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Information Exchange Pilot Project at Army Installations



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Objectives

1. Develop understanding about gaps within facility information delivery process.
2. Understand USACE current efforts to improve collection and exchange of facility data.
3. Learn about pilot project conducted on Army Installations.
4. Learn about ERDC projects and efforts regarding data collection and exchange.



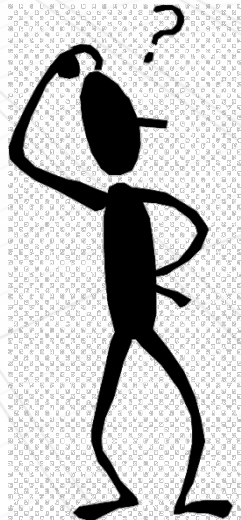
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The problem

- **What?**
 - Unnecessary data re-entry.
 - Delay of preparation for routine maintenance activities.
 - Increase operation and maintenance time due to lack of information.
- **Where?**
 - Federal agencies
- **When?**
 - Throughout the construction life-cycle
- **Why?**
 - Lack of standard process for collecting and exchanging project information.
 - Lack of coordination.
- **Who?**
 - Construction stakeholders
 - Installations' facility managers





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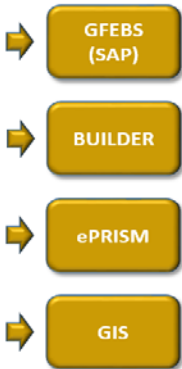
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USACE initiative



Facility Data Exchange (FDE) Vision


- Provide policy, guidance, and process for collection and delivery of facility data
- Establish stakeholder-vetted set of assets and attributes required in delivery of projects
- Provide necessary tools to enable data transfer to multiple Army data systems





Facility Data Workbook (FDW)

ISCASE Facility Data Workbook (FDW) - Version 0.5.1 (17-Nov-2015)



 International Space and Astronautics Center of Excellence

REQUIRED ASSETS

UFSD Division

Product Name

Division 14 - Covering Equipment

Elevators

Division 21 - Fire Suppression

Fire Pumps

Division 22 - Plumbing

Domestic Water Pumps

Backwater Valves

Sanitary Sewerage Pumps

Facility Packaged Sewage Pumping Stations

General Service Packaged Air Compressors and Receivers

Electric Domestic Water Heaters

Fuel Fired Domestic Water Heaters

Domestic Heat Exchangers

Division 23 - Heating, Ventilating, and Air-Conditioning (HVAC)

Facility Fuel Pumps

Fire Pumps

Smoke Control Dampers

HVAC Fans

Constant Air Volume Units

Variable Air Volume Units

Ventilation Hoods

Heating Boilers

Boiler Feedwater Pumps

Furnaces

Fuel-Fired Heaters

Heat Exchangers for HVAC

Refrigerant Compressors

Refrigerant Condensers

Packaged Water Chillers

Cooling Towers

Indoor Central Station Air-Handling Units

Packaged Outdoor HVAC Equipment

Custom Packaged Outdoor HVAC Equipment

Evaporative Air-Cooling Equipment

Decentral and Unitary HVAC Equipment

Connection Heating and Cooling Units

Ductal Heat Treating Units

Division 26 - Electrical

Medium Voltage Power Transformers

Medium Voltage Switchgear

Medium Voltage Metering

Low Voltage Transformers

Low Voltage Switchgear

Switchboards and Panelboards

Static Uninterruptible Power Supply

Division 28 - Electronic Safety and Security

Fire Detection and Alarm Annunciation Panels and Fire

Stations

Division 33 - Utilities

Water Utility Pumping Stations

Water Supply Wells

Packaged Utility Lift Stations

Packaged Utility Wastewater Pumping Stations

Fuel Oil Pumps

Gasoline Pumps

Diesel Fuel Pumps

Utility Transformers

High-Voltage Switchgear and Protection Devices

Medium Voltage Utility Switchgear and Protection Devices

USACE Facility Data Workbook (FDW) - Version 0.5.51 (NOV-17-2015)




