



North Falls Church Court and Fairfax
Storm Water Management
May 29, 2008

*Addressing Chronic Flooding on North Falls
Church Court and Fairfax with 2008 action
step that makes sense in larger area Storm
Water Management Master Plan (SWMMP)*

Agenda

- Brief review of project purpose and need
- Explain context-
 - Miami drainage, Fairfax, Kensington/Crest Manor Ponds, Long term SWMMP
- Plan Alternates
- Cost/Benefits
- Fit with Long Term SWMMP
- Questions and comments



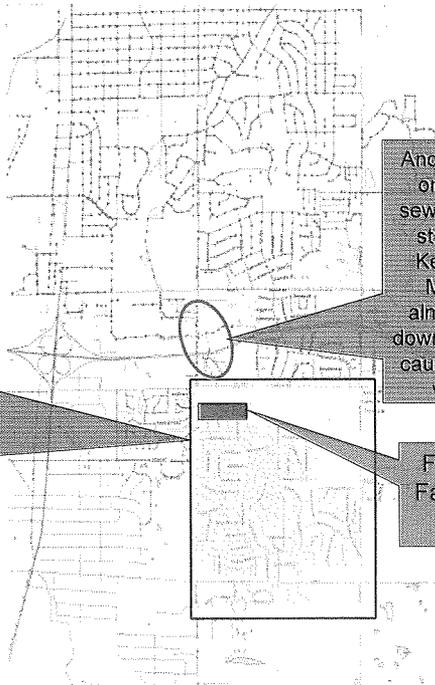
Project Purpose and Need

- Solve street and yard flooding of North Falls Church Court
- Also handle Storm water from Miami Street Improvements,
- Eliminate ditch in median on Fairfax and give positive outfall (not just drywells),
- Create a basin to store at peak rate in, evaporate and percolate some water and be site of connection to Ironwood Storm line to Ironwood Separate Storm System
- Avoid downstream combined sewer capacity limitations and reduce frequency and severity of overflows from CSO 22 near new IU South Bend dorms
- Fit 2008 elements in long term SWMMP- no quick fix throw-away solution---sound long term investment in environmental infrastructure



How does North Falls Church Court and Kensington and Crest Manor fit in the big picture of how storage and conveyance of wastewater and storm water works in South Bend ?

All of this area of separate storm water and sanitary sewage system discharges through a combined sewer system to the City Wastewater plant

