

# Soapstone Connector Feasibility Study

**Presentation to the  
Reston Master Plan Task Force  
February 26, 2013**

Presented by:

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And

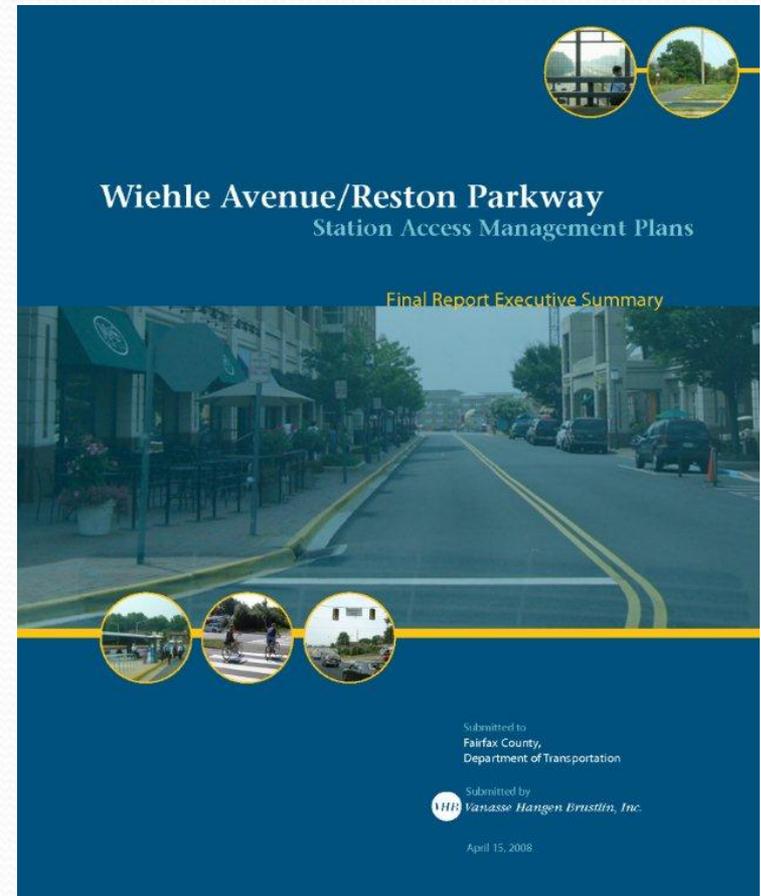
**Warren E. Hughes, P.E., ATCS**



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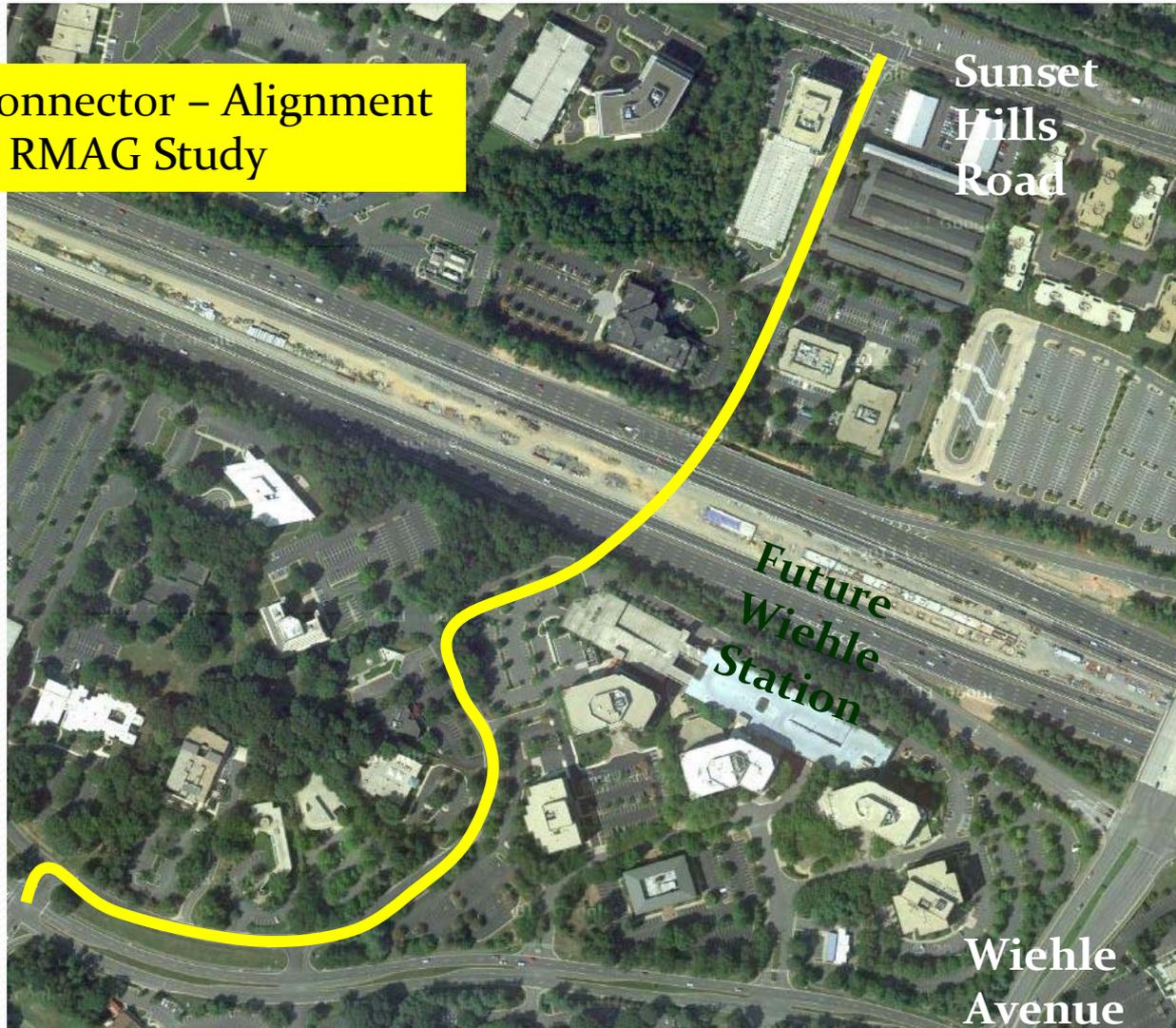
# “Genesis” of Soapstone Connector

- Connector would improve/increase access to the Wiehle Avenue Metro Station
- Connector would reduce adverse traffic impact of New MetroRail Station on Wiehle Avenue
- RMAG Study Established the Need for this Improvement, “coined” the “Soapstone Drive Connector”
- Multi-modal Connector – Pedestrians, Bicyclists, Transit Users, Motorists



# Alignment Identified in Prior Study

Soapstone Connector – Alignment Identified in RMAG Study



# RMAG Proposed Connector

- “Typical” Cross-Section:
  - Four lanes wide
  - Two General Purpose Lanes, one in each Direction
  - Two Shared Bus and Bicycle Lanes, one in each Direction
  - Facility Accommodation for Pedestrians

**Table 3-16: Bicycle Recommendation for Wiehle Ave - South**

	Side	Street	From	To	Recommendation
B12	Both	Soapstone Connector	Sunrise Valley Dr	Sunset Hills Rd	Construct shared bus/bike lanes on the proposed roadway extension

# Goals for the Soapstone Connector

- Connect Two Major East-West Corridors: Sunset Hills Rd and Sunrise Valley Dr
- Reduce Traffic Impacts to Wiehle Avenue
- Improve Accessibility to the Wiehle - Reston East Metro Rail Station
- Integrate with Planned Grid of Streets in Reston
- Complement Existing and Future Developments in Area



# Primary Study Objective

- Determine the Feasibility of Constructing a New Multi-Modal Connector between Sunrise Valley Drive and Sunset Hills Road at a Location West of the Wiehle – Reston Metro Rail Station



