

CUMBERLAND, ME

CEH Caswell, Eichler and Hill, Inc.
GEOLOGY HYDROLOGY GEOPHYSICS

Community Ground Water Study
Cumberland, Maine

Surface Drainage Basins

PLATE 2A

Northwest Cumberland

Upper East Branch
Piscataqua River

Cumberland Foreside

Piscataqua River

Mill Brook

Chenery Brook

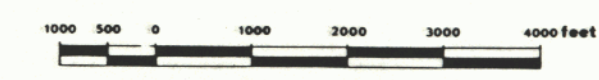
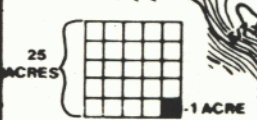
Lower East Branch
Piscataqua River

Methodist Road

Primary drainage divide
Secondary drainage divide

Mill Brook Basin designation

Base prepared from U.S. Geological Survey maps
by the Greater Portland Council of Governments



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Zones of High-Yield Wells
Photolinear Features

PLATE 4A

- Mapped radar lineament
- Photolinear
- High-yield bedrock well (>10 GPM)
- Zone of high-yield bedrock wells

Base prepared from U.S. Geological Survey maps
by the Greater Portland Council of Governments

1000 500 0 1000 2000 3000 4000 Feet

Prepared by:
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council of governments

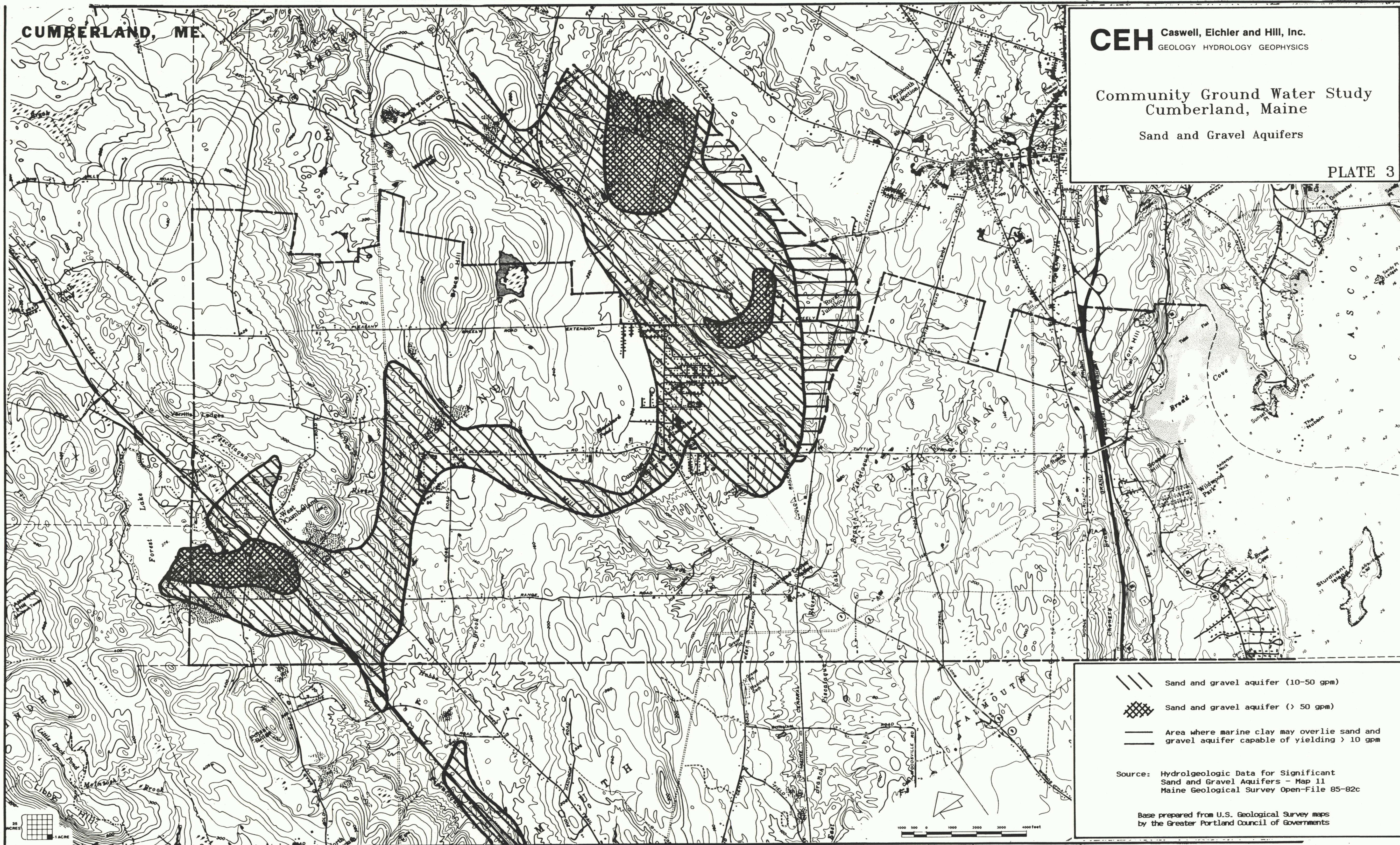
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Sand and Gravel Aquifers

