UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2021
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SECTION 01 78 24.00 10

FACILITY DATA REQUIREMENTS

05/18

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-- End of Section Table of Contents --

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USACE / NAVFAC / AFCEC / NASA	**UFGS 01 78 24.00 10 (May 2018)**

Preparing Activity: USACE	**Superseding**
	UFGS 01 78 24.00 10 (May 2017)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2021

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SECTION 01 78 24.00 10

FACILITY DATA REQUIREMENTS
05/18

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NOTE: This guide specification covers the requirements for maintenance and turnover of electronic Facility Data for use by O&M personnel and systems of record.

Adhere to UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable item(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).

****

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NOTE: Consult the appropriate Administering Public Works Office on all construction contracts under the stated threshold values to determine if insertion of this guide specification is required.

Always use and include UFGS 01 33 00 SUBMITTAL PROCEDURES, 01 78 00 CLOSEOUT SUBMITTALS, and UFGS 01 78 23, OPERATION AND MAINTENANCE DATA, with this section. Also include UFGS 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD) as applicable.

This specification may be included in A-E services (design-only), design-build or design-bid-build (construction-only) contracts. Remove all specification requirements for construction deliverables in design-only contracts. Remove all

specification requirements for design deliverables in construction-only Contracts.
****

****
NOTE: Facility Data Requirements are divided into two primary deliverables:

a. Facility Data Workbook (FDW): A pre-formatted spreadsheet template used by the designer and/or Contractor to compile data on facility Assets and Attributes that the Government wishes to manage via electronic means.

b. Facility Document Set (FDS): An electronically compiled document containing the following project information:

(1) For A-E services (design-only) contracts, the FDS contains the "Design Complete" or "Issued for Construction" (IFC) design drawings, specifications, and design analysis.

(2) For design-bid-build (construction-only) and design-build contracts, the FDS contains all Government-Approved Data Packages required by 01 78 23 OPERATION AND MAINTENANCE DATA and final, Government-Approved Record Drawings.
****

****
NOTE: The Facility Document Set (FDS) is archived with and serves as a supplement to the Facility Data Workbook (FDW). Together, these two documents comprise the Facility Data deliverables required by this specification.

See "DEFINITIONS" listed in this specification for more information regarding these deliverables.
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NOTE: Thoroughly edit this section throughout and coordinate with any other electronic data requirements stipulated by the project and Owner requirements.
****

****
NOTE: Facility Data Exchange information is available at https://cadbim.usace.army.mil.
****

PART 1 GENERAL

****
NOTE: Proper procurement of deliverables described in this specification requires a high degree of coordination between this specification, 01 33 00

SUBMITTAL PROCEDURES, 01 78 00 CLOSEOUT SUBMITTALS, and 01 78 23 OPERATION AND MAINTENANCE DATA. Ensure that submittal and deliverable content and formatting requirements are organized in a manner that do not present conflicting requirements. Edit these specifications as necessary to present requirements that build on one another. Do not include requirements that are redundant or are duplicated elsewhere in the project specifications.
****

****
NOTE: This guide specification contains bracketed options for an array of procurement methods. This specification may be used on design-only contracts, design-build contracts, and design-bid-build contracts. Edit the specification references below as applicable using the appropriate bracketed options.
****

This specification requires the collection, organization, and turnover of electronic Facility Data for specific assets designed and constructed as part of this contract. Provide a Facility Document Set (FDS) and Facility Data Workbook (FDW) as defined in this specification. See Sections 01 33 00 SUBMITTAL PROCEDURES, 01 78 00 CLOSEOUT SUBMITTALS,[and][01 78 23 OPERATION AND MAINTENANCE DATA,][and][01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD)][_____] for additional Facility Data delivery requirements.

1.1 REFERENCES

****
NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a Reference Identifier (RID) outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.
****

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 19005-3	(2012) Document Management -- Electronic Document File Format for Long-Term Preservation -- Part 3: Use of ISO 32000-1 with Support for Embedded Files (PDF/A-3)
ISO 32000-1	(2008) Document Management -- Portable Document Format -- Part 1: PDF 1.7

1.2 DEFINITIONS AND ABBREVIATIONS

1.2.1 Assets

Assets are specific items of property or equipment.

