SPECIAL CONDITIONS

1.1 Coordination, Scheduling, and Meetings: The Contractor shall coordinate scheduling all construction activities with the Project Manager from the Project and Facilities Management Department – Project Management, **County Service Area (CSA) 60 – Apple Valley Airport (District),** Special Districts, prior to beginning the activities. The successful bidder shall attend a preconstruction conference at a location and time set by the County.

Construction meetings shall be held at the job site or at a different location as instructed by the County. Details regarding job site meetings will be arranged at the preconstruction conference.

1.2 Codes, Ordinances and Regulations: All Work shall conform to the requirements of all Applicable Laws including the California Building Standards Code (as adopted and/or amended by the District/County), the Americans with Disabilities Act, Uniform Mechanical Code, Uniform Plumbing Code, Uniform Electrical Code, the Standard Plans for Public Works Construction, Construction Safety Orders of the Department of Industrial Relations – Division of Industrial Safety Construction Safety Orders, and all other State and National codes, ordinances, rules and regulations, which apply to the Work.

In any case of conflict between any of these requirements, and the Contract Documents, the requirement that is the most strict shall govern. Nothing in the Contract Documents is to be construed to permit Work not in conformance with these laws, codes, and regulations.

1.3 Liquidated Damages: Section 8.5.3 of the General Conditions is amended to read the following:

In the event that Contractor fails to achieve Final Completion of the Work within the Contract Time, Contractor agrees to pay County the sum of **$1,500.00 per day** for liquidated damages for each calendar day that Final Completion is delayed.

1.4 Safety: The Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property for the duration of the Work, on a 24-hour per day, 7-day week basis. Prior to the start of construction, Contractor shall provide the Project Manager with a copy of Contractor's Illness and Injury Prevention Program as required by California Code of Regulations, title 8, sections 1509 and 3203, and Section 10 of the General Conditions, specifically relating to this Project.

1.5 Project Inspections: All inspections shall be performed during normal business hours. Contractor shall notify the Project and Facilities Management Department – Project Management Inspector and Project Manager **48 hours** in advance of all requested inspections.

Contractor may request an inspection via email to the Project and Facilities Management Department – Project Management Inspector and Project Manager at Marian.Michael@pfm.sbcounty.gov Email subject line should read as follows: **10.10.0060 Apple Valley Airport Taxiway Rehab Project – Request for Inspection.**

1.6 Change Orders: Contractor is referred to Section 7 of the General Conditions.

1.7 Sanitary Facilities: Contractor shall be solely and completely responsible to provide and maintain on-site sanitary facilities.

1.8 Contractor's Site Representative: Per Section 3.3.5.1 of the General Conditions, Contractor shall have a Project superintendent on site at all times while Work is being done.

1.9 Water & Power: Water and electrical power used during construction will be provided by the District at no cost to the Contractor, unless available power/water source at the Project site is not sufficient or not located within reach, in which case Contractor is responsible to provide an alternate source for electrical power and water. Contractor shall connect to the water and power at the Project site at a location specified by the District. Contractor agrees to take all reasonable steps to conserve water and power. Contractor is responsible to protect the power/water sources at the Project site and will be responsible for any damage to the power/water sources caused by Contractor's actions or inactions.

1.10 Traffic Safety: Contractor shall be solely and completely responsible to provide traffic safety for all Contractor/construction purposes.

1.11 Protection of Existing Finishes: Contractor shall lay down protective material over the existing corridor flooring to protect finishes as needed. Existing ceilings shall be protected in place and repaired as required after track and installation to original finish. Use of dust and debris control shall also be required, such as walk off mats or sticky mats, as well as any other measures deemed necessary. Contractor shall provide dust and debris mitigation procedures that meet Fire Marshal approval.

1.12 Required Submittals: Contractor shall have one month from the date of the Pre-Construction meeting to submit all required submittals

1.13 Construction Containment Measures: Contractor shall be responsible for providing temporary construction containment and access measures necessary to complete the work. All Construction Containment shall be finished and maintained in a manner that is acceptable to the County.

1.14 Job Site Cleanliness: Job site shall be cleaned up daily of construction materials, food wrappers, trash and debris placed in containers.

1.15 Specific Project Requirements:

A. Job-Walk Rules:
   1. Proposed bidding contractors must be on time. Once the job walk group leaves the initial meeting location, no additional bidders will be allowed to join the bid walk.
   2. All attending bidders must present a company business card with their name on it to be included with a mandatory sign-in sheet.
   3. No smoking, tobacco or e-vapor devices are allowed on site.

B. Cell phones: Cell phones will be allowed for job-walk portions for the purpose of reference photographs only.

C. Tools: Contractor shall secure all tools, equipment, and materials at the end of each workday and/or shift.

D. Parking: Work vehicles will be allowed within designated parking areas.

E. Time of completion: The entire project must be completed, without exception, to meet deadlines imposed by grant funding.

1.16 Environmental Liability Insurance: Environmental Liability Insurance is required for this Project. See Section 11.2.1.8 of the General Conditions.

1.17 Change Orders: Contractor is referred to Section 7 of the General Conditions.

1.18 Sanitary Facilities: Contractor shall be solely and completely responsible to provide and maintain on-site sanitary facilities. Location of sanitary facilities shall be approved by County Project Manager.

1.19 Contractor's Site Representative: Per Section 3.3.5.1 of the General Conditions, Contractor shall always have a Project superintendent on site while work is being done.

1.20 Water & Power: Water and electrical power used during construction will be provided by the County at no cost to the Contractor, unless available power/water source at the Project site is not sufficient or not located within reach, in which case Contractor is responsible to provide an alternate source for electrical power and water. Contractor shall connect to the water and power at the Project site at a location specified by the County. Contractor agrees to take all reasonable steps to conserve water and power. Contractor is responsible to protect the power/water sources at the Project site and will be responsible for any damage to the power/water sources caused by Contractor's actions or inactions.

1.21 Traffic Safety: Contractor shall be solely and completely responsible to provide traffic safety for all Contractor/construction purposes.

1.22 Protection of Existing Finishes: Contractor shall lay down a protective material over the

existing corridor flooring to protect finishes as needed. Existing ceilings shall be protected in place and repaired as required after track and installation to original finish. Use of dust and debris control shall also be required, such as walk off mats or sticky mats, as well as any other measures deemed necessary. Contractor shall provide dust and debris mitigation procedures that meet OSHPD and Fire Marshal approval.

1.23 Required Submittals: Contractor shall have one month from the date of the Pre-Construction meeting to submit all required submittals.

1.24 Construction Containment Measures: Contractor shall be responsible for providing temporary construction containment and access measures necessary to complete the work. All Construction Containment shall be finished and maintained in a manner that is acceptable to the County.

Contractor shall salvage all parking lot lighting poles and fixtures and deliver the salvaged material to Project and Facilities Management Department - Facilities Management Division, 200 S. Lena Rd., San Bernardino.

1.25 Job Site Cleanliness: Job site shall be cleaned up daily of construction materials, food rappers and trash and placed in containers.

PROJECT NO. 10.10.0060

TAXIWAY REHAB PROJECT
AT
APPLE VALLEY AIRPORT

APPLE VALLEY, CALIFORNIA

AUGUST 2024

SAN BERNARDINO COUNTY
PROJECT AND FACILITIES MANAGEMENT DEPARTMENT
385 NORTH ARROWHEAD AVENUE
SAN BERNARDINO, CA 92415-0184
https://res.sbcounty.gov/

C&S ENGINEERS, INC.
2355 NORTHSIDE DRIVE, SUITE 350
SAN DIEGO, CA 92108

Kenneth Gethers 8/13/2024
Kenneth Gethers, PE **Date**

TABLE OF CONTENTS

TS SPECIAL REQUIREMENTS AND TECHNICAL SPECIFICATIONS

GENERAL PROVISIONS

Section 10 - Definition of Terms

Section 20 - Section Not Used

Section 30 - Section Not Used

Section 40 - Scope of Work

Section 50 - Control of Work

Section 60 - Control of Materials

Section 70 - Section Not Used

Section 80 - Prosecution and Progress
Attachment "A" – Construction Safety and Phasing Plan

FAA TECHNICAL SPECIFICATIONS

Item Number	Description
C-100	Contractor Quality Control Program (CQCP)
C-102	Temporary Air and Water Pollution, Soil Erosion and Siltation Control
C-105	Mobilization
P-120	Cold Milling Existing Pavements
P-151	Clearing and Grubbing
P-152	Excavation and Embankment
P-156	Soil Erosion and Sediment Control
P-209	Crushed Aggregate Base
P-401	Hot Mix Asphalt Pavements
P-603	Bituminous Tack Coat
P-605	Joint Sealants for Pavements
P-606	Adhesive Compounds Two Component for Sealing Wire and Lights in Pavement
P-620	Pavement Marking
D-701	Pipe for Storm Drains and Culverts
D-707	Water Main (Ductile Iron Pipe)
D-751	Catch Basins, Manholes, and Drainage Structures
L-108	Underground Power Cable for Airports
L-110	Airport Underground Electrical Duct Banks and Conduit
L-125	Airport Lighting Systems
F-162	Chain Link Fence

CALTRANS STANDARD SPECIFICATIONS (2015)

Item Number	**Description**
SECTION 26	Crushed Stone Aggregate
SECTION 90	Concrete

CONTRACT DRAWINGS – Incorporated by Reference

END OF TABLE OF CONTENTS

Section 10 Definition of Terms

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

10-01 AASHTO. The American Association of State Highway and Transportation Officials, the successor association to AASHO.

10-02 ACCESS ROAD. The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.

10-03 ADVERTISEMENT. A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.

10-04 AIP. The Airport Improvement Program, a grant-in-aid program, administered by the Federal Aviation Administration.

10-05 AIR OPERATIONS AREA. For the purpose of these specifications, the term air operations area shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.

10-06 AIRPORT. Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; and airport buildings and facilities located in any of these areas, and includes a heliport. The name of the Airport where this project is located is Apple Valley Airport, located in the Town of Apple Valley, San Bernardino County, California.

10-07 ASTM. The American Society for Testing and Materials.

10-08 AWARD. The acceptance, by the Owner, of the successful bidder's proposal.

10-09 BIDDER. Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

10-10 BUILDING AREA. An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.

10-11 CALENDAR DAY. Every day shown on the calendar.

10-12 CHANGE ORDER. A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for the work affected by such changes. The work, covered by a change order, shall be within the scope of the contract.

10-13 CONTRACT. The written agreement covering the work to be performed. The awarded contract shall include, but is not limited to: The Advertisement; The Proposal; The Agreement; The Performance Bond; The Payment Bond; any required insurance certificates; The Specifications; The Plans, and any addenda issued to bidders.

10-14 CONTRACT ITEM (PAY ITEM). A specific unit of work for which a price is provided in the contract.

10-15 CONTRACT TIME. The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a completion date is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.

10-16 CONTRACTOR. The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.

10-17 DRAINAGE SYSTEM. The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

10-18 ENGINEER. The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering inspection of the contract work and acting directly or through an authorized representative. . The Engineer for this project is C&S Engineers, Inc., 2020 Camino Del Rio North, Suite 1000, San Diego, California 92108.

10-19 EQUIPMENT. All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

10-20 EXTRA WORK. An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Engineer to be necessary to complete the work within the intended scope of the contract as previously modified.

10-21 FAA. The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his/her duly authorized representative.

10-22 FEDERAL SPECIFICATIONS. The Federal Specifications and Standards, Commercial Item Descriptions, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government. They may be obtained from:

DODSSP
Standardization Document Order Desk
700 Robbins Avenue, Bldg. 4D
Philadelphia, PA 19111-5094

10-23 FORCE ACCOUNT. Force account construction work is construction that is accomplished through the use of material, equipment, labor, and supervision provided by the Owner or by another public agency pursuant to an agreement with the Owner.

10-24 INSPECTOR. An authorized representative of the Engineer assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

10-25 INTENTION OF TERMS. Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription

of the Engineer is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer, subject in each case to the final determination of the Owner.

Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

10-26 LABORATORY. The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer.

10-27 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.

10-28 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 percent of the total amount of the award contract. All other items shall be considered minor contract items.

10-29 MATERIALS. Any substance specified for use in the construction of the contract work.

10-30 NOTICE TO PROCEED. 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.

10-31 OWNER. The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. For AIP contracts, the term "sponsor" shall have the same meaning as the term "Owner." Where the term "Owner" is capitalized in this document, it shall mean airport owner or sponsor only.

Whenever the words "Owner", "Sponsor", "San Bernardino County", "County", "Apple Valley Airport", "Airport" or "Party of the first part" are used, the same are understood to mean the San Bernardino County or its representative duly authorized to act.

10-32 PAVEMENT. The combined surface course, base course, and subbase course, if any, considered as a single unit.

10-33 PAYMENT BOND. The approved form of security furnished by the Contractor and his/her surety as a guaranty that he will pay in full all bills and accounts for materials and labor used in the construction of the work.

10-34 PERFORMANCE BOND. The approved form of security furnished by the Contractor and his/her surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.

10-35 PLANS. The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications.

10-36 PROJECT. The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

10-37 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. For AIP contracts, the term "bid" shall have the same meaning as the term "proposal."

