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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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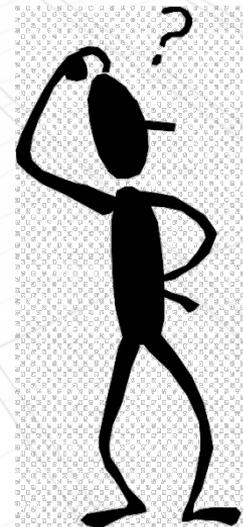
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The problem

- **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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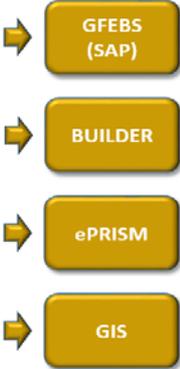
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USACE initiative



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





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

REQUIRED ASSETS

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USACE Division	Product Name
Division 14 - Conveying Equipment	Elevators
Division 21 - Fire Suppression	Fire Pumps

Division 22 - Plumbing

Domestic Water Pumps
Backwater Valves
Sanitary Sewerage Pumps
Facility Packaged Sewage Pumping Stations
Sump Pumps
General Service Packaged Air Compressors and Receivers
Electric Domestic Water Heaters
Fuel Fired Domestic Water Heaters
Domestic Water Heat Exchangers

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

Facility Fuel Pumps
Fire Dampers
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
Decentralized Unitary HVAC Equipment
Convection Heating and Cooling Units
Radiant Heating Units

Division 24 - Electrical

Medium-Voltage Transformers
Medium-Voltage Switchgear
Medium-Voltage Metering
Low-Voltage Transformers
Low-Voltage Switchgear
Switchboards and Panelboards
Static Uninterruptible Power Supply

Division 25 - Electronic Safety and Security

Fire Detection and Alarm Annunciation Panels and Fire Stations
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Division 33 - Utilities

Water Utility Pumping Stations
Water Supply Wells
Packaged Utility Lift 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)

REQUIRED ATTRIBUTES

USACE logo

Facility Data

ID	Attribute	Definition	Example(s)	Submit
R01	Project Designation	The USACE Project Number (PN) prior to contract award and Contract Number (CN) for construction drawings after contract award. Only one row per method. Project Designation must be unique.	Project: W9129F-14-C-0011	Design / Construction Progress
R02	Project Description	Project description such as the DDS 391 or contract project title.	Battall on Headquarters Building	Design / Construction Progress
R03	Prime Design Organization of Record	Prime design organization as indicated on the award letter.	XYZ Architects and Engineers	Design / Construction Progress
R04	Facility Designation	Building identification number for the facility, such as the designation on the sign or Real Property Unitary Code Identifier (RPUUCI). Only one facility permitted per workbook. Facility Designation must be unique.	1202	Design / Construction Progress
R05	Facility Description	Facility name from GS 78-24-00 10 section 2.1.	Battall Headquarters Building	Design / Construction Progress

Space Data

ID	Attribute	Definition	Example(s)	Submit
S01	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.	N235	Design / Construction Progress
S02	Space Description	Description of space found on signs and/or construction documents.	Mechanical Room	Design / Construction Progress
S03	Space Classification	A standardized classification for the function of the space.	18 81 21 17 00 Mechanical Room	Design / Construction Progress
S04	Space Reference	Designation found on signs or tags.	346, Mechanical Room	Design / Construction Progress
S05	Level Designation	Floor number found on construction documents. Naming standard should be provided and agreed upon in the W9129F-14-C-0011.	03 - Third Floor	Design / Construction Progress
S06	Level Classification	A standardized classification of the type of level.	Floor	Design / Construction Progress