1.2.2 Attributes

Attributes are individual pieces of Facility Data that describe facilities and their associated assets.

1.2.3 Facility Data

Information defined and collected in the Facility Data Workbook (FDW) and Facility Document Set (FDS).

1.2.4 Facility Document Set (FDS)

An electronically compiled and organized document containing the supporting documents and data used to populate the Facility Data Workbook during its respective phase of development.

[a. For design-based deliverables, the FDS contains the "Design Complete" or "Issued for Construction" (IFC) design drawings, specifications, and design analysis.]
[b. For construction-based deliverables, the FDS is comprised of the project Operation and Maintenance Data Packages and Government-Approved Record drawings.]

1.2.5 Facility Data Workbook (FDW)

A pre-formatted spreadsheet template used to compile Asset, Attribute, Facility, and Space Data that the Government wishes to manage via electronic means. The FDW also contains all requirements associated with proper collection, organization, and turnover of the Facility Data.

1.2.6 Facility Data Project Execution Plan (FDPxP)

A document that describes the clear and organized plan for the collection, organization, and turnover of the Facility Data deliverables required by this specification.[The Contractor may consolidate BIM PxP requirements defined in[01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD)][and][_____] and FDPxP requirements defined herein and integrate them into a single, consolidated BIM/Facility Data PxP for Government approval.]

1.3 UNITS OF MEASURE

****
NOTE: For design-bid-build contracts, choose the

first bracketed option (referring to contract documents). For design-only or design-build contracts, choose the second bracketed option for Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD).

****

Provide Facility Data deliverables utilizing the units of measure[identified in the contract documents.][required by[01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD)][_____].]

1.4 SUBMITTALS

****

NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list, and corresponding submittal items in the text, to reflect only the submittals required for the project. The Guide Specification technical editors have classified those items that require Government approval, due to their complexity or criticality, with a "G". Generally, other submittal items can be reviewed by the Contractor's Quality Control System. Only add a “G” to an item, if the submittal is sufficiently important or complex in context of the project.

For Army projects, fill in the empty brackets following the "G" classification, with a code of up to three characters to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

The "S" classification indicates submittals required as proof of compliance for sustainability Guiding Principles Validation or Third Party Certification and as described in Section 01 33 00 SUBMITTAL PROCEDURES.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

****

****

NOTE: If desired, it is possible (but not required) that FDW and FDS submittals be duplicated and individually named for ease of tracking by the Government. Each facility named in "Part 2" will require a separate FDW and FDS delivered to the Government. Tracking, review, and approval of those deliverables may be easier if they are tracked individually for each facility.

****

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are [for Contractor Quality Control approval.][for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Facility Data Project Execution Plan(FDPxP)

[SD-05 Design Data

Facility Data Workbook, Design; G[, [_____]]

Facility Document Set, Design; G[, [_____]]]

[SD-10 Operation and Maintenance Data

Facility Data Workbook, Construction Progress; G[, [_____]]

Facility Document Set, Construction Progress; G[, [_____]]]

[SD-11 Closeout Submittals

Facility Data Workbook, Construction Final; G[, [_____]]

Facility Document Set, Construction Final; G[, [_____]]]

1.5 QUALITY ASSURANCE

****

NOTE: For Design-Build Contracts, there is no necessity for the Designer of Record to maintain Facility Data during project design.

A Design-Build Contractor may require that a Designer of Record assemble or maintain Facility Data in order to meet Contract Requirements, but that should be treated as an extension of construction services. A properly constructed FDPxP should address this working relationship and Government reviewers should consider this when reviewing that documentation.

This specification may be edited to require design-based deliverables in design-only contracts. Project teams should consider the necessity of this and employ those requirements as warranted. Edit this specification as applicable.

****

1.5.1 Facility Data Project Execution Plan (FDPxP)

Provide the Government with a plan for the collection, organization, and turnover of the Facility Data deliverables to the Government. At a minimum, include the following items in the FDPxP:

1.5.1.1 Front Matter

Provide a Cover Page, Table of Contents, and Executive Summary/Objectives.

1.5.1.2 Project Information

List the Project Owner, Project Name, Project Location and address, Contract Type, Project Description, Project/Contract Number, Project Milestones.

