



U.S. DEPARTMENT OF STATE
BUREAU OF OVERSEAS BUILDINGS OPERATIONS

OBO "Reverse" Industry Day

Pernix Federal & Cowen Design Group

October 17, 2024

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1.0

Opening and Introduction

James Rodriguez | Director | External Affairs | OBO

Introductions



James Rodriguez
Director | External Affairs | OBO



Navid Roshan-Afshar
Senior Project Manager and Senior Civil Engineer | Cowen Design Group



J. Douglas Dykhouse
Principal Deputy Director | OBO



Courtney Bustin
Senior Analyst | OBO



Mitch Miles
Managing Director | Construction and Security Management | OBO



Frank Chi
Physical Security Engineer | OBO



Enrique Villa
Vice President, Operations | Pernix Federal



Lisa Kyriienko
Division Director of Construction Operations | OBO



Ronnie Bussiere
Project Engineer | Pernix Federal



Lauren Luckett
Strategic Industry Partnerships | External Affairs | OBO



2.0

Welcome Message

J. Douglas Dykhouse | Principal Deputy Director | OBO

J. Douglas Dykhouse, Principal Deputy Director

J. Douglas Dykhouse joined the U.S. Department of State Bureau of Overseas Buildings Operations in April 2022 as the Principal Deputy Director.

Douglas joined the Foreign Service in 2000.

Most recently he was the Deputy Director in the Executive Office of the Bureaus of Near Eastern Affairs and South and Central Asian Affairs (NEA-SCA/EX) and served as the Management Counselor at Embassy Budapest.

Douglas has also served twice in EUR-IO/EX, previously in NEA-SCA/EX, in Kabul, Afghanistan; Zagreb, Croatia; Mexico City, Mexico; and Ashgabat, Turkmenistan.

He earned a Bachelor of Arts in History and a Master of Arts in Russian and East European Studies from the University of Michigan.

He is married to retired Foreign Service Officer Vivian S. Walker and has two stepsons.





3.0

Introduction to Pernix Federal & Cowen Design Group

Mitch Miles | Managing Director | Construction and Security Management | OBO

Mitch Miles, Managing Director for Construction and Security Management

Mitch Miles is the Managing Director of Construction Management and Security Management for the U.S. Department of State Bureau of Overseas Buildings Operations.

OBO's worldwide construction portfolio spans 280+ worldwide posts and over 120M+ square feet of property valued at over \$100B, with approximately \$13B in on-going design and construction.

Mitch joined the Foreign Service in 2006 and is a member of the Senior Foreign Service with the rank of Office Counselor. While at State, he has managed multiple projects including the \$600 million new U.S. Embassy Brasilia, Vilnius, Minsk, Geneva and Addis Ababa. He also held senior leadership positions supporting projects in London, The Hague, Hyderabad, Jerusalem, and New Delhi. Prior to State, he had a decade of experience in estimating, scheduling, and construction management.

Mitch has a Master of Science from the University of Reading in Construction Project Management and Bachelor of Science in Construction Management from Boise State University where he also taught as an adjunct professor. He continues to engage in the construction industry through his membership in AACE International and the Construction Management Association of America. He is married with three children and is an avid runner.



Presenters



Ronnie Bussiere
Project Engineer | Pernix Federal



Enrique Villa
Vice President | Pernix Federal



Navid Roshan-Afshar
Senior Project Manager and Senior Civil
Engineer | Cowen Design Group



