



# Boston Porous Alley Project

Public Meeting  
09/26/2013

Boston Public Works Department  
The Mayors Office of Neighborhood Services



**BOSTON POROUS ALLEY**  
When it rains, it recharges

Project funded by Massachusetts DEP and designed by Vanasse Hangen Brustlin



Public Alley # 543

Charles River Watershed Association  
Boston Public Works Department  
Boston Groundwater Trust

# Project Goals

- Part of Boston's goal to be a "greener" city
- Help to protect Boston's water resources from stormwater runoff
- Help replenish groundwater
- Develop maintenance protocol to ensure effectiveness of the system
- Replicate system in other locations in the City
- Assess the effectiveness of porous alleys in comparison to cities like Philadelphia, New York, Chicago, Baltimore



GREENOVATE  
**BOSTON**



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# Project Summary

- **Project** - Implementation of a porous alley retrofit in the City of Boston
- **Partnership** - CRWA, Boston Public Works Department and Boston Groundwater Trust partnering to implement and monitor pilot project
- **Funding** - Grant from Mass DEP to CRWA + match provided by City of Boston and BGwT
- **Design/ Engineering** - Vanasse Hangen Brustlin Inc. – project engineering design



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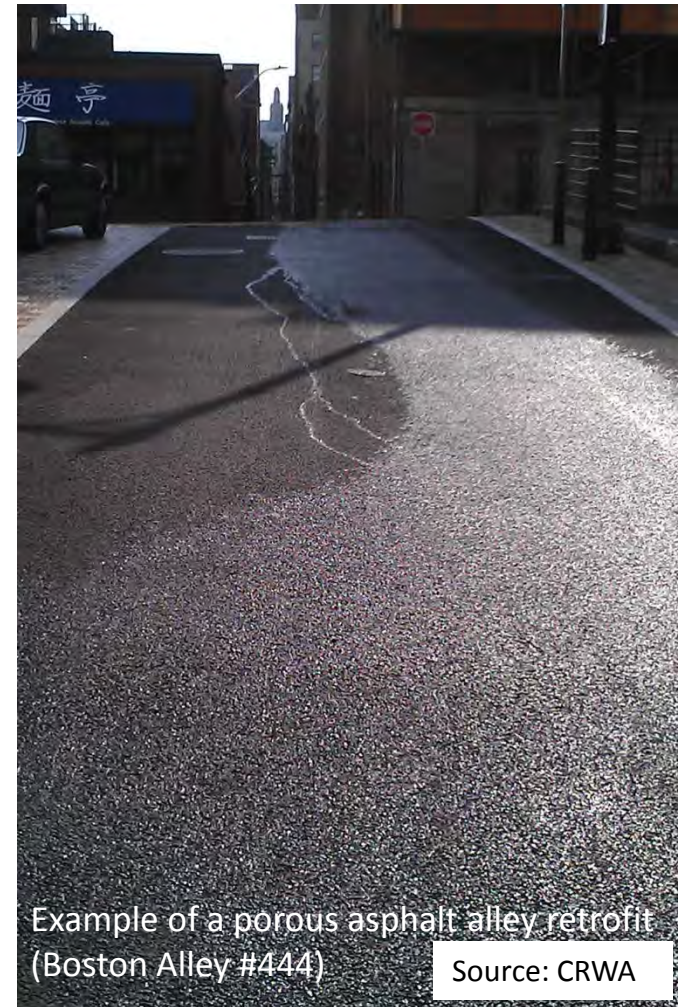


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# Project Benefits

- **Flood Reduction** or elimination
- **Groundwater recharge** – protects building foundations
- **Aesthetics & accessibility** improvement in the Public Alley
- **Stormwater runoff pollution control** - reduction of polluted discharge into ground or harbor
- **Design Standards** - Porous Pavement design, installation, maintenance, benefits data collection



Example of a porous asphalt alley retrofit (Boston Alley #444)

Source: CRWA



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# Porous Pavement Benefits

- Water goes through pavement into the ground instead of running off into the street and storm drains
- Increased groundwater helps preserve building foundations
- Pavement base acts as a big filter so water is cleaner



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# Why Alley 543?

