

Operational Knowledge-Sharing using 3D Depictions of Sewer Structures in Boston, MA

NEWEA 2021 Annual Conference

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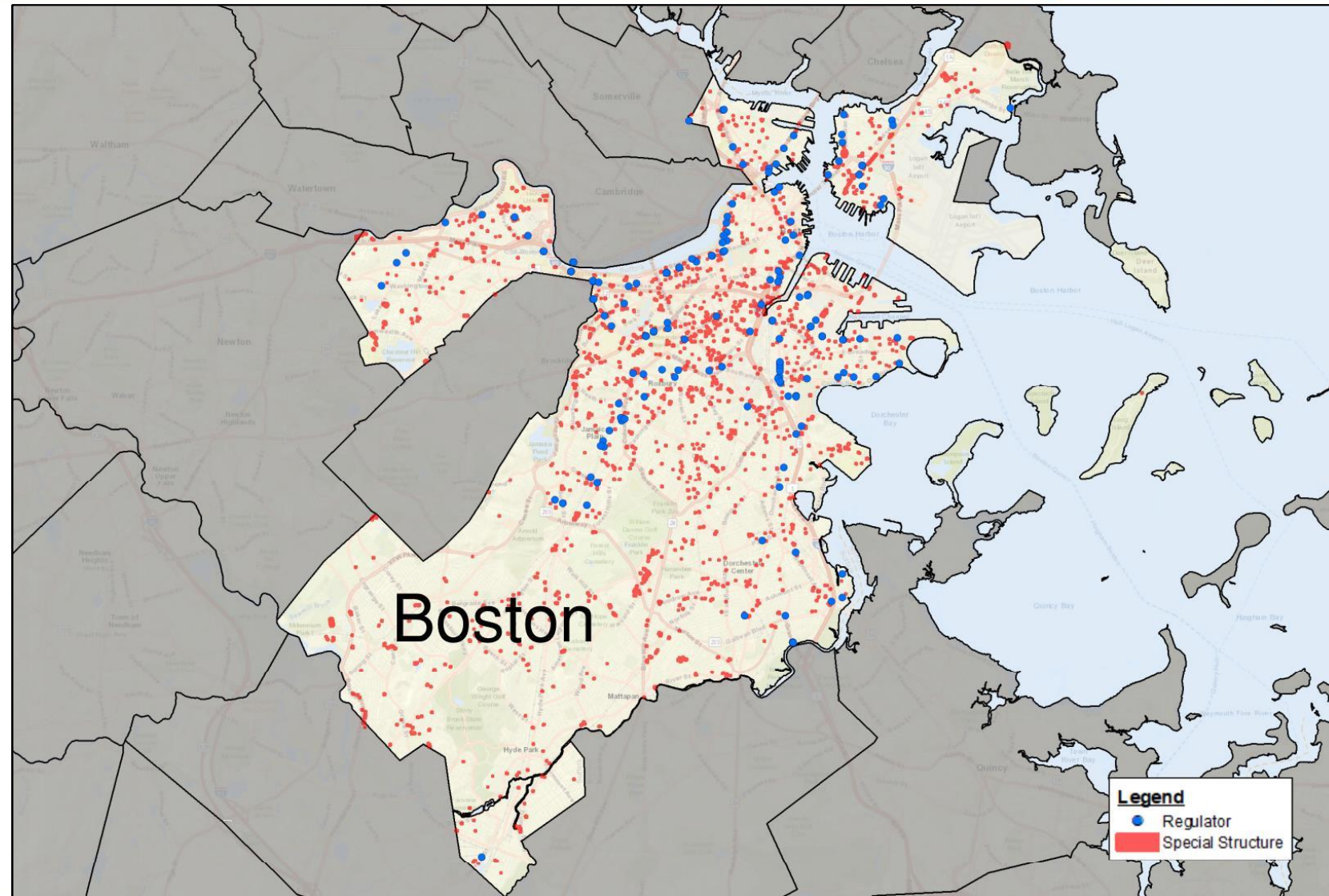


