



Raleigh-Durham Airport Authority

Raleigh-Durham International Airport

Request for Qualifications

On Call Architectural & Building Engineering Services

October 27, 2025



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NOTICE TO POTENTIAL RESPONDENTS

Raleigh-Durham Airport Authority Request for Qualifications On Call Architectural & Building Engineering Services

This Request for Qualifications (the “RFQ”) and any addenda thereto are available only on-line at:

<https://www.rdu.com/do-business-with-rdu/business-opportunities/>

The Raleigh-Durham Airport Authority (Authority) invites firms and full-service teams that may be interested in providing architectural, building engineering, and other related professional support services to the Authority in connection with the new construction, repair, renovation, and maintenance of various building facilities at Raleigh-Durham International Airport (RDU or Airport) to submit proposals for furnishing such services.

The Authority intends to select and retain multiple prime consultants, either individually or as part of a team, to provide multi-discipline architectural, engineering, and other related professional services, which may include building condition assessments, facility investigations, planning, programming, design, bidding, construction administration, commissioning, and project representation services related to managing and administering the provision of all other subconsultant services required for the new construction, repair, renovation, and maintenance of various building facilities at the Airport.

The firms/teams selected for this assignment will have recent, similar experience on projects of comparable scope and scale to the Authority’s projects, and have the necessary depth and breadth of experience appropriate for the engagement.

The Authority and each selected prime firm/team will enter into a Standard Form of Master Agreement (the “Agreement”) for provisions of the services as described herein. The draft form of Agreement is attached hereto. The Agreement shall be for a five (5) year term.

The Authority anticipates that State and Federal funding may be used for various projects in the engagement and the selection process is designed to follow the requirements of Federal Aviation Administration Advisory Circular 150/5100-14E, Change 1. In addition, the following resources may be used to ensure compliance with State funding:

- FAA AC 150/5100-14E, Change 1 *Architectural, Engineering, and Planning Services for Airport Grant Projects*
- NCGS 143-64.31 *Mini Brooks Act*
- 48 CFR Part 31 *Contract Cost Principals and Procedures*
- Title 2 CFR Part 200 *Procurement and Contracting Under AIP Airports*
- FAA Order 5100.38D *AIP Handbook*
- North Carolina Airports Program Guidance Handbook

It is desirable, although not required, that the Respondent has Federal and State aviation project experience from project initiation through close-out. Funding requirements for specific projects may require additions or revisions to the Agreement.

It is the policy of the Raleigh-Durham Airport Authority (the “Authority”) that the Authority should aid, counsel, and assist, insofar as is possible and practical, small-business concerns in order to provide access to opportunities to contract with the Authority. Accordingly, with the aim of preserving free competitive enterprise, the Authority has determined that it is necessary to establish and maintain a Small Business Program (Program or SB Program) to support a fair proportion of purchases and contracts or subcontracts be placed with small businesses. The Authority’s SB Program is supplemented by its Disadvantaged Business Enterprise Program (the “DBE Program”), which applies to federally funded projects as required by 49 C.F.R. Part 26.

The Authority’s SB Program is set forth in the Small Business Participation Requirements Exhibit, which is included herewith. The Authority’s DBE Program is set forth in its DBE Program Document, which is available at <https://www.rdu.com/do-business-with-rdu/small-businesses/>, and which is incorporated by reference as if set forth fully herein. The Consultant shall fully comply with all applicable provisions of the Authority’s SB and DBE Programs.

The Authority awards contracts without regard to race, religion, color, creed, national origin, gender, age or handicapping condition. The Authority’s contracts are subject to the requirements of North Carolina law, and this contract will be awarded in accord therewith.

The SB/DBE Goals for SB/DBE participation on this contract represent the total dollars that will be spent with SBs/DBEs as a percentage of the total contract amount, including any task orders and amendments. In accordance with the SB and DBE Programs, the Authority will require that the selected firm must either meet the SB or DBE goals or demonstrate that the firm has made sufficient good faith efforts to meet the SB or DBE goals.

For more information regarding the SB and DBE Program requirements, see the SB and DBE Program Requirements document and form contract documents attached hereto, as well as the Authority’s SB AND DBE Program Information for Qualifications-Based Solicitations for On-Call Construction related Professional Service referenced above.

An **SB/DBE Workshop and Pre-Submittal Conference** is scheduled for **November 10, 2025, at 2:00 PM local time**, located in Conference Room 100 of the Authority’s Administration Building, RDU Center, 1000 Trade Drive, RDU Airport, NC.

RALEIGH DURHAM AIRPORT AUTHORITY
EQUAL OPPORTUNITY EMPLOYER

MICHAEL LANDGUTH
PRESIDENT & CEO

REQUEST FOR QUALIFICATIONS

Particulars

This engagement involves the provision of professional architectural, building engineering, project-related planning, and other related services associated with condition assessments and subsequent implementation (planning, design and construction) of new construction, improvements, renovations, or repairs as directed by the Authority for the various building facilities throughout the airport campus.

There are approximately 35 buildings with a total area of $\approx 700,000$ square feet (SF) of space as well as two terminal building facilities (Terminal 1 $\approx 180,000$ SF and Terminal 2 $\approx 1M$ SF). The buildings and terminal facilities are of varying ages and conditions.

The scope of services will include building condition assessments in various combinations of the Authority's buildings, which will be used to program near and long-term improvements. The scope of services will include assisting Authority staff with reviews and evaluations of airport tenant improvement plans to include quality assurance, building code compliance, and compliance with the Authority's design standards for interior and exterior space, and signage as necessary.

Additionally, the following list includes anticipated projects that the Authority might include in the scope of the work. The Authority reserves the right to assign projects to a team or individual consultants, with priority and timing determined by the Authority and also retains the right, in the Authority's sole discretion, to remove any or all of the projects from the engagement, or add projects similar in scope to the list defined below.

- Maintenance building and other Authority facilities HVAC system replacements
- Terminal 2 Assessments and Upgrades
- Terminal 2 Flooring Replacement
- South Cargo 3 and various other building roof replacements
- Office Building Expansion and/or Upfits
- Central receiving facility development and/or renovation
- Terminal Concessions Program
- Various Building Maintenance & Improvements for Campus Buildings
- Replacement of building management systems
- Snow removal equipment storage building
- Terminal 2 Central Energy Plant improvements
- Building and Equipment Commissioning
- Assessment and/or replacement of various chillers and generators
- Replacements of passenger boarding bridges, pre-conditioned air and ground power units
- Building Envelope Studies
- Campus Wide Building Conditions Assessments
- Building fire alarm system evaluations and replacements

The Authority anticipates awarding one or more master consultant services agreements associated with the following “On-Call Packages”:

1. **Full-Service A/E Team(s):** The Authority anticipates selecting one or more full-service, multi-discipline, architect and engineering teams to complete the variety of projects noted herein. The Authority will enter into the master consulting services agreement with the prime firm only.
2. **Mechanical Engineering Team:** The Authority anticipates selecting one or more mechanical engineering led teams to complete a variety of projects noted herein. The Authority will enter into the master consulting services agreement with the prime mechanical engineering firm only.
3. **Electrical Engineering Team:** The Authority anticipates selecting one or more electrical engineering led teams to complete a variety of projects noted herein. The Authority will enter into the master consulting services agreement with the prime electrical engineering firm only.
4. **Structural Engineering Team:** The Authority anticipates selecting one or more structural engineering led teams to complete a variety of projects noted herein. The Authority will enter into the master consulting services agreement with the prime structural engineering firm only.

Scope of Services

The prime firm(s) and their subconsultant teams (if applicable) proposed for the engagement will have expertise in new construction, repair, renovation, maintenance, and design of airport building facilities including project specific planning, architecture, structural, mechanical, electrical, plumbing, fire protection systems, aircraft and terminal building support systems, baggage handling systems, building and fire code compliance, information technology and communication systems, wayfinding and signage, flight/baggage information display systems, security systems, and vertical and horizontal passenger transportation devices, LEED planning and commissioning, as well as other disciplines normally associated with the new construction, repair, renovation, and maintenance of various building facilities.

The specific areas of consultant expertise required for this engagement include, but are not limited to, the following:

- Architectural space planning, programming and design services (interior and exterior)
- Structural engineering (buildings, foundations, roofs, hangars, etc.)
- Mechanical, electrical and plumbing (MEP) engineering
- Heating, ventilation and air conditioning (HVAC) engineering
- Fire protection engineering
- Interior and exterior lighting consulting
- Building management systems consulting
- Horizontal and vertical circulation and passenger load modeling
- Horizontal and vertical conveyance systems consulting (elevators, escalators, power

- walks, etc.)
- Secured area access control systems (SAACS) and CCTV consulting
- IS and TSA security modeling and consulting (end point security, information and event management, event correlation, queue lanes, exit lanes, exit lane monitoring and control systems, etc.)
- Information technology/communication systems/network consulting (paging, AOIS, FIDS, BIDS, premises network systems, IP telephony, Unified communications, SIP, WiFi, DAS, AODP, CUTE, CUSS, CUPPS, etc.)
- Passenger boarding bridges and aircraft systems consulting and design
- Audio/Video design consulting
- Baggage handling systems consulting
- Aircraft circulation modeling and layout consulting
- Energy evaluations and improvements consulting
- LEED and sustainability consulting
- National and local code compliance consulting (building, hangar, fire, electric, etc.)
- Interior and exterior signage and wayfinding

Prime firms and their subconsultants (if applicable) shall have the capability to provide drawings in both CAD and BIM formats.

Solicitation Schedule *(all dates subject to change)*

SB/DBE Workshop & Pre-Submittal Conference:	2:00 PM, November 10, 2025
Deadline for Submitting Questions:	4:00 PM, December 2, 2025
Response to Questions Addendum	4:00 PM, December 22, 2025
Submission of SOQs:	2:00 PM, January 19, 2026
Consultant Selection Interviews:	March 2026
Recommendation to Authority CEO:	April 2026
Award Services Agreements:	April 2026

Submission Requirements

Each firm/team desiring to respond to this solicitation shall submit to the Authority an SOQ demonstrating the firm or team's ability to provide the requested services to the Authority. SOQs shall be composed so as to relate to the type of services requested in this solicitation.

Submit one (1) original hard paper copy and one (1) electronic copy (in pdf format on a flash or thumb drive) of the SOQ. Printed SOQs shall be bound and in 8-1/2-inch by 11-inch format with information organized as indicated hereinafter. SOQs shall be limited to one hundred (100) 8½" x 11" pages (50 pages if printed front and back), not including cover, table of contents, and resumes (11" x 17" Z-fold pages may be used when necessary and will count as two pages). SOQs shall be written in Times News Roman in 12-point font size. The information contained in the SOQs shall be organized as indicated hereinafter. Submissions that do not meet these requirements may be rejected as non-responsive.

The exterior of each SOQ package should be clearly identified as **“SOQ for Architectural & Building Engineering Services”**.

SOQs shall be transmitted so as to be received by the Authority not later than **2:00 p.m. local time on January 19, 2026**. SOQs received after this time will be returned unopened to the Respondent.

Address SOQs to:

UPS or Hand-Delivery Only	All Shippers Other Than UPS
Raleigh-Durham Airport Authority Attn: Ms. Cheri Baxter, Sr. Contracts Admin. Project Controls 1000 Trade Drive Raleigh-Durham International Airport Morrisville, NC 27560	Raleigh-Durham Airport Authority Attn: Ms. Cheri Baxter, Sr. Contracts Admin., Project Controls 1000 Trade Drive, P.O. Box 80001 Raleigh-Durham International Airport Raleigh, NC 27623

Include the following information in each SOQ:

- Section 1.** A concise letter of interest. In the letter, indicate interest in providing the services requested in this solicitation, name the proposing firm and proposed subconsultants (if applicable), and indicate the name, address, telephone number, and email address of the designated contact for the Respondent (The “Respondent” is the firm that, if selected, will enter into contract with the Authority). **The letter of interest should also clearly indicate which On-Call Package the Respondent is interested in pursuing.** A Respondent can pursue one or more of the proposed On-Call Packages.
- Section 2.** A description in narrative form of the Respondent’s firm and/or team including names of proposed subconsultants (if applicable), locations (city and state) of offices where primary work elements will be performed, and names of persons who will be assigned key responsibilities including their office location and a brief description of their responsibilities. Identify the individual who will serve as the Respondent’s project manager and their office location. The project manager is the individual that will be involved on a daily basis in the services to be provided for the services (as opposed to an administrative or managing associate of the firm) and will be the Respondent’s primary contact and liaison with Authority staff during for the services, and will so be identified in the agreement with the Authority. Also, include a graphical representation in an organizational chart form indicating the structure of the Respondent’s team.
- Section 3.** A brief history of the Respondent and each proposed subconsultant(if applicable) and general description of services provided by the Respondent and each proposed subconsultant (if applicable). Separate histories and descriptions of services may be provided for each firm on the team. For the Respondent and each proposed subconsultant (if applicable), include SB/DBE status concerning all qualified SB/DBE firms and any firms who may be seeking SB/DBE status at the time of submission of the SOQ.

- Section 4.** Resumes and concise descriptions of the work experience of key personnel (as indicated in Section 2). The resumes and descriptions should provide specific information regarding qualifications, experience, and office location as they relate to the type of work for which services are requested in this solicitation. Provide detailed relevant work experience for the proposed Project Manager.
- Section 5.** A listing of a minimum of five (5) example projects or engagements that demonstrate relevant experience for the services requested in this solicitation. The projects or engagements listed should have had significant involvement by key personnel indicated in Section 2. Submit separate lists for the Respondent and each proposed subconsultant (if applicable). For each project or engagement listed include a brief description of the project or engagement, the name and address of the owner (or client), the name and telephone number of an owner's representative familiar with the firm's performance on the project or engagement, the scope of services provided by the firm, the firm's role in the project or engagement such as prime consultant, subconsultant, etc., the names of key personnel responsible for the services, the cost of work for which the firm was responsible, the project or engagement's status such as year completed or estimated completion date, and a description of special considerations, unusual assignment elements, or challenges presented by the project or engagement.
- Section 6.** A concise description of the Respondent's perception of an approach to providing services to the Authority for this engagement. In this section, Respondents should focus on demonstrating their overall knowledge of airport facility design, and construction as it relates to the Authority's sample projects. Additionally, in this section Respondents may include commentary regarding the scope of services requested through this solicitation, modifications, or enhancements to the scope of services which the Authority may wish to consider or any other specific matters relevant to this engagement.
- Section 7.** A narrative describing the Respondent's understanding of the SB/DBE Program requirements and describing the Respondent's plan to meet or exceed the SB/DBE Goals or demonstrate a good faith effort to meet the SB Goals, as described in the SB AND DBE PROGRAM REQUIREMENTS, On-Call Consultants Providing Construction-Related Professional Services attached hereto.
- Section 8.** Conveyance of the Respondent's experience in applying sustainability and resiliency measures in infrastructure related to this solicitation. Indicate how that experience would benefit the Authority in terms of instilling sustainability measures in construction processes, constructing new or rehabilitating existing infrastructure with improved resilience and dependability, and how future operational and maintenance costs may be minimized.
- Section 9.** A statement by the Respondent and team members to indicate acceptance of the terms and conditions of the Master Agreement attached to this RFQ, including all requirements referenced in the Master Consulting Services Agreement Exhibits 1 through 5.

SF 330 Form

If requested by the Authority, following the date of submission, the Respondent shall provide SF (Standard Form) 330 or equivalent form. Describe current and historical annual volume of total work and airport-related work performed; current and past names of firm; date and state of incorporation or organization.

Insurance requirements related to this engagement may be reviewed as Exhibit 2 of the Master Agreement, attached hereto.

No Lobbying

It is inappropriate for any firm competing for this professional services Agreement, including their agents and potential subconsultants, to communicate with and/or lobby Authority Board members or staff (except as otherwise provided herein) during the entire selection process, from the date the solicitation is issued through the date on which the Authority acts on the staff recommendation regarding the selected firm(s). Accordingly, potential Respondents (including subconsultants) interested in this engagement are instructed not to conduct activities of any nature that may be perceived as attempts to promote themselves or influence the outcome of the selection process. Respondent firms and their subconsultants (if applicable) will be disqualified from participating in the selection process if found to be in violation of this requirement.

Opportunities

The Authority is interested in maximizing the opportunities for firms to compete for roles in the subject services Agreement and to submit SOQs offering the highest qualified teams. Accordingly, the Authority discourages firms interested in being selected for this engagement from entering into formal or informal agreements that limit subcontracting opportunities by other firms or result in exclusive subcontracting arrangements with other firms.

Selection Process

Upon receiving submissions by firms desiring to be considered by the Authority for provision of services, the Authority's staff will begin reviewing the SOQs. During this process, questions and/or requests for clarification or provision of supplemental information may be directed to Respondents as necessary. The objective of the staff evaluation will be to thoroughly evaluate the qualifications and capabilities of each Respondent.

Based on evaluation of the submissions, Authority staff **may** select a limited number of firms for further consideration and conduct interviews with those selected firms. The Authority may also select directly from written submissions.

Authority staff will recommend a final selection to the President & CEO based on the results of the review of SOQs, client reference checks, and interviews (if necessary).

Selection Criteria

Selection criteria include, but are not necessarily limited to, the following:

- Responsiveness of the SOQ to the Submission Requirements in this solicitation. (5 points)
- Depth and breadth of experience of the Respondent and proposed subconsultants on other projects or engagements which are similar in nature, including those that include initiatives in the scope of sustainability and/or resiliency. (25 points)
- Qualifications and experience of the proposed Project Manager and other key personnel. (25 points)
- Level of satisfaction expressed by Authority staff and other clients with the proposed personnel, the proposing firm, and proposed subconsultants. (15 points)
- Perception of and approach to the engagement. (10 points)
- Historical efforts to achieve SB/DBE participation in existing contractual obligations with the Authority, and efforts to include SB/DBE Participation in this new professional service engagement. (10 points)
- Ability to provide responsive services to the Authority. (10 points)

General Information

- The Authority reserves the right to proceed or not proceed with this solicitation or any part thereof.
- The Authority shall not be responsible in any manner for any cost or expenses associated with the preparation or submission of SOQs or preparation for or participating in interviews.
- Upon receipt by the Authority, the SOQs submitted, including any and all attachments to the SOQs, shall become the property of the Authority.
- The Authority shall have the right to copy, reproduce, or otherwise dispose of each SOQ received.
- The Authority shall be free to use as its own, without payment of any kind or liability thereof, any idea, scheme, technique, suggestion, layout, or plan received during the selection process.
- The Authority shall reserve the right to approve all proposed subconsultants, modify roles of proposed subconsultants, and/or require additional subconsultants.
- The Authority's Form of Agreement will be used for services requested through this solicitation.
- The Authority shall become the legal owner of all documents prepared by the selected firm(s) under the terms of the Agreement; however, this ownership will not extend to proprietary information or other data in the selected firm's lawful possession prior to execution of the agreement.

Questions and Inquiries Regarding the Project, the Selection Process, this Solicitation, and any Related Matters

Direct questions and inquiries regarding the proposed engagement, the selection process, this solicitation, or any related matters to **Cheri Baxter at cheri.baxter@rdu.com**. **Include “Question: RFQ-A/E Firms” in the subject line of the email.** Authority staff will not meet individually with potential Respondents or potential subconsultants to discuss the engagement, the selection process, or this solicitation.

Note: Depending on the funding source for each awarded project or task order, the contract may be revised to replace the Small Business Program requirements with the Federal Disadvantaged Business Enterprise Program requirements.

Direct questions and inquiries regarding SB/DBE matters including the process for qualifying as a SB/DBE, current listings of certified SB/DBE firms, and other SB/DBE-related matters, to the Authority’s Director of Small Business Programs, Ms. Thiané Carter, at thiane.carter@rdu.com.

End of Request for Qualifications

**SMALL BUSINESS AND DISADVANTAGED BUSINESS ENTERPRISE PROGRAM
INFORMATION FOR QUALIFICATIONS-BASED SOLICITATIONS FOR
ON-CALL PROFESSIONAL SERVICES**

The Authority's SB Program is fully set forth in the Small Business Participation Requirements Exhibit, which is included herewith. The Authority's DBE Program is fully set forth in its DBE Program Document, which is available at <https://www.rdu.com/do-business-with-rdu/small-businesses/>, and which is incorporated by reference as if set forth fully herein. The Consultant shall fully comply with all applicable provisions of the Authority's SB and DBE Programs. Key requirements applicable to this contract are set forth below.

1. Definitions. As used herein, the following terms have the following meanings.

- a. The term **"Small Business"** or **"SB"** refers to firms certified in accordance with the Authority's Small Business Program
- b. The term **"DBE"** refers to a small business concern meeting the requirements as defined 49 C.F.R. § 26.5.
- c. The term **"RFQ"** means the request for qualifications or other similar solicitation document with which this document is published.
- d. The term **"Contract"** means the contract for which the Authority is seeking proposals, statements of qualifications, or similar responsive documents through an RFQ.
- e. The term **"Respondent"** refers to any entity who responds to a request for proposals, request for qualifications, invitation for bids, or other similar solicitation document.
- f. The term **"SOQ"** refers to the statement of qualifications, proposal, or similar responsive document submitted by a Respondent.

2. Compliance with SB and DBE Programs. By responding to the RFQ, the Respondent agrees that SBs or DBEs (as applicable for the solicitation at issue) will have the maximum opportunity to participate in the performance of the Contract and any subcontracts thereunder. All Respondents are hereby notified that failure to carry out the applicable obligations of the SB and DBE Programs will constitute a breach of contract, and the Authority may take any and all actions permitted by law to ensure compliance by all consultants or other entities engaged by the Authority to whom the SB or DBE Programs apply. Respondents specifically agree to comply with all applicable provisions of the SB and DBE Programs and any amendments thereto.

3. Applicable SB and DBE Goals. The Authority has set the following goals for SB and DBE participation in the Contract:

- a. Small Business Participation: 10%
- b. DBE Participation (for federally funded contracts): 15%

The above-specified goals are stated as a percentage of the total Contract dollar amount, including any change orders or contingency (as applicable). Additional detail concerning counting SB and DBE participation is set forth in the SB and DBE Program Documents.

- 4. SB Participation Requirement.** For a Respondent to be considered competent and qualified for the Contract, the Respondent must either (1) demonstrate that it has secured sufficient SB and DBE participation to meet the above SB and DBE Goals, or (2) demonstrate that it has made a substantial and good-faith effort to meet the goals, but has been unable to do so. The Authority's criteria for counting SB and DBE participation and for evaluating good-faith effort are set out in its SB and DBE Program Documents. A Respondent's failure to meet or exceed the SB/DBE Goals or to make (and adequately document) a good-faith effort to do so will be grounds for disqualification.
- 5. Required Documentation.** The Authority's award of the Contract is conditioned upon the Respondent satisfying all applicable requirements of 49 C.F.R. § 26.53, N.C. Gen. Stat. § 143-128.2, and the Authority's SB and DBE Programs. For a Respondent to be considered competent and qualified for the Contract, a Respondent must submit with its SOQ a written statement demonstrating that the Respondent understands the applicable requirements of the Authority's SB and DBE Programs and describing the Respondent's plan to meet or exceed the SB or DBE Goals (as applicable). Such statement shall include or be accompanied by, at a minimum, the following:
 - a.** The Respondent's commitment that it will meet the requirements of the Authority's SB and DBE Programs, including by achieving the SB and DBE Goals set forth above as applicable, or by making a good faith effort to do so.
 - b.** Name, contact information, and a list of principals and key personnel for each subconsultant the Respondent intends to use in performing the Contract (including any SB or DBE firms), along with the proposed role and description of intended scope of services for each proposed subconsultant, and an estimated DBE/SB participation percentage for each firm.
 - c.** The Respondent's commitment to use the SB or DBE firms as listed in the SOQ, as appropriate for the services required to be provided under the Contract.
 - d.** Written confirmation from each proposed SB or DBE subconsultant that it intends to participate in the Contract. This requirement may be satisfied through a letter of intent, signed by the Respondent and the applicable SB or DBE subconsultant.
 - e.** For each proposed SB or DBE subconsultant, certification letters or other proof of qualification as an SB or DBE.

Respondents will be evaluated on the level and quality of participation attained for SBs and DBEs. Successful Respondents' SB and DBE commitments will be incorporated into the Contract and will be enforceable thereunder. Respondents are solely responsible for confirming experience, capacity, qualifications, and SB or DBE eligibility of subconsultants in connection with this solicitation.

- 6. Replacement of SB and DBE Subconsultants.** If awarded the Contract, the Respondent shall not replace an SB or DBE subconsultant identified and listed in the documentation provided with its SOQ except with the Authority's prior written consent and approval.
- 7. Post-Award Compliance.** If awarded the Contract, the Respondent shall be bound to comply with the applicable SB and DBE Program requirements, which will be set forth more fully in the applicable contract documents, and which include the provisions set forth below, in which the term "contractor" is used interchangeably with the term "Consultant," and refers to any Respondent who is awarded a Contract in connection with this solicitation:
 - a. Continuing Obligation.** The Consultant has a continuing obligation to meet the SB/DBE utilization to which it committed at contract award, inclusive of change orders, amendments, and other modifications.
 - b. Non-Discrimination (§26.13).** The contractor, sub recipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.
 - c. Prompt Payment (§26.29).** The Consultant agrees to pay each subconsultant under this prime contract for satisfactory performance of its contract no later than 5 days from the receipt of each payment the Consultant receives from the Authority. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Authority. This clause applies to both DBE and non-DBE subconsultants.
 - d. DBE Subconsultants (§26.53).** The Consultant shall not terminate any DBE subconsultant listed in the SOQ without the Owner's prior written consent issued in accordance with 49 C.F.R. § 26.53. Absent such Owner consent, the Consultant shall utilize the specific DBEs listed in the SOQ to perform the work and/or supply the materials for which each DBE was listed. Unless a DBE subconsultant is terminated with the Owner's consent in accordance with this provision, the Consultant shall not be entitled to payment for any work or material proposed to be performed or supplied by the listed DBE. If the Consultant properly terminates a DBE subconsultant with the Owner's consent in accordance with this provision, the Consultant shall make good faith efforts to find another DBE subconsultant to substitute for the terminated DBE firm/company. The Consultant shall document such good faith efforts, and if the Owner requests to review the Consultant's documentation, the Consultant shall submit such documentation to the Owner within 7 days of such request. Upon the Owner's request, the Consultant shall also make available to the Owner a copy of all subcontracts or purchase orders with DBE subconsultants.

- e. Enforcement (§26.109).** The Consultant shall cooperate fully and promptly with government and Owner compliance reviews, certification reviews, investigations, and other requests for information. Failure to do so shall be grounds for appropriate action against the Consultant, including but not limited to findings of non-responsibility for future contracts and/or suspension and debarment.

f. Monitoring and Recordkeeping

- i.** With each payment application, the Consultant shall report on the Authority's web-based software its payments to SB and DBE subconsultants. These reports shall be certified as true and correct by an appropriate Consultant official, as required by the Authority.
- ii.** To ensure the Consultant meets its SB and DBE commitments, the Authority will review the Consultant's SB/DBE utilization throughout the term of the Contract, including any term extensions of the original Contract period and/or any revisions to the scope of services to be provided thereunder. The Authority shall have the right to access and review at any time the Consultant's books, records, and accounts related to SB/DBE compliance. The Consultant shall also require its subconsultants to allow the Authority to access their books, records, and accounts related to SB/DBE compliance.

DRAFT AIA® Document B121™ – 2018

Standard Form of Master Agreement Between Owner and Architect for Services provided under multiple Task Orders

AGREEMENT made as of the date last signed by the Authority below.

BETWEEN the Owner:

(Name, legal status, address, and other information)

Raleigh-Durham Airport Authority
1000 Trade Drive
PO Box 80001
RDU Airport, North Carolina 27623

and the Architect:

(Name, legal status, address, and other information)

FIRM NAME

ADDRESS

CITY, STATE ZIP

for the following SERVICES:

(Description)

[Identify appropriate specialty: On Call Architectural & Building Engineering Services, On Call Mechanical Engineering Services, On Call Electrical Engineering Services, or On Call Structural Engineering Services]

The Owner and Architect agree as follows.

The term “Architect” or “Consultant” in this Agreement refers to [NAME OF FIRM], regardless of the particular type of professional services (i.e., architectural, engineering, or other) to be provided hereunder.

The term “Owner” or “Authority” in this Agreement refers to the Raleigh-Durham Airport Authority.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document does not contain a description of the Architect’s scope of Services and related terms. This document is intended to be used in conjunction with AIA Document B221™–2018, Task Order for use with Master Agreement Between Owner and Architect

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ARTICLE 1 MASTER AGREEMENT TERM AND PARTY REPRESENTATIVES

§ 1.1 This Master Agreement shall be effective for five years (the "Initial Term") after the date last signed by the Authority below. At the expiration of this Master Agreement, the terms hereof shall remain applicable until all Task Orders issued hereunder are completed or terminated.

§ 1.2 The provisions of this Master Agreement shall apply to all Task Orders agreed to by the Parties within the term of this Master Agreement until completion of the Task Order. In the event of a conflict between terms and conditions of this Master Agreement and a Task Order, the terms of the Task Order shall take precedence for the services provided pursuant to the Task Order. This Master Agreement together with each Task Order agreed upon hereunder represents the entire and integrated agreement between the parties, and supersedes prior negotiations, representations, or agreements, either written or oral. This Master Agreement and any Task Order may be amended or modified only by a written instrument signed by both the Owner and the Architect.

§ 1.3 The Owner identifies the following representative authorized to act on the Owner's behalf with respect to this Master Agreement:

Vice President of Buildings & Building Systems
Raleigh-Durham Airport Authority
PO Box 80001
RDU Airport, NC 27623
Phone: (919) 840-
Email:

§ 1.3.1 In each Task Order, the Owner will identify a representative authorized to act on the Owner's behalf with respect to the Task Order.

§ 1.4 The Architect identifies the following representative authorized to act on the Architect's behalf with respect to this Master Agreement:

NAME, TITLE
FIRM NAME
ADDRESS
CITY, STATE, ZIP
Office (919) XXX-XXXX
Email:

§ 1.4.1 In each Task Order, the Architect will identify a representative authorized to act on behalf of the Architect with respect to the Task Order.

§ 1.4.2 The Architect acknowledges that the services performed pursuant to this Master Agreement are personal in nature and that performance by the representatives identified in accordance with Sections 1.4 and 1.4.1 above serves as part of the legal consideration for this Agreement. The Architect shall not replace or substitute its representative during the term of this Agreement except upon advance written notice to and receipt of written approval from the Owner. Said notice to the Owner shall state the reason(s) for the proposed replacement or substitution and shall specify the qualifications, including education, training, and experience, of the proposed replacement or substitute.

§ 1.5 Nothing contained in this Master Agreement or in a Task Order shall create a contractual relationship with, or a cause of action in favor of, a third party against either the Owner or Architect.

ARTICLE 2 TASK ORDERS

§ 2.1 This is a non-exclusive agreement. The Owner is not required to issue any Task Orders under this Master Agreement.

§ 2.2 The Architect may decline to accept any Task Order issued by the Owner.

§ 2.3 The Architect shall perform the services set forth in each agreed upon Task Order, which will be set forth substantially in the form attached hereto as **Exhibit 1**. Each Task Order shall state the name, location, and detailed description of the Project; describe the Architect's Services; state the Architect's compensation; and list the attachments and exhibits incorporated by reference.

ARTICLE 3 ARCHITECT'S RESPONSIBILITIES

§ 3.1.1 The Architect shall perform its services hereunder in accordance with the requirements of this Master Agreement and any Task Orders issued hereunder, and in accordance with the requirements of all of the Owner's policies, rules, and regulations, and all applicable federal, state, and local laws, codes, ordinances, rules, regulations, and requirements (including any official interpretation of the foregoing) imposed by governmental authorities having jurisdiction over the applicable project ("Applicable Laws"). The Applicable Laws include, but are not limited to, (a) the Americans with Disabilities Act and regulations thereunder; (b) FAA and Transportation Security Administration ("TSA") rules, regulations, and design guidelines; (c) health and sanitary codes; (d) zoning regulations, surveys, special exceptions, proffers, zoning conditions, and easements; (e) permits and licenses; (f) legally binding guidelines and guidance documents; (g) any and all covenants, conditions, restrictions, and reservations affecting the applicable project site. If there is any conflict among any of the Applicable Laws, the more stringent requirement shall control, unless otherwise agreed in writing between the Owner and the Architect. In the event of such a conflict among the Applicable Laws, the Architect shall notify the Owner of such conflict. In the event of any error, omission, or inconsistency in the Architect's services as provided under this Agreement, Architect shall be obligated to furnish all professional design services necessary to correct such error, omission, or inconsistency at no additional cost to the Owner.

§ 3.1.2 The Architect shall perform its services consistent with the professional skill and care ordinarily provided by design professionals practicing the same discipline in the same or similar locality under the same or similar circumstances. The Architect shall perform its services as expeditiously as is consistent with such professional skill and care and the orderly progress of the services provided pursuant to a Task Order, and shall coordinate the timing of its services with any other design or construction professionals engaged by the Owner. The Architect shall re-perform, without additional compensation, any services not meeting the standard of care described in this Section 3.1.2.

§ 3.2 Except with the Owner's knowledge and consent, the Architect shall not engage in any activity, or accept any employment, interest or contribution that would reasonably appear to compromise the Architect's professional judgment with respect to this Master Agreement or any Task Order or its ability to perform its services thereunder.

§ 3.3 The Architect shall maintain insurance in connection with this Master Agreement as set forth in **Exhibit 2 – Insurance Requirements**.

§ 3.4 The Architect shall coordinate its services with those services provided by the Owner and the Owner's other consultants and contractors. Unless the Owner specifies otherwise in writing, the Architect, in performing its services, may reasonably rely on the accuracy and completeness of the services and information furnished by the Owner and the Owner's other consultants and contractors, but shall take all reasonable and appropriate actions to determine the completeness and accuracy of any services or information received from the Owner or the Owner's other consultants. The Architect shall provide prompt written notice to the Owner if the Architect becomes aware of any error, omission, or inconsistency in such services or information.

ARTICLE 4 ADDITIONAL SERVICES

§ 4.1 The Architect may provide Additional Services after execution of a Task Order, if requested and authorized in advance in writing by the Owner, without invalidating the Task Order. Except for services required due to the fault of the Architect, any Additional Services provided in accordance with this Section 4.1 may entitle the Architect to compensation pursuant to Section 9.3, as may be agreed to by the Owner in writing.

§ 4.2 Unless otherwise provided in a Task Order, upon recognizing the need to perform any Additional Services, as they relate to the services provided pursuant to the Task Order, the Architect shall notify the Owner in writing within 48 hours of becoming aware of the need for such Additional Services and shall explain the facts and circumstances giving rise to the need and provide an estimate of any associated additional fees and project schedule adjustments.

ARTICLE 5 OWNER'S RESPONSIBILITIES

§ 5.1 Unless otherwise provided in a Task Order, the Owner shall provide sufficient information regarding requirements for and limitations of each Task Order to permit the Architect to proceed with its services thereunder, and the Architect shall promptly notify the Owner in the event it believes additional information is needed to proceed.

§ 5.2 The Owner shall render decisions and approve the Architect's submittals in a timely manner in order to avoid unreasonable delay in the orderly and sequential progress of the Architect's services.

§ 5.3 The Owner shall use reasonable efforts to coordinate the services of its own consultants with those services provided by the Architect.

§ 5.5 The Owner shall provide prompt written notice to the Architect if the Owner becomes aware of any fault or defect in the services or work related to a Task Order, including errors, omissions or inconsistencies in the Architect's Instruments of Service, provided, however, that any failure to provide such written notice shall not affect the Architect's liability hereunder for errors, inconsistencies, or omissions in the Instruments of Service.

ARTICLE 6 COPYRIGHTS AND LICENSES

§ 6.1 The Architect's drawings, specifications, and other documents, including those in electronic form, prepared pursuant to this Master Agreement or any Task Order are collectively referred to as the "Instruments of Service." The Architect warrants that in transmitting Instruments of Service, or any other information, it is the copyright owner of such information or has permission from the copyright owner to transmit such information for its use in relation to this Master Agreement or a Task Order in accordance with the terms thereof.

§ 6.2 The Instruments of Service are the property of the Owner, and the Owner shall own all common law, statutory, and other reserved rights, including any applicable copyrights. The Architect shall include in its agreements with its subconsultants provisions that establish the Owner's ownership of the Instruments of Service. The Architect may retain copies of the original documents and is granted a license to reproduce their contents only for purposes relating directly to the Architect's performance of its services under this Master Agreement or any Task Order. The Architect is not permitted to reuse the Instruments of Service commercially or non-commercially except pursuant to a written licensing agreement between the Architect and the Owner.

§ 6.3 The Architect shall provide copies of all Instruments of Service to the Owner at the conclusion of the project to which the Instruments of Service pertain, and at any time during the performance of a Task Order upon the Owner's request. The Architect shall provide such copies in electronic or hard-copy form, as specified by the Owner. The Architect shall retain all original documents for at least six (6) years after the date of completion of the Work. The Architect shall submit all original documents, including both electronic and hard-copy documents, to Owner if Owner makes a written request to the Architect to provide the original documents.

§ 6.4 Prior to destroying or disposing of any documents upon termination of the six-year period referenced in Section 6.3, the Architect shall notify the Owner in writing of its intent to do so and shall give the Owner a reasonable time within which to take custody of said documents. Within such reasonable time, the Architect shall furnish those documents to the Owner without charge except for the reasonable cost of transporting and delivering the documents.

ARTICLE 7 CLAIMS AND DISPUTES

§ 7.1 General

§ 7.1.1 The Owner and Architect shall commence all claims and causes of action against the other and arising out of or related to this Master Agreement or any Task Order, whether in contract, tort, or otherwise, in accordance with the requirements of the binding dispute resolution method selected in this Master Agreement and within the period specified by applicable law. Completion of the services pursuant to a specific Task Order shall be the date of Substantial Completion of construction related to the services performed pursuant to the Task Order or, where there is no construction work related to a Task Order, the date the Architect completes its services under the Task Order. The Owner and Architect waive all claims and causes of action not commenced in accordance with this Section 7.1.1.

§ 7.1.2 In the event of any dispute between Owner and Architect arising out of or related to this Master Agreement or any Task Order, each agrees to use its best efforts to resolve the dispute informally, and by delivering written notice to the other party containing a summary of the disputed issue. Within five (5) business days of receiving such notice, the receiving party shall deliver to the other party its own written notice containing its own summary of the disputed issue. Each party shall designate a knowledgeable, responsible representative with authority to resolve the dispute to meet and negotiate in good faith. This meeting shall occur at Owner's office within ten (10) business days after the first written notice of dispute is delivered.

§ 7.2 Mediation

§ 7.2.1 Any claim, dispute or other matter in question arising out of or related to a Task Order shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 7.2.2 In the event the parties are unable to agree to a resolution of the dispute through the informal process set forth in Section 7.1.2, the Owner and Architect shall endeavor to resolve claims, disputes and other matters in question between them by mediation, which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of this Master Agreement. A request for mediation shall be made in writing and delivered to the other party to this Master Agreement. The request may be made concurrently with the filing of a complaint or other appropriate demand for binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order.