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Contractors Presentation

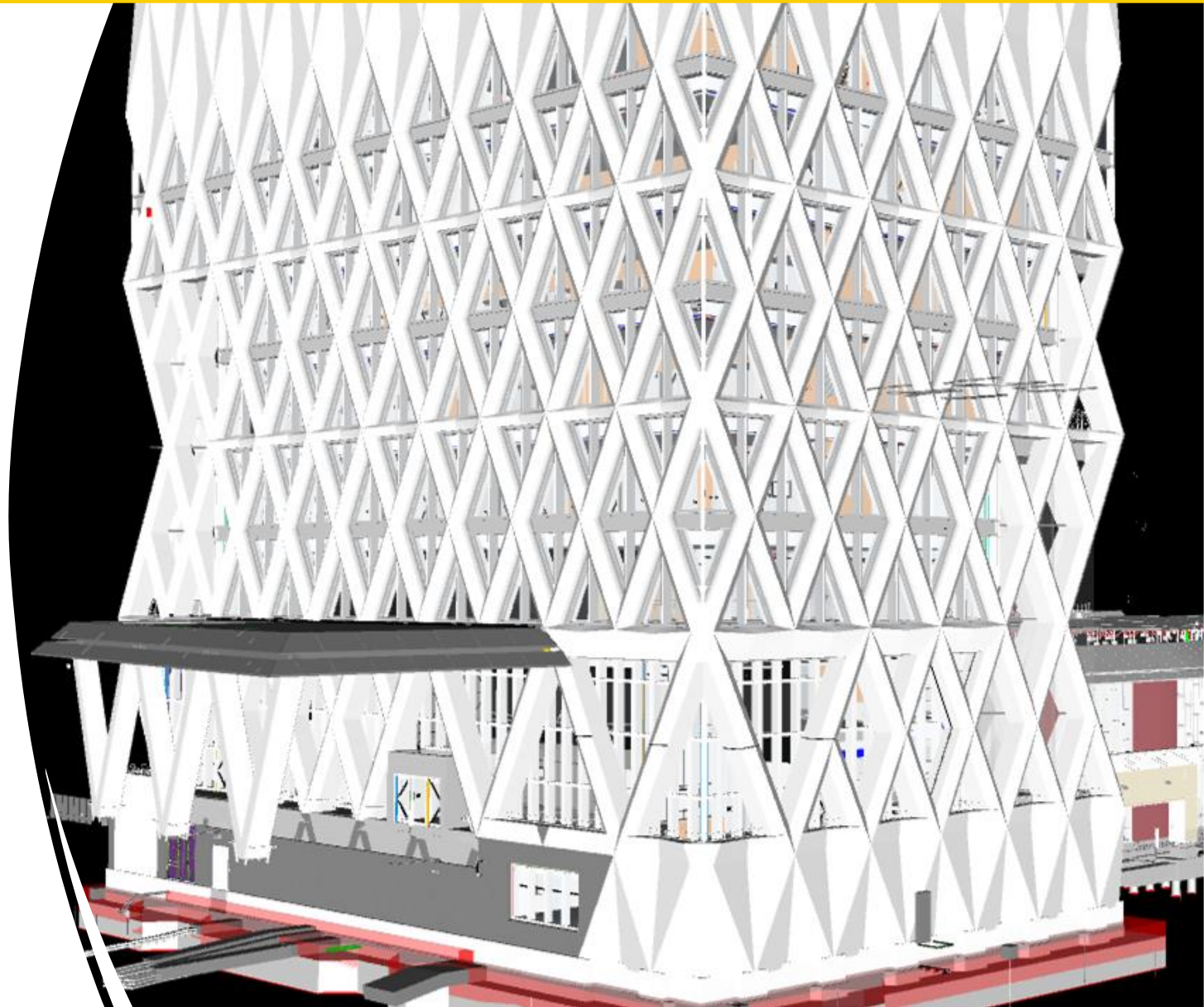
Case Study – Lagos NCC

- New Office Building: 14,685 SM
 - 306 Desks
 - 433 Non-Desks
 - 34 Consular Windows
- Marine Security Guard Residence: 1282 SM
 - 12 + 3 Temporary Duty Beds
- Main, Service, Consular Compound Access Controls: 673 SM
- Parking Spaces:
 - 124 Official
 - 159 Staff
 - 12 visitor
 - 2 Marines
- Warehouse, Shops, Motor pool: 3545 SM
- Utility Building: 995 SM
- Recreation Area with Pool & Cabana
- Helicopter Landing Zone
- Boat Dock and access bridge



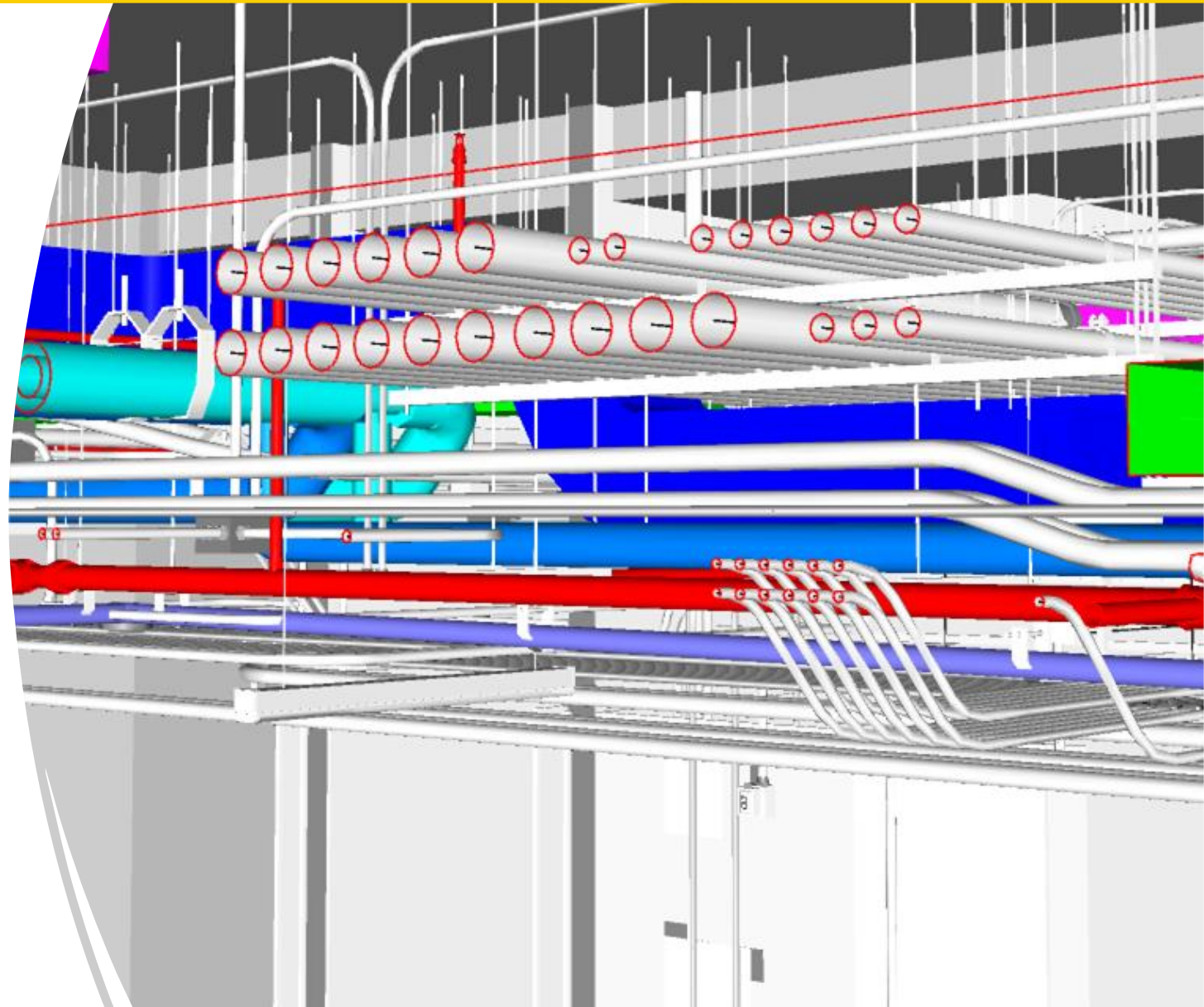
BIM (Building Information Modeling)

