

EXHIBIT NO. 1

WS

4-26-11

City of Alexandria, Virginia

MEMORANDUM

DATE: APRIL 22, 2011
TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL
FROM: JAMES K. HARTMANN, CITY MANAGER 
SUBJECT: MATERIALS FOR TUESDAY'S WORK SESSION WITH T&ES AND THE
ALEXANDRIA SANITATION AUTHORITY

Attached please find a copy of the agenda and staff presentation for the Tuesday, April 26 work session with Council regarding the T&ES Long Range Sewer Plan, Alexandria Sanitation Authority Capital Planning, and the South Carlyle Planning process.

ATTACHMENTS:

Work Session Agenda
Staff Presentation slides

CITY COUNCIL WORK SESSION
on the
SANITARY SEWER MASTER PLAN,
ALEXANDRIA SANITATION AUTHORITY (ASA) CAPITAL PLANNING
AND SOUTH CARLYLE PLANNING
TUESDAY, APRIL 26, 2011
5:30 P.M.
CITY COUNCIL WORKROOM

AGENDA

- | | | |
|------|--|--|
| I. | Welcome and Introductions by the Mayor | Mayor William D. Euille |
| II. | Overview | Mark Jinks, Deputy City Manager |
| III. | Sanitary Sewer Master Plan | Emily Baker & Erin Bevis-Carter, T&ES
Karen Pallansch, General Manager- ASA
Karl Moritz, Planning & Zoning |
| IV. | Alexandria Sanitation Authority Capital Planning | Karen Pallansch, General Manager- ASA |
| V. | South Carlyle Planning Process | Gwen Wright, Planning & Zoning |
| VI. | City Council Discussion | |

Individuals with disabilities who require assistance or special arrangements to participate in the City Council Work Session may call the City Clerk and Clerk of Council's Office at 746-4500 (TTY/TDD 838-5056). We request that you provide a 48-hour notice so that the proper arrangements may be made.

Sanitary Sewer Master Plan
Alexandria Sanitation Authority Capital Planning
South Carlyle Planning Process

April 26, 2011

City Council Work Session

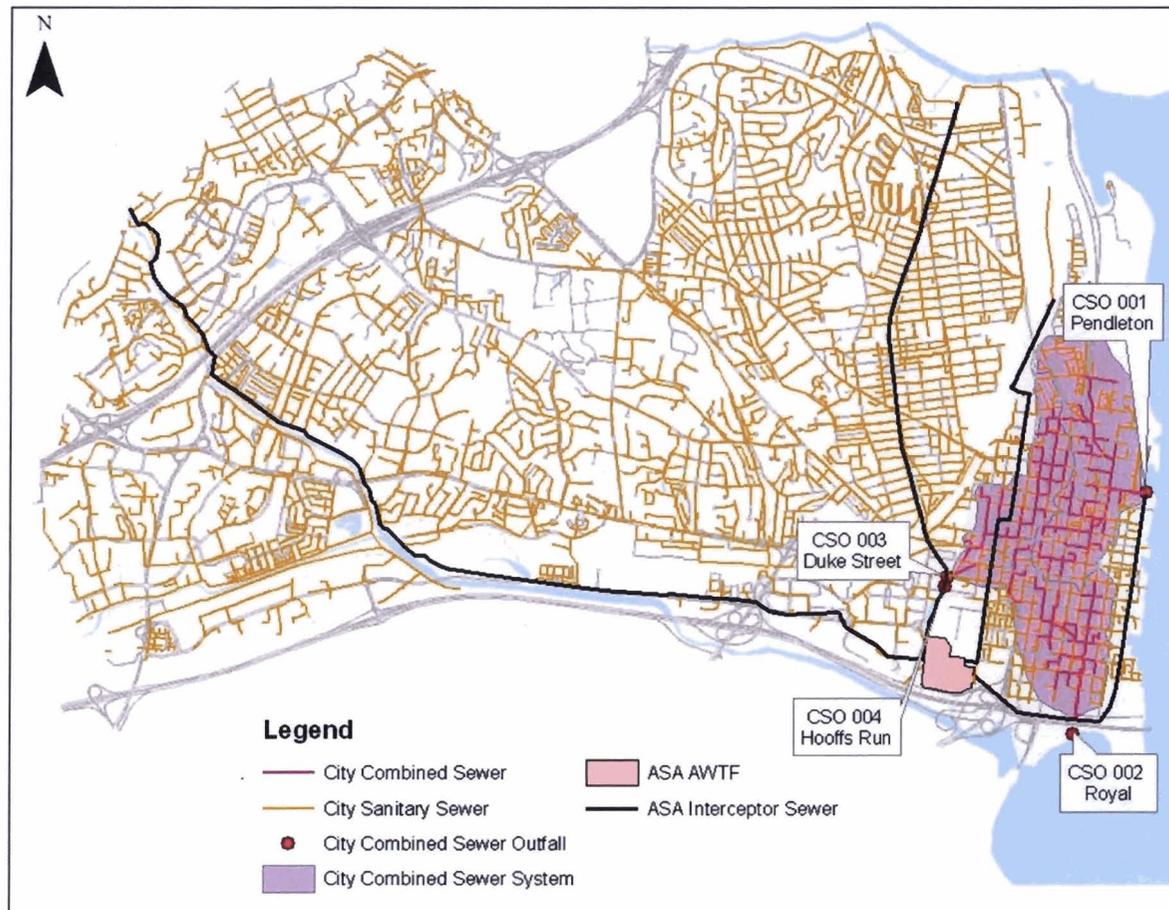
Sewer Master Plan Objectives

- Understand How Systems Work
- Analyze Impacts of Growth
- Evaluate Infrastructure Improvements and Costs
- Identify Funding Strategies for Large Scale Projects

