

PROJECT CRITERIA

AND

PERFORMANCE
SPECIFICATIONS

FOR THE DESIGN-BUILD OF CMF IV

WBS A1-H218

CLE Snow Removal Equipment Storage and Vehicle

Maintenance Building Addition

CLEVELAND HOPKINS INTERNATIONAL AIRPORT

FINAL

May 24, 2016

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FIGURES

FIGURE NO. 1 – OVERALL SITE

FIGURE NO. 2 - EXHIBIT A1 – Existing CMF layout

FIGURE NO. 3 - EXHIBIT B1 – CMF

FIGURE NO. 3 - EXHIBIT C1 –

SECTION 1 - GENERAL

1.01 PROJECT DESCRIPTION

1.01.01 PROJECT NAME

Cleveland Hopkins International Airport CLE CMF IV-Snow Removal Equipment Storage and Vehicle Maintenance Building Addition.

1.01.02 GENERAL DESCRIPTION

The Expansion of the Consolidate Maintenance Facility Phase IV and relocation of the Vehicle Maintenance Building –at Cleveland Hopkins International Airport generally includes:

1. Design and installation of storage building additions to the existing Consolidated Maintenance Facility.
2. Design and installation of a Vehicle Maintenance Facility in the existing Consolidated Maintenance Facility for the relocation of the Vehicle Maintenance.
3. Build out of existing Consolidated Maintenance Facility

1.01.03 GENERAL REQUIREMENTS

The Cleveland Airport System uses certain general requirements as noted in Section 4 that are being incorporated into the performance specification

1.02 EXISTING INFORMATION AVAILABLE

The information listed in this section is included as Figures or on a CD. The data provided is for informational purposes only. The Design-Builder should independently verify the information.

1.02.01 OVERALL SITE PLAN – Exhibit

This figure shows the general layout of the project.

1.02.02 LAYOUT SITE PLAN – Exhibit A1

This figure shows the conceptual layout of the additions.

1.02.04 BASE SURVEY (ON CD)

A survey prepared for the Base mapping is included as both a PDF and AutoCAD file versions.

1.02.05 MC-031: CONTROL OF IMPACTED AND SOLID WASTE MATERIAL (ON CD)

The City of Cleveland, Department of Port Control’s (DPC) required specification for the control during construction of impacted and solid waste material.

1.02.06 ITEM T-901: SEEDING (ON CD)

A modified FAA specification for furnishing, hauling, and placing seeding and related operations where vegetative growth is required.

1.02.07 CITY OF CLEVELAND, DEPARTMENT OF PORT CONTROL CAD STANDARDS (ON CD)

The City of Cleveland, Department of Port Control CAD standards dated September 17, 1999 will be included as a PDF file.

1.03 DESIGN AND CONSTRUCTION PROCEDURES

1.03.01 DESIGN AND CONSTRUCTION SCHEDULE REQUIREMENTS

The following dates are major milestones that are required to be met for the completion of this contract.

	<u>Major Milestones</u>	<u>Start Date</u>	<u>Completion Date</u>
1.	City of Cleveland Department of Port Control to procure and enter into a long term management agreement	May 2016	September 2016
2.	Design-Builder to design and procure needed materials	October 2016	March 2017
3.	Design of Snow Removal Equipment Storage Facility	October 2016	March 2017
4.	Construction SRE addition	March 2017	December 2017

5.	Design of Vehicle Maintenance Building	November 2016	June 2017
6.	Construction VMB	June 2017	February 2018
8.	Build out of existing Consolidated Maintenance Facility	June 2017	February 2018

General requirements for the Construction Schedules is included in Section 4 of this specification that shall be followed at a minimum for all design and construction phases for developing schedules for this project.

1.03.02 DESIGN REVIEW REQUIREMENTS Pre-Design Submittal

1. Geotechnical Plan

30% Design Submittal

1. Draft Engineering Report, which shall include at a minimum the following items:
 - a) The proposed development as it relates to other facilities and /or improvements on West Hangar Road;
 - b) Potential problems to be encountered and available solutions with support for the recommended solution, including appropriate priorities and stages;
 - c) Description of subsurface soil conditions, and a summary and analysis of related test data, boring logs, test results, and report signed and sealed by a licensed Professional Engineer;
 - d) Explanation and justification for pavement design-if required;
 - e) Explanation and justification for foundation and structural system design;
 - f) Explanation and justification for Plumbing-Roof Drains design;
 - g) Explanation and justification for electrical system design;
 - h) Design loads and assumptions for structures;
 - i) Explanation of how drainage system ties into existing Storm drainage system, including drainage and erosion control criteria and computation;
 - j) Conceptual SWPPP with projected erosion control measures as well as any BMP's forecasted to be required.
 - k) Utilities base mapping, including Ownership, contact information, explanation of demand, availability, source, relocation, disconnect / tie out, conservation, Subsurface Utility Engineering field notes and utilities schematic design;

- l) Explanation on recommendations for architecture for all structures including the canopy and other buildings;
 - m) Explanation on recommendations of finishes;
 - n) Explanation on recommendation of equipment;
 - o) Explanation on recommendations for signs, markings and graphics;
 - p) Sequence of construction, including storage and staging area requirements, effect of construction on airport operations, parking, and facilities;
 - q) Understanding of contract time, and milestones;
 - r) Detailed construction cost estimates;
 - s) Code requirements;
 - t) Permit and Zoning requirements;
 - u) Criteria for handling of hazardous and contaminated material;
 - v) Criteria for on-site materials handling;
 - w) Criteria for sustainable construction;
 - x) Criteria for security cameras;
 - y) Modification of Revenue control system criteria-if required;
 - z) Criteria for canopy for covered parking;
 - aa) Topographic Survey signed and sealed by a licensed Professional Engineer. Survey datum shall be NAVD 88 and NAD 83 and created in State Plane Coordinate Grid System (“Real World”).
2. Engineering Calculations such as, but not limited to, pavement design, electrical design, roof drainage and structural design, etc.
 3. Schematic Construction Drawings.
 4. List of Construction Specifications to be used.
 5. Construction Schedule showing major milestones by work area.

60% Design Submittal

1. Final Engineering Report, which will include all items from 30% submittal as updated at a minimum, plus:
 - a) A discussion on ease of maintenance of all materials, systems, equipment with estimated costs for operation and maintenance. Cost estimates of operation and maintenance shall include staff requirements, utility costs, preventative maintenance costs, etc.;
 - b) Material sources
2. All Engineering Calculations.
3. Preliminary Construction Drawings.
4. Preliminary Construction Specifications.
5. Updated Construction Schedule showing major milestones by work area.

90% Design Submittal

1. Any revised Engineering Calculations.
2. Final Construction Drawings.

3. Final Construction Specifications.
4. Updated Construction Schedule showing major milestones by work area.

Construction Submittal

1. Construction Drawings signed and sealed by a licensed Professional Engineer and/or licensed Registered Architect.
2. Construction Specifications signed and sealed by a licensed Professional Engineer and/or licensed Registered Architect.
3. Final Construction Schedule.

1.03.03 DESIGN SUBMITTALS

The 30%, 60%, 90% and Construction submittals shall be submitted to the Cleveland Department of Port Control with the following conditions:

1. Engineering drawings shall be a standard ANSI or ARCH sheet size.
2. All documents shall be full size.
3. The drawings shall be prepared utilizing the City of Cleveland Department of Port Control CAD Standards.
4. There shall be six (6) sets and with each design submission.
5. There shall be ten (10) sets with the construction submission.
6. Cleveland Department of Port Control will provide review comments on each design submission within two (2) weeks from the day they are received.
7. Each design submission will contain three (3) compact discs (CDs) with all information provided in PDF format.
8. The Construction submission will contain the same as each design submission above plus CAD drawings in AutoCAD 2014, or newer.

1.03.04 CONSTRUCTION SUBMITTALS Project Record Documents

During construction one set of all documents including drawings, shop drawings, permits, specifications, any underground interference drawings, and any additional documents that are developed, used and or modified for this project shall be maintained on site. These documents shall record all changes made by addenda, by formal modification and in performing the work for the Cleveland Department of Port Control's use in the future.

1. Storage:
 - a. Separately from the documents used for construction and in a location where they can be kept clean and safe from fire and damage.
2. Changes to be Recorded include:
 - a. Actual measured locations and ends of existing and abandoned

- below grade utilities.
 - b. Actual measured locations (horizontal and vertical) of foundations and concealed utilities and appurtenances relative the project datum.
 - c. Field changes of dimensions and details not on original documents.
 - d. Equipment labels matching field labels.
3. The project records shall be kept up to date during the entire construction process.
 4. The project record documents shall be made available for review for the Cleveland Department of Port Control and their engineer.
 5. Submit three (3) set of 100 percent as-built construction drawings and three (3) CDs containing AutoCAD files and PDF files of each sheet with as-built information incorporated into the construction drawings within six (6) weeks of final completion of the project.

Submittal Procedure

General requirements for the Submittals are included in Section 4 of this specification and shall be followed at a minimum for the submission of the submittals during the construction phase.

In addition to construction submittals required above any field changes that are made shall be provided to the Cleveland Department of Port Control in a written documentation (minimum of three (3) copies), for information, for all proposed changes made during construction to the Construction Drawings. Documents shall include concurrence from the design engineer and/or architect who sealed and signed the drawings.

SECTION 2 – PROJECT PROGRAM

2.01 DETAILED DESCRIPTION

The Snow Removal Equipment Storage and Vehicle Maintenance Building Addition includes:

2.01.01 Design and Construction of Snow Removal Equipment Storage Additions.

This project includes the design and construction of approximately 44,200 SF addition to the south end of CLE's existing Consolidated Maintenance Facility (CMF). The addition will be located at the southwest end of the existing CMF and be attached. The purpose of the addition is to cover the existing and new Snow Removal Equipment (SRE). The building system requirements are further defined in Section 3.06.

The second portion of this project includes the design and construction of approximately 80,000 SF addition to the south end of CLE's existing Consolidated Maintenance Facility (CMF). The addition will be located at the southwest end of the existing CMF and be attached. The purpose of the addition is to cover the existing and new Snow Removal Equipment (SRE). The building system requirements are further defined in Section 3.06.

2.01.02 Design and Construction of Vehicle Maintenance Facility.

This project includes the design and construction of approximately 30,000 SF repurposing of the north bay of CLE's existing Consolidated Maintenance Facility (CMF). The purpose of the repurposing is to provide for the maintenance of the existing and new Snow Removal Equipment (SRE). The building system requirements are further defined in Section 3.06.

2.01.03 Design and Construction of Existing Consolidated Maintenance Facility build out.

This project includes the design and construction of approximately 15,000 SF build out of the center core of the existing Consolidated Maintenance Facility (CMF). The purpose of the addition is to provide for the maintenance of the existing and new Snow Removal Equipment (SRE). The building system requirements are further defined in Section 3.06.

2.02 TEMPORARY FACILITIES AND CONSTRUCTION CONTROLS

General requirements for the temporary facilities and construction controls are included in Section 4 of this specification. At a minimum access to the CMF building shall remain. Expect all work to occur in Security Identification Display Area (SIDA) unless the contractor makes accommodations with temporary fence and/or guards.

2.03 MAINTENANCE AND PROTECTION OF TRAFFIC ON PUBLIC STREETS AND PEDESTRIAN FACILITIES

All temporary and permanent traffic control signs, markings, signals, and controls shall be in accordance with the latest editions of the Ohio Department of Transportation "Manual on Uniform Traffic Control Devices for Streets and Highways" (OMUTCD), the Ohio Department of Transportation's (ODOT) Traffic Engineering Manual, the Ohio Department of Transportation Location & Design Manual, Volume I and Volume III, and the Ohio Department of Transportation Construction and Materials Specifications. All current ingress/egress points to the existing CMF shall be maintained and operational during the entire construction process. All airport roads shall remain open and operational during the entire construction process. The Design-Builder shall notify all emergency or first response departments of any detour routes or restricted traffic patterns. In addition to the previously mentioned codes and requirements, the design of temporary pedestrian

access shall be in accordance with the Occupational Safety and Health Administration (OSHA) Regulations Part 1926 for Construction.

