U.S. General Services Administration

Digital Twin at San Ysidro LPOE

Implementation Journey

presented by

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National Institute of Building Sciences

Learning Objectives

- Using a pilot to better understand and optimize a Digital Twin.
- Understand the process of aligning the right technology solutions with the Owner’s digital twin needs
- Understand the benefits and difficulties of integrating BIM and GIS with Asset Management systems, BIM models and the user.

Introductions

Edmund Newman

National BIM Program Manager

GSA

Anderson Lewis

Building Technology Consultant

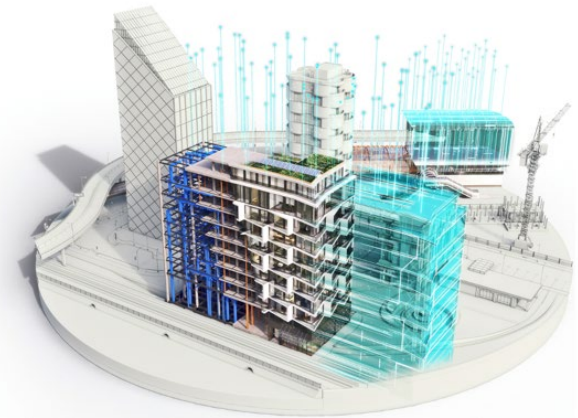
procon consulting

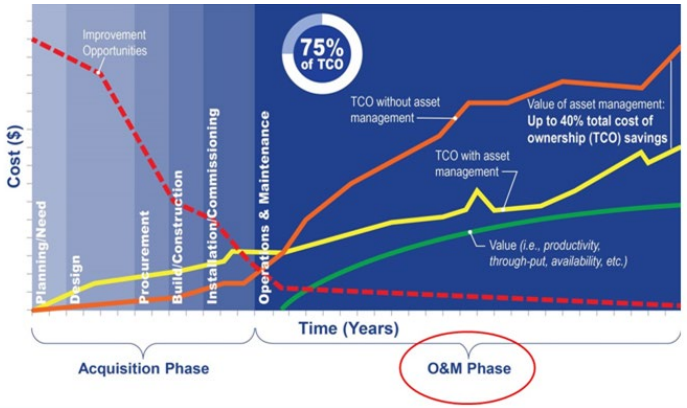
Why Digital Twins?