US Army Corps of Engineers

REQUIRED ATTRIBUTES

Facility Data					
ID	Attribute	Description	Example(s)	Submittal	
401	Project Designation	Use USACE Project Number (PIN) prior to contract award and Contract Number (in contract) after award. Only USACE Project Number (PIN) prior to contract award. Only one use per contract. Project Designation must be unique.	PN7294 WY2019 34-01031	Design / Construction Proposal	
402	Project Designation	Project description such as the DOL title or project title.	Battalion Headquarters	Design / Construction Proposal	
403	Design Contract	Provide design organization or vendor.	KYF Architects and Engineers	Design / Construction Proposal	
404	Design Contract	Prime contract designation as indicated on the award letter.	AMC Construction, Inc.	Design / Construction Proposal	
405	Facility Description	Build the identification number for the facility as the designation on the sign or Real Property Report (RPR) for the facility. Only one facility permitted per workbook. Facility Description must be unique.	1 102	Design / Construction Proposal	
406	Facility Description	Facility name from GS 29-34-00 10 section 2.1.	Battalion Headquarters Building	Design / Construction Proposal	
Space Data					
ID	Attribute	Description	Example(s)	Submittal	
501	Space Designation	Room designation as it appears on the construction documents. All spaces in the facility must be included whether an asset is present or not. Space Designation must be unique.	N226	Design / Construction Proposal	
502	Space Description	Description of space as found on signage and/or construction documents.	Mechanical Room	Design / Construction Proposal	
503	Space Designation	A standardized classification for the function of the space.	1B 131 21 100 Mechanical Room	Design / Construction Proposal	
504	Space Designation	Designation of space as found on signage.	N226	Design / Construction Proposal	
505	Space Designation	Room Number found on construction documents. Naming standard should be provided and used again on the RPR and P&ID.	226 Mechanical Room	Design / Construction Proposal	
506	Space Designation	Room Number found on construction documents. Naming standard should be provided and used again on the RPR and P&ID.	03 Third Floor	Design / Construction Proposal	
507	Level Classification	A standardized classification of the type of level.	Floor	Design / Construction Proposal	
Equipment Data					
ID	Attribute	Description	Example(s)	Submittal	
601	Asset Designation	Unique name for each asset to match name/mark in construction documents. There must be multiple instances of the same asset designation but each a unique sequence number such as 1 and 2. If Asset Designation is not used to label on construction documents, use Asset Abbreviation followed, followed by a dash and sequence number (e.g. P-20 for a pump).	AHU 1 HVAC201 3	Design / Construction Proposal	
602	Asset Designation	Common language designation of a asset.	Air Handling Unit	Design / Construction Proposal	
603	Asset Designation	Designation of spaces from which an asset is accessed and maintained. Select from Space Designations from Space Data.	Air Supply Main Pump	Design / Construction Proposal	
604	Asset Reference	Point to the asset. Use the Facility, Asset, Space or RPR Designation on the asset.	11 131 21 100	Design / Construction Proposal	
605	Asset Reference	Category of the asset. Select from most applicable category.	22 23 100 Indoor Climate Control	Design / Construction Proposal	
606	Asset Reference	Category of the asset. Select from most applicable category.	Air Handling Units	Design / Construction Proposal	
607	Asset Reference	Category of the asset. Select from most applicable category.	22 23 100 Indoor Climate Control	Design / Construction Proposal	
608	System Designation	System Type/ Discipline. Select most appropriate system to identify documents such as drawings, P&ID, RPR, electrical, electrical etc.	HVAC	Design / Construction Proposal	
609	System Designation	Category of the system. Select the most specific applicable category.	21 04 30 Cooling, Heating, Ventilation, and Air Conditioning (HVAC)	Design / Construction Proposal	
610	Manufacturer	The Designator/Brand name physically attached to the asset.	30 110T	Design / Construction Proposal	
611	Manufacturer	Manufacturer is a registered name on the nomenclature.	Spacalife (Spacalife)	Design / Construction Proposal	
612	Manufacturer	Manufacturer is a registered name on the nomenclature.	CLIM PROTECT 2B	Design / Construction Proposal	
613	Serial Number	Manufacturer provided serial number as found on installed equipment nomenclature.	200 7742 05	Design / Construction Proposal	
614	Manufacturer Email	Email address for technical point of contact for asset.	info@proprotect.com	Design / Construction Proposal	
Installation Data					
ID	Attribute	Description	Example(s)	Submittal	
701	Installation Date	Date on which the asset was installed. Format is YYYYMMDD.	2015/10/15	Construction Rpt	
702	Installation Date	Date on which the asset was installed. Format is YYYYMMDD.	2015/10/15	Construction Rpt	
703	Warranty Duration	Duration of asset warranty in months.	12	Construction Rpt	
704	Warranty Description	Description of warranty.	Manufacturer's comprehensive no dollar limit tier 1 service support.	Construction Rpt	
705	Priority Code	Warranty priority code as defined in USACE 78-00 section 1.7.4 (Code 1, Code 2, and Code 3).	Code 1	Construction Rpt	


