



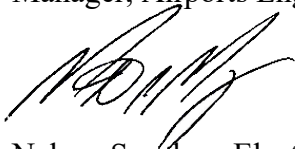
Federal Aviation Administration

Memorandum

Date: September 28, 2026

To: All Airports Regional Division Managers

From: Michael A.P. Meyers, P.E.
Manager, Airports Engineering Division, AAS-100

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Subject: Engineering Brief No. 112: *Digital Airport Traffic Control Tower Systems Installation, Maintenance, and Airport Operations Considerations*

This Engineering Brief (EB) provides standards and guidance for the planning, design, and construction of airport infrastructure in support of Airport Sponsor owned Digital Tower (DT) Systems (referred to herein as DT Systems). In addition, this EB includes information on installation, maintenance, and the airport operational considerations pertaining to a DT System.

Attachment



**FAA
Airports**

ENGINEERING BRIEF #112

Digital Airport Traffic Control Tower Systems Installation, Maintenance, and Airport Operations Considerations

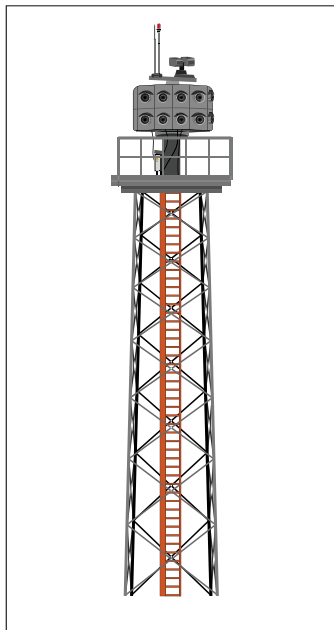
I Purpose.

This EB provides standards and guidance for the planning, design, and construction of airport infrastructure in support of Airport Sponsor¹ owned DT Systems. In addition, this EB includes information on installation, maintenance, and the airport operational considerations pertaining to a DT System.

II Background.

DT Systems are a technological solution to provide Airport Traffic Control Tower (ATCT) services via a network of cameras, sensors, displays, and other support equipment, as shown in [Figure 1-1](#).

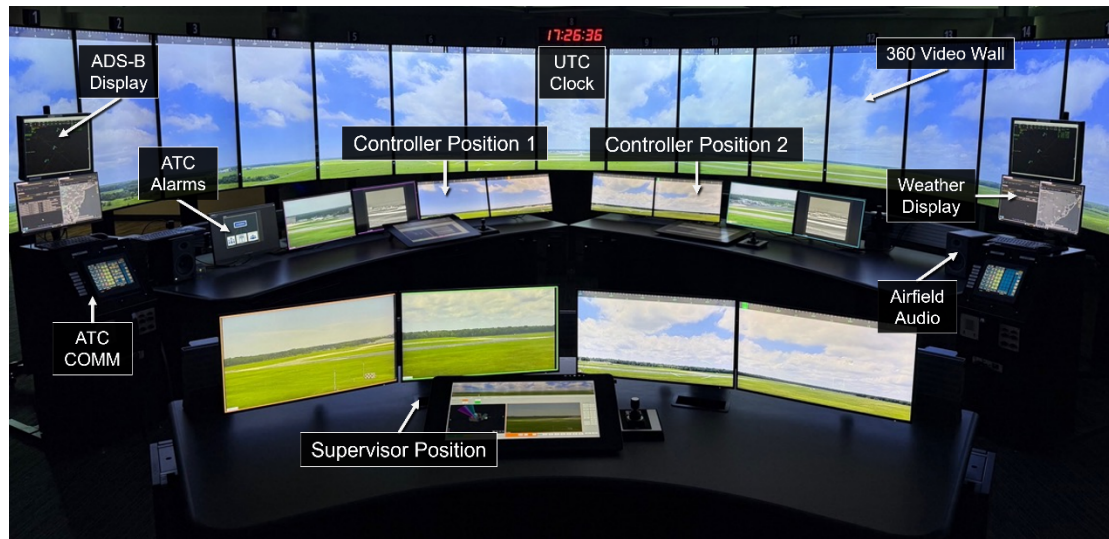
Figure 1-1. Example of DT System (not to scale)



¹ The terms 'Airport Sponsor' and 'Airport Operator' are used interchangeably in this EB. An Airport Sponsor is any public agency that applies for Federal financial assistance, or private owner of a public use airport, as defined in the Airport and Airway Improvement Act of 1982, codified at 49 U.S.C. § 47102(26). The Airport Operator is responsible for the day-to-day maintenance and operations of an airport.

DT Systems provide Air Traffic Control Specialists (ATCS) with the visual information they need to provide ATCT services. As shown in [Figure 1-2](#), a DT Center (DTC) utilizes DT cameras and sensors to provide controllers with the visual information traditionally visualized through the ATCT cab windows. Because DT technology eliminates the need for ATCS to look out a physical window overlooking the airport, the ATCS instead controls traffic entirely through dedicated digital displays. The DT cameras can be installed on existing or stand-alone infrastructure.

Figure 1-2. ATCS view from DTC



DT Systems may serve as an alternative to traditional brick-and-mortar ATCTs. DT Systems will initially be integrated at airports in Class D airspace at Airport Sponsor owned Non-Federal Control Towers (NFCTs)/FAA Contract Towers (FCTs). DT Systems may be installed at airports that are in Class E and G airspace that would like to transition to Class D airspace.

This EB provides the standards and guidance needed to support initial infrastructure development in support of DT Systems, as well as airport operational considerations to pertaining to DT Systems. FAA research efforts are underway to better understand the performance capabilities and design characteristics of DT Systems. The FAA Office of Airports (ARP) is working with the FAA's Air Traffic Organization (ATO) and Airspace Modernization Office (AMO) to develop performance-based airport infrastructure required to support the installation of DT Systems. This will require continued coordination within the FAA across the various FAA organizations as well as external collaboration with manufacturers and other stakeholders.

III Application.

This EB is intended as standards and guidance for airport infrastructure and maintenance supporting Airport Sponsor owned DT Systems. The guidance herein is not legally binding in its own right and will not be relied upon by the FAA as a separate basis for affirmative enforcement action or other administrative penalties.

All entities responsible for establishing and/or maintaining a DT System must ensure an acceptable level of safety and performance across the associated airfield, airspace, and operations, while maintaining the full operational functionality of the DT System.

DT Systems funded through Federal grant programs, must conform with these standards, guidance, and considerations mandatory for projects funded under certain Federal grant assistance programs including, but not limited to, the Airport Improvement Program (AIP). See Grant Assurance #34, Policies, Standards, and Specifications. Airport Sponsors should familiarize themselves with the obligations and assurances that apply to each grant program from which they obtain grant funds.

For Airport Sponsors proposing DT System installation that do not meet the installation performance criteria per this EB or System Design Approval (SDA), begin coordination with the applicable FAA Regional Offices (ROs)/Airports District Offices (ADOs) early in the planning and design process. For Federally funded projects, a Modification of Standards (MOS) must be requested and approved by the FAA before the nonstandard condition is designed or constructed.

Additionally, at Part 139 Certificated Airports, requirements of Title 14 Code of Federal Regulations (CFR) must be met and maintained. This EB provides one, but not the only, acceptable means of meeting the requirements of Title 14 CFR Part 139, Certification of Airports.

With the exception of those noted above, conformity with this EB is voluntary, and nonconformity will not affect rights and obligations under existing statutes and regulations. This EB does not prescribe any guidance for controlling air traffic through operation of a DT system.

IV Questions.

For any questions about this EB, please contact the FAA Office of Airports – Airports Safety and Standards (AAS) Directorate.

