

# Implementation of Low Impact Development (LID) Practices in Oak Terrace Preserve



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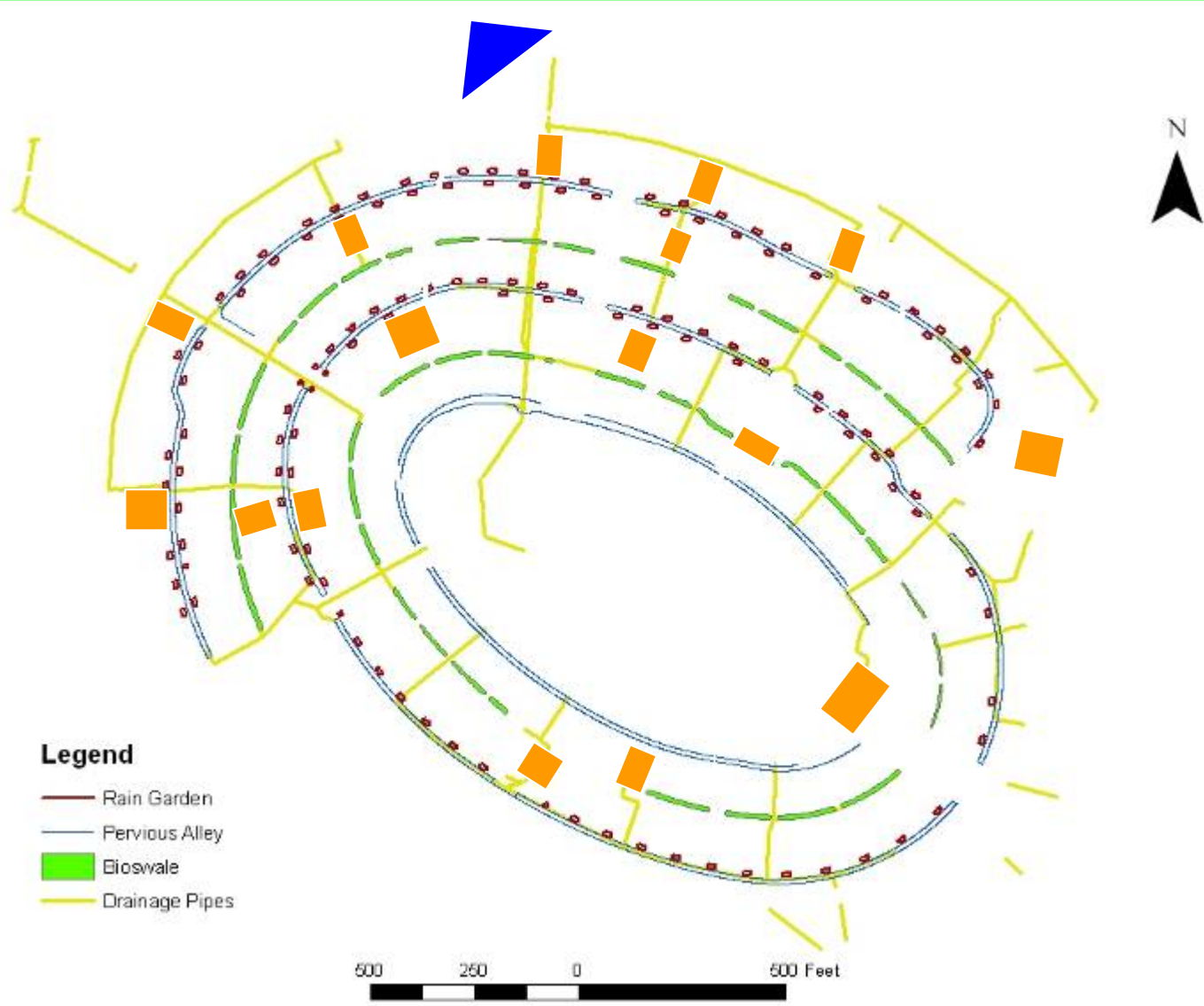