PLATE 3



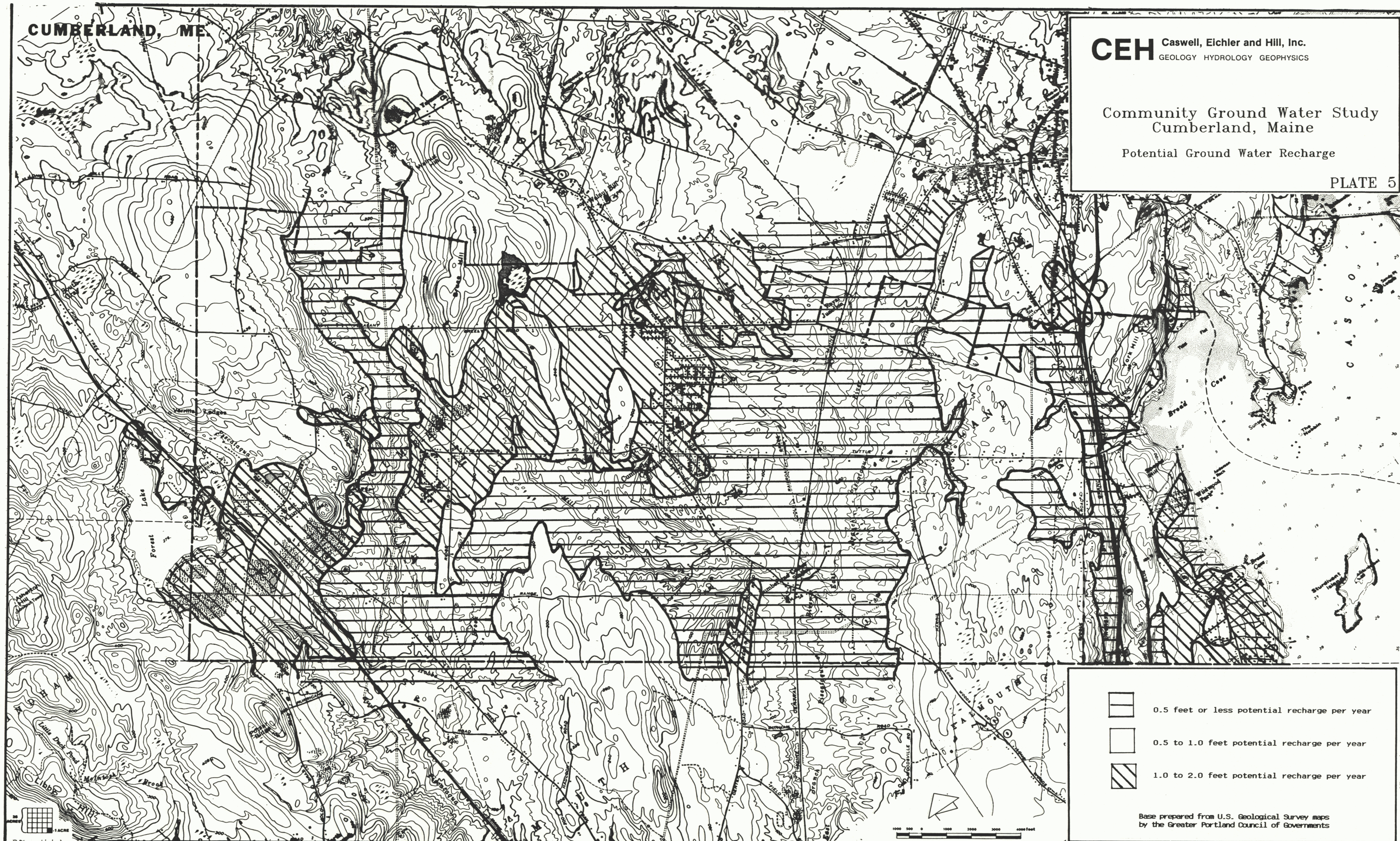
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Potential Ground Water Recharge

PLATE 5



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Community Ground Water Study
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Municipal Sewer/Municipal Water

PLATE 7

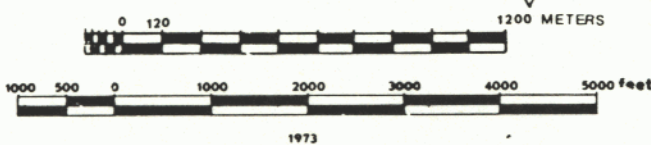


Areas served by municipal sewers

- Lot connected to system
- Lot not connected to system

Portland Water District Water Lines

Base Prepared by the Greater Portland Council of Governments



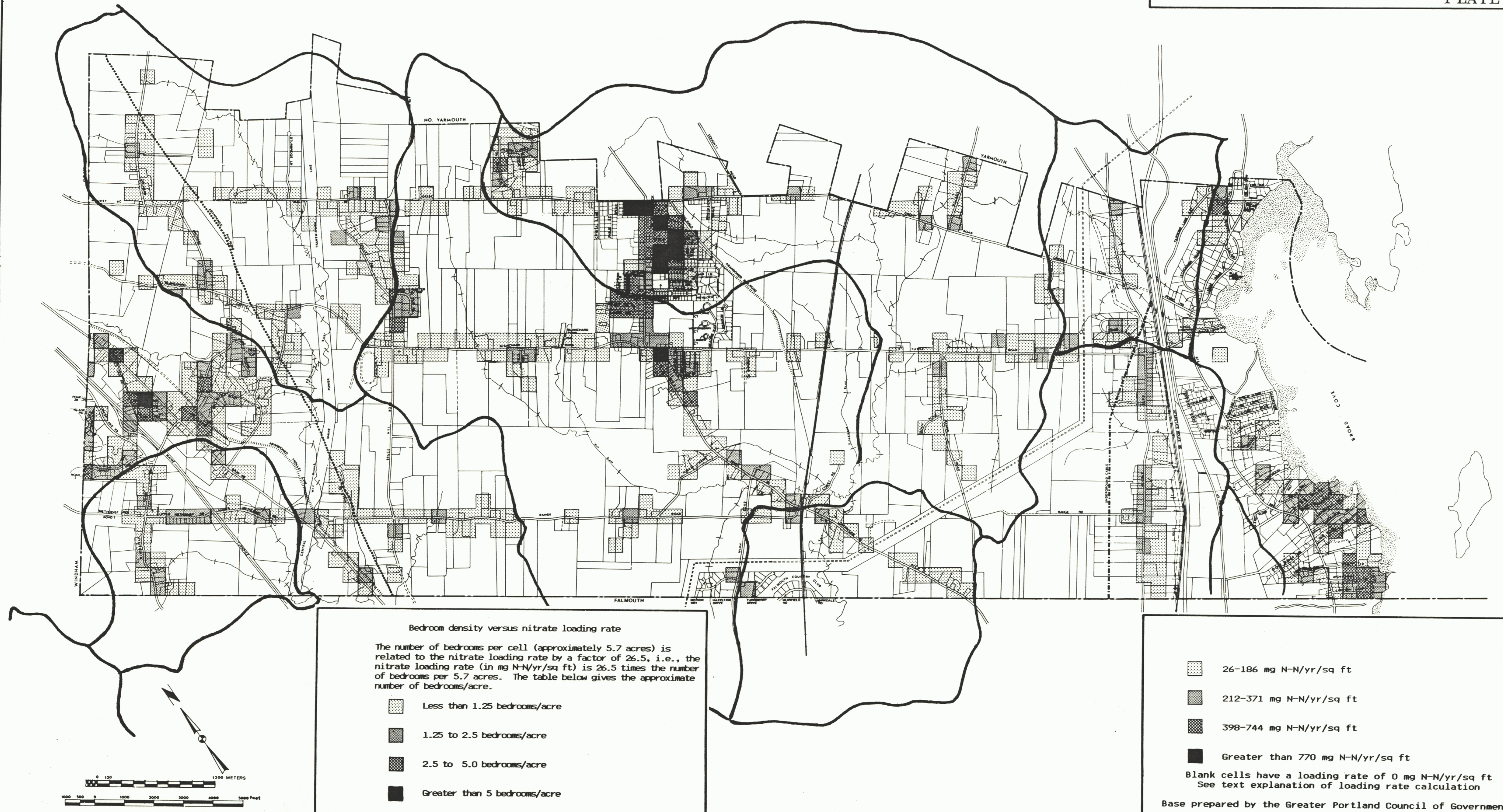
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GEOLOGY HYDROLOGY GEOPHYSICS

