



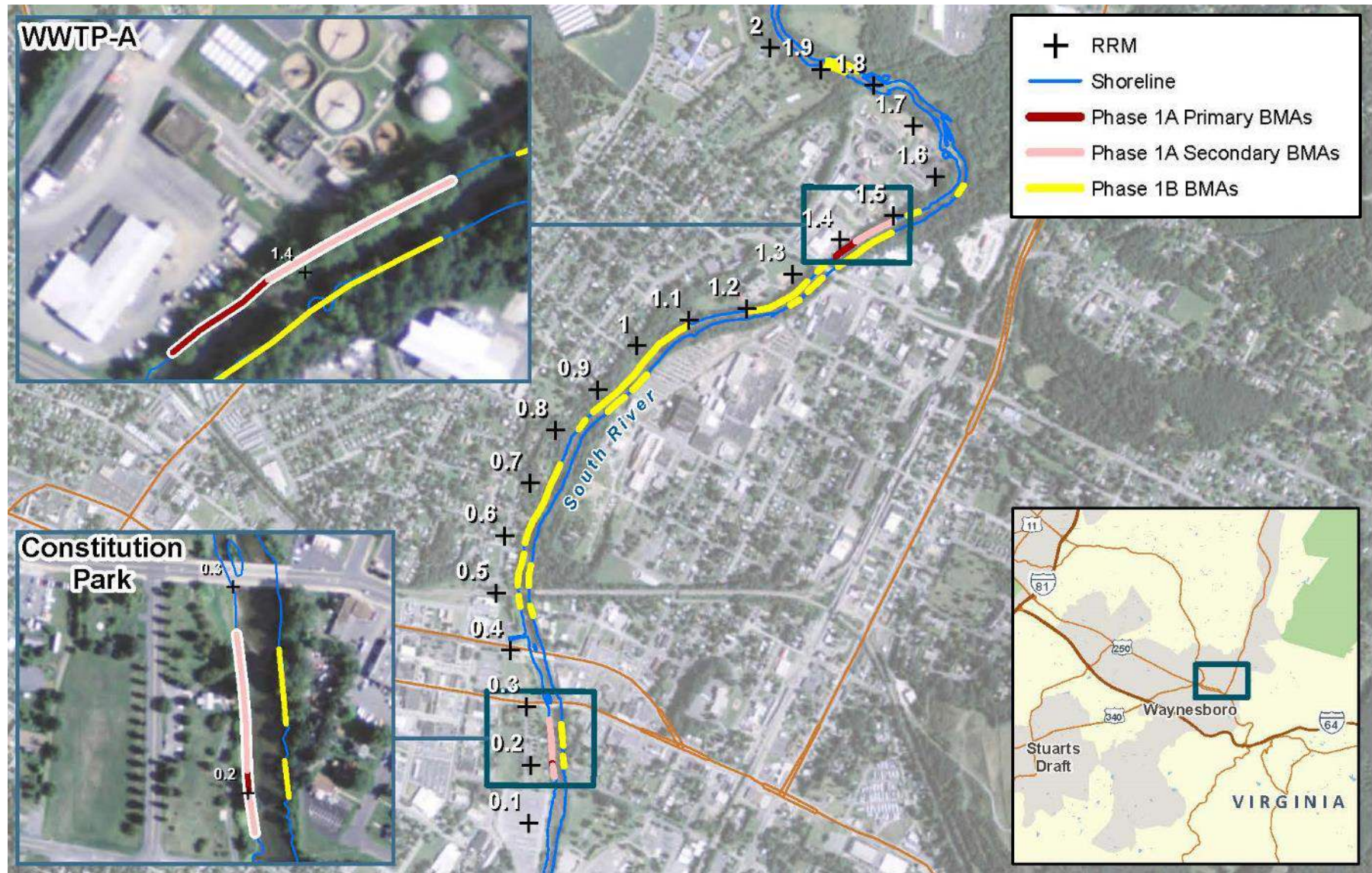
Remedial Design Update South River Phase 1A Banks

Clay Patmont

April 2016



RRM 0 to 2 Bank Management Areas (BMAs)