- Low groundwater
- Nearby connection to storm drain
- Minimal underground utilities
- No overhead wires to interfere with construction.
- Good site where adjacent areas are paved minimizing grit and silt run-on
- Easy access for construction equipment
- Good opportunities to monitor results



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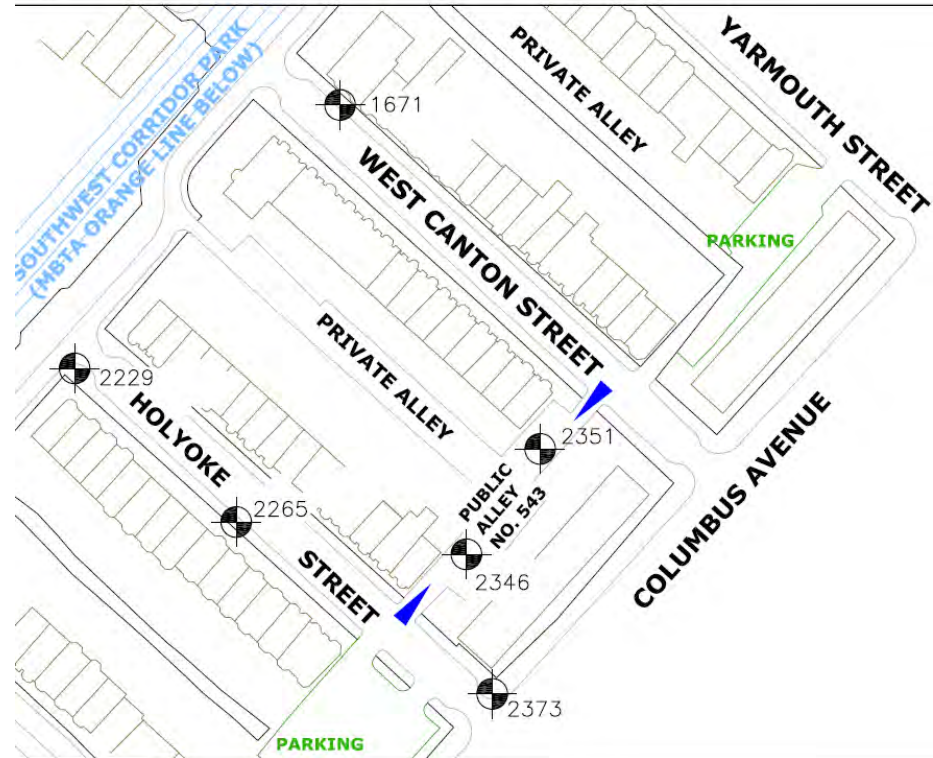
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# Monitoring

- Boston Groundwater Trust has begun monitoring groundwater levels at two new observation wells installed in July 2013
- Data logging to be conducted in the period prior to and after construction
- Expected increase in groundwater levels
- CRWA will monitor water quality and recharge

