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**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

STANDARD PRACTICE

FACILITY CONFIGURATION MANAGEMENT

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FOREWORD

This standard is approved for use by all organizations of the Federal Aviation Administration (FAA). It establishes a standard practice and approach for the management of facility configurations. Through the implementation of Facility Configuration Management, current and consistent facility configuration data will be readily available prior to the site adaptation and/or installation phase, simplifying the project-by-project data gathering.

Facilities covered by this standard include:

- ◆ Air Route Traffic Control Centers (ARTCC)
- ◆ Airport Traffic Control Towers (ATCT)
- ◆ Terminal Radar Approach Control (TRACON)
- ◆ Automated Flight Service Stations (AFSS)
- ◆ Air Route Surveillance Radar, (ARSR-4), Joint Surveillance Sites (JSS)
- ◆ Large Terminal Radar Approach Control (Large TRACONS)
- ◆ Air Traffic Control System Command Center (ATCSCC)
- ◆ Center Radar Approach Control (CERAP)

The large number of projects planned for these facilities highlights the need for reliable and accessible facility information. Accurate data relating to available space, electrical power, and Heating, Ventilation, and Air Conditioning (HVAC) is an essential element in the support of modernization projects, Capital Investment Plan (CIP) project improvements, budget development, and transition planning. Through the implementation of Facility Configuration Management, current and consistent facility configuration data will be readily available prior to the site adaptation and/or installation phase, eliminating the need for project-by-project data gathering. Regional Facility Engineering Drawings and/or data will have the improved level of consistency necessary to support transition planning and budget efforts.

Facility Configuration Management is an essential part of the Federal Aviation Administrations (FAA's) ability to plan the introduction of National Airspace System (NAS) subsystems with managed impact to the facilities and to Air Traffic (AT) operational capability. Through the use of formal configuration management, it will be possible to manage equipment installations, moves, and removals and develop accurate transition and "end-state" configuration guidelines.

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1.0 SCOPE

1.1 Scope. This standard establishes a standard practice for the performance of facility configuration management. Facility configuration management provides decision-making visibility and a systematic management approach for efficient planning and implementation of facility improvements. This standard practice allows the Federal Aviation Administration (FAA) to establish and maintain a source of accurate technical data. The availability of this data will significantly enhance implementation and coordination activities while helping to reduce costs and schedule slips associated with the fielding of Capital Investment Plan (CIP) projects.

1.2 Purpose. Facility baselines provide current and consistent facility technical documentation and information. They ensure that planners and engineers have access to the technical information needed for facility engineering, management analyses, development of budgetary estimates, and transition planning for facilities. Facility baselines have an improved national level of consistency, which allow drawings and data to be more readily used to support both national and regional level planning, budgeting and engineering requirements.

2. APPLICABLE DOCUMENTS

2.1 **General.** The following documents of the current issue are applicable to this standard.

2.2 **FAA Documents.**

FAA-STD-002

FAA Standard, Facilities Engineering Drawings
Preparation

NAS-MD-001

National Airspace System Master Configuration Index

The National Configuration Management Standard
Procedure Document for Conducting Formal Configuration
Audits of Operational Facilities

3.0 DEFINITIONS

3.1 Acronyms used in this standard. The acronyms used in this standard are defined as follows:

a.	AF	Airway Facilities
b.	AFSS	Automated Flight Service Station
c.	ANI	NAS Implementation Engineering
d.	ARSR	Air Route Surveillance Radar
e.	ARTCC	Air Route Traffic Control Center
f.	AT	Air Traffic
g.	ATCSCC	Air Traffic Control System Command Center
h.	ATCT	Airport Traffic Control Tower
i.	CAEG	Computer Aided Engineering Graphics
j.	CCB	Change Control Board
k.	CCD	Configuration Control Decision
l.	CERAP	Center Radar Approach Control
m.	CI	Configuration Item
n.	CIP	Capital Investment Plan
o.	CM	Configuration Management
p.	CSA	Configuration Status Accounting
q.	DOCCON	Documentation and Configuration Identification System
r.	DSR	Display System Replacement
s.	FAA	Federal Aviation Administration
t.	FPPS	Facility Power Panel Schedule
u.	HVAC	Heating, Ventilation, and Air Conditioning
v.	JSS	Joint Surveillance Site
w.	MCI	Master Configuration Index
x.	NAS	National Airspace System
y.	NCP	NAS Change Proposal
z.	OPR	Office of Primary Responsibility
aa.	PS&F	Power Systems & Facilities
bb.	RCCB	Regional Configuration Control Board
cc.	RO	Regional Office
dd.	ROC	Resolution of Comment
ee.	SMO	System Management Office
ff.	TRACON	Terminal Radar Approach Control