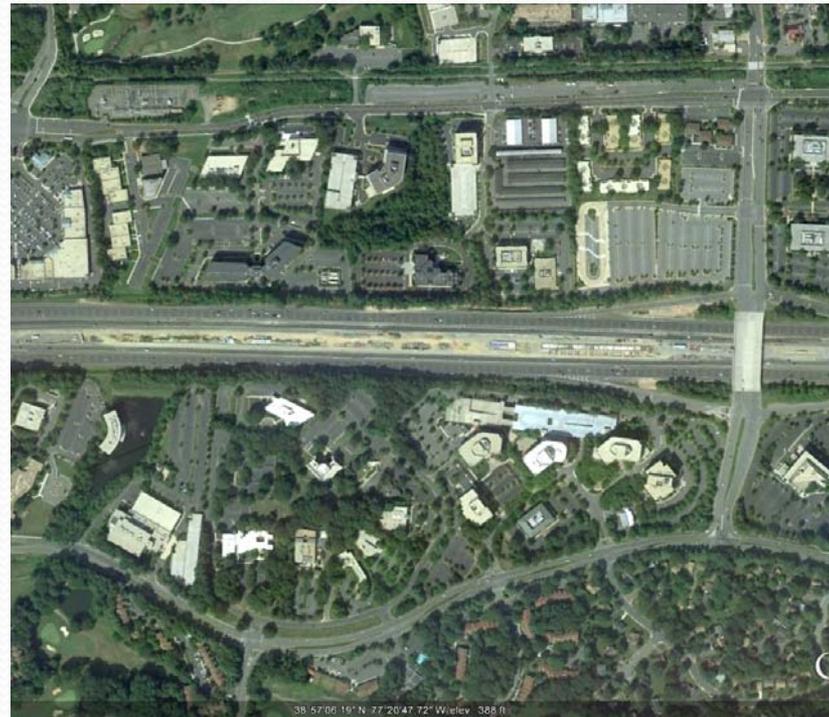
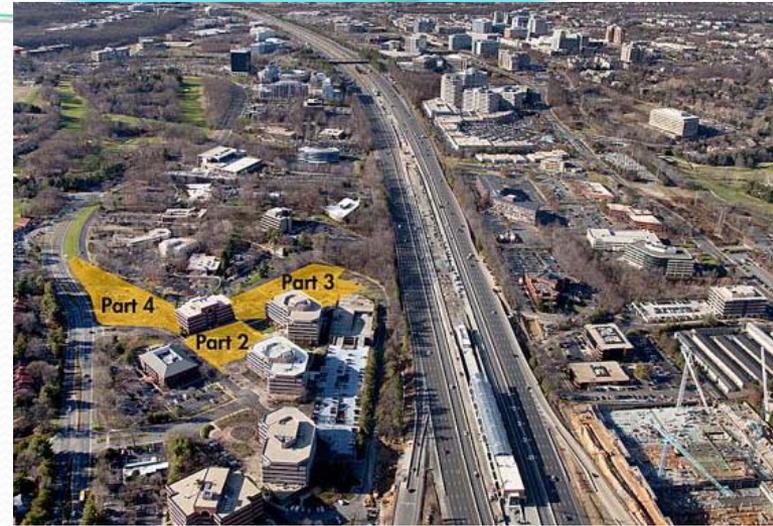
# Other Study Objectives

- Determine Most Promising Alignment(s) for the Connector
- Conduct a Type, Size and Location (TS&L) Analysis of a New Bridge over the Dulles Toll Road
- Identify and Quantify Differences Among Alternatives, in terms of Land Use, Traffic, Environment and Engineering Considerations
- Identify Key Challenges and Mitigating Strategies for Advancing to the Preliminary Design Phase
- Develop a “Rough Order of Magnitude” Cost Estimate

