

Muddy River Flood Damage Reduction – Phase 2

Wall Treatment Comparisons
February 2019

Fire Alarm Building

- Completed in 1925
- Exterior is variegated Indiana limestone
- It appears fencing has been installed around the building since 1940



Existing Walls near Fire Alarm Building



Picture Above - Wall at Back Bay Yard



Picture Above - Pedestrian Bridge at Back Bay Fens



Picture Left – Stonewall near Fire Alarm Building

Muddy River Floodwall

- View of river has been enhanced by using picket fence vs. security screened fence, to match the front fencing.
- Existing security lighting will be reinstalled.
- Floodwall will have a cap stone for aesthetics.
- Floodwall on the sides of the building will not just deadend into the ground but will be stepped up by 1' for aesthetics.

Stone Veneer Wall

- Use split faced ashlar granite veneer
- Dimensions:
 - 2 inches thick
 - Random lengths between 1 to 3 feet long
 - Random broken-course three-height pattern
 - (4 in., 8-5/8 in. & 13-1/4 in.)
 - Percentage of stones:
 - 4 in. (10%), 8-5/8 in. (55%) & 13-1/4 in. (35%)
 - Require the construction of a reinforced concrete wall.
 - Veneer applied to visible surface of the wall – both faces.
- Limitations:
 - Construction time for floodwall approximately 8 weeks (does not include inner concrete wall and foundation construction time)
 - Veneer portion of wall cannot be constructed Nov-Mar time period
- Possible quarry source:
 - Jefferson, ME (JC Stone)
 - Amherst, NH (Swenson Granite)
 - East Otis, MA (Williams Stone)



Concrete Wall with Formliner

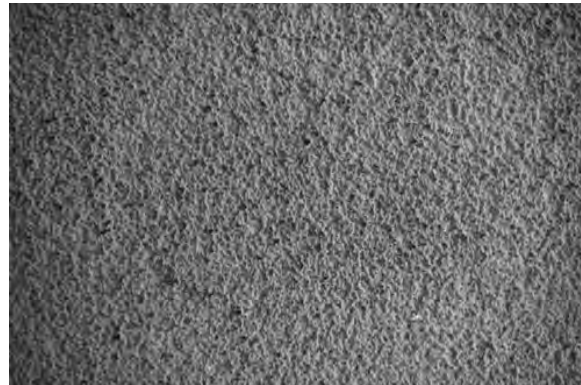
- Benefits

- Durable material/good field performance
 - Not susceptible to freeze/thaw effects
- Many textures/patterns available
- Lower costs
- Quicker installation
 - No heavy equipment required
 - Pattern cast from formliner
- Continuous color through wall
- Color availability
- Manufacturer:
 - Sika Greenstreak
 - Custom Rock



- Drawbacks

- Initial consideration of match was Fire Department Building
- Repeating patterns – looks like a Sand Castle
- Façade susceptible to damage – if chipped, would look like concrete beneath instead of Initial finish