USACE Facility Data Workbook (FDW) - Version 1.4.16-BETA



FACILITY DATA

Project Designation	Facility Description	Design Agency	Construction Contractor	Facility Status	Facility Building Number
W712224-19-9-0000	W-76 1st Central Postage Mainframe Facility	USACE - Southern District	Black Construction, Inc.	ACTIVE	1234

USACE Facility Data Workbook (FDW) - Version 1.4.16-BETA



SPACE DATA


Space Designation	Space Description	* Space Classification	Space Signage	Level Designation	* Level Classification
3.00C	ELECTRICAL	3.2.23 19.00 - Entry Equipment Room	1.00C ELECTRICAL	03 - Entry Floor	Other
3.00D	BREAK ROOM	3.9.52 17.13 - Break Room	1.00D BREAK ROOM	03 - Entry Floor	Other
3.00E	MTN ROOM	3.9.45 13.12 - Locker Room	1.00E MTN ROOM	03 - Entry Floor	Other
3.00F	MTN	3.9.23 17.00 - Restrooms	1.00F MTN	03 - Entry Floor	Other
3.00G	MECHANICAL LOCKER	3.9.45 13.12 - Locker Room	1.00G MECHANICAL LOCKER	03 - Entry Floor	Other

USACE Facility Data Workbook (FDW) - Version 1.4.16-BETA

ASSET DATA

Asset Identification	Asset Description	Asset Classification	Asset Location	Asset Designation	Asset Category	Asset Status	Asset Value	Asset Notes	Asset Comments
01A	USACE Facility Data	0001	01.01.01.01.01.01	0001	0001	0001	0001	0001	0001
01B	USACE Facility Data	0002	01.01.01.01.01.02	0002	0002	0002	0002	0002	0002
01C	USACE Facility Data	0003	01.01.01.01.01.03	0003	0003	0003	0003	0003	0003
01D	USACE Facility Data	0004	01.01.01.01.01.04	0004	0004	0004	0004	0004	0004
01E	USACE Facility Data	0005	01.01.01.01.01.05	0005	0005	0005	0005	0005	0005
01F	USACE Facility Data	0006	01.01.01.01.01.06	0006	0006	0006	0006	0006	0006
01G	USACE Facility Data	0007	01.01.01.01.01.07	0007	0007	0007	0007	0007	0007
01H	USACE Facility Data	0008	01.01.01.01.01.08	0008	0008	0008	0008	0008	0008
01I	USACE Facility Data	0009	01.01.01.01.01.09	0009	0009	0009	0009	0009	0009
01J	USACE Facility Data	0010	01.01.01.01.01.10	0010	0010	0010	0010	0010	0010
01K	USACE Facility Data	0011	01.01.01.01.01.11	0011	0011	0011	0011	0011	0011