Multiple BMA Objectives

- Design criteria
 - Reduce mercury loading
 - Maintain / improve habitat
 - Minimize disruption
 - Use proven / effective methods
 - Address stakeholder concerns
- Optimize and balance criteria
- Location-specific considerations
 - Slopes determine design elements
 - Existing habitat quality varies
- Demonstrate effectiveness



Constitution Park BMA Remedy

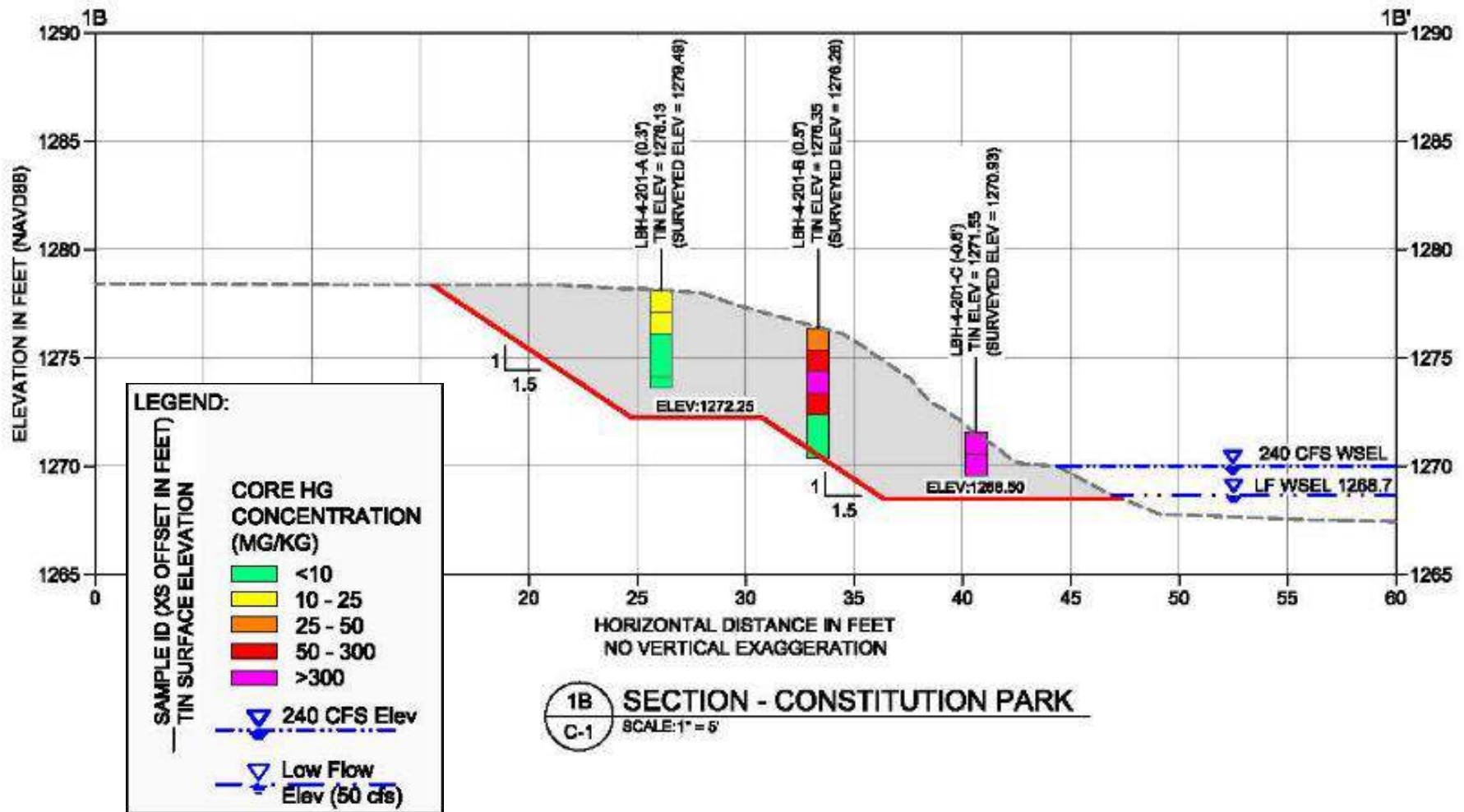
Characteristic	Primary BMA	Secondary BMA
Length	70 ft	440 ft
Bank slopes >60°	0	0
Bank height range	10 – 11 ft	6 – 12 ft
Current THg Loading Estimate	0.9 kg/yr	1.1 kg/yr
Projected THg Loading Reduction	~90%	