§ 7.2.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in a mutually-agreed upon location in Wake County, North Carolina. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 7.2.4 If the parties do not resolve a dispute through mediation pursuant to this Section 7.2, the method of binding dispute resolution shall be arbitration pursuant to Section 7.3 of this Master Agreement.

§ 7.3 Arbitration

§ 7.3.1 Any claim, dispute or other matter in question arising out of or related to this Master Agreement or a Task Order subject to, but not resolved by, mediation shall be subject to arbitration. Unless the parties mutually agree otherwise, any arbitration shall be administered in accordance with the American Arbitration Association Construction Industry Arbitration Rules in effect on the date of this Master Agreement. A demand for arbitration shall be made in writing, delivered to the other party to this Master Agreement, and filed with the person or entity administering the arbitration.

§ 7.3.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the claim, dispute or other matter in question would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the claim, dispute or other matter in question. Notwithstanding any other provisions of this Master Agreement or any Task Order, in any arbitration proceeding between the parties related to this Master Agreement or any Task Order, Owner shall have the right to include, by consolidation, joinder or in any other manner, any person or entity whom Owner believes to be substantially involved in a common question of fact or law with respect to such arbitration proceeding. Owner, Architect, and any other design and/or other project consultants, contractors, subcontractors, suppliers, and their respective bonding companies and insurers, and all other parties concerned with any project to which a Task Order pertains, are bound by this provision for dispute resolution to the greatest extent permitted by law, except that to the extent this provision conflicts with the dispute resolution provisions agreed to in the construction contract between the Owner and a contractor on a project for which the Architect provided services, the dispute resolution provisions of said construction contract shall govern. This provision shall be incorporated by reference into all subcontracts, supply agreements, bonds, and design contracts. All such parties consent and agree to participate and be bound in this dispute resolution process insofar as claims may be made against them. A motion to add or consolidate any other party in connection with this Project may be made by any interested party and, for good cause shown, shall be granted by the arbitrator(s).

§ 7.3.1.2 Except as otherwise agreed by Owner and Architect, the parties shall mutually agree on a single arbitrator for all disputes in which the claimed amount is less than \$500,000. Such arbitrator shall be a North Carolina licensed attorney with at least ten years of experience in construction-related legal matters, or a retired state or federal judge with construction case experience who resides in the State of North Carolina. Disputes in which the claimed amount is \$500,000 or more shall be decided by a panel of three experienced construction industry professionals to include (a) one engineer or architect; (b) one North Carolina licensed attorney with at least ten years of experience in construction-related legal matters, or a retired state or federal judge with construction case experience who resides in the State of North Carolina; and (c) a senior staff representative of a public entity managing a facility or facilities. Each of the three panel members shall be selected by mutual agreement of the parties. In the event no agreement is reached as to one or more panel member, such panel member(s) shall be selected pursuant to the method set forth in the Construction Industry Arbitration Rules and Mediation Procedures of the AAA. Arbitration proceedings shall be heard and resolved in Wake County, North Carolina. The Party filing a notice of demand for arbitration must assert in the demand all claims, disputes or other matters in question then known to that Party on which arbitration is permitted to be demanded.

§ 7.3.1.3 All fees and expenses associated with the mediation and arbitration procedures set out herein shall be borne equally by the parties. Each party shall bear its own expenses for attorneys' fees, expert fees, witness fees, and related expenses. Notwithstanding the previous sentence, if the arbitrator(s) determine(s) that either party is guilty of abusing the arbitration process, the arbitrator(s) may assess any such costs, expenses, and attorneys' fees among the parties in such manner as the arbitrator(s) deem(s) appropriate.

§ 7.3.2 The foregoing agreement to arbitrate, and other agreements to arbitrate with an additional person or entity duly consented to by parties to this Master Agreement, shall be specifically enforceable in accordance with applicable law in any court having jurisdiction thereof.

§ 7.3.3 The dispute-resolution procedures set forth in this Article 7 shall be the exclusive dispute-resolution procedures available to the parties to this Master Agreement. The award rendered by the arbitrator(s) shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof. During mediation, arbitration, or court proceedings, Architect shall proceed diligently with the performance of its services under this Agreement.

§ 7.3.4 Any arbitration claim or counterclaim initiated after substantial completion of any project shall include all claims regarding the project known to the claimant at the time the arbitration claim or counterclaim is made. Any claim known to the claimant at the time an arbitration claim or counterclaim is made, but not included therewith, shall be deemed waived.

§ 7.4 Indemnification

§ 7.4.1 To the fullest extent permitted by law, Architect shall indemnify and hold harmless the Owner and the Owner's officers and employees from and against claims, demands, liabilities, damages, losses, causes of action, costs, expenses (including but not limited to court costs, reasonable attorneys' fees, and expenses), proceedings (including any brought in or before any court, administrative body, arbitration panel, or other tribunal), fines and penalties of any nature whatsoever (collectively "Losses") to the extent any of the following are (or are alleged to be) a proximate cause of such Losses: (a) negligent (professionally or otherwise), reckless, or intentional acts or omissions of the Architect or the Architect's subconsultants, or anyone directly or indirectly employed by the Architect or the Architect's subconsultants, or anyone for whose acts they may be liable (collectively, the "Architect Parties"); (b) the Architect's breach of this Master Agreement or any Task Order; or (c) the violation of any applicable statute, regulation, rule, or other applicable law by the Architect Parties.

Nothing contained in this Section 7.4.1 shall be construed as an agreement to indemnify the Owner for its own negligence, gross negligence, recklessness, or willful misconduct. This Section 7.4.1 is intended to fully comply with N.C. Gen. Stat. § 22B-1 and other Applicable Laws, and should be interpreted consistently and in conformity therewith.

§ 7.4.2 To the fullest extent permitted by law, the Architect shall be liable to, and shall indemnify and hold harmless the Owner from and against, any and all Losses relating in any way to infringement of any copyright, trademark, patent, or other intellectual property arising out of the preparation or use of any Instruments of Service furnished by any of the Architect Parties in the performance of this Agreement, unless the Architect has informed Owner of a possible infringement and Owner has given its prior written approval of the use of the system, method, or equipment in question.

§ 7.4.3 The obligations of the Architect pursuant to this Section 7.4 shall (a) not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for any of the Architect Parties under compensation acts, disability benefit acts, or other employee benefits acts, and (b) survive the expiration or earlier termination of this Master Agreement and any Task Order.

§ 7.5 The provisions of this Article 7 shall survive the expiration or earlier termination of this Master Agreement and any Task Order.

ARTICLE 8 TERMINATION AND SUSPENSION

§ 8.1 If the Owner fails to make payments to the Architect in accordance with a Task Order for services properly and timely performed and not subject to set-off or withheld for any permissible reason, the Architect may, upon 14 days' written notice to Owner, elect to suspend performance of services under the Task Order for which the Owner failed to make payment. In the event of a suspension of services, the Architect shall have no liability to the Owner for delay or damage caused the Owner because of such suspension of services. Before resuming services, the Owner shall pay the Architect all sums properly due prior to suspension and any expenses reasonably and actually incurred in the interruption and resumption of the Architect's services. The Architect's fees for the remaining services and the time schedules shall remain unaltered unless the Parties mutually agree on reasonable adjustments to such fees and schedules.

§ 8.2 If the services under a Task Order have been suspended by the Owner, the Architect shall be compensated for services performed prior to notice of such suspension. When the services under the Task Order are resumed, the Architect shall be compensated for expenses incurred in the interruption and resumption of the Architect's services. The Architect's fees for the remaining services and the time schedules shall be equitably adjusted.

§ 8.3 If the Owner suspends the services under a Task Order for more than 90 consecutive days for reasons other than the fault of the Architect, the Architect shall be compensated for services performed prior to notice of such suspension. When the Project is resumed, the Architect shall be compensated for reasonable and verified expenses actually incurred in the interruption and resumption of the Architect's services. The Architect's fees for the remaining services and the time schedules shall remain unaltered unless the Parties mutually agree on reasonable adjustments to such fees and schedules.

§ 8.4 The Owner may terminate a Task Order for cause after a reasonable cure period not to exceed 7 days, if the Architect (a) refuses or fails to provide the services in a proper or timely manner; (b) fails to make payment to any of the Architect's consultants in accordance with the respective agreements; (c) disregards any Applicable Laws; or (d)

otherwise fails to perform in accordance with the terms of this Master Agreement or any Task Order. Termination of a Task Order under this Section 8.4 shall not be deemed a termination of other Task Orders under this Master Agreement.

§ 8.5 The Owner may terminate a Task Order, upon not less than seven days' written notice to the Architect for the Owner's convenience and without cause.

§ 8.6 In the event of termination of a Task Order not the fault of the Architect, the Architect shall be compensated for services performed prior to termination.

§ 8.7 Except as otherwise expressly provided herein, a Task Order shall terminate one year from the date of Substantial Completion of the project to which the Task Order pertains.

§ 8.8 The Owner may terminate this Master Agreement at any time for any reason, upon not less than seven days' written notice to the Architect. Upon receipt of notice of termination under this Section 8.8, the Architect shall perform no additional services, and shall be entitled to compensation only for those services satisfactorily rendered and expenses theretofore incurred.

ARTICLE 9 COMPENSATION

§ 9.1 The Owner shall compensate the Architect for the services described in a Task Order pursuant to the Task Order and as set forth in this Article 9. The Authority shall compensate the Consultant for Basic Services on the basis of actual hours worked, with the Consultant's billable hourly rates determined based on the following calculation:

$$(DPE) + (DPE \times OH) + ((DPE + (DPE \times OH)) \times Profit Percentage)$$

For the purposes of the above calculation, the following definitions apply:

- (1) *Direct Personnel Expense (DPE)*: The actual wages of the specific Consultant personnel performing the services for which the Authority is being billed.
- (2) *Overhead Percentage (OH)*: The Consultant's audited indirect cost rates, which must be established in accordance with the Cost Principles contained in the Federal Acquisition Regulation, 48 C.F.R. Part 31, and which are subject to the Authority's review and approval. The Authority will allow adjustment in the Consultant's OH only once per year, on April 1 of each year of the Agreement. Changes to the OH percentage will only apply to new task orders for the term of the task order, unless otherwise agreed to in writing by the Authority.
- (3) *Profit Percentage*: The Consultant's markup for profit, which for all Task Orders issued under this Master Agreement shall be no greater than ten percent (10%)

Upon award, and then annually thereafter, the Consultant shall submit a report from an independent auditor to support its overhead percentage for the purposes of the above calculation.

The Owner may elect to compensate the Consultant for a Task Order in an alternative manner (such as lump sum) in the event the Owner, in its sole discretion, determines that such alternative compensation manner is warranted by circumstances specific to the Task Order in question.

§ 9.2 Each Task Order shall establish a total, not-to-exceed amount of compensation for the services to be provided thereunder. Invoices for interim payment shall be prepared and submitted to the Owner by the Architect at monthly intervals on or within ten (10) days following the first day of each calendar month during the term of this Agreement and shall reflect all services completed as of the last day of the Architect's accounting cycle of the preceding month. Each invoice shall be accompanied by such documentation as may be requested by Owner to fully support the claims for payment made. Credit for previous payments on account by Owner received by Architect shall be recognized in invoice preparation. Owner shall pay the amount properly documented to be due on or before the last business day of the month but such amount shall not be deemed past due unless not paid within fifteen (15) days thereafter. Each invoice for payment on account of Basic Services rendered submitted to Owner by Architect shall contain, but not be limited to, the following information:

- (a) The total amount of Architect's Basic Compensation for Basic Services specified in the applicable Task Order;
- (b) The total amount of the Basic Compensation for Basic Services previously invoiced by Architect for the applicable Task Order;
- (c) The amount of the Basic Compensation for which payment is requested by this invoice;
- (d) The amount of Basic Compensation for Basic Services remaining to be earned by Architect on the applicable Task Order following payment of this invoice by Owner; and
- (e) The amount of any Reimbursable Expenses owed the Architect in accordance with the applicable Task Order.

Additionally, Architect shall furnish with each invoice a complete and correct copy of an "Application for Payment" form as provided by Owner. It is agreed and understood that invoices for payment will not be processed or paid by Owner unless all information as specified in this Agreement is provided on the invoice and a correct and complete copy of the "Application for Payment" form accompanies the invoice. A separate application for payment, along with the invoice(s), shall be submitted for all requests for payments of reimbursable expenses.

Architect's final invoice under any Task Order shall be so identified, shall state the total amount Architect claims is due to it under the applicable Task Order, and shall reflect that Architect will have received full compensation for all services rendered under the Task Order upon payment of such invoice by Owner. Said final invoice shall be submitted to Owner within 120 days of substantial completion of the project to which the Task Order pertains or, where there is no project to be constructed related to a Task Order, the date the Architect completes its services under the Task Order.

§ 9.3 Except as otherwise set forth in a Task Order, the Owner shall compensate the Architect for Additional Services designated in Article 4 as follows:

The Architect shall provide Additional Services only as requested and authorized in advance in writing by the Owner pursuant to Article 4. The Architect's compensation for Additional Services shall be mutually agreed upon promptly after the circumstances requiring the Additional Services become known and before said services are provided.

§ 9.4 Compensation for Reimbursable Expenses

§ 9.4.1 Reimbursable Expenses are in addition to compensation for the Architect's professional services and include expenses incurred by the Architect and the Architect's consultants directly related to a Task Order, as follows:

- .1 Transportation and authorized out-of-town travel and subsistence reasonably incurred by the most economical means available;
- .2 Permitting and other fees required by authorities having jurisdiction over the Project;
- .3 Printing, reproductions, plots, and standard form documents;
- .4 Postage, handling, and delivery charges where necessary;
- .5 Renderings, physical models, mock-ups, professional photography, and presentation materials requested by the Owner and not otherwise included in the Basic Services;

§ 9.4.2 For Reimbursable Expenses the compensation shall be the actual expenses incurred by the Architect and the Architect's consultants and shall be capped at and shall not exceed the amount specified in the applicable Task Order, except with the Owner's prior written authorization. Notwithstanding any other provision in this Section 9.4, reimbursement for expenses will be permitted only to the extent allowable under FAA regulations, North Carolina law, and other Applicable Laws.

§ 9.4.3 Allowable Reimbursable Expenses will be specified in each Task Order.

§ 9.4.4 Maximum Compensation and Maximum Reimbursable Expense payments by the Owner shall be established in each Task Order issued hereunder. The total actual payment by the Owner to the Architect under a particular Task Order may be less than the maximum payment amounts applicable to that Task Order.

§ 9.5 Payments to the Architect

§ 9.5.1 The Owner may withhold amounts from the Architect's compensation to the extent reasonably necessary to protect the Owner from the Architect's failure to properly and timely perform its services under this Master Agreement and any Task Order. The Owner shall take such action only upon notice and an opportunity for the Architect to cure

said failures. The Architect shall not requisition amounts on account of its consultants that it does not intend to pay to such consultants upon receipt of funds from the Owner.

§ 9.5.2 Records of Reimbursable Expenses, expenses pertaining to Additional Services, and services performed on the basis of hourly rates shall be available to the Owner at mutually convenient times.

ARTICLE 10 MISCELLANEOUS PROVISIONS

§ 10.1 This Master Agreement and each Task Order shall be governed by the laws of the State of North Carolina. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 7.3.

§ 10.2 Any notices required or permitted hereunder shall be in writing and addressed to the parties at the addresses set forth in this Agreement and sent by (1) the United States Mail, certified mail, return receipt requested, with first class postage prepaid, (2) a reputable overnight courier service, (3) personal delivery delivered by a representative of the party giving such notice, or (4) facsimile or email (to be followed by notice within one (1) business day in accordance with clause (1), (2), or (3) above). Any party may from time to time change the address to which notices to it are sent by giving notice of such change to the other parties in the manner set forth herein. All notices shall be deemed duly given (a) when delivered personally or by courier; (b) on the date of delivery represented by a reputable overnight courier; (c) when acknowledged by the recipient in the case of facsimile or email, or (d) three days after the date mailed, if sent by registered or certified mail, return receipt requested and postage prepaid.

§ 10.3 The Owner and Architect, respectively, bind themselves, their agents, successors, assigns, and legal representatives to each Task Order. The Architect shall not assign this Master Agreement or a Task Order without the Owner's written consent.

§ 10.4 If the Owner requests the Architect to execute certificates, the proposed language of such certificates shall be submitted to the Architect for review at least 7 days prior to the requested dates of execution. The Architect shall not be required to execute certificates or consents that would require knowledge, services, or responsibilities beyond the scope of this Master Agreement or any Task Order.

§ 10.5 Unless otherwise required in a Task Order, the Architect shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous materials or toxic substances in any form at the Project site; provided, however, that if the Architect discovers or is made aware of the presence of any hazardous materials or toxic substances at the Project site, the Architect shall within twenty-four (24) hours notify the Owner of the same in writing.

§ 10.6 Upon making a specific written request to the Owner and receiving written approval from the Owner, the Architect may include photographic or artistic representations of the design of the Projects for which services are performed among the Architect's promotional and professional materials. Upon receiving written approval from the Owner, the Architect shall be given reasonable access to the completed Projects to make such representations.

§ 10.7 The Architect shall maintain the confidentiality of all information relating to the Project (a) furnished to the Architect by the Owner and their contractors or consultants and (b) developed by the Architect in connection with its services (collectively "Confidential Information"), and shall not disclose Confidential Information without the express prior written consent of the Owner to any party other than employees of the Architect working on the Project, or the Architect's consultants on the Project (if any), except to the extent that withholding Confidential Information would violate the law, create a risk of significant harm to the public, or prevent the Architect from establishing a claim or defense in an adjudicatory proceeding. The Architect shall require of the Architect's consultants (if any) similar written agreements regarding Confidential Information and shall furnish such Agreements to the Owner.

§ 10.8 The invalidity of any provision of the Agreement shall not invalidate the Agreement or its remaining provisions. If it is determined that any provision of the Agreement violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Agreement shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Agreement.

§ 10.9 Unless otherwise agreed, electronic data shall be provided in the following formats: Specifications, Reports, and all other written documents shall be provided in Microsoft Word, latest version; Spreadsheets shall be provided

in Microsoft Excel, latest version; Drawings shall be provided in AutoCad, latest release, and in accordance with **Exhibit 3, Raleigh-Durham Airport Authority CAD Standard** and all applicable FAA, state, and other Applicable Laws and requirements. No other software shall be used for the production of any documentation for the Project without Owner's approval.

§ 10.9.2 Unless the parties mutually agree otherwise, the Architect shall use the Authority's Construction Project Management Software to facilitate its services hereunder, including to manage contracts, Task Orders, punch lists, notices to proceed, change orders, change management, substantial completion, reports, design deliverables, applications for payment, correspondence, schedule issues, submittal approval, and requests for information. The Owner will provide the Architect with user training and credentials for log-in at no cost to the Architect. The number of users requested by the Architect and approved by the Owner will be commensurate with the level of effort for the Task Orders issued hereunder.

§ 10.10 Media Relations. Neither the Architect nor any of its subconsultants, employees, or agents are authorized to have contact with the media regarding services provided under this Master Agreement or any Task Order. The Architect shall report any attempted contact by a media representative regarding such services to the Owner immediately, and in any event within twenty-four (24) hours of the contact. Neither the Architect nor any of its subconsultants, employees, or agents shall provide media access to their respective on-airport work sites unless approved in advance by Owner and unless Owner provides escorts for the media personnel.

§10.11 Force Majeure. Neither party shall be liable or responsible to the other party, nor deemed to have defaulted under or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement, when and to the extent such failure or delay is caused by or results from acts beyond the affected party's reasonable control (a "Force Majeure Event"), including, without limitation: (a) acts of God; (b) flood, fire, earthquake or explosion; (c) war, invasion, hostilities (whether war is declared or not), terrorist threats or acts, riot or other civil unrest; (d) government order or law; (e) actions, embargoes or blockades in effect on or after the date of this Agreement; and (f) national or regional emergency. The party suffering a Force Majeure Event shall give notice within five (5) business days of the Force Majeure Event to the other party, stating the period of time the occurrence is expected to continue, and the party giving such notice shall use diligent efforts to end the failure or delay and ensure the effects of such Force Majeure Event are minimized.

§10.12 Taxes. All sales and use taxes applicable to the Architect's services shall be paid by the Architect, but may, subject to the provisions of this Master Agreement or any Task Order, be reimbursed to the Architect by the Owner, provided the Architect has priced its services on the basis that it will receive such reimbursement. Reimbursement to the Architect for sales or use taxes paid is contingent upon certification of such payment by the Architect, which certification must be submitted with the Architect's application for payment. The Architect shall keep a listing of all North Carolina and county sales and use taxes, if any, for its services hereunder and shall submit this listing to the Owner on forms approved by the Owner in order that the Owner might receive reimbursement therefor.

§10.12 Calculation of Time. Whenever, in this Master Agreement or any Task Order, an amount of time is specified for the taking of any action, the term "days" shall be interpreted to mean calendar days unless otherwise specified.

ARTICLE 11 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Master Agreement are as follows:
(Include other terms and conditions applicable to this Agreement.)

§ 11.1 During the term of any Task Order, Architect agrees to employ only qualified firms or businesses to assist Architect in performance of its services. For services provided in this Agreement,

§ 11.2 Owner or its authorized agent or representative shall have the right to inspect, audit, and reproduce records of Architect and its consultants to the extent reasonably necessary to permit evaluation and verification of all of Architect's services, and for all reimbursable expenses of Architect. Records which may be inspected pursuant to this provision include, but are not limited to, the following: accounting records (hard copy as well as computer-readable data), written policies and procedures, consultant contracts, payroll records, and any other supporting documentation Owner deems reasonably necessary to substantiate charges made by the Architect. Records described above shall be maintained and made available to Owner for no less than six years after the date of substantial completion of the project to which a Task Order pertains, or where there is no project to be constructed related to a Task Order, the date

the Architect completes its services under the Task Order. Architect shall require all consultants and subconsultants to comply with the provisions of this Article.

§ 11.3 Architect's employees and all of its consultants, subconsultants, and their employees shall comply with all state, federal and Owner-imposed security requirements related to the Project and/or operations on Owner's airport property. Architect and its consultants and subconsultants shall additionally comply with all Applicable Laws, including FAA and Owner-imposed requirements for operating vehicles on the airfield or in any other restricted areas, which include but is not limited to terminal aprons, taxis, and runways.

§ 11.4 Independent Contractor. In the performance of its services under this Master Agreement and any Task Order, Architect shall be acting as an independent contractor and not as an agent or employee of Owner. Architect shall have no authority (and shall not hold itself out as having authority) to bind Owner and shall not make any agreements or representations on Owner's behalf without Owner's prior written consent.

Architect shall be solely responsible for, and have control over, the means, methods, techniques, sequences, and procedures for its services and for coordinating all portions of its services unless Owner gives specific instructions concerning these matters. Architect is solely responsible for hiring and management responsibilities for its agents, employees, and independent contractors, including but not limited to recruiting, interviewing, selecting, setting the terms and conditions of employment, disciplining and terminating. Architect shall enforce strict discipline and good order among its agents, employees and independent contractors, and shall ensure their compliance with all applicable work rules. Neither Architect's agents, employees or independent contractors, nor its subconsultants and/or their agents, employees or independent contractors shall, by reason of their assignment to work on the services to be performed by Architect become or be deemed to be employees, agents, or independent contractors of Owner. Architect shall at all times have the right to perform work for other individuals and/or entities as long as it fulfills its obligations to Owner under the terms of this Agreement, as long as such services do not conflict with its obligations under this Agreement or create a conflict of interest with Owner.

Architect acknowledges and agrees that it is exclusively responsible and liable for withholding, reporting and forwarding to the appropriate authority all applicable withholdings and payments required by law with respect to any compensation received by its agents, employees or independent contractors, including but not limited to applicable state and federal income taxes, state and federal unemployment taxes, FICA, workers compensation, and any other taxes measured upon the payroll of, or required to be withheld from, its employees, agents or independent contractors, and Architect shall indemnify Owner and its officers, directors, agents and employees and defend and hold them harmless from and against all claims, damages and losses relating to any obligation imposed by law to pay or withhold any such amounts in connection with compensation received by Architect or its employees, agents or independent contractors pursuant to this Agreement.

None of the Architect's agents, employees or independent contractors shall be eligible for or entitled to participate in any of Owner's employee benefit plans, programs, policies or practices which may now or in the future be in effect, including, without limitation, any pension, retirement, or 401(k) plan; any profit sharing, stock option, bonus or incentive compensation plan; workers compensation benefits; any life or health insurance plan; any vacation or holiday pay plan; or any separation payment plan. The Architect shall defend, indemnify, and hold harmless Owner and its officers, directors, agents and employees from and against any and all claims, damages, losses, penalties, fines, costs and expenses, including attorneys' fees, arising out of or resulting from any claim, proceeding or decision claiming that an agent, employee or independent contractor of the Architect is eligible for or entitled to any such employee benefit or compensation or payment from Owner.

§ 11.8 In the event of a conflict among the terms of this Master Agreement and any Task Order, as part of its services the Architect shall provide the higher quality of service or level of service at no additional cost to Owner. However, this Section is not intended to heighten the Architect's standard of care as described in Section 2.2 of this Agreement.

§ 11.9 Small Business Programs

The Authority has adopted a Small Business (SB) Policy, the requirements of which are set forth in the Small Business Participation Requirements Exhibit included as Exhibit 4 hereto. The Authority has also adopted a federally required Disadvantaged Business Enterprise (DBE) Program that applies to projects receiving federal funding. The requirements of the Authority's DBE Program are set forth in its DBE Program Document, which is available at <https://www.rdu.com/do-business-with-rdu/small-businesses/>, and which is incorporated by reference as if set forth fully herein. The Architect shall comply with all requirements of the Authority's SB and DBE Programs, as applicable.

ARTICLE 12 FEDERAL REQUIREMENTS

§ 12.1 Federal Requirements

§ 12.1.1 General Civil Rights Provisions

The Architect agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance. This provision binds the Architect and subconsultants from the bid solicitation period through the completion of the contract. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

§ 12.1.2 Civil Rights – Title VI Assurance – Compliance with Nondiscrimination Requirements.

During the performance of this Contract, the Architect, for itself, its assignees, and successors in interest (referred to collectively as “Architect” for the purposes of this Section 13.1.1), agrees as follows:

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

§ 12.1.3 Other Mandatory Federal Contract Provisions. If federal funds are to be used for any Task Order hereunder, the additional Mandatory Federal Contract Provisions for Professional Service Contracts set out in Exhibit 5 hereto shall apply. These mandatory federal contract provisions are hereby referenced and incorporated herein and are included in the Contract Documents and binding on the parties.

ARTICLE 13 SCOPE OF THIS MASTER AGREEMENT

§ 13.1 This Master Agreement represents the entire and integrated agreement between the Owner and the Architect and supersedes all prior negotiations, representations or agreements, either written or oral. This Master Agreement may be amended only by written instrument signed by both the Owner and Architect.

§ 13.2 This Master Agreement is comprised of the following documents identified below:

- .1 AIA Document B121™–2018, Standard Form of Master Agreement Between Owner and Architect
- .2 Other documents:
(List other documents, if any, forming part of the Master Agreement.)

Exhibit 1: Form of Task Order

Exhibit 1a: Task Order Attachments A-D

Exhibit 2: Insurance Requirements

Exhibit 3: Raleigh-Durham Airport Authority CAD Standard

Exhibit 4: Small Business Participation Requirements

Exhibit 5: Mandatory Federal Contract Provisions for Professional Services Contracts

This Master Agreement entered into as of the date last signed by the Authority below.

RALEIGH-DURHAM AIRPORT AUTHORITY

FIRM NAME

OWNER (Signature)

ARCHITECT (Signature)

Michael J Landguth, President & CEO
(Printed name and title)

Name, Title
(Printed name, title, and license number, if required)

Date

DRAFT AIA® Document B221™ – 2018

Task Order for use with Master Agreement Between Owner and Architect

TASK ORDER number **MA26.00.00** made as of the date of signature by the Authority.

BETWEEN the Owner:

(Name, legal status, address, and other information)

Raleigh-Durham Airport Authority
1000 Trade Drive
PO Box 80001
RDU Airport, North Carolina 27623

and the Architect:

(Name, legal status, address, and other information)

FIRM NAME

ADDRESS

CITY, STATE ZIP

for the following **PROJECT**:

(Name, location, and detailed description)

PROJECT NAME

RDU Project Number: 000000

THE TASK ORDER

This document, together with the Master Agreement between Owner and Architect dated the **DAY** day of **MONTH** in the year **YEAR**, form a Task Order.

(In words, indicate day, month, and year.)

The Owner and Architect agree as follows.

The term “Architect” or “Consultant” in this Agreement refers to **[FIRM NAME]**, regardless of the particular type of professional services (i.e., architectural, engineering, or other) to be provided hereunder.

The term “Owner” or “Authority” in this Agreement refers to the Raleigh-Durham Airport Authority.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document provides the Architect’s scope of services for the Task Order only and is intended to be used with AIA Document B221™-2018, Standard Form of Master Agreement Between Owner and Architect

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TABLE OF ARTICLES

1	INITIAL INFORMATION
2	SERVICES UNDER THIS TASK ORDER
3	SCHEDULE
4	COMPENSATION
5	INSURANCE
6	PARTY REPRESENTATIVES
7	ATTACHMENTS AND EXHIBITS

ARTICLE 1 INITIAL INFORMATION

§ 1.1 Unless otherwise provided in an exhibit to this Task Order, this Task Order is based on the Initial Information set forth below: *(State below details of the Project's site and program, Owner's contractors and consultants, Architect's consultants, Owner's budget and schedule, anticipated procurement method, Owner's Sustainable Objective, and other information relevant to the Project.)*

See **Attachment A – Scope of Basic Services.**

§ 1.2 The Owner and Architect may rely on the Initial Information. Both parties, however, recognize that such information may materially change and, in that event, the Owner and the Architect shall appropriately adjust the schedule, the Architect's services, and the Architect's compensation. The Owner shall adjust the Owner's budget for the Cost of the Work and the Owner's anticipated design and construction milestones, as necessary, to accommodate material changes in the Initial Information.

ARTICLE 2 SERVICES UNDER THIS TASK ORDER

§ 2.1 The Architect's Services under this Task Order are described below or in an exhibit to this Task Order, such as a Scope of Architect's Services document.

§ 2.1.1 Basic Services

(Describe below the Basic Services the Architect shall provide pursuant to this Task Order or state whether the services are described in documentation attached to this Task Order.)

See **Attachment A – Scope of Basic Services.** Consistent with Attachment A, the Architect's services hereunder shall include the deliverables set forth in **Attachment C - Task Schedule, Meetings, & Deliverables.**

§ 2.1.2 Additional Services

(Describe below the Additional Services the Architect shall provide pursuant to this Task Order or state whether the services are described in documentation attached to this Task Order.)

The Architect shall provide Additional Services only in accordance with Article 4 of the Master Agreement and only if requested and authorized in advance in writing by the Owner.

ARTICLE 3 SCHEDULE

§ 3.1 The Architect shall complete its services hereunder in accordance with the schedule set out in Attachment C – Task Schedule.

ARTICLE 4 COMPENSATION

§ 4.1 For Basic Services described under Section 2.1.1, the Owner shall compensate the Architect as specified in **Attachment B – Basis of Compensation.**

§ 4.2 For Additional Services described under Section 2.1.2 or in the Master Agreement, the Architect shall be compensated in accordance with the Master Agreement unless otherwise set forth below:

See Attachment B – Consultant Compensation.

§ 4.3 For Reimbursable Expenses described in the Master Agreement, the Architect shall be compensated in accordance with the Master Agreement unless otherwise set forth below:

See Attachment B – Consultant Compensation.

§ 4.4 Total compensation for this Task Order, including Basic Services and Reimbursable Expenses, **shall not exceed the total amount of \$0.00.**

ARTICLE 5 INSURANCE

The Architect shall maintain insurance in connection with this Task Order in accordance with Exhibit B to the Master Agreement, unless otherwise stated, with minimum policy limits as follows:

Coverage Type	Limit
Commercial G/L	
each occurrence	\$
general aggregate	\$
aggregate for products-completed ops hazard	\$
Auto Liability	
per accident	\$
Excess/Umbrella Liability	
per occurrence	\$
aggregate	\$
Workers' Comp	
per statute	statutory limit
Employers' Liability	
each accident	\$
disease each employee	\$
disease policy limit	\$
Professional Services Liability	
per claim	\$
annual aggregate	\$
maximum deductible	\$
Pollution Liability	
per occurrence	\$
aggregate	\$
Cyber Liability	
per occurrence / claim	\$
aggregate	\$

ARTICLE 6 PARTY REPRESENTATIVES

§ 6.1 The Owner identifies the following representative in accordance with Section 1.4.1 of the Master Agreement:
(List name, address, and other information.)

NAME, TITLE

Raleigh-Durham Airport Authority
PO Box 80001
RDU Airport, NC 27623
Phone: (919) XXX-XXXX
Email: name@rdu.com

§ 6.2 The Architect identifies the following representative in accordance with Section 1.5.1 of the Master Agreement:
(List name, address, and other information.)

NAME, TITLE

FIRM NAME

ADDRESS

CITY, STATE, ZIP

Office (919) XXX-XXXX

Email:

ARTICLE 7 ATTACHMENTS AND EXHIBITS

§ 7.1 The following attachments and exhibits, if any, are incorporated herein by reference:

- .1 The Master Agreement and all exhibits thereto;
- .2 Other Exhibits incorporated into this Agreement:
(Clearly identify any other exhibits incorporated into this Agreement.)

Attachment A – Scope of Basic Services
Attachment B – Consultant Compensation
Attachment C – Task Schedule, Meetings, & Deliverables
Attachment D – Roles and SB/DBE Participation
- .3 Other documents:
(List other documents, if any, including additional scopes of service forming part of this Task Order.)

None

This Task Order entered into and effective as of the date of signature by the Authority below.

RALEIGH-DURHAM AIRPORT AUTHORITY

FIRM NAME

OWNER (Signature)

ARCHITECT (Signature)

Michael J Landguth, President & CEO
(Printed name and title)

Name, Title
(Printed name, title, and license number, if required)

Date

Attachment A.#
Task Order [#], Amendment [#] (MA26.00.00)
[Project Title & No. (if any)]
(Title of Work)

Scope of Basic Services

PROJECT DESCRIPTION

Enter description

SCOPE OF BASIC SERVICES

Enter Scope and/or Tasks.

**Note: If new Task Order, attachments are labeled as A, B, C, etc.
If Amendment, the attachments are labeled as A.1, B.1, etc. based on Amendment No.*

Items in “blue” should be formatted to “black” once overwritten.

End of Attachment A.#

Attachment B.#
Task Order [#], Amendment [#] (MA26.00.00)
[Project Title & No. (if any)]
(Title of Work)

Consultant Compensation

I. Compensation for Basic Services

Subject to the limitations hereinafter set forth, the Authority shall compensate the Consultant for Basic Services on the basis of actual hours worked, subject to a total not-to-exceed amount of **\$0.00**. Billable hourly rates for the Consultant's personnel shall be the rate that results from the following calculation:

$$(DPE) + (DPE \times OH) + ((DPE + (DPE \times OH)) \times Profit Percentage)$$

For the purposes of this calculation, the following definitions apply:

- (1) **Direct Personnel Expense (DPE):** The actual wages of the specific Consultant personnel performing the services for which the Authority is being billed.
- (2) **Overhead Percentage (OH):** The percentage multiplier in order to cover company overhead costs, as approved by the Authority in writing.
- (3) **Profit Percentage:** The allowable markup for profit is 10%.

The parties anticipate that the calculation set forth above will result in the following effective rates:

**Use associated excel worksheet to create and paste into document.*

Classification	Raw Rate Range		Overhead	Profit	Billable Rate Range	
PRIME CONSULTANT NAME	Low	High	%	%	Low	High
Managing Principal				10%	\$0.00	\$0.00
Design Director				10%	\$0.00	\$0.00
Project Manager				10%	\$0.00	\$0.00
Project Architect 1				10%	\$0.00	\$0.00
Project Architect 2				10%	\$0.00	\$0.00
Senior Manager				10%	\$0.00	\$0.00
Project Designer				10%	\$0.00	\$0.00
Interior Designer				10%	\$0.00	\$0.00
Intern 1				10%	\$0.00	\$0.00
Intern 2				10%	\$0.00	\$0.00
Administrative				10%	\$0.00	\$0.00

The above-specified procedure for calculating billable hourly rates for the Consultant's personnel, including the definitions of DEP, OH, and Profit Percentage, shall apply to this task order and all previous task orders (including any amendments thereto) that are currently in progress, and to all future task orders (including any amendments thereto) except to the extent otherwise provided therein.

II. Reimbursable Expenses

The Authority shall reimburse the Consultant for Reimbursable Expenses in accordance with Section 9.4 of the Master Agreement, subject to the restrictions set forth below:

- a. Lodging - \$175.00 maximum per night (excluding taxes)
- b. Meals - \$75.00 maximum per day; no alcoholic beverages will be reimbursed.
- c. Vehicle Rental - \$75.00 maximum per day
- d. Vehicle Mileage - \$0.65 per mile

Airfare shall be reimbursed at direct cost for domestic economy class round-trip airfare and one (1) piece of checked baggage or one (1) piece of carry-on baggage. The Authority will not reimburse for seat upgrades and associated fees. Airfare reimbursement is limited to travelers at a destination 200 miles or further from the Raleigh-Durham International Airport.

For this Task Order, the Consultant's Reimbursable Expenses are capped at the not-to-exceed amount of **\$0.00** (i.e., **no Reimbursable Expenses are contemplated-USE ONLY IF ZERO**).

Payment will occur in accordance with the procedures set forth in Article 9 of the Master Agreement.

III. Total Compensation

The total compensation for these services, including reimbursable expenses, is shown in the summary below:

Insert summary table.

**Use associated excel worksheet to create and paste into document.*

IV. Fee Breakdown

For informational purposes, the Consultant's budget for providing Basic Services is broken down on a task by task and staff-level basis in the tables below:

INSERT TABLE or TABLES OF HOURS BY TASK FOR TOTAL FEE (for Prime and all subconsultants)

End of Attachment B.#

Attachment C.#
Task Order [#], Amendment [#] (MA26.00.00)
[Project Title & No. (if any)]
(Title of Work)

Schedule, Meetings, & Deliverables

SCHEDULE

MEETINGS

DELIVERABLES

End of Attachment C.#

Attachment D.#
Task Order [#], Amendment [#] (MA26.00.00)
[Project Title & No. (if any)]
(Title of Work)

Roles and Small Business [or DBE] Participation

The Authority has assigned a Small Business Goal of 10% for the Master Services Agreement.

*Due to the limited scope of work, there is no participation proposed for this Task Order.
[Delete if participation is noted below]*

Roles:

Firm Name	Role
None.	N/A

SB Participation:

Firm Name	Amount	Participation
None.	N/A	N/A

DBE Participation:

Firm Name	Amount	Participation
None.	N/A	N/A

Delete if not applicable.

**Use associated excel worksheet to create and paste into document.*

End of Attachment D.#

EXHIBIT 2 INSURANCE REQUIREMENTS

This Insurance Requirements Exhibit is part of the Agreement, between the Owner and the Consultant for the following:

PROJECT:

Master Agreement for **[insert as applicable]** On Call Architectural & Building Engineering Services, On Call Mechanical Engineering Services, On Call Electrical Engineering Services, or On Call Structural Engineering Services.