10-38 PROPOSAL GUARANTY. The security furnished with a proposal to guarantee that the bidder will enter into a contract if his/her proposal is accepted by the Owner.

10-39 RUNWAY. The area on the airport prepared for the landing and takeoff of aircraft.

10-40 SPECIFICATIONS. A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.

10-41 SPONSOR. See definition above of "Owner."

10-42 STRUCTURES. Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; flexible and rigid pavements; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.

10-43 SUBGRADE. The soil that forms the pavement foundation.

10-44 SUPERINTENDENT. The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct the construction.

10-45 SUPPLEMENTAL AGREEMENT. A written agreement between the Contractor and the Owner covering (1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract; or (2) work that is not within the scope of the originally awarded contract.

10-46 SURETY. The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.

10-47 TAXIWAY. For the purpose of this document, the term taxiway means the portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways or aircraft parking areas.

10-48 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.

10-49 WORKING DAY. A Working Day shall be defined as an eight (8) hour shift of work on any day other than a legal holiday, Saturday, or Sunday.

One day shall be charged against Contract Time for any Working Day on which the Contractor is able to proceed with work for at least six (6) hours toward completion of the Contract. One-half day shall be charged against Contract Time for any Working Day on which the Contractor is able to proceed with work for at least three (3) hours toward completion of the Contract.

Legal holidays, Saturdays and Sundays on which the Contractor chooses to engage in work, requiring the presence of an inspector, will be considered Working Days. Working Days will not be charged against Contract Time if work is suspended for causes beyond the Contractor's control.

10-50 CONTRACT DRAWINGS. The Plans.

10-51 DESIGN ENGINEER. The individual(s), partnership(s), firm(s), or corporation(s) duly authorized by the Owner to be responsible for design services. The Design Engineer for this project is C&S Engineers, Inc. 2020 Camino Del Rio North, San Diego, California 92108.

10-52 SUBCONTRACTOR. The subcontractor refers any individual, firm, or corporation to whom the contractor, with approval of the Owner, sublets any part of work.

10-53 TIME AND MATERIALS WORK. An item or items of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Engineer to be necessary to complete the work within the intended scope of the contract as previously modified and an agreed price cannot be agreed upon. The Contractor shall perform this work and the Owner agrees to pay the Contractor based upon the work performed by the Contractor's employees and subcontractors, and for materials and equipment used in the construction (along with the Contractor's allowed overhead and profit).

END OF SECTION 10

Section 40 Scope of Work

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

40-02 ALTERATION OF WORK AND QUANTITIES. The owner reserves and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner. Unless otherwise specified herein, the Engineer shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than 25 percent (total cost being based on the unit prices and estimated quantities in the awarded contract). Alterations that do not exceed the 25 percent limitation shall not invalidate the contract nor release the surety, and the Contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations that are for work within the general scope of the contract shall be covered by "Change Orders" issued by the Engineer. Change orders for altered work shall include extensions of contract time where, in the Engineer's opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the 25 percent limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. If the owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

All supplemental agreements shall include valid wage determinations of the U.S. Secretary of Labor when the amount of the supplemental agreement exceeds $2,000. However, if the Contractor elects to waive the limitations on work that increase or decrease the originally awarded contract or any major contract item by more than 25 percent, the supplemental agreement shall be subject to the same U.S. Secretary of Labor wage determination as was included in the originally awarded contract.

All supplemental agreements shall require consent of the Contractor's surety and separate performance and payment bonds.

40-03 OMITTED ITEMS. The Engineer may, in the Owner's best interest, omit from the work any contract item, except major contract items. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be nonperformed, 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.

40-04 EXTRA WORK. Should acceptable completion of the contract require the Contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called "Extra Work." Extra Work that is within the general scope of the contract shall be covered by written change order. Change orders for such Extra Work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the Engineer's opinion, is necessary for completion of such Extra Work.

When determined by the Engineer to be in the Owner's best interest, he may order the Contractor to proceed with Extra Work by force account as provided in the General Conditions.

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 hereinbefore defined in the subsection titled SUPPLEMENTAL AGREEMENT of Section 10.

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

Extra work to be performed on the basis of agreed prices where no applicable unit or lump sum prices have been included in the Contract shall be based upon the Contractor's price analysis for the work. The price analysis will be completed as outlined in the General Conditions.

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. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas of the airport with respect to his/her own operations and the operations of all his/her subcontractors as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in the General Provisions.

With respect to his/her own operations and the operations of all his/her 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.

When the contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The Contractor shall furnish erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office), unless otherwise specified herein. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

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

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

Except as provided in the subsection titled RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK of this section, it is intended that all existing materials or structures that may be encountered

(within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be either embankment or waste, he may at his/her option either:

a. Use such material in another contract item, providing such use is approved by the Engineer and is in conformance with the contract specifications applicable to such use; or,

b. Remove such material from the site, upon written approval of the Engineer; or

c. Use such material for his/her 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., he shall request the Engineer's approval in advance of such use.

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

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

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

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

40-08 FINAL CLEANING UP. 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. He shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of such property owner.

40-09 DEBRIS. The Contractor shall remove all debris and rubbish resulting from his work at frequent intervals, and upon the order of the Engineer. Upon completion, Contractor shall leave the premises broom-clean and everything in perfect order and repair. Upon neglect or refusal of Contractor to keep the premises clean, the Engineer shall have the authority to have such work performed, and the cost of the same shall be charged to the Contractor in default and collected from any monies which have or may

become due on this Contract; and the Engineer shall issue no certificates of payment on the Contract until premises are clean, in good order, and all claims created properly adjusted.

END OF SECTION 40

Section 50 Control of Work

50-01 AUTHORITY OF THE ENGINEER. The Engineer shall decide all questions that may arise as to the interpretation of the specifications or plans relating to the work.

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

If the Engineer finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications but that the portion of the work affected will, in his/her opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, he will advise the Owner of his/her determination that the affected work be accepted and remain in place. In this event, the Engineer will document his/her determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. The Engineer's determination and recommended contract price adjustments will be based on good engineering judgment and such tests or retests of the affected work as are, in his/her opinion, needed. Changes in the contract price shall be covered by contract modifications (change order or supplemental agreement) as applicable.

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

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

For the purpose of this subsection, the term "reasonably close conformity" is also intended to provide the Engineer with the authority, after consultation with the FAA, to use good engineering judgment in his/her determinations as to acceptance of work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans and specifications.

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

50-03 COORDINATION OF CONTRACT, PLANS, AND SPECIFICATIONS. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited FAA advisory circulars; contract general provisions shall govern over plans, cited standards for materials or testing, and cited FAA advisory circulars; plans shall govern over cited standards for materials or testing and cited FAA advisory circulars.

From time to time, discrepancies within cited standards for testing occur due to the timing of changing, editing, and replacing of standards. In the event the Contractor discovers any apparent discrepancy within standard test methods, he shall immediately call upon the Engineer for his/her 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, he shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

50-04 COOPERATION OF CONTRACTOR. The Contractor will be supplied with five copies each of the plans and specifications. He shall have available on the work at all times one copy each of the plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

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

50-05 COOPERATION BETWEEN CONTRACTORS. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

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

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

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

50-06 CONSTRUCTION LAYOUT AND STAKES. The Design Engineer will establish horizontal and vertical control only. The Contractor must establish all layout required for the construction of the work. Such stakes and markings as the Design Engineer may have set for either his/her own or the Contractor's guidance shall be preserved by the Contractor. In case of negligence on the part of the Contractor, or his/her employees, resulting in the destruction of such stakes or markings, an amount equal to the cost of replacing the same may be deducted from subsequent estimates due the Contractor at the discretion of the Engineer.

The Contractor will be required to furnish all lines, grades and measurements from the control points necessary for the proper prosecution and control of the work contracted for under these specifications.

If requested by the Engineer, the Contractor must give weekly copies of the survey notes to the Engineer so that the Engineer may check them as to accuracy and method of staking. All areas that are staked by the Contractor must be checked by the Engineer prior to beginning any work in the area. The Engineer

will make periodic checks of the grades and alignment set by the Contractor. In case of error on the part of the Contractor, or his/her employees, resulting in establishing grades and/or alignment that are not in accordance with the plans, all construction not in accordance with the established grades and/or alignment shall be replaced without additional cost to the Owner.

Additional construction staking and layout may be required by technical specifications. Construction Staking and Layout includes at a minimum, but is not limited to:

A. Clearing and Grubbing perimeter staking.

B. Rough Grade slope stakes at 100-foot stations.

C. Drainage Swales slope stakes and flow line blue tops at 50-foot stations.

D. Subgrade blue tops at 25-foot stations and 25-foot offset distance (max.) for the following section locations:

   1. Runway – minimum 5 per station

   2. Taxiways – minimum 3 per station

   3. Holding apron areas – minimum 3 per station

   4. Roadways – minimum 3 per station

E. Base Course blue tops at 25 foot stations and 25-foot offset distance (max.) for the following section locations:

   1. Runway – minimum 5 per station

   2. Taxiways – minimum 3 per station

   3. Holding apron areas – minimum 3 per station

F. Pavement areas:

   1. Edge of Pavement hubs and tacks (for stringline by Contractor) at 100-foot stations

   2. Between Lifts at 25-foot stations for the following section locations:

      a. Runways – each paving lane width

      b. Taxiways – each paving lane width

      c. Holding areas – each paving lane width

   3. After finish paving operations at 50-foot stations

      a. All paved areas – Edge of each paving lane prior to next paving lot

   4. Shoulder and safety area blue tops at 50-foot stations and at all break points with maximum of 50 foot offsets

G. Fence lines at 100-foot stations

H. Electrical and Communications System locations, lines and grades including but not limited to duct runs, connections, fixtures, signs, lights, VASIs, PAPIs, REILs, Wind Cones, Distance Markers (signs), pull boxes and manholes.

I. Drain lines, cut stakes and alignment on 25-foot stations, inlet and manholes.

J. Painting and Striping layout (pinned with 1.5 in PK nails) marked for paint Contractor. (All nails shall be removed after painting)

Laser, or other automatic control devices, shall be checked with temporary control point or grade hub at a minimum of once per 400 feet per pass (that is, paving lane).

Note: Controls and stakes disturbed or suspect of having been disturbed shall be checked and/or reset as directed by the Engineer without additional cost to the Owner.

50-07 AUTOMATICALLY CONTROLLED EQUIPMENT. Whenever batching or mixing plant equipment is required to be operated automatically under the contract and a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually or by other methods for a period 48 hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the contract.

50-08 AUTHORITY AND DUTIES OF INSPECTORS. Inspectors employed by the Owner shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the contract. Inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

Inspectors employed by the Owner are authorized to notify the Contractor or his/her representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the Engineer for his/her decision.

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

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

Any work done or materials used without supervision or inspection by an authorized representative of the Owner may be ordered removed and replaced at the Contractor's expense unless the Owner's representative failed to inspect after having been given reasonable notice in writing that the work was to be performed.

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

50-10 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the Engineer as provided in the subsection titled CONFORMITY WITH PLANS AND SPECIFICATIONS of this section.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of the subsection titled CONTRACTOR'S RESPONSIBILITY FOR WORK of Section 70.

No removal work made under provision of this subsection shall be done without lines and grades having been given by the Engineer. Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the plans or as given, 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 forthwith with any order of the Engineer made under the provisions of this subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the Owner) from any monies due or to become due the Contractor.

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

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor shall be responsible for all damage done by his/her hauling equipment and shall correct such damage at his/her own expense.

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

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

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

50-13 FAILURE TO MAINTAIN THE WORK. Should the Contractor at any time fail to maintain the work as provided in the subsection titled MAINTENANCE DURING CONSTRUCTION of this section, the Engineer shall immediately notify the Contractor of such noncompliance. Such notification shall

specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the Engineer's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be deducted from monies due or to become due the Contractor.

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

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

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

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

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

50-17 REMOVAL OF WATER. The Contractor shall at all times during construction, provide and maintain proper and satisfactory means and devices for the removal of all water entering the excavations, and shall remove all such water as fast as it may collect, in such manner as shall not interfere with the prosecution of the work or the proper placing of materials or other work.

Removal of water includes the construction and removal of cofferdams, sheeting and bracing, the furnishing of materials and labor necessary therefore, the excavation and maintenance of ditches and

sluiceways and the furnishing and operation of pumps, wellpoints and appliances needed to maintain thorough drainage of the work in a satisfactory manner.

Water shall not be allowed to rise over or come in contact with any masonry, concrete or mortar, until at least twenty-four (24) hours after placement and no stream of water shall be allowed to flow over such work until such time as the Engineer may permit.

Unless otherwise specified, all excavations which extend down to or below the static groundwater elevations at the sites of structures shall be dewatered by lowering and maintaining the groundwater beneath such excavations at an elevation not less than that specified herein at all times when work thereon is in progress, during subgrade preparation and the placing of the structure or other materials thereon.

Where the presence of fine granular subsurface materials and a high groundwater table may cause the upward flow of water into the excavation with a resulting quick condition, the Contractor shall install and operate a suitable dewatering system to prevent the upward flow of water during construction.

When the water table is within the capillary rise of silt/clay subsurface material, the Contractor shall select and operate his equipment in a manner to prevent the deterioration of the working surface due to the upward flow of water during construction.