- Primary BMA
 - Removal and bank restoration
- Secondary BMA
 - Vegetative stabilization
 - Extended downstream to evaluate potential construction effects on mature trees

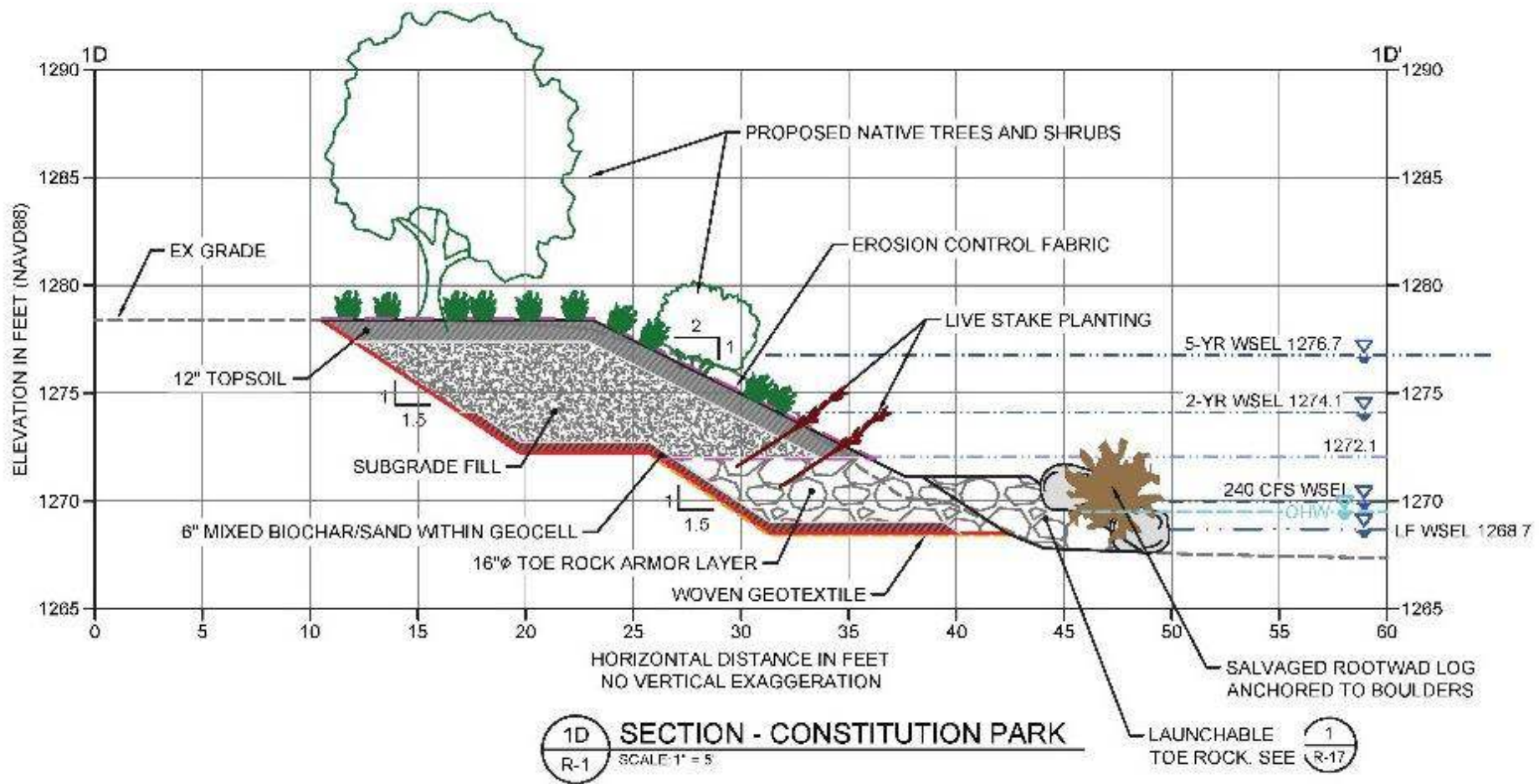


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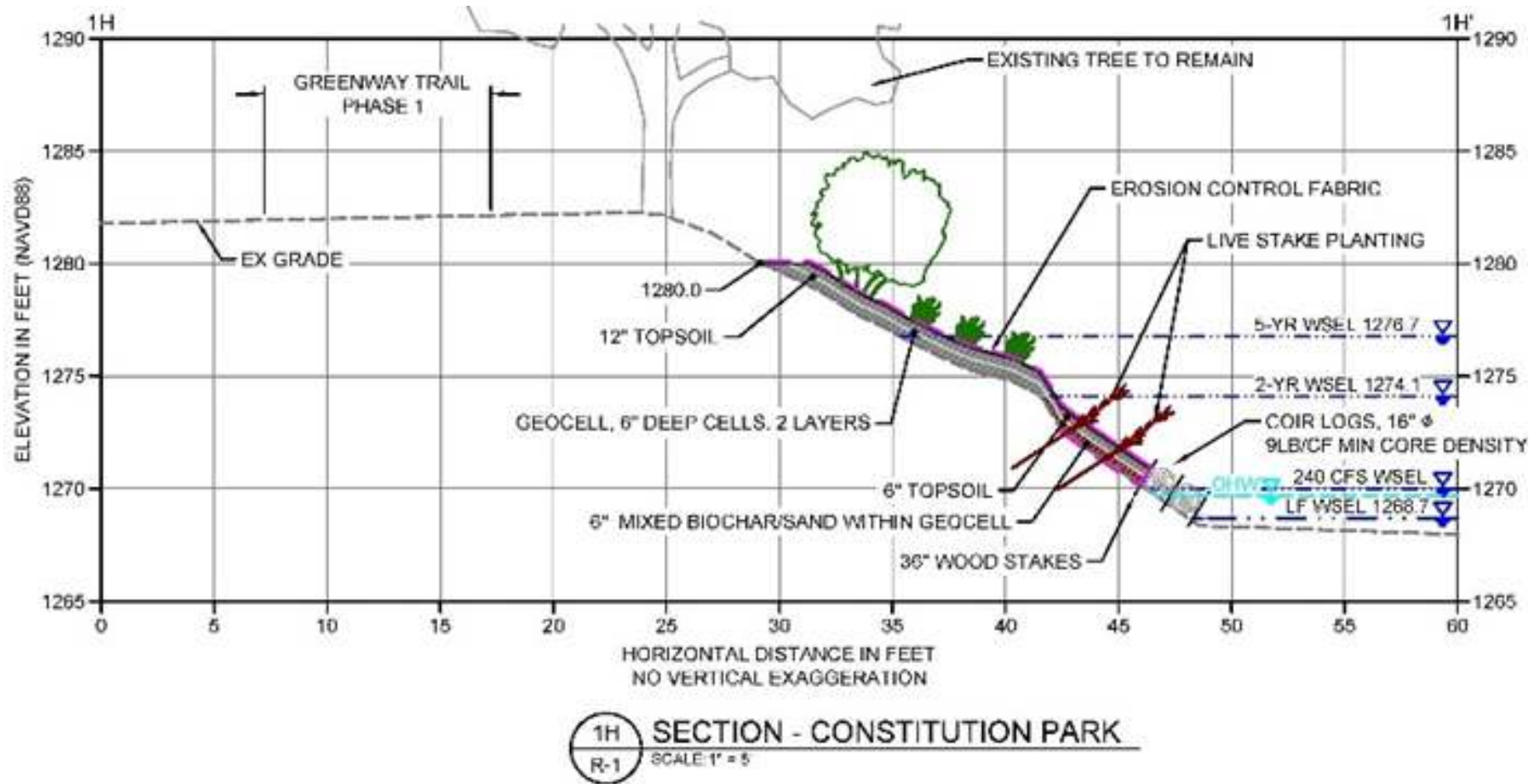
Constitution Park Primary BMA: Typical Removal Prism