1.5.1.3 Submittal Schedule

Identify delivery schedule for all deliverables in compliance with the submission requirements identified in this specification.

1.5.1.4 Personnel

Identify key personnel involved in the development of the Facility Data deliverables including Contractor and Government personnel.

1.5.1.5 Facility Data Workbook(s)

Identify Facility and Space Data as applicable at time of FDPxP submission. Individually list every asset group from the FDW Requirements that will require Facility Data collection. No attribute data is required at this time. Identify any asset groups from the FDW Requirements that are not required within the scope of this Contract. Document the version of FDW to be used through the duration of the project.

1.5.1.6 Facility Document Set(s)

Define structure and format of the submittal. Provide a comprehensive outline of the final FDS to be delivered. Organize the outline with headings, titles, and descriptions such that the Government may ascertain that working documents comply with the formatting requirements defined by this specification.

1.5.1.7 Protocols

Detailed procedures:

a. Facility Data documentation/collection process.

b. Facility Document Set production/development process.

c. Collaboration procedures including strategy, meetings, communication, and subcontractor/consultant involvement.

d. Quality Control, including site verification of FDW, as applicable.

e. File and folder naming structure.

f. Hardware and software being used for collection and organization of Facility Data. Identify type, format, and anticipated organization of digital storage media to be provided as part of required deliverables. Include means and methods for checking deliverables for malicious content.

1.5.2 Meetings

To assure that Facility Data requirements are being met through the duration of the project, organize the following meetings and discuss the subsequent topics:

1.5.2.1 [Post-Award Kickoff Meeting][Pre-Construction Meeting]

****
NOTE: For Design-Bid-Build, choose the Pre-Construction Meeting bracketed option and coordinate requirements with 01 30 00 ADMINISTRATIVE REQUIREMENTS.. For design-build or design-only contracts, choose the Post-Award Kickoff Meeting bracketed option and coordinate requirements with 01 33 16 DESIGN DATA (DESIGN AFTER AWARD).
****

At a minimum, discuss the following:

a. The requirement for Facility Data deliverables under this contract.

b. Primary roles and responsibilities associated with the development and delivery of the Facility Data deliverables, and.

c. Identify and agree upon a date and attendance list for the meetings described below:

1.5.2.2 FDPxP Coordination Meeting

****
NOTE: Choose the Commissioning Authority bracketed option below when Commissioning is required for this project.

Choose Designer of Record (DOR) for design-only and design-build contracts.
****

a. Facilitate a meeting following submission and Government review of the FDPxP. Include the Facility Data Preparer(s),[Designer of Record (DOR),], Quality Control (QC) Manager,[Commissioning Authority (CA),] Government's Facility Data Proponent, Contracting Officer's Representative, and[Directorate of Public Works (DPW)][Base Civil Engineer (BCE)] Facilities Management Specialist (FMS).[Also include any Government personnel required for obtaining security clearances and waivers for proper Facility Data collection in this meeting.]

b. The purpose of this meeting is to coordinate the efforts necessary by contract parties to ensure an accurate collection, preparation, quality control, and submittal of these deliverables.

c. The FDPxP serves as the primary agenda for this meeting. At a minimum, discuss the following:

(1) Processes and methods of gathering facility data during construction. Discuss and obtain special permissions and/or waivers as necessary (photo waivers, data encryption, etc.);

(2) Contractor Quality Control practices and procedures;

(3) Corrective actions necessary for Government approval of FDPxP;

(4) Necessity for additional or recurring Facility Data Coordination Meetings outside of those required by this specification, as requested by the Contractor. Intent of these meetings would be to maintain regular contact between responsible parties of the Contractor and Government with regard to development of the facility data deliverables. Conduct status meetings with a frequency agreed upon at this meeting.

****

NOTE: For design-bid-build contracts, design submittals are most often not necessary (require construction submittals only). For design-only contracts, design submittals are likely the only deliverable. For design-build contracts, both design and construction submittals may be requested, but construction submittals are the only required deliverable. Edit the specification as applicable using the appropriate bracketed options.

