



Case Studies in Connecticut & Other New England States

Presentation to
NEWMOA
November 6, 2019

Outline

1. Overview
2. Montgomery Mill, Windsor Locks, CT
3. I-195 Redevelopment District, Providence, RI
4. Lexington Fire Station, Lexington, MA
5. 78 Fountain Street, Providence, RI



Overview - Conflicting Objectives

• Remediation Goals

- Limit off-site soil disposal
- Maximize separation to contaminants
- Limit leaching and dissolved migration
- Re-use soil on-site

- Keep construction costs low and the client happy

• Stormwater Goals

- Excavate for stormwater structures
- Reduce impervious area to decrease runoff
- Promote infiltration and groundwater recharge
- Import freely draining soil
- Keep construction costs low and the client happy



Overview - Site Feasibility

• Remediation

- Review environmental files
- Perform Phase I ESA
- Review historic mapping
- Identify RECs
- Coordinate REC locations with Stormwater Engineer

• Stormwater

- Review existing information
- Check local regulations
- Perform initial stormwater calculations
- Identify BMP locations
- Coordinate locations with Environmental Engineer



Overview - Design Considerations

- **Remediation**
 - Perform Phase II ESA with emphasis on BMP areas
 - Identify and delineate contaminated areas
 - Identify soil removal areas
 - Coordinate with Stormwater Engineer
- **Stormwater**
 - Excavate test pits to evaluate subsurface conditions
 - Perform necessary design calculations
 - Locate and size BMPs to handle stormwater
 - Coordinate with Environmental Engineer



Montgomery Mill, Windsor Locks, CT



Montgomery Mills – Windsor Locks, CT

Historic Conditions



- Historic manufacturing mill, 200 plus years of industrial history
- Between Windsor Locks Canal and Connecticut River



Montgomery Mills – Windsor Locks, CT

Existing Conditions – Typical CT Brownfield



- Sat vacant in center of town for decades
- Heavily vandalized, half of the facility burned to the ground



Montgomery Mills – Windsor Locks, CT

The Master Plan



Montgomery Mills – Windsor Locks, CT



- **Unknown soil/groundwater conditions, unfulfilled regulatory obligations**
- **Extensive hazardous building materials in damaged condition**
- **Traffic nightmare, rail-road right away, multiple intersections**



Montgomery Mills – Windsor Locks, CT

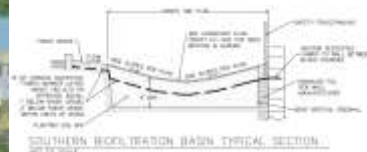


Environmental Investigations

- Town obtained \$200,000 DECD brownfield grant to investigate and quantify unknown liabilities
- Through **focused** investigation, active remediation was limited to removal of 100 tons of fire debris
- Managed all impacted soil in place
- Obtained DECD Brownfield funding of \$4 Million to address extensive hazardous building material issues



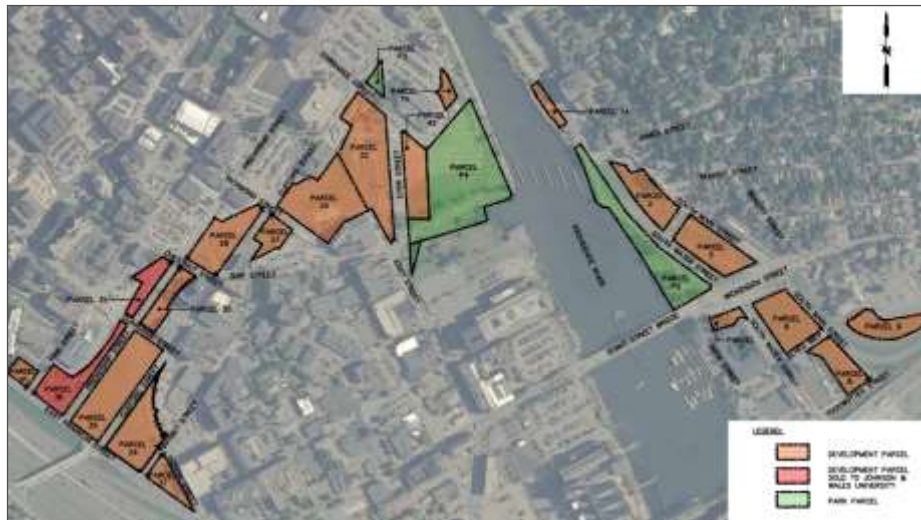
Montgomery Mills – Windsor Locks, CT



I-195 Redevelopment District: One Mile of Opportunity



Development and Park Parcels



Common Goals and Permitting Approach

Develop creative Environmental Remediation and Stormwater Management permitting strategies to:

