



**JANESVILLE Velo Club**

**PALMER PARK MOUNTAIN BIKE TRAILS AND SKILLS AREA**

In Partnership with City of Janesville

Funding for design provided by

Janesville Velo Club

Michael's Cycles

Rock Trail Coalition

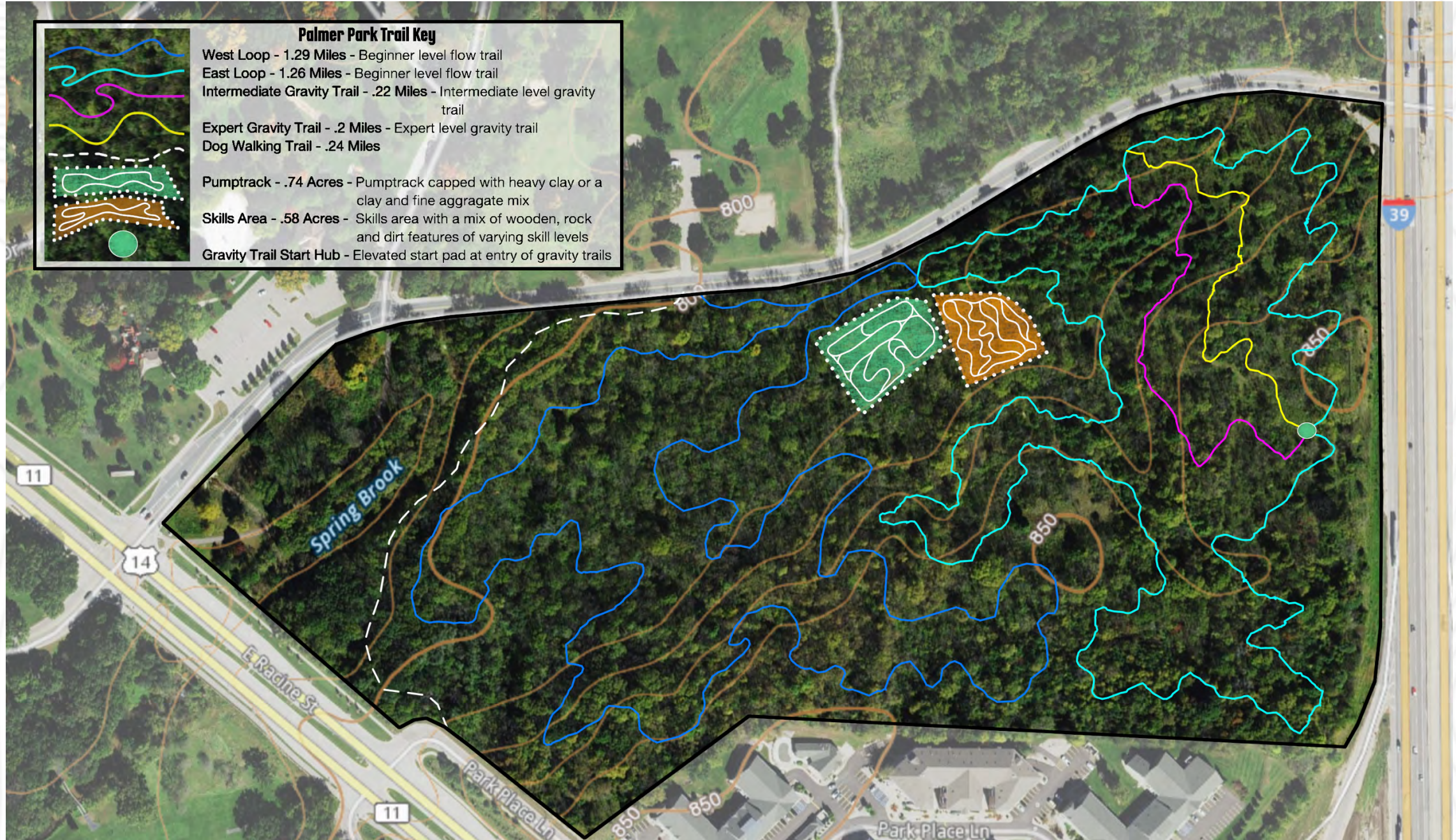
City of Janesville Parks and Recreation





# Palmer Park Trail System Plan

## Proposed Trail Design





# Palmer Park Trail System Plan

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Trail plan created for the Janesville Velo Club.  
All photos contained in this document are examples  
Traction Trailworx's past work or photos from the proposed  
Palmer Park trail site