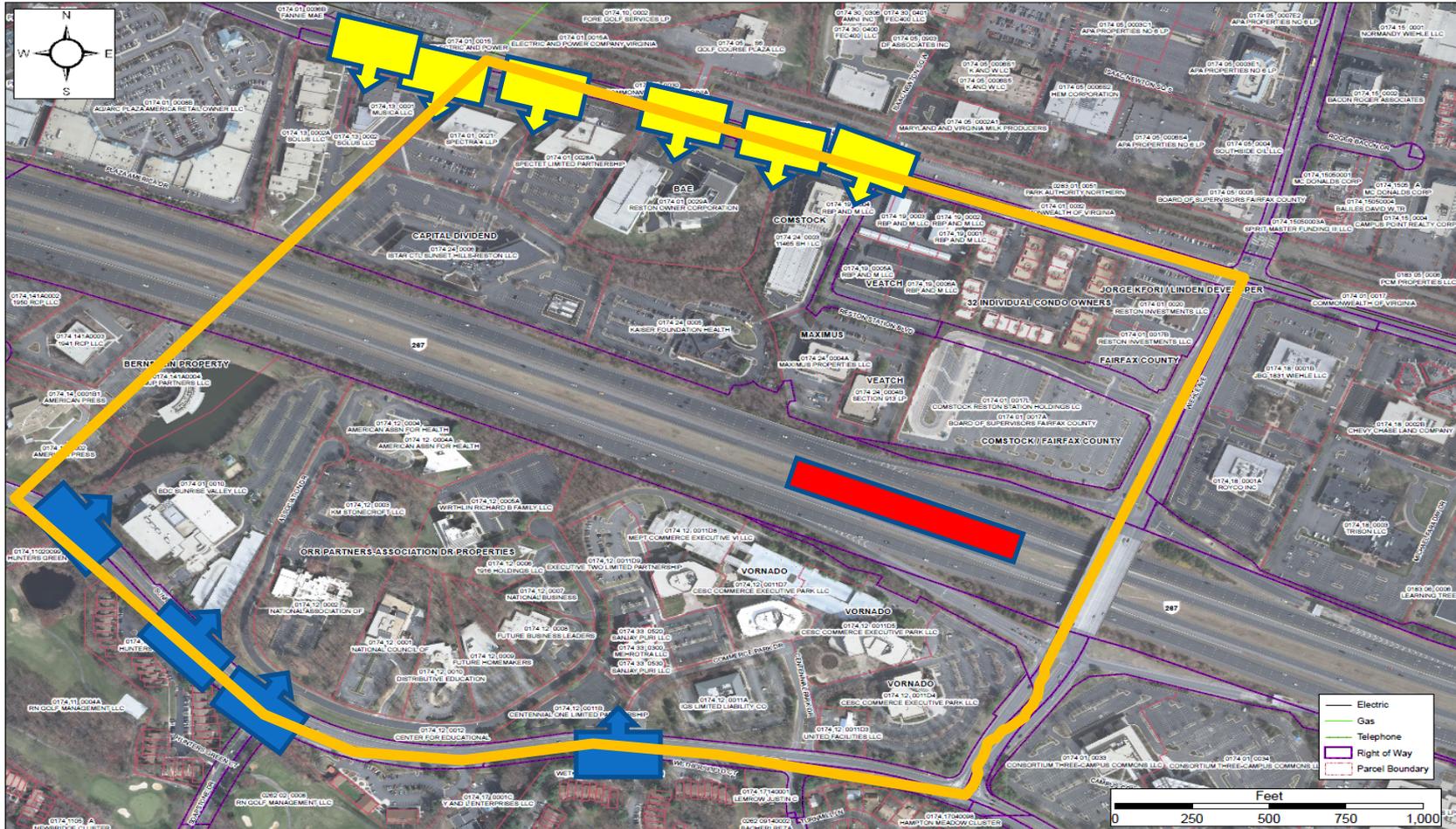


# Consultant's Scope

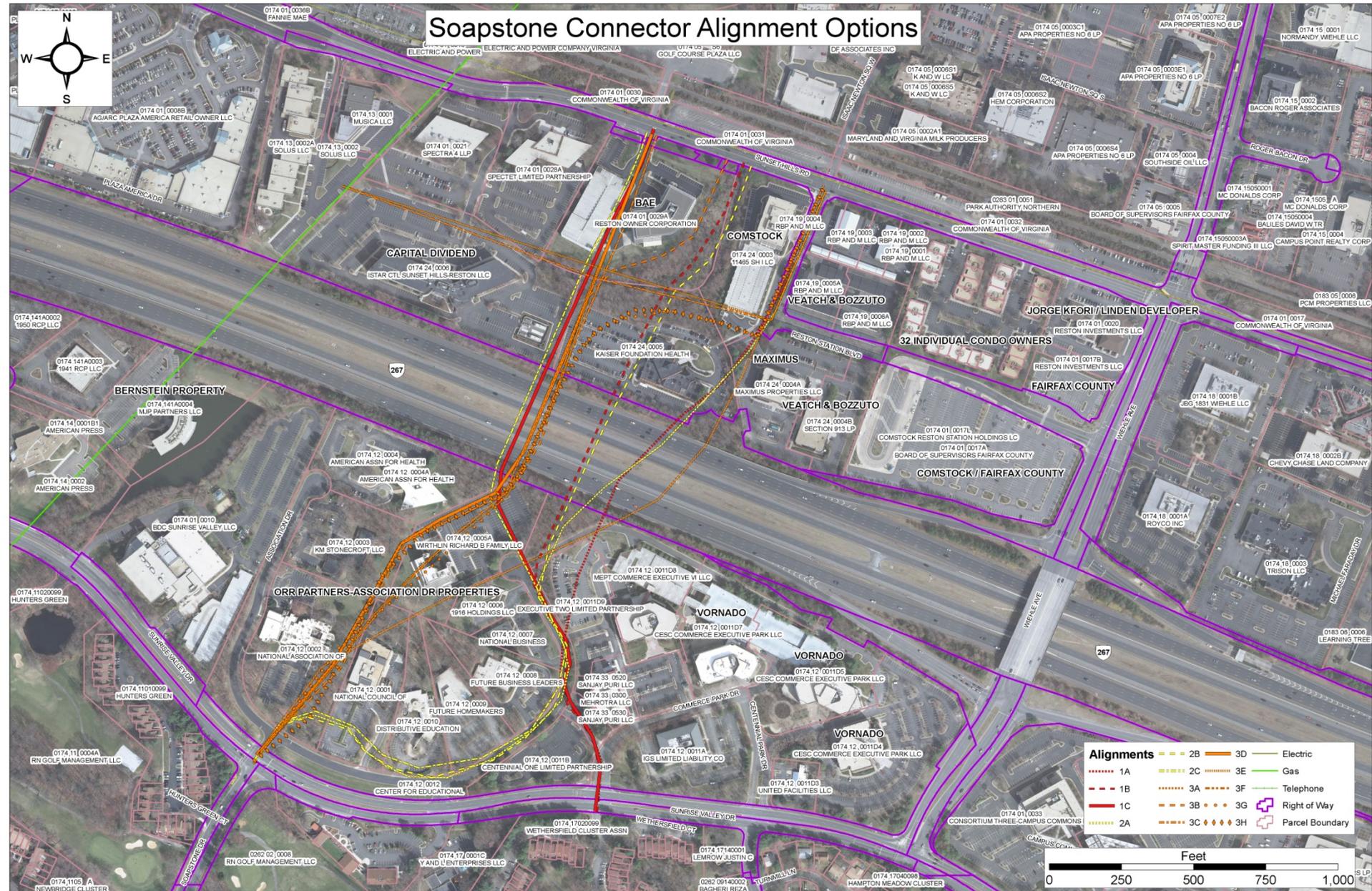
- Data Gathering
- Screening of Horizontal Alignment Alternatives
- Alternatives Refinement
- Alternatives Evaluation
- Recommendations
- Documentation
- Public Involvement



# Horizontal Alignment Alternatives



# Eastern Horizontal Alignment Alternatives



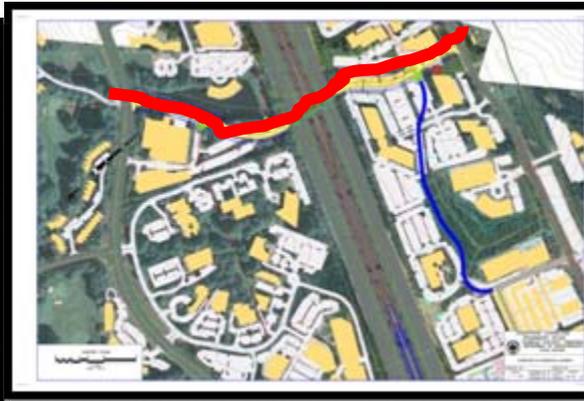
Alignments	2B	3D	Electric
1A	2C	3E	Gas
1B	3A	3F	Telephone
1C	3B	3G	Right of Way
2A	3C	3H	Parcel Boundary



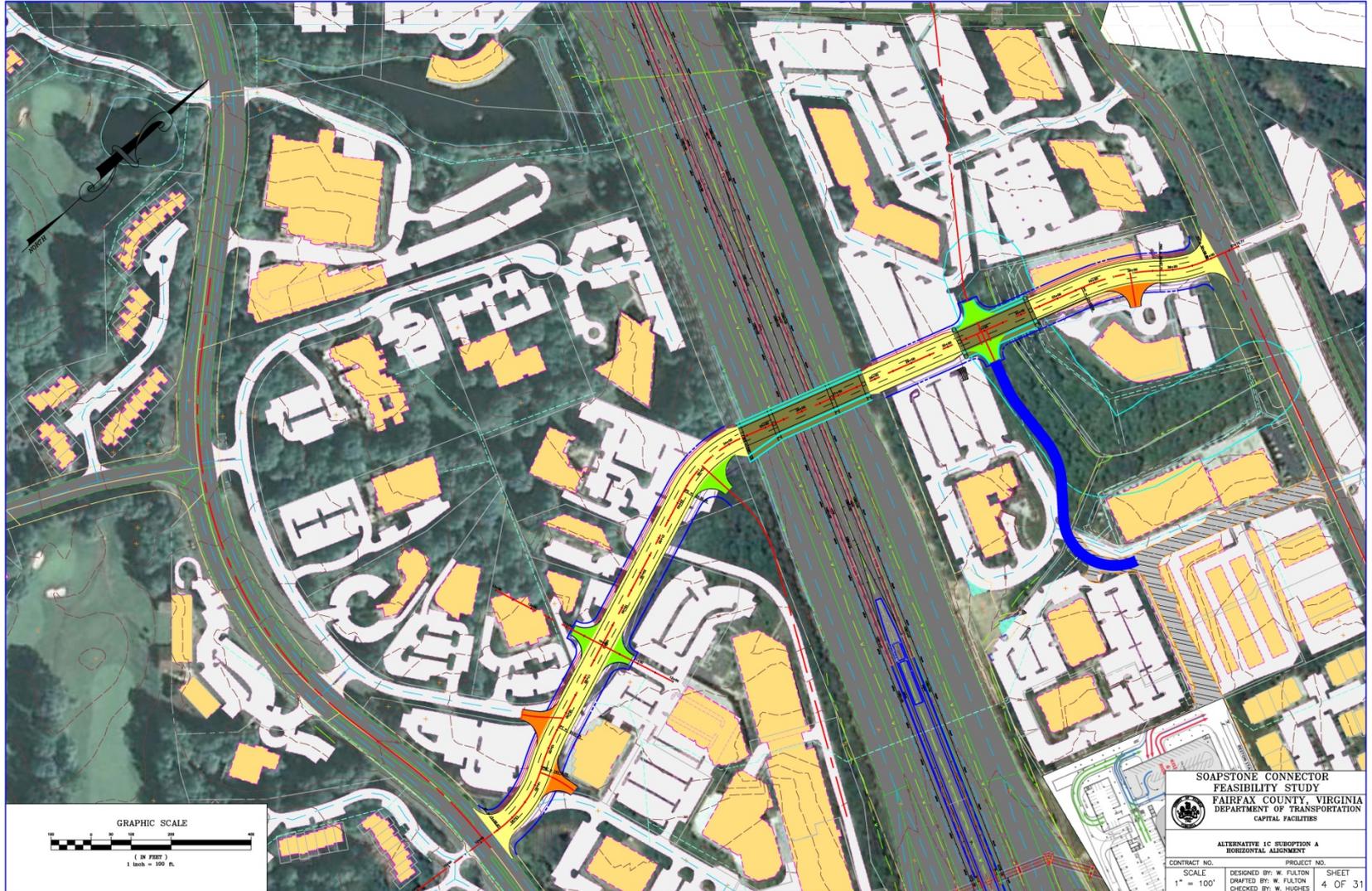
# Horizontal Alignments Screening

- Identified and “Screened” 30 Horizontal Alignments
- For Screening Purposes, Used a 100 ft Corridor Width:
  - Undivided Roadway with curb-and-gutter
  - Four (4) 12 ft wide Travel Lanes
  - 5 ft wide On-Road Bike Lanes on both sides of road
  - 5 ft wide Sidewalk on the West Side
  - 10 ft wide Multiple Purpose Trail on the East Side
- Qualitatively Considered Effects of Horizontal Alignment on Land Use, Traffic, Engineering and Environmental at a Planning Sketch-Level
- Selected a Range of Six (6) Horizontal Alignments that Were Advanced to Next Task

