

IDE RIDE
QUALITY TRAIL DESIGN

Town of Essex Connectivity Design Report

Prepared for:

Town of Essex

Prepared By:

Knight Ide/Ide Ride

Jul 18, 2025



Overview

This report provides clarifications and cost estimations for flagged alignments and conceptual designs of trails and bridges identified in our connectivity assessment report from October 28, 2024.

These alignments numbered 1-14 are intended to provide more accessible routes, along the existing trail network, between public spaces and neighborhoods and connection to a proposed future greenway along the I-289 right of way. When implemented, the newly designed corridor will greatly improve these trail connections with grades that are sustainable and accessible for a much wider range of users.

Recommendations

The alignments and recommended bridging solutions are designed to provide a gradient well within the specification for Multi Use Natural Surface Path. Exceptions are #6 and a very small section of existing trail north of #4 Alignments 1-10, could be considered for Multi Use Natural Surface Path.

In estimating the cost for construction, we have applied a rate of \$15 per LF for MTB and \$30-\$60 for multi use. In considering multi use construction the same rate would need to be applied to the sections of trail between the numbered segments. In the case of MTB trail construction, we recommend rebuilding selected sections of existing tread, between numbered segments, and applying a rate of \$5-7 a LF to them for budgeting purposes.

The alignments proposed are primarily located on Essex town land. Obtaining permissions from certain landowners can increase the quality of alignments and connectivity in certain areas. #11-12 are previously addressed here but, additionally, the Allen Brook property south of Foster park bears mentioning. With the current alignment following the road through the ballfield area there, user conflicts are likely. By obtaining access to the parcel to the south those conflicts can be greatly diminished. It is our recommendation that this avenue be pursued.

Trail realignments

#	Description	length	Est mtb \$	Est MU \$
1	Includes connection to bridge A. Avoids steep sections. Eliminates 1 bridge. Moves from wetland. Multi use natural surface trail feasible. Blue and white stripe flagging	785	\$11775	\$23550
2	Avoids steep sections. Multi use natural surface trail Multi use natural surface trail feasible. Blue and white stripe flagging	252	\$3780	\$7560
3	Avoids steep sections. Moves from riparian buffer. Multi use natural surface trail feasible. Blue and white stripe flagging	516	\$7740	15408
4	Avoids steep sections. Multi use natural surface trail Blue and white stripe flagging	378	\$5670	\$18600
5	Avoids steep sections. Moves from riparian buffer. Multi use natural surface trail feasible. Blue and white stripe flagging	1245	\$18675	\$37350
6	Navigates steep hillside with switchbacks and stays mostly on town land. Not ideal as turns on steep side slope are problematic and expensive, not feasible for Multi use natural surface trail. Blue and white stripe flagging	1032	\$15480	
7	Avoids steep sections. Preferable option to #6 but requires private landowner permission. Multi use natural surface trail feasible. Will likely require retaining walls for MU Blue and white stripe flagging	1128	\$16920	\$67980
8	Avoids steep sections. Multi use natural surface trail feasible. Will likely require retaining walls for MU Pink and black stripe flagging	2035	\$30525	\$91575

9	Avoids steep sections, hydric soils and multiple water crossing. Multi use natural surface trail feasible. Crosses dam below pond. Armoring and drainage needed.	1373	\$27460	\$54920
10	Connection from Middle school to 289 ROW. Multi use natural surface trail likely. Proposed alignment in assessment report is redundant and likely not worth pursuing. If MTB trail on that alignment is desired, recommending crossing water on 289 ROW	1100		\$33000
11	Connects 289 ROW to neighborhoods and Saxon Hill. 2 possible alignments identified Requires landowner permission. MTB trail. No flagging	550-1075	\$8250- \$16125	
12	Avoids steep sections. Requires landowner permission. MTB trail. No flagging	300-1200	\$4500- \$1350	
13	Avoids steep sections. Connects 289 ROW to neighborhoods and Saxon Hill. MTB trail. Pink and black flagging	892	\$13380	
14	Avoids steep sections. Connects 289 ROW to neighborhoods and Saxon Hill. MTB trail. Pink and black flagging	1450	\$21750	