THE OWNER:

Raleigh-Durham Airport Authority
1000 Trade Drive, PO Box 80001
RDU Airport, NC 27623

THE CONSULTANT:

FIRM NAME
ADDRESS
CITY, STATE ZIP

ARTICLE 1. GENERAL

The Owner and Consultant shall purchase and maintain insurance, as set forth in this Exhibit.

ARTICLE 2. OWNER'S INSURANCE

2.1 General. The Owner shall be responsible for purchasing and maintaining the Owner's usual general liability and property insurance.

ARTICLE 3. CONSULTANT'S INSURANCE

"Consultant" throughout this Exhibit includes the Consultant and any tier Sub-Consultant of any type.

3.1 Consultant's Required Insurance Coverage. The Consultant shall purchase and maintain the following types and limits of insurance.

3.1.2. Commercial General Liability

3.1.2.1 Commercial General Liability insurance for the Agreement (with coverage no more restrictive than the latest edition of the ISO Occurrence Form GC 00 01) with policy limits of not less than the limits specified in Section 3.6, including coverage for products-completed operations hazard, providing coverage for claims including, but not limited to, the following:

- a. damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- b. personal injury and advertising injury;
- c. damages because of physical damage to or destruction of tangible property, including the loss of use of such property;

- d. bodily injury or property damage arising out of completed operations; and
- e. Per Project Aggregate Endorsement
- f. Contractual Liability sufficient to satisfy the separate and independent indemnification requirement in the contract.

3.1.2.2 The Consultant's Commercial General Liability policy under this Section 3.1.2 shall not contain an exclusion or restriction of coverage for the following:

- a. Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
- b. Claims for property damage to the Consultant's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subconsultant.
- c. Claims for bodily injury other than to employees of the insured.
- d. Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
- e. Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.

3.1.2.3 The Consultant's Commercial General Liability policy under this Section 3.1.2 shall not contain an amendment to the definition of an insured contract.

3.1.2.4 The Consultant's Commercial General Liability insurance shall include coverage for claims against the Owner for injuries to employees of Consultant or any Subconsultants.

3.1.3 Automobile Liability. Automobile Liability coverage (including coverage for claims against Owner for injuries to employees of Consultant or any Subconsultants) covering vehicles owned, and non-owned vehicles used, scheduled, or hired by the Consultant, with policy limits of not less than the limits specified in Section 3.6. Including coverage for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

3.1.4 Workers' Compensation. Workers' Compensation insurance that meets statutory limits and requirements.

3.1.5 Employers Liability. Employers' Liability with policy limits not less than the limits specified in Section 3.6.

3.1.6 Excess or Umbrella Liability. Excess or Umbrella liability insurance coverage (including coverage for claims against Owner for injuries to employees of Consultant) with a limit of not less than the limits specified in Section 3.6. These limits apply in excess of each of the above-mentioned policies. The Excess or Umbrella coverage should be form following and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The Excess or Umbrella policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

3.2 Consultant’s Potential Additional Required Insurance Coverage. When the scope of work outlines the need, the Consultant shall purchase and maintain the specified types and limits of insurance as determined per Task Order.

3.3 Professional Services Liability. If this Agreement involves or includes Consultant providing or performing design, engineering, consulting, or any professional service, professional liability insurance with a combined single limit of not less than the limits specified in Section 3.6. The professional liability insurance shall cover the liability of Consultant for any and all errors or omissions committed by Consultant or its Subconsultants, in the performance of the Work, regardless of the type of damages. Policy shall contain an endorsement or sub-limit for “Mitigation of Damage” coverage.

3.3.1 Pollution Liability. If the Work involves or includes Consultant handling, transporting, disposing, or performing work or operations with hazardous substances, contaminants, waste, toxic materials, or any potential pollutants, Consultant’s pollution liability insurance applicable to bodily injury, property damage, including loss of use of damaged property or of property that has not been physically injured or destroyed, cleanup costs, and defense, including costs and expenses incurred in the investigation, defense, or settlement of claims, with a combined single limit of not less than the limits specified in Section 3.6. Including automobile pollution liability coverage at least as broad as that provided under the ISO pollution liability – broadened coverage for covered auto endorsement (CA 99 42) shall be provided, and the Motor Carrier Act Endorsement (MCS 90) shall be attached.

3.3.2 Coverage under Sections 3.3 and 3.3.1 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits as determined per Task Order.

3.3.3 Cyber Liability If the Work includes any type of Cyber Liability, 1st or 3rd party risk to the Authority, limits not less than the limits specified in Section 3.6. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by Consultant in this agreement and shall include, but not limited to, claims involving infringement of intellectual property, including but not limited to infringement of copyright, trademark, trade dress, invasion of privacy violations, information theft, damage to or destruction of electronic information, release of private information, alteration of electronic information, extortion and network security. The policy shall provide coverage for breach response costs as well as regulatory fines and penalties as well as credit monitoring expenses with limits responding to these obligations.

3.4 Aircraft Operation If the Work requires such activities, Insurance for the use or operation of manned or unmanned aircraft, a policy with not less than the limits specified in Section 3.6. The policy shall provide coverage for bodily injury, property damage, and personal and advertising injury. Consultant and/or Vendor shall be in full compliance with 14CFR Part 107 (as to Unmanned Aerial Vehicles).

3.5 Other Insurance

[List below any other insurance coverage, per individual project as required by Task Owner to be provided by the Consultant and any applicable limits.]

Coverage	Limits
To be determined per Task Order	TBD

3.6 Insurance Obligations.

3.6.1 Insurance Minimum Limits

The Consultant shall provide a minimum of the applicable limits per the schedule below based on the Task Order (“contract”) price and work performed:

COVERAGE	CONTRACT PRICE - LANDSIDE		
	\$0 to \$3,000,000	\$3,000,000 - \$15,000,000	\$15,000,000 and over
Commercial General Liability	\$1,000,000 Ea. Occ. \$2,000,000 Prod. & Comp. Ops \$2,000,000 Gen. Agg.	\$1,000,000 Ea. Occ. \$2,000,000 Prod. & Comp. Ops \$2,000,000 Gen. Agg.	\$1,000,000 Ea. Occ. \$2,000,000 Prod. & Comp. Ops \$2,000,000 Gen. Agg.
Automobile Liability	\$1,000,000 Ea. Acc.	\$1,000,000 Ea. Acc.	\$1,000,000 Ea. Acc.
Workers' Compensation	STATUTORY	STATUTORY	STATUTORY
Employers Liability	\$1,000,000 Ea. Acc. \$1,000,000 Disease Ea. Emp. \$1,000,000 Disease Policy Limit	\$1,000,000 Ea. Acc. \$1,000,000 Disease Ea. Emp. \$1,000,000 Disease Policy Limit	\$1,000,000 Ea. Acc. \$1,000,000 Disease Ea. Emp. \$1,000,000 Disease Policy Limit
Excess or Umbrella Liability	\$1,000,000 Ea. Occ. \$1,000,000 Agg.	\$3,000,000 Ea. Occ. \$3,000,000 Agg.	\$5,000,000 Ea. Occ. \$5,000,000 Agg.
<i>Potential Additional Required Insurance Coverage</i>			
Professional Services Liability	\$1,000,000 Per Claim \$1,000,000 Agg.	\$3,000,000 Per Claim \$3,000,000 Agg.	\$5,000,000 Per Claim \$5,000,000 Agg.
Pollution Liability	\$1,000,000 Per Occ. \$1,000,000 Agg.	\$3,000,000 Per Occ. \$3,000,000 Agg.	\$5,000,000 Per Occ. \$5,000,000 Agg.
Cyber Liability	\$1,000,000 Per Occ. / Claim \$1,000,000 Agg.	\$3,000,000 Per Occ. / Claim \$3,000,000 Agg.	\$5,000,000 Per Occ. / Claim \$5,000,000 Agg.
Aircraft Operation	\$5,000,000 Per Claim \$5,000,000 Agg.	\$5,000,000 Per Claim \$5,000,000 Agg.	\$5,000,000 Per Claim \$5,000,000 Agg.

COVERAGE	CONTRACT PRICE - AIRSIDE		
	\$0 to \$3,000,000	\$3,000,000 - \$15,000,000	\$15,000,000 and over
Commercial General Liability	\$1,000,000 Ea. Occ. \$2,000,000 Prod. & Comp. Ops \$2,000,000 Gen. Agg.	\$1,000,000 Ea. Occ. \$2,000,000 Prod. & Comp. Ops \$2,000,000 Gen. Agg.	\$1,000,000 Ea. Occ. \$2,000,000 Prod. & Comp. Ops \$2,000,000 Gen. Agg.
Automobile Liability	\$1,000,000 Ea. Acc.	\$1,000,000 Ea. Acc.	\$1,000,000 Ea. Acc.
Workers' Compensation	STATUTORY	STATUTORY	STATUTORY
Employers Liability	\$1,000,000 Ea. Acc. \$1,000,000 Disease Ea. Emp. \$1,000,000 Disease Policy Limit	\$1,000,000 Ea. Acc. \$1,000,000 Disease Ea. Emp. \$1,000,000 Disease Policy Limit	\$1,000,000 Ea. Acc. \$1,000,000 Disease Ea. Emp. \$1,000,000 Disease Policy Limit
Excess or Umbrella Liability	\$5,000,000 Ea. Occ. \$5,000,000 Agg.	\$10,000,000 Ea. Occ. \$10,000,000 Agg.	\$15,000,000 Ea. Occ. \$15,000,000 Agg.
<i>Potential Additional Required Insurance Coverage</i>			
Professional Services Liability	\$5,000,000 Per Claim \$5,000,000 Agg.	\$5,000,000 Per Claim \$5,000,000 Agg.	\$10,000,000 Per Claim \$10,000,000 Agg.
Pollution Liability	\$5,000,000 Per Occ. \$5,000,000 Agg.	\$5,000,000 Per Occ. \$5,000,000 Agg.	\$5,000,000 Per Occ. \$5,000,000 Agg.
Cyber Liability	\$5,000 Per Occ. / Claim \$5,000,000 Agg.	\$5,000 Per Occ. / Claim \$5,000,000 Agg.	\$5,000 Per Occ. / Claim \$5,000,000 Agg.
Aircraft Operation	\$5,000,000 Per Claim \$5,000,000 Agg.	\$5,000,000 Per Claim \$5,000,000 Agg.	\$5,000,000 Per Claim \$5,000,000 Agg.

3.6.2 Insurance selected and described in this Article 3 shall be purchased from an insurance company or insurance companies acceptable to Owner and lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Consultant shall maintain the required insurance for five (5) years from the expiration of the period for correction of Work unless a different duration is stated within a Task Order.

3.6.3 Ratings. All insurance coverage shall be provided by insurance companies acceptable to Owner and having ratings of A-VII or better in Best's Key Rating Insurance Guide (latest edition in effect at the latest date stated on the Certificate of Insurance).

3.6.4 Certificates of Insurance. The Consultant shall provide certificates of insurance and copies of all policies and endorsements acceptable to the Owner evidencing compliance with the requirements in this Article 3 at the following times: (1) prior to commencement of the Work; (2) upon renewal, or replacement, or modification of each required policy of insurance; and (3) upon the Owner's written request.

An additional certificate evidencing continuation of commercial liability coverage, including required coverages for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the periods required by Section 3.5. The certificates shall comply with all applicable Articles of this Exhibit.

3.6.5 In no event shall any failure of the Owner to receive certified copies of policies or certificates of insurance required under this Section 3 or to demand receipt of such certified copies or certificates prior to the Consultant's commencing the Work be construed as a waiver by the Owner of the Consultant's obligations to obtain insurance pursuant to this Section 3. The obligation to procure and maintain any insurance required by this Section is a separate responsibility of the Consultant and independent of the duty to furnish a certified copy or certificate of such insurance policies.

3.6.6 Deductibles and Self-Insured Retentions. Consultant shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Consultant. Consultant shall be responsible for satisfying any deductibles or self-insured retention(s) applicable to any claims.

For Excess or Umbrella Liability detailed in section 3.1.6, any self-insured retention above \$25,000 shall require Owner's approval prior to project commencement. At a minimum the Excess or Umbrella liability policy will remain in force over the General Liability, Automobile Liability and Employers Liability policies.

For Professional Liability detailed in section 3.3, the policy shall not include a deductible or self-insured retention in excess of Two Hundred Fifty Thousand Dollars (\$250,000), and any deductible or self-insured retention is the sole responsibility of the Consultant, and no portion of such deductible is the responsibility of the Owner.

3.6.7 Additional Insured Obligations. To the fullest extent permitted by law, the Consultant shall cause the commercial general liability coverage to include (1) the Owner, as additional insureds for claims caused in whole or in part by the Consultant's negligent acts or omissions during the Consultant's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Consultant's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 04 13, CG 20 37 04 13.

3.6.8 In addition to all other requirements set forth in this Exhibit, insurance coverage provided by Consultant under this Agreement shall not include any of the following: any claims-made insurance policies; any endorsement limiting coverage available to Owner which is otherwise required by this Agreement; and any policy or endorsement language that (1) limits the duty to defend Owner under the policy, (2) provides coverage to Owner only if Consultant is negligent, (3) permits the recovery of defense costs from any additional insured, or (4) limits the scope of coverage for liability assumed under a contract. Nothing herein is intended to require the Consultant to provide insurance coverage to the Owner for Owner's own negligence.

3.6.9 To the extent permitted by applicable Laws, all above-mentioned insurance policies shall comply with the following:

- 3.6.9.1** Be primary and non-contributory to any other insurance carried by Owner;
- 3.6.9.2** Contain cross-liability coverage as provided under ISO Forms' separation of insureds clause;
- 3.6.9.3** Provide for a waiver of all rights of subrogation, which Consultant's insurance carrier might exercise against Owner; and
- 3.6.9.4** Any Excess or Umbrella liability coverage will not require contribution before it will apply.

3.6.10 Non-Waiver. Failure of Consultant to provide insurance as herein required or failure of Owner to require evidence of insurance or to notify Consultant of any breach by the Consultant of the requirements of this Agreement shall not be deemed to be a waiver by the Owner of any other terms and conditions of this Agreement, nor shall they be deemed to be a waiver of any obligation of Consultant to defend, indemnify, or hold harmless the Owner. The obligation to procure and maintain any insurance required is a separate responsibility of Consultant and independent of the duty to furnish a copy or certificate of such insurance policies.

3.6.11 Consultant's Commencement of Work Without Insurance. Commencement of Work by Consultant without the required Certificates of Insurance, or without compliance with any other provision of this Agreement, shall not constitute a waiver by Owner of any rights under this Agreement.

3.6.12 Consultant Obligations Not Limited. None of the requirements contained herein as to types, limits, or Owner's approval of insurance coverage to be maintained by Consultant are intended to and shall not in any manner limit, qualify, or quantify the liabilities and obligations assumed by Consultant under this Agreement, any other agreement with Owner, or otherwise provided by law.

3.6.13 Breach of Agreement. Failure to obtain and maintain the required insurance shall constitute a breach of this Agreement and the Consultant will be liable for any and all costs, liabilities, damages, and penalties (including attorneys' fees, court, and settlement expense) resulting to Owner from such breach.

3.6.14 Additional Coverages. Owner reserves the right to require Consultant to provide and maintain additional coverages upon request.

3.6.15 Waiver of Subrogation. Consultant shall waive all rights of subrogation against Owner under those policies procured in accordance with this Agreement.

3.6.16 Claim Reporting. Owner has the right but not the obligation to directly report any claims to any and all insurance carriers.

3.7 Duty of Cancellation Notification and Insurance Reporting

3.7.1 Notice of Cancellation or Expiration of Consultant's Required Insurance.

Consultant shall require that all above, applicable insurances are endorsed with a 90 day notice of cancellation endorsement to:

Raleigh Durham Airport Authority
1000 Trade Drive
PO Box 80001
RDU Airport, NC 27623

3.7.2 Consultant's failure to provide a required notice of cancellation does not absolve the contractual requirements set forth in this insurance agreement.

3.7.3 Consultant will provide the Authority with a renewal Certificate of Insurance 30 days prior to any policy renewal, cancellation or non-renewal

3.8 Consultant's Subconsultants

Consultant shall require that all Subconsultants provide the same coverage and evidence of insurance as required in Article 3 of this Exhibit.

Consultant and Owner must be named as additional insured for ongoing and completed operations. Policies held by Subconsultants, or suppliers shall be Primary and Non-Contributory to policies held by both Consultant and Owner and shall contain a Waiver of Subrogation in favor of the Consultant and Owner.

Consultant shall not allow any Subconsultant to commence Work until such Subconsultant has obtained and provided insurance of the types, coverages and limits specified in this Exhibit. Failure of the Consultant to validate insurance coverage of the Subconsultant prior to commencement of work shall constitute a breach of this Agreement and the Consultant will be liable for any and all costs, liabilities, damages, and penalties (including attorneys' fees, court, and settlement expense) resulting to Owner from such breach.

Owner may, in its sole discretion, allow Subconsultant's to carry lower limits of coverage depending upon the type of professional service provided by Subconsultant. A request for lower insurance coverage shall be presented to the Owner in writing at the beginning of scope negotiations for all task orders.

3.8.5 If the Subconsultant's work require any scope of work that require the additional coverages listed above, the Subconsultant shall maintain the required insurance.



Computer Aided Design Standard
Raleigh-Durham Airport Authority

May 2018

FORM

Computer Aided Design Standard

Raleigh-Durham Airport Authority

May 2018

Prepared by Woolpert, Inc.
4454 Idea Center Blvd
Dayton, OH 45430

www.woolpert.com

FORM

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FORM

CHAPTER 1 Introduction

Objective of this Document

This Computer Aided Drafting (CAD) Standard defines the requirements for creating, maintaining and submitting CAD drawings to Raleigh-Durham Airport Authority (“Authority”). It establishes requirements for the contents of AutoCAD® Drawings (DWGs), including use of paper and model space, handling of externally referenced files, layers to be used, symbology and plotting requirements. It also explains how to correctly organize drawing sheets into drawing sets, as well as how to submit completed drawing sets to the Authority.

Scope of this Document

This document defines requirements for all CAD drawings created or maintained for the Authority, including those drawings developed or used throughout the planning, design, construction, operations, and maintenance phases of a facility or asset’s lifecycle, and those exchanged internally at the Authority, or between the Authority and its consultants, agencies, surrounding jurisdictions, and other stakeholders. This Standard applies to all consultants and staff responsible for creating or maintaining these drawings. Consultants and staff shall use the latest version of these requirements upon commencement of a project.

Organization of this Document

This document defines the requirements for developing and maintaining Authority DWGs, from their most fundamental components to complete deliverable packages. Chapter 2 defines the graphic objects that are used in drawings to represent real world features. Chapter 3 describes how graphical effects and annotations can be applied to these objects. Chapter 4 covers the organization of these objects onto layers within a drawing. Chapter 5 describes how drawing elements are viewed as a series of sheets that are combined into drawing sets. Chapter 6 describes how drawing sets should be delivered to the Authority. Appendices provide a list of acceptable layers, a quality assurance checklist, a form to request changes to this document, and a glossary of acronyms and commonly used terms.

Related Documents

This document is related to other documents, some of which contain additional requirements that must be met (i.e., normative references) and some of which contain reference information that may be helpful when developing Authority CAD DWGs (i.e., informative references). Normative references take precedence over informative reference should there be any conflicts or contradictions. Authority documents can be provided by the Authority PM or LM.

Normative References

Relevant requirements in the following documents must be met when developing DWGs for the Authority. Relevant requirements are those that are applicable to Authority DWGs, unless otherwise specified in writing by the Authority. These documents include:

- The Authority’s contracts and agreements that require the delivery of Authority DWGs.
- If Object Data is required by Contract or Agreement with the Authority, the fields and values must be as specified in the Authority’s GIS Standard
- If the data being developed is defined as Safety Critical in Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5300-18 General Guidance and Specification for

Aeronautical Surveys: Airport Survey Data Collection and Geographic Information System Standards or if the Contract or Agreement requires data to be submitted to the FAA's Airports GIS (AGIS), the requirements of the AC must be met. AC150/5300-18B can be found at:

https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/74204

- If the data being developed is defined as Sensitive Security Information (SSI) by the Code of Federal Regulations (CFR), Title 49, Chapter XII, Subchapter B, Part 1520, Protection of Sensitive Security Information (SSI)" it must be handled as required by these regulations. These regulations can be found at:
- <https://www.gpo.gov/fdsys/pkg/CFR-2011-title49-vol9/pdf/CFR-2011-title49-vol9-part1520.pdf>

Informative References

The following documents provide additional information that may help developers and users of Authority DWGs create, update and use the data they contain. Any requirements defined in these documents may be applied at users' discretion, but are not necessarily required and must not conflict with the requirements of this document. These documents include:

- Raleigh-Durham Airport Authority GIS Standard
- National Institute of Building Sciences' National CAD Standard (NCS), which can be found at: <https://www.nationalcadstandard.org>. A license must be purchased to obtain a copy and use the NCS. This Standard complies with the NCS and can be used for Authority purposes without purchasing an additional license.

Revision History

This document has and will continue to evolve to meet the needs of the Authority, accommodate requests by consultants that are approved by the Authority, and enable the use of new technologies. Following is a list of the versions of this document that have been published.

Table 1.1 - Document Revisions

Revision Number	Date Published	Summary of Changes Made
1	Feb. 2018	Initial version
2	May 2018	Updated layers based on changes for CAD to GIS crosswalk

Request for Variance

Consultants and Authority staff members are encouraged to recommend changes to this document that they feel will improve their ability to meet the Authority's needs. These changes may be clarifications, additions, or deletions. Requests to add layers shall follow the layer naming conventions specified in the latest version of the NCS. Any changes that deviate from the requirements in this document will not be implemented until approved by the Authority. Approved deviations must be implemented before the first drawings of a contract are submitted. Change requests shall be submitted using the form provided in Appendix B to the PM or LM.

Software Requirements & Resources

Authority DWGs shall be compatible with AutoCAD, AutoCAD MAP 3D®, or AutoCAD Civil 3D® version 2013 - 2017. Users who do not use this software shall ensure that all requirements defined in this document are met in DWGs they create and convert from other software, without any loss of quality or accuracy when they are opened in Autodesk software.

CHAPTER 2 Drawing Objects

The organization and structure of CAD files is important to facilitate efficient retrieval and effective maintenance of CAD data. File standard elements such as coordinate systems, geometry types, drawing and sheet models, sheet assembly, code, and naming conventions all support a sustainable system of CAD files for the Authority and its consultants.

Object Types

Objects placed on drawings that depict real-world features shall be of the following geometry types:

- Point features such as airfield lights, manholes and valves shall be symbolized by the appropriate AutoCAD block. The insertion point should be at the location of the real-world object to within the accuracy tolerance where specified.
- Linear features such as utility pipes and marking lines shall be represented by AutoCAD lines or polylines.
- Polygonal features such as space boundaries shall be represented by AutoCAD closed polylines. Hatch patterns may be used within polygonal features.

Objects in drawings that are used to convey graphical references or alphanumeric information, such as annotations, text, dimensions and leader lines may use other AutoCAD object types, including construction lines, revision clouds and wipeouts. All text used, whether it is annotations associated with features, values within title blocks, or other text, shall be multiline text (MTEXT).

Table 2.1 – Geometry Types

Geometry Types			
Permitted		Non-Permitted	
Lines	Block	Spline	Circle
Polyline	MTEXT	Donut	Arc
Polygon	Construction Line	Region	Text
Revision Cloud	Ray	Ellipse	
Hatch	Dimension	Solid	
Wipeout	Multileader		
Point			

Coordinate System

Objects in CAD drawings that depict real world features such as buildings, utility pipes, and airfield lights shall be drawn using the North Carolina State Plane Coordinate System referenced to the North American Datum of 1983 (NAD 83) (FIPS: 3200, ESPG/Esri WKID: 102719). This coordinate system is defined based on the following parameters, which may be used by surveyors or geospatial analysts when confirming the coordinate system:

Spheroid GRS_1980",6378137,298.257222101

Primem Greenwich,0

Projection Lambert Conformal Conic 2SP

False Easting 2000000.002616666

False Northing 0

Central Meridian -79

Standard Parallel 1 34.33333333333334

Standard Parallel_2 36.16666666666666

Latitude of Origin 33.75

Vertical coordinates (i.e. Z), as required, shall be based on the North American Vertical Datum of 1988 (NAVD88) referenced to the latest geoid.

Units for both horizontal and vertical data will be the U.S. Survey Foot (1200/3937 meters).

Topology

Topology refers to the positional relationship between features. All features are required to meet the following topology rules.

- **Collocated Vertices** - Collocated vertices in two-dimensional data must share the exact same X and Y coordinates. Vertices collocated in three dimensions must share the same X, Y and Z coordinates. Two-dimensional and three-dimensional vertices are not considered to be collocated.
- **Lines Meet at Endpoints** – Line segments and polylines that join to represent one continuous string of linear features (e.g. a utility network) should have collocated vertices as endpoints.



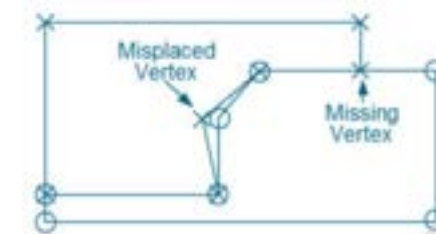
Source: FAA Advisory Circular 18B, Change 1, Page 73

- **Sufficient Density of Vertices** – Lines and polygon edges should contain one or more segments with vertices placed at intervals so the feature does not stray from the actual object it represents by more than half of the defined accuracy limit.



Source: FAA, AC150/5300-18B Change 1, Page 73

- **Shared Vertices between Adjacent Features** – Features that are intended to be adjacent to one another should share all collocated vertices along their common edge(s), as shown in the figure below. This ensures that there are no unintentional gaps (empty space) or slivers (overlaps) between adjacent features.



Source: FAA, AC150/5300-18B Change 1, Page 74

- **Polygons must always be closed** – The endpoints of line segments that form a polygon must be collocated and closed in the CAD program as shown in the figure below:



Source: FAA Advisory Circular 18B, Change 1, Page 75

Accuracy & Precision

All features and components of features shall be located within the specified distance of the location of the real-world object or component they are meant to represent (i.e. absolute positional accuracy). The accuracy tolerances where specified must be achieved at a 95% confidence level meaning that statistically 95% or more of the features will be at this accuracy level or better. Coordinate values shall be recorded to a precision (i.e. number of decimal places in the coordinate value) that is at least sufficient to represent the accuracy level specified.

Object Data

Object data associates alphanumeric information such as identifiers, material type, sizes, and other relevant data to CAD objects. It is similar and related to, but not the same as, text annotations that may be added to the drawing. Object data, and therefore this section, are only required if explicitly stated in the contract or agreement with the Authority.

Object data tables shall be connected to objects where attribute data and metadata are required within an Authority Contract or Agreement. These tables are defined based on the feature class to be used for each type of object. Values for object data table fields must be of the type and within the length specified in the Authority's GIS Standard. Where fields are tied to a domain, the values used must be one of the acceptable values defined in the Authority's GIS Standard.

CHAPTER 3 Graphic Concepts

Regardless of whether they are being used to represent real-world features, provide additional information that describes those features, or provide metadata about the drawing as a whole, objects shall use graphics that meet the following requirements:

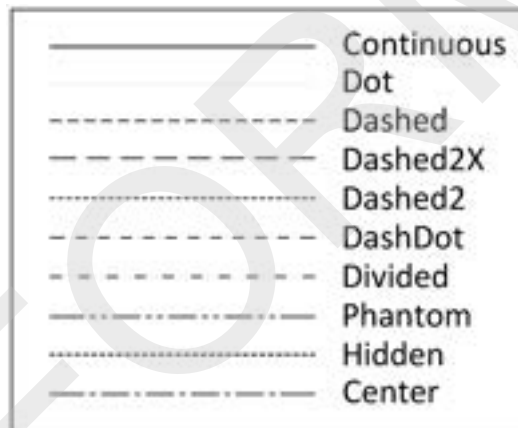
Blocks

Point features are represented by blocks. The insertion point of these blocks are at the location of the object represented by the feature. AutoCAD default blocks, as well as those defined by the Authority, are acceptable. These block definitions are provided in the Authority Standard CAD template file. Blocks shall not be nested. All block properties shall be set to "By Layer".

Line Types

The Authority accepts both AutoCAD default and custom line types. The use of AutoCAD default line types shall be in accordance with industry standards. These generally include center, continuous, dashed, hidden and phantom line types.

Figure 3.1. Predominant line types/styles.



Line Weights

Varied line weights substantially improve readability of drawing objects. The line widths defined in **Table 3.1** provide sufficient flexibility and shall be used. If additional line weights are desired prior approval of the Authority PM or LM is required.

Table 3.1 Comparison of line weights

Line Thickness	mm	In.	Typical Use
Fine	0.18	0.007	Patterning and material indications
Thin	0.25	0.010	Dimension lines, leaders, extension lines, break lines, grid lines, schedule grid lines, hidden objects, center lines, setback lines
Medium	0.35	0.014	Object lines, text, property lines, terminator marks, schedule grid accent lines
Wide	0.50	0.020	Major object lines, cut lines, section cutting plane lines, property lines, drawing block

Extra wide	0.70	0.028	Minor title underlining, footprints, match lines, schedule outlines, sheet borders, large titles, object lines requiring special emphasis
XX Wide	1.00	0.040	Major title underlining and separating portions of drawings
XXX Wide	1.40	0.055	Border sheet outlines and cover sheet line work
XXXX Wide	2.00	0.079	Border sheet outlines and cover sheet line work

Source: A/E/C CAD Standard Release 6.0, Change 2, Page 26

Note: As per the National CAD Standard (NCS), there is an Extra Fine (0.13 mm) line width. However, the Authority is aware that the legibility on printouts becomes more difficult when the line width goes below the Fine (0.18 mm) line width. For this reason, use of Extra Fine line widths should be avoided if the drawing will be plotted half-size, consistent with the NCS guidance.

Text Style

Different styles of text fonts shall be used within a drawing to delineate types of information. This text shall be capitalized, to allow readability to be retained when reproduced at one-half size.

- **Regular font** is to be used for most general notes, labels, dimensions, or title blocks.
- **Italic font** is to be used where text needs to be easily distinguished from other text.
- **Filled fonts** are to be used primarily for titles and on cover sheets.
- **Symbol font** should be used in cases where Greek symbols are used to represent technical information.

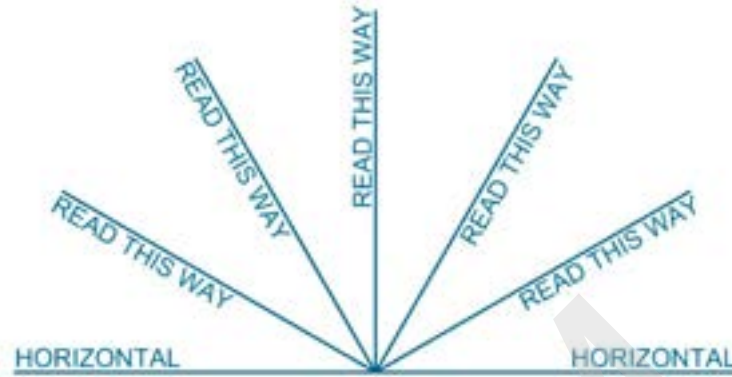
Table 3.2 – Comparison of font types

Font Type	TrueType
Regular	Arial ABCDEFGHIJKLMNOPQRSTUVWXYZ UVWXYZ
Italic	Arial (Italic) ABCDEFGHIJKLMNOPQRSTUVWXYZ UVWXYZ
Filled	Arial (Bold) ABCDEFGHIJKLMNOPQRSTUVWXYZ UVWXYZ
Symbol	Arial (Symbols) ΑΒΧΔΕΦΓΗΘΚΑΜΝΟΠΡΣΤ ΥϚϛϜϝϞϟϠϡϢϣ αβγδεζηικλμνοπρστ υφωζψς

Source: ERDC/ITL TR-12-1; Release 2.0, Page 45

Text shall be oriented such that it is parallel to the primary base of the drawing. If necessary, text can be rotated at angles up to 180 degrees so long as the orientation is as shown in **Figure 3.2**. Regardless of orientation, all text shall be oriented to be read from bottom to top or from left to right as displayed within the final plotted viewport.

Figure 3.2. Text Orientation



Source: ERDC/ITL TR-12-1; Release 2.0, Page 43

In addition, it is important to consider the following:

- Text shall never be placed over other text.
- Text shall not be placed over feature lines, hatching, or patterning. In case text is unreadable due to the background where it is placed, text shall be masked, by turning “Background Mask” for the text properties on, so the text can be clearly read.
- Text justification depends upon the type of text being placed. For example, general numbered notes shall have upper-left justification, elevation labels appearing to the left of a feature shall have bottom-right justification, and elevation labels appearing to the right of a feature shall have bottom-left justification.
- All text shall be Multiline Text (MTEXT).
- If text is moved from the location of the object it represents, a leader line shall be provided to point from the text to its corresponding object in the drawing.

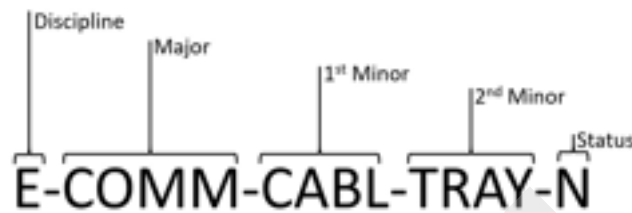
Dimension Styles / Multileaders

The dimension style has line weights defined for dimension lines and extension lines at 0.006 inches. Extend beyond dim lines and offset from origin lines are set at 0.0625 inches. Arrowheads are closed and filled at 0.125 inches in size. The text height is 0.125 inches with text alignment set to horizontal. The format, structure, and content of the multileader style is like that of the dimension style. The dimension style and multileader style are provided in the Authority Standard CAD template file.

CHAPTER 4 Layer Assignment

All objects including those that represent real world features, graphical annotations, title block information, data tables, and other details shall be placed on layers defined in Appendix A. Layer names have been established based on the NCS layer naming convention, which is shown in the figure below.

Figure 4.1 Layer Naming Convention



- The discipline shall be a one-character code representing the primary discipline of the objects contained on that layer. One character discipline codes to be used are listed in Figure 5.4.
- The major describes the category in which the objects on the layer fall.
- The first minor defines the type of object on that layer.
- A second minor is sometimes used to indicate the sub-type of the objects on that layer.
- A status code that indicates the status of the objects on that layer. Status codes as listed in the table below shall be used. Existing features not impacted by a project are to be shown on layers without a status code.

Table 4.1 - Status Codes

Code	Status
A	Abandoned
F	Planned or proposed future features
U	Unverified

For design and construction projects that will be altering features shown on drawings, the additional status codes shall be used to indicate how features will be altered by the project. These codes should not be used on as-built drawings, which show existing conditions that do not require a status code or may use one of the status codes above where appropriate.

Table 4.2 – Design and Construction Project Status Codes

Code	Status
<i>D</i>	<i>To be demolished</i>
<i>N</i>	<i>To be constructed</i>
<i>R</i>	<i>To be relocated</i>
<i>T</i>	<i>Temporary features to be installed and removed</i>

CHAPTER 5 Drawing Components

Drawings are made up of objects placed onto appropriate layers within model space or paper space. This work must be done in a methodical and organized manner that yields clear, consistent and legible results.

Model Scale

All drawing objects shall be drawn at either full scale or 1/12th scale. Full scale means that the true size of an object is reflected in the same number of drawing units (i.e., 1:1 scale). For example, a 75 foot wide taxiway will space 75 drawing units. Architectural drawings may be drawn at 1/12th so long as the scale is clearly indicated in the title block. Dimensions, annotations, and text (as described above) shall be set to Annotative to be displayed at the proper Annotative Scale.

Paper Scale

Paper space is utilized for plots (sheet files) of drawings created in model space. It usually contains single or multiple viewports each showing a portion of the features in model space. The viewport(s) typically contain a specified scale and orientation. Cover sheet and title block shall be placed in paper space. Notes, tables, details, diagrams and other entities not requiring scaling or external referencing should be placed in paper space. The paper space tabs shall be renamed to reflect the sheet number as defined below.

Color table

Color table files (.CTB) control the color objects on specific layers are plotted or printed, regardless of their color in the drawing. The default AutoCAD CTB file should be used.

Sheet Size and Scale

The Authority recommends that drawings be ANSI D (34" x 22") in size, which permits them to be plotted or printed at half size on standard 17" x 11" paper. Other sizes may be used to accommodate specific project needs, if approved in advance by the Authority. Each drawing shall be established at a drawing scale of 1:1 in the Design Model (Model Space) allowing the accurate preparation of views in the Sheet Model (Paper Space).

Sheet Border and Title Block

Drawings that are required to be plotted either in hard copy or Portable Document Format (PDF) must have a border and title block of the proper format that is populated with all relevant information about the drawing (i.e., metadata). The format of this information and fields to be used to populate metadata are described below and provided in the template files. The format of these elements shall not be changed and specific layers, as indicated in Appendix X, "Title Block Layers," shall be used. The line weights for the title block are defined through polylines and the layer properties manager. The plotting scheme shall conform to these values. There are small circles located at the corners of the sheet which define the plot area when selecting the centers by window. A bar scale is provided to verify that the plotting is 1:1. Figure 5.1 below shows an example of the required title block:

Figure 5.1 –Title Block



Logo

The Authority logo will appear on all drawings created for or by the Authority. The logo to use has been included in the template files, as well as part of the Titleblock file. Consultant or other logos may appear on drawings submitted to the Authority, subject to approval by the Authority PM or LM.

Figure 5.2 –Logo



Key Map & North Arrow

A key map will be provided that shows the full extent of the Authority base map and highlights with a rectangle the area shown on this sheet. An arrow that shows the direction of the True North shall be provided on all Sheet Files that show the horizontal location of features (i.e. planimetric perspective). Such a North Arrow is not required on Sheet Files that contain not planimetric information such as riser diagrams, schematic diagrams, or one-line diagrams.

Contract Information

The contract number and title under which the drawing was developed should appear in the title block in the locations shown in Figure 5.3, exactly as they are presented in the executed contract. Contract numbers format shall be the same as those in the contract or agreement under which the drawing was prepared or as otherwise requested by the Authority PM or LM in writing.

Figure 5.3 – Contract Information

CONTRACT NO.: CONTRACT_NO	CONTRACT NAME: CONTRACT_NAME	COPYRIGHT NO.: COPYRIGHT_NO
------------------------------	---------------------------------	--------------------------------

Scale Bar

A scale bar should be provided in the title block. The scale bar should be in imperial units with a sufficient number of intervals to estimate drawing distances either visually or with a ruler.

