event inspection reveals the scales have been “overweighing” (indicating more than correct weight) they will be immediately adjusted. All materials</p>

Term	Description
	<p>received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%.</p> <p>In the event inspection reveals the scales have been under-weighting (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded.</p> <p>Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them.</p> <p>Scale installations shall have available ten standard 50-pound weights for testing the weighing equipment or suitable weights and devices for other approved equipment.</p> <p>All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.</p>
Rental Equipment	<p>Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 <i>Payment for Extra Work</i>.</p>
Pay Quantities	<p>When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.</p>

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, *No Waiver of Legal Rights*.

When the “basis of payment” subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, *Alteration of Work and Quantities*, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or

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

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, *Omitted Items*, the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with Section 40, paragraph 40-04, *Extra Work*, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

a. From the total of the amount determined to be payable on a partial payment, 10% percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-14. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.

(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.

b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

c. When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment*.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.

b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, *Claims for Adjustments and Disputes*, or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturer warranties specified for materials, equipment, and installations.

b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.

c. Complete final cleanup in accordance with Section 40, paragraph 40-08, *Final Cleanup*.

d. Complete all punch list items identified during the Final Inspection.

e. Provide complete release of all claims for labor and material arising out of the Contract.

f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.

g. When applicable per state requirements, return copies of sales tax completion forms.

h. Manufacturer's certifications for all items incorporated in the work.

i. All required record drawings, as-built drawings or as-constructed drawings.

j. Project Operation and Maintenance (O&M) Manual(s).

k. Security for Construction Warranty.

l. Equipment commissioning documentation submitted, if required.

m. Contractor Quality Control Summary Report. This document shall include all quality control tests results performed for the project compiled by specification section in chronological order. The report shall be submitted in PDF format.

END OF SECTION 90

DIVISION 3 – Part 2

FAA General Construction Items

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

DESCRIPTION

102-1. This item shall consist of temporary control measures as shown on the plans or as ordered by the Resident Project Representative (RPR) during the life of a contract to control pollution of air and water, soil erosion, and siltation through the use of silt fences, berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

Temporary erosion control shall be in accordance with the approved erosion control plan; the approved Construction Safety and Phasing Plan (CSPP) and AC 150/5370-2, *Operational Safety on Airports During Construction*. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be designed, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

MATERIALS

102-2.1 Grass. Not used.

102-2.2 Mulches. Not used.

102-2.3 Fertilizer. Not used.

102-2.4 Slope drains. Not used.

102-2.5 Silt fence. Not used.

102-2.6 Inlet Protection. Inlet protection shall be constructed of geotextile fabric and be capable of keeping silt, sediment, and construction debris out of the storm drain system. The geotextile fabric must be installed underneath the catch basin grate and be repaired or replaced when required.

102-2.6 Other. All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

102-3.1 General. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

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

The Contractor shall be responsible for implementing and following the requirements of the State of Arizona, Arizona Pollutant Discharge Elimination System (AZPDES), Construction General Permit (CGP) Permit Number AZG2020-001 which authorizes stormwater discharges from large and small construction activities to waters of the U.S. either directly or by conveyance, such as Municipal Separate Storm Sewer System (MS4). A copy of the Arizona Department of Environmental Quality (ADEQ) AZPDES General Permit for stormwater discharges associated with construction activity can be found at

<http://www.azdeq.gov/node/524>. Useful information related to local stormwater controls and erosion control measures are presented in the current edition of the “Drainage Design manual for Maricopa County, Arizona – Erosion Control,” published by the Flood Control District of Maricopa County.

102-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans for accomplishment of temporary and permanent erosion control work for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the RPR.

102-3.3 Construction details. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the plans and approved CSPP. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion may be a problem, schedule and perform clearing and grubbing operations so that grading operations and permanent erosion control features can follow immediately if project conditions permit. Temporary erosion control measures are required if permanent measures cannot immediately follow grading operations. The RPR shall limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor’s capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current with the accepted schedule. If seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified as directed by the RPR.

The Contractor shall provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the RPR. If temporary erosion and pollution control measures are required due to the Contractor’s negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the RPR, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The RPR may increase or decrease the area of erodible earth material that can be exposed at any time based on an analysis of project conditions.

The erosion control features installed by the Contractor shall be maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

102-3.4 Installation, maintenance, and removal of silt fence. *Not used.*

102-3.5 Submitting a Notice of Intent. *Prior to any construction activity, the Contractor shall prepare, submit, and obtain approval of a Stormwater Pollution Prevention Plan (SWPPP) in accordance with ADEQ permit requirements found at <http://www.azdeq.gov/node/2328>. A SWPPP is required prior to submitting a Notice of Intent (NOI) for the AZPDES CGP. Contractors seeking authorization for*

stormwater discharges under the general permit shall submit a complete and accurate NOI form electronically via the myDEQ website at <http://www.azdeq.gov/node/1143>. The Contractor shall submit an electronic copy of the approved SWPPP and NOI to the RPR. In accordance with A.A.C R18-14-109, the operator shall pay the initial AZPDES water protection services fee for coverage under this permit at the time the NOI is submitted. The fee is based on the amount of acreage identified in the NOI, in accordance with A.A.C. R18-14-109, Table 6.

102-3.6 Terminating Coverage. To terminate permit coverage, the Contractor shall submit to ADEQ a complete and accurate notice of termination (NOT) electronically via the myDEQ website at <http://www.azdeq.gov/node/1143>. The Contractor shall submit an electronic copy of the approved NOT to the RPR.

The Contractor is responsible for meeting the terms and conditions of this permit until the construction site's authorization is terminated. The Contractor may submit a NOT form to ADEQ after any of the following conditions have been met:

- The Contractor has established final stabilization of all portions of the site for which the Contractor is responsible, in accordance with Part 3.4(2).
- Another Contractor who has a valid authorization number under this general permit or an individual AZPDES permit has assumed control over all areas of the site that have not been finally stabilized.
- The planned construction activity identified on the original NOI was never initiated (i.e., no grading or earthwork was ever started) and plans for construction have been permanently abandoned or indefinitely postponed.
- The Contractor has obtained coverage for the site under another AZPDES permit.
- The Contractor qualifies for one of the alternatives in Part 3.4(3), and submits the required documentation demonstrating compliance with the NOT in myNEQ.

METHOD OF MEASUREMENT

102-4.1 Temporary erosion and pollution control work required will be performed as scheduled or directed by the RPR and shall include preparation and approval of the SWPPP and NOI and installation of temporary erosion control devices. Prepare and Implement Stormwater Pollution Prevention Plan will be paid as a lump sum with the following schedule of partial payments:

- a. With the first pay request, 90%, after approval of the SWPPP, NOI, and installation of temporary erosion control devices.
- c. After final inspection, staging area clean-up and delivery of all project closeout materials, as required by Section 90, paragraph 90-11, Contractor Final Project Documentation, the final 10%.

102-4.2 Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor.

BASIS OF PAYMENT

102-5.1 Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the RPR and measured as provided in paragraph 102-4.1 will be paid for under:

Item C-102-5.1 Prepare and Implement Stormwater Pollution Prevention Plan - per lump sum

REFERENCES

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

Advisory Circulars (AC)

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

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

ASTM International (ASTM)

ASTM D6461 *Standard Specification for Silt Fence Materials*

United States Department of Agriculture (USDA)

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

END OF ITEM C-102

Item C-105 Mobilization

105-1 Description. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

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

105-3 Posted notices. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster “Equal Employment Opportunity is the Law” in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL “Notice to All Employees” Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

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

METHOD OF MEASUREMENT

105-5 Basis of measurement and payment. Based upon the contract lump sum price for “Mobilization” partial payments will be allowed as follows:

- a. With first pay request for Base Bid, 90%.
- h. After final inspection, staging area clean-up and delivery of all Project Closeout materials as required by Section 90, paragraph 90-11, *Contractor Final Project Documentation*, the final 10%.

BASIS OF PAYMENT

105-6 Payment will be made under:

- Item C-105-6.1 Mobilization – per lump sum

REFERENCES

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

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

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

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

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

END OF ITEM C-105

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

110-1 General. When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average (\bar{X}) and sample standard deviation (S_n) of the specified number (n) of sublots for the lot and the specification tolerance limits, L for lower and U for upper, for the particular acceptance parameter. From these values, the respective Quality index, Q_L for Lower Quality Index and/or Q_U for Upper Quality Index, is computed and the PWL for the lot for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

It is the intent of this section to inform the Contractor that, in order to consistently offset the Contractor's risk for material evaluated, production quality (using population average and population standard deviation) must be maintained at the acceptable quality specified or higher. In all cases, it is the responsibility of the Contractor to produce at quality levels that will meet the specified acceptance criteria when sampled and tested at the frequencies specified.

110-2 Method for computing PWL. The computational sequence for computing PWL is as follows:

- a. Divide the lot into n sublots in accordance with the acceptance requirements of the specification.
- b. Locate the random sampling position within the subplot in accordance with the requirements of the specification.
- c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.
- d. Find the sample average (\bar{X}) for all subplot test values within the lot by using the following formula:

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

Where: \bar{X} = Sample average of all subplot test values within a lot

x_1, x_2, \dots, x_n = Individual subplot test values

n = Number of subplot test values

- e. Find the sample standard deviation (S_n) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \dots + d_n^2)/(n-1)]^{1/2}$$

Where: S_n = Sample standard deviation of the number of subplot test values in the set

d_1, d_2, \dots, d_n = Deviations of the individual subplot test values x_1, x_2, \dots from the average value \bar{X}

that is: $d_1 = (x_1 - \bar{X}), d_2 = (x_2 - \bar{X}) \dots d_n = (x_n - \bar{X})$

n = Number of subplot test values

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

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

Where: L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L , using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For double-sided specification limits (i.e., L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

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

and

$$Q_U = (U - X) / S_n$$

Where: L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U , using the column appropriate to the total number (n) of measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U . Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where: P_L = percent within lower specification limit

P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project

Test Item: Item P-401, Lot A.

A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

$$A-1 = 96.60$$

$$A-2 = 97.55$$

$$A-3 = 99.30$$

$$A-4 = 98.35$$

$$n = 4$$

2. Calculate average density for the lot.

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

$$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$$

$$X = 97.95\% \text{ density}$$

3. Calculate the standard deviation for the lot.

$$S_n = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2) / (4 - 1)]^{1/2}$$

$$S_n = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$$

$$S_n = 1.15$$

4. Calculate the Lower Quality Index Q_L for the lot. ($L=96.3$)

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

$$Q_L = (97.95 - 96.30) / 1.15$$

$$Q_L = 1.4348$$

5. Determine PWL by entering Table 1 with $Q_L = 1.44$ and $n = 4$.

$$PWL = 98$$

B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

$$A-1 = 5.00$$

$$A-2 = 3.74$$

$$A-3 = 2.30$$

$$A-4 = 3.25$$

2. Calculate the average air voids for the lot.

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

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

$$X = 3.57\%$$

3. Calculate the standard deviation S_n for the lot.

$$S_n = [((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) / (4 - 1)]^{1/2}$$

$$S_n = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$$

$$S_n = 1.12$$

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

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

$$Q_L = (3.57 - 2.00) / 1.12$$

$$Q_L = 1.3992$$

5. Determine P_L by entering Table 1 with $Q_L = 1.41$ and $n = 4$.

$$P_L = 97$$

6. Calculate the Upper Quality Index Q_U for the lot. ($U = 5.0$)

$$Q_U = (U - X) / S_n$$

$$Q_U = (5.00 - 3.57) / 1.12$$

$$Q_U = 1.2702$$

7. Determine P_U by entering Table 1 with $Q_U = 1.29$ and $n = 4$.

$$P_U = 93$$

8. Calculate Air Voids PWL

$$PWL = (P_L + P_U) - 100$$

$$PWL = (97 + 93) - 100 = 90$$

EXAMPLE OF OUTLIER CALCULATION (REFERENCE ASTM E178)

Project: Example Project

Test Item: Item P-401, Lot A.

A. Outlier Determination for Mat Density.

1. Density of four random cores taken from Lot A arranged in descending order.

$$A-3 = 99.30$$

$$A-4 = 98.35$$

$$A-2 = 97.55$$

$$A-1 = 96.60$$

2. From ASTM E178, Table 1, for $n=4$ an upper 5% significance level, the critical value for test criterion = 1.463.

3. Use average density, standard deviation, and test criterion value to evaluate density measurements.

a. For measurements greater than the average:

If $(\text{measurement} - \text{average})/(\text{standard deviation})$ is less than test criterion, then the measurement is not considered an outlier.

For A-3, check if $(99.30 - 97.95) / 1.15$ is greater than 1.463.

Since 1.174 is less than 1.463, the value is not an outlier.

b. For measurements less than the average:

If $(\text{average} - \text{measurement})/(\text{standard deviation})$ is less than test criterion, then the measurement is not considered an outlier.

For A-1, check if $(97.95 - 96.60) / 1.15$ is greater than 1.463.

Since 1.135 is less than 1.463, the value is not an outlier.

