

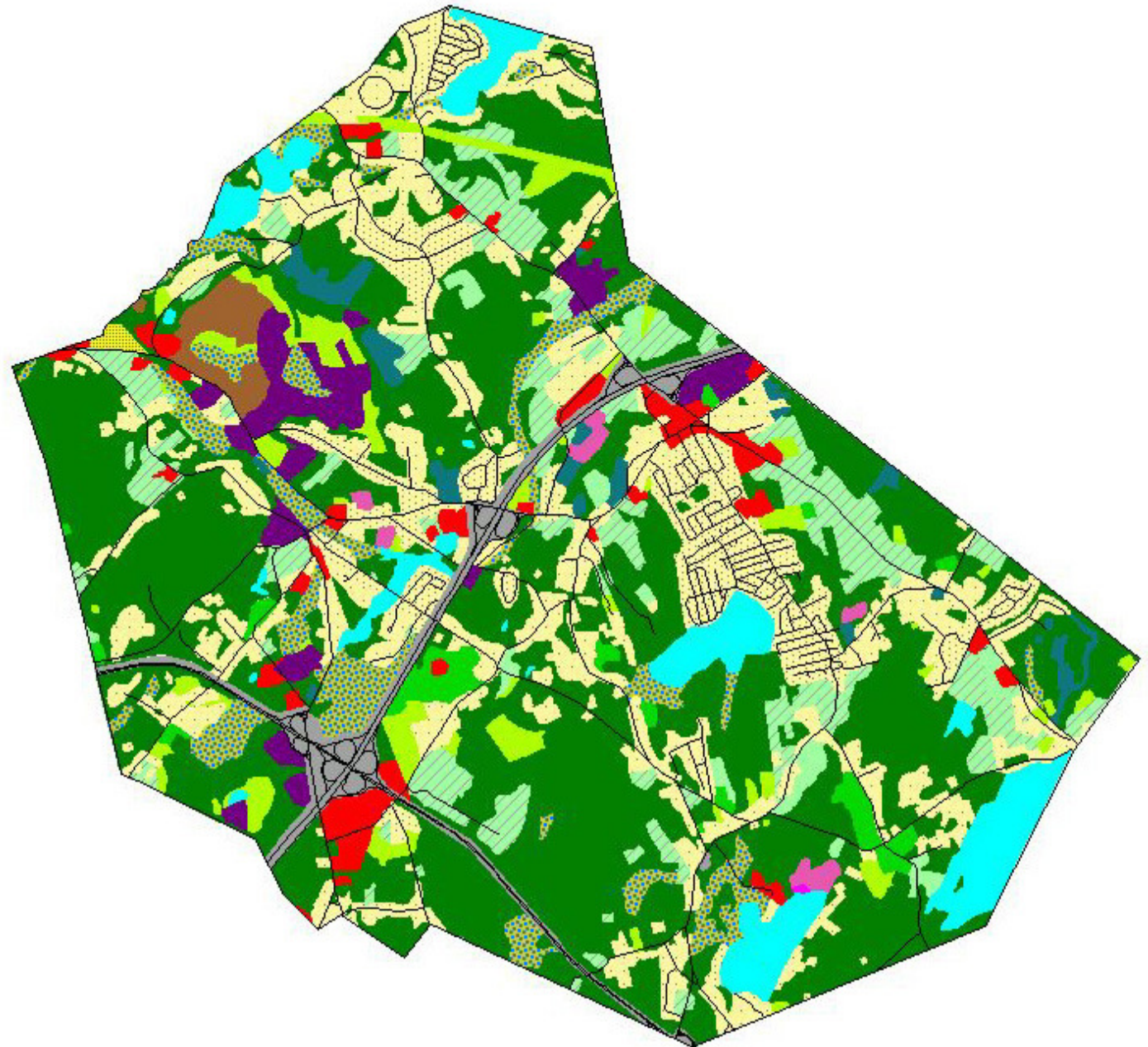
LITTLETON, MASSACHUSETTS SMART SEWERING

Charles River Watershed Association
Natural Systems Utilities
Bob Zimmerman

Presented to MA Water Resources Commission
March 8, 2012

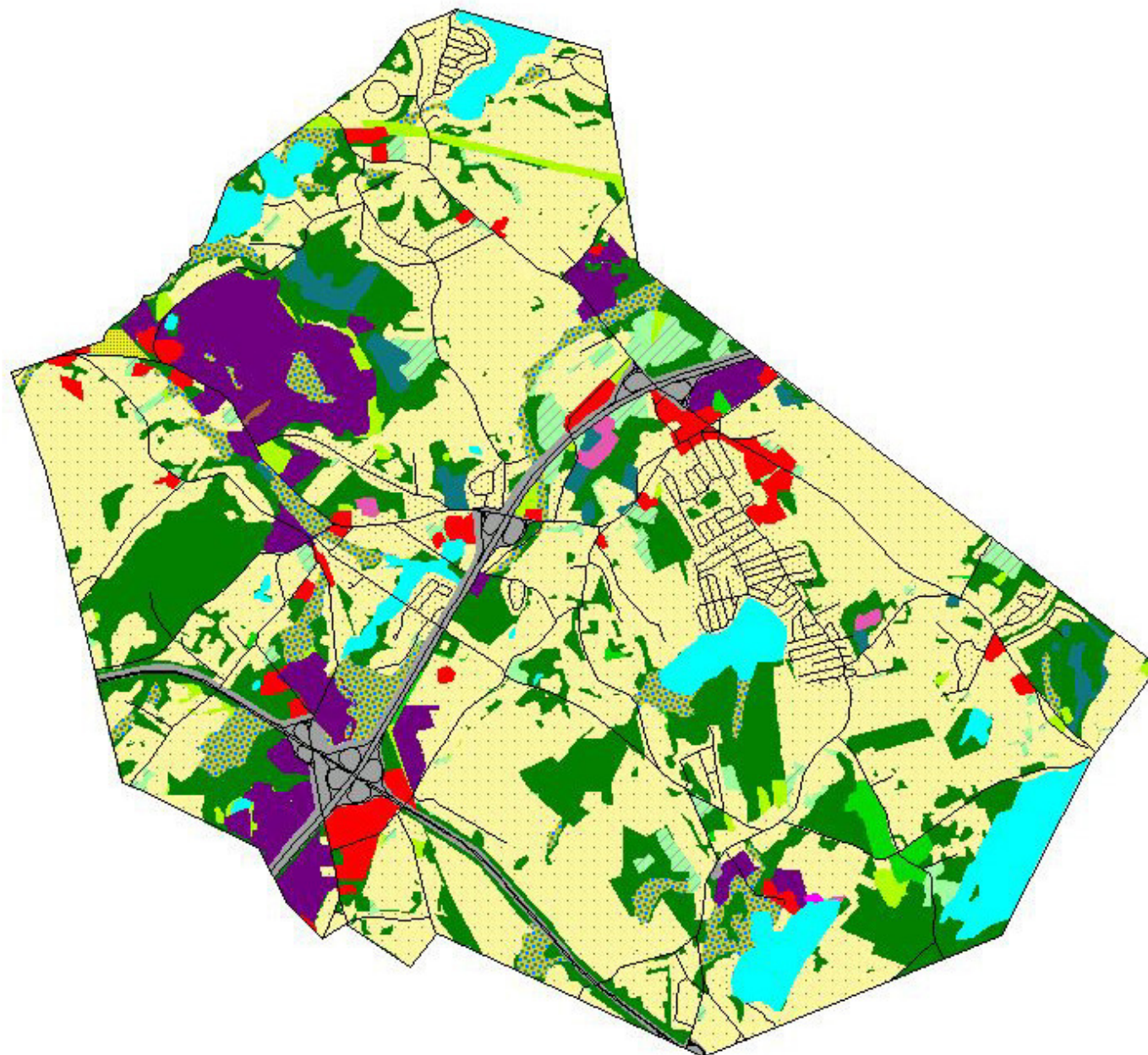


Present Land Use in Littleton



-  Littleton Boundary
-  Roads
- Present Land Use
-  Crop Land
-  Pasture
-  Forest
-  Non-Forested Wetland
-  Mining
-  Open Land
-  Participation Rec.
-  Spectator Rec.
-  Water-based Rec.
-  Multi-Fam. Res.
-  High Density Res.
-  Medium Dens. Res.
-  Low Dens. Res.
-  Salt Water Wetland
-  Commercial
-  Industrial
-  Urban Open
-  Transportation
-  Waste Disposal
-  Water
-  Woody Perennial