- Allow for easy digestion of complex material
- Virtual Building of Complex Structures and Systems
- Review for Constructability



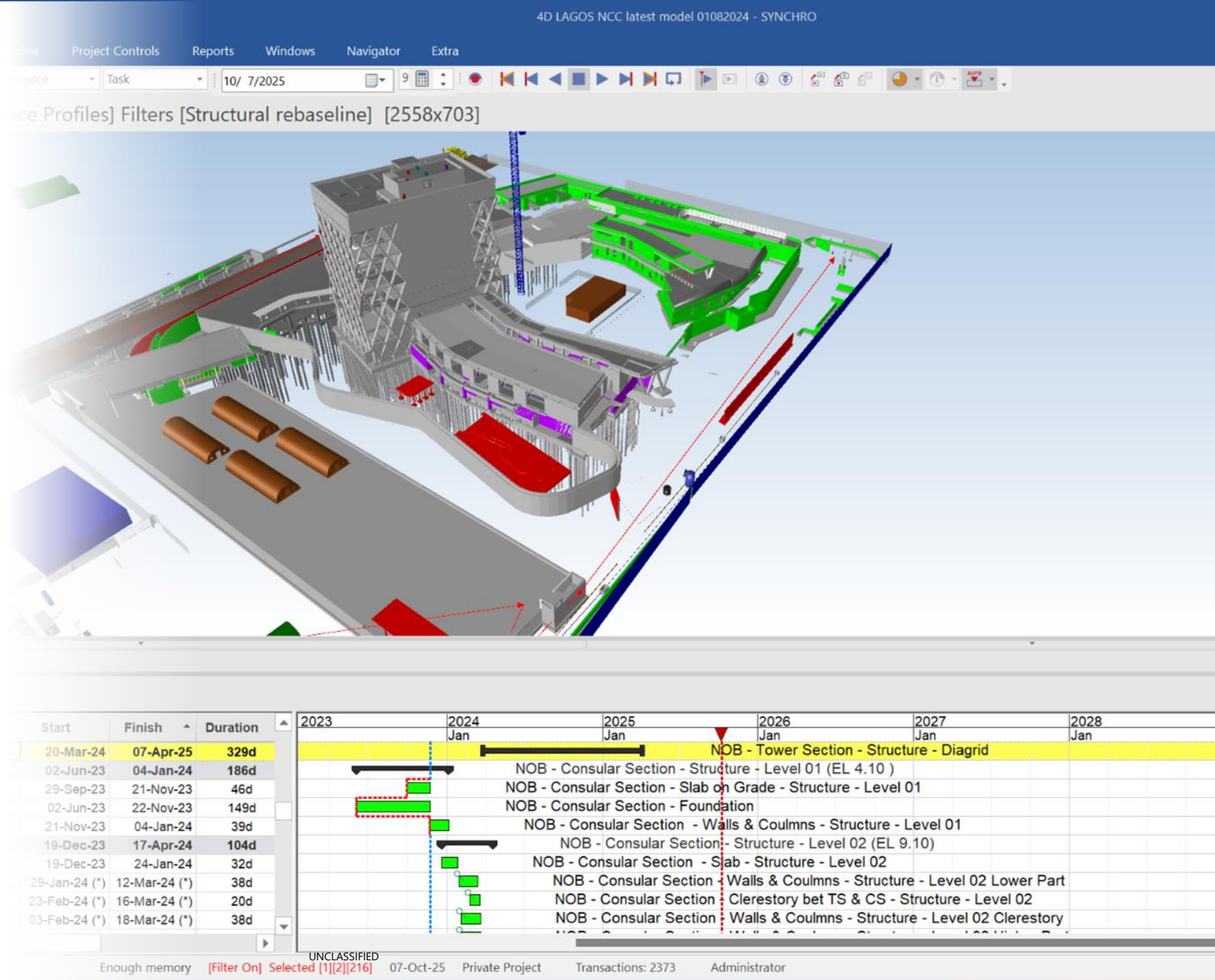
BIM - NAVISWORKS

- Analyze problems virtually
- Confirm systems fit within allotted space
- Clash Detection