Constitution Park Primary BMA: Typical Post-Removal Restoration Section



Constitution Park Secondary BMA: Typical Vegetative Stabilization Section



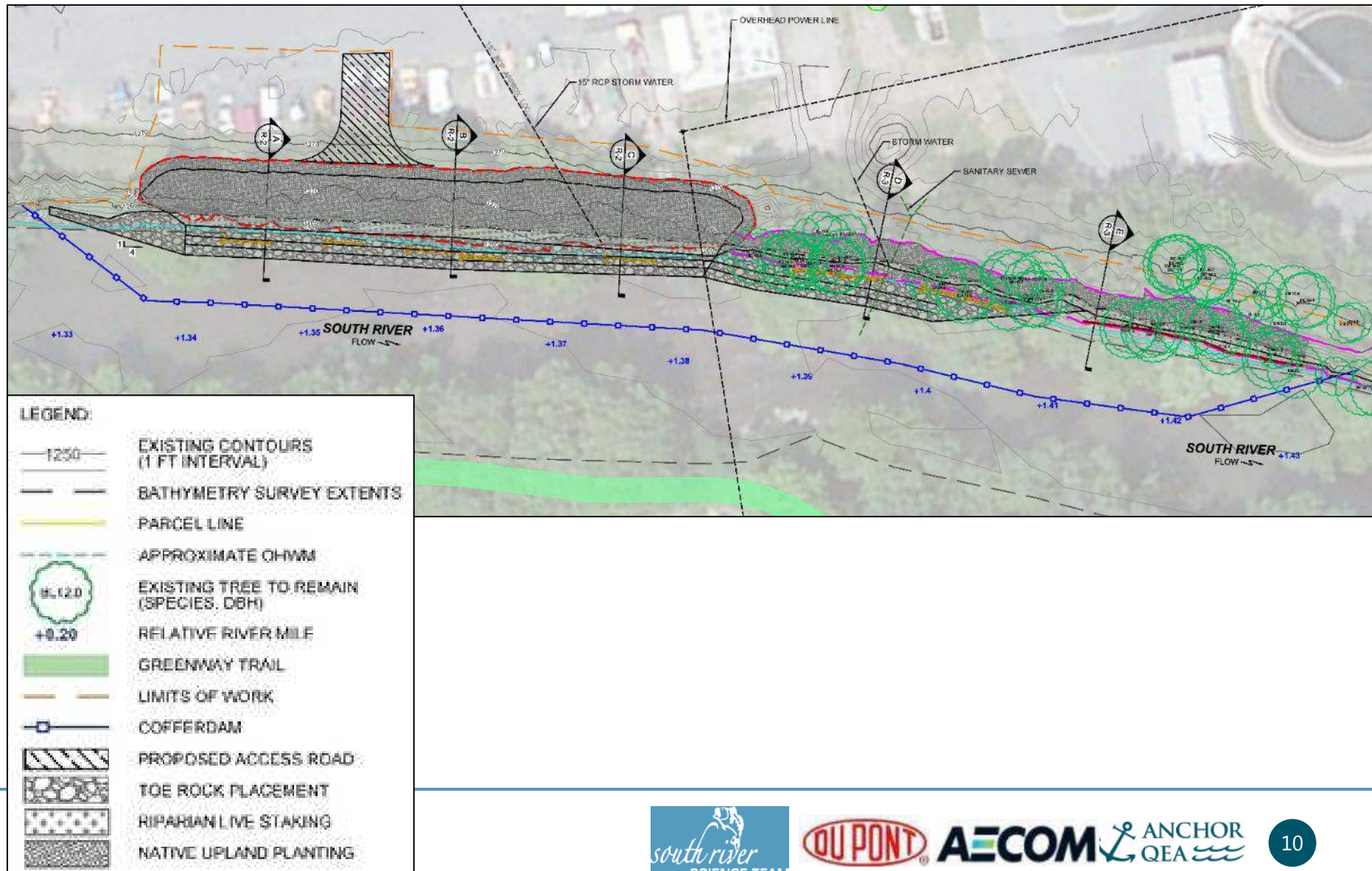
WWTP A BMA Remedy

Characteristic	Primary BMA	Secondary BMA
Length	250 ft	360 ft
Slopes >60°	~75%	~65%
Bank height range	6 – 17 ft	8 – 18 ft
Current THg loading estimate	1.1 kg/yr	0.2 kg/yr
Projected THg loading reduction	~90%	

