# Reconstruction of Existing Public Right-of-Way (PROW)

MEP tailored to the streetscape portion of a Major Regulated Project


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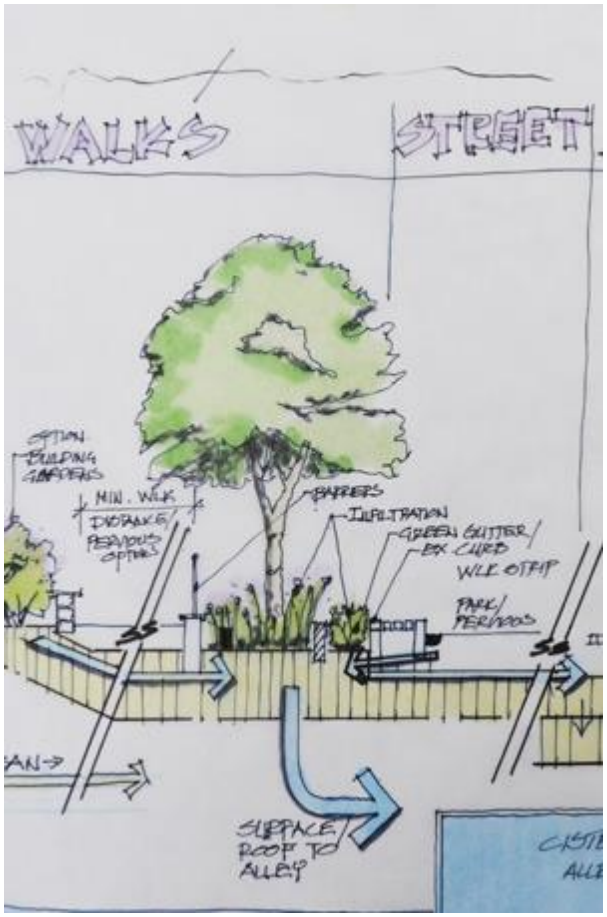
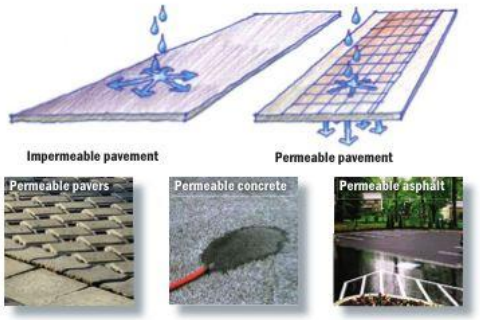
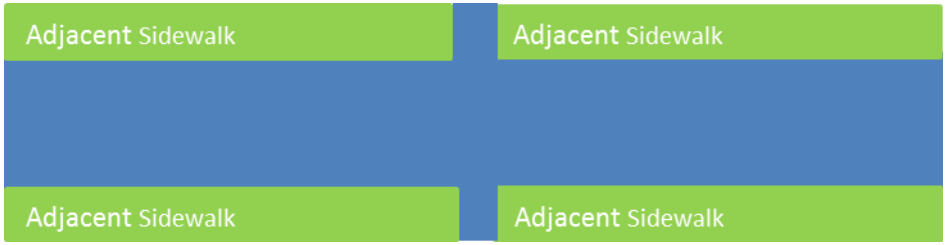
**Rain gardens** will reduce runoff from storms.



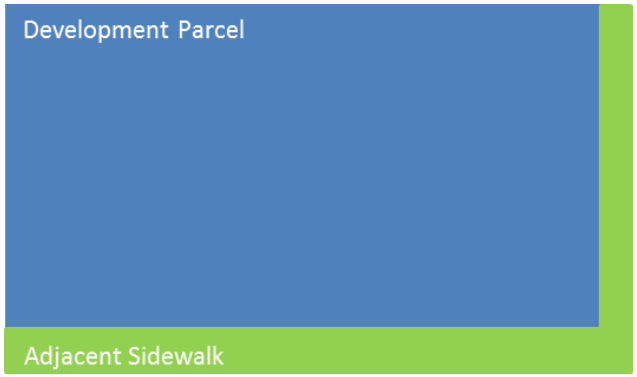



# When PROW MEP applies…

- Reconstruction of Existing Public right-of-way
- Type 1: Federal or municipal
  - roads, alleys, sidewalks, trails, etc.




