

Chapter 3 - Existing Conditions

General Overview:

Auburn is situated along the banks of the Androscoggin River in central Maine. With a population of 23,055, it is the fourth largest city in the state, and is also the seat of Androscoggin County. Auburn directly borders the City of Lewiston, Maine's second largest city, on the opposite bank of the Androscoggin River.

The study area for this project is situated at the juncture between urban and rural areas within the region. The City's 2010 Comprehensive Plan notes that the region's search for "balance between urban and rural ideals, growth and quality of life" plays out here.

The MEARNG has had a presence at this location in Auburn since 1926 when the Federal Government purchased land for military training. Several additional acres in three parcels and owned privately were acquired by lease to MEARNG beginning in 1950, 1951 and 1972. In its first sixty years, the MEARNG used the site as a training facility for the U.S Army Reserves and Maine Army National Guard.

The Army's basic mission is to train and prepare soldiers, leaders, and units to fight and win in combat. As explained in the Army's capstone training doctrine (ADP 7-0), units do not have the time or the resources to achieve and sustain proficiency with every possible training task. Therefore, commanders must identify the tasks that are the units' critical wartime tasks. These tasks then become the unit's mission essential task list (METL).

Commanders use the METL to develop their unit-training plan. Noncommissioned officers (NCOs) plan the individual training that soldiers need to become warriors and to accomplish the METL. The soldier manuals (SMs) provide the critical individual tasks for each military occupational specialty (MOS) that support all of the unit's missions. The NCO leadership uses the tasks in the SMs to train the soldiers and measure the soldiers' proficiency with these unit-critical tasks. The manuals provide task performance and evaluation criteria and are the basis for individual training and evaluation in the unit and for task-based evaluation during resident training.

The Army identified warrior tasks and battle drills (WTBD) that enhance a soldier's readiness to fight on the battlefield. Warrior tasks are a collection of individual soldier skills known to be critical to soldier survival. Examples include: weapons training, tactical communications, urban operations, and first aid. Battle drills are group skills designed to teach a unit to react and survive in common combat situations. Examples include: react to ambush, react to chemical attack, and evacuate injured personnel from a vehicle. WTBD increase the relevance of training to current combat requirements and enhance the rigor in training. The driving force behind the WTBD comes from lessons learned. Standards remain constant but commanders must be aware that the enemy adapts at once and soldier training will change sooner because of current operational environments.

The Auburn training site is one of seven sites across the State of Maine where soldiers of the MEARNG develop and fine tune these skills to react and survive in wartime and peacetime missions (ref.

Soldier's Manual of Common Task, September 2012).

Today at the Auburn training site, the MEARNG operates a land navigation course, bivouac area, maneuver training area, and engineer equipment training which are all part of the many different unit's METL. Two field maintenance buildings, known as Field Maintenance Shop 2 totaling 12,614 square feet, were built in 1962 and remodeled in 2008 are there to support Transportation and Engineering Units which are essential for performing their task and mission.

Four Controlled Humidity Preservation (CHP) buildings totaling 70,000 square feet were built in 2008. These buildings are for storing military equipment such as vehicles and construction machinery for long periods of time (typically greater than six months). The controlled environment of the buildings helps protect the vehicles from the elements and extends the useful life of the equipment. Often, units which are deployed store their equipment in the CHP's while they are in theater for up to one year.

The Non-Standard Small Arms Range, built before 1980 but closed in October 2009 due to "unsafe conditions / dilapidated infrastructure", has been requested for upgrade/repair at a projected cost of \$1.5M.

Surrounding the site are municipal areas for recreation, including Mount Apatite Park and trails (the Park), and the GRC leased to the Auburn Suburban Little League. The GRC and a trailhead access to the Park are located on MEARNG training land. In the late 1980s, at the request of the City, the

MEARNG constructed the GRC on 27.7 acres of federal land. Based on the 1991 Mount Apatite Multiple Use Recreation Plan, the City had agreed to swap land with the MEARNG in exchange for this land area. Due to environmental monitoring needs associated with wetland mitigation requirements lasting over 10 years, changes in personnel at both the City and MEARNG and resultant loss of institutional memory, the land swap was never completed. Most visitors to the GRC and Park tend to use the same access way to these locations – Mount Apatite Road, which also serves as the primary access to the MEARNG training site.

Natural and Cultural Resources:

Study Area:

In order to evaluate existing conditions in and around the MEARNG installation and Mount Apatite Recreation Area a study area was established which included all parcels that were located in total or in part within 750 feet of the MEARNG or city owned parcel boundaries with the exception of all parcels located on the south side on Minot Avenue. See Figure 1.1

The study area includes Garfield Road, Hatch Road and portions of Minot Avenue and Stevens Mill Road as well as several residential streets extending from these roadways. While the majority of land use activity along Minot Avenue is commercial, other roadways host residential activity including some home businesses. The fact that the Auburn training site is bounded on all sides by community spaces and residential uses increases the potential for conflict among incompatible land uses.