3.2 As-Built Configuration. The as-built configuration is the existing facility configuration at the completion of an approved project and is used to update (via NAS Change Proposal (NCP)) the facility baseline.

3.3 Baseline. Is the actual configuration of a Configuration Item at a given date or event and is represented by an approved and released document, or set of documents each of a specific revision; the purpose of which is to provide a defined basis for managing change.

3.4 Baseline Survey Team. Consists of, the Configuration Management (CM) Manager along with additional Regional Office (RO), System Management Office (SMO) or site personnel as necessary, to provide facility access and information. This team performs the facility baseline drawing verification.

3.5 Change Management. A systematic process that ensures that changes to released facility configuration documentation are properly identified, documented, evaluated for impact, adjudicated by the CCB, incorporated, and verified.

3.6 CM Manager. Manages the CM activities for an organization and serves as the CM focal point. The CM Manager responsibilities include the coordination and review of case files and NCPs.

3.7 Configuration Audit. Product configuration verification accomplished by inspecting documents, products and records; and reviewing procedures, processes and systems of operation to verify that the product has achieved its required attributes and the product's design is accurately documented.

3.8 Configuration Control Board (CCB). The Agency-authorized forum for establishing configuration management baselines and for reviewing and acting upon changes to these baselines.

3.9 Configuration Control Decision (CCD). The official notification of CCB decisions/directives signed by the CCB chair(s). The CCD contains specific action items that must be completed before the CCD is considered closed.

3.10 Configuration Identification. Configuration Identification includes the selection of Configuration Items (CIs). The determination of the types of configuration documentation required for each CI; the issuance of numbers and other identifiers affixed to the CIs and to the technical documentation that defines the CI's configuration; the release of CIs and their associated configuration documentation; and the establishment of configuration baselines for CIs.

3.11 Configuration Item (CI). A Configuration Item (CI) is an aggregation of hardware, software, or a facility that satisfies an end use function and is designated for Configuration Management.

3.12 Configuration Status Accounting. The element of Configuration Management concerning the recording, storing, and accessing of information needed to manage configuration items effectively, including:

- a. A record of the approved configuration documentation and identification numbers.
- b. The status of proposed changes to the configuration.
- c. The implementation status of approved changes.
- d. The configuration of all units of the configuration item in the operational inventory.

3.13 Critical Power. Critical Power is a conditioned and uninterruptible power source contained within FAA facilities, which is used to supply electrical power to designated and authorized National Airspace System (NAS) systems and equipment to meet NAS operational service availability.

3.14 End-State Configuration. The end-state configuration is the facility configuration at a time in the future, usually 3 years. This configuration is used for planning and implementation purposes for the Air Route Traffic Control Centers (ARTCCs).

3.15 Facility Configuration Management. An integrated management program that establishes consistency among design requirements, physical configuration, and facility documentation, and maintains this consistency throughout the life of the facility as changes occur.

3.16 Facility Engineering Drawings. A drawing set comprised of all drawings pertaining to a given facility.

3.17 Facility Baseline Drawings. This drawing set is a subset of the Facility Engineering Drawings, which have been designated to be configuration managed.

3.18 Power System and Facilities (PS&F) CCB. The PS&F CCB is the CCB responsible for establishing facility end-state and critical power distribution system configuration management baselines and for reviewing and acting upon changes to these baselines.

3.19 Regional Configuration Control Board (RCCB). The RCCBs are the CCBs responsible for establishing facility as-built configuration management baselines and for reviewing and acting upon changes to these baselines. There is one RCCB established in each Region.