The effluent pumped from the dewatering system shall be examined periodically by qualified personnel to determine if the system is operating satisfactorily without the removal of fines.

Unless otherwise directed by the Engineer or shown on the Contract Documents, the water level shall not be permitted to rise until construction in the immediate area is completed and the excavation backfilled to the original grade or proposed grade.

Where well points are used, the groundwater shall be lowered and maintained continuously (day and night) at a level not less than two (2) feet below the bottom of the excavation. Excavation will not be permitted at a level lower than two (2) feet above the water level as indicated by the observation wells.

The wellpoint system shall be designed or installed by or under the supervision of an organization whose principal business is wellpointing and has at least five (5) consecutive years of similar experience and can furnish a representative list of satisfactory similar operations. Wellpoint headers, points and other pertinent equipment shall not be placed within the limits of the excavation in such a manner or location as to interfere with the laying of pipe or trenching operations or with the excavation for and/or construction of other structures. Standby gasoline or diesel powered equipment shall be provided so that in the event of failure of the operating equipment, the standby equipment can be readily connected to the dewatering system. The standby equipment shall be maintained in good order and actuated regularly not less than twice a week when directed.

Wellpoints shall be installed in the center of a sand wick drain which shall be placed by means of a sanding shell or other approved means to provide a sand core not less than ten (10) inches in diameter.

Detached observation wells of similar construction to the wellpoints shall be installed at intervals of not less than fifty (50) feet along the opposite side of the trench from the header pipe and line of wellpoints, or around the excavation for a structure or as shown on the Contract Drawings, to a depth of at least five (5) feet below the proposed excavation. In addition, one wellpoint in every fifty (50) feet shall be fitted with a tee, plug and valve so that the wellpoint can be converted for use as an observation well. Observation wells shall be not less than one and one-half (12) inch in diameter.

Water pumped or drained from excavations, or any sewers, drains, or water courses encountered in the work, shall be disposed of in a suitable manner without injury to adjacent property, the work under construction, or to pavements, roads and drives. No water shall be discharged to sanitary sewers. Sanitary sewage shall be pumped to sanitary sewers or shall be disposed of by an approved method.

Any damage caused by improper handling of water shall be repaired by the Contractor at his/her own expense.

50-18 SHEETING AND BRACING. Excavations greater than five feet in depth are anticipated for this project. The Contractor shall comply with the provisions for "Shoring and Bracing Drawings" in Section 6705 of the California Labor Code. Prior to beginning any trench or structure excavation exceeding 5 feet in depth, the Contractor shall submit to the Owner for acceptance a detailed plan showing the design of shoring, bracing, sloping, or other provisions for worker protection against the hazard of caving ground during the excavation of such trenches or structure excavation. If such plan varies from the shoring system established in the Construction Safety Orders of the State of California, such alternative system plans shall be prepared by a licensed engineer in the State of California. The Contractor shall furnish, place and maintain such sheeting, bracing and shoring as required to support the sides and ends of excavations in such a manner as to prevent any movement which would in any way damage the pipe, sewers, masonry or other work, diminish the width necessary, otherwise damage or delay the work, or endanger existing structures, pipes or pavements, or to occasion a hazard to persons engaged on the project or to the general public.

Sheeting and bracing or other trench protection shall be utilized as required for the safety of employees exposed to the hazard of falling or sliding material from any trench or excavation in conformance with the provisions of Industrial Code Rule 23 as amended, and OSHA. Sheeting and bracing must be designed by, signed and stamped by a Professional Engineer licensed to practice in the State in which the project is located.

The Contractor shall be responsible for the adequacy of all trench support systems used and for all damage to persons or property resulting from improper quality, strength, placing, maintenance and removal.

All material used for sheeting and bracing shall be sound and free from defects which might impair its strength or effectiveness.

All timber sheeting and bracing shall be sound and straight, free from cracks, shakes and large or loose knots.

All steel sheeting and bracing shall be sound and straight, free from bends, twists or splits, having square and undamaged ends.

Sheeting shall be driven vertically from the original ground surface as the excavation progresses. Sufficient toe support shall be sustained so as to maintain pressure against the original ground at all times.

Timber sheeting shall be driven so that edges are tight together and steel sheeting driven with the individual members interlocking. All bracing shall be of such design and strength as to maintain the sheeting in its proper position.

The Contractor shall be solely responsible for the adequacy of all sheeting and bracing.

In general, all sheeting and bracing, whether of steel, timber or other material, used to support the sides of trenches or other open excavations, shall be withdrawn as the trenches or other open excavations are

being refilled. That portion of the sheeting extending below the top of a pipe, sewer or structure shall be withdrawn, unless otherwise directed, before more than 6 inches of earth is placed above the top of the pipe, sewer or structure and before any bracing is removed. The voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The Contractor shall be responsible for the adequate shoring and/or bracing of any existing utilities encountered during the excavation. Such utilities shall be braced or shored in a manner acceptable to the local jurisdictional agency having authority over the utility encountered. It shall be the responsibility of the Contractor to prevent damage to or displacement of utilities, and to work with and request the concurrence of the utility's company representative in this matter.

END OF SECTION 50

Section 60 Control of Materials

60-01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS. The materials used on the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

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

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

The Contractor shall furnish airport lighting equipment that conforms to the requirements of cited materials specifications. In addition, where an FAA specification for airport lighting equipment is cited in the plans or specifications, the Contractor shall furnish such equipment that is:

a. Listed in FAA Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, and Addendum that is in effect on the date of advertisement; and,

b. Produced by the manufacturer as listed in the Addendum cited above for the certified equipment part number.

The following airport lighting equipment is required for this contract and is to be furnished by the Contractor in accordance with the requirements of this subsection:

EQUIPMENT NAME	CITED FAA SPECIFICATION
Connectors, Cable	L-823
Underground Electrical Cable for Airport Lighting Circuits	L-824
Lights, Taxiway, In-pavement	L-852
Lights, Runway & Taxiway Edge, Medium Intensity	L-861
Light Base, Non-Load Bearing	L-867
Light Base, Load Bearing	L-868

All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification.

The Contractor shall prepare a project Operations and Maintenance (O&M) Manual for the Owner. The O&M Manual shall consist of approved certification submittals, approved shop and setting drawing submittals, approved catalogue data submittals, and Operations & Maintenance Manuals for equipment installed that have operating procedures and/or maintenance requirements associated with them. The O&M manual shall be neatly bound in a properly sized 3-ring binder and tabbed by specification section. The O&M Manual shall be submitted to the Engineer prior to final payment to facilitate project closeout.

60-02 SAMPLES, TESTS, AND CITED SPECIFICATIONS. Unless otherwise designated, all materials used in the work shall be inspected, tested, and approved by the Engineer before incorporation in the work. Any work in which untested materials are used without approval or written permission of the Engineer shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the Engineer, shall be removed at the Contractor's expense.

Unless otherwise designated, tests in accordance with the cited standard methods of ASTM, AASHTO, Federal Specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids, will be made by and at the expense of the Owner. THE COST OF ALL FAILING TESTS SHALL BE BORNE BY THE CONTRACTOR.

The testing organizations performing on site field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel, including the Contractor's representative at his/her request. Unless otherwise designated, samples will be taken by a qualified representative of the Owner. 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 his/her request.

The Contractor shall employ a testing organization to perform all Contractor required tests. The Contractor shall submit to the Engineer resumes on all testing organizations and individual persons who will be performing the tests. The Engineer will determine if such persons are qualified. All the test data shall be reported to the Engineer after the results are known. A legible, handwritten copy of all test data shall be given to the Engineer daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the Engineer showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 CERTIFICATION OF COMPLIANCE. The Engineer may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. Manufacturer's certificates of compliance shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Design Engineer. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Engineer, and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

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

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

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

Should the Contractor propose to furnish an "or equal" material or assembly, he shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly. However, the Engineer shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

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

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

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

a. The Engineer shall have the cooperation and assistance of the Contractor and the producer with whom he has contracted for materials.

b. The Engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the Engineer, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.

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

60-05 ENGINEER'S FIELD OFFICE. (Not Required)

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

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

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

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

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

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.

60-09 SHOP AND SETTING DRAWINGS AND CATALOGUE DATA. All materials and equipment used in the work shall be submitted to the Engineer for review by the Design Engineer for approval prior to ordering the equipment. All information required for the Design Engineer's review of each particular pay item shall be sent as one submittal. In addition, if the pay item interfaces with other pay items (as in the case of electrical equipment), then the submittals covering the interfacing pay items shall be sent at the same time. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Drawings and data shall be submitted sufficiently in advance of the work to permit proper review, including time for necessary revisions and re-submittals. The Contractor is solely responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

Shop and setting drawings shall present complete and accurate information relative to all working dimensions, equipment weight assembly and sectional view, all the necessary details, pertaining to coordinating the work of the Contract, lists of materials and finishes, parts lists and the description thereof, lists of spare parts and tools where such parts or tools are required, no-scale control diagrams for control wiring and control piping, and any other items of information that are required to demonstrate detail compliance with the Plans and Specifications. Each drawing shall be dated and shall show the name of the Project, Contract Number and the name of the manufacturer of the equipment covered by the drawing or drawings. The Design Engineer will not review any drawings that are not properly identified or that do not contain complete data on the work or that have not been checked, stamped and signed by the Contractor for compliance with the Contract Documents.

The Design Engineer's review of the Contractor's Shop Drawings signifies only that such drawings appear to be in substantial conformity with the Contract Drawings and Contract Documents or with the Design Engineer's instructions. Such review does not indicate approval of every detail of the drawings nor of the work methods of the Contractor which are indicated thereon. Regardless of the corrections made in or made of such drawings by the Design Engineer, the Contractor will nevertheless be responsible for the accuracy of such drawings, for their conformity to the Plans and Specifications and for the proper fitting and construction of the work.

No work covered by shop and setting drawings shall be done until the drawings have been reviewed and found acceptable by the Design Engineer. No payment shall be made on any item for which submittals are not received and found acceptable by the Design Engineer.

60-10 ELECTRICAL SHOP DRAWINGS. Drawings for electrical equipment shall show physical dimensions and installation details and shall include elementary and connection diagrams for each control assembly and the interconnection diagrams for all equipment. The drawings shall show clearly the coordination of control work, shall identify the components external to electrical equipment and shall define the contact arrangement and control action of the primary and final control elements.

Where standard electrical control equipment having complex internal wiring is required, such as control panels, generator transfer panels, electric or electronic instruments and similar items, the detail shop wiring diagrams for such equipment will not be required, and, if submitted, will in general not be reviewed. The submittal for each such item of equipment shall, however, include an elementary diagram of the input and output elements which require connections to external equipment, and/or a complete step by step description of the control action of the equipment being submitted. In the event that any questions arise as to the type of information to be presented on the submittal, the supplier shall direct inquiries to the Engineer through the Prime Contractor in advance of the preparation of his/her submittal.

60-11 SUBSTITUTE ITEMS. If in the Design Engineer's sole judgment an item of material or equipment proposed by the Contractor does not qualify as an "or-equal" item, it will be considered a substitute item. The Contractor shall submit sufficient information as provided below to allow the Design Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. The procedure for review by the Design Engineer will include the following and as the Design Engineer may decide is appropriate under the circumstances. Requests for review of substitute items of material or equipment will not be accepted by the Engineer from anyone other than the Contractor. If the Contractor wishes to furnish or use a substitute item of material or equipment, the Contractor shall first make a written application through the Engineer to the Design Engineer for acceptance thereof, certifying that the substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the substitute will prejudice the Contractor's achievement of completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents or Contract Drawings (or in the provisions of any other direct contract with the Owner for work on the Project) to adapt the design to the substitute and whether or not incorporation or use of the substitute in connection with the work is subject to payment of any license fee or royalty. If the substitute item requires modifications to any existing features or to any proposed work, the application shall also include details of proposed modifications necessary to accommodate the substitute item. Such details shall include scaled layouts, dimensions and other pertinent information to enable the Design Engineer to accurately assess the entire application. If the substitute item and proposed modifications are approved, the Contractor, at no additional cost to the Owner, shall do all work necessary to make such modifications and absorb all costs of any related changes imposed on other Contractor's. All variations of the substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by the Design Engineer in evaluating the substitute. The Design Engineer may require the Contractor to furnish additional data about the substitute.

A. Design Engineer's Evaluation. The Design Engineer will be the sole judge of acceptability. No substitute will be ordered, installed or utilized without the Design Engineer's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. The Design Engineer will record time required by the Design Engineer and the Design Engineer's Consultants in evaluating substitutes proposed or submitted by the Contractor and in making changes in the Contract Documents or Contract Drawings (or in the provisions of any other direct

contract with Owner for work on the Project) occasioned thereby. The Design Engineer's charges shall be at the same rates the Design Engineer charges for such services to the Owner.

B. Contractor's Expense. All data to be provided by the Contractor in support of any substitute item will be at the Contractor's expense. In order to aid the Design Engineer in determining the equality of an or substitute item (when compared to the item actually specified), the Contractor shall arrange for the performance of any tests requested by the Design Engineer. The Design Engineer shall determine the nature, extent, tester and degree of supervision of such tests. Certified test results shall be mailed directly to the Design Engineer for all tests requested. All costs of such tests, including engineering costs, shall be borne by the Contractor. The Owner may require the Contractor to furnish at the Contractor's expense a special performance guarantee or other surety with respect to any substitute. Whether or not the Design Engineer accepts a substitute item so proposed or submitted by the Contractor, the Contractor shall reimburse the Owner for the charges of the Design Engineer and the Design Engineer's Consultants for evaluating each such substitute item. The costs for evaluating substitute items shall be deducted from the Owner's payment to the Contractor.

