TerrainLogic realistic grassed-waterway example

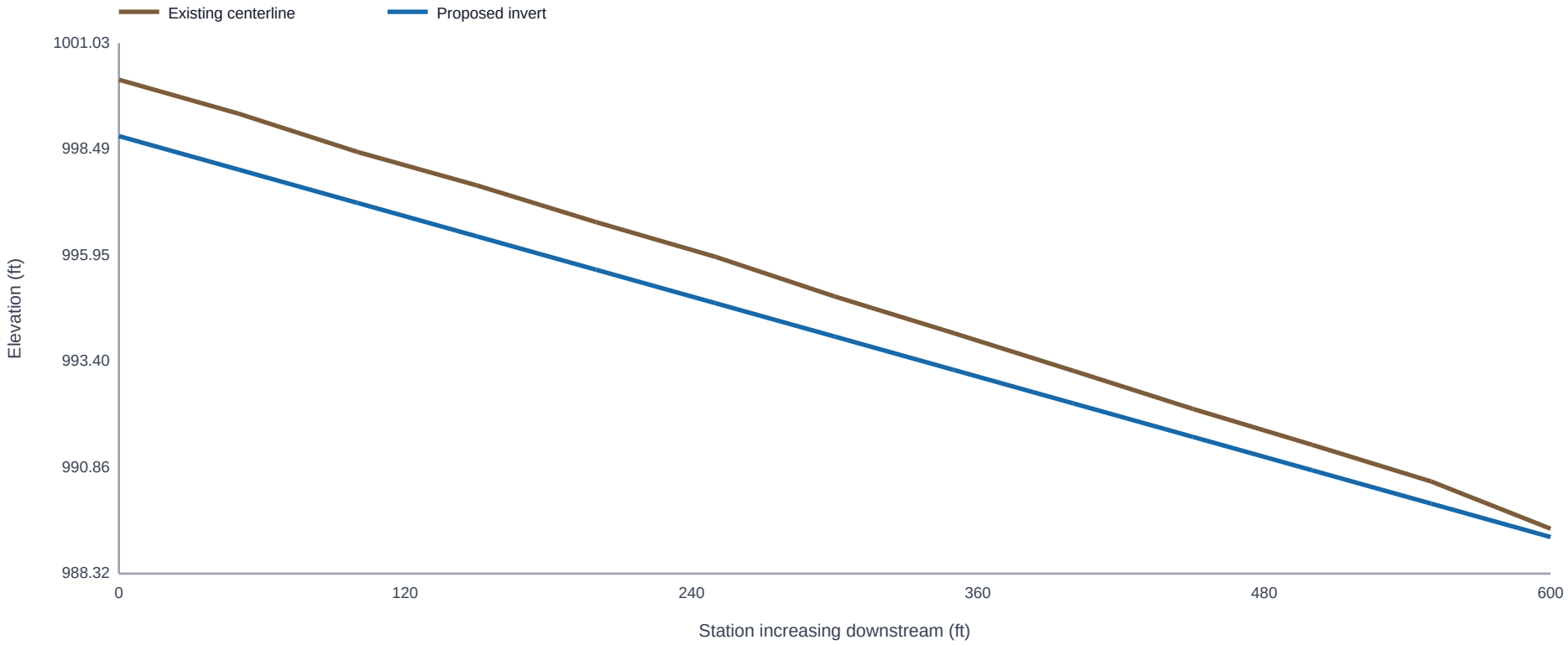
Preliminary grassed-waterway design and construction survey

Demonstration field · 42-acre contributing area · assumed local survey datum

Hydrology	Value	Section/design	Value
Design event	10-year frequency, 24-hour duration peak runoff	Design reach	600.0 ft at 1.60%
Peak discharge used	18.00 cfs	Flow section	15.4 ft wide x 0.96 ft deep
Peak-flow source	WinTR-55 documented 10-year, 24-hour peak discharge	Excavated section	19.0 ft wide x 1.46 ft deep
Drainage area	42.00 ac	Vegetation	Meadow - continuous grass, protected from grazing
NOAA Atlas 14 10-year/24-hour rainfall	4.10 in	Design status	Preliminary Section Found
Rainfall source	Demonstration Atlas 14 depth; peak discharge documented separately with WinTR-55		

Preliminary planning document. Confirm hydrology, survey datum, outlet stability, utilities, earthwork, seeding, state FOTG criteria, and engineering authority before construction.