Future Land Use in Littleton











EAST

119

MASS. DEPT. OF PUBLIC WORKS



PED XING



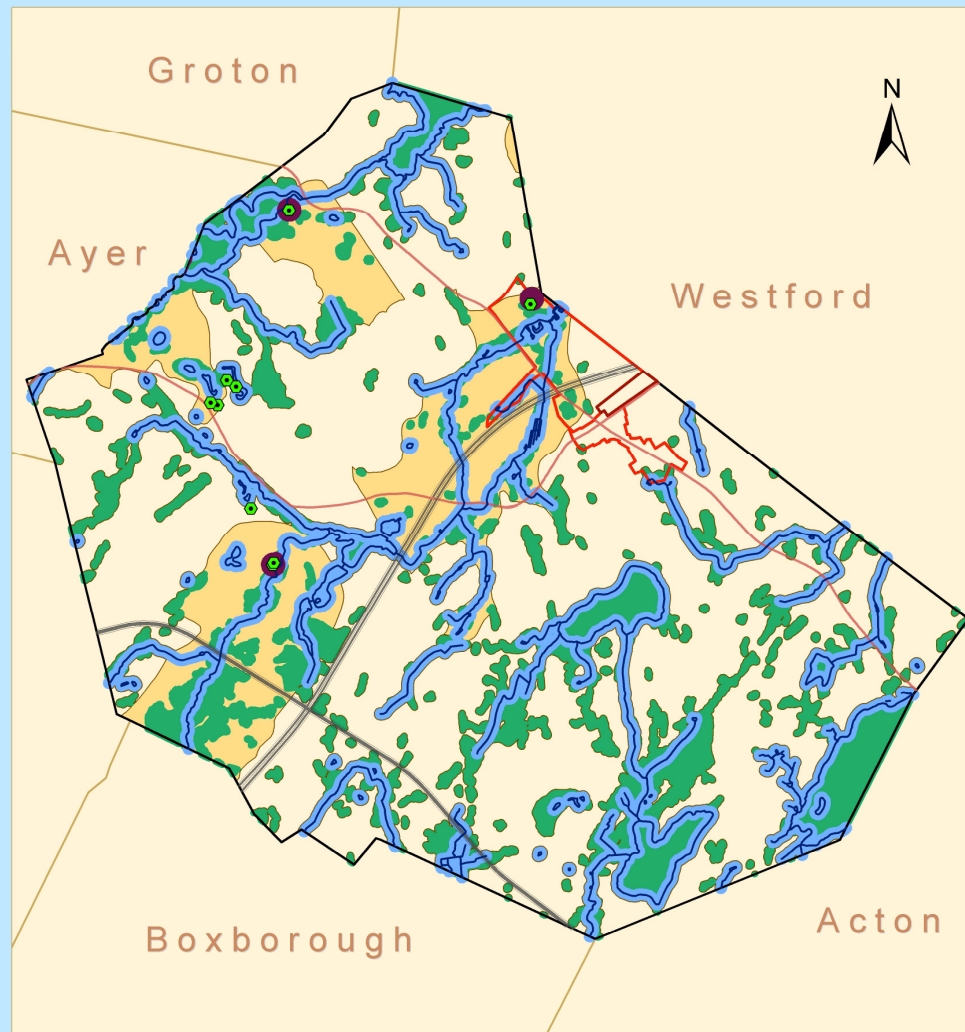
MASONIC
YARD SALE
Saturday
June 1st
9am - 1pm
Rain or shine
Location: 1111
1111 1st St
1111 1st St