- Nelson.Sanchez@faa.gov – Airports Design and Construction Branch, AAS-110.
 - Airport Infrastructure Guidance
 - Minimum Equipment List
- Rory.K.Powell@faa.gov – Airports Data and Airspace Branch, AAS-120.
 - Airspace Approval Process and Coordination
- Michael.DiPilato@faa.gov – Airports Emerging Entrants Division, AAS-200.
 - Planning and Siting of DT System Infrastructure
 - DT System Maintenance and Airport Operations Consideration
- Matthew.Stearns@faa.gov – Airports Safety Policy Branch, AAS-310.
 - Safety Risk Management

- Part 139 Guidance

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Effective Date.

This EB is effective after signature by the Manager of the FAA Airports Engineering Division, AAS-100.

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CHAPTER 1. INTRODUCTION

1.1 **EB Guideline Justification.**

This EB is limited to the airport's ancillary infrastructure to ensure a reliable installation of an Airport Sponsor owned DT System. As this technology continues to evolve, Airport Sponsors are encouraged to coordinate with their FAA Regional Office (RO)/Airports District Office (ADO) and FAA Office of Airports Safety and Standards (AAS) for any unique infrastructure requirements (e.g., physical security, mast location(s), etc.) not addressed in this EB.

This EB represents a continued move toward performance-based design criteria leveraging the data collected as part of the SDA process. However, while valuable data has been collected, more data is needed for comprehensive performance-based design criteria. This EB is intended for Airport Sponsors installing an FAA-approved DT System at their airport. It provides standards and guidance for the installation, maintenance, and the airport operational considerations pertaining to a DT System.

1.2 **Explanation of Terms.**

Terms used in this EB:

1. *System Design Approval (SDA)* – An approval process conducted by the FAA that ensures certain non-Federally owned airport systems meet the minimum safety and performance requirements for operation in the National Airspace System (NAS).
2. *Ancillary Infrastructure* – Ancillary Infrastructure provides capabilities required for the DT System to perform its intended function but are separated from the DT System and its components. Ancillary Infrastructure is provided by the Airport Sponsor and may include alternating current (AC) power infrastructure, network infrastructure, mast(s), control building, etc.
3. *Digital Airport Traffic Control Tower System (DT System)* – A DT System may consist of one or more types of optical sensors and displays to provide the necessary visual information to ATCS needed to supply Airport Traffic Control Tower (ATCT) services. Optical surveillance sensors can include but are not limited to optical day/night cameras or infrared/thermal cameras. These sensors will be used to replace the information controllers presently gather by looking out the tower cab windows.
4. *Airport Sponsor* – An Airport Sponsor is any public agency that applies for Federal financial assistance, or private owner of a public use airport, as defined in the Airport and Airway Improvement Act of 1982, codified at 49 U.S.C. § 47102(26).

The Airport Sponsor will be the non-Federal entity that procures, owns, and is responsible for the safe operation, maintenance, and use of a non-Federal system/service in the NAS.

5. *Manufacturer* – The company or companies that design, manufacture, and provide DT system technical support for non-Federal use in the NAS.
6. *National Airspace System (NAS)* – The common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material. Included are system components shared jointly with the military. Per the [FAA's Pilot/Controller Glossary](#).
7. *Network Passive Device* – A device, part of a network infrastructure, that does not process or amplify an electronic signal. Instead, it organizes and/or terminates cables providing a physical pathway for data transmission relying on the inherent properties of the medium, like fiber optics, to carry the signal from one point to another.

CHAPTER 2. PLANNING AND SITING OF DT SYSTEM INFRASTRUCTURE

Planning and siting of a DT System involves a variety of stakeholders and processes. This section includes information on resources that support DT System planning, siting, and selecting a DT System.

2.1 Resources.

The successful establishment of a DT System requires the support of multiple stakeholders and Subject Matter Experts (SMEs). The Airport Sponsor is responsible for identifying and coordinating with the applicable FAA Offices as well as providing their own resources to support the planning, siting, and installation of a DT System. These resources will provide critical guidance, feedback, and in some cases approval for DT System installations.

The Airport Sponsor should consider the following personnel resources and stakeholders:

2.1.1 FAA Resources.

1. Regional Office (RO)/Airports District Office (ADO): Focal point for requesting Federal funding and coordinating the approval of Airport Layout Plan (ALP) updates, review and acceptance of Construction Safety and Phasing Plan (CSPP), facilitating Title 14 CFR Part 77, Safe, Efficient use, and Preservation of the Navigable Airspace, evaluations, safety assessments, etc. See ROs and ADOs for additional information.
2. Non-Federal Program Implementation Manager (PIM): Focal point for establishing a non-Federal DT System in the NAS. Sponsors can identify their PIM by visiting the Contact the Non-Federal Program webpage. In addition, the PIM can assist the Sponsor with identifying other FAA points of contact. See Non-Federal NavAids, AWOS & Other Systems for additional information. The 'Audiences' section has information intended for Airport Sponsors.
3. Technical Operations Non-Federal Inspector: Focal point for coordinating commissioning and recurring inspections as required by FAA Order 6700.20 - Approval, Operation, and Oversight of Non-Federal Systems. Assigned by the Non-Federal PIM.
4. FAA Contract Tower (FCT) PIM: The Airport Sponsor's focal point for establishing an FCT and associated Air Traffic Control (ATC) support. See FAA Contract Tower Program for additional information.
5. NAS Planning Team: Focal point for establishing a reimbursable agreement under which the FAA performs the siting assessment, 3-D modeling, and commissioning support.

6. Terminal Facilities Planning and Controls Service Area Lead: Focal point for the siting assessment. Terminal Facilities determine the priority for siting assessments. The FCT/ NFCT Airport Sponsor must submit a written request (for example, e-mail) for a siting assessment to the applicable Terminal Facilities Planning and Controls Service Area Lead.

2.1.2 Sponsor Resources.

1. DT System Manufacturer: The DT System Manufacturer is responsible to provide the Airport Sponsor and the FAA with specific information regarding their DT System for planning, siting, installation, and operation/maintenance of the DT System.
2. Airport Personnel: The Airport Sponsor is responsible for the planning, installation, maintenance, and airport operational considerations pertaining to a DT System.

2.2 **Planning.**

The process to establish a DT System starts with an Airport Sponsor identifying the need to establish ATC services (i.e., transitioning from Class E/G airspace to Class D airspace) or to replace an existing brick-and-mortar control tower in Class D airspace.

The Airport Sponsor is responsible for researching approved DT manufacturers and their products. See FAA Order 6700.20, Approval, Operation, and Oversight of Non-Federal Systems, Appendix H – FAA Approved Systems for Non-Federal Use, for a list of approved manufacturers/systems. After selecting a manufacturer, the Airport Sponsor is responsible for coordinating with the FAA RO/ADO and Non-Federal PIM and secure/obtain necessary resources, discussed in sections 2.1.1, FAA Resources, and 2.1.2, Sponsor Resources, in this EB.

During the planning phase, the Airport Sponsor is responsible for researching and collecting information about the installation of a DT System and determining what resources are necessary to successfully install their chosen DT System and depict it on the ALP. Lastly, the Airport Sponsor is responsible for advising airport stakeholders of their plan to install a DT System.

2.2.1 Airport Layout Plan (ALP).

The ALP is the foundational planning document that depicts existing airport facilities and proposed future improvements. It provides the FAA with the framework necessary to assess whether a proposed development is consistent with airport design standards, instrument procedure criteria, and the safe and efficient use of airspace under Part 77. Airport Sponsors are required to depict proposed DT Systems on the approved ALP.

Updates to the ALP to reflect the DT System, must be completed in accordance with Advisory Circular (AC) 150/5070-6, Airport Master Plans and Standard Operating Procedure (SOP) 2.0 - FAA Review and Approval of Airport Layout Plans. Note, FAA requires ALP approval of DT Systems, which is a Federal action requiring environmental review under National Environmental Policy Act (NEPA). The level of NEPA review required will be site specific, in accordance with FAA Order 1050.1, FAA National Environmental Policy Act Implementing Procedures.