01L	USACE Facility Data	0012	01.01.01.01.01.12	0012	0012	0012	0012	0012	0012
01M	USACE Facility Data	0013	01.01.01.01.01.13	0013	0013	0013	0013	0013	0013
01N	USACE Facility Data	0014	01.01.01.01.01.14	0014	0014	0014	0014	0014	0014
01O	USACE Facility Data	0015	01.01.01.01.01.15	0015	0015	0015	0015	0015	0015
01P	USACE Facility Data	0016	01.01.01.01.01.16	0016	0016	0016	0016	0016	0016
01Q	USACE Facility Data	0017	01.01.01.01.01.17	0017	0017	0017	0017	0017	0017
01R	USACE Facility Data	0018	01.01.01.01.01.18	0018	0018	0018	0018	0018	0018
01S	USACE Facility Data	0019	01.01.01.01.01.19	0019	0019	0019	0019	0019	0019
01T	USACE Facility Data	0020	01.01.01.01.01.20	0020	0020	0020	0020	0020	0020
01U	USACE Facility Data	0021	01.01.01.01.01.21	0021	0021	0021	0021	0021	0021
01V	USACE Facility Data	0022	01.01.01.01.01.22	0022	0022	0022	0022	0022	0022
01W	USACE Facility Data	0023	01.01.01.01.01.23	0023	0023	0023	0023	0023	0023
01X	USACE Facility Data	0024	01.01.01.01.01.24	0024	0024	0024	0024	0024	0024
01Y	USACE Facility Data	0025	01.01.01.01.01.25	0025	0025	0025	0025	0025	0025
01Z	USACE Facility Data	0026	01.01.01.01.01.26	0026	0026	0026	0026	0026	0026

1. Facility Data 2. Space Data 3. Asset Data 4. Required Assets 5. Required Attributes 6. Required Values

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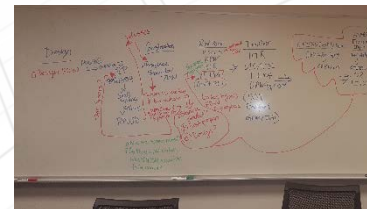
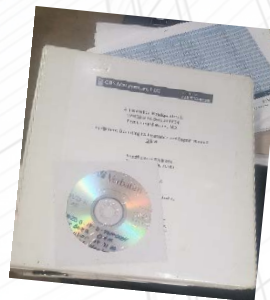
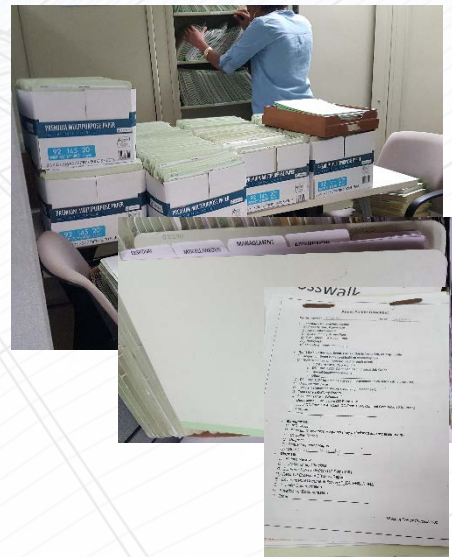


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- Site Visits
 - Verify and collect additional information
 - Meet with installation's stakeholders
 - Conduct interviews





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Facility Data Exchange Pilot

- Test population of GFEBS with collected data.
- Findings and recommendations
 - Comparison of information flow on installations
 - Sample FDW from real projects

USACE Facility Data Workbook (FDW) - Version 0.5.51 (NOV-17-2015)