Presentation Outline

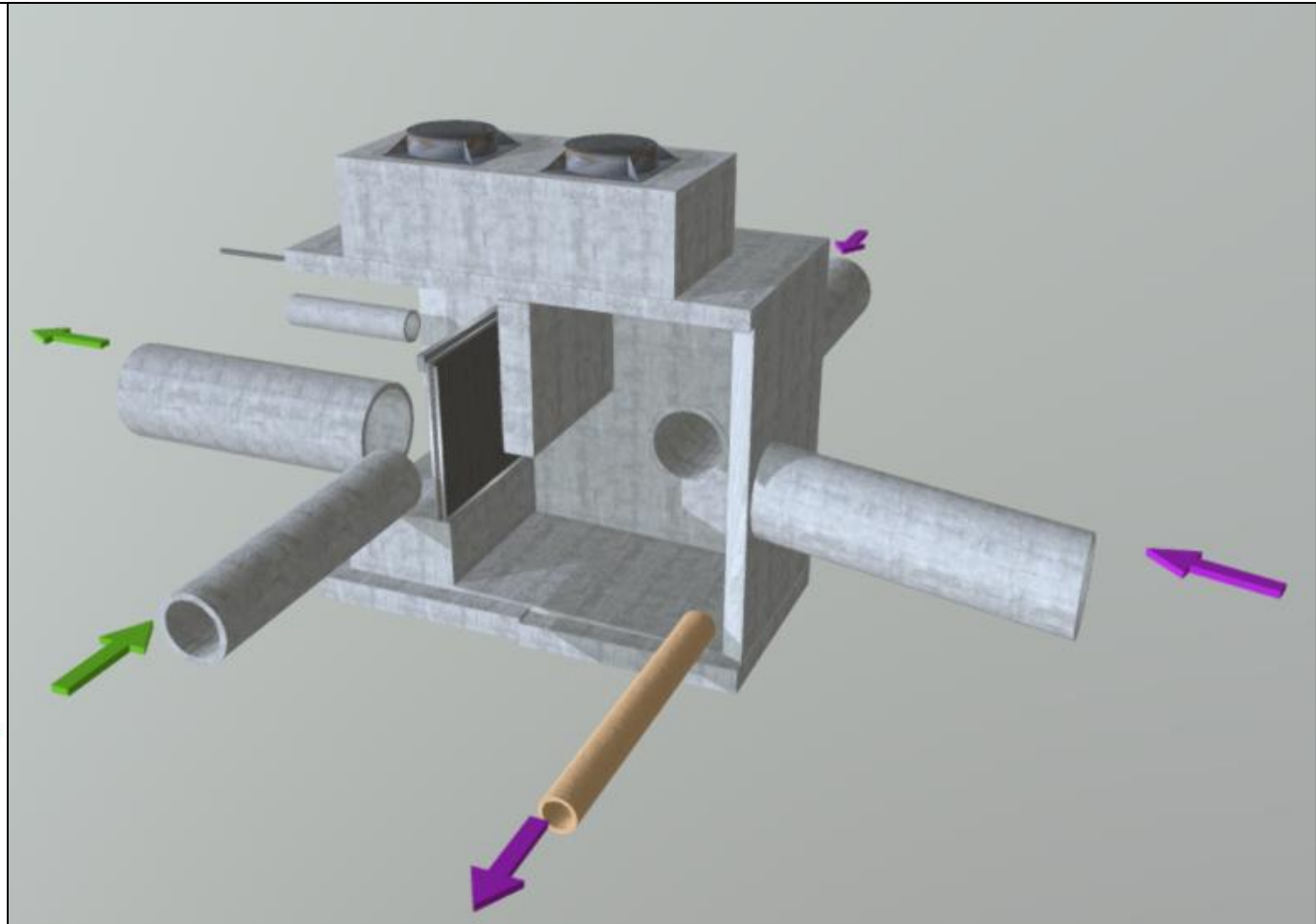
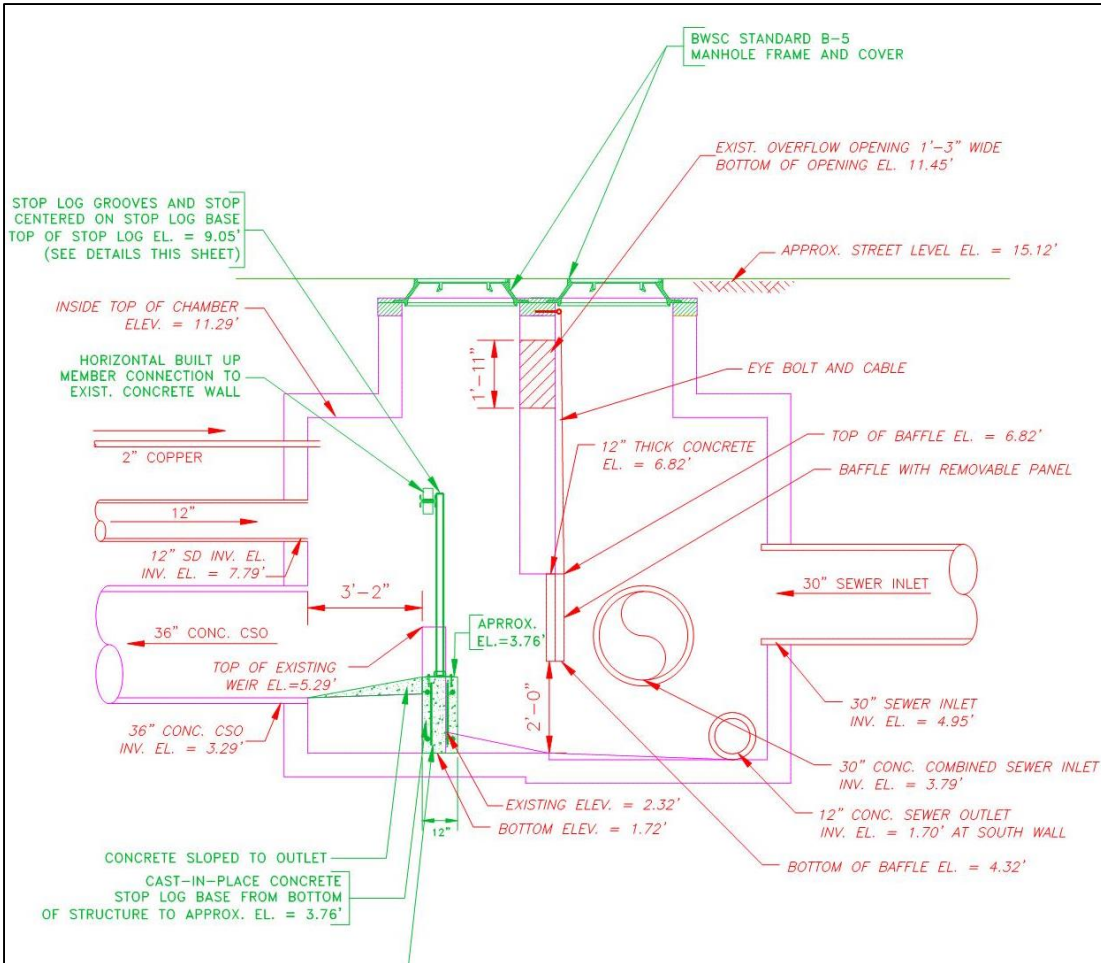
- The Complex BWSC Collection System
- Project Background and Purpose
- 3D Development Approach
 - *Record Information Reviews*
 - *Initial 3D Models and Data Gap Analysis*
 - *Field Investigations*
 - *3D Model Updates and Animation Development*
- Project Deliverables
- Use in Future BWSC Operations and Trainings

