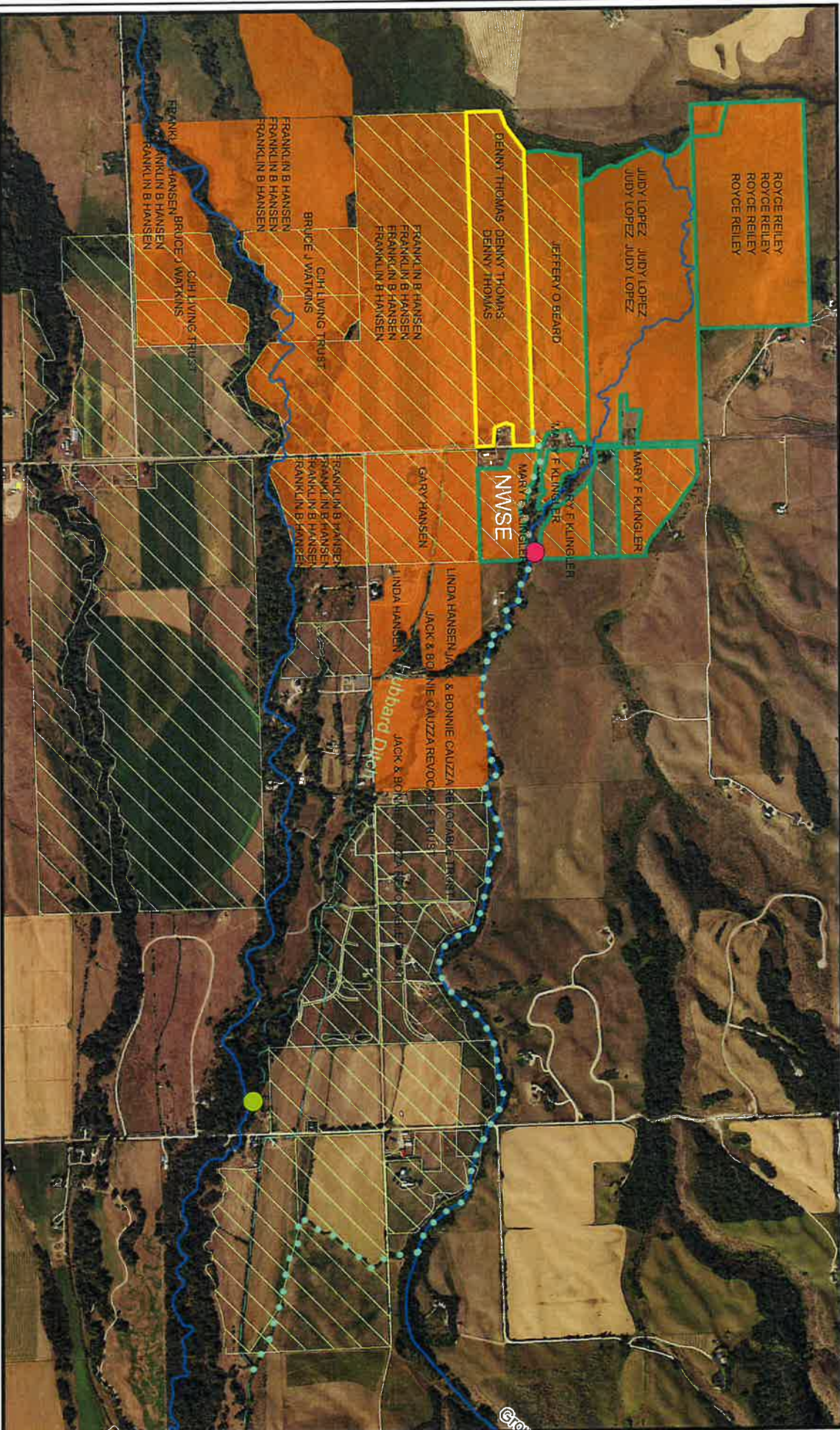




Legend

- Grouse Creek Rediversion
- Existing Diversion - North Leigh Canal
- Existing Diversion - Hubbard Ditch
- Proposed Addition to Path of Conv.
- Existing Path of Conveyance
- Place of Use
- GrouseCkRediversionUsers
- NorthLeighCanalUsers
- HubbardDitchUsers