Note: In this example, a measurement would be considered an outlier if the density were:

$$\text{Greater than } (97.95 + 1.463 \times 1.15) = 99.63\%$$

OR

$$\text{less than } (97.95 - 1.463 \times 1.15) = 96.27\%.$$

Table 1. Table for Estimating Percent of Lot Within Limits (PWL)

Percent Within Limits (P _L and P _U)	Positive Values of Q (Q _L and Q _U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Percent Within Limits (P _L and P _U)	Negative Values of Q (Q _L and Q _U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

REFERENCES

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

ASTM International (ASTM)

ASTM E178 Standard Practice for Dealing with Outlying Observations

END OF ITEM C-110

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DIVISION 3 – Part 3

FAA Technical Specifications

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Item P-101 Preparation/Removal of Existing Pavements

DESCRIPTION

101-1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable plans.

EQUIPMENT AND MATERIALS

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

CONSTRUCTION

101-3.1 Removal of existing pavement.

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

a. Concrete pavement removal. Not used.

b. Asphalt pavement removal. Asphalt pavement to be removed shall be cut to the full depth of the asphalt pavement around the perimeter of the area to be removed. All asphalt pavement removed shall be disposed off Airport property.

c. Repair or removal of Base, Subbase, and/or Subgrade. All failed material including surface, base course, subbase course, and subgrade shall be removed and repaired as directed by the RPR. Materials and methods of construction shall comply with the applicable sections of these specifications. Any damage caused by Contractor's removal process shall be repaired at the Contractor's expense.

101-3.2 Preparation of joints and cracks prior to overlay/surface treatment. Not used.

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

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

Removal of foreign substances shall not proceed until approved by the RPR. Removal of paint shall include application of an approved asphalt surface treatment. Water used for high-pressure water equipment shall be provided by the Contractor at the Contractor's expense. No material shall be deposited on the pavement shoulders. All wastes shall be removed and disposed off Airport property

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

a. Repair of concrete spalls in areas to be overlaid with asphalt. Not used.

b. Asphalt pavement repair. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. Materials and methods of construction shall comply with the applicable sections of these specifications.

101-3.5 Cold milling. Milling shall be performed with a power-operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. All millings shall be removed and disposed off Airport property. If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor's Expense.

a. Patching. The milling machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the remaining pavement and it shall have a positive method of controlling the depth of cut. The RPR shall layout the area to be milled with a straightedge in increments of 1-foot widths. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate milling machine, or areas that are damaged because of his negligence, shall be repaired by the Contractor at the Contractor's Expense.

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

c. Clean-up. The Contractor shall sweep the milled surface daily and immediately after the milling until all residual materials are removed from the pavement surface. Prior to paving, the Contractor shall wet down the milled pavement and thoroughly sweep and/or blow the surface to remove loose residual material. Waste materials shall be collected and removed from the pavement surface and adjacent areas by sweeping or vacuuming. Waste materials shall be removed and disposed off Airport property.

101-3.6. Preparation of asphalt pavement surfaces prior to surface treatment. Not used.

101-3.7 Maintenance. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.

101-3.8 Preparation of Joints in Rigid Pavement prior to resealing. Not used.

101-3.8.1 Removal of Existing Joint Sealant. All existing joint sealants will be removed by plowing or use of hand tools. Any remaining sealant and or debris will be removed by use of wire brushes or other tools as necessary. Resaw joints removing no more than 1/16 inch (2 mm) from each joint face. Immediately after sawing, flush out joint with water and other tools as necessary to completely remove the slurry.

101-3.8.2 Cleaning prior to sealing. Not used.

101-3.8.3 Joint sealant. Joint material and installation will be in accordance with ASTM D6690.

101-3.9 Preparation of Cracks in Flexible Pavement prior to sealing. Not used.

101-3.9.1 Preparation of Crack. Not used.

101-3.9.2 Removal of Existing Crack Sealant. Not used.

101-3.9.3 Crack Sealant. Crack sealant material and installation will be in accordance with ASTM D6690.

101-3.9.4 Removal of Pipe and other Buried Structures.

- a. **Removal of Existing Pipe Material.** Not used.
- b. **Removal of Inlets/Manholes.** Not used.

METHOD OF MEASUREMENT

101-4.1 Pavement Removal. The unit of measurement for asphalt and concrete pavement removal, at the indicated depth, shall be the number of square yards removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal.

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified above. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Item P-101-5.1	Pavement Removal, Full Depth - per square yard
Item P-101-5.2	Pavement Removal, 3-inch Depth- per square yard
Item P-101-5.3	Pavement Removal, 2.5-inch Depth - per square yard

REFERENCES

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

Advisory Circulars (AC)

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

ASTM International (ASTM)

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

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Item P-401 Asphalt Mix Pavement

DESCRIPTION

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

MATERIALS

401-2.1 Aggregate. Aggregates shall consist of crushed stone, crushed gravel, screenings, natural sand, and mineral filler, as required. The aggregates should have no known history of detrimental pavement staining due to ferrous sulfides, such as pyrite. Coarse aggregate is the material retained on the No. 4 sieve. Fine aggregate is the material passing the No. 4 sieve.

- a. **Coarse aggregate.** Coarse aggregate shall consist of sound, tough, durable particles, free from films of matter that would prevent thorough coating and bonding with the asphalt material and free from organic matter and other deleterious substances. Coarse aggregate material requirements are given in the table below.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0 % maximum	ASTM C142
Percentage of Fractured Particles	Minimum 75% by weight of particles with at least two fractured faces and 85% with at least one fractured face ¹	ASTM D5821
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles at 5:1 ²	ASTM D4791

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

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

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

Fine Aggregate Material Requirements

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

c. Sampling. ASTM D75 shall be used in sampling coarse and fine aggregate.

401-2.2 Mineral filler. Mineral filler (baghouse fines) may be added in addition to material naturally present in the aggregate. Mineral filler shall meet the requirements of ASTM D242.

Mineral Filler Requirements

Material Test	Requirement	Standard
Plasticity Index	4 maximum	ASTM D4318

401-2.3 Asphalt binder. Asphalt binder shall conform to ASTM D6373 Performance Grade (PG) 76-22.

Asphalt Binder PG Plus Test Requirements

Material Test	Requirement	Standard
Elastic Recovery	75% minimum	ASTM D6084 ¹

¹ Follow procedure B on RTFO aged binder.

401-2.4 Anti-stripping agent. Any anti-stripping agent or additive (anti-strip) shall be heat stable and shall not change the asphalt binder grade beyond specifications. Anti-strip shall be an approved material of the Department of Transportation of the State in which the project is located.

COMPOSITION

401-3.1 Composition of mixture(s). The asphalt mix shall be composed of a mixture of aggregates, filler and anti-strip agent if required, and asphalt binder. The aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

401-3.2 Job mix formula (JMF) laboratory. The laboratory used to develop the JMF shall possess a current certificate of accreditation, listing D3666 from a national accrediting authority and all test methods required for developing the JMF; and be listed on the accrediting authority's website. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Resident Project Representative (RPR) prior to start of construction.

401-3.3 Job mix formula (JMF). No asphalt mixture shall be placed until an acceptable mix design has been submitted to the RPR for review and accepted in writing. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

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

The JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 401-3.2. The asphalt mixture shall be designed using procedures contained in Asphalt Institute MS-2 Mix Design Manual, 7th Edition. Samples shall be prepared and compacted using a Marshall compactor in accordance with ASTM D6926.

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

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

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

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

- Manufacturer's Certificate of Analysis (COA) for the asphalt binder used in the JMF in accordance with paragraph 401-2.3. Certificate of asphalt performance grade is with modifier already added, if used and must indicate compliance with ASTM D6373. For plant modified asphalt binder, certified test report indicating grade certification of modified asphalt binder.
- Manufacturer's Certificate of Analysis (COA) for the anti-stripping agent if used in the JMF in accordance with paragraph 401-2.4.
- Certified material test reports for the course and fine aggregate and mineral filler in accordance with paragraphs 401-2.1.
- Percent passing each sieve size for individual gradation of each aggregate cold feed and/or hot bin; percent by weight of each cold feed and/or hot bin used; and the total combined gradation in the JMF.
- Specific Gravity and absorption of each coarse and fine aggregate.
- Percent natural sand.
- Percent fractured faces.

- Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).
- Percent of asphalt.
- Number of blows.
- Laboratory mixing and compaction temperatures.
- Supplier-recommended field mixing and compaction temperatures.
- Plot of the combined gradation on a 0.45 power gradation curve.
- Graphical plots of air voids, voids in the mineral aggregate (VMA), and unit weight versus asphalt content. To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.
- Tensile Strength Ratio (TSR).
- Type and amount of Anti-strip agent when used.
- Asphalt Pavement Analyzer (APA) results.
- Date the JMF was developed. Mix designs that are not dated, or which are from a prior construction season shall not be accepted.

Table 1. Asphalt Design Criteria

Test Property	Value	Test Method
Number of blows	75	
Air voids (%)	3.5	ASTM D3203
Percent voids in mineral aggregate (VMA), minimum	See Table 2	ASTM D6995
Tensile Strength Ratio (TSR) ¹	Not less than 80 at a saturation of 70-80%	ASTM D4867
Asphalt Pavement Analyzer (APA) ^{2, 3}	Less than 10 mm @ 4000 passes	AASHTO T340 at 250 psi hose pressure at 64°C test temperature

¹ Test specimens for TSR shall be compacted at 7 ± 1.0 % air voids. In areas subject to freeze-thaw, use freeze-thaw conditioning in lieu of moisture conditioning per ASTM D4867.

² AASHTO T340 at 100 psi hose pressure at 64°C test temperature may be used in the interim. If this method is used the required Value shall be less than 5 mm @ 8000 passes.

³ Where APA not available, use Hamburg Wheel test (AASHTO T-324) 10mm @ 20,000 passes at 50°C.

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

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

Table 2. Aggregate - Asphalt Pavements

Sieve Size	Percentage by Weight Passing Sieve
	Gradation 2
1 inch	--
3/4 inch	100
1/2 inch	90-100
3/8 inch	72-88
No. 4	53-73
No. 8	38-60
No. 16	26-48
No. 30	18-38
No. 50	11-27
No. 100	6-18
No. 200	3-6
Minimum Voids in Mineral Aggregate (VMA)¹	15.0
Asphalt Percent:	
Stone or gravel	5.0-7.5
Recommended Minimum Construction Lift Thickness	2 inch

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

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

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

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

CONSTRUCTION METHODS

401-4.1 Weather limitations. The asphalt shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 3. The temperature requirements may be waived by the RPR, if requested; however, all other requirements including compaction shall be met.

Table 3. Surface Temperature Limitations of Underlying Course

Mat Thickness	Base Temperature (Minimum)
	°F
3 inches or greater	40
Greater than 2 inches but less than 3 inches	45

401-4.2 Asphalt plant. Plants used for the preparation of asphalt shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M156 including the following items.

a. Inspection of plant. The RPR, or RPR’s authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

b. Storage bins and surge bins. The asphalt mixture stored in storage and/or surge bins shall meet the same requirements as asphalt mixture loaded directly into trucks. Asphalt mixture shall not be stored in storage and/or surge bins for a period greater than twelve (12) hours. If the RPR determines there is an excessive heat loss, segregation, or oxidation of the asphalt mixture due to temporary storage, temporary storage shall not be allowed.

401-4.3 Aggregate stockpile management. Aggregate stockpiles shall be constructed in a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the asphalt batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used.

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

401-4.4 Hauling equipment. Trucks used for hauling asphalt shall have tight, clean, and smooth metal beds. To prevent the asphalt from sticking to the truck beds, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other material approved by the RPR. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

401-4.4.1 Material transfer vehicle (MTV). Material transfer vehicles are not required.

401-4.5 Asphalt pavers. Asphalt pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of asphalt that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface. The asphalt paver shall be equipped with a control system capable of automatically maintaining the specified screed grade and elevation.

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

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

401-4.6 Rollers. The number, type, and weight of rollers shall be sufficient to compact the asphalt to the required density while it is still in a workable condition without crushing of the aggregate, depressions or other damage to the pavement surface. Rollers shall be in good condition, clean, and capable of operating

at slow speeds to avoid displacement of the asphalt. All rollers shall be specifically designed and suitable for compacting asphalt concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used.

401-4.7 Density device. The Contractor shall have on site a density gauge during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall supply a qualified technician during all paving operations to calibrate the gauge and obtain accurate density readings for all new asphalt. These densities shall be supplied to the RPR upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

401-4.8 Preparation of asphalt binder. The asphalt binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the asphalt binder to the mixer at a uniform temperature. The temperature of unmodified asphalt binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325°F when added to the aggregate. The temperature of modified asphalt binder shall be no more than 350°F when added to the aggregate.

401-4.9 Preparation of mineral aggregate. The aggregate for the asphalt shall be heated and dried. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350°F when the asphalt binder is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

401-4.10 Preparation of Asphalt mixture. The aggregates and the asphalt binder shall be weighed or metered and mixed in the amount specified by the JMF. The combined materials shall be mixed until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95% of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all asphalt upon discharge shall not exceed 0.5%.