The Complex BWSC Collection System

- Over 150 years old
- 1,538 miles of sanitary, storm, and combine sewer piping
- 148 Regulators
- ~2,000 Special Structures

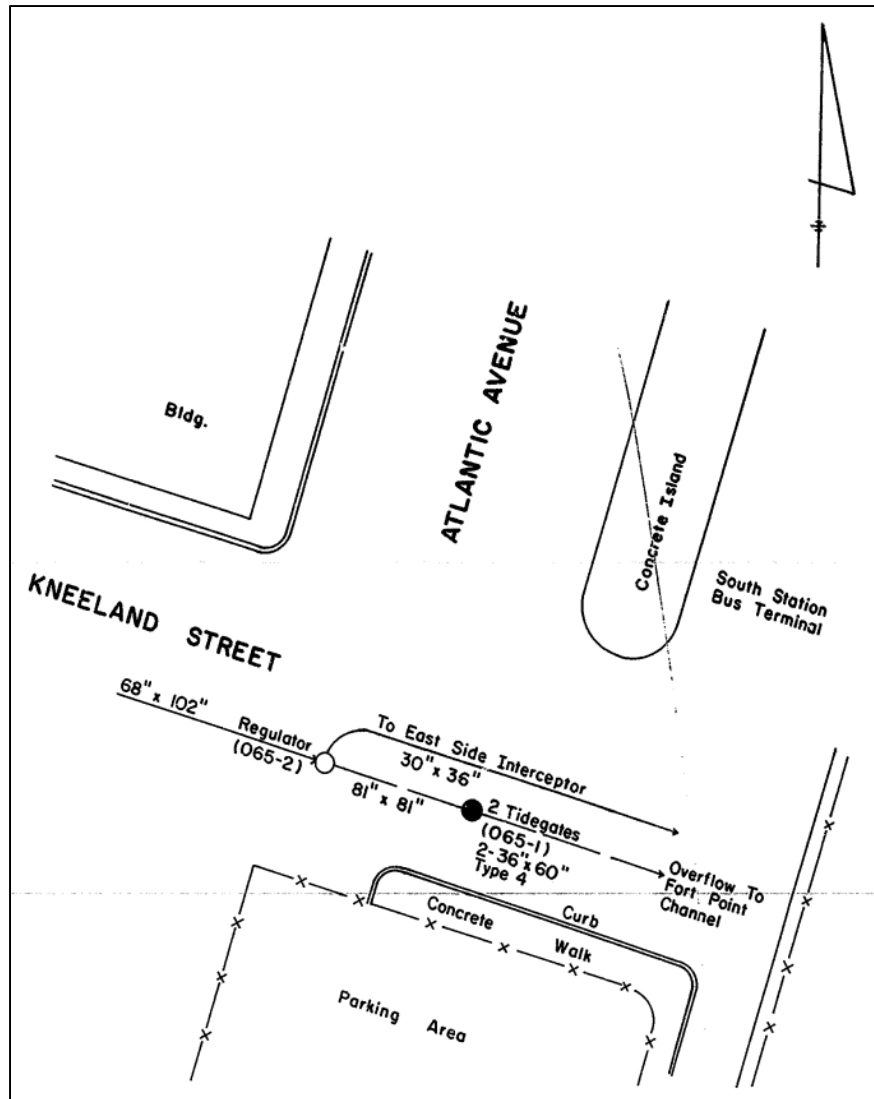


Project Background and Purpose



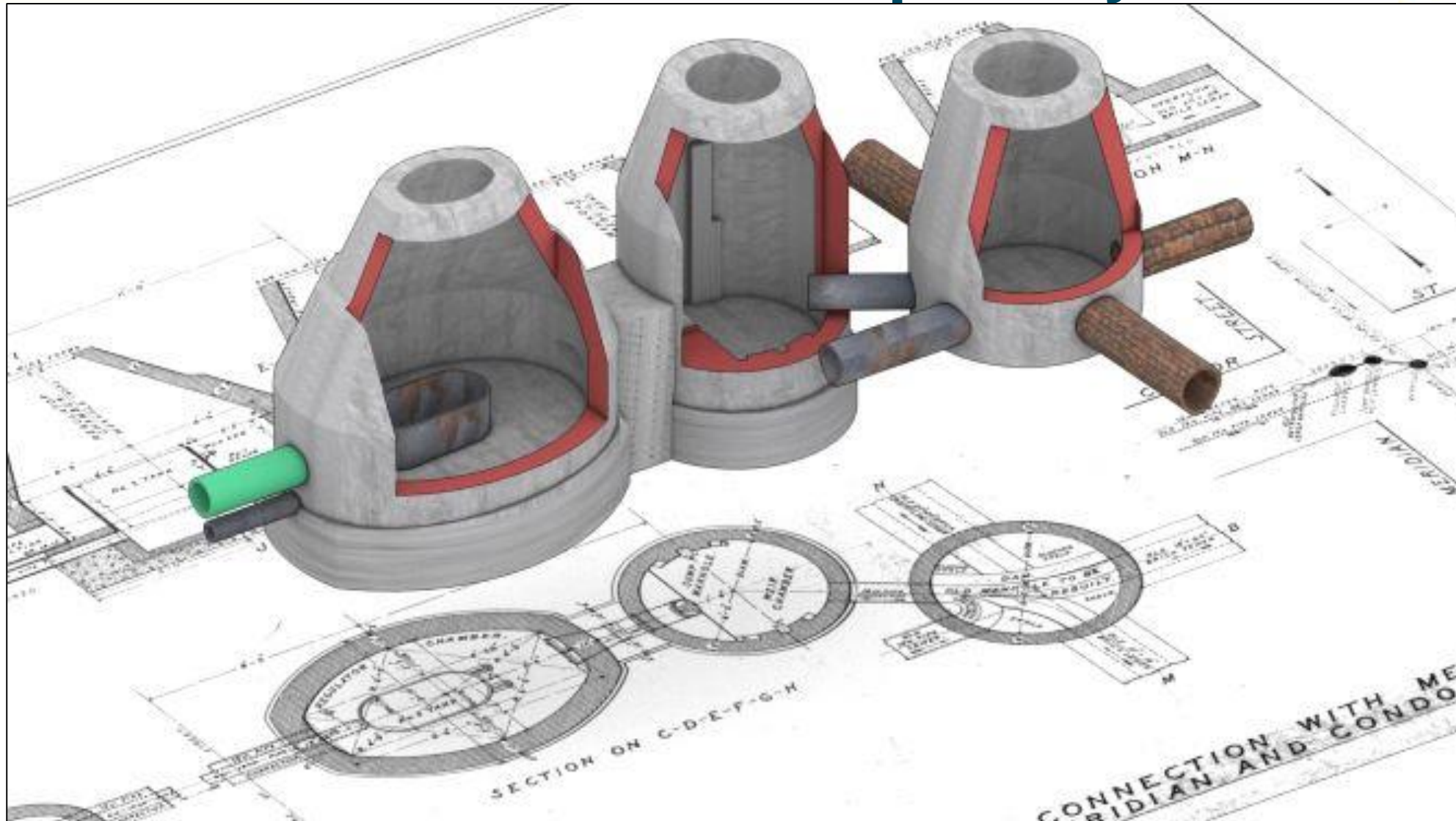
Develop 3D Visuals from Structure Details for Staff Learning

3D Development Approach: Record Information Reviews



- As-built record plans
- Assessment/inspection reports
- Equipment installation/ modification plans
- Institutional Knowledge from Operations
- Photos and videos
- GIS data