Figure 3.1.a: Wetland Types and Acreages within the Study Area		
Cowardin Classification	Wetland Type	Acres
L1UBH	Lake	1.10
PFO1C	Freshwater Forested / Shrub Wetland	12.67
PFO1E	Freshwater Forested / Shrub Wetland	52.54
PFO4E	Freshwater Forested / Shrub Wetland	8.41
PSS1E	Freshwater Forested / Shrub Wetland	24.02
PUBF	Freshwater Pond	0.10
PUBH	Freshwater Pond	1.20
PUBHh	Freshwater Pond	0.65
PUBHx	Freshwater Pond	1.63
Figure 3.1.b: Wetland Types and Acreages within the Project Area		
Cowardin Classification	Wetland Type	Acres
PFO1E	Freshwater Forested / Shrub Wetland	2.98
PUBH	Freshwater Pond	0.39
PUBH	Freshwater Pond	0.15
PFO4E	Freshwater Forested / Shrub Wetland	7.03
PSS1E	Freshwater Forested / Shrub Wetland	3.22
PFO1E	Freshwater Forested / Shrub Wetland	0.28
PSS1E	Freshwater Forested / Shrub Wetland	2.15
PSS1E	Freshwater Forested / Shrub Wetland	0.42
PUBH	Freshwater Pond	0.21
PFO1E	Freshwater Forested / Shrub Wetland	1.64
PFO1E	Freshwater Forested / Shrub Wetland	0.43
PUBH	Freshwater Pond	0.45
Source: U.S. Fish and Wildlife Service (USFW) National Wetlands Inventory (NWI) Maine Office of Geographic Information Systems (MEGIS) (ed.), National Wetland Inventory polygon data for Maine, 1998		

The full JLUS Natural Resource Assessment which includes locations for the wetland types may be found on the City web page; <http://www.auburnmaine.gov/Pages/Government/Auburn-Maine-Joint-Land-Use-Study>. The Study Team collected existing and readily available public information documenting the existing conditions within the study area with respect to natural and cultural resources and landscape features. The Study Team also conducted a field survey to delineate wetland boundaries and identified potential vernal pool habitats

within portions of both the MEARNG facility and the Mount Apatite Recreation Area. The assessment includes a description of resources in the entire study area as well as those that exist within the parcels owned by the City and Federal Government. For purposes of this section, the larger area is referred to as the Study Area and the public parcels are referred to as the Project Area. The following is a summary of the findings:

Wetlands: Wetlands were analyzed by reviewing existing information from the

National Wetlands Inventory (NWI), hydric soils mapping and previous field delineations performed within the study area and limited field reconnaissance in several focus areas. See Figure 3.2 Survey Areas.

The project area is predominantly upland, with a few scattered NWI mapped forested and scrub shrub wetlands and freshwater ponds totaling a little over 19 acres. These wetlands are relatively evenly distributed throughout the study area with the majority of the larger forested wetlands occurring in the southeastern portion on the MEARNG property and scrub shrub wetlands and freshwater ponds in the northwestern portion of the study area. Hydric soils are only found in the southern portion of the project area within the MEARNG parcels leading to the assumption that the southeastern area has a higher propensity for actual wetlands to occur.

The study area, which encompasses and additional 842 acres of land adjacent to the project area, has mapped NWI forested and scrub shrub wetlands occurring mostly along the eastern boundary, flanking Taylor Pond. There are a few other mapped NWI wetlands in the southern and northwest portions of the study area as well. Mapped hydric soils occur predominantly along the eastern boundary, again flanking Taylor Pond, and in the southeastern third of the study area. Figures 3.1.a & b summarize wetland types and acreages within the study and project areas.

The wetland delineation conducted by the Study Team focused on three targeted areas where more precise information was required in order to assess planning options

for that portion of the project area. The targeted areas are shown in Figure 3.3.

In summary, the wetland delineation located five wetlands in the project area (W1-W5) (highlighted in aqua in Figure 3.3) and one additional wetland (W6) in a previously delineated area. The majority of the cover types present within the wetlands are palustrine forested wetlands with either an evergreen or a mixture of evergreen and broad-leaved deciduous trees in the over story.

Vernal Pools: A wetland delineation conducted by Jones Associates, Inc. in 2008 for MEARNG identified four vernal pools within the project area. The vernal pools identified did not contain the required abundance of breeding amphibians required to be classified as significant vernal pools in accordance with the State Natural Resources Protection Act (NRPA). The vernal pools are, however subject to federal regulation under the Clean Water Act. See Figure 3.3.

The wetland delineation conducted by the Study Team identified four vernal pools (W1-VP1, W3-VP1, W3-VP2, and W3-VP3) shown in Figure 3.3. The Maine State Vernal Pool Assessment Forms for the identified vernal pools are included with the wetland delineation report previously referenced. Vernal pool VP-1 was the only vernal pool identified that met the requirements for classification as a significant vernal pool in accordance with the NRPA. All of the identified vernal pools are subject to federal regulation under the Clean Water Act.

Rivers, streams and brooks: The Little Androscoggin River is located south-south west of the study area. The Little Androscoggin River flows easterly to its confluence with the Androscoggin River in Auburn. See Figure 3.4. According to mapped hydrologic resources, there are only a few unnamed streams that occur within the study area. In the southeast corner of the study area there are two unnamed streams which join together just outside of the study area and run east toward an unnamed pond.