Metadata Elements

Additional information about the data presented in a drawing also appears in the title block. This information (metadata) is shown in Figure 5.4 and described in the subsequent sections:

Figure 5.4 – Metadata Elements

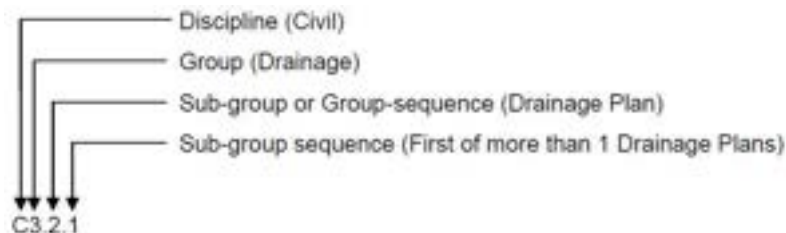
RALEIGH-DURHAM INTERNATIONAL AIRPORT 2400 JOHN BRANTLEY BLVD. MORRISVILLE, NC 27560 DESIGN FIRM STREET ADDRESS CITY, STATE ZIP ADDRESS 4		DESIGNED BY: DESIGNER		DATE: DATE	
		DWN BY: DRAWN BY		CONTRACT NO.: CONTRACT_NO	
		SUBMITTED BY: SUBMITTER		CONTRACT NAME: CONTRACT_NAME	
		SCALE: PLOT_SCALE		COPYRIGHT NO.: COPYRIGHT_NO	
		SIZE: ANSI_D		REVISION NO: REVISION_NO	
		FILE NAME: FILE_NAME			

PROJECT_TITLE_1
PROJECT_TITLE_2
PROJECT_TITLE_3
REVISION_STATUS
SHEET_TITLE_1
SHEET_TITLE_2
SHEET_TITLE_3

SHEET IDENTIFICATION	
SHEET_ID	
SHEET X OF Y	

Sheet Number

The sheet number, or sheet ID, shall be entered into the title block as shown in Figure 5.4. Sheet numbers shall take a two, three, or four position form: Discipline, Group, Sub-group and Sub-group sequence, with the latter three positions separated by periods, as shown in Figure 5.5. In some instances, the Sub-group position is used as Group-sequence. A list of acceptable sheet numbers is provided in Appendix X.

Figure 5.5 – Sheet Number


Only when there is more than one sheet of a particular Group or Sub-group shall the sequencing positions be used. When the Sequence positions are used, the implication is that there is more than one sheet for that Group or Sub-group.

Sheet Sequence Number

The sequential number of the sheet within the drawing set and the total number of sheets in the drawing set should be indicated in the title block. The cover sheet should be sheet sequence number 1 (one) with all subsequent sheets numbered sequentially. The order in which sheets should appear in a drawing set is described in the Drawing Set Assembly section.

Stage

The user shall indicate the stage of the facility design and construction process that the drawing reflects. Some examples are “30% Design”, “60% Design”, “90% Design”, “Conformed Set”, and “As-Built”. If not apparent based on the contract or agreement, then the Authority PM will provide direction as to the stage to be indicated at each phase of the project.

Dates

The date indicated shall coincide with the date upon which the drawing was submitted, unless otherwise indicated. All dates shall spell out the full name of the month with all letters capitalized, followed by a space and the number representing the day of the month, followed by a comma then a space, and finally the four-digit number for the year (e.g., “JULY 4, 2016”).

Sensitive Security Information Label

If the drawing contains Sensitive Security Information (SSI) as defined by the Code of Federal Regulations (CFR), Title 49, Chapter XII, Subchapter B, Part 1520, then the Distribution Limitation Statement, shown below or a more recent version, must appear on the bottom of each sheet that contains SSI, as well as the cover sheet of a drawing set that includes one or more sheets that contain SSI. The protective marking “SENSITIVE SECURITY INFORMATION” must also appear on the top each sheet that contains SSI.

WARNING: This record contains Sensitive Security Information that is controlled under 49 CFR parts 15 and 1520. No part of this record may be disclosed to persons without a “need to know”, as defined in 49 CFR parts 15 and 1520, except with the written permission of the Administrator of the Transportation Security Administration or the Secretary of Transportation. Unauthorized release may result in civil penalty or other action. For U.S. government agencies, public disclosure is governed by 5 U.S.C. 552 and 49 CFR parts 15 and 1520

Revisions

Throughout design development and up to the original version, the drawing shall be indicated as Revision – [applicable revision sequence number]. There may be multiple revisions within a given stage of design or construction. When the drawing is initially submitted as complete within a stage, it shall be Revision 0. Revisions shall be sequentially numbered (i.e., 1, 2, 3, etc.). When a drawing is initially submitted as complete within a subsequent stage the Revision sequence number will be reset to 0. If a revision is made, two areas of the drawing shall be changed to show the correct revision number: the drawing area and the title block.

All revised drafting work in the drawing area shall be enclosed by cloud, and each cloud shall have a revision triangle, including the pertinent number, as its callout (see Figure 5.8). The cloud shall be appropriately dark and bold so that the contractor can clearly see what is different from the previous submittal. The title block shall be changed in two places: the revision number (see Figure 5.6), and the

revision column (see Figure 5.7). The revision column shall also include the revision triangle, as an exact match to the triangle in the drawing area (see Figure 5.8).

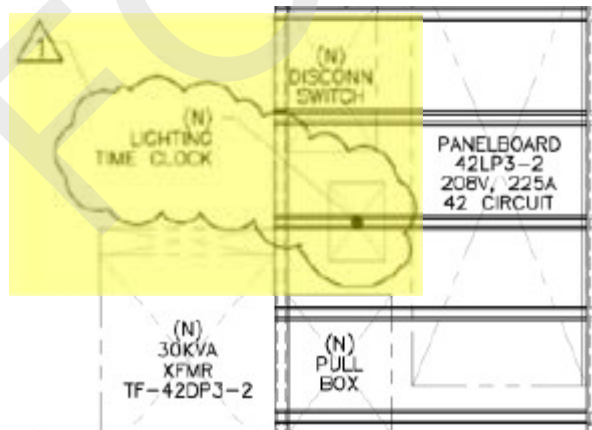
Figure 5.6 – Revision Number

CON	CON	CON	COPY	COPY
DRAWN_BY	CKD_BY	SUBMITTED BY: SUBMITTER	REVISION_NO	REVISION_NO
SCALE:	PLOT_SCALE	FILE NAME:	FILE_NAME	
SIZE:	ANSI_D			

Figure 5.7 – Revision Column

1	ACCORDANCE W/ MODIFICATION NO. 1	7/1/2005	TSR
MARK	DESCRIPTION	DATE	APPR

Figure 5.8 – Revision Cloud



Electronic File Naming

Each sheet shall be saved as a separate electronic file. For construction drawings, the name of those files shall match those of the sheet numbers, as shown below:

Table 5.1—Example File Names for Construction Drawings

Sheet Number	Revision	Filename
A1.2.2	0	A1_2_2.DWG
M3.R.1	2	M3_R_1_R2.DWG

For as-built drawings, the name of those files shall match those of the sheet numbers with AB at the end, as shown below:

Table 5.2—Example File Names for Construction Drawings

Sheet Number	Revision	Filename
A1.2.2	AB	A1_2_2_AB.DWG
M3.3.1	AB	M3_3_1_AB.DWG

PDF files of drawings shall be numbered the same as the drawing, with the corresponding revision for the particular revised sheet only, as shown in Table 5.3:

Table 5.3—Example File Names for PDF

Sheet Number	Revision	Filename
A1.2.2	0	A1_2_2.PDF
M3.3	2	M3_3_R2.PDF

When an entire set of drawings for the same contract is submitted as a single PDF, the file shall be named with the contract number and latest revision separated by a dash, for example: 10634_51-R4.PDF.

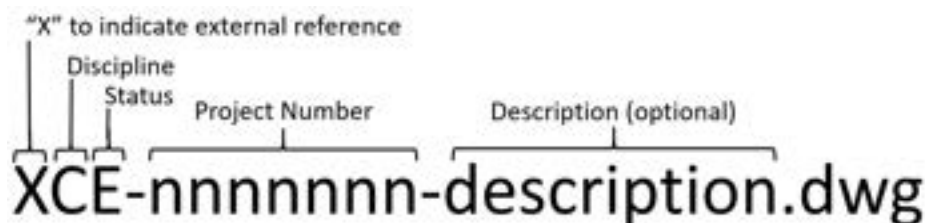
Externally Referenced Files

Basemap and related drawings being developed by others may be incorporated into a separate drawing for reference. These externally Referenced (XRef) drawings allow objects to be available for viewing and reference without the need to redundantly store a copy of these objects in the drawing itself. The insertion point for XRefs shall be 0,0,0.

All external reference files shall be attached as an overlay (rather than as an attachment) with the relative path unbound and located within the same folder structure to allow for relative path selection. The folder structure **shall be maintained** on the submittal media so as not to require the re-attaching of external references upon receipt by the Authority. Authority staff may add XRefs in networked file folders.

XRef files should be appropriately and uniquely named. XRefs prepared specifically for a project shall be named with “X” for XRef, discipline, condition, a delimiter dash, and contract number. Contract numbers should be formatted as “nnnnnnn” and confirmed with the Authority Contract Manager or PM. If desired, a word or brief phrase that describes the contents of the XRef may be added after the project number separated by a dash. The format of XRef file names is shown below in Figure 5.9.

Figure 5.9 - Naming of Externally Referenced Files



There shall be only two status codes used for XRef drawings, E for existing and N for new. The existing condition file shall contain all AutoCAD entities prior to the proposed construction, including the entities intended for demolition, which shall be managed using layers. The new condition file shall contain only

those AutoCAD entities which are new, and these new entities should be located such that XRefing the existing condition file matches both new and existing entities together.

Drawing Set Assembly

Drawing sets are composed of a number of sheets. The first sheet is a cover sheet followed by a series of drawing sheets in a specified order.

Cover Sheet

Since the intent of the cover sheet is to provide basic project information about the project, it shall appear as the first sheet of the drawing sets.

Information shown in the Cover Sheet shall include, but not limited to:

- Authority Logo
- Project Name and Number
- Submission Type (e.g. 30 percent Design, Bid Documents, etc.)
- Contract Number
- Vicinity Map and Project Location Map
- Consultant Signature Block (to include: logo, signature line, date line and stamp block)

Ordering of Drawing Sheets

Drawing sheets should appear after the cover sheet and be ordered by discipline in the sequence shown in Table 5.4, below. Title sheets shall begin with a G and appear first. Reference sheets shall begin with an R and appear last. Within each discipline, sheets should be ordered in alphanumeric sequence.

Table 5.4 — Sheet Order

Code	Discipline
V	Survey
C	Civil
L	Landscape
U	Utilities
S	Structural
A	Architectural
I	Interior
M	Mechanical
F	Fire Protection
P	Plumbing
E	Electrical

Index Table

All drawing sets should contain a tabular index of all sheets in the set. Depending on its length, the index table can be included on the Cover Sheet or placed on the second sheet of the drawing set. Additional sheets can be used if the index table spans more than one sheet.

Life Safety Sheet

Life safety information applicable to the project may be incorporated into index or other general sheets at the beginning of a drawing set. In addition, specific life safety plan sheets may be included under the

Architectural discipline to break space down into different use types so Total Occupancy can be calculated and used to ensure the building has the right number and size of exits in case of emergency. These sheets also typically show the paths of travel to exits from the most remote parts of the building.

Phasing Sheet

Phasing plan(s) sheet shows the breaks down of the project site into specific areas. This sheet(s) depict the order in which the project will be developed based on the scope and schedule established at the beginning of the it. A list of tasks to be completed during the phase, as well as the phase number should be shown with the phasing area.

Building Code Sheet

The Building Code plan(s) sheet includes building code regulations applicable to each discipline included in the entire drawing set. Depending on the amount of information required, this sheet could be combine with others like abbreviation or drawing index.

CHAPTER 6 Drawing Delivery & Quality of CAD Data

An important objective of this CAD Standard Document is to help create the most accurate and graphically consistent set of CAD drawings for the Authority.

Quality Assurance

Before consultants submit DWGs to the Authority and before staff share DWGs with other staff members or consultants, they are responsible for conducting Quality Assurance (QA) on those drawings. QA should be conducted by an individual who is familiar with the content and the requirements of this document, but who did not directly work on the data in the drawing being checked. Quality assurance shall check the drawing(s) against all applicable requirements in this document, including but not limited to:

- **Objects have the correct geometry, adhere to topology rules, and are on correct layers**
- **Objects representing real-world features are drawn in the specified coordinate system**
- **All sheets have a proper title block with metadata fields filled in correctly and completely**
- **Proper cover sheet is used with metadata fields filled in correctly and completely**
- **Sheets are numbered correctly and provided in the correct order**
- **Filenames are correct**

QA should also check to ensure that the data in the drawing is comprehensive, accurate, and correct. It may not be feasible to check all objects on drawings. At a minimum, a statistically valid sample of objects to establish a 95 percent confidence level in the data shall be checked. Objects shall be sampled randomly but their location shall be distributed across the extent of the drawing's contents. Objects on numerous layers shall be selected. All properties of the selected objects (i.e., geometry type, topology, layer, symbology, and object data, if present) shall be checked. If any property is not correctly recorded, then the object shall be considered a failure. All failures shall be corrected. If a pattern of failures (e.g., on a specific layer or in a specific area) is evident or a large number of failures are found, then all content in the drawing shall be thoroughly checked and corrected before QA recommences.

The table in Appendix B defines a series of checks that consultants should use to check the quality of drawings before they are submitted to the Authority. The checklist can also be used as a guide for quality control as the data is developed and may be used at the Authority's discretion for acceptance testing.

Plotted Drawings

Drawing sets shall be printed to PDF for delivery, unless otherwise directed by the Authority PM. PDFs should be printed at the full sheet size as described above. When printing to PDF in AutoCAD, the DWG To PDF.pc3 plotter configuration file shall be used. The scale shall be 1:1 and the sheet size shall be of the full bleed variety for the particular paper size selected. Also, the "Include Layer Information" interface shall NOT be checked in the Custom Properties setting within the Plotter Configuration Editor.

Building Information Modeling

Building Information Modeling (BIM) is an approach and technology for creating a detailed three-dimensional digital representation of a building or similar facility. Such models are increasingly being used to design buildings because they provide realistic views of what the building will look like, the ability to confirm the interaction between complex systems, and convey detailed specifications to those who will construct the building, amongst other benefits.

These models also offer a great deal of information that help owners operate and maintain the building once it is constructed. For this reason, the Authority requires copies of the models developed for airport buildings and facilities. The native file format of the BIM software used (e.g. Autodesk Revit or .RVT) shall be provided along with DWGs exported from that software. These files shall be provided at major design phase milestones, which reflect increasing Levels of Development (LOD) of the project, at an increasing level of detail. The specific requirements for deliverables will be defined design contract(s) that require BIM deliverables.

Revit models constructed for the Authority should adhere to the buildingSMART® International, Ltd.'s Industry Foundation Classes (IFC) data model. Concepts and resources developed under buildingSMART®'s openBIM initiative should also be considered.

DWGs exported from Revit models should be exported using the Revit export to DWG Export function. Two dimensional views of the floor plan and any relevant details sheets should be exported. All plan view sheets should be provided as separate DWGs. DWGs that are exported from models that use a project specific coordinate system shall include the location of two monumented control points with X, Y, and Z coordinates at opposing sides of the project site. These DWGs shall be delivered along with the RVT files as described below.

Electronic Delivery

Drawing sets shall be saved to electronic media such as a DVD, CD-ROM, or portable drive. Drawing sets can also be delivered electronically using File Transfer Protocol (FTP) as coordinated with the Authority PM or LM. AutoCAD's eTransmit function may be used for informal exchange of drawings (e.g., as an email attachment), but the formal submittal of drawings shall not be provided using eTransmit and shall be provided in a proper directory structure and not compressed to maintain external reference overlaying. When submitting drawings electronically, the following requirements must be met:

- Physical media must be labelled with the Authority contract number and name, as they appear on the fully executed copy of the contract; the prime consulting firm's name, the date of the submittal, the title of the drawing set and the review status.

- If any drawing, file, or additional information provided on the media contains SSI, then the media must be labelled with the statement SENSITIVE SECURITY INFORMATION along with the SSI distribution limitation statement indicated above. If multiple physical media devices are delivered together as a set, the label must indicate a sequence number and the total number in the sequence.
- Appropriate color table (.ctb) files shall be included.
- A tabulated Index of Sheets (.doc or .xls) shall be included. The table shall be titled “Electronic File Submittal Index—Contract ‘XXXX’” and have three columns: Electronic (AutoCAD) File Name, Drawing Number and Drawing Title. In addition, the table shall include a listing of file names and descriptions of external references. The description shall be placed under the heading of Drawing Title.

The final drawings must be tiled into Paper Space, layer set to 0, zoomed to extents and purged prior to saving and closing.

Appendices

FORM

Appendix A - Acceptable Layers

The following layers shall be used in all DWGs developed or maintained for the Authority. These layers are included in drawing template files (.DWTs) available from the Authority. Some of these layers are to contain data to be submitted to the FAA and therefore must also comply with the requirements of AC150/5300-18B. If additional layers are required, they must be approved by the Authority PM or LM in advance.

Layer Name	Description	Line	Line Width	Color
A-AREA	Architectural Area Boundary Lines	CONTINUOUS	0.18	7
A-AREA-CALC	Architectural Area Calculation	CONTINUOUS	0.50	4
A-CLNG-ACCS	Architectural Access Panels	CONTINUOUS	0.35	6
A-CLNG-OPNG	Architectural Ceiling Openings/Roof Penetrations (See Also A-Flor-Ovhd In Floor Plan Model File)	CONTINUOUS	0.18	8
A-CLNG-OUTL	Architectural Ceiling Outline	CONTINUOUS	0.18	7
A-CLNG-PANL	Architectural Ceiling Panels	CONTINUOUS	0.18	7
A-CLNG-SECT	Architectural Ceiling Section	CONTINUOUS	0.18	7
A-CLNG-SFFT	Architectural Ceiling Soffits	CONTINUOUS	0.25	2
A-CONV-BAGS-BELT	Architectural Conveyor System Baggage Wire Ropes, Chains and Belts	CONTINUOUS	0.18	253
A-CONV-BAGS-EQPM	Architectural Conveyor System Baggage Motor Equipment	CONTINUOUS	0.35	7
A-CONV-BAGS-FRMG	Architectural Conveyor System Baggage Framing	CONTINUOUS	0.18	128,128,128
A-CONV-BAGS-PLAT	Architectural Conveyor System Baggage Platform	CONTINUOUS	0.35	128,128,128
A-CONV-BAGS-PUSH	Architectural Conveyor System Baggage Direct Push	CONTINUOUS	0.18	128,128,128
A-CONV-DOOR-DCUR	Architectural Conveyor System Door Draft Curtain	CONTINUOUS	0.35	7
A-CONV-EQPM-BGRD	Architectural Conveyor System Equipment Belt Guard	CONTINUOUS	0.35	7

Layer Name	Description	Line	Line Width	Color
A-CONV-EQPM-BTRK	Architectural Conveyor System Equipment Belt Track	CONTINUOUS	0.35	7
A-CONV-EQPM-MCPP	Architectural Conveyor System Equipment Motor Control Panel	CONTINUOUS	0.35	7
A-CONV-EQPM-MOTR	Architectural Conveyor System Equipment Motor	CONTINUOUS	0.35	7
A-CONV-EQPM-OTHR	Architectural Conveyor System Equipment not Elsewhere Classified	CONTINUOUS	0.35	7
A-CONV-MOTR	Architectural Conveyor System Motor	CONTINUOUS	0.18	7
A-DOOR	Architectural Doors	CONTINUOUS	0.18	7
A-DOOR-FRAM	Architectural Doors Framing	CONTINUOUS	0.18	7
A-DOOR-GLAZ	Architectural Doors Glazing	CONTINUOUS	0.18	7
A-DOOR-PANL	Architectural Doors Panels	CONTINUOUS	0.18	7
A-DOOR-SWNG	Architectural Doors Swing	CONTINUOUS	0.18	7
A-FLOR-BNDY	Architectural Floor Boundary	CONTINUOUS	0.18	7
A-FLOR-CSTL	Architectural Floor Construction Limits	DASHED	0.18	7
A-FLOR-EVTR	Architectural Floor Elevator Cars And Related Equipment	CONTINUOUS	0.35	2
A-FLOR-EVTR-ECSL	Architectural Floor Escalator And Related Equipment	CONTINUOUS	0.25	1
A-FLOR-EVTR-MWLK	Architectural Floor Moving Walkways And Related Equipment	CONTINUOUS	0.25	1
A-FLOR-FNSH	Architectural Floor Area In Which A Consistent Finish Has Been Applied To The Floor	CONTINUOUS	0.18	7
A-FLOR-LEVL	Architectural Floor Level Changes, Shafts, Ramps, Pits, Breaks In Construction, And Depressions	CONTINUOUS	0.35	6
A-FLOR-OTLN	Architectural Floor Outlines	CONTINUOUS	0.50	4

Layer Name	Description	Line	Line Width	Color
A-FLOR-SECT	Architectural Floor Section	CONTINUOUS	0.18	7
A-FLOR-TYPE	Architectural Floor Type Boundary	CONTINUOUS	0.50	4
A-GLAZ-FRAM	Architectural Glazing Frame	CONTINUOUS	0.18	7
A-GLAZ-PANL	Architectural Glazing Panel	CONTINUOUS	0.18	7
A-GLAZ-SKLT	Architectural Glazing Skylights	DASHED	0.18	1
A-ROOF	Architectural Roof	CONTINUOUS	0.18	7
A-ROOF-CNPY	Architectural Roof Canopy or Overhang Attached To The Roof	CONTINUOUS	0.18	7
A-ROOF-EQPM	Architectural Roof Equipment Installed On The Roof	CONTINUOUS	0.18	7
A-ROOF-GUTR	Architectural Roof Internal Gutters	CONTINUOUS	0.18	8
A-ROOF-HRAL	Architectural Roof Stair Handrails, Nosings, Guard Rails	CONTINUOUS	0.18	5
A-ROOF-OTLN	Architectural Roof Perimeter/Edge, Roof Geometry	CONTINUOUS	0.35	6
A-ROOF-PAVR	Architectural Roof Pavers And Pads	CONTINUOUS	0.18	1
A-ROOF-PRPT	Architectural Roof Parapet Walls And Wall Caps	CONTINUOUS	0.18	1
A-ROOF-RISR	Architectural Roof Risers	CONTINUOUS	0.18	7
A-ROOF-WALK	Architectural Roof Walkways	CONTINUOUS	0.25	3
A-ROOF-WALL	Architectural Roof Parapet Walls And Wall Caps	CONTINUOUS	0.35	2
A-WALL-CNTR	Architectural Wall Centerlines	CONTINUOUS	0.18	5
A-WALL-FACE	Architectural Wall Faces	CONTINUOUS	0.18	7
A-WALL-MOVE	Architectural Wall Moveable Walls/Partitions	CONTINUOUS	0.18	5
A-WALL-PENE	Architectural Wall Penetrations Through Walls	DASHED	0.18	255,255,0
A-WALL-TPTN	Architectural Wall Toilet Partitions	CONTINUOUS	0.18	7

Layer Name	Description	Line	Line Width	Color
C-AFLD-BRDG-RUNW	Airfield Bridge Runway	CONTINUOUS	0.18	1
C-AFLD-BRDG-TAXI	Airfield Bridge Taxiway	CONTINUOUS	0.18	1
C-AFLD-DSRF-BLDR	Airfield Design Surfaces Building Restriction Line	CONTINUOUS	0.18	1
C-AFLD-DSRF-HPZ~	Airfield Design Surfaces HPZ	CONTINUOUS	0.18	7
C-AFLD-DSRF-HELI-FATO	Helipad Final Approach and Takeoff Clearance Surface (FATO)	CONTINUOUS	0.25	3
C-AFLD-DSRF-HELI-HAS~	Heliport Safety Area (HAS)	CONTINUOUS	0.25	3
C-AFLD-DSRF-HELI-HPZ~	Heliport Protection Zone (HPZ)	CONTINUOUS	0.25	3
C-AFLD-DSRF-IAOFZ	Airfield Design Surfaces Inner Approach Obstacle Free Zone (IAOFZ)	CONTINUOUS	0.18	1
C-AFLD-DSRF-IOFZ	Airfield Design Surfaces Inner Obstacle Free Zone (IOFZ)	CONTINUOUS	0.18	7
C-AFLD-DSRF-ITOFZ	Airfield Design Surfaces Inner Transitional Obstacle Free Zone (ITOFZ)	CONTINUOUS	0.18	1
C-AFLD-DSRF-KEYH	Airfield Design Surfaces Key Holes	CONTINUOUS	0.25	7
C-AFLD-DSRF-NMOV	Airfield Design Surfaces Aircraft Non-Movement Area	CONTINUOUS	0.25	7
C-AFLD-DSRF-OFA~	Airfield Design Surfaces Object Free Area	CONTINUOUS	0.25	7
C-AFLD-DSRF-OFZ~	Airfield Design Surfaces Object Free Zone	CONTINUOUS	0.25	7
C-AFLD-DSRF-PIFR	Airfield Design Surfaces PIFR	CONTINUOUS	0.18	7
C-AFLD-DSRF-POFA	Airfield Design Surfaces Precision Object Free Area	CONTINUOUS	0.25	7
C-AFLD-DSRF-POFZ	Airfield Design Surfaces Precision Obstacle Free Zone (POFZ)	CONTINUOUS	0.18	1
C-AFLD-DSRF-PSEP	Airfield Design Surfaces Parallel Runway Separation Simultaneous IFR Operations (PRSIFR)	CONTINUOUS	0.18	7

Layer Name	Description	Line	Line Width	Color
C-AFLD-DSRF-PSPV	Airfield Design Surfaces Parallel Runway Separation Simultaneous VFR Operations (PRSVRF)	CONTINUOUS	0.18	7
C-AFLD-DSRF-ROFA	Airfield Design Surfaces Runway Object Free Area	CONTINUOUS	0.18	7
C-AFLD-DSRF-RPTX	Airfield Design Surfaces Runway To Parallel Taxiway And Taxiline Separation	CONTINUOUS	0.18	1
C-AFLD-DSRF-RPZ~	Airfield Design Surfaces Runway Protection Zone	CONTINUOUS	0.25	7
C-AFLD-DSRF-RSA~	Airfield Design Surfaces Runway Safety Area	CONTINUOUS	0.25	7
C-AFLD-DSRF-TOFA	Airfield Design Surfaces Taxiway And Taxilane Object Free Area	CONTINUOUS	0.18	1
C-AFLD-DSRF-TOFZ	Airfield Design Surfaces Taxiway and Taxilane Object Free Zone	CONTINUOUS	0.18	7
C-AFLD-DSRF-TSA	Airfield Design Surfaces Threshold Sighting Area	CONTINUOUS	0.18	1
C-AFLD-DSRF-TSS	Airfield Design Surfaces Threshold Siting Surface	CONTINUOUS	0.18	1
C-AFLD-DSRF-TXSA	Airfield Design Surfaces Taxiway Safety Area	CONTINUOUS	0.18	1
C-AFLD-JETB	Airfield Passenger Boarding Bridge	CONTINUOUS	0.35	7
C-AFLD-LMTA-PERI	Airfield Limited Access Security Perimeter Line	CONTINUOUS	0.18	7
C-AFLD-LMTA-RSTR	Airfield Limited Access Military Restricted Access Boundary	CONTINUOUS	0.70	84
C-AFLD-LMTA-SECA	Airfield Limited Access Airfield Security Area	CONTINUOUS	0.18	7
C-AFLD-LMTA-SIDA	Airfield Limited Access Security Identification Display Area	CONTINUOUS	0.18	7
C-AFLD-LMTA-STER	Airfield Limited Access Airfield Sterile Area	CONTINUOUS	0.18	7
C-AFLD-NAID-ASR~	Airfield Navigational Aids Airport Surveillance Radar	CONTINUOUS	0.18	7



Layer Name	Description	Line	Line Width	Color
C-AFLD-NAID-ASRS	Airfield Navigational Aids Airport Route Surveillance Radar	CONTINUOUS	0.18	7
C-AFLD-NAID-BECN	Airfield Navigational Aids NDB/C	CONTINUOUS	0.18	1
C-AFLD-NAID-COMM	Airfield Navigational Aids Communication	CONTINUOUS	0.18	1
C-AFLD-NAID-CRIT	Airfield Navigational Aids Critical Area	CONTINUOUS	0.35	7
C-AFLD-NAID-DIRF	Airfield Navigational Aids Direction Finding Equipment	CONTINUOUS	0.18	7
C-AFLD-NAID-DMEQ	Airfield Navigational Aids Direction Measuring Equipment	CONTINUOUS	0.18	7
C-AFLD-NAID-FANH	Airfield Navigational Aids FMH	CONTINUOUS	0.18	7
C-AFLD-NAID-FANM	Airfield Navigational Aids Fan Maker	CONTINUOUS	0.18	7
C-AFLD-NAID-GENL	Airfield Navigational Aids Direction Finding Equipment (Df), Fan Marker, Fan Marker Located With A Radio Beacon, Moving Target Indicator Reflector, Simplified Directional Facility (Sdf), Touchdown Reflector	CONTINUOUS	0.18	1
C-AFLD-NAID-GPS_	Airfield Navigational Aids GPS	CONTINUOUS	0.18	1
C-AFLD-NAID-GSCE	Airfield Navigational Aids Glide Slope - Capture Effect	CONTINUOUS	0.18	7
C-AFLD-NAID-GSEF	Airfield Navigational Aids Glide Slope - End Fire	CONTINUOUS	0.18	7
C-AFLD-NAID-GSNR	Airfield Navigational Aids Glide Slope - Null Reference	CONTINUOUS	0.18	7
C-AFLD-NAID-GSSB	Airfield Navigational Aids Glide Slope - Side Band	CONTINUOUS	0.18	7
C-AFLD-NAID-ILS_	Airfield Navigational Aids Instrument Landing System (ILS)	CONTINUOUS	0.18	1
C-AFLD-NAID-ILSY	Airfield Navigational Aids Distance Measuring Equipment (DME), Glide Slope Capture Effect, Glide Slope End Fire, Glide Slope Null	CONTINUOUS	0.18	1

Layer Name	Description	Line	Line Width	Color
	Reference, Glide Slope Side Band, Localizer			
C-AFLD-NAID-LOCL	Airfield Navigational Aids Localizer	CONTINUOUS	0.18	7
C-AFLD-NAID-MCWV	Airfield Navigational Aids Microwave	CONTINUOUS	0.18	1
C-AFLD-NAID-MISC	Airfield Navigational Aids Miscellaneous - Windcones and Beacons	CONTINUOUS	0.18	1
C-AFLD-NAID-MLSD	Airfield Navigational Aids Microwave Landing System DME	CONTINUOUS	0.18	7
C-AFLD-NAID-MLSL	Airfield Navigational Aids Microwave Landing System Elevation Antenna	CONTINUOUS	0.18	7
C-AFLD-NAID-MLSR	Airfield Navigational Aids Microwave Landing System Lights	CONTINUOUS	0.18	1
C-AFLD-NAID-MSY	Airfield Navigational Aids Microwave Landing System Azimuth Antenna, Microwave Landing System Dme, Microwave Landing System Elevation Antenna	CONTINUOUS	0.18	1
C-AFLD-NAID-MLSZ	Airfield Navigational Aids Microwave Landing System Azimuth Antenna	CONTINUOUS	0.18	7
C-AFLD-NAID-MSBA	Airfield Navigational Aids Microwave Scan Beam Landing System - Azimuth Antenna	CONTINUOUS	0.18	7
C-AFLD-NAID-MSBD	Airfield Navigational Aids Microwave Scan Beam Landing System - Distance Measuring Equipment	CONTINUOUS	0.18	7
C-AFLD-NAID-MSBL	Airfield Navigational Aids Microwave Scan Beam Landing System - Elevation Antenna	CONTINUOUS	0.18	7
C-AFLD-NAID-MTIR	Airfield Navigational Aids Moving Target Indicator Reflector	CONTINUOUS	0.18	7
C-AFLD-NAID-NDBC	Airfield Navigational Aids Non-Directional Radio Beacon - Compass Locator	CONTINUOUS	0.18	7

Layer Name	Description	Line	Line Width	Color
C-AFLD-NAID-NDBH	Airfield Navigational Aids Non-Directional Radio Beacon - High Frequency	CONTINUOUS	0.18	7
C-AFLD-NAID-NDBM	Airfield Navigational Aids Non-Directional Radio Beacon - Medium High Frequency	CONTINUOUS	0.18	7
C-AFLD-NAID-NDBU	Airfield Navigational Aids Non-Directional Radio Beacon - Ultra High Frequency	CONTINUOUS	0.18	7
C-AFLD-NAID-OMNI	Airfield Navigational Aids Tactical Air Navigation, Vhf Omni Directional Range, Vor And Collocated Tacan, Vor Test Facility	CONTINUOUS	0.18	1
C-AFLD-NAID-OTHR	Airfield Navigational Aids Other	CONTINUOUS	0.18	1
C-AFLD-NAID-PARD	Airfield Navigational Aids Precision Approach Radar	CONTINUOUS	0.18	7
C-AFLD-NAID-RADI	Airfield Navigational Aids Radio	CONTINUOUS	0.18	1
C-AFLD-NAID-RADR	Airfield Navigational Aids Radar, Air Route Surveillance Radar (Arsr), Airport Surveillance Radar (Asr), Precision Approach Radar, Secondary Radar Antenna	CONTINUOUS	0.18	1
C-AFLD-NAID-REIL	Airfield Navigational Aids Faa Reils Equipment, Airfield Reil Lights	CONTINUOUS	0.18	1
C-AFLD-NAID-RMTE	Airfield Navigational Aids Remote	CONTINUOUS	0.18	1
C-AFLD-NAID-RWSL	Airfield Navigational Aids Faa RwsL Equipment	CONTINUOUS	0.18	1
C-AFLD-NAID-SCRA	Airfield Navigational Aids Secondary Radar Antenna	CONTINUOUS	0.18	7
C-AFLD-NAID-SDFC	Airfield Navigational Aids Simplified Directional Facility	CONTINUOUS	0.18	7
C-AFLD-NAID-SITE	Airfield Navigational Aids Site Features	CONTINUOUS	0.35	7
C-AFLD-NAID-STRB	Airfield Navigational Aids Strobe Beacons	CONTINUOUS	0.18	1
C-AFLD-NAID-SYST	Airfield Navigational Aids System	CONTINUOUS	0.18	1

Layer Name	Description	Line	Line Width	Color
C-AFLD-NAID-TACN	Airfield Navigational Aids Tactical Air Navigation	CONTINUOUS	0.18	7
C-AFLD-NAID-TDR~	Airfield Navigational Aids Tdr	CONTINUOUS	0.18	7
C-AFLD-NAID-TLSY	Airfield Navigational Aids Tls-Apgs	CONTINUOUS	0.18	7
C-AFLD-NAID-VISI	Airfield Navigational Aids Used To Identify The Navaid As A Visual System	CONTINUOUS	0.18	1
C-AFLD-NAID-VOR~	Airfield Navigational Aids VHF Omnidirectional Range (VOR)	CONTINUOUS	0.18	7
C-AFLD-NAID-VORT	Airfield Navigational Aids VHF Omnidirectional Range Collocated with TACAN (VORTAC)	CONTINUOUS	0.18	7
C-AFLD-NAID-VORX	Airfield Navigational Aids VHF Omnidirectional Range Test Facility	CONTINUOUS	0.18	7
C-AFLD-NAID-WIND	Airfield Navigational Aids Windcone	CONTINUOUS	0.50	203
C-AFLD-NAID-WTHR	Airfield Navigational Aids Weather	CONTINUOUS	0.18	1
C-AFLD-OTLN-AHOA	Airfield Outline Air Operations Area	CONTINUOUS	0.70	84
C-AFLD-OTLN-FREQ	Airfield Outline Frequency Area	CONTINUOUS	0.50	7
C-AFLD-OTLN-INFL	Airfield Outline Airfield Infield Areas	CONTINUOUS	0.50	4
C-AFLD-OTLN-MOVM	Airfield Outline Transportation Airport Airspace Related Features Outline	CONTINUOUS	0.18	1
C-AFLD-SECR-RSTR	Airfield Security Military Restricted Access Boundary	CONTINUOUS	0.18	7
C-AFLD-SECR-SECA	Airfield Security Area	CONTINUOUS	0.18	7
C-AFLD-SECR-SIDA	Airfield Security Identification Display Area	CONTINUOUS	0.18	7
C-AFLD-SECR-STER	Airfield Sterile Area	CONTINUOUS	0.18	7
C-AFLD-SIGN	Airfield Signage	CONTINUOUS	0.18	7

Layer Name	Description	Line	Line Width	Color
C-AFLD-TRKL	Airfield Flight Track Line	CONTINUOUS	0.35	7
C-AFLD-TRKP	Airfield Flight Track Point	CONTINUOUS	0.35	7
C-AIRS-AAAS-APRC	Airspace FAR Part 77 Approach Surface	CONTINUOUS	0.18	7
C-AIRS-AAAS-CONL	Airspace FAR Part 77 Conical Surface	CONTINUOUS	0.18	7
C-AIRS-AAAS-HORZ	Airspace FAR Part 77 Horizontal Surface	CONTINUOUS	0.18	7
C-AIRS-AAAS-PRIM	Airspace FAR Part 77 Primary Surface	CONTINUOUS	0.18	7
C-AIRS-AAAS-TRNS	Airspace FAR Part 77 Transitional Surface	CONTINUOUS	0.18	7
C-AIRS-AAAS-VERT	Airspace FAR Part 77 Verticaly Guided Surface	CONTINUOUS	0.18	7
C-AIRS-MRKR	Airspace Landmarks or Other Markers for Orientation	CONTINUOUS	0.18	7
C-AIRS-OBJT	Airspace Obstacle	CONTINUOUS	0.18	7
C-AIRS-OBJT-OTLN	Airspace Obstacle Outline Area	CONTINUOUS	0.18	7
C-AIRS-OBSC-APRC	Airspace Obstruction Identification FAR Part 77 Approach Surface	CONTINUOUS	0.18	7
C-AIRS-OBSC-CONL	Airspace Obstruction Identification Far Part 77 Conical Surface	CONTINUOUS	0.18	7
C-AIRS-OBSC-DPRT	Airspace Obstruction Identification Departure Surface (Dept)	CONTINUOUS	0.18	7
C-AIRS-OBSC-HORZ	Airspace Obstruction Identification Far Part 77 Horizontal Surface	CONTINUOUS	0.18	7
C-AIRS-OBSC-OEI_	Airspace Obstruction Identification One Engine Inoperative	CONTINUOUS	0.18	7
C-AIRS-OBSC-OTHR	Airspace Obstruction Identification Other Airspace Surfaces	CONTINUOUS	0.18	7
C-AIRS-OBSC-PRIM	Airspace Obstruction Identification Far Part 77 Primary Surface	CONTINUOUS	0.18	7