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

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

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

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

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

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

The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Placement of the asphalt mix shall begin along the centerline of a crowned section or on the high side of areas with a one way slope unless shown otherwise on the laydown plan as accepted by the RPR. The asphalt mix shall be placed in consecutive adjacent lanes having a minimum width of 12 feet except where edge lanes require less width to complete the area. Additional screed sections attached to widen the paver to meet the minimum lane width requirements must include additional auger sections to move the asphalt mixture uniformly along the screed extension.

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

The RPR may at any time, reject any batch of asphalt, on the truck or placed in the mat, which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or overheated asphalt mixture. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

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

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

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

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

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

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

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

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

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

401-4.16 Diamond grinding. Diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive.

Diamond grinding shall be performed with a machine designed specifically for diamond grinding capable of cutting a path at least 3 feet wide. The saw blades shall be 1/8-inch wide with a sufficient number of blades to create grooves between 0.090 and 0.130 inches wide; and peaks and ridges approximately 1/32 inch higher than the bottom of the grinding cut. The actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Equipment or grinding procedures that cause ravels, aggregate fractures, spalls or disturbance to the pavement will not be permitted. Contractor shall demonstrate to the RPR that the grinding equipment will produce satisfactory results prior to making corrections to surfaces. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. The Contractor shall apply an approved asphalt surface treatment to all areas that have been subject to grinding.

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

CONTRACTOR QUALITY CONTROL (CQC)

401-5.1 General. The Contractor shall develop a Contractor Quality Control Program (CQCP) in accordance with Item C-100. No partial payment will be made for materials without an approved CQCP.

401-5.2 Contractor quality control (QC) facilities. The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

401-5.3 Contractor QC testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved

CQCP. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A QC Testing Plan shall be developed as part of the CQCP.

a. Asphalt content. A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per day from mechanical analysis of extracted aggregate in accordance with ASTM D5444, ASTM C136, and ASTM C117.

c. Moisture content of aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per day in accordance with ASTM C566.

d. Moisture content of asphalt. The moisture content shall be determined once per day in accordance with AASHTO T329 or ASTM D1461.

e. Temperatures. Temperatures shall be checked, at least four times per day, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt at the job site.

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

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than 1/4 inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues.

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

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

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements shall be taken perpendicular to the pavement centerline each 50 feet or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests shall be parallel to the centerline of paving; at the center of paving

lanes when widths of paving lanes are less than 20 feet; and at the third points of paving lanes when widths of paving lanes are 20 ft or greater. When placement abuts previously placed material the first measurement shall start with one half the length of the straight edge on the previously placed material.

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

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

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

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch vertically and 0.1 feet laterally. The documentation will be provided by the Contractor to the RPR within 24 hours.

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

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus 1/2 inch and replacing with new material. Skin patching is not allowed.

401-5.4 Sampling. When directed by the RPR, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced, or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

401-5.5 Control charts. The Contractor shall maintain linear control charts for both individual measurements and range (i.e. difference between highest and lowest measurements) for aggregate gradation, asphalt content, and VMA. The VMA for each day will be calculated and monitored by the QC laboratory.

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

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

Control Chart Limits for Individual Measurements

Sieve	Action Limit	Suspension Limit
3/4 inch	±6%	±9%
1/2 inch	±6%	±9%
3/8 inch	±6%	±9%
No. 4	±6%	±9%
No. 16	±5%	±7.5%
No. 50	±3%	±4.5%
No. 200	±2%	±3%
Asphalt Content	±0.45%	±0.70%
Minimum VMA	-0.5%	-1.0%

b. Range. Control charts shall be established to control gradation process variability. The range shall be plotted as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

Control Chart Limits Based on Range

Sieve	Suspension Limit
1/2 inch	11%
3/8 inch	11%
No. 4	11%
No. 16	9%
No. 50	6%
No. 200	3.5%
Asphalt Content	0.8%

c. Corrective Action. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

- (1) One point falls outside the Suspension Limit line for individual measurements or range; or
- (2) Two points in a row fall outside the Action Limit line for individual measurements.

401-5.6 QC reports. The Contractor shall maintain records and shall submit reports of QC activities daily to the RPR, in accordance with Item C-100.

MATERIAL ACCEPTANCE

401-6.1 Acceptance sampling and testing. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the RPR at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.

a. Quality assurance (QA) testing laboratory. The QA testing laboratory performing these acceptance tests will be accredited in accordance with ASTM D3666. The QA laboratory accreditation will be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing will be listed on the lab accreditation.

b. Lot size. A standard lot will be equal to one day's production divided into approximately equal sublots of between 400 to 600 tons. When only one or two sublots are produced in a day's production, the sublots will be combined with the production lot from the previous or next day.

Where more than one plant is simultaneously producing asphalt for the job, the lot sizes will apply separately for each plant.

c. Asphalt air voids. Plant-produced asphalt will be tested for air voids on a subplot basis.

(1) Sampling. Material from each subplot shall be sampled in accordance with ASTM D3665. Samples shall be taken from material deposited into trucks at the plant or at the job site in accordance with ASTM D979. The sample of asphalt may be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to maintain the material at or above the compaction temperature as specified in the JMF.

(2) Testing. Air voids will be determined for each subplot in accordance with ASTM D3203 for a set of three compacted specimens prepared in accordance with ASTM D6926.

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

(1) Sampling. The Contractor will cut minimum 5 inch diameter samples in accordance with ASTM D5361. The Contractor shall furnish all tools, labor, and materials for cleaning, and filling the cored pavement. Laitance produced by the coring operation shall be removed immediately after coring, and core holes shall be filled within one day after sampling in a manner acceptable to the RPR.

(2) Bond. Each lift of asphalt shall be bonded to the underlying layer. If cores reveal that the surface is not bonded, additional cores shall be taken as directed by the RPR to determine the extent of unbonded areas. Unbonded areas shall be removed by milling and replaced at no additional cost as directed by the RPR.

(3) Thickness. Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade. Measurements of thickness will be made using the cores extracted for each subplot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or subplot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the RPR to circumscribe the deficient area.

(4) Mat density. One core shall be taken from each subplot. Core locations will be determined by the RPR in accordance with ASTM D3665. Cores for mat density shall not be taken closer than one foot from a transverse or longitudinal joint. The bulk specific gravity of each cored sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each subplot sample by the TMD for that subplot.

(5) Joint density. One core centered over the longitudinal joint shall be taken for each subplot that has a longitudinal joint. Core locations will be determined by the RPR in accordance with ASTM D3665. The bulk specific gravity of each core sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each joint density sample by the average TMD for the lot. The TMD used to determine the joint density at joints formed between lots will be the lower of the average TMD values from the adjacent lots.

401-6.2 Acceptance criteria.

a. General. Acceptance will be based on the implementation of the Contractor Quality Control Program (CQCP) and the following characteristics of the asphalt and completed pavements: air voids, mat density, joint density, and grade.

b. Air Voids and Mat density. Acceptance of each lot of plant produced material for mat density and air voids will be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90%, the lot will be acceptable. Acceptance and payment will be determined in accordance with paragraph 401-8.1.

c. Joint density. Acceptance of each lot of plant produced asphalt for joint density will be based on the PWL. If the PWL of the lot is equal to or exceeds 90%, the lot will be considered acceptable. If the PWL is less than 90%, the Contractor shall evaluate the reason and act accordingly. If the PWL is less than 80%, the Contractor shall cease operations and until the reason for poor compaction has been determined. If the PWL is less than 71%, the pay factor for the lot used to complete the joint will be reduced by five (5) percentage points. This lot pay factor reduction will be incorporated and evaluated in accordance with paragraph 401-8.1.

d. Grade. The final finished surface of the pavement shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch vertically or 0.1 feet laterally.

Cross-sections of the pavement shall be taken at a minimum 50-foot longitudinal spacing, at all longitudinal grade breaks, and at start and end of each lane placed. Minimum cross-section grade points shall include grade at centerline, every 25 feet transversely on the apron, and edge of pavement.

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

e. Profilograph roughness for QA Acceptance. *Not used.*

401-6.3 Percentage of material within specification limits (PWL). The PWL will be determined in accordance with procedures specified in Item C-110. The specification tolerance limits (L) for lower and (U) for upper are contained in Table 4.

Table 4. Acceptance Limits for Air Voids and Density

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

a. Outliers. All individual tests for mat density and air voids will be checked for outliers (test criterion) in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded, and the PWL will be determined using the remaining test values. The criteria in Table 4 is based on production processes which have a variability with the following standard deviations: Surface Course Mat Density (%), 1.30; Base Course Mat Density (%), 1.55; Joint Density (%), 1.55.

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

401-6.4 Resampling pavement for mat density.

a. General. Resampling of a lot of pavement will only be allowed for mat density, and then, only if the Contractor requests same, in writing, within 48 hours after receiving the written test results from the RPR. A retest will consist of all the sampling and testing procedures contained in paragraphs 401-6.1d and 401-6.2b. Only one resampling per lot will be permitted.

(1) A redefined PWL will be calculated for the resampled lot. The number of tests used to calculate the redefined PWL will include the initial tests made for that lot plus the retests.

(2) The cost for resampling and retesting shall be borne by the Contractor.

b. Payment for resampled lots. The redefined PWL for a resampled lot will be used to calculate the payment for that lot in accordance with Table 5.

c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%.

401-6.5 Leveling course. Not used.

METHOD OF MEASUREMENT

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

BASIS OF PAYMENT

401-8.1 Payment. Payment for a lot of asphalt meeting all acceptance criteria as specified in paragraph 401-6.2 shall be made based on results of tests for mat density and air voids. Payment for acceptable lots shall be adjusted according to paragraph 401-8.1c for mat density and air voids; and paragraph 401-6.2c for joint density, subject to the limitation that:

a. The total project payment for plant mix asphalt pavement shall not exceed 100 percent of the product of the contract unit price and the total number of tons of asphalt used in the accepted work.

b. The price shall be compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

c. Basis of adjusted payment. The pay factor for each individual lot shall be calculated in accordance with Table 5. A pay factor shall be calculated for both mat density and air voids. The lot pay factor shall be the higher of the two values when calculations for both mat density and air voids are 100% or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either mat density or air voids is 100% or higher. The lot pay factor shall be the lower of the two values

when calculations for both mat density and air voids are less than 100%. If PWL for joint density is less than 71% then the lot pay factor shall be reduced by 5% but be no higher than 95%.

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

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

Table 5. Price adjustment schedule¹

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

¹ Although it is theoretically possible to achieve a pay factor of 106% for each lot, actual payment above 100% shall be subject to the total project payment limitation specified in paragraph 401-8.1a.

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

d. Profilograph Roughness. Not used.

401-8.1 Payment.

Payment will be made under:

Item P-401-8.1 Asphalt Surface Course - per ton

REFERENCES

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

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity) and Absorption of Coarse Aggregate

ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D242	Standard Specification for Filler for Bituminous Paving Mixtures
ASTM D946	Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D979	Standard Practice for Sampling Asphalt Paving Mixtures
ASTM D1073	Standard Specification for Fine Aggregate for Asphalt Paving Mixtures
ASTM D1188	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Asphalt Paving Mixtures
ASTM D1461	Standard Test Method for Moisture or Volatile Distillates in Asphalt Paving Mixtures
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D2950	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3381	Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4552	Standard Practice for Classifying Hot-Mix Recycling Agents

ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4867	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5361	Standard Practice for Sampling Compacted Asphalt Mixtures for Laboratory Testing
ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6084	Standard Test Method for Elastic Recovery of Bituminous Materials by Ductilometer
ASTM D6307	Standard Test Method for Asphalt Content of Hot Mix Asphalt by Ignition Method
ASTM D6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D6752	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
ASTM D6995	Standard Test Method for Determining Field VMA based on the Maximum Specific Gravity of the Mix (Gmm)
ASTM E11	Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves
ASTM E178	Standard Practice for Dealing with Outlying Observations
ASTM E950	Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference
ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M156	Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
AASHTO T329	Standard Method of Test for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
AASHTO T324	Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures
AASHTO T 340	Standard Method of Test for Determining the Rutting Susceptibility of Hot Mix Asphalt (APA) Using the Asphalt Pavement Analyzer (APA)

Asphalt Institute (AI)

Asphalt Institute Handbook MS-26, Asphalt Binder

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

AI State Binder Specification Database

Federal Highway Administration (FHWA)

Long Term Pavement Performance Binder Program

Advisory Circulars (AC)

AC 150/5320-6 Airport Pavement Design and Evaluation

FAA Orders

5300.1 Modifications to Agency Airport Design, Construction, and Equipment Standards

Software

FAARFIELD

END OF ITEM P-401

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Item P-603 Emulsified Asphalt Tack Coat

DESCRIPTION

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

MATERIALS

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

CONSTRUCTION METHODS

603-3.1 Weather limitations. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is 50°F or above; the temperature has not been below 35°F for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

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

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

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

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

The distributor shall be equipped with a hand sprayer.

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

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

603-3.3 Application of emulsified asphalt material. The emulsified asphalt shall not be diluted. Immediately before applying the emulsified asphalt tack coat, the full width of surface to be treated shall be swept with a power broom and/or power blower to remove all loose dirt and other objectionable material.

