

IVY CREEK PARK TO PEAKS VIEW PARK GREENWAY COST UPDATE

March 12, 2020



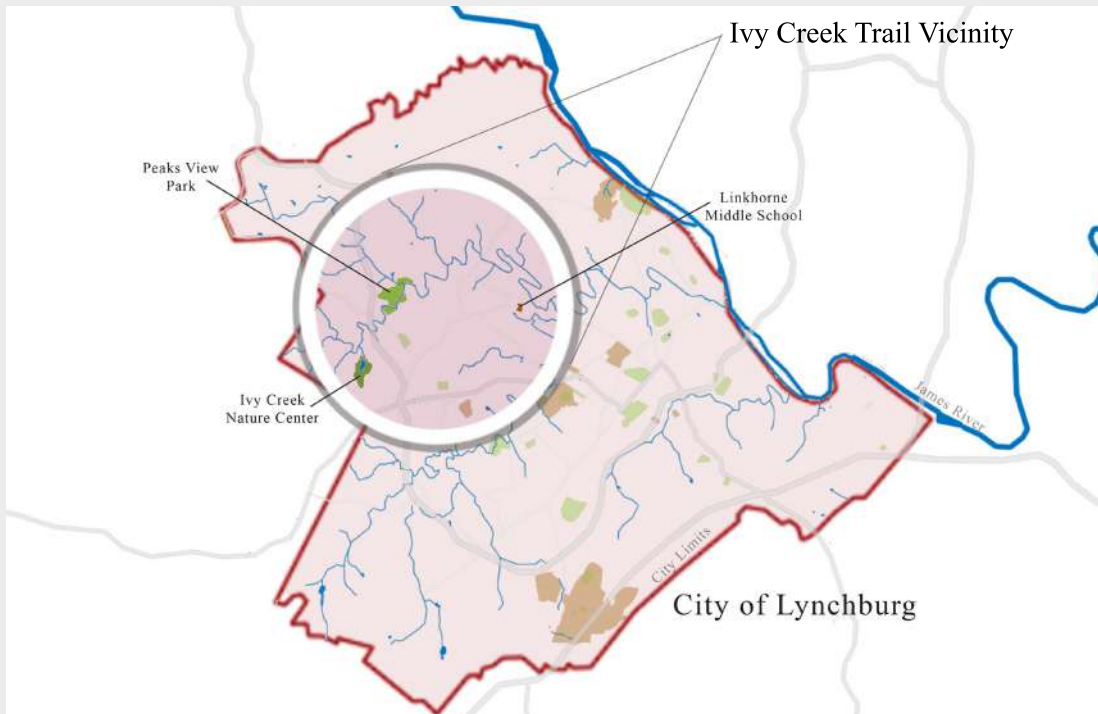
HILL
STUDIO

Clemmons Lake,
Ivy Creek Park,
Lynchburg, VA

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OVERVIEW

In the winter of 2019, the City of Lynchburg Parks and Recreation Department commissioned Hill Studio to envision a masterplan and overall project cost estimate for a trail to connect the popular Ivy Creek Park, located by Clemmons Lake, to Peaks View Park in the northwest corner of the City.

In addition to being a safe route and serving recreational needs, this largely-accessible trail system will provide dramatic and scenic experience along Ivy Creek as well as connect the two parks through a generally forested landscape.

IVY CREEK TRAIL

Linking two of Lynchburg's more popular parks along scenic Ivy Creek, this new 7,800 l.f. trail promises to be a popular attraction, providing visitors views and access to nature through a relatively quiet respite which has remained natural for years. This trail has several other benefits: most of it is along property that already belongs to the City of Lynchburg, VDOT or other public agencies, and most of the route is already at slopes accessible to all ability levels.

A map illustrating the 7,800 foot segment of the Ivy Creek Park to Peaks View Park Trail can be found on page 9.

Beginning at the south end, near Clemmons Lake, the hiker moves north toward the first footbridge, where a generally clear flat meadow opens and progresses for the next 1500'. The creek is to the west of this section, where access to the stream can be arranged for boat or tube launches, fishing or picnics.



The meadow closes near the second footbridge, which orients the hiker to proceed under the Lynchburg Expressway.