# Alternatives Evaluated

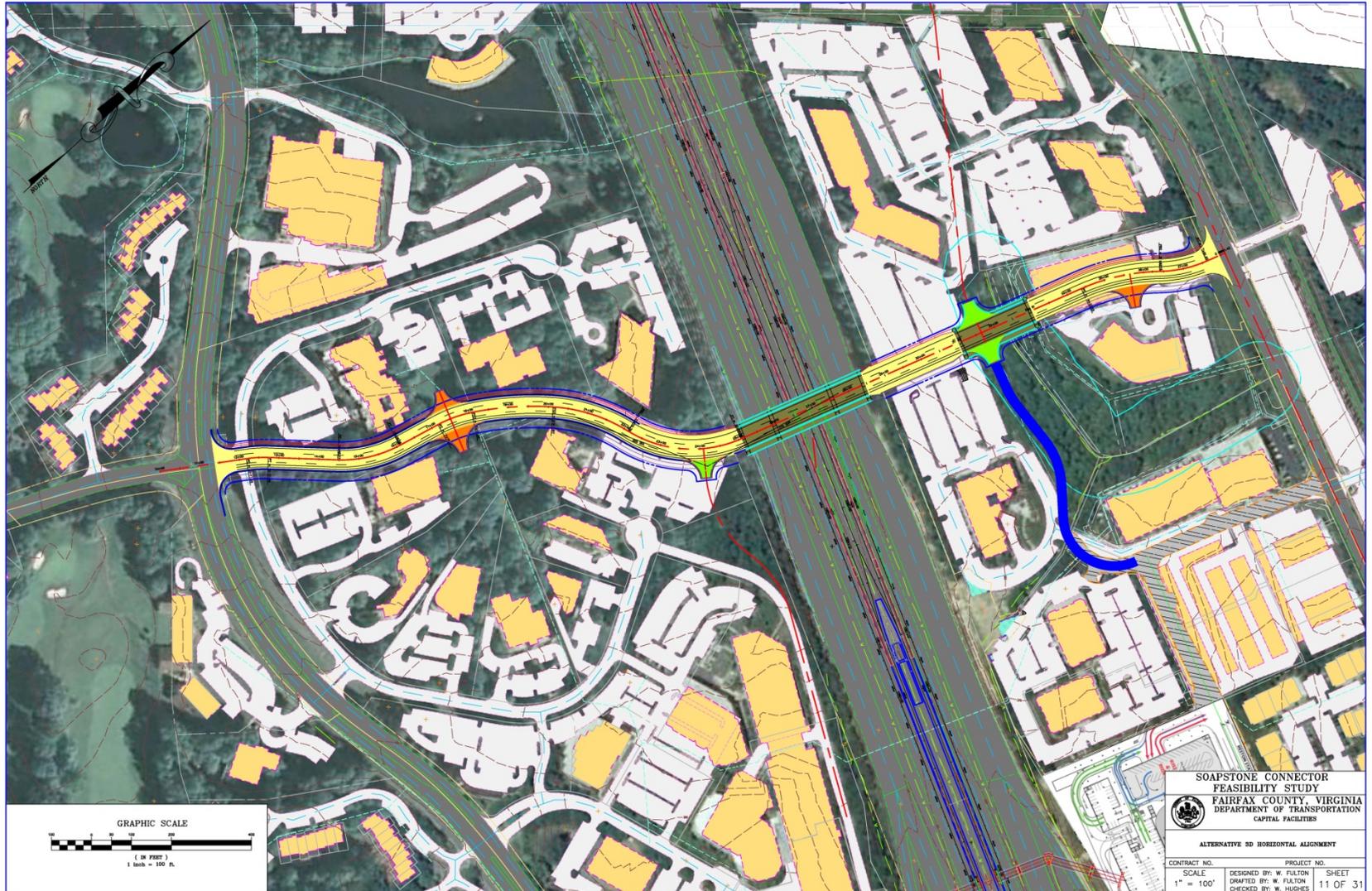


# Alternative 1C – Plan

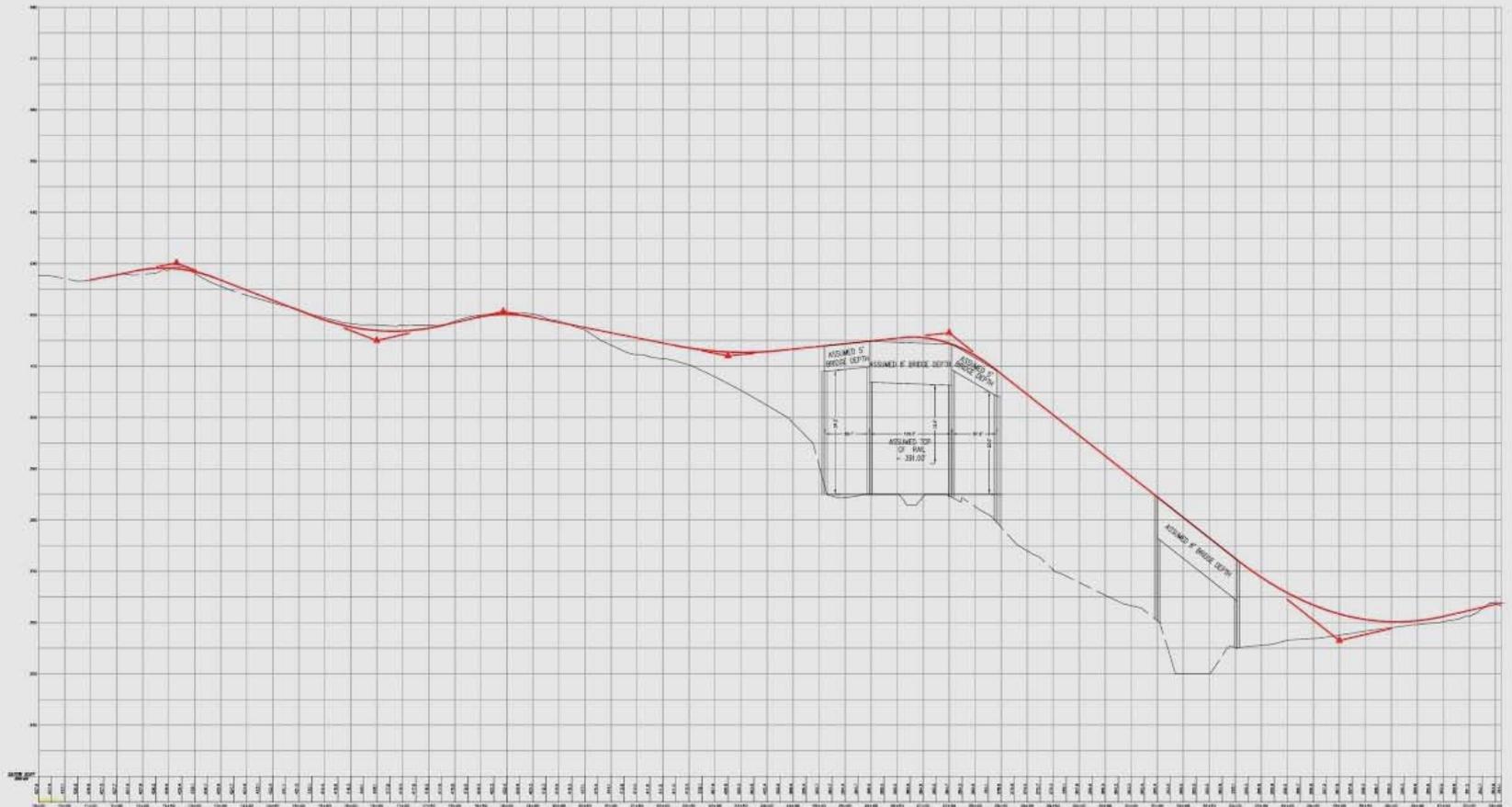




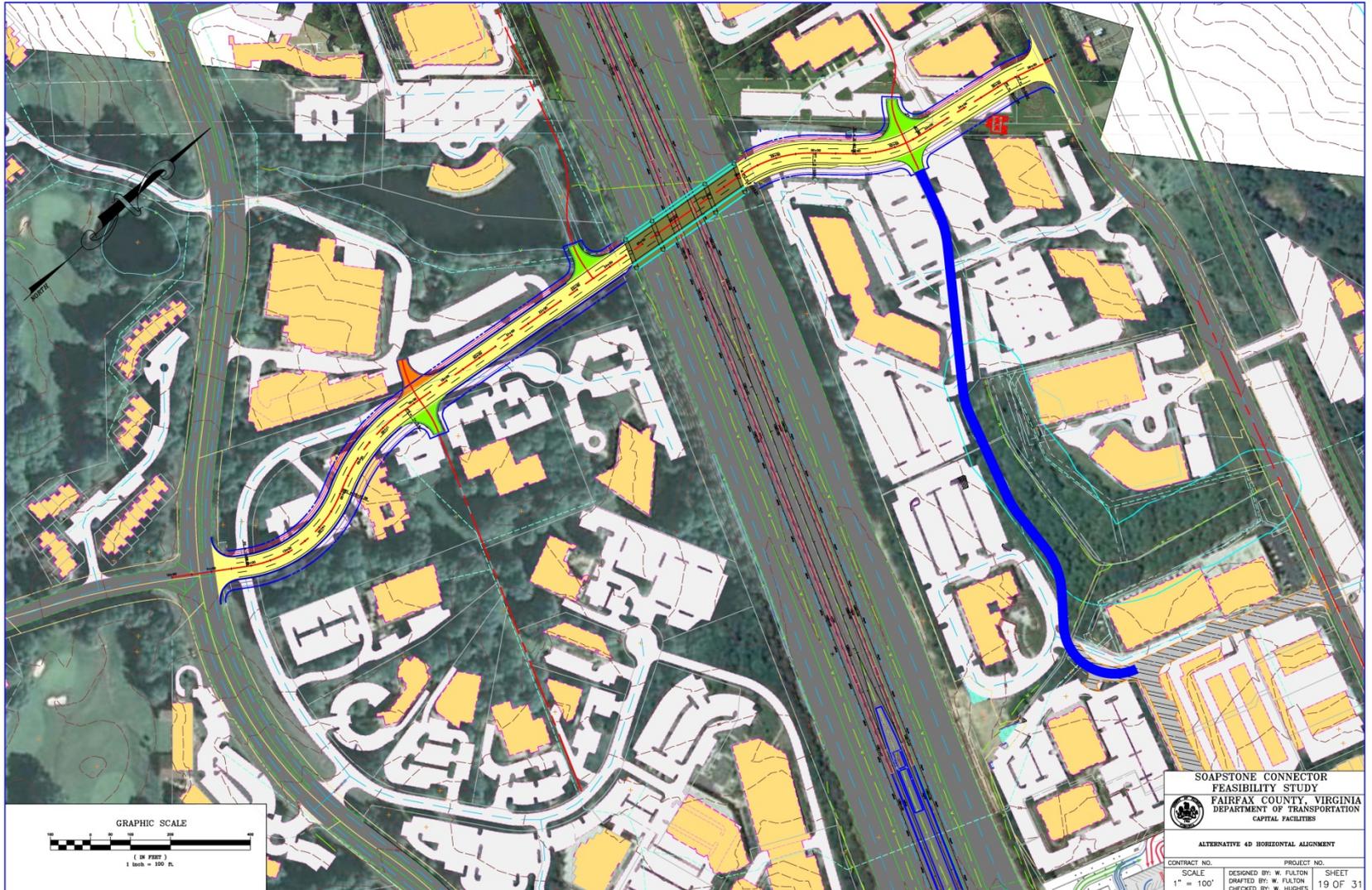
# Alternative 3D – Plan



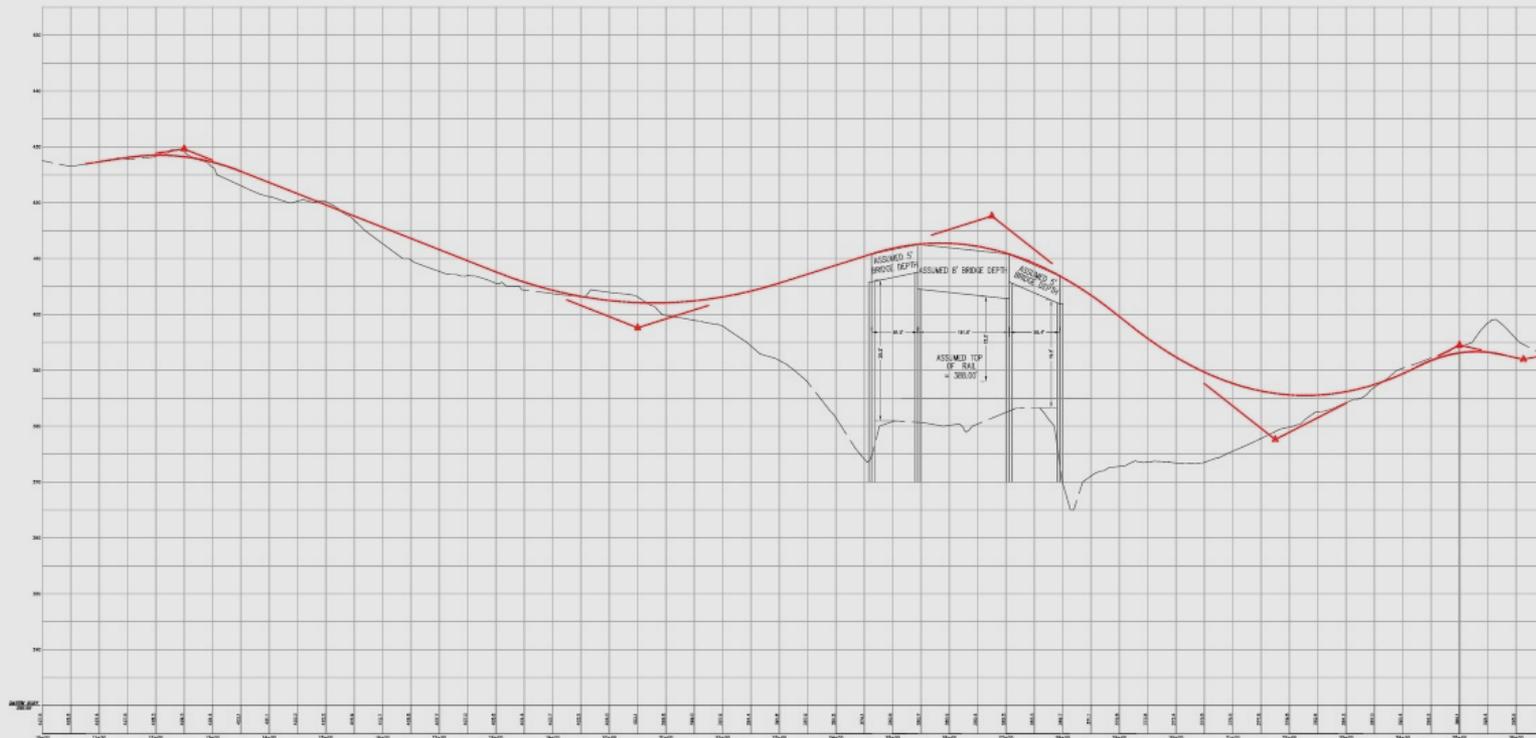
# Alternative 3D - Profile



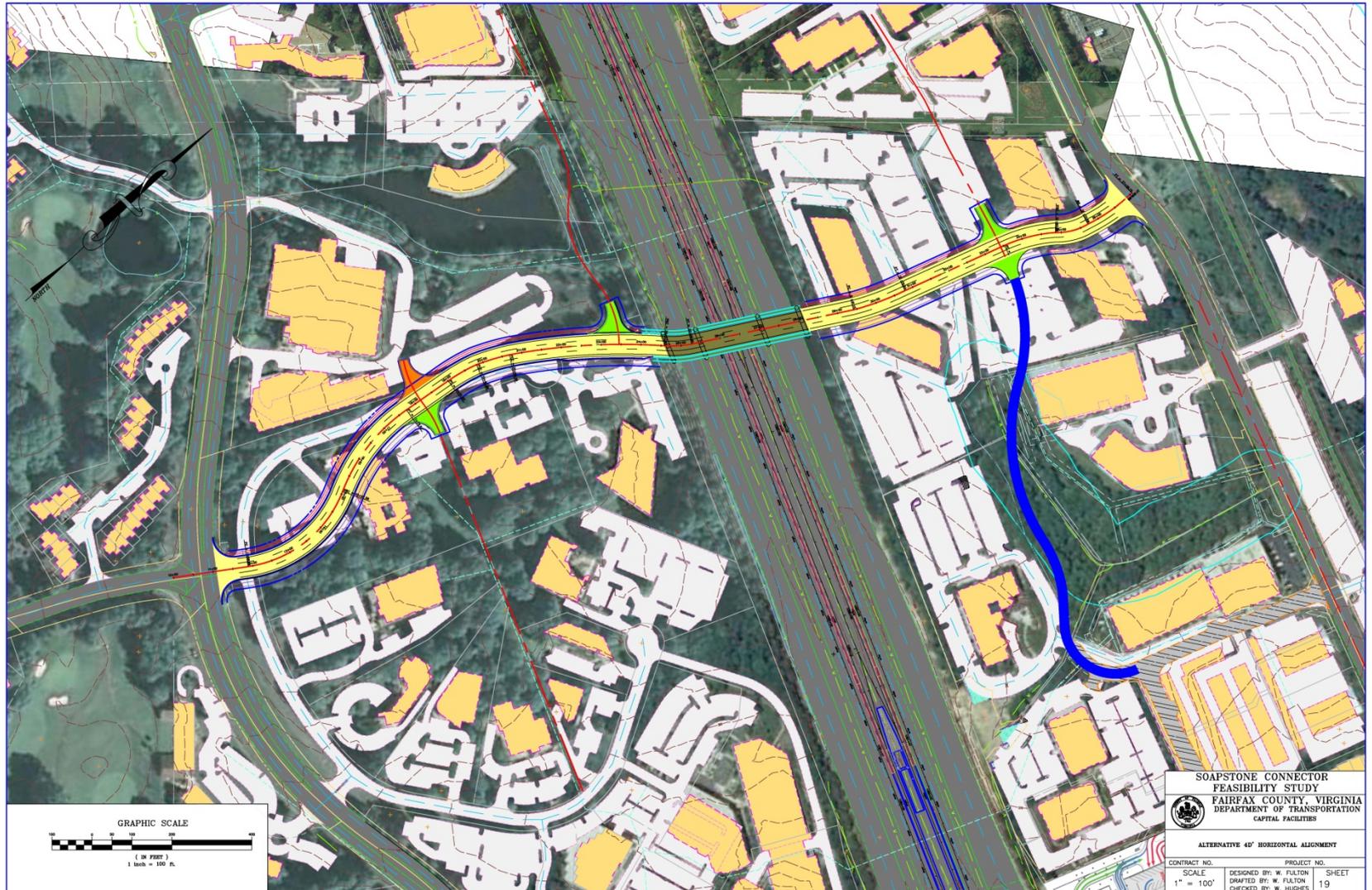