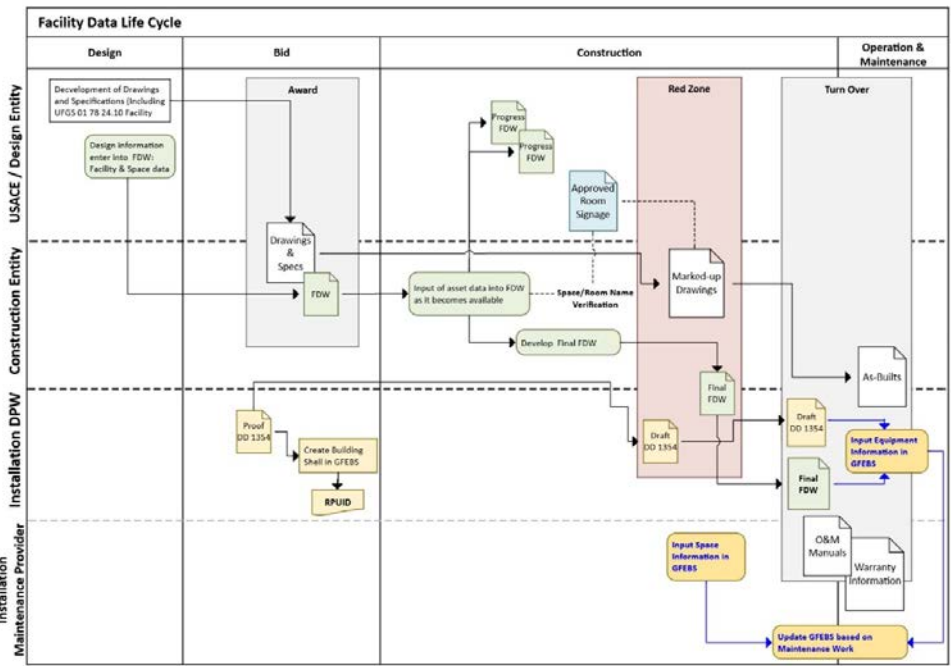
FACILITY DATA

Project Designation	Project Description	Construction Contractor	Facility Designation	Facility Description
W9127N-10-D-0048-0005	TRAINING SUPPORT UPGRADE	BRADFORD & GORRIS	5240	TRAINING BARRACKS

USACE Facility Data Workbook (FDW) - Version 0.5.51 (NOV-17-2015)

ASSET DATA

Asset Designation	Asset Description	Asset Type	Item Reference	Asset Classification	System Designation
ASSET1	ASSET DESCRIPTION	ASSET TYPE	ITEM REFERENCE	ASSET CLASSIFICATION	SYSTEM DESIGNATION
ASSET2	ASSET DESCRIPTION	ASSET TYPE	ITEM REFERENCE	ASSET CLASSIFICATION	SYSTEM DESIGNATION
ASSET3	ASSET DESCRIPTION	ASSET TYPE	ITEM REFERENCE	ASSET CLASSIFICATION	SYSTEM DESIGNATION
ASSET4	ASSET DESCRIPTION	ASSET TYPE	ITEM REFERENCE	ASSET CLASSIFICATION	SYSTEM DESIGNATION
ASSET5	ASSET DESCRIPTION	ASSET TYPE	ITEM REFERENCE	ASSET CLASSIFICATION	SYSTEM DESIGNATION
ASSET6	ASSET DESCRIPTION	ASSET TYPE	ITEM REFERENCE	ASSET CLASSIFICATION	SYSTEM DESIGNATION
ASSET7	ASSET DESCRIPTION	ASSET TYPE	ITEM REFERENCE	ASSET CLASSIFICATION	SYSTEM DESIGNATION
ASSET8	ASSET DESCRIPTION	ASSET TYPE	ITEM REFERENCE	ASSET CLASSIFICATION	SYSTEM DESIGNATION
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ASSET10	ASSET DESCRIPTION	ASSET TYPE	ITEM REFERENCE	ASSET CLASSIFICATION	SYSTEM DESIGNATION
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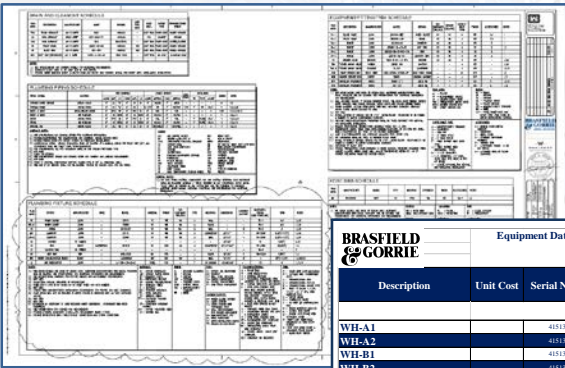
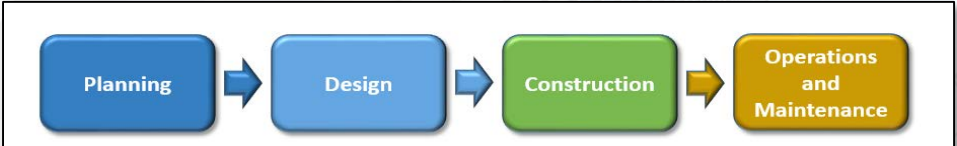