North of the Expressway, the trail is generally wooded and on the high bank west of the stream. One old bridge abutment will make a good overlook, about 800' north of the Expressway.



900' north of the overlook, the trail enters a zone thick with blackberries and old boulders, maybe the remnants of the half cloverleaf and Wiggington Road construction high above. These will make a fascinating alternative landscape for travel and will offer off-trail prospect views into the gorge below. The blackberry patch terminates as the trail goes under Wiggington Road.

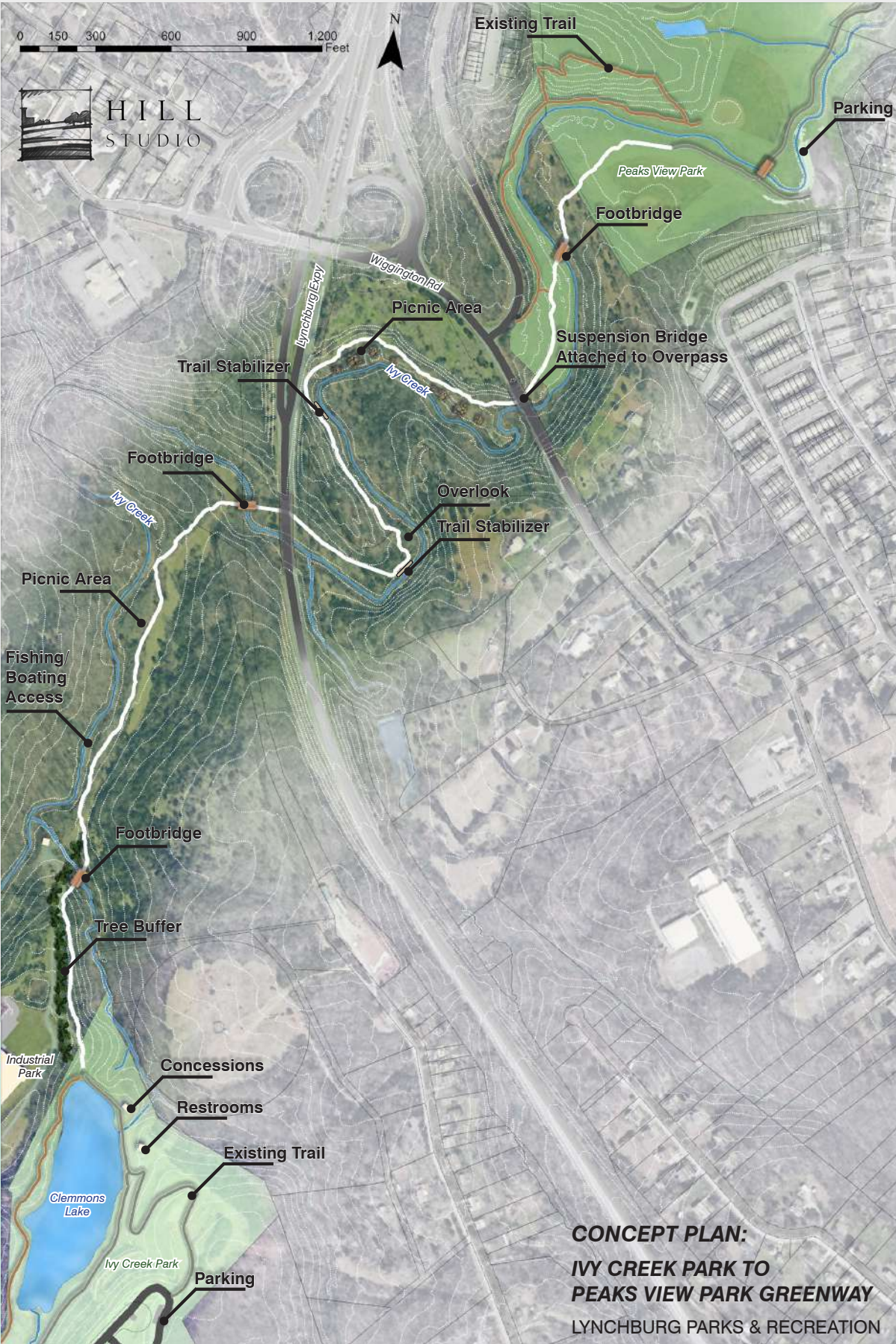


Crossing under Wigginton will require imaginative use of elevated trail structures, to finesse the grade through very large riprap.