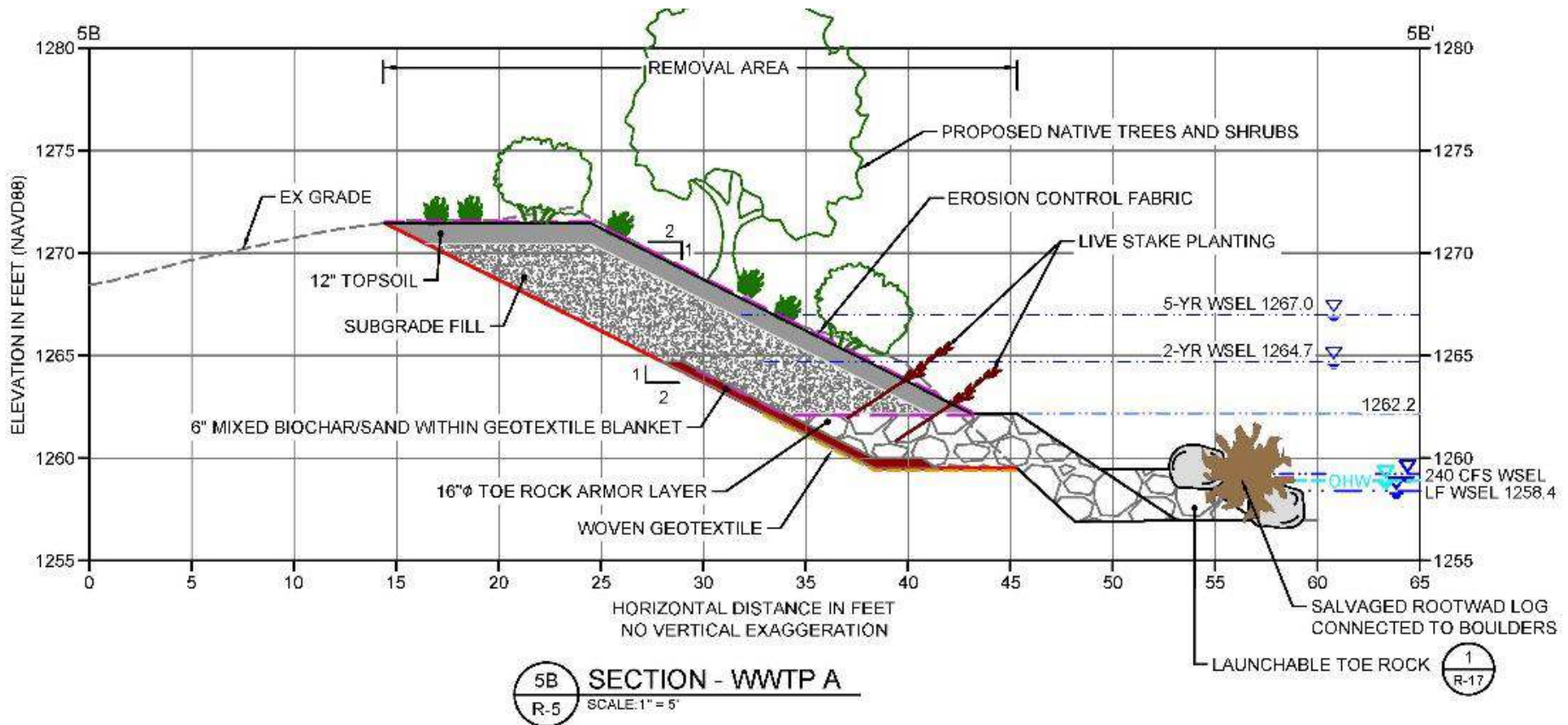
- Primary BMA
 - Removal and restoration
- Secondary BMA
 - Vegetative stabilization
 - Rock toe protection on steep banks
 - Verify constructability and assess construction effects