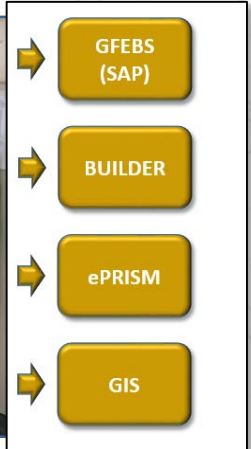
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Facility Data Exchange Pilot



Equipment Data for Transfer of Property				
Description	Unit Cost	Serial Number	Model No.	Manufacturer
22 00 00				
WH-A1		411139664	7421.930A-TP	PVS
WH-A2		411139668	7421.930A-TP	PVS
WH-B1		411139670	7421.930A-TP	PVS
WH-B2		411139667	7421.930A-TP	PVS
WH-C1		411139661	7421.930A-TP	PVS
WH-C2		411139663	7421.930A-TP	PVS
WH-D1		411139665	7421.930A-TP	PVS
WH-D2		411139669	7421.930A-TP	PVS
WH-E1		411139662	7421.930A-TP	PVS
WH-E2		411139666	7421.930A-TP	PVS
23 00 00				
AC-5	564478		PHI060-2W-A-S5-2	Mars
AC-6	564475		PHI060-2W-A-S5-2	Mars
AC-7	564474		PHI060-2W-A-S5-2	Mars
AC-8	564477		PHI060-2W-A-S5-2	Mars
AC-9	564476		PHI060-2W-A-S5-2	Mars
AHU-10, A2	K14C2288		CSA0004LAL0	Tonn
AHU-11, B2	K14C2287		CSA0004LAL0	Tonn
AHU-12, B2	K14C2289		CSA0004LAL0	Tonn
AHU-13, C2	K14C2284		CSA0004LAL0	Tonn
AHU-14, C2	K14C2286		CSA0004LAL0	Tonn





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Facility Data Exchange Pilot

- Findings and recommendations
 - Input to FDE products
 - Technical Report



**US Army Corps
of Engineers**

ENGINEERING AND CONSTRUCTION BULLETIN

No. 2018-6

Issuing Office: CECW-EC

Issued: 27 Mar 18

Expires: 27 Mar 20

SUBJECT: Operations & Maintenance (O&M) Facility Data Requirements

CATEGORY: Directive and Guidance

1. References

- Unified Facilities Guide Specification (UFGS) 01 78 24.00 10, "Facility Data Requirements"
- Under Secretary of Defense Memorandum, Subject: Standardizing Facility Condition Assessment, 10 September 2013
- Department of Defense Memorandum, Subject: Facility Sustainment and Recapitalization Policy, 29 April 2014
- Engineering Construction Bulletin (ECB) 2016-19, Subject: Operations & Maintenance Facility Data Requirements
- Unified Facilities Criteria (UFC) 1-300-02, "Unified Facilities Guide Specifications Format Standard"
- Engineer Regulation (ER) 1110-345-100, "Design Policy for Military Construction"
- Engineer Regulation (ER) 415-345-38, "Transfer and Warranties"