Lakes and Ponds: The northern boundary of the study area abuts Taylor Pond, which is a quite heavily developed freshwater pond with no public access. Taylor Pond is identified as high value brook trout habitat and also provides habitat for some species of inland wading birds and waterfowl. Current brook trout populations within Taylor Pond are diminished due in part to low levels of dissolved oxygen in the water. There is a small unnamed pond close to the western boundary of the study area, and several quarries which are centrally located in the project area. The quarries are remnants of a commercial feldspar mining operation from the early 1900s. See Figure 3.4.

Stormwater Management: The Study Team reviewed the MEARNG installation with respect to the management of stormwater associated with training activities. Personnel at the installation routinely use the engineer training area to conduct field training exercises using mechanized earth moving equipment. See Figure 3.12. The training exercises require the movement of soil to simulate real time activities for training purposes.

The engineer training area is located on an area of mapped Adams loamy sand soils as indicated on the US Department of Agriculture Soil Survey for Androscoggin and Sagadahoc Counties. Adams loamy sand, 0-8 percent slopes (AcB) is a soil type located on large sand plains and on top of larger terraces. Included in this mapping were scattered outcrops of bedrock and some small depression in which the seasonal water table is within 24 inches of the surface. Adams loamy sand has low natural fertility. Surface runoff is slow, infiltration and permeability are rapid.

On June 6, 2013 the Study Team conducted a site visit to the MEARNG installation to assess its potential to generate stormwater which may discharge off the facility or into a protected natural resource area. The entire training area is exposed sand due to frequent disturbance for training purposes. The training area is bounded by an area of dense forested vegetation to the north, west and south and by the controlled humidity preservation buildings to the east. At the time of the site visit precipitation was heavy and no surface runoff was evident within the training area. Based on observations at the facility it is expected that the site's natural permeability is more than adequate to allow infiltration of any stormwater generated on the site. A review of applicable state and federal stormwater regulations indicates that the operation of the installation does not require permits pursuant to the Stormwater Management Act, 38 M.R.S § 420-D or Maine's Multi-Sector General Permit for stormwater discharge associated with industrial activity.