Layer Name	Description	Line	Line Width	Color
C-AIRS-OBSC-TERP	Airspace Obstruction Identification Terps Surfaces	CONTINUOUS	0.18	7
C-AIRS-OBSC-TRNS	Airspace Obstruction Identification Far Part 77 Transitional Surface	CONTINUOUS	0.18	7
C-AIRS-OBSC-VAPR	Airspace Obstruction Identification Vertically Guided Approach Surface (Aaaa)	CONTINUOUS	0.18	7
C-AIRS-OBSC-VCON	Airspace Obstruction Identification Vertically Guided Conical Surface (Aaac)	CONTINUOUS	0.18	7
C-AIRS-OBSC-VHOR	Airspace Obstruction IdentificationVertically Guided Horizontal Surface (Aaah)	CONTINUOUS	0.18	7
C-AIRS-OBSC-VPRM	Airspace Obstruction IdentificationVertically Guided Runway Primary Surface (Aaap)	CONTINUOUS	0.18	7
C-AIRS-OBSC-VTRN	Airspace Obstruction Identification Vertically Guided Approach Transitional Surface (Aaat)	CONTINUOUS	0.18	7
C-AIRS-OBST-LINE	Airspace Obstacle Line	CONTINUOUS	0.18	7
C-AIRS-OBST-POLY	Airspace Obstacle Area	CONTINUOUS	0.18	7
C-AIRS-OBST-PPNT	Airspace Obstacle Point	CONTINUOUS	0.18	7
C-ALGN-LINE	Alignments Lines	CONTINUOUS	0.35	2
C-ALGN-MAJR	Alignments Major Stationing And Tick Marks	CONTINUOUS	0.35	1
C-ALGN-MINR	Alignments Minor Stationing And Tick Marks	CONTINUOUS	0.18	6
C-ANNO-BRNG	Annotation Bearings and distance labels	CONTINUOUS	0.18	253
C-ANNO-COOR	Annotation Coordinates / Northing Easting	CONTINUOUS	0.18	253
C-ANNO-IDEN	Annotation Identification Tags	CONTINUOUS	0.18	253
C-ANNO-KEYN	Annotation Keynotes	CONTINUOUS	0.18	253
C-ANNO-LABL	Annotation Labels	CONTINUOUS	0.18	253

Layer Name	Description	Line	Line Width	Color
C-ANNO-LEGN	Annotation Legends, Symbol Keys	CONTINUOUS	0.18	253
C-ANNO-MARK	Annotation Markers, Break Marks, Leaders	CONTINUOUS	0.18	253
C-ANNO-MATC	Annotation Match Lines	CONTINUOUS	0.18	253
C-ANNO-NOTE	Annotation Notes	CONTINUOUS	0.18	253
C-ANNO-NPLT	Annotation Non-plotting Graphic Information	CONTINUOUS	0.18	253
C-ANNO-RDME	Annotation Read-me Layer (not plotted)	CONTINUOUS	0.18	253
C-ANNO-REDL	Annotation Redlines	CONTINUOUS	0.18	253
C-ANNO-REF1-TBLK	Annotation Reference 1 Title Block	CONTINUOUS	0.18	253
C-ANNO-REF2-BMAP	Annotation Reference 2 Basemap	CONTINUOUS	0.18	253
C-ANNO-REF3-UTIL	Annotation Reference 3 Utilities	CONTINUOUS	0.18	253
C-ANNO-REFR	Annotation External Reference Files (XREF)	CONTINUOUS	0.18	253
C-ANNO-REVC	Annotation Revision Clouds	CONTINUOUS	0.18	253
C-ANNO-REVS	Annotation Revision Indicators and Text	CONTINUOUS	0.18	253
C-ANNO-SCHD	Annotation Schedules	CONTINUOUS	0.18	253
C-ANNO-SYMB	Annotation Reference Symbols	CONTINUOUS	0.18	253
C-ANNO-TABL	Annotation Table	CONTINUOUS	0.18	253
C-ANNO-TABL-TITL	Annotation Table Title	CONTINUOUS	0.18	253
C-ANNO-TABL-TTBL	Annotation Table Borders	CONTINUOUS	0.18	253
C-ANNO-TITL	Annotation Drawing or Detail Titles	CONTINUOUS	0.18	253
C-ANNO-TTLB	AnnotationBorder and Title Block	CONTINUOUS	0.18	253
C-ANNO-VFRM	Annotation Vertically Formatted	CONTINUOUS	0.18	253
C-APRN-ACPK	Apron Aircraft Parking	CONTINUOUS	0.18	6

Layer Name	Description	Line	Line Width	Color
C-APRN-ANOM	Apron Aircraft Non-movement Area	CONTINUOUS	0.18	7
C-APRN-DEIC	Apron Aircraft Deicing Area	CONTINUOUS	0.18	7
C-APRN-JETB	Apron Aircraft Jetbridge	CONTINUOUS	0.18	6
C-APRN-MRKG	Apron Pavement Marking	CONTINUOUS	0.35	77
C-APRN-MRKG-BUSP	Apron Vehicle Roadway Pavement Marking	CONTINUOUS	0.35	6
C-APRN-MRKG-FLPK	Apron Pavement Marking	CONTINUOUS	0.35	77
C-APRN-MRKG-FLPT	Apron Pavement Marking	CONTINUOUS	0.35	77
C-APRN-MRKG-FREQ	Apron (VOR) Receiver Pavement Marking	CONTINUOUS	0.35	77
C-APRN-MRKG-GSE~	Apron Ground Service Equipment Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-INGZ	Apron Aircraft Ingestion Zone Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-LDID	Apron Lead in ID Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-LDIN	Apron Lead in Line Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-LDOT	Apron Lead out Line Pavement Marking	CONTINUOUS	0.18	77
C-APRN-MRKG-LDTX	Apron Lead in Text Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-LDZN	Apron Lead in Zone Pavement Marking	CONTINUOUS	0.35	6
C-APRN-MRKG-MVNM	Apron Movement-Non movement Pavement Marking	CONTINUOUS	0.35	6
C-APRN-MRKG-NOPK	Apron No Parking Pavement Marking	CONTINUOUS	0.35	6
C-APRN-MRKG-OTHL	Apron Other Line Pavement Marking	CONTINUOUS	0.18	6

Layer Name	Description	Line	Line Width	Color
C-APRN-MRKG-PBBZ	Apron Passenger Boarding Bridge Zone Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-PBRD	Apron Push back Road Pavement Marking	CONTINUOUS	0.35	7
C-APRN-MRKG-PBWT	Apron Push back with Tug Pavement Marking	CONTINUOUS	0.35	7
C-APRN-MRKG-PLBE	Apron Pavement Marking PLBE	CONTINUOUS	0.18	6
C-APRN-MRKG-PLBH	Apron Pavement Marking PLBH	CONTINUOUS	0.18	6
C-APRN-MRKG-PLBS	Apron Pavement Marking PLBS	CONTINUOUS	0.18	6
C-APRN-MRKG-PVTX	Apron Pavement Marking Text	CONTINUOUS	0.18	6
C-APRN-MRKG-RPTB	Apron Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-RPTW	Apron Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-SBAR	Apron Stopbar Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-SBTX	Apron Stopbar Text Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-SENV	Apron Service Envelope Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-TXLN	Apron Taxilane crossing Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-WALK	Apron Walk Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-WGTR	Apron Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-WKGR	Apron Pavement Marking	CONTINUOUS	0.18	6
C-APRN-MRKG-WKWT	Apron Pavement Marking	CONTINUOUS	0.18	6
C-APRN-OTLN	Apron Outlines	CONTINUOUS	0.18	4
C-APRN-PVMT-OTHR	Apron Pavement Features Not Listed Elsewhere	CONTINUOUS	0.18	6
C-APRN-SIGN	Apron Signage	CONTINUOUS	0.18	7
C-BLDG-PRCH	Buildings Porches (Attached, Roof Overhead)	CONTINUOUS	0.50	4

Layer Name	Description	Line	Line Width	Color
C-BLDG-TOWR	Buildings Tower	CONTINUOUS	0.50	7
C-BRDG-OTLN	Bridge Outlines	CONTINUOUS	0.50	255,25,5
C-CHAN-BANK-TOP~	Channels/Canal Top Of Bank	CONTINUOUS	0.35	2
C-CHAN-BWTR	Channels Breakwaters	CONTINUOUS	0.35	6
C-CHAN-CNTR	Channels Centerline And Survey Report Lines	CONTINUOUS	0.18	5
C-CHAN-DOCK	Channels Docks, Decks, Floats, Piers, And Mooring Facilities	CONTINUOUS	0.35	6
C-CHAN-LIMIT	Channels Limits, Anchorages, Turning Basins, Disposal Areas, Etc.	CONTINUOUS	0.35	6
C-CHAN-NAID	Channels Navigation Aids And Text	CONTINUOUS	0.35	255,0,0
C-CHAN-TURN	Channels Turning Points	CONTINUOUS	0.35	2
C-CMPA-DEVC	Compressed/Processed Air System Fitting	CONTINUOUS	0.70	84
C-CMPA-TANK	Compressed/Processed Air System Tank	CONTINUOUS	0.70	84
C-CMPA-VALV	Compressed/Processed Air System Valves	CONTINUOUS	0.18	7
C-DFLD-OTLN	Drain Fields Outlines	CONTINUOUS	0.18	7
C-DRIV	Driveways	CONTINUOUS	0.18	7
C-DRIV-CNTR	Driveways Center	CONTINUOUS	0.18	7
C-DRIV-CURB	Driveways Curb	CONTINUOUS	0.18	7
C-DRIV-FLNE	Driveways Fire Lane	CONTINUOUS	0.18	7
C-DRIV-MRKG	Driveways Pavement Markings	CONTINUOUS	0.18	7
C-DTCH-CNTR	Ditches or Washes Centerline	CONTINUOUS	0.18	5
C-DTCH-EWAT	Ditches or Washes Edge Of Water	CONTINUOUS	0.25	4
C-EROS-DDIV	Erosion and Sediment Control Drainage Divides	CONTINUOUS	0.50	4

Layer Name	Description	Line	Line Width	Color
C-EROS-DVDK	Erosion and Sediment Control Diversion Dike	CONTINUOUS	0.50	4
C-EROS-INPR	Erosion and Sediment Control Inlet Protection	CONTINUOUS	0.25	3
C-EROS-SILT	Erosion and Sediment Control Silt Fence	FENCE	0.35	2
C-EROS-SILT-CHCK	Erosion and Sediment Control Silt Fence Check	CONTINUOUS	0.35	2
C-EROS-SILT-TRAP	Erosion and Sediment Control Silt Fence Trap	CONTINUOUS	0.35	2
C-EROS-SSLT	Erosion and Sediment Control Super Silt Fence	FENCE	0.35	2
C-FENC	Fences	FENCE	0.18	7
C-FENC-AOA_	Fences Air Operations Area (Aoa)	RDU-FENC circle	0.18	7
C-FENC-BLST	Fences Blast	FENCE	0.18	7
C-FUEL-BERM	Fuel System Berms For Retaining Fuel In Case Of Major Tank/Line Rupture	CONTINUOUS	0.35	6
C-FUEL-DEFL-PIPE	Fuel System Defueling Piping	CONTINUOUS	0.35	255,255,0
C-FUEL-DEVC	Fuel System Fittings	CONTINUOUS	0.35	6
C-FUEL-FITT	Fuel System Caps, Crosses And Tees	CONTINUOUS	0.35	255,255,0
C-FUEL-JBOX	Fuel System Junction Box	CONTINUOUS	0.35	255,255,0
C-FUEL-LQPG	Fuel System Main Liquid Petroleum Gas Piping	LIQPET	0.35	255,255,0
C-FUEL-METR	Fuel System Metering Devices	CONTINUOUS	0.35	255,255,0
C-FUEL-PIPE	Fuel System Piping	RDU-FUEL	0.35	255,255,0
C-FUEL-SERV-PIPE	Fuel System Service Piping	CONTINUOUS	0.35	255,255,0
C-FUEL-STNS-PUMP	Fuel System Booster Pump Stations	CONTINUOUS	0.35	6
C-FUEL-TANK	Fuel System Storage Tanks	CONTINUOUS	0.35	255,255,0

Layer Name	Description	Line	Line Width	Color
C-FUEL-TRCH	Fuel System Trench	CONTINUOUS	0.35	3
C-FUEL-VALT	Fuel System Hydrant Control/Valve/Vent Pits/Vaults	CONTINUOUS	0.35	255,255,0
C-GATE-CNTR	Gates Centerline	CONTINUOUS	0.18	7
C-GATE-CTLA	Gates Controlled Access	CONTINUOUS	0.18	7
C-GATE-LINE	Gates Incidental To Structure	CONTINUOUS	0.25	5
C-HELI-MRKG-BLST	Heliports Pavement Markings Blast Pad And Stopway	CONTINUOUS	0.35	1
C-HELI-MRKG-CNTR	Heliports Pavement Markings Centerline	CONTINUOUS	0.25	7
C-HELI-MRKG-DIST	Heliports Pavement Markings Fixed Distance	CONTINUOUS	0.35	1
C-HELI-MRKG-IDEN	Heliport Numbers and Letters	CONTINUOUS	0.35	1
C-HELI-MRKG-SIDE	Heliports Pavement Markings Side Stripes	CONTINUOUS	0.50	4
C-HELI-MRKG-SHLD	Heliport Shoulder Markings	CONTINUOUS	0.35	1
C-HELI-MRKG-TDZM	Heliports Pavement Markings Touchdown Zone Markers	CONTINUOUS	0.35	6
C-HYDR-CTCH	Hydraulic Structure Catchment Area - General	CONTINUOUS	0.18	7
C-HYDR-CTCH-BNDY	Hydraulic Structure Catchment Area - Boundary	CONTINUOUS	0.18	7
C-JNTS-CNSL	Joints Longitudinal	CONTINUOUS	0.35	6
C-JNTS-CNST	Joints Transverse	CONTINUOUS	0.35	6
C-JNTS-EXPJ	Joints Expansion	CONTINUOUS	0.35	6
C-NGAS-DEVC	Natural Gas System Hydrant Fill Points, Lights, Vents, Markers, Rectifiers, Reducers, Regulators, Sources, Drip Pots, Taps, And Valves	CONTINUOUS	0.35	6
C-NGAS-EQPM	Natural Gas System Equipment (Pumps, Motors)	CONTINUOUS	0.35	255,255,0

Layer Name	Description	Line	Line Width	Color
C-NGAS-FITT	Natural Gas System Caps, Cleanouts, Crosses, And Tees	CONTINUOUS	0.50	255,25,5
C-NGAS-INST	Natural Gas System Instrumentation (Meters, Valves, Etc.)	CONTINUOUS	0.35	255,255,0
C-NGAS-METR	Natural Gas System Metering Devices	CONTINUOUS	0.35	255,255,0
C-NGAS-MHOL	Natural Gas System Manhole	CONTINUOUS	0.35	255,255,0
C-NGAS-PIPE	Natural Gas System Piping	RDU-GAS	0.35	255,255,0
C-NGAS-SIGN	Natural Gas System Surface Markers/Signs	CONTINUOUS	0.35	1
C-NGAS-STNS-PUMP	Natural Gas System Compressor Stations	CONTINUOUS	0.35	6
C-NGAS-STNS-REDC	Natural Gas System Reducing Stations	CONTINUOUS	0.35	6
C-NGAS-TANK	Natural Gas System Tanks	CONTINUOUS	0.25	3
C-NGAS-VALT	Natural Gas System Vent Pits/Vaults	CONTINUOUS	0.35	255,255,0
C-NGAS-VALV	Natural Gas System Valve Pits/Boxes	CONTINUOUS	0.35	255,255,0
C-OVRN-CNTR	Overrun Centerline	CENTER	0.25	255,0,0
C-OVRN-CNTR-IDEN	Overrun Centerline Annotation	CONTINUOUS	0.18	7
C-OVRN-IDEN	Airfield Overrun Area - Annotation	CONTINUOUS	0.18	7
C-OVRN-OTLN	Airfield Overrun Area - Outline	CONTINUOUS	0.18	7
C-OVRN-SHLD	Overrun Areas Shoulder	CONTINUOUS	0.18	7
C-PADS-CNTR	Pads Centerline	CONTINUOUS	0.18	7
C-PADS-OTLN	Pads Outline	CONTINUOUS	0.18	7
C-PADS-SHLD	Pads Shoulders	CONTINUOUS	0.25	2
C-PADS-SHLD-OTHR	Pads Shoulders Other	CONTINUOUS	0.18	7
C-PERC	Perc Testing	CONTINUOUS	0.18	7

Layer Name	Description	Line	Line Width	Color
C-PERC-HOLE	Perc Testing Holes	CONTINUOUS	0.18	7
C-POLE-GUYL	Pole Guy Line	CONTINUOUS	0.18	7
C-POLE-GUYP	Pole Guy Line Anchor Point	CONTINUOUS	0.18	7
C-POND-OTLN	Ponds Outline	CONTINUOUS	0.18	7
C-PRKG-BARR	Parking Barrier	CONTINUOUS	0.18	7
C-PRKG-BLRD	Parking Bollard	CONTINUOUS	0.18	7
C-PRKG-CARS	Parking Graphic Illustration Of Cars	CONTINUOUS	0.35	2
C-PRKG-CNTR	Parking Centerlines	CONTINUOUS	0.25	1
C-PRKG-CURB	Parking Curbs And Gutters	CONTINUOUS	0.35	3
C-PRKG-EQPM	Parking Lot Equipment (E.G., Wheel Stops, Parking Meters)	CONTINUOUS	0.35	91
C-PRKG-EQPM-FEE~	Parking Equipment Fee	CONTINUOUS	0.50	7
C-PRKG-EQPM-GATE	Parking Equipment Gates	CONTINUOUS	0.50	7
C-PRKG-EQPM-TCKT	Parking Equipment Ticket	CONTINUOUS	0.50	7
C-PRKG-FLNE	Parking Fire Lanes	CONTINUOUS	0.25	1
C-PRKG-ISLD	Parking Island	CONTINUOUS	0.18	7
C-PRKG-MRKG	Parking Pavement Markings	CONTINUOUS	0.35	2
C-PRKG-OTLN	Parking Area Outline	CONTINUOUS	0.18	7
C-PRKG-SBMP	Parking Speed Bumps	CONTINUOUS	0.35	6
C-PRKG-SIGN	Parking Signs	CONTINUOUS	0.35	2
C-PROP-BNDY	Property Boundary Area	CONTINUOUS	0.18	7
C-PROP-BNDY-LINE	Property Boundary Lines	PROPL	0.50	255,255,0
C-PROP-CONS	Property Construction Limits/Controls, Staging Area	CONLMT	0.70	7
C-PROP-ESMT	Property Easement	CONEMT	0.70	255,0,0
C-PROP-LEAS	Property Lease	CONTINUOUS	0.18	7

Layer Name	Description	Line	Line Width	Color
C-PROP-RWAY	Property Right Of Ways	CONTINUOUS	0.70	7
C-PROP-SBCK	Property Setback Lines	DASHED2X	0.25	255,0,0
C-PVMT-MRKG-OTHR	Pavement Markings Other	CONTINUOUS	0.18	7
C-PVMT-MRKG-VEHI	Pavement Markings Vehicles	CONTINUOUS	0.18	7
C-RAIL-BRDG	Railroad Bridge	CONTINUOUS	0.25	1
C-RAIL-CNTR	Railroad Center	CENTER	0.25	255,0,0
C-RAIL-EQPM	Railroad Equipment (E.G., Gates, Signals)	CONTINUOUS	0.35	91
C-RAIL-STAT	Railroad Train Station	CONTINUOUS	0.18	7
C-RAIL-TRAK	Railroad Tracks	RAILRD	0.35	2
C-RAIL-YARD	Railroad Yard	CONTINUOUS	0.18	7
C-ROAD-BLRD	Roadways Bollard	CONTINUOUS	0.18	7
C-ROAD-BRDG	Roadways Bridge Outlines	CONTINUOUS	0.50	4
C-ROAD-CNTR	Roadways Center	CENTER	0.25	255,0,0
C-ROAD-CURB	Roadways Curbs And Gutters	CONTINUOUS	0.35	6
C-ROAD-DEVC	Roadways Devices	CONTINUOUS	0.18	7
C-ROAD-DEVC-ANTN	Roadways Devices Antenna	CONTINUOUS	0.18	7
C-ROAD-DEVC-BLRD	Roadways Devices Bollards	CONTINUOUS	0.18	7
C-ROAD-EDGE	Roadways Edge of Pavement	CONTINUOUS	0.18	7
C-ROAD-FLNE	Roadways Fire Lane	CONTINUOUS	0.18	7
C-ROAD-GRAL	Roadways Guard Rails	GUARD	0.35	6
C-ROAD-MRKG	Roadways Pavement Markings	CONTINUOUS	0.35	2
C-ROAD-MRKG-BIKE	Roadways Pavement Markings Bicycles Lane	CONTINUOUS	0.18	7
C-ROAD-MRKG-CNTR	Roadways Pavement Markings Centerline	CENTER	0.18	7

Layer Name	Description	Line	Line Width	Color
C-ROAD-MRKG-CURB	Roadways Pavement Markings Curb	CONTINUOUS	0.18	7
C-ROAD-MRKG-EDGE	Roadways Pavement Markings Edge	CONTINUOUS	0.18	7
C-ROAD-MRKG-GUTR	Roadways Pavement Markings Gutter	CONTINUOUS	0.18	7
C-ROAD-MRKG-LANE	Roadways Pavement Markings Lane	CONTINUOUS	0.18	7
C-ROAD-MRKG-SBAR	Roadways Pavement Markings Stopbar	CONTINUOUS	0.18	7
C-ROAD-MRKG-SHLD	Roadways Pavement Markings Shoulder	CONTINUOUS	0.18	7
C-ROAD-MRKG-SIGN	Roadways Pavement Markings Sign	CONTINUOUS	0.18	7
C-ROAD-OTLN	Roadways Outlines	CONTINUOUS	0.25	4
C-ROAD-PROF	Roadways Profile	CONTINUOUS	0.18	7
C-ROAD-SHLD	Roadways Shoulder	CONTINUOUS	0.35	6
C-ROAD-SIGN	Roadways Signs	CONTINUOUS	0.25	1
C-RRAP-GABN	Riprap Gabions	CONTINUOUS	0.25	1
C-RRAP-MATS	Riprap Articulated Concrete Mats	CONTINUOUS	0.25	3
C-RRAP-RVMT	Riprap Revetments	CONTINUOUS	0.25	1
C-RRAP-WEIR	Riprap Weirs	CONTINUOUS	0.25	3
C-RUNW-ARST	Runway Arresting Gear Location	CONTINUOUS	0.18	7
C-RUNW-BLST	Runway Blast Pad area	CONTINUOUS	0.35	255,0,0
C-RUNW-CLRW	Runway Clearway	CONTINUOUS	0.18	7
C-RUNW-CNTR	Runway Centerline	CENTER	0.25	255,0,0
C-RUNW-EDGE	Runway Edge of Pavement	CONTINUOUS	0.35	255,0,255
C-RUNW-INTS	Runway Intersection	CONTINUOUS	0.18	7
C-RUNW-LABL	Runway Labels	CONTINUOUS	0.35	7

Layer Name	Description	Line	Line Width	Color
C-RUNW-LABL-BOTM	Runway Labels Bottom	CONTINUOUS	0.25	7
C-RUNW-LAHS	Runway Land and Hold Short Position/Area	CONTINUOUS	0.18	7
C-RUNW-MRKG-AMPT	Runway Pavement Markings Aiming Point	CONTINUOUS	0.18	7
C-RUNW-MRKG-ARWS	Runway Pavement Markings Arrowhead	CONTINUOUS	0.18	7
C-RUNW-MRKG-CHEV	Runway Pavement Markings Chevron	CONTINUOUS	0.18	7
C-RUNW-MRKG-CNTR	Runway Pavement Markings Centerline	CENTER	0.18	7
C-RUNW-MRKG-IDEN	Runway Pavement Markings Numbers and Letters	CONTINUOUS	0.18	7
C-RUNW-MRKG-DISP	Runway Pavement Markings Displaced Threshold	CONTINUOUS	0.18	7
C-RUNW-MRKG-DIST	Runway Pavement Markings Fixed Distance	CONTINUOUS	0.35	1
C-RUNW-MRKG-EDGE	Runway Pavement Markings Striping	CONTINUOUS	0.18	7
C-RUNW-MRKG-LABL	Runway Pavement Markings Label Point	CONTINUOUS	0.18	7
C-RUNW-MRKG-LHSO	Runway Pavement Markings Land and Hold Short Operation	CONTINUOUS	0.18	7
C-RUNW-MRKG-PCLS	Runway Pavement Markings Permanent Closure	CONTINUOUS	0.25	255,0,0
C-RUNW-MRKG-RHLD	Runway Pavement Markings Holding Lines	CONTINUOUS	0.18	7
C-RUNW-MRKG-SHLD	Runway Pavement Markings Shoulder	CONTINUOUS	0.35	6
C-RUNW-MRKG-TCLS	Runway Pavement Markings Temporary Closure Marking	CONTINUOUS	0.18	7
C-RUNW-MRKG-TDWN	Runway Pavement Markings Touchdown Zone Markers	CONTINUOUS	0.18	7

Layer Name	Description	Line	Line Width	Color
C-RUNW-MRKG-THRS	Runway Pavement Markings Threshold	CONTINUOUS	0.18	7
C-RUNW-OTLN	Runway Outlines	CONTINUOUS	0.35	6
C-RUNW-OTLN-SEGM	Runway Outline Segment	CONTINUOUS	0.18	7
C-RUNW-PVMT-SHLD	Runway Pavement Area Shoulder	CONTINUOUS	0.18	7
C-RUNW-SIGN	Runway Signs	CONTINUOUS	0.35	1
C-RUNW-SIGN-HRWI	Runway Signs Hold Runway Intersection	CONTINUOUS	0.35	1
C-RUNW-SIGN-RWDR	Runway Signs Runway Distance Remaining	CONTINUOUS	0.35	1
C-RUNW-SIGN-RWEX	Runway Signs Runway Exit	CONTINUOUS	0.35	1
C-RUNW-SIGN-RLOC	Runway Signs Runway Location	CONTINUOUS	0.35	1
C-SEAP-BUOY	Seaplane Navigation Buoy	CONTINUOUS	0.35	6
C-SEAP-DOCK	Seaplane Dock	CONTINUOUS	0.35	6
C-SEAP-LNDA	Seaplane Landing Area	CONTINUOUS	0.35	6
C-SEAP-RAMP	Seaplane Ramp Site	CONTINUOUS	0.35	6
C-SIGN-POLE	Signs Pole	CONTINUOUS	0.18	7
C-SITE-FENC	Fences And Handrails	FENCE	0.35	6
C-SITE-GATE	Site Features Gates	CONTINUOUS	0.18	7
C-SITE-OTLN-TUNL	Site Features Outline Tunnels	CONTINUOUS	0.35	22
C-SITE-RTWL	Site Features Retaining Wall	CONTINUOUS	0.18	7
C-SITE-STRC	Site Features Structures (Bridges, Sheds, Foundation Pads, Footings, Etc.)	CONTINUOUS	0.35	22
C-SITE-STRS	Site Features Stairs And Ramps	CONTINUOUS	0.35	6
C-SITE-WALK	Site Features Walkway	CONTINUOUS	0.35	255,255,0
C-SSWR-DEVC	Sanitary Sewer Grease Traps, Grit Chambers, Flumes, Neutralizers,	CONTINUOUS	0.35	6

Layer Name	Description	Line	Line Width	Color
	Oil/Water Separators, Ejectors and Valves			
C-SSWR-DEVC-FORC	Sanitary Sewer Force Main Arvs	CONTINUOUS	0.35	1
C-SSWR-FILT	Sanitary Sewer Filtration Beds	CONTINUOUS	0.35	3
C-SSWR-FITT	Sanitary Sewer Caps, Cleanouts, Crosses, And Tees	CONTINUOUS	0.35	25,5,0
C-SSWR-FITT-FORC	Sanitary Sewer Force Main Caps, Crosses, Tees And Other Fittings	CONTINUOUS	0.35	1
C-SSWR-JBOX	Sanitary Sewer Junction Box	CONTINUOUS	0.35	25,5,0
C-SSWR-LAGN	Sanitary Sewer Lagoons	CONTINUOUS	0.35	3
C-SSWR-LEAC	Sanitary Sewer Leach Field	CONTINUOUS	0.35	3
C-SSWR-LIFT-FORC	Sanitary Sewer Force Main Lift Station	CONTINUOUS	0.35	1
C-SSWR-MHOL	Sanitary Sewer Manhole	CONTINUOUS	0.35	25,5,0
C-SSWR-NITF	Sanitary Sewer Nitrification Drain Fields	CONTINUOUS	0.35	3
C-SSWR-PIPE	Sanitary Sewer Piping	SSWAF	0.35	25,5,0
C-SSWR-PIPE-FORC	Sanitary Sewer Force Main	RDU-SEWERFM	0.18	25,5,0
C-SSWR-PLNT	Sanitary Sewer Treatment Plants	CONTINUOUS	0.35	6
C-SSWR-SERV-PIPE	Sanitary Sewer Service Piping	CONTINUOUS	0.35	1
C-SSWR-SIGN	Sanitary Sewer Signage	CONTINUOUS	0.35	25,5,0
C-SSWR-STNS-PUMP	Sanitary Sewer Booster Pump Stations	CONTINUOUS	0.35	6
C-SSWR-TANK	Sanitary Sewer Storage Tanks	CONTINUOUS	0.35	25,5,0
C-SSWR-VALV-FORC	Sanitary Sewer Force Main Valve	CONTINUOUS	0.35	1
C-STRM-CULV	Storm Drain Culverts	CONTINUOUS	0.35	3
C-STRM-DEVC	Storm Drain Downspouts, Flumes, Oil/Water Separators, And Flap Gates	CONTINUOUS	0.35	6

Layer Name	Description	Line	Line Width	Color
C-STRM-FITT	Storm Drain Caps And Cleanouts	CONTINUOUS	0.35	25,5,0
C-STRM-FMON	Storm Drain Flow Monitoring Station	CONTINUOUS	0.35	25,5,0
C-STRM-HWAL	Storm Drain Headwall	CONTINUOUS	0.50	25,5,0
C-STRM-INLT	Storm Drain Inlets (Curb, Surface, And Catch Basins)	CONTINUOUS	0.35	3
C-STRM-MHOL	Storm Drain Manholes	CONTINUOUS	0.35	1
C-STRM-OTLN	Storm Drain Outline	CONTINUOUS	0.35	25,5,0
C-STRM-PIPE	Storm Drain Piping	CONTINUOUS	0.35	25,5,0
C-STRM-POND	Storm Drain Retention Pond	CONTINUOUS	0.35	25,5,0
C-STRM-ROOF	Storm Drain Roof	CONTINUOUS	0.35	25,5,0
C-STRM-SERV-PIPE	Storm Drain Service Piping	CONTINUOUS	0.35	1
C-STRM-SIGN	Storm Drain Signage	CONTINUOUS	0.35	25,5,0
C-STRM-STNS-PUMP	Storm Drain Pump Stations	CONTINUOUS	0.35	25,5,0
C-STRM-STRC	Storm Drain Structures	CONTINUOUS	0.35	25,5,0
C-STRM-TRCH	Storm Drain Trench	HIDDEN	0.35	25,5,0
C-SWLK	Sidewalks	CONTINUOUS	0.18	7
C-TAXI-CNTR	Taxiways Centerlines	CENTER	0.25	1
C-TAXI-EDGE	Taxiways Edge Markings	CONTINUOUS	0.35	255,25,5
C-TAXI-INTS	Taxiways or Taxilane	CONTINUOUS	0.18	7
C-TAXI-LINE-HOLD	Taxiways Holding Lines	CONTINUOUS	0.35	2
C-TAXI-MRKG-CNTR	Taxiways Pavement Markings Centerline	CENTER	0.25	7
C-TAXI-MRKG-DECP	Taxiways Pavement Markings Deceptive Bar	CONTINUOUS	0.18	7
C-TAXI-MRKG-DIRS	Taxiways Pavement Markings Surface Painted Directional Sign	CONTINUOUS	0.35	255,255,0
C-TAXI-MRKG-EDGE	Taxiways Pavement Markings Edge	CONTINUOUS	0.35	4

Layer Name	Description	Line	Line Width	Color
C-TAXI-MRKG-HBAR	Taxiways Pavement Markings Hold Bar Line (Twy Hold)	CONTINUOUS	0.18	7
C-TAXI-MRKG-HINT	Taxiways Pavement Markings Intersection Holding	CONTINUOUS	0.18	7
C-TAXI-MRKG-HLDS	Taxiways Pavement Markings Surface Painted Hold Sign	CONTINUOUS	0.35	255,255,0
C-TAXI-MRKG-MNMV	Taxiways Pavement Markings Movement/Nonmovement Area Boundary	CONTINUOUS	0.18	7
C-TAXI-MRKG-NOMV	Taxiways Pavement Markings Nonmovement area	CONTINUOUS	0.35	255,255,0
C-TAXI-MRKG-PCLS	Taxiway Pavement Markings Permanent Closure	CONTINUOUS	0.35	255,255,0
C-TAXI-MRKG-POSN	Taxiway Pavement Markings Position Markings	CONTINUOUS	0.35	255,255,0
C-TAXI-MRKG-SHLD	Taxiway Pavement Markings Shoulder	CONTINUOUS	0.35	2
C-TAXI-MRKG-TCLS	Taxiway Pavement Markings Temporary Closure Marking	CONTINUOUS	0.35	255,255,0
C-TAXI-MRKG-THLD	Taxiway Pavement Markings Hold Position	CONTINUOUS	0.35	255,255,0
C-TAXI-MRKG-TLOC	Taxiway Pavement Markings Surface Painted Taxiway Location Sign	CONTINUOUS	0.35	255,255,0
C-TAXI-OTLN	Taxiway Outlines	CONTINUOUS	0.35	4
C-TAXI-OTLN-INTS	Taxiway Outlines Intersection	CONTINUOUS	0.25	1
C-TAXI-SHLD	Taxiway Shoulders With Annotation	CONTINUOUS	0.25	2
C-TAXI-SIGN-CRGO	Taxiway Sign Cargo facility	CONTINUOUS	0.35	255,255,0
C-TAXI-SIGN-FUEL	Taxiway Sign Fuel Facility	CONTINUOUS	0.35	255,255,0
C-TAXI-SIGN-HILS	Taxiway Sign Hold Instrument Landing System	CONTINUOUS	0.35	255,255,0
C-TAXI-SIGN-HRAP	Taxiway Sign Hold Runway Approach	CONTINUOUS	0.35	255,255,0

Layer Name	Description	Line	Line Width	Color
C-TAXI-SIGN-INFO	Taxiway Sign Information	CONTINUOUS	0.35	255,255,0
C-TAXI-SIGN-MILT	Taxiway Sign Military	CONTINUOUS	0.35	255,255,0
C-TAXI-SIGN-NOEN	Taxiway Sign No Entry	CONTINUOUS	0.35	255,255,0
C-TAXI-SIGN-ODST	Taxiway Sign Out of bound Destination	CONTINUOUS	0.35	255,255,0
C-TAXI-SIGN-PSGR	Taxiway Sign Passengers	CONTINUOUS	0.35	255,255,0
C-TAXI-SIGN-TDIR	Taxiway Sign Direction	CONTINUOUS	0.35	255,255,0
C-TAXI-SIGN-TEND	Taxiway Sign End	CONTINUOUS	0.35	255,255,0
C-TAXI-SIGN-TERM	Taxiway Sign Terminal	CONTINUOUS	0.35	255,255,0
C-TAXI-SIGN-TLOC	Taxiway Sign Location	CONTINUOUS	0.35	255,255,0
C-TOPO-BKLN	Topographic Feature Breaklines	CONTINUOUS	0.50	7
C-TOPO-DEPR	Topographic Feature Depression	CONTINUOUS	0.18	7
C-TOPO-DTMO	Topographic Feature Dtm Obscure Area Boundary	CONTINUOUS	0.35	6
C-TOPO-DTMP	Topographic Feature Dtm Points	CONTINUOUS	0.35	6
C-TOPO-DTMT	Topographic Feature Dtm Triangles	CONTINUOUS	0.35	22
C-TOPO-GRAD	Topographic Feature Grading	CONTINUOUS	0.18	7
C-TOPO-MAJR	Topographic Feature Major Contours	CONTINUOUS	0.35	2
C-TOPO-MINR	Topographic Feature Minor Contours	CONTINUOUS	0.25	3
C-TOPO-OTLN-AUZN	Topographic Feature Noise Contour/Zone	CONTINUOUS	0.18	7
C-TOPO-SHOR	Topographic Feature Shorelines, Land Features, And References	CONTINUOUS	0.35	4
C-TOPO-WATR	Topographic Feature Water Level Reference (Lwrp, After-Grading Lwrp, Swl, Etc)	DASHED2X	0.50	255,0,0
C-TOPO-WSHD	Topographic Feature Watershed	CONTINUOUS	0.18	7

Layer Name	Description	Line	Line Width	Color
C-TRAF-CNTR-STOP	Traffic Centerline Vehicle Stop	CENTER	0.18	7
C-VSRD-MRKG-ARRW	Vehicle Service Road Arrow Pavement Marking	CONTINUOUS	0.18	253
C-VSRD-MRKG-CNTR	Vehicle Service Road Centerline Pavement Marking	CENTER	0.18	253
C-VSRD-MRKG-EDGE	Vehicle Service Road Edge Pavement Marking	CONTINUOUS	0.18	253
C-VSRD-MRKG-EDZP	Vehicle Service Road Pavement Marking	CONTINUOUS	0.18	253
C-VSRD-MRKG-SBAR	Vehicle Service Road Stop Bar Pavement Marking	CONTINUOUS	0.18	253
C-VSRD-MRKG-SBTX	Vehicle Service Road Stop Bar Pavement Marking Text	CONTINUOUS	0.18	253
C-VSRD-MRKG-SPLT-RED~	Vehicle Service Road Pavement Marking	CONTINUOUS	0.18	253
C-VSRD-MRKG-SPLT-WHIT	Vehicle Service Road Pavement Marking Red	CONTINUOUS	0.18	253
C-WALL-NSBR	Walls Noise Barrier	CONTINUOUS	0.18	7
C-WALL-RTWL	Walls Retaining Wall	CONTINUOUS	0.18	7
C-WATR-DEVC	Water Supply Connectors, Faucets, Reducers, Regulators, Vents, Intake Points, Taps, Backflow Preventers, And Valves	CONTINUOUS	0.35	255,25,5
C-WATR-FITT	Water Supply Caps, Cleanouts, Crosses, And Tees	CONTINUOUS	0.35	255,25,5
C-WATR-HYDT	Water Supply Flushing Hydrants	CONTINUOUS	0.35	255,25,5
C-WATR-METR	Water Supply Meters	CONTINUOUS	0.35	255,25,5
C-WATR-MHOL	Water Supply Manholes	CONTINUOUS	0.35	25,5,0
C-WATR-NPW~-HYDT	Water Supply Non-Potable Hydrants/Flushing Hydrants	CONTINUOUS	0.35	255,25,5
C-WATR-NPW~-PIPE	Water Supply Non-Potable Water Piping	WATRNP	0.35	255,25,5