When directed by the RO/ADO, the Airport Sponsor must submit the draft ALP to the Obstruction Evaluation / Airport Airspace Analysis Web Portal under Airport Planning and non-Part 77 Notices in accordance with AC 150/5300-20, *Submission of On-Airport Proposals for Aeronautical Study* and FAA Office of Airports Standard Operating Procedure (SOP) 9.2, *FAA Aeronautical Study, Coordination and Evaluation*. When submitting the updated ALP, clearly indicate in the submission remarks that the submittal involves a proposed DT System ensuring that FAA reviewers are alerted to the nature of the proposal being evaluated.

Prior to construction of a DT System, Airport Sponsors are required to submit notice under Part 77 for permanent and temporary construction. Refer to Chapter 3 in this EB, *Airspace Approval Process and Coordination*.

2.3 **Siting.**

Siting is a critical process of establishing a DT System and requires input from multiple stakeholders and SMEs to balance technical requirements, component constraints and limitations, as well as airfield/airspace configuration (i.e., what the ATCS needs to see to perform their duties). DT System airfield components are not fixed by function² such as a navigational aid, and therefore, must not be located within the runway and taxiway safety areas, runway and taxiway object free areas, or other protected surfaces described in AC 150-5300-13, *Airport Design*. Locate DT Systems in a manner to prevent exceeding the obstruction standards, as defined in Part 77. In addition, the DT System must not be adjacent to a helipad. While a camera mast near the threshold may provide the best view at the runway threshold, there are no DT System level siting requirements that mandate camera location(s). Instead, the process is a trade-off of placing the camera(s) as close as possible to the area of interest while considering protected airport design surfaces/Part 77 airport imaginary surfaces, availability of required utilities, and any specific DT manufacturers requirements for the system selected.

DT Systems that are Federally funded must be sited in accordance with FAA Order 6480.4, *Siting of Airport Traffic Control Towers (ATCT)*.

Note, Airport Sponsors that do not use Federal funding to acquire their DT System are not required to site the DT System as per FAA Order 6480.4. However, the FAA strongly encourages Airport Sponsors to reference FAA Order 6480.4 as a guide when siting a non-Federally funded DT System.

2.3.1 Site Selection.

The Airport Sponsor and DT manufacturer are responsible to work together to identify and evaluate at least three pre-site locations for the DT System. Note, a DT System, including the DTC and Digital Tower Data Center (DTDC)³, that is funded by the AIP or

² Fixed-By-Function Navigational Aid (NAVAID). An air navigational aid positioned in a specific location in order to provide an essential benefit for aviation is fixed-by-function.

³ Note, the DTC and DTDC could be two separate buildings. The DTC includes the equipment necessary for ATCT to perform their duties (see Figure 1-2). Such equipment includes but is not limited to: ATC displays and controls. The DTDC includes the necessary equipment required for the DT system to perform its intended function. Such equipment includes but is not limited to: network servers and switches. See Section 5.5 for more information.

other applicable grant program must be located on airport owned property or leased to the Airport Sponsor.

The Airport Sponsor is responsible for contacting the Terminal Facilities Planning and Controls Service Area Lead to initiate the siting process (Section 2.1.1, *FAA Resources*, in this EB). Thereafter, the Terminal Facilities and Controls Service Area will guide the Airport Sponsor through the pre-site selection process/siting as per FAA Order 6480.4. The roles and responsibilities of the Airport Sponsor during the siting process are discussed in FAA Order 6480.4 (Chapter 2, Paragraph M).

The sections below include information about siting a DT System.

2.3.1.1 **Airfield Components.**

1. Consider the effects of lighting and atmospheric conditions including but not limited to: on/off airport lighting, glare from natural/manmade surfaces, and local weather phenomena (e.g., recurring fog, haze, etc.). The presence of these conditions may affect the controllers' view of the airport property and surrounding airspace.
2. DT Systems must not obstruct or interfere with FAA equipment (e.g., airport surveillance radar, very high frequency omni directional range, localizer, glide slope, visual glide slope indicator obstacle clearance surface, etc.), or airport equipment (e.g., avian radar, foreign object debris detection equipment, unmanned aircraft system detection equipment, etc.). Foreseeable interference with existing equipment will be evaluated as part of the airspace approval process (Chapter 3, Airspace Approval Process and Coordination).
3. Site the DT System with adequate space to accommodate the DT camera washer system 'over-spray areas' and appropriate mitigations, in the event of chemical use such as windshield washer fluid.

2.3.1.2 **ATC Operations (Airfield and Airspace).**

The Airport Sponsor is required to provide the FAA's Airport Facilities Terminal Integration Laboratory (AFTIL) or Virtual Immersive Siting Tower Assessment (VISTA) Team with the data required to produce a full-scale 3-D model of the airport surface, containing all existing and future buildings, including the proposed DT System. For more information regarding required data see FAA Order 6480.4, Chapter 6, *Data Requirements*.

CHAPTER 3. AIRSPACE APPROVAL PROCESS AND COORDINATION

Airspace analysis and coordination are conducted concurrently with the planning and siting process outlined in [Chapter 2](#) of this EB. [Part 77](#) aeronautical evaluations fall into two categories:

1. **Permanent Construction:** Evaluation of proposed permanent location and elevation, including all appurtenances, of the DT System.
2. **Temporary Construction:** Evaluation of the temporary construction work limits and associated construction equipment heights required for the installation of the DT System.

The Airport Sponsor is required to conduct the Permanent Construction airspace evaluation during ALP development ([Section 2.2.2, Airport Layout Plan](#)) and ensure the proposed facility is depicted on an approved or conditionally approved ALP. Prior to construction start, the Airport Sponsor is required to also complete the Temporary Construction evaluation for all associated construction equipment and work limits.

3.1 Notice of Permanent Construction (FAA Form 7460-1).

After the final, preferred permanent location(s) and configuration(s) of the DT System(s) are determined, the Airport Sponsor is required to file a notice under [Part 77](#). An aeronautical study must be filed for each proposed camera mast (to include associated equipment and all appurtenances).

The FAA's tower siting team and Airport Sponsor are responsible to agree as to who will be the primary point of contact for FAA [Form 7460-1, Notice of Proposed Construction or Alteration](#), and submit accordingly to the FAA via the [Obstruction Evaluation / Airport Airspace Analysis \(OE/AAA\) Web Portal](#). The primary point of contact (or FAA [Form 7460-1](#) "Sponsor") will be the proponent of the aeronautical study, as a representative of the Airport Sponsor.

[Appendix B](#) outlines the OE/AAA Submittal Process.

3.1.1 Survey Accuracy.

The FAA recommends that the proponent submit a certified survey, signed by a licensed professional engineer or surveyor, with 1A Accuracy (± 20 feet horizontal and ± 3 feet vertical) in support of an accurate and efficient aeronautical evaluation.

Submittal of a 1A Accuracy Survey reduces the potential of unnecessary operational impacts to instrument approach procedures, for example, increases to approach minimums.

Refer to [AC 150/5300-20](#) for additional guidance.

3.2 Temporary Construction Analysis Requirements.

Prior to the start of construction, the proponent is required to file Notice of Temporary Construction. The Airport Sponsor is responsible to evaluate the CSPP requirements, based upon the project funding type, and submit as required.

3.2.1 Construction Safety and Phasing Plan (CSPP).

The CSPP documents scope of proposed construction activities including, but not limited to: work area boundaries, staging areas, equipment operations, and the project's phasing sequences in accordance with AC 150/5370-2, Operational Safety on Airports During Construction.

For Federally funded projects, the Airport Sponsor is required to develop a CSPP and have an aeronautical study performed in the OE/AAA Portal, under *Airport Planning and non-Part 77 Notices*, prior to submission of the Notice of Temporary Construction. Following FAA approval of the CSPP, the proponent will file a Notice of Temporary Construction.