Sup
Kids
LITTLETON P
TILMONT SCHOOL
MAY 15, 2011
10am - 1pm
1111 1st St
1111 1st St

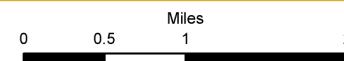
Food Waste Disposal



Exclusionary Areas for Water Discharge in Littleton



- Wells
- Streams
- Zone I
- Village Overlay West
- Village Common
- Exclusionary Areas
- Streams Buffer 200 ft
- Wetland Buffer 100 ft
- Zonell



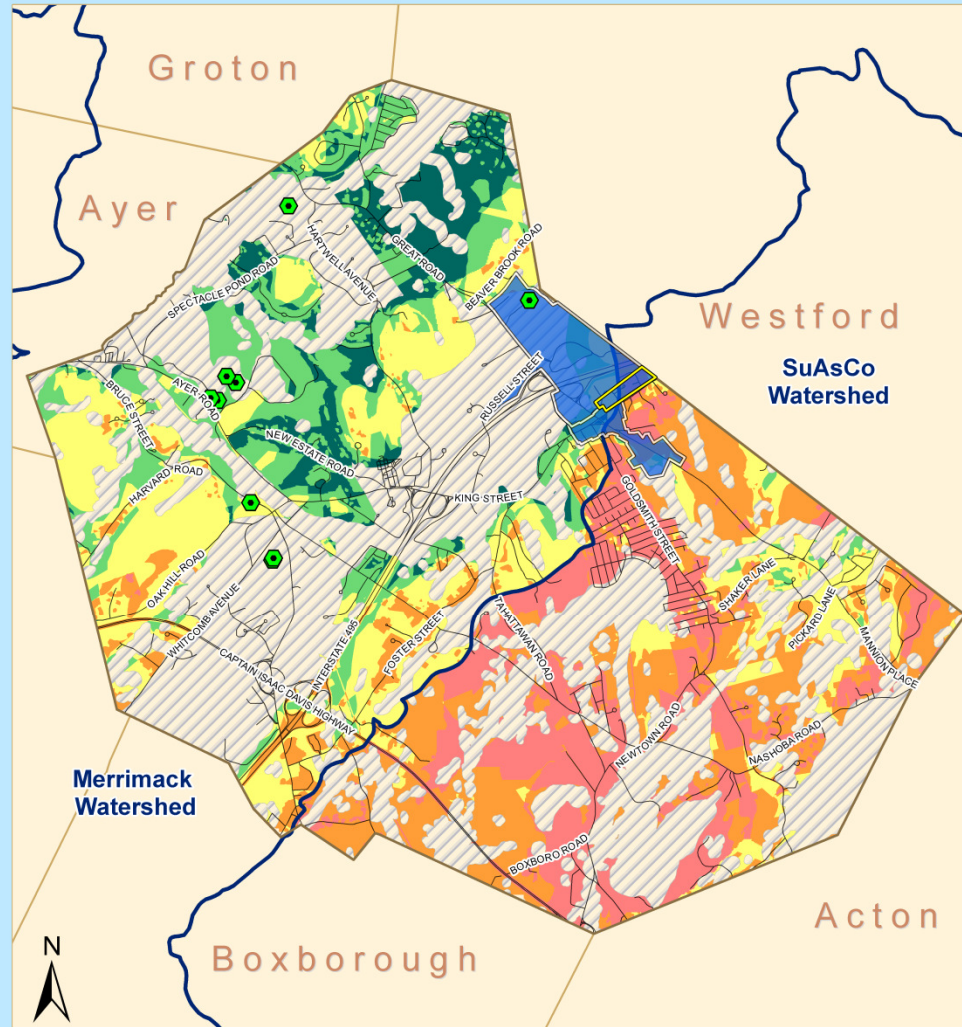
Sources:
MassGIS
MAPC

Projection:
NAD 83- State Plane MA Mainland
Nov-2010