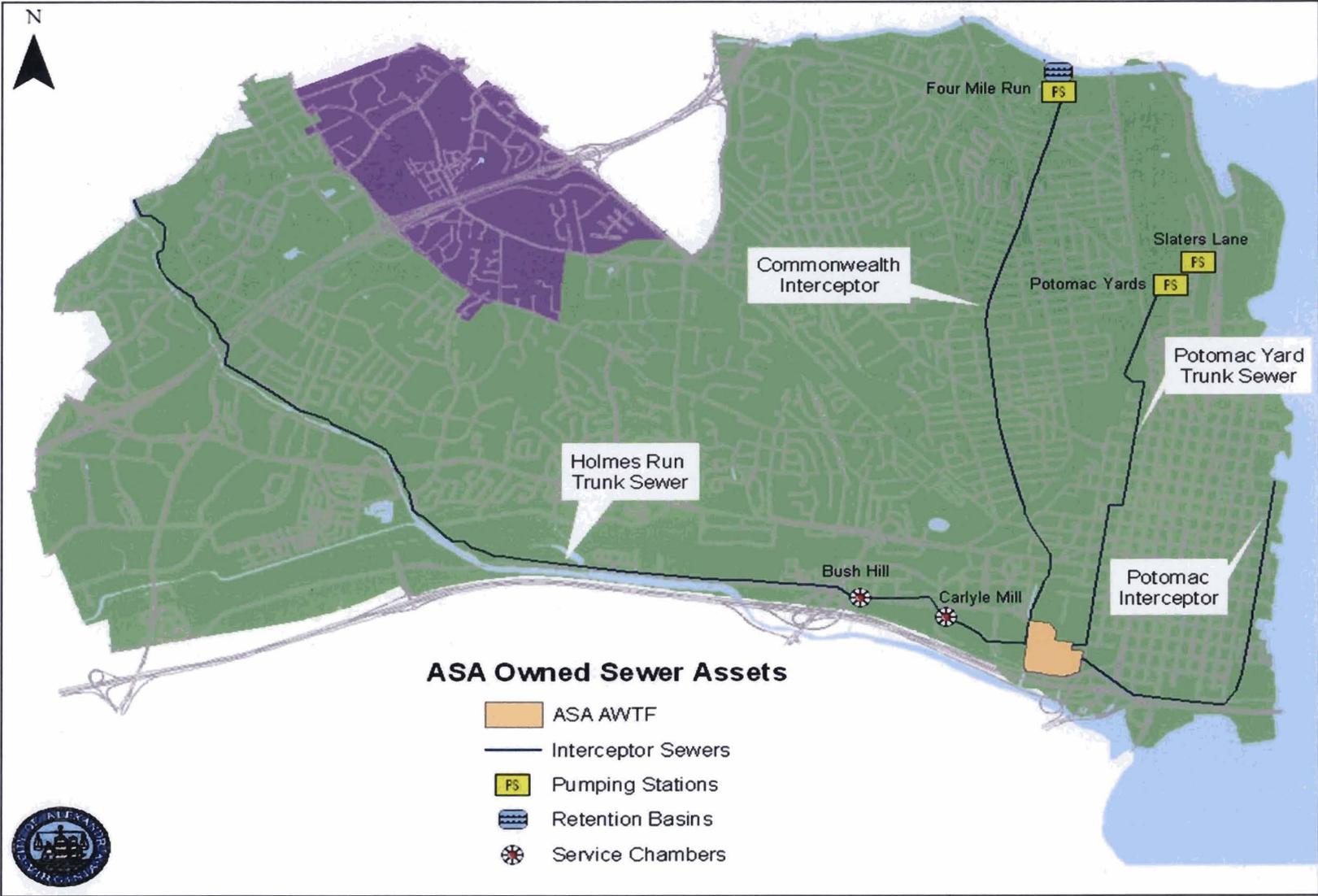
Sanitary Sewer System Components

- City Owned Collection System
- ASA Interceptor Sewers and Pump Stations
- Treatment Facilities
 - ASA AWTF
 - Arlington County WPCP