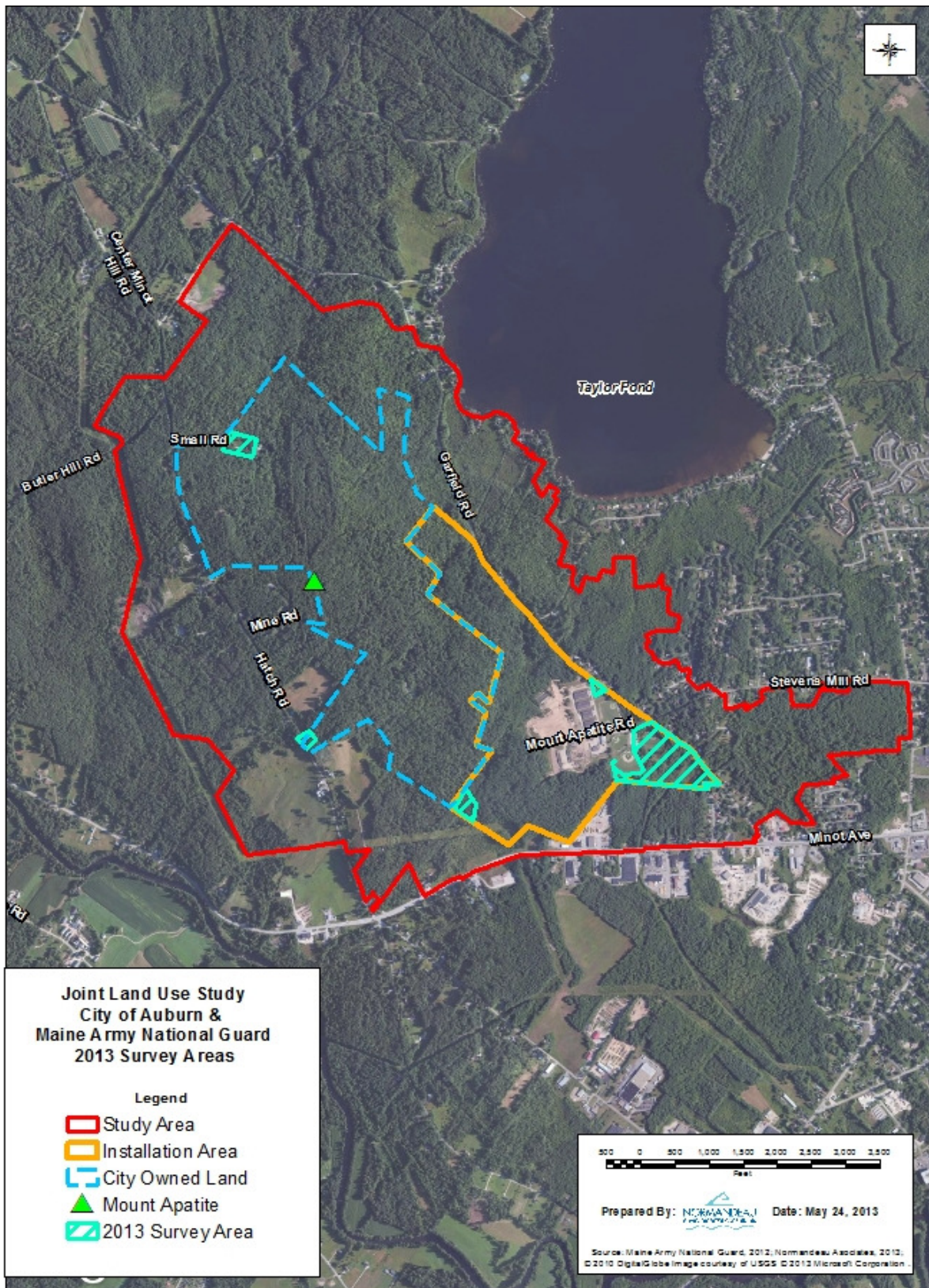


Figure 3.2 Survey Areas

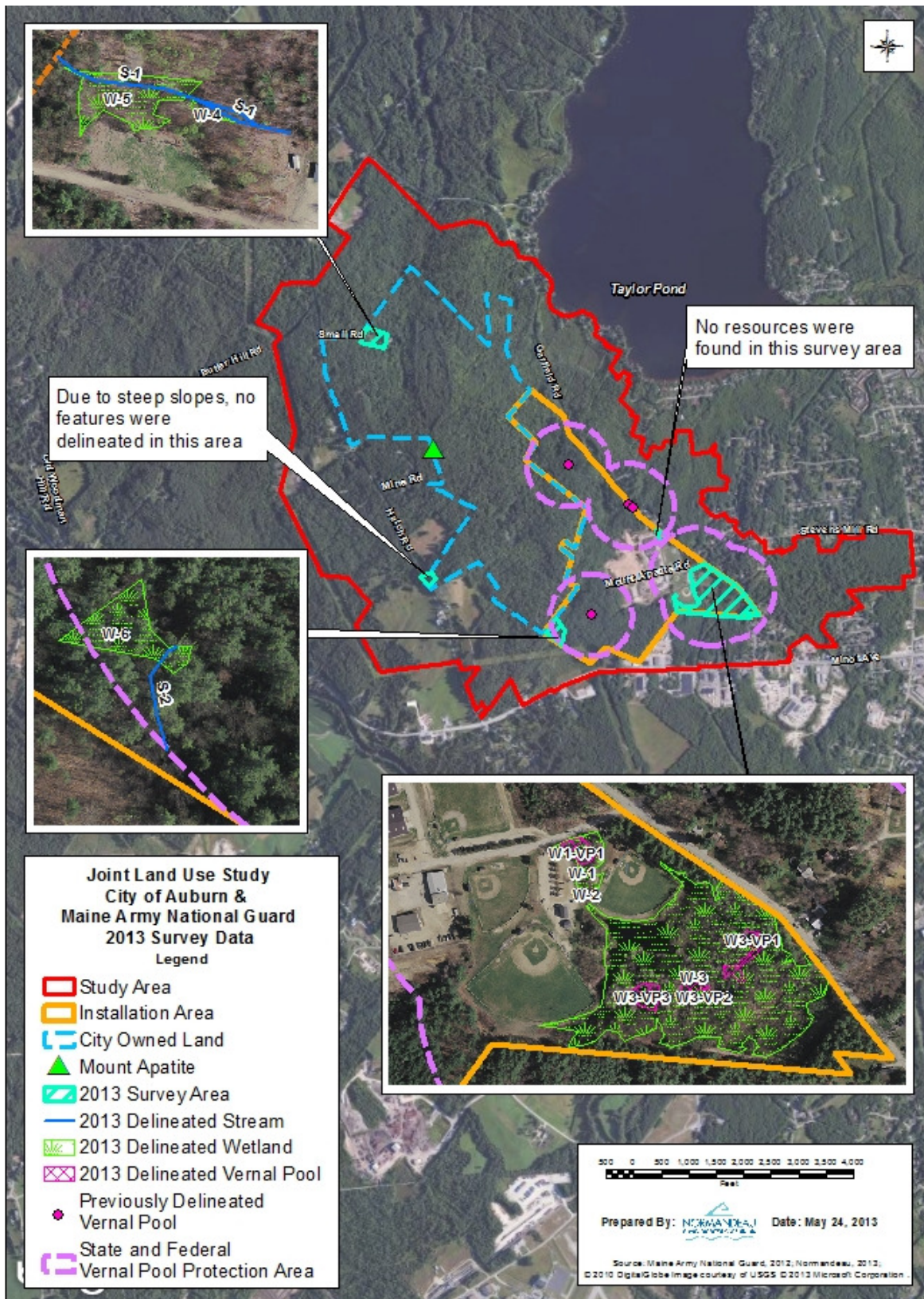


Figure 3.3 Survey Findings

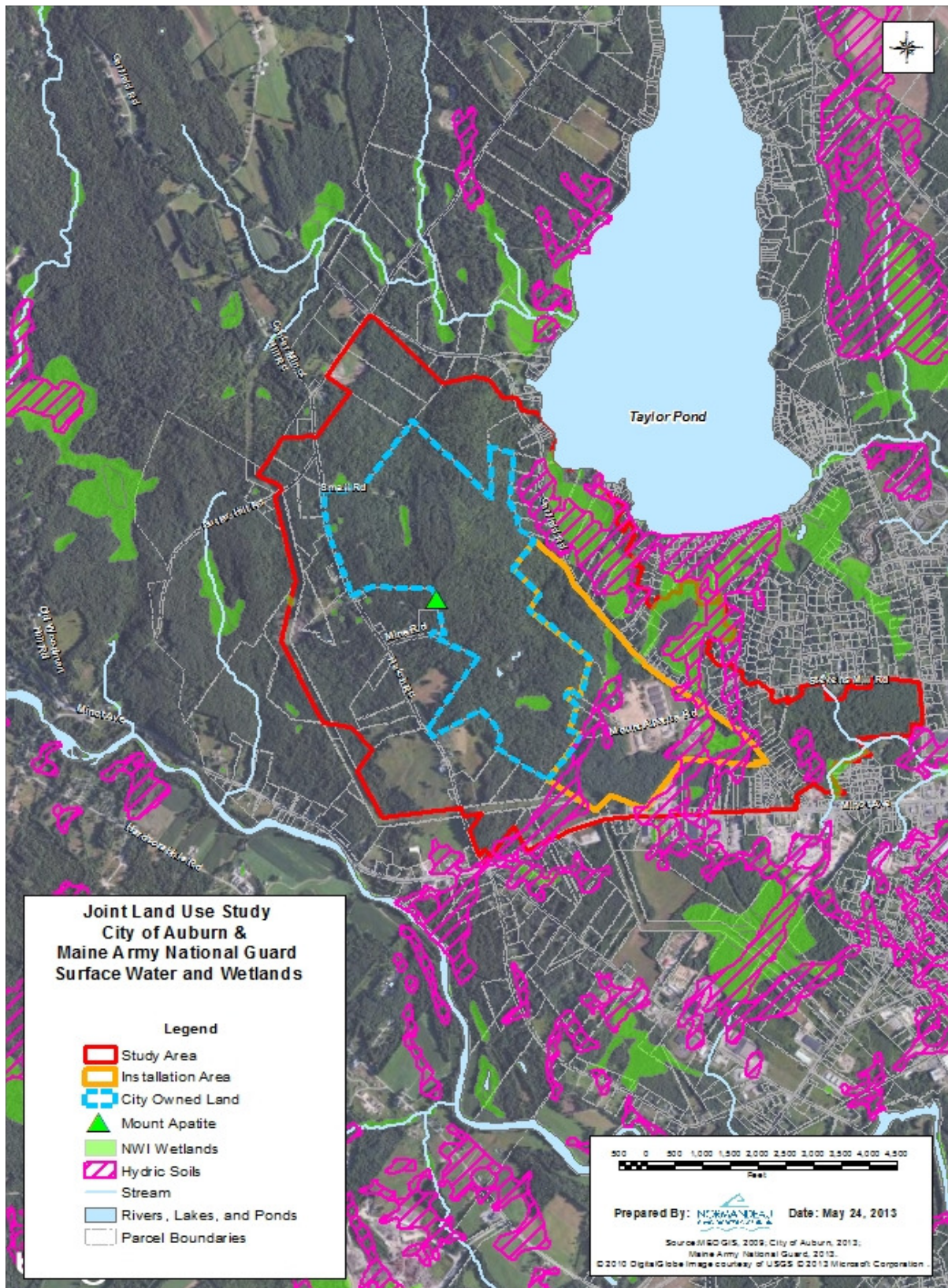


Figure 3.4 Surface water and wetlands in and around study area

Topography:

The majority of the study area can be characterized as somewhat rugged terrain in the northern three quarters and much flatter terrain in the southern portion where the MEARNG installation is located. Elevations in the study area range from 219 feet at the lowest point in the southwestern corner to 523 feet at the highest point approximately 1,600 feet north-northwest of the peak of Mount Apatite. See Figure 3.5.

Slopes were classified to illustrate areas where steep slopes may cause issues for development. Slopes range from 0 to 15 % in the majority of the study area, with slopes greater than 15% running along ridgelines. See Figure 3.6.

Wildlife Habitats:

Numerous data sets were reviewed for the presence of flora and fauna and associated habitats. Mapped terrestrial wildlife and habitat in the study area includes large blocks of undeveloped habitat and potential wildlife habitat connectors. See Figure 3.7.

Undeveloped habitat blocks represent large, contiguous forested areas in Maine that are at least 500 contiguous acres and 500 feet away from development and improved roads. The purpose of mapping large blocks of undeveloped habitat is to highlight forested areas in Maine where development has not yet occurred and which are important for wildlife species that require large areas or are sensitive to human disturbance. Approximately 52% of the study area is mapped as undeveloped habitat blocks.

Potential wildlife habitat connectors include Maine Department of Transportation (MaineDOT) roads that intersect potential habitat connections between adjacent large

undeveloped blocks of at least 100 acres as mapped by the State's Beginning with Habitat program. This data set illustrates the most important connections between high-value wildlife habitats and large blocks of undeveloped habitat. There are approximately 627 feet of mapped habitat connectors in the project area, and 3,486 feet within the study area.

