



Welcome to the Don Williams Orienteering Web Page!



This Orienteering Course was developed as an Eagle Rank Project
by a Boy Scout from Troop 116 from Dallas Center, Iowa.

When completing orienteering activities, please remember safety first. Advanced courses are in undeveloped areas of the park which can pose many hazards - take a moment to give some thought regarding the hazards you may encounter! - Make sure someone knows your plans and when you're expected back. Complete with a buddy.

Tread Lightly!

In open country where there are no trails, spread out when hiking. Spreading out, rather than following each other's footsteps, disperses impact and avoids creating a new trail. Be considerate of others, respect wildlife, and minimize your impact. Get more information about **Leave No Trace** principals at:

<https://www.scouting.org/outdoor-programs/leave-no-trace/>

Several Orienteering and Compass courses are available - If you're participating as a large group, consider completing the courses in small groups with each group completing a different course. Please pack out any trash you may generate or find on the course.

HAVE FUN AND BE CAREFUL!

Beginner Cross Country Orienteering Courses:

Maps show routes to take along trails - record benchmark identification numbers at each location

Course	Distance	Link to Orienteering Map
CW	2551'	<link to beginner CW map>
CCW	2551'	<link to beginner CCW map>

Advanced Cross Country Orienteering Courses:

Maps show routes to take in undeveloped area of park - record benchmark identification numbers at each location on map

- *emphasis on map reading skills such as correctly orienting the map to north and interpreting contour lines*

Sprint Courses	Distance	Link to Orienteering Map
A	4798'	<link to XC sprint A map>
B	2347'	<link to XC sprint B map>
C	2142'	<link to XC sprint C map>
D	2676'	<link to XC sprint D map>
E	4016'	<link to XC sprint E map>
F	2180'	<link to XC sprint F map>

Short Courses:	Distance	Link to Orienteering Map
A	3583'	<link to XC Short A map>
B	3482'	<link to XC Short B map>
C	2864'	<link to XC Short C map>
D	2615'	<link to XC Short D map>
E	3396'	<link to XC Short E map>
F	3940'	<link to XC Short F map>

Long Courses	Distance	Link to Orienteering Map
A	3488'	<link to XC Long A map>
B	4566'	<link to XC Long B map>
C	3828'	<link to XC Long C map>
D	4055'	<link to XC Long D map>
E	8404'	<link to XC Long E map>
F	5881'	<link to XC Long F map>

Advanced Score Orienteering Course:

Map shows all benchmark locations - find as many as you can in 30 minute race time.

Each benchmark found worth 1 to 3 points - 1 point penalty for every minute late.

[<link to Score map>](#)

Advanced Compass Courses:

Same courses as above but intended to emphasise compass skills. User provided with distance and azimuth direction from starting point to next marker. All courses begin and end at same locaton identified on the map

beginner level - use maps above with labeled waypoints, but with emphasis on compass use in addition to reading contour lines.

intermediate level - use map with unlabeled waypoints markers (provided in link below)

[<link to map all waypoints unlabeled>](#)

[<link to intermediate/expert course directions>](#)

expert level - use map that does not have waypoints labeled (provided in link below)

its expected that user will plot coordinates on blank map upon receiving map

[<link to map no waypoints>](#)

[<link to intermediate/expert course directions>](#)

(for even greater challenge, attempt courses without map)

Course Keys that identify waypoint marker IDs is available at the following links:

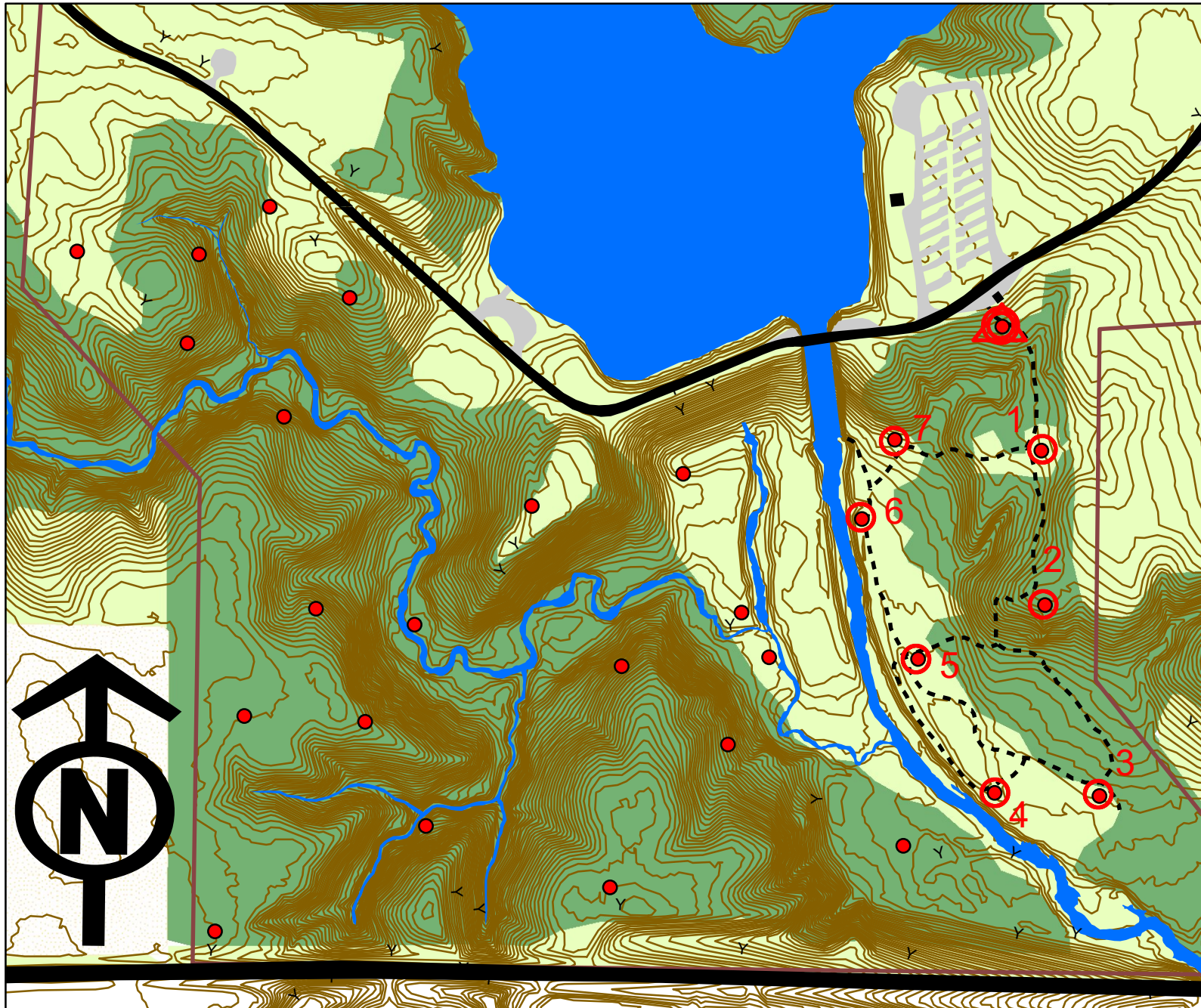
[<link to course key map>](#)

[<link to course key direction tables>](#)

All waypoint marker locations identified with sub-meter accuracy GPS; maps and azimuth/ distance values developed with ESRI ArcGIS geographic information system software.



Don Williams Recreation Area Orienteering Course



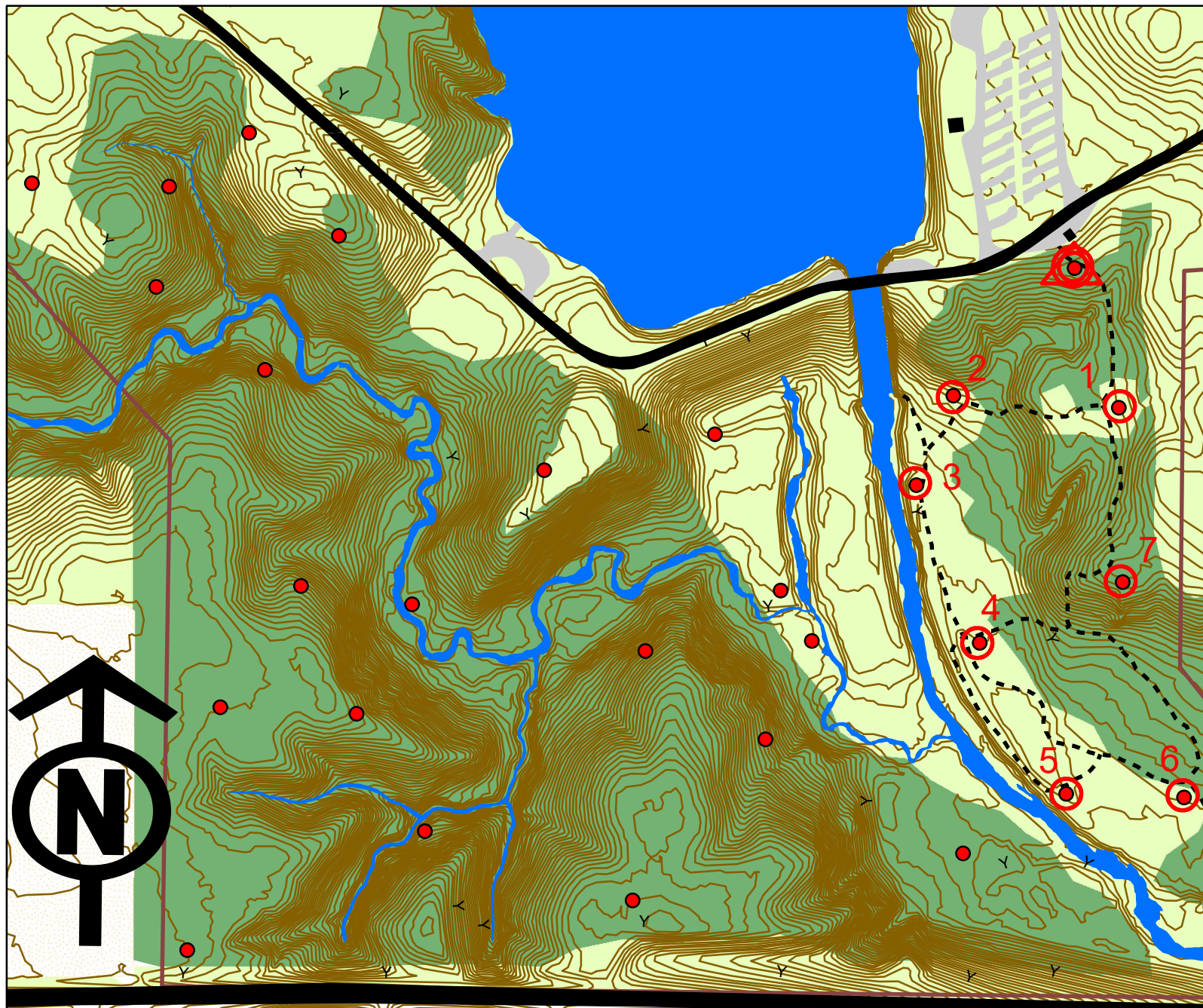
Legend

- Waypoint marker
 - roads - paved
 - buildings
 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forrest
- 0 225 450
Feet

	Dist	Azimuth	Marker ID
Δ			946
1	292	162	
2	347	178	
3	446	163	
4	235	271	
5	346	330	
6	338	337	
7	193	22	
1	330	94	
①	292	342	946
	1499		Beginner CW



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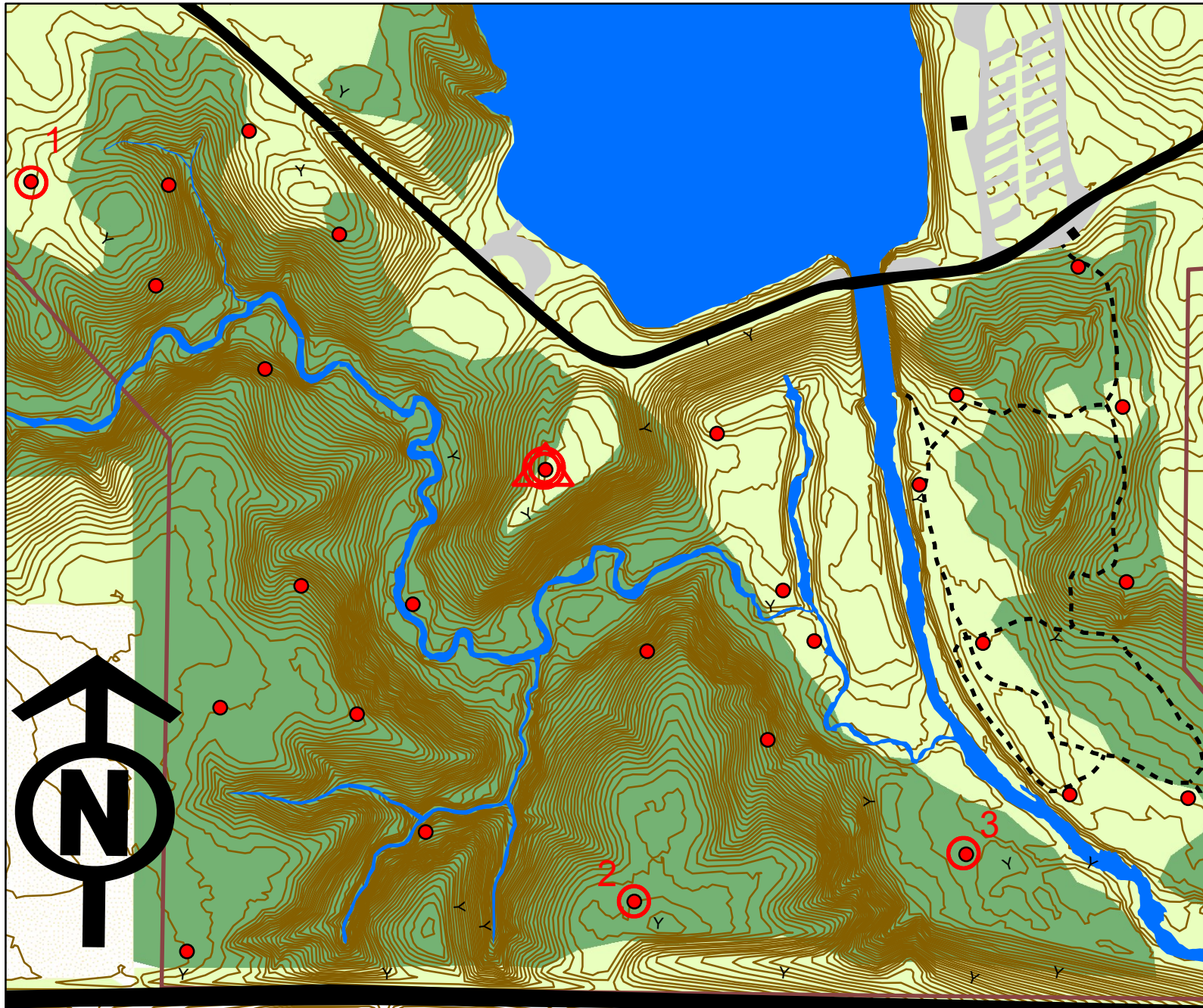
Legend