3D Development Approach: Initial 3D Models and Data Gap Analysis



3D Development Approach: Field Investigations



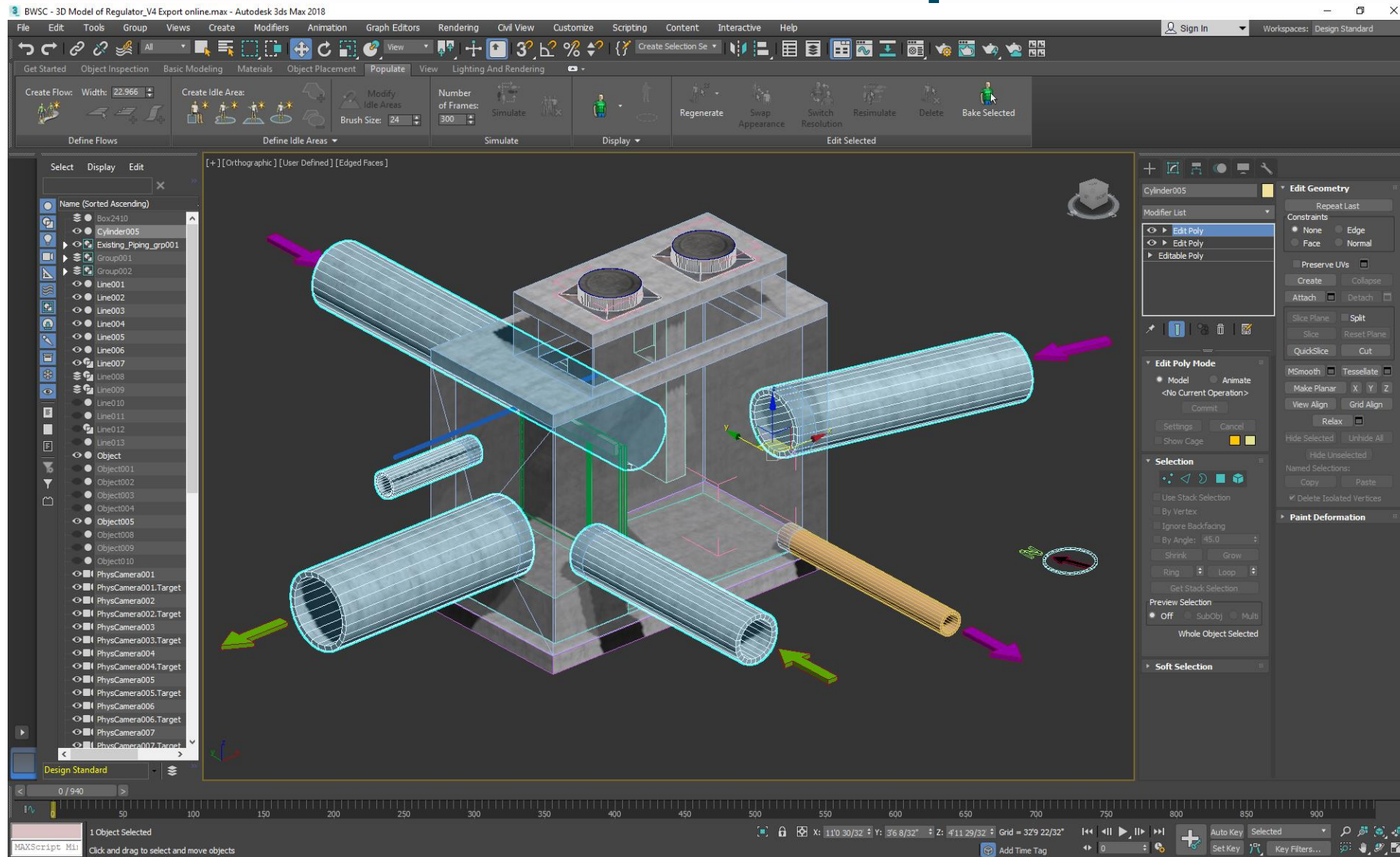
- Surface Inspections to verify existing data
- Document current conditions