Asset Data

ID	Attribute	Definition	Example(s)	Submit
A01	Asset Designation	Unique name for each asset to match name/num in construction documents. Note: If multiple instances of the same asset designation exist, add a unique identifier number such as 1 and 2. If Asset Designation is not available on construction documents, use Asset Reference provided. Followed by dash and sequence number (i.e., P-20 for a pump).	A001 1 HVACR02 P 2	Design / Construction Progress
A02	Asset Description	Common language description of an asset.	Air Handling Unit	Design / Construction Progress
A03	Space	Designation of space from which the asset is accessed and maintained. Select from Space Designations for the Space Data.	N235	Design / Construction Progress
A04	Asset Reference	Project specific designation for the asset.	29 - 23 33 00	Design / Construction Progress
A05	Asset Classification	Category of the system. Select most specific applicable category.	22 23 73 00 Indoor Central Station Air Handling Units 22 23 8 00 Electrical and Utility HVAC Equipment	Design / Construction Progress
A06	System Designation	System Type/ Discipline. Select most appropriate system designation such as Conveying/ Plumbing/ HVAC/ Fire Protection/ Electrical, etc.	HVAC	Design / Construction Progress
A07	System Classification	Category of the system. Select the most specific applicable category.	21 04 30 00 Heating, Ventilation, and Air Conditioning (HVAC)	Design / Construction Progress
A08	Manufacturer	The manufacturer's name as it appears on the construction documents.	GE	Construction Progress
A09	Manufacturer Model Number	Manufacturer provided model number as found on installed equipment nomenclature.	GLX PK2022 EN	Construction Progress
A10	Manufacturer Serial Number	Manufacturer provided serial number as found on installed equipment nomenclature.	501 7781 01	Construction Progress
A11	Manufacturer Email	Email address for technical panel of contact for asset.	info@ge.com	Construction Progress
A13	Installation Date	Date on which the asset was installed. Format is YYYYMMDD.	2015/02/15	Construction Progress
A14	Warranty Start Date	Date on which the asset warranty begins. Format is YYYYMMDD.	2015/03/15	Construction Progress
A15	Warranty Duration	Duration of asset warranty in months. Format is WYYMMDD.	12	Construction Progress
A16	Warranty Description	Description of warranty.	Manufacturer's comprehensive two dollar limit total system warranty	Construction Progress
A17	Warranty Parts Code	Warranty priority code as defined in USACE 01 78 00 section 1.7 (A) and 1. Code 2 and Code 3).	Code 1	Construction Progress

USACE initiative

Facility Data Workbook (FDW)

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

FACILITY DATA

Project Designation	Project Description	Design Agent	Construction Contractor	Facility BRND	Facility Building Number
W9129F-14-C-0011	USACE Battall Headquarters Building	USACE - Battall Office	Mark Construction, Inc.	1202	1202

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

SPACE DATA

Space Designation	Space Description	Space Classification	Space Shpgage	Level Designation	Level Classification
1202	ELECTRICAL	22 23 73 00 Utility Equipment Room	1202 ELECTRICAL	03 - Third Floor	Floor
1202	MECHANICAL ROOM	21 04 30 00 Heating, Ventilation, and Air Conditioning (HVAC)	1202 MECHANICAL ROOM	03 - Third Floor	Floor
1202	MEN'S LOCKER	33 43 11 17 Locker Room	1202 MEN'S LOCKER	03 - Third Floor	Floor
1202	WOMEN'S LOCKER	33 43 11 17 Locker Room	1202 WOMEN'S LOCKER	03 - Third Floor	Floor
1202	Mechanical Lock Room	33 43 11 17 Locker Room	1202 MECHANICAL LOCK ROOM	03 - Third Floor	Floor

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

ASSET DATA

ID	Asset Designation	Asset Description	Space	Asset Classification	System Designation	System Classification	Manufacturer	Manufacturer Model Number	Manufacturer Serial Number	Manufacturer Email	Installation Date	Warranty Start Date	Warranty Duration	Warranty Description	Warranty Parts Code
A01	A001 1	Air Handling Unit	N235	22 23 73 00 Indoor Central Station Air Handling Units	HVAC	21 04 30 00 Heating, Ventilation, and Air Conditioning (HVAC)	GE	GLX PK2022 EN	501 7781 01	info@ge.com	2015/02/15	2015/03/15	12	Manufacturer's comprehensive two dollar limit total system warranty	Code 1

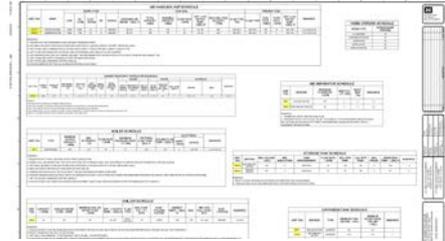
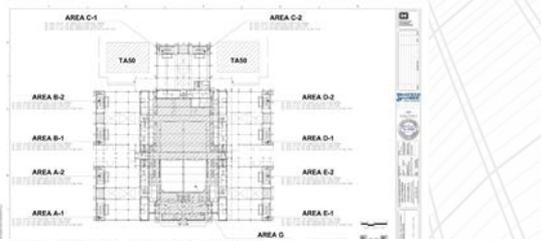