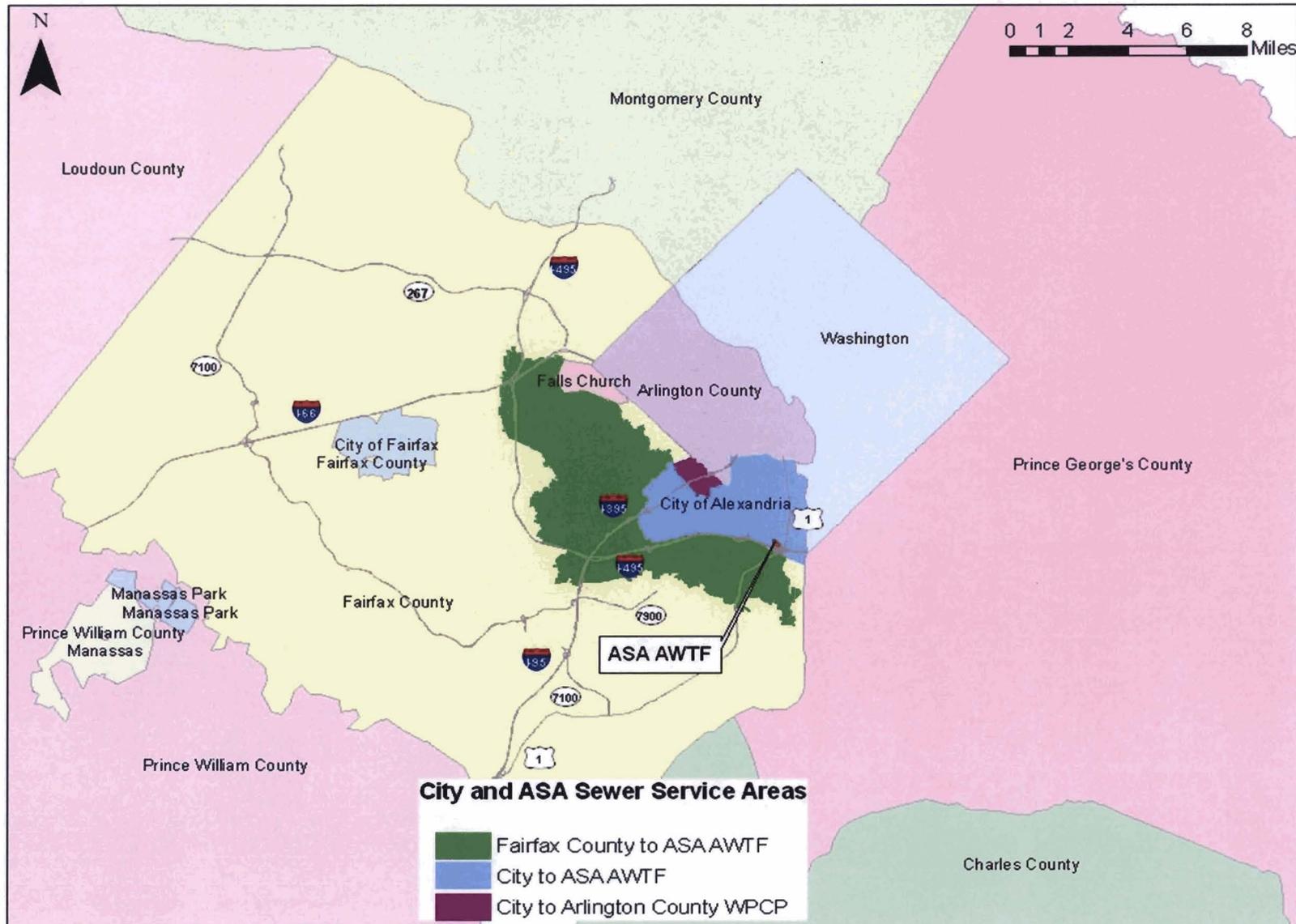
City-Owned Collection System



ASA Collection System



Sanitary Sewer Service Areas

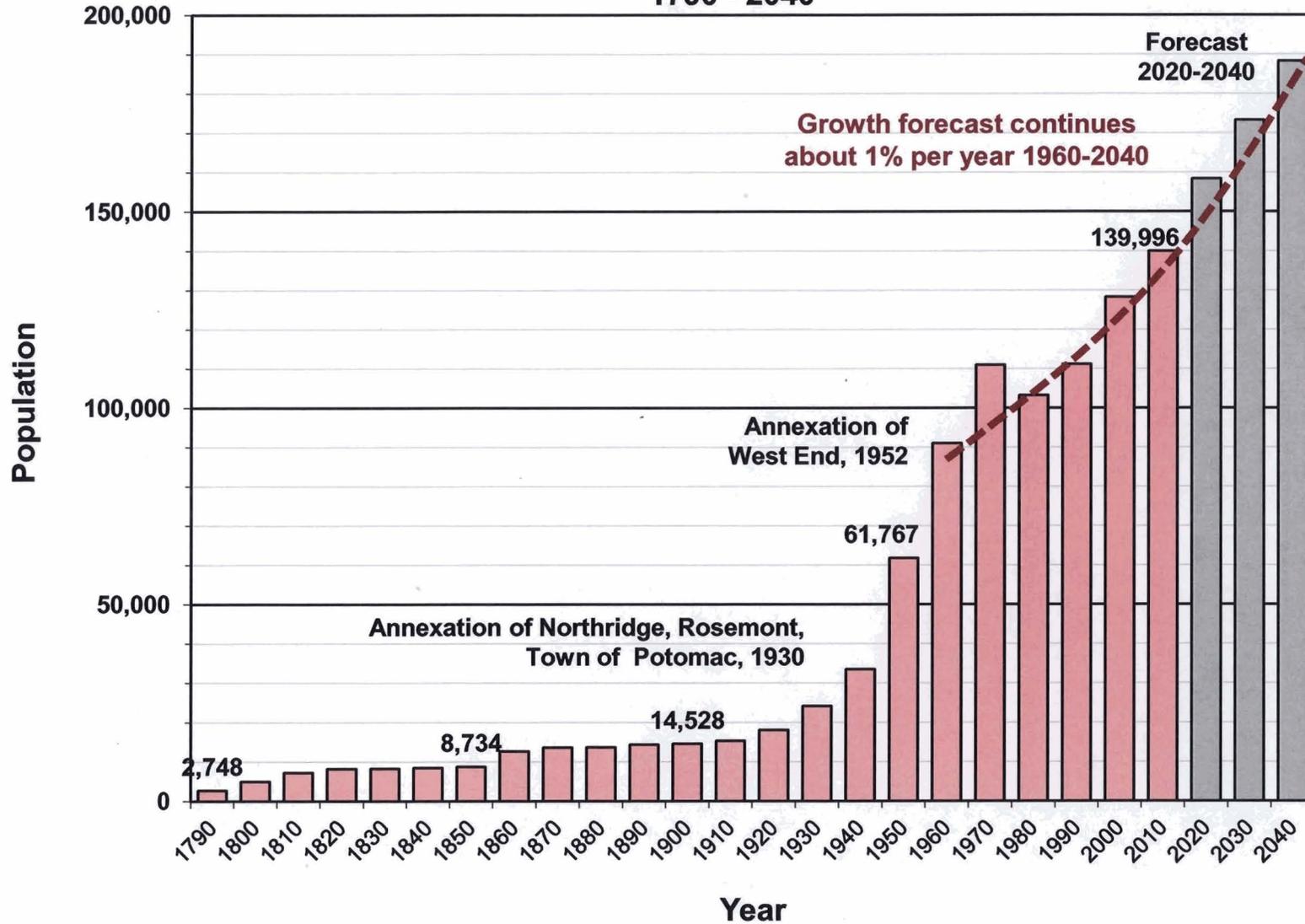


Existing Treatment Capacity

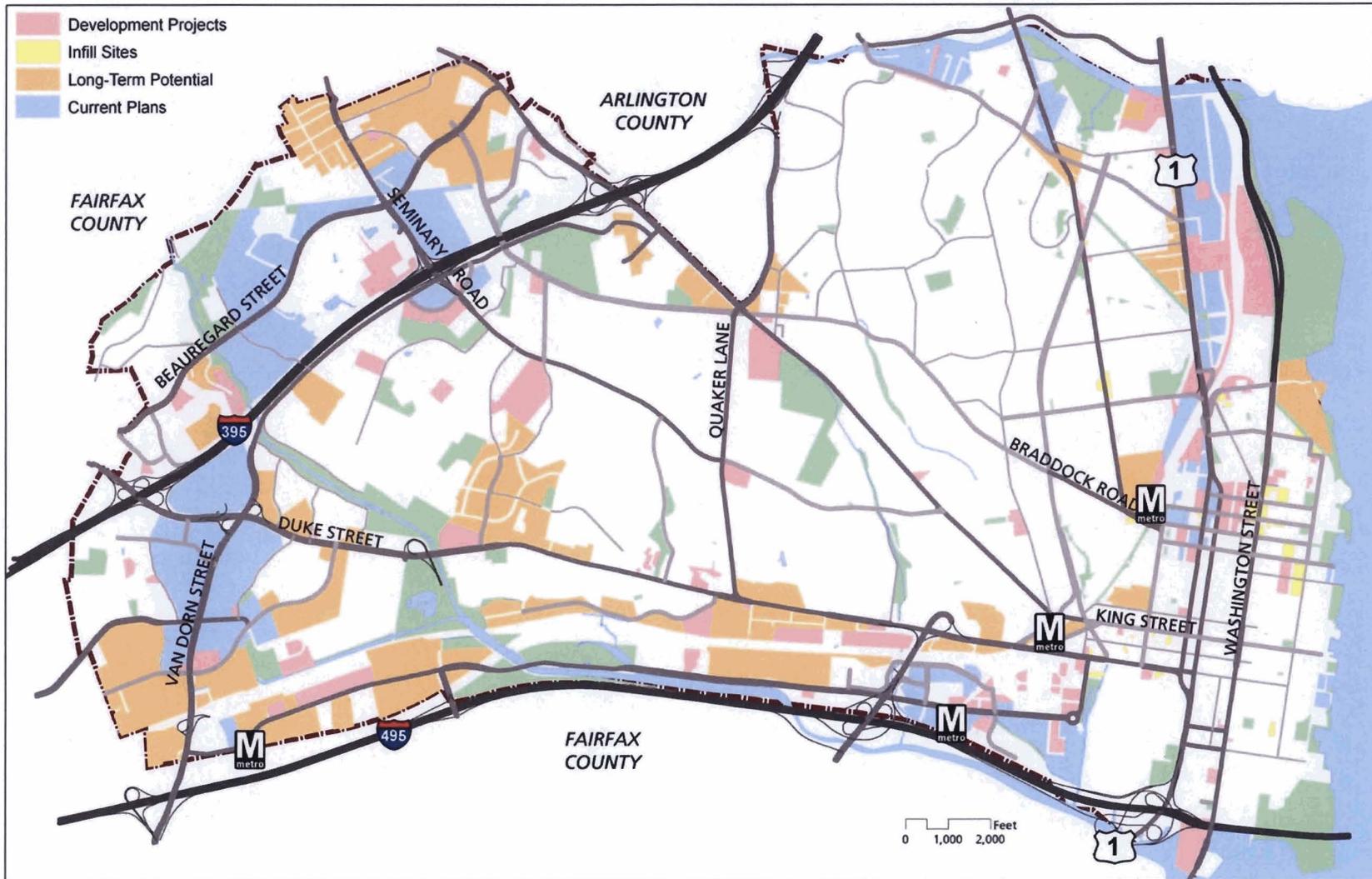
Location	Average City Flow (mgd)	Capacity Allocation (mgd)	Percent Allocation Utilized (%)
ASA AWTF	16.30	21.6	75.5
Arlington WPCP	1.80	3.0	60.0

Growth Projections

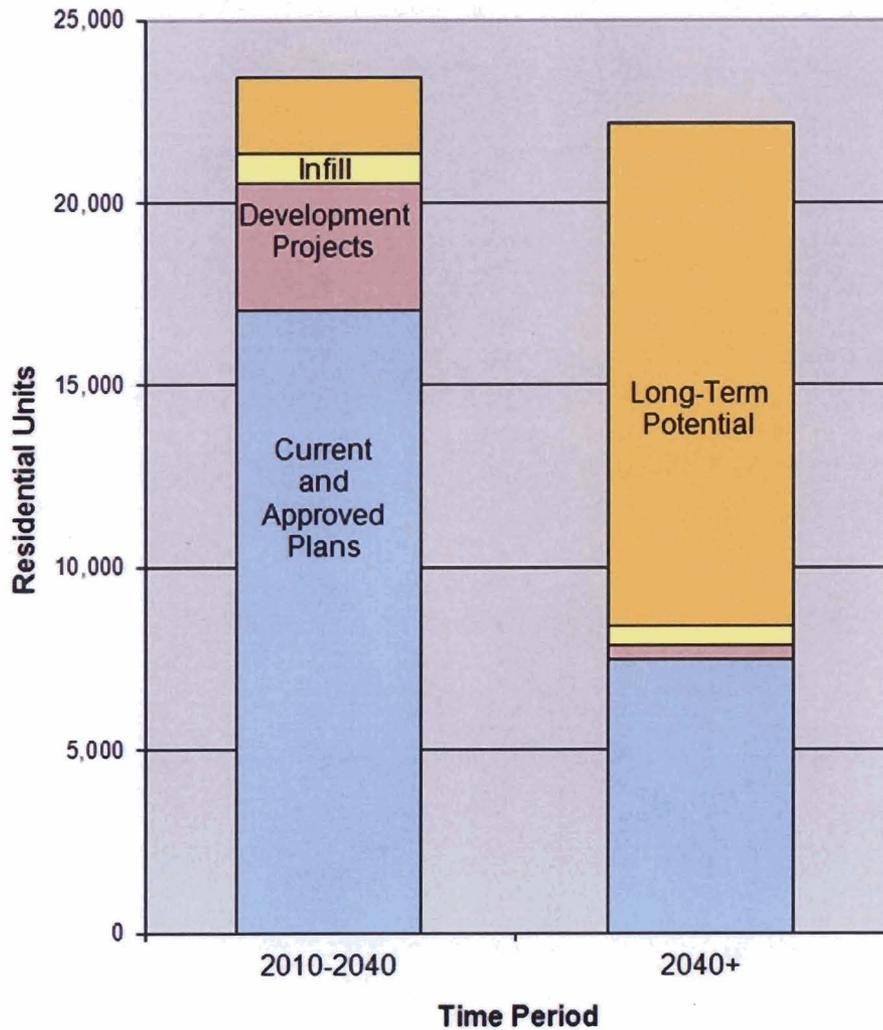
Historical and Forecast Population of Alexandria
1790 - 2040



