

MAP 2: Developable Lands and Partial Constraints Town of Needham

Flood Zones

- 100 Year Zones
- 100' - 200' Rivers Protection Buffer
- Wetland

Water Bodies

- Streams
- Intermittent Streams

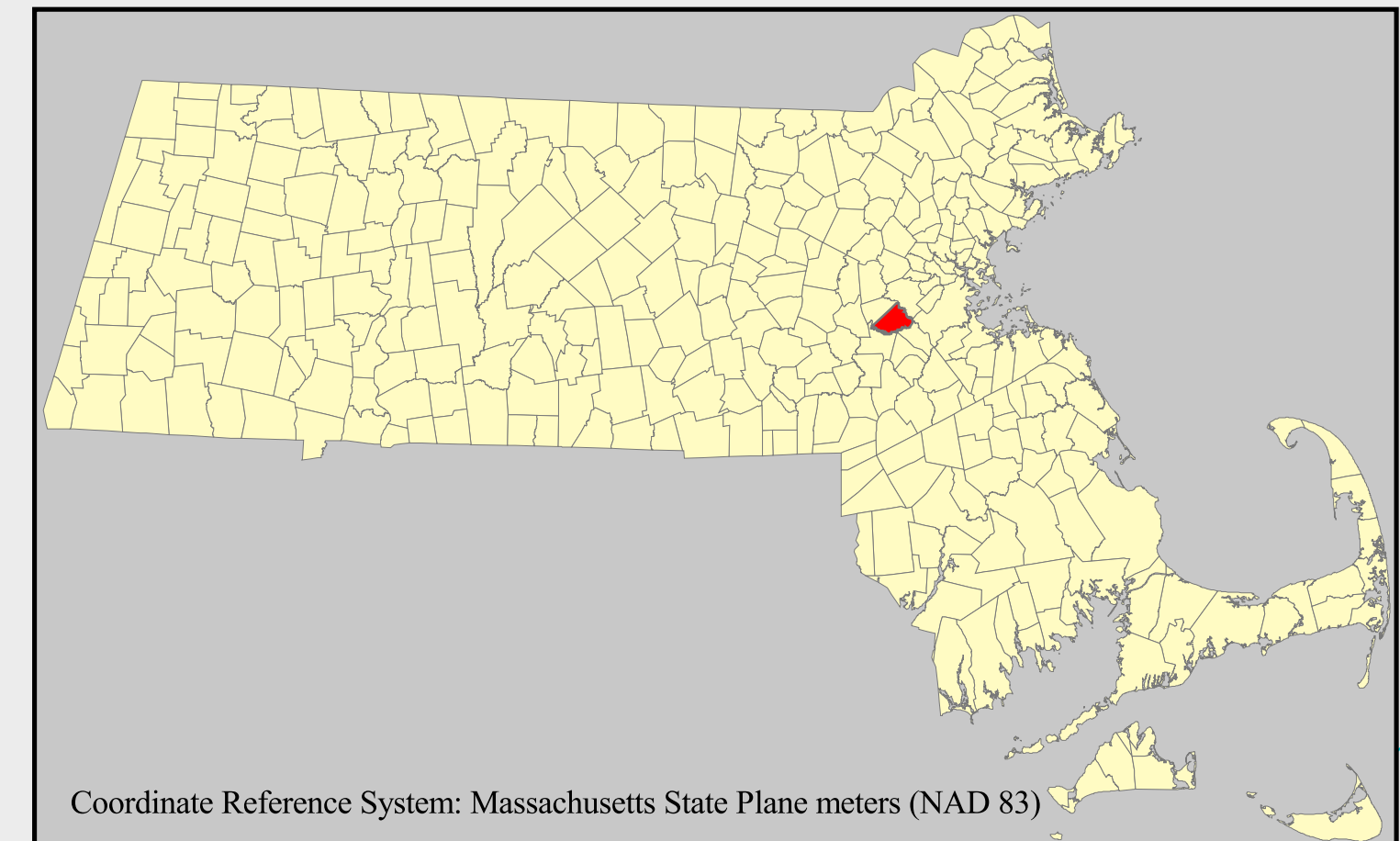