Better Use of Construction Data & Lower Cost of Ownership

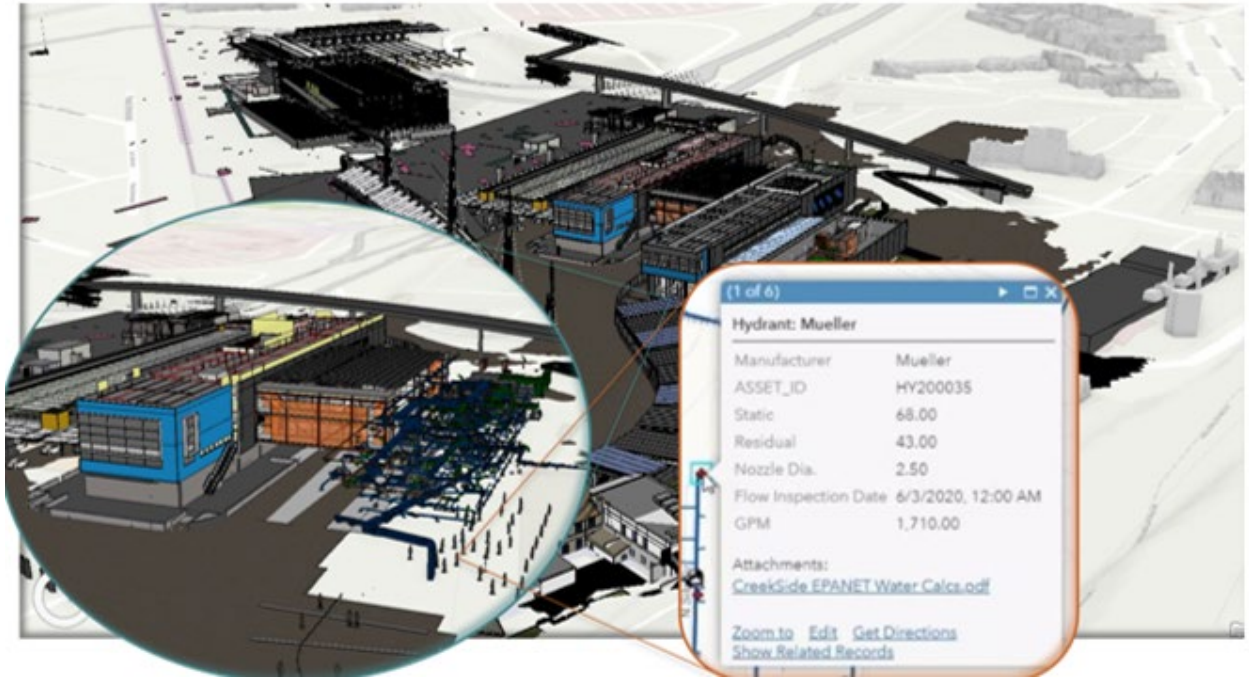
95.5%

of all **data goes unused** in engineering & construction[1]





Bring Building Data to the Field

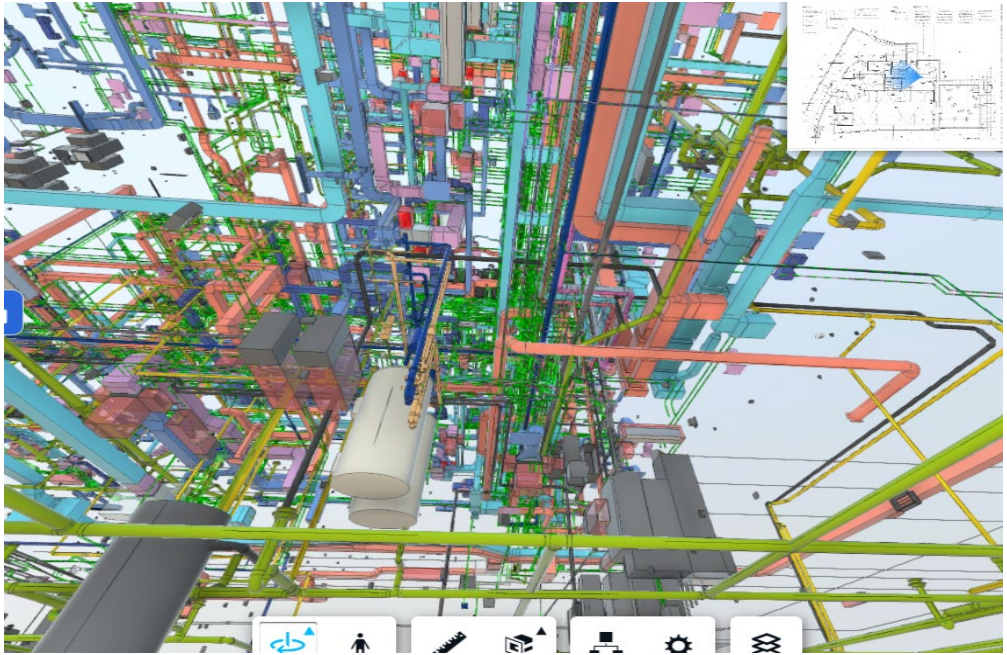


Benefits of SYLPOE GIS Tool

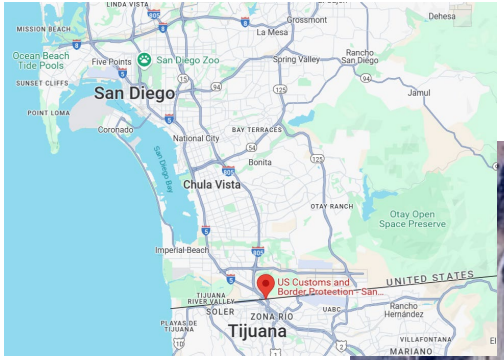
- Aggregate data many sources into one easy to use tool
- Allows users to
  - View Tasks and Data on Mobile or Desktop
  - See information in Accurate Plan or 3D Views
  - See Information about Building Equipment
  - Enables User Inputs of Model and Data Inaccuracies, Enhances User Confidence, Creates a Self-Healing Environment