# Palmer Park Trail System Plan

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## Site Overview

The Janesville Velo Club is currently in the planning stages of designing, fundraising and developing a new multi-use trail system on a piece of land within Palmer Park. The 43 acre site of the proposed trail system is located on the east side of Janesville, framed in by Palmer Drive, I-39, and HWY 14. The parcel of land is a part of the larger 164 acre Palmer Park, but unlike most of the rest of Palmer Park, this area doesn't have any preexisting infrastructure other than some small foot paths, most of which are starting to become reclaimed by the surrounding invasive undergrowth.

The proposed parcels close proximity to the businesses and amenities of downtown Janesville makes it an ideal location to draw outdoor enthusiasts, and families that reside in town. Being situated close to Interstate 39 and Hwy 14 also makes this site simple for tourists from other areas to access with limited navigation. Across palmer drive lies a popular dog walking park that many residents of the apartment complex on the south side of the proposed site use to walk their pets. This has been factored into the design by leaving room on the west side of the property for a stand-alone dog walking connector trail that would keep dog walking traffic separated from mountain biking and hiking traffic as they make their way to the dog walking area on the north side of palmer drive.





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## Implementation

All of the leg work has now been completed for the proposed Pewabic Hill Trail System. Traction Trailworx spent 3 days on site flagging and gps tracking all of the proposed trails on the provided map. What's outlined on that map is accurate to within 15ft and every trail had a corresponding flag line hung in the woods for a chosen trail construction contractor to follow while creating the final product. The next steps are to secure funding, assess potential trail construction contractors and they're upcoming constructions timelines, contract a trail construction contractor and begin construction. If funding is secured over the next couple of months, it would be feasible to begin construction during the 2021 season. In addition, a phased approach could be used to complete the trail construction if fundraising for the total amount isn't feasible all at once. The estimates for different segments of trails could be lumped together to create new fundraising targets and the system could be constructed over a couple years instead of all at once. The loop structure of this design allows for a phased construction plan to be feasible, as loops could be opened up individually and still work seamlessly as long as construction began with the Connection to the parking lot and worked outward. Janesville Velo Club may also temporarily build some small loops and optional features for kids in families in the proposed skills area and pumptrack zone while waiting to fund a professional build. Normally southern Wisconsin's trail building season runs from April through November. This should be factored in to any construction plans moving forward.





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**West Loop – 1.29 mile** Beginner level loop with occasional intermediate alternate lines. This is the longest loop in the system and designed to be linked together with the east loop to create a much larger route for those individuals looking to rack up mileage. The west loop begins on a flat plane slowly twisting through buckthorn undergrowth and large hardwood canopies prior to linking in to the central ridgeline and beginning to climb up to the top plateau. Once on top, the trail undulates to its highest point through more thick invasive undergrowth prior to picking up speed and traversing down the slope to the west side of the property. Prior to heading back to the trailhead area, the loop shoots to the far west side of the property catching a glimpse of the spring brook prior to making its way back to the origination point. This loop was designed to be navigated in a clockwise direction with a small bit of trail towards the end being dual direction, to allow users to get to and from the parking lot connector.

**East Loop – 1.26 mile** Beginner level loop with intermediate alternate lines. This loop will likely draw the most traffic being the longest in length and designed in a manner that allows riders of all ability levels to enjoy their experience. Both gravity trails also branch off of the east loop and use a portion of the loop as their return climb back to the gravity start hub. Users will navigate through mellow, undulating terrain through a thick grove of pine trees prior to gradually climbing 40 vertical feet up to the top plateau where the undergrowth gets very thick, and the trail makes use of the natural buffer with frequent directional changes. The loop then opens back up as users navigate down a flowy ridgeline descent prior to funneling out at the trailhead origination point. This loop is intended to be navigated in a clockwise direction.