SECTION 3 – PERFORMANCE REQUIREMENTS

3.01 GENERAL

3.01.01 CODE REQUIREMENTS

The design shall comply with City of Cleveland, Ohio Code of Ordinances (City of Cleveland Codified Ordinances, and all other applicable codes, Ohio Department of Transportation, Federal, State and Industry codes, standards and regulations hereinafter referred to as “Code Requirements” in the design and construction of the parking structures. When codes conflict the more stringent code shall govern. The latest applicable version of each code is to be used. The Design- Builder is responsible for complying with these codes and any other codes that may be applicable. Any conflict among codes is to be promptly brought to the attention of the Cleveland Department of Port Control.

1. Compliance with codes, statues, regulations, and the Cleveland Department of Port Control requirements shall be the responsibility of the Design-Builder. Regulatory agencies will review and comment, at the Owner’s request, to assist in verifying compliance with applicable codes, statues and policies.

3.01.02 BUILDING AND ZONING REQUIREMENTS

All building and zoning requirements shall meet City of Cleveland Codified Ordinances, including Part Three: Land Use Code: – Zoning Code, Part IIIB - Zoning, state, federal and FAA requirements for all work. The Design-Builder is responsible for obtaining all permits and ensuring all building and zoning requirements are being met. When requirements conflict the more stringent zoning requirement governs. The Design-Builder is responsible for complying with these requirements and any other requirements that may be applicable. Any conflict among zoning requirements is to be promptly brought to the attention of the Owner and the Owner’s Project Architect or Design Criteria Developer.

3.01.03 GEOTECHNICAL REQUIREMENTS

Criteria for Geotechnical requirements shall be governed by the Ohio Department of Transportation’s Specifications for Geotechnical Explorations, latest edition and it can be found here:

<http://www.dot.state.oh.us/Divisions/ProdMgt/Geotechnical/Pages/sge.aspx>

Previous geotechnical investigations can be obtained in the Department of Port Controls Engineering office located in the FSS Building at 5301 West Hangar Road, 2nd Floor Cleveland, OH.

3.01.04 TECHNICAL SPECIFICATION CRITERIA

Technical specifications shall be submitted and organized in accordance with the Construction Specifications Institute Master Format, Section Format and Page Format or in accordance with the State of Ohio, Department of Transportation, Construction and Material Specifications, latest edition.

All specifications shall meet or exceed the above referenced code requirements.

3.01.05 QUALITY CONTROL

The Design-Builder shall employ a testing organization that is independent of the Design-Builder's organization and subcontracted directly by the Design- Builder to perform all required tests. All the test data shall be reported to the DPC after the results are known. A legible, handwritten copy of all test data shall be given to the DPC daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Design-Builder shall submit a final report to the DPC showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

All materials and each part or detail of the work shall be subject to inspection by the DPC. The DPC shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Design-Builder as is required to make a complete and detailed inspection and any additional quality control / assurance testing.

3.02 HAZARDOUS MATERIAL

Investigation and survey has not been performed for asbestos or hazardous/contaminated waste. The site should be inspected for the following items prior to demolition: asbestos-containing materials, PCB caulk, universal wastes (i.e., lamps, ballasts, mercury-containing devices, and pesticides), and other items that should not go into the regular trash.

A certified Engineering Laboratory shall perform all field and/or laboratory testing in accordance with applicable Federal, State, and/or local standards and submit proper certification of the testing laboratory. The Engineering Laboratory shall collect ample samples to fulfill all requirements to determine if the presence or absence of

hazardous materials.

The Engineering Laboratory shall submit test reports for all samples and determine the appropriate facility, if any, required for proper disposal.

Disposal of any collected material shall be in accordance with applicable Federal, State, and/or local standards. Item MC-031: Control of Impacted and Solid Waste Material shall also be followed and it is included in the attached compact disc.

3.03 DEMOLITION

3.03.01

1. Demolition shall include all items necessary to complete the structures. This may include but not be limited to:
 - Interior wall and partition removal
 - Sidewalk removal
 - Asphalt and Concrete Pavement removal-as required
 - Curb removal
 - Light pole and fixture removal
 - Landscaping item removal
 - Storm and Sanitary Sewer drains, catch basins and piping
 - Electrical feeds and systems
 - Mechanical, Electrical, and Plumbing systems-as required.
2. Submittals
 - a. Qualification Data: For demolition the contractor and primary subcontractors are to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and Owners, and brief description of project scope and methods used.
 - b. Proposed Dust Control and Noise Control Measures: Submit statement that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation.
 - c. Schedule of Demolition activities: Indicate the following:
 - i. Detailed sequence of demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - ii. Coordination for shutoff, capping, and interruption of utility services.
 - iii. Prior to placement of recycled material, submit a plan that shows the locations that the material will be used. The locations shall be approved by the DPC prior to placing the recycled material.
 - d. Pre-demolition Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage

- caused by demolition operations. Submit before Work begins.
 - e. Demolition Plan: Submit detailed sequence of deconstruction prepared by a professional engineer. Indicate all bracing and temporary shoring measures required to maintain structure stability during demolition.
 - f. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.
3. Quality Assurance
- a. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
 - b. Regulatory Requirements: Comply with governing notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
 - c. Standards: Comply with ANSI A10.6 “Safety Requirements for Demolition Operations” and NFPA 241 “Standard for Safeguarding Construction, Alteration and Demolition Operations”.
 - d. Pre-demolition Conference: Conduct conference at Project site. Review methods and procedures related to demolition including, but not limited to, the following:
 - i. Inspect and discuss condition of construction to be demolished.
 - ii. Review and finalize demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Project Conditions
- a. Maintain existing site roadways, walkways, and other adjacent occupied or used facilities. Do not close or obstruct roadways or other occupied or used facilities without written permission from authorities having jurisdiction. The existing CMF is to remain open to day-to-day operations during construction.
 - b. Coordinate with air traffic safety authorities regarding height of equipment permitted and pertinent details of demolition means and methods.
 - c. Owner assumes no responsibility for condition of structures to be demolished.
 - d. Hazardous materials may be encountered in the Work. Hazardous materials are to be removed by demolition contractor before start of the Work. See Section 3.02.
 - e. Maintain existing utilities to remain in service, existing storm drain, gas, electric and protect them against damage during demolition operations. See 3.04.07.
5. Examination
- a. Demolition contractor shall survey the configuration and condition

of the existing items to be removed and make themselves familiar with any conditions required to perform the work. Surveys will also be performed as the Work progresses to detect hazards resulting from demolition activities.

6. Utility Services
 - a. Do not interrupt existing utilities serving occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to authorities having jurisdiction.
 - b. Utility Requirements: Locate, identify, disconnect, and seal or cap utilities serving area to be demolished.
7. Structures Description
 - a. To be determined
8. Demolition
 - a. Use of explosives is prohibited.
 - b. Existing Utilities: Demolish existing utilities and below-grade utility structures that are within site perimeter. Abandon utilities outside this area.
 - c. Recycling / Reused: If recycled material is to be reused on site, follow all requirements of this specification and other DPC requirements. Slag material shall not be reused on the project site.
9. Disposal of Demolished Materials
 - a. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
 - b. Burning: Do not burn demolished materials.
 - c. Disposal: Transport demolished materials off Owner's property and legally dispose of them. Provide manifests to Port Control upon completion.
10. Backfill and Grading
 - a. Remove and stockpile all disturbed soils within perimeter.
 - b. Backfill all excavations with compacted, satisfactory soil materials.
 - c. Leave site rough graded and suitably prepared for sub base installation and final grading.

3.04 UTILITIES

The Design-Builder is required to follow "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" (CI/ASCE 38-02), Utility quality level

A or B, and utilize a Subsurface Utility Engineering (SUE) provider for the following utilities, but is highly recommended to use their services for the entire project site:

1. All West Hangar Road utilities, which include but not limited to, electrical power, communications, gas, water and storm and sanitary sewers.
2. Any utility that is servicing the following structures: Consolidated Maintenance Facility, Electrical Vault 10, and the Sand, Sodium Formate and Potassium Acetate Storage Facility.

SUE is a branch of engineering practice that involves managing certain risks associated with utility mapping at appropriate quality levels, utility coordination, utility relocation design and coordination, utility condition assessment, communication of utility data to concerned parties, utility relocation cost estimates, implementation of utility accommodation policies, and utility design.

Multiple utilities traverse the site. Utility services may need to be maintained throughout construction. The Design-Builder shall coordinate with utility providers and users prior to the start of construction. The Design-Builder is responsible for maintaining all necessary utility services during construction.

A number of existing utilities in and around the project sites are shown to the extent known on the attached record drawings and are offered in good faith solely for informational purposes. They may not reflect actual locations and may not be inclusive. It is the Design-Builder's responsibility to locate utilities prior to construction and protect against damage and/or disruption to existing utilities throughout construction. The following are known existing utilities and requirements.

Design-Builder to provide live/hot power and communication connections. Any utility outages, road closures, etc. shall be coordinated with DPC and may be required to be accomplished at off hours/weekends.

3.04.01 ELECTRICAL

General Electrical Requirements:

Contractor shall design electrical services in accordance with NEC requirements, and NECA 1- 2010, Standard Practice of Good Workmanship in Electrical Construction. Provide service size calculations, voltage drop calculations, and short circuit calculations for Owners review and approval. All lighting shall be designed in accordance with IES Recommendations per the Lighting Handbook, 10th edition, and ASHRAE 90.1, 2004. Provide ComCheck EZ calculations (DOE.gov), and Lighting Calculations for Owners review and approval. All proposed scope is based on casual field observation. The contractor is responsible for re-feeding any existing loads that are currently served from electrical distribution that is being removed.

Demolition:

Remove existing site lighting fixtures and light poles as needed and associated concrete bases. Remove wire back to nearest junction box, panel, or connection point.

SRE Storage Buildings:

Perform load calculations in accordance with NEC requirements for the new Building lighting loads. New loads will include at a minimum, convenience power, building lighting, and service of HVAC systems.

Provide LED and LED feature Lighting. All lighting shall be designed in accordance with IES recommendations and Applicable Energy Codes and motion sensors. All lighting shall be fed with 208V. Provide all conduits, conductors, and controls as required. Voltage drop shall not exceed 3%.

Vehicle Maintenance Building:

Perform load calculations in accordance with NEC requirements for the new required loads. New loads will include at a minimum, convenience power, building lighting, equipment loads, elevator service and service of HVAC systems.

Provide LED and LED feature Lighting. All lighting shall be designed in accordance with IES recommendations and Applicable Energy Codes and motion sensors. All lighting shall be fed with 208V. Provide all conduits, conductors, and controls as required. Voltage drop shall not exceed 3%.

Consolidated Maintenance Building Build out:

Perform load calculations in accordance with NEC requirements for the additional Building loads. New loads will include at a minimum, convenience power, building lighting, and service of HVAC systems.

Provide LED Lighting. All lighting shall be designed in accordance with IES recommendations and Applicable Energy Codes and motion sensors. All lighting shall be fed with 208V. Provide all conduits, conductors, and controls as required. Voltage drop shall not exceed 3%.

3.04.02 GAS

If the Design Build determines that new or additional gas service is required, the proposed gas lines shall be in accordance with the Ohio Building Code and meet requirements of the utility Owner/provider. Proposed utilities shall be of equal or better material and provide adequate service to meet or exceed existing demands.

3.04.03 WATER LINE AND FIRE HYDRANT

Proposed water lines and fire hydrants shall be in accordance with the Ohio Building Code, the Ohio Fire Code, and the City of Cleveland (City of Cleveland Codified Ordinances, Part 5 Municipal Utilities and Services Code, Title – V, Chapter 531 Water and Fire Service Connections, and all other applicable zoning requirements can be found here: <http://caselaw.lp.findlaw.com/clevelandcodes/>). Fire protection systems and equipment shall be in accordance with requirements of the local Fire Marshal. Proposed utilities shall be of equal or better material and provide adequate service to meet or exceed existing demands.

3.04.04 TELECOMMUNICATION

Proposed telecommunication lines shall be in accordance with the Ohio Building Code and meet requirements of the utility Owner/provider. Proposed utilities shall be of equal or better material and provide adequate service to meet or exceed existing demands.