Submission of Notice of Temporary Construction before the CSPP is approved introduces potential delays and may require additional filings by the proponent due to the results of the CSPP Determination Letter.

3.2.2 Notice of Temporary Construction (FAA Form 7460-1).

The proponent may file FAA Form 7460-1 for temporary construction either by submitting a paper form to the RO/ADO or electronically via the OE/AAA Portal as outlined in Appendix B, OE/AAA Submittal Process. For easy online tracking and follow-up actions, the FAA highly recommends submitting the form through the OE/AAA Portal. A case should be submitted for each temporary object or work area associated with the construction project to include the construction work area boundaries, staging areas, material stockpiles, cranes, drill rigs, and any other equipment operating on the airport.

In accordance with 14 CFR § 77.7, Form and time of notice, the notice must be submitted to the FAA at least 45 days before construction activity is scheduled to begin. Airport Sponsors are highly encouraged to submit notice earlier than 45 days before construction.

The FAA will conduct an aeronautical study for each filing and issue a determination advising the sponsor of any operational impacts and conditions that must be observed before construction activity is authorized to proceed. If the final determination includes Notice to Airmen (NOTAM) requirements, the Airport Sponsor must issue them in accordance with established FAA procedures. Once the Airport Sponsor receives favorable aeronautical determination(s) from the temporary construction filing(s), the Airport Sponsor should coordinate with the RO/ADO prior to issuing a notice to proceed with construction.

Reference AC 150/5300-20 and SOP 9.2 for more information on filing temporary construction activities.

3.3 Determination Letters.

After FAA has completed the aeronautical study, a final aeronautical determination letter will be issued to the proponent and will include any conditional provisions that must be met. The final aeronautical determination letter serves a specific purpose depending on the case type:

1. **Permanent Construction (Section 3.1):** The determination clears the final configuration of the DT System. It does not authorize the proponent to begin construction.
2. **CSPP (Section 3.2.1):** The determination identifies the safety concerns during construction while an airport is open to aviation activities. It does not authorize the proponent to begin construction; it outlines the boundaries established to maintain operational safety during construction.
3. **Temporary Construction (Section 3.2.2):** The determination analyzes airspace in association with the construction equipment that will be used during construction, the area the equipment occupies while the airport is open and will outline if there are any NOTAM requirements.

CHAPTER 4. SAFETY RISK MANAGEMENT (SRM)

The RO/ADO will coordinate with the sponsor to initiate a safety assessment if the project meets the applicability triggers described in FAA Order 5200.11, *FAA Airports (ARP) Safety Management System (SMS)*.

For more information please see: Safety Management Systems (SMS) for Airports and Airport Projects.

CHAPTER 5. AIRPORT INFRASTRUCTURE GUIDANCE

DT Systems require adequate airport infrastructure to support proper installation. The following sections include information on airport infrastructure considerations such as: electrical power, telecommunications, security, DT System mast, DTC, DTDC, and miscellaneous equipment.

5.1 **Electrical Power.**

Alternating Current (AC) power provides the appropriate power to the DT System and ancillary systems. This section discusses design considerations for power distribution systems used on DT Systems.

5.1.1 Power Distribution.

Independent AC power supply feeds to the DT System must be provided. The amount of power supply feeds must be consistent with manufacturer's specifications. FAA Order 6030.20, *Electrical Power Policy*, guidance should be followed for the installation of power cables.

5.1.2 Environmental Protection.

Cables must be installed in conduit or enclosed wire ways. Exposed DT System cables are permitted provided the space the cables are located within are restricted to authorized personnel and such installation is adequate for its operational environment.

5.1.3 Lightning and Surge Protection, Grounding, Bonding and Shielding.

The AC power and network communications infrastructure must comply with the requirements specified in the latest edition of FAA-STD-019 (*Lightning and Surge Protection, Grounding, Bonding, and Shielding Requirements for Facilities and Electronic Equipment*).

5.1.4 Continuous Load.

A DT System circuit is considered a continuous load by the requirements of the National Electrical Code (NEC). Continuous loads are those loads that operate continuously for three hours or more. Sizing of the feeder conductors must be designed to carry 125% of the actual full-load amperes imposed on the system. Also, sizing of the over-current protective device (circuit breaker or fuse) protecting the feeders must be designed at 125% of the full load current on the system.

5.1.5 Backup Power.

The DT System must be furnished with independent uninterruptible power supply(ies) (UPS) capable of providing backup power automatically and instantaneously in the event of primary power loss. The capacity and required number of UPS must meet the system resiliency specifications required by the system manufacturer and applicable electrical code requirements.

5.2 Telecommunications.

Network communications provide the data infrastructure required to transmit data between the mast(s) and the data center. This section discusses design considerations for telecommunications and security measures used on DT Systems.

5.2.1 Telecommunications Cabling Design.

Network communications infrastructure must provide all data transfer by a closed, physical point-to-point network (no wireless communication allowed at this time). An independent fiber optic telecommunication feed between the DT System sensors and control room must be provided. The amount of telecommunication feeds must be consistent with manufacturer's specifications. Considerations of length of run, type of cable used, loop signal losses, and physical obstructions (above and below ground) must be evaluated. Fiber optic cabling design must be performed in accordance with FAA-STD-061 (*AIRPORT FIBER OPTIC TRANSMISSION SYSTEM (FOTS)*).

In addition, any network communications components used as part of the network infrastructure must be passive devices.

5.2.2 Environmental Protection.

Fiber optic cables must be installed in conduit or enclosed wire ways. Exposed fiber optic DT System cables are permitted provided the space the cables are located within are restricted to authorized personnel and such installation is adequate for its operational environment.

5.2.3 Maintenance of Fiber Optic Communications Equipment.

The network communications infrastructure must comply with the manufacturer's latency requirements for the DT System. To ensure this, appropriate maintenance practices must be established and followed. Please refer to FAA Order 6650.10, *Maintenance of Fiber Optic Transmission Systems (FOTS)*, and/or DT System manufacturer's recommended maintenance practices for guidance.

Procedures must be developed to ensure proper maintenance of fiber optics communication equipment including latency rates consistent with DT System requirements. The results from maintenance inspections must be documented in accordance with the airport's maintenance program.

5.3 Security.

Physical security and cybersecurity are interdependent as both measures ensure the safe incorporation and operation of DT Systems within the NAS. Airport Sponsors are required to evaluate airport-specific conditions when designing and establishing security measures and ensure compliance with all applicable security standards. Please refer to the DT System manufacturer's Installation Manual for security measures guidance.

5.4 Mast.

The mast is the mechanical structure used to hold the necessary DT System interface systems (e.g., cameras, microphone, infrared sensors, etc.) at the airfield on an elevated platform. The mast may be new or existing (repurposed) infrastructure. This section discusses the design considerations for DT mast structures.

5.4.1 Environmental Guidance.

The mast structure must be suitable for the intended environment, for example, wind conditions, operational temperature, humidity levels, and earthquakes. Please refer to the DT System manufacturer's Installation Manual for mast design guidance.

5.4.2 Mast Design Considerations.

Although mast designs are site-specific, it must be stable and designed in accordance with state and national construction standards. At a minimum, the following items must be taken into consideration when designing mast structures:

1. Type of mast must comply with DT System manufacturer design specifications.
2. The mast(s) must be designed to survive at least 100 mile-per-hour winds from any direction, and ice loading as defined by American Society of Civil Engineers, Manual 74 - Guidelines for Electrical Transmission Line Structural Loading.
3. The mast(s) must be designed to withstand seismic forces and seismic relative displacement appropriate for the installation site, in accordance with Federal Emergency Management Agency (FEMA) P-2082, The National Earthquake and Hazards Reduction Program (NEHRP) Recommended Seismic Provisions for New Buildings and Other Structures.
4. Electrical components provided with the mast(s) must comply with NEC.
5. The mast(s) must comply with applicable Occupational Safety and Health requirements, including but not limited to state and Federal requirements. The mast(s) must be located and have a height determined by the siting process.
6. The mast(s) must accommodate all electrical wiring and cabling infrastructure to ensure proper installation and maintenance of the system.
7. The mast(s) must accommodate all cleaning equipment infrastructure necessary to ensure effective maintenance and reliability of the DT System.
8. The mast(s) must be stable while supporting manufacturers' specified payloads.
9. The mast(s) must be corrosion resistant as appropriate for the installation location.
10. Wildlife and ecology around the mast(s) area must be taken into consideration. Reference section 6.3, Wildlife Hazard Management, of this EB for more information on wildlife hazard management and tower designs.