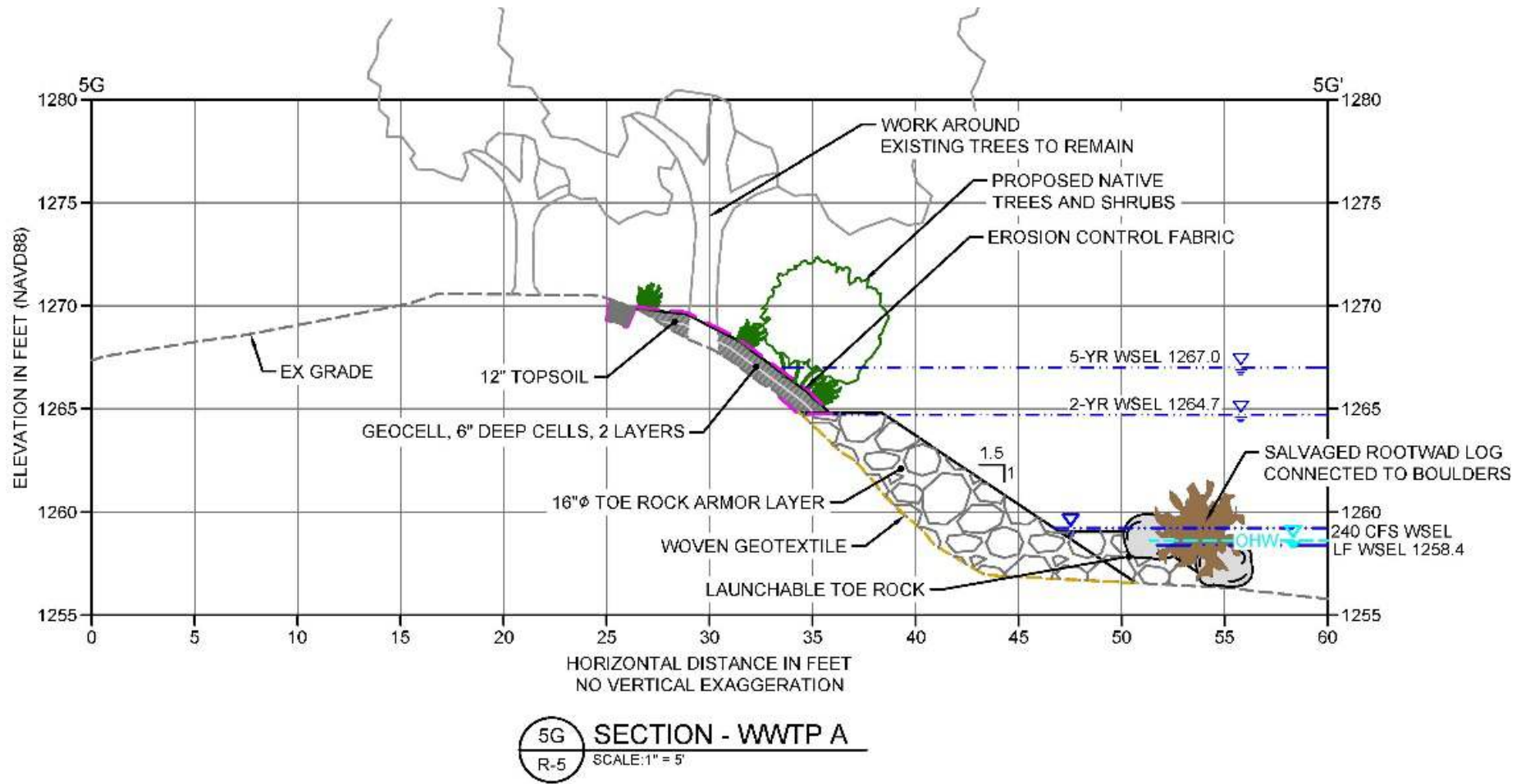
WWTP A BMA Layout



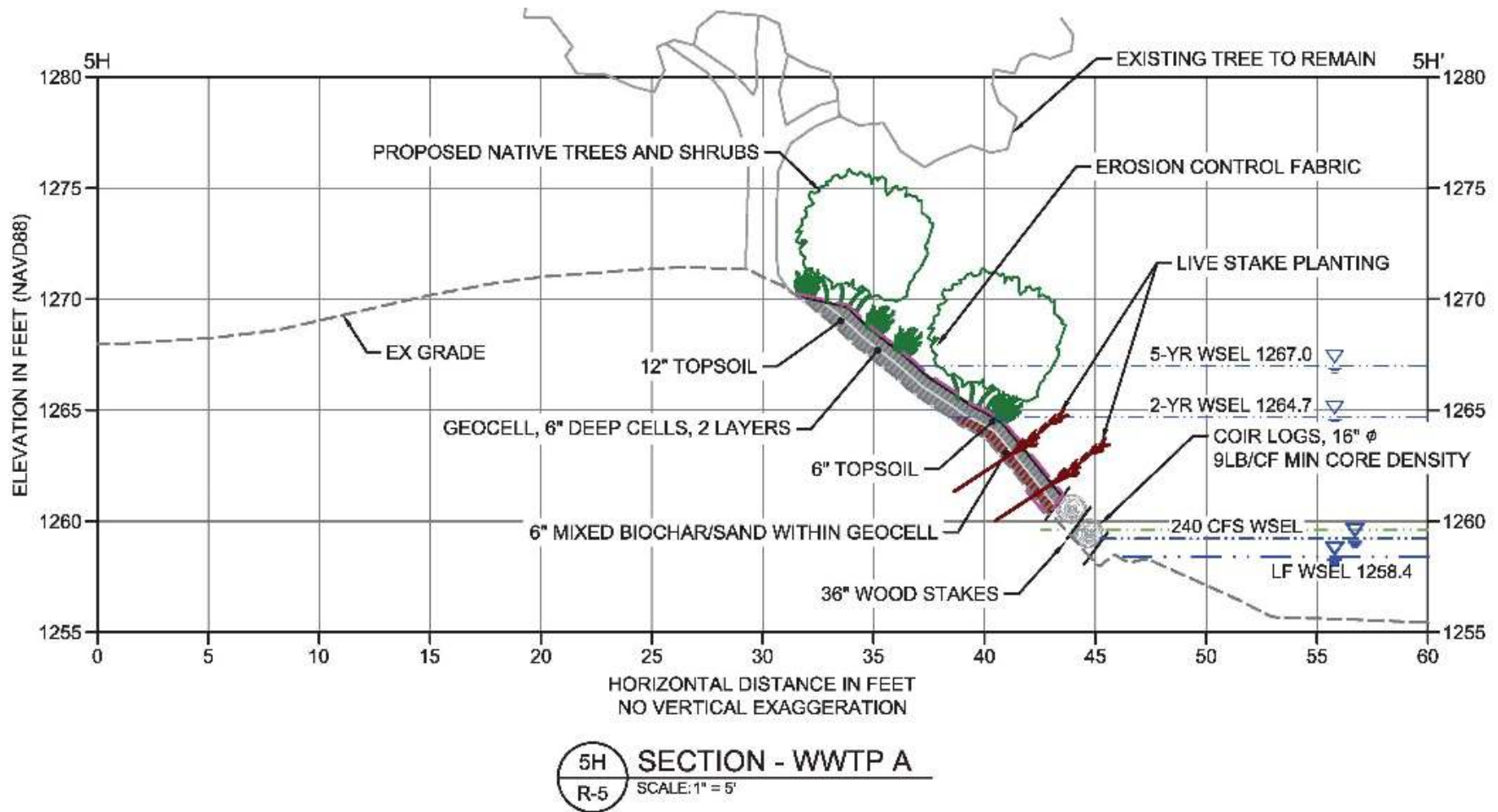
WWTP A Primary BMA Design: Typical Post-Removal Restoration Section



WWTP A Secondary BMA Design: Typical Rock Toe Protection of Banks $>60^\circ$



WWTP A Secondary BMA Design: Typical Vegetative Stabilization of Banks $<60^\circ$



Schedule and Next Steps

- April to May 2016 – Phase 1A permit applications and reviews; resolution of City comments on design
- June 2016 – Phase 1A final design, access agreements, and permits
- July to November 2016 – Phase 1A bidding and construction