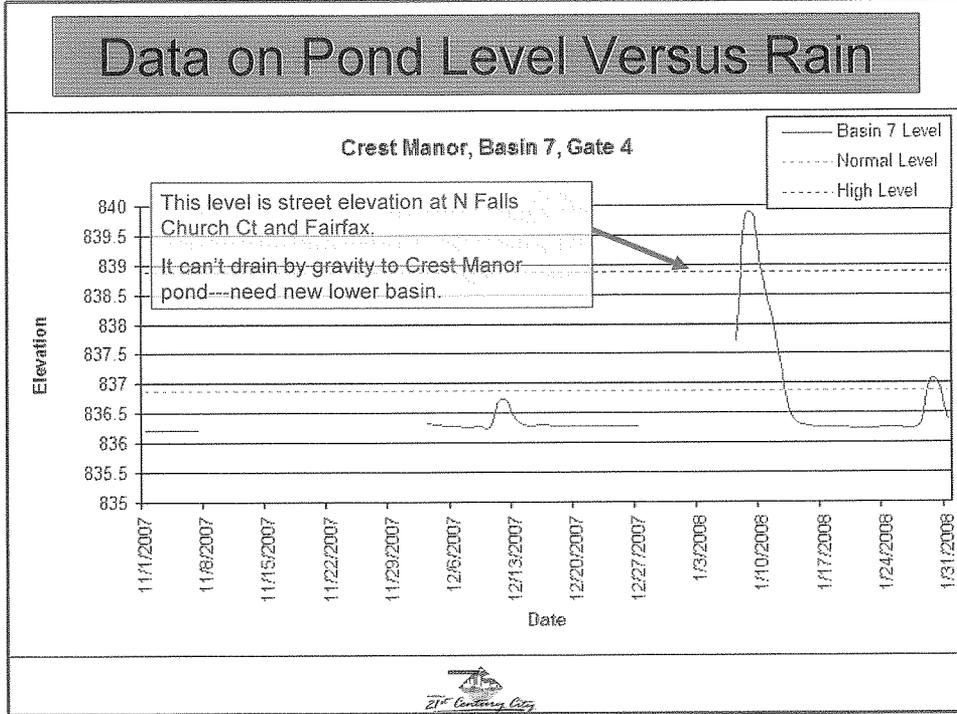


And it all passes through one 21 inch diameter sewer—draining 2 feet of storm water from the Kensington and Crest Manor basins takes almost 3 days or floods downstream basements or causes/contributes to dry weather overflows

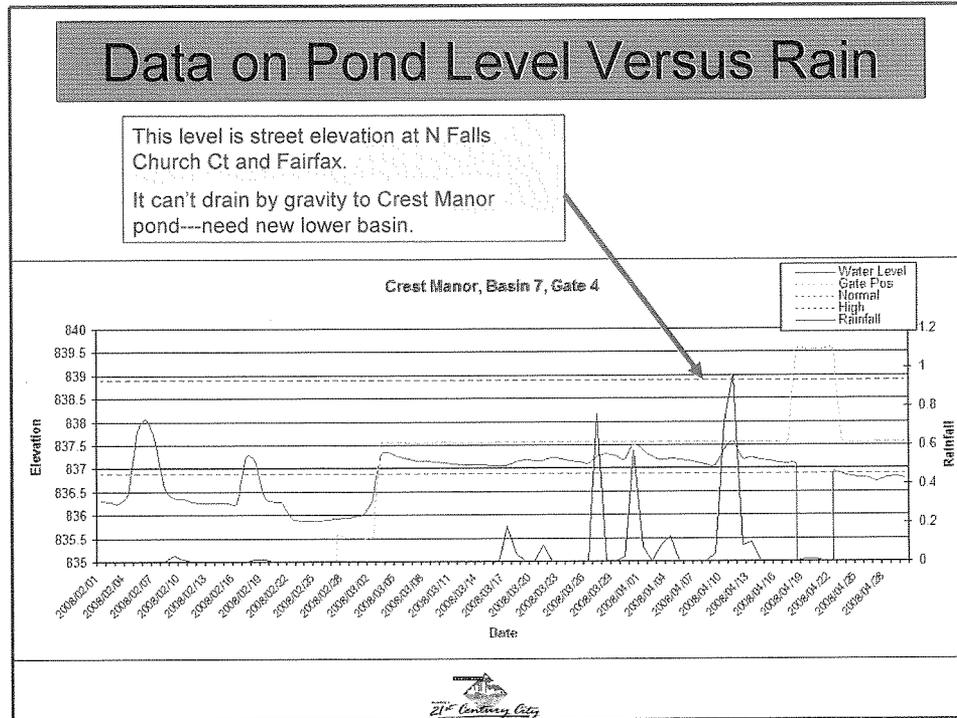
Fairfax and North Falls Church Court in particular