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Facility Data Exchange Pilot

- Objective: Test FDE products
- Focus: Army General Fund Enterprise Business System (GFEBs)
- Three Installations
 - Ft. Benning
 - Ft. Leonard Wood
 - West Point
- Recently constructed projects
- Development of FDW with available information



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

FACILITY DATA

Agency/Division	Facility Description	Construction Cost	Facility Classification	Facility Status
USACE/USACE/USACE	TRAVIS BIRCHALLS OFFICE (TR) (PHASE 2)	10,000,000	Office	PLANNED

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

ASSET DATA

Asset Identifier	Asset Description	Year	Asset Value	Asset Location	Asset Status
ASSET1	ASSET DESCRIPTION	2015	10,000,000	ASSET LOCATION	ASSET STATUS

USACE Facility Data Workbook (FDW) - Version 1.2

FACILITY DATA

Agency/Division	Facility Description	Construction Cost	Facility Classification	Facility Status
USACE/USACE/USACE	TRAVIS BIRCHALLS OFFICE (TR) (PHASE 2)	10,000,000	Office	PLANNED

USACE Facility Data Workbook (FDW) - Version 1.2

ASSET DATA

Asset Identifier	Asset Description	Year	Asset Value	Asset Location	Asset Status
ASSET1	ASSET DESCRIPTION	2015	10,000,000	ASSET LOCATION	ASSET STATUS



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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)

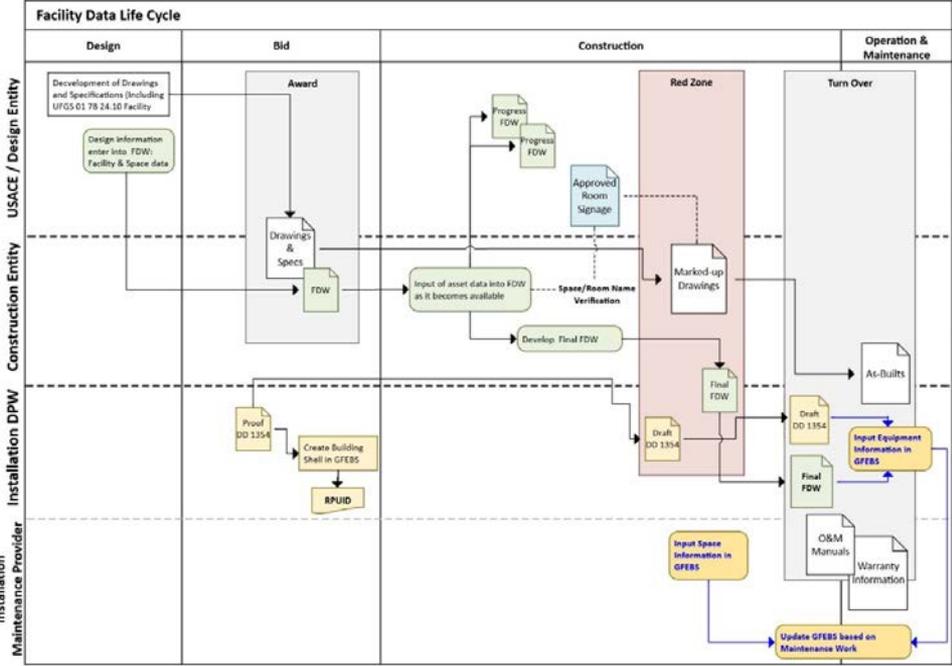
FACILITY DATA

Project Designation	Project Description	Construction Contractor	Facility Designation	Facility Description
WP1279-10-0-0048-0005	TRAINING BARRACKS IMPROVEMENT PROJECT 2	BRAF/FLD & GORR E	5240	TRAINING BARRACKS