We have moved from this world

To managing this one



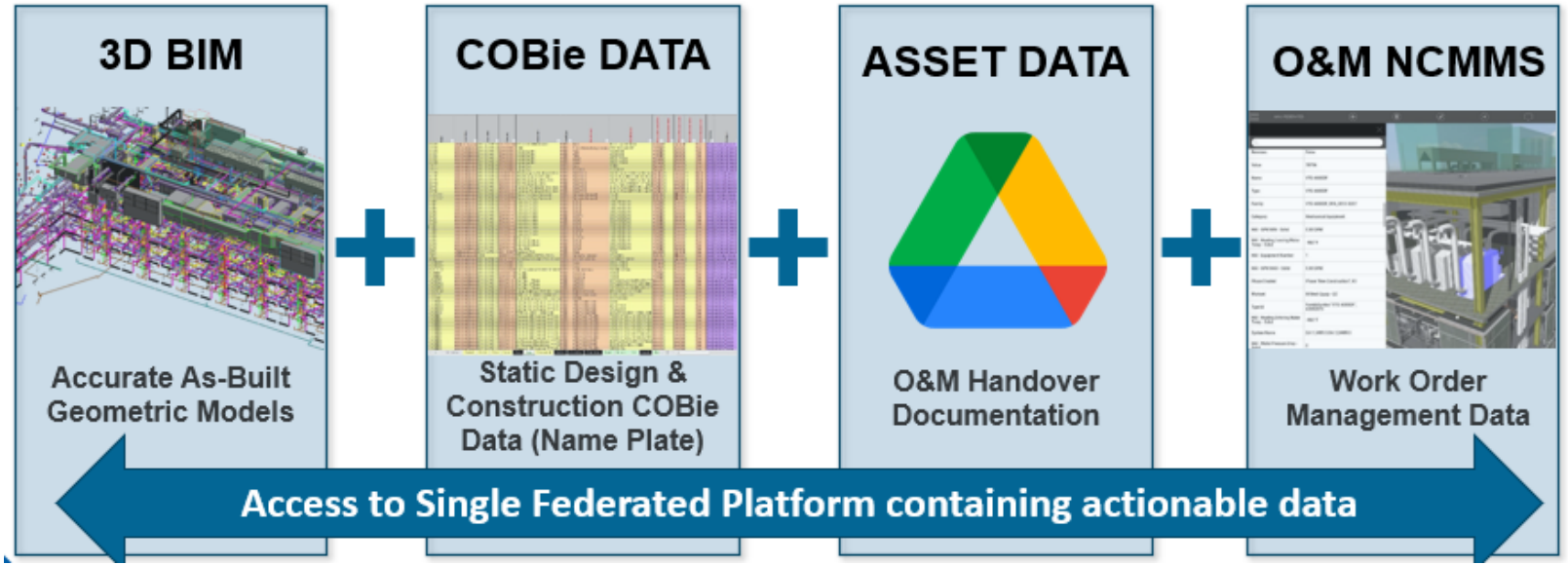
SYLPOE Project Background



$1B, 3-phase Improvement Completed

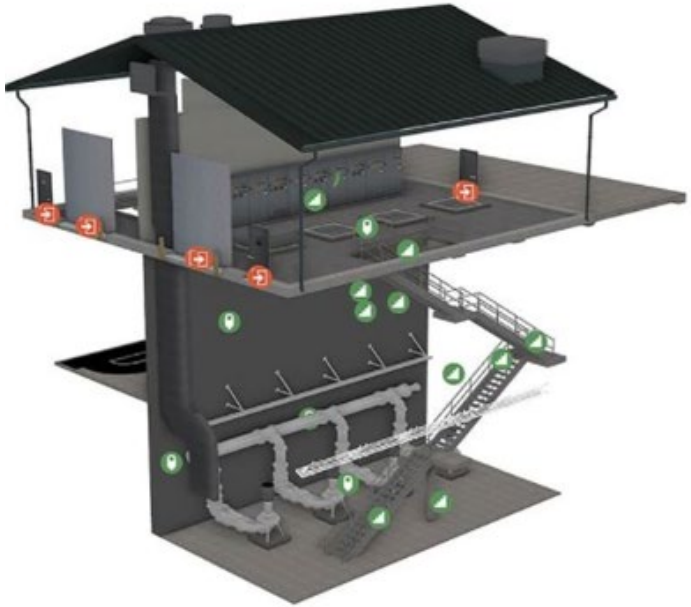
High-level Implementation Strategy

Multiple data sources Connected into a single intuitive geodatabase:

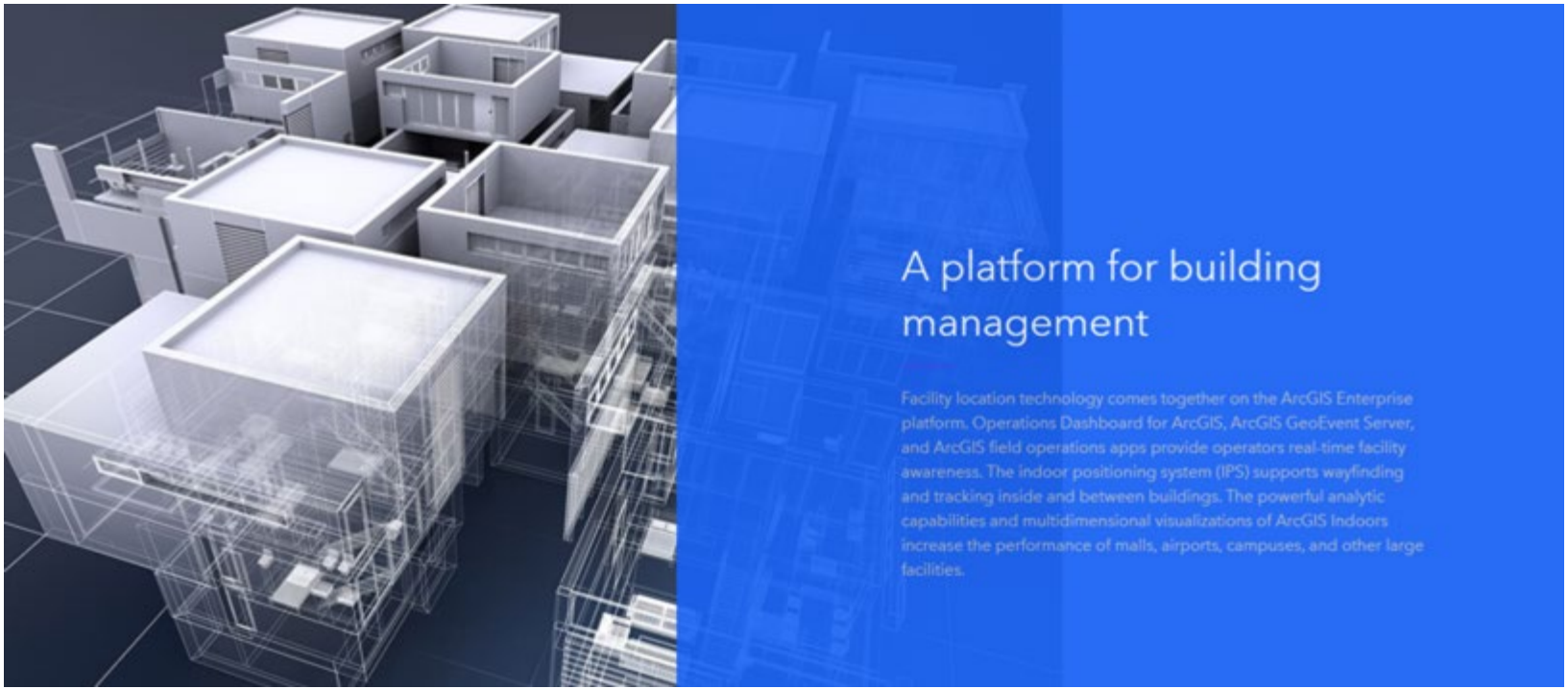


Data in the Office or Field; Desktop or Mobile

2D & 3D capabilities + Points of Interest (POI)