Existing documentation indicates that other wildlife and associated habitats within the study area include inland waterfowl and wading bird habitat, high value brook trout habitat and potential riparian connectors. Inland waterfowl and wading bird habitat represents a significant wildlife habitat defined under the NRPA. Inland waterfowl and wading bird habitats are protected under the NRPA and shoreland zoning. Areas with a high or moderate rating are regulated under NRPA. Areas that qualify under NRPA and have a wetland 10 acres or larger are regulated under shoreland zoning. There are approximately 14 acres of inland waterfowl and wading bird habitat in the project area, located in the most southern portion of the MEARNG property.

There are 67 acres of inland waterfowl and wading bird habitat in the study area. In addition to the area at the southern end of the study area, there is a large area (46 acres) of habitat along the eastern boundary adjacent to Taylor Pond. All inland waterfowl and wading bird habitat within the study area is moderate and qualifies for protection under the NRPA. Taylor Pond is mapped as high value brook trout habitat adjacent to the study area; however, current brook trout populations within Taylor Pond are diminished due in part to low levels of dissolved oxygen in the water.

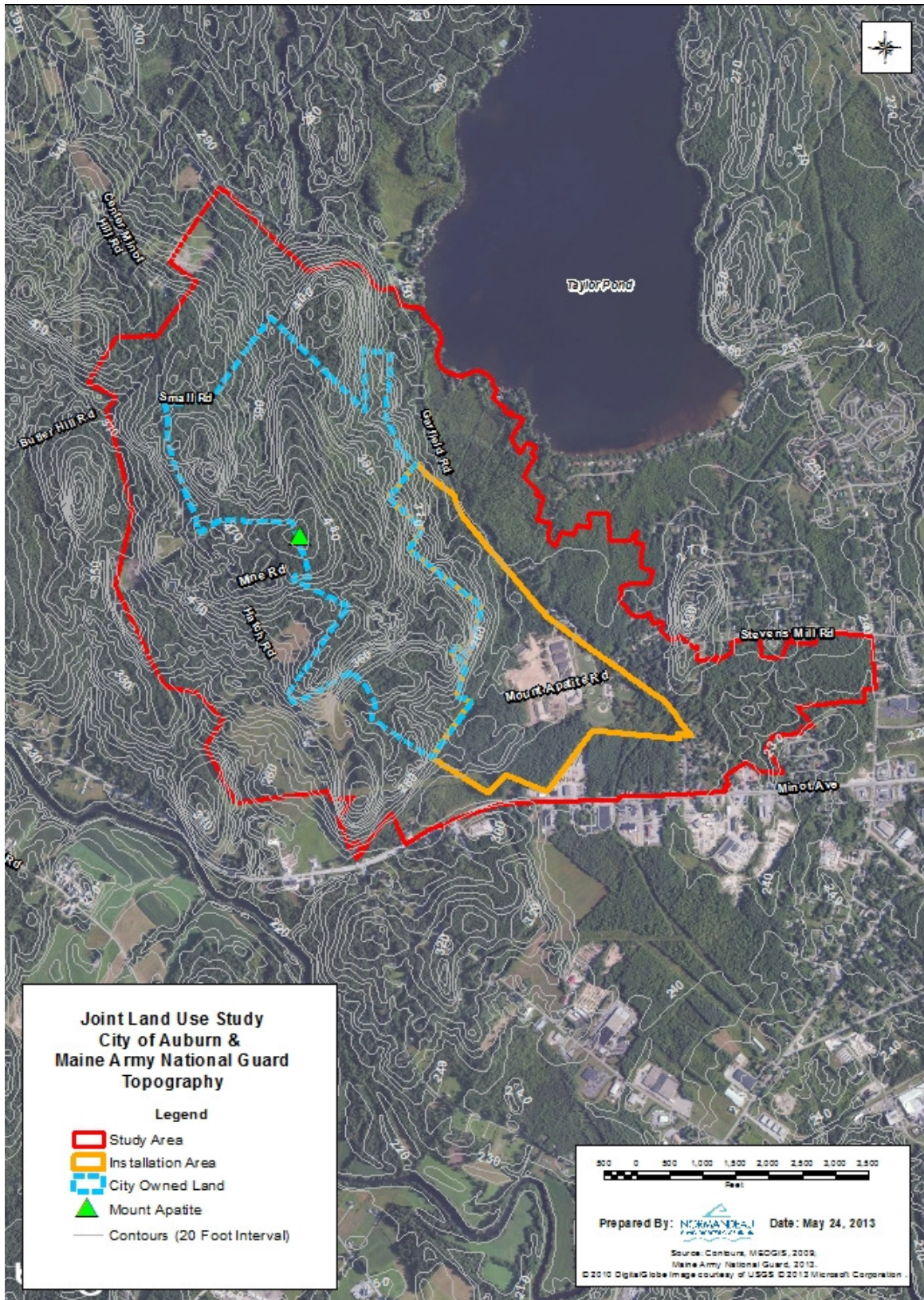


Figure 3.5 Topography

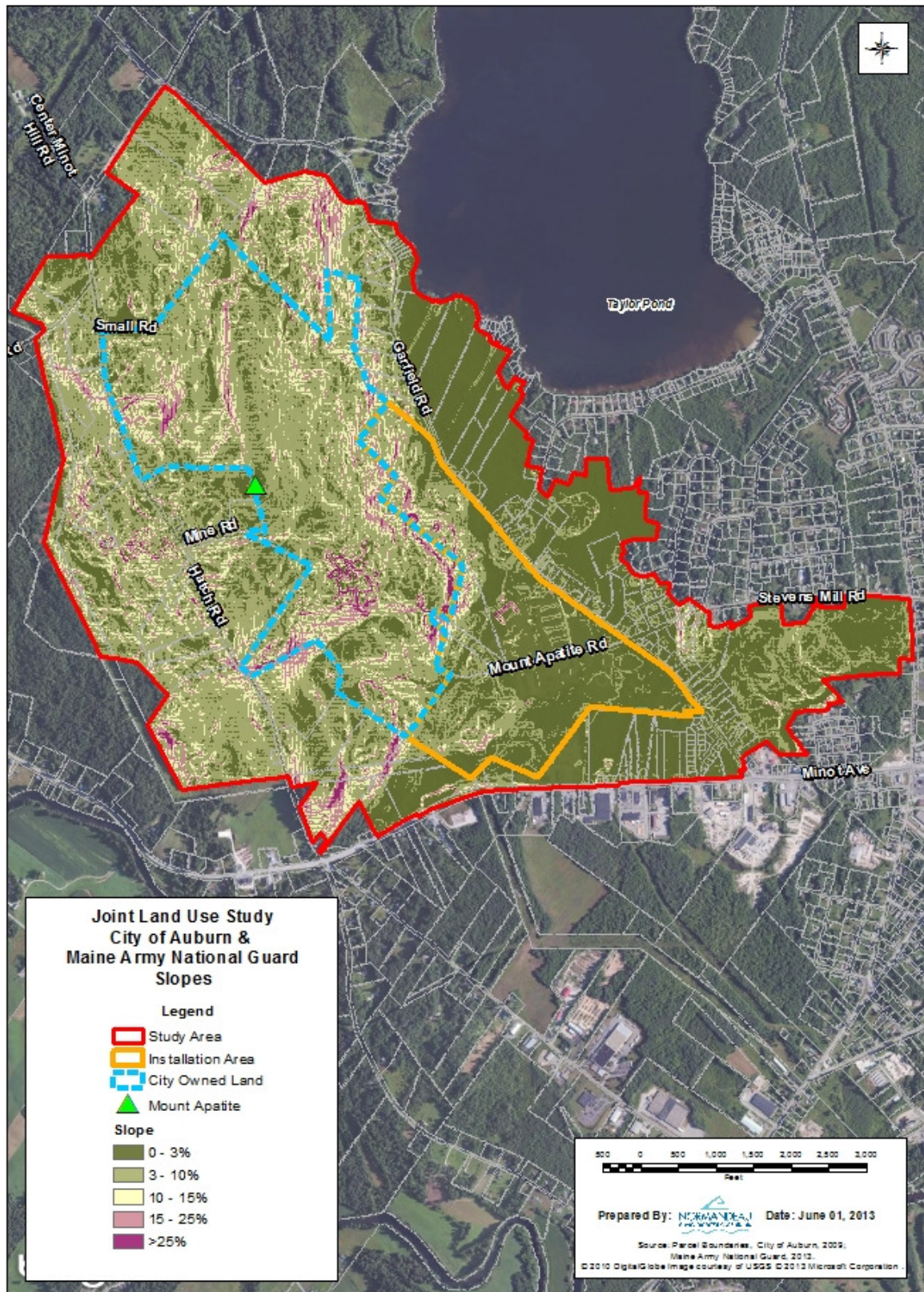


Figure 3.6 Slopes

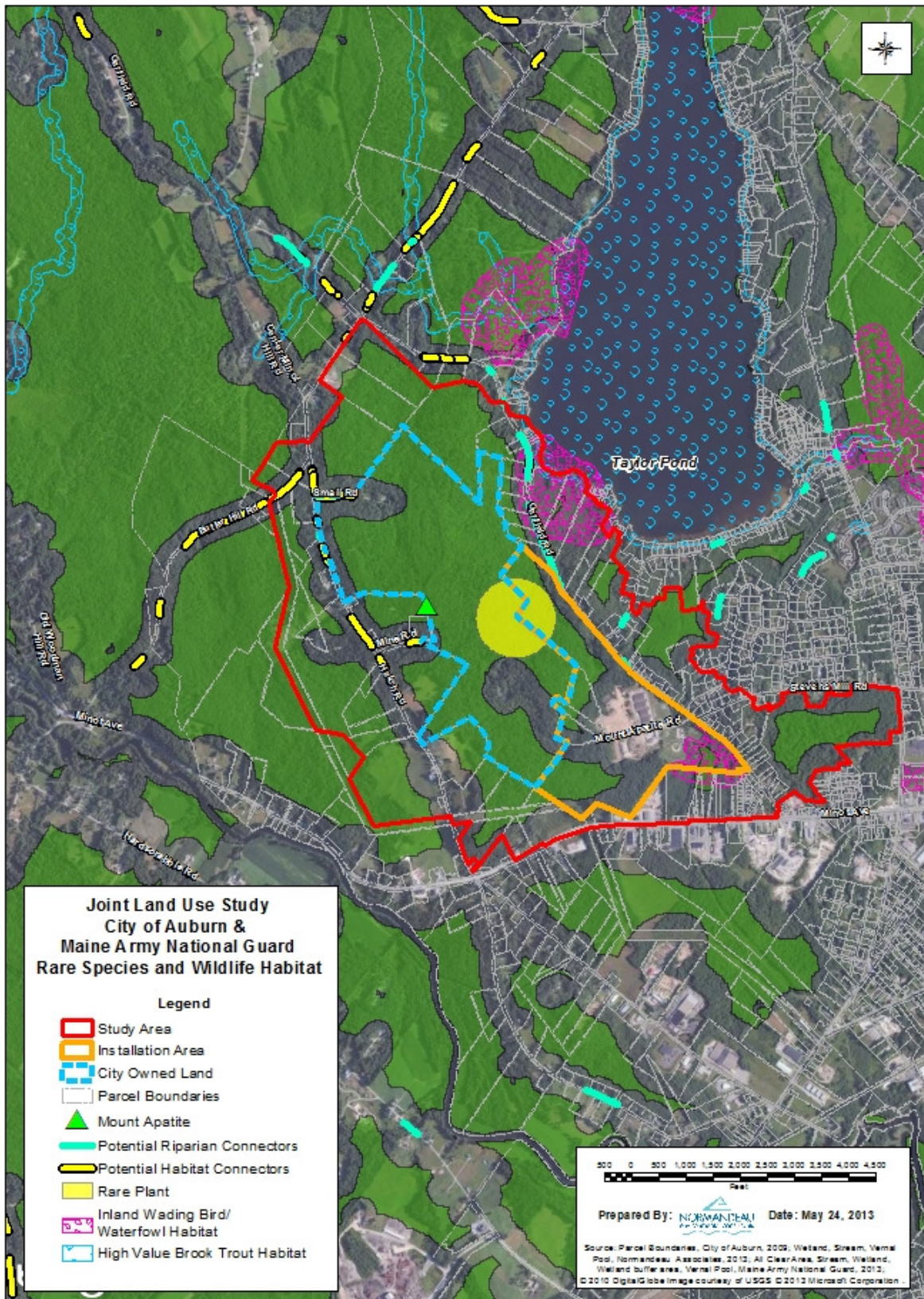


Figure 3.7 Rare Species and Wildlife Habitat