Community Ground Water Study Cumberland, Maine

Nitrate Loading Rate

PLATE 9A



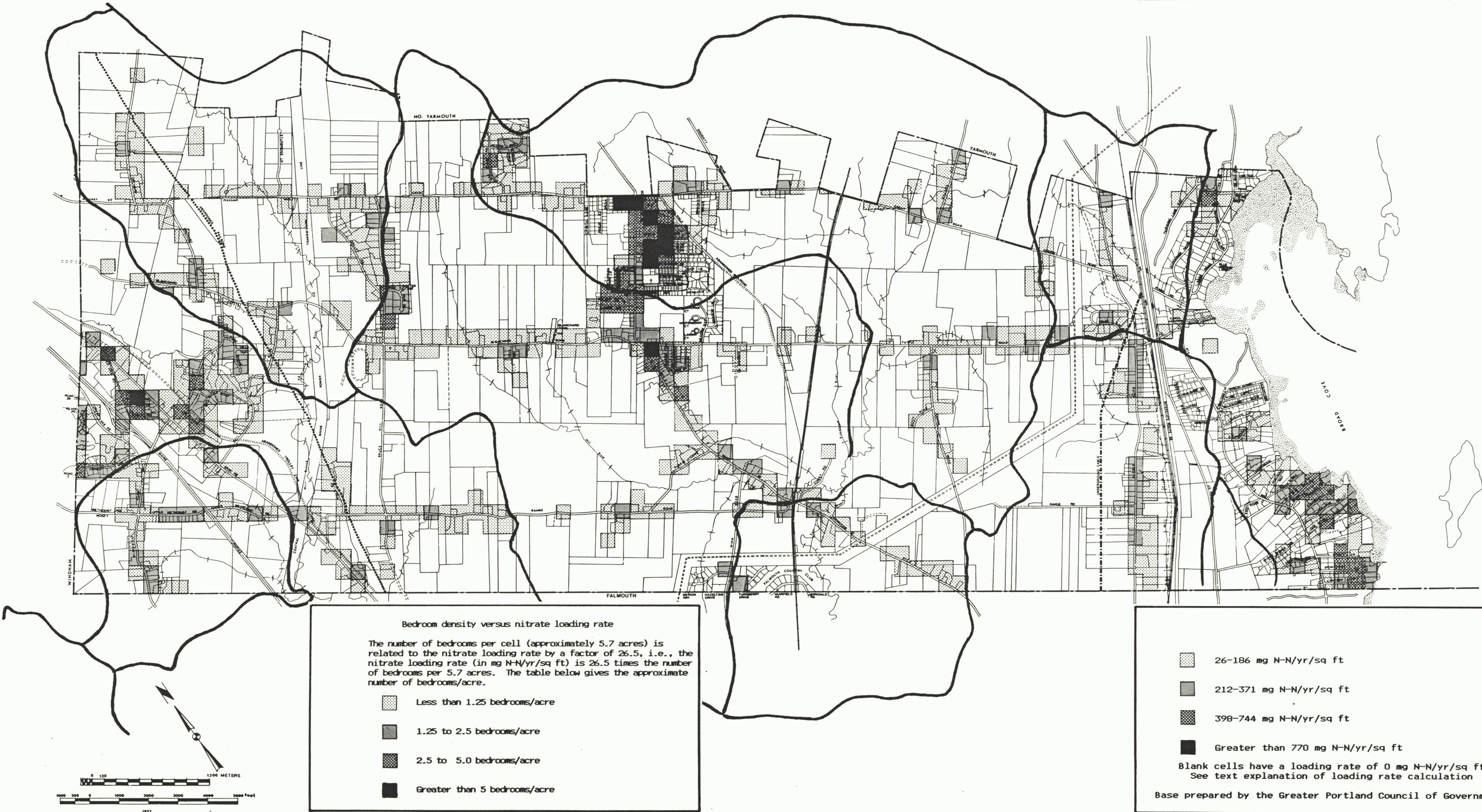
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Community Ground Water Study
Cumberland, Maine

Nitrate Loading Rate

PLATE 9A



Community Ground Water Study
Cumberland, Maine

Development Status

PLATE 10A



Community Ground Water Study
Cumberland, Maine

Development Status

PLATE 10A



Community Ground Water Study
Cumberland, Maine

Recommended Housing Density
(in bedrooms/acre)