****

1.5.2.3 Submittal Coordination Meeting

a. Facilitate a meeting following submission and Government review of each design or progress submittal of the Facility Data. Include the Facility Data Preparer(s), Designer of Record (DOR), Quality Control (QC) Manager,[Commissioning Authority (CA),] Government's Facility Data Proponent, Contracting Officer's Representative, and[Directorate of Public Works (DPW)][Base Civil Engineer (BCE)] Facilities Management Specialist (FMS). Include Mechanical, Electrical, Plumbing, and Fire Protection subcontractors as applicable.

b. The purpose of this meeting is to demonstrate ongoing compliance with the requirements identified in this specification.

c. The applicable deliverables, along with Government remarks associated with review of these submittals serve as the primary guide and agenda for this meeting. At a minimum, discuss the following during this meeting:

(1) Review assets, applicable attributes, facility, and space data in FDW at time of submittal;

(2) Demonstrate Quality Control and site verification procedures, as applicable, by Contractor QC;

(3) Review contents and organization of FDS at time of submittal;

(4) Discuss Government review comments and/or unresolved items preventing completion and Government approval of the Facility Data Workbook and Facility Document Set.

1.5.3 Facility Turnover and Contract Closeout

Include the Facility Document Set, Construction Final as a deliverable in Facility Turnover and Contract Closeout procedures as defined in[

01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD)][and][01 78 00 CLOSEOUT SUBMITTALS].

1.5.4 Facility Data Workbook Quality Requirements

For each submittal, ensure that the information contained in the FDW(s) reflects the minimum content requirements defined in the PART 3 EXECUTION portion of this section. Ensure that information provided as part of the FDW(s) conforms to the standards described below:

a. Compile FDW(s) using approved spreadsheet templates. Do not alter the formatting or organizational layout of the templates in any way. For this Contract, templates are [available for download from the USACE CAD/BIM Technology Center website, site information provided in the PART 2 PRODUCTS portion of this section][attached to this specification. Editable copies of the templates will be provided upon Contract Award].

b. Instructions for the proper maintenance and completion of these FDWs are contained in the FDW Requirements contained within the FDW template.

1.5.5 Facility Document Set Quality Requirements

****
NOTE: The paragraph below contains bracketed options for submittal quality requirements. Unless 01 33 00 SUBMITTAL REQUIREMENTS and 01 78 23 OPERATION AND MAINTENANCE DATA clearly identify submittal quality requirements across all project submittals, select the "below:" bracket and include all quality requirements listed below. Quality metrics are default values and may be edited to suit project needs.
****

Ensure that information provided as part of each FDS conforms to the electronic and data formatting standards identified[in 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD)][in 01 33 00 SUBMITTAL REQUIREMENTS and 01 78 23 OPERATION AND MAINTENANCE DATA.][below:]

[1.5.5.1 Document Files

Utilize PDF file format in accordance with ISO 32000-1 and ISO 19005-3 for all document-based files. Provide files from original sources, text-searchable, and saved in "Standard" (uncompressed) resolution. Bookmark and label files as defined in the PART 2 PRODUCTS portion of this section.

][1.5.5.2 Photograph Files

If photographs are required, utilize JPEG file format for all photograph and image files. Provide full-color photos with photo resolution of not less than 4 megapixels and not more than 12 megapixels.

Provide a copy of any installation-specific letters or waivers allowing permission to take installed equipment photographs on this Contract. Waivers need not be attached to every photo, only one copy of each permission letter need be included in the Government deliverables.

][1.5.5.3 Drawing Files

Provide all drawings required by this specification in full-size PDF format in accordance with ISO 32000-1 and ISO 19005-3. Produce PDF files from original sources, text-searchable, and saved in "Standard" (uncompressed) resolution whenever possible. Bookmark and label files as defined in the PART 2 PRODUCTS portion of this section.

Submission of scanned or photocopied drawing files is prohibited. Only vector-preserved PDF files are acceptable.

]1.5.6 Facility Document Set Integrity Requirements

Ensure that information provided as part of each FDS conforms to the integrity standards identified below:

1.5.6.1 File Protection

Do not restrict data files, document files or photographic files from being printed, exported, modified or copied. Do not deliver files with any restrictions (expiration date, locks, etc.) for access, viewing, archiving, or editing.