60-12 SUBMITTAL PROCEDURE. The following procedure has been established for the submittal and processing of shop and setting drawings, working drawings, and catalogue data. Departures from this procedure may result in delay and misunderstandings.

A. All information required for the Design Engineer's review of each particular pay item shall be sent as one submittal to the Engineer. In addition, if the pay item interfaces with other pay items (as in the case of electrical equipment), then the submittals covering the interfacing pay items shall be sent at the same time.

B. In submitting certifications, drawings, catalog data, and similar items for review, one (1) electronic copy shall be submitted via e-mail. One (1) electronic copy will be returned to the Contractor via e-mail and bearing the review stamp. The Contractor shall provide one (1) hard copy of each submittal for inclusion in the O&M Manual prior to contract closeout. The Contractor shall establish alternative means for electronic transfer of documents for items larger than 5MB.

The Engineer shall be responsible for printing sufficient copies of each submittal for their own records. The Contractor shall be responsible for printing sufficient copies of each submittal for their own records and distributing to each of the other prime or subcontractors whose work is to be correlated with such submittals.

C. For transmitting data for review, one (1) electronic copy shall be submitted via e-mail. The Contractor shall establish alternative means for electronic transfer of documents for items larger than 5MB.

D. Unless otherwise requested, a single copy of the correspondence emanating from the Design Engineer's office will be sent.

E. Submittals will be stamped by the Design Engineer as follows:

1. "Approved", if no change or rejection is made.

2. "Approved as Noted", if minor changes or additions are made, but re-submittal is not considered necessary. All copies will bear the corrective marks.

3. "Revise and Resubmit", if the changes requested are extensive. In this case, re-submittal after correction is necessary and the same number of copies shall be included in the re-submittal as in the first submittal.

4. "Rejected", if it is considered that the data submitted cannot with reasonable revision meet the requirements of the Plans and Specifications.

5. "Submit Specified Item", if the data submitted is not clear, complete, or for other reasons cannot be examined by the Engineer to establish compliance with the Plans and Specifications.

F. Unless otherwise approved in specific cases, all submittals must be transmitted by the Prime Contractor, not by the Subcontractors or vendors.

Any changes in re-submittals, other than those indicated as requested, must be specifically brought to the attention of the Design Engineer. Changes or additions shall not be made in, or to, any fabricated item, part or material without having a re-review.

Submittal Cover Sheet *

Date: _____

From: _____ **Attn:** _____

Company: _____ **Company:** C&S Engineers, Inc.

Phone #: _____ **Phone #:** (877) 277-6583

Email: _____ **Email:** _____

Project Name: _____

Project No.: _____

Reference: Tech. Spec.: _____ Pay Item: _____

Other: _____

Description: _____

_____

Supplier: _____

Manufacturer: _____

Item Type: _____ Catalog Data _____ Manufacturer Certification

_____ Shop Drawings _____ Samples

_____ Other: _____

Contractor's Review:

_____ Reviewed for general compliance of specifications.

_____ This submittal is a ***substitute*** to the specified product.

_____ For Architects / Engineers Approval

This is our _____ submittal for this item.

We are submitting _____ copies.

Submitted by: _____

Date:

C&S Engineers, Inc. Review:

☐ (A) Approved

☐ (A/N) Approved As Noted

☐ (RR) Revise and Resubmit

☐ (REJ) Rejected

☐ (SUB) Submit Specified Item

Checking is only for general compliance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the jobsite; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

Reviewed by: _____

Date:

* Note: Provide one cover sheet for each copy of the submittal.

I:\Technical\DisciplineSpecific\Airports\Construction Administration\Shop Drawings\Submittal Cover Sheet.xls

END OF SECTION 60

Section 80 Prosecution and Progress

80-01 SUBLETTING OF CONTRACT. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Engineer.

All Subcontractors shall be approved by the Owner prior to being utilized on the project. The Subcontractor shall submit a Subcontractor Approval Request to the Engineer fourteen (14) days prior to beginning work 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.

Should the Contractor elect to assign his/her contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner. In case of approval, the Contractor shall file copies of all subcontracts with the Engineer.

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

80-02 NOTICE TO PROCEED. The notice to proceed will be issued by the Owner and shall state the date on which it is expected the Contractor will begin the construction and from which date contract time will be charged. The Contractor shall notify the Engineer at least 24 hours in advance of the time actual construction operations will begin.

80-03 PROSECUTION AND PROGRESS. Unless otherwise specified, the Contractor shall submit his/her coordinated construction schedule showing all work activities for the Engineer's approval at least 10 days prior to the start of work. The Contractor's progress schedule, when approved by the Engineer, may be used to establish major construction operations and to check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

The schedule shall be prepared as a network diagram in Critical Path Method (CPM), PERT, or other format, or as otherwise specified in the contract for each work area. As a minimum, it shall provide information on the sequence of work activities, start and end dates for each work area, milestone dates, and activity duration. The schedule shall reflect time for delivery of equipment that will impact the schedule as it relates to contract time. The schedule should also include overall project start and end dates.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a bi-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.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the Engineer's request, submit a revised schedule for completion of the work within the contract time and

modify his/her operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the prosecution of the work be discontinued for any reason, the Contractor shall notify the Engineer at least 3 days in advance of resuming operations.

The Contractor shall not commence any construction activities prior to the date stated in the notice to proceed.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a bi-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 his/her operations and the operations of his/her subcontractors and all suppliers so as to provide for the free and unobstructed movement of aircraft in the AIR OPERATIONS AREAS (AOA) of the airport.

When the work requires the Contractor to conduct his/her operations within an AOA of the airport, the work shall be coordinated with airport operations (through the Engineer) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the Engineer and until the necessary temporary marking and associated lighting is in place as provided in the subsection titled BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS of Section 70.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as hereinafter specified; immediately obey all instructions to vacate the AOA; immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until the satisfactory conditions are provided. The following AOA cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:

See Attachment "A" - Construction Safety and Phasing Plan (CSPP) at the end of this section.

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

80-04.1 OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION. All Contractors' operations shall be conducted in accordance with the project Construction Safety and Phasing Plan (CSPP) and the provisions set forth within the current version of Advisory Circular 150/5370-2. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a Safety Plan Compliance Document (SPCD) that details how it proposes to comply with the requirements presented within the CSPP. The SPCD can be found in Appendix 3 of the CSPP.

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

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

No deviation or modifications may be made to the approved CSPP unless approved in writing by the Owner or Engineer. If the requested changes are acceptable to all the aforementioned parties, the Engineer will request a modification to the CSPP from the FAA. The Contractor shall plan on a minimum of 90 days for this process to be completed. No deviation to the original CSPP shall be made without FAA approval.

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

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

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall be such that no injury to previously completed work, adjacent property, or existing airport facilities will result from its use.

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

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

80-06 TEMPORARY SUSPENSION OF THE WORK. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods as he may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for the prosecution of the work, or for such time as is necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

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

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

80-07 DETERMINATION AND EXTENSION OF CONTRACT TIME. The number of calendar or working days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME.

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

a. CONTRACT TIME based on WORKING DAYS shall be calculated weekly by the Engineer. The Engineer will furnish the Contractor a copy of his/her weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved CHANGE ORDERS or SUPPLEMENTAL AGREEMENTS covering EXTRA WORK).

The Engineer shall base his/her weekly statement of contract time charged on the following considerations:

(1) No time shall be charged for days on which the Contractor is unable to proceed with work on the items under construction at the time with the normal work force employed on such items. Such days on which the Contractor chooses to engage in work which require the presence of an inspector will be charged against contract time. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the principal item of work under construction or temporary suspension of the entire work which have been ordered by the Owner for reasons not the fault of the Contractor, shall not be charged against the contract time.

(2) The Engineer will begin charges against the contract time on the date stated in the notice to proceed.

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

(4) The Engineer will not make charges against the contract time after the date of final acceptance as defined in the subsection titled FINAL ACCEPTANCE of Section 50.

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

The contract time is based on the originally estimated quantities as described in the subsection titled INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES of Section 20. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

b. CONTRACT TIME based on CALENDAR DAYS shall consist of the number of calendar days stated in the contract counting from the effective date of the notice to proceed and including all Saturdays, Sundays, holidays, and nonwork days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

c. When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially completed.

If the Contractor finds it impossible for reasons beyond his/her control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his/her request. Requests for extension of time on calendar day projects, caused by inclement weather, shall be supported with National Weather Bureau data showing the actual amount of inclement weather exceeded which could normally be expected during the contract period. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may extend the time for completion in such amount as the conditions justify. The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

80-08 FAILURE TO COMPLETE ON TIME. (See the Contract Drawings for Section 80-08 verbiage.)For each partial calendar day or partial working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of this Section) the sum of Two Thousand Dollars ($2,000) will be deducted from any money due or to become due the Contractor or his/her surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional

engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in his/her contract.

The work of this Contract and time charged shall commence on the date stated in the written Notice to Proceed. The Contract Time shall be **90 WORKING DAYS** and means that all of the work of the Contract is complete and in operating order.

One day shall be charged against Contract Time for any Working Day on which the Contractor is able to proceed with work for at least six (6) hours toward completion of the Contract. One-half day shall be charged against Contract Time for any Working Day on which the Contractor is able to proceed with work for at least three (3) hours toward completion of the Contract.

The work of this Contract and time charged shall commence on the date stated in the written Notice to Proceed. The time of completion for each work area is shown below, and means that all of the work of the Contract for each work area is complete and in operating order.

The time of completion for each work area shall be included in the overall time to complete the project. Within the time stated in the written Notice Proceed, time shall be charged as follows, and means that all of the work of the Contract for each work area is complete and in operating order:

Work Area A 45 CALENDAR DAYS

Time charged against an individual Work Area shall end when the Engineer deems that work is substantially complete. Substantial completion of work in an individual Work Area is defined as the Work Area being fully operational and open to aircraft traffic, all barricades affecting the Work Area are removed, all temporary jumpers affecting the Work Area are removed, all pavements in the Work Area are cleaned, and NOTAMS affecting the completed Work Area are cancelled.

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.

1. The Contractor shall be considered in default of his/her contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons if the Contractor:

a. Fails to begin the work under the contract within the time specified in the "Notice to Proceed," or

b. Fails to perform the work or fails to provide sufficient workers, equipment 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 prosecution 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 him 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.

2. Should the Engineer consider the Contractor in default of the contract for any reason hereinbefore, he 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.

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

4. Termination of Contract:

a. The Owner may, by written notice, terminate this contract in whole or in part at any time, either for the Owner's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services shall be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the Owner.

b. If the termination is for the convenience of the Owner, an equitable adjustment in the contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed services.

c. If the termination is due to failure to fulfill the contractor's obligations, the Owner may take over the work and prosecute the same to completion by contract or otherwise. In such case, the contractor shall be liable to the Owner for any additional cost occasioned to the Owner thereby.

d. If, after notice of termination for failure to fulfill contract obligations, it is determined that the contractor had not so failed, the termination shall be deemed to have been effected for the convenience of the Owner. In such event, adjustment in the contract price shall be made as provided in paragraph b of this clause.

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

5. 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 prosecution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

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

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

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

80-11 WORK AREA, STORAGE AREA AND SEQUENCE OF OPERATIONS. The Contractor shall obtain approval from the Engineer prior to beginning any work in all areas of the airport. No operating runway, taxiway, or Air Operations Area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate his/her work in such a manner as to insure safety and a minimum of hindrance to flight operations. During the work of this Contract, the Owner will make such arrangements to coordinate aircraft movements and Airport operations as necessary to conform to the construction procedures outlined in the Construction Safety and Phasing Plan, and as shown on the Contract Drawings. The Contractor shall give adequate notice to the Engineer, so as to afford time to coordinate construction with the Owner. All Contractor equipment and material stockpiles shall be stored at locations determined during construction such that they do not interfere with an active runway or taxiway. No equipment will be allowed to park within the approach area of an active runway at any time.

See Attachment "A"- Construction Safety and Phasing Plan (CSPP) following this section.