4. GENERAL REQUIREMENTS

4.1 Facility Configuration Management. Configuration Management shall be applied by use of the following basic tenets:

4.1.1 Configuration Identification. Configuration Identification shall be utilized to identify the documentation, which defines the Facility Baselines that are to be controlled through Change Management, verified by Facility Configuration Audits, and is the basis for establishing Configuration Status Accounting.

4.1.1.1 Facility Baseline. A Facility Baseline shall be completed consisting of selected critical components of FAA facilities that require formalized Configuration Management. These selected components are defined in Section 5.0 of this document. The facility baseline provides a reference point from which changes to the facility configuration are decided upon and managed.

4.1.2 Change Management. Change Management shall be implemented to provide a uniform and orderly method for managing changes to a facility baseline. It shall be used to manage preparation, justification, evaluation, coordination, disposition, and implementation of proposed facility changes to effected facilities and baselined facility documentation.

4.1.3 Facility Configuration Audits. Facility Configuration Audits shall be completed to determine that the facility as-built baseline drawings match the physical layout per the specification, drawings and configuration management requirements. Successful completion of a facility configuration audit shall be a prerequisite to the establishment or re-establishment of the Facility Baseline. Facility configuration audits shall be conducted in accordance with “The National Configuration Management Standard Procedure Document for Conducting Formal Configuration Audits of Operational Facilities”.

4.1.4 Configuration Status Accounting (CSA). Configuration Status Accounting (CSA) shall be utilized to record and report the status of established facility configuration documents, proposed facility changes, and the implementation of any proposed facility changes.

5. DETAILED REQUIREMENTS

5.1 Establishment & Management of Facility Baselines. The purpose of this section is to provide a standard methodology for formal baseline establishment, management and change control of facilities through the Configuration Control Board (CCB). The NAS CM policy document details the processes and procedures for FAA CM.

Facility Configuration Management requires the establishment and continued maintenance of facility baselines. This is to be accomplished in accordance with respective Regional Configuration Control Board (RCCB) Charters. Facility baselines are established, formally approved, and placed under the management of the respective RCCB. Under normal circumstances, no facility modifications or equipment relocations to the baselined facility are authorized prior to the submittal and approval of a Case File/NCP.

5.1.1 Facility Baseline Package Submittal. The facility baseline documentation package shall be submitted to the appropriate CM Manager for review and Change Control Board (CCB) processing.

5.1.1.1 End-State Documentation Package. The end-state facility configuration items shall represent the facility configuration at a time in the future, usually 3 years. This configuration shall be used for planning and implementation purposes and shall be taken into consideration when implementing projects. The end-state facility configuration items fall under the auspices of the Power Systems and Facilities (PS&F) CCB.

5.1.1.2 Facility Baseline Drawing Package. The facility baseline drawing package falls under the auspices of the RCCBs. The Regional CM Manager shall review the facility baseline drawing package prior to RCCB processing. All required changes and modifications to the facility baseline drawing package, resulting from RCCB review and coordination, shall be the responsibility of the regional focal point identified in the Configuration Control Decision (CCD).

5.1.2 Criteria for Placing a Facility Under Configuration Management. The requirement to baseline and establish an FAA facility under CM shall be determined by assessing the impact of CIP projects, along with regional and local initiated changes, and/or improvements. The complexities and variety of new projects to be implemented will compete for floor space, electrical power, environmental, and operational resources. Those facilities with the greatest impact shall be placed under CM first. The decision to place a facility under CM is made by Airway Facilities Service Director mandate or local decision based on a value added approach.

5.1.3 Facility Baseline Establishment. Drawing files should be researched to identify existing drawings, which can be of assistance in the production of the baseline package. Existing Regional Facility Engineering Drawings, which have appropriate content, shall be verified by site visit and additional drawings shall be developed as necessary to produce a complete facility baseline drawing package. A Case File/NCP, FAA Form 1800-2, shall be initiated to place a facility under CM. The verified drawings and Case File/NCP along with a CCD shall be forwarded to the RCCB for approval. The drawings in the facility baseline drawing package

shall be formatted in the standard method set by FAA-STD-002 and shall include the statement: “This facility is under Configuration Management, any changes require an approved CCD.”

The baseline survey team shall:

- a. Obtain the appropriate “as-built” drawings from the NAS Implementation Engineering (ANI) Computer Aided Engineering Graphics (CAEG) drawing vault.
- b. Verify redlines and develop additional drawings as required.
- c. Prepare the initial Case File/NCP for baselining the facility.