Roads

- Local
- Interstate
- Arterial
- Collector
- Trains

Potential Constraint

- Water Resource Protection District

Redevelopment District

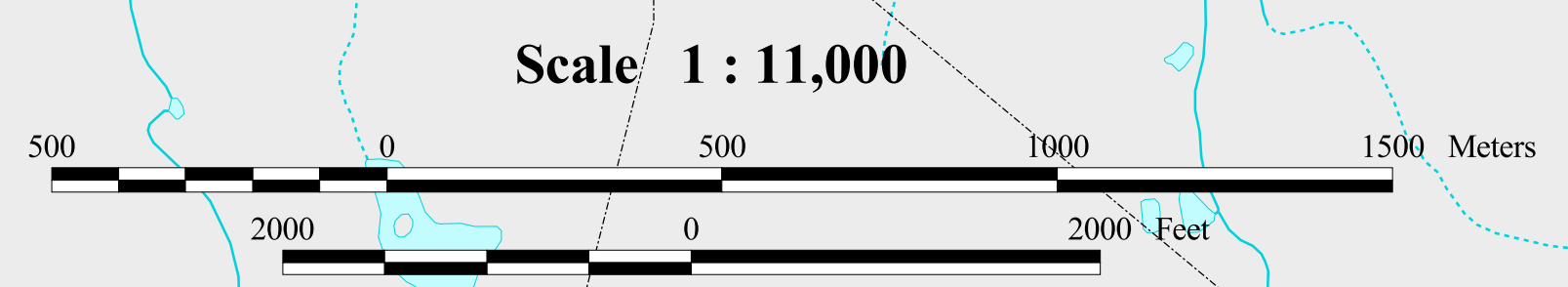
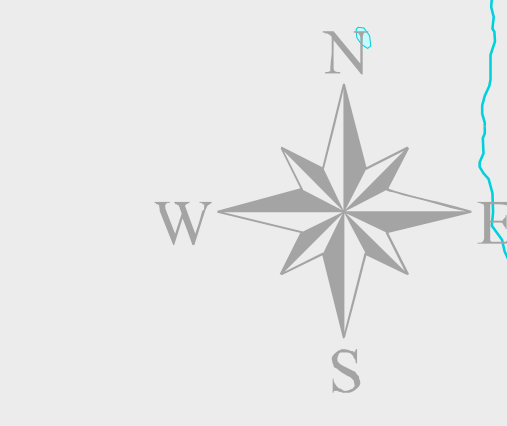