North of Wiggington Road, the trail enters Peaks View Park and, meanders down a wooded slope and across a final footbridge, before joining the trails network of Peaksview near the lower parking lot.





CONCEPT PLAN:
IVY CREEK PARK TO
PEAKS VIEW PARK GREENWAY
LYNCHBURG PARKS & RECREATION

IVY CREEK TRAIL PHASING

This section describes some of the details used in creating the cost estimates. Detailed estimates are found in the Appendix Section.

Several alternatives were studied before arriving at the optimum phasing recommendation. The phasing plan is proposed for this sequence:

PHASE I:

1. Design and Build a 5' crushed stone path the entire distance from Ivy Creek Park to Peaks View Park. Pack crushed stone and use bonding agent, so it meets universal access standards.
2. With the First Phase, include 10' bridges to ultimate build-out projection, to minimize long-term environmental and overall cost impact.

PHASE II:

1. When need grows past the 5' trail, use it as a partial base and develop 10' paved multi-use trail through the distance.



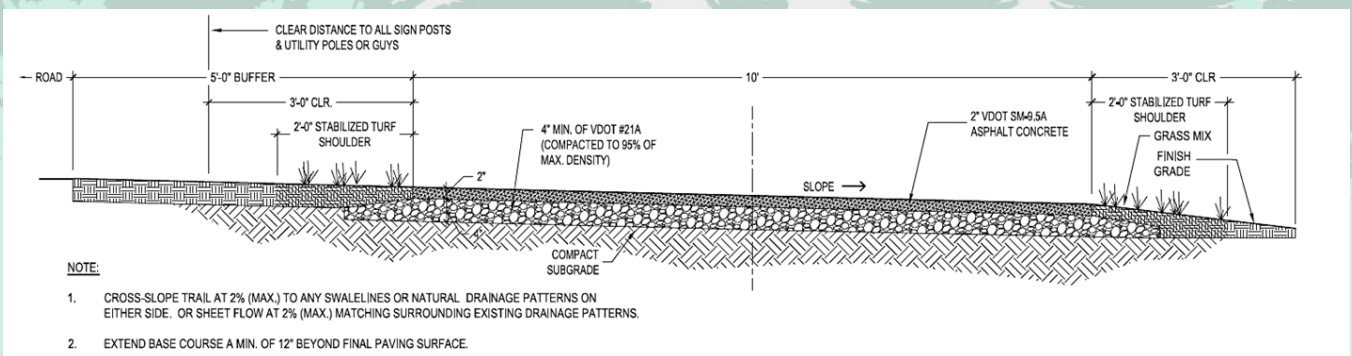
PHASE I - 5' Trail Section

This standard trail section generally matches the example shown, a new trail at High Knob Tower in the George and Jefferson National Forests. The combined project cost (including professional services and construction) for Phase I of the Ivy Creek Greenway is estimated at about \$852,873.90.



PHASE II - 10' Trail Section

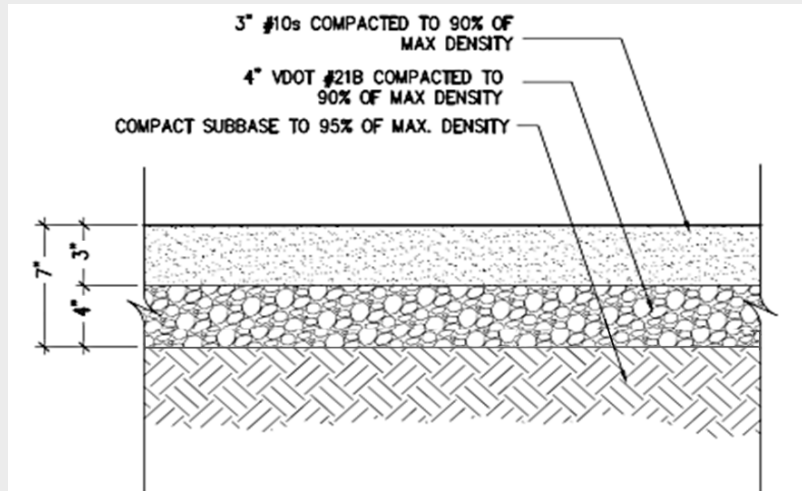
This standard trail section generally matches the 10' wide paved trails in Ivy Creek Park. The combined project cost (including professional services and construction) for Phase II of the Ivy Creek Greenway is estimated at about \$748,375.50.