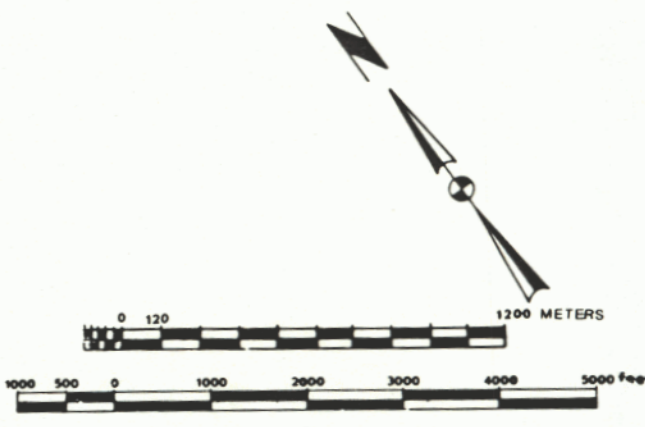
Zone I - No more than 1.25 bedrooms/acre

Zone II - No more than 2.5 bedrooms/acre

Zone III - No more than 5.0 bedrooms/acre

See text for explanation

Base Prepared by the Greater Portland Council of Governments



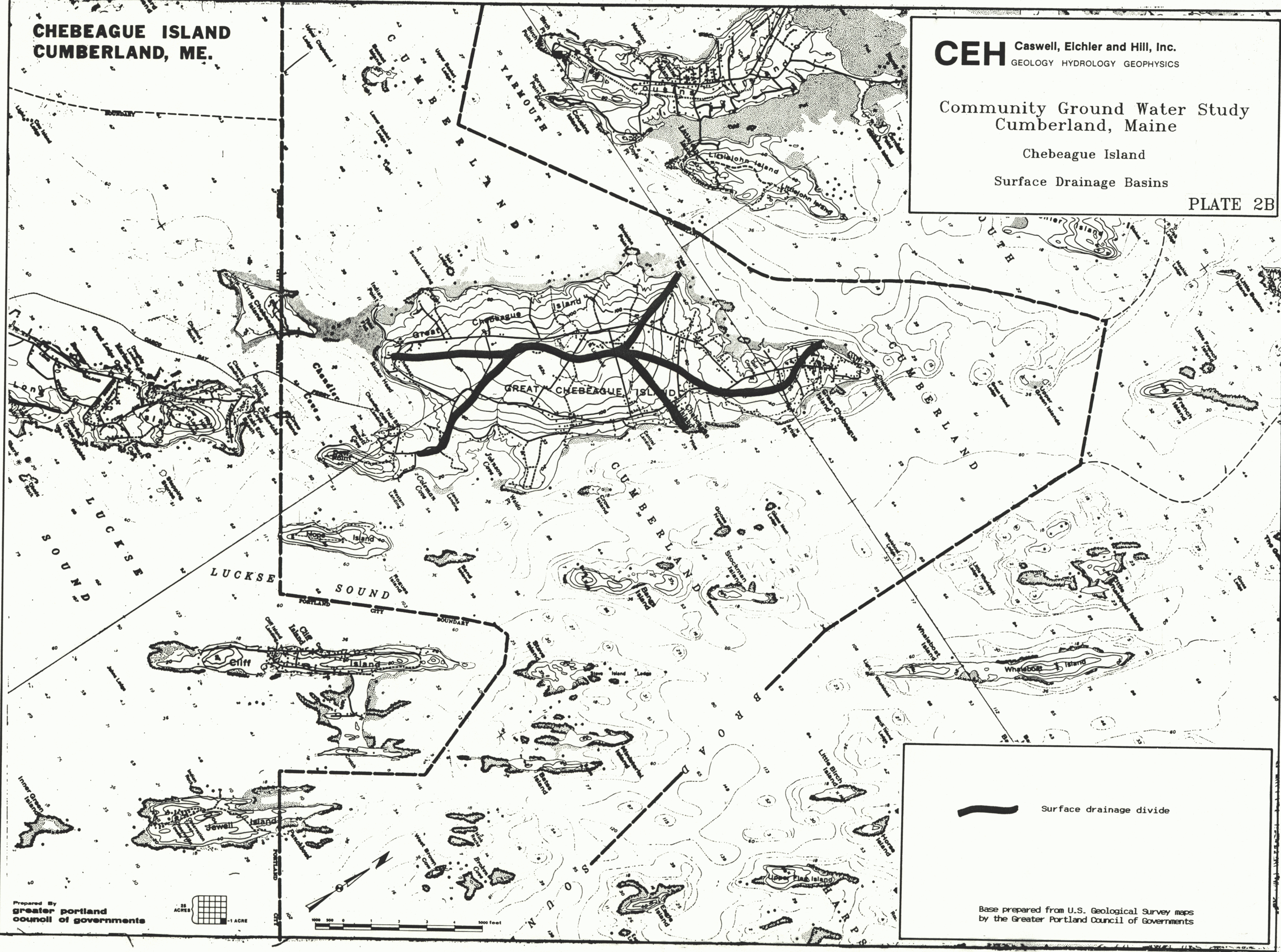
CHEBEAGUE ISLAND
CUMBERLAND, ME.

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GEOLOGY HYDROLOGY GEOPHYSICS

Community Ground Water Study
Cumberland, Maine

Chebeague Island
Surface Drainage Basins

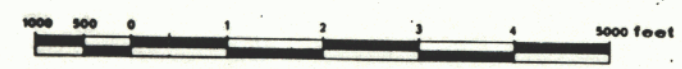
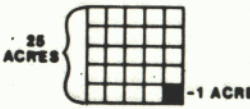
PLATE 2B