- Waypoint marker
 - roads - paved
 - buildings
 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forreast
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			946
1	292	162	
2	330	274	
3	193	202	
4	338	157	
5	346	150	
6	235	91	
7	446	343	
①	347	358	
①	292	342	946
	1666		Beginner CCW



Don Williams Recreation Area Orienteering Course



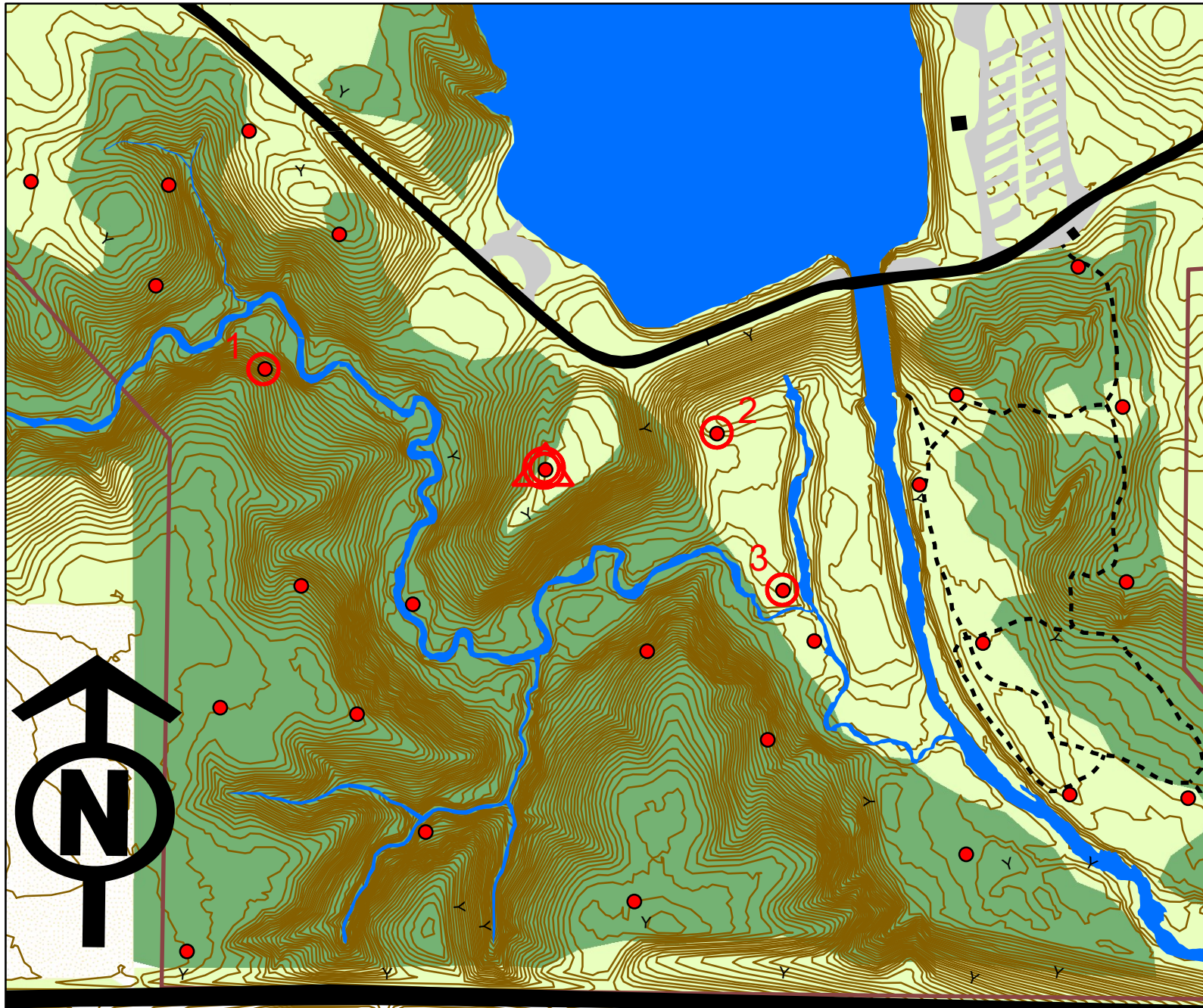
Legend

- Waypoint marker
 - roads - paved
 - buildings
 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forrest
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			701
1	1166	299	
2	1865	139	
3	651	81	
①	1116	312	701
	4798		Sprint A



Don Williams Recreation Area Orienteering Course



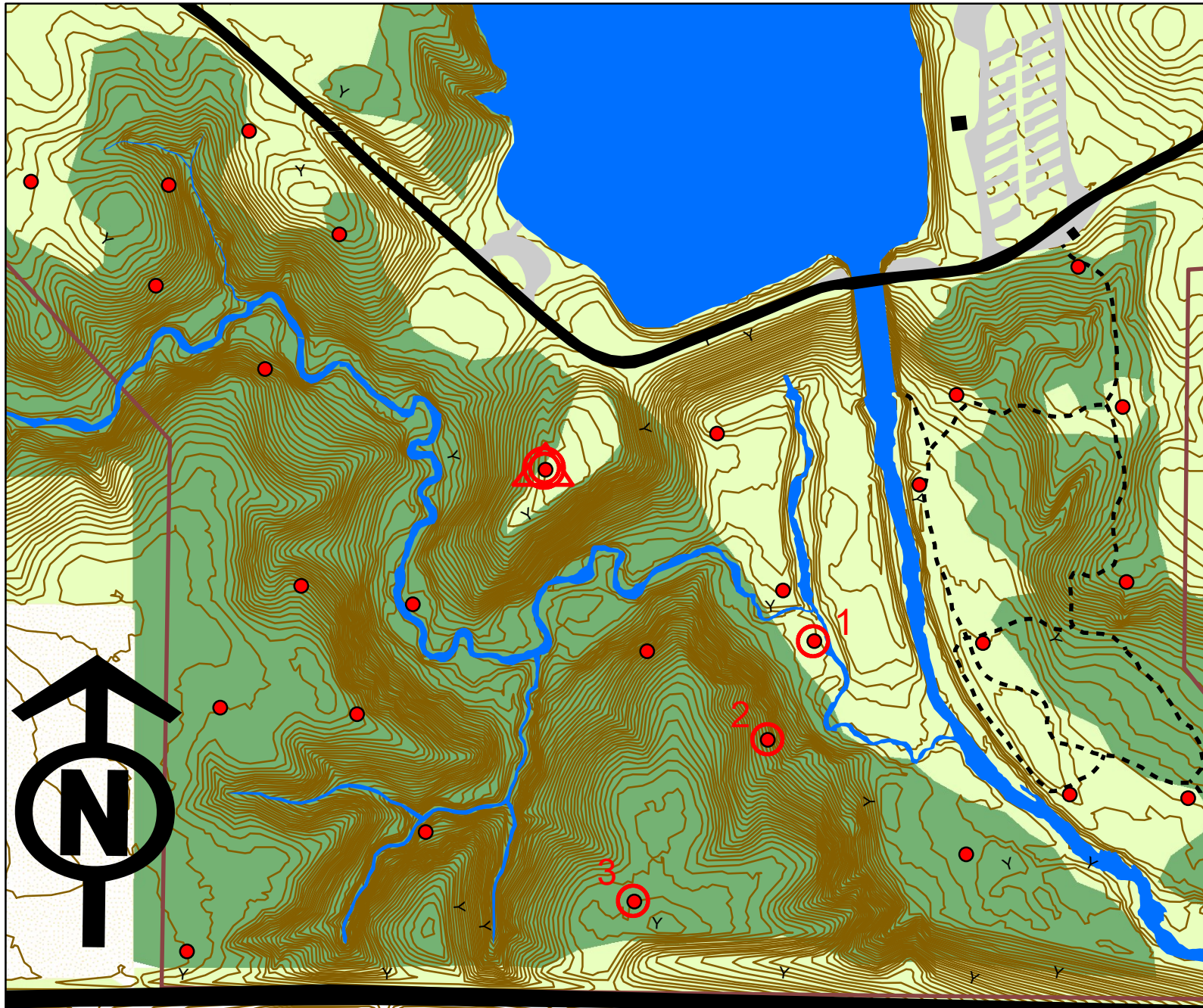
Legend

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 - roads - paved
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 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forreast
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			701
1	588	289	
2	895	97	
3	334	157	
①	530	296	701
	2347		Sprint B



Don Williams Recreation Area Orienteering Course



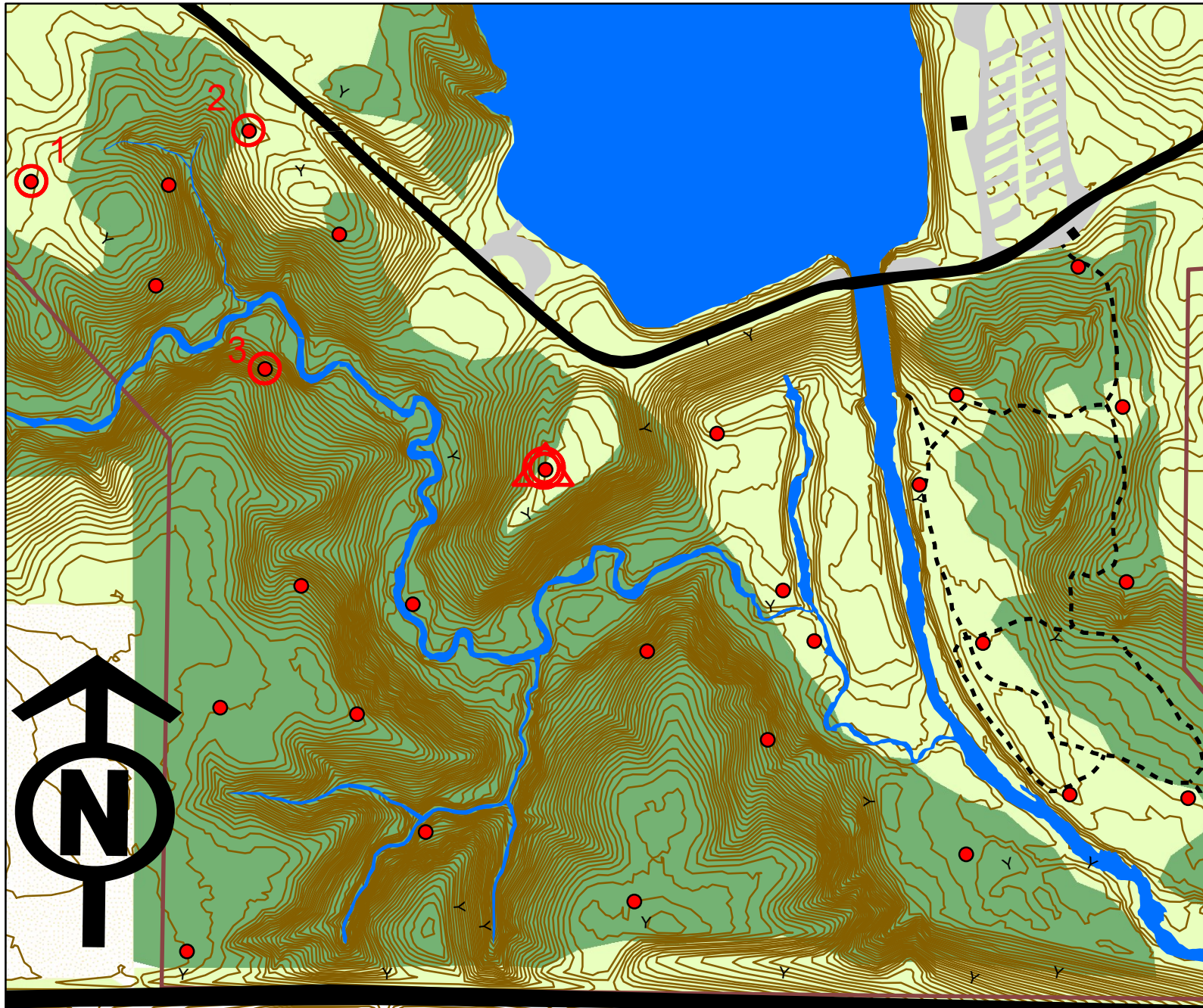
Legend

- Waypoint marker
 - roads - paved
 - buildings
 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forreast
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			701
1	630	122	
2	216	207	
3	416	212	
⊙	880	347	701
	2142		Sprint C