Bridges & Boardwalk

Bridge	Description	Cost
A	45' bridge Hemlocks close by 12'-15' above water 40'- 45' to stable ground without retaining 2- 5ton excavators crew of 5 Bridge construction 1 week Full Bank armor 2 weeks (might not be necessary)	Labor bridge: \$20,0000 Labor bank armoring: \$40000
B	30' bridge Hemlocks close 4' above water 1- 2 ton excavator 3 person crew Bridge 1 week Bank armor 2 days	Labor: \$15000
C	60' bridge 30' bridge over stream to cribbing piles 10' bridge to bank 1	Labor:\$20000

	<p>20' bridge to bank 2 8' from stream bed to deck 2 4'-5' tall cribbing piles Hemlocks close 1 Excavator 4 person crew Bridge 1.5 weeks Bank armor .5 week not crucial</p>	
D	<p>60' bridge 30' bridge over stream to cribbing piles 10' bridge to bank 1 20' bridge to bank 2 10' from stream bed to deck 2 4'-5' tall cribbing piles Hemlocks close 1 Excavator 4 person crew Bridge 1.5 weeks Bank armor 1 week not crucial</p>	Labor:\$20000
E	<p>60" bridge 30' over stream to cribbing piles 10' bridge to bank 2 20' bridge to bank 1 10' from stream bed to deck 2 4'-5' tall cribbing piles Hemlocks close 1 Excavator 4 person crew Bridge 1.5 weeks</p>	Labor:\$20000
F	<p>60' bridge 30' bridge over stream to cribbing piles 10' bridge to bank 2 20' bridge to bank 1 10' from stream bed to deck 2 4'-5' tall cribbing piles Hemlocks close 1 Excavator 4 person crew Bridge 1.5 weeks</p>	Labor \$20000
G	<p>100' board walk Dimensional lumber 5 20' spans to 3 3' tall cribbing piles 5 person crew 1 week</p>	Labor \$15000
H	<p>30' bridge Dimensional lumber, no hemlocks close access 16' over steam 16' boardwalk 3 days 1 excavator 4 people</p>	Labor \$10000
I	<p>30' bridge Hemlocks close. Easy span from bank to bank. 3 days 1 excavator, 4 people</p>	Labor \$10000





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Town of Essex Connectivity Assessment

Prepared for:

Town of Essex

Prepared By:

Ryan Mcevoy/Ide Ride

Oct 28, 2024

Overview

This is a summary of our observations and assessments following a tour of the site area on October 15. Our visit consisted of walking existing trails in the Mathieu town forest, Essex town land and the Essex town school district land. We were able to plot important connection points via existing trails and identify new trail alignments, existing bridges and other connection improvements.

The first assessment was of the existing bridges in the Mathieu town forest that connect sandhill park over to highway 289. These bridges are primitive and minimalistic. They are likely very cheap to build and serve their purpose of crossing wet areas and streams. Most have steep approach angles that are unavoidable with the short spans and given the nature of the soils in close proximity to the drainage. To eliminate most of these steep approaches, and improve sustainability of the trail and structure, bridges that span longer distances to stable soil would be needed. These bridges require extensive engineering, earth moving and bank armoring. The costs associated with this may be cost prohibitive. Accepting the existing approach grades and armoring them and adding steps to these steep slopes is an alternative.