— Surface drainage divide

Base prepared from U.S. Geological Survey maps
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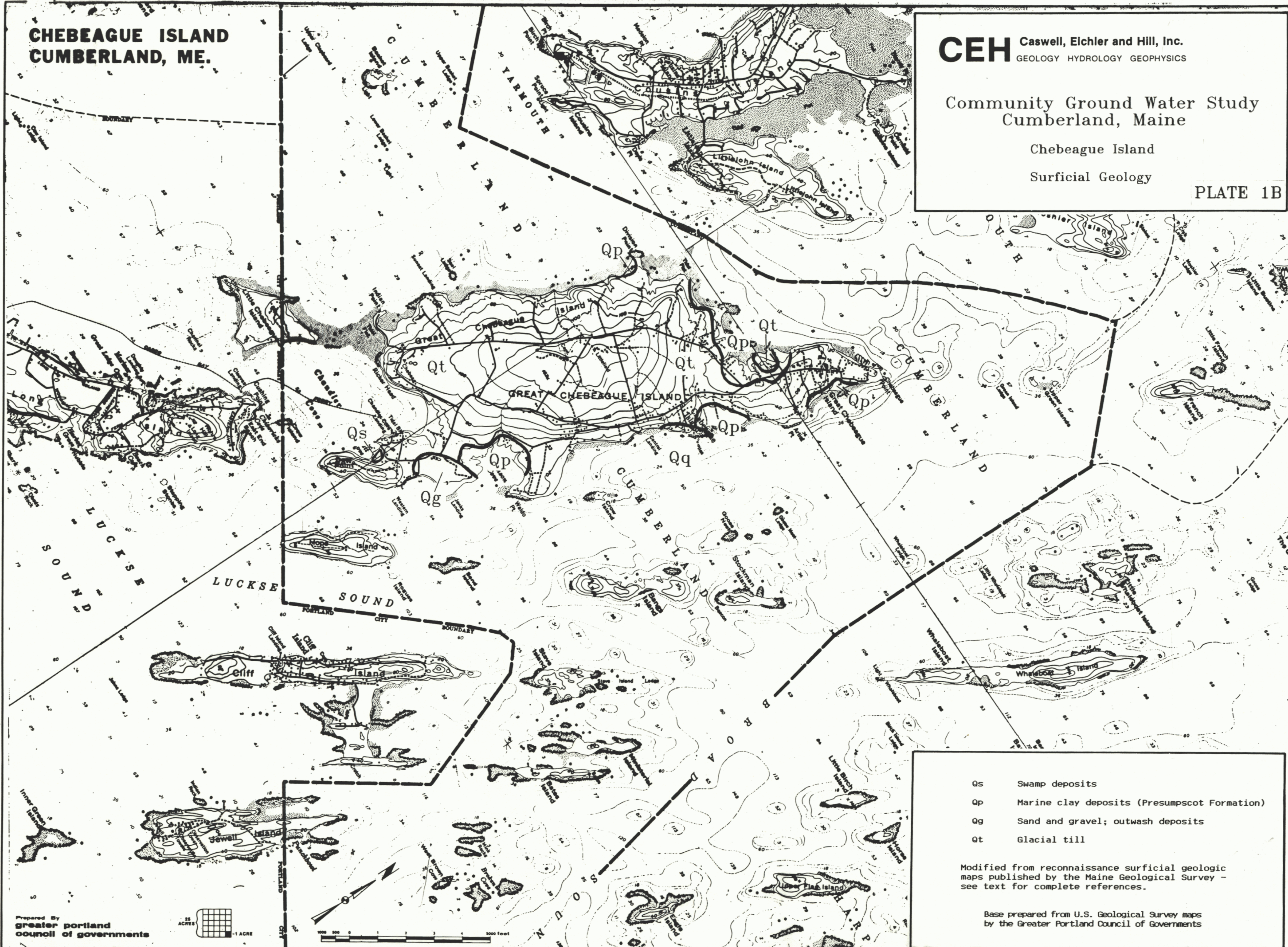
CHEBEAGUE ISLAND CUMBERLAND, ME.

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GEOLOGY HYDROLOGY GEOPHYSICS

Community Ground Water Study Cumberland, Maine

Chebeague Island
Surficial Geology

PLATE 1B



- Qs Swamp deposits
- Qp Marine clay deposits (Presumpscot Formation)
- Qg Sand and gravel; outwash deposits
- Qt Glacial till

Modified from reconnaissance surficial geologic maps published by the Maine Geological Survey - see text for complete references.

Base prepared from U.S. Geological Survey maps by the Greater Portland Council of Governments

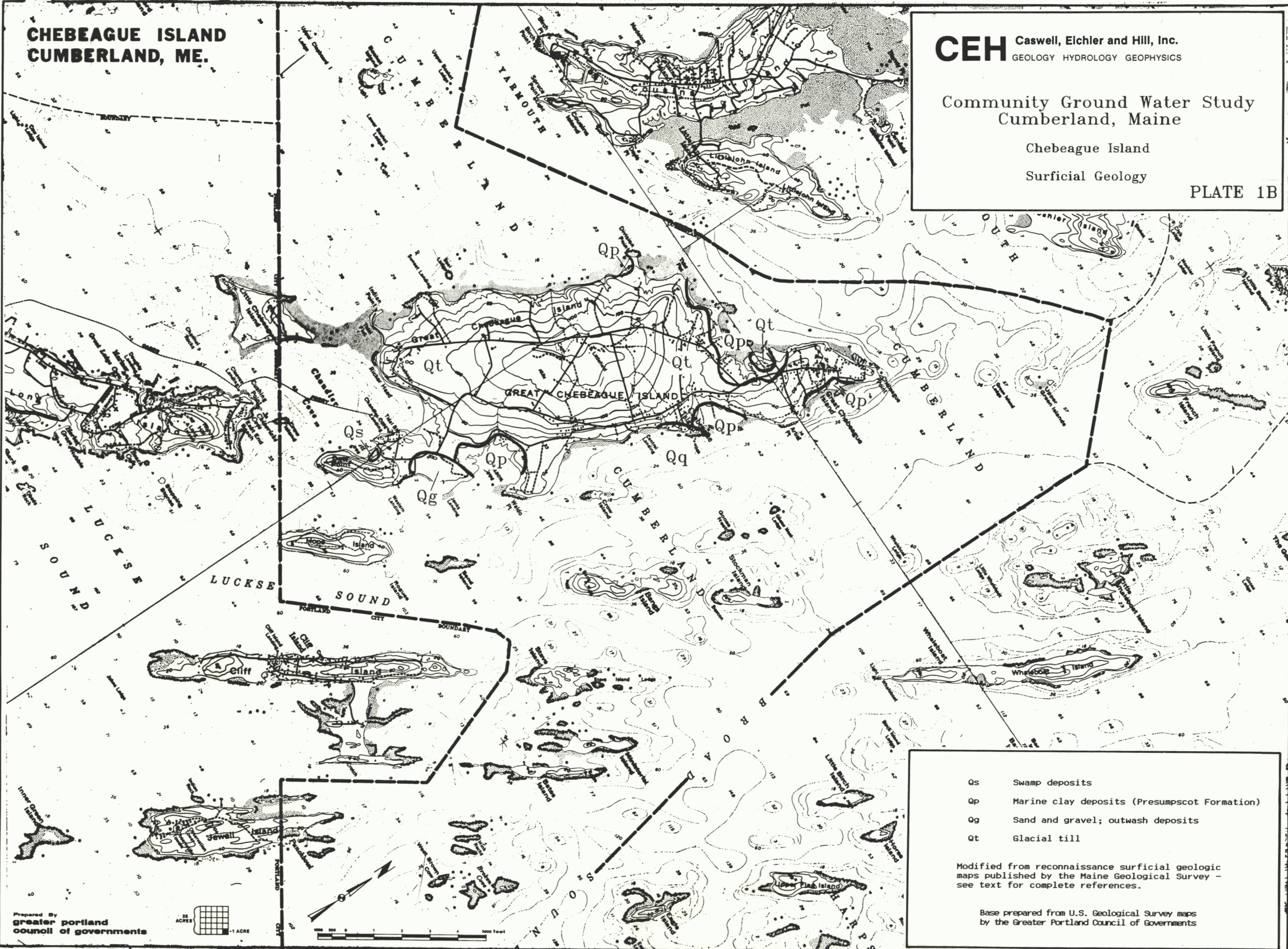
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Chebeague Island
Surficial Geology