Don Williams Recreation Area Orienteering Course



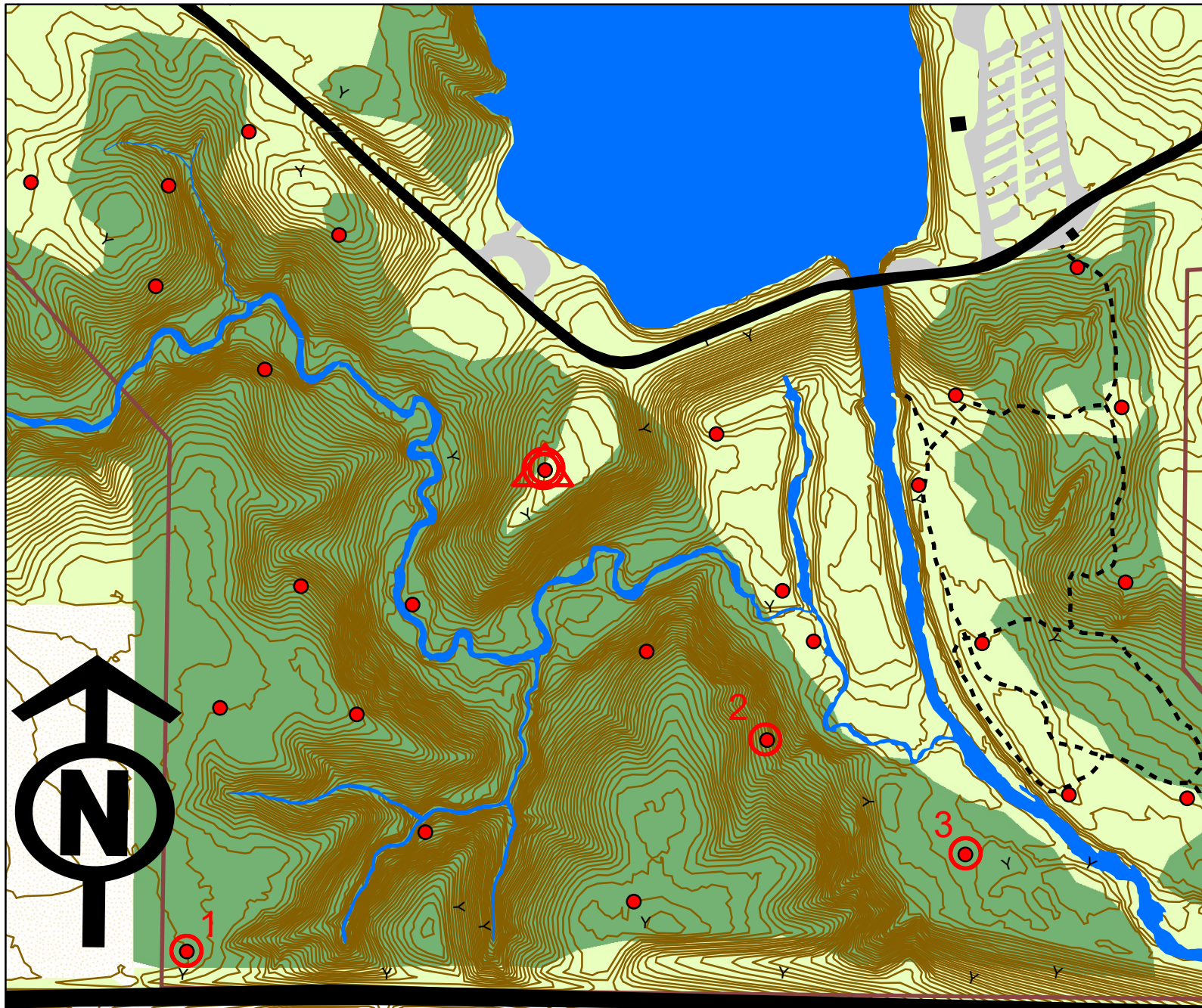
Legend

- Waypoint marker
 - roads - paved
 - buildings
 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forrest
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			701
1	1165	299	
2	446	75	
3	471	176	
①	594	109	701
	2676		Sprint D



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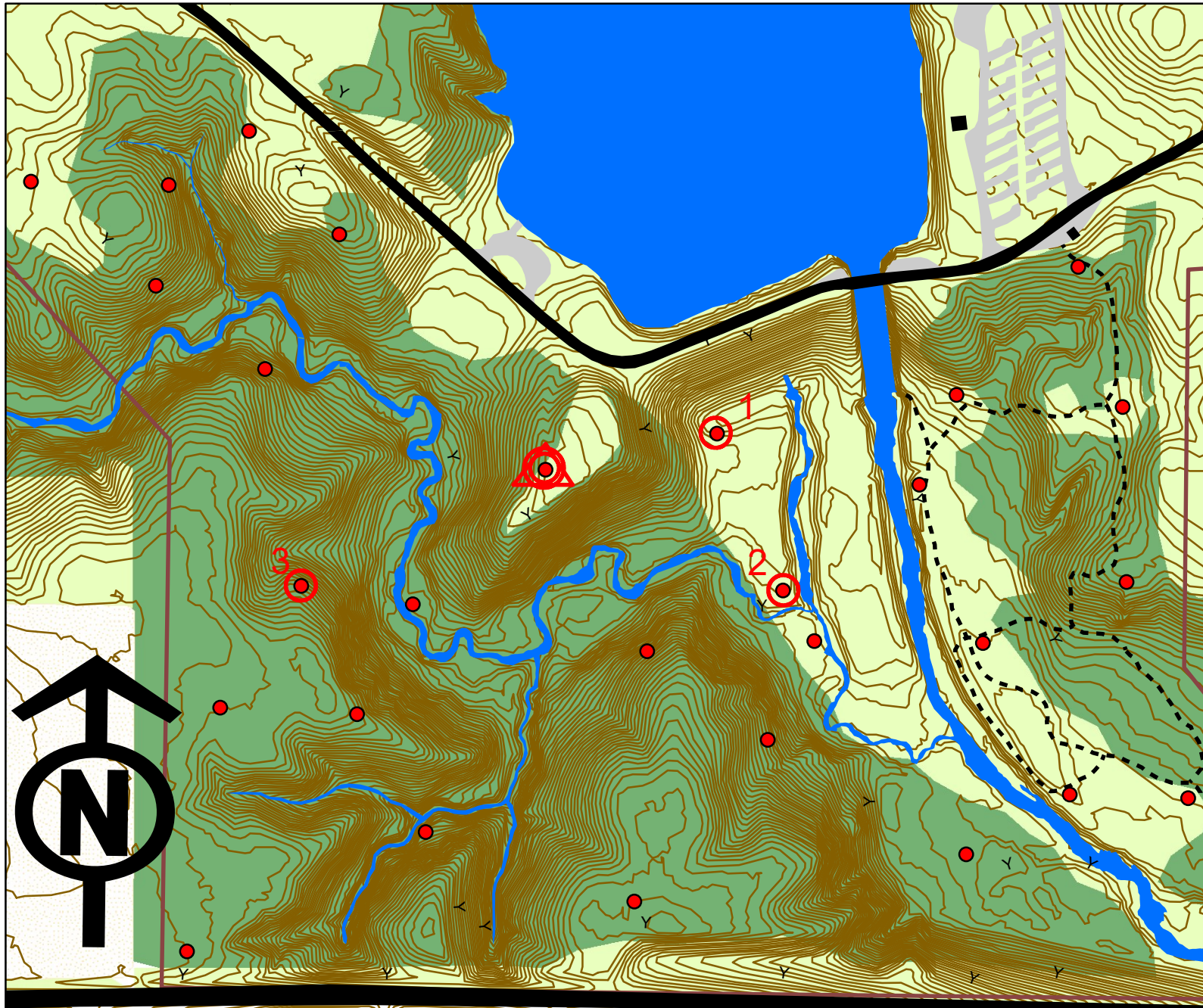
Legend

- Waypoint marker
 - roads - paved
 - buildings
 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forrest
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			701
1	1200	216	
2	1229	69	
3	456	119	
①	1131	312	701
	4016		Sprint E

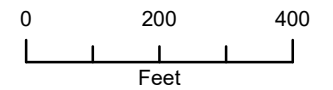


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Legend

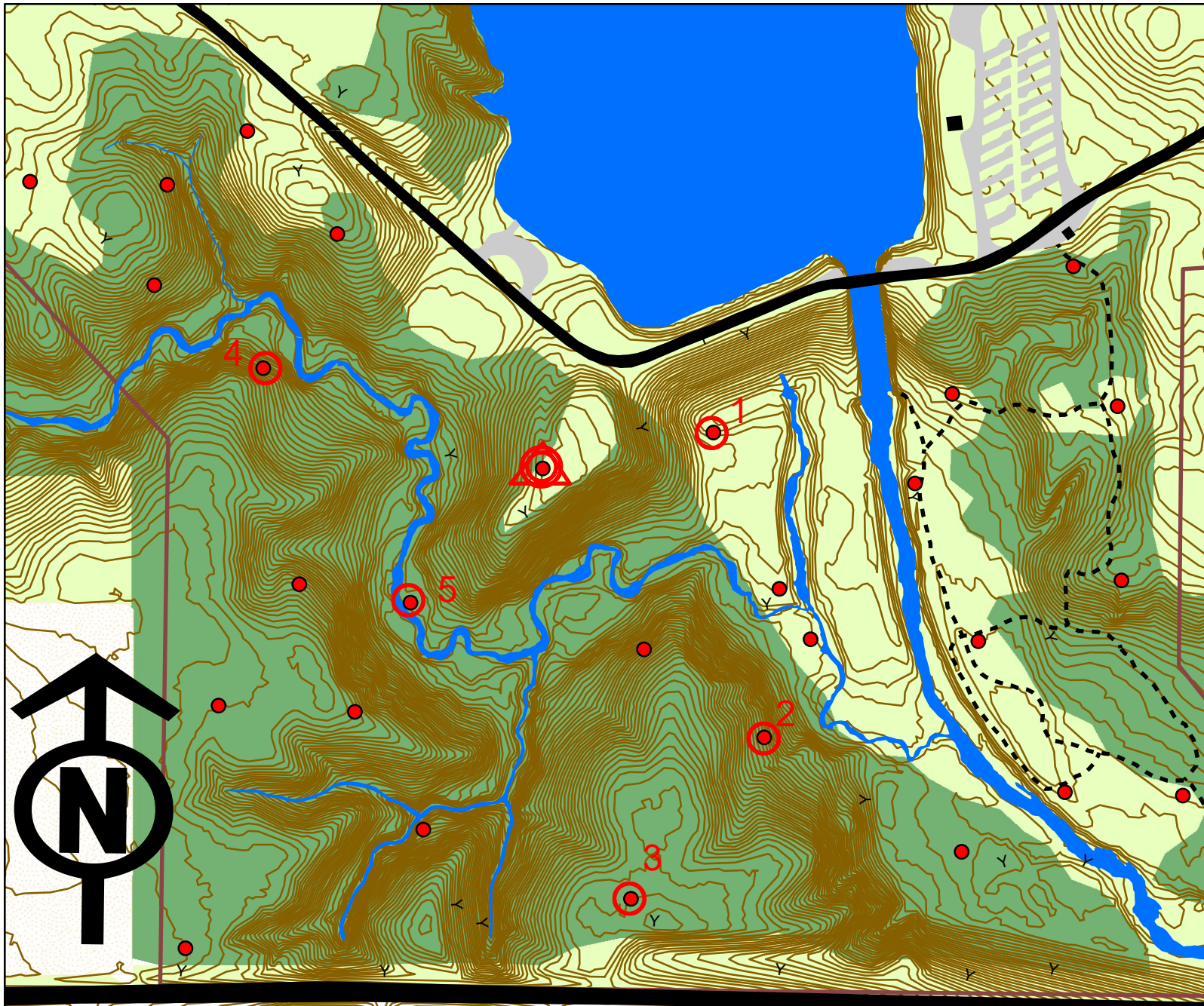
- Waypoint marker
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- roads - gravel
- lakes/streams
- trails
- park border
- contours (2ft CI)
- Cultivated Land
- Sparse Trees
- Dense Forreast



	Dist	Azimuth	Marker ID
Δ			701
1	348	78	
2	340	158	
3	953	270	
①	539	64	701
	2180		Sprint F



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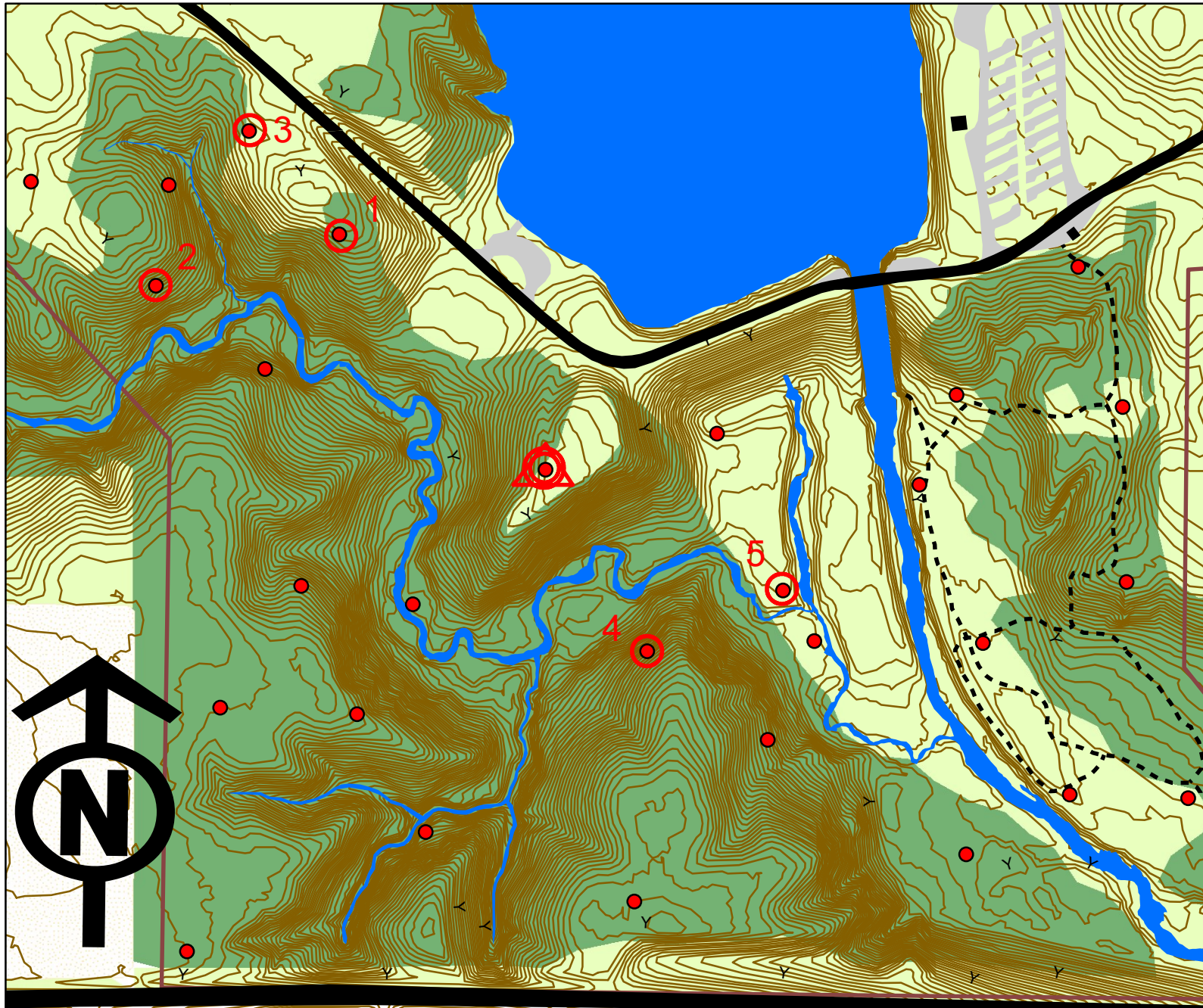
Legend