11. The mast(s) must provide the features required for safety and accessibility (e.g. ladder, anchor point, climbing features, platforms, etc.).

The systems must be marked and lit as per the final aeronautical determination. Installation of the obstruction light must be performed in accordance with AC 70/7460-1, *Obstruction Marking and Lighting*.

5.5 **Digital Tower Center (DTC) and Digital Tower Data Center (DTDC).**

The DTC and DTDC must provide appropriate physical space/environmental conditions for the DT System equipment and its operator(s) to allow for optimal performance of necessary ATC functions. For the purpose of this EB, it is assumed that a physical facility(s) already exists for the DTC/DTDC. Please refer to the DT System manufacturer's Installation Manual for guidance on the DTC and DTDC.

At a minimum, the following items must be taken into consideration when designing or repurposing existing facilities for the DTC and DTDC:

1. Availability and requirements for power, telecommunications, data center and control room hardware (racks, displays, furniture, etc.) footprint relative to the available space, equipment and cable access, site access and physical security infrastructure.
2. Existing environmental controls (i.e., air conditioning) with respect to equipment cooling requirements under a nominal heat load.
3. Ability to adjust lighting for optimal display viewing (e.g., light dimmer switches, window shades, etc.).
4. Potential distractions caused by excessive noise or obnoxious odors/fumes.

Note, the DTC and DTDC that is funded by the AIP or other applicable grant program must be located on airport owned property or leased to the Airport Sponsor.

5.6 **Miscellaneous Equipment.**

5.6.1 Camera Washer System.

For DT Systems equipped with a washer system for the DT System cameras, the washer solution must be appropriate for the intended installation location and environment (e.g., not freeze). Please refer to the DT System manufacturer's recommended maintenance practices for guidance.

5.6.2 Vault or Concrete Pad.

Construct the vault with a bill of materials to provide adequate structural strength for the conditions and installed location and with a fire rating as determined by the authority having jurisdiction. The electrical vault must also comply with NEC Article 110.31, *Enclosure for Electrical Installations, Item (A) Electrical Vaults*. Specifications and standards for structural concrete are available in AC 150/5370-10, *Standard Specifications for Construction of Airports*.

CHAPTER 6. DT SYSTEM MAINTENANCE AND AIRPORT OPERATIONS CONSIDERATIONS

This section includes information on DT System maintenance, inspections, and airport operations considerations for all federally obligated airports with a DT System.

6.1 DT System Maintenance.

The Airport Sponsor/Airport Operator is responsible for maintaining and operating the DT System and should follow recommended maintenance practices in accordance with the DT System manufacturers' maintenance manual. DT System maintenance must be performed by a credentialed maintainer with verification authority⁴.

In addition, the Airport Sponsor/Airport Operator is responsible for developing maintenance procedures to ensure proper maintenance of the DT equipment and its associated infrastructure consistent with DT System requirements, and document results from maintenance inspections in accordance with their maintenance program.

6.2 DT System Inspections.

Airport Sponsors and/or Airport Operators are responsible to evaluate DT Systems and associated infrastructure during airport maintenance inspections. Incorporating DT Systems into airport maintenance inspections is vital for ensuring the safety, security, and efficiency of airport operations. Responsibilities will vary depending on the agency and owner of the DT System. If airport owned and maintained, the Airport Operator's inspection process could be significantly more in-depth than an FAA owned and maintained system. If FAA owned system, the Airport Sponsor may have limited responsibilities that may be defined in a Memorandum of Agreement or Letter of Agreement between the Airport Sponsor and FAA ATO.

By following the guidance outlined below, Airport Sponsors/Airport Operators can effectively manage these systems and uphold the highest standards of airport safety. The guidance discussed in sections 6.2.1, *Airport Sponsor Owned and Maintained DT Systems*, through 6.2.3, *FAA Owned and Maintained DT Systems*, is not all-inclusive. Airport Sponsors/Airport Operators may identify requirements that were not previously identified or captured by manufacturers, or Letters of Agreement (LOAs)/ Memorandums of Understanding (MOUs).

6.2.1 Airport Sponsor/Airport Operators Owned and Maintained DT Systems.

Airport Sponsors/Airport Operators are responsible for updating airport procedures to include DT Systems and infrastructure and referencing the DT System maintenance manual. The following (but not limited) should be considered at a minimum:

⁴ As per FAA Order 6700.20, Verification Authority is a term used for the authority the FAA gives to a non-Federally employed maintenance technician, i.e., an employee of an entity other than the Federal Government. This authority allows that individual to perform maintenance on a specific non-Federal system. This term does not apply to FAA systems.

1. Ensure all personnel with access to the movement area and safety area are trained in any new communication procedures if applicable (e.g., an airport changes from an uncontrolled airport to a controlled airport).
2. Ensure emergency response personnel are trained in any new communication procedures and emergency response procedures are updated in all applicable emergency response documents and/or agreements.
3. Ensure DT System equipment and access roads are accessible.
4. Ensure the DT System is marked and lit as per the final aeronautical determination. Installation of the obstruction light must be performed in accordance with AC 70/7460-1, Obstruction Marking and Lighting.
5. Stay informed on technological advancements and regulatory changes affecting DT System operations.

6.2.2 DT Systems at Title 14 CFR Part 139 Airports.

Airport Sponsors/Airport Operators holding an Airport Operating Certificate under Part 139 should review their existing airport procedures and their Airport Certification Manual (ACM) to identify updates resulting from the installation of a DT System on the airport. Refer to the CertAlert for additional guidance. CertAlert 26-04: Airport Certification Manual Updates (139.201(b)): Digital Airport Traffic Control Tower Systems.

6.2.3 FAA Owned and Maintained DT Systems.

For FAA owned and maintained DT Systems, the Airport Sponsor and contracted ATCT are responsible for establishing a LOA or MOU that outlines any specific responsibilities the Airport Sponsor needs to accept. (e.g., snow removal, access road maintenance, inspections, etc.).

Reference section 6.2.1, Airport Sponsor Owned and Maintained DT Systems, for details on inspections.

6.3 **Wildlife Hazard Management.**

The Airport Sponsor and/or qualified airport wildlife biologist is responsible for evaluating the risk of a DT System on airport property posing attraction to wildlife, and the hazard to aviation. Consult the DT manufacturer as to whether the DT System has any flat or enclosed areas (e.g., ledges, cross bars, camera housing, etc.) that pose a risk of attracting airborne wildlife (i.e., birds and bats). Tower designs with a skeleton framework or flat surfaces can prove especially attractive to small flocking birds (e.g., European starlings, mourning doves, rock pigeons, etc.) as well as larger raptors and vultures. Therefore, Airport Sponsors/Operators are responsible for considering whether the mast type (e.g., skeletal, monopole, etc.) poses a risk of attraction to known hazardous bird species at the airport (e.g., through surveys, wildlife strike data, etc.).

Assess the DT System for areas susceptible to bird nesting, loafing, and perching. Consider deterrents to prevent nesting, loafing, and perching on/near the DT System. Deterrent examples include, but are not limited to, the following:

1. Netting or other material to prevent access to hazardous wildlife.
2. Acoustic hazing such as pyrotechnics, propane cannons, directional sonic/hailing devices and other similar technologies.
3. Bird repellent spikes, angled ledges, tactile deterrents.
4. Other deterrent methods/techniques.