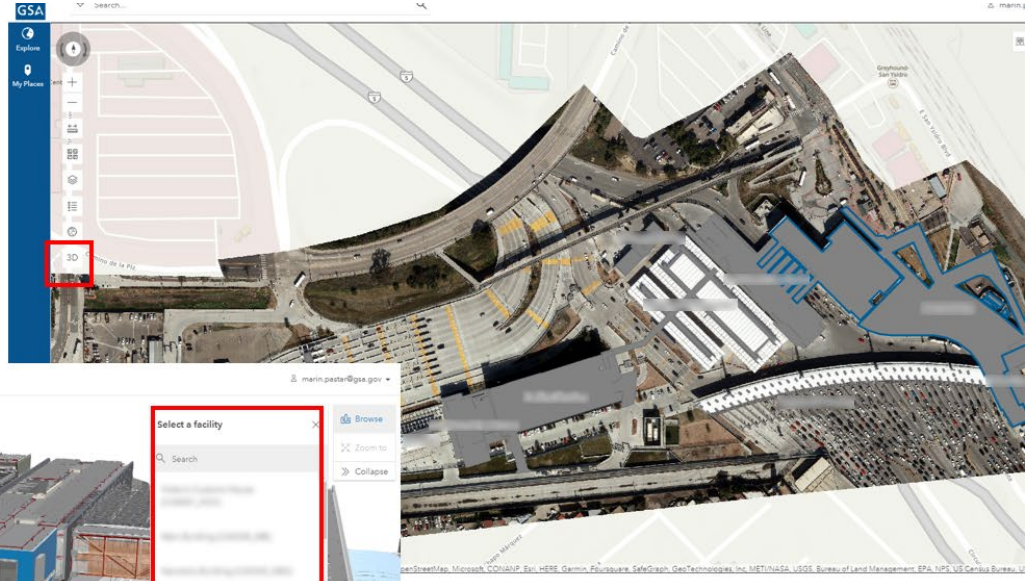
Platform Choice: ArcGIS Indoors

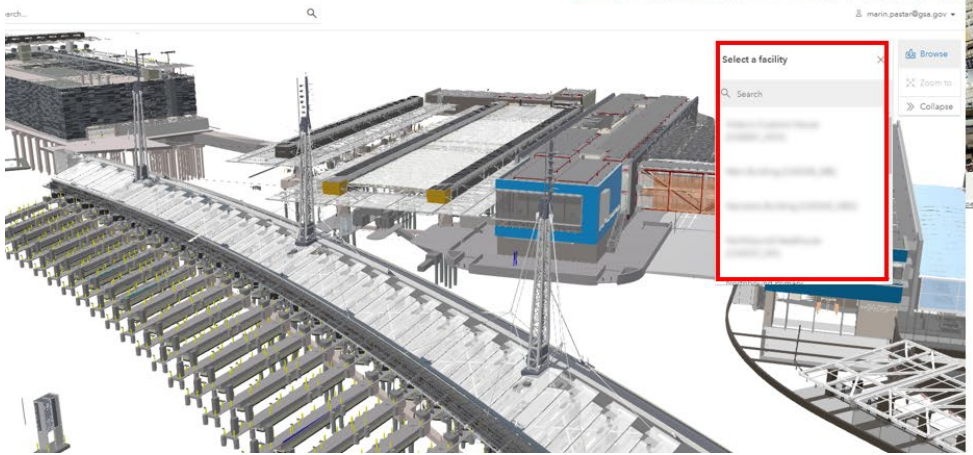


App Features

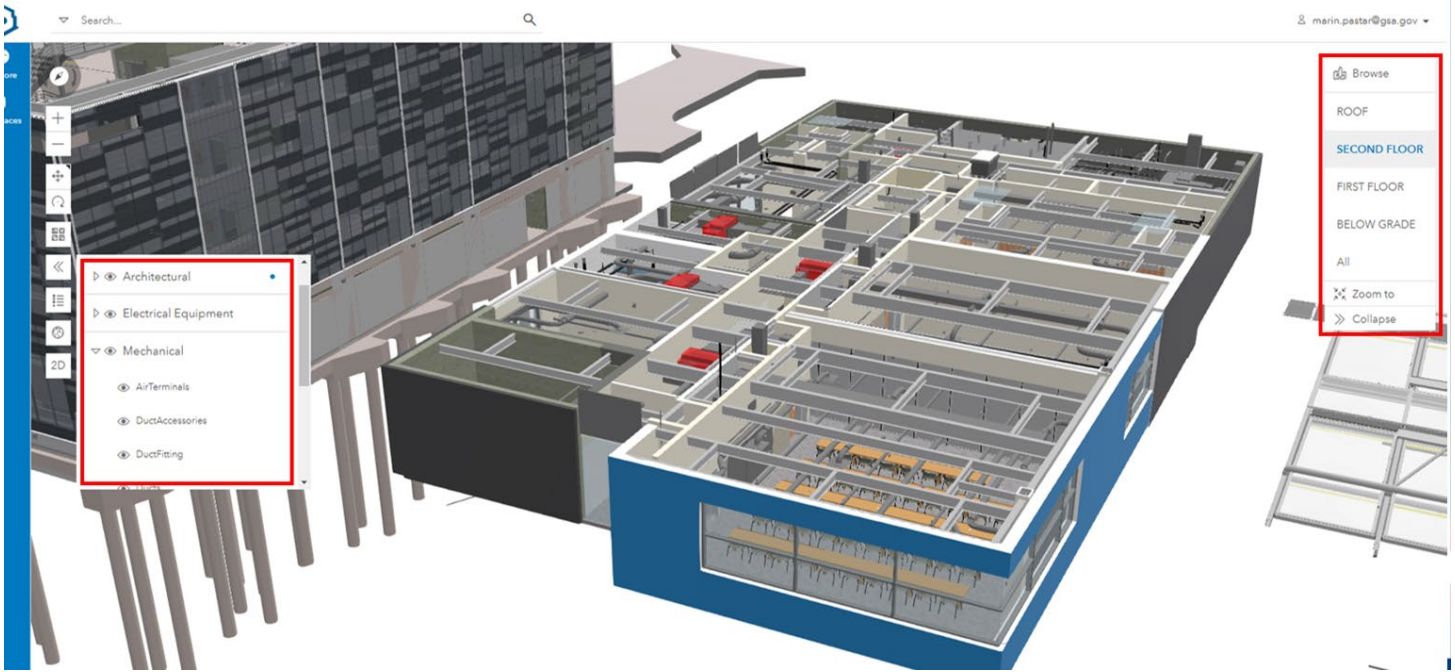
2D & 3D access to:

- All buildings (BIM)
- GIS Data (ESRI)
- Imagery (Drone)