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 - buildings
 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forrest
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			701
1	345	77	
2	617	170	
3	413	219	
4	1287	325	
5	550	147	
①	371	44	701
	3583		Short A



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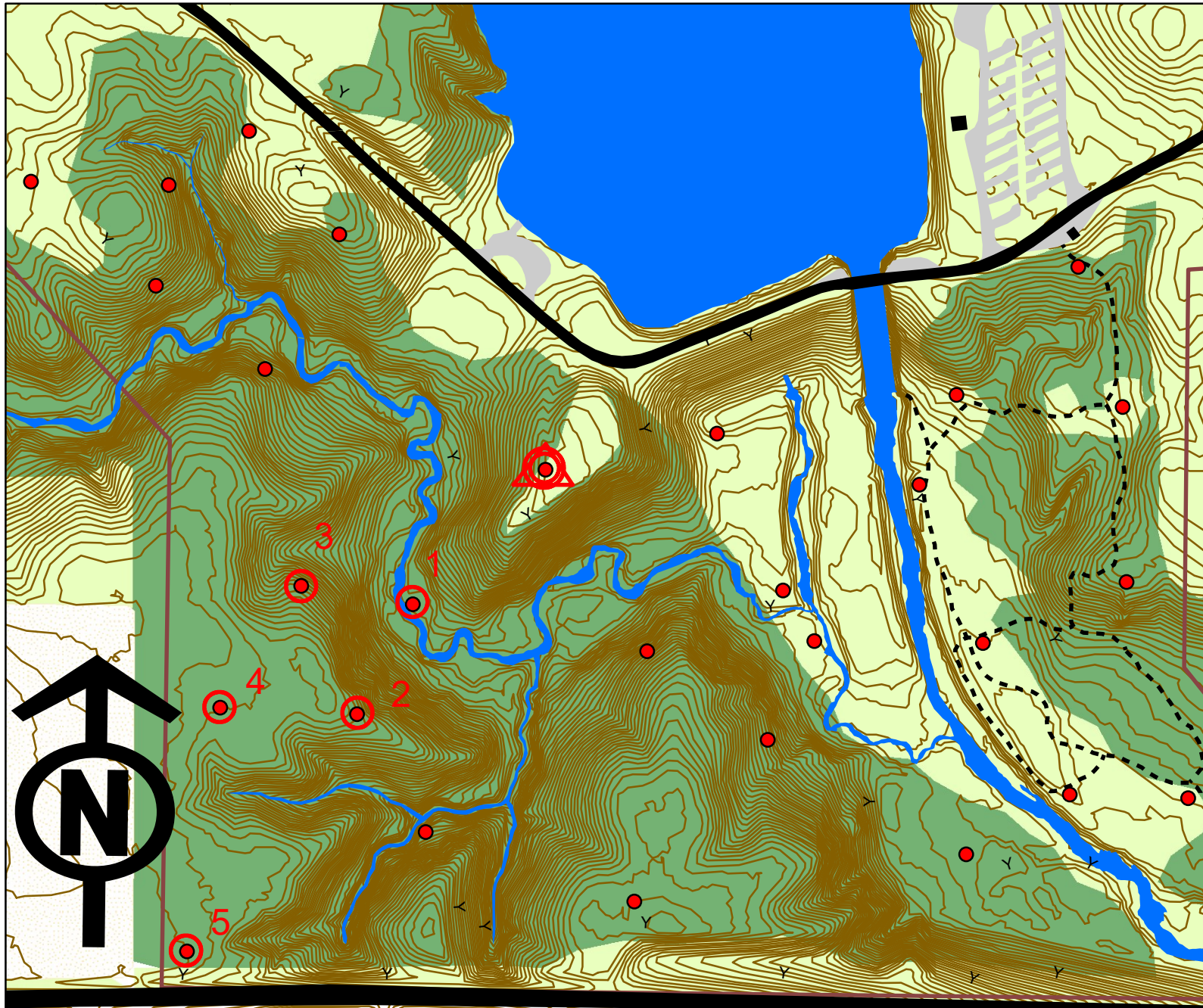
Legend

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 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forrest
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			701
1	618	318	
2	377	254	
3	360	31	
4	1302	142	
5	300	65	
⓪	525	296	701
	3482		Short B



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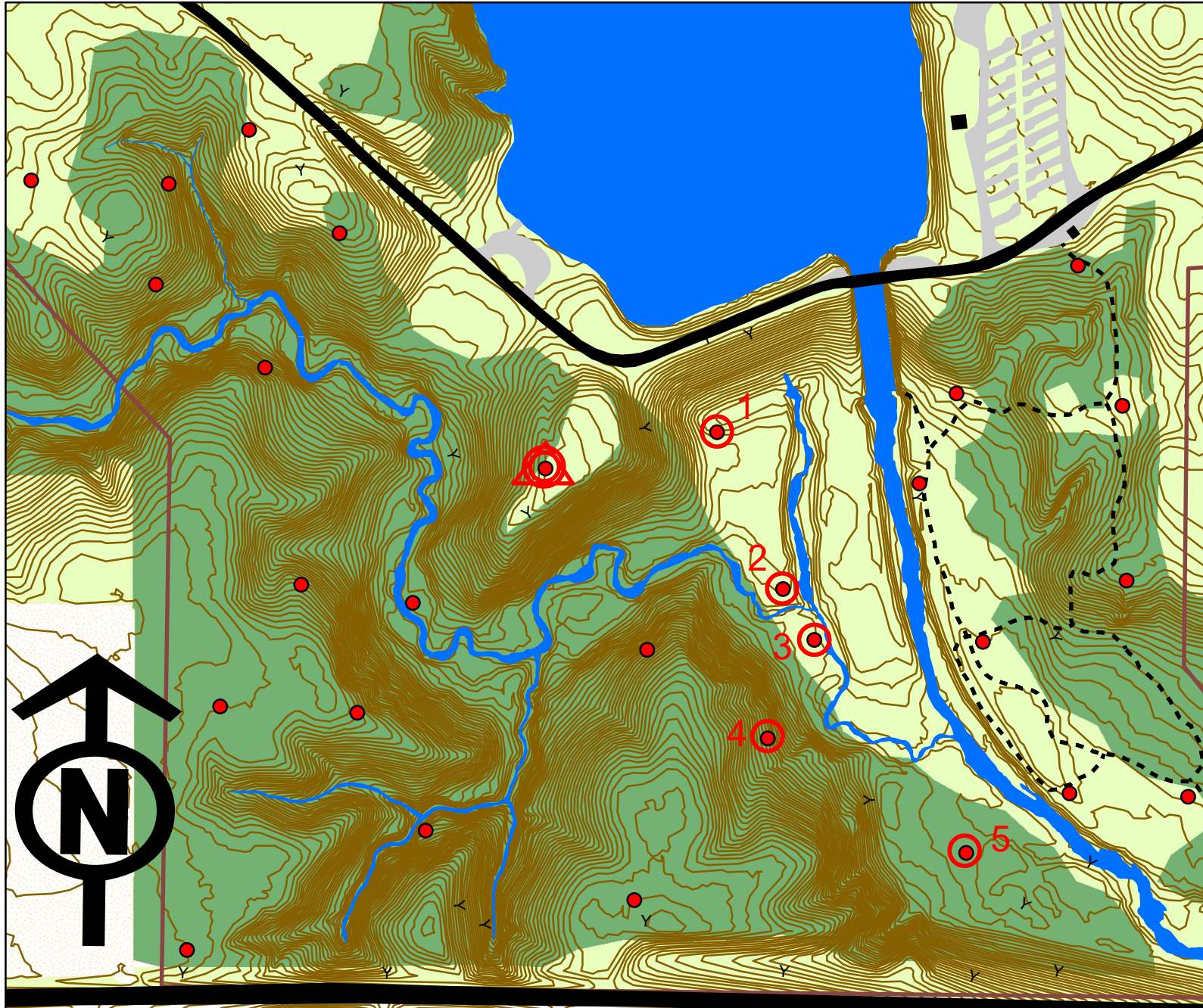
Legend

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 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forreast
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
△			701
1	371	223	
2	242	206	
3	276	336	
4	291	213	
5	487	187	
⓪	1197	36	701
	2864		Short C

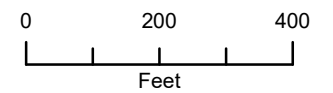


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Legend

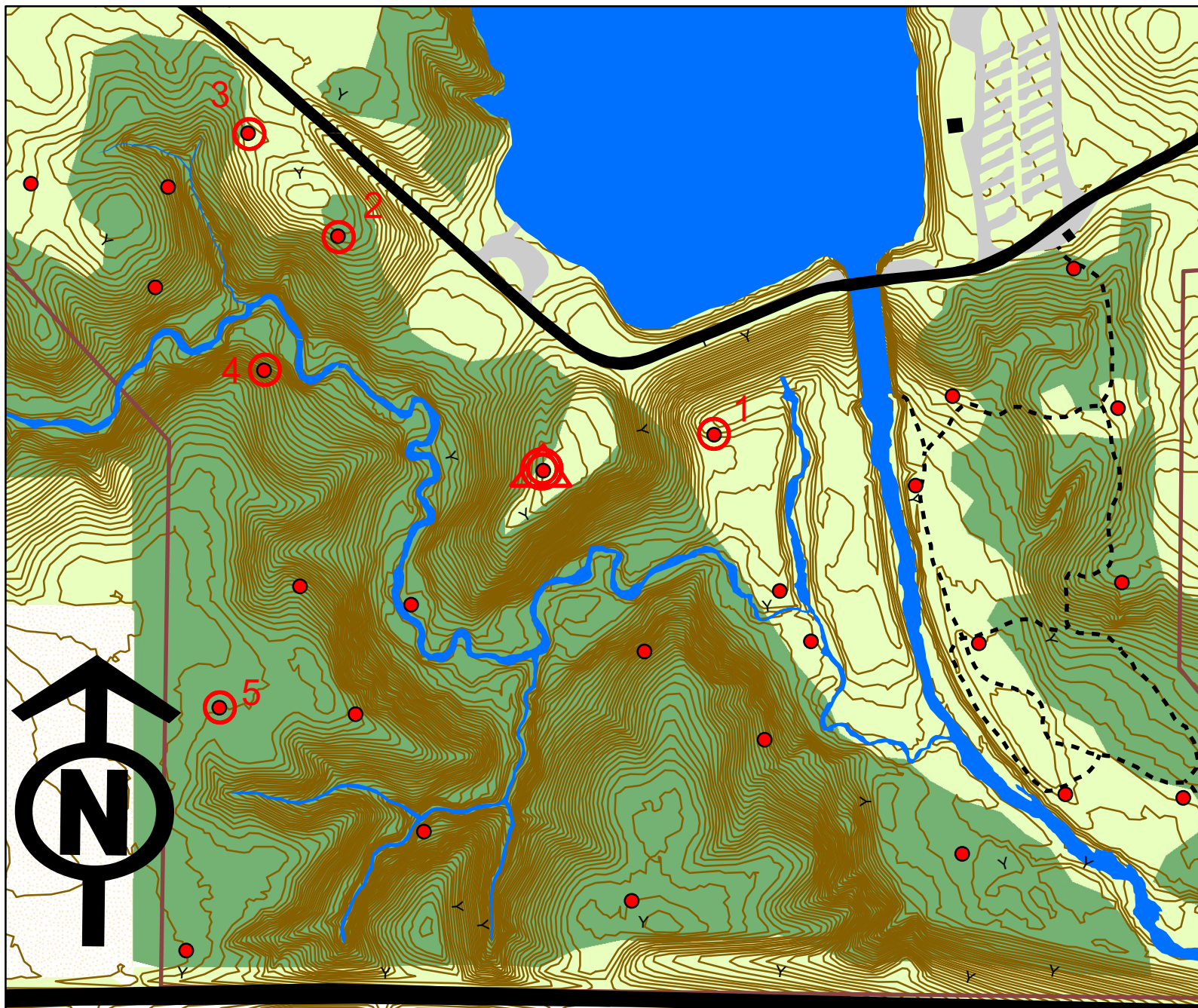
- Waypoint marker
- roads - paved
- buildings
- roads - gravel
- lakes/streams
- trails
- park border
- contours (2ft CI)
- Cultivated Land
- Sparse Trees
- Dense Forrest



	Dist	Azimuth	Marker ID
Δ			701
1	350	78	
2	340	156	
3	120	147	
4	217	203	
5	455	119	
⊙	1133	312	701
	2615		Short D