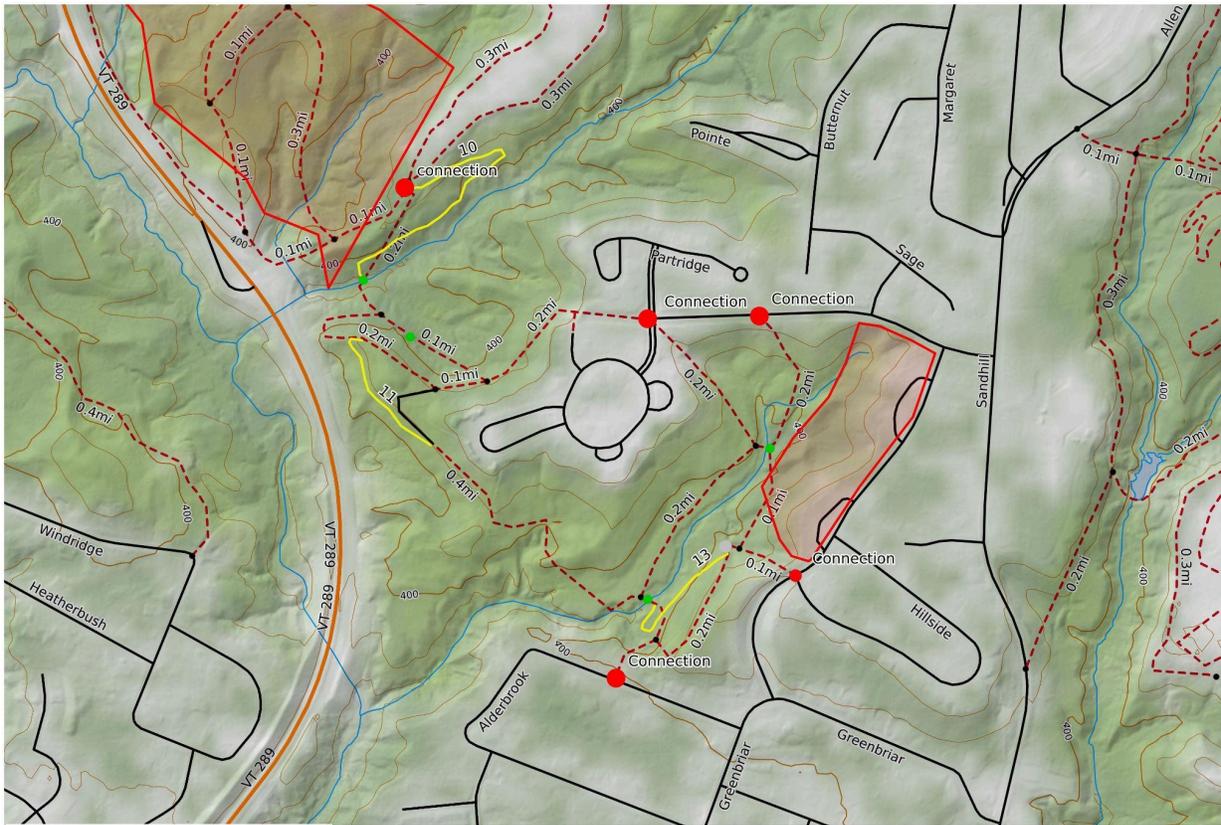
We identified four new trail alignments (yellow line #1-4) in Mathieu town forest to help reduce the grade of existing trails. One section of existing trail near Alder Brook is on Saybrook property and getting permission to use their land would avoid a reroute of existing trail the new trail alignment is represented on the map as blue line #5. There's also a good potential bridge crossing of the Alder brook on their property that would allow for a great future connection point closer to the Essex experience. Additionally, there is a great

5% grade corridor through Saybrook property to connect over to the ROW and future gravel path alongside highway 289 that's on the map as blue line #7.

A key connection is the Foster park to Tanglewood dr through Essex Town Land. This connection has a substantial bridge to cross water and a new trail alignment (#8) to reduce the grade connecting over to Tanglewood Dr. Getting permission from Allen Brook Development inc would open make it possible to have a trail connecting from foster park to the gravel path along highway 289.

Another valuable connection is connecting Margaret street to Essex Middle School (New Trail Alignment #9). This new trail alignment replaces an existing trail that has many water crossings and steep, unsustainable grades. The new alignment has no water crossings, and follows a sustainable grade. It provides people in the neighborhood a more direct route to the middle school and also a good connection for mountain bikers from Saxon Hill to the Essex experience.