# Alternative 4D - Plan



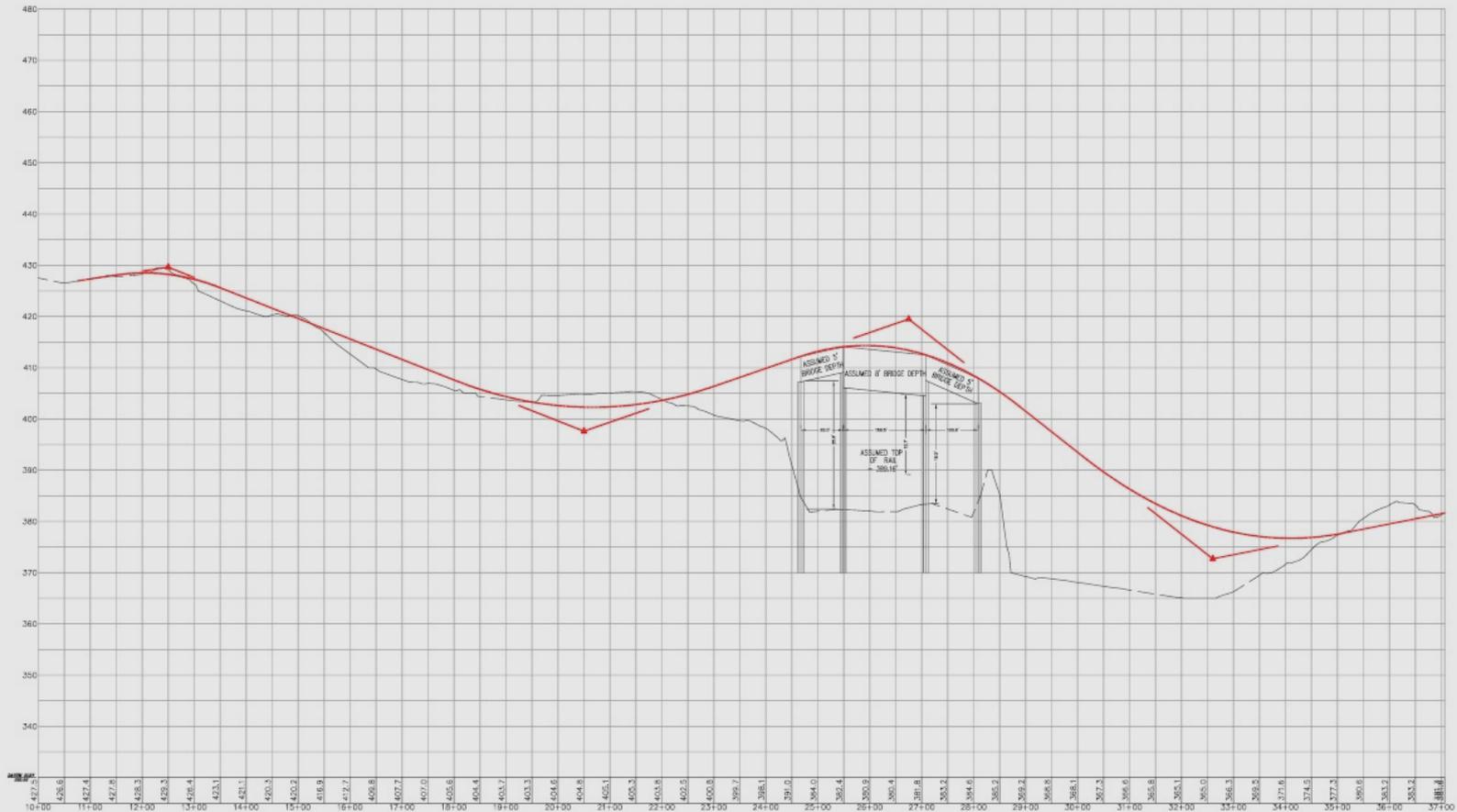
# Alternative 4D - Profile



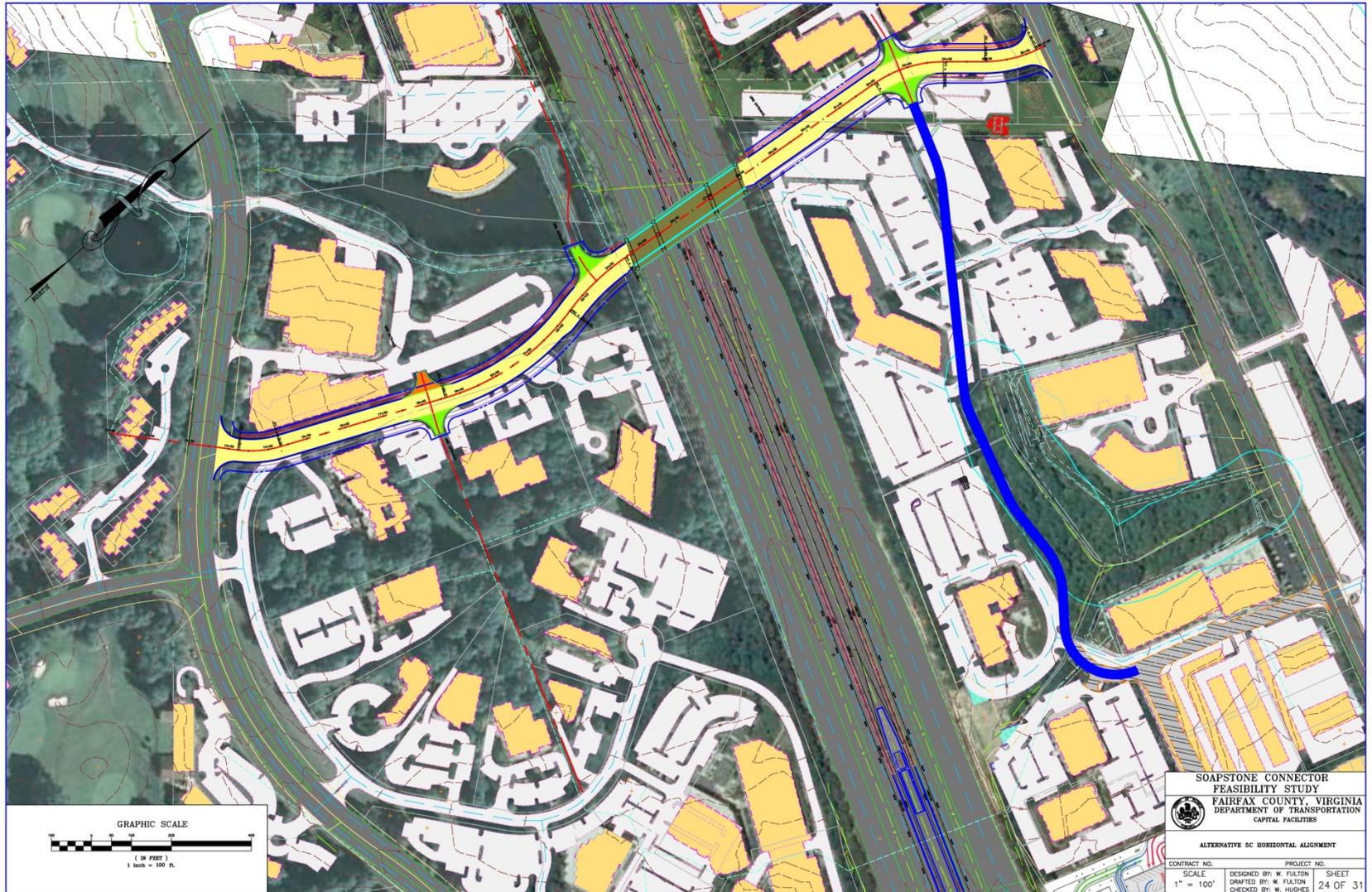
# Alternative 4D' Modified - Plan



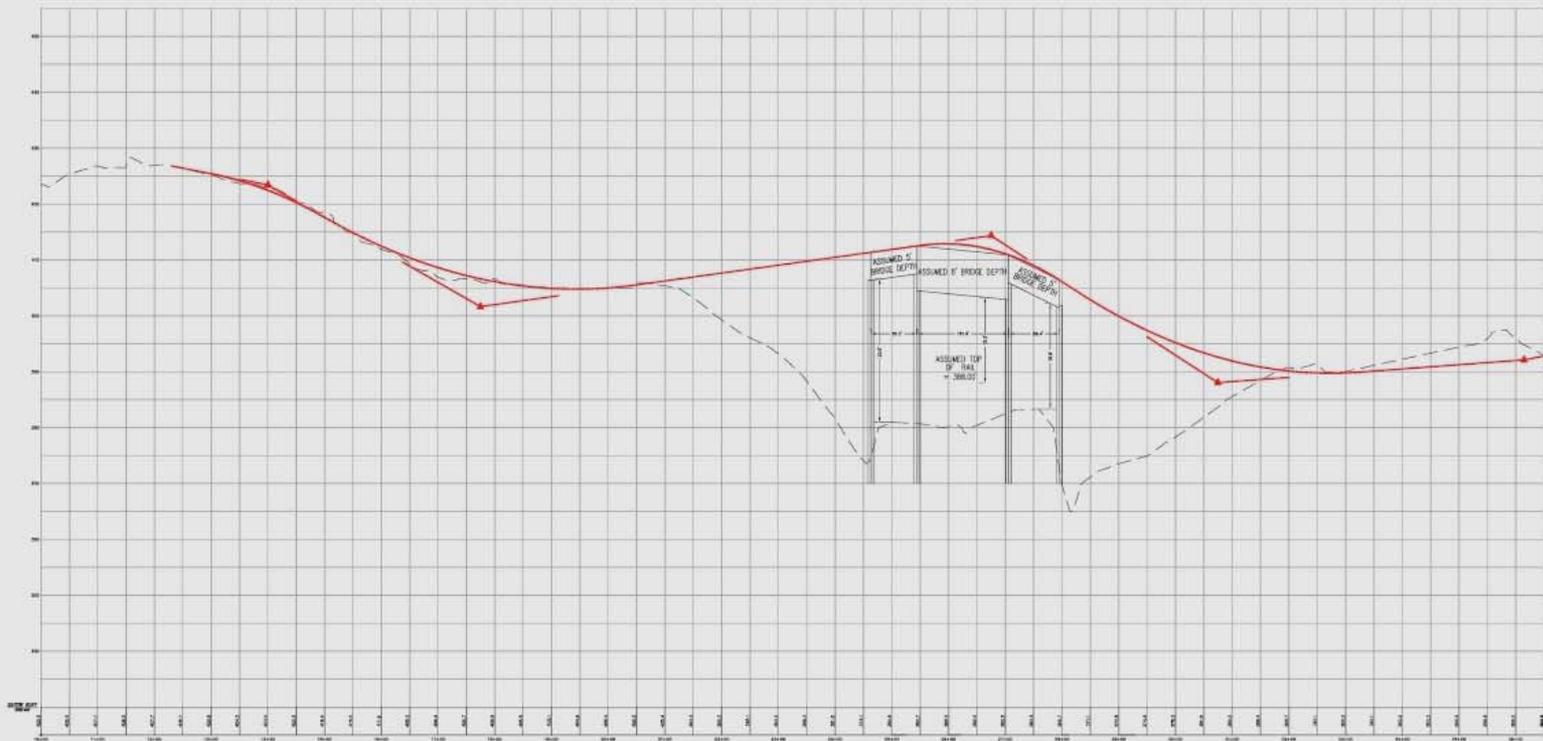
# Alternative 4D' Modified - Profile



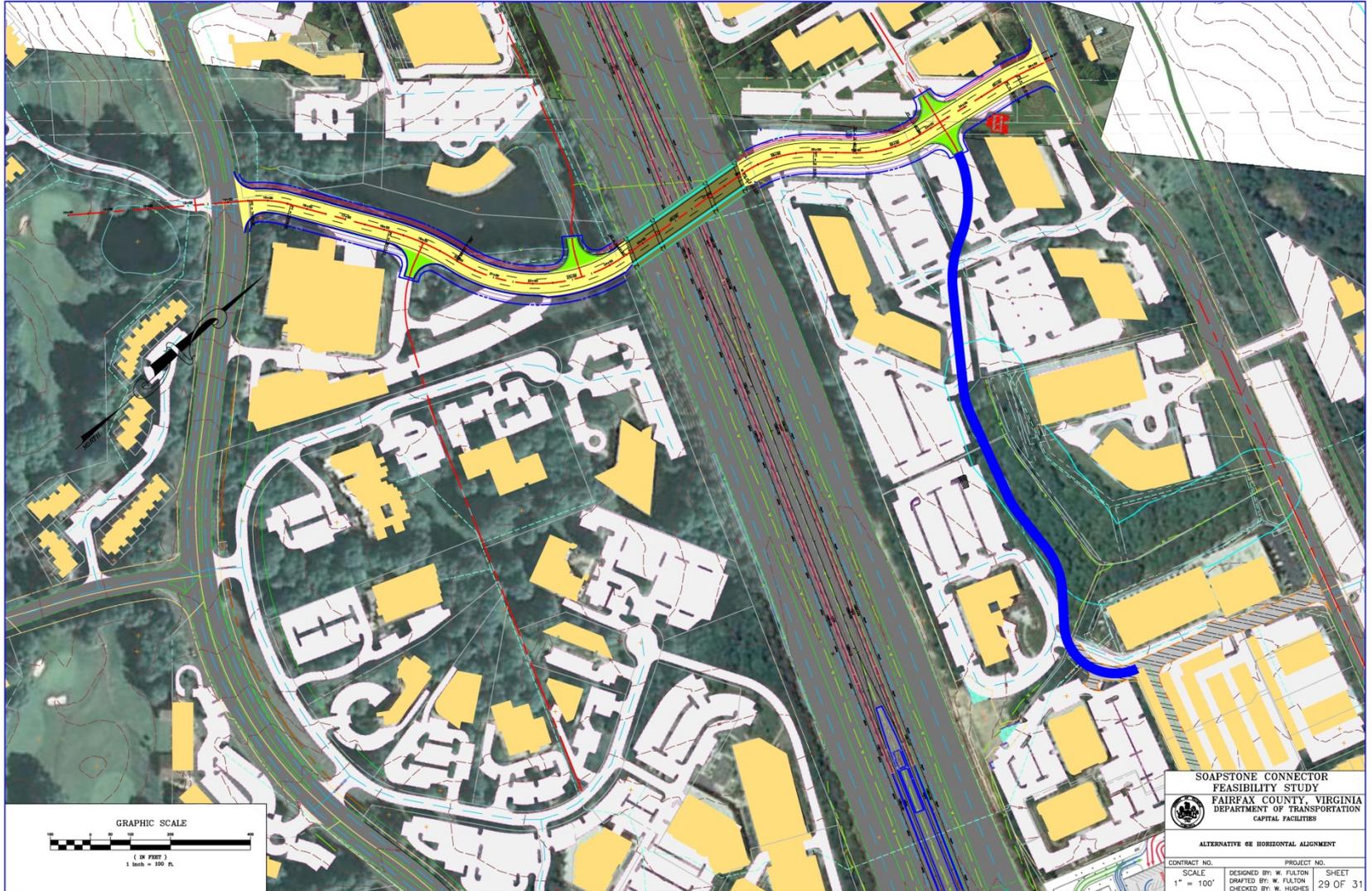
# Alternative 5C - Plan



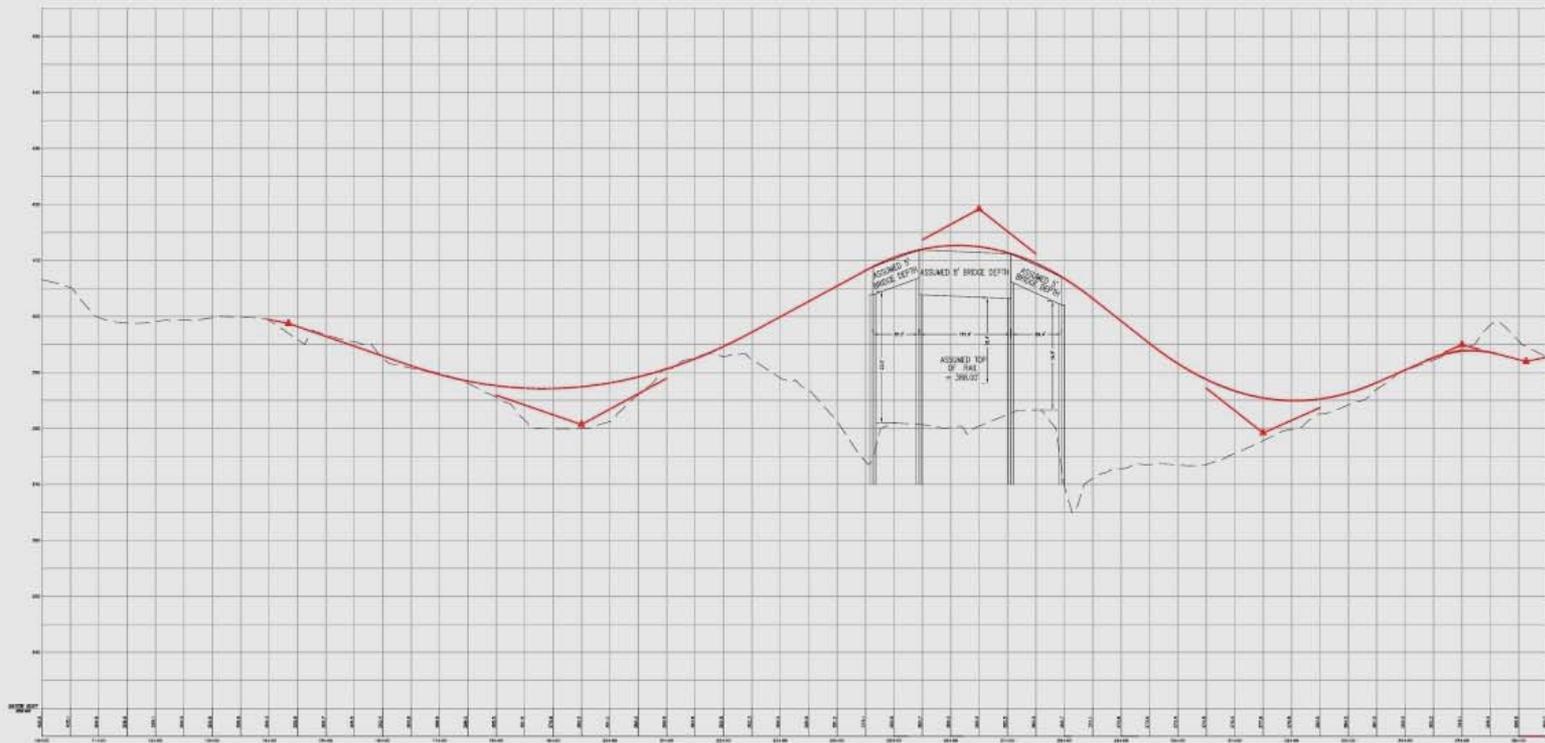