3.04.05 STORM SEWER

Proposed storm sewer lines and systems shall be in accordance with the Ohio Building Code and the City of Cleveland (City of Cleveland Codified Ordinances, Part 5 Municipal Utilities and Services Code, Title – VII, Chapter 541 Sewers and sewage disposal, and all other applicable zoning requirements can be found here: <http://caselaw.lp.findlaw.com/clevelandcodes/>). Design shall be in accordance with all US and Ohio EPA guidelines and be in accordance with the Ohio Department of Natural Resources’ Third Edition, 2006 or newer, “Rainwater and Land Development: Ohio’s Standards for Storm water Management, Land Development and Urban Stream Protection”. Proposed systems shall be of equal or better material and provide adequate service to meet or exceed existing demands.

3.04.06 SANITARY

If the Design Build determines that additional service is required, proposed sanitary lines shall be in accordance with the Ohio Building Code and the City of Cleveland (City of Cleveland Codified Ordinances, Title – VII, Part 5 Municipal Utilities and services code – Chapter 541 Sewers and sewage disposal, and all other applicable zoning requirements can be found here: <http://caselaw.lp.findlaw.com/clevelandcodes/>), and meet requirements of the utility Owner/provider. Proposed utilities shall be of equal or better material and provide adequate service to meet or exceed existing demands.

3.05 CIVIL

3.05.01 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND STORM WATER MANAGEMENT

The minimum requirements for Storm Water Pollution Prevention Plan (SWPPP) and storm water management shall meet the Ohio EPA's Storm Water Program, Ohio Department of Natural Resources' Rainwater and Land Development Manual, Ohio Department of Transportation Location and Design Manual Volume 2 – Drainage Design, and the Cuyahoga Soil Water Conservation District's Storm Water Program.

It is the Design-Builder's responsibility to obtain the notice of intent, permit and all other required SWPPP and storm water management documents.

3.05.02 CONCEPTUAL LAYOUT FOR NEW SNOW REMOVAL EQUIPMENT (SRE) STORAGE BUILDINGS

Conceptual layout for SRE Storage buildings can be found in Figure No. 1. Final layout is the responsibility of the Design-Builder. The layout and design of the SRE Storage Buildings on the south west and north east portion of the existing CMF shall be in accordance with the City of Cleveland (City of Cleveland Codified Ordinances, : <http://caselaw.lp.findlaw.com/clevelandcodes/>). Design shall also comply with FAA AC no: 150/5220-18A dated September 14, 2007. Layout shall include, but not be limited to, considerations for facility users, relation to existing systems, stall and aisle configurations, traffic and equipment circulation, disabled persons facilities, construction, and maintenance.

Equipment Parking geometrics, including parking stall size, aisle width, and resultant dimensions shall be guided by FAA AC No: 150/5220-18A.

Parking spaces for employee lots shall be as follows:

Parking aisles shall be a minimum 22' wide for two way aisles.

Parking aisles shall be a minimum 15' for one way 45° parking spaces.

Parking spaces shall be accessible for self-parking and not situated in such a manner to make it necessary to move another vehicle to utilize a parking space. Parking layout and markings shall be in accordance with recommendations of the Parking Consultant's Council of the National Parking Association (NPA).

3.05.03 CONCEPTUAL LAYOUT VEHICLE MAINTENANCE BUILDING (VMB)

Conceptual layout for Vehicle Maintenance Facility VMB can be found in Exhibits A1. Final layout is the responsibility of the Design-Builder. The layout and design of the new VMB attached to the south west portion of the existing CMF shall be in accordance with the City of Cleveland (City of Cleveland Codified Ordinances, found here: <http://caselaw.lp.findlaw.com/clevelandcodes/>). Design shall also comply with FAA AC no: 150/5220-18A dated September 14, 2007. Layout shall include, but not be limited to, considerations for facility users, relation to existing systems, stall and aisle configurations, traffic and equipment circulation, disabled persons facilities, construction, and maintenance.

Equipment Parking geometrics, including parking stall size, aisle width, and resultant dimensions shall be guided by FAA AC No: 150/5220-18A.

Parking spaces for employee lots shall be as follows:

Parking aisles shall be a minimum 22' wide for two way aisles.

Parking aisles shall be a minimum 15' for one way 45° parking spaces.

Parking spaces shall be accessible for self-parking and not situated in such a manner to make it necessary to move another vehicle to utilize a parking space. Parking layout and markings shall be in accordance with recommendations of the Parking Consultant's Council of the National Parking Association (NPA).

3.05.04 CONCEPTUAL LAYOUT OFFICE, BREAK AND STORAGE SPACE BUILDOUT SECOND FLOOR OF EXISTING CMF

Conceptual layout for Vehicle Maintenance Building (VMB) can be found in Exhibits B1. Final layout is the responsibility of the Design-Builder. The layout and design of the space in the second floor of the existing CMF shall be in accordance with the City of Cleveland (City of Cleveland Codified Ordinances, found here: <http://caselaw.lp.findlaw.com/clevelandcodes/>). Design shall also comply with FAA AC no: 150/5220-18A dated September 14, 2007. Layout shall include, but not be limited to, considerations for facility users, relation to existing systems, disabled persons facilities, construction, and maintenance.

3.05.05 SITE GRADING CRITERIA

Geometric configuration and grading shall be in accordance with the American Association of State Highway and Transportation Officials

(AASHTO) policy on “Geometric Design of Highways and Streets” as well as in accordance with the AASHTO “Roadside Design Guide”. Site grading shall conform to typical practices of the area. All entrances, exits, adjacent sidewalks, curbs, and aprons to exterior streets or surfaces shall be flush with pedestrian right-of-way.

3.05.06 TOPOGRAPHIC SURVEYING CRITERIA

The minimum requirements for topographic survey for this project shall be in accordance with The Ohio Department of Transportation (ODOT) Location and Design Manual Volume 3 - Appendix C, Basic Survey Requirements and ODOT Construction and Material Specifications, latest edition, Item 623 Construction Layout Stakes and all other applicable items.

3.05.07 LANDSCAPING CRITERIA

Protect existing Landscape and repair any items damaged during the construction. Landscape specifications shall be in accordance with ODOT Construction and Material Specifications Sections 600 and 650. Plant materials shall be in conformance with ANSI Z60.1-2004, American Standard for Nursery Stock. Landscape design shall be in accordance with the City of Cleveland Codified Ordinances, Part 3, Zoning Code, Title VII – Zoning, Section 352 Landscaping and Screening, and Part 4 Traffic Code, Title VII – Parking, Section 457.07 Screening Barriers and all other applicable City of Cleveland requirements. These ordinances can be found here: <http://caselaw.lp.findlaw.com/clevelandcodes/>. Landscaping criteria shall also be in accordance with Item T-901 Seeding and any plants, shrubs or trees should comply with the list developed by USDA and should be bird deterrents.

3.05.08 PAVEMENT DESIGN CRITERIA

If required to repair damaged pavement, design shall be in accordance with Ohio Department of Transportation (ODOT) Office of Pavement Engineering, “Pavement Design Manual”. Final design of the pavement section is the responsibility of the Design-Builder. The geotechnical information that is included on the CD shows the subgrade’s strength to be about a 6 CBR. The heavy duty pavement section shall have a structural number of 4.3 or higher and the light duty pavement section shall have a structural number of 2.9 or higher. Heavy duty areas include those pavements for snow removal equipment traffic within the queuing, building service areas and truck access for shipping and receiving. The Design-Builder shall coordinate service and access routes with the Cleveland Department of Port Control. Light duty areas include those pavements for automobile parking.

3.06 BUILDING

3.06.01 SRE EQUIPMENT STORAGE, VEHICEL MAINTENANCE BUILDING AND EXISTING CONSOLIDATED MAINTENANCE BUILDING BUILD OUT.

Each building is delineated as noted in the conceptual plan exhibits in the exhibits. The proposed building additions should cover the designated areas noted on the exhibits.

Building and Zoning Requirements

- a. The design of the buildings for the covered parking lots are to meet all City of Cleveland Codified Ordinances building and zoning requirements, including Part Three – Zoning Code, Title VII - Zoning and Part Three – Building Code, Title XIII - Building Code, all other applicable state, federal, FAA and Cleveland Department of Port Control requirements.

Minimum Design Criteria

- a. The buildings must cover the designated storage or maintenance area, including parking, aisle ways and any proposed storage or office facilities. The type of building is the choice of the Design-Builder. **The current budget reflects a Pre-Engineered style structure for the SRE Storage Buildings.** The VMB will use the existing vehicle storage area and will be modified with the addition of overhead doors to accommodate as much of the area as possible. The second floor of the existing CMF will also be built out. An Elevator will be needed for ADA accessibility. The Design-Builder must submit the conceptual designs system to the Cleveland Department of Port Control for approval prior to completion of final design and construction.
- b. The minimum design loads for the building shall be dead load, live load, wind load, snow/rain load, seismic load as specified in the local building code (City of Cleveland and Ohio Building Code) and all other related codes.
- c. The design of the buildings must include provisions to accommodate sustainable designs. Some of these options could include reuse of rain water, electric vehicle charging for employees, or green roofs. Any of these concepts must be approved and vetted by the Department of Port Control and the FAA before being implemented.
- d. A minimum clear height of 25 feet under the aisle of the structure is required for access in the building.
- e. Minimize the number of interior building columns to provide the most flexibility in the parking layout and to minimize the number of obstructions to be hit by the heavy equipment.

- f. Protect all interior and exterior building columns from damage by equipment.
- g. All roof water drainage must tie into the onsite underground storm water drainage system or be captured into irrigation system. See Section 3.04.05 Storm Sewer.
- h. Provide required lighting inside the building structure. See Section 03.04.01 Electrical.
- i. The use of skylights in roof system for indirect lighting is acceptable.
- j. Provide means to prevent of problems with birds and other animals under roof system. (e.g. Netting, no horizontal surfaces and/or any horizontal support beams should be flush against the roof, no I-beams or no gaps)
- k. Provide a minimum 20 year life paint finish on all structural steel and miscellaneous steel components exposed to weather.
- l. Submit building design calculations and shop drawings signed and sealed by Registered Professional Engineer licensed in the State of Ohio.
- m. The intent of the building is to require little maintenance. The Design-Builder is to submit the building maintenance requirements to the DPC for approval prior to start of design.

SRE Storage Buildings Description

- a. The building framing systems are to be free standing and self-supporting and must meet minimum design requirements of all state and local building codes while providing access to the existing CMF building.
- b. Primary and Secondary framing, bracing and accessories per manufacturer's standard materials and specifications.
- c. Slope of the roof to provide positive roof water drainage.
- d. Roof Material – insulated per manufacturer's standards and specifications.
- e. Wall Material – insulated per manufacturer's standards and specifications.
- f. Gutters, flashings, downspouts, and roof drains per manufacturer's standards and specifications.
- g. A wash down bay to accommodate 1 equipment items shall be included in both of the structures.

VMB Storage Building Description

- a. The building framing system is part of the existing CMF building storage and is approximately 29,000 SF.
- b. Overhead doors shall be incorporated into the existing structure to allow for drive through access to allow for a minimum of 6 bays.
- c. Overhead or maintenance cranes shall be incorporated into the maintenance area.
- d. Existing HVAC system shall be examined to assure that the building

- systems are properly sized for the new use.
- e. Existing Fire Alarm, fire suppression and other life safety systems shall be upgraded as needed.
 - f. Ventilation system shall be upgraded to allow for exhaust fumes to be removed from the building.

Office and storage in existing CMF Description

- a. The existing CMF building currently has approximately 15,000sf of space on the first and second floor that is not built out and is to be used for offices, break rooms and storage as detailed in the exhibit. The Design builder shall build out this area.
- b. Walls and ceilings to be metal stud-drywall and acoustical drop in. Proper fire rating for the walls shall be determined by the Architect of record.
- c. Existing HVAC and plumbing system shall be examined to assure that the building systems are properly sized for the new use.
- d. Existing Fire Alarm, fire suppression and other life safety systems shall be upgraded as needed.