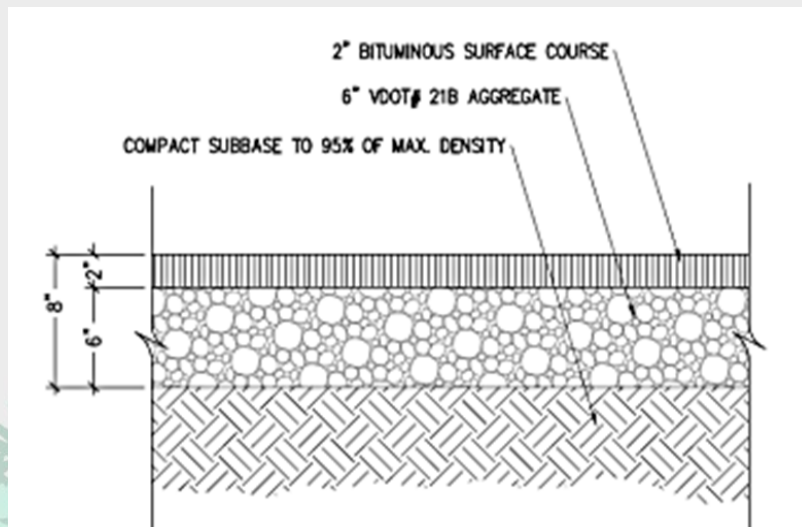
TRAIL PAVING MATERIALS

The first phase of the trail proposes a 5' packed fine gravel trail as shown on the top image. The second phase proposes to match the existing, paved trails in both parks as shown in the bottom image.

PHASE I:

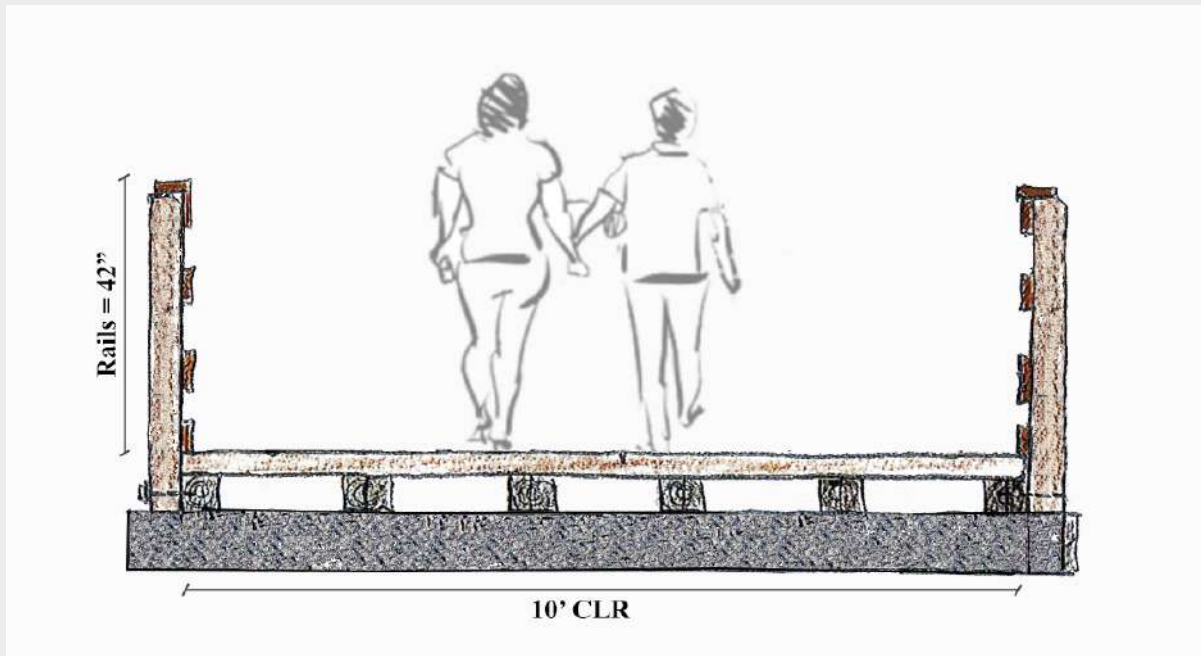


PHASE II:



BRIDGE MATERIAL

This standard bridge deck material from is 10' decking. The material used is wood, with railings 42" in height. This detail is similar to other "rock solid" bridge decking solutions already being used in Lynchburg.



TRAIL DETAILS

The trail provides an opportunity for more rustic, natural details, such as packed pea gravel trail (left) and low split tree bridge (right).



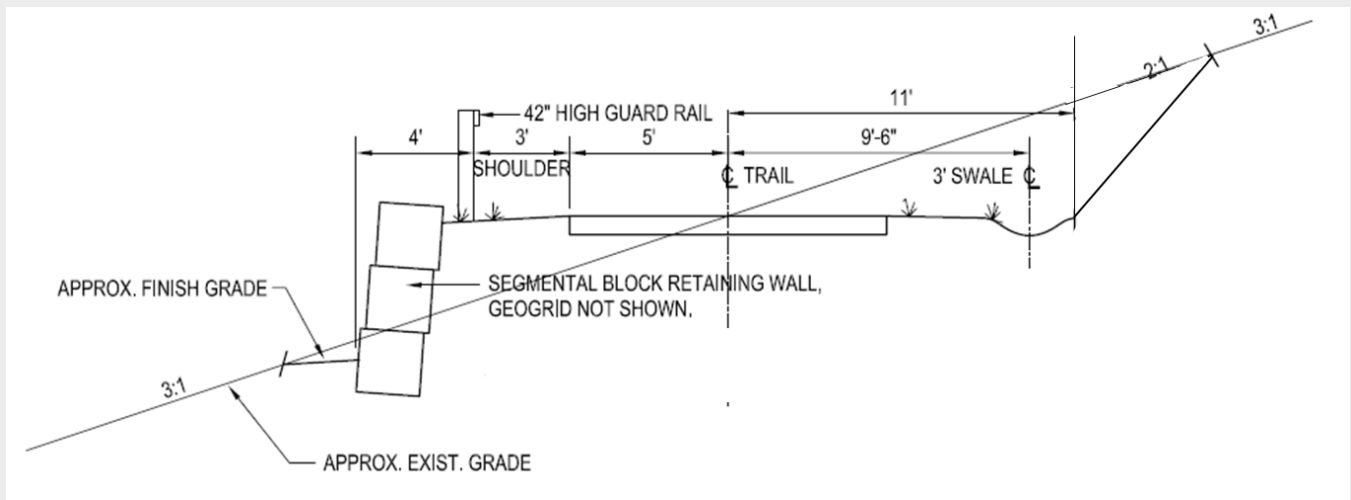
SIGNAGE AND AMENITIES

Signage and amenities are included in the estimate, to match the respectable quality of existing similar amenities along Lynchburg's existing greenways.