Charles River Watershed Association

SUITABLE LOCATIONS FOR WASTE WATER DISCHARGE IN LITTLETON, MASSACHUSETTS



Legend

Suitability Analysis

Highest score: Suitable

2.50 - 10.0

10.1 - 15.0

15.1 - 20.0

20.1 - 25.0

25.1 - 31.5

Exclusionary Areas

Village Overlay West

Village Common

Major Basins

Littleton boundary

Wells

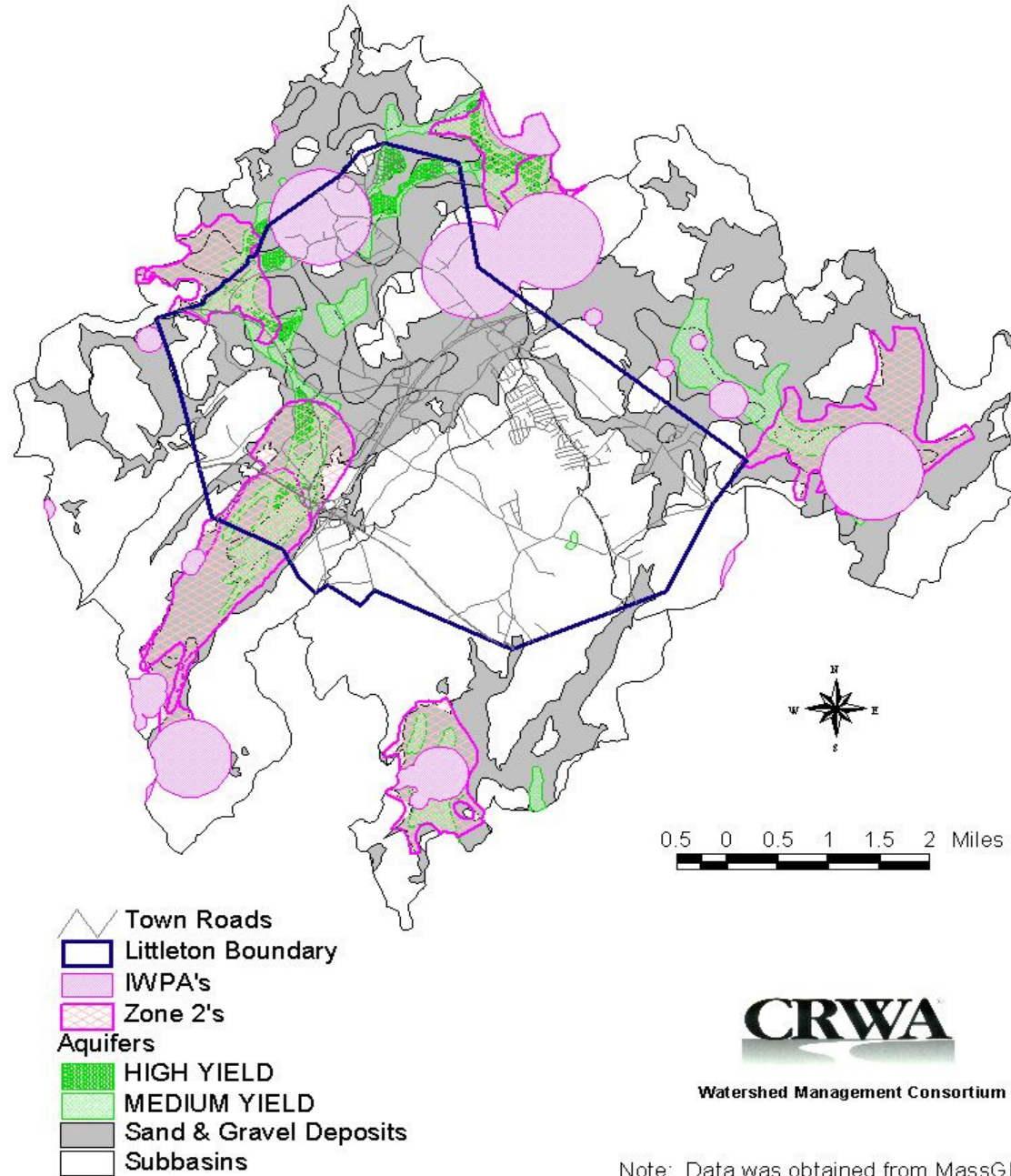
0 0.5 1 2
Miles

Sources: Projection:
MassGIS NAD 83- State Plane MA Mainland
MAPC
USGS SIR 2009-5272
March 2011