- Type 2: Private development
  - adjacent sidewalks and alleys



# When PROW MEP does **not** apply…

- A major regulated project that does not disturb the adjacent public right-of-way
- Voluntary retrofits of existing PROW
- PROW disturbance that is limited to
  - Trenches
  - Driveways
  - Utilities
  - Aprons
  - Minor disturbance

# Principles of PROW MEP include…

- Maximize BMP placement
- Maximize BMP sizing
- Innovate--integrate “green” with “grey” infrastructure
- Minimize impervious widths
- Maximize land cover types with little stormwater runoff
- Maximize tree canopy
  - planting or preserving trees, amending soils, increasing soil volumes and connecting tree roots with stormwater runoff
- Use impervious surface disconnection strategies
  - e.g., draining sidewalk area to continuous tree planting strip
- Manage comingled stormwater runoff
  - prioritize the conveyance and control of roadway runoff
  - Over-control the roadway runoff beyond LOD to compensate for less retention elsewhere
- Use porous pavement or pavers for low traffic roadways, on-street parking, shoulders or sidewalks
- Integrate BMPs into traffic calming measures

# Parcel PROW MEP steps include…

- Calculate SWRv
- Prioritize managing roadway runoff inside the curb line
- Place, size and design PROW BMPs to maximize retention
  - Stormwater Management Guidebook Chapter 3 BMP specifications
  - Stormwater Management Guidebook Appendix B BMP priorities and limitations
  - DDOT LID Standards and Specifications

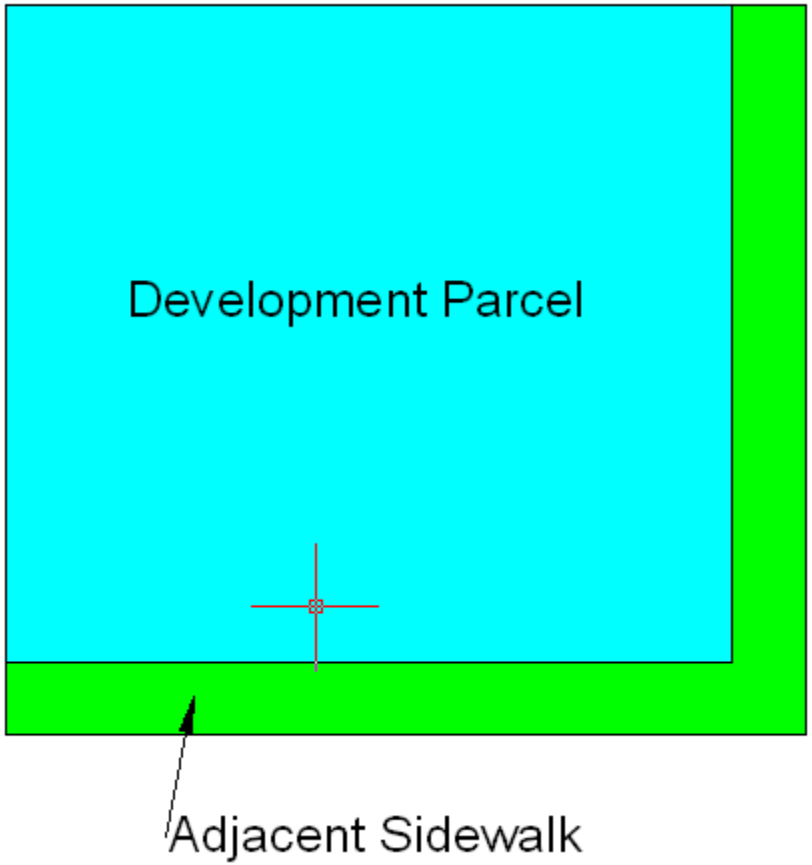
    dc.gov/DC/DDOT/Projects+and+Planning/Environment/Low+Impact+Development

# Design Example: Scenario

- Corner property includes 200 ft x 10 ft adjacent PROW disturbance (sidewalk)
- SWRv = 1.2 in x (0.95x100%) x 2000 $ft^2$ x 7.48/12
- SWRv = 1,421 gallons