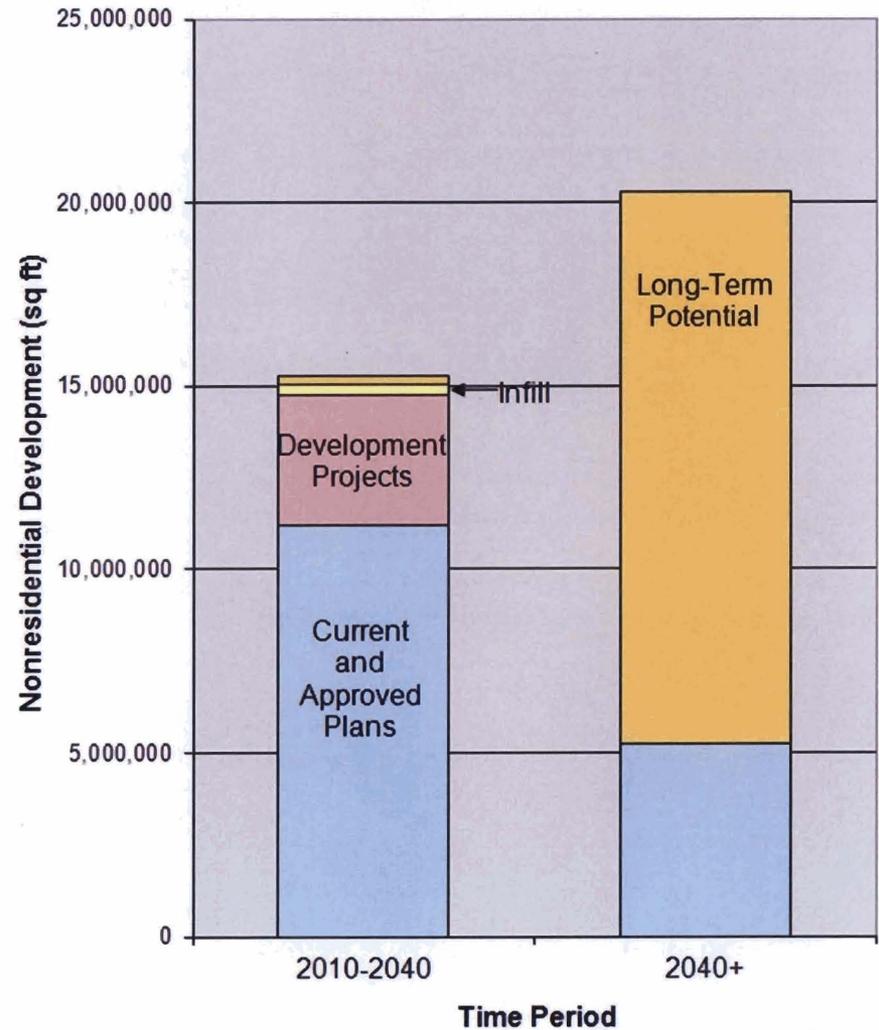
Growth Projections



Residential Development



Nonresidential Development



Regulatory Considerations

- ASA AWTF
 - Chesapeake Bay TMDL
 - Nutrient load caps for nitrogen, phosphorous, and sediment
 - Impacts wastewater treatment plant costs
- City of Alexandria
 - Hunting Creek TMDL: *E. coli* reductions at CSS outfalls 002, 003 and 004
 - Update of CSS LTCP likely
- Increased attention by Federal and State governments regarding wet weather overflows

City Collection System Capacity Results

- Approximately 7,000 feet of sewer will be operating over-capacity at build-out
- Total of 21 specific improvements recommended
- Total Estimated Cost = \$5 million
- To Be Constructed with Associated Development

ASA Collection System Capacity Results

- **Potomac Interceptor** – OK
- **Potomac Yard Trunk Sewer** –minor improvements (\$1.2 M shared by developers)
- **Commonwealth Interceptor** – capacity concerns generally due to wet weather only

Treatment Plant Capacity

	Total Average Annual Wastewater Flow (m g d)					
	Existing	2015	2030	2040	Build-out	City Allocation
ASA Service Area	16.30	16.61	19.0 ₄	20.3 ₄	24.85	21.60
Arlington Service Area	1.80	1.83	1.91	1.91	2.78	3.00

Treatment Plant Capacity

- City has sufficient capacity at Arlington WPCP to accommodate growth
- City has sufficient capacity at the ASA AWTF through 2040
- City will exceed its 21.6 mgd allocation at the ASA AWTF by 4 mgd due to build-out conditions (post 2040)

Treatment Capacity Options

Expand ASA AWTF?

- Total Cost = \$29M
- Other possible costs
 - Nutrient offset or removal costs
- Regulatory approval required
- Majority of costs not anticipated until 2021-2025

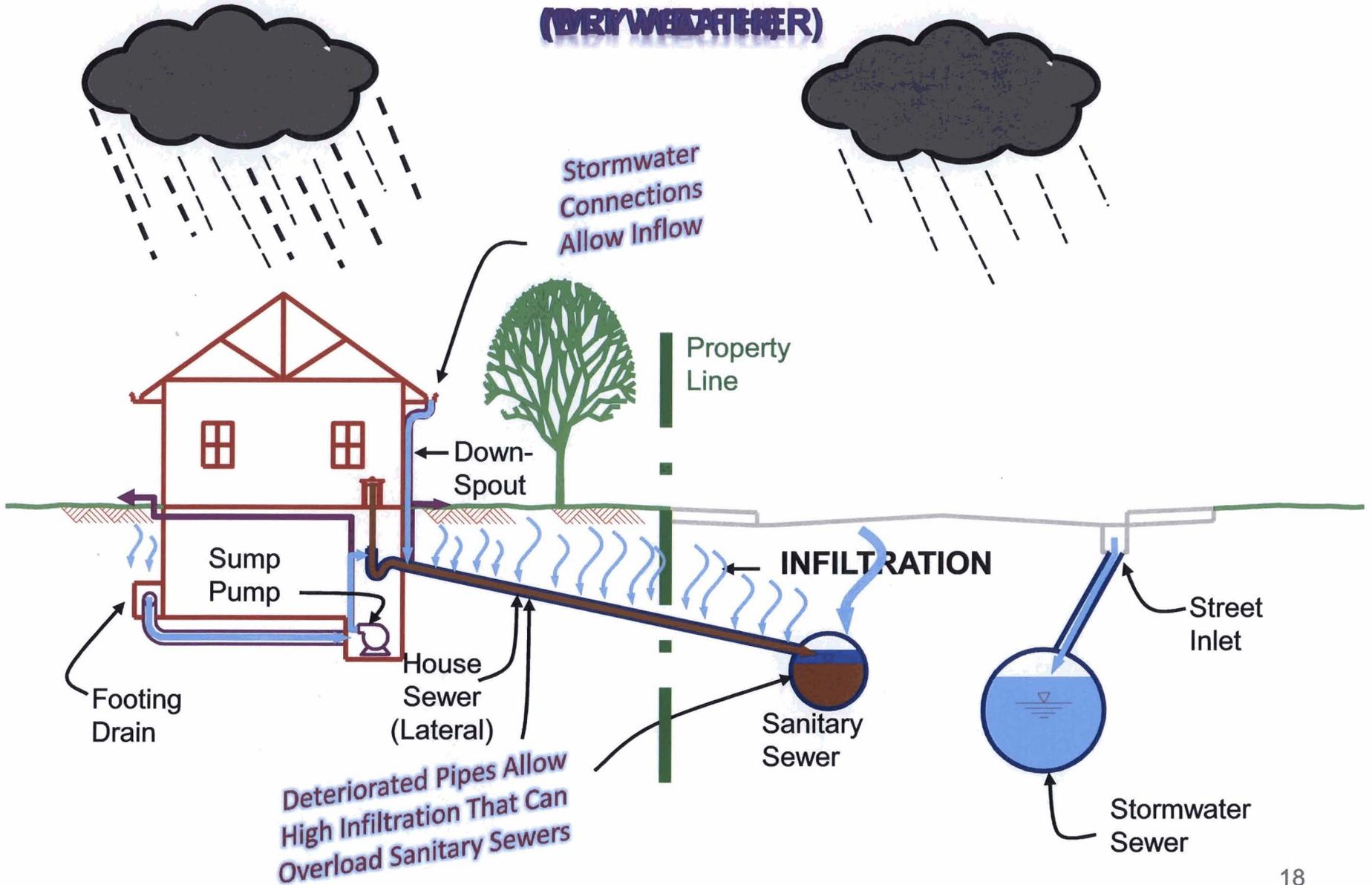
Purchase from Fairfax?