The Airport Sponsor and/or a qualified airport wildlife biologist are responsible for monitoring the airborne wildlife species/activity (e.g., numbers, local movements, and daily and seasonal occurrences) on and around the DT System and for mitigating the risk and impact, as necessary.

6.4 **Airport Data.**

Successfully transparent integration of a DT System into the NAS requires that accurate and current aeronautical data be reflected across all relevant FAA publications (e.g., Chart Supplement, etc.) and information systems. Proper documentation of the DT System, particularly the airport diagram/sketch update, and addition of a chart supplement remark in the [Aeronautical Information Portal](#) for the DT System with the signal light gun are essential to inform pilots, air traffic personnel, and other stakeholders of the operational capabilities and physical configuration of the DT-equipped airport.

6.4.1 Airport Diagram/Sketch.

An airport diagram or sketch includes the location of the DT System with the signal light gun. Airport Sponsors are responsible for updating their airport diagram or sketches. See the [Aeronautical Information Manual](#) for information on light gun signals.

Airport diagrams must adhere to [FAA Order 7910.4, *Airport Diagrams*](#), while airport sketches are typically published in the Digital – Chart Supplement. Airport Sponsors requesting the FAA to modify a diagram must submit written documentation detailing the change.

To request a new or revised airport diagram or sketch, access the [Aeronautical Information Portal](#) and select the Aeronautical Chart Change link (see [Figure 6-1](#)). This link redirects to the Aeronautical Chart Change Form (see [Figure 6-2](#)).

Figure 6-1. Aeronautical Chart Change**Aeronautical Information Portal**

Aeronautical Inquiries	Submit Aeronautical Data
Use the Aeronautical Inquiry form to get answers to your aeronautical information questions. + Create New Inquiry ☰ My Inquiries	📄 Airport Data Change (Public/Private) 📄 Airport Data Change (Military) 📄 Aeronautical Chart Change See more forms on the AIS Website ☰ My Data Submissions

In the Aeronautical Chart Change Form, the Airport Sponsor is responsible for completing the ‘Aeronautical Chart Change Details’, described below (see [Figure 6-2](#)).

- **Product Category:** Select ‘Airport Diagram/Sketch (CS, TPP)’.
- **Airport Location Identifier:** Use free text to enter the airport location identifier (e.g., KXYZ).
- **As Built Date:** Use the calendar to select the as-built date.
- **Description:** Use free text to enter the description of the aeronautical chart change. Revise airport diagram (or sketch) to include the location of the new digital airport traffic control tower (D-TWR) that has a signal light gun.

When possible, the proponent should include the coordinates of the D-TWR that has the signal light gun for accurate portrayal on the airport diagram/sketch.

Figure 6-2. Example of Aeronautical Chart Change Form

Aeronautical Chart Change Form			
Instructions - This form may be used to submit changes to supplementary aeronautical data contained on Airport Diagrams/Sketches, Military Training Routes, and 8260-2 forms (for Military Procedures, Special Procedures, and ATC Fixes). - This form may be used to submit changes to information such as Special Notices, Area Notices, Regulatory Notices, and Graphic Notices contained in the Chart Supplement (CS). These notices require an Office of Primary Responsibility (OPR) to be published. See Chart Supplement Notice Submission Requirements and Disclaimers. - When submitting graphic chart changes, please submit a markup of changes to the original graphic in pdf format. You may submit supplemental information in DWG, DXF, DGN, SHP, JPG, TIFF, ZIP, PPT, or other PDFs. - There is a 200MB size limit per upload. - Changes to airport data published in the Chart Supplement should be submitted through the online Airport Data Change Form. - Review the Aeronautical Data Team Cut-Off Dates for submission of aeronautical data and chart changes. - Please use the Aeronautical Inquiry form to report charting errors or discrepancies.			
Contact Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> - First Name: John - Last Name: Doe - Organization: XYZ Airport - Position: Airport Manager </td> <td style="width: 50%; vertical-align: top;"> - Email Address: John.Doe@xyzairport.com - Phone Number: 609-555-8809 x - Alt Phone Number: </td> </tr> </table> Note: contact information is automatically populated from your account. Goto your account update page.		- First Name: John - Last Name: Doe - Organization: XYZ Airport - Position: Airport Manager	- Email Address: John.Doe@xyzairport.com - Phone Number: 609-555-8809 x - Alt Phone Number:
- First Name: John - Last Name: Doe - Organization: XYZ Airport - Position: Airport Manager	- Email Address: John.Doe@xyzairport.com - Phone Number: 609-555-8809 x - Alt Phone Number:		
Aeronautical Chart Change Details <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> - Product Category: Airport Diagram/Sketch (CS, TPP) - Airport Location Identifier: KXYZ - As Built Date: 09/23/2026 - Description: Revise airport diagram/sketch to include the location of a new digital airport traffic control tower (D-TWR) that has the signal light gun. Coordinates of the D-TWR that has the signal light gun: 39 degrees 27' 39.43"N 74 degrees 34' 18.28" W </td> <td style="width: 50%; vertical-align: top; padding-left: 10px;"> Note: Submitting aprons, blast pads, bridges, buildings, permanently closed pavement, concourse, construction areas, de-ice pads, fuel, hangars, hold lines, hotspots, islands, movement areas, overruns, aircraft parking, pavement, ramps, run-up pads, stopways, taxiways, control towers, turnarounds, wind cones, and windsocks will generate an add-on page in the National Flight Data Digest (NFDD). This information is not stored as data available at NFDC, but is made available as an add-on visual graphic for the NFDD consumer. </td> </tr> </table>		- Product Category: Airport Diagram/Sketch (CS, TPP) - Airport Location Identifier: KXYZ - As Built Date: 09/23/2026 - Description: Revise airport diagram/sketch to include the location of a new digital airport traffic control tower (D-TWR) that has the signal light gun. Coordinates of the D-TWR that has the signal light gun: 39 degrees 27' 39.43"N 74 degrees 34' 18.28" W	Note: Submitting aprons, blast pads, bridges, buildings, permanently closed pavement, concourse, construction areas, de-ice pads, fuel, hangars, hold lines, hotspots, islands, movement areas, overruns, aircraft parking, pavement, ramps, run-up pads, stopways, taxiways, control towers, turnarounds, wind cones, and windsocks will generate an add-on page in the National Flight Data Digest (NFDD). This information is not stored as data available at NFDC, but is made available as an add-on visual graphic for the NFDD consumer.
- Product Category: Airport Diagram/Sketch (CS, TPP) - Airport Location Identifier: KXYZ - As Built Date: 09/23/2026 - Description: Revise airport diagram/sketch to include the location of a new digital airport traffic control tower (D-TWR) that has the signal light gun. Coordinates of the D-TWR that has the signal light gun: 39 degrees 27' 39.43"N 74 degrees 34' 18.28" W	Note: Submitting aprons, blast pads, bridges, buildings, permanently closed pavement, concourse, construction areas, de-ice pads, fuel, hangars, hold lines, hotspots, islands, movement areas, overruns, aircraft parking, pavement, ramps, run-up pads, stopways, taxiways, control towers, turnarounds, wind cones, and windsocks will generate an add-on page in the National Flight Data Digest (NFDD). This information is not stored as data available at NFDC, but is made available as an add-on visual graphic for the NFDD consumer.		

For airports with multiple camera masts designed to provide adequate coverage of the full airport environment: When updating/creating the airport diagram/sketch, only include the location of the DT System with the signal light gun as a square and include the text 'D-TWR'. Attach the updated/new airport diagram ([Figure 6-3](#)) or sketch ([Figure 6-4](#)) to the Aeronautical Chart Change Form.