Data on Pond Level Versus Rain

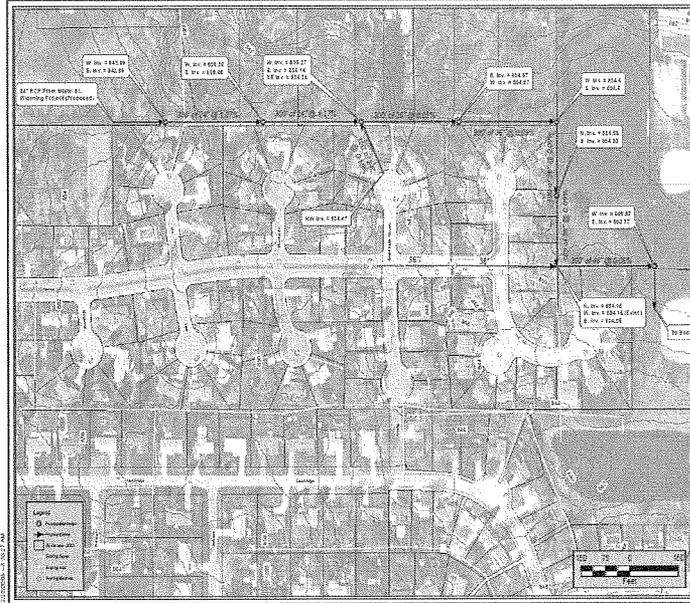


Data on Pond Level Versus Rain



Alternative No. 1 (Figure 3) - Provide retention storage for Fairfax Drive, North Falls Church Court and Miami Street Widening at the existing baseball field with storm sewer alignment along north boundary of Crest Manor subdivision (easements required). The estimated cost for Alternative 1 is \$1,039,000.

A closer review of what we set out to solve



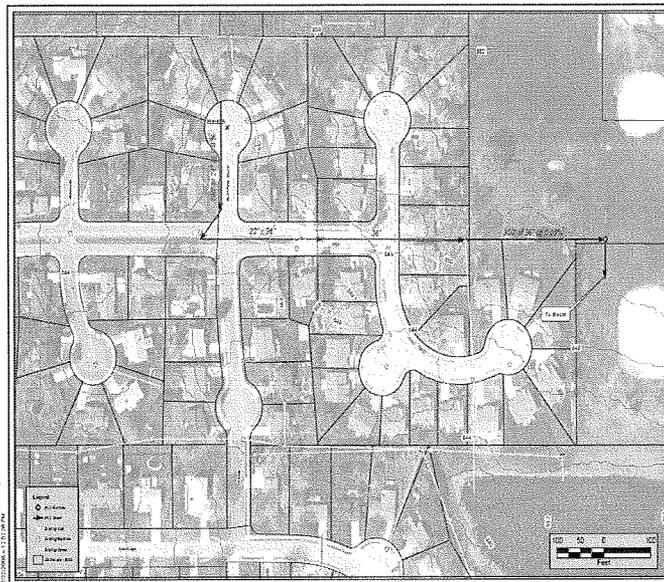
City of South Falls Church
 CSD 222 Water Shed Improvements
 Alternative No. 1

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 527 W. WASHINGTON AVENUE
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 TEL: 703.224.2100

Figure 3
 2/25/2015
 February
 2015

Alternative No. 2 (Figure 4) - Provide retention storage for Fairfax Drive and North Falls Church Court at the existing baseball field. No storage volume for Miami Street Widening Project. The estimated cost for Alternative 2 is \$790,000.

A closer review of what we set out to solve



City of South Falls Church
 CSD 222 Water Shed Improvements
 Alternative No. 2

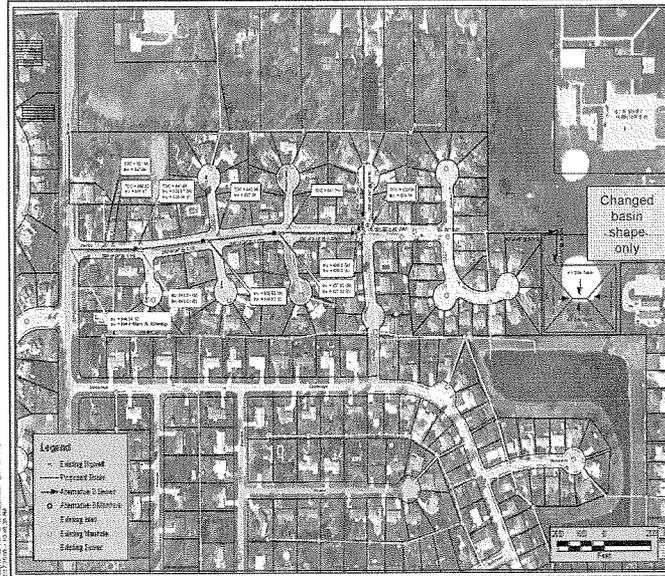
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Figure 4
 2/25/2015
 February
 2015