5.1.4 Facility Baseline Management. Modifications to established facility baselines, shall be accomplished through the Case File/NCP process. When a proposed project impacts a configuration managed item in a baselined facility the office responsible for the project shall generate a Case File/NCP. The Case File/NCP, FAA Form 1800-2 shall be accompanied by drawings showing a “current” versus “proposed” changes to facility baseline drawings. The Case File/NCP shall be forwarded to the Regional CM Manager for coordination.

5.1.5 NAS Change Proposal. The Case File/NCP process as depicted in Figure 1 - Change Process Flow, shall be followed for the establishment and updates of facility baselines.

5.1.5.1 Initiate Project or Change. A project or change shall be initiated when it becomes apparent that facility power or space is required for implementation.

5.1.5.2 Review – Facility Baseline Drawing Matrix – Figure 2. The change initiator shall review the Facility Baseline Drawing Matrix - Figure 2 to determine whether or not there are any impacts to the items listed in the matrix.

5.1.5.3 CM Item Impact. If it is determined that there is an impact to any of the items listed in the Facility Baseline Drawing Matrix – Figure 2 then an NCP shall be developed and forwarded to the CM Manager for coordination.

5.1.5.4 Drawings Updated. Drawings shall be updated in accordance with FAA-STD-002.

5.1.5.5 NAS Change Proposal Development and Coordination. The NCP shall be reviewed and coordinated through the change control process and presented at the CCB for approval. Common changes to all or more than one facility may be submitted as one Case File/NCP, but all affected drawings shall be provided along with the attached Case File/NCP. Regional CM Managers shall make every effort to ensure that NCPs are processed in a timely manner. A schedule for activities leading to issuance of a CCD should be coordinated with the NCP originator. If delays are experienced in NCP processing, the CM Manager should report back to the NCP originator giving the cause of the delay and the projected CCD date.

5.1.5.6 Resolution of Comments. The CM Manager, shall notify the originator when the Case File/NCP has received a concur with comment, a non-concur or a disapproval. The originator, along with the designated Office of Primary Responsibility (OPR) shall provide a resolution of comments (ROC) that addresses the non-concurs or a concur with comment by further explaining

