

PROJECT CRITERIA

AND

**PERFORMANCE
SPECIFICATIONS**

FOR THE DESIGN-BUILD OF

TEMPORARY

PREFABRICATED TENANT

POP-UP STRUCTURE

CLEVELAND HOPKINS INTERNATIONAL

AIRPORT

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SECTION 1 - GENERAL

1.01 PROJECT DESCRIPTION

1.01.01 PROJECT NAME

Temporary Prefabricated Tenant Pop-up Structure—Cleveland Hopkins International Airport

1.01.02 GENERAL DESCRIPTION

The Temporary Prefabricated Tenant Pop-up Structure Project at Cleveland Hopkins International Airport generally includes:

1. Survey, design and construction of a Temporary Prefabricated Pop-up Structure between 15,000 sf and 25,000 sf on the proposed site. Water, electric, HVAC, fire suppression, drainage and possible site work will be required.
2. Construction management during construction of the structure for duration of construction process, as-builts, closeout and warranty.

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

There is no information listed in this area until the location has been identified. At the point any existing information will be provided. The Design-Builder should independently verify the information at that time.

1.02.01 CONTROL OF IMPACTED AND SOLID WASTE MATERIAL

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

1.02.02 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 has been included as a PDF file.

1.02.03 SEEDING

A modified FAA specification for furnishing, hauling, and placing seeding

and related operations where vegetative growth is required.

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</u>
1.	City of Cleveland Department of Port Control to procure and enter into design-build agreement	September 2024	September 2024
2.	Design-Builder to design and procure needed materials	October 2024	January 2025
3.	Construction of Prefabricated Structure and erection. and educational signs	February 2025	June 2025

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

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 around the proposed structure.;
 - b) Potential problems to be encountered and available solutions with support for the recommended solution, including appropriate priorities and stages;
 - c) Description of existing pavement 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) Design loads and assumptions for structures;
 - f) Explanation of how the drainage pattern ties into the existing Storm drainage system;
 - g) Explanation of how spills will be maintained and collected into existing oil separator;
 - h) Utilities base mapping, including Ownership, contact information,

- explanation of demand, availability, source, relocation, Subsurface Utility Engineering field notes and utilities schematic design;
 - i) Explanation on recommendations for signs, markings and graphics;
 - j) Sequence of construction, including storage and staging area requirements, effect of construction on airport operations, gate operations, parking, and facilities;
 - k) Understanding of contract time, and milestones;
 - l) Detailed construction cost estimates;
 - m) Code requirements;
 - n) Permit and Zoning requirements;
 - o) Criteria for on-site materials handling;
 - p) Criteria for sustainable construction;
 - q) 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
2. Engineering Calculations such as, but not limited to, pavement 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, 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 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 one (1) week 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, 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 (horizontal and vertical) of posts and concealed utilities and appurtenances relative the project datum.
 - b. Field changes of dimensions and details not on original documents.
 - c. 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 (i.e. surveyed) 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 Temporary Prefabricated Tenant Pop-up Structure Project includes:

2.01.01 Design, Construction, and Erection of a Temporary Prefabricated Tenant Pop-up Structure.

This project includes the design, construction, and erection of 15,000 sf to 25,000 sf structure on existing pavement. The purpose is to provide a temporary location for tenants to maintain and storage, of their field vehicles. The prefabricated structure 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 that shall be followed at a minimum. Access to all ingress and egress roads must remain open during construction.

2.03 MAINTENANCE AND PROTECTION OF AIRCRAFTS, AIRPORT VEHICLES AND PEDESTRIAN FACILITIES

All temporary and permanent markings, signage and controls shall be in accordance with FAA and TSA requirements. All current ingress/egress points, including all AOA perimeter roads and concourse tarmacs must be maintained and operational during

the entire construction process. All airport roads and movement areas 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.

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 structure. When codes conflict, the most 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 – Building Code, Title XIII - Zoning, Chapter 352 – Landscaping and Screening, and Part Three – Building Code, Title XIII - Building Code, Chapter 3111 – Ohio Building Code and Chapter 3129 – Loads, and all other applicable building and zoning requirements which can be found at <http://caselaw.lp.findlaw.com/clevelandcodes/>, 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 most 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.

3.01.04 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 UTILITIES

Once the location for the Temporary Prefabricated Structure has been determined, existing utilities will need to be identified and located. 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.

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.

Design Builder shall provide electrical for items such as lighting, monitoring equipment, etc.