- Total Cost = \$56M
- Increased Alexandria Ratepayer Share of On-going Capital Costs
- Total cost may be negotiable
- No regulatory approval required
- Majority of costs anticipated now

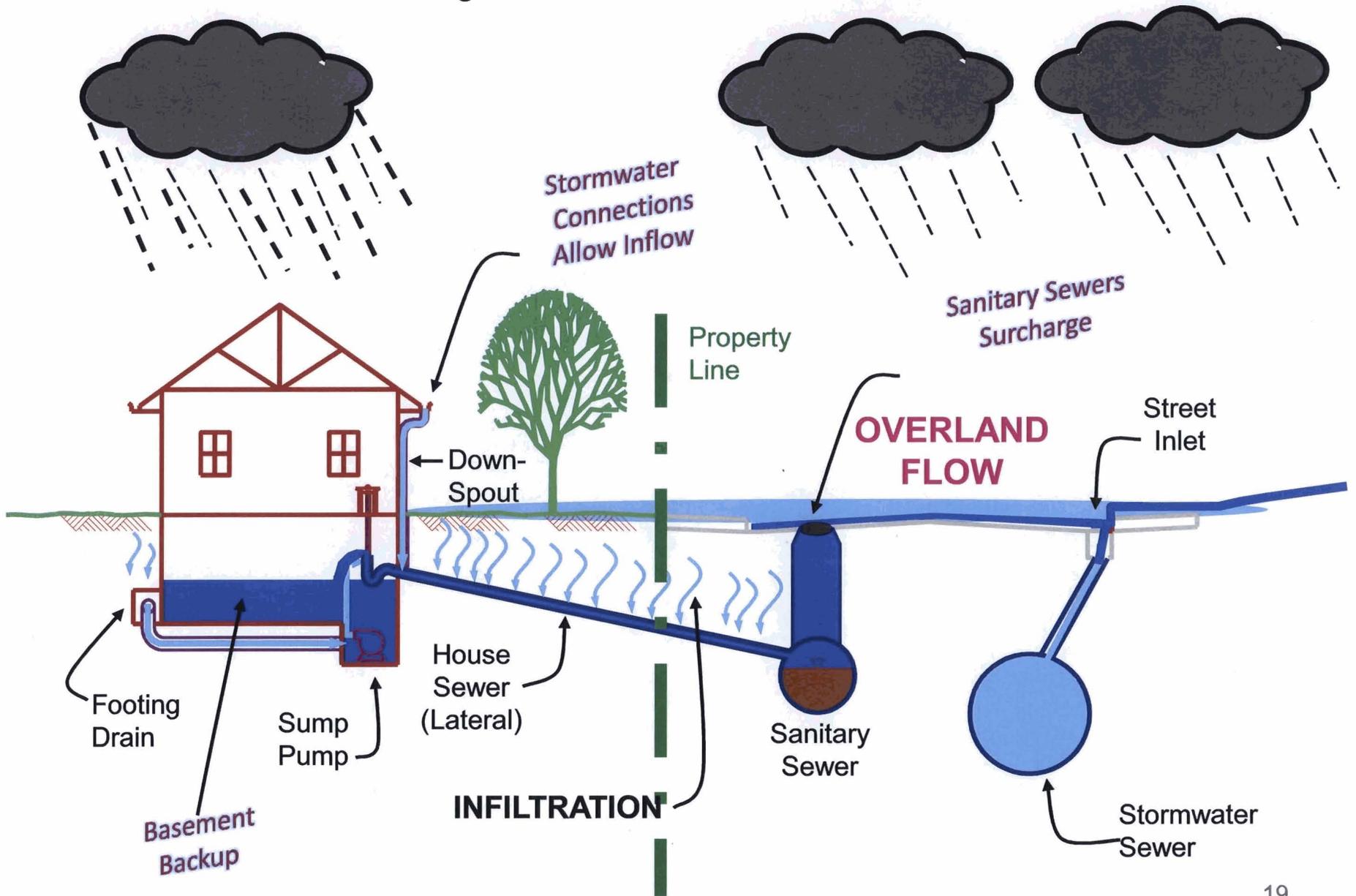
Wet Weather Capacity

- Extreme wet weather events can lead to increased I/I in the Sanitary Sewers, surcharged Interceptors, SSOs and sewer back-ups
- SSOs caused by extreme wet weather may discharge into Hooff's Run and Four Mile Run
- ASA Interceptor model predicts SSO volume and sewer back-up potential due to extreme wet weather

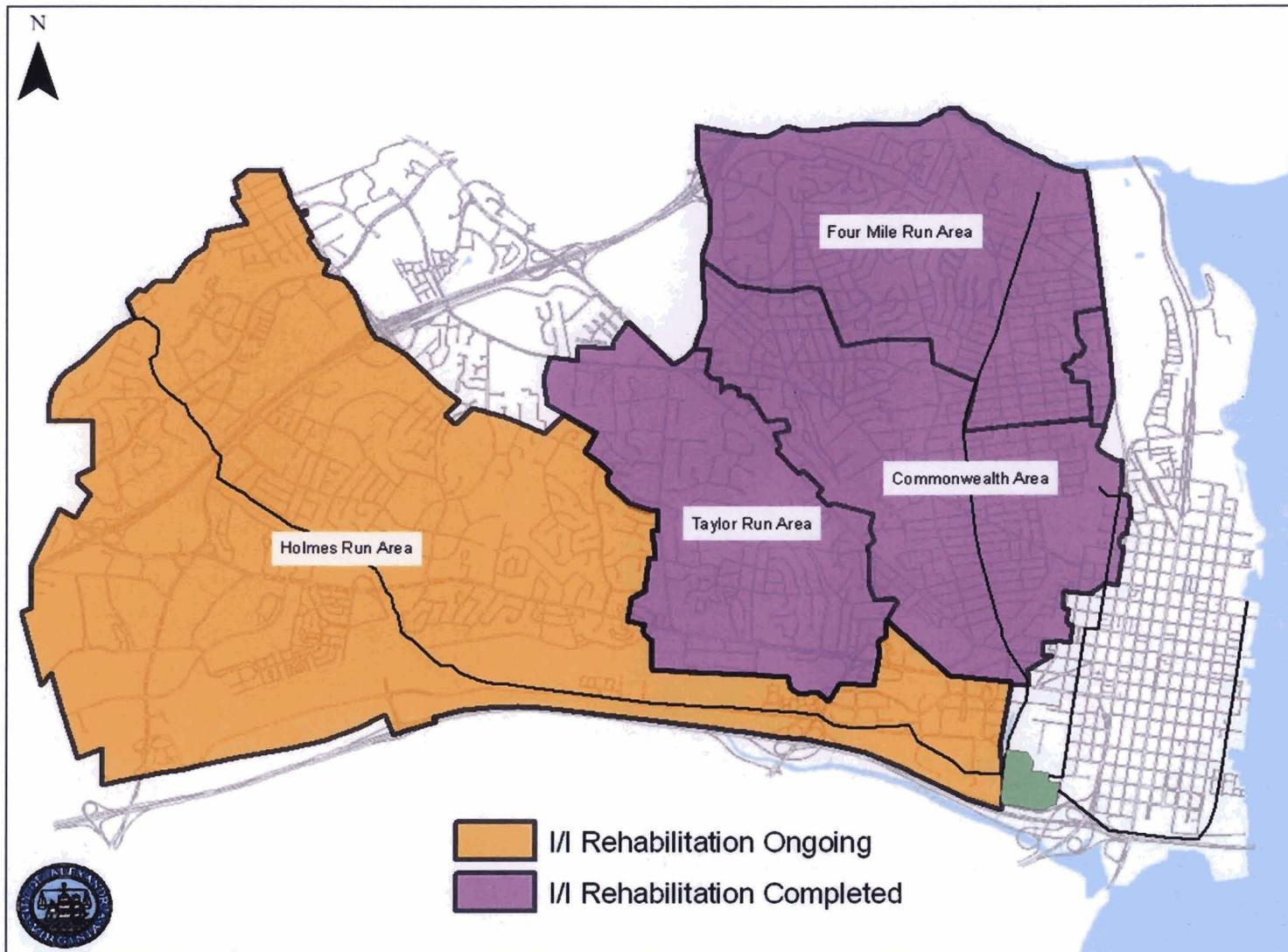
Separate Sanitary & Storm Sewer System High Infiltration/Inflow