1. Maximize property value and marketability
 - Minimize uncertainties for developers
 - Minimize permitting times
 - Maximize developable space
2. Expedite development
3. Facilitate swift economic impact
4. Protect human health and the environment
5. Conserve natural resources
6. Create urban green space



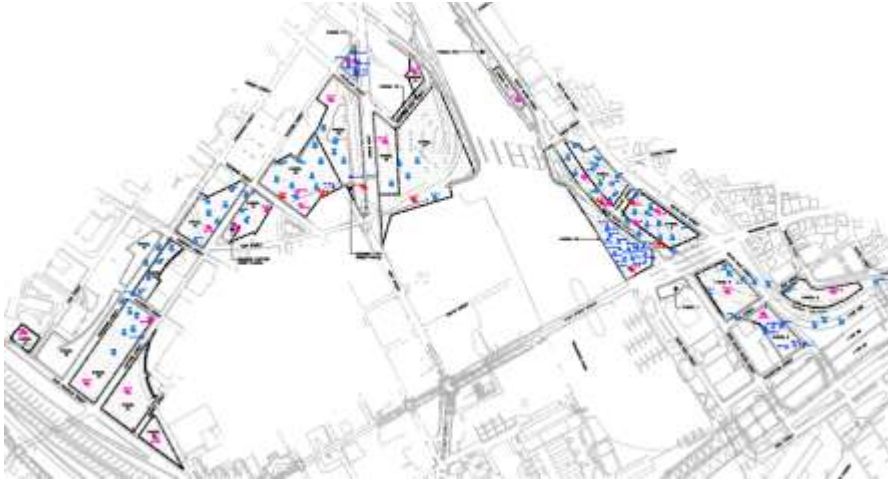
Multi-Disciplinary Coordination

- **RIDEM**
 - Office of Waste Management
 - State Site Remediation Program
 - Underground Storage Tank Program
 - Office of Water Resources
 - RIPDES Program
 - Water Quality Certification Program
 - Office of Customer & Technical Assistance
 - Pre-application assistance
 - Streamlined approach
- **RIDOT**
 - Owner and operator
 - Road re-creation & utility alignment
- **Commerce RI**
 - Company recruitment
 - Job creation
- **I-195 Commission**
 - Sale, marketing, and oversight authority
- **CRMC**
 - Onsite storm water management
 - Coastal features & green space
- **Federal Highway Administration**
 - Sale money -> development of utilities and street alignments
- **City of Providence**
 - Individual building permits
 - Catch basin maintenance, curb cuts, storm water management in streets
- **Utilities**
 - NBC
 - National Grid
 - Providence Water Authority

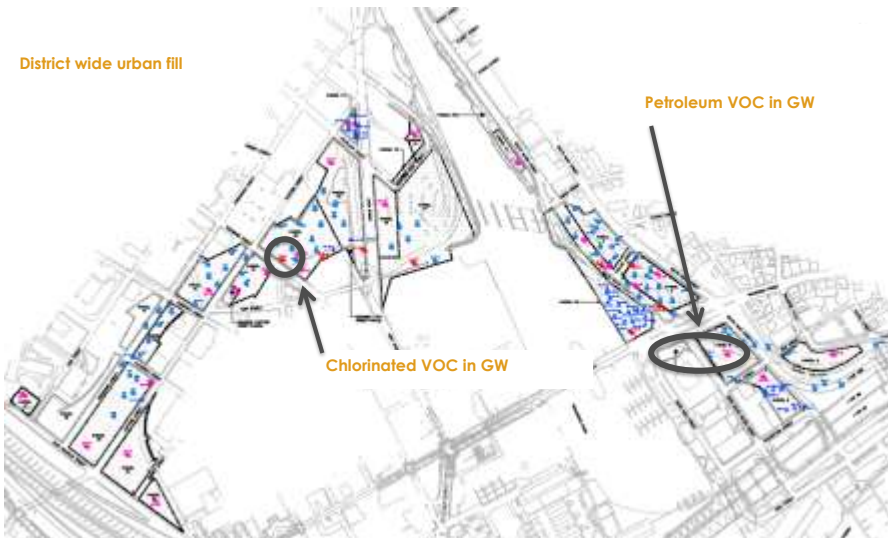


Environmental Assessment and Remediation

Master Plan Approach - District wide strategy



Environmental Results



Stormwater Management

Conventional Regulatory Process:

- **RIDEM**
 - Water Quality Certification
 - RIDEM Underground Injection Control
 - RI Pollutant Discharge Elimination System
- **City Stormwater Ordinance**
- **Coastal Resource Management Council**
- **Narragansett Bay Commission Connections**
- **90+/- day review period per development**