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

ASSET DATA

Asset Designation	Asset Description	Type	Spec Reference	Asset Classification	Space Designation
AWP1A	AWP1A0101010101010101	AWP1A	AWP1A	AWP1A	AWP1A
AWP1B	AWP1B0101010101010101	AWP1B	AWP1B	AWP1B	AWP1B
AWP1C	AWP1C0101010101010101	AWP1C	AWP1C	AWP1C	AWP1C
AWP1D	AWP1D0101010101010101	AWP1D	AWP1D	AWP1D	AWP1D
AWP1E	AWP1E0101010101010101	AWP1E	AWP1E	AWP1E	AWP1E
AWP1F	AWP1F0101010101010101	AWP1F	AWP1F	AWP1F	AWP1F
AWP1G	AWP1G0101010101010101	AWP1G	AWP1G	AWP1G	AWP1G
AWP1H	AWP1H0101010101010101	AWP1H	AWP1H	AWP1H	AWP1H
AWP1I	AWP1I0101010101010101	AWP1I	AWP1I	AWP1I	AWP1I
AWP1J	AWP1J0101010101010101	AWP1J	AWP1J	AWP1J	AWP1J
AWP1K	AWP1K0101010101010101	AWP1K	AWP1K	AWP1K	AWP1K
AWP1L	AWP1L0101010101010101	AWP1L	AWP1L	AWP1L	AWP1L
AWP1M	AWP1M0101010101010101	AWP1M	AWP1M	AWP1M	AWP1M
AWP1N	AWP1N0101010101010101	AWP1N	AWP1N	AWP1N	AWP1N
AWP1O	AWP1O0101010101010101	AWP1O	AWP1O	AWP1O	AWP1O
AWP1P	AWP1P0101010101010101	AWP1P	AWP1P	AWP1P	AWP1P
AWP1Q	AWP1Q0101010101010101	AWP1Q	AWP1Q	AWP1Q	AWP1Q
AWP1R	AWP1R0101010101010101	AWP1R	AWP1R	AWP1R	AWP1R
AWP1S	AWP1S0101010101010101	AWP1S	AWP1S	AWP1S	AWP1S
AWP1T	AWP1T0101010101010101	AWP1T	AWP1T	AWP1T	AWP1T
AWP1U	AWP1U0101010101010101	AWP1U	AWP1U	AWP1U	AWP1U
AWP1V	AWP1V0101010101010101	AWP1V	AWP1V	AWP1V	AWP1V
AWP1W	AWP1W0101010101010101	AWP1W	AWP1W	AWP1W	AWP1W
AWP1X	AWP1X0101010101010101	AWP1X	AWP1X	AWP1X	AWP1X
AWP1Y	AWP1Y0101010101010101	AWP1Y	AWP1Y	AWP1Y	AWP1Y
AWP1Z	AWP1Z0101010101010101	AWP1Z	AWP1Z	AWP1Z	AWP1Z

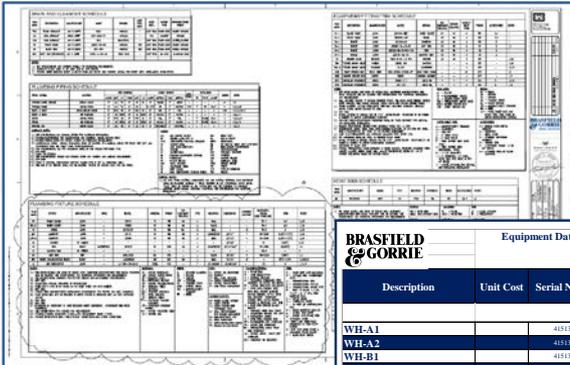
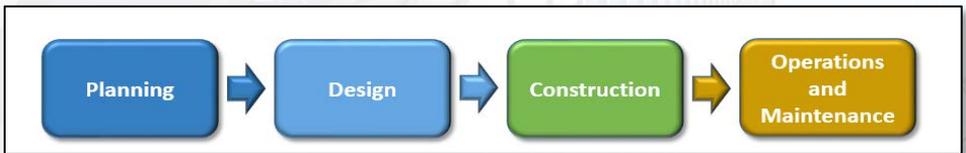




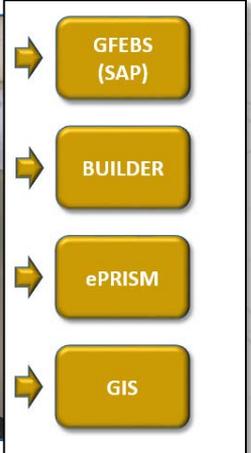
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Facility Data Exchange Pilot