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

Emulsified Asphalt

Surface Type	Residual Rate, gal/SY	Emulsion Application Bar Rate, gal/SY
New asphalt	0.02-0.05	0.03-0.07
Existing asphalt	0.04-0.07	0.06-0.11
Milled Surface	0.04-0.08	0.06-0.12
Concrete	0.03-0.05	0.05-0.08

After application of the tack coat, the surface shall be allowed to cure without being disturbed for the period of time necessary to permit drying and setting of the tack coat. This period shall be determined by the RPR. The Contractor shall protect the tack coat and maintain the surface until the next course has been placed. When the tack coat has been disturbed by the Contractor, tack coat shall be reapplied at the Contractor’s expense.

603-3.4 Freight and waybills The Contractor shall submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

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

BASIS OF PAYMENT

603.5-1 Payment shall be made at the contract unit price per ton of emulsified asphalt material. This price shall be full compensation for furnishing all materials, for all preparation, delivery, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-603-5.1 Emulsified Asphalt Tack Coat - per ton

REFERENCES

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

ASTM International (ASTM)

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

END ITEM P-603

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Item P-620 Runway and Taxiway Marking

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

MATERIALS

620-2.1 Materials acceptance. The Contractor shall furnish manufacturer’s certified test reports, for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer’s surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 Marking materials.

Table 1. Marking Materials

Paint ¹				Glass Beads ²	
Type	Color	Fed Std. 595 Number	Application Rate Maximum	Type	Application Rate Minimum
Waterborne Type II	Yellow	33538 or 33655	115 ft ² /gal	Type I, Gradation A	7 lb/gal
Waterborne Type II	Black	37038	115 ft ² /gal	No Beads	N/A

¹ See paragraph 620-2.2a

² See paragraph 620-2.2b

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

Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952F, Type II. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis.

b. Reflective media. Glass beads for yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type I, Gradation A.

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

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

CONSTRUCTION METHODS

620-3.1 Weather limitations. Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecast to not be within the manufacturers' recommendations for application and dry time.

620-3.2 Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

620-3.3 Preparation of surfaces. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminants that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

a. Preparation of new pavement surfaces. The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

b. Preparation of pavement to remove existing markings. Not used.

c. Preparation of pavement markings prior to remarking. Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

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

620-3.4 Layout of markings. The proposed markings shall be laid out in advance of the paint application. Layout of markings shall include intermediate marks no greater than 2 feet for straight sections and 1 foot on curved sections. The locations of markings to receive glass beads shall be shown on the plans. Temporary layout marks shall not be visible after application of initial markings.

620-3.5 Application. A period of 30 calendar days shall elapse between placement of surface course or seal coat and application of the permanent paint markings. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR. An initial and final application of paint and reflective media shall be applied at the full application rates.

The edges of the markings shall not vary from a straight line or radii more than 1/2 inch in 50 feet, and marking dimensions and spacing shall be within the following tolerances:

Marking Dimensions and Spacing Tolerance

Dimension and Spacing	Tolerance
36 inch or less	±1/2 inch
greater than 36 inch to 6 feet	±1 inch
greater than 6 feet to 60 feet	±2 inch
greater than 60 feet	±3 inch

The paint shall be mixed in accordance with the manufacturer’s instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

620-3.6 Application--preformed thermoplastic airport pavement markings. Preformed thermoplastic pavement markings not used.

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

620-3.8 Retro-reflectance. *Not used.*

620-3.9 Protection and cleanup. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1 The quantity of pavement marking to be paid for shall be measured by the number of square feet of painting performed in accordance with the specifications and accepted by the RPR. Pavement marking shall include surface preparation and reflective media. All Yellow pavement marking shall include two total coats of paint and reflective media, one for the initial application and one for the final application. All black pavement markings shall include one coat of paint as shown on plan sheet C-051.

BASIS OF PAYMENT

620-5.1 This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications. Payment for pavement marking shall be made at the contract price for the number of square feet of painting.

Payment will be made under:

Item P-620-5.1	Pavement Marking, Yellow, Reflective Media, Type I - per square foot
Item P-620-5.2	Pavement Marking, Black - per square foot

REFERENCES

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

Code of Federal Regulations (CFR)

40 CFR Part 60, Appendix A-7, Method 24
Determination of volatile matter content, water content, density,
volume solids, and weight solids of surface coatings

29 CFR Part 1910.1200 Hazard Communication

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D Beads (Glass Spheres) Retro-Reflective
FED SPEC TT-P-1952F Paint, Traffic and Airfield Marking, Waterborne
FED STD 595 Colors used in Government Procurement

Commercial Item Description

A-A-2886B Paint, Traffic, Solvent Based

Advisory Circulars (AC)

AC 150/5340-1 Standards for Airport Markings
AC 150/5320-12 Measurement, Construction, and Maintenance of Skid Resistant
Airport Pavement Surfaces

END OF ITEM P-620

DIVISION 4

SUPPLEMENTAL DOCUMENTS

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DIVISION 4

SUPPLEMENTAL DOCUMENT 1

Federal Wage Rates

(General Decision Number AZ20250045 01/03/2025)

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"General Decision Number: AZ20250045 01/03/2025

Superseded General Decision Number: AZ20240045

State: Arizona

Construction Type: Highway

County: Maricopa County in Arizona.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

<p>If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:</p>	<ul style="list-style-type: none"> ◆ Executive Order 14026 generally applies to the contract. ◆ The contractor must pay all covered workers at least \$17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
<p>If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:</p>	<ul style="list-style-type: none"> ◆ Executive Order 13658 generally applies to the contract. ◆ The contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number Publication Date
 0 01/03/2025

CARP1912-003 07/01/2024

	Rates	Fringes
Carpenter, Excludes Formwork Concrete.....	\$ 35.89	14.98

ENGI0012-046 12/01/2024		

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Bulldozer.....	\$ 35.56	18.12

ENGI0012-053 12/01/2024		

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Tractor.....	\$ 35.56	18.12

ENGI0012-063 12/01/2024		

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Oiler.....	\$ 32.29	18.12

ENGI0012-065 12/01/2024		

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Field Equipment Serviceperson.....	\$ 35.56	18.12

ENGI0012-066 12/01/2024		

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Backhoe/Backhoe & Loader Combo/Track Backhoe.....	\$ 35.56	18.12

ENGI0012-069 12/01/2024		

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Loader/Front End Loader.....	\$ 35.56	18.12

ENGI0012-070 12/01/2024		

	Rates	Fringes
TRUCK DRIVER Off Road Truck.....	\$ 35.56	18.12

ENGI0012-071 12/01/2024		

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Crane/Derrick.....	\$ 36.64	18.12

ENGI0012-072 12/01/2024		

	Rates	Fringes
Power Equipment Operator: Excavator/Trackhoe		
1/2 cubic yard or smaller...	\$ 35.56	18.12
Greater than 1/2 cubic yard.	\$ 36.64	18.12

ENGI0012-073 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Grade Checker.....	\$ 36.64	18.12

ENGI0012-074 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Motor Grader/Blade.....	\$ 36.64	18.12

ENGI0012-075 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Mechanic.....	\$ 37.67	18.12

IRON0075-014 08/01/2024

	Rates	Fringes
Ironworker.....	\$ 33.00	18.91

LAB01184-016 06/01/2024

	Rates	Fringes
Power Equipment Operator: Horizontal Directional Drill.....	\$ 30.72	8.37

LAB01184-017 06/01/2024

	Rates	Fringes
Laborer: Fence Erector.....	\$ 26.15	8.37

LAB01184-021 06/01/2024

	Rates	Fringes
Traffic Control.....	\$ 26.15	8.37

LAB01184-025 06/01/2024

	Rates	Fringes
Laborer: Asphalt, Includes Raker, Shoveler, Spreader and Distributor.....	\$ 28.65	8.37

LAB01184-027 06/01/2024

	Rates	Fringes
Laborer: Grade Setter.....	\$ 28.65	8.37

LAB01184-029 06/01/2024		

	Rates	Fringes
LABORER: Guardrail Installer.....	\$ 28.65	8.37

LAB01184-033 06/01/2024		

	Rates	Fringes
Power Equipment Operator: Trencher.....	\$ 29.62	8.37

LAB01184-044 06/01/2024		

	Rates	Fringes
Power Equipment Operator: Forklift.....	\$ 29.62	8.37

LAB01184-047 06/01/2024		

	Rates	Fringes
Truck Driver: Concrete.....	\$ 29.62	8.37

LAB01184-049 06/01/2024		

	Rates	Fringes
Truck Driver: Water.....	\$ 29.62	8.37

SUAZ2023-022 11/19/2024		

	Rates	Fringes
Carpenter: Formwork Concrete.....	\$ 29.86	8.89
Cement Mason/Concrete finisher...	\$ 30.41	0.00
Electrician.....	\$ 29.00	7.58
Laborer: Concrete Saw (Hand Held/Walk Behind).....	\$ 25.22	5.08
Laborer: General.....	\$ 23.32	7.09
Laborer: Landscape Laborer.....	\$ 19.00	6.34
Laborer: Mason Tender.....	\$ 25.92	7.09
Laborer: Pipelayer.....	\$ 25.97	7.09
Painter: Pavement Marking.....	\$ 23.35	6.34
Painter: Sign and Display Erector.....	\$ 18.03	0.00
Power Equipment Operator:		

Bobcat/Skid Steer/Skid Loader....\$ 29.91	9.11
Power Equipment Operator: Boom/Crane Truck.....\$ 43.11	10.87
Power Equipment Operator: Broom/Sweeper.....\$ 25.95	6.62
Power Equipment Operator: Compactor/Roller.....\$ 30.24	0.00
Power Equipment Operator: Concrete Pump Truck.....\$ 43.11	10.87
Power Equipment Operator: Concrete Screed.....\$ 26.41	7.64
Power Equipment Operator: Drill Rig/Auger.....\$ 36.80	13.07
Power Equipment Operator: Milling Machine.....\$ 31.16	0.00
Power Equipment Operator: Paver/Spreader/Finish equipment (asphalt, aggregate, & concrete).....\$ 32.67	0.00
Power Equipment Operator: Scraper.....\$ 29.69	0.00
Truck Driver: Dump.....\$ 26.71	7.09
Truck Driver: Oil Distributor....\$ 29.41	7.63
Truck Driver: Sweeper.....\$ 20.24	5.48

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

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses

(29CFR 5.5 (a) (1) (iii)).

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

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date,

6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

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

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
 Wage and Hour Division
 U.S. Department of Labor
 200 Constitution Avenue, N.W.
 Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

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

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

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

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

=====

END OF GENERAL DECISION"

DIVISION 4

SUPPLEMENTAL DOCUMENT 2

Geotechnical Evaluation Report

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Western Technologies
An **RMA** Company

GEOTECHNICAL AND PAVEMENT EVALUATION REPORT

SCOTTSDALE AIRPORT TAXILANES REHABILITATION

WT Reference No. 21-224181

PREPARED FOR:

Mead & Hunt
8800 East Raintree Drive, Suite No. 285
Scottsdale, Arizona 85260

Attn: Mr. Brad Mikulecky, P.E.

February 12, 2025



Armando de la Rocha, P.E.
Senior Geotechnical Engineer



Randolph H. Marwig, P.E.
Vice-President

Arizona

Colorado

New Mexico

Nevada

Utah



Geotechnical • Environmental • Inspections • Materials

1395 N Hayden Road Scottsdale, AZ 85257

(602) 437-3737

wt-us.com

February 12, 2025

Mead & Hunt, Inc.
8800 East Raintree Drive, Suite 285
Scottsdale, Arizona 85260

Attn: Brad Mikulecky, P.E.
Project Manager

Re: Geotechnical Evaluation
Scottsdale Airport – Taxilanes Rehabilitation
Scottsdale, Arizona

Job No. 21-224181

INTRODUCTION

Western Technologies Inc. (WT) has performed geotechnical engineering services at Scottsdale Airport for the proposed Taxilanes Rehabilitation project in accordance with our proposal dated November 14th, 2024. A subsurface exploration was conducted on December 18th, 2024. The results of that work and subsequent laboratory testing of soils were used to develop this geotechnical report.

PROJECT DESCRIPTION

Based on information provided by Client via Request for Cost Proposal – Geotechnical Investigation (RFP), the project will consist of the rehabilitation of Gate 1 Taxilane and Airport Operations Building (AOB) Taxilane and some drainage improvements. The area of potential effect (APE) for the Gate 1 Taxilane is about 28,877 sq.ft and the APE for the AOB Taxilane is about 68,300 sq.ft. The work will include rehabilitation of the taxilanes and the shoulders. The project site is located adjacent to the AOB and Gate 1. It is anticipated that the rehabilitation of the existing pavement will be with asphalt concrete (AC). The Client will notify WT should any of our information or assumptions not be correct.

It is understood that the design of the pavement sections will be performed by Client based on the results of this field exploration and laboratory test results.

The purpose of our geotechnical/pavement engineering services was to perform a subsurface exploration and laboratory testing on collected subgrade soils and aggregate base course samples for the estimation of design parameters needed for the development of pavement design

alternatives and construction specifications for the proposed rehabilitation or reconstruction of the taxilanes at Scottsdale Airport.