Veneer-Formliner Comparison

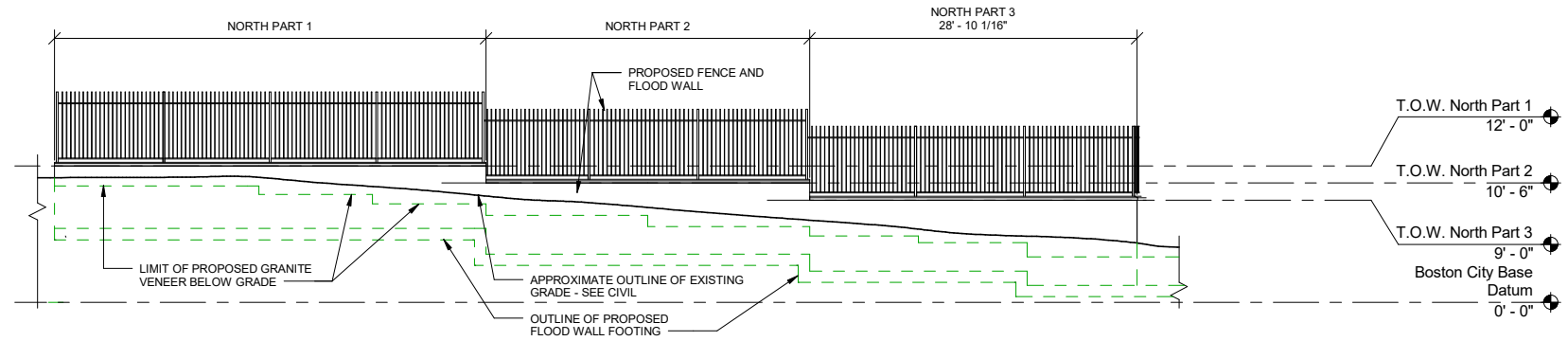
Veneer

- Total Cost: \$360,000 @ \$74/SF
- Veneer cannot be installed Nov-Mar
- Reinforced Concrete Wall Required
- Various Colors Available
- Could be Susceptible to Freeze-Thaw Action on Mortar Joints
- Even if chipped, the granite look would remain in the veneer
- Color variations within individual stones
- Similar material as other walls in park
- Colored grout

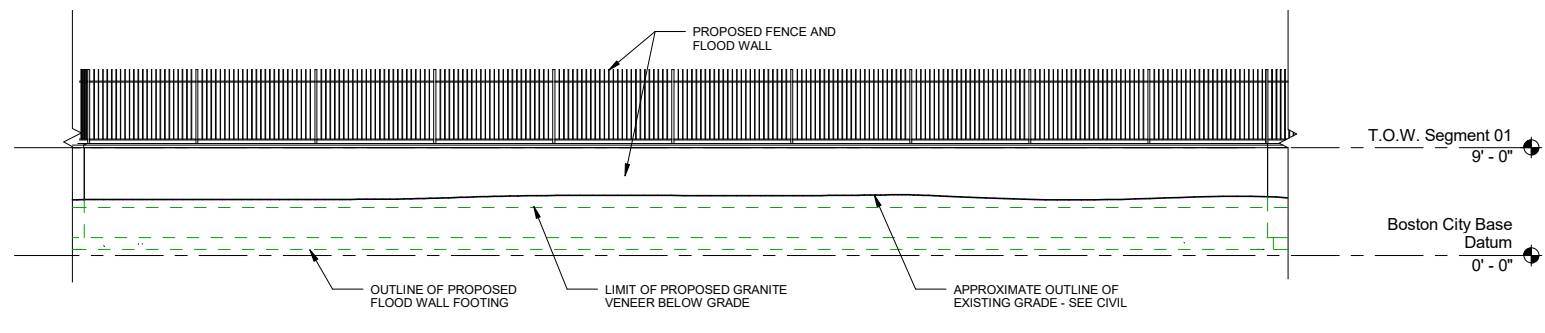
Formliner

- Total Cost: \$36,000 @ \$7.28/SF
- Can be installed year round – reduces construction time
- Part of Reinforced Concrete Wall – No Additional Wall Required
- Various Colors Available
- Not Susceptible to Freeze-Thaw Action
- Façade susceptible to damage – would reveal concrete beneath
- Color achieved with color additive but not varied with each “block”
- Different material than other walls in the park system

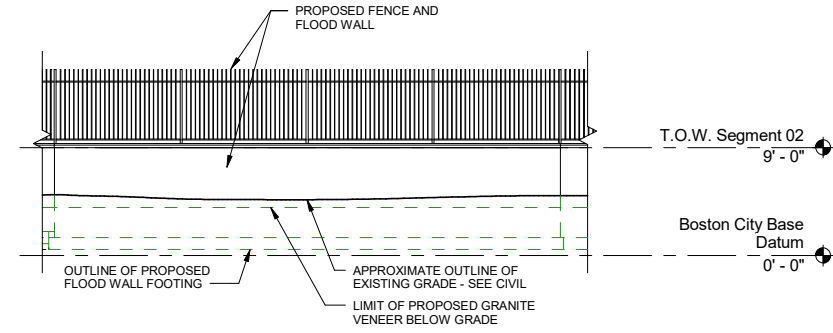
G
F
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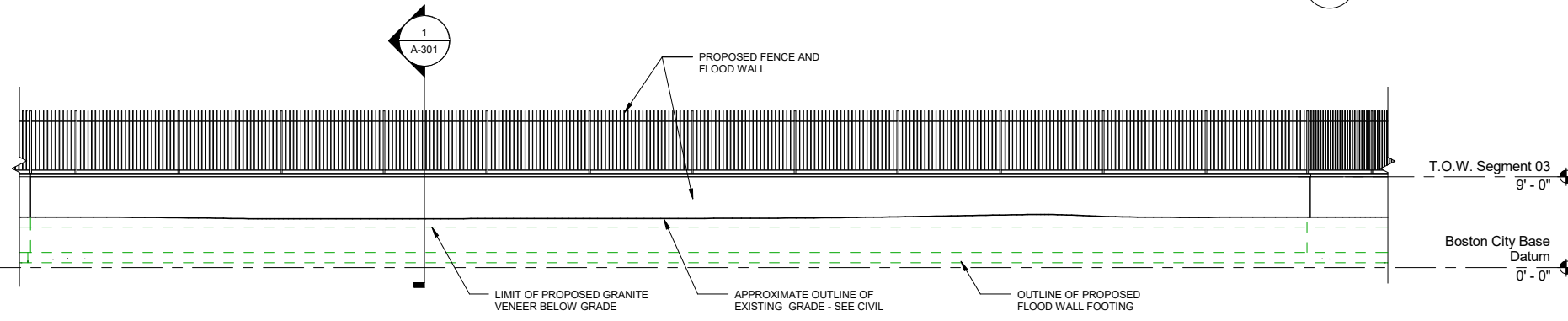
1 North Elevation
SCALE: 1/8" = 1'-0"