**Intermediate Gravity Trail – .22 mile** Intermediate level gravity descending trail with intermediate and expert level alternate lines and features. This trail starts at the gravity trail start hub and quickly picks up speed by traversing down a mellow hillside heading north towards Palmer Drive and consistently dropping elevation from top to bottom. Being designed for the adrenaline seekers, this trail will feature high speeds, table top jumps ranging from 10-15' in length, big berm turns, rock gardens and a couple small drops that can be rolled over. The end of this trail incorporates a chicane turn to slow traffic down prior to feeding back out onto the east loop where users can climb back up to the gravity hub and repeat if they choose.

**Expert Gravity Trail - .2 mile** Expert level gravity descending trail with Expert features. This trail will give the expert level thrill seekers something to push their skills and find some adrenaline along the way. Packed with tabletop jumps between 15-25' long, big banked berms and optional rock and wooden features from top to bottom, this trail will make great use of one of the elevation drops heading down to Palmer Drive. This trail will start with a drop or rock roll feature intended to deter riders that don't have the skill required to ride the rest of the trail successfully. The end of the trail will incorporate a chicane to slow riders down prior to filtering them back into the east loop where they can climb back to the gravity trail start hub.

**Skills Area- .58 acres** – The skills area will be composed of a number of optional directional lines that offer riders of varying skill levels varying types of features to help improve technical bike handling skills. These features will incorporate bridges, rock gardens, skinny milled logs, rock rolls, berms and small jumps to help all levels of riders with their skills progression. All of the optional skills lines will loop back into a return trail that brings you back to the start of the skills trails, allowing to create small loops with a different challenge every time. It's centralized location near the trailhead and



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confluence of the east and west loops also makes it an ideal location for rides to hang out and work on varying skills while waiting for others in their group to complete a loop or meet them at the trailhead for a group ride.

**Pumptrack – .74 acres** The proposed pumptrack would be designed in a way that all skills level rides, including children could enjoy their experience. The main loop of the track would be built in a mellow manner that would allow anyone from kids to expert level riders to work on generating speed and forward momentum by pumping through a variety of rollers and berms. The lines that link off of the main loop would be created to challenge more advanced riders with varying roller size, camel rollers that could be jumped with the right amount of speed and more challenging steeply banked berm turns. The pumptracks riding surface would be capped with a fine aggregate or heavy clay to ensure longevity and an armored riding surface. The centralized location near the trailhead and confluence of the east and west loops also makes the pumptrack an ideal location for riders to hang out and work on their pumping and cornering skills while waiting for others in their group to complete a loop or meet them at the trailhead for a group ride.





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The undergrowth fluctuates significantly throughout Palmer Park. Portions of the western side of the property have very little invasive species presence, giving the area a more open feel. However, the central and eastern sides of the property have significant, dense invasive undergrowth. This has been factored into the design by leaving the open areas of the property less saturated with trails while increasing the trail mileage per acre in areas where the dense undergrowth makes it more difficult for the end user to see trails that navigate close to one another due to the natural buffer created by the thick vegetation. In addition, any thick undergrowth removed during the new trail construction phase can be used to block off the old foot trails, ensuring that users of the new system don't resurrect the old paths as shortcuts throughout the system. All four quadrants have unique differences in terrain and corresponding vegetation and wildlife. The structure of the proposed system traverses through all of these unique zones in a manner that introduces the end user to different areas in quick succession, capturing and keeping the attention of the trail user. This proposed plan also makes sure that access to both beginner friendly main loops, the pumptrack and skills area are simple to access from the trail system parking lot on the north side of Palmer Drive. This should make the entire system very family friendly and make allow for parents to keep an eye on their kids while they enjoy the new trail system. It's worth noting that both dog walking, biking and hiking traffic will all have to cross Palmer Drive to get the parking area or enter the trail system. Currently there is no cross walk in place at this crossing point. The installation of a sprayed cross walk and signs warning traffic of a crossing zone will be paramount in making sure all users of the trail system are safe when crossing the road.