END OF SECTION 80

ATTACHMENT "A"
TO

SECTION 80

CONSTRUCTION SAFETY AND PHASING PLAN (CSPP)

FOR THE CONSTRUCTION OF

APPLE VALLEY AIRPORT TAXIWAY REHAB PROJECT

AT

APPLE VALLEY AIRPORT

COUNTY PROJECT NO.: 10.10.0060

OCTOBER 2023

TABLE OF CONTENTS

1.0 PURPOSE

2.0 SCOPE OF PROJECT AND CSPP

3.0 PLAN REQUIREMENTS

- 3.1 Coordination
  - a. Pre-construction Conference
  - b. Contractor Progress Meetings
  - c. Scope or Schedule Changes
  - d. FAA ATO Coordination
  - e. Pre-paving Meeting
  - f. Payment
- 3.2 Phasing
  - a. Phase Elements (Work Areas)
  - b. Construction Safety Drawings (Construction and Operating Requirements)
- 3.3 Areas and Operations Affected by the Construction Activity
  - a. Identification of Affected Areas
  - b. Mitigation of Effects
- 3.4 Protection of Navigational Aids (NAVAIDS)
- 3.5 Contractor Access
  - a. Location of Stockpiled Construction Materials
  - b. Vehicle and Pedestrian Operations
  - c. Security
- 3.6 Wildlife Management
  - a. Trash
  - b. Standing Water
  - c. Tall Grass and Seeds
  - d. Poorly Maintained Fencing and Gates
  - e. Disruption of Existing Wildlife Habitat
- 3.7 Foreign Object Debris (FOD) Management
- 3.8 Hazardous Materials (HAZMAT) Management
- 3.9 Notification of Construction Activities
  - a. Maintenance of a List of Responsible Representatives/Point of Contact
  - b. Notices to Airman (NOTAM)
  - c. Emergency Notification Procedures
  - d. Coordination with First Response Personnel
  - e. Notification to the FAA
- 3.10 Inspection Requirements
  - a. Daily (or more frequent) Inspections
  - b. Final Inspections
- 3.11 Underground Utilities
- 3.12 Penalties
- 3.13 Special Conditions
- 3.14 Runway and Taxiway Visual Aids
  - a. General
  - b. Markings
  - c. Lighting and Visual NAVAIDS
  - d. Signs
  - e. Maintenance of Airport Lighting

3.15 Marking and Signs for Access Routes
3.16 Hazard Marking and Lighting
a. Purpose
b. Equipment
3.17 Protection of Airfield Areas
a. Runway Safety Area (RSA)
b. Runway Object Free Area (ROFA)
c. Taxiway Safety Area (TSA)
d. Taxiway Object Free Area (TOFA)
e. Obstacle Free Zone (OFZ)
f. Runway Approach/Departure Surfaces
3.18 Other Limitations on Construction
A. Prohibitions
B. Restrictions

APPENDICES:

APPENDIX 1 – General and Construction Work Phasing Drawings

APPENDIX 2 – Construction Project Daily Safety Inspection Checklist

APPENDIX 3 – Contractor's Safety Plan Compliance Document (SPCD)

APPENDIX 4 – Spoil Deposition Release Form

CONSTRUCTION SAFETY AND PHASING PLAN (CSPP)

1.0 PURPOSE.

Aviation safety is the primary consideration at airports, especially during construction. The airport owner's Construction Safety and Phasing Plan (CSPP) and the contractor's Safety Plan Compliance Document (SPCD) are the primary tools to ensure safety compliance when coordinating construction activities with airport operations. These documents identify all aspects of the construction project that pose a potential safety hazard to airport operations and outline respective mitigation procedures for each hazard.

The CSPP sets forth benchmarks and requirements for the project to help ensure the highest levels of safety, security and efficiency at the airport at the time of construction. Requirements for this CSPP were developed from FAA Advisory Circular (AC) 150/5370-2 Operational Safety on Airports During Construction, latest edition.

The CSPP is a standalone document, written to correspond with the safety and security requirements set forth in the AC, the airport safety and security requirements, and local codes and requirements. The CSPP is to be used by all personnel involved in the project. The CSPP covers the actions of not only the construction personnel and equipment, but also the action of inspection personnel and airport staff.

This document has been developed in order to minimize interruptions to airport operations, reduce construction costs, and maximize the performance and safety of construction activity. Strict adherence to the provisions of the CSPP by all personnel assigned to or visiting the construction site is mandatory.

The Contractor shall submit a Safety Plan Compliance Document (SPCD) to the airport owner describing how the Contractor will comply with the requirements set forth in this CSPP. The SPCD must be submitted to the airport owner with the Proposal. **See Appendix 4**.

In the event the Contractor's activities are found in non-compliance with the provisions of the CSPP or the SPCD, the Airport Owner's Representative will direct the Contractor, in writing, to immediately cease those operations in violation. In addition, a safety meeting will be conducted for the purpose of reviewing those provisions in the CSPP/SPCD which were violated. The Contractor will not be allowed to resume any construction operations until conclusion of the safety meeting and all corrective actions have been implemented.

2.0 SCOPE OF PROJECT AND CSPP.

All work required under this CSPP shall be paid for under Item C-100 Contractor Quality Control Program. The proposed project generally includes reconstruction of the widening of the northern taxilane near Midfield Aviation to comply with Federal Aviation Administration (FAA) standards.

Safety, maintaining aircraft operations, and construction costs are all interrelated. Since safety must not be compromised, the airport owner must strike a balance between maintaining aircraft operations and construction costs. This balance will vary widely depending on the operational needs and resources of the airport and will require early coordination with airport users and the FAA. As the project design progresses, the necessary construction locations, activities and associated costs will be identified. As they are identified, their impact to airport operations must be assessed. Adjustments are made to the proposed construction activities, often by phasing the project and/or to airport operations in order to maintain operational safety. This planning effort will ultimately result in a project CSPP. The development of the CSPP takes place through the following five steps:

1. Identify Affected Areas
2. Describe Current Operations
3. Allow for Temporary Changes to Operations

4. Take Required Measures to Revise Operations
5. Manage Safety Risk

3.0 PLAN REQUIREMENTS.

3.1 COORDINATION. The following items shall be coordinated as required:

a. Emergency Contact Information

EMERGENCY TELEPHONE NUMBER

9-1-1

FOR

√POLICE √FIRE √RESCUE

INFORMATION, COMPLIANCE, AND ASSISTANCE

MAUREEN SNELGROVE ASSISTANT DIRECTOR (909)-387-8810

ADDITIONAL INFORMATION, CONTACTS

C&S COMPANIES, INC. (619) 296-9373 (MON-FRI, 8:00 AM TO 5:00 PM)

KENNETH GETHERS PROJECT MANAGER (619) 819-2279

b. Pre-construction Meeting. A preconstruction meeting will be conducted to discuss operational safety, testing, quality control, quality acceptance, security, safety, labor requirements, environmental factors, and

other issues. All parties affected by the construction will be asked to attend including, but not limited to, the airport owner, tenants, contractor, subcontractors and Engineer.

At the preconstruction meeting, the Contractor shall submit a plan of operation and schedule of work to the Engineer for approval. The Contractor's plan of operation shall indicate, in detail, the amount of construction planned and the number of shifts and/or overtime operations proposed for the project. The schedule of work shall clearly indicate the sequence of work to be performed. The Contractor shall conform, at all times, to the requirements of these provisions and with current safety practices, rules, regulations and security requirements of Airport Owner. The preconstruction meeting will be held prior to issuance of a Notice to Proceed.

c. Contractor Progress Meetings. A minimum of one progress meeting to discuss scheduling and coordination shall be held each week unless otherwise directed by the Airport Owner, throughout the duration of the Contract, between the Airport Owner, Contractor, Engineer and any other interested parties at a time and place to be designated by the Engineer. These meetings shall include a detailed discussion of construction phasing and safety with regard to the Contractor's compliance with the requirements stipulated in the Contract Documents.

In attendance at these meetings shall be a Contractor's representative with the authority to make decisions concerning the scheduling and coordination of work. Progress meetings shall be facilitated by the Engineer. Operational safety shall be a standing agenda item during progress meetings throughout the construction project.

d. Scope or Schedule Changes. Changes in the Scope of Work or Project Schedule shall be governed by Section 40 and Section 80 of the Contract Documents. Any proposed change that results in a deviation from the established CSPP as expressed by the Contract Documents must be submitted to the FAA and Owner for review and approval. FAA review and approval can be expected to take sixty business days.

e. FAA ATO Coordination. Early coordination with Federal Aviation Administration (FAA) Air Traffic Organization (ATO) is required to schedule airway facility shutdowns and restarts. Relocation or adjustments to NAVAIDs, or changes to final grades in critical areas, may require an FAA flight inspection prior to restarting the facility. Flight inspections shall be coordinated and scheduled well in advance of the intended facility restart. Flight inspections shall be as required by technical specifications or special provisions.

f. Pre-Paving Meeting. If paving is included in this project, a pre-paving meeting will be held to discuss the status of preliminary submittals, the Engineer's inspection of the plant and laboratory, test section requirements, paving plan requirements, and production requirements.

g. Payment. The cost of complying with the requirements of this section, including but not limited to scheduling; providing flag people; construction, maintenance and removal of temporary access roads and staging areas; providing, placing, relocating, maintaining and removing temporary barricades; providing and placing permanent barricades; protection of aircraft and vehicular traffic; installation, maintenance and removal of temporary airfield markings; maintenance of airport lighting circuits; installation, maintenance, and removal of temporary wiring and airfield lighting facilities; cleaning of paved surfaces; restoration of surfaces disturbed as a result of the Contractor's operations; providing, maintaining, and removing warning signs, hazard markings, barricade lights; providing, maintaining, and removing temporary access gates; providing padlocks for access gates; providing a guard at access gates; and all security requirements shall be included under Technical Specification Item M-100, Maintenance and Protection of Traffic.

3.2 PHASING.

a. Phase Elements (Work Area(s))

Work Area Descriptions: The work of the project has been divided into (2) work areas in order to coordinate construction in a way that will minimize interference with Airport operations:

Work Area "A". Includes all work associated with the complete demolition and the reconstruction for the widening of the north taxilane. Work is to include but not limited to demolition, earthwork, drainage, base course, paving, lighting, gutters, and re-striping. Portions of Taxiway A will be closed during any work within Work Area "A", as shown in the Contract Drawings.

Work Area "B". Includes all work associated with the complete demolition and the reconstruction of the existing earthen islands located along Taxiway Alpha. Work is to include but not limited to demolition, earthwork, drainage, base course, paving, lighting, and re-striping. Portions of Taxiway A will be closed during any work within Work Area "B", as shown in the Contract Drawings.

b. Construction Work Phasing Requirements

The Contractor shall obtain approval from the Engineer prior to beginning any work in all areas of the airport. No active runway or taxiway shall be crossed, entered, or obstructed at any time, unless it is closed by NOTAM. The Contractor shall plan and coordinate his/her work in such a manner as to insure safety and a minimum of hindrance to airport operations. All Contractor equipment and material stockpiles shall be stored at locations determined during construction or as shown on the Construction Safety Drawings **(Appendix 1)**. No equipment will be allowed to park within the approach area of an active runway at any time. Access to the self-fuel area shall be open to aircraft at all times when the runway is open to traffic.

During the work under this Contract, the Owner will make such arrangements to coordinate aircraft movements and Airport operations as necessary to conform to the construction procedures as outlined below and as shown on the Contract Drawings. The Contractor shall give adequate notice to the Engineer, so as to afford time to coordinate construction with the Owner, per Construction Safety Drawings (**Appendix 1**). No work shall proceed in any area without prior approval.

The Contractor shall always confine construction operations to the contractor work area and designated haul routes. Contractor personnel, equipment, stored materials, subcontractors and suppliers will not be allowed on any other area within the Air Operations Area and within the Airport boundaries without prior approval of the Owner or Engineer.

The Engineer will perform a visual site assessment before the Contractor occupies the contractor work area. The Contractor shall be held responsible for all repairs and cleanup costs incurred as a result of the Contractor's construction operations. Restoration shall be the complete return of all work areas to the original conditions.

Temporary cables in grass areas shall be marked with stakes and flagging. Temporary cables in paved areas shall be marked with barricades.

Prior to the start of construction operations, the Contractor shall perform the following:

- **Prior to the star of work, Contractor shall coordinate with Airport operations a minimum of thirty (30) days in advance of the project starting.**

- Coordinate issuing Notices to Airmen (NOTAM) with the Airport Owner and Engineer for the construction activities involved at least 72 hours in advance of the work.
- Receive permission from Airport Operations to close and Work in work area.
- Place barricades as indicated on the Work Phasing Plans sheet G-102 and G-103 of the Contract Drawings.

At the conclusion of construction operations, the Contractor shall perform the following:

- Test and activate airfield lighting circuits.
- Remove barricades and closed runway markings, as indicated on the Construction Work Phasing Drawing sheets G-102 and G-103 of the Contract Drawings.
- Clean all paved surfaces in accordance with Item M-100, Maintenance and Protection of Traffic.
- Coordinate cancellation of the NOTAMs with the Airport Owner and Engineer.

Work Area "A and B": During work in these areas portions of Taxiway A will be closed to aircraft traffic, as shown on the contract drawings.

At the start of work in Areas A and B, the Contractor shall perform the following:

- Verify with the Owner that a NOTAM has been issued closing portions of Taxiway A as shown on the contract drawings.
- Provide temporary barricades as shown on the contract drawings, sheets G-102 and G-103
- Disconnect the Taxiway A edge lighting circuit in the electrical building.
- Verify with the Owner that a NOTAM has been issued stating that Taxiway A is not lighted.
- Coordinate with Owner as to Tenant access.

At the conclusion of construction operations, the Contractor shall perform the following:

- Test and activate airfield lighting circuits.
- Remove barricades and closed runway markings, as indicated on the Construction Work Phasing Drawing sheets G-102 and G-103 of the Contract Drawings.
- Clean all paved surfaces in accordance with Item M-100, Maintenance and Protection of Traffic.
- Coordinate cancellation of the NOTAMs with the Airport Owner and Engineer.