Layer Name	Description	Line	Line Width	Color
C-WATR-PIPE	Water Supply Piping	WATERL	0.35	255,25,5
C-WATR-SERV-PIPE	Water Supply Service Piping	CONTINUOUS	0.35	255,25,5
C-WATR-SIGN	Water Supply Surface Markers/Signs	CONTINUOUS	0.35	255,25,5
C-WATR-STNS-PUMP	Water Supply Booster Pump Stations	CONTINUOUS	0.35	255,25,5
C-WATR-STNS-REDC	Water Supply Pressure Reducing Stations	CONTINUOUS	0.35	255,25,5
C-WATR-TANK	Water Supply Storage Tanks	CONTINUOUS	0.35	255,25,5
C-WATR-VALT	Water Supply Vent Pits/Vaults	CONTINUOUS	0.35	255,25,5
C-WATR-VALV	Water Supply Valve Pits/Boxes	CONTINUOUS	0.35	255,25,5
C-WATR-WELL	Water Supply Well	CONTINUOUS	0.35	255,25,5
C-WETL-BOGS	Wetlands Bogs	CONTINUOUS	0.35	6
C-WETL-FENS	Wetlands Fens	CONTINUOUS	0.35	2
C-WETL-MRSH	Wetlands Fresh Water Marshes	CONTINUOUS	0.35	162
C-WETL-PCSN	Wetlands Pocosins	CONTINUOUS	0.35	6
C-WETL-PHOL	Wetlands Vernal Pools, Playas, Prairie Potholes, Wet Meadows, And Wet Prairies	CONTINUOUS	0.35	6
C-WETL-RPRN	Wetlands Riparian Forested Wetlands	CONTINUOUS	0.35	162
C-WETL-SLGH	Wetlands Sloughs	CONTINUOUS	0.35	162
C-WETL-SWMP	Wetlands Swamps	CONTINUOUS	0.35	162
C-WWAY	Waterway	CONTINUOUS	0.18	7
C-WWAY-DLPH	Waterway Dolphin	CONTINUOUS	0.18	7
C-WWAY-FEND	Waterway Fender	CONTINUOUS	0.18	7
C-WWAY-MOOR	Waterway Mooring	CONTINUOUS	0.18	7
E-AFLD-CIRC	Airfield Circuits Series	CONTINUOUS	0.18	145,82,165

Layer Name	Description	Line	Line Width	Color
E-AFLD-CIRC-CTRL	Airfield Circuits Control And Monitoring	CONTINUOUS	0.18	145,82,165
E-AFLD-CIRC-MULT	Airfield Circuits Multiple	CONTINUOUS	0.18	145,82,165
E-AFLD-DBNK	Airfield Ductbanks	DASHED2	0.18	145,82,165
E-AFLD-DEVC	Airfield Capacitors, Voltage Regulators, Motors, Buses, Generators, Meters, Grounds, And Markers	CONTINUOUS	0.50	23
E-AFLD-FAA-MHLE	Airfield Faa Manhole	CONTINUOUS	0.18	4
E-AFLD-JBOX	Airfield Junction Boxes, Pull Boxes, Manholes, Handholes, Pedestals, Splices	CONTINUOUS	0.50	23
E-AFLD-LITE-APPR	Airfield Lighting Approach	CONTINUOUS	0.18	145,82,165
E-AFLD-LITE-DIST	Airfield Lighting Distance And Arresting Gear Markers	CONTINUOUS	0.18	145,82,165
E-AFLD-VALT	Airfield Vaults	CONTINUOUS	0.50	203
E-ALRM-EQPM	Alarm System Equipment	CONTINUOUS	0.18	255,63,0
E-BCNS-MISC	Beacons Miscellaneous Navaids - Windcones	CONTINUOUS	0.18	145,82,165
E-BCNS-STRB	Beacons Strobe	CONTINUOUS	0.18	145,82,165
E-CABL-COAX	Cable System Coax Cable	CONTINUOUS	0.50	83
E-CABL-FIBR	Cable System Fiber Optics Cable	FIBOPT	0.50	83
E-CABL-MULT	Cable System Multi-Conductor Cable	CONTINUOUS	0.50	83
E-CABL-TRAY	Cable System Trays And Wireways	WIREWY	0.50	203
E-CLOK-EQPM	Clock System Equipment	CONTINUOUS	0.50	203
E-COMM-ACCS-DEVC	Communications Security Access Devices White	CONTINUOUS	0.18	30
E-COMM-ANTN	Communications Antenna	CONTINUOUS	0.18	30
E-COMM-BLIN	Communications Baseline	RDU-COMM	0.18	30

Layer Name	Description	Line	Line Width	Color
E-COMM-CABL	Communications Coax Cable	CONTINUOUS	0.18	30
E-COMM-CABL-MULT	Communications Multi-Conductor Cable	CONTINUOUS	0.50	30
E-COMM-CABL-TRAY	Communications Cabletray	CONTINUOUS	0.18	30
E-COMM-CIRC	Communications Circuits	CONTINUOUS	0.18	30
E-COMM-CNDT	Communications Conduit	CONTINUOUS	0.18	30
E-COMM-CNMB	Communications Circuit Number	CONTINUOUS	0.18	30
E-COMM-CNTR	Communications Controller	CENTER	0.18	30
E-COMM-COVR-AREA	Communications Coverage Area	CONTINUOUS	0.18	30
E-COMM-DEVC	Communication Devices	CONTINUOUS	0.18	30
E-COMM-DSCO	Communication Disconnect	CONTINUOUS	0.18	30
E-COMM-DUCT	Communications Ductbank	CONTINUOUS	0.18	30
E-COMM-EQPM	Communications Equipment	CONTINUOUS	0.18	30
E-COMM-FIBR	Communications Fiber Optics Cable	RDU-FOB	0.18	30
E-COMM-JBOX	Communications Junction Boxes	CONTINUOUS	0.18	30
E-COMM-JBOX-HAND	Communications Handhole	CONTINUOUS	0.18	30
E-COMM-JUNC	Communications Junction Boxes	CONTINUOUS	0.18	30
E-COMM-LINE-OVHD	Communications Overhead Lines	COMARN	0.18	30
E-COMM-MHOL	Communications Manhole	CONTINUOUS	0.18	30
E-COMM-OVHD	Communications Overhead	COMARN	0.18	255,63,0
E-COMM-PBOX	Communications Pull boxes	CONTINUOUS	0.18	30
E-COMM-POLE	Communications Poles	CONTINUOUS	0.18	30
E-COMM-POLE-GUYS	Communication Guying Poles	CONTINUOUS	0.50	203
E-COMM-RISR	Communications Risers	CONTINUOUS	0.18	30
E-COMM-SOUN-DEVC	Communications Sound System Devices	CONTINUOUS	0.18	30

Layer Name	Description	Line	Line Width	Color
E-COMM-SWBD	Communications Pull Switchboards	CONTINUOUS	0.18	30
E-COMM-SWCH	Communications Switches	CONTINUOUS	0.18	30
E-COMM-TBOX	Communications Pull Terminal Boxes	CONTINUOUS	0.18	30
E-COMM-UGND	Communication Underground/Telephone Lines	RDU-COMM	0.18	255,63,0
E-COMM-VALT	Communications Vault or Pit	CONTINUOUS	0.18	30
E-DBNK-MULT	Communications Underground Ductbank Multi-Conductor Cable	DASHED2	0.18	10,50,0
E-DETL-DIAG	Communications One line diagrams	CONTINUOUS	0.18	30
E-ELEC-DBNK	Electrical Ductbank	DASHED2	0.18	1
E-ELEC-DEVC	Electrical System, Telecom Plan Devices	CONTINUOUS	0.18	1
E-ELEC-FAA~CABL	Electrical Faa Cable	RDU-ELECCOND(FAA)	0.18	1
E-ELEC-FAA~DBNK	Electrical Faa Airfield Ductbank	DASHED2	0.18	1
E-ELEC-FAA~JBOX	Electrical Faa Junction Boxes, Pull Boxes, Manholes, Handholes, Pedestals, Splices	CONTINUOUS	0.18	1
E-ELEC-JBOX	Electrical System, Telecom Plan Junction Box	CONTINUOUS	0.18	1
E-ELEC-POLE	Electrical light Poles	CONTINUOUS	0.18	1
E-ELEC-PRIM-OVHD	Electrical Overhead Utility Lines	CONTINUOUS	0.18	1
E-EMCS-EQPM	Energy Monitoring Control System Equipment	CONTINUOUS	0.50	203
E-EMCS-IDEN	Energy Monitoring Control System Identifier tags, symbol modifiers, and text	CONTINUOUS	0.50	203
E-FIRE-ALRM	Communications Diagrams other than one-line	CONTINUOUS	0.18	30
E-GRND-CIRC	Ground System Circuits	CONTINUOUS	0.18	10,50,0

Layer Name	Description	Line	Line Width	Color
E-GRND-DIAG	Ground System Diagram	CONTINUOUS	0.50	163
E-GRND-EQUI	Ground System Equipotential	CONTINUOUS	0.50	83
E-GRND-REFR	Ground System Reference	CONTINUOUS	0.50	23
E-INTC-EQPM	Intercom System Equipment	CONTINUOUS	0.50	203
E-LITE-CNDT	Lighting Conduits	CONTINUOUS	0.18	1
E-LITE-EMER	Lighting Emergency Fixtures	CONTINUOUS	0.18	6
E-LITE-EXIT	Lighting Fire Protection Exit Fixtures	CONTINUOUS	0.18	1
E-LITE-EXTR-ALS1	Lighting Exterior ALSF-1	CONTINUOUS	0.18	6
E-LITE-EXTR-ALS2	Lighting Exterior ALSF-2	CONTINUOUS	0.18	6
E-LITE-EXTR-APAP	Lighting Exterior APAP	CONTINUOUS	0.18	6
E-LITE-EXTR-APBN	Lighting Exterior APBN	CONTINUOUS	0.18	6
E-LITE-EXTR-CLBR	Lighting Exterior CLRBAR	CONTINUOUS	0.18	6
E-LITE-EXTR-CDBN	Lighting Exterior CODEBEACON	CONTINUOUS	0.18	6
E-LITE-EXTR-CRSE	Lighting Exterior COURSE	CONTINUOUS	0.18	6
E-LITE-EXTR-FIXD	Lighting Exterior F	CONTINUOUS	0.18	6
E-LITE-EXTR-FLSH	Lighting Exterior FL	CONTINUOUS	0.18	6
E-LITE-EXTR-FLS2	Lighting Exterior FL (2)	CONTINUOUS	0.18	6
E-LITE-EXTR-FL21	Lighting Exterior FL (2+1)	CONTINUOUS	0.18	6
E-LITE-EXTR-HLLT	Lighting Exterior HLL	CONTINUOUS	0.18	6
E-LITE-EXTR-HLLL	Lighting Exterior HLLL	CONTINUOUS	0.18	6
E-LITE-EXTR-HPIL	Lighting Exterior HPIL	CONTINUOUS	0.18	6
E-LITE-EXTR-HPPEL	Lighting Exterior HPPEL	CONTINUOUS	0.18	6
E-LITE-EXTR-HPLS	Lighting Exterior HPPLSF	CONTINUOUS	0.18	6
E-LITE-EXTR-ISOP	Lighting Exterior ISO	CONTINUOUS	0.18	6
E-LITE-EXTR-L804	Lighting Exterior L-804	CONTINUOUS	0.18	6



Layer Name	Description	Line	Line Width	Color
E-LITE-EXTR-850A	Lighting Exterior L-850A	CONTINUOUS	0.18	6
E-LITE-EXTR-850B	Lighting Exterior L-850B	CONTINUOUS	0.18	6
E-LITE-EXTR-850C	Lighting Exterior L-850C	CONTINUOUS	0.18	6
E-LITE-EXTR-850D	Lighting Exterior L-850D	CONTINUOUS	0.18	6
E-LITE-EXTR-850E	Lighting Exterior L-850E	CONTINUOUS	0.18	6
E-LITE-EXTR-850F	Lighting Exterior L-850F	CONTINUOUS	0.18	6
E-LITE-EXTR-852A	Lighting Exterior L-852A	CONTINUOUS	0.18	6
E-LITE-EXTR-852B	Lighting Exterior L-852B	CONTINUOUS	0.18	6
E-LITE-EXTR-852C	Lighting Exterior L-852C	CONTINUOUS	0.18	6
E-LITE-EXTR-852D	Lighting Exterior L-852D	CONTINUOUS	0.18	6
E-LITE-EXTR-852E	Lighting Exterior L-852E	CONTINUOUS	0.18	6
E-LITE-EXTR-852F	Lighting Exterior L-852E/F	CONTINUOUS	0.18	6
E-LITE-EXTR-852F	Lighting Exterior L-852F	CONTINUOUS	0.18	6
E-LITE-EXTR-852G	Lighting Exterior L-852G	CONTINUOUS	0.18	6
E-LITE-EXTR-852GS	Lighting Exterior L-852G/S	CONTINUOUS	0.18	6
E-LITE-EXTR-852J	Lighting Exterior L-852J	CONTINUOUS	0.18	6
E-LITE-EXTR-852K	Lighting Exterior L-852K	CONTINUOUS	0.18	6
E-LITE-EXTR-852S	Lighting Exterior L-852S	CONTINUOUS	0.18	6
E-LITE-EXTR-852T	Lighting Exterior L-852T	CONTINUOUS	0.18	6
E-LITE-EXTR-L853	Lighting Exterior L-853	CONTINUOUS	0.18	6
E-LITE-EXTR-L854	Lighting Exterior L-854	CONTINUOUS	0.18	6
E-LITE-EXTR-L860	Lighting Exterior L-860	CONTINUOUS	0.18	6
E-LITE-EXTR-860E	Lighting Exterior L-860E	CONTINUOUS	0.18	6
E-LITE-EXTR-L861	Lighting Exterior L-861	CONTINUOUS	0.18	6
E-LITE-EXTR-861E	Lighting Exterior L-861E	CONTINUOUS	0.18	6

Layer Name	Description	Line	Line Width	Color
E-LITE-EXTR-61SE	Lighting Exterior L-861SE	CONTINUOUS	0.18	6
E-LITE-EXTR-861T	Lighting Exterior L-861T	CONTINUOUS	0.18	6
E-LITE-EXTR-L862	Lighting Exterior L-862	CONTINUOUS	0.18	6
E-LITE-EXTR-862E	Lighting Exterior L-862E	CONTINUOUS	0.18	6
E-LITE-EXTR-862S	Lighting Exterior L-862S	CONTINUOUS	0.18	6
E-LITE-EXTR-8081	Lighting Exterior L-880/L881	CONTINUOUS	0.18	6
E-LITE-EXTR-LDIN	Lighting Exterior LDIN	CONTINUOUS	0.18	6
E-LITE-EXTR-MALS	Lighting Exterior MALS	CONTINUOUS	0.18	6
E-LITE-EXTR-MLSF	Lighting Exterior MALSF	CONTINUOUS	0.18	6
E-LITE-EXTR-MLSR	Lighting Exterior MALSR	CONTINUOUS	0.18	6
E-LITE-EXTR-MORS	Lighting Exterior MO (A)	CONTINUOUS	0.18	6
E-LITE-EXTR-NONE	Lighting Exterior NONE	CONTINUOUS	0.18	6
E-LITE-EXTR-OBCT	Lighting Exterior OBSCAT	CONTINUOUS	0.18	6
E-LITE-EXTR-OBDL	Lighting Exterior OBSDUAL	CONTINUOUS	0.18	6
E-LITE-EXTR-OB RD	Lighting Exterior OBSRED	CONTINUOUS	0.18	6
E-LITE-EXTR-OBWH	Lighting Exterior OBSWHITE	CONTINUOUS	0.18	6
E-LITE-EXTR-OCLT	Lighting Exterior OC	CONTINUOUS	0.18	6
E-LITE-EXTR-ODLS	Lighting Exterior ODALS	CONTINUOUS	0.18	6
E-LITE-EXTR-OTHR	Lighting Exterior OTHER	CONTINUOUS	0.18	6
E-LITE-EXTR-PAP2	Lighting Exterior PAPI2	CONTINUOUS	0.18	6
E-LITE-EXTR-PAP4	Lighting Exterior PAPI4	CONTINUOUS	0.18	6
E-LITE-EXTR-PORT	Lighting Exterior PORTABLE	CONTINUOUS	0.18	6
E-LITE-EXTR-PVAS	Lighting Exterior PVASI	CONTINUOUS	0.18	6
E-LITE-EXTR-QUIK	Lighting Exterior Q	CONTINUOUS	0.18	6
E-LITE-EXTR-RAIL	Lighting Exterior RAIL	CONTINUOUS	0.18	6

Layer Name	Description	Line	Line Width	Color
E-LITE-EXTR-REIL	Lighting Exterior REIL	CONTINUOUS	0.18	6
E-LITE-EXTR-RWSL	Lighting Exterior RWSL	CONTINUOUS	0.18	6
E-LITE-EXTR-SALS	Lighting Exterior SALS	CONTINUOUS	0.18	6
E-LITE-EXTR-SMGC	Lighting Exterior SMGCS	CONTINUOUS	0.18	6
E-LITE-EXTR-SSLF	Lighting Exterior SSALF	CONTINUOUS	0.18	6
E-LITE-EXTR-SSLR	Lighting Exterior SSALR	CONTINUOUS	0.18	6
E-LITE-EXTR-TRCV	Lighting Exterior TRCV	CONTINUOUS	0.18	6
E-LITE-EXTR-TVAS	Lighting Exterior T-VASI	CONTINUOUS	0.18	6
E-LITE-EXTR-TWOO	Lighting Exterior TWYON_OFFLGT	CONTINUOUS	0.18	6
E-LITE-EXTR-VS12	Lighting Exterior VASI-12	CONTINUOUS	0.18	6
E-LITE-EXTR-VS16	Lighting Exterior VASI-16	CONTINUOUS	0.18	6
E-LITE-EXTR-VAS2	Lighting Exterior VASI-2	CONTINUOUS	0.18	6
E-LITE-EXTR-VS22	Lighting Exterior VASI-2-2	CONTINUOUS	0.18	6
E-LITE-EXTR-VAS3	Lighting Exterior VASI-3	CONTINUOUS	0.18	6
E-LITE-EXTR-CIRC	Lighting Exterior Circuits	CONTINUOUS	0.18	6
E-LITE-EXTR-GRND	Lighting Exterior Ground System	CONTINUOUS	0.18	6
E-LITE-EXTR-JBOX	Lighting Exterior Junction Boxes	CONTINUOUS	0.18	6
E-LITE-EXTR-PANL	Lighting Exterior Panels	Dot	0.18	6
E-LITE-EXTR-POLE	Lighting Exterior Poles	CONTINUOUS	0.18	6
E-LITE-EXTR-SWCH	Lighting Contactors, Photoelectric Controls, Low-Voltage Lighting Controls, etc.	CONTINUOUS	0.18	6
E-LITE-EXTR-WALL	Lighting Exterior Wall Lights	CONTINUOUS	0.18	6
E-LITE-FIXT	Lighting Fixture	CONTINUOUS	0.18	6
E-LITE-OBST	Obstructions Lighting	DOT	0.18	3
E-LITE-OBST-CIRC	Obstructions Lighting Circuits	CONTINUOUS	0.18	6

Layer Name	Description	Line	Line Width	Color
E-LITE-OBST-JBOX	Obstructions Lighting Junction Box	CONTINUOUS	0.18	6
E-LITE-RUNW-CNTR	Runway Center Lighting	CENTER	0.18	3
E-LITE-RUNW-CNTR-CIRC	Runway Center Lighting Circuits	CENTER	0.18	6
E-LITE-RUNW-CNTR-JBOX	Runway Center Lighting Junction Box	CENTER	0.18	6
E-LITE-RUNW-EDGE	Runway Edge Lighting	DOT	0.18	3
E-LITE-RUNW-EDGE-CIRC	Runway Edge Lighting Circuits	CONTINUOUS	0.18	6
E-LITE-RUNW-EDGE-JBOX	Runway Edge Lighting Junction Box	CONTINUOUS	0.18	6
E-LITE-RUNW-GARD	Runway Guard Light	DOT	0.18	3
E-LITE-RUNW-GARD-CIRC	Runway Guard Light Circuits	CONTINUOUS	0.18	6
E-LITE-RUNW-GARD-JBOX	Runway Guard Light Junction Box	CONTINUOUS	0.18	6
E-LITE-RUNW-STOP	Runway Stop Light	DOT	0.18	3
E-LITE-RUNW-STOP-CIRC	Runway Stop Light Circuits	CONTINUOUS	0.18	6
E-LITE-RUNW-STOP-JBOX	Runway Stop Light Junction Box	CONTINUOUS	0.18	6
E-LITE-RUNW-TDZN	Runway Touchdown Zone Light	DOT	0.18	3
E-LITE-RUNW-TDZN-CIRC	Runway Touchdown Zone Light Circuits	CONTINUOUS	0.18	6
E-LITE-RUNW-TDZN-JBOX	Runway Touchdown Zone Light Junction Box	CONTINUOUS	0.18	6
E-LITE-SIGN-RC28	Remote Lighting Controller 28 Sign	DOT	0.18	3
E-LITE-SIGN-RC28-CIRC	Remote Lighting Controller 28 Sign Circuits	CONTINUOUS	0.18	6
E-LITE-SIGN-RC28-JBOX	Remote Lighting Controller 28 Sign Junction Box	CONTINUOUS	0.18	6
E-LITE-SIGN-RC29	Remote Lighting Controller 29 Sign	DOT	0.18	3
E-LITE-SIGN-RC29-CIRC	Remote Lighting Controller 29 Sign Circuits	CONTINUOUS	0.18	6

Layer Name	Description	Line	Line Width	Color
E-LITE-SIGN-RC29-JBOX	Remote Lighting Controller 29 Sign Junction box	CONTINUOUS	0.18	6
E-LITE-SIGN-RC35	Remote Lighting Controller 35 Sign	DOT	0.18	3
E-LITE-SIGN-RC35-CIRC	Remote Lighting Controller 35 Sign Circuits	CONTINUOUS	0.18	6
E-LITE-SIGN-RC35-JBOX	Remote Lighting Controller 35 Sign Junction Box	CONTINUOUS	0.18	6
E-LITE-SIGN-RC7~	Remote Lighting Controller 7 Sign	DOT	0.18	3
E-LITE-SIGN-RC7~-CIRC	Remote Lighting Controller 7 Sign Circuits	CONTINUOUS	0.18	6
E-LITE-SIGN-RC7~-JBOX	Remote Lighting Controller 7 Sign Junction Box	CONTINUOUS	0.18	6
E-LITE-SIGN-RC8~	Remote Lighting Controller 8 Sign	DOT	0.18	3
E-LITE-SIGN-RC8~-CIRC	Remote Lighting Controller 8 Sign Circuits	CONTINUOUS	0.18	6
E-LITE-SIGN-RC8~-JBOX	Remote Lighting Controller 8 Sign Junction Box	CONTINUOUS	0.18	6
E-LITE-SWCH	Lighting Switch	CONTINUOUS	0.18	6
E-LITE-TAXI-CNTL	Taxiway Centerline Lights	DOT	0.18	3
E-LITE-TAXI-CNTL-CIRC	Taxiway Centerline Lights Circuits	CONTINUOUS	0.18	6
E-LITE-TAXI-CNTL-JBOX	Taxiway Centerline Lights Junction Box	CONTINUOUS	0.18	6
E-LITE-TAXI-EDGE	Taxiway Edge Lighting	DOT	0.18	3
E-LITE-TAXI-EDGE-CIRC	Taxiway Edge Lighting Circuits	CONTINUOUS	0.18	6
E-LITE-TAXI-EDGE-JBOX	Taxiway Edge Lighting Junction Box	CONTINUOUS	0.18	6
E-LITE-TAXI-SPARE-CIRC	Taxiway Lighting Spare Circuits	CONTINUOUS	0.18	6
E-LITE-TAXI-SPARE-JBOX	Taxiway Lighting Spare Junction Box	CONTINUOUS	0.18	6
E-LITE-THRS	Threshold Lighting	DOT	0.18	3

Layer Name	Description	Line	Line Width	Color
E-LITE-THRS-CIRC	Threshold Lighting Circuits	CONTINUOUS	0.18	6
E-LITE-THRS-JBOX	Threshold Lighting Junction Box	CONTINUOUS	0.18	6
E-PHON-JACK	Telephone System Jacks	CONTINUOUS	0.18	30
E-POWR-BUSW	Power Busways	BUSWAY	0.50	203
E-POWR-CIRC	Power Circuits (Including Crosslines And Homeruns)	CONTINUOUS	0.50	83
E-POWR-CIRC-CRIT	Power Circuits Critical	CONTINUOUS	0.18	10,50,0
E-POWR-CLNG	Power Ceiling Outlets (Receptacles And Switches)	CONTINUOUS	0.50	83
E-POWR-CLNG-CRIT	Power Ceiling Critical	CONTINUOUS	0.18	10,50,0
E-POWR-CNDT	Power Conduit	CONTINUOUS	0.18	10,50,0
E-POWR-CNMB	Power Circuit Number	CONTINUOUS	0.18	255,255,0
E-POWR-CNMB-CRIT	Power Circuit Number Critical	CONTINUOUS	0.18	255,255,0
E-POWR-DEVC	Power Capacitors, Voltage Regulators, Motors, Buses, Generators, Meters, Grounds, And Markers	CONTINUOUS	0.50	23
E-POWR-DSCO	Power Disconnect Switches	CONTINUOUS	0.18	10,50,0
E-POWR-DSCO-ACFU	Power Disconnect Switches Fused Ac	CONTINUOUS	0.18	10,50,0
E-POWR-DSCO-ACFU	Power Disconnect Switches Fused Dc	CONTINUOUS	0.18	10,50,0
E-POWR-DSCO-ACNF	Power Disconnect Switches Unfused Ac	CONTINUOUS	0.18	10,50,0
E-POWR-DSCO-ACNF	Power Disconnect Switches Unfused Dc	CONTINUOUS	0.18	10,50,0
E-POWR-FEED	Power Feeders	CONTINUOUS	0.50	203
E-POWR-GENR	Power Generators And Auxiliary Equipment	CONTINUOUS	0.50	4

Layer Name	Description	Line	Line Width	Color
E-POWR-JBOX	Power Junction Boxes, Pull Boxes, Manholes, Handholes, Pedestals, Splices	CONTINUOUS	0.50	83
E-POWR-METR	Power Meter	CONTINUOUS	0.50	163
E-POWR-MOTR	Power Motors And Utilization Equipment	CONTINUOUS	0.50	4
E-POWR-PANL	Power Panelboards, Switchboards, Mcc, Unit Substations, Backing Boards, Patch Panel Racks	CONTINUOUS	0.50	4
E-POWR-POLE	Power Poles	CONTINUOUS	0.50	203
E-POWR-POLE-GUYS	Power Guying Poles	CONTINUOUS	0.50	203
E-POWR-SBST	Power Sub Station	CONTINUOUS	0.18	10,50,0
E-POWR-SWBD	Power Switchboards	CONTINUOUS	0.18	10,50,0
E-POWR-SWCH	Power Fuse Cutouts, Motor Starters, Contactors, Pole Mounted Switches, Circuit Breakers, Gang Operated Disconnects, Reclosers, Cubicle Switches	CONTINUOUS	0.50	163
E-POWR-SWCH	Power Switches	CONTINUOUS	0.18	10,50,0
E-POWR-URAC	Power Underfloor Raceways	CONTINUOUS	0.50	203
E-POWR-XFMR-PADM	Power Pad Mounted Transformers	CONTINUOUS	0.50	23
E-POWR-XFMR-POLM	Power Pole Mounted Transformers	CONTINUOUS	0.50	23
E-SERT-ACCS-CABL	Security System Access Cable	CONTINUOUS	0.35	1
E-SERT-ACCS-EQPM	Security System Access Equipment	CONTINUOUS	0.35	1
E-SERT-ACCS-JBOX	Security System Access Junction Box	CONTINUOUS	0.35	1
E-SERT-ACCS-RISR	Security System Access Riser	CONTINUOUS	0.35	1
E-SERT-ALRM	Security System Alarm	CONTINUOUS	0.35	1
E-SERT-CCTV-CABL	Security System Closed-Circuit Television Cable	CONTINUOUS	0.35	1

Layer Name	Description	Line	Line Width	Color
E-SERT-CCTV-EQPM	Security System Closed-Circuit Television Equipment	CONTINUOUS	0.18	30
E-SERT-CCTV-JBOX	Security System Closed-Circuit Television Junction Box	CONTINUOUS		1
E-SERT-CCTV-RISR	Security System Closed-Circuit Television Riser	CONTINUOUS		1
E-SOUN-EQPM	Sound System Equipment	CONTINUOUS	0.50	203
E-SPCL-SYST	Special System	CONTINUOUS	0.18	10,50,0
E-SPCL-TRAF	Special System Traffic Signal	CONTINUOUS	0.50	203
F-AFFF-EQPM	Fire Protection Aqueous Film-Forming Foam System Equipment	CONTINUOUS	0.18	1
F-AFFF-PIPE	Fire Protection Aqueous Film-Forming Foam System Piping	RDU-AUXFFF	0.18	1
F-ALRM-EQPM	Fire Protection System Alarms	CONTINUOUS	1.40	7
F-ALRM-PHON	Fire Protection System Alarm Telephone Line	CONTINUOUS	0.18	7
F-CO2S-EQPM	CO2 Sprinkler System Equipment	CONTINUOUS	0.35	6
F-CO2S-PIPE	CO2 Sprinkler System Piping Or Discharge Nozzle Piping	CONTINUOUS	0.35	6
F-CTRL-PANL	Control Panels	CONTINUOUS	0.50	23
F-EQPM-EXTI	Fire Protection System Extinguishers	CONTINUOUS	0.18	1
F-EQPM-EXTI-STOR	Fire protection system Extinguisher Storage	CONTINUOUS	0.18	1
F-EQPM-HOSE	Fire protection system Hoses	CONTINUOUS	0.35	2
F-EQPM-HOSE-STOR	Fire Protection system Hose Cabinets	CONTINUOUS	0.35	2
F-EQPM-STOR	Fire Protection System Equipment	CONTINUOUS	2.00	7
F-HALN-EQPM	Halon System Equipment	CONTINUOUS	0.35	22
F-HALN-PIPE	Halon System Piping	CONTINUOUS	0.35	22

Layer Name	Description	Line	Line Width	Color
F-IGAS-EQPM	Inert Gas Equipment	CONTINUOUS	0.35	162
F-IGAS-PIPE	Inert Gas Piping	CONTINUOUS	0.35	162
F-LITE-EMER	Means of Egress Lighting Emergency Fixtures	CONTINUOUS	0.50	23
F-LITE-EXIT	Means of Egress Lighting Exit Fixtures	CONTINUOUS	0.50	203
F-SMOK-DMPR	Smoke/Pressurization Control Dampers	CONTINUOUS	0.35	22
F-SPKL-OTHD	Sprinkler System Other Heads	CONTINUOUS	0.18	1
F-SPKL-STAN	Sprinkler System Standpipe System	CONTINUOUS	0.18	1
F-WATR-HYDT	Water Supply and Distribution Hydrants And Connections	CONTINUOUS	0.35	122
F-WATR-PIPE	Water Supply and Distribution Piping	RDU-FIREPROT	0.50	4
F-WATR-PUMP	Water Supply and Distribution Pumps	CONTINUOUS	0.35	122
G-TTBK-2LD-ATTR	Titleblock Attributes in a 2 line definition	CONTINUOUS	0.35	7
G-TTBK-3LD-ATTR	Titleblock Attributes in a 3 line definition	CONTINUOUS	0.35	7
G-TTBK-ARRW	Titleblock North Arrow	CONTINUOUS	0.18	7
G-TTBK-BRDR	Titleblock Border	CONTINUOUS	0.35	7
G-TTBK-DATE	Titleblock Project Submission Date	CONTINUOUS	0.35	7
G-TTBK-KEYM	Titleblock Keymap	CONTINUOUS	0.18	253
G-TTBK-LINE	Titleblock Wide Lines	CONTINUOUS	0.18	7
G-TTBK-LOCN-ARRW	Titleblock Location Map North Arrow	CONTINUOUS	0.18	252
G-TTBK-LOCN-MAP	Titleblock Location Map	CONTINUOUS	0.50	252
G-TTBK-LOGO	Titleblock RDU Logo	CONTINUOUS	0.35	156

Layer Name	Description	Line	Line Width	Color
G-TTBK-MTCH-LINE	Titleblock Matchline	PHANTOM2	0.18	7
G-TTBK-REVW-STAT	Titleblock Review Status - "CHECK PRINT" Text in lower right corner	CONTINUOUS	0.50	7
G-TTBK-SCAL-BAR	Titleblock Scale Bar	CONTINUOUS	0.18	7
G-TTBK-SEQC-NMBR	Titleblock Total Number of Sheets "TBD"	CONTINUOUS	0.35	7
G-TTBK-STMP	Titleblock Stamp, add Engineer's Initials 2 Letters	CONTINUOUS	0.18	7
G-TTBK-TITL	Titleblock Contract Title and Number	CONTINUOUS	0.50	7
G-TTBK-WIND-SLCT	Titleblock Plot Window Selection Circles	CONTINUOUS	0.18	2
I-AREA-OTLN	Furnishing Area Interior Design Area Outline	CONTINUOUS	0.18	7
I-CRPT	Furnishing Carpet/Carpet Tile	CONTINUOUS	0.18	7
I-CSWK	Furnishing Casework	CONTINUOUS	0.18	7
I-EQPM-ACCS	Furnishing Equipment Access	CONTINUOUS	0.18	8
I-EQPM-STOR	Furnishing Equipment Storage Equipment	CONTINUOUS	0.35	2
I-FLOR-FNSH	Floor Interior Design Floor Finishes	CONTINUOUS	0.18	7
I-FLOR-HRAL	Floor Handrails/Guard Rails	CONTINUOUS	0.18	7
I-FLOR-LEVL	Floor Level Changes (Ramps, Pits, Depressions)	CONTINUOUS	0.18	7
I-FLOR-OTLN	Floor Outline	CONTINUOUS	0.18	7
I-FLOR-SIGN	Floor Signage	CONTINUOUS	0.35	6
I-FLOR-TPTN	Floor Toilet Partitions	CONTINUOUS	0.18	7
I-FURN-ACCS	Furnishing Accessories (Vestibule Matts, Partitions, Draperies, Clocks, Trash Cans, Lecturns, Lamps, Etc.)	CONTINUOUS	0.25	1
I-FURN-ARTW	Furnishing Artwork	CONTINUOUS	0.35	2

Layer Name	Description	Line	Line Width	Color
I-FURN-CASE	Furnishing Cases	CONTINUOUS	0.18	7
I-FURN-FREE	Furnishing Freestanding	CONTINUOUS	0.35	1
I-FURN-MLWK	Furnishing Millwork	CONTINUOUS	0.18	7
I-FURN-OTHR	Furnishing Others	CONTINUOUS	0.18	7
I-FURN-PLNT	Furnishing Plants	CONTINUOUS	0.25	3
I-FURN-PNLS	Furnishing System Panels	CONTINUOUS	0.35	1
I-FURN-SEAT	Furnishing Seating (Chairs, Sofas, Etc.)	CONTINUOUS	0.35	2
I-FURN-SIGN	Interior Furnishings Sign Fixtures	CONTINUOUS	0.18	7
I-FURN-STOR	Furnishing File Cabinets, High Density Storage, Shelving, Storage Cabinets	CONTINUOUS	0.35	2
L-IRRG-COVR	Irrigation Coverage, Spray Distribution Patterns	CONTINUOUS	0.18	5
L-IRRG-EQPM	Irrigation Equipment (E.G., Controllers, Valves, Rpbps, Etc.)	CONTINUOUS	0.35	6
L-IRRG-PIPE	Irrigation Piping	LAWNSP	0.35	6
L-IRRG-SPKL	Irrigation Sprinklers	CONTINUOUS	0.35	6
L-IRRG-VALV	Irrigation Valves	CONTINUOUS	0.18	7
L-PLNT-BEDS	Plants And Landscape Material Perennial And Annual Beds	CONTINUOUS	0.18	1
L-PLNT-BUSH	Plants And Landscape Material Bushes And Shrubs	CONTINUOUS	0.18	1
L-PLNT-CONI	Plants And Landscape Material Coniferous Trees	CONTINUOUS	0.18	7
L-PLNT-CTNR	Plants And Landscape Material Containers Or Planters	CONTINUOUS	0.25	1
L-PLNT-EVGR	Plants And Landscape Material Evergreen Trees - Broadleaf	CONTINUOUS	0.18	7
L-PLNT-GCVR	Plants And Landscape Material Ground Cover	CONTINUOUS	0.18	1

Layer Name	Description	Line	Line Width	Color
L-PLNT-MLCH	Plants And Landscape Material Mulches-Organic And Inorganic	CONTINUOUS	0.18	1
L-PLNT-PALM	Plants And Landscape Material Palm Trees	CONTINUOUS	0.18	7
L-PLNT-SEED	Plants And Landscape Material Seeding Areas	CONTINUOUS	0.18	7
L-PLNT-SHAD	Plants And Landscape Material Shadow Areas	CONTINUOUS	0.18	5
L-PLNT-TREE	Plants And Landscape Material Trees	CONTINUOUS	0.18	1
L-PLNT-TURF	Plants And Landscape Material Lawn Areas	CONTINUOUS	0.18	1
L-PLNT-VINE	Plants And Landscape Material Vines	CONTINUOUS	0.18	7
L-SITE-BRDG	Site Feature Bridges (Pedestrian)	CONTINUOUS	0.35	22
L-SITE-CURB	Site Feature Curb	CONTINUOUS	0.18	7
L-SITE-DECK	Site Feature Decks	CONTINUOUS	0.35	232
L-SITE-FENC	Site Feature Fences	FENCE	0.18	7
L-SITE-GATE	Site Feature Gate	CONTINUOUS	0.18	7
L-SITE-PLAY	Site Feature Play Structures	CONTINUOUS	0.18	1
L-SITE-POOL	Site Feature Pools And Spas	CONTINUOUS	0.18	1
L-SITE-PRKG	Site Feature Parking	CONTINUOUS	0.18	7
L-SITE-ROAD	Site Feature Edge Of Roadway Line	CONTINUOUS	0.18	7
L-SITE-ROCK	Site Feature Boulders And Cobble	CONTINUOUS	0.25	1
L-SITE-RRAP	Site Feature Riprap	CONTINUOUS	0.18	7
L-SITE-RTWL	Site Feature Retaining Walls	CONTINUOUS	0.50	4
L-SITE-SPRT	Site Feature Sports Fields	CONTINUOUS	0.35	2
L-SITE-STEP	Site Feature Steps	CONTINUOUS	0.18	7
L-SITE-SWLK	Site Feature Sidewalks And Steps	CONTINUOUS	0.18	1

Layer Name	Description	Line	Line Width	Color
L-SITE-TRAL	Site Feature Trail Or Path	CONTINUOUS	0.18	7
L-SITE-TUNL	Site Feature Tunnels	CONTINUOUS	0.18	7
L-SITE-WALK	Site Feature Walkways	CONTINUOUS	0.18	7
L-SITE-WEIR	Site Feature Pool Weir	CONTINUOUS	0.18	7
M-AFRZ-PIPE-RETN	Anti-Freeze Return Piping	CONTINUOUS	0.18	255,63,0
M-AFRZ-PIPE-SPLY	Anti-Freeze Supply Piping	CONTINUOUS	0.50	82
M-CHEM-EQPM	Chemical Treatment System Equipment	CONTINUOUS	0.35	123
M-CHEM-PIPE-RETN	Chemical Treatment System Return Piping	CONTINUOUS	0.50	123
M-CHEM-PIPE-SPLY	Chemical Treatment System Supply Piping	CONTINUOUS	0.18	255,63,0
M-CMPA-EQPM	Compressed/Processed Air System Equipment	CONTINUOUS	0.70	84
M-CMPA-PIPE	Compressed/Processed Air System EquipmentPiping	Compressed	0.18	255
M-CMPA-PIPE-RETN	Compressed/Processed Air System Return Piping	CONTINUOUS	0.18	7
M-CMPA-PIPE-SPLY	Compressed/Processed Air System Supply Piping	CONTINUOUS	0.18	7
M-CNDW-EQPM	Condenser Water System Equipment	CONTINUOUS	0.35	83
M-CNDW-PADS	Condenser Water System Concrete Pads	CONTINUOUS	0.18	7
M-CNDW-PIPE	Condenser Water System Piping	RDU- CONDRAIN(HVAC)	0.18	255,0,0
M-CNDW-PIPE-RETN	Condenser Water System Return Piping	CONDWR	0.50	83
M-CNDW-PIPE-SPLY	Condenser Water System Supply Piping	CONDWS	0.50	83
M-CWTR-EQPM	Chilled Water System Equipment	CONTINUOUS	0.18	7