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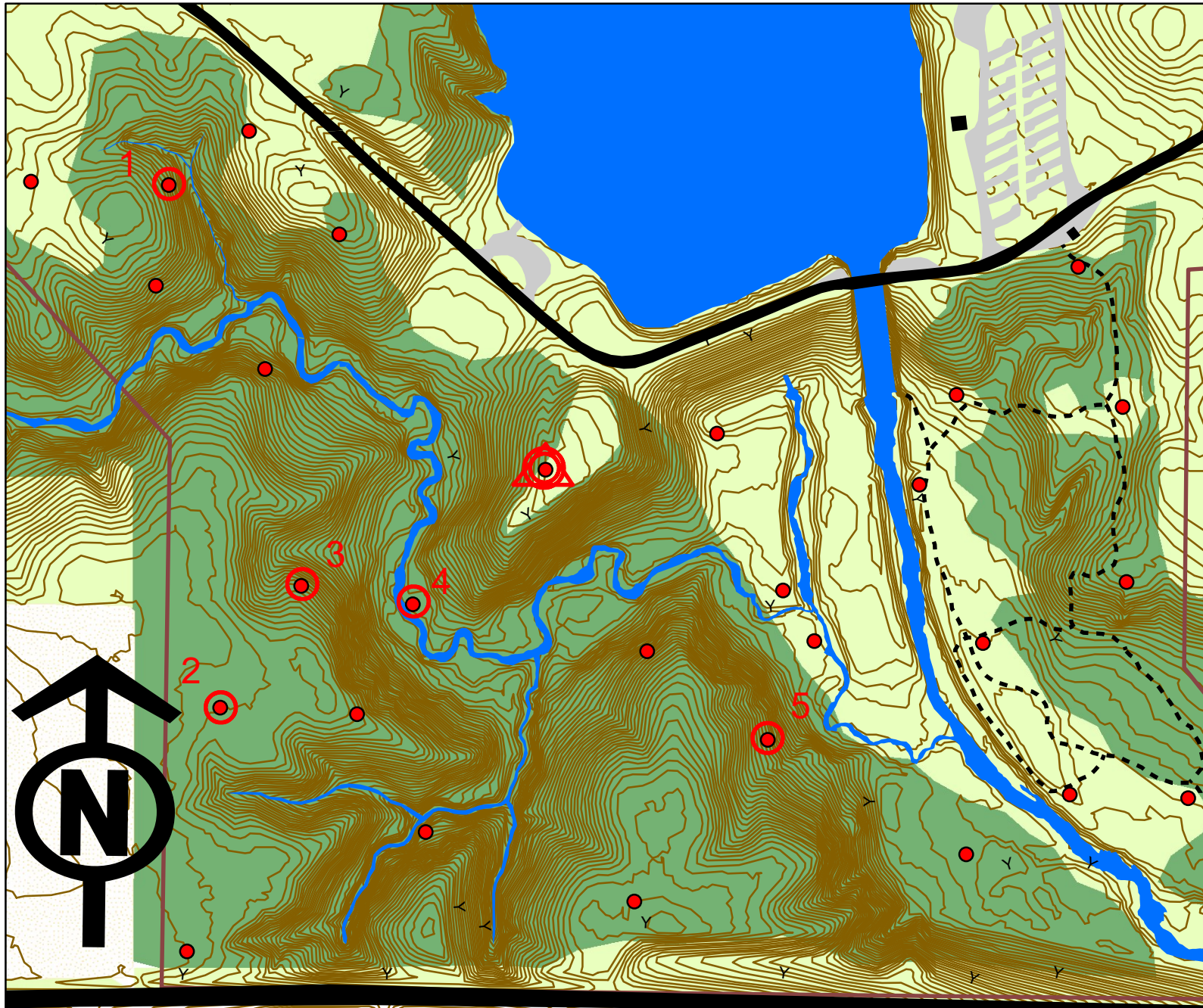
Legend

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 - roads - paved
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 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forrest
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			701
1	350	78	
2	843	297	
3	265	318	
4	467	175	
5	676	187	
①	795	53	701
	3396		Short E



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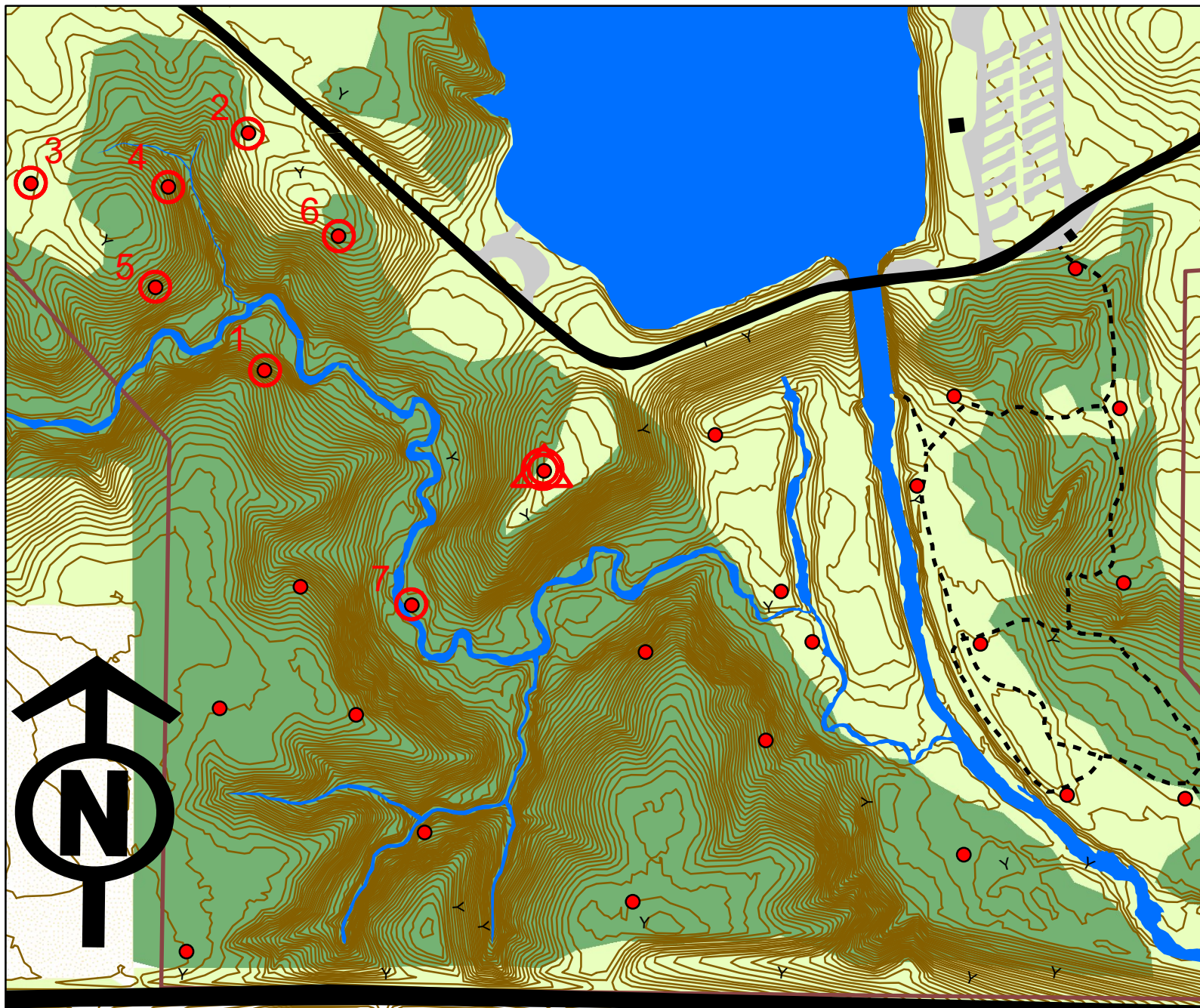
Legend

- Waypoint marker
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 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forrest
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			701
1	942	306	
2	1042	174	
3	292	32	
4	223	98	
5	746	110	
⊙	695	320	701
	3940		Short F

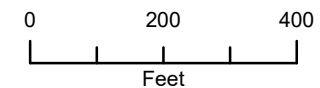


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Legend

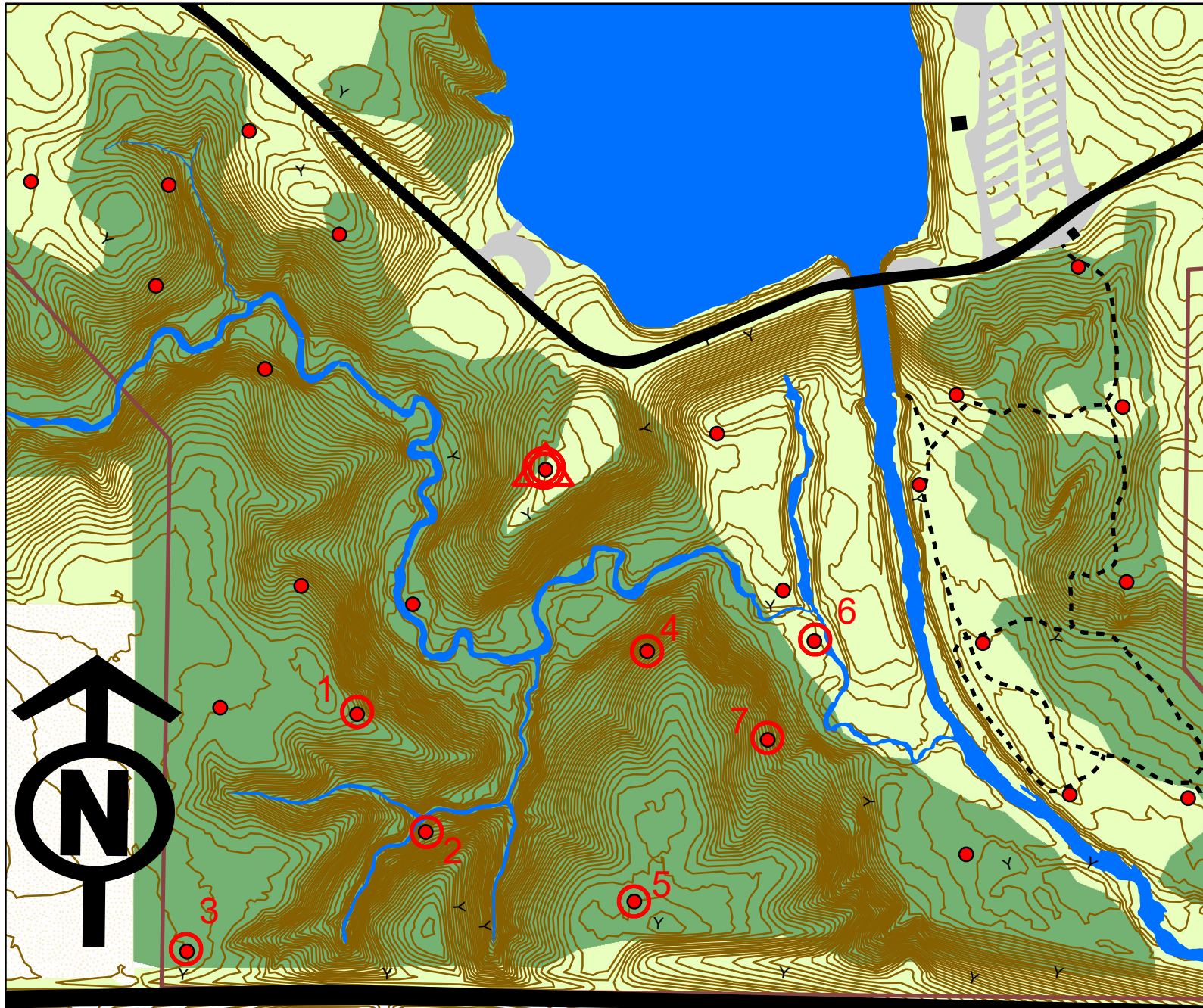
- Waypoint marker
- ▬ roads - paved
- ▬ buildings
- ▬ roads - gravel
- ▬ lakes/streams
- - - trails
- ▬ park border
- ▬ contours (2ft CI)
- ▨ Cultivated Land
- ▨ Sparse Trees
- ▨ Dense Forrest



	Dist	Azimuth	Marker ID
Δ			701
1	590	289	
2	475	355	
3	447	255	
4	275	91	
5	203	187	
6	374	74	
7	746	168	
⊙	378	44	701
	3488		Long A



Don Williams Recreation Area Orienteering Course



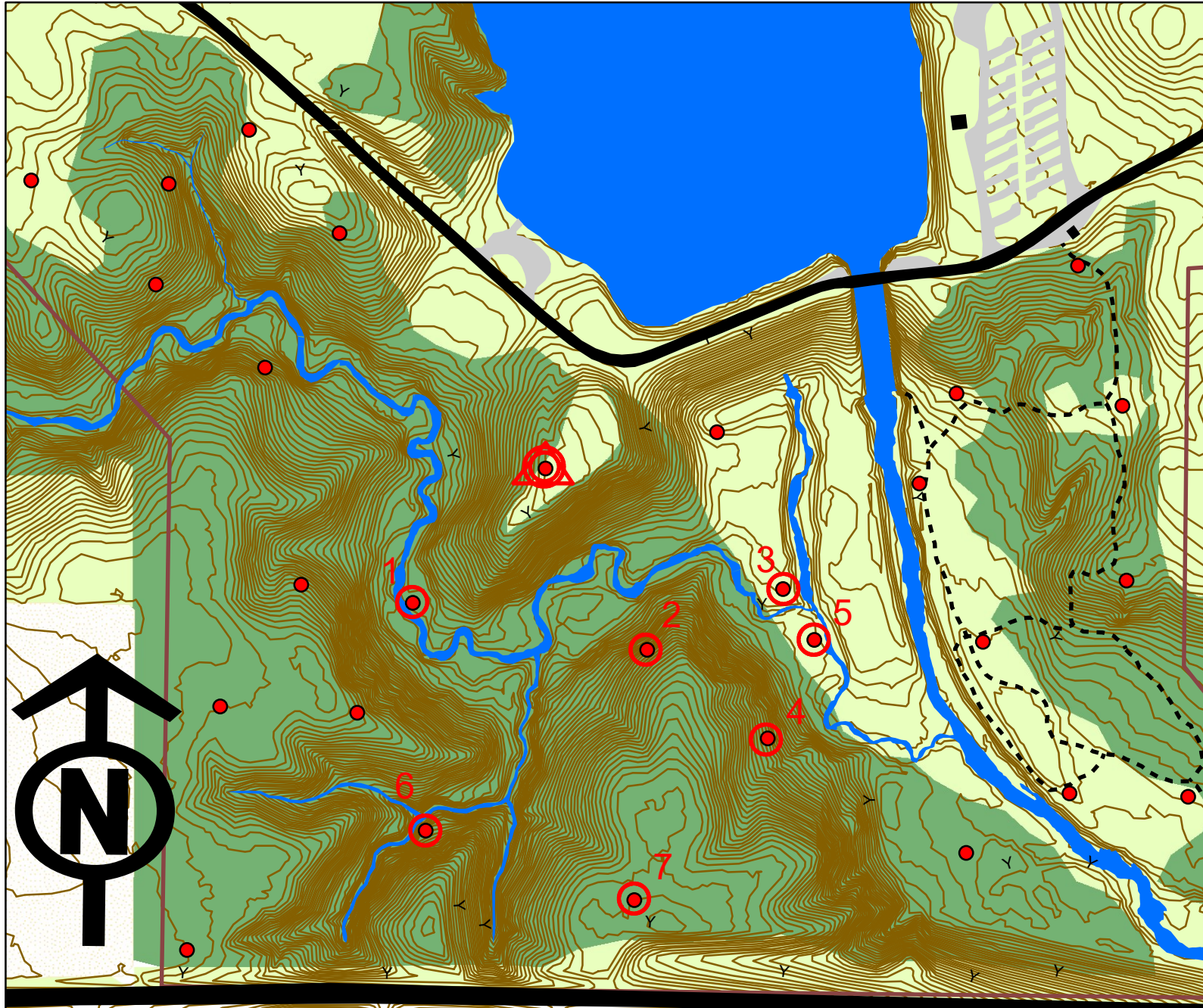
Legend

- Waypoint marker
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 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forreast
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			701
1	618	217	
2	272	149	
3	531	243	
4	1085	56	
5	498	182	
6	625	34	
7	216	204	
⓪	702	320	701
	4547		Long B