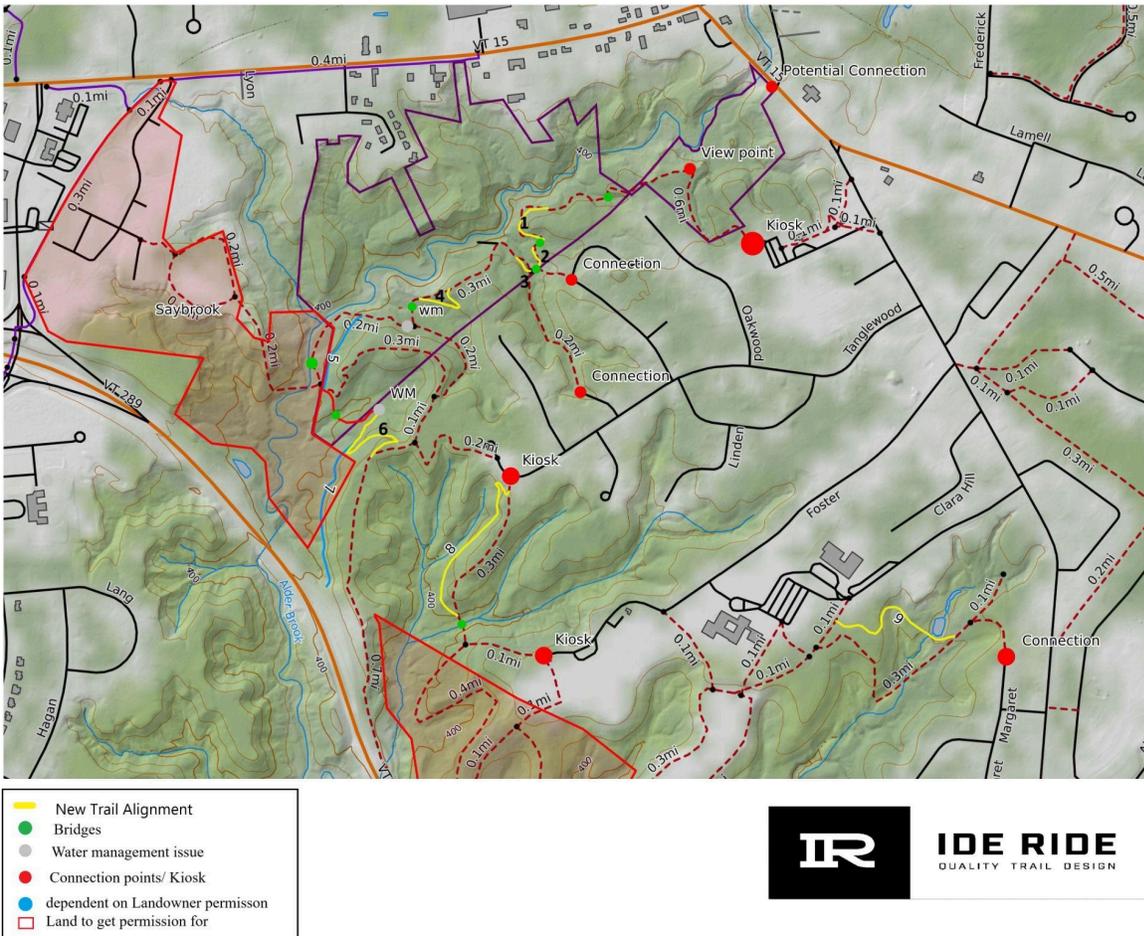
We have indicated three other new trail alignments along the route connecting the soccer fields at Essex Middle School to Allen Martin dr and Saxon Hollow dr. These adjustments are all recommended to decrease the unsustainable grade in certain sections of existing trails.



- New Trail Alignment
- Bridges
- Water management issue
- Connection points/ Kiosk



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Assessment

- 11 connection/kiosk points in Neighborhoods
- 10 new trail alignments to reduce grade of existing trails
- 10 existing bridges to reconstruct
- 2 properties to get land permission for trail access (Saybrook/Allen Brook Development inc)