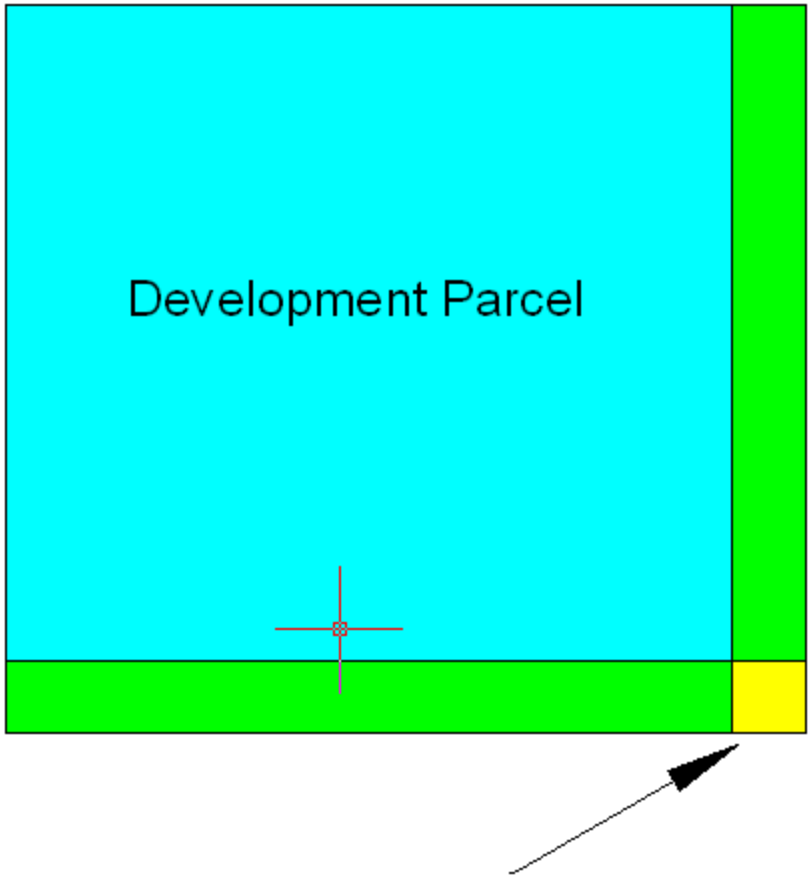
- Poor infiltration rate on site
- Sufficient head available for underdrain connections.