Layer Name	Description	Line	Line Width	Color
M-CWTR-PIPE	Chilled Water System Piping	CONTINUOUS	0.35	163
M-CWTR-PIPE-RETN	Chilled Water System Return Piping	CWR	0.50	163
M-CWTR-PIPE-SPLY	Chilled Water System Supply Piping	CWS	0.50	163
M-CWTR-RETN	Chilled Water System Water Return	CONTINUOUS	0.18	7
M-CWTR-SPLY	Chilled Water System Water Supply	CONTINUOUS	0.18	7
M-DUAL-EQPM	Dual Temperature System Equipment	CONTINUOUS	0.35	23
M-DUAL-PIPE-RETN	Dual Temperature System Return Piping	DTR	0.50	23
M-DUAL-PIPE-SPLY	Dual Temperature System Supply Piping	DTS	0.18	255,0,255
M-DUST-DUCT	Dust and Fume Collection System Ductwork	CONTINUOUS	0.50	203
M-DUST-DUCT-CNTR	Dust and Fume Collection System Centerlines	CENTER	0.18	5
M-DUST-EQPM	Dust and Fume Collection System Equipment	CONTINUOUS	0.35	203
M-DUST-GRIL	Dust and Fume Collection System Grilles	CONTINUOUS	0.35	203
M-EMCS-DUCT	Energy Monitoring Control System Ductwork	CONTINUOUS	0.18	7
M-EMCS-JBOX	Energy Monitoring Control System Junction Box	CONTINUOUS	0.18	7
M-ESCA	Mechanical Escallator	CONTINUOUS	0.18	7
M-EVTR	Mechanical Elevator	CONTINUOUS	0.18	7
M-EXHS-CDFF	Exhaust Air System Ceiling Diffusers	CONTINUOUS	0.18	7
M-EXHS-DUCT	Exhaust Air System Ductwork	CONTINUOUS	0.50	83

Layer Name	Description	Line	Line Width	Color
M-EXHS-DUCT-CNTR	Exhaust Air System Ductwork Centerlines	CENTER	0.18	5
M-EXHS-EQPM	Exhaust Air System Equipment	CONTINUOUS	0.35	83
M-EXHS-GRIL	Exhaust Air System Grilles	CONTINUOUS	0.35	83
M-EXHS-RFEQ	Exhaust Air System Rooftop Equipment	CONTINUOUS	0.18	7
M-FLOR-PENE	Floor Penetrations	DASHED	0.18	255,0,0
M-FUEL-EQPM	Fuel System Equipment	CONTINUOUS	0.70	24
M-FUEL-GGEP-LQPG	Fuel System Gas General Piping Liquid Petroleum Gas	LIQPET	0.50	23
M-FUEL-OGEP-RETN	Fuel System Oil General Piping Return	FUELOR	0.50	23
M-FUEL-OGEP-SPLY	Fuel System Oil General Piping Supply	FUELOS	0.50	23
M-FUEL-OGEP-VENT	Fuel System Oil General Piping Vent	FUELOV	0.50	23
M-FUEL-RETN	Fuel System Diesel Fuel Return Piping	CONTINUOUS	0.50	23
M-FUEL-SPLY	Fuel System Diesel Fuel Supply Piping	CONTINUOUS	0.50	23
M-FUEL-VENT	Fuel System Diesel Fuel Vent Piping	CONTINUOUS	0.50	23
M-GLYC-EQPM	Glycol/Deicing System Equipment	CONTINUOUS	0.35	82
M-GLYC-PIPE-RETN	Glycol/Deicing System Return Piping	GHR	0.50	82
M-GLYC-PIPE-SPLY	Glycol/Deicing System Piping	GHS	0.50	82
M-HVAC-ACCS	Heating and Cooling System Equipment Access Doors	CONTINUOUS	0.25	3
M-HVAC-AHU~	Heating and Cooling System Air Handling Unit	CONTINUOUS	0.25	1

Layer Name	Description	Line	Line Width	Color
M-HVAC-CDFF	Heating and Cooling System Ceiling Diffusers, Registers, And Grilles	CONTINUOUS	0.35	20
M-HVAC-DMPR	Heating and Cooling System Fire, Smoke, Volume Dampers	CONTINUOUS	0.25	1
M-HVAC-DUCT	Heating and Cooling System Ductwork	CONTINUOUS	0.18	5
M-HVAC-DUCT-EXHT	Heating and Cooling System Exhaust Air Ductwork	CONTINUOUS	0.18	7
M-HVAC-DUCT-OSA~	Heating and Cooling System Outside Air Ductwork	CONTINUOUS	0.50	4
M-HVAC-DUCT-OTHR	Heating and Cooling System Other Air Ductwork	CONTINUOUS	0.50	4
M-HVAC-DUCT-RETN	Heating and Cooling System Return Air Ductwork	CONTINUOUS	0.50	203
M-HVAC-DUCT-SUPL	Heating and Cooling System Supply Air Ductwork	CONTINUOUS	0.35	2
M-HVAC-EHTR	Heating and Cooling System Electric Space Heater	CONTINUOUS	0.25	1
M-HVAC-EQPM	Heating and Cooling System Equipment (Non-Powered)	CONTINUOUS	0.35	2
M-HVAC-EQPM-EFAN	Heating and Cooling System Equipment With Electric Fans Or Motors	CONTINUOUS	0.35	2
M-HVAC-EQPM-EPIP	Heating and Cooling System Equipment With Piping And Electricity	CONTINUOUS	0.35	2
M-HVAC-EQPM-FLOR	Heating and Cooling System Equipment - Floor Mounted	CONTINUOUS	0.35	2
M-HVAC-EQPM-SUSP	Heating and Cooling System Equipment - Suspended	CONTINUOUS	0.35	2
M-HVAC-GRIL	Heating and Cooling System Register/Grille Tags And Air Flow Arrows	CONTINUOUS	0.35	6
M-HVAC-LOUV	Heating and Cooling Systems Louvers	CONTINUOUS	0.18	122

Layer Name	Description	Line	Line Width	Color
M-HVAC-LUVR	Heating and Cooling Systems Louvers	CONTINUOUS	0.18	122
M-HVAC-METR	Heating and Cooling System Meter	CONTINUOUS	0.18	5
M-HVAC-MKUP	Heating and Cooling System Make Up Water	CONTINUOUS	0.18	5
M-HVAC-PUMP	Heating and Cooling System Pump	CONTINUOUS	0.25	1
M-HVAC-REFG	Heating and Cooling System Refrigerant Lines	CONTINUOUS	0.25	1
M-HVAC-RETN	Heating and Cooling Systems Return Ductwork	CONTINUOUS	0.18	122
M-HVAC-RETN-CNTR	Heating and Cooling Systems Return Ductwork Centerlines	CENTER	0.18	122
M-HVAC-RETN-PIPE	Heating and Cooling Systems Return Piping	CONTINUOUS	0.18	122
M-HVAC-ROOF	Heating and Cooling System Roof Mounted Hvac Equipment	CONTINUOUS	0.35	2
M-HVAC-STAT	Heating and Cooling Systems Thermostats	CONTINUOUS	0.18	122
M-HVAC-THER	Heating and Cooling System Thermostat	CONTINUOUS	0.18	7
M-HVAC-VALT	Heating and Cooling System Vault and Pit	CONTINUOUS	0.18	7
M-HVAC-VALV	Heating and Cooling System Valves	CONTINUOUS	0.18	7
M-HVAC-VENT	Heating and Cooling System Abandoned HVAC Vent	CONTINUOUS	0.18	7
M-HWTR-EQPM	Hot Water Heating System Equipment	CONTINUOUS	0.35	113
M-HWTR-EWH~	Hot Water Heating System Electric Water Heater	CONTINUOUS	0.18	11
M-HWTR-HPIP-RETN	Hot Water Heating System High Temp Water Return	CONTINUOUS	0.18	7
M-HWTR-HPIP-SPLY	Hot Water Heating System High Temp Water Supply	CONTINUOUS	0.18	7

Layer Name	Description	Line	Line Width	Color
M-HWTR-PIPE	Hot Water Heating System Piping	CONTINUOUS	0.18	7
M-HWTR-PIPE-RETN	Hot Water Heating System Piping Return	HTHWR	0.18	7
M-HWTR-PIPE-SPLY	Hot Water Heating System Supply Piping	HTHWS	0.18	255,63,0
M-HWTR-TANK	Hot Water Heating System Tank	CONTINUOUS	0.18	7
M-HWTR-VALV	Hot Water Heating System Piping Valve	CONTINUOUS	0.18	7
M-HYDR-EQPM	Hydraulic Structure Equipment	CONTINUOUS	0.18	7
M-HYDR-PIPE	Hydraulic Structure Piping	CONTINUOUS	0.18	7
M-INSL-EQPM	Insulating Oil System Equipment	CONTINUOUS	0.35	200
M-INSL-PIPE-RETN	Insulating Oil System Return Piping	CONTINUOUS	0.50	200
M-INSL-PIPE-SPLY	Insulating Oil System Supply Piping	CONTINUOUS	0.50	200
M-IW~~~CBSN	Industrial Waste Systems Catch Basin	CONTINUOUS	0.18	255,63,0
M-IW~~~COUT	Industrial Waste Systems Cleanout	CONTINUOUS	0.18	255,63,0
M-IW~~~DISC	Industrial Waste Systems Discharge Point	CONTINUOUS	0.18	255,63,0
M-IW~~~JUNC	Industrial Waste Systems Junction	CONTINUOUS	0.18	255,63,0
M-IW~~~LSTA	Industrial Waste Systems Lift Station	CONTINUOUS	0.18	255,63,0
M-IW~~~MARK	Industrial Waste Systems Surface Markers/Signs	CONTINUOUS	0.18	255,63,0
M-IW~~~MHOL	Industrial Waste Systems Manhole	CONTINUOUS	0.18	255,63,0
M-IW~~~OWSP	Industrial Waste Systems Oil Water Separator	CONTINUOUS	0.18	255,63,0
M-IW~~~PIPE	Industrial Waste Systems Piping	CONTINUOUS	0.18	255,63,0
M-IW~~~PLUG	Industrial Waste Systems Piping Plug	CONTINUOUS	0.18	255,63,0

Layer Name	Description	Line	Line Width	Color
M-IW~~~PSTA	Industrial Waste Systems Pump Station	CONTINUOUS	0.18	255,63,0
M-IW~~~REDU	Industrial Waste Systems Piping Reducer	CONTINUOUS	0.18	255,63,0
M-IW~~~STBO	Industrial Waste Systems Piping Stub Out	CONTINUOUS	0.18	255,63,0
M-IW~~~STOR	Industrial Waste Systems Storage Area	CONTINUOUS	0.18	255,63,0
M-IW~~~TANK	Industrial Waste Systems Tanks	CONTINUOUS	0.18	255,63,0
M-IW~~~TEST	Industrial Waste Systems Electrolysis Test Station	CONTINUOUS	0.18	255,63,0
M-IW~~~VALV-AIR~	Industrial Waste Systems Air Vacuum Release Valve	CONTINUOUS	0.18	255,63,0
M-IW~~~VALV-SHUT	Industrial Waste Systems Shutoff Valve	CONTINUOUS	0.18	255,63,0
M-IW~~~WASH	Industrial Waste Systems Wash Rack	CONTINUOUS	0.18	255,63,0
M-LUBE-EQPM	Lubrication Oil Equipment	CONTINUOUS	0.35	200
M-LUBE-PIPE-RETN	Lubrication Oil Return Piping	CONTINUOUS	0.50	200
M-LUBE-PIPE-SPLY	Lubrication Oil Supply Piping	CONTINUOUS	0.50	200
M-MAIR-DUCT	Mixed Air System Ductwork	CONTINUOUS	0.50	7
M-MAIR-DUCT-CNTR	Mixed Air System Ductwork Centerlines	CENTER	0.18	5
M-MKUP-DUCT	Makeup Air System Ductwork	CONTINUOUS	0.50	2
M-MKUP-DUCT-CNTR	Makeup Air System Ductwork Centerlines	CENTER	0.18	5
M-MKUP-EQPM	Makeup Air System Equipment	CONTINUOUS	0.35	2
M-MKUP-GRIL	Makeup Air System Grilles	CONTINUOUS	0.35	2
M-NGAS-EQPM	Natural Gas Equipment	CONTINUOUS	0.35	6
M-NGAS-MARK	Natural Gas Systems Markers, Break Marks, Leaders	CONTINUOUS	0.18	6

Layer Name	Description	Line	Line Width	Color
M-NGAS-METR	Natural Gas Systems Meter	CONTINUOUS	0.18	6
M-NGAS-PIPE	Natural Gas Systems Abandoned Pipe	NTGASN	0.35	6
M-NGAS-PLUG	Natural Gas Systems Piping Plug	CONTINUOUS	0.18	6
M-NGAS-PUMP	Natural Gas Systems Pumps	CONTINUOUS	0.18	6
M-NGAS-REG	Natural Gas Systems Piping Regulator	CONTINUOUS	0.18	6
M-NGAS-STBO	Natural Gas Systems Stubout	CONTINUOUS	0.18	6
M-NGAS-TANK	Natural Gas Systems Tank	CONTINUOUS	0.18	6
M-NGAS-VALT	Natural Gas Systems Vault	CONTINUOUS	0.18	6
M-NGAS-VALV-SHUT	Natural Gas Systems Piping Shutoff Valve	CONTINUOUS	0.18	6
M-NGAS-VENT	Natural Gas Systems Vents	CONTINUOUS	0.18	6
M-REFG-EQPM	Refrigeration System Equipment	CONTINUOUS	0.35	163
M-REFG-PIPE-RETN	Refrigeration System Return Piping	REFRS	0.50	163
M-REFG-PIPE-SPLY	Refrigeration System Supply Piping	REFRL	0.50	163
M-ROOF-PENE	Roof Penetrations	DASHED	0.18	255,0,0
M-SSWR-FIXT	Sanitary Sewer Fixture	CONTINUOUS	0.18	3
M-SSWR-MARK	Sanitary Sewer Markers/Signs	CONTINUOUS	0.18	3
M-SSWR-METR	Sanitary Sewer Metering Devices	CONTINUOUS	0.18	3
M-SSWR-OWSP	Sanitary Sewer Oil Water Seperator	CONTINUOUS	0.18	3
M-SSWR-PIPE	Sanitary Sewer Piping	SSWAF	0.35	3
M-SSWR-PLNT	Sanitary Sewer Treatment Plants	CONTINUOUS	0.18	3
M-SSWR-PROF	Sanitary Sewer Profile	CONTINUOUS	0.18	3
M-SSWR-STRC	Sanitary Sewer Structure	CONTINUOUS	0.18	3
M-SSWR-TANK-DISP	Sanitary Sewer Disposal Tanks	CONTINUOUS	0.18	3

Layer Name	Description	Line	Line Width	Color
M-SSWR-TANK-SEPT	Sanitary Sewer Septic Tanks	CONTINUOUS	0.18	3
M-STEM-BLBD	Steam System Boiler Blow Down Piping	BOILBD	0.18	255,0,0
M-STEM-CNDS	Steam System Condensate Piping	CDRNAF	0.18	255,0,0
M-STEM-EQPM	Steam System Equipment	CONTINUOUS	0.35	113
M-STEM-HPIP	Steam System High-Pressure Piping	STEAMH	0.18	255,0,0
M-STEM-LPIP	Steam System Low-Pressure Piping	STEAML	0.18	255,0,0
M-STEM-MPIP	Steam System Medium-Pressure Piping	STEAMM	0.18	255,0,0
M-TAIR-DUCT	Transfer Air System Ductwork	CONTINUOUS	0.50	200
M-TAIR-DUCT-CNTR	Transfer Air System Ductwork Centerlines	CENTER	0.18	5
M-TEST-EQPM	Test Equipment	CONTINUOUS	0.18	3
M-WALL-PENE	Wall Penetrations	DASHED	0.18	255,0,0
M-WATR-BKFL	Water Supply Backflow Preventer	CONTINUOUS	0.18	5
M-WATR-FDSC	Water Supply Fire Department Service Connection	CONTINUOUS	0.18	5
M-WATR-HBIB	Water Supply Hose Bib	CONTINUOUS	0.18	5
M-WATR-MARK	Water Supply Marker	CONTINUOUS	0.18	5
M-WATR-METR	Water Supply Meter	CONTINUOUS	0.18	5
M-WATR-MHOL	Water Supply Manhole	CONTINUOUS	0.18	5
M-WATR-PIPE	Water Supply Piping	RDU-DOMWATR OR DRINKGWATR	0.18	5
M-WATR-PLUG	Water Supply Piping Plug	CONTINUOUS	0.18	5
M-WATR-PUMP	Water Supply Pumps	CONTINUOUS	0.18	5
M-WATR-REDU	Water Supply Piping Reducer	CONTINUOUS	0.18	5
M-WATR-REGL	Water Supply Regulator	CONTINUOUS	0.18	5

Layer Name	Description	Line	Line Width	Color
M-WATR-SMPL	Water Supply Sampling Devices	CONTINUOUS	0.18	5
M-WATR-STBO	Water Supply Stubout	CONTINUOUS	0.18	5
M-WATR-TANK	Water Supply Storage Tanks	CONTINUOUS	0.18	5
M-WATR-VALV-AIR~	Water Supply Air Release Valves	CONTINUOUS	0.18	5
M-WATR-VALV-SHUT	Water Supply Shutoff Valve	CONTINUOUS	0.18	5
P-DOMW-CPIP	Domestic Water System Cold Water Piping	CLDWTR	0.50	123
P-DOMW-EQPM	Domestic Water System Hot And Cold Water Equipment	CONTINUOUS	0.70	7
P-DOMW-EQPM-ACCS	Domestic Water System Equipment Access Doors	CONTINUOUS	0.35	82
P-DOMW-HPIP	Domestic Water System Hot Water Piping	HWTR	0.50	113
P-DOMW-RISR	Domestic Water System Hot And Cold Water Risers	CONTINUOUS	0.25	3
P-SSWR-CNDS	Sanitary Sewer Condensate Piping	CONTINUOUS	0.18	1
P-SSWR-DRNS	Sanitary Sewer Floor Drains, Sinks, And Cleanouts	CONTINUOUS	0.18	1
P-SSWR-EQPM	Sanitary Sewer Equipment	CONTINUOUS	0.18	1
P-SSWR-PIPE	Sanitary Sewer Piping	SSWAF	0.18	1
P-SSWR-RISR	Sanitary Sewer Risers	DASHED	0.18	1
P-SSWR-VENT	Sanitary Sewer Vents	CONTINUOUS	0.18	1
P-STRM-DRNS	Storm Drain Roof Drains	CONTINUOUS	0.18	1
P-STRM-PIPE	Storm Drain Piping	STRAF	0.50	163
P-STRM-RISR	Storm Drain Risers	CONTINUOUS	0.50	163
S-BEAM	Structural Beam	CONTINUOUS	0.18	253
S-BEAM-CNTR	Structural Beam Centerlines	CENTER	0.18	253
S-BEAM-PRIM	Structural Beam Primary Of Two-Way Beam System	CONTINUOUS	0.50	253

Layer Name	Description	Line	Line Width	Color
S-BEAM-RBAR	Structural Beam Rebar	CONTINUOUS	0.70	253
S-BEAM-SECD	Structural Beam Girders Or Secondary Beams Of Two-Way Beam System	CONTINUOUS	0.35	253
S-BRCG-DIAG	Structural Bracing Diagonal	CONTINUOUS	0.35	253
S-BRCG-HORZ	Structural Bracing Horizontal	CONTINUOUS	0.35	253
S-BRCG-VERT	Structural Bracing Vertical	CONTINUOUS	0.35	253
S-COLS	Columns	CONTINUOUS	0.18	253
S-COLS-PRIM	Structural Primary Columns	CONTINUOUS	0.35	253
S-COLS-SECD	Structural Secondary Columns	CONTINUOUS	0.35	253
S-COLS-STEL	Structural Columns Steel	CONTINUOUS	0.18	253
S-CURB	Structural Curb	CONTINUOUS	0.18	253
S-DECK	Structural Deck	CONTINUOUS	0.18	253
S-FNDN-ABLT	Structural Foundation Anchor Piles, Blocks, Strands, Deadmen, Soil/Rock Anchors	CONTINUOUS	0.35	253
S-FNDN-BLRD	Structural Foundation Bollards, Bollard Foundations	CONTINUOUS	0.35	253
S-FNDN-CNTR	Structural Foundation Centerlines	CENTER	0.18	253
S-FNDN-DRNS	Structural Foundation Drainage Features And Objects	CONTINUOUS	0.25	253
S-FNDN-FTNG	Structural Foundation Footings	CONTINUOUS	0.35	253
S-FNDN-FTNG-RBAR	Structural Foundation Footing Rebar	CONTINUOUS	0.70	253
S-FNDN-GRBM	Structural Foundation Grade Beams	CONTINUOUS	0.50	253
S-FNDN-PADS	Structural Foundation Pedestals/Pads	CONTINUOUS	0.35	253
S-FNDN-PCAP	Structural Foundation Pile Caps	CONTINUOUS	0.35	253

Layer Name	Description	Line	Line Width	Color
S-FNDN-PIER	Structural Foundation Piers, Drilled Shafts, Caissons	CONTINUOUS	0.50	253
S-FNDN-PILE	Structural Foundation Piles	CONTINUOUS	0.35	253
S-FNDN-RBAR	Structural Foundation Reinforcing Bar	CONTINUOUS	2.00	253
S-JNTS	Structural Joints	CONTINUOUS	0.18	253
S-JOIS	Structural Joists	CONTINUOUS	2.00	253
S-PIPE-CULV	Structural Precast/Manufactured Culverts	CONTINUOUS	0.35	253
S-SIGN-FRMG	Structural Sign Framing & Connections	CONTINUOUS	0.35	253
S-SIGN-SUPT	Structural Sign Supports	CONTINUOUS	0.35	253
S-STIF-LONG	Structural Stiffeners Longitudinal	CONTINUOUS	0.35	253
S-STIF-TRAV	Structural Sign Transverse	CONTINUOUS	0.18	253
S-STRC-BLRD	Structure Bollard	CONTINUOUS	0.18	7
S-STRC-TOWR	Structure Towers	CONTINUOUS	0.18	7
S-STRS-HRAL	Structural Stair Handrail	CONTINUOUS	0.18	253
S-STRS-LADD	Structural Stair Ladders	CONTINUOUS	0.18	253
S-STRS-RISR	Structural Stairs Riser	CONTINUOUS	0.18	253
S-STRS-TRED	Structural Stairs Tread	CONTINUOUS	0.18	253
S-TRUS	Structural Trusses	CONTINUOUS	0.18	253
S-VALT	Structural Valts and Pits	CONTINUOUS	0.18	253
S-WALL	Structural Wall	CONTINUOUS	1.40	253
S-WALL-LOAD	Structural Load Bearing Walls	CONTINUOUS	0.35	253
S-WALL-RTWL	Structural Retaining Wall (Flood Walls, Wingwalls, Etc.)	CONTINUOUS	0.35	253
S-WALL-SHEA	Structural Shear Walls	CONTINUOUS	0.35	253
U-FUEL-AIRE	Fuel Systems Air Eliminator	CONTINUOUS	0.18	241

Layer Name	Description	Line	Line Width	Color
U-FUEL-ANTS	Fuel Systems Electrolysis Test Station	CONTINUOUS	0.18	241
U-FUEL-DEVC-HYDR	Fuel Systems Hydrant Devices	CONTINUOUS	0.18	241
U-FUEL-HIPT	Fuel Systems Highpoint Vent	CONTINUOUS	0.18	241
U-FUEL-HYDR	Fuel Systems Hydrant	CONTINUOUS	0.18	241
U-FUEL-JUNC	Fuel Systems Junction	CONTINUOUS	0.18	241
U-FUEL-LOPT	Fuel Systems Lowpoint Drain	CONTINUOUS	0.18	241
U-FUEL-MAIN	Fuel Systems Mainline	RDU-FUEL	0.18	241
U-FUEL-METR	Fuel Systems Meters	CONTINUOUS	0.18	241
U-FUEL-MWEL	Fuel Systems Monitoring Well	CONTINUOUS	0.18	241
U-FUEL-PIPE	Fuel Systems Piping	RDU-FUEL	0.18	241
U-FUEL-PIPE-RETN	Fuel Systems Piping Return	CONTINUOUS	0.18	241
U-FUEL-PIPE-SUPL	Fuel Systems Piping Supply	CONTINUOUS	0.18	241
U-FUEL-PIT~	Fuel Systems Pit	CONTINUOUS	0.18	241
U-FUEL-PLUG	Fuel Systems Plug	CONTINUOUS	0.18	241
U-FUEL-PUMP	Fuel Systems Pumps	CONTINUOUS	0.18	241
U-FUEL-SURG-ABSO	Fuel Systems Surge Absorber	CONTINUOUS	0.18	241
U-FUEL-TANK	Fuel Systems Storage Tanks	CONTINUOUS	0.18	241
U-FUEL-VALT	Fuel Systems Vault and Pit	CONTINUOUS	0.18	241
U-FUEL-VALV-SHUT	Fuel Systems Shutoff Valve	CONTINUOUS	0.18	241
U-FUEL-VENT	Fuel Systems Vents	CONTINUOUS	0.18	241
U-IW~-ANTS	Industrial Waste Systems Electrolysis Test Station	CONTINUOUS	0.18	255,63,0
U-IW~-CBSN	Industrial Waste Systems Catch Basin	CONTINUOUS	0.18	255,63,0
U-IW~-COUT	Industrial Waste Systems Cleanout	CONTINUOUS	0.18	255,63,0

Layer Name	Description	Line	Line Width	Color
U-IW~-FORC	Industrial Waste Systems Force Main	CONTINUOUS	0.18	255,63,0
U-IW~-JUNC	Industrial Waste Systems Junction	CONTINUOUS	0.18	255,63,0
U-IW~-LSTA	Industrial Waste Systems Lift Station	CONTINUOUS	0.18	255,63,0
U-IW~-MARK	Industrial Waste Systems Surface Markers/Signs	CONTINUOUS	0.18	255,63,0
U-IW~-MHOL	Industrial Waste Systems Manhole	CONTINUOUS	0.18	255,63,0
U-IW~-OWSP	Industrial Waste Systems Oil Water Separator	CONTINUOUS	0.18	255,63,0
U-IW~-PIPE	Industrial Waste Systems Piping	CONTINUOUS	0.18	255,63,0
U-IW~-PLUG	Industrial Waste Systems Piping Plug	CONTINUOUS	0.18	255,63,0
U-IW~-PSTA	Industrial Waste Systems Pump Station	CONTINUOUS	0.18	255,63,0
U-IW~-REDU	Industrial Waste Systems Piping Reducer	CONTINUOUS	0.18	255,63,0
U-IW~-STBO	Industrial Waste Systems Piping Stub Out	CONTINUOUS	0.18	255,63,0
U-IW~-STOR	Industrial Waste Systems Storage Area	CONTINUOUS	0.18	255,63,0
U-IW~-TANK	Industrial Waste Systems Tanks	CONTINUOUS	0.18	255,63,0
U-IW~-VALV-AIR~	Industrial Waste Systems Air Vacuum Release Valve	CONTINUOUS	0.18	255,63,0
U-IW~-VALV-SHUT	Industrial Waste Systems Shutoff Valve	CONTINUOUS	0.18	255,63,0
U-IW~-WASH	Industrial Waste Systems Wash Rack	CONTINUOUS	0.18	255,63,0
U-NGAS-ANTS	Natural Gas Systems Electrolysis Test Station	CONTINUOUS	0.18	6
U-NGAS-JUNC	Natural Gas Systems Junction	CONTINUOUS	0.18	6

Layer Name	Description	Line	Line Width	Color
U-NGAS-MARK	Natural Gas Systems Markers, Break Marks, Leaders	CONTINUOUS	0.18	6
U-NGAS-METR	Natural Gas Systems Meters	CONTINUOUS	0.18	6
U-NGAS-MHOL	Natural Gas Systems Manhole	CONTINUOUS	0.18	6
U-NGAS-PIPE	Natural Gas Systems Piping	RDU-GAS	0.18	6
U-NGAS-PLUG	Natural Gas Systems Piping Plug	CONTINUOUS	0.18	6
U-NGAS-PUMP	Natural Gas Systems Pumps	CONTINUOUS	0.18	6
U-NGAS-REG	Natural Gas Systems Piping Regulator	CONTINUOUS	0.18	6
U-NGAS-STBO	Natural Gas Systems Stubout	CONTINUOUS	0.18	6
U-NGAS-TANK	Natural Gas Systems Tank	CONTINUOUS	0.18	6
U-NGAS-VALV-SHUT	Natural Gas Systems Piping Shutoff Valve	CONTINUOUS	0.18	6
U-NGAS-VAULT	Natural Gas Systems Vault	CONTINUOUS	0.18	6
U-NGAS-VENT	Natural Gas Systems Vents	CONTINUOUS	0.18	6
U-SSWR-CBSN	Sanitary Sewer Catch Basin	CONTINUOUS	0.18	3
U-SSWR-COUT	Sanitary Sewer Cleanout	CONTINUOUS	0.18	3
U-SSWR-FDRN	Sanitary Sewer Floor Drain	CONTINUOUS	0.18	3
U-SSWR-FORC	Sanitary Sewer Force Main	RDU-SEWERFM	0.18	3
U-SSWR-GRSE-INTE	Sanitary Sewer Grease Interceptor	CONTINUOUS	0.18	3
U-SSWR-GWTR	Sanitary Sewer Gray Water	RDU-SEWERGW	0.18	3
U-SSWR-JUNC	Sanitary Sewer Junction	CONTINUOUS	0.18	3
U-SSWR-MAIN	Sanitary Sewer Mainline	RDU-SEWER	0.18	3
U-SSWR-MHOL	Sanitary Sewer Manhole	CONTINUOUS	0.18	3
U-SSWR-PIPE	Sanitary Sewer Piping	RDU-SEWER	0.18	3
U-SSWR-PLUG	Sanitary Sewer Plug	CONTINUOUS	0.18	3

Layer Name	Description	Line	Line Width	Color
U-SSWR-POC	Sanitary Sewer Point of Connection	CONTINUOUS	0.18	3
U-SSWR-PROF	Sanitary Sewer Profile	CONTINUOUS	0.18	3
U-SSWR-PSTA	Sanitary Sewer Pump Station	CONTINUOUS	0.18	3
U-SSWR-PUMP	Sanitary Sewer Pumps	CONTINUOUS	0.18	3
U-SSWR-REDU	Sanitary Sewer Piping Reducer	CONTINUOUS	0.18	3
U-SSWR-SRVC	Sanitary Sewer Service Connection	RDU-SEWERLAT	0.18	3
U-SSWR-STBO	Sanitary Sewer Piping Plug	CONTINUOUS	0.18	3
U-SSWR-STRC	Sanitary Sewer Structures	CONTINUOUS	0.18	3
U-SSWR-TANK	Sanitary Sewer Storage Tanks	CONTINUOUS	0.18	3
U-SSWR-VALV-AIR~	Sanitary Sewer Air Vacuum Release Valve	CONTINUOUS	0.18	3
U-SSWR-VALV-SHUT	Sanitary Sewer Shutoff Valve	CONTINUOUS	0.18	3
U-STRM-OUTF	Storm Drain Outfall	CONTINUOUS	0.18	124
U-STRM-PSTA	Storm Drain Pump Station	CONTINUOUS	0.18	124
U-WATR-BKFL	Water Supply Backflow Preventer	CONTINUOUS	0.18	5
U-WATR-FDSC	Water Supply Fire Department Service Connection	CONTINUOUS	0.18	5
U-WATR-FHYD	Water Supply Fire Hydrant	CONTINUOUS	0.18	5
U-WATR-HBIB	Water Supply Hose Bib	CONTINUOUS	0.18	5
U-WATR-METR	Water Supply Meter	CONTINUOUS	0.18	5
U-WATR-PIPE	Water Supply Piping	RDU-WATR	0.18	5
U-WATR-PLUG	Water Supply Piping Plug	CONTINUOUS	0.18	5
U-WATR-RECL	Water Supply Reclaimed Water	RDU-WATR	0.18	171
U-WATR-REDU	Water Supply Piping Reducer	CONTINUOUS	0.18	5
U-WATR-REGL	Water Supply Piping Regulator	CONTINUOUS	0.18	5
U-WATR-SMPL	Water Supply Sampling Station	CONTINUOUS	0.18	5

Layer Name	Description	Line	Line Width	Color
U-WATR-SRVC	Water Supply Service Connect	CONTINUOUS	0.18	5
U-WATR-STBO	Water Supply Stubout	CONTINUOUS	0.18	5
U-WATR-TANK	Water Supply Storage Tanks	CONTINUOUS	0.18	5
U-WATR-VALV-AIR~	Water Supply Air Release Valves	CONTINUOUS	0.18	5
U-WATR-VALV-POST	Water Supply Post Indicator Valve	CONTINUOUS	0.18	5
U-WATR-VALV-SHUT	Water Supply Shutoff Valve	CONTINUOUS	0.18	5
U-WATR-VAULT	Water Supply Vault	CONTINUOUS	0.18	5
V-AERI-OTLN-IMAG	Survey/Mapping Aerial Imagery Outline	CONTINUOUS	0.18	253
V-CTRL-BMRK	Survey/Mapping Control Points Benchmarks	CONTINUOUS	0.35	253
V-CTRL-HCPT	Survey/Mapping Control Points Horizontal	CONTINUOUS	0.18	253
V-CTRL-HVPT	Survey/Mapping Control Points Horizontal/Vertical	CONTINUOUS	0.35	253
V-CTRL-KNOW	Survey/Mapping Known Control Points	CONTINUOUS	0.18	253
V-CTRL-LINE-NETW	Survey/Mapping Traverse Lines Control Points Network	CONTINUOUS	0.18	253
V-CTRL-LINE-SHOT	Survey/Mapping Traverse Control Points Sideshot	CONTINUOUS	0.18	253
V-CTRL-SHOT	Survey/Mapping Side Shot Control Points	CONTINUOUS	0.18	253
V-CTRL-TRAV	Survey/Mapping Control Points Traverse Points	CONTINUOUS	0.35	253
V-CTRL-TRAV-ERRO	Survey/Mapping Control Points Traverse Errors	CONTINUOUS	0.18	253
V-CTRL-UNKN	Survey/Mapping Unknown Control Points	CONTINUOUS		253
V-CTRL-VCPT	Survey/Mapping Control Points Vertical	CONTINUOUS	0.18	253

Layer Name	Description	Line	Line Width	Color
V-FLHA-025Y	Survey/Mapping Flood Hazard Area 25 Year Mark	CONTINUOUS	0.18	253
V-FLHA-050Y	Survey/Mapping Flood Hazard Area 50 Year Mark	CONTINUOUS	0.18	253
V-FLHA-100Y	Survey/Mapping Flood Hazard Area 100 Year Mark	CONTINUOUS	0.18	253
V-FLHA-200Y	Survey/Mapping Flood Hazard Area 200 Year Mark	CONTINUOUS	0.18	253
V-FLHA-500Y	Survey/Mapping Flood Hazard Area 500 Year Mark	CONTINUOUS	0.18	253
V-FLHA-IDEN	Flood Hazard Area Annotation	CONTINUOUS	0.18	253
V-PROP-ESMT	Survey/Mapping Porperty Easements	CONEMT	0.70	253
V-PROP-LEAS	Survey/Mapping Porperty Lease Line (Interior)	CONTINUOUS	0.35	253
V-PROP-OTLN-CUSE	Survey/Mapping Porperty Land Use Area Outline	CONTINUOUS	0.18	253
V-PROP-OTLN-FUSE	Survey/Mapping Porperty Future Land Use Area Outline	CONTINUOUS	0.18	253
V-PROP-OTLN-HIST	Survey/Mapping Porperty Historic Preservation Area Outline	CONTINUOUS	0.18	253
V-PROP-OTLN-ZONG	Survey/Mapping Zoning Areas Outline	CONTINUOUS	0.18	253
V-PROP-PRCL	Survey/Mapping Porperty Parcels	CONTINUOUS	0.18	253
V-PROP-PRCL-AFLD	Survey/Mapping Porperty Airfield Parcels	CONTINUOUS	0.18	253
V-SITE-SCAN	Survey/Mapping Site Feature Laser Scanning Data	CONTINUOUS	0.18	253
V-SURV-LINE	Survey/Mapping Lines	CONTINUOUS	0.25	253
V-SURV-NTWK	Survey/Mapping Network	CONTINUOUS	0.18	253
V-TOPO-MAJR	Survey/Mapping Topographic Feature Major contours	DASHED	0.18	253

Layer Name	Description	Line	Line Width	Color
V-TOPO-MAJR-IDEN	Survey/Mapping Topographic Feature Major contours - annotation	CONTINUOUS	0.18	253
V-TOPO-MINR	Survey/Mapping Topographic Feature Minor contours	DASHED	0.18	253
V-TOPO-MINR-IDEN	Survey/Mapping Topographic Feature Minor contours - annotation	CONTINUOUS	0.18	253
V-TOPO-PERI	Survey/Mapping Topographic Feature Surface perimeter	CONTINUOUS	0.18	253
V-TOPO-SPOT	Survey/Mapping Topographic Feature Spot Elevations	CONTINUOUS	0.25	253

Appendix B – Quality Assurance Checklist

The following checklist should be used to confirm that drawings submitted to the Authority are acceptable. The individual who satisfactorily completes each step should fill in their initials in the corresponding row. The name of another individual within the submitting organization should review the completed checklist to confirm that all applicable tests have been completed. Satisfying the requirements of this checklist does not waive any of the requirements of this document or its normative references.