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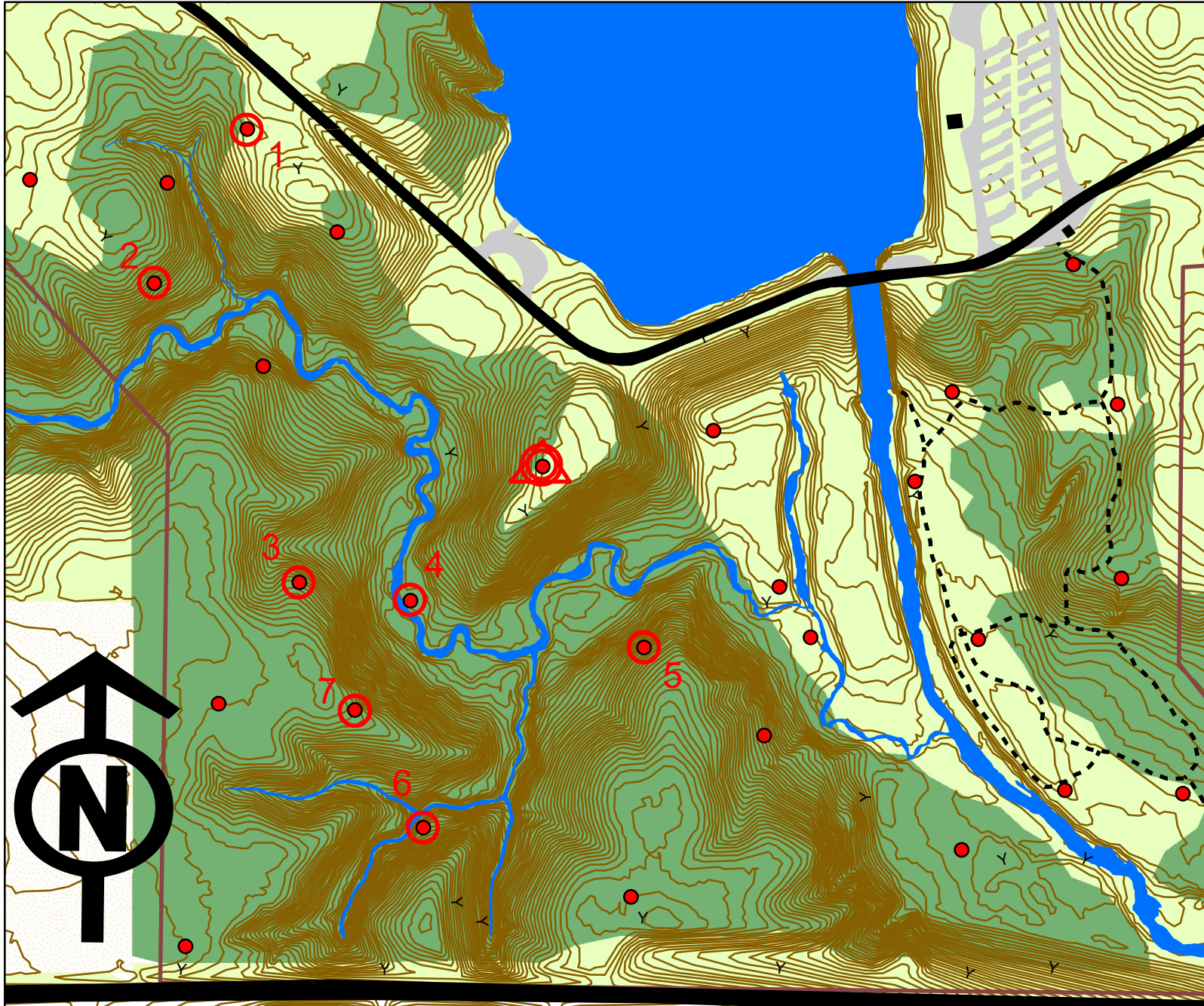
Legend

- Waypoint marker
 - roads - paved
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 - roads - gravel
 - lakes/streams
 - trails
 - park border
 - contours (2ft CI)
 - Cultivated Land
 - Sparse Trees
 - Dense Forreast
- 0 200 400
Feet

	Dist	Azimuth	Marker ID
Δ			701
1	371	223	
2	478	100	
3	294	66	
4	293	185	
5	218	24	
6	861	243	
7	438	107	
⊙	875	348	701
	3828		Long C

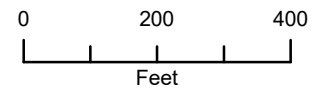


Don Williams Recreation Area Orienteering Course



Legend

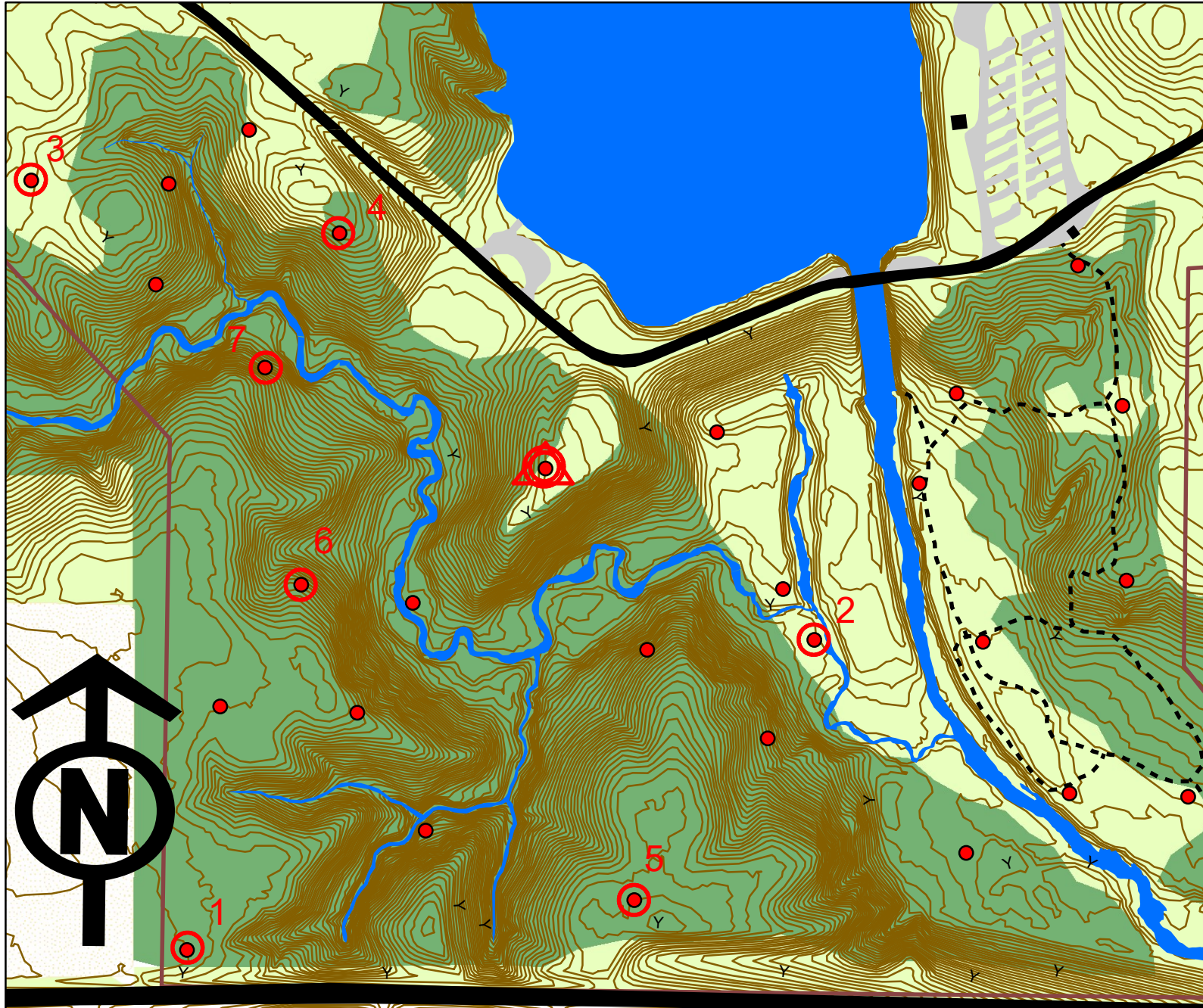
- Waypoint marker
- roads - paved
- buildings
- roads - gravel
- lakes/streams
- trails
- park border
- contours (2ft CI)
- Cultivated Land
- Sparse Trees
- Dense Forrest



	Dist	Azimuth	Marker ID
Δ			701
1	888	318	
2	362	211	
3	662	154	
4	222	100	
5	470	100	
6	567	230	
7	272	330	
①	612	37	701
	4055		Long D

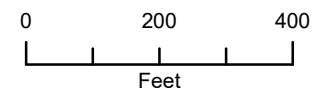


Don Williams Recreation Area Orienteering Course



Legend

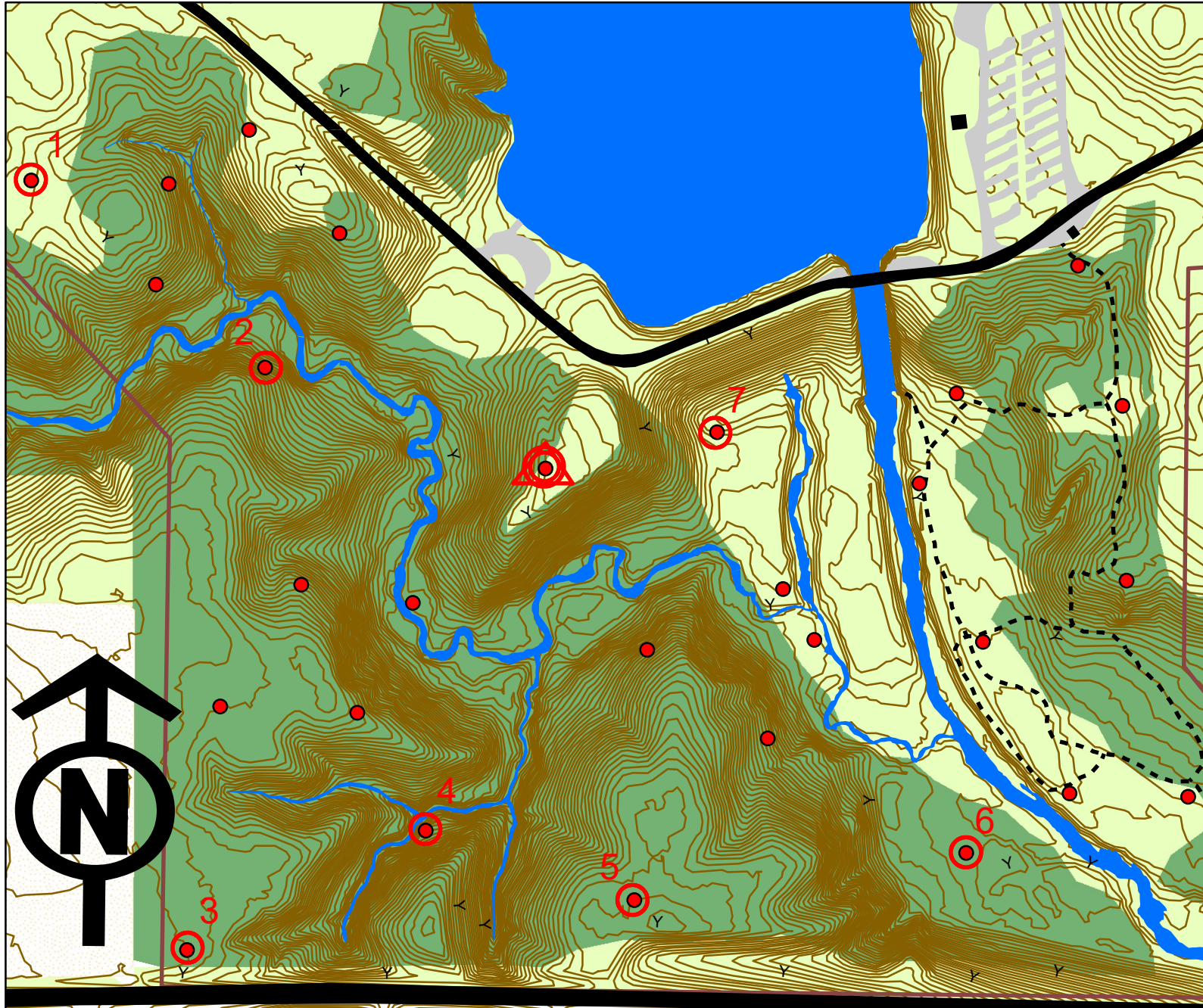
- Waypoint marker
- roads - paved
- buildings
- roads - gravel
- lakes/streams
- trails
- park border
- contours (2ft CI)
- Cultivated Land
- Sparse Trees
- Dense Forrest



	Dist	Azimuth	Marker ID
Δ			701
1	1195	216	
2	1390	63	
3	1804	300	
4	621	99	
5	1448	155	
6	913	313	
7	440	350	
⊙	593	109	701
	8404		Long E