PLATE 1B



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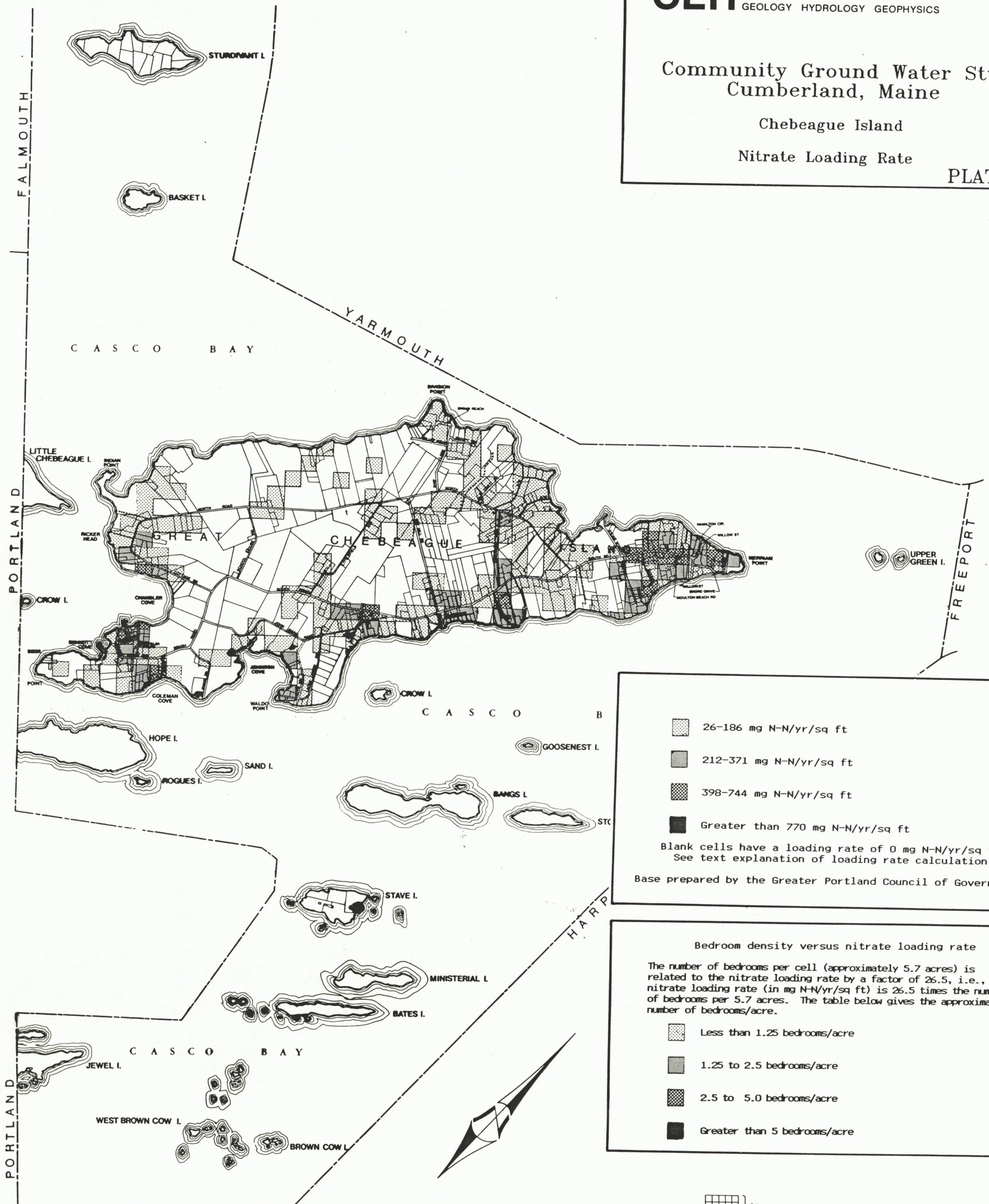
Base prepared from U.S. Geological Survey maps by the Greater Portland Council of Governments



Community Ground Water Study Cumberland, Maine

Chebeague Island
Nitrate Loading Rate

PLATE 9B



- 26-186 mg N-N/yr/sq ft
- 212-371 mg N-N/yr/sq ft
- 398-744 mg N-N/yr/sq ft
- Greater than 770 mg N-N/yr/sq ft

Blank cells have a loading rate of 0 mg N-N/yr/sq ft
See text explanation of loading rate calculation

Base prepared by the Greater Portland Council of Governments

Bedroom density versus nitrate loading rate

The number of bedrooms per cell (approximately 5.7 acres) is related to the nitrate loading rate by a factor of 26.5, i.e., the nitrate loading rate (in mg N-N/yr/sq ft) is 26.5 times the number of bedrooms per 5.7 acres. The table below gives the approximate number of bedrooms/acre.