SUBSURFACE EXPLORATION

The subsurface exploration consisted on advancing a total of 4 soils borings to depths ranging from three (3) to 11 feet below existing site grade; two of the borings (B-4 and B-6) encountered refusal at a relatively shallow depth of three (ft) below existing site grade. According to field reports, it is possible that some hard concrete structure/elements might be located in this area. Asphalt concrete cores were recovered at two additional locations (B-3 and B-5). The approximate locations of the soil borings and cores, are shown on Plate 2, entitled Boring Location Diagram. The logs of the borings are included in Appendix A of this report. Strata encountered during the subsurface exploration were identified and logged. Loose and relatively undisturbed samples were taken and submitted to the WT materials laboratory for testing. The borings were backfilled with native material at each boring and capped with non-shrinking grout and painted black.

Soils encountered at the boring consisted predominantly of light brown, slightly damp, loose to very dense Clayey SAND (SC) and Clayey Silty SAND (SC-SM); firm to stiff, slightly damp, light brown Sandy CLAY (CL) was encountered at the bottom of Borings No. 1 and 2. Soil strata and classifications are shown on the attached boring logs.

The pavement structural sections encountered at the borings and coring locations are presented in the following table. The pavement section of the Taxilane east of the Operations Center Bldg (OCB) (Borings No. 1, 2, and 3) is thicker than the Taxilane south of the OCB (Borings No. 4, 5, and 6). The total asphalt concrete (AC) layer encountered at the different locations range from about 5.5 to 6 inches for the Taxilane east of the OCB with an average of 5.83 inches, and from 2.5 to 4.5 inches for the Taxilane south of the OCB with an average of 3.17 inches. Two-layer system was identified within the recovered asphalt concrete cores for the Taxilane east of the OCB; the asphalt concrete (AC) on the other taxilane consisted of a one-layer system. The aggregate base course (ABC) underlying the surface layer encountered at the boring locations ranged in thickness from about 11.0 to 14.0 inches.

Boring/Coring No.	Total AC Thickness (in.)	Top Layer (in.)	Bottom Layer Original (in.)	Aggregate Base Course (in.)
B-1	6.0	3.0	3.0	11
B-2	6.0	3.0	3.0	14
B-3	5.5	3.0	2.5	Not measured
Average	5.83	3.0	2.83	12.5

B-4	2.5	2.5	----	14
B-5	2.5	2.5	----	Not measured
B-6	4.5	4.5	----	14
Average	3.17	3.17	----	14

(*) AC layers thickness approximated to the closest 1/2-inch

LABORATORY TESTING

Soil samples obtained during the subsurface exploration were tested in WT's materials laboratories for geotechnical/pavement design purposes.

Laboratory testing on collected subgrade soil and ABC samples consisted of in-situ dry density and moisture content, grain size distribution and Atterberg limits, maximum density-optimum moisture content (Proctor), CBR, and sulfate and chloride content. All laboratory test results are presented in Appendix B and are summarized herein.

Relatively undisturbed samples obtained from the borings from the samples collected within the upper five (5) ft indicated in-situ dry densities ranging from 102 to 111 pounds-per-cubic-foot (pcf) with an average value of 107.2 pcf and standard deviation of 3.6 pcf. In-situ moisture contents ranged from 7.1 to 14.8 percent with an average value of 10.1 percent and standard deviation of 2.8 percent. The percent material passing the No. 200 sieve ranged from 21 to 33 percent.

A combined sample for the aggregate base course (ABC) shows a well-graded Gravel layer (GW) with a PI of 4 and 3.5 percent passing the No. 200 Sieve.

Due to the scarcity of subgrade material collected in the field exploration (auger refusal at a depth of about 3 ft below existing site grade at two of the boring locations), only one 1-point CBR test and its corresponding maximum dry density-optimum moisture content (Modified Proctor, ASTM D1557) test could be performed on representative collected/combined subgrade samples from Borings No. (B-1 and B-2). Results of the Proctor test indicate a maximum dry density value of 135.1 pcf and optimum moisture content value of 6.2 percent. The CBR specimen was prepared to a percentage of Modified Proctor's maximum dry density of about 101.3%. The resulting CBR value for the test at this Percent Compaction was 49. In order to obtain the CBR value representing 95% of the Modified Proctor density, historical CBR test records from recently completed projects at SDL in which similar subgrade soils with similar Proctor values were reviewed to obtain the slope ("m") of the % Compaction vs CBR curves and with this parameter back estimate the CBR value corresponding to 95% Modified Proctor density. CBR test results from the SDL-Kilo Apron Rehabilitation project (WT Job No. 21-224014, dated April 5, 2024) yielded an average value for the slope "m" of about 5.4. By using the results obtained on this project

(CBR value of 49 at 101.3 percent compaction) and the average slope for the %Compaction vs CBR from the SDL-Kilo Apron project of 5.4, a value of about **14.9** is obtained for the CBR at 95% Modified Proctor. This value is within the range of historical CBR values at SDL.

CBR test results performed on samples collected for this project indicated a swell value of 0.3 percent under a surcharge weight of 20 pounds. Therefore, the subgrade soils will not require treatment for swell potential; FAA requires treatment of the subgrade for potential swell when the CBR swell values are greater than 3 percent. The subgrade material might require treatment if excess moisture condition are encountered and it is necessary to build a stable working platform.

Two sulfate and chloride content tests were performed on samples collected from borings B-1 and B-4 yielding results ranging from 52 to 88 parts-per-millionth (ppm) for sulfate content and from 10 to 20 ppm for chloride content.

DYNAMIC CONE PENETROMETER (DCP)

In addition to subsurface exploration, dynamic cone penetrometer testing was completed at two (2) boring/coring locations (B-2 and B-5) directly below the asphalt section. The DCP is a simple device for measuring the stiffness of unbound materials. The DCP works by driving a steel rod into soil with a preset amount of energy; the stiffness of unbound materials at different depths can be measured by continuously monitoring the rate of penetration, yielding a stiffness profile. DCP testing consists of using the DCP's freefalling hammer to strike the cone, causing the cone to penetrate the soil, and then measuring the penetration per blow, also called the penetration rate (PR), in mm/blow. This measurement denotes the stiffness of the tested material, with a smaller PR number indicating a stiffer material. In other words, the PR is a measurement of the penetrability of the subgrade soil.

Soil strength values derived from cone penetration resistance can be correlated to California Bearing Ratio (CBR), Limestone Bearing Ratio (LBR), subgrade modulus (k), resilient modulus (RE), and Soil Support Value (SSV). The most common conversion is expressed in the form of equations for CBR as a function of PR (in mm/blow). The literature has been examined for a correlation between penetration by the dynamic cone penetrometer and a strength parameter such as California Bearing Ratio (CBR). The most widely accepted relationship was given by FAA AC 150-5320-6G Appendix D, Table D-1 (ASTM D6951). The relationship given is:

$$\text{CBR} = 292/\text{DCP}^{1.12}$$

where DCP is the penetration in millimeters/blow.

The results of the DCP exploration and conversion to CBR using the above procedure are presented in Appendix C in tabular and graphical forms. Two DCP tests were performed at locations requested to depths of about 19 to 26 inches below bottom of AC layer (top of ABC). The design CBR for each particular location was determined by subtracting one standard deviation from the mean value for that particular location. ASTM D6951 "Use of Dynamic Cone Penetrometer in Shallow Pavement Applications" (referenced on FAA AC 15-/5320-6G, Appendix D) indicates that when the DCP Index (in mm/blow) is less than 3, the CBR is limited to 100. The CBR values correlated from DCP testing at each location are presented in the following table:

Boring No.	ABC		Subgrade	
	CBR	Thickness (in.)	CBR	Thickness (in.)(*)
B-2 (Work Area 1)	77	~ 11	12.2	~ 15
B-5 (Work Area 2)	63	~ 10-11	26.1	~ 8 - 9

(*) Penetration into the subgrade layer

Based on the DCP results, the thickness of the existing ABC is about 10 to 11 inches with an average CBR value of about **70**; typical value for a recently placed ABC layer is in the order of 80; with time the initial CBR value might decrease due to contamination from the subgrade layer and from water infiltration from cracks on the surface. The CBR value for the subgrade layer ranges from about 12 to 26. The thickness of the subgrade penetrated by the DCP was thicker at the location of B-2 (almost double than at B-5) which it might more representative of the existing subgrade condition. For pavement design purposes, the resulting CBR value at B-2 might be more representative and more in accordance with the historical records at SDL.

PAVEMENT DESIGN PARAMETER RECOMMENDATIONS

As mentioned above, the design of the pavement structural sections will be performed by the Client. The subgrade soil strength design parameter needed for flexible pavement design using the FAA design procedure, FAARFIELD, is the CBR value or the modulus values, E (E = 1,500 x CBR; E in psi). The laboratory CBR result for a % Compaction of about 101% is **49**. It was estimated (based on historical records) that the resulting CBR for a %Compaction of 95%, would be about **15**. For design conditions in which the existing subgrade will be reconditioned, the recommended design CBR is **15**.

For design conditions in which the existing subgrade would be minimally reconditioned or not reconditioned at all, then the recommended design CBR would be the one obtained by the DCP exploration, mainly, the resulting CBR at the location of B-2 with a CBR value of **12**.

Because the CBR of the subgrade is lower than 20, a subbase material is required by the FAA; a P-154 subbase is the most common. Placement of the P-154 may be difficult with high moisture contents in the subgrade at the time of construction; in-situ moisture content of the subgrade material at the time of the field exploration (average value of 10.1 percent in the upper five ft) is well below the Plastic Limit (PL) of the subgrade soils at most of the boring locations (Average PL is about 16.5). It is possible that some isolated locations might have an in-situ moisture content higher than the average PL or the particular PL at that location.

Our previous experience at Scottsdale Airport has required some form of stabilization recommendations to mitigate high moisture content on the subgrade and/or swell potential issues with the subgrade soils; the stabilized layer has functioned as either working platform or part of the pavement structural section. Based on the results of the field exploration and laboratory testing, a stabilized subgrade layer, Item P-220 "Cement Treated Soil Base Course," would be recommended for those localized conditions in which the existing water content is higher than the Plastic Limit (PL) of the subgrade soil. Based on the soil classification characteristics of the subgrade soils encountered along the Taxilanes, the estimated cement requirements by weight or volume of soil to be stabilized would be the following:

Boring No.	USCS Class.	ASSHTO Class	% Passing No. 200 Sieve	PI	Cement Requirements	
					% by Volume of Subgrade Soil	% by Weight of Subgrade Soil
1	SC-SM	A-2-4	33	7	7-10	5-9
2	SC	A-2-6	33	14	7-10	5-9
4	SC	A-2-6	34	15	7-10	5-9
6	SC-SM	A-1-b	21	6	7-9	5-8

The **% by Weight of Subgrade Soil** values shown on the table above are the usual cement contents used when moisture-density, strength, wet-dry, and freeze-thaw testing is performed on a soil-cement mix design. Our previous experience at Scottsdale Airport with soil-cement mix design has yielded a recommended cement requirement (by % weight of subgrade soil to be stabilized) of approximately 6%. It is recommended that a soil-cement mix design be performed to better define this value.

If the expected maximum gross weight of the aircraft to use the taxiway connector is 60,000 lbs. or more, then the asphalt concrete mix design for the P-401 layer should be performed using the Marshall method with 75 blows per specimen face; for aircraft with maximum gross weight less than 60,000 lbs, the mix design should be performed using the Marshall method with 50 blows per specimen face. Asphalt cement should comply with the requirements for PG 76-22 binder in accordance with AASHTO MP1-93, Specification for Performance Graded

Asphalt Binder. A tack coat should be applied in accordance with FAA Item P-603 between lifts of asphalt concrete if more than one lift is anticipated for placing this layer.

EARTHWORK RECOMMENDATIONS

Earthwork to be performed should comply with the requirements of Item P-152 “Excavation and Embankment” of FAA AC No. 150/5370-10H. The subgrade compaction requirements for the Taxilanes, according to FAA AC No. 150/5320-6G, are computed by FAARFIELD after the thickness design is completed. It is understood that the Client will perform the FAARFIELD analysis and design for determining the required pavement structural section. Based on experience at Scottsdale Airport, the minimum subgrade compaction requirements for the Taxilanes should be:

Depth of Compaction (inches)	% Compaction (ASTM D1557)
0 – 12	95
12-18	90

For earthwork design, excavation quantities are estimated to shrink 15 percent when compacted as embankment. Ground compaction of 0.1 foot is estimated when placing embankment on previously uncompacted soils.

CLOSURE

This report concludes our scope of services for Scottsdale Airport – Taxilanes Rehabilitation project. The boring logs and related information included in this report are indicators of subsurface conditions only at the specific locations and times noted. The recommendations presented are based in part upon data derived from a limited number of samples obtained from widely spaced subsurface explorations. Variations from the field conditions represented by the borings may become evident during construction. If variations appear, we should be contacted to re-evaluate our recommendations. We prepared this report as an aid to the designers of the proposed project. The comments, statement, recommendations and conclusions set forth in this report reflect the opinions of the authors. These opinions are based upon conditions at the location of specific tests, observations and data developed to satisfy the scope of services defined by the contract documents. Work on your project was performed in accordance with generally accepted industry standards and practices by professionals providing similar services in this locality. No other warranty, express or implied, is made.