 Groundwater Observation Wells



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# Site Area Delineation



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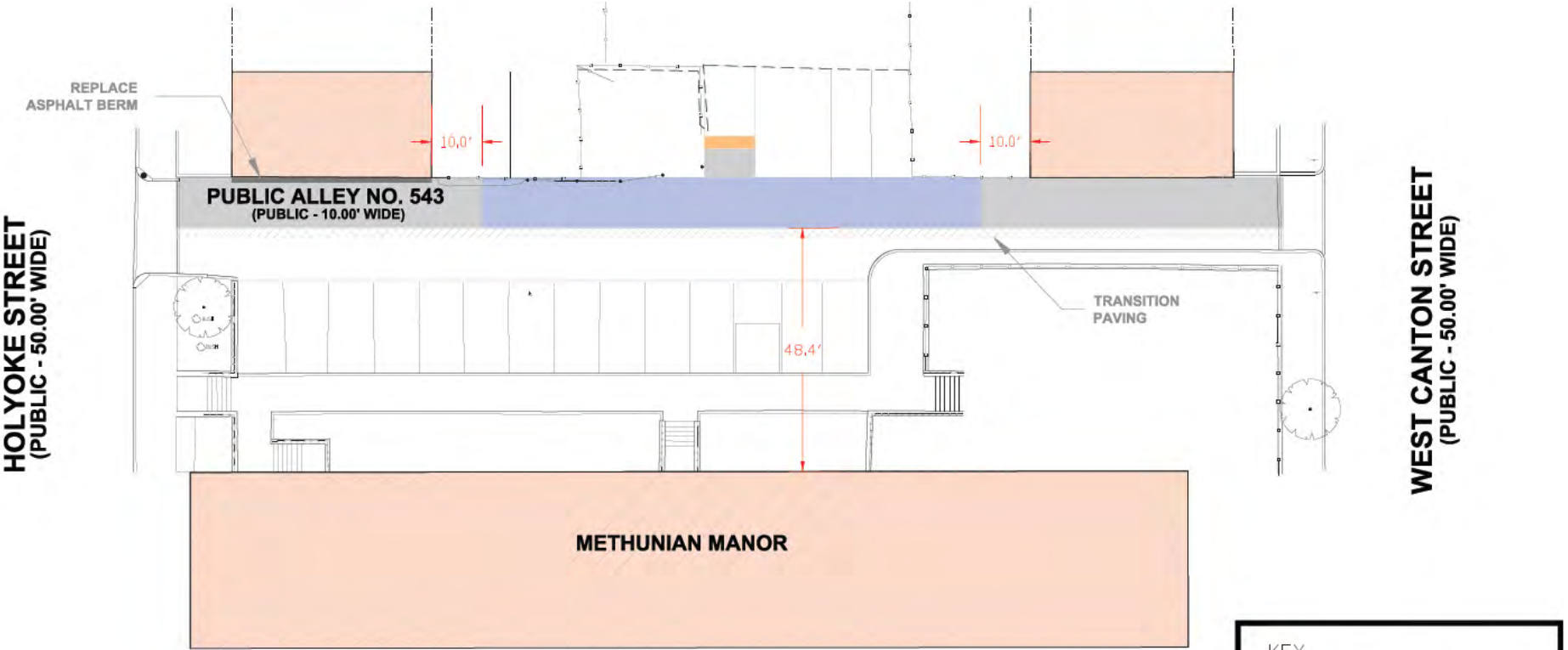


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# Plan of Alley 543



**KEY**

- BUFFER STRIP
- POROUS ASPHALT
- STANDARD ASPHALT



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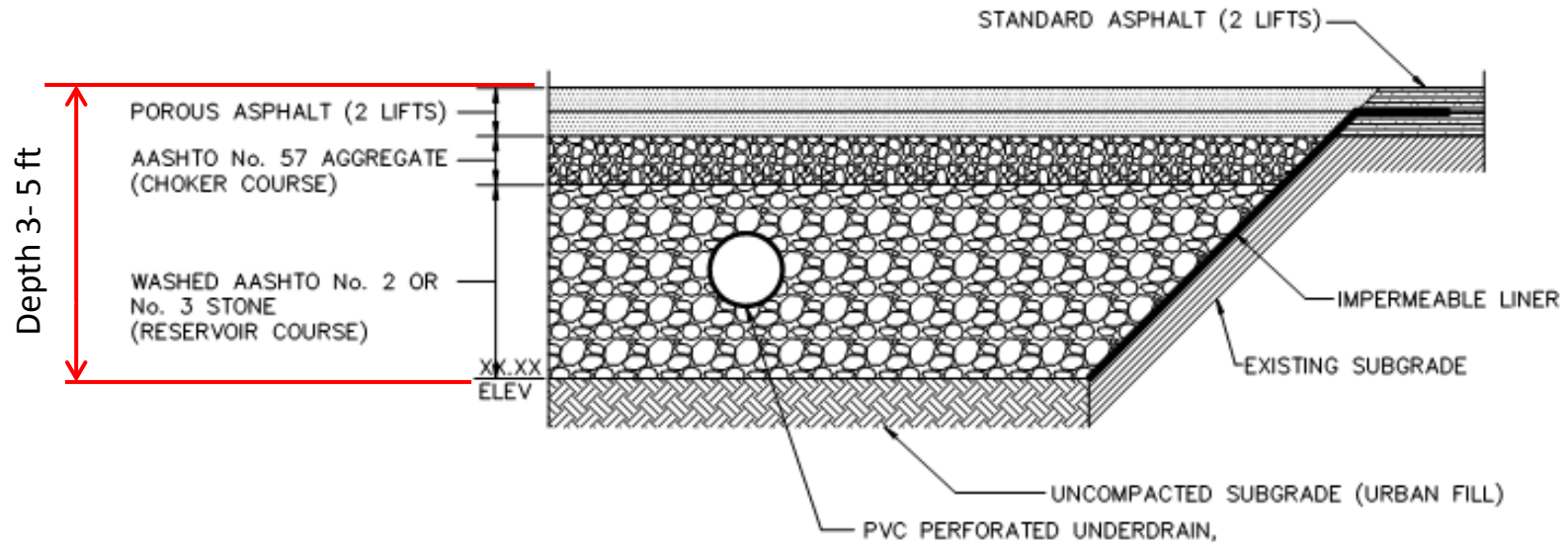
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# Pavement Cross Section



## Porous Asphalt Pavement Section

N.T.S.