- Less than 1.25 bedrooms/acre
- 1.25 to 2.5 bedrooms/acre
- 2.5 to 5.0 bedrooms/acre
- Greater than 5 bedrooms/acre

1000 500 0 1 2 3 4 5000 feet
Revisions: 1 April 1975
January 1978
1987
1 March 1988

1 Acre 25 Acres

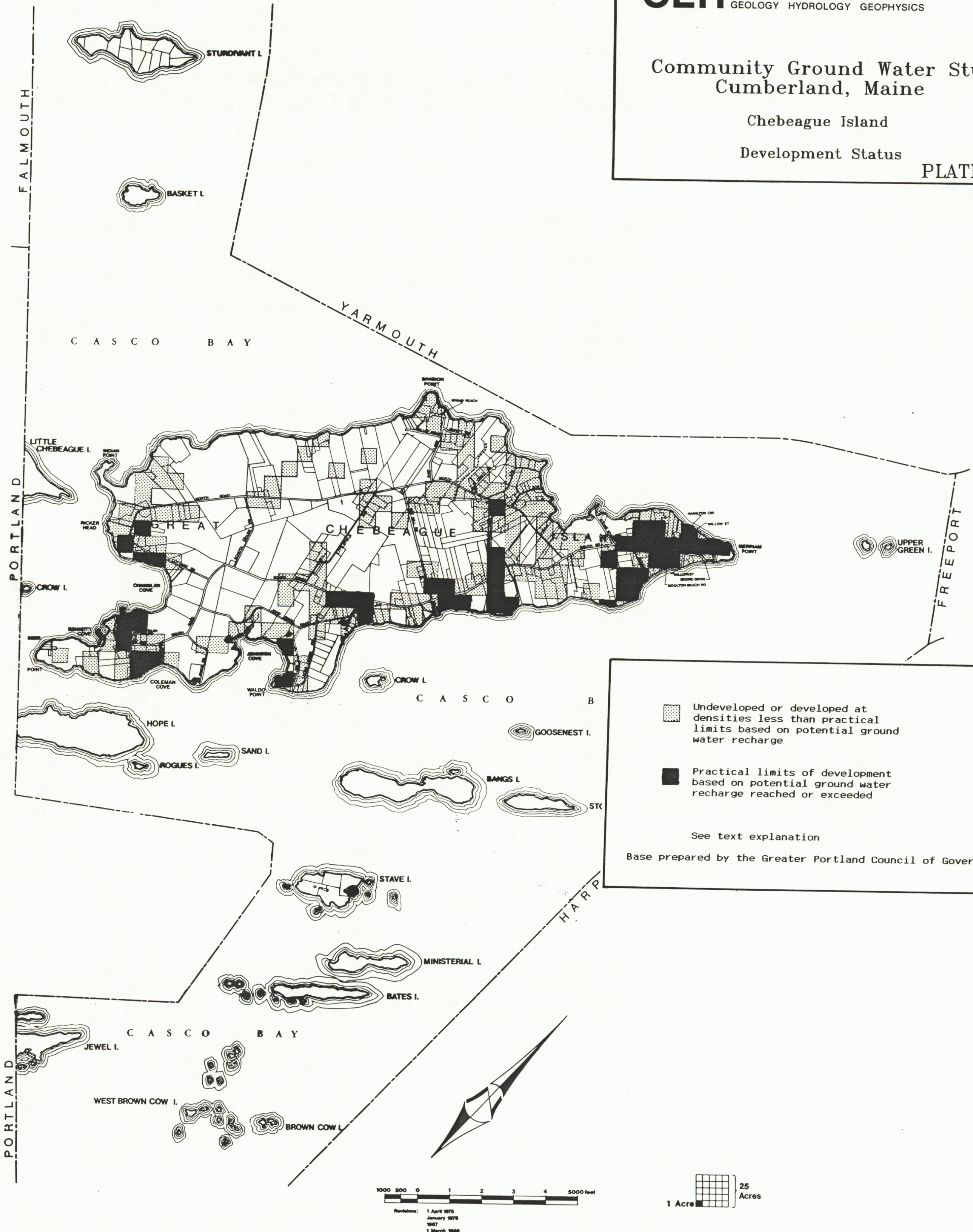
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Chebeague Island