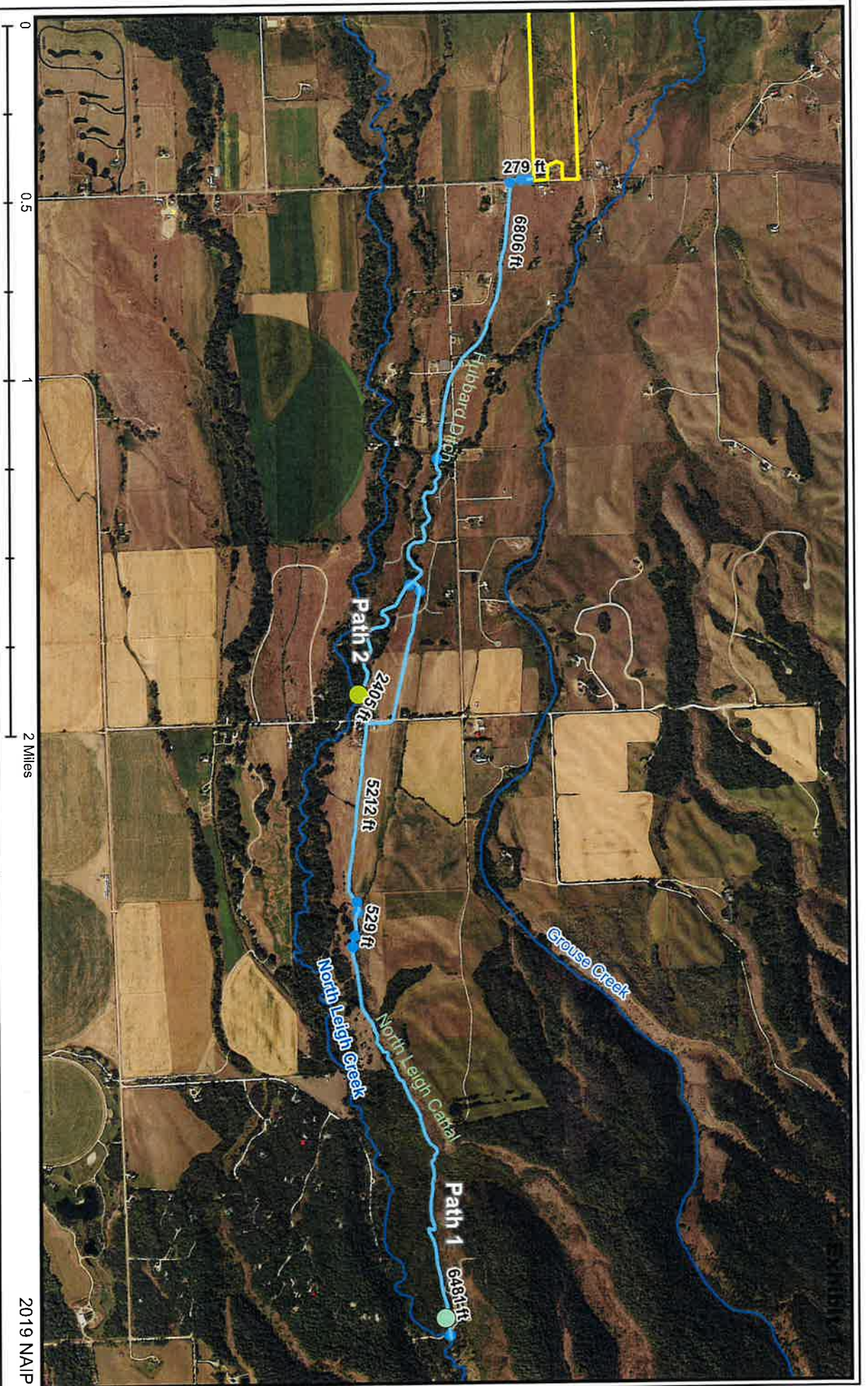


Neighboring Water Users

Grouse Creek Reserve LLC

RMEA # 20-0055
by: KM
Date: 6/14/2021





2019 NAIP

Legend

- Existing Diversion - North Leigh Canal
- Existing Diversion - Hubbard Ditch
- Existing WRC conveyance_for ConvLossCalcs
- Place of Use

Paths of Conveyance for Calculations

Grouse Creek Reserve LLC

RM EA # 20-0055

by: KM

Date: 5/20/2021



Conveyance Loss Calculation for 22-131C, 22-238B, 22-2029E
Worstell Method

S=0.06671W
S seepage loss (cfs/mile)
i seepage rate (ft/day)
W Top width of water surface (ft)
0.0667 conversion factor to convert units and a factor to estimate the wetted perimeter as a function of W

Path	Ditch/Canal	Reach	Soil Symbol*	Soil Texture @ 2 ft	Loss per day (ft/day)**	Reach Length (ft)***	Reach Length (mi)***	Reach Ave Width (ft)***	S (cfs/mile)	Conveyance Losses (cfs)
1	North Leigh Canal	1	13430	Extremely gravelly sandy loam, extremely cobbly loamy sand	6	5212	0.99	6	2.40	2.37
	North Leigh Canal	2	13425	Extremely gravelly loam, extremely gravelly loamy sand, very gravelly loam	6	680	0.13	6	2.40	0.31
	Hubbard	4	13425	Extremely gravelly loam, extremely gravelly loamy sand, very gravelly loam	6	6806	1.29	6	2.40	3.10
	Hubbard	5	13430	Extremely gravelly sandy loam, extremely cobbly loamy sand	6	279	0.05	4	1.60	0.08
	Totals for Path 1					12977	2.46			5.86