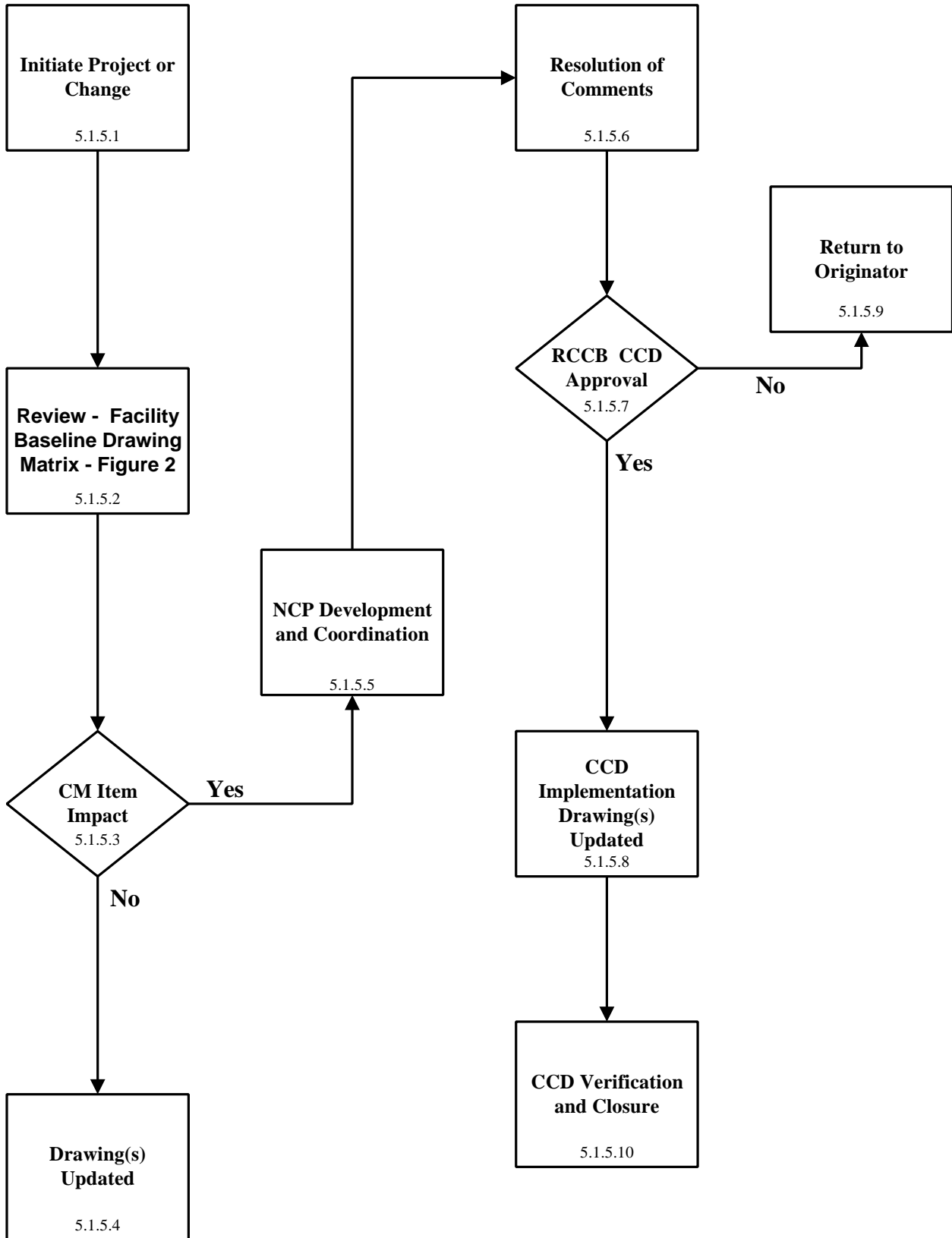


Figure 1 - Change Process Flow

the proposal to the commentator to reach an understanding. The CM Manager may help facilitate this process but will require the support from the appropriate engineering group. If a ROC or notification is not provided to the CM Manager, the originator shall be informed of the option of Case File/NCP withdrawal. The ROC process may occur at any stage of Case File/NCP processing and is designed to give the originator or OPR an opportunity to provide a more detailed narrative of the change or modification.

5.1.5.7 RCCB CCD Approval. The CCB upon adjudication of the NCP shall issue a CCD. The actions listed on a CCD shall identify what actions each organization is required to complete. An action to update Documentation and Configuration Identification System (DOCCON) and NAS Master Configuration Index (MCI), NAS-MD-001 shall be included on all CCD's. This is to insure the proper information flow and documentation linkage is contained in DOCCON and NAS-MD-001.

5.1.5.8 CCD Implementation/Drawings Update. Upon approval of the NCP and issuance of the CCD by the RCCB the action offices identified on the CCD shall proceed with the implementation of the change and update of the drawings in accordance with FAA-STD-002.

5.1.5.9 Return to Originator. If the NCP is disapproved it shall be returned to the originator with the disapproval CCD noting the reason for the disapproval.

5.1.5.10 CCD Verification and Closure. After CCB review and action, a copy of the CCD shall be issued to the originator and all organizations assigned action items to implement the change. The CM Manager, shall hold a CCD copy in suspension until notification is received from all actionees that implementation has been completed. Upon completion of actions identified on the CCD, the verification grid is signed and forwarded to the appropriate CM Manager. The CCD closure is the vital link that closes out the CCD in the CM databases. It is understood that under normal circumstances, without an approved CCD, a project shall not be implemented.

5.1.6 Post Baseline Site Survey Activities. The Case File/NCP including the drawings shall be presented to the RCCB for review and approval. Copies of the updated facility baseline drawings shall be distributed in accordance with the distribution agreement between the CM group and the drawing group (CAEG). Updated drawings shall be forwarded to Airway Facilities (AF) at the affected site.

5.2 Facility Baseline Technical Data. When a site is placed under Configuration Management, per paragraph 5.1.3, it shall be represented by a single set of facility baseline drawings. Drawings depicting items listed in Figure 2 - Facility Baseline Drawing Matrix, shall require an approved CCD in order to update the drawing(s).