Building Foundations and Pavement

- a. Design building foundations to support the loads of the building system.
- b. Minimum depth of foundations to be below local frost depth.
- c. Obtain soil boring results to verify and support the foundation design. See Section 3.01.03 Geotechnical Requirements
- d. Submit foundation design and calculations, signed and sealed by Registered Professional Engineer licensed in the State of Ohio.
- e. Provide pavement for equipment circulation around buildings and parking for employees as required complying with required codes. See Section 3.05.07 Pavement Design Criteria. Port Control would prefer concrete pavement for the circulation areas, however asphalt shall be priced as an alternate.
- f. Provide storm water drainage circumventing the new and existing building structures as required to complete and maintain positive flow away from the building. See Section 3.04.05 Storm Sewer and Section 3.05.04 Site Grading Criteria.

3.07 SECURITY

3.07.01 BUILDING

Demolition

Remove all associated equipment to include mounts, housings, power supplies, cabling, and any other equipment associated with the

cameras or other security related items. Remove with care and return to Owner.

Installation

Install new IP security cameras on the four corners of each new structure. A total of eight (8) cameras are to be provided as part of this contract for each building. The cameras shall be mounted at vantage viewing locations to serve the Owner's needs and final location will be determined by the Owner/Engineer. Power will originate from the electrical panel as determined by the Owner and Engineer. The video stream will be sourced back to the location designated by DPC's Office of Airport Security. Provide one eight (8) port network switch installed in the network room. Utilize existing fiber optic cable to transmit the video images from this switch to the central command center in the terminal. Provide all associated licensing, software upgrades, equipment, and electrical connections associated with installing and connecting these cameras to the existing video surveillance system on site.

3.08 SIGNAGE AND MARKING

3.08.01 GENERAL

The minimum requirements for signage and marking shall be governed by the Ohio Department of Transportation's (ODOT) Traffic Engineering Manual, latest edition and the ODOT Ohio Manual of Uniform Traffic Control Devices, latest edition. All signage and marking items shall conform to the above listed references and the ODOT Construction and Material Specifications, latest edition. Signage and markings shall be in accordance with the City of Cleveland (City of Cleveland Codified Ordinances, can be found here: <http://caselaw.lp.findlaw.com/clevelandcodes/>).

All signage and markings are subject to the approval of the Department of Port Control.

Building interior signage shall be per Architectural and IBBC standards for room numbering and designation.

3.09 SUSTAINABLE CONSTRUCTION

3.09.01 GENERAL

Criteria for sustainable construction will be considered, including the potential for sustainable project elements such as storm water management, heat island reduction, landscaping, preferred parking, electric vehicle charging stations, porous asphalt pavement, construction waste management, and recycled content of demolition debris.

Storm Water Management

Consider all components of the hydrologic cycle (evapotranspiration, runoff, and infiltration) in design. Minimize impervious cover, and maximize cover of pervious or semi-pervious surfaces that allow water to infiltrate into soil. Use soil- and vegetation-based methods, such as compost-amended soil, multilayered plantings, green roofs, or bioretention facilities to capture, slow, and treat runoff.

Where infiltration is not desirable because of pollutant loadings, use other techniques (e.g., rainwater harvesting, green roofs, or bioretention) to reduce runoff from the site. Attempt to replicate frequency, timing, and locations of runoff patterns and discharge points into receiving waters.

Appropriate Best Management Practices are described in Chapter 2 of the Rainwater and Land Development: Ohio's Standards for Stormwater Management, Land Development and Urban Stream Protection (Third Edition), published by the Ohio Department of Natural Resources, Division of Soil and Water Conservation.

Reduce Heat Island Effects

The following strategies for reducing urban heat island effects should be considered:

Provide shading for paved areas within 10 years of landscape installation (using new and/or existing vegetation).

Allow for the provision to cover canopy structures with solar photovoltaic panels, vegetated roofs, and/or surfaces with a solar reflectance index (SRI) of at least 29, and incorporate into the site maintenance plan.

Use paving materials with an SRI of at least 29, and incorporate into the site maintenance plan activities to ensure these surfaces are cleaned at least every two years to maintain good reflectance.

Use an open-grid pavement system (e.g., concrete-grass lattice).

Landscaping

Use only appropriate plant species adapted to site conditions, climate, and design intent. The following attributes should be considered in determining whether plants are appropriate for the site: cold hardiness, heat tolerance,

salt tolerance, soil moisture range, plant water use requirements, soil volume requirements, soil pH requirements, sun/shade requirements, pest susceptibility, and maintenance requirements. Native and non-native plants are appropriate if they meet the above criteria.

Use only non-invasive plant species that are not currently listed on any of the following lists as invasive at the site location: regional lists (when listing occurs through a vetted, transparent process and has been accepted by regional stakeholders), State Noxious Weeds laws, or Federal Noxious Weeds laws.

Use only plants that are nursery grown, legally harvested, or salvaged for reuse from on or off site. All nursery grown plants must use an applicable regional standard, or must use the ANSI Z60.1-2004 American Standard for Nursery Stock.

Use non-potable water, or other natural surface or subsurface water resources, for landscape irrigation beyond the establishment phase. During the plant establishment phase, temporary irrigation systems that use potable water may be used only if they are removed or disconnected within three years of installation for trees, two years for shrubs, and one year for herbaceous cover. If temporary irrigation systems are used, describe the process and timeline for removing/disconnecting the temporary irrigation system in the site maintenance plan.

After the establishment phase, use only captured rainwater, recycled wastewater, recycled graywater, air-conditioner condensate, blowdown water from boilers and cooling towers, or water treated and conveyed by a public agency specifically for non-potable uses

The landscape architect shall select plant species that conform to USDA guidelines. The plants and design must be reviewed by the Airport Wildlife Management Program Coordinator (AWMPC). The AWMPC will provide written final approval. This protocol will help ensure that the appropriate plant species are selected and help to avoid landscape designs that conflict with habitat management goals at the airport.

Vehicle Charging Stations

Preferred parking areas with specific spaces that contain vehicle charging stations may be included.

Construction Waste Management

A construction waste management plan can be implemented from design through construction. All materials that are removed from the site can

either be separated on site or at offsite facilities so the materials can be separated. These separated piles can then be reused or recycled and only the true “trash” will be brought to the landfills. Manifest, shipping papers, disposal receipts, and recycling certifications shall be submitted to DPC.

SECTION 4 – GENERAL REQUIREMENTS

4.01 SUBMITTALS

4.01.1 RELATED DOCUMENTS

Drawings and general conditions of the Contract, including General and Special Provisions and other Specification Sections, apply to this clause.

4.01.2 SUMMARY

1. This section specifies requirements for submittals required for performance of Work, including:
 - a. Design-Builder’s Construction Schedule;
 - b. Submittal Schedule;
 - c. Shop Drawings;
 - d. Product Data;
 - e. Samples.

2. Definitions:
 - a. Samples: Physical samples, which illustrate materials, equipment or workmanship and establish standards by which final work will be judged.
 - b. Shop Drawings: Drawings, diagrams, schedules, Storm Water Pollution Prevention Plans (SWP3), related submittals and other data specifically prepared for the Work by the Design-Builder or a subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
 - c. Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Design-Builder to illustrate materials or equipment for some portion of the Work.
 - d. Submittals: General term including samples, shop drawings and product data, as applicable.
 - e. Prototypes: Actual full-scale models as specified in the Design Documents. Prototypes shall be fabricated of the actual materials to be used in the final unit, and shall represent the quality of workmanship and fidelity of execution for all units to be supplied and installed by the Design-Builder.

3. The Specifications of this Section are minimum requirements. Where more stringent requirements are specified elsewhere in these documents, the more stringent requirement shall prevail.
4. Provide a complete list of required submittals to the DPC.
5. Submit to DPC for formal review, all items listed herein by the time indicated as received, checked, and approved as required, accompanied with a transmittal letter.
6. Keep an accurate record of the date of each submittal and the date received on the Project.
7. Submit the following items prior to Contract signing:
 - a. Performance Bonds;
 - b. Subcontractor and Material Supplier List;
 - c. Installer Certification;
 - d. Certificate(s) of Insurance; and
 - e. Equal employment opportunity requirements.
 - f. Site Specific Health and Safety. In addition to the Project Site Specific Health and Safety each sub-contractor shall be required to provide a Site Specific Health and Safety Plan for its part of the work or must comply with the Design-Builder Project Site Specific Health and Safety Plan.
 - g. At least two (2) references of past design-build projects of similar scope, timeliness, and constructability.
8. The following is a general list of required submittals and the time frame for delivery to DPC.
 - a. Prior to first progress payment:
 - i. Progress schedule;
 - ii. Submittal schedule;
 - iii. Testing and Inspection schedule; and
 - iv. Schedule of values.
 - b. As Work progresses:
 - i. Wage Rate and Payroll Certificates;
 - ii. Certified Payroll (4 copies from Design-Builder and all Design- Builder's subcontractors)
 - iii. Materials Certifications;
 - iv. Test Reports;
 - v. Shop Drawings;
 - vi. Product Data;

- vii. Samples;
 - viii. Reference Submittals;
 - ix. Affidavits and Waivers of Lien;
 - x. Hardware Schedule;
 - xi. Progress Photographs;
 - xii. A.A.B.C. Guarantee Certificates; and
 - xiii. Operating and Maintenance Instructions.
 - xiv. SWP3 Inspection Reports (Weekly and Storm)
9. With Final Application for Payment
- a. Special Guarantees and Warranties;
 - b. UL Certificates;
 - c. Final affidavits and Waivers of Lien;
 - d. Complete package of Shop drawings and Product Data;
 - e. Record drawings;
 - f. Extra stock;
 - g. Final photographs and negatives;
 - h. Keys and key schedule;
 - i. Certificate of Inspection;
 - j. Certificate of Occupancy;
 - k. Bound set of all Testing and Inspection Reports; and
 - j. Bound set of Operating Maintenance manuals.
- 10 General Requirements
- a. There shall be NO SUBSTITUTIONS for specified products or systems other than those approved prior to signing of the Contract, unless the substitution can be shown to be of significant benefit to The City, no progress payments will be approved until such unauthorized substitutions have been removed and replaced with the specified material or system.
 - b. Shop Drawings and Product Data are the sole responsibility of the Design-Builder and shall be checked by Design-Builder. The DPC takes no responsibility whatsoever for such documents submitted for review.
 - c. Shop drawings and Product Data shall be submitted in sufficient detail to permit the reviewer to:
 - i. Review that the product or system is as specified or shown.
 - ii. Review details of fabrication, installation or attachment.
 - iii. Review for complete conformance to each requirement of performance specifications, line item by line item.
 - d. Shop Drawings show the following:
 - i. General arrangement of each product or assembly by necessary plans, elevations and sections.
 - ii. Dimensions, finishes, part numbers, location in the building and

- details of fabrication and installation.
- iii. Any equipment with electric motors or wiring must show wiring diagram and schematics. Lack of either of the above will be cause for automatic rejection.
- e. Product Data include:
 - i. Specifications and details
 - ii. Performance characteristics
 - iii. Wiring diagrams
 - iv. Test data
 - v. Installation instructions
- f. Samples: Submit three identical sets for each material, finish and color required.
 - i. For unit materials, such as brick, floor or ceiling tile, etc.
 - ii. For finishes applied over large areas, such as wall covering, carpet, ceramic tile, plywood, etc., provide 12" x 12" minimum size samples or larger, as required to show full range of repeat pattern.
 - iii. For linear products, such as door and window frames or trim pieces, submit 12" minimum lengths off the actual product.
- g. Full-Size samples: Where required, submit a full-size unit of a specified product as a sample. Such sample may be used in the finished work if:
 - i. It is approved for such use by the DPC.
 - ii. It is protected and in first-class condition.
 - iii. It matches the balance of the product used on the project.

4.01.3 SUBMITTAL PROCEDURES

1. Coordination: Coordinate preparation and processing of submittals with performance of activities. Transmit each submittal sufficiently in advance of performance of related fabrication and installation activities to avoid delay.
 - a. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
 - b. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - c. The DPC reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
 - d. Job delays occasioned by requirement of resubmission of samples, shop drawings and product data not in accordance with Contract Documents are Design-Builder's responsibility and will not be considered valid justification for extension of contract time.