Alternative No. 3 (Figure 5) - Provide retention storage for Fairfax Drive, North Falls Church Court and Miami Street Widening, with storm sewer alignment along Fairfax Drive Median. The estimated cost for Alternative 3 is \$935,600.

A closer review of what we set out to solve

The existing water line is located along the south edge of the existing Fairfax Drive Median. This option includes use of water main grade pipe within the median, and connection to the existing dry wells to intercept surface flow. Pavement replacement is required along the westbound lanes of Fairfax Drive for this option. This option also utilizes the existing 22" x 36" CMP and existing 36" pipe in Fairfax Drive, east of North Falls Church Court. The integrity of the 22"x36" CMP should be evaluated during the design phase of the project. The North Falls Church Court would be connected via a 24" pipe at 0% grade to the 22" x 36" pipe



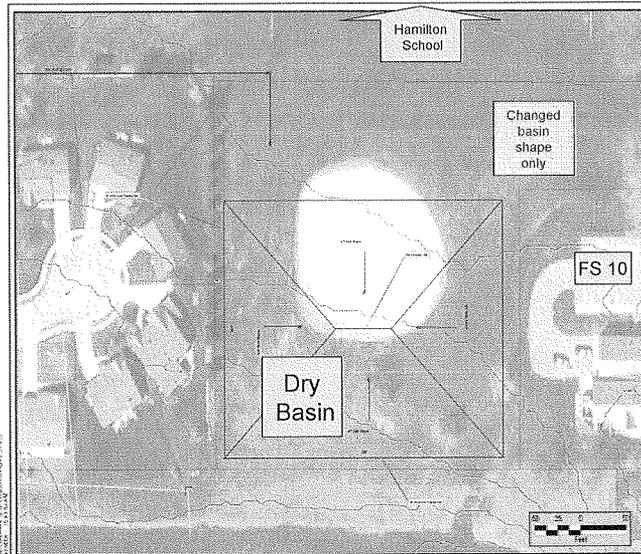
City of South Beach, Florida
 CSO 022 Watershed Improvements
 Proposed Drainage Basins
 Alternative No. 3

City of South Beach, Florida
 CSO 022 Watershed Improvements
 Proposed Drainage Basins
 Alternative No. 3

Figure 5
 2/24/06
 February
 2006

Three alternatives have been identified to address the surface flooding in North Falls Church Court and Fairfax Drive. Two (2) of the alternatives incorporate the drainage from the Miami Street Widening Project. Each alternative includes conveying surface drainage to a dry retention basin located at the southwest portion of the Hamilton School property. This basin would then be incorporated into a future project which would transmit all storm water overflow from the Kensington and Crest Manor Basins to the Ironwood/Ireland basin and out of the CSO 022 watershed.

A closer review of what we set out to solve



City of South Beach, Florida
 CSO 022 Watershed Improvements
 Proposed Drainage Basins

City of South Beach, Florida
 CSO 022 Watershed Improvements
 Proposed Drainage Basins

Figure 6
 2/24/06
 February
 2006

Basin Sizing: Retention Volume by City Standards

Location	Area (acres)	Area (square feet/100 square feet)	Area x 35% (square feet)	Volume (gallons)	Volume (ft ³)	Volume (acre-feet)
Miami Street						2.43
Crest Manor pavement	4.7	2047	716	128981	17243	0.4
Crest Manor residential properties	21.3	9278	3247	584531	78146	1.8
Total						4.6

Future Strategic Storm water Routing Change per Stormwater Management Master Plan