# Low Impact Development Practices

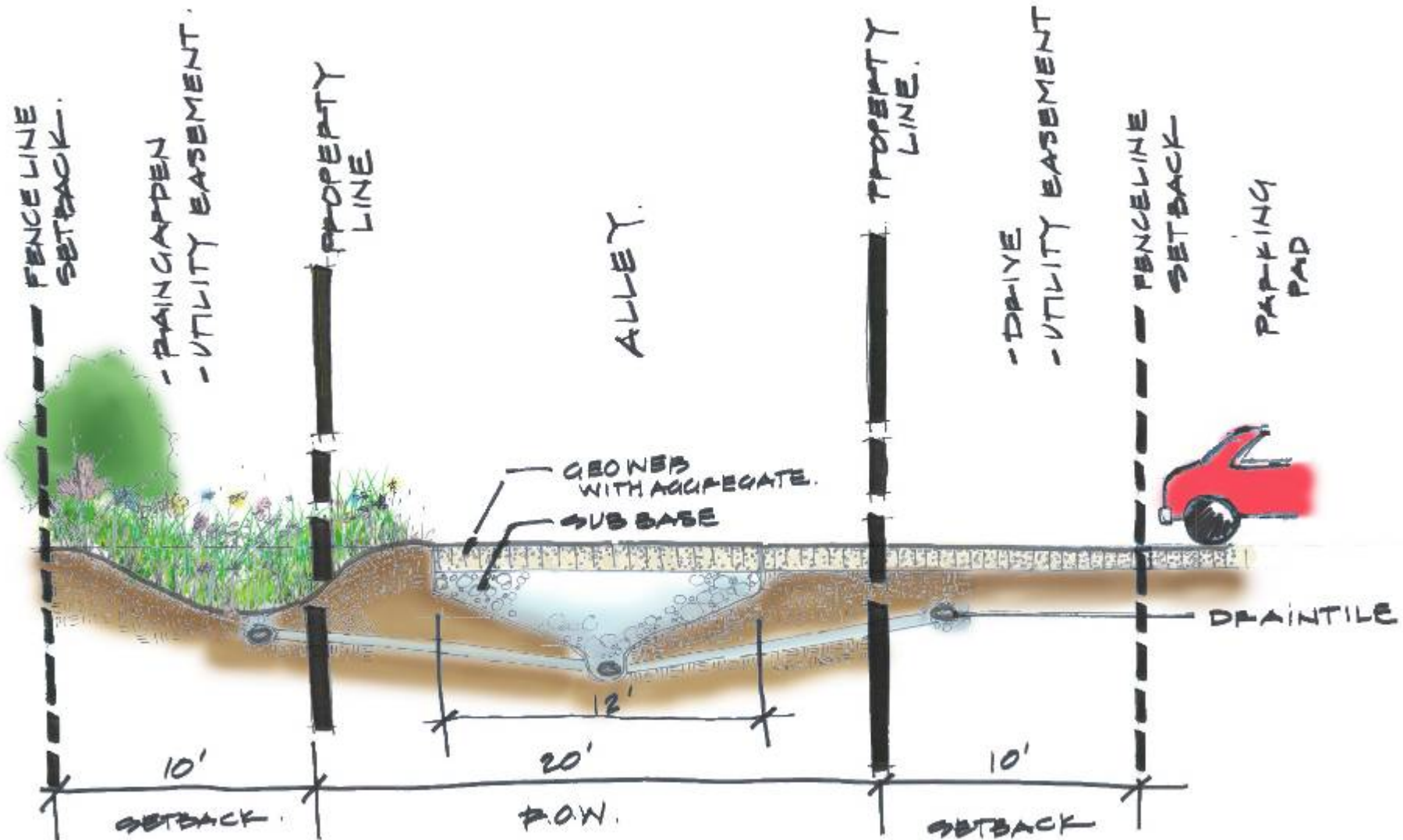
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- ❑ Purpose: Maintain “natural” hydrologic conditions of a development site by dispersing stormwater throughout the site and encouraging infiltration and recharge of surficial groundwater sources
- ❑ Examples: Bioretention swales, Rain gardens, Created wetlands, and Pervious pavers/pavement