- e. As soon as practical after executing the Contract, or as required by other Contract Documents, request from each Subcontractor and submit properly processed and identified items as required in the Specifications.
 - f. The Design-Builder shall be solely responsible for scheduling and coordinating of submittals among Subcontractors.
2. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
- a. Allow 2 weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The DPC will promptly advise the Design-Builder when a submittal being processed must be delayed for coordination.
 - b. If an intermediate submittal is necessary, process the same as the initial submittal.
 - c. Allow 2 weeks for reprocessing each submittal.
 - d. No extension of Contract Time will be authorized because of failure to transmit submittals to the DPC sufficiently in advance of the Work to permit processing.
 - e. Commence no portion of work requiring submittals until submittal has been reviewed by the DPC and stamped by DPC's engineer.
3. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
- a. Provide a minimum blank space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Design-Builder's review and approval markings and the action taken.
 - b. Include the following information on the label for processing and recording action taken.
 - i. Project name and Number
 - ii. Date of Submittal
 - iii. Name, address and phone # of DPC's engineer
 - iv. Name, address and phone # of Design-Builder
 - v. Name, address and phone # of Subcontractor
 - vi. Name, address and phone # of Supplier
 - vii. Name of Manufacturer
 - viii. Number and title of appropriate Specification Section
 - ix. Drawing number and detail references, as appropriate
4. Submittal Transmittal:
- a. Package each submittal appropriately for transmittal and handling. Transmit each submittal from Design-Builder to DPC using a transmittal form. Submittals received from sources other than the Design-Builder will be returned without action.

- b On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Design-Builder's certification that information complies with Contract Document requirements.

4.01.4 SUBMITTAL SCHEDULE

1. Maximum of ten (10) days after the Notice to Proceed for construction has been granted, Design-Builder shall prepare and submit a complete schedule of submittals. Indicate timing for submission of required submittals and relation to construction sequence.
2. During course of the Work, maintain an updated submittal schedule showing status of all submittals. Provide copies for DPC and their Engineer at project meetings and at other times when requested.
 - a. Coordinate submittal schedule with the list of subcontracts and the list of products as well as the Design-Builder's fabrication and installation schedule.
 - b. Prepare the schedule in chronological order; include submittals required during the first 60 days of work. Provide the following information:
 - i. Scheduled date for the first submittal.
 - ii. Related Section Number
 - iii. Submittal category.
 - iv. Name of subcontractor.
 - v. Description of the part of the Work covered.
 - vi. Scheduled date for re-submittal.
 - vii. Scheduled date for the DPC's final release and the DPC's engineer approval.
3. Distribution: Following response to initial submittal, print and distribute copies to the DPC, DPC's engineer, subcontractors and other parties required to comply with submittal dates indicated.

4.01.5 SHOP DRAWINGS

1. Submit newly prepared information, drawn to accurate scale. Highlight, encircle or otherwise indicate deviations from the Construction Documents. Do not reproduce Construction Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
2. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. These drawings are to show all materials, mechanical fasteners, electrical apparatuses, construction details, and installation detailing of typography and sign structure. Include the following information:

- a. Dimensions;
 - b. Identification of products and materials included;
 - c. Identification of Finishes;
 - d. Compliance with specified standards;
 - e. Notation of coordination requirements; and
 - f. Notation of dimensions established by field measurement.
3. Submittal Format:
Submittal format shall be determined by Design-Builder using Standard Industry Practices. DPC reserves the right to request resubmittals in a different size configuration because of program requirements.
- a. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8 1/2 by 11" but no larger than 30" by 42".
 - b. Initial Submittals:
Submit shop drawings and product data in reproducible form as noted below. Provide samples as requested. Submit six (6) complete sets of the sizes indicated. The following represents typical distribution of said submittal sets:

DPC Two (2) copies
1-DPC
1-Document Control

DPC's Engineer two (2) copies
2-DPC's engineer
 - c. Final Submittals of re-submittals: For larger than 11" x 17" Shop Drawings, submit-three reproducible copies. Two copies will be retained: 1 for DPC's engineer and 2 for DPC and Document Control. The third copy will be returned which shall be used for distribution by Design-Builder and marked up and maintained as a "Record Document."
4. Coordination Drawings are a special type of Shop Drawing that show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or function as intended. Submit Coordination Drawings for integration of different construction elements. Show sequences and relationships of separate components to avoid conflicts in use of space.

4.01.6 PRODUCT DATA

1. Collect Product Data into a single submittal for each element of fabrication or system. Product Data includes printed information

such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."

2. Mark each copy to show applicable choices and options. Where Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
 - a. Manufacturer's printed recommendations
 - b. Compliance with recognized trade association standards
 - c. Compliance with recognized testing agency standards
 - d. Application of Testing Firm labels and seals
 - e. Notation of dimensions verified by field measurement
 - f. Notation of coordination requirements
- 3.. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
4. Submittals: Submit six (6) copies of each required submittal. Distribution will be as identified in 1.05 Shop Drawings. The returned copy will be marked with action taken and corrections or modifications required. Unless noncompliance with Contact Document provisions is observed, the submittal may serve as the final submittal.
5. Distribution: Furnish copies of final submittal to DPC, installers, subcontractors, suppliers, manufacturers, fabricators and others required for performance of construction activities. Show distribution on transmittal forms.
 - a. Do not proceed with installation until an applicable copy of Product Data is in the installer's possession.
 - b. Do not permit use of unmarked copies of Product Data in connection with fabrication.
 - c. The Design-Builder shall provide, in writing, maintenance specifications, upkeep instructions to the DPC. These specifications shall speak to the upkeep needs of all elements contained in this project. They shall identify in a concise, easily understandable form the materials/product specifications for often required changes or maintenance (e.g. bulb specification for lighting units.)

4.01.7 SAMPLES

1. Where applicable, three (3) 8 1/2" x 11 " samples (three-hole punched to fit 3-ring binders) of the actual materials to be used must be submitted to the DPC or review and approval prior to production.

2. Three (3) sets of samples of all other materials shall be submitted to the DPC for review and approval prior to production.
3. Submit Samples for review of kind, color, pattern and texture for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
 - a. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3) that show limits of the variations.
 - b. Refer to other Specifications Sections for requirements for Samples that Illustrate workmanship, fabrication techniques, details of assembly, connections, operations and similar fabrication characteristics.
4. Preliminary submittals: Where Samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.
 - a. Preliminary submittals will be reviewed and returned with the DPC's and Airport Engineer's selection and other action to take.
5. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, submit three sets, one will be returned marked with the action taken.
 - a. Maintain sets of Samples, and distribute sets of samples to DPC or quality comparisons throughout the course of construction.
 - b. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
 - c. Sample sets may be used to obtain final acceptance of the construction associated with each set.
6. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers and others as required for performance of the Work. Show distribution on transmittal forms.

4.01.8 PROTOTYPES

1. Full size prototypes may be required pending approval for final production. Requirements of Prototypes is noted in the Construction Documents.
2. Maximum of ten (10) days after the Notice to Proceed has been granted, Design-Builder shall prepare and submit a complete schedule of all Prototypes required by these documents. Indicate timing for

submission of required submittals and relation to construction sequence.

3. Any Prototypes that are required to be submitted will become the property of and retained by the City. Such prototypes must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of prototypes submittals. Approved Prototypes may be utilized as part of the final installation, except for those indicated to be retained by DPC and/Airport Engineering Manager for the purpose of quality testing.
4. Cost of initial Prototype manufacture, shipment and installation, and any subsequent costs due to review and/or design changes is the responsibility of the Design-Builder.

4.01.9 DESIGN-BUILDER'S REVIEW

1. Review, stamp with approval and submit to DPC submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the DPC and Airport Engineering Manager or of separate Design-Builders. Submittals made by the Design-Builder which are not required by the Contract Documents may be returned without action.
2. By approving and submitting submittals, Design-Builder represents that he has determined and verified materials, quantities, fabrication requirements, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
3. The Design-Builder shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the DPC's review of shop drawings, product data, samples or similar submittals unless the Design-Builder has specifically informed the DPC in writing of such deviation at the time of submittal and the DPC has given written acceptance to the specific deviation. The Design-Builder shall not be relieved of responsibility for errors or omissions in shop drawings, product data, samples or similar submittals by the DPC's review thereof.
4. The Design-Builder shall direct specific attention, in writing or on resubmitted shop drawings, product data, samples or similar submittals, to revisions other than those requested by the DPC on previous submittals.
5. When professional certification of performance criteria of materials,

- systems or equipment is required by the Contract Documents, the DPC shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.
6. Design-Builder shall be responsible for coordinating all work, whether by subcontractors or under separate contracts.
 7. Design-Builder agrees that submittals processed by DPC are not construction change directives or change orders. The purpose of submittals is to demonstrate to the DPC that the Design-Builder understands the design concept and demonstrates an understanding by indicating which equipment and material he intends to furnish and install and by detailing fabrication and installation methods intended to use.
 8. Design-Builder represents by submitting samples, shop drawings and product data that he has complied with provisions specified herein. Submissions made without Design-Builder's approval indicated thereon will be returned without being reviewed for compliance with this requirement.
 9. Date each submittal and indicate name of Project, DPC, Design-Builder, subcontractor, as applicable, description or name of equipment, material or product, and identify location at which it is to be used in the Work.
 10. Accompany submittal with transmittal letter containing project name, Design-Builder's name, number of samples or drawings, titles and other pertinent data. Transmittal shall outline deviations, if any, in submittals from requirements of Contract Documents.
 11. Perform no portion of the Work requiring submittal and review of submittals until the respective submittal has been reviewed by the DPC and stamped by the DPC's engineer. Such work shall be in accord with submittals bearing the DPC's engineer's stamp.
 12. Upon receipt of submittals, check each item for:
 - a. Conformance to submittal requirements;
 - b. Conformance of materials and details to the Contract Documents;
 - c. Accuracy of all measurements; and
 - d. Field construction criteria related thereto.
 13. Reject items which do not conform to these requirements and return them to the originator with an explanation for rejection. Do not submit rejected items to the DPC for DPC's engineer.

14. For items approved by the Design-Builder, stamp each item with a review stamp to warrant and represent approval.
15. The Design-Builder is totally responsible for the following items that will not be reviewed by the DPC and DPC's engineer:
 - a. Dimensions to be confirmed and correlated at the Site.
 - b. Fabrication process information.
 - c. Means, methods, techniques, sequences, procedures of construction and construction safety.

4.01.10 DPC REVIEW

1. All submittals will be processed by the DPC. Deliver or send each item shipping charges prepaid to DPC.
2. DPC will distribute submittals to all reviewers noted in 4.01.05.3.b of this Section.
3. All DPC review comments will be forwarded to the DPC's engineer for incorporation on the master set of the submittal. The DPC's engineer will make a copy of the master set with final disposition for their files and return the master set to DPC.
4. DPC will make two (2) copies, one for the DPC's office and one for Document Control. DPC will return the original master set to Design-Builder for Design-Builder's copying and distribution.

4.01.11 DPC's ENGINEER REVIEW

1. Design-Builder will deliver or send each item, shipping charges prepaid, to DPC.
2. DPC and DPC's engineer will immediately reject any item without further review if it is not:
 - a. Accompanied by a transmittal letter containing the required information;
 - b. Submitted with 6 sets of reproducibles; and
 - c. Stamped "Approved" by the Design-Builder.
3. The review will be for conformance to the design concept and compliance with information given in the Contract Documents. The DPC's engineer will make notations directly on the reproducible.
4. DPC's engineer's review or other appropriate action is only for checking for conformance with information given and the design concept expressed in the Contract Documents. DPC's engineer's acceptance of a specific item shall not indicate acceptance of an

assembly in which item is a component.