3.3 AREAS AND OPERATIONS AFFECTED BY THE CONSTRUCTION ACTIVITY.

Contractor, subcontractor, and supplier employees or any other unauthorized persons shall be restricted from entering an active airport operating area without previous permission from the Airport Owner and the Aircraft Control Tower.

In an emergency situation, the Owner or other designated airport representative may order the Contractor to suspend operations; move personnel, equipment, and materials to a safe location; and stand by until aircraft use is completed.

The Contractor shall cooperate with the airport users through the Engineer, in coordination with airport operations, in scheduling the operations to provide adequate clearance for safe aircraft parking, fueling, maintenance, loading or unloading, maneuvering, taxing operations, or other aircraft operations.

Table 3.3A Construction Effect on Airport Operations		
Project	Apple Valley Airport Taxiway Rehab Project	
Phase	Work Area(s) A and B. (See Section 3.2.a for description)	
Scope of Work	Construction of the widening of taxi lane adjacent to Taxiway A	
Operational Requirements	Standard	Anticipated (During Construction)
Runway 18-36 ARC	C-II	Unaffected
RW 18-36 Approach Visibility	Visual/1-mile	Unaffected
RW 18-36	RSA: 500 ft	Unaffected
RW 8-26	OFA: 800 ft	Unaffected
Runway 18-36 Visual NAVAIDS	Beacon, PAPI (18,36) GPS (18), Segmented Circle Wind Indicator	Unaffected.
Runway 18-36 operations	Typical	Back taxi required at 18 end to accommodate partial closure to Taxiway A
Taxiway A	TSA:79 ft	Portions of Taxiway Closed as shown contract drawings
Taxiway A	TOFA:131 ft	Portions of Taxiway Closed as shown on contract drawings

a. Identification of Affected Areas

The following is a summary of impacts to the Airport Operations Areas resulting from the proposed construction and work phasing:

b. Mitigation of effects.

This CSPP has established specific requirements and operational procedures necessary to maintain the safety and efficiency of airport operations during the construction of this project.

All coordination pertaining to airport operations during construction will go through the Owner's Representative and the Airport Operations Manager. Any required NOTAM's to be issued will be sent through the Owner's Representative and issued by Airport Operations.

i. Temporary Changes to runway and/or taxiway operations:
Any affected Airport Operations Areas identified in the previous section for reduced access or identified as being closed entirely to aircraft traffic, will be barricaded by the use of low profile, lighted barricades placed as shown in the exhibits provided in Appendix 1. In addition, required NOTAM's shall be issued on the various temporary changes to aircraft access through the affected areas.

ii. Detours for emergency and other airport vehicles:
The project work site shall remain open to all emergency vehicles in emergency situations. The contractor is required to maintain access in and around the project work area for all

emergency vehicles. Proper routing of this traffic will be effectively communicated to all supervisory personnel involved in the construction project.

iii. Maintenance of essential utilities:

Special attention shall be given to preventing unscheduled interruption of utility services and facilities. Where required due to construction purposes, the Owner and FAA shall locate all of their underground utilities. It is the Contractor's responsibility to have the locations of cabling and other underground utilities marked prior to beginning excavation. Any locations provided by the Owner or FAA are approximate locations and the Contractor shall verify all locations prior to beginning excavations. When an underground cable or utility is damaged due to the Contractor's negligence the Contractor shall immediately repair the affected cable or utility at his/her own expense. Full coordination between airport staff, field inspectors, and construction personnel will be exercised to ensure that all airport power and control cables are fully protected prior to any excavation.

iv. Temporary Changes to air traffic control procedures:

Changes to air traffic control procedures have been coordinated with airport ATO. Any additional requests for changes must be made to the Owner, through the Engineer, in writing. These requested changes will be reviewed by the Engineer, Owner and ATO. If these changes are acceptable to all the aforementioned parties, the Engineer will request a modification to the CSPP previously turned into the FAA. The Contractor shall plan on a minimum 90 days for this process to be completed. No deviation to the original CSPP shall be made without final FAA approval.

3.4 PROTECTION OF NAVIGATIONAL AIDS (NAVAIDS).

Before commencing construction activity, parking vehicles, or storing construction equipment and materials near a NAVAID, coordination with the appropriate FAA ATO to evaluate the effects of construction activity and the required distances and direction from the NAVAID is required.

3.5 CONTRACTOR ACCESS.

This section of the CSPP details the areas to which the contractor must have access, and how contractor personnel will access those project work areas.

a. Location of stockpiled construction materials.

The Contractor shall store material and equipment and schedule his operations for work to be done so that no unauthorized interference to normal Airport operations will result there from. Construction operations shall not be conducted in a manner to cause interference with Airport Operations. Stockpiled materials and equipment storage are not permitted within the Runway Safety Area/ Taxiway Safety Area (RSA/TSA), Obstacle Free Zone (OFZ) or Object Free Area (OFA) of an operational runway or taxiway. Stockpiled construction materials must be located inside the contractor staging area as shown on the Construction Safety Drawings (Appendix 1) unless otherwise approved by the Engineer.

Stockpiled material shall be constrained in a manner to prevent movement resulting from either aircraft jet blast or wind conditions in excess of ten miles per hour. In addition, stockpiled material shall have silt fence located around the material to prevent Foreign Object Debris (FOD) from moving onto the airfield pavements or polluting watercourses.

Open trenches exceeding 3 inches in depth and 5 inches in width or stockpiled material are not permitted within the limits of safety areas of operational runways or taxiways. Stockpiled material shall not be permitted within the protected areas of the runways, or allowed to penetrate into any of the protected airspace.

Spoil and Disposal Areas: Spoil shall be disposed of offsite by the contractor unless otherwise shown or specified. The Contractor shall submit the "Spoils Deposition Release Form" for any spoils which are transported from the project site. A copy of the form can be found in Appendix 4. No direct payment will be made for spoiling and disposal operations. The cost of spoiling material on site, or of spoiling material off-site, shall be considered incidental to this Contract and the costs shall be included in the various pay items involved.

b. Vehicle and pedestrian operations. <u>Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the Air Operations Area (AOA).</u>

The airport owner will coordinate requirements for vehicle operations with the affected airport tenants. Specific vehicle and pedestrian requirements for this project are as follows:

All construction vehicles and personnel shall be restricted to the immediate work areas specified by the contract for this project. These areas include the haul routes into the work area, the designated contractor staging area and the apron area under construction. Use of alternate haul routes or staging areas by the contractor shall not be permitted without prior notification and approval by the Owner's Representative.

i. Construction Site Parking:

The Contractor's personal vehicle parking area shall be in the contractor staging area, as shown on the Construction Safety Drawings (Appendix 1). Contractor personal vehicles will not be allowed inside the airport fence Air Operations Area (AOA) or secured area.

A staging area, as indicated on the Contract Drawings, will be provided where the Contractor may set up a field office and store equipment and materials. The Contractor shall make his own arrangements for, and bear all costs of required utilities. The Contractor shall use and maintain the site in accordance with requirements of the Owner. Upon completion of work, the Contractor's staging area shall be removed and the area cleaned and restored to original or better condition.

ii. Construction Equipment Parking:

The Contractor's equipment storage area shall be in the contractor staging area as shown on the Construction Safety Drawings (Appendix 1). The Contractor's equipment and construction vehicles shall be restricted to the construction site or storage areas during construction and parked in the equipment storage area during non-working periods. Maximum allowable equipment height in the staging area shall be 25 feet. Maximum allowable equipment height in the work areas shall be 25 feet. Maximum allowable equipment height at the borrow area shall be 25feet.

Contractor must service all construction vehicles within the limits of the project work area or the Contractor's Staging Area. Parked construction vehicles must be outside the OFA and never in the safety area of an active runway or taxiway. Inactive equipment must not be parked on closed taxiways or runways. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the equipment must be well lighted. Employees shall also park construction

vehicles outside the OFA when not in use by construction personnel (for example, overnight, on weekends, or during other periods when construction is not active). Parking areas must not obstruct the clear line of sight by the ATCT, as applicable, to any taxiways or runways under air traffic control nor obstruct any runway visual aids, signs, or navigation aids.

iii. Access and Haul Roads:

The Contractor shall clear, construct and maintain haul routes as required for the prosecution the work. The haul routes and access points shall only be in the locations approved by the Engineer and the Owner or as shown on the Construction Safety Drawings (Appendix 1).

Access or haul routes used by contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Construction traffic must remain on the designated haul routes, never straying from the approved paths. Haul and access routes shall be clearly delineated with temporary marking and signage by the Contractor. Signage and marking placement shall be reviewed and approved by the Engineer and Owner prior to being put into service. The Contractor shall fully describe the appropriate access routes to all his/her employees, subcontractors and material delivery personnel.

The Contractor shall be responsible for maintaining existing haul routes. At the completion of the project, these areas shall be returned to their original lines and grades and shall be restored to a condition equal to or better than original. All non-paved areas that are disturbed by Contractor's haul roads, staging area, etc., located outside of the seeding limits shown on the plans shall be re-seeded and restored to their original or better condition by the Contractor at no additional cost to the Owner.

The Contractor shall coordinate haul routes, closures and schedules with other projects which may be underway during the same time period as this contract.

The Contractor shall control and coordinate the material (supplies) that are hauled to and from work area. Delivery of equipment and materials to the area of work shall be by way of the access route shown on the Construction Safety Drawings (Appendix 1) or designated by the Owner or Engineer.

The Contractor shall maintain all haul routes and work areas in a dust free condition at all times. The Contractor shall control dust from the construction operations by vacuum type sweeping, watering or other methods as approved by the Engineer. Contractor shall have equipment (in operating condition) on site, at all times, to control dust. If the Contractor fails to comply with this requirement, construction will be suspended until a plan for controlling the dust is approved by the Engineer. Landside haul routes, boulevards and drives shall be kept clean by use of a vacuum sweeper on a daily basis as required. Application of water on dirt or gravel haul routes must be provided as often as necessary. Haul roads in any airport traffic areas must be especially monitored for dust and debris to prevent any potential Foreign Object Debris (FOD) situations.

The existing perimeter road shall remain open and accessible for airport personnel at all times. Special attention must be given to ensure that if construction traffic is to share or cross any emergency first response routes where emergency right of way is not impeded at any time, and that construction traffic on haul roads do not interfere with NAVAIDs or approach surfaces of operational runways.

Portions of the project area(s) shall be bounded by the low profile barricades identifying Contractor personnel and vehicle area operation limits. The locations of any barricaded project

limits, haul routes, Contractor Staging Areas, and associated safety and security details are also provided graphically in the attached exhibits.

iv. Marking and Lighting of Vehicles:

When any vehicle or piece of equipment, other than one that has prior approval from the Owner, must operate on an airport, it shall be escorted and properly identified.

The Contractor shall limit access within the airport security fence to authorized vehicles. All authorized vehicles shall have a vehicle dash board placard permit issued by the Owner or an identification sign on both sides of the vehicle containing the Contractor's company name. Private vehicles of the Contractor's personnel must be parked outside the airport security fence and will not be allowed within the airport security fence at any time.

All vehicles operating on the airport and in the general vicinity of the safety area or in aircraft movement areas must be marked with flashing yellow/amber beacons or orange and white flags during daylight hours. During hours of darkness or low visibility they shall be marked with at least flashing yellow/amber beacons. Beacons and flags must be maintained to standards and in good working and operational condition. Beacons must be located on the uppermost part of the vehicle structure, visible from any direction, and flash 75 +/- 15 flashes per minute. Flags shall be 3' by 3' with alternating 1' by 1' international orange and white squares, and shall be replaced by the contractor if they become faded, discolored, or ragged as determined by Airport Operations or the Owner's Representative.

v. Description of Proper Vehicle Operations:

The Contractor shall be required to follow guidance on the additional identification and control of construction equipment per the Airport's Security Plan. No Contractor's vehicle or pedestrian crossing of active runways or taxiways will be allowed at any time during the work of this Contract, unless otherwise specified. No deviation from the pedestrian and vehicle routes to and from the Project Areas will be allowed unless specific permission has been granted by the Owner.

The ground movement of aircraft shall have the right-of-way at all times, and the Contractor's vehicles and equipment shall yield to aircraft at all times.

vi. Required Escorts:

Anyone not in possession of a current airport badge shall be escorted by an appropriately badged person. At no time will vehicles or personnel enter portions of the secure AOA outside the contract area unless permitted and accompanied by an airport approved escort.

All construction-related activity taking place within any airport defined movement area requires the presence of an authorized Airport escort having radio communication with the FAA control tower or UNICOM unless prior approval is obtained from Airport Operations. Spotters and/or flaggers having radio or telephone contact with the Airport may be used with the approval of the on shift Airport Operations Manager.

At no time shall active taxiways or taxilanes be crossed by construction equipment without notification and proper approval/clearance from radio-trained gate guards or Airport Operations.

vii. Training Requirements for Vehicle Drivers:

Any employees the Contractor would request to be given permission by Airport Operations to drive on the AOA shall complete airport badging and driver training per the Airport's requirements. These employees then must have an airfield driving experience with Airport Operations and if Airport Operations is satisfied of the employee's competency, that employee may be granted permission from Airport Operations to drive on the AOA. Passing the AOA driver training does not given the Contractor's employees the ability to drive on the AOA.

viii. Situational Awareness:

Aircraft traffic will continue to use existing runways, aprons, and taxiways of the Airport during the time that work under a contract is being performed. The Contractor shall, at all time, conduct the work as to create no hindrance, hazard, or obstacle to aircraft using the Airport.