Figure 6-3. Example of Updated Airport Diagram that shows the New D-TWR Location

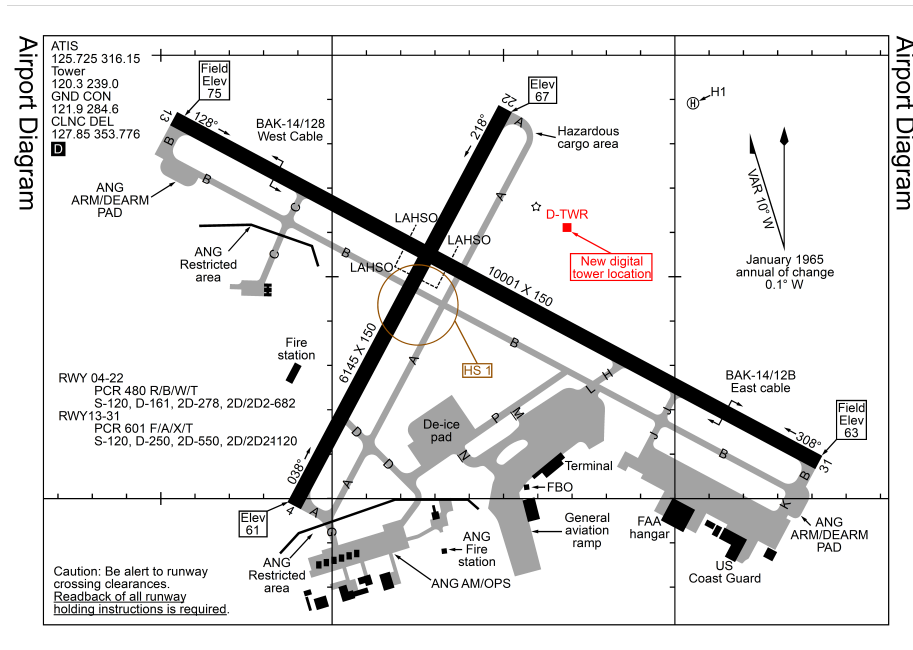
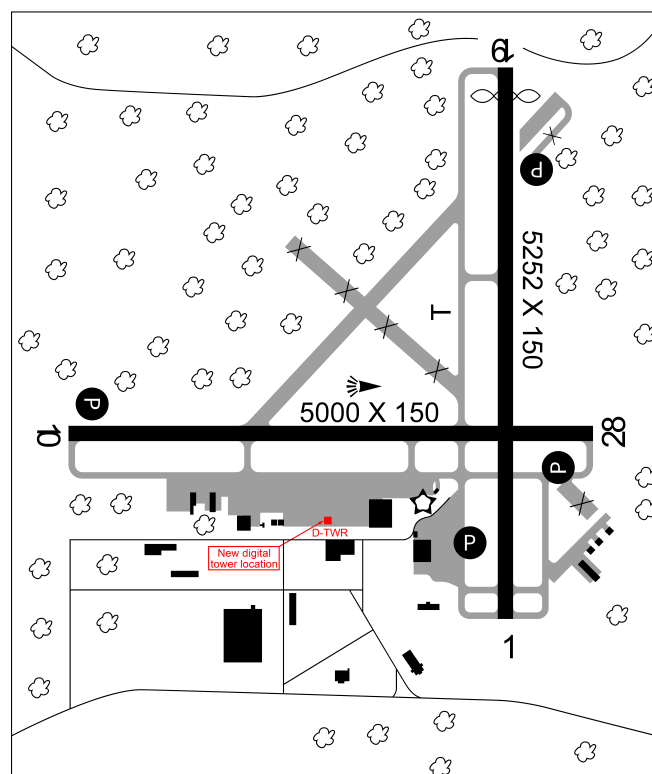


Figure 6-4. Example of Updated Airport Sketch that shows the New D-TWR Location



Note: Once the FAA receives the Aeronautical Chart Change request, the FAA will add the digital tower symbol (D-TWR) to the airport diagram/sketch for the next charting production cycle. Data submission deadlines for a given chart cycle are available at: https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/NFDC_CutOff_Dates.

6.4.2 Chart Supplement – DT System Remark.

The Airport Sponsor is responsible for submitting a new chart supplement remark, for the DT System, using the Airport Data Change Form (Public/Private Use) in the Aeronautical Information Portal (see Figure 6-5).

Figure 6-5. Airport Data Change (Public/Private)

Aeronautical Information Portal

Aeronautical Inquiries	Submit Aeronautical Data
Use the Aeronautical Inquiry form to get answers to your aeronautical information questions. + Create New Inquiry My Inquiries	Airport Data Change (Public/Private) Airport Data Change (Military) Aeronautical Chart Change See more forms on the AIS Website My Data Submissions

In the Airport Data Change Form (Public/Private Use), add the following remark in the ‘Additions’ text box under the ‘Airport Change Details’ section, described below (see Figure 6-6).

- **Airport Location Identifier:** Use free text to enter the airport location identifier (e.g., KXYZ).
- **Authorization Official:** Use free text to enter the name of the airport official who is requesting this change.
- **Reference Document & Page:** N/A.
- **Additions:** Signal light gun co-located with digital tower (D-TWR); see airport diagram/sketch (STANDARDIZED REMARK).

Figure 6-6. Example of Airport Data Change Form (Public/Private Use)

Airport Data Change Form (Public/Private Use)

Instructions

- All Part 157 airport data changes must be submitted to the respective FAA regional office (RO) or airport district office (ADO) for proposed changes. The RO or ADO is responsible for providing the results of the aeronautical evaluation and effects to the airport operator and the [Aeronautical Data team](#).
- Please specify additions, deletions, or revisions to the Chart Supplement (CS).
- Requests for changes to aeronautical charts and related products, including Airport Sketches and Airport Diagrams (except MILITARY airports), should be submitted through the online [Aeronautical Chart Change Form](#). All changes for MILITARY airports should use this Airport Data Change Form.
- Review the [Aeronautical Data Team Cut-Off Dates](#) for submission of aeronautical data and chart changes.

Contact Information

• First Name: • Email Address:

• Last Name: • Phone Number: x

• Organization: Alt Phone Number:

Position:

Note: contact information is automatically populated from your account. Goto your [account update page](#).

Airport Change Details

• Airport Location Identifier:

• Authorizing Official:

Reference Document & Page:

Additions:

Signal light gun co-located with digital tower (D-TWR); see airport diagram/sketch.

Note: Once the FAA reviews and approves the chart supplement remark, the FAA will enter the remark into the National Airspace System Resource (NASR) and will appear in the next charting production cycle. Data submission deadlines for a given chart cycle are available at:

https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/NFDC_CutOff_Dates/.

The D-TWR remark will appear in the Tower Remarks Section of the airport entry in the Airport/Facility Directory (A/FD) section to the Chart Supplement.

6.5 Standard Operating Procedures (SOP).

The Airport Sponsor is responsible for complying with all applicable Occupational Safety and Health Administration (OSHA) and noise mitigation requirements and developing SOPs that address safe operation and maintenance; protection of the surrounding personnel and property, including ATCS personnel, facilities, and equipment; prevention of adverse impacts to air traffic control operations; and timely response to operational and mechanical issues, including troubleshooting and corrective actions.

6.5.1 Occupational Safety and Health.

The Airport Sponsor is responsible for developing SOPs consistent with OSHA regulations to ensure personnel accessing the DT System are equipped with necessary personal protective equipment to mitigate any possible occupational hazards. For DT Systems with equipment posing adverse effects to the safety of personnel working in the

vicinity of the DT System, the Airport Sponsor is responsible to include provisions for their protection and risk mitigation in the SOP. For example, some DT Systems are equipped with a camera washer system that uses fluid that may be harmful to human skin/eyes. For more information, reference the washer fluid warning label.