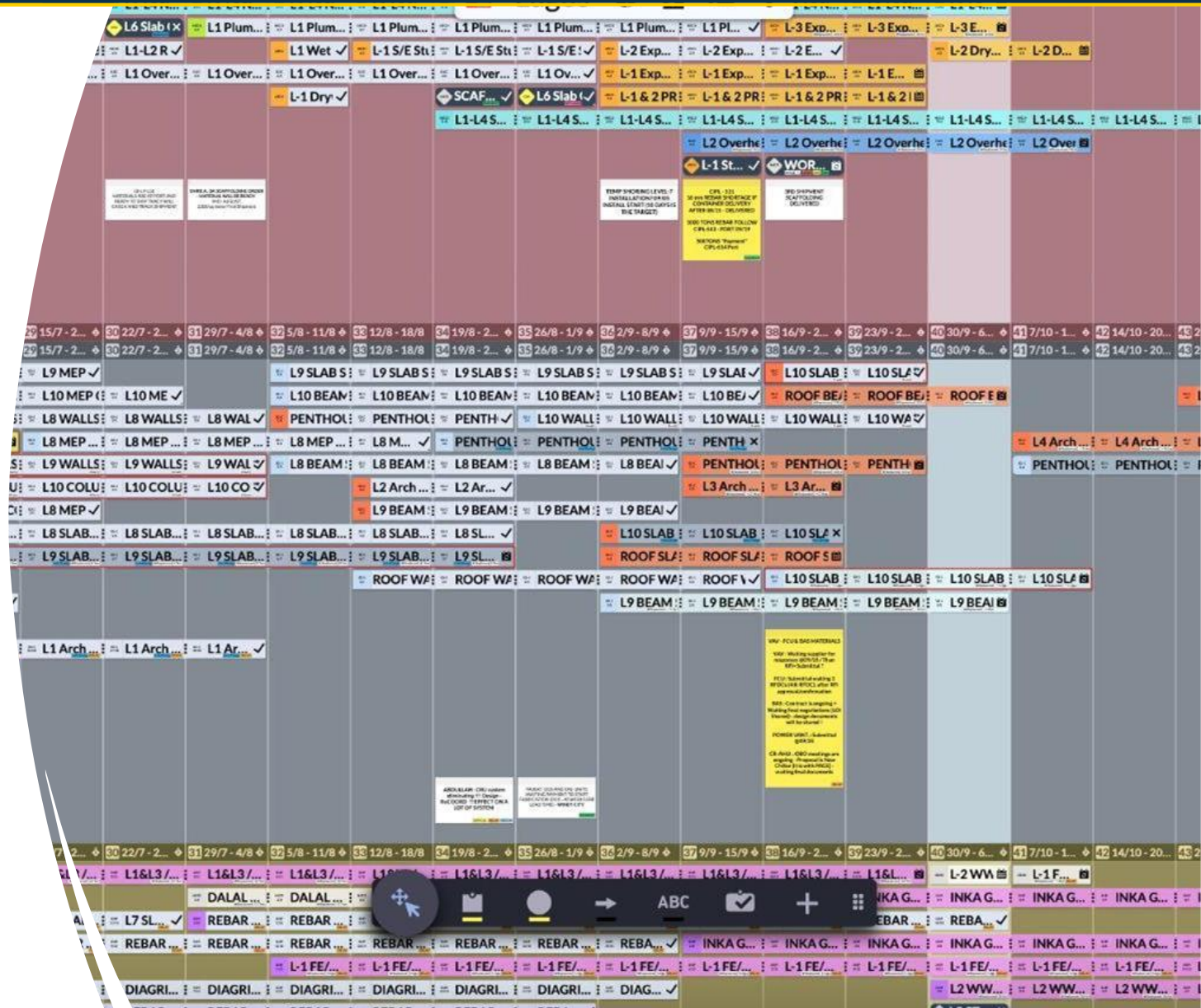
4D Scheduling SYNCHRO

1. Allows for Communication between BIM and BPES
2. Visualize Sequence
3. Reduce Errors from complicated schedules



Lean Construction - HOYLU

- Visualize Workflows and find bottlenecks
- Ease transitions between trades
- Daily Huddles and Weekly Adjustments



Lean Construction - HOYLU

- Outputs show areas to focus on and bottlenecks
- Efficient use of resources and allocation of effort

CIVIL	41	38	3	93%
WELDING	4	2	2	50%
ELEC	5	5	-	100%
MECH	8	7	1	88%
ARCH INTERIOR	10	10	-	100%
ARCH EXTERIOR	20	11	9	55%

CATEGORIES OF VARIANCE		15
1	Safety Concern	1
2	Info/Design Question	1
3	Owner Change/Decision	-
4	Weather	-
5	Prerequisite Work	6
6	Labor	-
7	Materials	1
8	Incorrect Duration	1
9	Submittals/Approvals	-
10	Equipment / Hoisting	3
11	Unforeseen Condition	-
12	Inspection/Permit	-
	Lack of Coord / Change of Plan	2
	Other (DESCRIBE)	