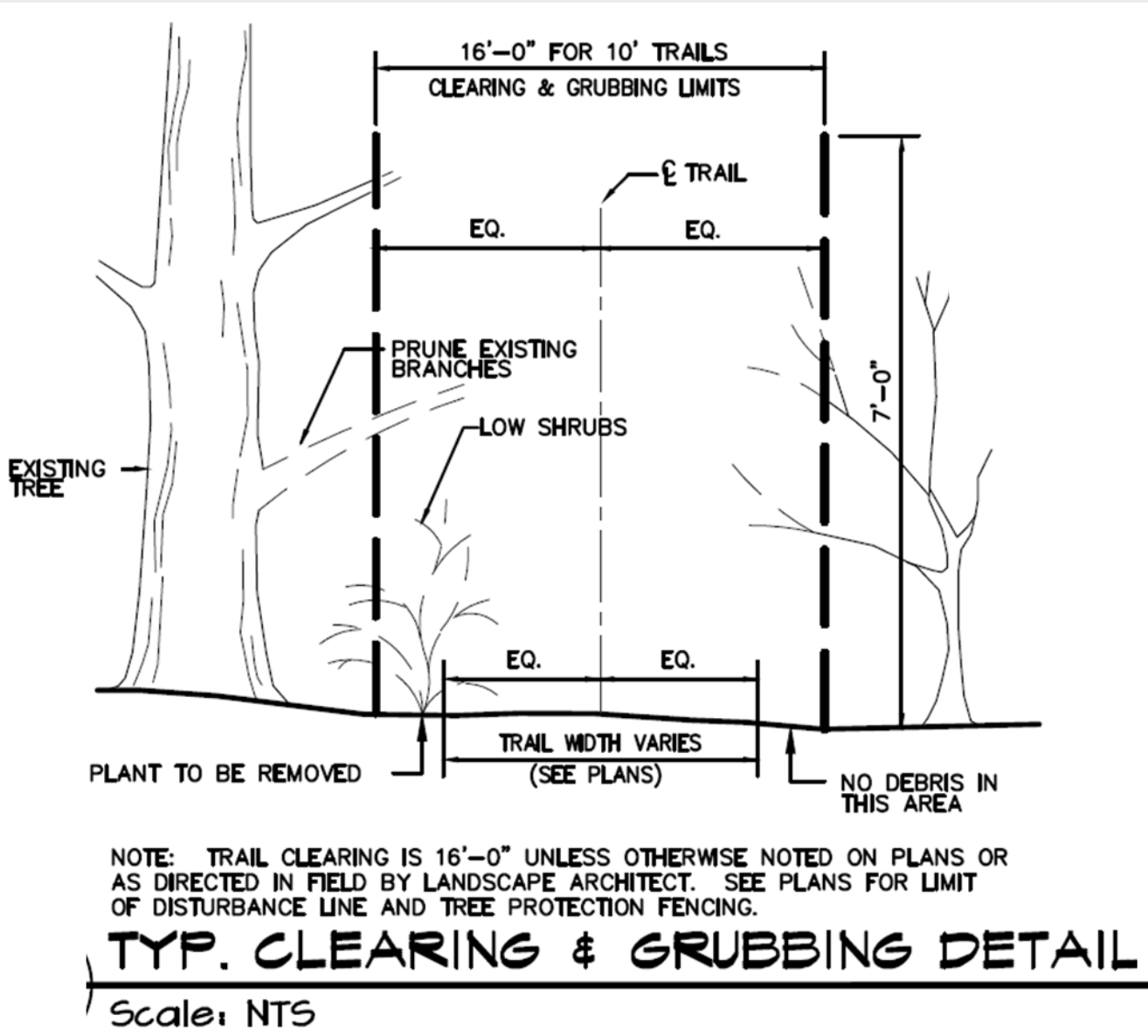


STABILIZED TRAIL SECTION

This stabilized trail section generally matches the width and materials of the flat section. These sections will feature the trail elevated on a wall of 1 c.y. precast concrete units, usually on the low side. They also will feature a guardrail. The Ivy Creek Park to Peaksview Park trail is priced to use this detail in areas where there is acute erosion of the bank where a 10' trail is not possible. They occur in steep bends on the outside of the creek.