Stormwater Management

Conventional process requires each development to manage stormwater on site

- **Stormwater design vs. urban design**
- **Decreases density**
- **Adds to site constraints**
- **Hinders development flexibility**



Stormwater Management

Master Plan Regulatory Approach:

- District-wide stormwater treatment volume
- Allows stormwater BMPs to be installed anywhere within or even outside the district to bank credit
- Expedited development review process (30 days)



Stormwater Strategy - Shared Controls



Green Stormwater Infrastructure



End Result

- **Quantify remediation cost and obligations**
- **Provide maximum stormwater management flexibility**
- **Drastically reduce permitting times**
- **Increase property values and marketability**
- **Facilitate rapid development and economic stimulus**



Development and Park Parcels



Wexford Providence Innovation Center



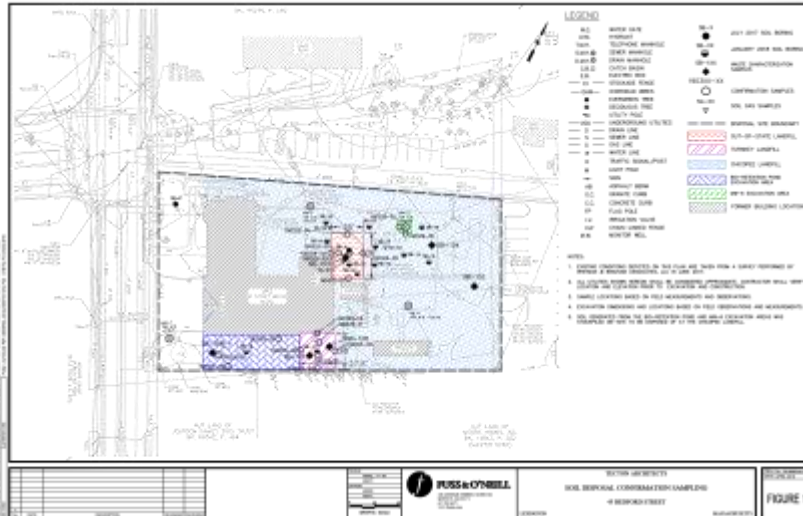