1.5.6.2 Manufacturer-Specific Documents

Provide text-searchable, vector-based document files from the manufacturer's online or electronic documentation. Color documents are preferred. Provide documents specific to the product(s) installed under this Contract. When possible, do not submit document files containing multiple product catalogs from the same manufacturer, or product data from multiple manufacturers in the same file. Provide documents directly from the manufacturer whenever possible. Do not provide scanned copies of hardcopy documents.

1.6 DELIVERY, STORAGE, AND HANDLING

****
NOTE: The paragraph below contains bracketed options for submittal delivery requirements. Unless 01 33 00 SUBMITTAL REQUIREMENTS and 01 78 23 OPERATION AND MAINTENANCE DATA clearly identify submittal delivery requirements across all project submittals, include both bracketed options in this paragraph.
****

Deliver facility data submittals in an organized and legible manner. Provide submittals adhering to the requirements of [01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD)][of 01 33 00 SUBMITTAL REQUIREMENTS and 01 78 23 OPERATION AND MAINTENANCE DATA][described below].

1.6.1 Number of Copies

Provide [three] [_____] identical copies of disks for approval; for each submittal and each facility required. Provide on approved electronic media (one copy per disk or set of disks) as defined below. Provide submittal files on electronic storage media in compliance with the quality requirements identified in this specification.

1.6.2 Malicious Content

Scan all files for malicious viruses using a commercially available scanning program that is routinely updated to identify and remove current virus threats.

1.6.3 Storage Media

Provide facility data on disk-based (DVD-R/RW) media. Any deviations from the required storage media must be approved by the Government. Select and apply technology used for electronic data transmission to ensure that the full Facility Data submittal for each facility is provided on one single disk, whenever possible. When separation of the submittal is required, first separate the FDS and the FDW onto separate media. Second, separate FDS into logical segments or components. Any further divisions must be documented in the FDPxP and approved by the Government.

Provide Facility Data on disk-based (DVD-R/RW) media. Any deviations from the required storage media shall be approved by the Government. Select and apply technology used for electronic data transmission to ensure that the full Facility Data submittal for each facility is provided on one single disk, whenever possible. When separation of the submittal is required, first separate the FDS and the FDW onto separate media. Second, separate FDS into logical segments or components. Any further divisions must be documented in the FDPxP and approved by the Government.

a. Apply a label directly printed to storage media. Do not provide adhesive, paper-based labels. List the name of the facility, Project, Project location, Contract number, Designer of Record firm/Prime Contractor company's name, title of submission, and security classification (in accordance with the appropriate security classification labeling regulations) on the label. If multiple disks are provided, clearly document the contents of each disk on the label.

b. Include the name and contact information of the individual who produced the final data disk to ensure that any problems with the data or media can be easily resolved.

c. When browsed on any computer, the disk shall display the following folders and their associated content:

(1) Facility Data Workbook (containing 1 FDW per facility);
(2) Facility Document Set (containing 1 FDS per facility);
(3) FDPxP (containing 1 PxP per contract);
(4) Readme (Containing 1 TXT, PDF, or HTML file with general use information, organizational instructions, and basic preparer contact information. Include all information included on the storage media label).

[1.6.4 Encryption

****
NOTE: The paragraph contains bracketed options for data encryption. Data encryption is only required if expressly required by the project.

Add detailed encryption requirements if available.
****

Encrypt deliverable data as directed by [District][Area][Resident][Project] Office Engineer. Document the encryption to be used in the FDPxP.

]PART 2 PRODUCTS

2.1 FACILITIES

****
NOTE: The paragraph below requires the Designer of Record to identify the individual facilities for which Facility Data deliverables be separated under this Contract. For simple projects (single-building, site, etc.) there need be only one facility listed. For more complex projects (multiple-building, building complex, multiple sites, etc.) multiple facilities may be identified.

For each facility listed, one each FDS and FDW will be delivered to the Government under this specification. The specifier must consider this and coordinate with the appropriate Administering Public Works and/or Real Property Office(s) to determine the best way to identify facilities, and by extension, the number of deliverables required for this Contract.