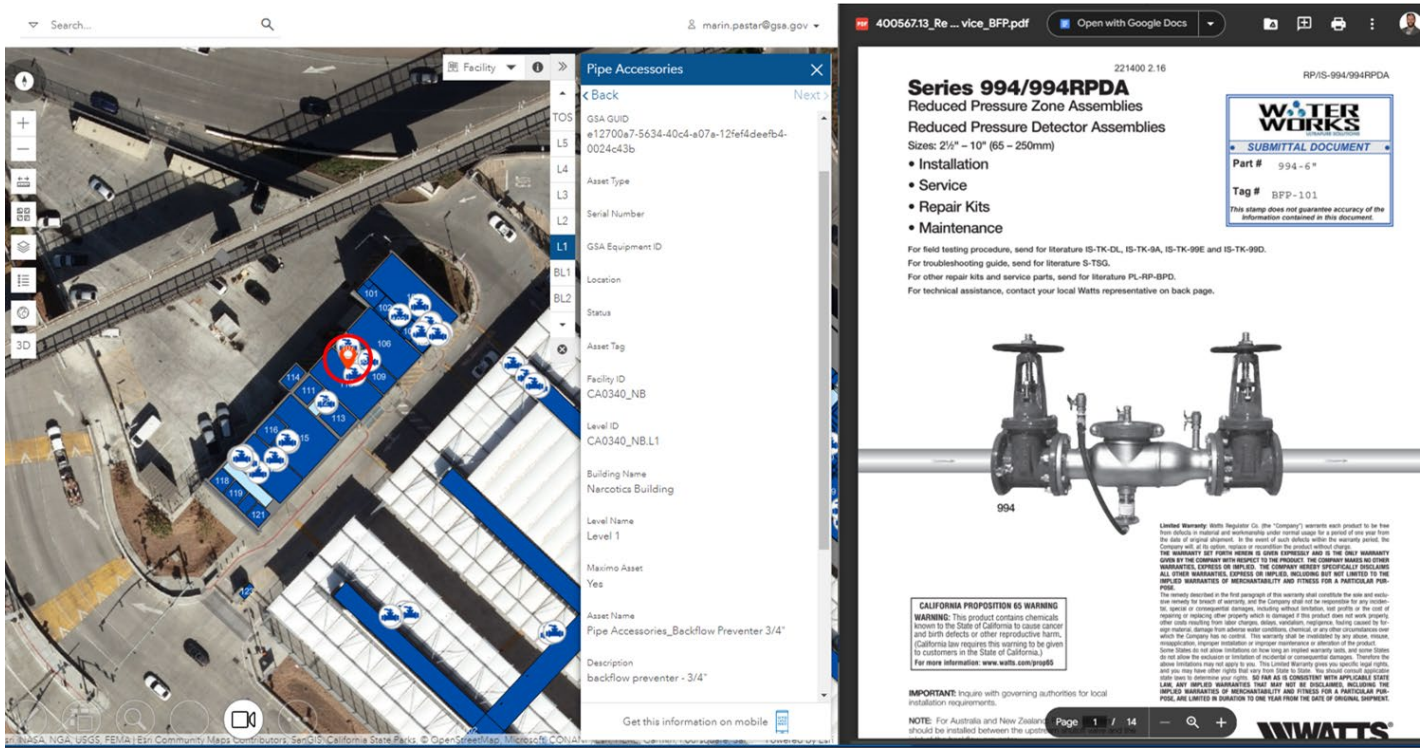




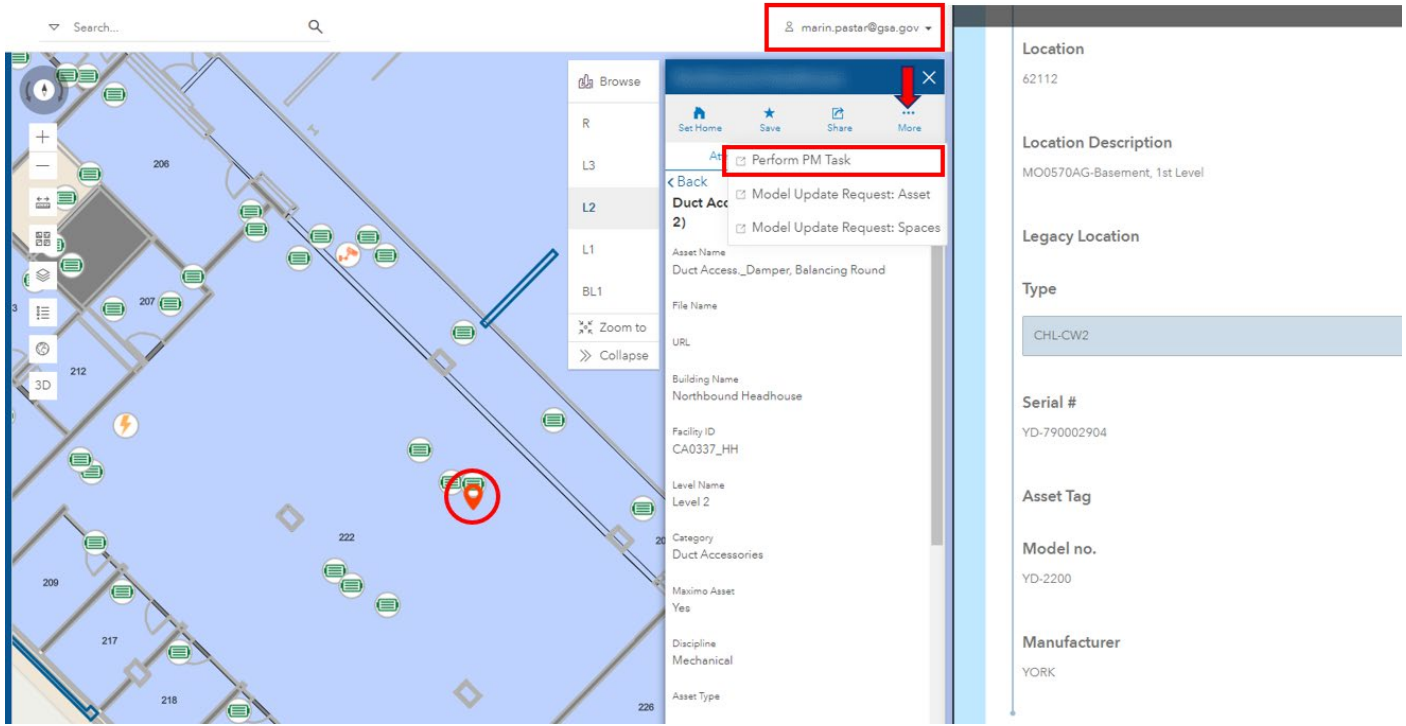
Turn On/Off floor-aware building systems/layers for easy viewing