3.02.01 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 Owner 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 and existing loads that are currently served from electrical distribution that is being removed.

Demolition:

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

Temporary Prefabricated Pop-up Structure:

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

Provide a temporary electrical service to the building, estimated to be a 400 amp 120/240v-1ph-3w electrical service. Provide a manual transfer switch and connections for a portable 240v roll-up generator (sized for the entire electrical service of the building) to provide power in the event of a power outage. Provide LED and LED feature Lighting. All lighting shall be designed in accordance with IES recommendations and Applicable Energy Codes and motion sensors. Provide all conduits, conductors, and controls as required. Voltage drop shall not exceed 3%.

3.02.02 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 services to meet or exceed existing demands.

3.02.03 WATERLINE AND FIRE HYDRANT

Proposed waterlines 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.

3.02.04 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.

3.02.05 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 and Urban Stream Protection". Proposed systems shall be of equal or better material and provide adequate services to meet or exceed existing demands.

3.02.06 SANITARY

If the Design Build determines that services 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 Municipal Utilities and Services Codes – 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.

3.03 CIVIL

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

If the Design Build determines that SWPPP and Storm Water Management is required, 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.

3.03.02 CONCEPTUAL LAYOUT FOR THE TEMPORARY PRE-FABRICATED POP-UP STRUCUTRE

Once the proposed site for the Temporary Pre-Fabricated Pop-Up Structure is identified, the Design-Builder will be responsible for the Final layout. The layout and design of the site shall be in accordance with the City of Cleveland Codified Ordinances, Part 3 Building Code, and Part 5 – Municipal Utilities and Services Code, FAA Advisory Circulars (ACs), and all other applicable requirements can be found here: <http://caselaw.lp.findlaw.com/clevelandcodes/>). Layout shall include, but not be limited to, considerations for facility users, traffic circulation, construction, and maintenance.

3.03.03 SITE GRADING CRITERIA

If the Design Build determines that site grading is required, 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 Street", the AASHTO "Roadside Design Guide", and FAA (ACs). Site grading shall conform to typical practices of the area. All entrances, exits, adjacent sidewalks, curb, and aprons to exterior street or surfaces shall be flush with pedestrian right-of-way. Layout shall include, but not be limited to, considerations for facility users, traffic circulation, construction, and maintenance.

3.03.04 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.

3.03.05 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 IIB, Zoning Code, Title VII – Zoning and Section 352 Landscaping and Screening and Part IIIIE Land Use, Title XIII Building Code, Chapter 3129 Loadings. 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.

3.03.06 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" and FAA ACs. Final design of the pavement section is the responsibility of the Design-Builder.

3.04 BUILDING

3.04.01 TEMPORARY PRE-FABRICATED POP-UP STRUCTURE

The Temporary Pre-Fabricated Pop-Up Structure will be between 15,000 sf and 25,000 sf. The proposed location needs for the structure needs to be identified. The structure will need to have water, electric, HVAC, fire suppression and site drainage provided. The structure will be used by tenants who provide fueling, deicing, etc. to store and do maintenance on their vehicles.

Building and Zoning Requirements

- a. The design of the structure shall meet 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, 3111 – Ohio Building Code and Chapter 3129 – Loads, all other applicable state, federal, FAA and Cleveland Department of Port Control requirements.

Minimum Design Criteria

- a. The major design goal for the pre-fabricated pop-up structure is that it is free standing, no foundation, is pre-fabricated elements, erected easily and fast, and can be taken down and moved to new location. The type of the structure is the choice of the Design-Builder. The Design-Builder must submit the specification of the structure to the Cleveland Department of Port Control for approval prior to completion of final design and construction.
- b. The minimum design loads for the sustainable roofs 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. 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 vehicles.
- d. All roof water drainage must tie into the site drainage pattern to prevent ponding. All contaminant water from the facility must be captured and drain thru an oil separator.
- e. Provide required lighting inside the building structure. See Section 03.02.01.
- f. Provide means to prevent problems with birds on roof system (e.g. choosing plants (required sedums or approved alternate; USDA suggestion list available upon request).

- g. The Design-Builder should provide a minimum Care and Replacement Warranty.
- h. Submit building design calculations and shop drawings signed and sealed by Registered Professional Engineer licensed in the State of Ohio.
- i. 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.

3.05 SUSTAINABLE CONSTRUCTION

3.05.01 GENERAL

Criteria for sustainable construction will be considered, including the potential for sustainable project elements such as storm water management, landscaping, 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 to capture, slow, and treat runoff.