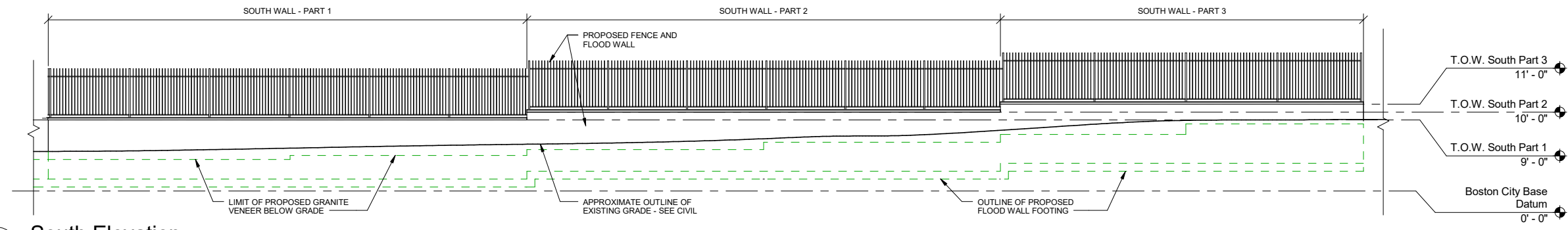
2 West Elevation - Segment 01
SCALE: 1/8" = 1'-0"



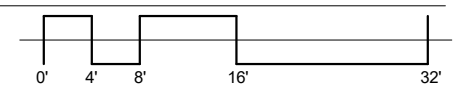
3 West Elevation - Segment 02
SCALE: 1/8" = 1'-0"



4 West Elevation - Segment 03
SCALE: 1/8" = 1'-0"



5 South Elevation
SCALE: 1/8" = 1'-0"



ISSUE DATE:	DATE
SOLICITATION NO.:	
CONTRACT NO.:	
DESIGNED BY:	DESCRIPTION
DRAWN BY:	MARK
CHECKED BY:	
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DESIGNED BY:		ISSUE DATE:	
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US ARMY CORPS OF ENGINEERS