Development Status

PLATE 10B



Prepared by: GPCOG

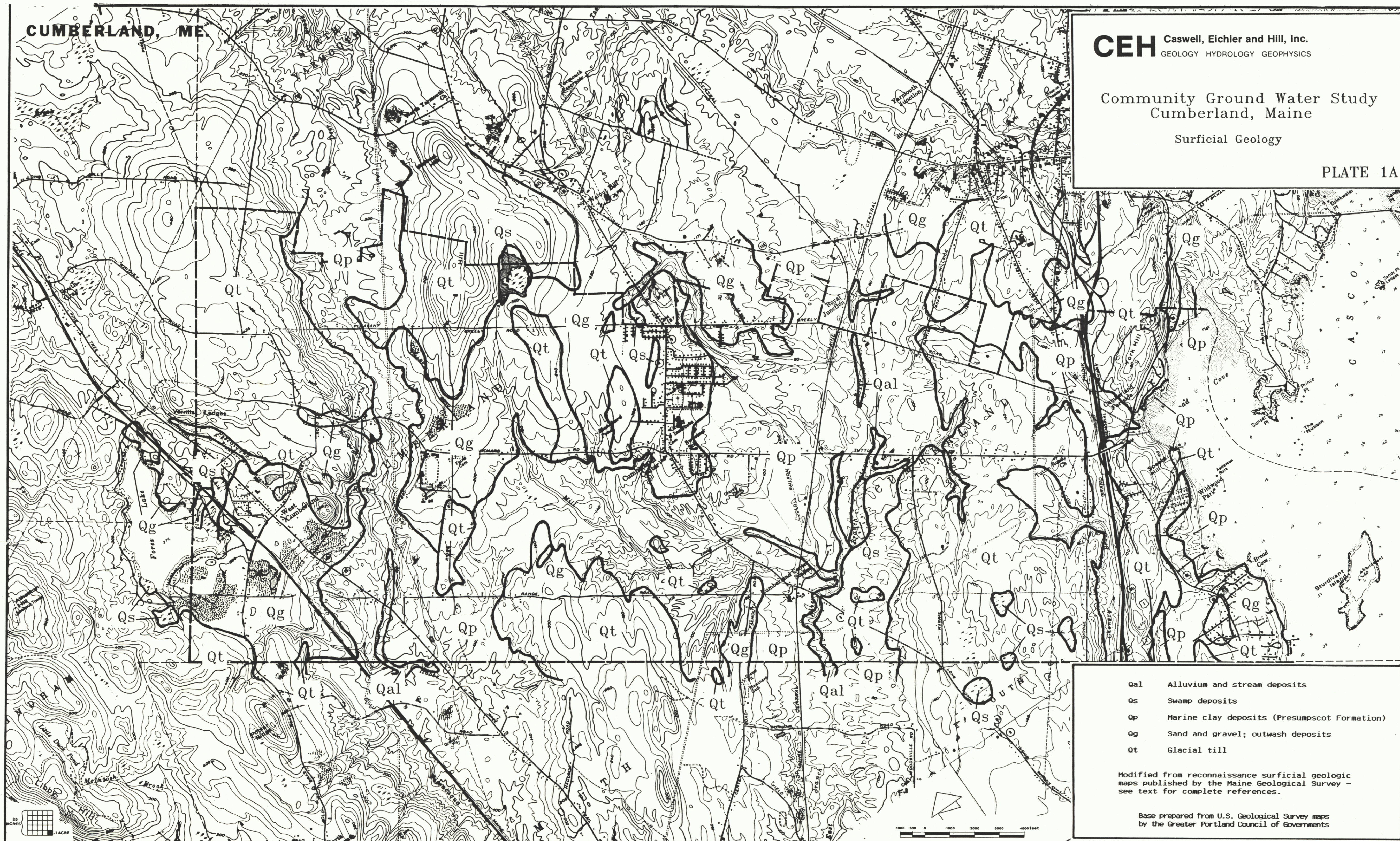
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Surficial Geology

PLATE 1A



- Qal Alluvium and stream deposits
- Qs Swamp deposits
- Qp Marine clay deposits (Presumpscot Formation)
- Qg Sand and gravel; outwash deposits
- Qt Glacial till

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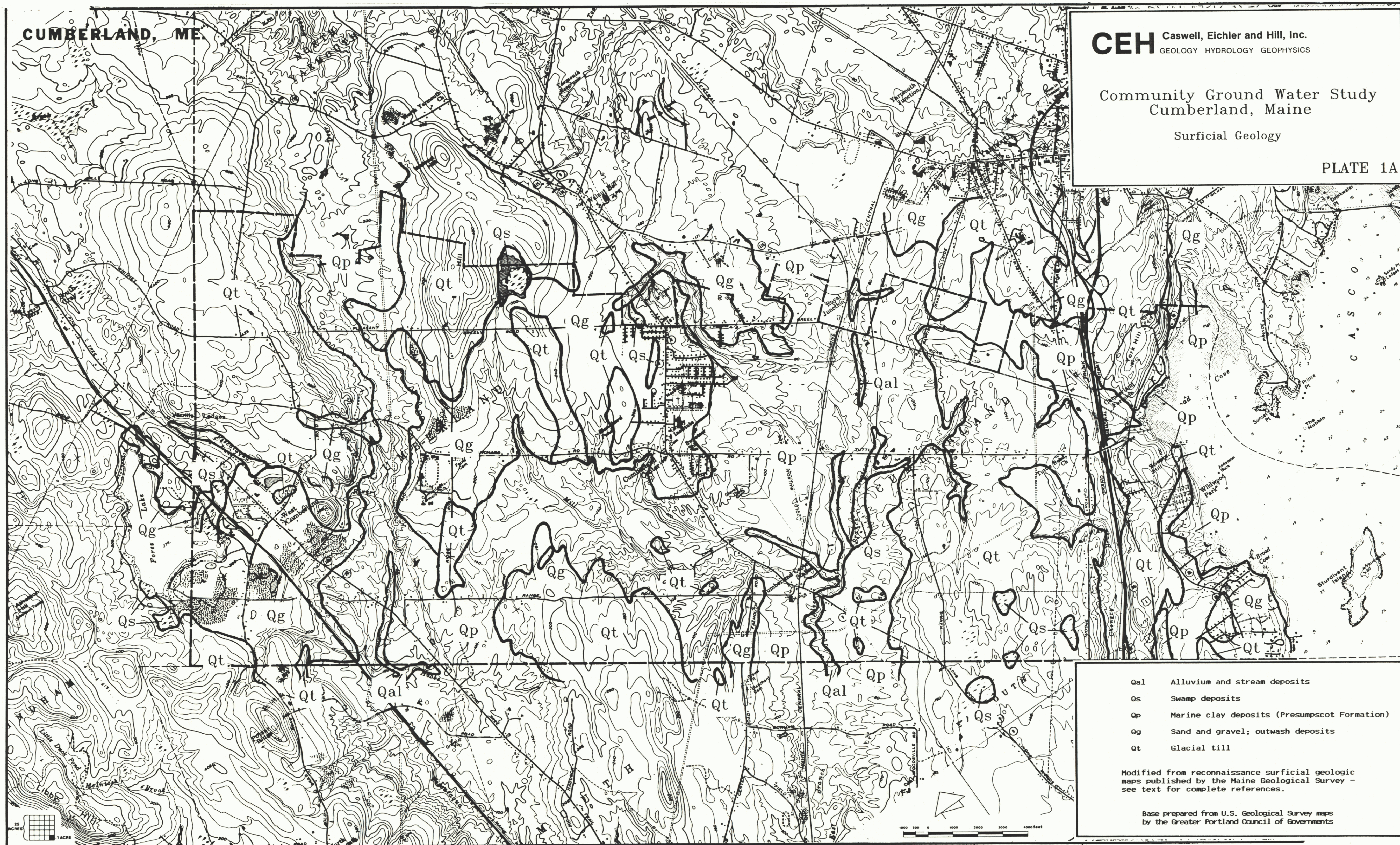
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PLATE 1A



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PLATE 2A