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.

Landscaping

Wildlife strikes cost civil and military aviation in the USA millions of dollars per year as well as pose a serious threat to human safety. Landscaping provides wildlife habitat and can attract hazardous wildlife species to an airport and thereby increase the risk to aircraft and human safety. Habitat management is the most effective long-term method to limit the amount of wildlife using the airport environment. Habitat management includes managing landscape characteristics which may potentially provide food, cover or water for wildlife. Generally the more simple and sparse the landscaping the less attractive it is to wildlife. The landscape architects shall select species appropriate for the airport environment thus developing landscapes which produce minimal wildlife habitat or result in low to no wildlife use.

The plants (if used) and design must be reviewed by the Airport Wildlife Management Program Coordinator (AWMPC). The AWMPC will provide

written final approval/signature on design submittal. 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.

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.

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 one year for 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.

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.

3.06 SECURITY

3.06.01 BUILDING

This section will be used if it is determined during design that Security is needed.

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 the new structure. A total of four (4) cameras are to be provided as part of this contract. 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 area. Install fiber optic cable to transmit the video images from the switch to the central command center in the terminal, if there are not any existing. 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.

3.07 SIGNAGE AND MARKING

3.07.01 GENERAL

The minimum requirements for signage and marking shall be meet the FAA Advisory Circulars Airport Pavement markings and signage requirements.

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. Conceptual Layout.

2. Definitions:
 - a. Submittals: General term including schedule, samples, shop drawings and product data, as applicable.
 - b. Shop Drawings: Drawings, diagrams, schedules, 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.

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. 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. Shop Drawings;
 - v. Product Data;
 - vi. Samples;
 - vii. Reference Submittals;
 - viii. Affidavits and Waivers of Lien;
 - ix. Hardware Schedule;
 - x. Progress Photographs;
 - xi. A.A.B.C. Guarantee Certificates; and
 - xii. Operating and Maintenance Instructions.
- 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;
 - 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 on the building roof 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
- e. Samples: Submit three identical sets of 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 of the actual product

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 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 1 week 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 1 week 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 the DPC 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-30 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, 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 ½ 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 three (3) complete sets of the sizes indicated. The following represents typical distribution of said submittal sets:

DPC Three (3) copies
2-DPC
1-Document Control
 - 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 1 for 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 three (3) 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 Contract 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.

4.01.6 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 for 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. Submittal: 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.

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, 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, 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, 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 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 accordance 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.
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 Design-Builder.
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 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 3 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 in writing of such deviation at time of submission and DPC has 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 system 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 DPC's engineer/Project Manager will not be responsible for the designs of such other Professional Engineers.
10. DPC's will return one reproducible copy of reviewed shop drawings 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 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 Version 3.0* or higher. 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. Twice-Monthly progress reports:
 - a. At intervals of 15 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 twice-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

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 provided as specified, or whose requirements with respect to a particular service differ from the service specified, shall provide such services as satisfactory to DPC.
4. There will be parking for construction personnel provided at the site.
5. Provide and maintain temporary roadways as required. Obtain permission from DPC prior to closing any roads.

4.03.03 USE OF SITE

1. All damage to haul routes, drives, 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 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 pavement 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 (if required):
 - 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 services 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:
- a. When required, provide weather-tight storage sheds with raised floors. Shed shall be of type and size required by storage conditions.
 - b. Locations and adequacy of storage facilities shall be subject to acceptance by DPC.
 - c. 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.
 - d. 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 hoists, and other lifting devices; all scaffolding, staging, platforms, 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. Provide such equipment with proper guys, bracing, guards, railings, and other safety devices as required by governing authority and safety standards.

4.03.07 SAFETY, PROTECTION AND SECURITY

1. General

- a. Erect and maintain, as required by OSHA and DPC/City of Cleveland, 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 areas.
- 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, Safety Standards for Fall Protection in the Construction Industry
 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 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 areas.
 - 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 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.
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. Temporary perimeter site fence if required, shall be galvanized 6'-0" high chain link fence without top or 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. Safety Devices
- a. Provide all railings, and guards for protection of construction personnel and the public.

7. 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.

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

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 Contract Manager daily reporting format program. The report shall include, but not limited to:
 - a. Description of work activity referenced to the activity 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 which 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.
2. 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 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 utilities connections, as applicable, remove temporary facilities, including connections and debris resulting from temporary installation.