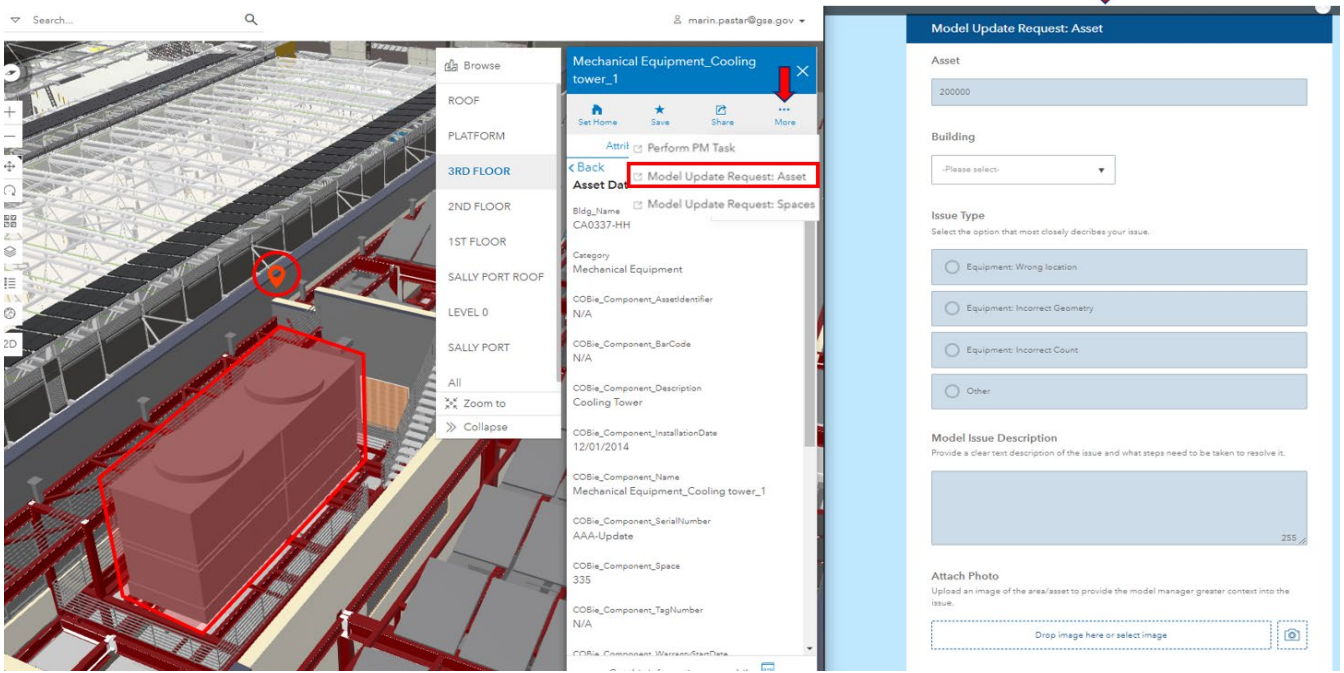
O&M Asset Data Linked to Asset Types



NCMMS data and Work Orders linked



Update NCMMS Asset Data Linked Request Model updates



Development Challenges & Insights

Project Delivery and Deliverables

- Turnover data quality is a big challenge!
- Many conversion issues can be avoided with:
  - Solid BIM & Data Standards
  - Strong Contract Language
  - Clear understanding of system requirements
  - Periodic QA/QC Checks
  - Enforce the Digital Deliverables and Delivery Timelines

General Challenges

- IT Security and Permissions:
  - What is allowed
  - What interconnections are allowed
  - Will it stay that way?
- Who are your Stakeholders
- Software Versioning / Updates / IT Security Changes

Thank you!

GSA
75 YEARS