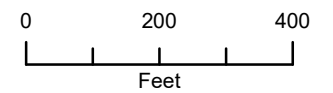


Don Williams Recreation Area Orienteering Course



Legend

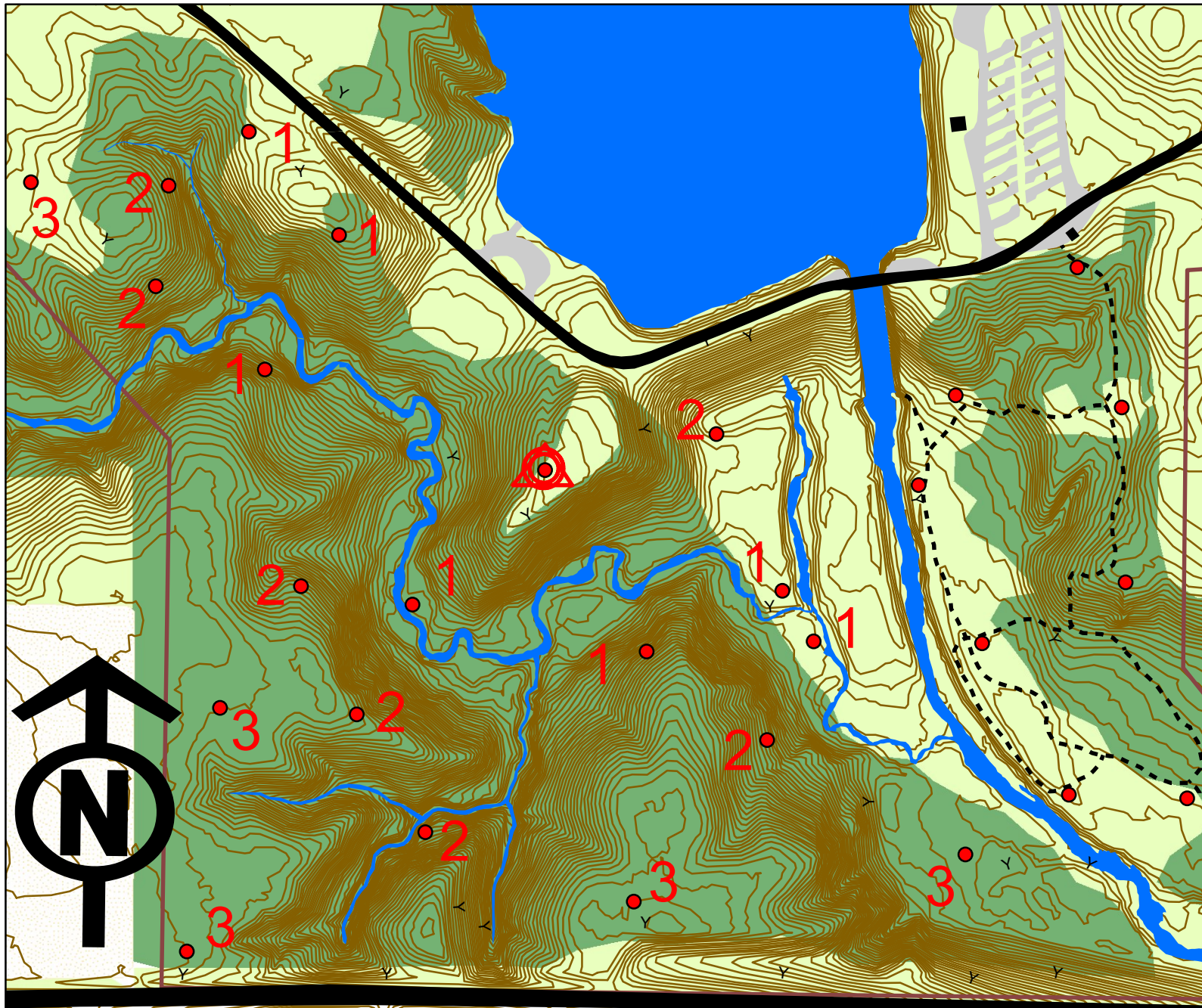
- Waypoint marker
- roads - paved
- buildings
- roads - gravel
- lakes/streams
- trails
- park border
- contours (2ft CI)
- Cultivated Land
- Sparse Trees
- Dense Forrest



	Dist	Azimuth	Marker ID
Δ			701
1	1170	299	
2	592	128	
3	1165	187	
4	528	63	
5	438	107	
6	664	81	
7	974	329	
①	350	257	701
	5881		Long F



Don Williams Recreation Area Orienteering Course



Legend

- Waypoint marker
 - ▬ roads - paved
 - ▬ buildings
 - ▬ roads - gravel
 - ▬ lakes/streams
 - - - trails
 - ▬ park border
 - ▬ contours (2ft CI)
 - ▨ Cultivated Land
 - ▨ Sparse Trees
 - ▨ Dense Forreast
- 0 200 400
Feet

Score Orienteering Course

Try to find as many markers as possible during the time limit (20 minunets suggested)

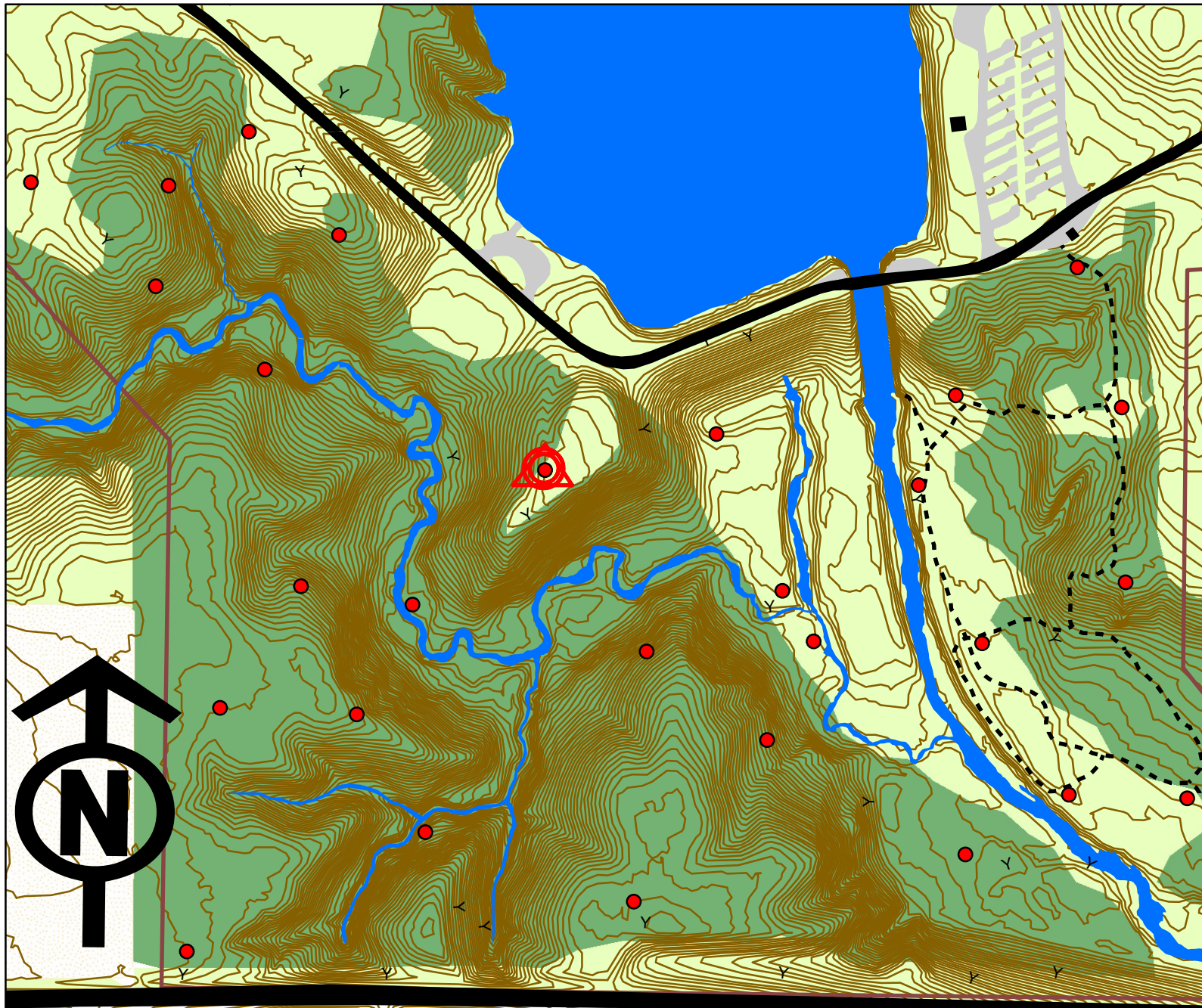
The further the marker is away from the start the more points its worth (1-3 Points)

One point taken off every minunet late

(only markers west of spillway creek)

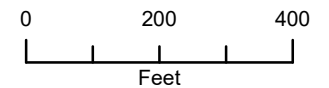


Don Williams Recreation Area Orienteering Course



Legend

- Waypoint marker
- ▬ roads - paved
- ▬ buildings
- ▬ roads - gravel
- ▬ lakes/streams
- - - trails
- ▬ park border
- ▬ contours (2ft CI)
- ▨ Cultivated Land
- ▬ Sparse Trees
- ▬ Dense Forrest



Score Orienteering Course

Try to find as many markers as possible during the time limit (20 minunets suggested)

The further the marker is away from the start the more points its worth (1-3 Points)

One point taken off every minunet late

(only markers west of spillway creek)

Sprint Courses (locate and identify 3 markers)

	Dist	Azimuth	Marker ID
Δ			701
1	1166	299	
2	1865	139	
3	651	81	
(0)	1116	312	701
	4798		Sprint A

	Dist	Azimuth	Marker ID
Δ			701
1	588	289	
2	895	97	
3	334	157	
(0)	530	296	701
	2347		Sprint B

	Dist	Azimuth	Marker ID
Δ			701
1	630	122	
2	216	207	
3	416	212	
(0)	880	347	701
	2142		Sprint C

	Dist	Azimuth	Marker ID
Δ			701
1	1165	299	
2	446	75	
3	471	176	
(0)	594	109	701
	2676		Sprint D

	Dist	Azimuth	Marker ID
Δ			701
1	1200	216	
2	1229	69	
3	456	119	
(0)	1131	312	701
	4016		Sprint E

	Dist	Azimuth	Marker ID
Δ			701
1	348	78	
2	340	158	
3	953	270	
(0)	539	64	701
	2180		Sprint F

Short Courses (locate and identify 5 markers)

	Dist	Azimuth	Marker ID
Δ			701
1	345	77	
2	617	170	
3	413	219	
4	1287	325	
5	550	147	
(0)	371	44	701
	3583		Short A

	Dist	Azimuth	Marker ID
Δ			701
1	618	318	
2	377	254	
3	360	31	
4	1302	142	
5	300	65	
(0)	525	296	701
	3482		Short B

	Dist	Azimuth	Marker ID
Δ			701
1	371	223	
2	242	206	
3	276	336	
4	291	213	
5	487	187	
(0)	1197	36	701
	2864		Short C

	Dist	Azimuth	Marker ID
Δ			701
1	350	78	
2	340	156	
3	120	147	
4	217	203	
5	455	119	
(0)	1133	312	701
	2615		Short D

	Dist	Azimuth	Marker ID
Δ			701
1	350	78	
2	843	297	
3	265	318	
4	467	175	
5	676	187	
(0)	795	53	701
	3396		Short E

	Dist	Azimuth	Marker ID
Δ			701
1	942	306	
2	1042	174	
3	292	32	
4	223	98	
5	746	110	
(0)	695	320	701
	3940		Short F

Long Courses (locate and identify 7 markers)

	Dist	Azimuth	Marker ID
Δ			701
1	590	289	
2	475	355	
3	447	255	
4	275	91	
5	203	187	
6	374	74	
7	746	168	
(0)	378	44	701
	3488		Long A

	Dist	Azimuth	Marker ID
Δ			701
1	618	217	
2	272	149	
3	531	243	
4	1085	56	
5	498	182	
6	625	34	
7	216	204	
(0)	702	320	701
	4547		Long B

	Dist	Azimuth	Marker ID
Δ			701
1	371	223	
2	478	100	
3	294	66	
4	293	185	
5	218	24	
6	861	243	
7	438	107	
(0)	875	348	701
	3828		Long C

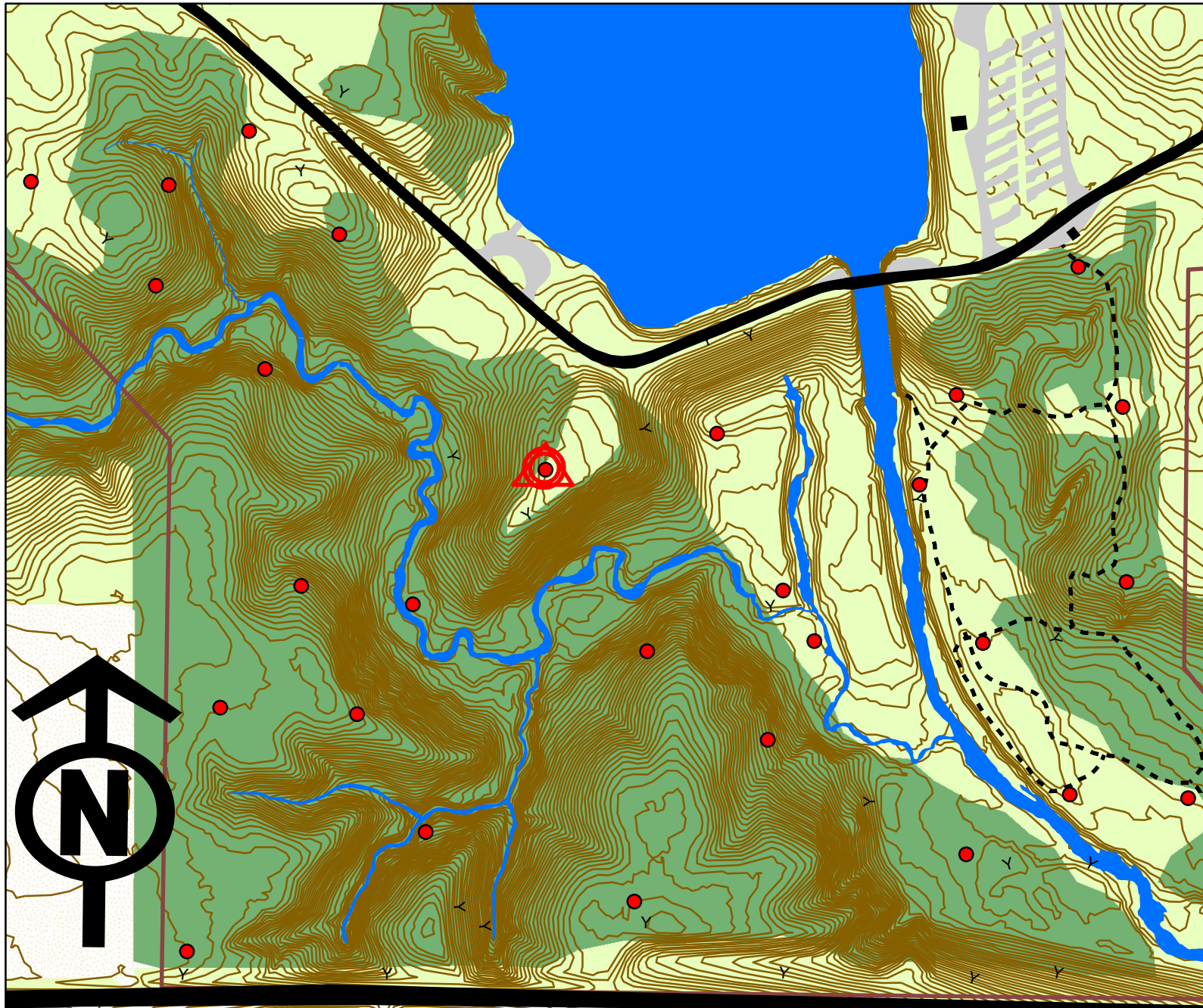
	Dist	Azimuth	Marker ID
Δ			701
1	888	318	
2	362	211	
3	662	154	
4	222	100	
5	470	100	
6	567	230	
7	272	330	
(0)	612	37	701
	4055		Long D