Project Imagery

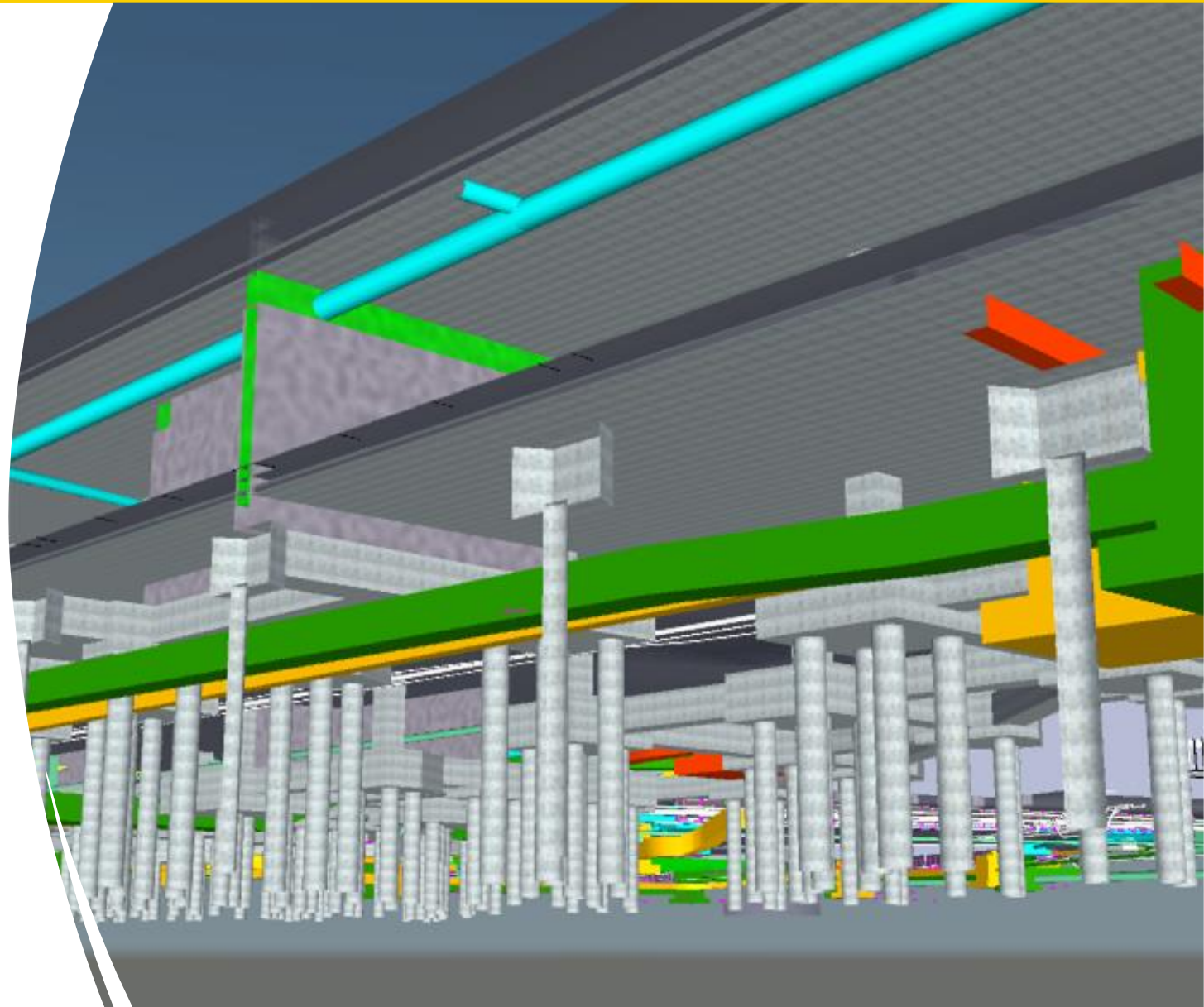
Drone Footage



UNCLASSIFIED

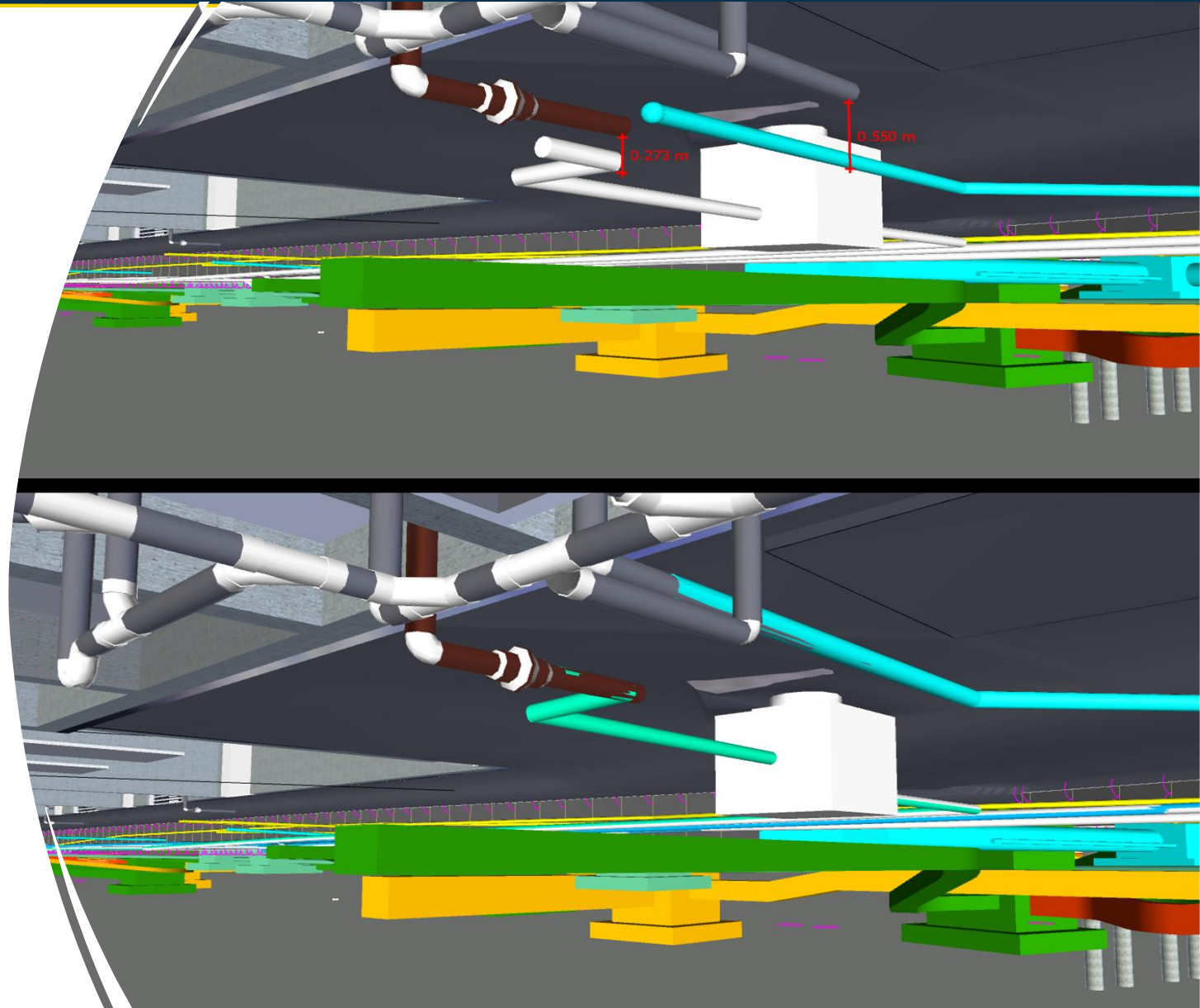
Advantages of Utilizing 3D Modeling + BIM for Site Utility Systems