# Oak Terrace Preserve

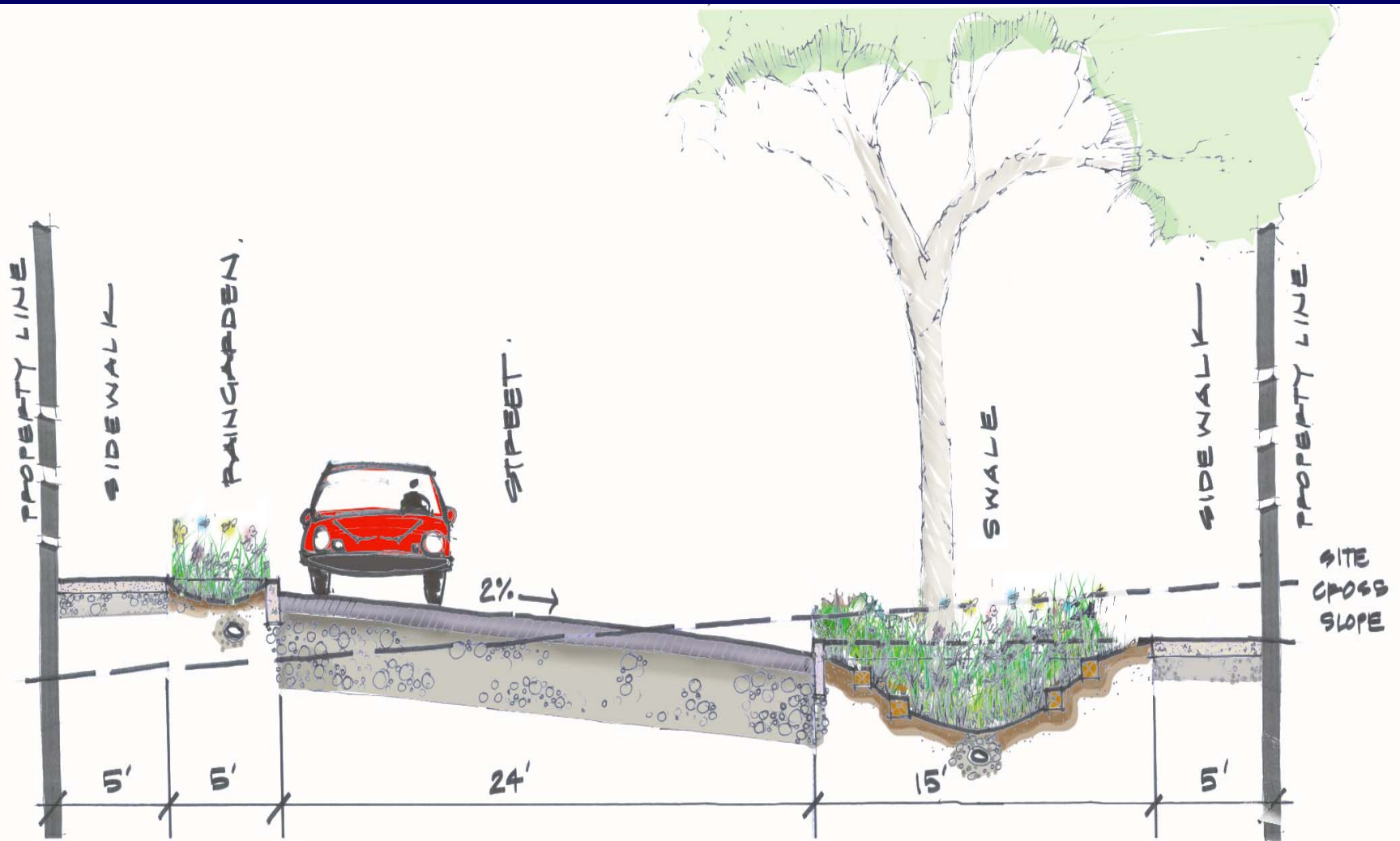


# Pervious Alleys



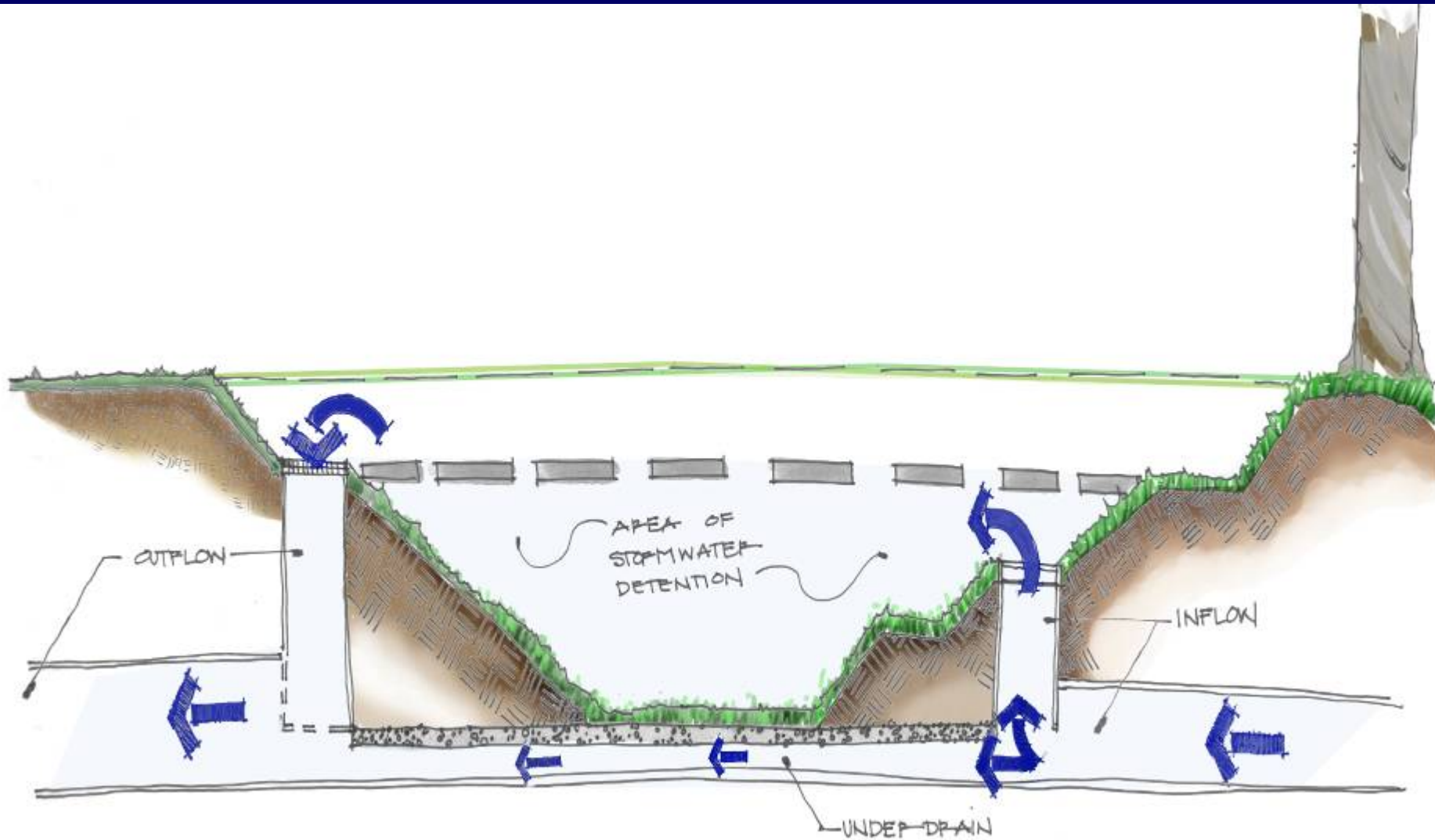


# Bioretention Swale





# Pocket Parks





# Retention Pond

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# Lessons Learned

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- ❑ Restoring forested wetland characteristics
- ❑ Partnership with the City of North Charleston and the developer (Noisette)
- ❑ Phasing of Construction
  - Pervious Alleys
  - Stabilizing bioretention swales



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# Lessons Learned

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- ❑ Tree Preservation
- ❑ Restoring forested wetland characteristics
- ❑ Partnership with the City of North Charleston and the developer (Noisette)
- ❑ Phasing of Construction
  - Pervious Alleys
  - Bioretention swales as sediment traps



# Lessons Learned

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- ❑ Phasing of Construction:
  - Inexperience and lack of knowledge
  - LID implementation is still a learning process



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# Regional Considerations

- ❑ Shallow water table
  - Minimize storage capacity of the surrounding soils
- ❑ Low topographic relief
- ❑ Tidal effects
- ❑ Soil composition
  - Generally sandy

# LID research needs

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- Efficiency
  - Over several sites and over time
- Cost comparisons
- Identify constraints to implementation (regulatory, design, and construction)
  - Stormwater permitting
  - Zoning
  - Building restrictions (e.g. setbacks)
- Identify maintenance requirements
- Education