	Dist	Azimuth	Marker ID
Δ			701
1	1195	216	
2	1390	63	
3	1804	300	
4	621	99	
5	1448	155	
6	913	313	
7	440	350	
(0)	593	109	701
	8404		Long E

	Dist	Azimuth	Marker ID
Δ			701
1	1170	299	
2	592	128	
3	1165	187	
4	528	63	
5	438	107	
6	664	81	
7	974	329	
(0)	350	257	701
	5881		Long F

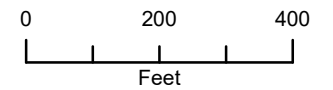


Don Williams Recreation Area Orienteering Course



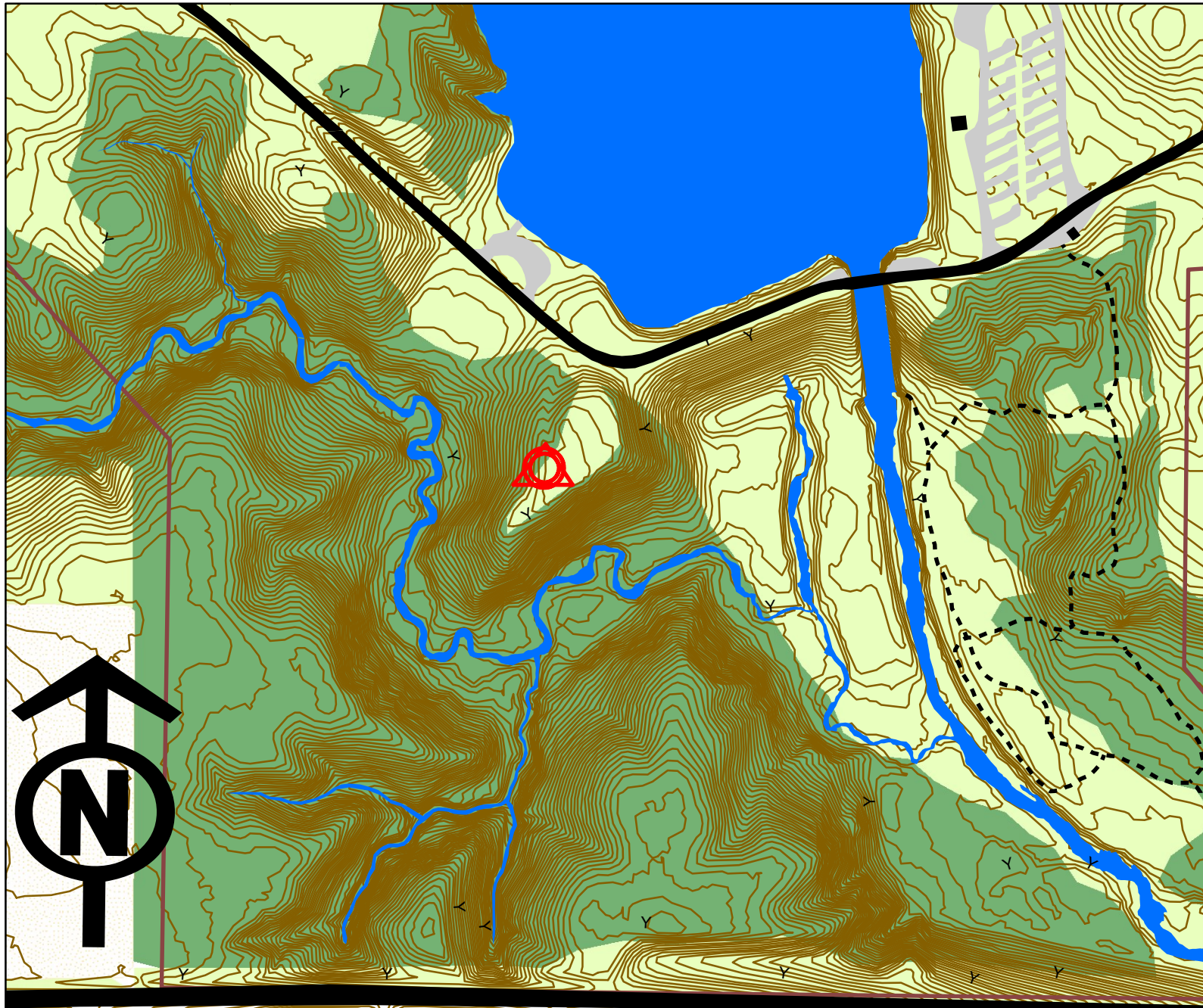
Legend

- Waypoint marker
- ▬ roads - paved
- ▬ buildings
- ▬ roads - gravel
- ▬ lakes/streams
- - - trails
- ▬ park border
- ▬ contours (2ft CI)
- ▨ Cultivated Land
- ▨ Sparse Trees
- ▨ Dense Forrestr



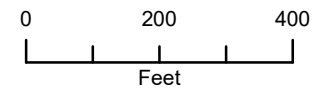


Don Williams Recreation Area Orienteering Course



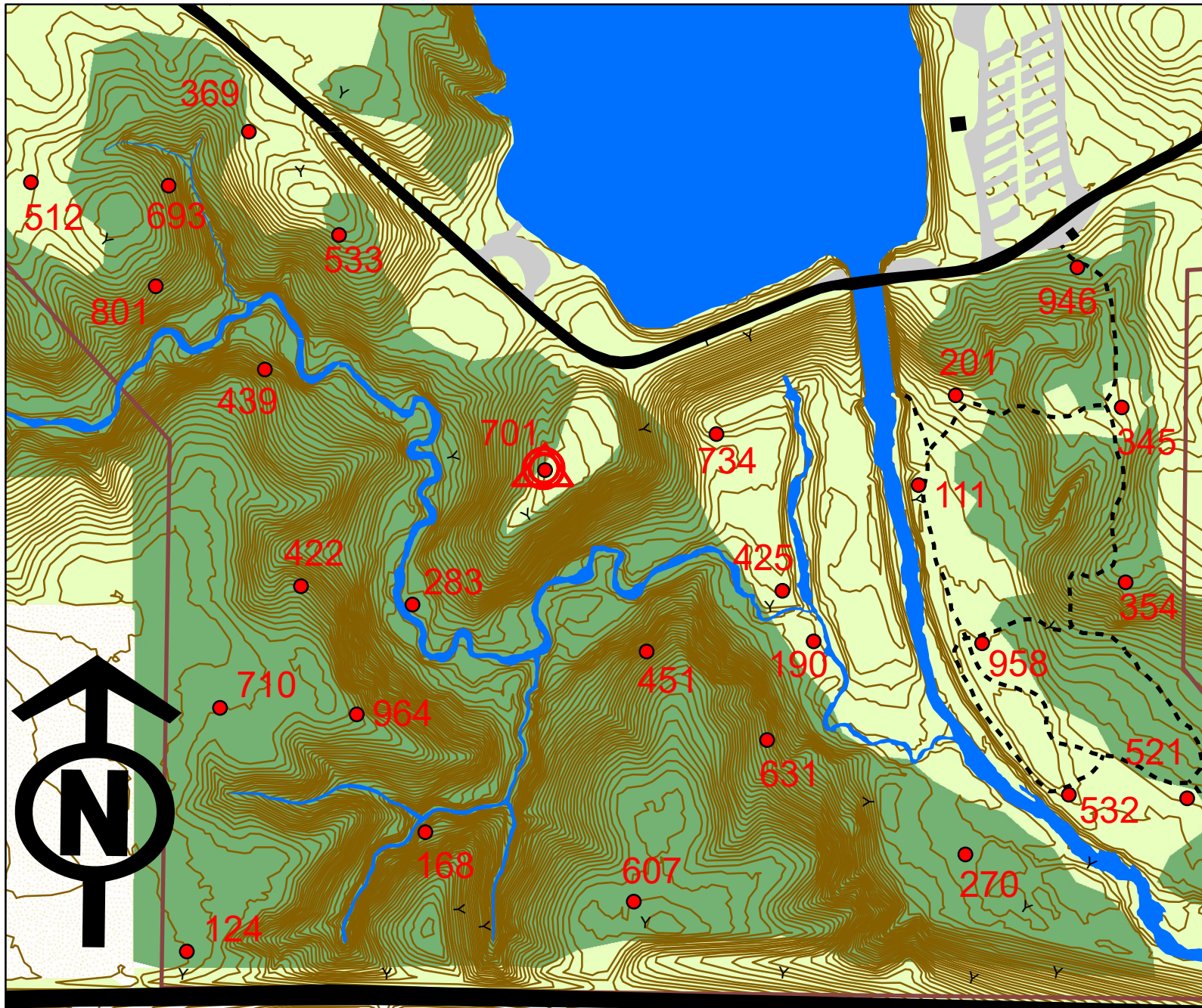
Legend

- roads - paved
- buildings
- roads - gravel
- lakes/streams
- trails
- park border
- contours (2ft CI)
- Cultivated Land
- Sparse Trees
- Dense Forrest





Don Williams Recreation Area Orienteering Course



Legend

- Waypoint marker
 - ▬ roads - paved
 - ▬ buildings
 - ▬ roads - gravel
 - ▬ lakes/streams
 - - - trails
 - ▬ park border
 - ▬ contours (2ft CI)
 - ▨ Cultivated Land
 - ▭ Sparse Trees
 - ▭ Dense Forrest
- 0 200 400
Feet

Sprint Courses (locate and identify 3 markers)

	Dist	Azimuth	Marker ID
Δ			701
1	1166	299	512
2	1865	139	607
3	651	81	270
⓪	1116	312	701
	4798		Sprint A

	Dist	Azimuth	Marker ID
Δ			701
1	588	289	439
2	895	97	734
3	334	157	425
⓪	530	296	701
	2347		Sprint B

	Dist	Azimuth	Marker ID
Δ			701
1	630	122	190
2	216	207	631
3	416	212	607
⓪	880	347	701
	2142		Sprint C

	Dist	Azimuth	Marker ID
Δ			701
1	1165	299	512
2	446	75	309
3	471	176	439
⓪	594	109	701
	2676		Sprint D

	Dist	Azimuth	Marker ID
Δ			701
1	1200	216	124
2	1229	69	631
3	456	119	270
⓪	1131	312	701
	4016		Sprint E

	Dist	Azimuth	Marker ID
Δ			701
1	348	78	734
2	340	158	425
3	953	270	422
⓪	539	64	701
	2180		Sprint F

Short Courses (locate and identify 5 markers)

	Dist	Azimuth	Marker ID
Δ			701
1	345	77	734
2	617	170	631
3	413	219	607
4	1287	325	439
5	550	147	283
⓪	371	44	701
	3583		Short A

	Dist	Azimuth	Marker ID
Δ			701
1	618	318	533
2	377	254	801
3	360	31	369
4	1302	142	451
5	300	65	425
⓪	525	296	701
	3482		Short B

	Dist	Azimuth	Marker ID
Δ			701
1	371	223	734
2	242	206	964
3	276	336	422
4	291	213	710
5	487	187	124
⓪	1197	36	701
	2864		Short C

	Dist	Azimuth	Marker ID
Δ			701
1	350	78	734
2	340	156	425
3	120	147	190
4	217	203	631
5	455	119	270
⓪	1133	312	701
	2615		Short D

	Dist	Azimuth	Marker ID
Δ			701
1	350	78	734
2	843	297	533
3	265	318	369
4	467	175	439
5	676	187	710
⓪	795	53	701
	3396		Short E

	Dist	Azimuth	Marker ID
Δ			701
1	942	306	693
2	1042	174	710
3	292	32	422
4	223	98	283
5	746	110	631
⓪	695	320	701
	3940		Short F

Long Courses (locate and identify 7 markers)

	Dist	Azimuth	Marker ID
Δ			701
1	590	289	439
2	475	355	369
3	447	255	512
4	275	91	693
5	203	187	801
6	374	74	533
7	746	168	283
(0)	378	44	701
	3488		Long A

	Dist	Azimuth	Marker ID
Δ			701
1	618	217	964
2	272	149	168
3	531	243	124
4	1085	56	451
5	498	182	607
6	625	34	190
7	216	204	631
(0)	702	320	701
	4547		Long B

	Dist	Azimuth	Marker ID
Δ			701
1	371	223	283
2	478	100	451
3	294	66	425
4	293	185	631
5	218	24	190
6	861	243	168
7	438	107	607
(0)	875	348	701
	3828		Long C

	Dist	Azimuth	Marker ID
Δ			701
1	888	318	369
2	362	211	801
3	662	154	422
4	222	100	283
5	470	100	451
6	567	230	168
7	272	330	964
(0)	612	37	701
	4055		Long D

	Dist	Azimuth	Marker ID
Δ			701
1	1195	216	124
2	1390	63	190
3	1804	300	512
4	621	99	533
5	1448	155	607
6	913	313	422
7	440	350	439
(0)	593	109	701
	8404		Long E

	Dist	Azimuth	Marker ID
Δ			701
1	1170	299	512
2	592	128	439
3	1165	187	124
4	528	63	168
5	438	107	607
6	664	81	270
7	974	329	734
(0)	350	257	701
	5881		Long F