Centerline dig profile

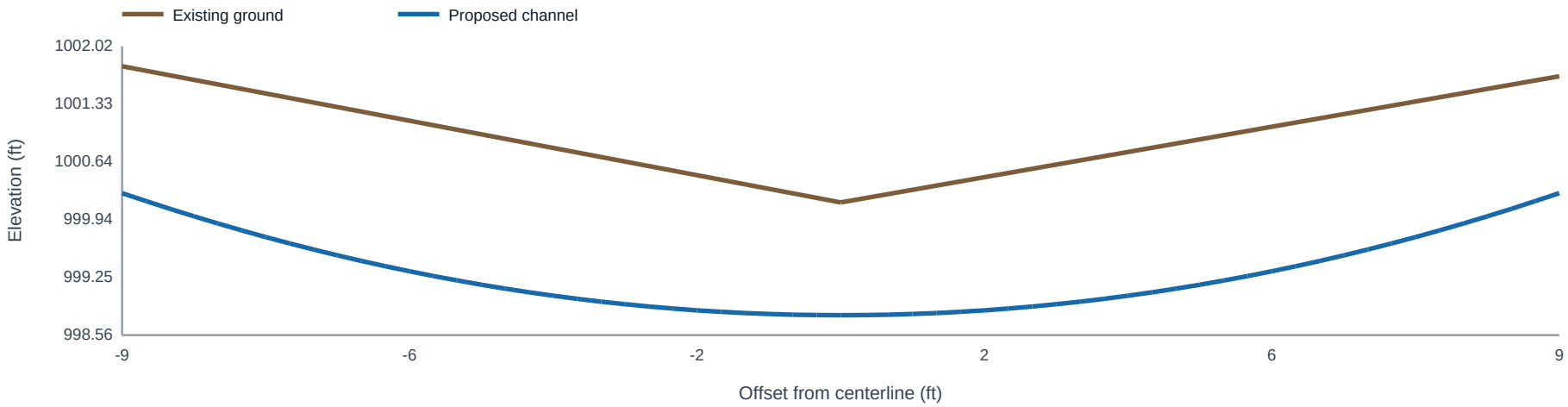


Construction survey table

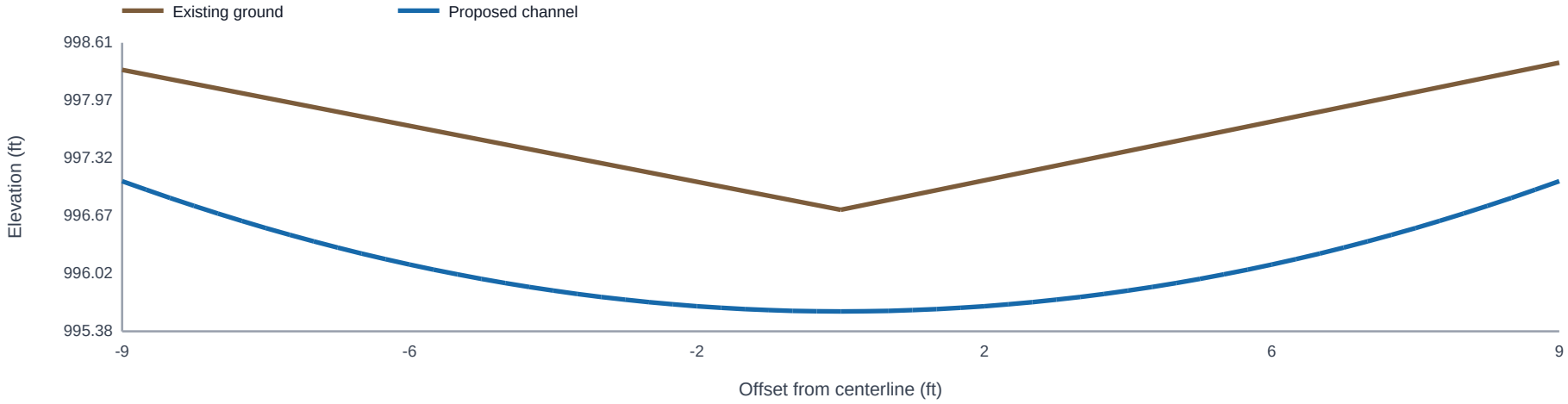
Station	Left edge	Centerline	Right edge	Proposed invert	Center cut	Left edge cut	Right edge cut
0.0	1001.78	1000.15	1001.66	998.80	1.35	1.52	1.40
50.0	1000.97	999.34	1000.89	998.00	1.34	1.51	1.43
100.0	1000.02	998.42	999.94	997.20	1.22	1.36	1.28
150.0	999.24	997.62	999.16	996.40	1.22	1.38	1.30
200.0	998.31	996.74	998.39	995.60	1.14	1.25	1.33
250.0	997.55	995.91	997.48	994.80	1.11	1.29	1.22
300.0	996.58	994.96	996.52	994.00	0.96	1.12	1.06
350.0	995.62	994.08	995.70	993.20	0.88	0.96	1.04
400.0	994.80	993.18	994.73	992.40	0.78	0.94	0.87
450.0	993.83	992.27	993.91	991.60	0.67	0.77	0.85
500.0	993.02	991.41	992.95	990.80	0.61	0.76	0.69
550.0	992.10	990.53	992.17	990.00	0.53	0.64	0.71
600.0	990.98	989.40	990.91	989.20	0.20	0.32	0.25