Chestnut Commons



Lexington Fire Station, Lexington, MA



Design Considerations



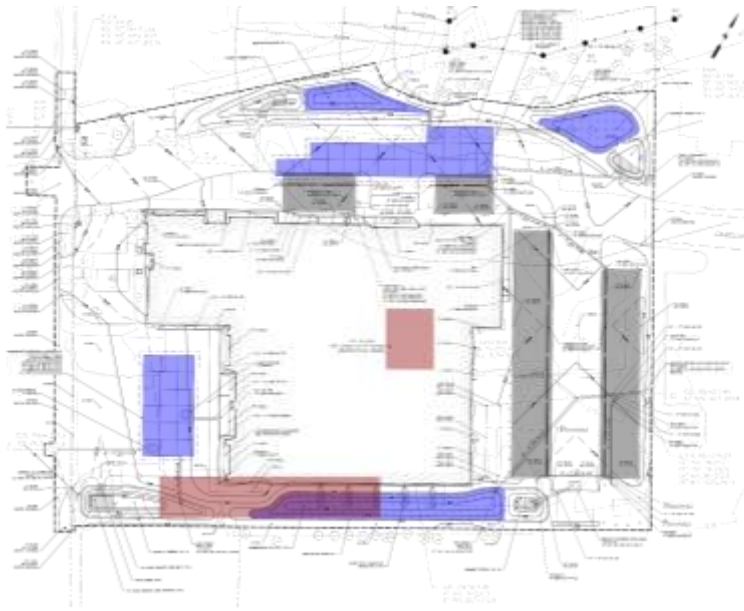
Permitting & Construction



Permitting & Construction



Design Considerations



Permitting & Construction



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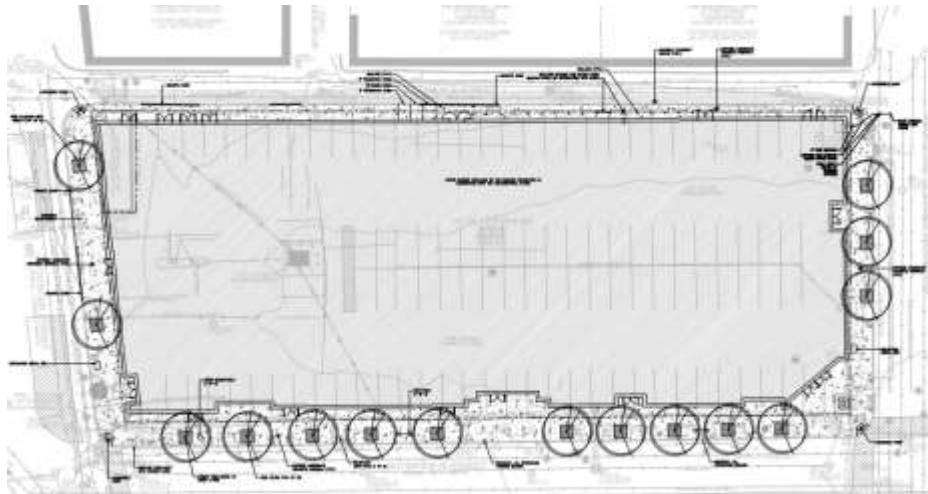
Permitting & Construction



78 Fountain Street, Providence, RI



Urban Development



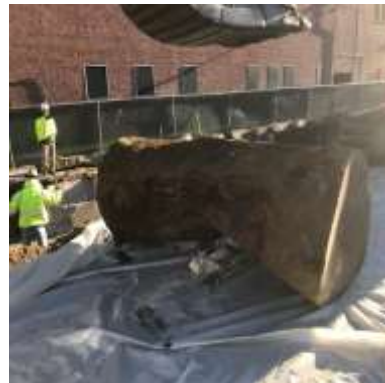
78 Fountain Street, Providence, RI



Before Redevelopment



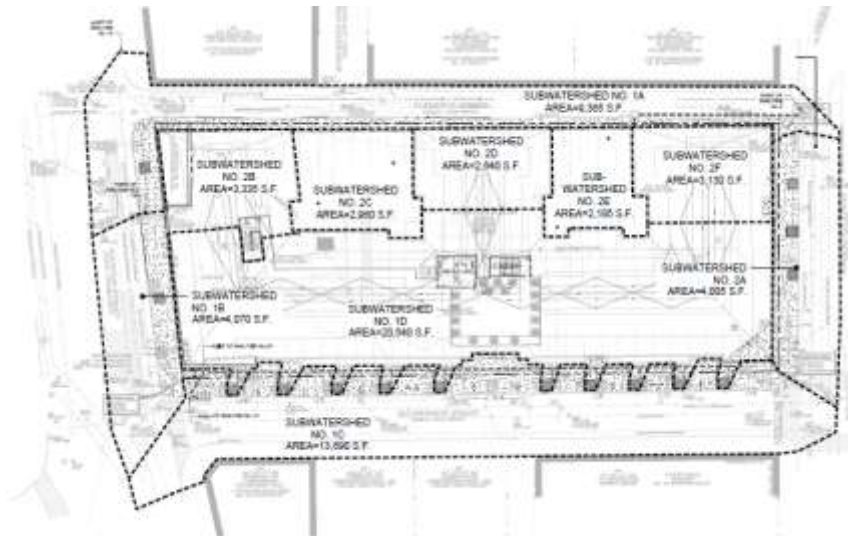
Subsurface Conditions



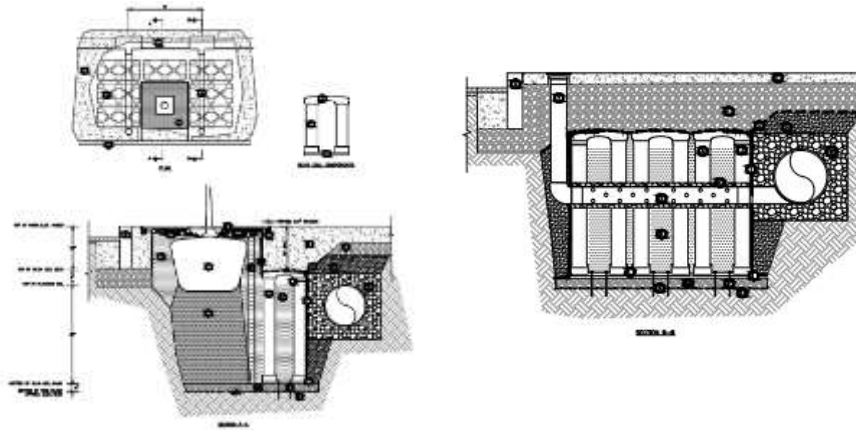
Ground Improvements



Stormwater Management Plan



Green Stormwater Infrastructure – Tree Filters



Tree Filter Installation



Green Roof Courtyards



Green Roof Courtyards



Current Construction Status



Questions?

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