- Coordination with building systems
- Easily transitioned into future as-built record
- Improved operations and maintenance



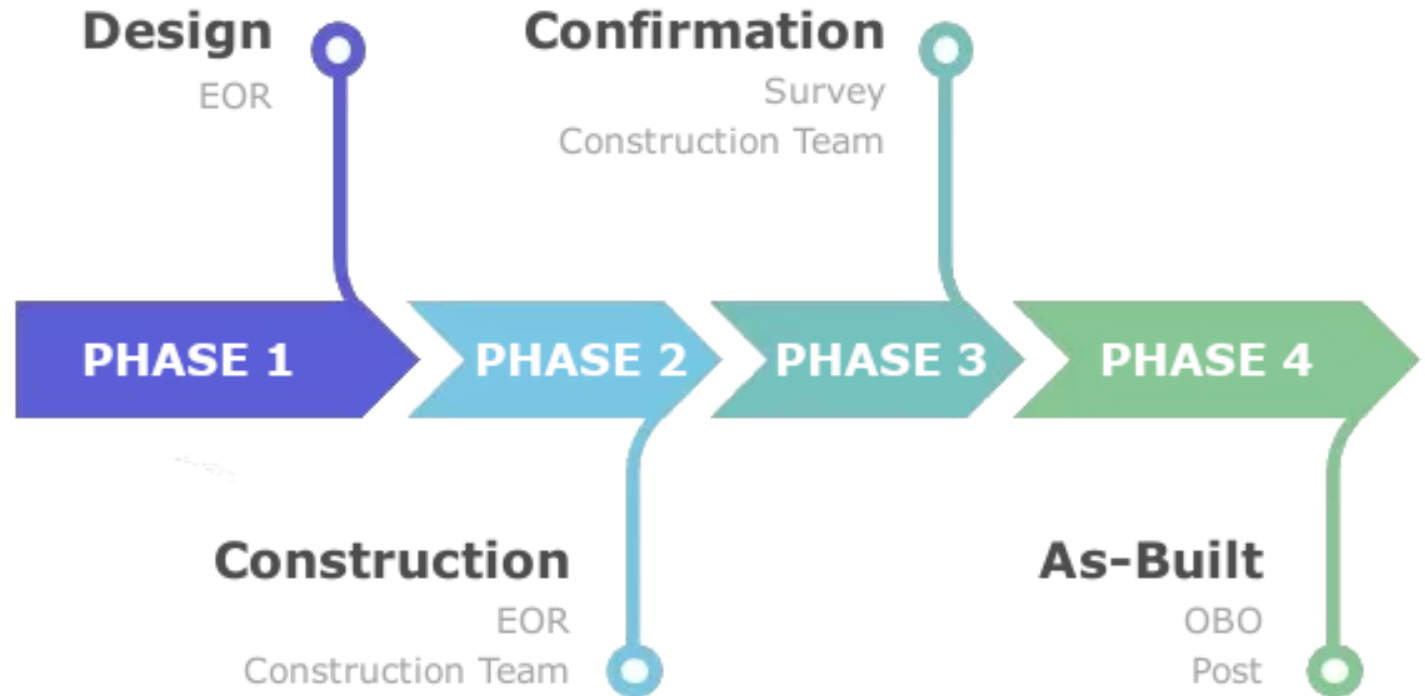
Coordination with Building Systems

- Visual confirmation of alignments and misalignments
- Able to establish saved viewpoints to quickly evaluate locations of building/site system interfacing
- Unified model of inside and outside of buildings