Representative cross sections

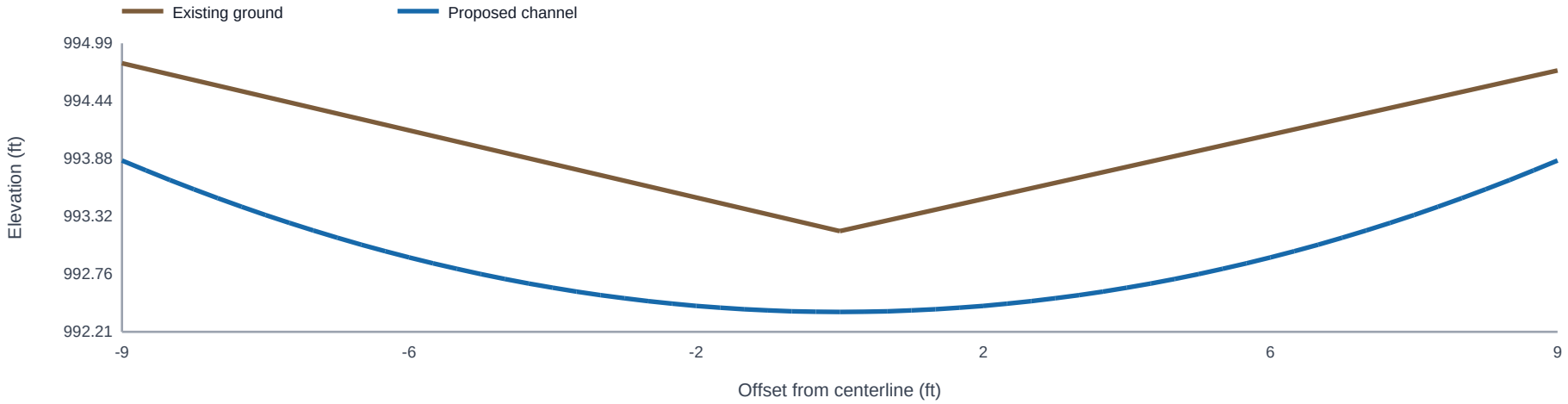
Station 0.0 ft



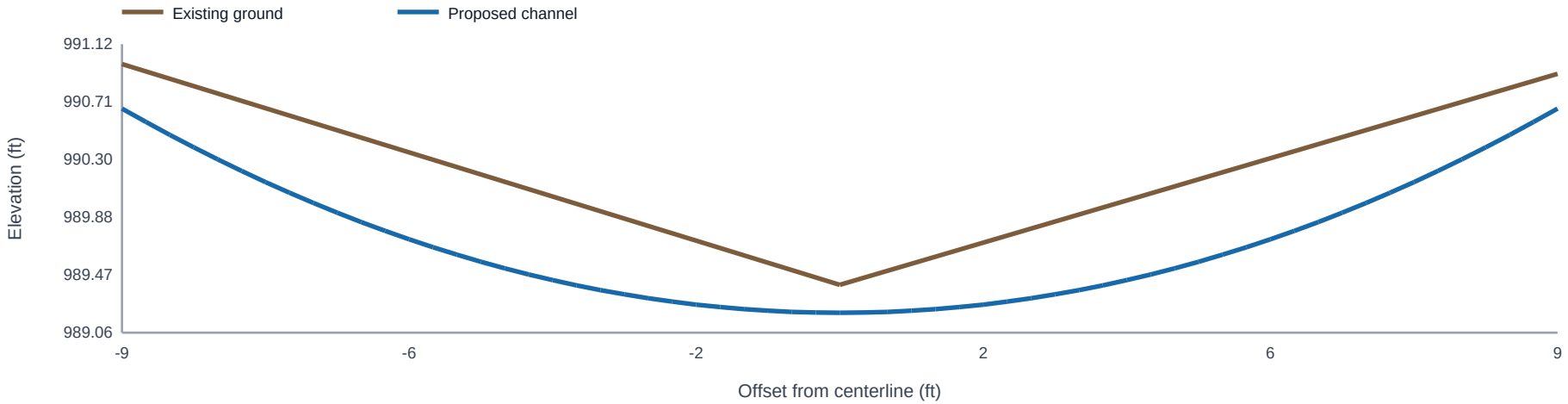
Station 200.0 ft



Station 400.0 ft



Station 600.0 ft



Certified as-built comparison

Inspection date: 2026-08-10 Inspector/certifier: Jordan Ellis, Engineering Technician Result: **PASS**
Vertical tolerance: 0.10 ft; maximum absolute deviation: 0.070 ft; reverse grade detected: no.

Station	Design left	As-built left	Left dev.	Design invert	As-built invert	Invert dev.	Design right	As-built right	Right dev.	Result
0.0	1000.261	1000.231	-0.030	998.800	998.760	-0.040	1000.261	1000.281	+0.020	PASS
50.0	999.461	999.481	+0.020	998.000	997.990	-0.010	999.461	999.501	+0.040	PASS
100.0	998.661	998.711	+0.050	997.200	997.230	+0.030	998.661	998.671	+0.010	PASS
150.0	997.861	997.851	-0.010	996.400	996.450	+0.050	997.861	997.821	-0.040	PASS
200.0	997.061	997.001	-0.060	995.600	995.620	+0.020	997.061	997.041	-0.020	PASS
250.0	996.261	996.291	+0.030	994.800	994.770	-0.030	996.261	996.321	+0.060	PASS
300.0	995.461	995.531	+0.070	994.000	994.040	+0.040	995.461	995.491	+0.030	PASS
350.0	994.661	994.671	+0.010	993.200	993.150	-0.050	994.661	994.651	-0.010	PASS
400.0	993.861	993.821	-0.040	992.400	992.380	-0.020	993.861	993.911	+0.050	PASS
450.0	993.061	993.101	+0.040	991.600	991.610	+0.010	993.061	993.081	+0.020	PASS
500.0	992.261	992.241	-0.020	990.800	990.860	+0.060	992.261	992.211	-0.050	PASS
550.0	991.461	991.521	+0.060	990.000	990.000	+0.000	991.461	991.501	+0.040	PASS
600.0	990.661	990.681	+0.020	989.200	989.170	-0.030	990.661	990.641	-0.020	PASS