5.2.1 Standard Facility CM Drawings. Standard facility CM drawings shall be developed, baselined and maintained in the FAA's CAEG System, which shall conform to CAEG Program guidelines (FAA-STD-002) and applicable CM drawing procedures and standards.

a. The following facilities shall be evaluated for placement under configuration management under the criteria in paragraph 5.1.2 of this document:

- 1) Air Route Traffic Control Center (ARTCC)
- 2) Airport Traffic Control Tower (ATCT)
- 3) Terminal Radar Approach Control (TRACON)
- 4) Automated Flight Service Station (AFSS)
- 5) Air Route Surveillance Radar (ARSR-4) Joint Surveillance Sites (JSS)
- 6) Large TRACON
- 7) Air Traffic Control System Command Center (ATCSCC)
- 8) Center Radar Approach Control (CERAP)

	FACILITY TYPE					
	ATCT	ARTCC	AFSS	TRACON	Lg Tracon	ARSR-4
Site Plan						
Satellite Dish Locations	☒	☒	☒	☒	☒	☒
Antenna Locations	☒	☒	☒	☒	☒	☒
Above Ground Storage Tank Locations	☒	☒	☒	☒	☒	☒
Commercial Transformer Locations	☒	☒	☒	☒	☒	☒
Engine Generator Locations	☒	☒	☒	☒	☒	☒
Engine Generator Radiator Locations	☒	☒	☒	☒	☒	☒
Load Bank Locations	☒	☒	☒	☒	☒	☒
HVAC Locations	☒	☒	☒	☒	☒	☒
Handicap Access	☒	☒	☒	☒	☒	☒
Loading Docks	☒	☒	☒	☒	☒	☒
Roof Plan						
HVAC Locations	☒	☒	☒	☒	☒	☒
Satellite Dish Locations	☒	☒	☒	☒	☒	☒
Antenna Locations	☒	☒	☒	☒	☒	☒
Floor Plan						
Electronic Equipment, Rack Locations	☒	☒	☒	☒	☒	☒
Mechanical Equipment Locations	☒	☒	☒	☒	☒	☒
Equipment/Panels, Wall Mounted	☒	☒	☒	☒	☒	☒
Power Generation Equipment Locations	☒	☒	☒	☒	☒	☒
Equipment Identification	☒	☒	☒	☒	☒	☒
Console Locations	☒	☒	☒	☒	☒	☒
Cab Layout	☒	N/A	N/A	N/A	N/A	N/A
Stair Location	☒	☒	☒	☒	☒	☒
Walls & Room Labels	☒	☒	☒	☒	☒	☒
Door Openings	☒	☒	☒	☒	☒	☒
Elevations						
Cab Console Elevations	☒	N/A	N/A	N/A	N/A	N/A
Tracon Console Elevations	N/A	N/A	N/A	☒	☒	N/A
Equipment Rack Elevations	☒	N/A	N/A	☒	N/A	N/A
AFSS Consoles	N/A	N/A	☒	N/A	N/A	N/A
Display System Replacement (DSR) Consoles	N/A	☒	N/A	N/A	N/A	N/A
Supervisors Consoles	☒	☒	☒	☒	☒	N/A
Flight Data/Clearance Delivery Position	☒	☒	N/A	☒	☒	N/A
Electrical						
Electrical Distribution System One Line Diagram	☒	☒	☒	☒	☒	☒

☒ Denotes Required Item
N/A Denotes Not Applicable

Figure 2 - Facility Baseline Drawing Matrix

b. Standard facility baseline drawings (as-built) include:

- 1) Site Plan
- 2) Roof Plan
- 3) Floor Plan
- 4) Elevations
- 5) Electrical - see paragraph 5.2.2 for Critical Power Panel Schedules

5.2.2 Critical Power Panel Schedules. The Facility Power Panel Schedule (FPPS) Data System shall provide a standard method of documenting critical power configurations along with tracking the changes associated with the implementation of new systems and equipment placed into the NAS. The Critical Power Connections shall be maintained in the FPPS data system and any proposed changes to the critical power connections require a case file/NCP and an approved CCD. The FPPS Data System ensures that Critical Power Panels are managed for efficiency and availability.