2. Purpose. This Engineering and Construction Bulletin (ECB) establishes the mandatory use of the UFGS 01 78 24.00 10, "Facility Data Requirements" (Ref. a.) applicable to projects as described below. This specification facilitates procurement of electronic operations and maintenance (O&M) facility data for use by Department of the Army (DA) stakeholders in various systems of record. Use of this specification improves the quality of the data, the flexibility of use, and its portability.

3. Background.

a. Stakeholders require many operations and maintenance data points in order to successfully and efficiently operate a myriad of facilities across installations. The traditional method for procuring this data involves manually transferring manufacturer and warranty information from hard copy O&M manuals into a computerized maintenance management system (CMMS). This process can be labor intensive and prone to error, requires real property to house physical O&M submittals, and fails to embrace streamlined digital data transfer through established software platforms. Additionally, as Army Directories of Public Works continue to face staffing and funding challenges, adoption of more efficient and effective processes for data transfer avoids further taxing of already limited resources.



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References

- Unified Facility Guide Specification (UFGS)
<https://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs/ufgs-01-78-24-00-10>
- Facility Data Workbook
<https://cadbimcenter.erdcdren.mil/default.aspx?p=a&t=1&i=56>
- Technical Report
<https://erdc-library.erdcdren.mil/xmlui/handle/11681/29355E>
- Engineering and Construction Bulletin (ECB)
<http://www.wbdg.org/ffc/dod/engineering-and-construction-bulletins-ecb/usace-ecb-2018-6>

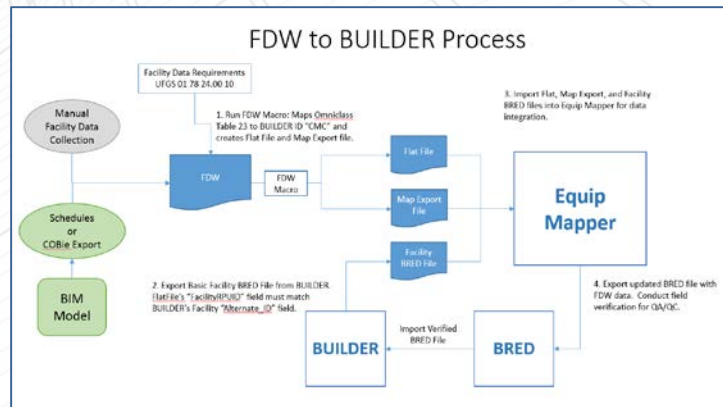
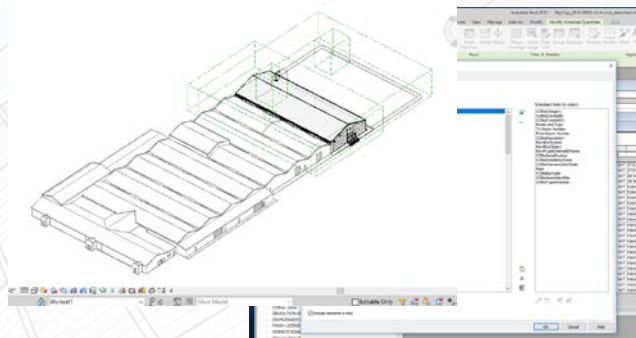


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Current and Future Efforts

- Study, test and document population of SMS BUILDER from a Air Force building model.
 - Air Force Civil Engineer Center
 - Status: In process
- Test and demonstrate FDE products targeting population of BUILDER.
 - Installation Technology Transition Program (ITTP)
 - Status: Approved for funding





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Information Exchange Pilot Project on Army Installations

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Construction Engineering Research Laboratory (CERL)