# Study sites: Sample collection points



## Legend

### Phasing

- 1
- 2
- 3

### Watersheds



### Groundwater wells



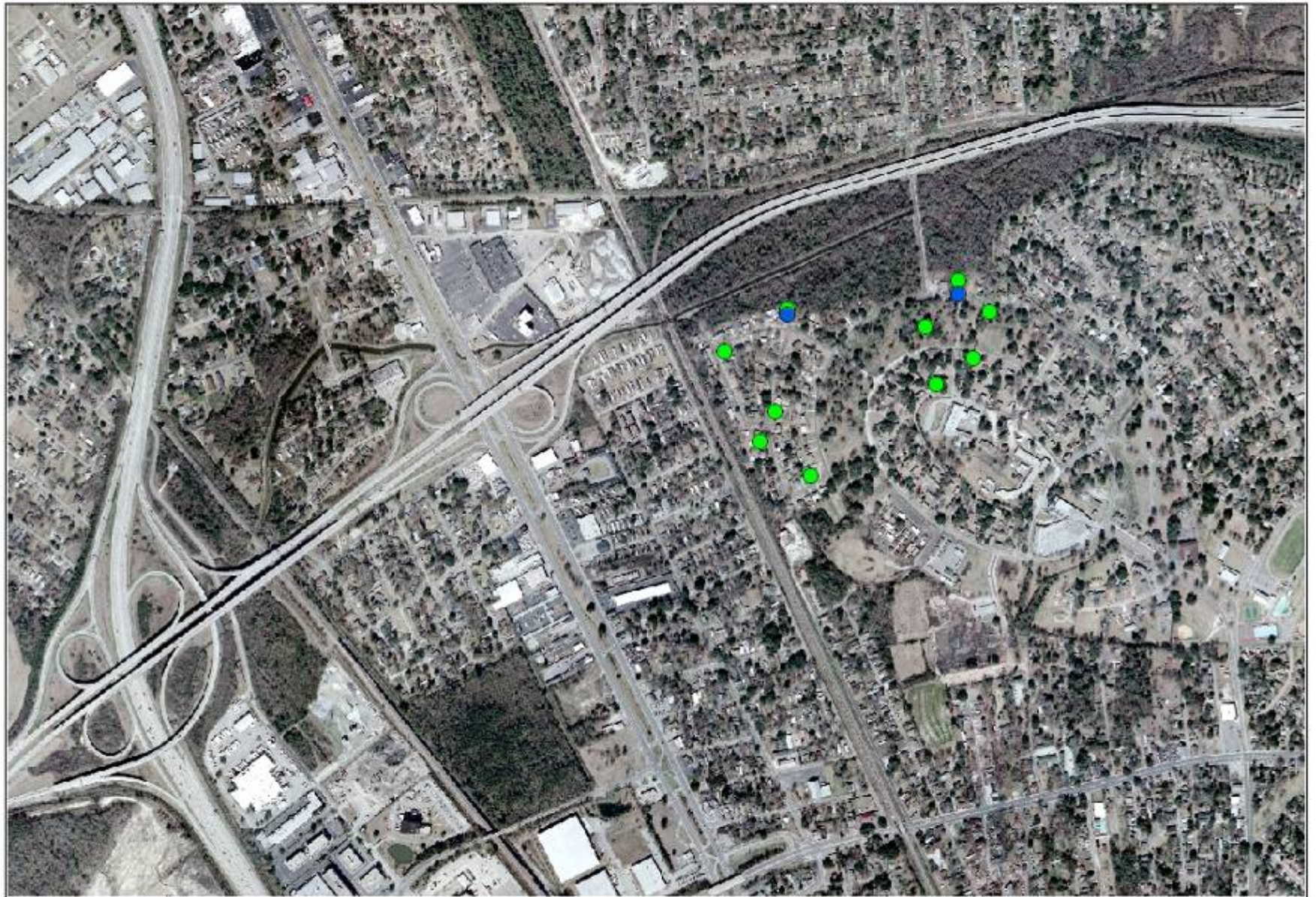
### Surface outfall



700 350 0 700 Feet



# Filbin creek restoration



1,500 750 0 1,500 Feet