3D Development Approach: Field Investigations

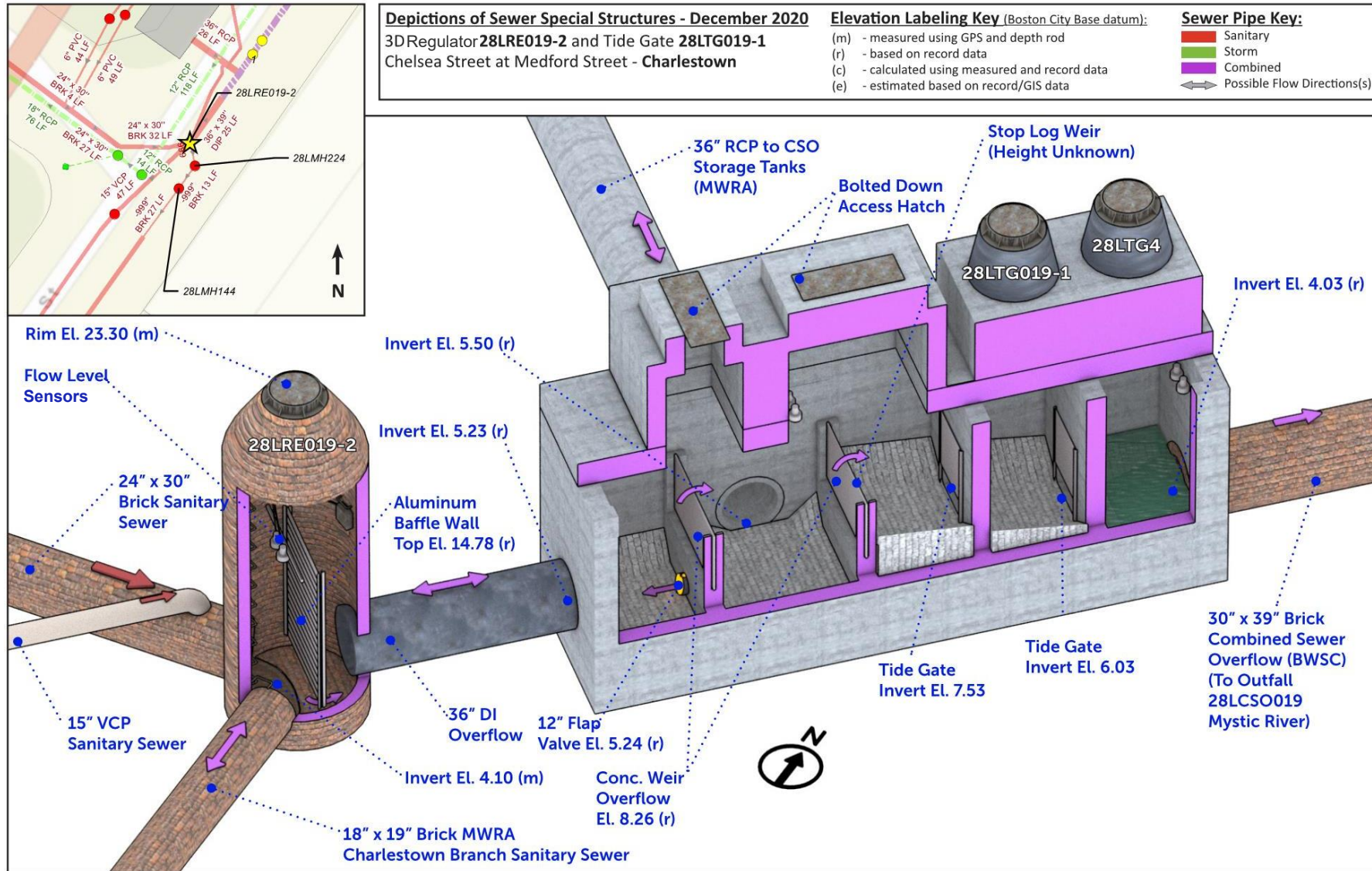
Confined Space Entry
Inspections to
investigate structure