5. DPC engineer's review of submittals shall not relieve Design-Builder of responsibility for deviation from requirements of Contract Documents unless Design-Builder has informed the DPC's engineer through the DPC in writing of such deviation at time of submission and DPC and DPC's engineer have given written acceptance to the specific deviation. DPC's engineer's review shall not relieve Design-Builder from responsibility for errors or omissions in submittals.
6. The DPC will review all samples. Such review will be for appearance only. Compliance with all other requirements of the Contract Documents is the responsibility of the Design-Builder.
7. Submittals required to be submitted "For Designer's Information Only" are required to demonstrate that the Work complies with performance requirements of the Contract Documents. Such submittals, if acceptable to DPC's engineer, will not be returned to Design-Builder.
8. Reference submittals shall be reviewed by the DPC and the DPC's engineer for informational purposes only. The contents of such submittals and compliance with all other requirements of the Contract Documents shall be the responsibility of the Design-Builder.
9. Where the Contract Documents require the design of electrical systems or components of systems by a supplier, or where a Design-Builder initiates a change in the design of a system or component thereof, such systems or components shall be designed by a registered Professional Engineer in the State of Ohio and all calculations submitted to the DPC's engineer of record, prior to starting fabrication or installation of the Work. The DPC, Airport Engineer and the DPC's engineer/Project Manager will not be responsible for the designs of such other Professional Engineers
10. DPC's engineer will return one reproducible copy of reviewed shop drawings to DPC for distribution by Design-Builder.

4.01.12 VARIATIONS FROM CONTRACT DOCUMENTS

1. If the DPC determines a variation from the Contract Documents is in the best interest of DPC, and it does not involve a change in the Contract price or time, the DPC's engineer shall permit such variation and stamp the item "CONFORMS AS IS".
2. DPC will assume the Design-Builder approves the variation shown if not in receipt of immediate written notification stating otherwise.

3. If the Design-Builder fails to mention variations from the Contract Documents, Design-Builder will not be relieved of the responsibility for executing the Work in accordance with the Contract Documents.
4. When a variation from the Contract Documents is permitted and such variation involves corresponding adjustment in an adjacent or related item, the responsibility for making and paying all costs for such adjustments rest with the Design-Builder requesting the original variation.

4.01.13 DPC'S ENGINEER'S STAMP AND LETTER OF ACKNOWLEDGEMENT

Each Shop Drawing, Product Data or sample processed by the DPC's engineer will be stamped with following notation:

1. If the item conforms to all requirements of the Contract Documents or if the item contains permitted variations as determined by the DPC's engineer in concurrence with the DPC, it will be stamped, "APPROVED" which means that fabrication, manufacture or construction may proceed. Proceed immediately, no other action required.
2. If the item is marked-up by the Design-Builder or the DPC's engineer to make it conform and such mark-ups are not extensive, it will be stamped "APPROVED AS NOTED."
3. If the item is marked-up by the Design-Builder or the DPC's engineer to make it conform and such mark-ups are not extensive, it will be stamped "APPROVED AS NOTED." Process immediately and make corrections for final Record Documents.
4. If the item does not conform to the Contract Documents and/or if the item is extensively marked-up, it will be stamped "REVISE AND RESUBMIT." Make corrections and resubmit for review, however proceeding without either box B or C checked, is prohibited.
5. If the item does not conform to the Contract Documents and the variation is not permitted, it will be stamped "REJECTED." Proceeding without either box B or C checked is prohibited. Review, follow remarks and resubmit for review.

4.01.14 REJECTION AND RESUBMITTAL

1. Items not meeting the requirements of this Section, or stamped "REVISE AND RESUBMIT OR REJECTED," will be returned for correction and resubmittal by the same process. The DPC's engineer will indicate reasons for the rejection and will retain one copy or sample to check against resubmittal.

2. Make indicated changes only, unless further change is required for conformance to the Contract Documents.
3. Direct attention on the item to all revisions, other than those requested, and explain such in detail on the transmittal form.
4. The Design-Builder shall be completely responsible for changes not indicated or specifically noted as revised.

4.01.15. ACCEPTANCE AND USE

1. Items stamped "APPROVED" or "APPROVED AS NOTED" will be returned to the Design-Builder who shall reproduce copies from the original stamped reproducible.
2. Distribute copies as required to transmit the information to all parties involved.
3. The DPC's engineer will retain copies of conforming Shop Drawings and Product Data as well as one sample, for comparison with work installed.
4. Keep copies of each approved item on the job site at all times for reference.
5. Retain the original reproducible of each item until final completion of the Work and turn them over to the DPC.
6. Do not commence Work requiring Shop Drawings, Product Data and samples until the DPC has approved submittal. Perform all work in accordance with said submittal.

4.02 SCHEDULES

4.02.01 RELATED DOCUMENTS

Drawings and general conditions of the Contract, including General and Special Provisions and Specification Sections, apply to this section.

4.02.02 SUMMARY

1. General Requirements:
 - a. Within seven (7) days after award of Contract, prepare and submit to DPC estimated construction progress for construction activities. Include sub-schedules of related activities essential to its progress.
 - b. Submit revised progress schedule with each Application for Payment.

2. Other Requirements: Additional sections may contain additional scheduling requirements.

4.02.03 SUBMITTALS

1. Schedules:
 - a. Schedule construction work, including that of Subcontractors, in Critical Path Method (CPM).
 - b. Prepare CPM diagrams and reports utilizing *Primavera Project Planner*, Microsoft Projects, or other DPC approved scheduling software. Make compact discs of Project Schedule using "backup" feature of computer analysis program; include with each submittal.
 - c. Procedures, technical details and Design-Builder's participation and responsibilities shall be as hereinafter described.
2. Within ten (10) days from receipt of Notice to Proceed, submit complete Project Network Schedule to DPC for approval. The schedule shall consist of a detailed network diagram, mathematical analysis and a written narrative.
 - a. Network Diagram:
 - i. Time scaled precedence diagram, computerized and drawn by a plotter or printer showing order and interdependence of activities and sequence in which Contract work is planned to be accomplished.
 - ii. Finish-to-start restraints without lags are the only type of restraint permitted.
 - iii. Use only the start and completion date milestones required by Contract.
 - iv. Network diagram shall include the following information:
 1. Activity identification number.
 2. Activity description.
 3. Estimated activity duration's in working days. (Not to exceed 15 working days for construction activities.)
 4. Finish-to-start restraints.
 5. The critical path activities differentiated from other activities.
 6. All activities for submittal of shop drawings and working drawings, approval of shop and working drawings, procurement, fabrication, delivery, installation and testing of critical materials and equipment. (These activities may be submitted on a separate sheet indicating activities on construction schedule that they restrain.)
 7. Group related activities on network diagram.
 8. Locate time scale at top of network diagram showing calendar days and months.
 9. Identify scheduled tasks with high potential/risk operations or "critical tasks". This will be used as a tool for site specific safety planning. This analysis includes job safety hazards

and safety controls needed for a given time period in a construction project, then using this information to plan, train, and develop a specific Job Task Analysis and direct the work force to minimize the potential for loss.

- b. Mathematical analysis of network diagram shall include a tabulation of each activity shown on detailed network diagram. The following information, as a minimum, shall be furnished for each activity.
 - i. Activity identification number.
 - ii. Activity description.
 - iii. Estimated duration in working days.
 - iv. Earliest start date.
 - v. Earliest finish date.
 - vi. Actual start date.
 - vii. Actual finish date.
 - viii. Latest start date.
 - ix. Latest finish date.
 - x. Total float.
 - xi. Responsibility for activity. (Design-Builder, subcontractors, suppliers, etc.)
 - xii. Project for activity. (By location, specification section, etc.)
- c. The mathematical analysis shall list all activities in separate sorts as follows:
 - i. By activity number from lowest to highest with all predecessor and successor restraints.
 - ii. By total float, then in order of earliest finish date.
 - iii. By responsibility, then in order of early start date.
 - iv. By project, then in order of early start date.
- d. The written narrative shall include Design-Builder's calculation of duration's of all critical path activities. The calculations shall indicate hours per shift and number of shifts with a listing of major items of construction equipment planned to be used for each critical path activity. Should DPC require similar information on any noncritical activity, this information shall be supplied by Design-Builder in writing.
- e. Initial submittal, revisions and monthly updates of network diagram, mathematical analysis, and written narrative shall be submitted in six copies. Submittals will not be approved unless they are complete as described herein.

- f. Participates in a review and evaluation of proposed network diagram and mathematical analysis by DPC.
 - g. Resubmit revisions necessary as a result of this review to DPC within five calendar days after this review. The mutually acceptable schedule shall then be used by Design-Builder for planning, organizing and directing work for reporting progress.
 - h. If Design-Builder desires to make changes in the method of performing Work, he shall notify DPC in writing, stating reason for changes.
3. Contractor is to submit at weekly progress meetings a look-ahead schedule for work that is proposed to be complete in that time frame. At a minimum the schedule should show major construction activities and the proposed progress. The schedule should also show any utility impacts or shutdowns needed for coordination with DPC Maintenance Groups.

4.02.04 REPORTS

1. Monthly progress reports:
 - a. At intervals of 30 calendar days, submit a progress report of all activities by updating mathematical analysis, and corresponding computerized network diagram of the as-planned CPM schedule.
 - b. Update schedule by entering the following: Actual start and completion dates of complete activities and the actual start date and remaining duration of activities in progress.
 - c. Submit updated network diagram in the same format as specified for Construction Schedule, with the calendar starting from the date of the update.
 - d. The updated mathematical analysis shall be submitted in same format as specified for Construction Schedule.
2. Submit monthly narrative report including, but not limited to, the following:
 - a. Progress of project milestones, including earliest finish date, latest finish date and total float.
 - b. Progress along critical path.
 - c. If project is behind schedule, report progress along paths with negative float.
 - d. Description of all revisions made to the schedule including all added, deleted and revised activities; all logical revisions and all duration revisions.
 - e. Description of the problem areas, current and anticipated delaying factors and their impact, and an explanation of corrective actions taken or proposed.

3. If Design-Builder fails to submit the required progress and narrative reports, DPC will withhold approval of progress payment until such time as Design- Builder submits required reports.

4.02.05 DESIGN-BUILDER COVENANTS AND GUARANTEES

1. Design-Builder covenants and guarantees that Design-Builder will not:

- a. Misrepresent to City or the DPC it's planning, scheduling or execution of the Work.
- b. Utilize schedules materially different from those made available by Design-Builder to the City or the DPC or to any Subcontractor or separate Design-Builders for the direction, execution and coordination or (*sic*) the Work, or which are not feasible or realistic.
- c. Prepare schedules, updates, revisions, or reports for the Work which do not accurately reflect the actual intent or reflect the reasonable and actual expectations of the Design-Builder and its Subcontractors pertaining to:
 - i. The sequences of activities.
 - ii. The duration of activities.
 - iii. The responsibility for performing activities.
 - iv. Resource availability.
 - v. Labor availability or efficiency.
 - vi. Foreseeable weather conditions.
 - vii. The cost associated with the activity.
 - viii. The percentage complete of any activity.
 - ix. Completion of any item of work or activity.
 - x. Project milestone completion.
 - xi. Delays, slippages or problems encountered or expected.
 - xii. Subcontractor requests for time extensions or delay claims of subcontractors.
 - xiii. Float available.

If the Design-Builder should desire or intend to complete the Work earlier than any required milestone or completion date, the City or the DPC shall not be liable to the Design-Builder for any costs or other damages should the Design- Builder be unable to complete the Work before such milestone completion date.

4.02.06 FLOAT TIME

1. Float or slack time is defined as the amount of time the start or finish of an activity can be delayed without affecting the project finish date. Float or slack time is for the exclusive use and benefit of the City. Design-Builder's work shall proceed according to early start dates, and the DPC shall have the right to reserve and apportion float time according to the needs of the project. The Design-Builder acknowledges and

agrees that actual delays, affecting paths of activities containing float time, will not have any effect upon contract completion times, providing that the actual delay does not exceed the float time associated with those activities.

4.03 TEMPORARY FACILITIES AND CONSTRUCTION CONTROLS

4.03.01 REFERENCE

1. The requirements of this section apply to the Work of all other Sections.

4.03.02 DESCRIPTION

1. The following temporary facilities and utilities shall be at the Site as herein specified and shall be maintained in good order and condition for the duration of the Project. Pay all costs unless specifically stated otherwise.
2. Upon completion of the Project, the Design-Builder is responsible for the removal of the temporary facilities or utilities and leave the premises in good condition for occupancy.
3. Any contractor or subcontractor requiring temporary service before it can be provide as specified, or whose requirements with respect to a particular service differ from the service specified, shall provide such service as satisfactory to DPC.
7. There will be parking for construction personnel provided at the site.
8. An area off site for the temporary stockpile of excavated materials will be provided. The Design-Builder may re-use the excavated materials as fill if the material meets the project requirements.
9. Provide and maintain temporary roadways as indicated on the drawings. Obtain permission from DPC prior to closing any roads.
10. Design-Builder shall provide grass sod, and peg into place to prevent sliding, on slopes of temporary ramps used by the public, both pedestrian and vehicular.