Sincerely,
WESTERN TECHNOLOGIES INC.



Armando de la Rocha, P.E.
Senior Geotechnical Engineer



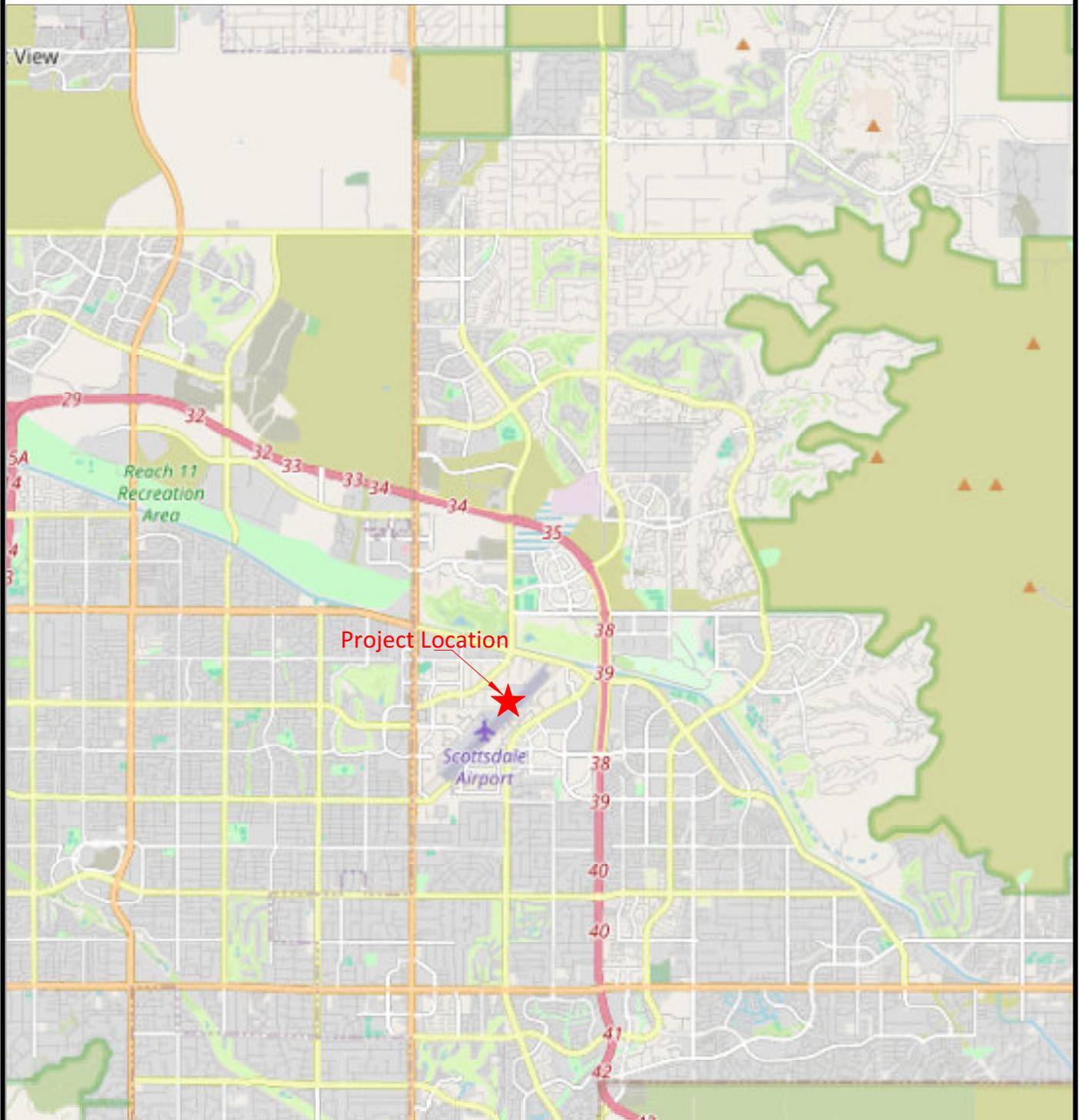
Randolph H. Marwig, P.E.
Vice-President

- Attachments:
- Plates 1 & 2. Vicinity Map/Boring Location Diagram
 - Appendix A. Boring Log Notes and Boring Logs
 - Appendix B. Laboratory Test Results
 - Appendix C. Dynamic Cone Penetrometer Results
 - Appendix D. Photographic Log Asphalt Concrete Cores

Copies to: Addressee (electronic copy)



NOT TO SCALE



OpenStreetMap

Geotechnical
Environmental
Inspections
Materials



Western Technologies Inc.
The Quality People
Since 1955

PROJECT VICINITY MAP

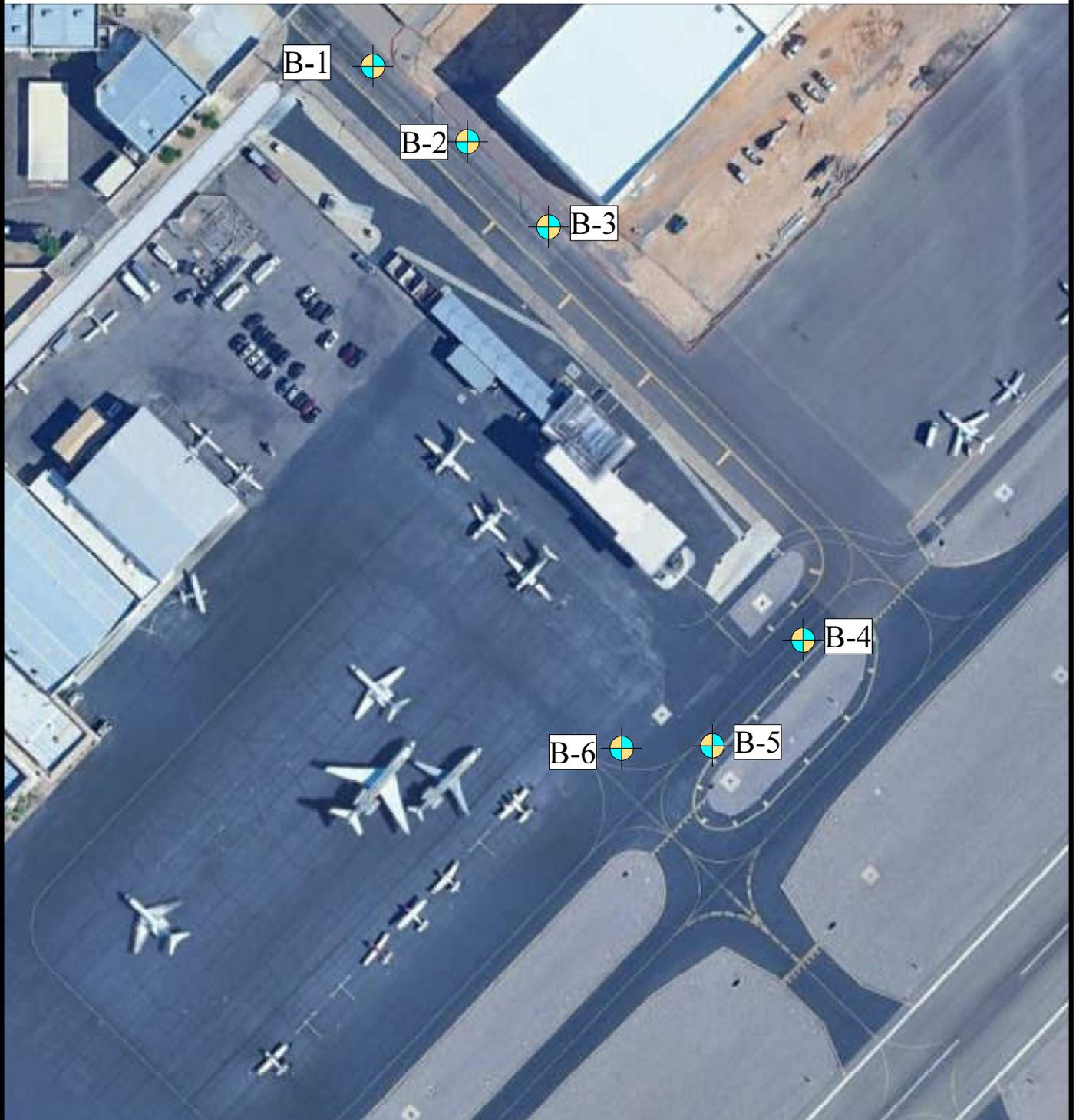
SCOTTSDALE AIRPORT - KILO APRON REHAB
15000 NORTH AIRPORT DRIVE
SCOTTSDALE, ARIZONA

WT Job No. 21-224014

PLATE 1



NOT TO SCALE



LEGEND

 Approximate Boring Location



BORING LOCATION DIAGRAM

SCOTTSDALE AIRPORT - TAXILANE REHAB
15000 NORTH AIRPORT DRIVE
SCOTTSDALE, ARIZONA

WT Job No. 21-224181

PLATE 2

APPENDIX A

Allowable Soil Bearing Capacity	The recommended maximum contact stress developed at the interface of the foundation element and the supporting material.
Backfill	A specified material placed and compacted in a confined area.
Base Course	A layer of specified aggregate material placed on a subgrade or subbase.
Base Course Grade	Top of base course.
Bench	A horizontal surface in a sloped deposit.
Caisson/Drilled Shaft	A concrete foundation element cast in a circular excavation which may have an enlarged base (or belled caisson).
Concrete Slabs-On-Grade	A concrete surface layer cast directly upon base course, subbase or subgrade.
Crushed Rock Base Course	A base course composed of crushed rock of a specified gradation.
Differential Settlement	Unequal settlement between or within foundation elements of a structure.
Engineered Fill	Specified soil or aggregate material placed and compacted to specified density and/or moisture conditions under observations of a representative of a soil engineer.
Existing Fill	Materials deposited through the action of man prior to exploration of the site.
Existing Grade	The ground surface at the time of field exploration.
Expansive Potential	The potential of a soil to expand (increase in volume) due to absorption of moisture.
Fill	Materials deposited by the actions of man.
Finished Grade	The final grade created as a part of the project.
Gravel Base Course	A base course composed of naturally occurring gravel with a specified gradation.
Heave	Upward movement.
Native Grade	The naturally occurring ground surface.
Native Soil	Naturally occurring on-site soil.
Rock	A natural aggregate of mineral grains connected by strong and permanent cohesive forces. Usually requires drilling, wedging, blasting or other methods of extraordinary force for excavation.
Sand and Gravel Base Course	A base course of sand and gravel of a specified gradation.
Sand Base Course	A base course composed primarily of sand of a specified gradation.
Scarify	To mechanically loosen soil or break down existing soil structure.
Settlement	Downward movement.
Soil	Any unconsolidated material composed of discrete solid particles, derived from the physical and/or chemical disintegration of vegetable or mineral matter, which can be separated by gentle mechanical means such as agitation in water.
Strip	To remove from present location.
Subbase	A layer of specified material placed to form a layer between the subgrade and base course.
Subbase Grade	Top of subbase.
Subgrade	Prepared native soil surface.

COARSE-GRAINED SOILS
LESS THAN 50% FINES

GROUP SYMBOLS	DESCRIPTION	MAJOR DIVISIONS
GW	WELL-GRADED GRAVEL OR WELL-GRADED GRAVEL WITH SAND, LESS THAN 5% FINES	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE
GP	POORLY-GRADED GRAVEL OR POORLY-GRADED GRAVEL WITH SAND, LESS THAN 5% FINES	
GM	SILTY GRAVEL OR SILTY GRAVEL WITH SAND, MORE THAN 12% FINES	
GC	CLAYEY GRAVEL OR CLAYEY GRAVEL WITH SAND, MORE THAN 12% FINES	
SW	WELL-GRADED SAND OR WELL-GRADED SAND WITH GRAVEL, LESS THAN 5% FINES	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE
SP	POORLY-GRADED SAND OR POORLY-GRADED SAND WITH GRAVEL, LESS THAN 5% FINES	
SM	SILTY SAND OR SILTY SAND WITH GRAVEL, MORE THAN 12% FINES	
SC	CLAYEY SAND OR CLAYEY SAND WITH GRAVEL, MORE THAN 12% FINES	

NOTE: Coarse-grained soils receive dual symbols if they contain 5% to 12% fines (e.g., SW-SM, GP-GC).

FINE-GRAINED SOILS
MORE THAN 50% FINES

GROUP SYMBOLS	DESCRIPTION	MAJOR DIVISIONS
ML	SILT, SILT WITH SAND OR GRAVEL, SANDY SILT, OR GRAVELLY SILT	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50
CL	LEAN CLAY OF LOW TO MEDIUM PLASTICITY, SANDY CLAY, OR GRAVELLY CLAY	
OL	ORGANIC SILT OR ORGANIC CLAY OF LOW TO MEDIUM PLASTICITY	
MH	ELASTIC SILT, SANDY ELASTIC SILT, OR GRAVELLY ELASTIC SILT	SILTS AND CLAYS LIQUID LIMIT MORE THAN 50
CH	FAT CLAY OF HIGH PLASTICITY, SANDY FAT CLAY, OR GRAVELLY FAT CLAY	
OH	ORGANIC SILT OR ORGANIC CLAY OF HIGH PLASTICITY	
PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	HIGHLY ORGANIC SOILS

NOTE: Fine-grained soils may receive dual classification based upon plasticity characteristics (e.g. CL-ML).