2	Hubbard	3	13425	Extremely gravelly loam, extremely gravelly loamy sand, very gravelly loam	6	2405	0.46	6	2.40	1.09
	Hubbard	4	13425	Extremely gravelly loam, extremely gravelly loamy sand, very gravelly loam	6	6806	1.29	6	2.40	3.10
	Hubbard	5	13430	Extremely gravelly sandy loam, extremely cobbly loamy sand	6	279	0.05	4	1.60	0.08
	Totals for Path 2					9490	1.80			4.27

Path 1	Path 2
Canal or Ditch	Hubbard Ditch Only
Total Seepage Losses in Canal (cfs)	4.27 cfs
Total Users (cfs)****	21.17 cfs
22-131C, 22-238B, 22-2029E	3.55 cfs
Grouse Creek Portion of Conveyance Losses (%)	17%
Grouse Creek Portion of Conveyance Losses (cfs)	0.72 cfs
Portion Proposed to Leave in Original Ditch (cfs)	36 inches
Grouse Creek Portion Transferable (cfs)	1.42 cfs
Portion Proposed to Transfer (cfs)	2.83 cfs
	2.13 cfs

References
 *Soil Symbol and Soil Texture obtained from NRCS Soil Report
 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture, Web Soil Survey, Available online at the following link: <http://websoilsurvey.sc.egov.usda.gov/>, Accessed 1month/day/yr
 **Worstell Method and Losses per day based on soil type from Hubble Report Pgs 35-38. Reported to be in the range of 3-6 ft/day
 ***Reach length and width were measured using aerial imagery
 ****Based on information obtained through WR database and then limited to only those users who can divert from the North Leigh Canal or Hubbard Ditch or Both