4.03.03 USE OF SITE

1. All damage to haul routes, drives, sidewalks, or other features of the grounds designated to remain or adjacent property resulting from any operations connected with the Work shall be repaired by utilizing the unit prices in the contract and to the satisfaction of DPC. Repairs to city streets or state roads are the responsibility of the Design-Builder and will not be paid for utilizing the unit prices in the contract. Photographs shall be taken of haul routes before work begins and

compared to conditions at the end of the Project.

2. Each contractor or subcontractor must keep all streets, drives, parking lots, and sidewalks free from mud and debris at all times which results from his work.
3. At the completion of the Project, remove all construction debris, equipment, and temporary items.

4.03.04 OFFICES AND SHEDS

1. Design-Builder's office:
 - a. Unless otherwise provided herein, the Design-Builder shall provide and maintain clean, weather tight offices at the site of the Work during the period of construction, where Design-Builder or Design-Builder's designate shall be present or to which either may be readily called at all times while the Work is in progress. The offices shall be located on the site as directed by DPC. The office shall include desks, chairs, tables, facsimile, photocopy machine, HVAC, and telephone line separate from fax line.
 - b. Field offices shall be painted, heated, air conditioned in warm weather, lighted and provided with ventilating windows which operate door with locks, plan tables, metal file drawers, benches and racks for drawings. The Design-Builder's office shall be of sufficient size for use.
 - c. The Design-Builder shall provide and have a telephone installed in the field office as soon as possible.
 - d. All expenses in connection with the field office, including the installation and use of telephone, heat, air conditioning, light, water and janitorial service shall be borne by the Design-Builder. Said office shall be maintained by the Design-Builder until full acceptance of the Work, and then removed, unless DPC orders its earlier removal.
 - e. Copies of permits, the bound form of contract, including contract drawings and detail specifications and the approved shop drawings for the Work shall be kept at said Design-Builder's office, ready for use at any time.
 - f. The Design-Builder may construct temporary buildings for his respective trades, to house personnel and store material. All such temporary buildings shall be removed as soon as they are no longer required. Additional stored needed must be provided off the site at the Design-Builder's expense, if so required. Provide and maintain on the premises suitable platforms and watertight covers for materials subject to soiling, defacement or damage by the weather. The location of all such temporary buildings, platforms, etc., shall be as directed by DPC.
 - g. Relocate temporary construction area office as conditions and constraints of construction require.

2. Temporary Storage Facilities: When required, provide weather-tight storage sheds with raised floors. Sheds shall be of type and size required by storage conditions.
 - a. Locations and adequacy of storage facilities shall be subject to acceptance by DPC.
 - b. Storage at the actual construction site shall be limited to materials being currently installed, only, and shall be confined within the limits of the Work area and as specified below.
 - c. The Design-Builder is responsible for providing off-site storage of materials.
 - d. The temporary storage of materials, in the area designated by DPC, may be done at the Design-Builder's own risk

4.03.05 CONSTRUCTION PLANT

1. Provide all items, such as cranes, hoists, temporary elevators, and other lifting devices; all scaffolding, staging, platforms, runways, and ladders; and all temporary flooring, partitioning and stairs as required by the various trades for the proper execution of all work. Comply with FAA requirements for height restrictions near or at airports, including submittal of FAA Form 7460-1 for pertinent airspace determinations. Such determinations can take between 45- to 60-days.
2. Excavate, level, or otherwise treat existing grade as required for placement of construction plant items.
3. Provide such equipment with proper guys, bracing, guards, railings, and other safety devices as required by governing authority and safety standards.

4.03.06 MECHANICAL AND ELECTRICAL SERVICES

1. General
 - a. Make arrangements with DPC for connections, interruptions of service and coordination of layout. Installations are subject to the approval of DPC.
 - b. Make arrangements with utility companies for temporary metered connections and obtain permits.
 - c. Pay all costs of installation.
2. Power and Light
 - a. Electrical Service: Electrical power service of existing voltage and amperage may be obtained from DPC's present facility at no cost to Design-Builder. Design-Builder shall be responsible for making connection to DPC's service and for extensions of service. Design-Builder shall provide additional higher voltage or amperage power service and pay all costs for such power, including connections and extensions, if required by him for construction purposes.

- b. Temporary Lighting: Provide the following minimum light levels for construction purposes:
 - i. General construction and safety lighting, including area lighting of all enclosed areas accessible to airport operations during non- construction hours: Five foot-candles.
 - ii. Finishing Work and Testing: 25 foot-candles.
 - c. Provide a temporary distribution system for electric service, of sufficient capacity and characteristics to supply the proper current for the various types of construction, tools, motors, welding machines, lights, heating plant, air-conditioning systems, pumps, and other work required.
 - d. Provide all necessary temporary wiring, transformers, panel boards, outlets, switches, lamps, fuses, controls, and accessories.
 - e. Pay metered cost of power.
 - f. All such temporary wiring and facilities shall be removed when work is completed.
 - g. The use of gas, acetylene, kerosene or gasoline lamps will not be permitted.
 - h. Where light and power are not available or are insufficient, the Design-Builder shall provide approved temporary generating equipment.
3. Water Supply
 - a. Provide potable drinking water.
 - b. Pay metered cost of water used.
 4. Heat and Ventilation
 - a. Provide cold weather protection, temporary heat, and fuel required to carry on the Work expeditiously; to protect all work and materials against injury from dampness and cold; to dry out the building and to provide suitable working conditions for the installation and curing of materials.
 - b. Use properly vented portable forced air heaters or other approved means adequate for the purpose.
 - c. Do not use the permanent heating system for temporary heat without permission from DPC. In the event permission is granted prior to acceptance of the Project, restore all parts of the system to meet the requirements of the Specifications.
 - d. Pay cost of fuel.
 5. Toilet Facilities
 - a. General Design-Builder shall provide temporary toilet facilities and shall be located within Site limit lines as directed by the DPC.
 - b. Maintain facilities in a sanitary condition. Comply with governing authority and health standards.

6. Telephones and Miscellaneous Equipment
 - a. Provide a job telephone and fax machine in each trailer until completion of the Work.
 - b. Make the telephone and fax machine available at no cost to the City.
 - c. Provide a photocopy machine in each trailer until completion of the Work.

4.03.07 SAFETY, PROTECTION AND SECURITY

1. General
 - a. Erect and maintain, as required by OSHA, existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including, but not limited to, posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying Owners and users of adjacent utilities.
 - b. Provide protection at all times against damage from vandalism, theft, weather, and other causes of all completed work, materials, and apparatus.
 - c. Protect existing structures, road, and walks during progress of the Work.
 - d. Design Build team to provide for Safety Programs and Job Safety Meetings in their bid documentation, similar to DPC Planning and Engineering's General Conditions. Such General Conditions can be provided upon request.
 - e. The Design-Builder shall not load or permit any part of the Work to be loaded so as to endanger its safety.
2. Safety
 - a. General
 - i. Design-Builder shall comply with all applicable Federal, State, and Local Laws and Regulations including but not limited to:
 1. OSHA Standards 29 CFR 1910 and 1926
 2. Applicable Standards and Regulations established by the Industrial Commission of Ohio.
 3. The DPC Construction Health and Safety Contractor Handbook.
 - ii. Design-Builder shall participate in Weekly Safety Meetings with management.
 - b. Design-Builder shall designate a Safety Manager for each contract and if a contract has more than one site designate one (1) for each site.
 - i. Design-Builder shall report any accidents, injuries or safety incidents to DPC Safety Manager through the DPC Project Manager, Inspector, CLE Operations, or duly authorized DPC representative on site. Design-Builder shall forward this report

to the DPC in such a manner that the DPC Project Manager can forward it to DPC Safety Manger and DPC Project Manager shall receive the report within twenty four (24) hours of the event. Design-Builder shall cooperate fully in any DPC investigation of the event.

- ii. Erect and maintain, as required by OSHA, existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including, but not limited to, posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying Owners and users of adjacent utilities.
- iii. The Design-Builder shall not load or permit any part of the Work to be loaded so as to endanger its safety.

3. Water

- a. Protect foundation excavations, trenches, and completed work from rain, spring or ground water, backing up of drains or other flooding.
- b. Construct and maintain temporary drainage and dispose of pumped water to prevent flooding in the construction and storage areas.
- c. Provide and operate sufficient pumping equipment to maintain excavations and other, construction areas free of water.

4. Snow and Ice

- a. Remove all snow and ice for proper protection and prosecution of the Work.
- b. Do not use salt, calcium chloride or other materials that can damage paving or building materials.

5. Security

- a. Maintain building and Site security at all times.
- b. Provide temporary weather tight enclosures for all exterior openings. Equip exterior doors with locks. At the end of each day's work, close and lock all temporary enclosures.
- c. To maintain security and to protect the City's and Design-Builder's interest, employ one (1) or more watchmen at no extra cost to the Owner for 24 hour security of entire project site.
- d. Temporary perimeter site fence shall be galvanized 6'-0" high chain link fence without top and bottom rail. Posts, footers and minimum 2 swing gates with top and bottom rails and locks required. Fence posts per building code requirements to withstand wind loads. Also provide similar fence and gate at new media

parking lot.

6. Shoring, Sheeting, and Bracing

- a. Provide adequate shoring, sheeting, and bracing required to retain excavations and prevent slides or cave-ins.

7. Safety Devices

- a. Provide all fences, barricades, bridges, railings, and guards for protection of construction personnel and the public.

8. Fire Protection

- a. Schedule means of fire protection for all construction, materials, and personnel prior to starting Work in accordance with governing authority.
- b. Secure approval of the local Fire Department and other governing authority, as required.
- c. Provide and perform protection and prevention during the construction period in accordance with FM or IRI recommendations and all other laws and regulations for protection of buildings under construction.

9. First Aid

- a. Provide all articles necessary for first aid treatment.
- b. Make arrangements with the nearest hospital for treatment of seriously injured workmen.

10. Hazardous Materials

- a. When the use or storage of hazardous materials or equipment is necessary for the execution of the Work, the Design-Builder shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel. Such use and storage shall also be in accordance with governing authority.

11. Tree Protection

- a. Provide protection of existing trees that are to remain in current location and trees that are relocated. Protection shall guard against all type of damage.

4.03.08 **REPORTS**
DAILY REPORTS

1. Each workday, the Design-Builder shall submit to the DPC a full report of the previous workdays work, using Primavera Contract Manager V.12 daily reporting format. The report shall include, but not limited to:
 - a. Description of work activities; referenced to the activities numbers of the project schedule; trades and subcontractors employees. Include all inspections made by the Design-Builder or the Subcontractors including but not limited to the Design-Builder's Quality Control Inspections, Code Conformance Inspections, and Daily Safety Inspections.
 - b. Equipment lists; the description, units, type and work areas columns shall be filled out. Field Force; Personnel count; and minority representation.
 - c. Visitors; All columns shall be filled out.
 - d. Materials; Delivery time, name, quantity, and description shall be filled out. All others as required.
 - e. Schedule; May be used in lieu of referencing the activity numbers in the description portion of the report.
 - f. Temperature, precipitation, sky, wind conditions.
 - g. Dates, Times, and subject of all meetings and daily toolbox safety meeting comments and results.

WEEKLY

1. Each week, the Design-Builder shall submit to DPC, a full report of the previous week's work, noting trades and subcontractors employed, with a count of personnel, and minority representation. Also note work performed, accepted, weather and conditions affecting the progress of the Work. Record also dates of safety meeting comments and results of the same.

MONTHLY

1. By the fifth of each month, Design-Builder shall submit to DPC a full report of the previous month's injury and illness cases and incident rate statistics based on OSHA record keeping requirements, that includes, but is not limited to, number of first-aid cases, near miss reports, accidents reports and the number of man-hours worked for the month.