SOIL SIZES

COMPONENT	SIZE RANGE
BOULDERS	Above 12 in.
COBBLES	3 in. – 12 in.
GRAVEL	No. 4 – 3 in.
Coarse	¾ in. – 3 in.
Fine	No. 4 – ¾ in.
SAND	No. 200 – No. 4
Coarse	No. 10 – No. 4
Medium	No. 40 – No. 10
Fine	No. 200 – No. 40
Fines (Silt or Clay)	Below No. 200

NOTE: Only sizes smaller than three inches are used to classify soils

CONSISTENCY

CLAYS & SILTS	BLOWS PER FOOT
VERY SOFT	0 – 2
SOFT	3 – 4
FIRM	5 – 8
STIFF	9 – 15
VERY STIFF	16 – 30
HARD	OVER 30

RELATIVE DENSITY

SANDS & GRAVELS	BLOWS PER FOOT
VERY LOOSE	0 – 4
LOOSE	5 – 10
MEDIUM DENSE	11 – 30
DENSE	31 – 50
VERY DENSE	OVER 50

NOTE: Number of blows using 140-pound hammer falling 30 inches to drive a 2-inch-OD (1½-inch ID) split-barrel sampler (ASTM D1586).

PLASTICITY OF FINE GRAINED SOILS

PLASTICITY INDEX	TERM
0	NON-PLASTIC
1 – 7	LOW
8 – 20	MEDIUM
Over 20	HIGH

DEFINITION OF WATER CONTENT

DRY
SLIGHTLY DAMP
DAMP
MOIST
WET
SATURATED

Geotechnical
Environmental
Inspections
Materials
wt-us.com



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The Quality People
Since 1955

METHOD OF CLASSIFICATION

PLATE

A-2

The number shown in "**BORING NO.**" refers to the approximate location of the same number indicated on the "Boring Location Diagram" as positioned in the field by pacing or measurement from property lines and/or existing features, or through the use of Global Positioning System (GPS) devices. The accuracy of GPS devices is somewhat variable.

"**DRILLING TYPE**" refers to the exploratory equipment used in the boring wherein **HSA = hollow stem auger**, and the dimension presented is the outside diameter of the HSA used.

"**N**" in "**BLOW COUNTS**" refers to a 2-inch outside diameter split-barrel sampler driven into the ground with a 140 pound drop-hammer dropped 30 inches repeatedly until a penetration of 18 inches is achieved or until refusal. The number of blows, or "blow count", of the hammer is recorded for each of three 6-inch increments totaling 18 inches. The number of blows required for advancing the sampler for the last 12 inches (2nd and 3rd increments) is defined as the Standard Penetration Test (SPT) "**N**"-Value. Refusal to penetration is considered more than 50 blows per 6 inches. (Ref. ASTM D1586).

"**R**" in "**BLOW COUNTS**" refers to a 3-inch outside diameter ring-lined split barrel sampler driven into the ground with a 140 pound drop-hammer dropped 30 inches repeatedly until a penetration of 12 inch is achieved or until refusal. The number of blows required to advance the sampler 12 inches is defined as the "**R**" blow count. The "**R**" blow count requires an engineered conversion to an equivalent SPT N-Value. Refusal to penetration is considered more than 50 blows per foot. (Ref. ASTM D3550).

"**CS**" in "**BLOWS/FT.**" refers to a 2½-in. outside diameter California style split-barrel sampler, lined with brass sleeves, driven into the ground with a 140-pound hammer dropped 30 inches repeatedly until a penetration of 18 inches is achieved or until refusal. The number of blows of the hammer is recorded for each of the three 6-inch increments totaling 18 inches. The number of blows required for advancing the sampler for the last 12 inches (2nd and 3rd increments) is defined as the "**CS**" blow count. The "**CS**" blow count requires an engineered conversion to an equivalent SPT N-Value. Refusal to penetration is considered more than 50 blows for a 6-inch increment. (Ref. ASTM D 3550)

"**SAMPLE TYPE**" refers to the form of sample recovery, in which **N** = Split-barrel sample, **R** = Ring-lined sample, "**CS**" = California style split-barrel sample, **G** = Grab sample, **B** = Bucket sample, **C** = Core sample (ex. diamond bit rock coring).

"**DRY DENSITY (LBS/CU FT)**" refers to the laboratory-determined dry density in pounds per cubic foot. The symbol "**NR**" indicates that no sample was recovered.

"**WATER (MOISTURE) CONTENT**" (% of Dry Wt.) refers to the laboratory-determined water content in percent using the standard test method ASTM D2216.

"**USCS**" refers to the "Unified Soil Classification System" Group Symbol for the soil type as defined by ASTM D2487 and D2488. The soils were classified visually in the field, and where appropriate, classifications were modified by visual examination of samples in the laboratory and/or by appropriate tests.

These notes and boring logs are intended for use in conjunction with the purposes of our services defined in the text. Boring log data should not be construed as part of the construction plans nor as defining construction conditions.

Boring logs depict our interpretations of subsurface conditions at the locations and on the date(s) noted. Variations in subsurface conditions and characteristics may occur between borings. Groundwater levels may fluctuate due to seasonal variations and other factors.

The stratification lines shown on the boring logs represent our interpretation of the approximate boundary between soil or rock types based upon visual field classification at the boring location. The transition between materials is approximate and may be more or less gradual than indicated.

<p><i>Geotechnical Environmental Inspections Materials</i></p>  <p>Western Technologies Inc. The Quality People Since 1955 wt-us.com</p>	<p>BORING LOG NOTES</p>	<p>PLATE A-3</p>
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Project: SDL- TAXILANE REHAB Project Location: SCOTTSDALE, AZ Project Number: 21-224181	<h1>BORING NO. 1</h1>	
--	-----------------------	--

Date(s) Drilled: 12/18-12/19/2024	Logged By: J.Malmberg	Checked By:
Drilling Method: H.S.A.	Drill Bit Size/Type: 6"	Total Depth of Borehole: 11.5 feet bgs
Drill Rig Type: CME-55	Drilling Contractor: Integrity Drilling Services	Approximate Surface Elevation: NOT DETERMINED
Groundwater Level and Date Measured: NOT ENCOUNTERED	Sampling Method(s): Bulk, Ring, SPT	Hammer Data: AUTO-140lbs
Borehole Backfill: AUGER CUTTINGS	Location: SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0						Asphalt		Surface: 6-inches Asphalt over 11-inches Base Course	
8.1	106		R		15	SC-SM		Silty Clayey SAND; light brown, slightly damp medium dense	
			B						
8.7	107		R		5			very loose, decrease in clay content	
10			N		21	CL		Sandy Lean CLAY; light brown, very stiff, slightly damp, with light cementation	
								Boring Stopped at 11.5-Feet	

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Project: SDL- TAXILANE REHAB Project Location: SCOTTSDALE, AZ Project Number: 21-224181	<h1>BORING NO. 2</h1>	
--	-----------------------	--

Date(s) Drilled: 12/18-12/19/2024	Logged By: J.Malmberg	Checked By:
Drilling Method: H.S.A.	Drill Bit Size/Type: 6"	Total Depth of Borehole: 11.5 feet bgs
Drill Rig Type: CME-55	Drilling Contractor: Integrity Drilling Services	Approximate Surface Elevation: NOT DETERMINED
Groundwater Level and Date Measured: NOT ENCOUNTERED	Sampling Method(s): Bulk, Ring, SPT	Hammer Data: AUTO-140lbs
Borehole Backfill: AUGER CUTTINGS	Location: SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			B			Asphalt		Surface: 6-inches Asphalt over 14-inches Base Course	
11.5	110		R		10	SC		Clayey SAND; light brown, slightly damp loose	
14.8	102		R		15			increase in cementation	
10			N		7	CL		Sandy Lean CLAY; light brown, firm, slightly damp	
								Boring Stopped at 11.45-Feet	

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Project: SDL- TAXILANE REHAB Project Location: SCOTTSDALE, AZ Project Number: 21-224181	<h1>BORING NO. 4</h1>	
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Date(s) Drilled 12/18-12/19/2024	Logged By J.Malmberg	Checked By
Drilling Method H.S.A.	Drill Bit Size/Type 6"	Total Depth of Borehole 3 feet bgs
Drill Rig Type CME-55	Drilling Contractor Integrity Drilling Services	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring	Hammer Data AUTO-140lbs
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			B			Asphalt		Surface: 2.5-inches Asphalt over 14-inches Base Course	
10.5	111		R		11	SC		Clayey SAND with gravel; light brown slightly damp loose	
5								Contact with Concrete, Boring Stopped at 3-Feet	
10									

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Project: SDL- TAXILANE REHAB Project Location: SCOTTSDALE, AZ Project Number: 21-224181	<h1>BORING NO. 6</h1>	
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Date(s) Drilled 12/18-12/19/2024	Logged By J.Malmberg	Checked By
Drilling Method H.S.A.	Drill Bit Size/Type 6"	Total Depth of Borehole 3 feet bgs
Drill Rig Type CME-55	Drilling Contractor Integrity Drilling Services	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring	Hammer Data AUTO-140lbs
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			B			Asphalt		Surface: 4.5-inches Asphalt over 14-inches Base Course	
						SC-SM		Silty Clayey SAD; light brown, slightly damp very dense	
7.1			R		50/5"			Contact with Concrete, Boring Stopped at 3-Feet	
5									
10									

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APPENDIX B

Boring No.	Depth (ft)	USCS Group Symbol	Particle Size Distribution Percent Passing by Weight					Atterberg Limits		Initial Dry Density (pcf)	Initial Water Content (%)	Compression Properties			Moisture-Density Relationship			Swell Properties			Sulfates (ppm)	Chlorides (ppm)	Remarks
			¾"	#4	#10	#40	#200	LL	PI			Surcharge (ksf)	Total Compression (%)		Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Method	Surcharge (ksf)	Swell (%)	Expansion Index (EI)			
													In-Situ	After Saturation									
1	0-5	SC-SM	98	77	58	43	33	23	7													10, 12	
	1-2	SC-SM								106	8.1											12	
	5-6	SC-SM								107	8.7											11	
2	0-5	SC	97	79	62	44	33	27	14													12	
	2-3	SC								110	11.5											12	
	5-6	SC								102	14.8											11	
4	0-5	SC	96	73	60	45	34	30	15											52	10	12	
	1-2	SC								111	10.5											12	
6	0-5	SC-SM	89	62	50	35	21	28	6													12	
	2-3	SC-SM									7.1											12	
AB		GW	56	10	8	6	4	20	4														

REMARKS

1. Compacted density is approximately 95% of ASTM D98 maximum density at a moisture content slightly below optimum.
2. Submerged to approximate saturation.
3. Slight rebound after saturation.
4. Sample disturbance observed.
5. Expansion Index (EI) test in accordance with ASTM D4829.

6. Chloride Content (ARIZ 736a).
 7. Sulfate Content (ARIZ 733a).
 11. Field Visual Classification (ASTM D2488).
 12. Laboratory Soil Classification (ASTM D2487).
 16. Initial Dry Density and Initial Water Content in italics from Remolded Swell.
- Notes:** Initial Dry Density and Initial Water Content are in-situ values unless otherwise noted.

	PROJECT:	SCOTTSDALE AIRPORT TAXILANE REHABILITATION	PLATE
	JOB NO.:	21-224181	
SOIL PROPERTIES			B-1

**CALIFORNIA BEARING RATIO
(CBR)**

Client **MEAD & HUNT**
8800 E. RAIN TREE DRIVE, SUITE 285
SCOTTSDALE, AZ 85260

Date of Report **1/13/25**
 Job No. **21-224181**
 Event / Invoice No. _____
 Authorized By **B. MICULECKY**
 Sampled By **J. MALMBERG**
 Submitted By **J. MALMBERG**

Lab No. **152810**
 Date _____
 Date **12/18/24**
 Date **12/19/24**

Project **SDL – TAXILANES REHABILITATION**
 Type / Use of Material **SUBGRADE**
 Sample Source / Location **SUBGRADE**
 Testing Authorized **A. DE LA ROCHA**

Location **Boring B1 (0' – 5')**
 Supplier / Source **SOIL BORINGS**
 Source / Location Desig. By _____

Date _____

TEST RESULTS

LABORATORY COMPACTION CHARACTERISTICS ASTM D698 AASHTO T99 ASTM D1557 AASHTO T180 **METHOD C**

MAXIMUM DRY DENSITY, PCF **135.1**

OPTIMUM MOISTURE, % **6.2**

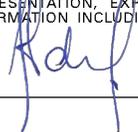
BEARING RATIO OF LABORATORY-COMPACTED SPECIMENS, ASTM D1883

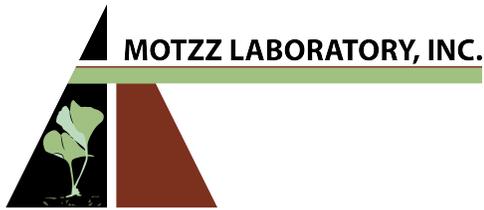
COMPACTIVE EFFORT, BLOWS PER LAYER	10	25	56
DRY DENSITY AT COMPACTION, PCF			136.8
PERCENT OF MAXIMUM DRY DENSITY, %			101.3
MOISTURE BEFORE COMPACTION, %			6.2
MOISTURE AFTER COMPACTION, %			7.3
MOISTURE AFTER SOAKING (TOP ONE INCH), %			8.0
SWELL, %			0.3
CALIFORNIA BEARING RATIO AT 0.100 INCH PENETRATION			49.0
CALIFORNIA BEARING RATIO AT 0.200 INCH PENETRATION			61.0
SURCHARGE WEIGHT, LBS.			20
PERCENT OF PLUS 19 MM MATERIAL, %			

Comments:

Copies To: **CLIENT – (1)**

THE SERVICES REFERRED TO HEREIN WERE PERFORMED IN ACCORDANCE WITH THE STANDARD OF CARE PRACTICED LOCALLY FOR THE REFERENCED METHOD(S) AND RELATE ONLY TO THE CONDITION(S) OR SAMPLE(S) TESTED AS STATED HEREIN. WESTERN TECHNOLOGIES INC. MAKES NO OTHER WARRANTY OR REPRESENTATION, EXPRESSED OR IMPLIED, AND HAS NOT CONFIRMED INFORMATION INCLUDING SOURCE OF MATERIALS SUBMITTED BY OTHERS.