Source: VHB

8/12

REV

LD\_



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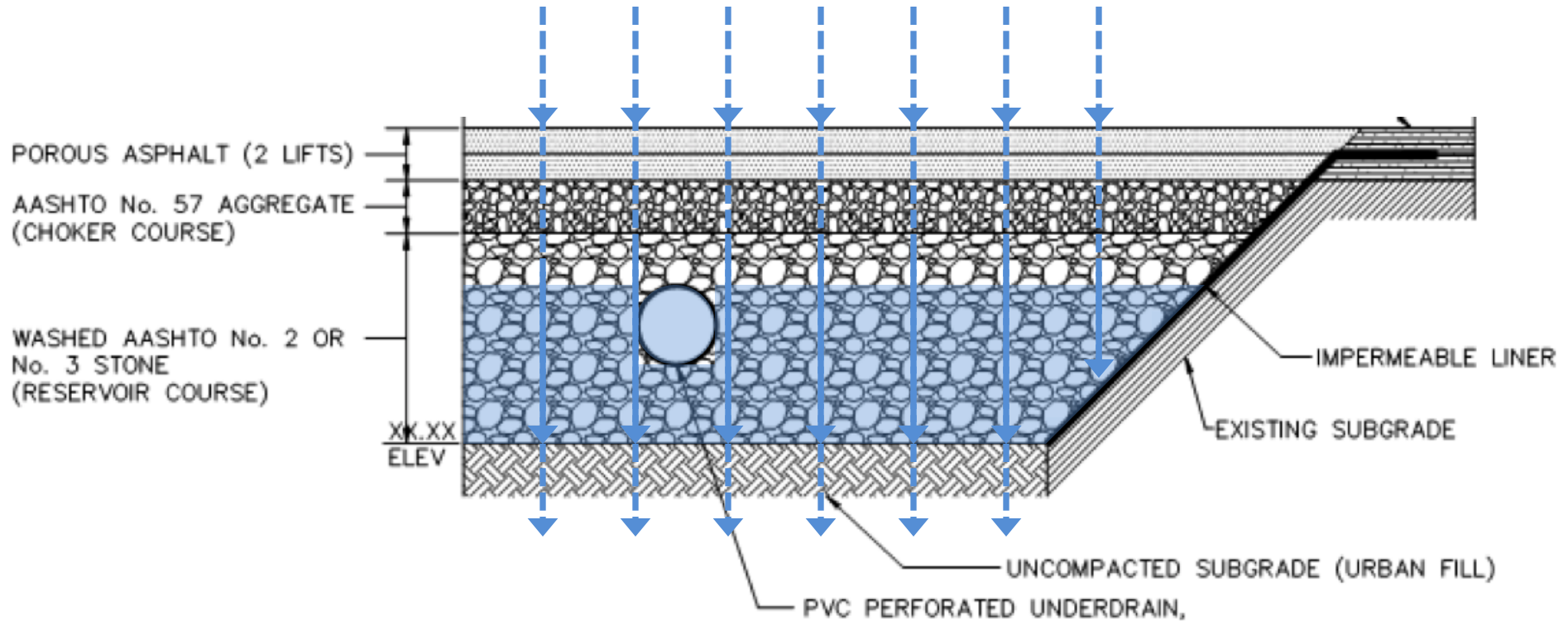


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# Construction Sequencing

1. Remove existing pavement
2. Truck materials off Site
3. Excavate and install base & underdrains
4. Install monitoring equipment
5. Repave Public Alley and grade into Private Alley



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# Project Issues

- **Project limits** – Porous alley is within the City owned Right of Way
- **Parking** - Working with BTD for alternative parking location/s
- **Dumpster** - Temporarily relocated to one end of alley
- **Dust Control** - the contractor will be required to complete continual dust control with water during construction
- **Noise** – Construction activities will occur during weekday only from 7:30 AM to 3 PM
- **Rodents** – A rodent control plan will be implemented



