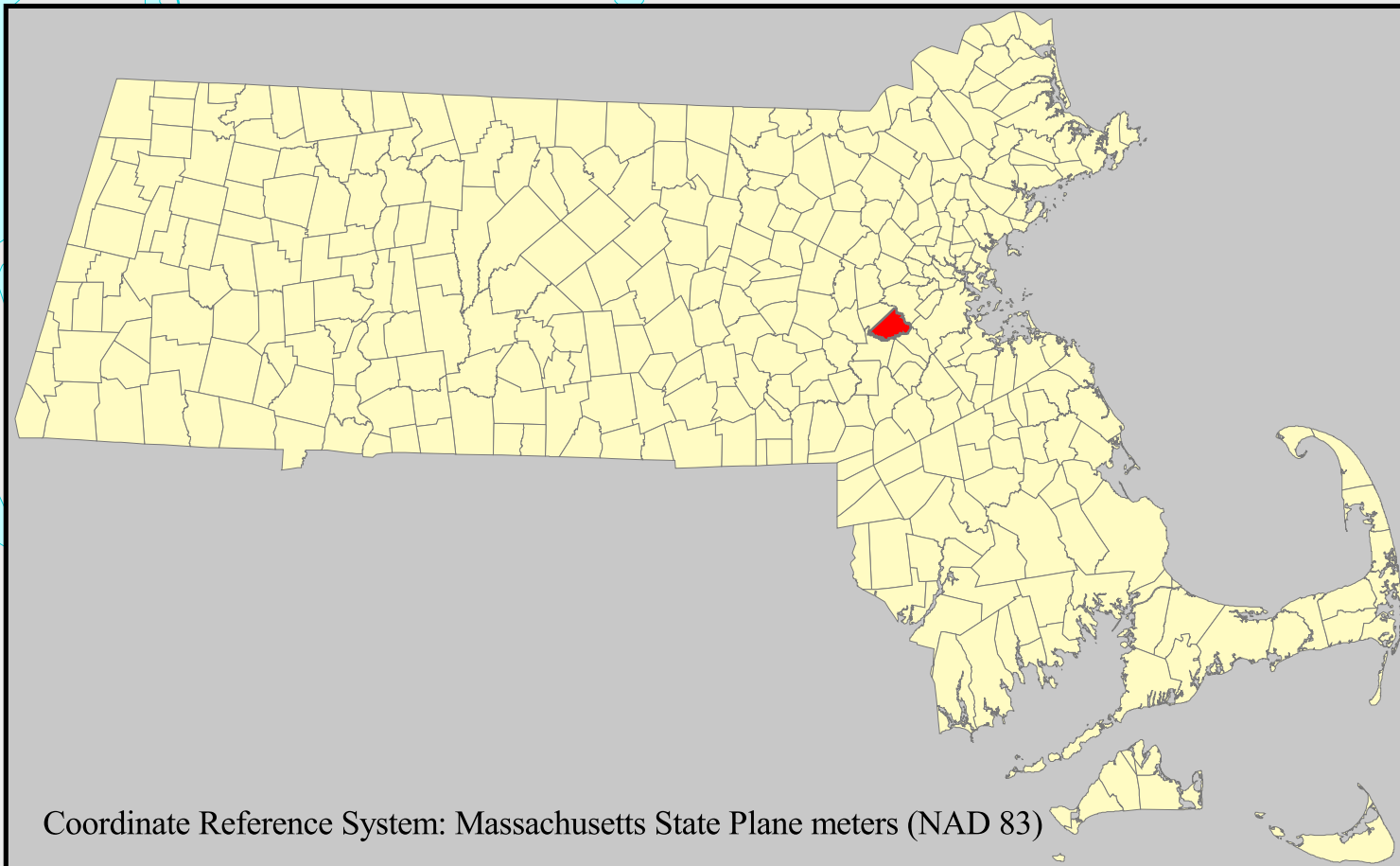


# MAP 1: Zoning and Absolute Development Constraints Town of Needham

- Zoning**
- Subdivisions since Last MacConnell Update**
- Developed Land as of 1990**
- Land Use Update**
- Miscellaneous Undevelopable Lands**
- Open Space**
  - Municipal**
  - Permanently Protected**
- Water Bodies**
- Streams**
- Intermittent Streams**
- 100' Rivers Protection Act Buffer**
- Redevelopment District**
- Roads**
  - Local**
  - Interstate**
  - Arterial**
  - Collector**
  - Trains**



**Methods**

This buildout analysis is used to determine developable land area for both commercial and industrial zoning districts. Digital and hard copy data is collected. Digital zoning data is updated. Other existing digital data is gathered from a variety of sources including MassGIS, the community, Massachusetts Highway Department and federal sources. Zoning, open space, land use, hydrography, environmentally sensitive areas, wetlands, Rivers Protection Act buffers, flood zones, slope, soil, orthophotography, rail lines, road networks, and political boundaries are utilized to different degrees. Additional layers are created that included miscellaneous features that were determined to be undevelopable, an update of the most recent MacConnell Land Use, and a layer of recent subdivisions since the last MacConnell update.

The developed land data is from the aggregated land use categories in the MacConnell Land Use layer provided by MassGIS. The aggregated developed land categories are spectator and water-based recreation, residential, commercial, industrial, transportation, and waste disposal.

The GIS analysis consisted of subtracting layers from zoning. The remaining developable land area represented on MAP 2 is aggregated by zoning category.