MOTZZ LABORATORY, INC.

Report: 953707
 Reported: 1/7/2025
 Received: 12/23/2024
 PO: 212241810

Laboratory Analysis Report

Western Technologies
 Matthew Bannon
 3737 E Broadway Rd
 Phoenix AZ 85040-2921

Project: 21-224181-0

Lab Number	Sample ID
953707-1	152810 B1 (0-5')

Test Parameter

<i>Test</i>	<i>Method</i>	<i>Result</i>	<i>Units</i>
Sulfate	ASTM C 1580	88	ppm
Chloride	ARIZ 736b	20	ppm

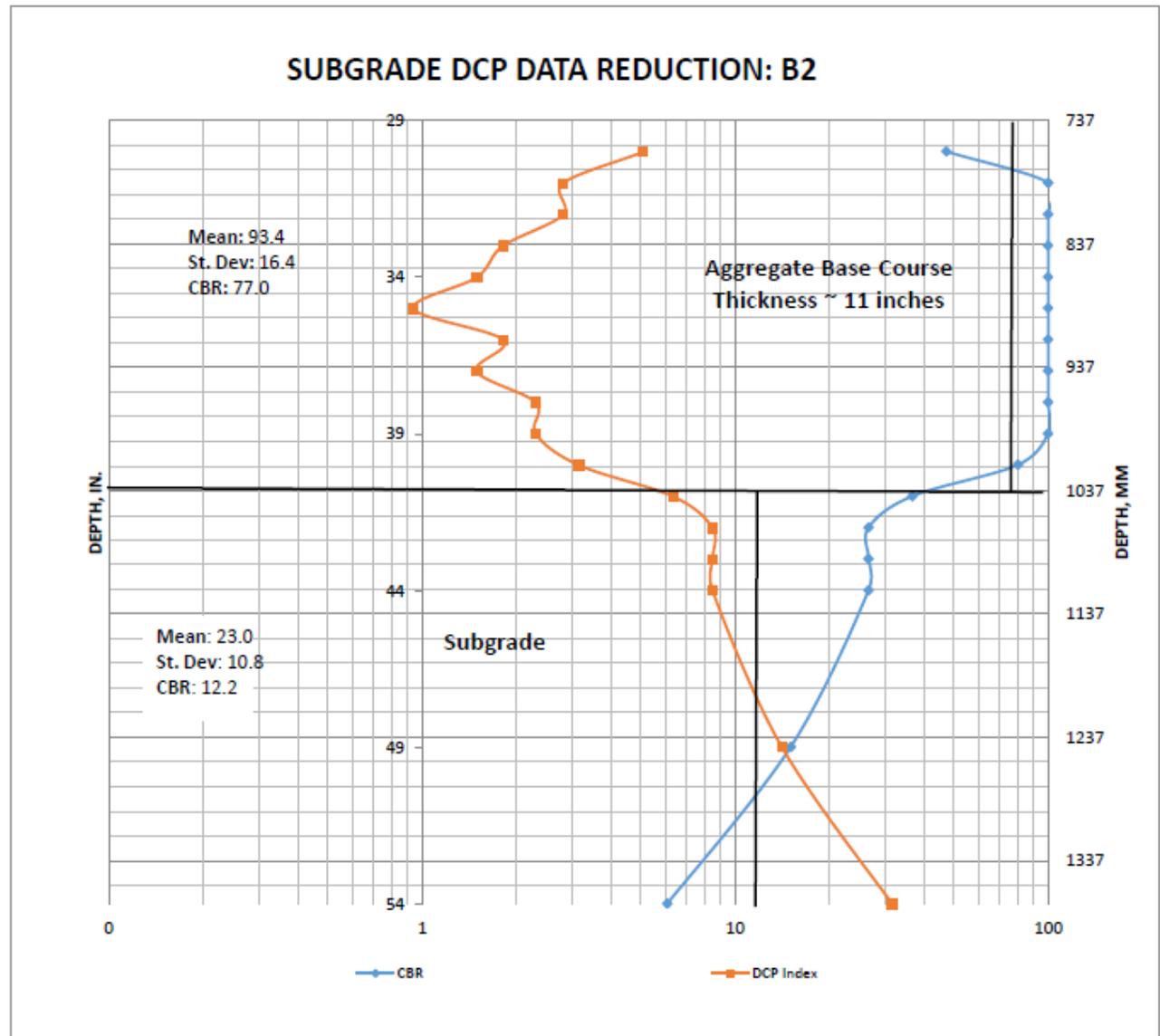
Lab Number	Sample ID
953707-2	152811 B4 (0-5)

Test Parameter

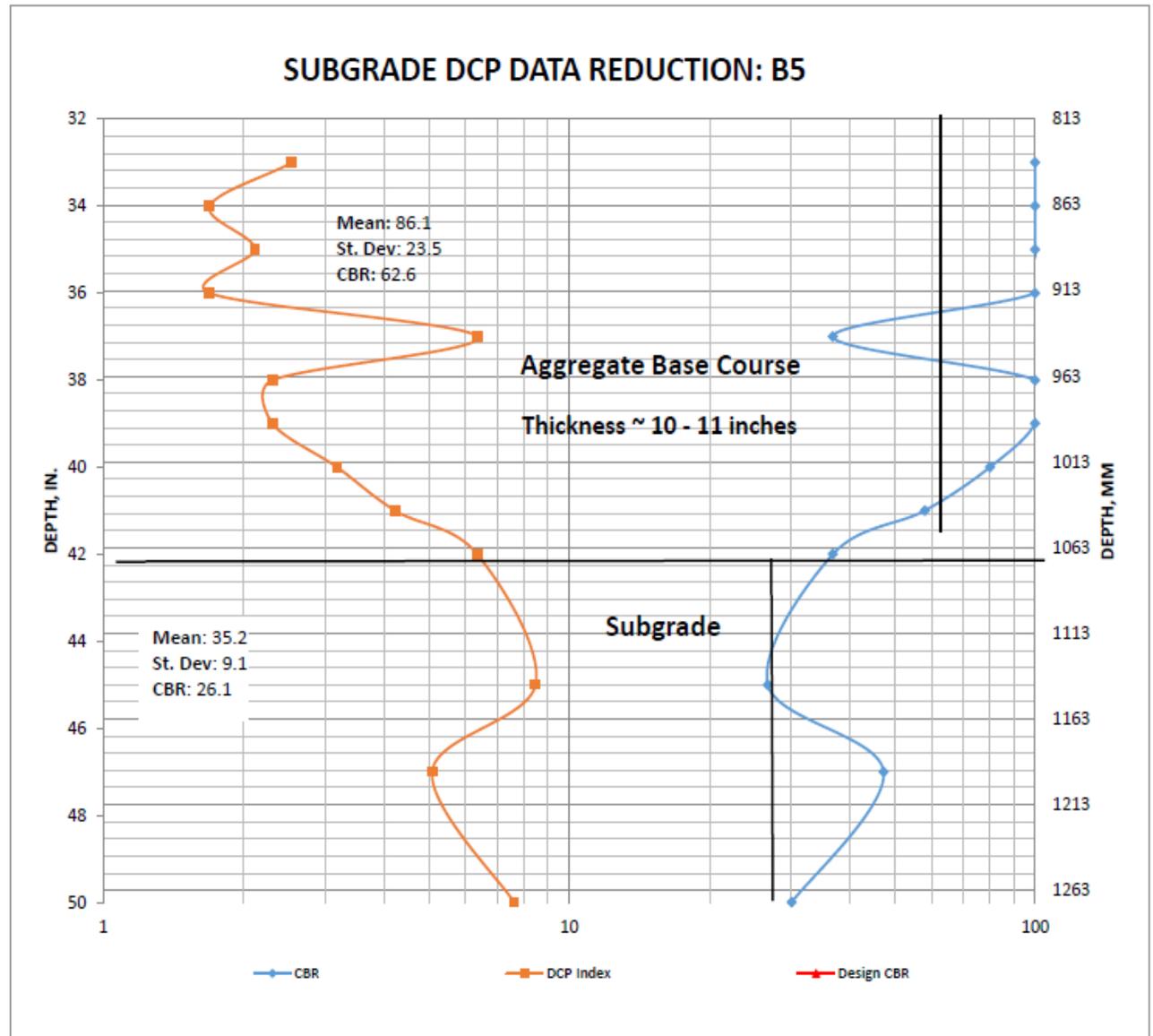
<i>Test</i>	<i>Method</i>	<i>Result</i>	<i>Units</i>
Sulfate	ASTM C 1580	52	ppm
Chloride	ARIZ 736b	10	ppm

APPENDIX C

B2 Data				
No. of Blows	Cumulative Penetration (mm)	Penetration Between Reading (mm)	DCP Index (mm/blow)	CBR
0	737	--	--	--
5	762	25	5.1	47
9	787	25	2.8	100
9	813	25	2.8	100
14	838	25	1.8	100
17	864	25	1.5	100
27	889	25	0.9	100
14	914	25	1.8	100
17	940	25	1.5	100
11	965	25	2.3	100
11	991	25	2.3	100
8	1016	25	3.2	80
4	1041	25	6.3	37
3	1067	25	8.5	27
3	1092	25	8.5	27
3	1118	25	8.5	27
9	1245	127	14.1	15
4	1372	127	31.8	6



B5 Data				
No. of Blows	Cumulative Penetration (mm)	Penetration Between Reading (mm)	DCP Index (mm/blow)	CBR
0	813	--	--	--
10	838	25	2.5	100
15	864	25	1.7	100
12	889	25	2.1	100
15	914	25	1.7	100
4	940	25	6.3	37
11	965	25	2.3	100
11	991	25	2.3	100
8	1016	25	3.2	80
6	1041	25	4.2	58
4	1067	25	6.4	37
9	1143	76	8.5	27
10	1194	51	5.1	47
10	1270	76	7.6	30



APPENDIX D

PHOTOGRAPHIC LOG

SCOTTSDALE AIRPORT – TAXILANES REHABILITATION Scottsdale, Arizona 85260

WT Job No.: 21-224181

January 13, 2025



Picture 1: Boring No. 1 – AC layer 6-inch thick in two layers.



Picture 2: Boring No. 2 – AC layer 6-inch in two layers.

PHOTOGRAPHIC LOG

SCOTTSDALE AIRPORT – TAXILANES REHABILITATION Scottsdale, Arizona 85260

WT Job No.: 21-224181

January 13, 2025



Picture 3: Boring/Coring No. 3. AC layer 5.5 inches in two layers: 3- and 2.5 inches.



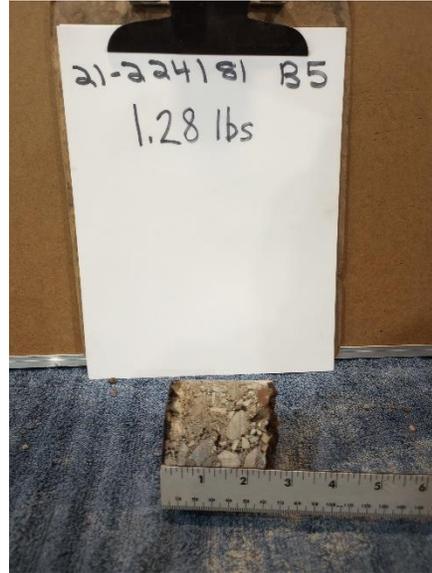
Picture 4: Boring No. 4. AC layer 2.5-inch in one layer.

PHOTOGRAPHIC LOG

SCOTTSDALE AIRPORT – TAXILANES REHABILITATION
Scottsdale, Arizona 85260

WT Job No.: 21-224181

January 13, 2025



Picture 5: Boring/Coring No. 5. AC layer 2.5-inch in one layer.



Picture 6: Boring No.6. AC layer 4.5-inch in one layer.