# Design Example: Site Plan



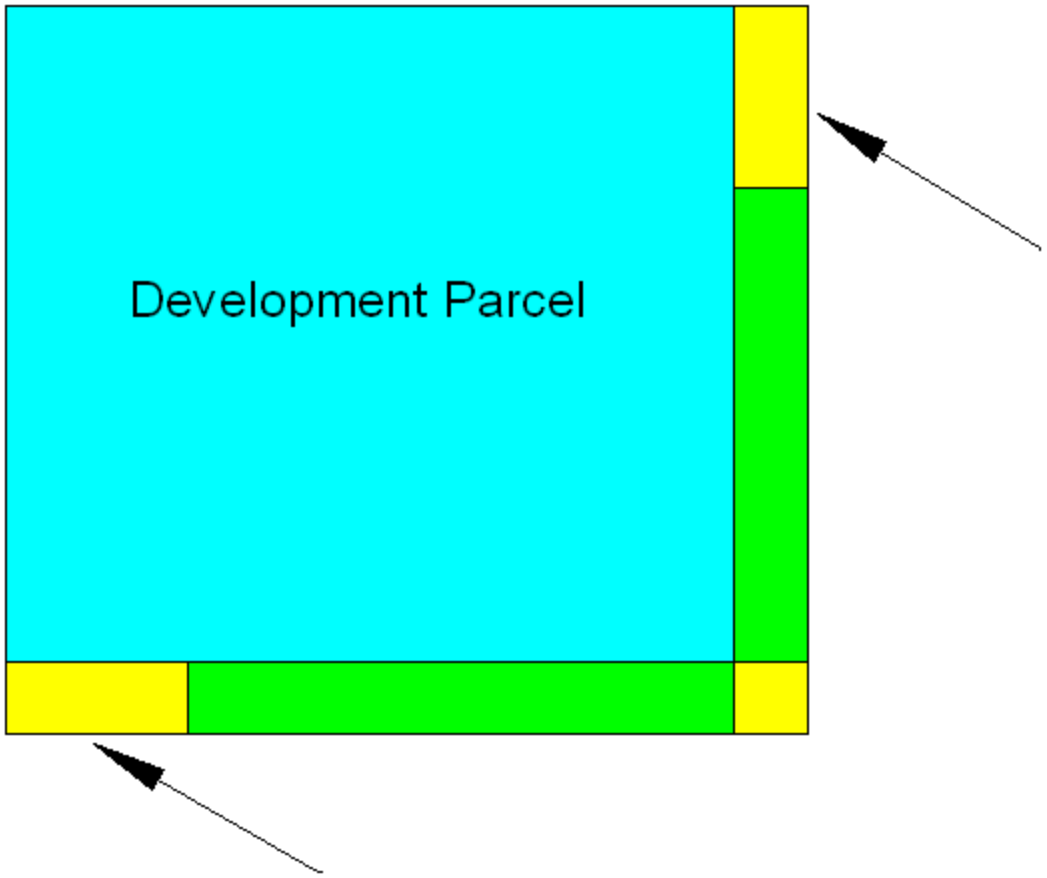
# Design Example: Limitations

- ADA Crossing Requirements



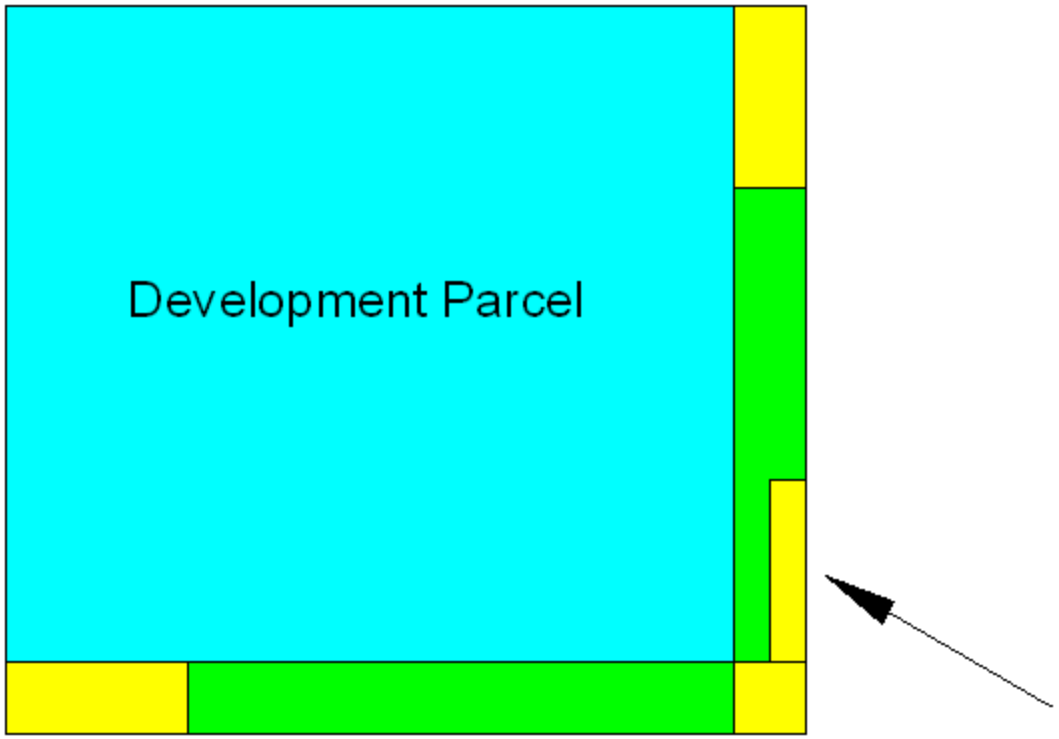
# Design Example: Limitations

- Driveways



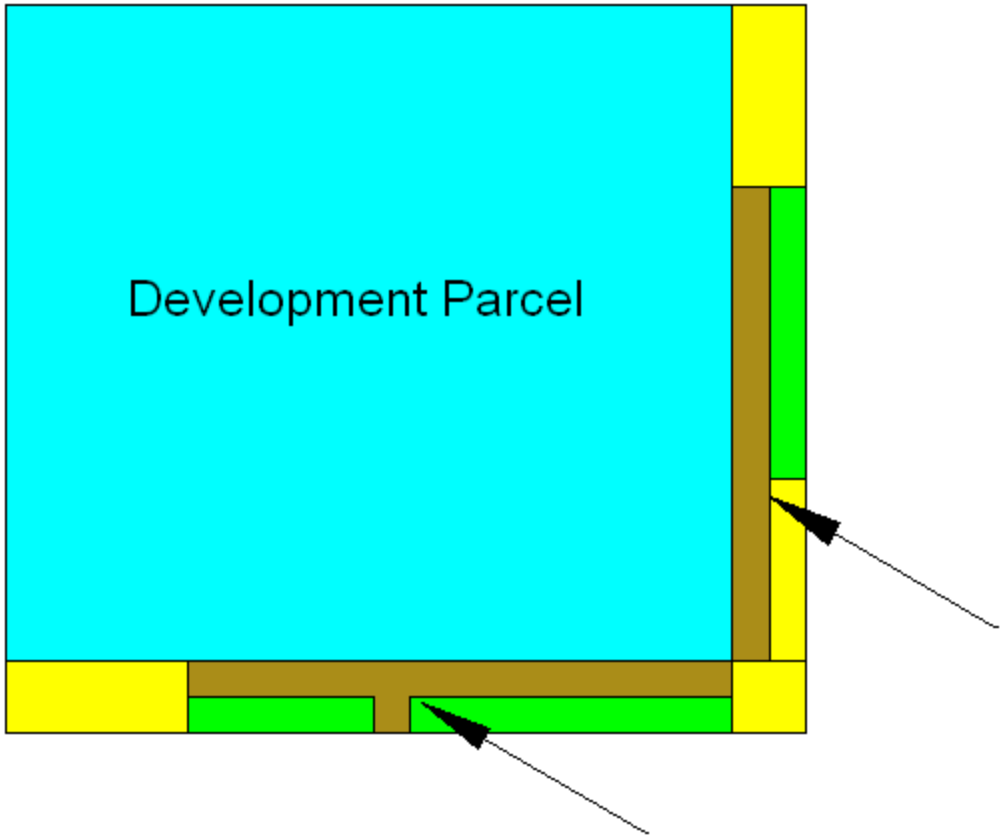
# Design Example: Limitations

- Bus Stop