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## Site Assessment

The Palmer Park site is composed of an elongated, wishbone shaped parcel that lies in a relatively flat portion of palmer park. The highest elevation on the property is located in the southeast corner of the parcel. From the plateaued high point in southeast corner the terrain slopes downward, with the steepest sloped lying in the center of the property. Finally, the terrain flattens out in the northwest corner creating a flat plane prior to dropping once more along the banks of Spring Brook. Spring Brook marks the lowest point on the property, but with its waterline fluctuating frequently throughout the year, a wide berth has been given to all trails traversing near the brook. The steepest hillsides on the property can be found on the central ridgeline, where hillside slopes fluctuate between 15% to 35% grade. These kinds of grades are ideal for mechanized bench cut trail construction, so many of the trails make use of this zone by traversing up and down the small ridge. The top plateau and bottom flat plane have very minimal slope throughout with grades ranging from 0% to 5%. These areas may require the use of elevated trail tread in spots to make sure proper trail tread drainage is achieved. Soil tests were not completed on the property, but from the time spent on site, it was observed that a bulk of the soil seems to be a mix of heavy clay, sand and the occasional deposit of aggregate fines likely deposited by Spring Brook. Clay based soils make for an excellent trail tread surface as long as trail use is avoided up to 24hrs after any major rain event.


Most of the ascending and descending trail grades throughout the property have been designed to hold up to high traffic and regular heavy rain events. The occasional sand pockets on site should be easy to cap with clay based soils borrowed from other clay heavy portions of the property while cutting the proposed trails. Some components of the design like the pump track and gravity trails may require some imported capping material to ensure that their riding surface is properly armored.






# Palmer Park Trail System Plan

## Price Quote

<div><div>TRACTION TRAILWORX</div><div>Estimate</div></div>				
To: Janesville Velo Club		Date: February 8th, 2021 Estimate #: 1 Projects: Palmer Park Trail System		
Project	Project Type	Progress	Estimated Project Duration	
West Loop	Beginner Level with intermediate / expert optional features - 1.29 miles	This project is currently in the planning stages.	1.2 months	
Item	Description	Qty	Price	Line Total
Base Trail - Natural Surface	Cost per linear foot of professionally cut natural surface flow trail (36 inch average trail width) - LF	6811 1/5	\$4.50	30,650.40
Berm Turns	Unit Cost to build berm turns that exceed 2' in height - Per Unit	8	\$300.00	2,400.00
Rock Armoring	Cost per square foot of rock armored drainages and optional rock armored features -SF	120	\$36.00	4,320.00
Bridge / Boardwalk Construction	Cost per linear foot to construct boardwalks and bridges using treated lumber substructures and rough milled black locust decking, -LF	30	\$67.00	2,010.00
West Loop				\$ 39,380.40
Project	Project Type	Progress	Estimated Project Duration	
East Loop	Beginner level with intermediate and advanced features - 1.26 miles	This project is currently in the planning stages.	1.2 months	
Item	Description	Qty	Price	Line Total
Base Trail - Natural Surface	Cost per linear foot of professionally cut natural surface flow trail (36 inch average trail width) - LF	6652 4/5	\$4.50	29,937.60
Berm Turns	Unit cost to build berm turns that exceed 2' in height - LF	11	\$300.00	3,300.00
Rock Armoring	Cost per square foot of rock armored drainages and optional rock armored features - SF	130	\$36.00	4,680.00
Bridge / Boardwalk Construction	Cost per linear foot to construct boardwalks and bridges using treated lumber substructures and rough milled black locust decking, -LF	40	\$67.00	2,680.00
East Loop				\$ 40,597.60
Project	Project Type	Progress	Estimated Project Duration	
Intermediate Gravity Trail	Intermediate Level with intermediate / expert optional features - .22 miles	This project is currently in the planning stages.	3 weeks	
Item	Description	Qty	Price	Line Total
Base Trail - Natural Surface	Cost per linear foot of professionally cut natural surface gravity trail with large berms, tabletop jumps ranging from 10-15' and rollable drops not exceeding 3-4 ft. Rock will also be incorporated in the form of rock gardens or rock armored jump takeoffs. (48 inch average trail width) - LF	1281	\$8.00	10,248.00
Berm Turns	Unit Cost to build berm turns that exceed 2' in height - LF	8	\$300.00	2,400.00
Rock Armoring	Cost per square foot of rock gardens and optional rock armored features - SF	140	\$36.00	5,040.00
Bridge / Boardwalk Construction	Cost per linear foot to construct boardwalks and bridges using treated lumber substructures and rough milled black locust decking, -LF	50	\$67.00	3,350.00
Intermediate Gravity Trail				\$ 21,038.00
Project	Project Type	Progress	Estimated Project Duration	
Expert Gravity Trail	Expert with Expert level features .2	This project is currently in the planning stages.	3w	
Item	Description	Qty	Price	Line Total
Base Trail - Natural Surface	Cost per linear foot of professionally cut natural surface gravity trail with large berms, tabletop jumps ranging from 15-25' and drops not exceeding 6-7'. Rock will also be incorporated in the form of rock gardens or rock armored jump takeoffs. (70 inch average trail width) - LF	1056	\$10.00	10,560.00
Berm Turns	Unit Cost to build berm turns that exceed 3' in height - LF	10	\$400.00	4,000.00
Rock Armoring	Cost per square foot of rock armored drainages and optional rock armored features - SF	145	\$36.00	5,220.00
Bridge / Boardwalk Construction	Cost per linear foot to construct boardwalks and bridges using treated lumber substructures and rough milled black locust decking, -LF	40	\$67.00	2,680.00
Expert Gravity Trail				\$ 22,460.00