Table B.1 – Quality Assurance Checklist

Confirmed By	
Completed By	TOPIC
(initials)	1. General
	Check Drawing Title (against List of drawings)
	Check Drawing Scale and date
	Check standard sheet numbering
	Check revision format
	2. Documentation
	Check the list of deliverables
	3. Project check list
	Check graphic consistency
	Check readability
	Check Standards symbols
	Check design correctness/problems, build-ability
	Check spelling
	Check Line weights, Line types
	Check Dimensions and style
	4. Data check list
	Check data in correct layer
	Check XREF in correct layer
	Check annotations, dimension & notes in correct layer
	Check legend, north arrow and scale bars in correct layer
	Check for extra information to be deleted, file to be purged
	5. Data Structure check list
	Check Relevant Data
	Check if correctly named and or naming convention
	6. Attribute check list
	Check Label is from an attribute
	Check the attribute symbolize use a domain or block reference
	7. Relationship/coordination check list with other services
	Check coordination with Civil
	Check coordination with Architectural
	Check coordination with Mechanical
	Check coordination with Structural
	Check coordination with Plumbing

Confirmed By	
Completed By	TOPIC
	Check coordination with Interiors
	Check coordination with Electrical
	Check coordination with Telecommunications
	Check coordination with Fire Protection
	Check coordination with Landscape
	Check coordination with other
	8. Annotation check list
	Check visibility and placement of annotation
	Check overlap and masking
	Check Consistent size and style
	9. AutoCAD check list
	Check AutoCAD Layers
	Check AutoCAD Blocks
	Check AutoCAD Viewports
	Check Layout Tabs against List of drawings
	Check AutoCAD Xref (Overlay/attach, relative path, etc..)
	Check AutoCAD Drawing Origin (georeferenced file)
	10. References
	Check Standard Details
	Check General Notes
	Check Abbreviations

Appendix C – Change Request Form

If users of this standard feel that a change would best meet the needs of the airport, they should complete the following form and submit it to their PM or LM. One form should be submitted for each change, although requests to add or change multiple related layers can be included on one form. Deviations from this standard are not permitted until such changes are approved by the Raleigh-Durham Airport Authority. Approved changes will be incorporated into subsequent versions of this document.

Change Requested By:

Date of Request: _____

Name : _____

Date Response Requested : _____

Organization: _____

Phone: _____

Email: _____

Type of Change (select one):

Text: _____ Title Block: _____ Sheet Sizes: _____ Layers: _____

Other (please explain): _____

Location of Change:

Page(s) in latest version : _____

Requested Change (attach additional pages or provide data electronically as applicable):

Rationale for Change (please provide as much details as possible and explain why current standard does not address your requirement):

RALEIGH-DURHAM AIRPORT AUTHORITY RESPONSE

Change Accepted: Yes ____ No ____

Reason: _____

Appendix D - Acronyms

The following acronyms have been used in this document:

AC	FAA Advisory Circular
A/E/C	Architecture, Engineering and Construction
AIA	American Institute of Architects
ANSI	American National Standard Institute
AGIS	FAA Airport Geographical Information Systems program
BIM	Building Information Modeling
CAD	Computer Aided Design
CSDGM	Content Standard for Digital Geospatial Metadata
FAA	Federal Aviation Administration
FGDC	Federal Geographic Data Committee
GIS	Geographic Information System
HARN	High Accuracy Reference Network
ISO	International Organization of Standardization
LM	Lease Manager
NAD83	North American Datum of 1983
NAVD88	North American Vertical Datum of 1988
NCS	National CAD Standards
PM	Project Manager
RDU	Raleigh-Durham International Airport
SSI	Sensitive Security Information
SPCS	State Plane Coordinate System

EXHIBIT 4

RALEIGH-DURHAM AIRPORT AUTHORITY SMALL BUSINESS PARTICIPATION REQUIREMENTS

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EXHIBIT 4

Section I. Scope of Application

The Small Business requirements set forth herein apply to all such contracts and agreements, except to the extent the provisions herein conflict with applicable state or federal law or rules and regulations. SB requirements do not apply to contracts that are subject to the United States Department of Transportation Federal Aviation Administration Disadvantaged Business Enterprise (DBE) or Airport Concessions Disadvantaged Business Enterprise (ACDBE) Programs, or subject to N.C. Gen. Stat. § 143-128.2 due to the receipt of State appropriations or other State grant funds for building projects.

Section II. Certification

A. Acceptable Certifications

In order to credit the participation of SBs on Authority procurements towards the Authority's SB Goals, the Authority requires that small businesses be certified as such.

The Authority therefore accepts certifications which verify that a business does not exceed gross receipts of \$3,000,000 averaged over the preceding five (5) years. Currently, the following certifications may be used to meet the standard described above:

1. North Carolina Department of Transportation: Small Business Enterprise (NCDOT SBE).
2. North Carolina Department of Administration: Small Business Enterprise (NCDOA SBE).
3. The Raleigh-Durham Airport Authority Small Business Certification (RDUAA SB).

This list is subject to change; a current list is available from the SBO. The Authority may, in its sole discretion, accept additional certifications for credit towards SB Commitments, provided that appropriate supplemental documentation (as determined by the Authority) has been provided, including but not limited to the following:

1. A completed certification application
2. Prior five (5) years Federal business tax returns

If a business has been in existence for less than five years, the business must supply all available Federal business taxes and a notarized statement affirming business size (i.e. Business Size Verification Form).

The Authority retains the right and ability to review a SB's certification qualifications and to reject certification of any SB on all Authority procurements and contracts.

B. SB Certification Eligibility

If a firm is not certified as an SB by an approved certification entity at the time of contract award, the Authority does not allow the participation to count towards the SB Commitment until documentation confirming such certification is submitted to the Authority. The Authority shall be notified of any change in the Contractor's or any identified Subcontractor's company ownership or control which could affect the SB participation of the project. This notification shall be within 10 business days of the associated change or Contractor's knowledge of a change in ownership or control. If any Authority staff is aware of any potential change that would affect the certification status of an SB Contractor or Subcontractor, the staff is responsible to notify the SBO within five days of receipt of this information.

In the case of joint ventures, the SB joint venture partner(s) must have completed certification prior to submitting a Bid or Proposal.

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C. Counting SB Participation of Ineligible SBs

If the certification status of an SB subcontractor/subconsultant becomes ineligible during the course of a contract due to circumstances beyond the control of the Contractor, the Authority will determine whether the firm's participation can continue to be counted, based on the length of contract remaining and the basis of ineligibility. If appropriate, Contractor will be notified by the SBO that the firm is ineligible to participate as an SB. Payments to SB firms based on work prior to notification will count towards the SB goals. Any payments based on work performed after the notification is received will not be counted towards the participation goal unless the firm subsequently becomes eligible. Further, the Contractor shall make Good Faith Efforts to replace SB participation lost due to the loss of eligibility of an SB firm.

D. Removal of SB Eligibility

If there is a challenge to the eligibility of an SB, the Authority reserves the right not to count that participation towards the goal. If the Authority determines based on evidence received, that a currently certified SB is potentially ineligible as a certified firm, the Authority will begin a review of eligibility:

1. The Authority will provide written notification to the SB that eligibility is being challenged and request supporting documentation of eligibility.
2. Within ten (10) days after receiving the notice, the SB will have an opportunity to respond and submit documentation to the Authority.
3. Based on a review of the information submitted and other pertinent information regarding certification, the Director of the SBO will determine eligibility. The SBO will provide a determination within 15 business days of receipt of documentation from the SB firm. The SBO will then notify the SB of its determination as well as notify any Prime Contractors, and internal staff as appropriate.

If an SB is determined to be ineligible due to fraudulent actions, further participation of that SB on Authority contracts or procurements will not count towards SB participation. In any case, the Authority will only count the actual dollars paid to the ineligible SB for one month after the ineligibility determination or at the conclusion of the current payment cycle, whichever occurs first.

Section III. Goods & Services Contracts

A. Contract-specific goals (contract goals)

The Authority employs a contract-specific SB Goal process to establish contract goals on individual good/service contracts. Contract-specific goals are established to allow the Authority to give consideration to actual project contract and subcontracting opportunities, and therefore, narrowly tailoring the Authority's implementation of the SB participation process.

A Contract Goal is established by dividing the total dollar value of potential subcontract awards to SBs by the total estimated dollar value of the prime contract and considering the scope of work to be accomplished, the availability of SBs to perform necessary work, and past experience on similar contracts. The SBO and the project manager jointly establish each contract goal. Prior to advertising a construction project, the project manager and SBO will recommend an appropriate contract goal for each separate contract to be bid as a part thereof.

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B. Proposed SB Participation

All proposed SB participation must be identified and included in the sealed bid or proposal. Any increase in SB participation that occurs after the bids/proposals are opened shall not be considered in determining the Respondent's achievement of the SB Goal or its Good Faith Effort to achieve the SB Goal but will be recognized as SB participation in the contract. Each SB included in a bid must have its certification verified by the SBO and must be identified by name, address, telephone number, SB category, type of work and dollar amount of subcontract. Each of the Authority's Contractors shall document the participation of SBs as Subcontractors (suppliers, sub-subcontractors, etc.) by listing separately each SB.

Section IV. Counting SB Participation

A. Counting SB Participation – Goods

In the purchase of Goods, the Authority will count 100% of all expenditures obtained from an SB Manufacturer or Supplier toward the SB Goal, provided that the SB Supplier or Manufacturer performs a Commercially Useful Function in the supply process. To perform a Commercially Useful Function, the SB must be responsible for negotiating price, determining quality and quantity, ordering the materials, and installing (where applicable) and paying for the materials. A SB does not perform a Commercially Useful Function if its role is limited to that of an extra participant in a transaction, contract or project through which funds are passed in order to produce the appearance of SB participation.

B. Counting SB Participation – Services, Construction and Construction-Related Professional Service Contracts

1. SB Prime Contractors and Consultants

If an SB is the Prime Contractor, the participation of the SB Prime which is not subcontracted to another firm or firms is counted towards the SB commitment. Prime Contractors (including SB Prime Contractors) are responsible for meeting the SB commitment.

2. SB Subcontractors and Subconsultants

If the Prime Contractor, consultant or service provider utilizes an SB as a Subcontractor or Subconsultant to perform services, the Authority counts 100% of the value of the Commercially Useful Function the SB performs toward satisfaction of the SB Commitment. References to "Contractor" and "Subcontractor" in this section are inclusive of consultants, vendors or other providers. A SB performs a Commercially Useful Function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing and supervising the work involved. The Authority will allow the Prime Contractor to count only the value of the work actually performed by the SB toward SB Commitment.

The Contractor may count the entire amount of that portion of a contract that is performed by the SBs own workforces. This amount should include the cost of supplies and materials obtained by the SB for the work of the contract, including supplies purchased or equipment leased by the SB (except supplies and equipment the SB Subcontractor purchases or leases from the Prime). The Prime Contractor may count the entire amount of fees or commissions charged by an SB for providing bona fide services, such as professional, technical, contractor, or managerial services, or

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for providing bonds or insurance, provided the fee is reasonable and not excessive as compared with fees customarily allowed for similar services.

A SB Subcontractor is not permitted to further subcontract the work specified in the Bid or Proposal as SB participation without the Authority's prior written permission, which shall be given or withheld in the Authority's sole discretion. If a SB subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward SB Commitment only if the SB's Subcontractor is itself an SB. Work that an SB subcontracts to a non-SB does not count toward SB Commitment.

A SB Subcontractor must perform at least fifty percent (50%) of the actual labor related to the work specified in the Bid or Proposal as SB participation with its own workforce unless it is within the applicable industry's normal course of business to perform less than fifty percent (50%). In the event that an SB sub-subcontractor is unable to perform successfully, the SB Subcontractor shall make a reasonable effort to replace that SB sub-subcontractor with another SB sub-subcontractor. Any substitutions shall be pre-approved in writing by and coordinated with the SBO and the project manager.

3. **SB Suppliers**

In service, construction and construction-related professional service contracts, a Contractor may count 60% of its expenditures to SB Suppliers that are not Manufacturers toward achievement of the contract goals, provided that the SB Supplier performs a Commercially Useful Function in the supply process.

4. **SB Manufacturers**

The Contractor may count 100% of all expenditures for materials, supplies and equipment obtained from an SB Manufacturer toward the SB Goal. A SB Manufacturer is a Supplier that produces goods from raw materials or substantially alters them before resale.

Section V. Good Faith Efforts

If a Respondent, including SB firms, does not meet the SB Goal, it shall nevertheless be eligible for award of the contract if it can demonstrate to the Authority that it has made a substantial Good Faith Effort to meet the SB Goal. This Good Faith Effort documentation should be submitted when the initial response to the Authority's solicitation is due. The term Bids includes Proposals. Both are used interchangeably throughout this section.

Bids or Proposals submitted which do not meet the SB Goals and which do not show that a substantial Good Faith Effort was made to achieve the stated goals may be considered non-responsive and the Respondent may not be eligible for award of the contract. Good faith efforts to meet or exceed the SB Goal must continue throughout the contract.

A. Good faith effort documentation criteria

In evaluating a Respondent's Good Faith Effort submission, the Authority will only consider those documented efforts that occurred prior to the Good Faith Effort submission. In making a determination that the Contractor has made a Good Faith Effort to meet the SB goals, the Authority shall consider specific documentation concerning the steps taken to obtain SB participation.

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The Authority is the sole arbiter to determine if a Respondent has made a reasonable Good Faith Effort to include SB participation in its Bid or Proposal on any project. The Authority reserves the right to reject any and all Bid or Proposal submitted, and to reject the Bid or Proposal of any Respondent who fails to make Good Faith Effort or to submit timely, satisfactory evidence of its Good Faith Effort as provided herein. All Respondents shall agree, by the submission of a Bid or Proposal for work on a project for which a contract is to be awarded by the Authority, to ensure that SBs have the maximum opportunity to participate in the performance of contracts and subcontracts. All Respondents shall be required to take all steps reasonably necessary to ensure that SBs have the maximum opportunity to participate in the work. Failure to make Good Faith Efforts and to adequately document such efforts to the Authority is grounds for disqualifying a Bid or Proposal as non-responsive. Respondents shall not discriminate on the basis of race, color, national origin or gender in preparation of a Bid or Proposal or the eventual performance of a contract.

Each Bid or Proposal shall contain documentation that demonstrates the Respondent's Good Faith Effort to meet the applicable contract goals. A Respondent will have an opportunity to provide additional evidence of its Good Faith Effort within three (3) business days after submission of a Bid or Proposal. A Bid or Proposal that does not provide satisfactory evidence of the Respondent's Good Faith Effort may be deemed nonresponsive in the Authority's sole discretion. The following criteria will be considered and should be addressed point by point in the Respondent's submission:

1. Did the Respondent attend the pre-bid, pre-proposal and/or SB conferences? Describes whether or not the Contractor attended any pre-bid or pre-proposal meetings scheduled by the Authority to discuss subcontracting and supplier opportunities for SB participation;
2. Did the Respondent advertise contractual opportunities in general circulation, trade association, or small business-focused media concerning opportunities?
 - a. Was advertising specific to the project in question?
 - b. Was the advertising published at least 21 days before bids or proposals are due? If 21 days are not available, publication for a shorter reasonable time is acceptable;
3. Did the Respondent provide timely written solicitations (via e-mail, fax or mail) requesting participation of SBs which reasonably could have been expected to submit a quote that were known to the Respondent or from lists maintained by the Authority, the NCDOT or the NCDOA, no later than 10 days prior to the bid opening?
 - a. Provide copies of written correspondence provided to SBs to solicit their bids, as well as certified return receipts to prove receipt or the reason for non-delivery; fax cover sheets indicating to whom the document was faxed, fax date, and whether the transmission was successful; or, copies of email transmissions;
4. Did the Respondent provide SBs with:
 - a. an adequate description of all work to be contracted;
 - b. adequate information about the location of the plans, specifications, and requirements of the contract; and
 - c. the date the quotation was due to the Respondent?
5. Did the Respondent follow-up initial solicitations of interest in person or by telephone to determine if the SB was interested in participation?
6. Did the Respondent break down or combine elements of work to be performed by SBs into economically feasible units in order to facilitate small business participation?

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7. Did the Respondent make available to or provide prospective SBs with plans, specifications and requirements for the work to be subcontracted at least 10 days before bids or proposals were due?
8. Did the Respondent negotiate in good faith with interested SBs, not rejecting SBs as unqualified without sound reasons based on a thorough investigation of their capabilities? The Prime Contractor shall submit documentation to evidence “good faith” negotiations with SB subcontractors. Documentation shall include but not be limited to records of all quotations received from SB and from non-SB Subcontractor, and an explanation of the reasons why the SBs will not be used during the course of the contract. It is the responsibility of the Prime Contractor to demonstrate that SBs were not rejected as unqualified without a thorough and documented investigation of their capabilities and capacity
9. Did the Respondent negotiate in good faith with interested SBs whose initial responses were not the lowest bids for the work to be subcontracted?
10. Did the Respondent make efforts to assist interested SBs in obtaining necessary equipment, supplies, materials, bonding or insurance required by the Authority or by the Respondent?
 - a. Did the Respondent participate in or initiate mentor protégé-type relationships which could support interested SBs in securing supplies, materials, bonding or insurance or technical assistance?
11. Did the Respondent work with trade, community or contractor organizations identified by the NCDOA or the NCDOT included in the Bid or Proposal documents that provide assistance in the recruitment and placement of SBs?
12. Did the Respondent specifically negotiate with subcontractors to assume part of the responsibility to meet the contract goal when the work to be sublet includes potential for SB participation?
13. Did the Respondent provide assistance to otherwise qualified SBs in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans or letters of credit, including waiving credit that is ordinarily required, or assist SBs in obtaining the same unit pricing with Respondent’s suppliers in order to help SBs in establishing credit?
14. Did the Respondent provide quick pay agreements and policies to enable SBs to meet cash flow demands?

B. Compliance

Failure to comply with the requirements set forth herein constitutes a breach of good faith in dealing with the Authority, and the Authority will take any and all actions permitted by law to ensure compliance by all its contractors. Any Respondent who fails to meet or exceed the applicable contract goals without providing satisfactory written evidence of its Good Faith Effort as required herein is deemed to have submitted an incomplete or non-responsive Bid and may be disqualified.

Section VI. Contract Compliance

A. General Requirements/ Assurances

1. Each Respondent for a service contract, construction contract, or construction-related professional service contract must either: (a) meet or exceed the SB Goal or (b) comply with the Good Faith Efforts requirements set forth in Section VIII. Failure to do so constitutes grounds for rejection of the Bid as non-responsive. The Authority bid documentation will contain certain forms that Respondents must complete to document having met these requirements.

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2. All Respondents shall ensure that the SBs have the maximum opportunity to participate in the performance of contracts and subcontracts for work to be performed for the Authority. All Respondents shall take all necessary and reasonable steps to ensure that SBs have the maximum opportunity to compete for and perform such contracts and subcontracts. Contractors and Respondents shall not discriminate on the basis of race, color, national origin, or gender in selecting subcontractors for work to be performed for the Authority.
3. All proposed SB participation must be identified and included in the sealed bid. Any increase in SB participation that occurs after the bids are opened will not be considered in determining whether the Respondent has achieved the contract goal or documented Good Faith Effort to achieve the goal, but may be recognized as SB participation in the contract at the discretion of the SBO and project manager.
4. Agreements between a Respondent and an SB in which the SB promises not to provide subcontracting quotations to other Respondents are prohibited.
5. Failure of a Contractor to comply with the SB requirements set forth herein may constitute a breach of contract and could result in termination of the contract for default or such other remedy as the Authority may deem appropriate. The Authority reserves the right to pursue all remedies available under applicable federal, state and local laws.

B. Self-Performance

Self-performance does not exempt Respondents from SB requirements. Notwithstanding the fact that a Respondent may have the capability to complete a total project with its own work force, and without the use of Subcontractors/Subconsultants, all Authority contractors are required to demonstrate sufficient Good Faith Efforts to subcontract with and/or procure supplies/services with SBs in its Subcontractor/ Subconsultant or supplier service area. Respondents that do not meet the SB Goal for a construction or service contract and desire to self-perform all or part of the contract must comply with each of the following Good Faith Effort provisions. Failure to do so shall constitute grounds for rejection of the Bid or Proposal:

The Respondent must certify in its Bid or Proposal that:

- i. *it is a normal and necessary practice of the Respondent to perform all such elements of a contract without the use of subcontractors and shall provide substantial documentation satisfactory to the Authority of other similar contracts within the past three (3) years on which they have done so.*
- ii. *the Proposer was unable to locate SBs which could provide significant goods or materials for use in conjunction with this contract (provide supporting documentation).*
- iii. *it has a valid business reason for self-performing all work on the Contract as opposed to subcontracting with an SB. The Bid or Proposal must describe the valid business reason for self-performing, and the Respondent must submit with its Bid or Proposal documentation sufficient to demonstrate to the Authority reasonable satisfaction the validity of such assertions.*

Each prospective Contractor who proposes to perform contracts with its own workforce shall provide documentation satisfactory to the Authority as described above and utilize forms as included in Bid or Proposal documents.

C. Required Documentation

Each Respondent shall include in its Bid or Proposal the following information, utilizing the forms included in Bid or Proposal documents:

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1. Name and contact information for all proposed SB and non-SB (to the extent required by applicable law) subcontractors, sub-subcontractors and suppliers, description of the ethnic group of proposed SB subcontractors, sub-subcontractors and suppliers, a description and monetary value of the work to be performed by the proposed subcontractors, sub-subcontractors and suppliers, and the certification status of the proposed SB subcontractors, sub-subcontractors and;
2. Written documentation of its Good Faith Efforts to involve SB subcontractors, which shall be submitted and delivered to the Authority within three (3) business days after submission of the Bid or Proposal;
3. Self-Performance – described in detail in the section above.

D. Incomplete and/or Inaccurate Information

The misrepresentation of any information requested by or submitted to the Authority in connection with SB matters in response to a request for proposals or bids or at the Authority's request is a violation of these SB requirements. If said misrepresentation is discovered during the Bid or Proposal process, the Bid or Proposal will be considered nonresponsive and may be rejected. If the misrepresentation is discovered after the award of the contract, it may be grounds for termination of the contract, or in the alternative, the Contractor may be required to correct the misrepresentation and to take all necessary steps to comply with SB requirements and to perform in a manner consistent with the representations included in the proposal at no additional cost to the Authority.

Section VII. Post Selection Compliance

The Authority will not allow the Prime Contractor to count the participation of an SB Subcontractor toward the Prime Contractor's SB Commitment until the committed amount has been paid to the SB. The reference to "Contractor" in this section is inclusive of consultants, vendors or other providers.

A. Prompt Payment

1. The Prime Contractor agrees to pay each Subcontractor under any prime contract for satisfactory performance of its contract no later than five days from the receipt of each payment the Prime Contractor receives from the Authority.
2. The Prime Contractor also agrees to promptly request the release of any retainage withheld from subcontractors within 30 days after the Subcontractor's work is satisfactorily completed and receives partial acceptance (substantial completion or final completion/final acceptance as defined in the general provisions of the contract).
3. A finding of non-payment shall be a material breach of the contract. The Authority may, withhold progress payments until the Contractor demonstrates timely payment of sums due Subcontractors. The Authority also reserves the right to exercise other breach of contract remedies.
4. Failure of a Contractor to comply with the SB requirements set forth herein may constitute a breach of contract and could result in termination of the contract for default or such other remedy as the Authority may deem appropriate. The Authority reserves the right to pursue all remedies available under applicable federal, state and local laws.

B. Payment Monitoring

To ensure that the Prime Contractor meets all its SB obligations under contract, the Authority will review the Contractor's SB participation throughout the term of the contract including any term extensions from the original contract period. Each Contractor must submit appropriate forms, as

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supplied by the project manager (with verifying information as requested) concurrent with the Contractor's submission of payment requests with each invoice. The information reflected on this report is utilized to provide constant monitoring of the payments made to SBs as well. Failure to include required SB payment forms with the invoice may result in the invoice being returned to the Contractor.

The Authority will not permit a Contractor to count the participation of an SB Subcontractor toward the prime Contractor's SB Commitment until the associated amount being counted toward the goal has been actually paid to the SB.

Upon the Authority's request, Contractors shall provide the Authority access to all books, records, accounts and personnel records needed for SB compliance review. Such access is used for, among other purposes, determining SB participation and compliance with SB requirements. Contractors are subject to interim and post-contract SB audits. Audit determination(s) regarding a Contractor's compliance with SB requirements may be considered and have a bearing on consideration of the Contractor for award of future contracts. Contractors shall forward all documents and information requested by the Authority and shall cooperate with the Authority in providing the final accounting for SB participation in a contract. The Authority may withhold payment of retainage pending compliance with the final accounting or audit requirements.

The Authority staff will document the solicitation and utilization of SB Service providers using report forms and/or software approved by the Purchasing Officer and the SBO.

C. Modifications or Substitutions

If there is a modification or substitution or if a Prime Contractor proposes to terminate an SB Subcontractor for any reason after submission of the Bid or Proposal either prior to or after contract award, it must submit written documentation to the Authority outlining the reasons for the substitution prior to the termination of the original SB. The Contractor must notify the Authority about any additions, modifications or deductions that would affect the contract's SB participation.

If the Prime Contractor wishes to terminate an SB Subcontractor listed as fulfilling its SB Commitment and substitute the original SB Subcontractor with another SB Subcontractor, the Prime Contractor is required to make Good Faith Efforts as defined above to find a substitute SB Subcontractor. The Good Faith Effort shall be directed at finding another SB to perform or provide at least the same amount of work, material or service under the contract as the original SB contractor. This section and its requirements are applicable to SB Prime Contractors as well as non-SB Prime Contractors.

A request to substitute, add or modify SB participation must be submitted to the project manager and SBO for review and approval using forms supplied by the project manager in accordance with Authority procedures when adding, changing or deleting subcontractors on Authority projects. The Contractor's documentation to the Authority should include the specific justification for the proposed substitution. The Prime Contractor must also submit information to verify that the new SB is certified by an approved certifying agency. The Authority will approve or disapprove the substitution based on the submitted documentation. The Contractor should also submit appropriate forms and documentation, as provided by the project manager for each new SB Subcontractor. The Contractor must provide the Authority with any and all documents and information as may be requested with respect to the modification. Prior to submitting a request for substitution based on non-performance, the Contractor shall provide notice to the Subcontractor of the performance issue and provide the Subcontractor an opportunity to correct the situation. Then, the Contractor must submit documentation detailing the notice and the efforts made

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by the Prime Contractor and the SB Subcontractor to cure the non-performance situation to the Authority. This section does not apply in an emergency situation or contracts directly related to passenger safety, security and health.

The Authority will notify the Prime Contractor, in writing, of the decision as expeditiously as possible. If the proposed substitution is approved, the contractor will provide to the Authority, upon request, within five (5) business days of its receipt of the request for the substitution, a copy of the executed subcontract agreement with the new SB.

If the Prime Contractor does not comply with the modifications and substitutions requirement outlined in this section, the Authority may elect to apply contract remedies as described herein. At no time should an SB receive a termination notice prior to the receipt of the Authority granting approval for the substitution or modification.

If there is any SB participation performed by a firm that replaced an SB through a substitution or modification without prior approval by the Authority, that participation will not be credited towards the contract's SB Commitment.

D. Good Faith Efforts – Post Award

Post-award, the SBO will continuously monitor SB participation. Contractors must meet or exceed contract goals, inclusive of change orders and contract modifications. In determining whether the contractor made Good Faith Efforts to ensure full participation and achievement of the SB Goal, the SBO will consider:

1. Whether the Contractor furnished prompt SB participation reports in a timely and accurate;
2. Whether the Contractor responded to efforts to resolve disputes with SBEs, and genuinely attempted to resolve these issues;
3. Whether the Contractor disclosed payment discrepancies timely and within the reporting period;
4. Whether the Contractor furnished prompt written responses to written inquiries from the Authority regarding the SB's performance or information germane to the SB's certification status;
5. Whether the Contractor ensured that at all times during the performance of any contract or subcontract the SBE firm is engaging in a Commercially Useful Function;
6. Whether the contractor provided the Authority with information, or other material, that was factually accurate and free of material misrepresentation; and
7. Whether the Contractor furnished prompt responses to requests for information, books and records needed to verify compliance;
8. Whether the Contractor attended all meetings and mediation hearings as requested by the Authority; and
9. How the Contractor may be affected by change orders, with consideration given to the size and scope of the change orders.

Section VIII. Definitions

A. Small Business (SB)

For the purposes of the Authority's Small Business requirements, a Small Business (SB) is a firm which has been certified to meet the following criteria: \$3,000,000 or less in annual gross revenues averaged over the preceding five (5) years.

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B. Other Definitions

1. Bid/Proposal: Documents that a firm submits in response to a solicitation for the purpose of obtaining a contract (including without limitation, responses to requests for qualifications, requests for quotes, requests for proposals and invitations to bid). The terms *bid* and *proposal* may be used interchangeably throughout the document.
2. Bidder/Proposer/Respondent: A firm that submits a Bid or Proposal. The terms *bidder*, *proposer* and *respondent* may be used interchangeably throughout the document.
3. Construction Project: Activity involving the erection, construction, alteration, or repair of buildings real property or facilities such as buildings, elevated tanks, structures, roads, utilities, water and sewer lines, and other infrastructure.
4. Commercially Useful Function: A function performed by a firm when it is responsible for supplying goods or executing a distinct element of the work of a contract and carrying out its responsibilities by actually performing, managing and supervising the work involved. To determine whether a firm is performing a Commercially Useful Function, the amount of work subcontracted, industry practices and other relevant factors are evaluated.
5. Construction-Related Professional Services: A contract to provide professional services to the Authority that is related to or in conjunction with a Construction Project. Examples include but are not limited to contracts for design, architectural, engineering, surveying and construction management services.
6. Contractor: A firm that enters into a Contract. The term “Contractor” includes consultants, architects, engineers, suppliers and providers of tangible goods and services, in addition to construction contractors.
7. Disadvantaged Business Enterprise (DBE): Refers to the program administered by the US Department of Transportation pursuant to 49 CFR, Part 26.
8. Good Faith Efforts (GFEs): The requirements that Bidders and Proposers must meet if they do not achieve applicable SB Goal in order to show that they actively and aggressively sought to achieve such SB Goals (including contract-specific and overall goals).
9. North Carolina Department of Administration (NCDOA): Agency responsible for certifying Small Business Enterprises firms for the State of North Carolina.
10. North Carolina Department of Transportation (NCDOT): Agency responsible for certifying and maintaining certification databases for Small Business Enterprise firms for the State of North Carolina.
11. Prime Contractor: Contractor with a direct contractual relationship to the Authority. Refers to consultants, architects, engineers, suppliers and other providers of goods and services, in addition to construction contractors.
12. Good/Service – a good or service, including those related to construction and professional services and not including those purchased with funds received from the federal or state governments
13. Small Business Officer (SBO): Authority staff person charged with implementing SB policies and procedures as directed by the President & Chief Executive Officer (P&CEO).
14. Small Business (SB): A business certified by an approved agency which business does not exceed gross receipts of \$3,000,000 averaged over the preceding five (5) years.
15. Small Business Commitment: SB utilization that a contractor/consultant commits to achieve for a contract at contract award. Calculated as a percentage of the total contract, the SB Commitment represents the total dollars that will be spent with SBs as a portion of the total contract amount,

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including any contingency. (The SB Commitment is the amount stated in the Contractor's Bid or Proposal unless modified by mutual agreement of the Authority and the Contractor.)

16. Subcontractor/Subconsultant: A business that directly contracts with a Prime Contractor, Subcontractor or Subconsultant to provide goods or services or perform work in connection with a contract. The term "Subcontractor" also includes Subconsultants.
17. Supplier: A Manufacturer of the materials or supplies or is a dealer that owns, operates or maintains a store, warehouse, or other establishment which may include distribution systems and equipment for bulk items such as petroleum products, in which the materials, supplies, articles or equipment of the general character described in the specifications and required under the contract are bought, kept in stock and regularly sold or leased to the public in the usual course of business.

EXHIBIT 5

MANDATORY FEDERAL CONTRACT PROVISIONS for Professional Services Contracts

This document is an Exhibit to the Master Agreement between the Raleigh-Durham Airport Authority (the “Owner”), and *[Consultant Name]*. Because the Master Agreement may involve the provision of professional services in connection with project receiving federal funding from the Federal Aviation Administration’s Airport Improvement Program, the provisions set out in this exhibit are required to be incorporated into the Master Agreement. Although in the Master Agreement, *[Consultant Name]* is referred to as “the Architect” (regardless of the particular type of professional services to be provided), for the purposes of these federally mandated provisions, the terms “Contractor,” “Offeror,” and “Consultant” as used in this Exhibit are also deemed to refer to *[Consultant Name]*.

1. ACCESS TO RECORDS AND REPORTS

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

2. BREACH OF CONTRACT

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

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

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

3. CIVIL RIGHTS – GENERAL

In all its activities within the scope of its airport program, the Contractor agrees to comply with pertinent statutes, Executive Orders, and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race,

color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

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

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

4. CIVIL RIGHTS – TITLE VI ASSURANCES

Title VI List of Pertinent Nondiscrimination Acts and Authorities

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

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-Assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27 (Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance);
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-259) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, *et seq.*) (prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations);
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs [70 Fed. Reg. 74087 (2005)];
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC § 1681, et seq).

Compliance with Nondiscrimination Requirements:

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

Compliance with Regulations: The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

Nondiscrimination: The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

Solicitations for Subcontracts, including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor’s obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.

Information and Reports: The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a

contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the Sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

Sanctions for Noncompliance: In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the Sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

- a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or
- b. Cancelling, terminating, or suspending a contract, in whole or in part.

Incorporation of Provisions: The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the Sponsor to enter into any litigation to protect the interests of the Sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

5. CLEAN AIR/WATER POLLUTION CONTROL

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

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

6. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements.

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

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

In the event of any violation of the clause set forth in paragraph (1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of \$29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

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

4. Subcontractors.

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

7. DEBARMENT AND SUSPENSION

CERTIFICATION OF CONSULTANT REGARDING DEBARMENT

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

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

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

1. Checking the System for Award Management at website: <http://www.sam.gov>.

2. Collecting a certification statement similar to the Certification of Offeror /Bidder Regarding Debarment, above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract.

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

8. DISADVANTAGED BUSINESS ENTERPRISE

Contract Assurance (49 CFR § 26.13)

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

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

Prompt Payment (49 CFR § 26.29)

The Consultant agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 5 days from the receipt of each payment the prime contractor receives from the Authority. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Authority. This clause applies to both DBE and non-DBE subcontractors.

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

The Consultant must not terminate a DBE subcontractor listed in its Statement of Qualifications for the Master Agreement (or an approved substitute DBE firm) without prior written consent of the Authority. This includes, but is not limited to, instances in which the prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

The Consultant shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent of the Authority.

Unless the Authority's consent is provided, the prime contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

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

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

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

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

9. DISTRACTED DRIVING

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

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

10. PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

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

11.DOMESTIC PREFERENCES FOR PROCUREMENTS

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

12.EQUAL EMPLOYMENT OPPORTUNITY

EQUAL OPPORTUNITY CLAUSE

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

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

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

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

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

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

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

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

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

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

1. As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;

c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;

d. "Minority" includes:

(1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);

(3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

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

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

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

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

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the Contractor during the training period and the Contractor shall have made a commitment to employ the apprentices and

trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

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

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

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

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

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

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

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

posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

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

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

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

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

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

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

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

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

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

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

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

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

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

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

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

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall

at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

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

13.FEDERAL FAIR LABOR STANDARDS ACT

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

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

14.TRADE RESTRICTION CERTIFICATION

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

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

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

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

require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

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

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

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

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

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

15.CERTIFICATION REGARDING LOBBYING

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

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of

any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

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

16.OCCUPATIONAL SAFETY AND HEALTH ACT

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

17.RIGHTS TO INVENTIONS

Contracts or agreements that include the performance of experimental, developmental, or research work must provide for the rights of the Federal Government and the Owner in any resulting invention as established by 37 CFR part 401, Rights to Inventions Made by Non-profit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements. This contract incorporates by reference the patent and inventions rights as specified within 37 CFR § 401.14. Contractor must include this requirement in all sub-tier contracts involving experimental, developmental, or research work.

18.SEISMIC SAFETY

In the performance of design services, the Consultant agrees to furnish a building design and associated construction specification that conform to a building code standard that provides a level of seismic safety substantially equivalent to standards as established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their building code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety. At the conclusion of the design services, the Consultant agrees to furnish the Owner a "certification of compliance" that attests conformance of the building

design and the construction specifications with the seismic standards of NEHRP or an equivalent building code.

19.CERTIFICATION OF CONSULTANT REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

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

Certifications

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

Note

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

Term Definitions

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

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

20.TERMINATION OF CONTRACT

TERMINATION FOR CONVENIENCE (PROFESSIONAL SERVICES)

The Owner may, by written notice to the Consultant, terminate this Agreement for its convenience and without cause or default on the part of Consultant. Upon receipt of the notice of termination, except as explicitly directed by the Owner, the Contractor must immediately discontinue all services affected.

Upon termination of the Agreement, the Consultant must deliver to the Owner all data, surveys, models, drawings, specifications, reports, maps, photographs, estimates, summaries, and other documents and materials prepared by the Engineer under this contract, whether complete or partially complete.

Owner agrees to make just and equitable compensation to the Consultant for satisfactory work completed up through the date the Consultant receives the termination notice. Compensation will not include anticipated profit on non-performed services.

Owner further agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

TERMINATION FOR CAUSE (PROFESSIONAL SERVICES)

Either party may terminate this Agreement for cause if the other party fails to fulfill its obligations that are essential to the completion of the work per the terms and conditions of the Agreement. The party initiating the termination action must allow the breaching party an opportunity to dispute or cure the breach.

The terminating party must provide the breaching party [7] days advance written notice of its intent to terminate the Agreement. The notice must specify the nature and extent of the breach, the conditions necessary to cure the breach, and the effective date of the termination action. The rights and remedies in this clause are in addition to any other rights and remedies provided by law or under this agreement.

- a) **Termination by Owner:** The Owner may terminate this Agreement for cause in whole or in part, for the failure of the Consultant to:
1. Perform the services within the time specified in this contract or by Owner approved extension;
 2. Make adequate progress so as to endanger satisfactory performance of the Project; or
 3. Fulfill the obligations of the Agreement that are essential to the completion of the Project.

Upon receipt of the notice of termination, the Consultant must immediately discontinue all services affected unless the notice directs otherwise. Upon termination of the Agreement, the Consultant must deliver to the Owner all data, surveys, models, drawings, specifications, reports, maps, photographs, estimates, summaries, and other documents and materials prepared by the Engineer under this contract, whether complete or partially complete.

Owner agrees to make just and equitable compensation to the Consultant for satisfactory work completed up through the date the Consultant receives the termination notice. Compensation will not include anticipated profit on non-performed services.

Owner further agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

If, after finalization of the termination action, the Owner determines the Consultant was not in default of the Agreement, the rights and obligations of the parties shall be the same as if the Owner issued the termination for the convenience of the Owner.

- b) **Termination by Consultant:** The Consultant may terminate this Agreement for cause in whole or in part, if the Owner:
1. Defaults on its obligations under this Agreement;
 2. Fails to make payment to the Consultant in accordance with the terms of this Agreement;
 3. Suspends the project for more than [180] days due to reasons beyond the control of the Consultant.

Upon receipt of a notice of termination from the Consultant, Owner agrees to cooperate with Consultant for the purpose of terminating the agreement or portion thereof, by mutual consent. If Owner and Consultant cannot reach mutual agreement on the termination settlement, the Consultant may, without prejudice to any rights and remedies it may have, proceed with terminating all or parts of this Agreement based upon the Owner's breach of the contract.

In the event of termination due to Owner breach, the Consultant is entitled to invoice Owner and to receive full payment for all services performed or furnished in accordance with this Agreement and all justified reimbursable expenses incurred by the Consultant through the effective date of termination action. Owner agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

21. VETERAN'S PREFERENCE

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