EXTERIOR ELEVATIONS OF FLOOD WALL AND FENCE

SHEET ID

A-201

1

2

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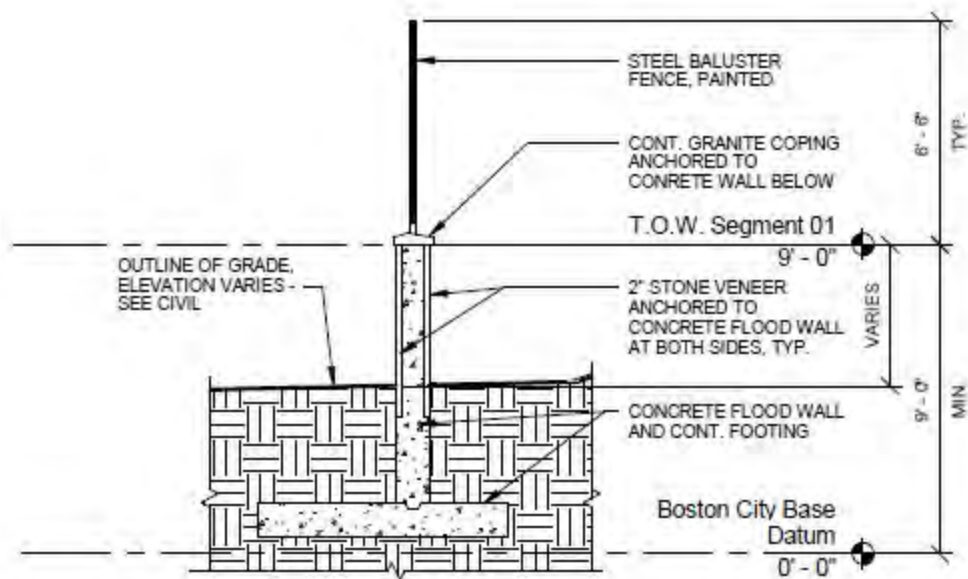
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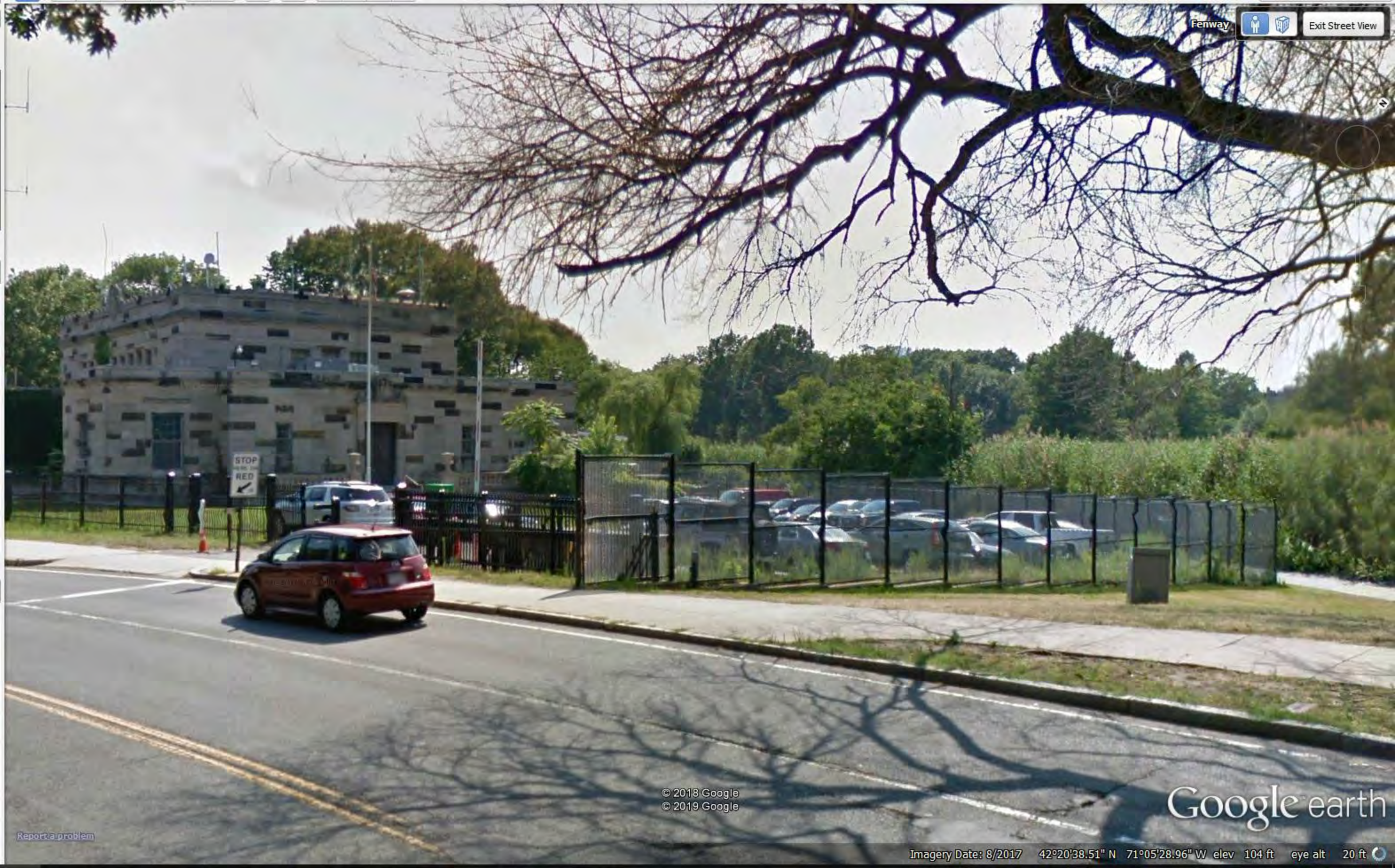
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Section Through Proposed Flood Wall