Equipment Data for Transfer of Property				
Description	Unit Cost	Serial Number	Model No.	Manufacturer
22 00 00				
WH-A1		41119664	7421.950A-TP	PVS
WH-A2		41119668	7421.950A-TP	PVS
WH-B1		41119670	7421.950A-TP	PVS
WH-B2		41119667	7421.950A-TP	PVS
WH-C1		41119661	7421.950A-TP	PVS
WH-C2		41119663	7421.950A-TP	PVS
WH-D1		41119665	7421.950A-TP	PVS
WH-D2		41119666	7421.950A-TP	PVS
WH-E1		41119662	7421.950A-TP	PVS
WH-E2		41119666	7421.950A-TP	PVS
23 00 00				
AC-5	964476		PHI060-2W-A-SS-2	Man
AC-6	964475		PHI060-2W-A-SS-2	Man
AC-7	964474		PHI060-2W-A-SS-2	Man
AC-8	964477		PHI060-2W-A-SS-2	Man
AC-9	964478		PHI060-2W-A-SS-2	Man
KHU-10, A2	K1HC2286		CSA0001LAL00	Tran
AHU-11, B2	K1HC2287		CSA0001LAL00	Tran
AHU-12, B2	K1HC2289		CSA0001LAL00	Tran
AHU-13, C2	K1HC2294		CSA0001LAL00	Tran
AHU-14, C2	K1HC2286		CSA0001LAL00	Tran





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Facility Data Exchange Pilot

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

ENGINEERING AND CONSTRUCTION BULLETIN

US Army Corps
of Engineers

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

- a. Unified Facilities Guide Specification (UFGS) 01 78 24.00 10, "Facility Data Requirements"
- b. Under Secretary of Defense Memorandum, Subject: Standardizing Facility Condition Assessment, 10 September 2013
- c. Department of Defense Memorandum, Subject: Facility Sustainment and Recapitalization Policy, 29 April 2014
- d. Engineering Construction Bulletin (ECB) 2016-19, Subject: Operations & Maintenance Facility Data Requirements
- e. Unified Facilities Criteria (UFC) 1-300-02, "Unified Facilities Guide Specifications Format Standard"
- f. Engineer Regulation (ER) 1110-345-100, "Design Policy for Military Construction"
- g. 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 manuals, and fails to embrace streamlined digital data transfer through established software platforms. Additionally, as Army Directorates 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.ercd.dren.mil/default.aspx?p=a&t=1&i=56>
- Technical Report
<https://ercd-library.ercd.dren.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>



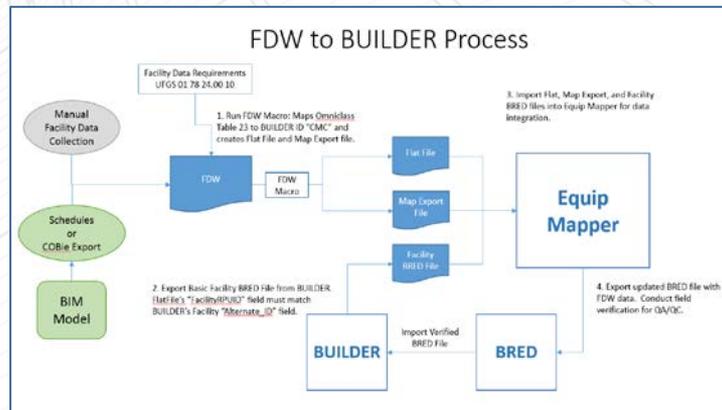
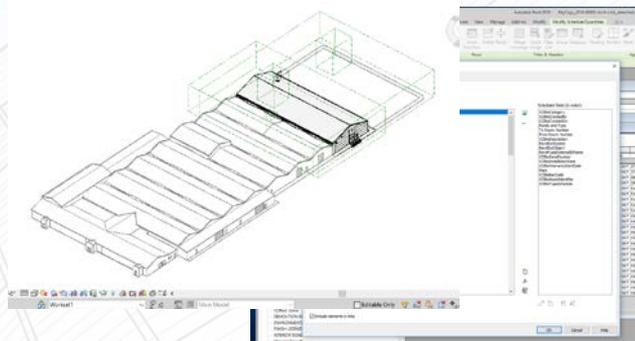
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Current and Future Efforts

- 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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