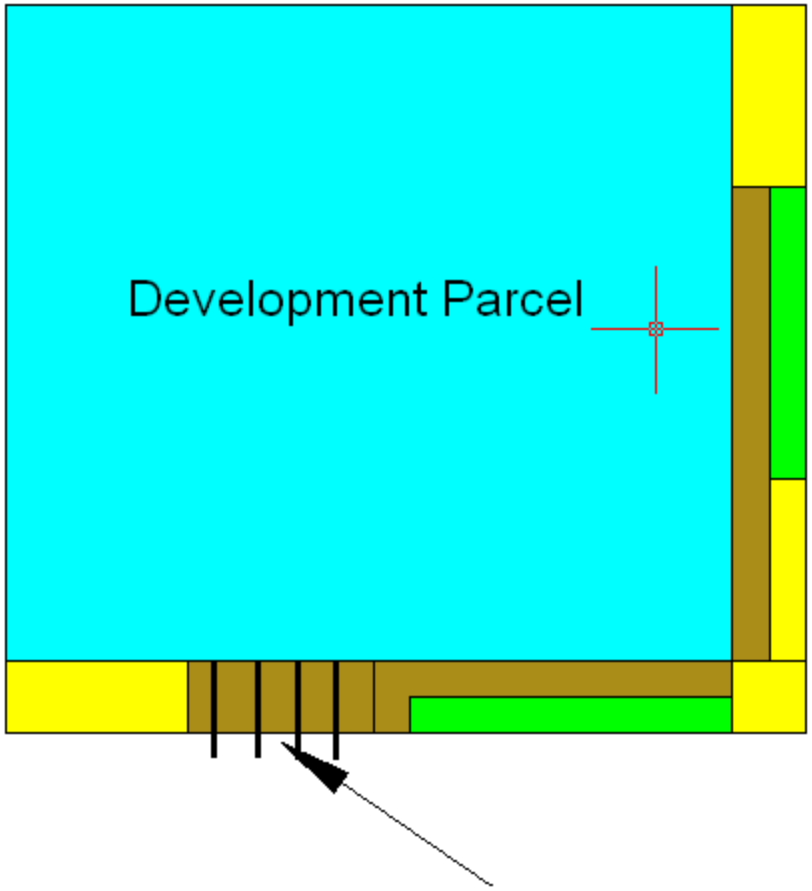
# Design Example: Limitations

- Building Exit and 5’-Wide Sidewalk



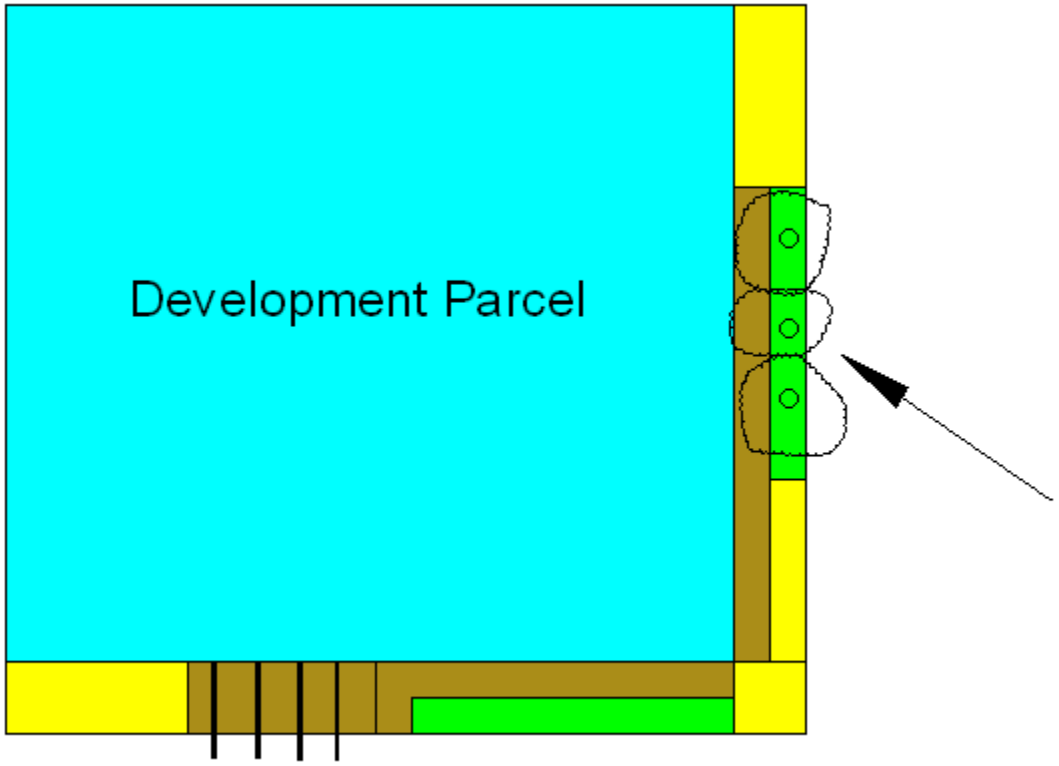
# Design Example: Limitations

- Utilities



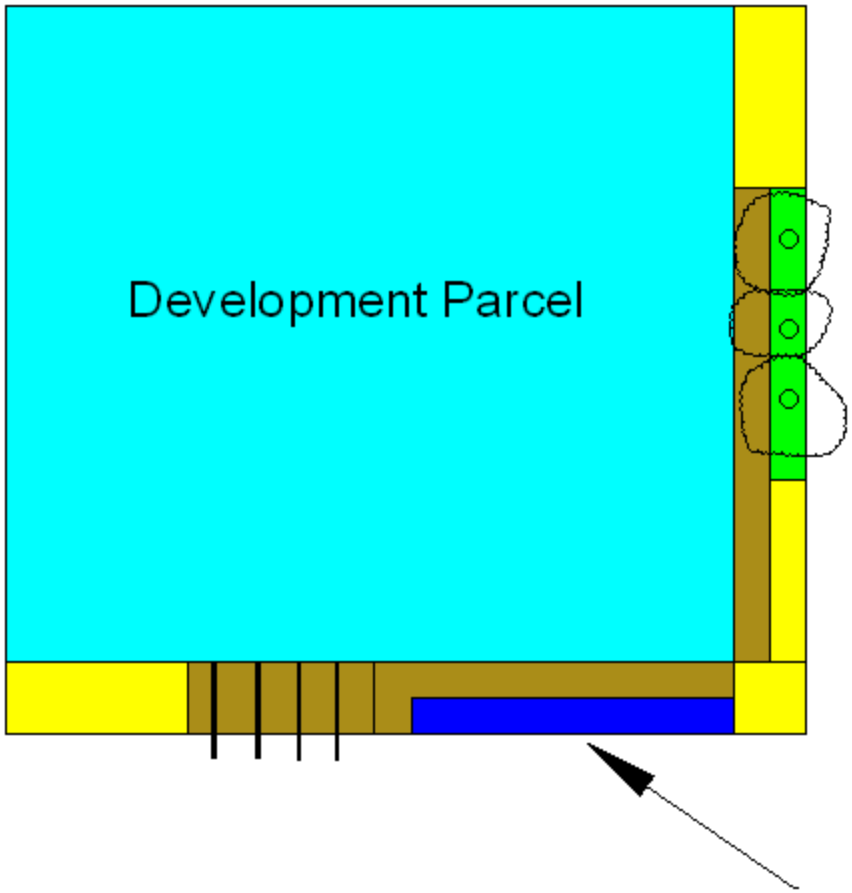
# Design Example: Limitations

- Existing Trees