operational functions



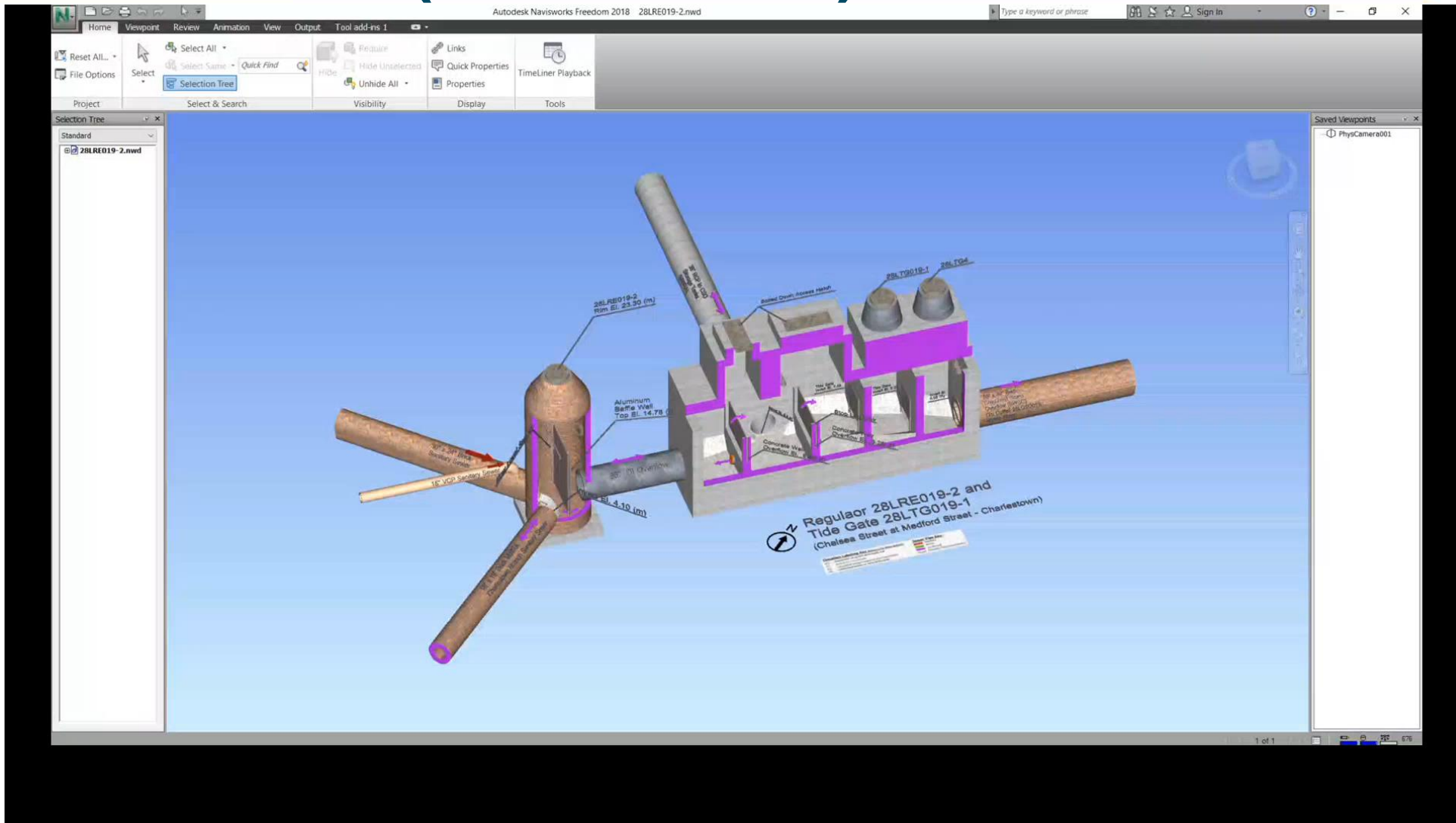
3D Development Approach: 3D Model Updates and Animation Development