Residential District	Developed Land Area (Sq. Ft.)	Lots	Dwelling Units	Effective FAR	Built Commercial / Industrial sq. ft.	Future Residential Count (sq. ft.)	Commercial / Industrial Water Use	Future Residents	Residential Water Use (GPD)	Municipal Solid Waste (tons)	Non-Residential Solid Waste (tons)	Students	New Roads (miles)
Residential District RRC	13,861,273	63	63						140	12,829	82	59	25
<i>Inside the Aquifer Protection District</i>	2,009,856	44	44						111	9,347	57	41	17
<i>Outside wetlands, flood zone and 100'-200' River Zone</i>	2,322,857	43	43						108	9,908	55	39	17
<i>Inside wetlands, flood zone or 100'-200' River Zone</i>	284,999	1	1						3	248	2	1	0.0
<i>Outside the Aquifer Protection District</i>	10,452,417	19	19						49	3,683	25	18	8
<i>Outside wetlands, flood zone and 100'-200' River Zone</i>	256,175	5	5						12	960	6	4	2
<i>Inside wetlands, flood zone or 100'-200' River Zone</i>	3,194,244	15	15						37	2,783	19	14	6
Residential District SRA	28,568,820	247	247						476	50,222	347	247	104
<i>Inside the Aquifer Protection District</i>	2,700,669	50	50						125	9,409	64	46	19
<i>Outside wetlands, flood zone and 100'-200' River Zone</i>	2,695,735	50	50						125	9,408	64	46	19
<i>Inside wetlands, flood zone or 100'-200' River Zone</i>	1,136	0	0						0	0	0	0	0.0
<i>Outside the Aquifer Protection District</i>	17,862,051	218	218						351	41,313	283	201	82
<i>Outside wetlands, flood zone and 100'-200' River Zone</i>	9,851,047	181	181						458	34,329	235	167	71
<i>Inside wetlands, flood zone or 100'-200' River Zone</i>	8,010,204	37	37						97	6,984	48	34	14
Residential District SRB	4,066,934	247	247						425	44,866	321	228	96
<i>Outside wetlands, flood zone and 100'-200' River Zone</i>	3,155,556	230	230						383	43,710	299	213	90
<i>Inside wetlands, flood zone or 100'-200' River Zone</i>	911,378	17	17						42	3,156	22	15	6
Residential District GR	464,816	15	28						100	2,580	51	37	11
<i>Outside wetlands, flood zone and 100'-200' River Zone</i>	341,226	12	23						39	4,435	80	22	9
<i>2 Family (1,002)</i>	341,226	12	23						39	4,435	80	22	9
<i>Inside wetlands, flood zone or 100'-200' River Zone</i>	222,790	3	5						41	3,075	21	15	2
<i>2 Family (1,002)</i>	222,790	3	5						14	1,029	7	5	2
Institutional District INS	1,248,570								382,781	58,942			
<i>Total area</i>	1,248,570								382,781	58,942			
<i>Outside wetlands, flood zone and 100'-200' River Zone</i>	1,056,446			0.35					362,896	55,738			
<i>Inside wetlands, flood zone or 100'-200' River Zone</i>	231,724			0.09					20,885	2,204			
Industrial District I - Redevelopment	2,143,634				1,885,988	165,913	12,444						
<i>Total area</i>	2,143,634				1,885,988	165,913	12,444						
<i>Outside wetlands, flood zone and 100'-200' River Zone</i>	2,143,634			0.57									
Business District B - Redevelopment	679,348				274,778	24,978	4,873						
<i>Total area</i>	679,348				274,778	24,978	4,873						
<i>Outside wetlands, flood zone and 100'-200' River Zone</i>	679,348			0.8									
Industrial Park District IP - Redevelopment	6,741,909				3,351,166	481,222	26,879						
<i>Total area</i>	6,741,909				3,351,166	481,222	26,879						
<i>Outside wetlands, flood zone and 100'-200' River Zone</i>	6,741,909			0.57									
Grand Total:	48,953,884	593	666		4,621,982	1,866,364	176,128	1,562	177,148	881	579	236	8

- NOTES:
- Land within the 100' buffer zone of the Rivers Protection Act was removed from all districts as an Absolute Constraint.
 - Wetlands, floodplains and the 100'-200' River Zone were considered partial constraints within all Residential Districts and therefore it was assumed that land within any combination of these partial constraints would result in a reduction of the developable land area available for the creation of lots (see below for detailed explanation).
 - Within residential districts RRC, SRA, SRB and GR, 75% of the land area within any partial constraint was assumed not to be available in lot calculations. This was based upon a 90% upland requirement within the RRC, SRB and GR, and a 70% upland requirement within the remaining districts according to the Zoning Bylaw in addition to the large wetland and floodplain masses.
 - Within the residential GR district it was assumed that 100% of the residential area would be 2 family.
 - Within the INS district, an FAR of .35 was assumed within the unconstrained. This was based upon the Otis College development proposal of 553,000 sq. ft. of building on 35.6 acres. The FAR was reduced by 75% to yield a .09 FAR within partially constrained land.
 - Within the INS district, water usage was assumed to be 21,522.12 sq. ft. per gallon. This was based upon the Otis College development proposal of 72,000 gallons per 1,549,591 sq. ft.
 - Within the B and IP redevelopment districts, 100% 3 floor office was assumed. An FAR of .37 was based upon parking limitations.
 - Within the B redevelopment district, 50% 1 floor retail and 50% 2 floor office was assumed. An FAR of .38 was based upon maximum building coverage as specified in section 4.4.2. Of the Zoning Bylaw.
 - The Aquifer Protection District was not considered as a development constraint within residential districts as it only regulated maximum impervious surface.

Multipliers Used in Residential Calculations

Residential Zoning	Minimum Lot Size	Frontage	R.O.W.	Build Factor
RRC	43,560	150	50	80%
SRA	43,560	150	50	80%
SRB	10,000	80	50	73%
GR	10,000	80	50	73%



Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Argon Paul Cellucci
Governor
Jane Swift
Lt. Governor
Bob Durand
Secretary

Presented to the Community of
Needham, Spring 2000