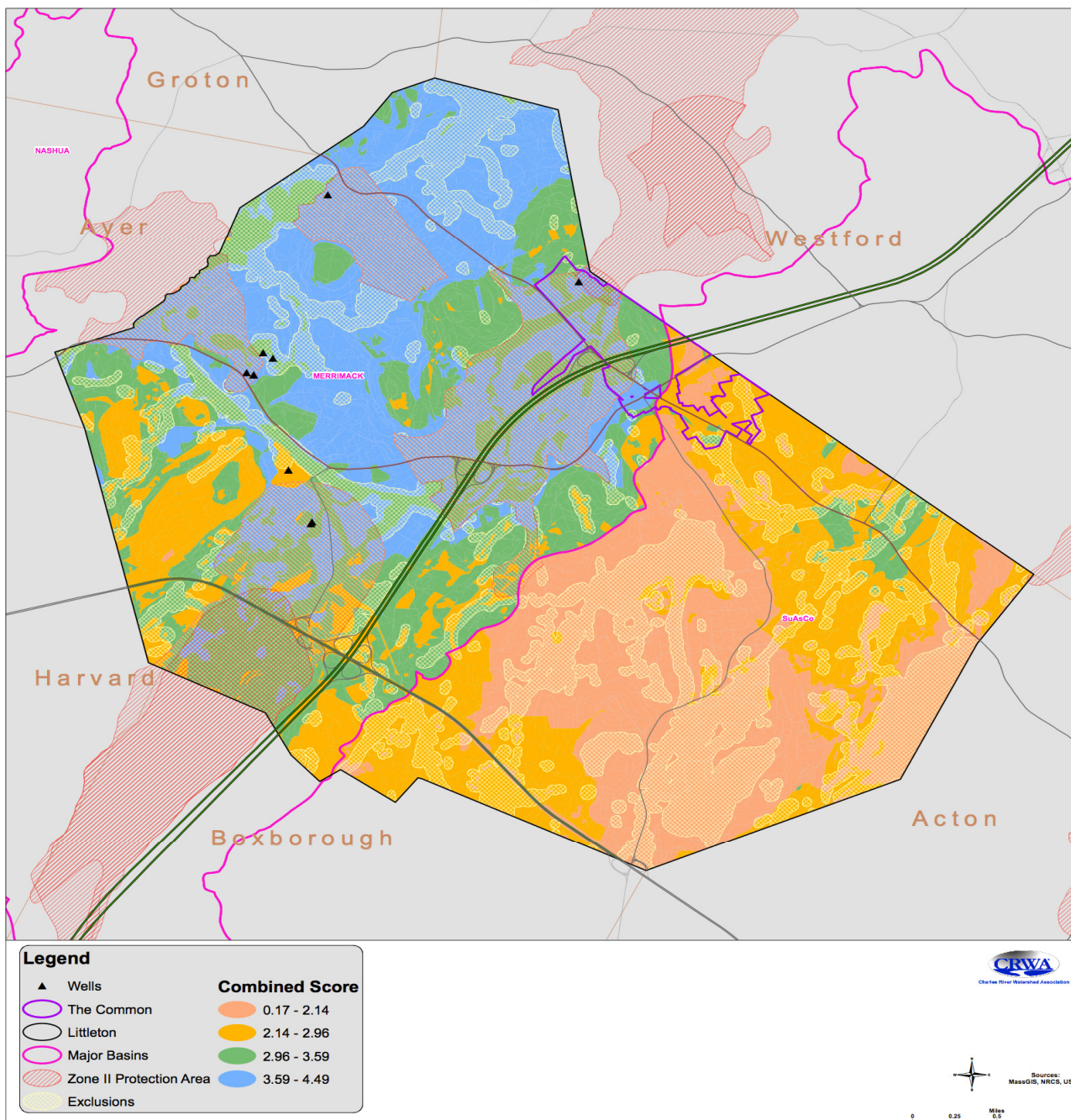


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Ground Water Resources

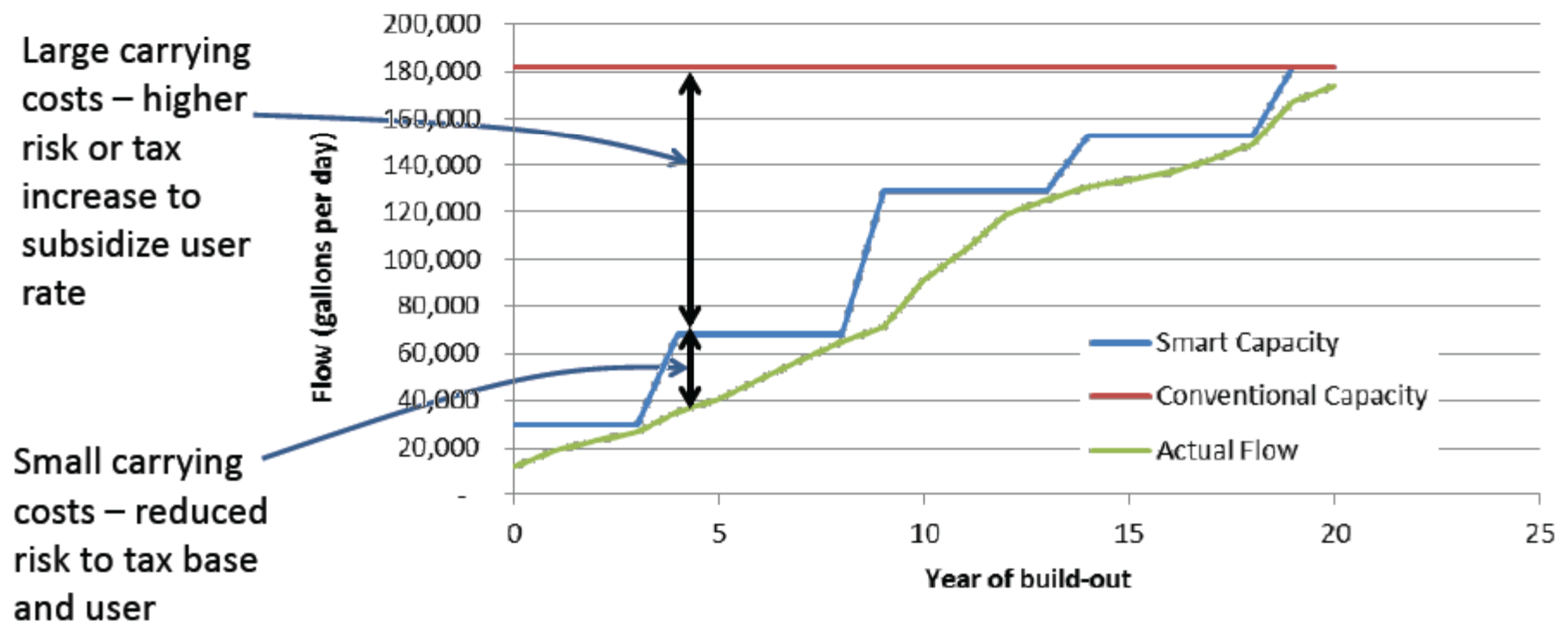


Littleton Site Suitability - Combined Score

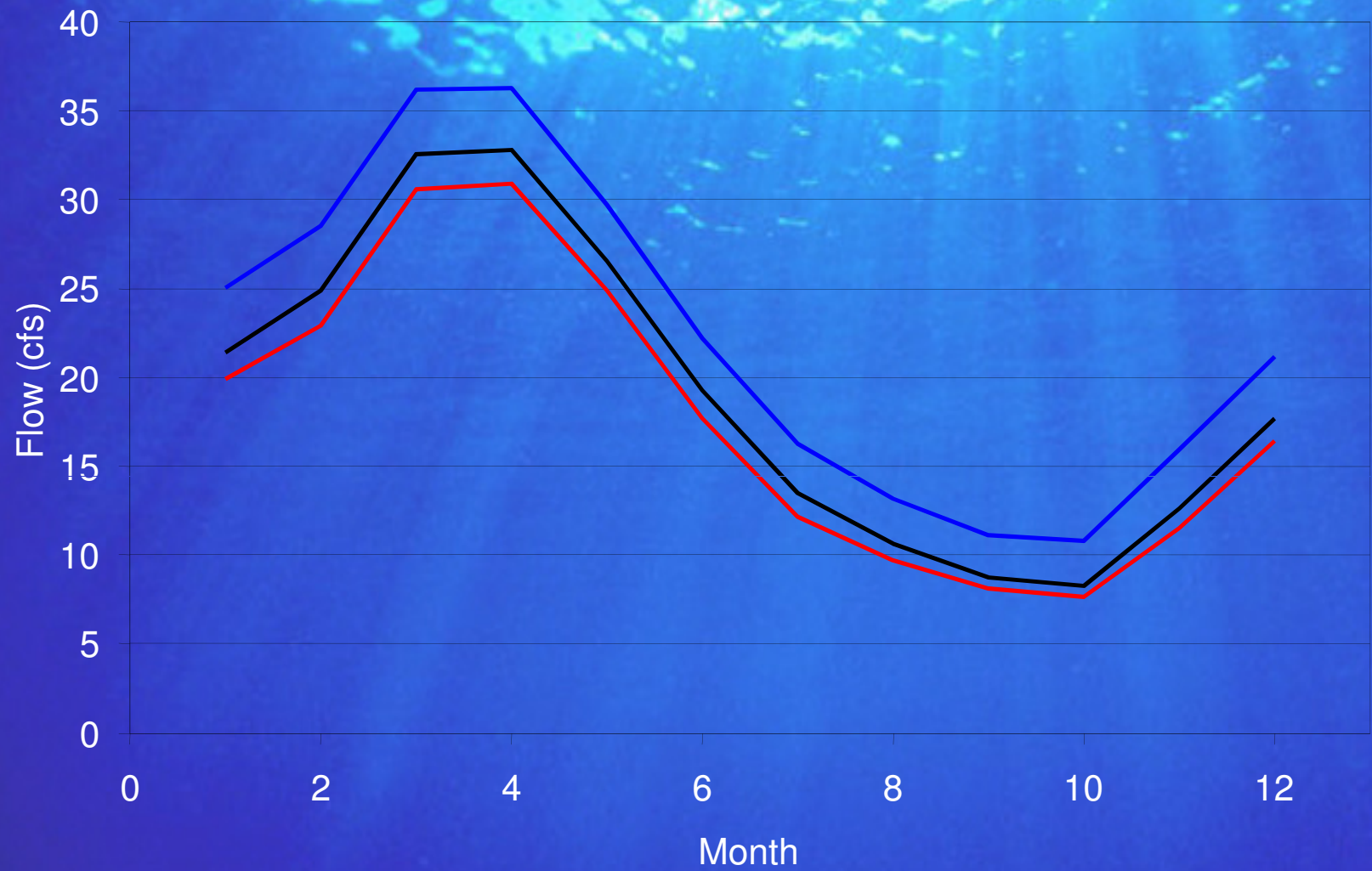


Conventional vs. Smart Sewering 1

- Reducing carrying costs by using technologies that are affordable at small scale and then installing capacity in phases to match growth – “just-in-time, “fit-for-purpose”



PREDICTED FLOWS FROM MINE BROOK



— Proposed pumping — Existing — Recharge=3.4 in/yr



Advantages

- Sustainable water, resilience to drought
- Reduced carbon/methane emissions
- Renewable energy
- Enhanced district property tax income
- Spur to growth and development
- Sprawl control
- Reduced vehicle miles traveled
- Paid for by users alone