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		Expert Gravity Trail	\$	22,460.00
Project	Project Type	Progress	Estimated Project Duration	
Skills Area	Features for all skill levels .58 acres miles	This project is currently in the planning stages.	3w	
Item	Description	Qty	Price	Line Total
Base Trail + Landscaping	Lump sum cost to cut all the trail that links all of the skills features together as well as preform all seeding and landscaping on the ground that was disturbed in the skills area. (70 inch average trail width) - LS	1	\$4,850.00	4,850.00
Berm Turns	Unit Cost to build berm turns that exceed 2' in height - LF	3	\$300.00	900.00
Rock Armoring	Cost per square foot of optional rock armored features - SF	375	\$36.00	13,500.00
Bridge / Boardwalk Construction	Cost per linear foot to construct wooden features using treated lumber substructures and rough milled black locust decking. -LF	240	\$67.00	16,080.00
		Skills Area	\$	35,330.00
Project	Project Type	Progress	Estimated Project Duration	
Pumptrack	Fun for all levels- .47 miles	This project is currently in the planning stages.	3w	
Item	Description	Qty	Price	Line Total
Base Trail - Natural Surface	Cost per linear foot of professionally cut clay / aggregate capped pump track (36 inch average trail width) -LF	800	\$42.00	33,600.00
Landscaping	Cost to grade out disturbed soil around the track, seed all disturbed areas, plant several trees in the disturbed zones and cover all seeding with weed free straw to promote quick growth. - LS	1	\$2,750.00	2,750.00
		Pumptrack	\$	36,350.00
Project	Project Type	Progress	Estimated Project Duration	
Additional Trail System Infrastructure and Signage	NA	This project is currently in the planning stages.	2w	
Item	Description	Qty	Price	Line Total
Elevated Gravity Start Hub with Dry Stack Stone Walls	Unit cost to create an elevated start platform for both gravity trails that allows riders to drop in with speed. LS	1	\$7,600.00	7,601.00
Signage	Unit Cost to Create a trailhead kiosk with peeled, tenoned black locust logs and individual trail marking posts at all intersections. LS	1	\$4,325.00	4,326.00
		Additional Infrastructure	\$	11,927.00
West Loop				\$39,380.40
East Loop				\$40,597.60
Intermediate Gravity Trail				\$21,038.00
Expert Gravity Trail				\$22,460.00
Skills Area				\$35,330.00
Pumptrack				\$36,350.00
Additional Trailhead Infrastructure and Signage				\$11,927.00
Mobilization				\$870.00
Total				\$207,953.00
<div><div></div><div><p>Estimate created by Chad Landowski of Traction Trailworx LLC</p><p>Thank you for your consideration!</p></div></div>				
S4398 Engh Lane, Viroqua, WI 54665 - (920) 988-4420 - <a href="mailto:TractionTrailworx@gmail.com">TractionTrailworx@gmail.com</a>				