Separate Sanitary & Storm Sewer Systems During Excessive Wet Weather Conditions



City's I/I Remediation Program



City's I/I Remediation Program

	Four Mile Run	Commonwealth	Taylor Run
Sewers inspected (ft)	158,400	204,900	128,400
Sewers repaired through lining (ft)	58,900	71,400	73,700
Sewer point repairs	111	237	170
Manholes inspected	944	1,091	696
Manholes repaired	648	855	619
Rehab completed	December 2005	March 2007	March 2010
Estimated I/I Reduction (total volume basis)	33%	22%	TBD
Total Rehabilitation Contract Cost	\$4.86M	\$5.50M	\$7.42M

Wet Weather Recommendations

- Construct wet weather facility at ASA AWTF
 - Includes storage tunnel, wet weather pumping station, relocation of CSO 004, increase peak flow from 108 to 116 mgd
 - Relieves surcharging in the interceptor sewers and eliminates SSO at Hooff's Run
 - Reduction in CSO events and volume
 - **Conceptual-level costs = \$51M**

- Additional Storage at Four Mile Run Pumping Station

Combined Sewer System

- CSS regulated through City VPDES permit (3rd permit cycle, ending date January 2012)
- City will be required to update Long Term Control Plan due to Hunting Creek TMDL
- Hunting Creek TMDL calls for CSO reduction at CSOs 002, 003 and 004
- Current CSO mitigation program
 - Require sewer separation as part of development
 - Existing CIP – sewer separation projects
 - Implement green infrastructure

Summary of Needs

- Collection System Capacity = \$5M
- ASA Collection System = TBD
- Wastewater Treatment Capacity
= \$29M to \$56M
- Wet Weather Recommendation = \$51M
- CSO Mitigation = TBD

Sanitary Sewer Funding

- Current User Fees
 - City: \$1.25/1000 gallons
 - ASA: \$6.36/1000 gallons
- Current Connection (Tap) Fees (City)
 - \$7,937 per single-family unit or townhome
 - \$3,968 per multi-family or condo unit
 - Non-residential fee based on meter size

Financing Options

- Connection fees
- City user fees
 - Consider alternate fee structures:
 - New users pay increased City fees
 - Residential versus commercial
 - Variable rate (per 1000 gallons) based on consumption – encourages water conservation
 - Combined sewer area surcharge
- Developer funding
- Capacity reservation

Schedule for Completion

- Sanitary Sewer Master Plan being finalized
- Final draft for community review and comment
- Adopt as supplement to City's Master Plan in Fall 2011

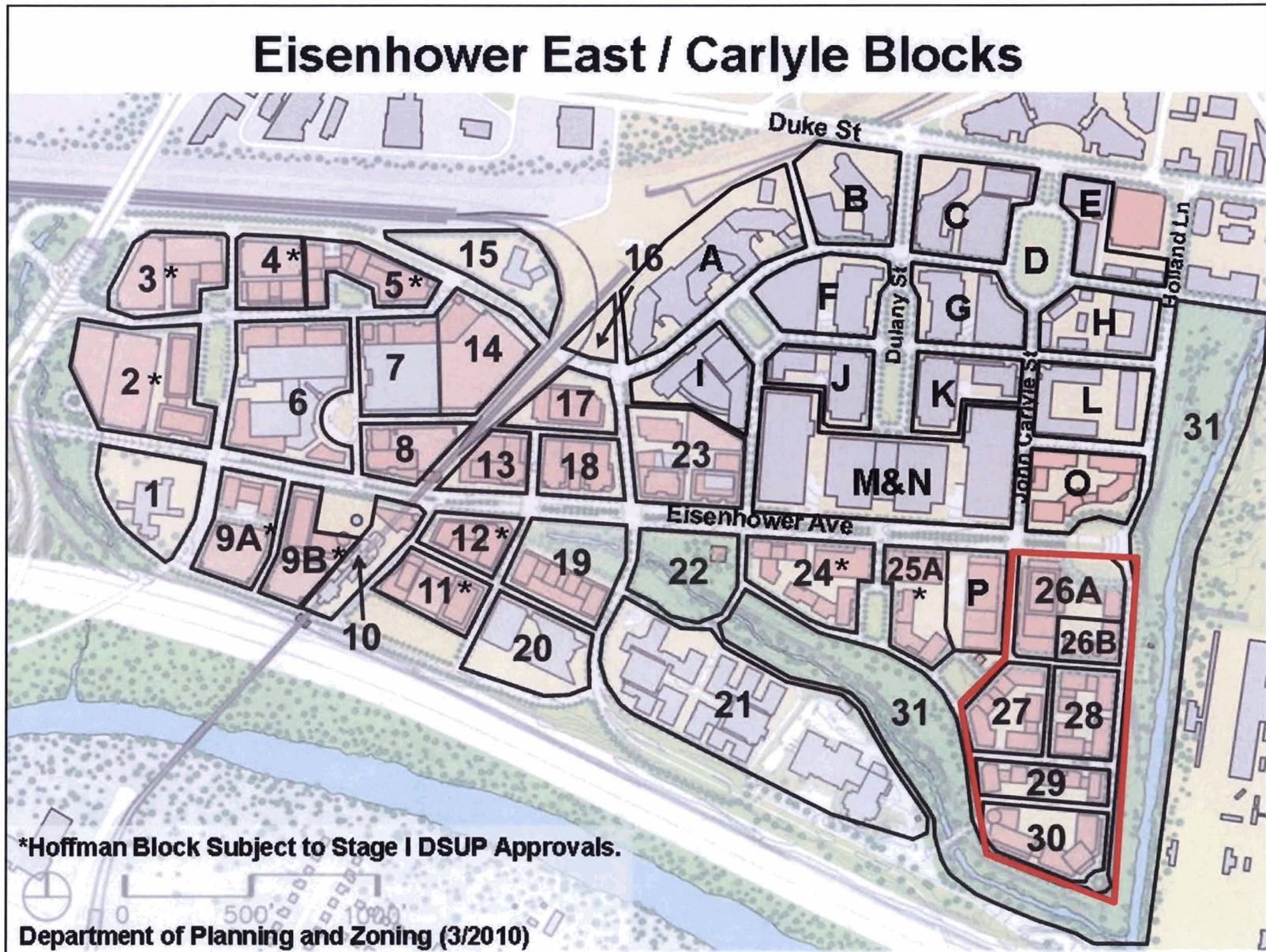
ASA Capital Planning

Current and Future Regulatory Concerns

- Current
 - Chesapeake Bay TMDL
 - Requires current upgrades to plant
- Future Potentials
 - Chesapeake Bay TMDL 2017 Recalibration
 - PCB TMDL
 - Emerging Contaminants
 - SSO Rule
 - Solids Treatment Changes
 - GHG and Climate Change issues