Vehicle drivers must confirm by personnel observation that no aircraft is approaching their position (either in the air or on the ground) when given clearance to cross a runway, taxiway, or any other area open to airport operations. In addition, it is the responsibility of the escort vehicle driver to verify the movement/position of all escorted vehicles at any given time.

ix. Two-way Radio Communication Procedures:

The Contractor shall comply with proper radio usage, including read back requirements and proper phraseology including the International Phonetic Alphabet.

Even though radio communication is maintained, escort vehicle drivers must also familiarize themselves with ATCT light gun signals in the event of radio failure. See the FAA safety placard "Ground Vehicle Guide to Airport Signs and Markings." This safety placard may be downloaded through the Runway Safety Program Web site at http://www.faa.gov/airports/runway_safety/publications/ (See "Signs & Markings Vehicle Dashboard Sticker".) or obtained from the FAA Airports Regional Office.

x. Maintenance of the Secured Area of the Airport.

Airport owner and contractors must also maintain a high level of security during construction when access points are created in the security fencing to permit construction vehicle access. Temporary gates shall be equipped and/or manned by construction personnel to prevent unauthorized access by vehicles, animals or people. Procedures conforming to Airport security protocols should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit "piggybacking" behind another person or vehicle. Access shall be made available at all times to all airport emergency vehicles traveling to operations areas within the proximity of the construction work zone.

c. Security.

Each Contractor's employee, subcontractors and their employees will be issued an identification card by the Owner to permit access to secured area. Contractors will be charged two dollars ($2.00) for each card and they shall include the price of this in their bid. Cards shall be returned at the end of the project. In general, security in the construction area is the responsibility of the Contractor.

The Contractor shall be responsible for maintaining security at all access gates used during the project and will be held liable by the Owner for any breach of security. No gate shall be left open. The Contractor shall be required to post a guard at the gate to open and close the gate for personnel and equipment. No gate shall be left open. Guard shall be responsible for ensuring that no unauthorized persons or vehicles enter the secure area. Airport owner and contractors must take care to maintain security during construction when access points are created in the security fencing to permit the passage of construction vehicles or personnel. Temporary gates shall be equipped so they can be securely closed and locked to prevent access by animals and unauthorized people. Procedures should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit "piggybacking" behind another person or vehicle.

The Contractor shall be required to maintain security and comply with the Airport Security Plan and the Transportation Security Administration Security Rules and Regulations throughout the duration of the project. The Contractor and the Surety shall indemnify and save harmless the Owner, Engineer and third party or political subdivision from any and all breaches of security and shall indemnify the Owner for any fines, expenses and damages which it may be obliged to pay by reason of any breach of security resulting from the Contractor's actions at any time during the prosecution of the work. Such breaches of security are subject to fines by the Transportation Security Administration of up to ten thousand dollars ($10,000) per incident.

3.6 WILDLIFE MANAGEMENT.

Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports.

a. Trash. Food scraps from construction personnel activity must be collected and disposed of at a proper facility.

b. Standing water. Water shall not be allowed to collect and pool for more than any single 24-hour period. Temporary grading may be required to promote drainage during daily operations as well as between work phases.

c. Tall grass and seeds. The use of millet seed in turfing and seeding operations shall not be permitted.

d. Poorly maintained fencing and gates. The Contractor shall maintain a constant secure perimeter to the airfield, including continuous security perimeter fencing and gates (if applicable).

e. Disruption of existing wildlife habitat. Not applicable to this project.

Contractor shall take immediate remedial action to remove wildlife attractants should any occurrence be noted. Contractor shall immediately report to the Engineer and Owner should any wildlife congregation be noted, and in particular if mammals enter the airport through the construction gate.

3.7 FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT.

Special care and measures shall be taken to prevent Foreign Object Debris (FOD) damage when working in an airport environment. Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. The Contractor shall be responsible for implementing an approved FOD Management Plan prior to the start of construction activities. The FOD

Management Plan will have procedures for prevention, regular cleanup, and containment of construction material and debris. The Contractor will ensure all vehicles related to the construction project using paved surfaces in the AOA shall be free of any debris that could create a FOD hazard. Special attention will be given to the cleaning of cracks and pavement joints. All taxiways, aprons, and runways must remain clean. Waste containers with attached lids shall be required on construction sites.

Special attention should be given to securing lightweight construction material (concrete insulating blankets, tarps, insulation, etc.). Specific securing procedures and/or chain link enclosures may be required.

Contractors will provide their own equipment for vehicle and equipment washing and clean up.

Immediate access to a power sweeper is required when construction occurs on any pavement area inside the AOA, unless an appropriate alternative has been approved by the Owner's Representative and Airport Operations Manager.

3.8 HAZARDOUS MATERIALS (HAZMAT) MANAGEMENT.

Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel, hydraulic fluid, or other chemical fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. To that end, the Contractor is required to develop a spill prevention plan and response procedures for vehicle operations prior to the start of construction activities. This includes maintenance of appropriate MSDS data and appropriate prevention and response equipment on-site.

Fueling Procedures and Spill Recovery Procedures shall be in accordance with Fire Code, latest edition, and the National Fire Protection Association standard procedures for spill response, latest edition. If fueling is to take place in the staging area, it must be away from catch basins. Contractor must have spill containment kits on site.

In the event of a fuel spill or the spill of other hazardous materials, the Contractor shall immediately notify the Owner and the Engineer, the Environmental Protection Agency, the Owner and the Engineer.

Contractor shall abide by the specific requirements contained in the Technical Specifications of this contract.

3.9 NOTIFICATION OF CONSTRUCTION ACTIVITY.

The following is information and procedures for immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport.

a. **Maintenance of a list of Responsible Representatives/ Point of contact.** A list of responsible representatives and points of contact shall be created by the Engineer, the Airport and the Contractor prior to the start of construction. This list shall be compiled as part of the project pre-construction meeting agenda. Procedures will be established to contact all parties, including after regular work hours. Updates will be made to the list throughout the project duration by the Engineer. Contractor points of contact shall be incorporated into the contractor's SPCD.

b. **Notices to Airman (NOTAM).** Only the airport owner may initiate or cancel NOTAMs on airport conditions, and is the only entity that can close or open a runway or taxiway. The airport owner must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must provide information on closed or hazardous conditions on airport

movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The airport owner must file and maintain a list of authorized representatives with the FSS. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operation of FAA owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the airport owner. See Section 3.14 regarding issuing NOTAMs for partially closed runways versus runways with displaced thresholds.

Any NOTAMs for planned airfield closures for this project must be coordinated through the airport manager and the airports duly appointed construction management representative. Reference Section 3.2 for planned closures for this project, which require issuance of a NOTAM.

c. Emergency Notification Procedures. In the event of an aircraft emergency, severe weather conditions, or any issue as determined by the Airport that may affect aircraft operations, the Contractor's personnel and/or equipment may be required to immediately vacate the area(s) affected. Points of contact for the various parties involved with the project shall be identified and shared at the pre-construction meeting among the various parties. Emergency points of contact shall be incorporated into the contractor's SPCD.

d. Accidents. The Contractor shall provide at the site such equipment and medical facilities as are necessary to supply first aid service to anyone who may be injured in connection with the work. The Contractor must promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with, the performance for the work, whether on or adjacent to the site which caused death, personal injury or property damages, giving full details and statements of witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Engineer and the Owner.

If any claim is made by anyone against the Contractor or any Subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Engineer giving full details of the claims.

e. Coordination with First Response Personnel. The contractor shall coordinate, through the duly appointed airport representative, with first response emergency personnel, mutual aid providers and other emergency services if construction requires the following:

- The deactivation and subsequent reactivation of water lines or fire hydrants, or
- The re-routing, blocking and restoration of emergency access routes, or
- The use of hazardous materials on the airfield.

Procedures and methods for addressing any planned or emergency response actions on the airfield concerning this project shall be established and implemented prior to the start of construction.

f. Notification to the FAA.

i. Part 77. Any person proposing construction or alteration of objects that affect navigable airspace, as defined in Part 77, must notify the FAA. This includes construction equipment and proposed parking areas for this equipment (i.e. cranes, graders, other equipment) on airports. FAA Form 7460-1, Notice of Proposed Construction or Alteration, is used for this purpose and submitted to the appropriated FAA Airports Regional or District Office. A 7460-1 form for this project has been completed and submitted by the Airport Owner for using equipment with a maximum height of x feet. A new 7460-1 form must be submitted to the FAA for review and comment for any equipment which the Contractor will use which is taller than the equipment used in the above 7460-1 submission. The Owner will be responsible for submitting the new 7460-1 form to the FAA. To that end, the Contractor shall identify the equipment in his SPCD ,including the maximum height it will

extended to during construction, the area(s) in which the equipment will be used, and the duration the equipment will be used

ii. **Part 157.** It is not anticipated that Part 157 notifications will be required for this project.

iii. **NAVAIDS.** For emergency (short-notice) notification about impacts to both airport owned and FAA owned NAVAIDs, contact: 866-432-2622.

3.10 INSPECTION REQUIREMENTS.

a. Daily (or more frequent) inspections. Inspections shall be conducted by the Contractor at least daily, but more frequently if necessary, to ensure conformance with the CSPP. A sample checklist is provided in Appendix 2 of this document. In addition to Contractor's required inspections, airport operations will inspect the construction site three (3) times a day to ensure compliance with the CSPP and the SPCD. The Owner's Representative will have full-time inspectors monitoring activity throughout construction. Promptly take all actions necessary to prevent or remedy any unsafe or potentially unsafe conditions as soon as they are discovered.

b. Final inspections. A final inspection with the Owner's Representative, Airport and Contractor will take place prior to allowing airport operations.

3.11 UNDERGROUND UTILITIES.

Special attention shall be given to preventing unscheduled interruption of utility services and facilities. Where required due to construction purposes, the FAA shall locate all of their underground cables. The Contractor shall locate and/or arrange for the location of all the underground cables. When an underground cable is damaged due to the Contractor's negligence the Contractor shall immediately repair the cable affected at his/her own expense. Full coordination between airport staff, field inspectors, and construction personnel will be exercised to ensure that all airport power and control cables are fully protected prior to any excavation. Locations of cabling will be marked prior to beginning excavation.

Prior to opening an excavation, effort shall be made to determine whether underground installation: i.e., sewer, water, fuel, electric lines, etc., will be encountered, and if so, where such underground installations are located. When the excavation approaches the approximate locations of such an installation, the exact locations shall be determined by careful hand probing or hand digging, and/or use of a vacuum truck, and when it is uncovered, adequate protection shall be provided for the existing installation. All known owners of underground facilities in the area concerned shall be advised of proposed work at least 48 hours prior to the start of actual excavation.

The information concerning underground utilities was compiled from information and sketches furnished by or obtained from utility companies and the Airport. The Owner and the Engineer do not guarantee their accuracy. The Contractor is advised to determine the exact locations from the available sources of information or provide his own means of detection. The only case in which the Engineer will consider redesign or relocation of a proposed facility in the project is when an existing utility is located within the construction limits. In this case, the Engineer will work with the Airport Owner to determine the appropriate action to resolve the conflict. If such relocation is impossible, the Engineer will consider re-design or relocation of the proposed facilities. In both cases, Contractor shall be responsible for all underground utilities and shall not be separately compensated for delays or extra cost.

Note that services do not include locating FAA and Owner facilities.

3.12 PENALTIES.

Failure on the part of the contractor to adhere to prescribed requirements may have consequences that jeopardize the health, safety or lives of customers and employees at the airport. The Airport may issue warnings on the first offense based upon the circumstances of the incident. Individuals involved in non-compliance violations may be required to surrender their Airport ID badges and/or be prohibited from working at the airport, pending an investigation of the matter.

Penalties for violations related to airport safety and security procedures will be established by the Airport.

Note: project shutdown or misdemeanor citations may be issued on a first offense. When construction operations are suspended, activity shall not resume until all deficiencies are rectified.

3.13 SPECIAL CONDITIONS.

In the event of an aircraft emergency, the Contractor's personnel and/or equipment may be required to immediately vacate the area. The Contractor will receive notification from airport operations when special conditions require the construction site to be vacated. In any event, extreme care should be exercised should construction personnel identify any emergency or rescue vehicle moving toward the Runway with emergency lights displayed. This will generally mean that an emergency situation is imminent.

Special conditions that could require suspension of the construction work include the following: aircraft in distress, aircraft accident, security breach, VIP operation, vehicle/pedestrian deviation, severe weather, or failing to abide by this Construction Safety and Phasing Plan and/or the Safety Plan Compliance Document.