# Alternative 5C – Profile



# Alternative 6E - Plan



# Alternative 6E - Profile



# Comparison of Selected Items

	Length of Road	Bridge over DTR	Bridge over Creek	Area over Pipeline	8% Grade	5% Grade or More	Buildings Impacted	Garages Impacted	Length along SWM Pond
	(mi)	1000 gsf	1000 gsf	1000 gsf	Lineal ft	Lineal ft	1000 gsf		Lineal ft
Alt 1C	0.52	30.8	22.6	0.0	590	590	0	1	0
Alt 3D	0.54	29.4	21.8	0.0	605	605	0	1	0
Alt 4D	0.51	29.4	0.0	25.4	270	680	1 (36K)	0	0
Alt 4D'	0.52	30.2	0.0	0.0	355	355	2 (36K; 181K)	0	0
Alt 5C	0.46	29.9	0.0	21.3	215	400	1 (33K)	0	0
Alt 6E	0.45	29.8	0.0	25.4	300	750	0	0	755

# Next Steps

- Completion of alternatives evaluation in Task 4
- Development of recommendations in Task 5
- Preparation of documentation in Task 6
- Continued coordination with key stakeholders in area
- Briefing to Supervisor Hudgins
- Public information meeting – March 20, 2013

# Open Discussion

- Questions
- Comments
- Potential Concerns and Issues