South Carlyle Planning

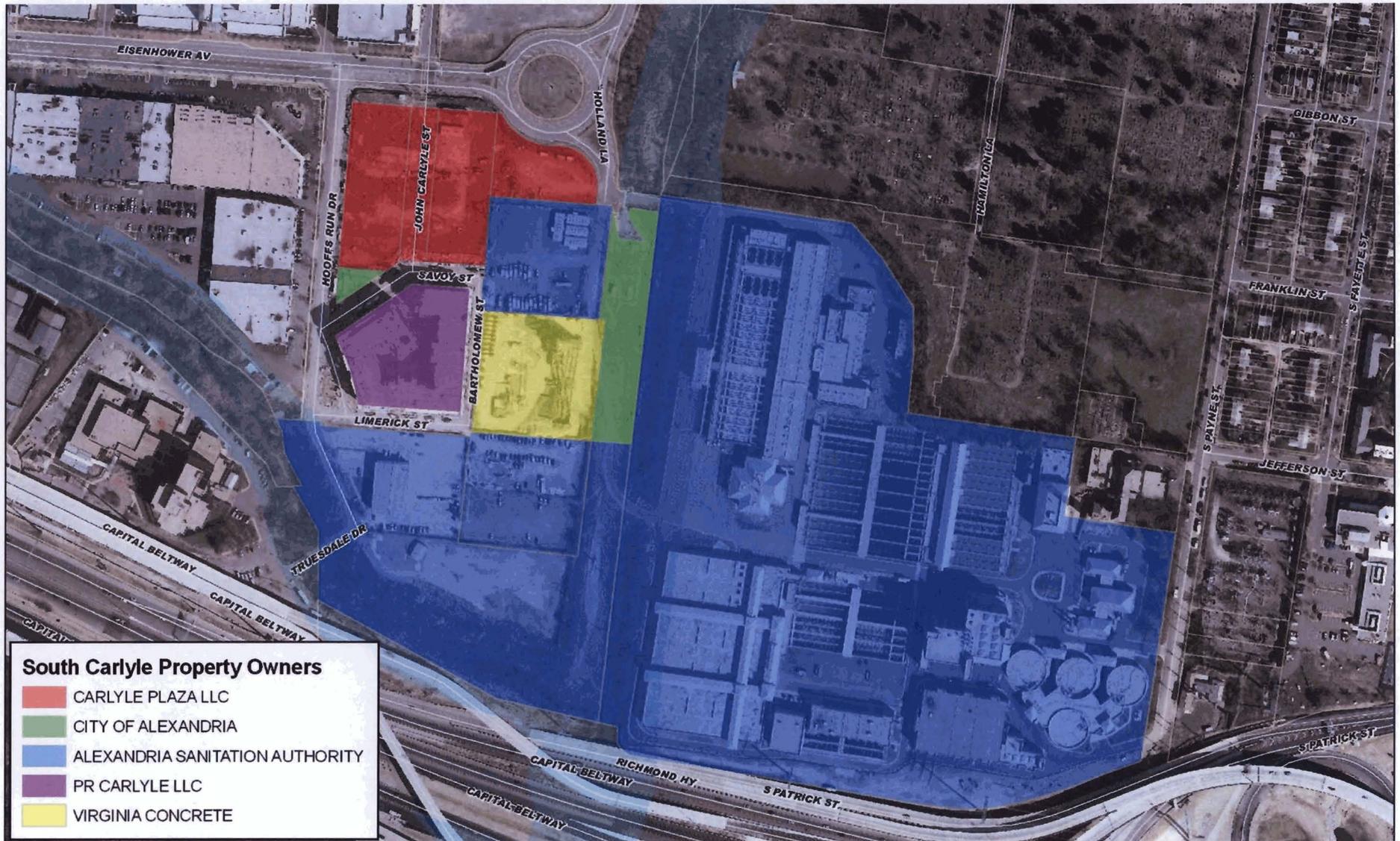
Eisenhower East / Carlyle Blocks



South Carlyle Planning



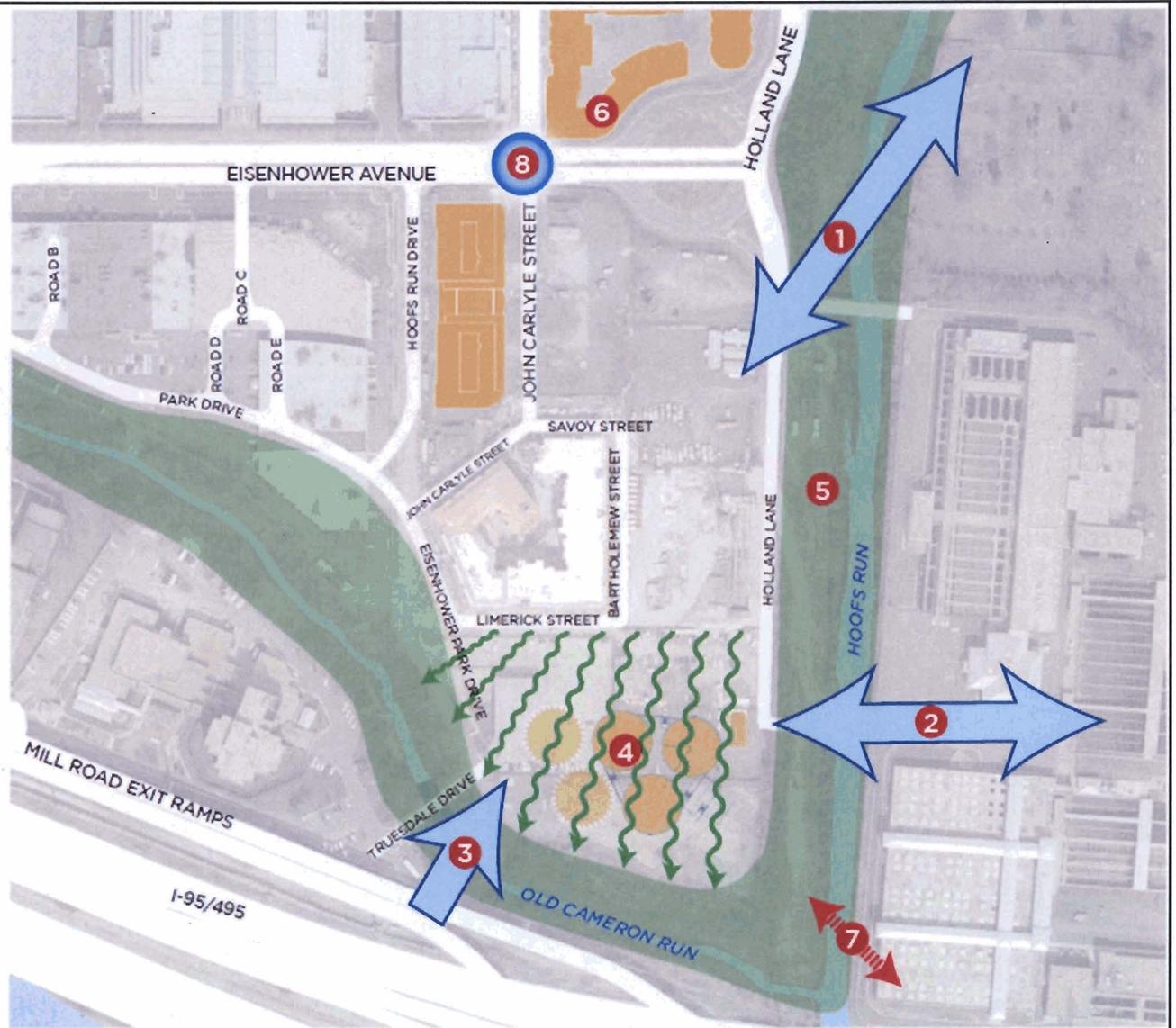
South Carlyle Planning



South Carlyle Planning

Opportunities

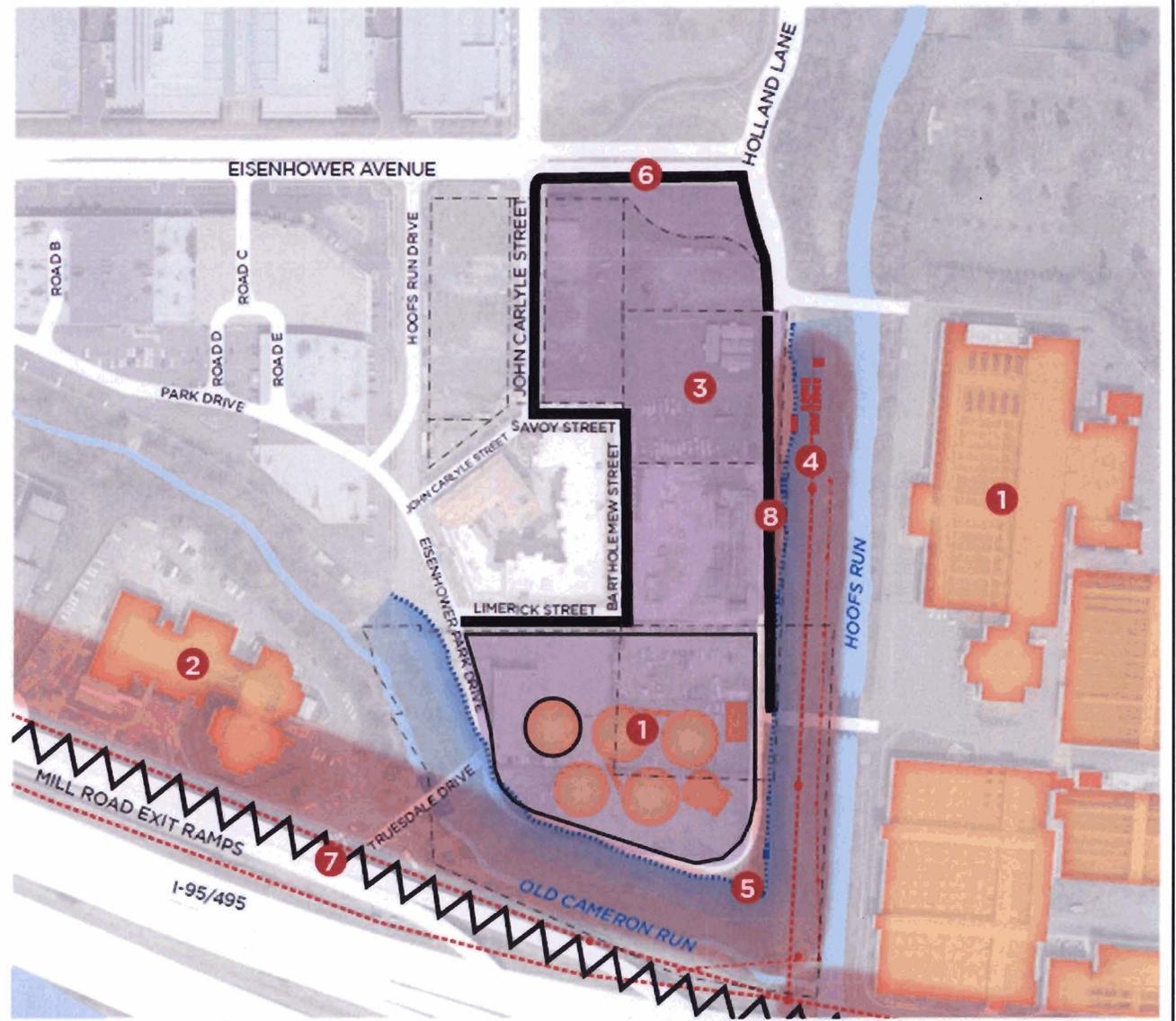
- 1 Views to and from Washington
- 2 Views to and from Old Town Alexandria and Potomac River
- 3 Visibility from highway
- 4 Potential of integrating ASA facility into the urban landscape
- 5 RPA creates long term continuity of natural landscape adjacent to site
- 6 Adjacent future development will create strong urban fabric
- 7 Potential to connect to existing bike network
- 8 Good access to transportation: Metro, VRE, Amtrak and highways



South Carlyle Planning

Constraints

- 1 Perception / odor / noise from ASA facilities
- 2 Perception of Alexandria Detention Facility
- 3 Below grade contamination and development limitations
- 4 Impact of high tension power lines
- 5 RPA prevents development potential of shoreline
- 6 Fixed road network limits grading and circulation options
- 7 Perception / pollution / noise from nearby highway
- 8 Truck traffic to ASA facility



South Carlyle Planning

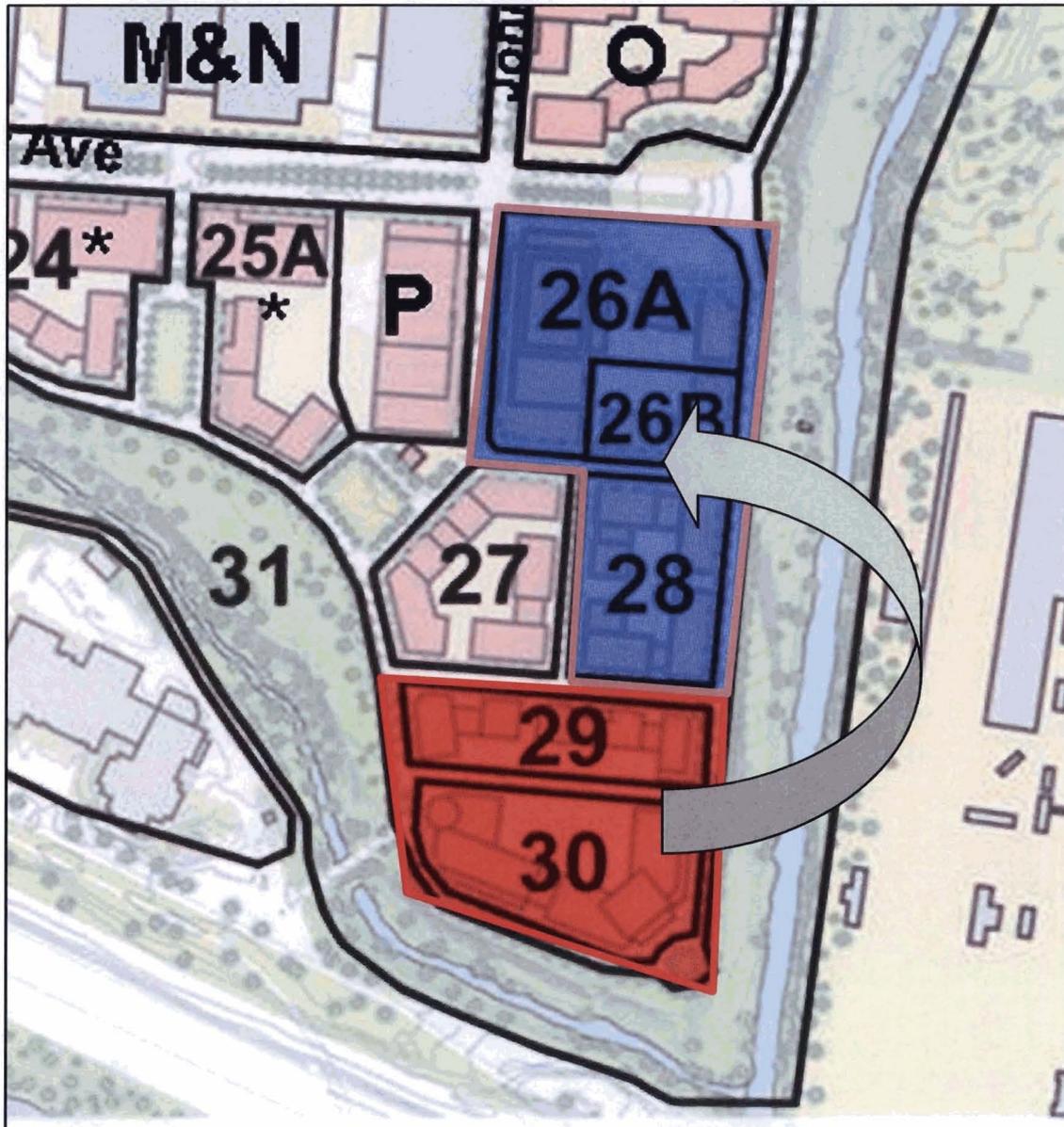
Project Goals:

- Create a model landmark development that will draw people to the area
- Unify the area physically and aesthetically