3.14 RUNWAY AND TAXIWAY VISUAL AIDS.

This topic includes marking, lighting, signs, and visual NAVAIDs. Those areas where aircraft will be operating shall be clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, the Contractor shall inspect and verify that these areas remain clearly marked and visible at all times and that marking, lighting, signs and visual NAVAIDs remain in place and operational.

a. General. Airport markings, lighting, signs, and visual NAVAIDs must be clearly visible to pilots, not misleading, confusing, or deceptive. All must be secured in place to prevent movement by prop wash, jet blast, wing vortices, or other wind currents and constructed of materials that would minimize damage to an aircraft in the event of inadvertent contact.

b. Markings. Markings must be in compliance with the standards of AC 150/5340-1, Standards for Airport Markings, current edition, and the drawings and technical specifications of this project.

c. Lighting and visual NAVAIDs. All taxiway edge lights in those sections of taxiways closed to aircraft traffic will be either de-energized or blacked out by use of an appropriately cut length of PVC pipe.

d. Signs. Signs must be in conformance with AC 150/5345-44, Specification for Runway and Taxiway Signs and AC 150/5340-18, Standard for Airport Sign Systems, current edition. Airfield signage will be installed and/or replaced along impacted taxiways and taxilanes.

e. Maintenance of Airport Lighting. All existing airfield lighting circuits shall be maintained in full operation throughout the period of this Contract. Where disconnections are required, such work shall be scheduled at such times and in such a manner as approved by the Owner. The Contractor is required to

allow the full use of airfield lighting circuits in open movement areas during night operations and during periods of low visibility. The Contractor shall provide such temporary lights and cables as required to maintain full use of existing airfield lighting circuits. Temporary above ground lighting cables, if approved, shall be delineated with stakes and flagging at the direction of the Engineer.

All circuits in the vicinity of the work area shall be tested prior to, during and after construction. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits as specified below. The Contractor shall perform all tests in the presence of the Engineer. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the Engineer. All costs for testing are incidental and shall be at the sole expense of the Contractor. For phased projects, the tests must be completed by phase and results meeting the specifications below must be maintained by the Contractor throughout the entire project as well as during the ensuing warranty period.

Earth resistance testing methods shall be submitted to the Engineer for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the Engineer. All such testing shall be at the sole expense of the Contractor.

Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The Engineer shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

The test equipment for insulation resistance shall be an insulation resistance tester (1,000V megger) with a digital readout. The instrument shall provide a 500 volt test for insulation resistance with a meter range of 0 to 500 megohms. The Contractor shall test, demonstrate and record to the satisfaction of the Engineer the following:

a. Test Requirements Prior to Construction.

   (1) Test all circuits within the work area for continuity and insulation resistance to ground, at the electrical building, in the presence of the Engineer and the Owner.

   (2) Provide a copy of the test results to the Engineer and the Owner.

   (3) Check that all circuits are properly connected in accordance with applicable wiring diagrams.

b. Test Requirements During Construction. Circuit testing during construction shall be as directed and witnessed by the Engineer when the Contractor is working on existing circuitry or excavating adjacent to or near existing circuitry. Circuit testing during construction will not be required during the times when the Contractor's operations do not effect existing airfield lighting circuitry. It is the intent of this section to ensure that airfield lighting circuitry remains operational throughout the duration of the Contract.

   (1) Test all circuits within the work area for continuity and insulation resistance to ground at the electrical building, prior to energizing any circuit.

   (2) Insure that all circuits within the work area are operational, prior to the Contractor leaving the project at the end of the work day. Specific times for circuit checks will be determined by the Engineer relative to the Contractor's work hours each day.

(3) Segment test new non-grounded series circuits during installation. Length of cable segment tested shall not have more than five (5) splices, light units and/or electrical equipment between the ends being tested. Insulation resistance to ground shall be not less than 500 megohms.

(4) Insure that the insulation resistance to ground of each segment of new non-grounded conductors of multiple conductor circuits is not less than 500 megohms.

(5) That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes or equipment. The fall-of-potential ground impedance test shall be utilized, as described by ANSI/IEEE Standard 81, to verify this requirement. Ground rods testing higher than 25 ohms shall have a minimum extension of two feet of ground rod added, driven to the proper elevation and re-tested. Extensions shall be attached by exothermic methods and re-testing performed until the tests show 25 ohms resistance or less. Tests shall not be performed within 72 hours after a rain storm has ended or when standing water is present around the ground rod.

(6) Insure that all circuits are properly connected in accordance with applicable wiring diagrams.

(7) The Contractor shall test all circuits within the work area for continuity after backfilling cable trenches. The reading shall be logged and provided to the Engineer prior to payment of cable items.

(8) Provide a copy of all test results to Engineer and Owner on a daily basis.

c. Test Requirements at the Completion of the Project. The Contractor shall test and demonstrate to the satisfaction of the Engineer the following:

(1) Test all circuits within the work area for continuity and insulation resistance to ground, at the electrical building, in the presence of the Engineer and the Owner.

(2) That all original lighting power and control circuits are continuous and insulation resistance to ground is not lower than before construction.

(3) That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

(4) That all affected circuits (existing and new) are free from unspecified grounds.

(5) That the insulation resistance to ground of all new non-grounded series circuits or cable segments is not less than 50 megohms.

(6) That the insulation resistance to ground of all non-grounded conductors of new multiple circuits or circuit segments is not less than 50 megohms.

(7) That all affected circuits (existing and new) are properly connected in accordance with applicable wiring diagrams.

(8) That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

The Contractor shall be responsible for maintaining an insulation resistance of 50 megohms minimum, with isolation transformers connected, in new circuits and new segments of existing circuits through the end of the contract warranty period.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the Engineer. Where connecting new cable to existing cable, ground resistance tests shall be performed on the new cable prior to connection to the existing circuit.

3.15 MARKING AND SIGNS FOR ACCESS ROUTES.

Location of haul routes on the airport site shall be as specified in the project drawing set and as provided graphically in the attached exhibits, reference Appendix 1. It shall be the Contractor's responsibility to coordinate off-site haul routes with the appropriate owner who has jurisdiction over the affected route. The haul routes, to the extent possible, shall be marked and signed in accordance with FAA airfield signage requirements, the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or state highway specifications, as applicable.

3.16 HAZARD MARKING AND LIGHTING.

a. Purpose. Hazard marking and lighting prevents pilots from entering areas closed to aircraft, and prevents construction personnel from entering areas open to aircraft. To that end, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles shall be installed and maintained by the Contractor for the duration of construction operations.

b. Equipment. Low Profile Barricades of the type detailed in the project drawings with red omnidirectional flashing lights shall be placed outside the safety area of intersecting taxiways at the edge of the closed airfield surfaces and the project work limits. Layout locations for this equipment are as shown on the Construction Work Phasing Drawings and attached exhibits, reference Appendix 1.

Plastic Drum Type Barricades of the type detailed in the project drawings with omnidirectional flashing lights shall be placed. Layout locations for this equipment are as shown on the Construction Work Phasing Drawings and attached exhibits, reference Appendix 1.

The Contractor shall have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The Contractor must file the contact person's information with the airport owner. Lighting should be checked for proper operation at least once per day, preferably at dusk.

3.17 PROTECTION OF AIRFIELD AREAS.

Safety area encroachments, improper ground vehicle operations and unmarked or uncovered holes and trenches in the vicinity of aircraft operation surfaces and construction areas are the three most recurring threats to safety during construction. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces shall be a standing requirement for the duration of construction operations.

a. Runway Safety Area (RSA). A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway by aircraft.

Runway	Aircraft Design Group	RSA Distance from Centerline RSA	Holdline	RSA Width	RSA Length from End of Runway
18-36	C-II	250 ft.	250 ft.	500 ft.	1000 ft.
8-26	B-I	60 ft	60 ft	120 ft	240 ft

No construction may occur within the existing RSA while the runway is open. Any construction between RSA and Holdline must be approved with Airport Operations prior to starting work.

The airport owner must coordinate any adjustment of RSA dimensions, to meet the above requirement, with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.

Open trenches or excavations are not permitted within the RSA while the runway is open. The Contractor must backfill trenches before the runway is opened. Coverings are not allowed in runway safety areas. There shall be no stockpiled materials or equipment stored within the limits of the RSA.

After the Runway has been closed, Contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport owner, and light them with red lights during hours of restricted visibility or darkness.

Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

b. Runway Object Free Area (ROFA). Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA if not necessary. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval.

Runway	Aircraft Design Group	ROFA Distance from Centerline	ROFA Width	ROFA Length from End of Runway
18-36	C-II	400 ft	800 ft.	100 ft.
8-26	B-I	200 ft	400 ft	240 ft

c. Taxiway Safety Area (TSA). The taxiway safety area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. No construction may occur within the TSA while the taxiway is open for aircraft operations.

Taxiway	Aircraft Design Group	TSA Distance from Centerline	TSA Width
All	C-II	39.5 ft.	79 ft.

Open trenches or excavations are not permitted within the TSA while the taxiway is open. The Contractor must backfill trenches before the taxiway is opened. Coverings are not allowed in taxiway safety areas.

The airport owner must coordinate any adjustment of TSA dimensions, to meet the above requirement, with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.

After the Taxiway has been closed, Contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport owner, and light them with red lights during hours of restricted visibility or darkness.

Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

d. Taxiway Object Free Area (TOFA). Unlike the Runway Object Free Area, aircraft wings regularly penetrate the taxiway/taxilane object free area during normal operations. Thus the restrictions are more stringent. No construction equipment may be parked within the TOFA while the taxiway/taxilane is open for aircraft operations.

Construction activity may be accomplished without adjusting the width of the taxiway object free area, subject to the following restrictions:

(i) Appropriate NOTAMs are issued.

(ii) Marking and lighting meeting the provisions above are implemented.

(iii) Five-foot clearance is maintained between equipment and materials and any part of an aircraft (includes wingtip overhang). In these situations, flaggers must be used to direct construction equipment, and wing walkers will be necessary to guide aircraft. Wing walkers should be airline/aviation personnel rather than construction workers. If such clearance can only be maintained if an aircraft does not have full use of the entire taxiway width (with its main landing gear at the edge of the pavement), then it will be necessary to move personnel and equipment for the passage of that aircraft.

Taxiway	Aircraft Design Group	TOFA Distance from Centerline	TOFA Width
All	C-II	65.5 ft.	131 ft.

Taxilane	Aircraft Design Group	TLOFA Distance from Centerline	TLOFA Width
All	C-II	57.5 ft.	115 ft.

e. Obstacle Free Zone (OFZ). Construction personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. The OFZ is a defined volume of airspace centered about and above the runway centerline.

f. Runway approach/departure surfaces. All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

Construction activity in a runway approach/departure area may result in the need to partially close a runway or displace the existing runway threshold. Partial runway closure, displacement of the runway threshold, as well as closure of the complete runway and other portions of the movement area also require coordination through the airport owner with the appropriate FAA air traffic manager (FSS if non-towered) and ATO/Technical Operations (for affected NAVAIDS) and airport users.

Runway End	Aircraft Approach Category	Airplane Design Group	Minimum Safety Area Behind Threshold	Minimum Unobstructed Approach Slope
18	C	II	500	34:1 to 200 feet behind threshold
36	C	II	500	20:1 to 200 feet behind threshold
8, 26	C	II	500	34:1 to 200 feet behind threshold 20:1 to threshold

3.18 OTHER LIMITATIONS ON CONSTRUCTION.

A. Prohibitions. The following prohibitions are in effect for the duration of this project:

1. No use of tall equipment (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.
2. No use of open flame welding or torches unless fire safety precautions are provided and the airport owner has approved their use.
3. No use of electrical blasting caps or explosives of any kind on or within 1,000 ft (300 m) of the airport property.
4. No use of flare pots within the AOA.

B. Restrictions.

i. Construction suspension required during specific airport operations – Not Applicable
ii. Areas that cannot be worked on simultaneously – Not Applicable
iii. Day or night construction restrictions – Not Applicable

Equipment for nighttime lighting of construction areas shall be sufficient to adequately illuminate the work area in order to ensure quality construction. The lights shall be positioned to provide the most natural color illumination and contrast with a minimum of shadows. Lighting pavements from both sides is considered preferable as lighting from only one side can result in objectionable shadows. Light towers shall be positioned and adjusted to aim away from ATCT cabs, active runways, and active taxiways to prevent blinding effects. The Contractor shall prepare a plan showing the locations, heights and aiming points of light towers for review by the Owner, Engineer and ATCT personnel. The final location and aiming of light towers shall be determined by trial, therefore, the Contractor must be aware that several attempts at locations and aiming angles may be necessary before the light towers can be operational. Light towers shall be removed from the construction site prior to opening the pavement to aircraft operations.

It is recommended that all equipment, except haul trucks, be equipped with artificial illumination to safely illuminate the area immediately surrounding their location.

Unless provided for elsewhere, the cost of nighttime lighting of construction areas shall be considered a subsidiary and incidental part of construction and as such, the Contractor shall include all costs associated with nighttime lighting of construction areas in the various pay items of work involved.

Where work on this Contract is not scheduled for night work and the Contractor requests and receives permission to work at night, there will be no additional compensation allowed for the extra costs associated with night work.

iv. Seasonal Construction Restrictions – Not Applicable

APPENDIX 1

LOCATION MAP
(Sheet G-001 of the Contract Drawings)

GENERAL PLAN
(Sheet G-101 of the Contract Drawings)

CONSTRUCTION WORK PHASING DRAWINGS
(Sheets G-102 and G-103 of the Contract Drawings)

WORK PHASING DETAILS
(Sheet G-102 of the Contract Drawings)