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- **Safety** - the contractor will be responsible for securing the entire site during work and non-work hours
- **Emergency access** - will be maintained at all times
- **Snow Removal** – no change to standard City procedures



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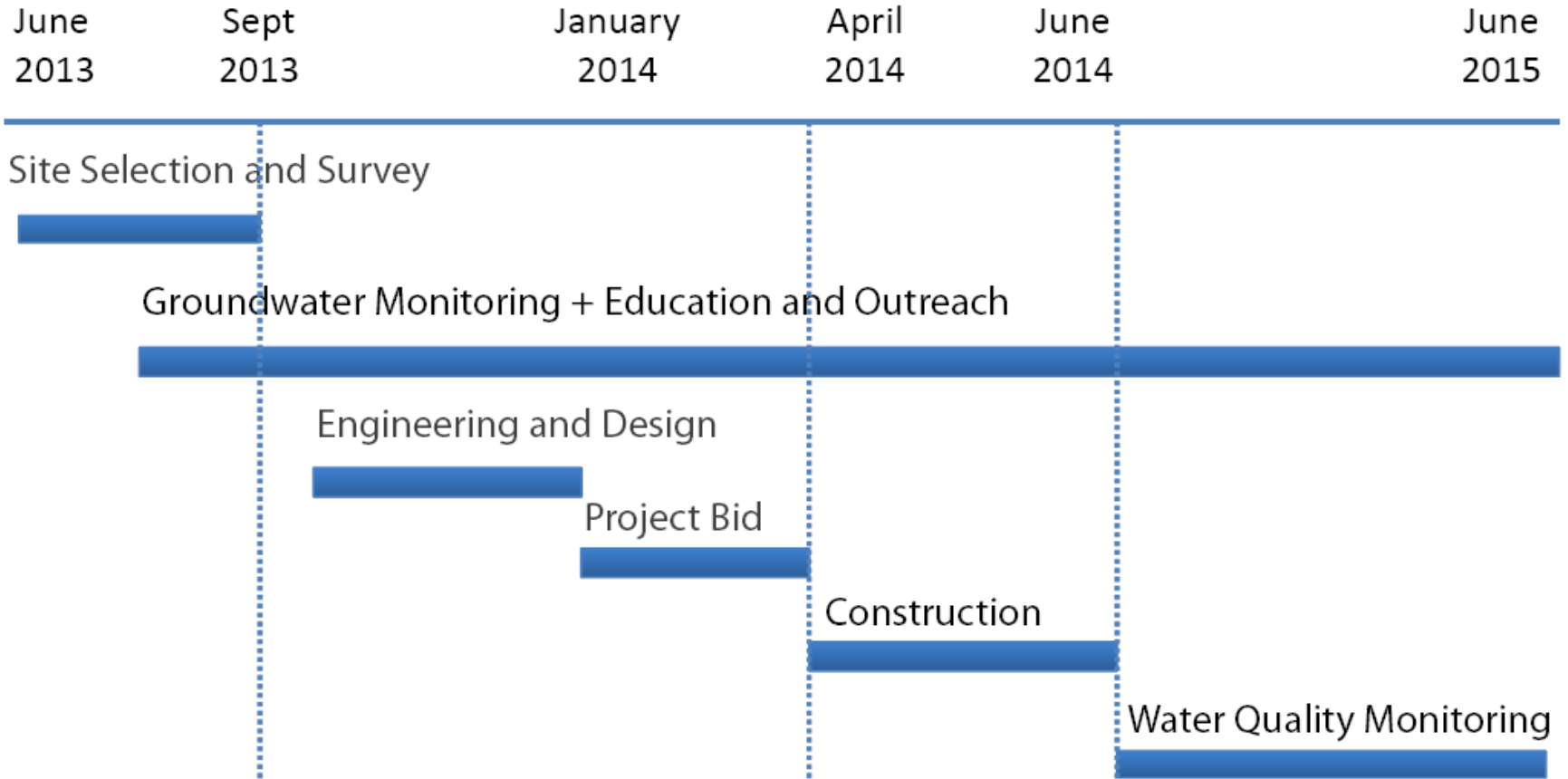


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# Project Tasks / Timeline



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# Thank You!

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