CLEARING



PHASE I COST ESTIMATE

Lynchburg, Virginia - Ivy Creek Park to Peaks View Park Greenway					
Update: March 10, 2020			Hill Studio Comm.No. 1940		
PHASE 1 - 5' PACKED GRAVEL FINES TRAIL					
ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	SUBTOTAL	
CONTROL OF WORK					
Construction Stakes, lines, and grades, traffic control	1	ls	\$ 3,000.00	\$ 3,000.00	
MOBILIZATION					
Mobilization	1	ls	\$ 15,000.00	\$ 15,000.00	
DEMOLITION					
Minor demolition, misc. poles, concrete demolition, hauling & disposal	1	ls	\$ 8,000.00	\$ 8,000.00	
5' PACKED GRAVEL TRAIL					
Low Slope Trail in place - Fine Gravel Surface	7797	lf	\$ 30.73	\$ 239,635.00	
CULVERT - CREEK CROSSINGS					
36" Culvert	20	lf	\$ 750.00	\$ 15,000.00	
Rails on each side	40	lf	\$ 75.00	\$ 3,000.00	
BRIDGE - CREEK CROSSINGS					
Footbridges (2 @ 75 lf, 10' clr.)	1500	sf	\$ 175.00	\$ 262,500.00	
Elevated Trail at Wiggington	60	lf	\$ 875.00	\$ 52,500.00	
STABILIZED TRAIL					
Redirock Block Wall	900	ff	\$100	\$ 90,000.00	
Guardrails	100	lf	\$70	\$ 7,000.00	
SITE IMPROVEMENTS					
Culvert Crossings (18" x 20' PVC)	9	ea	\$ 2,500.00	\$ 22,500.00	
SIGNAGE/BOLLARDS					
Allowance	1	allow	\$ 20,000.00	\$ 20,000.00	
PLANTING/LANDSCAPING					
Allowance	1	allow	\$ 10,000.00	\$ 10,000.00	
				Total Construction	\$ 748,135.00
Add for Professional Services (Survey, Design, CA)	\$ 748,135.00	%	0.09	\$	67,332.15
Add for Professional Services (Testing , Inspection if VDOT)	\$ 748,135.00	%	0.05	\$	37,406.75
Total Design and Construction				\$	852,873.90

PHASE II COST ESTIMATE

Lynchburg, Virginia - Ivy Creek Park to Peaks View Park Greenway					
Update: March 10, 2020			Hill Studio Comm.No. 1940		
PHASE 2 - 10' PAVED TRAIL OVER 5' PACKED GRAVEL FINES TRAIL					(Assumes 3 years inflation)
ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	SUBTOTAL	
CONTROL OF WORK					
Construction Stakes, lines, and grades, traffic control	1	ls	\$ 3,200.00	\$ 3,200.00	
MOBILIZATION					
Mobilization	1	ls	\$ 16,000.00	\$ 16,000.00	
DEMOLITION					
Minor demolition, misc. poles, concrete demolition, hauling & disposal	1	ls	\$ 8,500.00	\$ 8,500.00	
10' ASPHALT TRAIL					
Low Slope Trail in place - Asphalt Surface	7797	lf	\$ 69.87	\$ 544,769.76	
BRIDGE EXPANSION					
Elevated Trail at Wiggington	60	lf	\$ 900.00	\$ 54,000.00	
SIGNAGE/BOLLARDS					
Allowance	1	allow	\$ 20,000.00	\$ 20,000.00	
PLANTING/LANDSCAPING					
Allowance	1	allow	\$ 10,000.00	\$ 10,000.00	
				Total Construction	\$ 656,469.76
Add for Professional Services (Survey, Design, CA)	\$ 656,469.76	%	0.09	\$ 59,082.28	
Add for Professional Services (Testing , Inspection if VDOT)	\$ 656,469.76	%	0.05	\$ 32,823.49	
Total Design and Construction				\$	748,375.53

FULL BUILDOUT COST ESTIMATE

Lynchburg, Virginia - Ivy Creek Park to Peaks View Park Greenway

Update: March 10, 2020

Hill Studio Comm.No. 1940

ALTERNATE - 10' PAVED TRAIL - all one phase

ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	SUBTOTAL
CONTROL OF WORK				
Construction Stakes, lines, and grades, traffic control	1	ls	\$ 5,000.00	\$ 5,000.00
MOBILIZATION				
Mobilization	1	ls	\$ 18,000.00	\$ 18,000.00
DEMOLITION				
Minor demolition, misc. poles, concrete demolition, hauling & disposal	1	ls	\$ 10,000.00	\$ 10,000.00
10' ASPHALT TRAIL				
Low Slope Trail in place - Asphalt Surface	7797	lf	\$ 92.25	\$ 719,239.40
CULVERT - CREEK CROSSINGS				
36" Culvert	20	lf	\$ 750.00	\$ 15,000.00
Rails on each side	40	lf	\$ 75.00	\$ 3,000.00
BRIDGE - CREEK CROSSINGS				
Footbridges (2 @ 75' x 10' clr)	1500	sf	\$ 175.00	\$ 262,500.00
Elevated Trail at Wiggington	120	lf	\$ 900.00	\$ 108,000.00
RAISED TRAIL				
Redirock Block Wall	900	ff	\$ 100	\$ 90,000.00
Guardrails	100	lf	\$ 70	\$ 7,000.00
SITE IMPROVEMENTS				
Culvert Crossings (18" x 20' PVC)	9	ea	\$ 2,500.00	\$ 22,500.00
SIGNAGE/BOLLARDS				
Allowance	1	allow	\$ 30,000.00	\$ 30,000.00
PLANTING/LANDSCAPING				
Allowance	1	allow	\$ 20,000.00	\$ 20,000.00
			Total Construction	\$ 1,310,239.40