Provide clear designations of facilities. Include facility name (as identified on form DD1391), PN, RPUID and/or other appropriate designations in the paragraph below.
****

Facilities that require individual (separate and complete) Facility Data deliverables as described in this specification are as follows:

a. [_____]
[b. [_____]]
[c. [_____]]
[d. [_____]]

2.2 FACILITY DATA WORKBOOK(S)

****
NOTE: The Facility Data Workbook(XLSM format) templates are located at the following location: https://cadbimcenter.erdc.dren.mil. Require the Contractor to use the most current FDW template unless specific Project constraints are identified. It is not necessary to utilize the bracketed option to attach a pre-populated FDW unless specific Project constraints dictate its necessity.

If an FDW is attached, provide the Contractor with an native .xlsm file whenever possible. A PDF may be attached for bidding purposes, but the preference should be to transfer an editable file upon Contract Award.

****

Provide one compiled FDW for each facility identified above. Complete all portions of each FDW including facility, space, asset, and attribute data in compliance with the FDW Requirements. [An FDW with pre-populated basis-of-design information is attached to this section. The Government will provide electronic copy of the attached FDW(s) to the Contractor upon award in [.xlsm][PDF][_____] format.][The current FDW template (.xlsm format) shall be downloaded from the USACE CAD/BIM Technology Center website at https://cadbimcenter.erdc.dren.mil.]

2.2.1 Spaces

****

NOTE: This section includes minimum space definition requirements for the FDW. Provide additional requirements as appropriate for project and stakeholder.

****

Provide data for all applicable spaces in the facility. Minimum space definitions are as follows:

a. Provide all rooms as defined in the design documents.
b. If not otherwise defined, provide a minimum of one "roof" space in the FDW.
c. If not otherwise defined, provide a minimum of one "site" space in the FDW.
d. Provide all spaces not otherwise described, but necessary to accurately indicate the location of all FDW assets required by this specification.

[e. _____
]

2.2.2 Assets

a. Compile an FDW that contains the[_____,] maintainable and warrantable equipment (assets) associated with each facility. This includes assets in contract scope and within the project extents. See 01 78 00 CLOSEOUT SUBMITTALS [and 01 78 23 OPERATION AND MAINTENANCE DATA]for related requirements. Assets shall include but are not limited to those types described in the "Required Assets" portion of the FDW template[, those assets listed in the table below,] and any additional assets defined in the FDPxP. FDW asset entries shall be individually itemized (instance-based). Entries indicative of multiple assets (type-based) are not allowed.

****

NOTE: The FDW Template contains a list of baseline required assets that should be adequate for most projects. The specifier should review the FDW required assets and engage the appropriate Administering Public Works Office to determine whether the project or stakeholders require additional asset facility data be collected beyond those defined in the FDW template. A few assets that could be considered are listed in the table as examples, but add, edit, or delete the table according to project requirements.

****

[

SUPPLEMENTAL ASSET LIST (INCLUDE IN ADDITION TO "REQUIRED ASSETS" LISTED IN FDW TEMPLATE)	
Asset	Description/Example
[Fixtures, Furnishings, and Equipment]	[Furniture, systems furniture, appliances, and other significant items of equipment]
[Kitchen Equipment and Fixtures]	[Kitchen and foodservice equipment including but not limited to stoves, steamers, accessory hoods, cooking devices, refrigeration devices, etc.]
[Valves]	[All operable valves in facility including but limited to those installed in plumbing, HVAC, and fire protection systems.]
[Tanks and Vaults]	[Expansion tanks, septic tanks, oil-water separators, grease separators, etc.]
[Material Handling Equipment]	[Cranes, coveyor belts, equipment lifts, etc.]
[DDC and EMCS Equipment]	[Panels and consoles associated with the facility automation and control systems integration.]
[All Inspectable Equipment]	[_____]
[_____]	[_____]

] Assets applicable to the scope of this project shall be documented in the FDPxP.

b. Sub-component assets that are an integral and functional part of another component (e.g. An electric motor that serves as part of an air-handling unit) need not be duplicated or listed separately as its own asset.

c. Definitions, descriptions, and formatting requirements for these assets can be found in the FDW Requirements contained within the FDW template.

d. If an asset type is not included in the scope of the Project, no Facility Data (assets or attributes) are to be included in the FDW (even as a placeholder) for that asset type.

2.2.3 Attributes

a. Populate each individual asset with all required attributes defined in the "Required Attributes" portion of the FDW template.

b. Definitions, descriptions, and formatting requirements for these attributes can be found in the FDW Requirements contained within the FDW template.

c. If an attribute is not applicable, populate that field with "[N/A][_____]." Do not leave it blank.