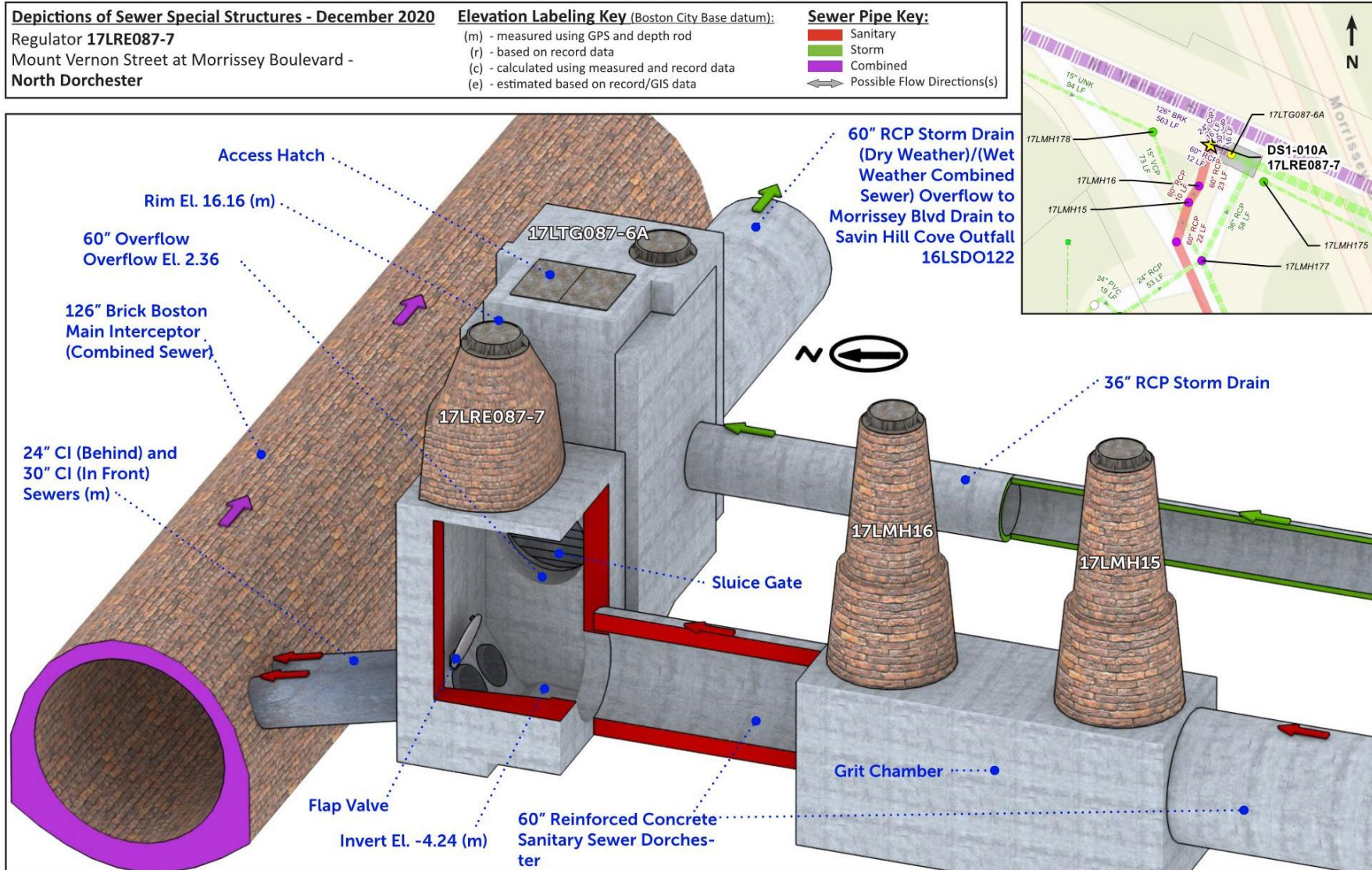
Project Deliverables: 2D Depictions (PDF)