Transitioning to As-Builts

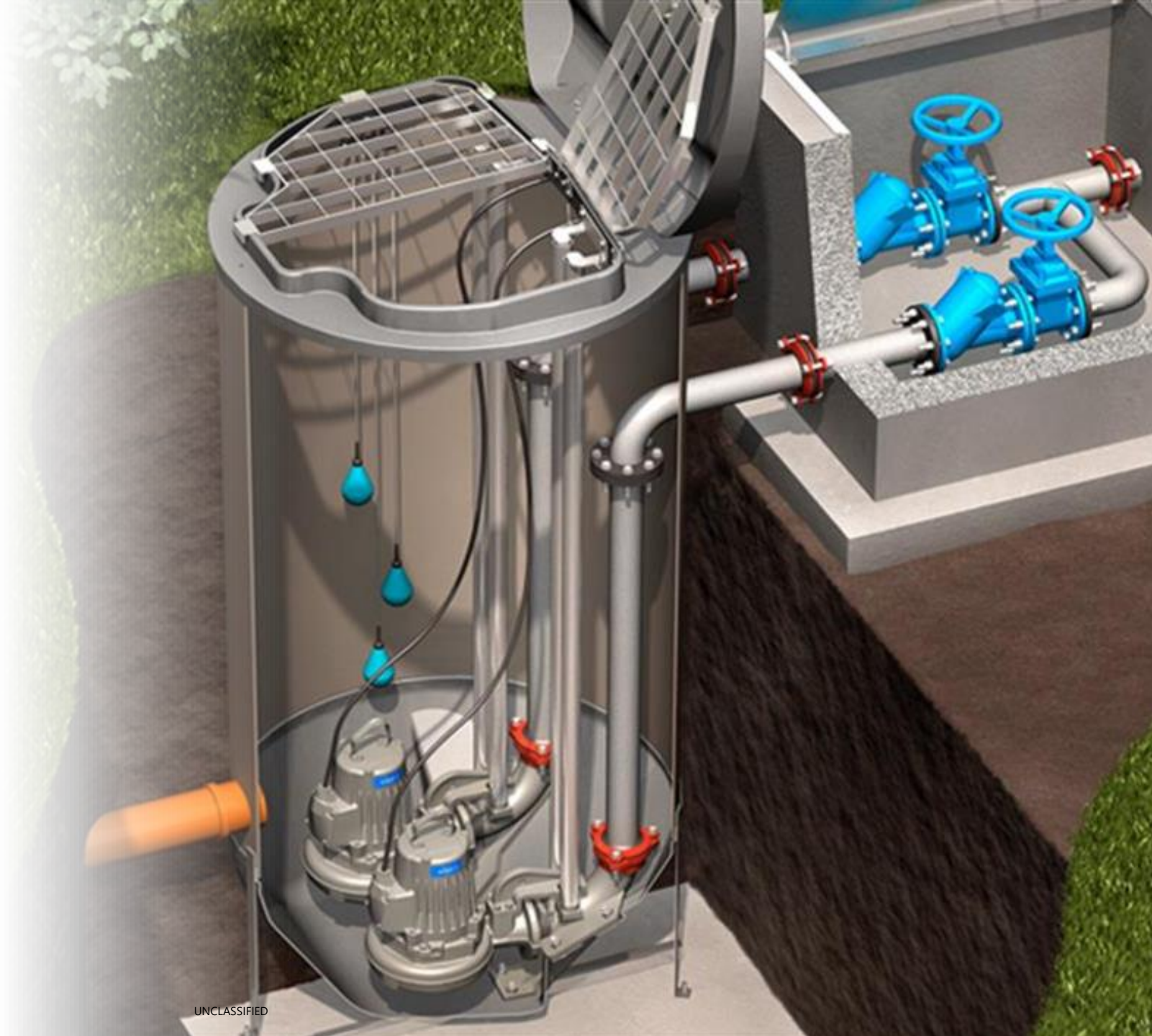
The BIM model is an organic and changing project element that tracks progress to completion.



Improving O+M

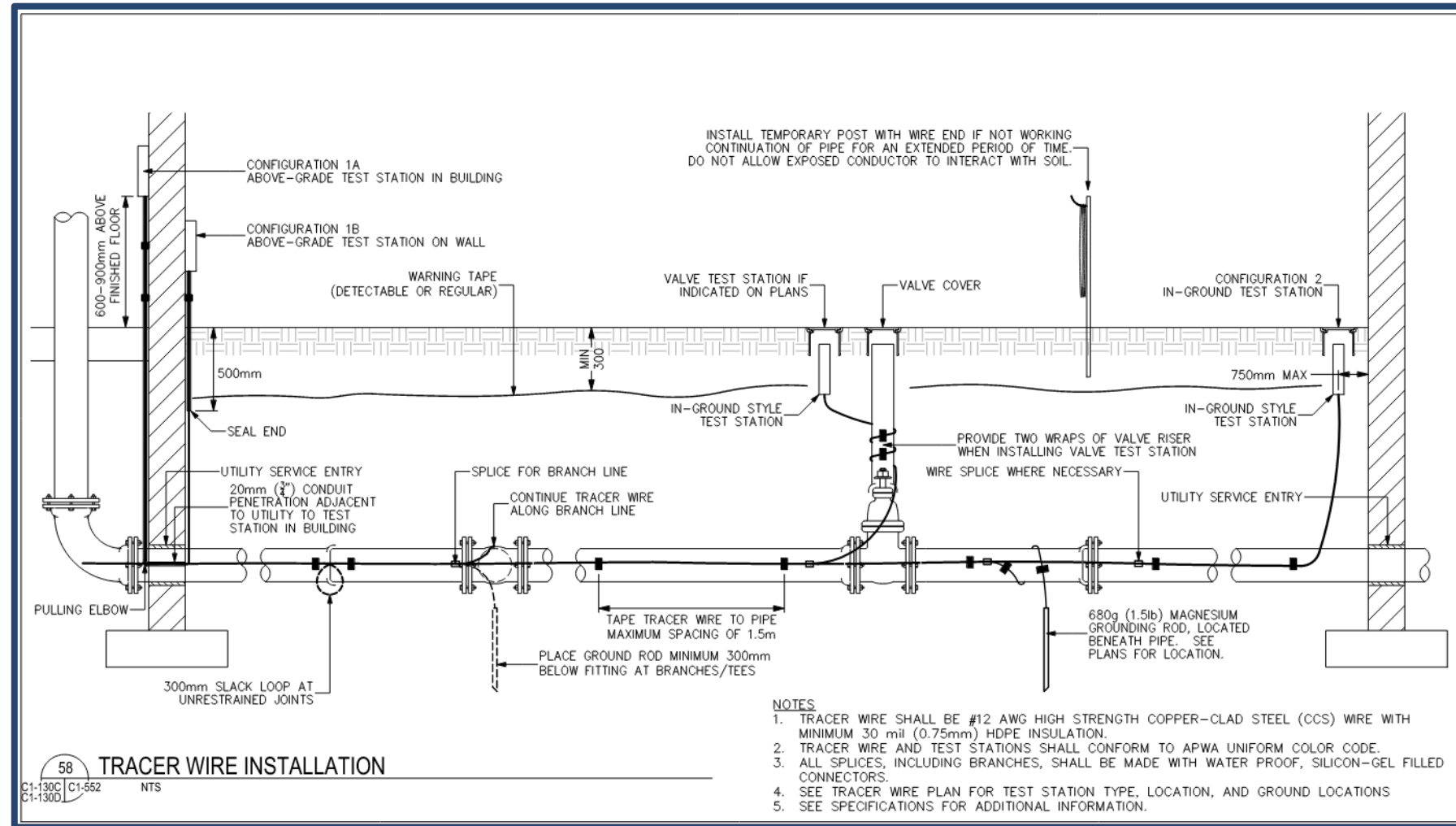
Similar to changes inside the building, the implementation of the BIM / COBie for exterior spaces provides:

1. Asset product information
2. Performance requirements
3. Linked O&M procedures

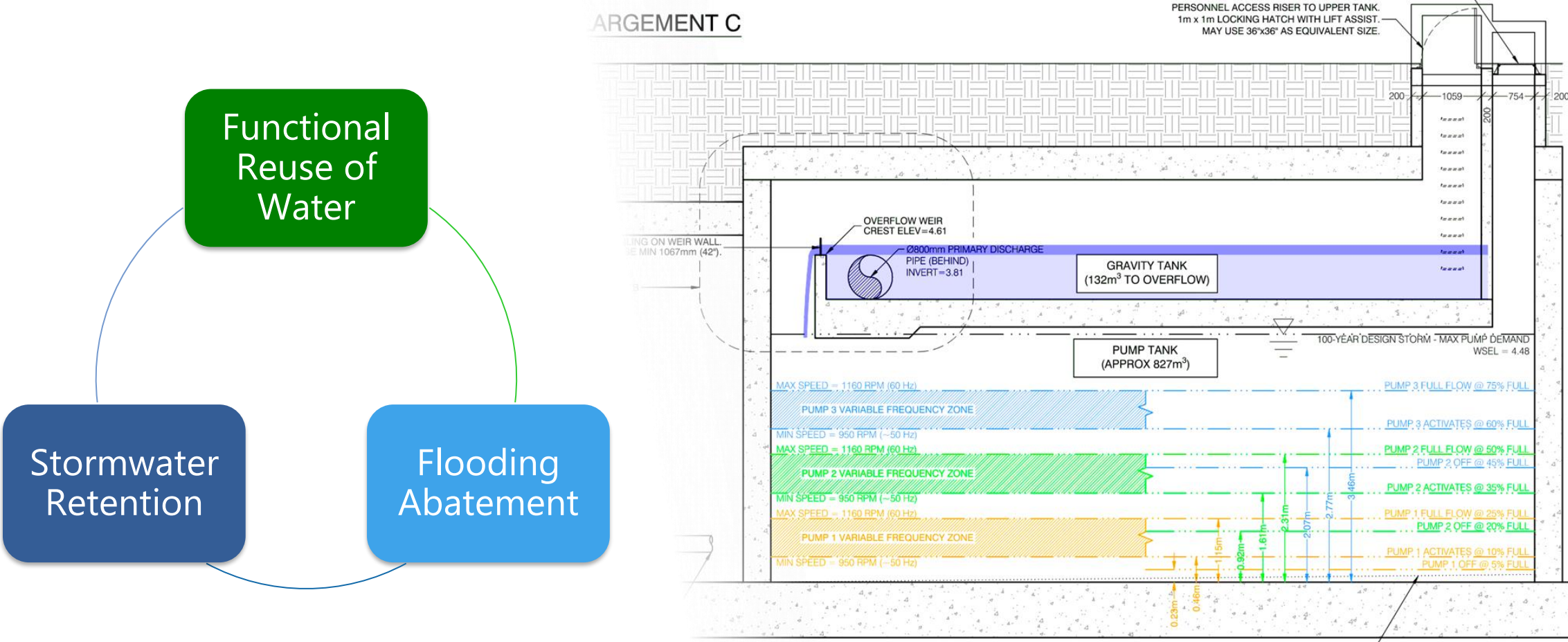


Improving As-Builts for Follow-on Projects

Provides ability to locate plastic utilities for future connections and eases avoidance during construction.



Innovative Design Practices



The Challenge



3 Parts: PEOPLE / PROCESS / TECHNOLOGY



- Past project data
- Regulations
- Constraints
- Materials



1. Project Planning and Design



- Time Travel
- Information in bite size chunks
- Supply Chain Management



2. Schedule Optimization



- Constraints
- Simulations
- Sequencing
- Evaluations



3. Use of Robotics



- Drones
- Robotic Crawlers
- Sensors
- Augmented Reality



4. Improved Safety



- Incident Reporting
- Risk Management
- Fatigue Tracking
- HR/ERP Compliance



The Future: Automating Construction Tasks



- Concrete pouring
- Bricklaying
- Welding



The Offer: Smart Building and Infrastructure



- Smart building systems integration
- Energy Optimization
- Predictive Maintenance





5.0

OBO Response

Lisa Kyriienko | Division Director for Construction Operations | OBO
Courtney Bustin | Senior Analyst | OBO
Frank Chi | Physical Security Engineer | OBO



6.0

Q&A

Lauren Lockett | Industry Advisory | External Affairs | OBO

Connect with OBO

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