SCALE: 1/4" = 1'-0"

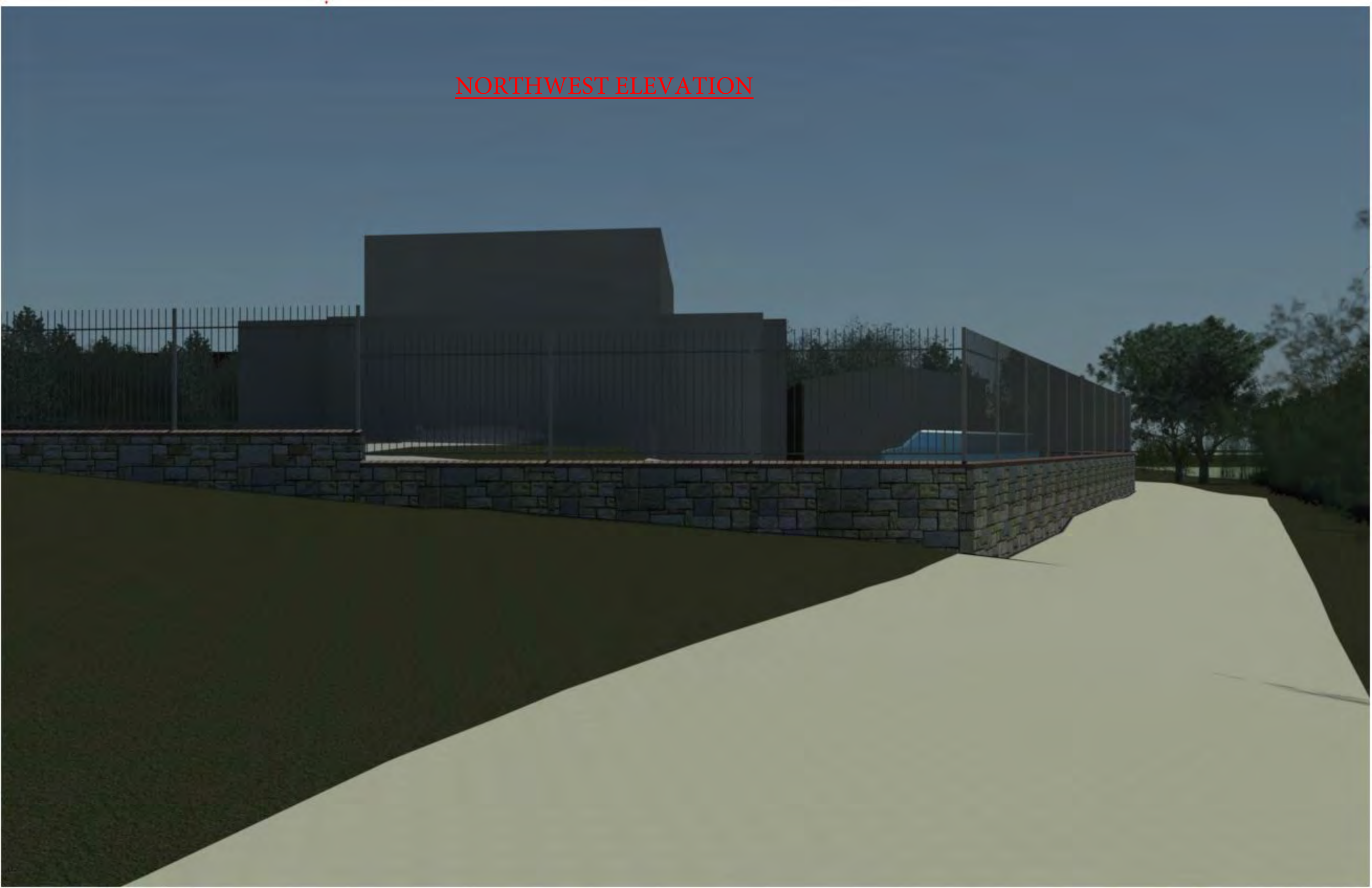


STOP
FOR RED LIGHT

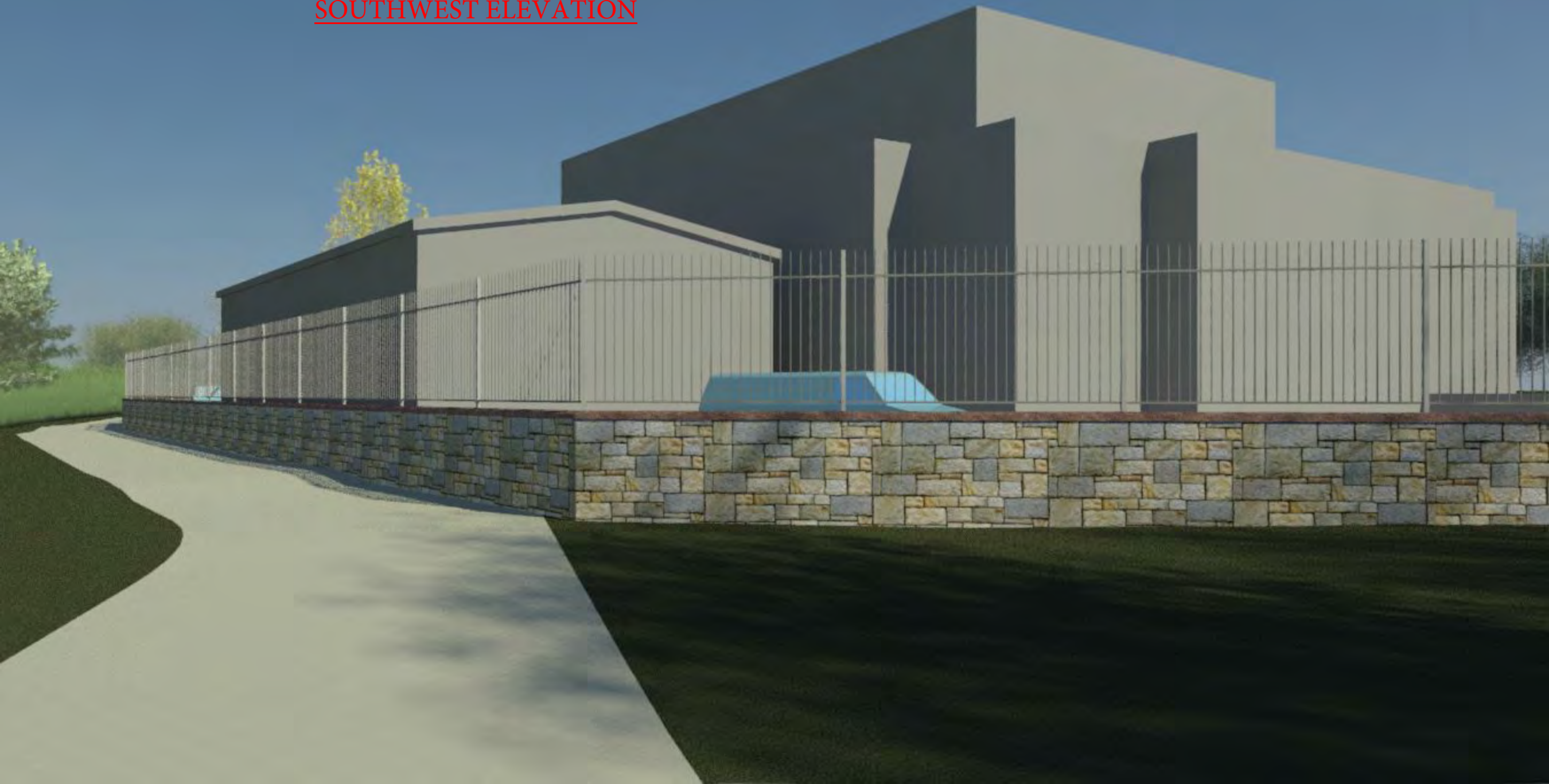
NORTHEAST ELEVATION



NORTHWEST ELEVATION



SOUTHWEST ELEVATION





SOUTHEAST ELEVATION - FROM SIDEWALK



American Granite™

These samples should be viewed as a reference for general stone characteristics only. Variations in color range and texture inherent to natural stone products should be expected.