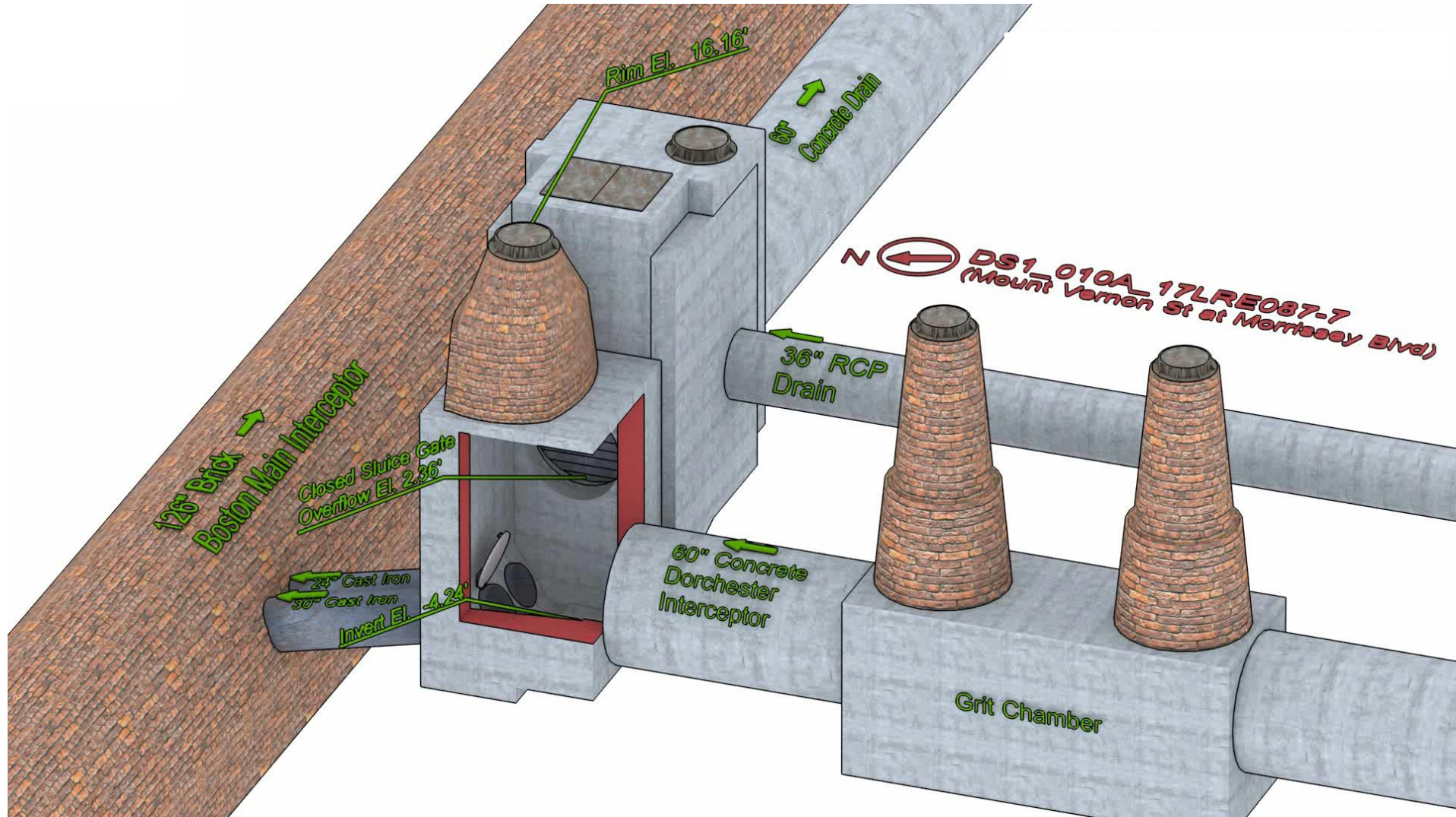
Project Deliverables: 3D Model Files (Navisworks)



Project Deliverables: 2D Depictions (PDF)



Project Deliverables: 3D Animations (Video File)



Use in Future BWSC Operations and Trainings

- Field Tablets/iPads
- Training Library



Thank You!



Questions??

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