To determine the number of future buildable residential lots by zoning category a formula was developed to determine the land requirements of a typical lot in each category. The land requirements factor in required frontage multiplied by half the road right-of-way to determine road area. This figure varies from zone to zone. Additionally, 10% is subtracted from each zone to cover miscellaneous variables such as odd lot shapes. Commercial and industrial buildable lots were determined using an "effective" floor area ratio technique.

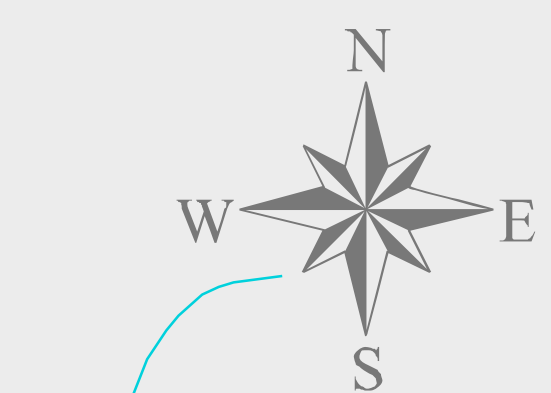
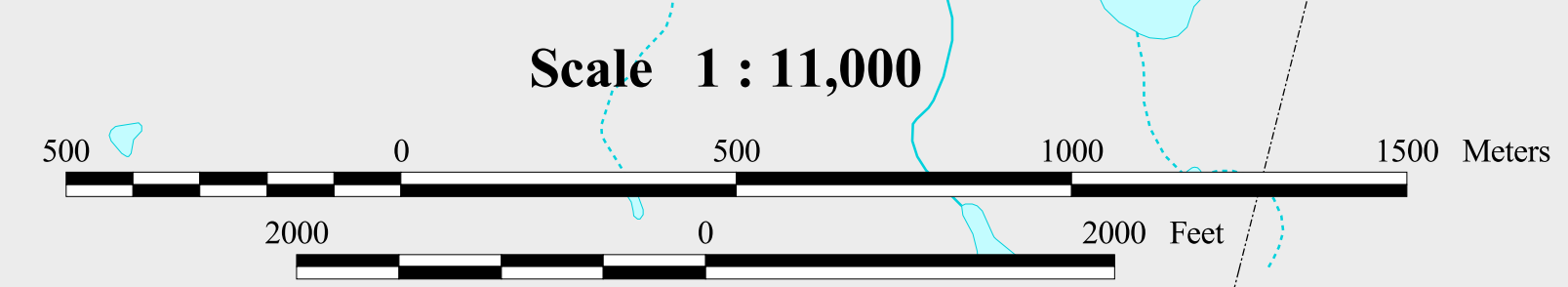
The analysis determines developable square feet of commercial and industrial areas. For each commercial and industrial zoning district, the major alternative land uses were examined in relation to the height limitations, maximum allowable percent lot coverage and parking requirements. An effective floor area ratio (FAR) for all use categories (e.g., offices, warehousing) in a particular district is developed for analysis purposes. An effective FAR for a district is estimated by averaging the FARs for the various potential land use types. Note that where FARs are not detailed for zoning districts in the by-laws an estimated FAR is derived for similar zoning districts by multiplying the percent lot coverage by the number of 10-foot-tall stories that could be constructed. Effective limitations on total square footages caused by the required amount of parking with each use is also factored in.

**Needham - Zoning District Areas**

ZONING DISTRICT	AREA (M)	AREA (SqFt)	PERCENT
SRB	14,015,127	150,857,574	43%
SRA	12,033,961	129,532,480	37%
RR-C	3,302,028	35,542,733	10%
IP	800,103	8,612,233	2%
GR	660,148	7,105,774	2%
I	300,487	3,234,417	1%
INS	298,395	3,211,895	1%
A2	256,632	2,762,361	1%
I1	159,919	1,721,358	0.5%
A1	155,615	1,675,026	0.5%
B-CH ST	142,166	1,530,263	0.4%
B-CTR	113,068	1,217,049	0.3%
B	99,053	1,066,200	0.3%
B-AV SQ	56,566	608,871	0.2%
NB	55,444	596,793	0.2%
B-AV	30,994	333,616	0.1%
<b>Total</b>	<b>32,479,706</b>	<b>349,608,641</b>	<b>100%</b>

**Subdivisions**

ID	Name	Total Lots	Total acres	Date Approved
8	Bridle Trail Estates	27	80.00	1993-1998
7	Duncan Drive	4	4.68	1996
12	Cedar Street Subdivision	15	5.80	1994
17	Heath Street Subdivision	5	1.10	1996
20	Meadow Woods	5	8.03	1997
24	Reservoir Ave.	3	1.03	1990
26	Riverview Estates	5	25.80	1998
27	Saddlebrook Estates	23	28.00	1994
29	Sachem Road	4	1.43	1998
30	Starr Ridge Estates	5	9.13	1997
31	Southfield Estates	11	17.00	1996
33	Southwood Estates	5	8.70	1995
34	Stonefield Estates	8	9.80	1996
37	15 & 21 Wellesley Ave	4	1.95	1999



Commonwealth of Massachusetts  
Executive Office of Environmental Affairs

Argon Paul Celluci  
Governor

Jane Swift  
Lt. Governor

Rob Durand  
Secretary

Presented to the Community of  
Needham, Spring 2000