6.5.2 Noise Mitigation Guidance.

For DT Systems including microphone(s) that are installed at the base of the camera mast(s), which provide airport ambient noise to the DTC, the Airport Sponsor is responsible for developing an SOP to ensure personnel working in the vicinity of the DT System are ‘quiet’ and keep conversations limited. Consider if personnel plan to work in the vicinity of the DT System for a prolonged period of time and include notification to ATCS to mute/turn down the microphone when personnel are working. After work is complete, coordinate with ATCS to return the microphone to its normal operating level.

6.5.3 Maintenance.

The Airport Sponsor is responsible for conducting routine maintenance/inspections around the base of the DT System and developing an SOP utilizing Operational Risk Management (ORM) principles to advise ATCS that they will be working around the base of the DT System (e.g., do not active the camera washer system).

The Airport Sponsor is responsible for considering the complexities of the DT System maintenance/inspections and make considerations for those requiring personnel to operate near the DT System cameras, including, but not limited to: conditions which may obstruct the ATCS view of the airport from the DTC, maintenance of cameras, camera washer system, lightning protection, obstruction lighting, cabling, etc. It may be necessary to conduct certain maintenance tasks when ATC services are not provided. Consult with the Air Traffic Manager (ATM) for such maintenance activities, and SOP coordination to ensure the ATCS view of the airport is not obstructed by maintenance activities/personnel.

6.5.4 Responding to Airport Operations/System Failure Situations.

The Airport Sponsor is responsible for developing an SOP addressing operational and/or system failure situations. At a minimum, the ATM must be informed of what representatives of the Airport Sponsor/operator are to be contacted when a situation occurs, when to contact, and how to contact. For example, on-site airport operator, maintenance personnel, or the sponsor’s designated representative that can assist with responding to airport operational hazards (e.g., wildlife that are perching/loafing/nesting on the DT System, security breaches, heavy snow, etc.) and/or any DT System mechanical disruptions (e.g., power/network communications interruptions/outages, refill washer fluid, DT System failures, etc.).

Only trained and qualified individuals are authorized to troubleshoot the DT System. If the DT manufacturer or any third-party entity is used during troubleshooting, the Airport Sponsor must define their role and level of access to the system as part of the SOP.

CHAPTER 7. MINIMUM EQUIPMENT LIST (MEL)

The DT manufacturer is responsible for developing and providing a Minimum Equipment List (MEL). In addition to the manufacturer specific MEL, the FAA reserves the right to require additional MELs to ensure the continuous safe operation of the DT System. For the purpose of this EB, it is assumed that the Airport Sponsor has evaluated and is able to comply with the MEL requirements defined by the DT manufacturer and/or the FAA (if applicable).

APPENDIX A. ACRONYM LIST

A/FD	Airport/Facility Directory
AAS	Office of Airports Safety and Standards
AC	Advisory Circular
AC (power)	Alternating Current power
ACM	Airport Certification Manual
ADIP	Airport Data and Information Portal
ADLS	Aircraft Detection Lighting System
ADO	Airports District Office
AFR	AIG Funding Reallocation
AFTIL	Airport Facilities Terminal Integration Laboratory
AIG	Airport Infrastructure Grant
AIM	Aeronautical Information Manual
AIP	Airport Improvement Program
AJV	Airspace Services
ALP	Airport Layout Plan
AMO	Airspace Modernization Office
AMR	Airport Master Record
ARP	Office of Airports
ATC	Air Traffic Control
ATCS	Air Traffic Control Specialists
ATCT	Airport Traffic Control Tower
ATM	Air Traffic Manager
ATO	Air Traffic Organization
CFR	Code of Federal Regulations
CS	Chart Supplement
CSPP	Construction Safety and Phasing Plan
CTO	Control Tower Operator
d-CS	Digital - Chart Supplement
DT	Digital Tower
DTDC	Digital Tower Data Center
D-TWR	Digital Tower

DTC	Digital Tower Center
EB	Engineering Brief
FAA	Federal Aviation Administration
FCT	FAA Contract Tower
FEMA	Federal Emergency Management Agency
FOTS	Fiber Optic Transmission Systems
LOA	Letter of Agreement
MEL	Minimum Equipment List
MOS	Modifications of Standards
MOU	Memorandum of Understanding
NAS	National Airspace System
NASR	National Airspace System Resource
NAVAID	Navigational Aid
NEC	National Electric Code
NEHRP	National Earthquake Hazards Reduction Program
NFCT	Non-Federal Control Tower
NFDD	National Flight Data Digest
NEPA	National Environmental Policy Act
NOTAM	Notice to Airmen
OE	Obstruction Evaluation
OE/AAA	Obstruction Evaluation / Airport Airspace Analysis
ORM	Operational Risk Management
OSHA	Occupational Safety and Health Administration
PIM	Non-Federal Program Implementation Manager
RO	Regional Office
SDA	System Design Approval
SME	Subject Matter Expert
SOP	Standard Operating Procedures
SRM	Safety Risk Management
TPP	Terminal Procedures Publication
UPS	Uninterruptible Power Supply
USC	United States Code
VISTA	Virtual Immersive Siting Tower Assessment

APPENDIX B. OE/AAA SUBMITTAL PROCESS

To submit an aeronautical study in OE/AAA, log in at <https://oeaaa.faa.gov/>, select *FAA Form 7460-1*, and choose “*Notice of New Construction*” from the drop-down menu as shown in [Figure B-1](#).

Figure B-1. File Notice – Notice of New Construction

File Notice

What Type of Notice do you want to file? (select one and click next)

What are the different types of Notice I can file? i

☒ **FAA Form 7460-1**

☐ **FAA Form 7460-2**

☐ **Other**

Notice of New Construction ▼

Notice of Alteration

Notice of New Construction

Notice of Existing ▼

FAA Form 7480-1: <https://adip.faa.gov/agis/public/#/public>

Complete the standard proponent/sponsor contact details and input the following system-specific parameters:

- Structure Type: Select Tower from the drop-down menu.
- Structure Name: Input Digital Tower.
- Latitude and Longitude: Inputs can be provided using spaces, dashes, or with the map utilizing the arrow button.
- Datum: Select appropriate Datum from the drop-down menu based on the supporting data you are providing. WGS84 is the default datum within the system.
- Total Structure Height: Provide the tallest height of the structure to include all appurtenances (such as lightning rods, cameras, radar domes, and top-mounted antennas).
- Description of Location: Include the airport name and three-digit local ID and where on the property it will be located.
- Description of Proposal: Input exact text: Proposed Digital Tower System Final Configuration.

Select Validate to verify site coordinates and elevation against site data. Assign the airport boundary classification:

- ON Airport: Within airport property boundary, as verified by the ALP and Exhibit A. Case is designated as a Non-rulemaking airport and will be managed by ARP.

- NEAR Airport: Off-airport property, as verified by the ALP and Exhibit A. Case will be designated as an Obstruction Evaluation and managed by the Obstacle Evaluation Group.

Complete frequency and transmitter details if applicable, attach supporting DT System technical drawings, surveys, and additional supporting documentation. If the installation requires multiple points or detached sensor locations, select the Add Multiple Cases option and download the Case Data Spreadsheet to upload additional project data under the project submission.

Once all information has been provided, select Submit to provide notice to the FAA.

After inputting the point data, select Next to add additional details. Provide the proposed Duration, Marking Type, Lighting Type, Aircraft Detection Lighting System (ADLS), and Frequency/Power that may be transmitted as appropriate. If a frequency is to be transmitted, please provide the frequency band from the drop-down menu.

Once all data has been provided, the screen will display a draft of FAA Form 7460-1. At the bottom of the page, documentation can be added in support of the proposal. If there are multiple points, select the *Add Multiple Cases* option and download the *Case Data Spreadsheet* to upload additional project data. After all information has been provided, select *Submit* to provide notice to FAA for the DT System.