4.03.09 DUST AND NOISE CONTROL

1. The infiltration of dust and spread of noise from demolition and new work is of great concern to the Owner. Design-Builder must exercise all precautions to minimize dust from migrating to occupied areas of the Airfield.
2. At a minimum, the following temporary standards must be adhered to:
 - a. Caulk all joints in barriers, either temporary or permanent, to

- prevent the travel of dust and noise.
 - b. Temporary partitions shall be plywood and painted color as selected by DPC and also be insulated with sound batts to minimize noise and in certain circumstances for thermal protection. Take partitions up to bottom of overhead deck.
 - c. Whenever possible, an enclosed space shall be put under negative pressure to prevent dust migration.
 - d. Turn off return air ducts from areas of work.
 - e. Temporary wrap enclosures are required for escalators indicated on drawings. Wrap enclosures shall be plastic, completely protecting units from dust. All ends of wrap shall be sealed. Contact escalator manufacturer prior to wrap enclosure in order to comply with their requirements for enclosing and sealing escalators.
3. Provide access through barriers as required for maintenance, safety, etc. Doors shall be locked at all times.

4.03.10 CLEAN UP AND REMOVAL

1. Cleaning

Remove burnable materials from the job site immediately. The Design- Builder shall, prior to commencement of Work, supply all dumpsters in locations as directed by DPC. Design-Builder shall arrange for pick-up and replacement of dumpsters when capacity is reached.

2. Trash/Debris

Immediately dispose of trash and debris too large for dumpsters.

4.03.11 RODENT AND PEST CONTROL

1. Rodent and pest control: Before demolition is started, retain a local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches and other pests. Employ this service to perform extermination and control procedures at regular intervals so the Project will be relatively free of said pests throughout the Project Work and upon Project completion. Perform control operations in a lawful manner using environmentally safe materials.

4.03.12 SPECIAL PROTECTION

1. Protect buildings and building components from damage, staining or defacing due to the Work. Correct or replace damaged materials or replace damaged materials or finishes to satisfaction of DPC.
2. Provide protection against over spray of cleaning materials or paint contacting building occupants or vehicles in drives or parking areas.

Drives shall not be blocked to extent of restricting vehicular access and parking area restrictions shall be kept to a minimum. Barriers and restrictions shall be approved in advance by DPC. Do not work with materials subject to being wind-blown during times of high winds.

3. Protect surfaces of fresh coating products from damage or discoloration due to rain, dust or physical damage. Replace damaged or defaced materials which cannot be restored to the satisfaction of DPC.
4. Protect building from rain or water leakage during the course of the Work. Do not open joints or roof areas to extent that openings cannot be protected from inclement weather. Openings shall not be left unprotected overnight.

4.03.13 RELOCATION & REMOVAL

1. Relocate temporary facilities during construction as required by process of the Work at no additional cost to DPC.
2. At completion of the Work or at the time of permanent utility connections, as applicable, remove temporary facilities, including connections and debris resulting from temporary installation.

FIGURE NO. 1—Overall site plan Exhibit

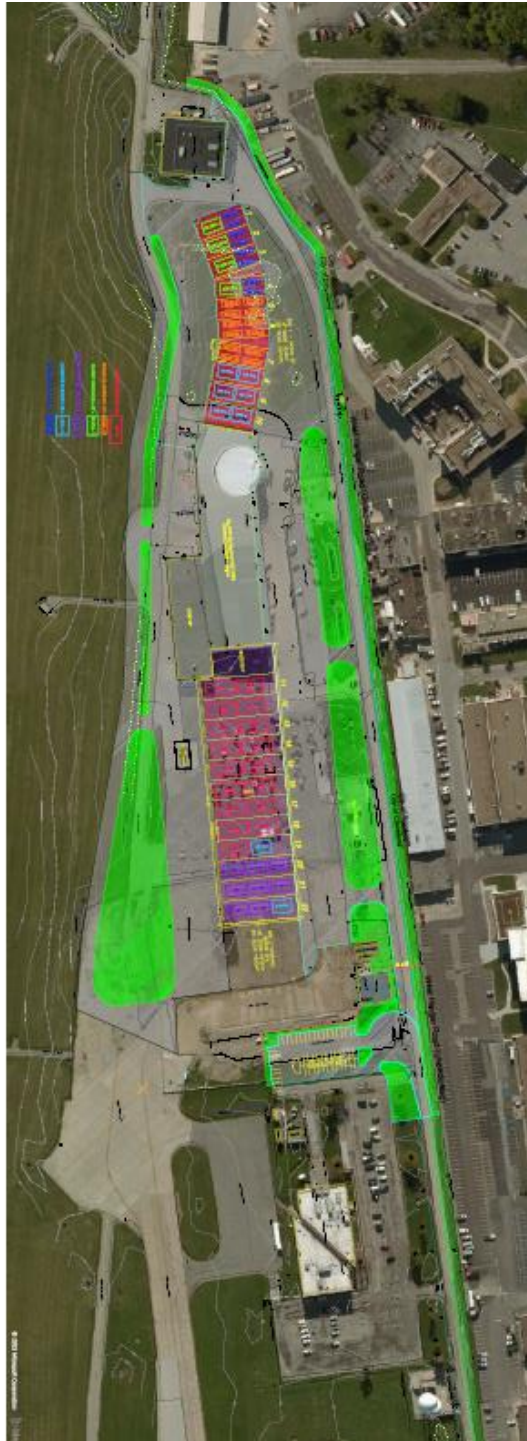


FIGURE NO. 2—Exhibit A1 CMF Layout

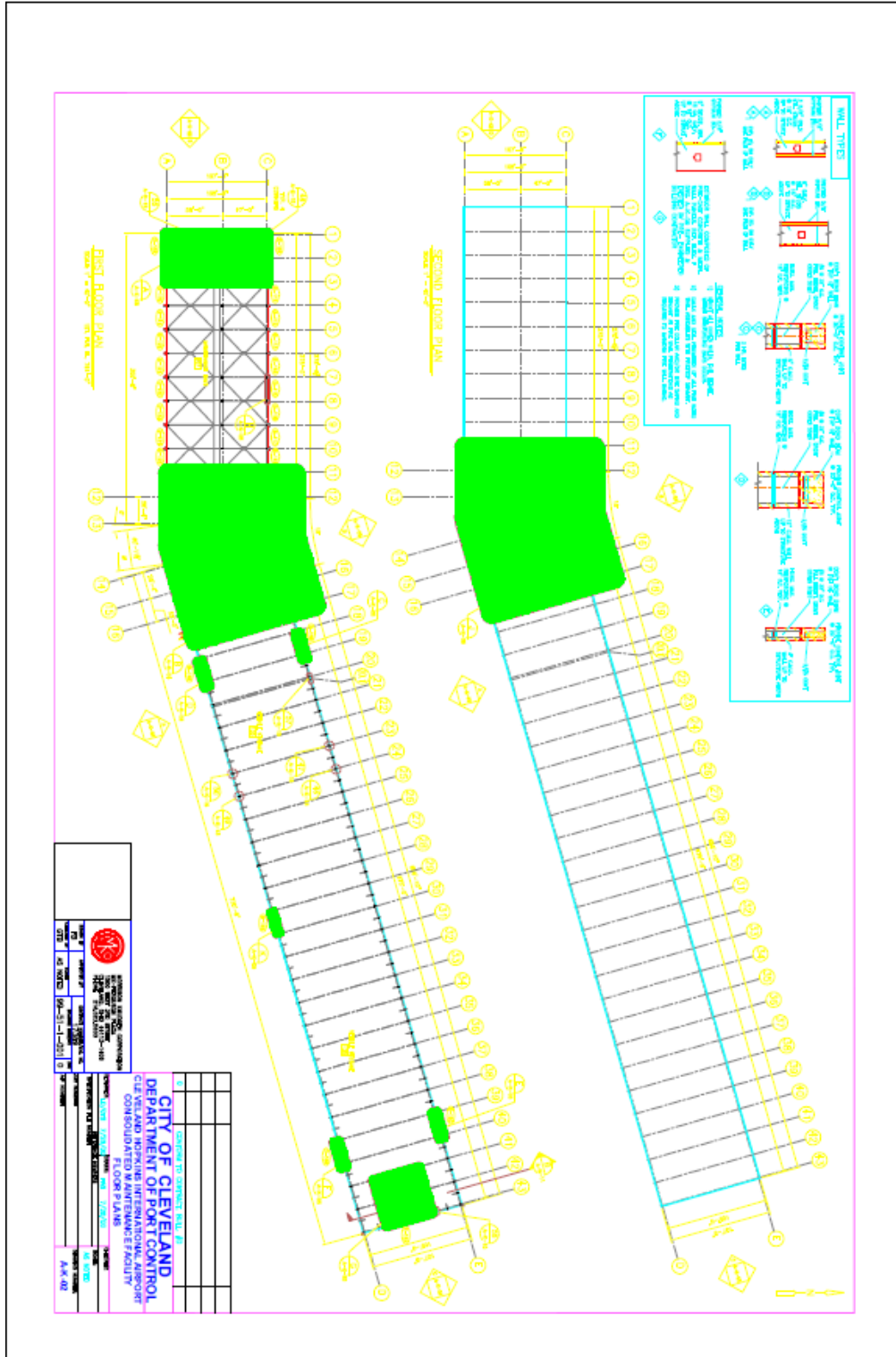
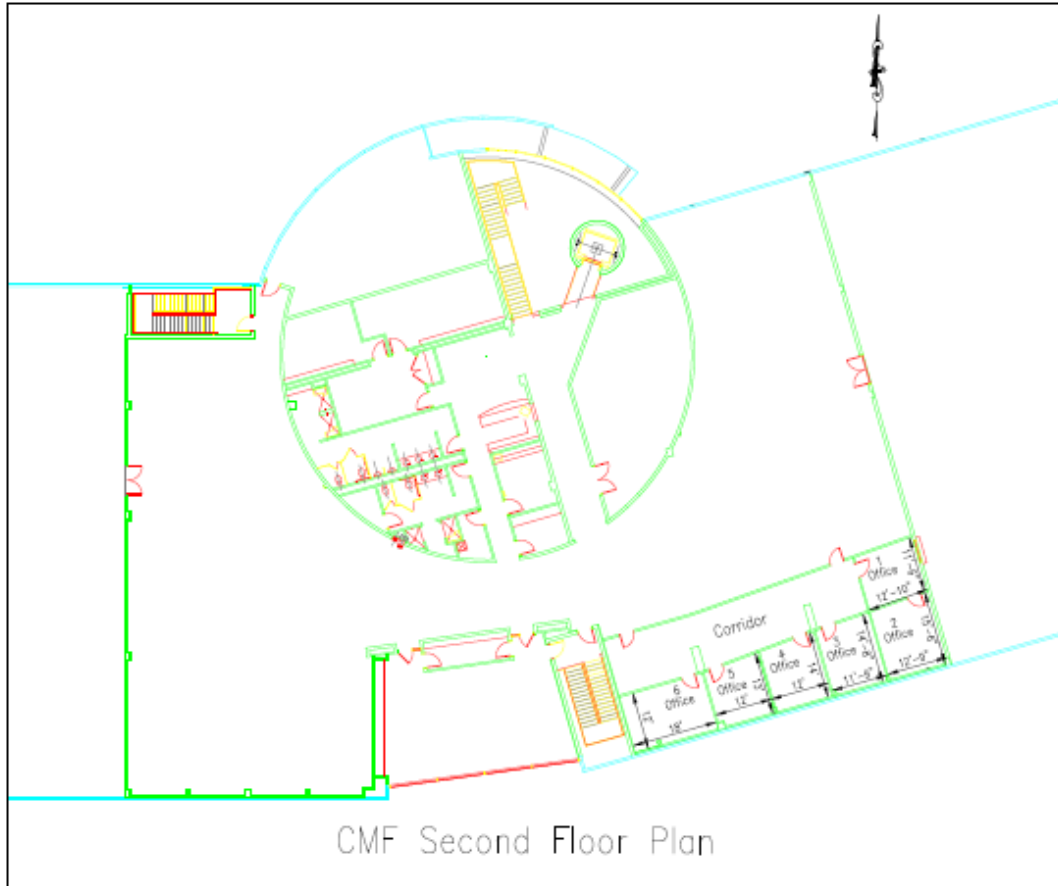


FIGURE NO. 3—Exhibit B1 Second floor Layout



**END OF
SECTION**