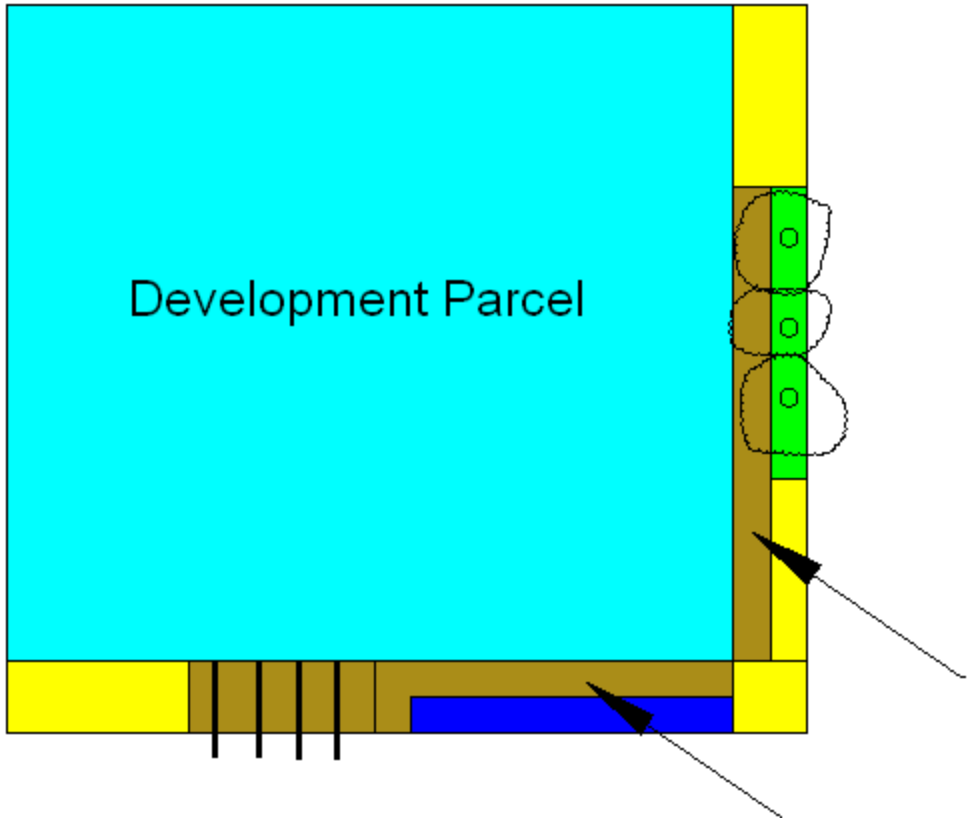
# Design Example: BMPs

- Bioretention



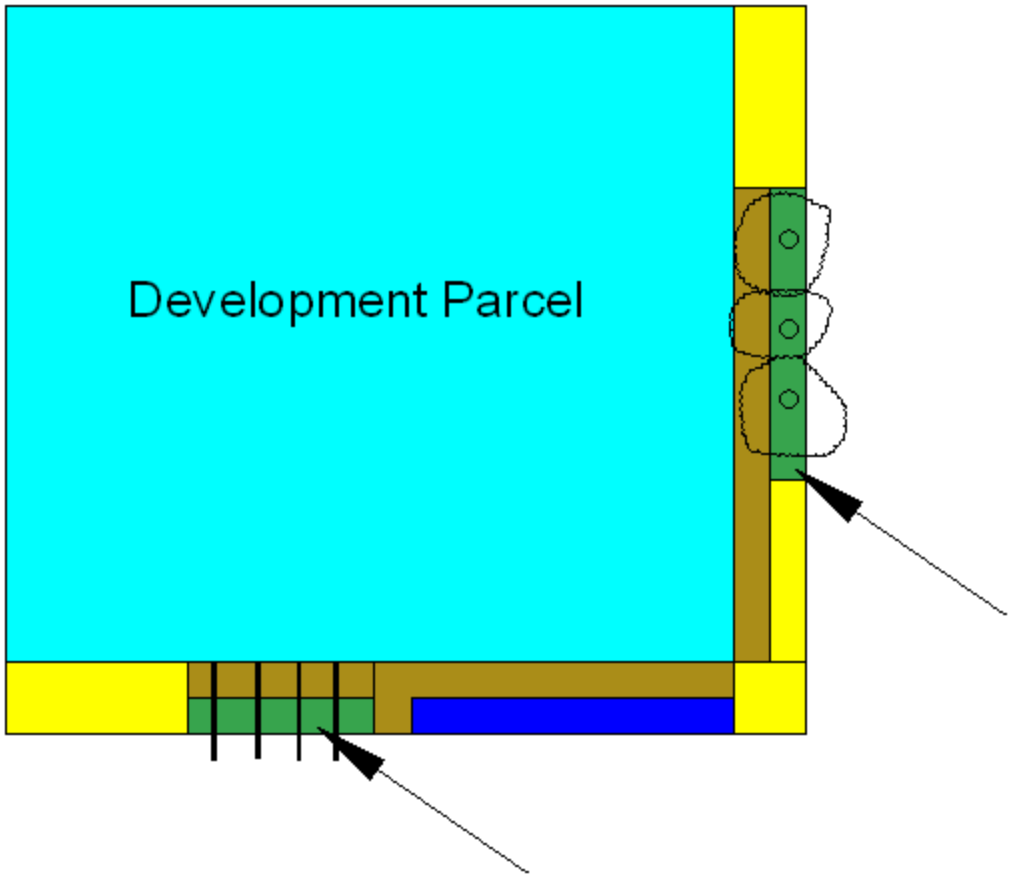
# Design Example: BMPs

- Permeable Pavement considered, but trees and utilities limit space available, and much of remaining sidewalk drains to bioretention area.



# Design Example: BMPs

- Reduce Impervious Cover



# Design Example: Results

- Recalculate SWRv for Reduced Impervious Cover:
- SWRv = 1.2 in x (0.95 x 84% + 0.25 x 16%) x 2000 $ft^2$ x 7.48/12
- SWRv = 1,254 gallons

- Poor infiltration rate on site
- Sufficient head available for underdrain connections.

# Design Example: Results

- SWRv Achieved:
- 3 existing trees x 20 $ft^3$ x 7.48 = 449 gallons
- 220 $ft^2$ bioretention area (with shallow ponding) provides 823 gallons of storage
  - 823 gallons x 0.6 = 494 gallons
- SWRv Achieved = 943 gallons

- Required SWRv not met, but MEP process followed.