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NOTE: For design-bid-build contracts, design submittals are typically not necessary; require construction submittals only. For design-only contracts, design submittals are the only required deliverable. For design-build contracts, both design

and construction submittals may be requested, but construction submittals are the only required deliverable. Edit the specification as applicable using the appropriate bracketed options.
****

2.3 FACILITY DOCUMENT SET

2.3.1 Organization

Organize the FDS in a hierarchical manner as follows. Use electronic bookmarks to create an easily navigable document. The first and primary hierarchical level must contain the following bookmarks:

[a. "Design Data" - See subordinate hierarchical requirements in the "DESIGN DATA HIERARCHY" paragraph.
][
b. "O&M Data" - See subordinate hierarchical requirements in the "O&M DATA HIERARCHY" paragraph.
][
c. "Record Drawings" - See subordinate hierarchical requirements in paragraph RECORD DRAWINGS HIERARCHY.]

[2.3.1.1 Design Data Hierarchy

Under "Design Data," provide all Government-Approved "Design Complete" or "Issued for Construction" design documents as defined in[01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD)][_____], including:

a. Design Drawings - Provide the Government-Approved, "Design Complete" or "Issued for Construction" design drawings.

b. Design Specifications - Provide the Government-Approved, "Design Complete" or "Issued for Construction" design specifications.

c. Design Analysis - Provide the "Design Complete" or "Issued for Construction" Government-Approved Design Analysis.

][2.3.1.2 O&M Data Hierarchy

Under "O&M Data" provide all Government-Approved O&M Data Packages as defined in 01 78 23 OPERATION AND MAINTENANCE DATA and as required by technical specifications contained within this contract. Further organize this information under the following hierarchical levels:

a. The contract specification and title under which the Data Package and the associated equipment or system references. (e.g. 26 23 00.00 40 - SWITCHBOARDS AND SWITCHGEAR)

b. The Data Package Number as defined in 01 78 23 OPERATION AND MAINTENANCE DATA. (e.g. Data Package 2)

][2.3.1.3 Record Drawings Hierarchy

Under "Record Drawings" provide an electronic copy of the Government-Approved record drawings, as specified in 01 78 00 CLOSEOUT SUBMITTALS, for the project in PDF format. Further group discipline sheets under the following hierarchical levels:

a. The full discipline heading represented by the contents of the sheet and as shown in the Record Drawing Sheet Index. Organize these headings in the order that the drawings set is organized. (General, Civil, Structural, Architectural, Interiors, Plumbing, Mechanical, Electrical, Telecommunications, etc.)

b. The Sheet ID and Sheet Name as found in the Record Drawing Sheet Index and in accordance with the AEC CAD Standard referenced in 01 78 00 CLOSEOUT SUBMITTALS. (e.g. G-001 - LEGEND; CS101 - SITE PLAN AREA 101; A-101 - OVERALL FIRST FLOOR PLAN; P-601 - FIRST FLOOR DWS WATER RISER DIAGRAM, etc.)

]PART 3 EXECUTION

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NOTE: For design-bid-build contracts, design submittals are typically not necessary (require construction submittals only). For design-only contracts, design submittals are the only required deliverable. For design-build contracts, both design and construction submittals may be requested, but construction submittals are the only required deliverable. Edit the specification as applicable using the appropriate bracketed options.

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[3.1 DESIGN SUBMITTALS

Submit the Facility Data Workbook and Facility Document Set design submittals together. Meet the following completeness and formatting requirements listed below:

a. Provide Facility Data Workbook, Design submittals(s) when at "Design Complete" or "Issued for Construction" phase as defined by [01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD)][_____]. Populate the FDW with all data required for the design submittal, detailed in the FDW Requirements. Clearly identify any assets or asset groups missing in the "variations" section of the ENG Form 4025 Transmittal Form provided with the submittal. See the FDW Requirements contained within the FDW template for a list of attributes to be completed for this submittal. Intent of this submittal is to populate the FDW with all design-based asset information prior to Project advertisement or construction.

b. Submit individual FDW templates for each facility identified in the "FACILITIES" paragraph. While FDWs will not be complete at this phase, any data provided shall be accurate and formatted correctly according to the FDW Requirements.

c. Submit Facility Document Set, Design submittal as defined in Part 2 of this specification.