Add for Professional Services (Survey, Design, CA)	\$	1,310,239.40	%	0.09	\$	117,921.55
Add for Professional Services (Testing , Inspection if VDOT)	\$	1,310,239.40	%	0.05	\$	65,511.97
Total Design and Construction					\$	1,493,672.92

COST ESTIMATE NOTES

SYSTEMS COSTS

5' Packed Gravel Trail					
	SURFACE PER LINEAR FOOT	QTY	UNIT	UNIT PRICE	COST/LINEAR FT
Partial Clearing and Trimming		0.5	ac	\$ 5,000.00	\$ 0.32
Temp. silt fence		3000	lf	\$ 4.00	\$ 1.54
Excavation & grading		1200	cy	\$ 10.00	\$ 1.54
Packed Earth		4300	sy	\$ 10.00	\$ 5.51
4" Compacted gravel base - 21B		4300	sy	\$ 20.00	\$ 11.03
2" Gravel Fines - Surface		4300	sy	\$ 10.00	\$ 5.51
5' Trailside Temporary & permanent seeding, mulching, fertilizer, lime		8600	sy	\$ 2.25	\$ 2.48
contingency items		0.1	%	\$ 27.94	\$ 2.79
Cost per l.f.					\$ 30.73

10' Asphalt Trail over 5' gravel Trail					
		(Year 2023. 3 years= x1.06)			
	SURFACE PER LINEAR FOOT	QTY	UNIT	UNIT PRICE	COST/LINEAR FT
Partial Clearing and Trimming		0.5	ac	\$ 5,000.00	\$ 0.32
Temp. silt fence		3000	lf	\$ 4.00	\$ 1.63
Excavation & grading		1200	cy	\$ 10.00	\$ 1.63
Packed Earth		4300	sy	\$ 10.00	\$ 5.85
4" Compacted gravel base - 21B		4300	sy	\$ 20.00	\$ 11.69
2" Gravel Fines - Surface		4300	sy	\$ 10.00	\$ 5.85
2" Asphalt SM-9.5A Surface		77970	sf	\$ 3.20	\$ 33.92
5' Trailside Temporary & permanent seeding, mulching, fertilizer, lime		8600	sy	\$ 2.25	\$ 2.63
contingency items		0.1	%	\$ 63.52	\$ 6.35
Cost per l.f.					\$ 69.87

10' Asphalt Trail					
	SURFACE PER LINEAR FOOT	QTY	UNIT	UNIT PRICE	COST/LINEAR FT
Partial Clearing and Trimming		1	ac	\$ 5,000.00	\$ 0.64
Temp. silt fence		3000	lf	\$ 4.00	\$ 1.54
Excavation & grading		2400	cy	\$ 10.00	\$ 3.08
Packed Earth		8600	sy	\$ 10.00	\$ 11.03
4" Compacted gravel base - 21B		8600	sy	\$ 20.00	\$ 22.06
2" Gravel Fines - Surface		8600	sy	\$ 10.00	\$ 11.03
2" Asphalt SM-9.5A Surface		77970	sf	\$ 3.20	\$ 32.00
5' Trailside Temporary & permanent seeding, mulching, fertilizer, lime		8600	sy	\$ 2.25	\$ 2.48
contingency items		0.1	%	\$ 83.86	\$ 8.39
Cost per l.f.					\$ 92.25

Comparing Phases vs. One Phase	
PHASE I	\$ 852,873.90
PHASE II	\$ 748,375.53
	\$ 1,601,249.43
ALL ONE PHASE	\$ 1,493,672.92
PRICE DIFFERENCE	\$ 107,576.51