- Seamlessly expand and integrate ASA facilities as an asset to the area
- Preserve tax base – have development levels consistent with Eisenhower East Plan
- Maximize green space and provide active recreation opportunities
- Support pedestrian and bicycle connectivity
- Conceal parking
- Incorporate sustainability and green design

South Carlyle Planning



South Carlyle Planning



- Transfer:
 - 170,000 sf Residential
 - 512,000 sf Office
- **FROM:** Blocks 29 and 30
- **TO:** Blocks 26A, 26B and 28

South Carlyle Planning

Floor Area:

Block	Owner	Floor Area (sf)	Use
26A	JM Zell	243,114	Office
26B	ASA	124,000	Residential
27	Trammel Crow	56,056*	Residential
28	Virginia Concrete/ASA	282,000	Residential
29	ASA	170,000	Residential
30	ASA	512,000	Office
		1,387,170	TOTAL
		632,056	Residential
		755,114	Office
<p>* Leftover floor area from development <i>Red text denotes floor area "sending" blocks</i></p>			

South Carlyle Planning

Next Steps:

- Planning Commission and City Council Briefings in May and June
- Design Review Board (DRB) meeting – May 4
- Planning Commission Public Hearing for MPA – June 7
- City Council Public Hearing for MPA – June 25

- Fall 2011 – DSUP for development on ASA site (blocks 29 and 30)
- Fall 2011/Spring 2012 – DSUP for development of remaining South Carlyle blocks

Thank You

Questions and Answers