][3.2 CONSTRUCTION PROGRESS SUBMITTALS

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NOTE: For Construction Progress FDW submittal, recommended delivery is 60 days prior to BOD for small projects and 90 days prior to BOD on large projects. Specifier may insert alternative delivery

date if project requirements dictate differently.
****

Submit the FDW and FDS construction progress submittals together. Meet the following completeness and formatting requirements listed below:

a. Provide Facility Data Workbook, Construction Progress submittal(s) when all assets are identified, but not later than [60][90][__] days prior to Beneficial Occupancy Date (BOD) as identified in the Government-Approved construction schedule. Clearly identify any assets or asset groups missing in the "variations" section of the ENG Form 4025 Transmittal Form provided with the submittal. Populate assets with any front-loaded attribute data that is available at the time of asset input. See the FDW Requirements contained within the FDW template for a list of attributes to be completed for this submittal.

b. Submit individual FDW templates for each facility identified in the "FACILITIES" paragraph. While FDWs are not required to be complete for this submittal, any data provided shall be accurate and formatted correctly according to the FDW Requirements.

c. Submit a sample or working Facility Document Set, Construction Progress submittal containing "draft" or "example" documents that are organized in the manner defined by this specification. Draft or example documents need not be technically accurate or complete in their content, but defined and separated in a manner such that all organizational and formatting requirements defined by this specification may be evaluated.

][3.3 CONSTRUCTION FINAL SUBMITTALS

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NOTE: Unlike the Construction Progress Submittal, it is unlikely that the Contractor will be able to submit the full Construction Final Submittal at one time. The FDW(s) are most beneficially submitted during commissioning of building systems, prior to the Beneficial Occupancy Date (BOD). Components of the FDS can only be compiled and finalized after Government-Acceptance of its individual components (Record Drawings, O&M Data Packages). This will likely not occur until after BOD. Specifier should edit this specification with this understanding and tailor this paragraph as necessary to comply with individual project requirements.
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NOTE: For Facility Data, Construction Final Submittal, recommended delivery is 60 days after BOD for small projects and 90 days after BOD on large projects. Specifier may insert alternative delivery dates if project requirements dictate differently.
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Submit the FDW and FDS construction final submittals [as they are completed][_____]. Coordinate the Facility Data Workbook, Construction Final submittal with data verification procedures as defined

in the accepted FDPxP. Provide the Facility Document Set, Construction Final submittal only after Government acceptance of its individual components as defined by[01 78 00 CLOSEOUT SUBMITTALS][and][01 78 23 OPERATION AND MAINTENANCE DATA].

]3.4 FACILITY DATA WORKBOOK VERIFICATION

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NOTE: Choose the Commissioning Authority bracketed option below when Commissioning is being required by this project. Insert the appropriate commissioning specification number and title used on this project.
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NOTE: On-site verification of Facility Data contained in the FDW(s) is required for assurance of quality data. The best time to verify this data is during facility commissioning procedures. If commissioning of building systems is part of the scope of this project, require that the Contractor align verification of FDW with commissioning. If commissioning is not required for the project, Data Verification is most beneficial during Contract Closeout, prior to BOD.
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Verify the FDW through the quality control personnel and procedures as defined in the FDPxP.[Coordinate and conduct verification with commissioning procedures defined in [_____].] One-hundred percent accuracy of FDW information is required for Government acceptance of the [Facility Data Workbook, Design submittal][and][Facility Data Workbook, Construction Final submittal].

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NOTE: The following bracketed option for "Attachments" should only be included if the Project requires a pre-populated FDW be included in the contract. If a pre-populated FDW is necessary, edit the "FACILITY DATA WORKBOOK(S)" and "Facility Data Workbook Quality Requirements" paragraphs above to indicate as such and include the bracketed reference below. Print a PDF copy of the pre-populated FDW and attach to the end of this specification in the contract solicitation. Preserve a copy of the pre-populated FDW for turnover to the Contractor upon Contract Award.

If a pre-populated FDW is not necessary, remove this bracketed option.
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--Attachments--
Project Facility Data Worksheets

-- End of Section --