There are 2,638 feet of mapped riparian corridors in the study area, of which, the majority is located along Garfield Road. Riparian corridors are identified as potential hotspots of riparian species activity and / or indicate barriers to species traveling along MaineDOT Roads, according to the Maine Department of Inland Fisheries and Wildlife. This information is accurate for planning purposes only and should be field verified for project development. It represents the best, modeled approximation of stretches of roads with a high probability of serving as barriers to riparian species movement. On the ground conditions may vary from the conditions represented in the many individual datasets on which this summary is based.

Rare Habitats:

One threatened species has been documented within the study area during previous field surveys. The small whorled pogonia (*Isotria medeoloides*), which is a member of the orchid family, grows in older hardwood stands of beech, birch, maple, oak and hickory that have an open understory. Sometimes it grows in stands of softwoods such as hemlock. It prefers acidic soils with a thick layer of dead leaves, often on slopes near small streams. The small whorled pogonia was added to the US List of Endangered and Threatened Wildlife and Plants in 1982 as an endangered species. In 1994 it was reclassified to “threatened”. See Figure 3.7.

Prehistoric and Historic Archaeological Resources:

The National Register of Historic Places is the Nation's official list of cultural resources worthy of preservation. The Maine Historic Preservation Commission (MHPC), a state government agency, is designated as the

State Historic Preservation Office and oversees administration of the National Register program for the State. Based on review of materials provided by the MHPC there is a historic structure at 171 Hatch Road that is potentially eligible for the National Register. There is also a historic archaeological site at the location of the old military rifle range on the MEARN property. See Figure 3.8.

Constraints Analysis:

In order to determine which areas 1) are important to preserve, 2) create obstacles for development or 3) potentially generate additional unintended impacts if they are developed, a constraints analysis was performed using the Geographic Information System (GIS) database for the study area. See Figure 3.9. The type of GIS model used is a powerful, yet simple, spatial model that divides the study area into small pixels and then ranks each based on how many constraints fall into it.

Scores and reclassified data were then added together. The additive score resulting from the model represents the relative likelihood of an area having constraints for development. The values are relative values, not absolute, and should be looked at as a range of probabilities as to the likely presence or absence of constraints.

Figure 3.10 shows the mapped output from the constraints model for the study area, with the model scores color-coded based on the results of the classification. Blue areas represent the areas that have the least constraints to development; red areas indicate areas having the most constraints.

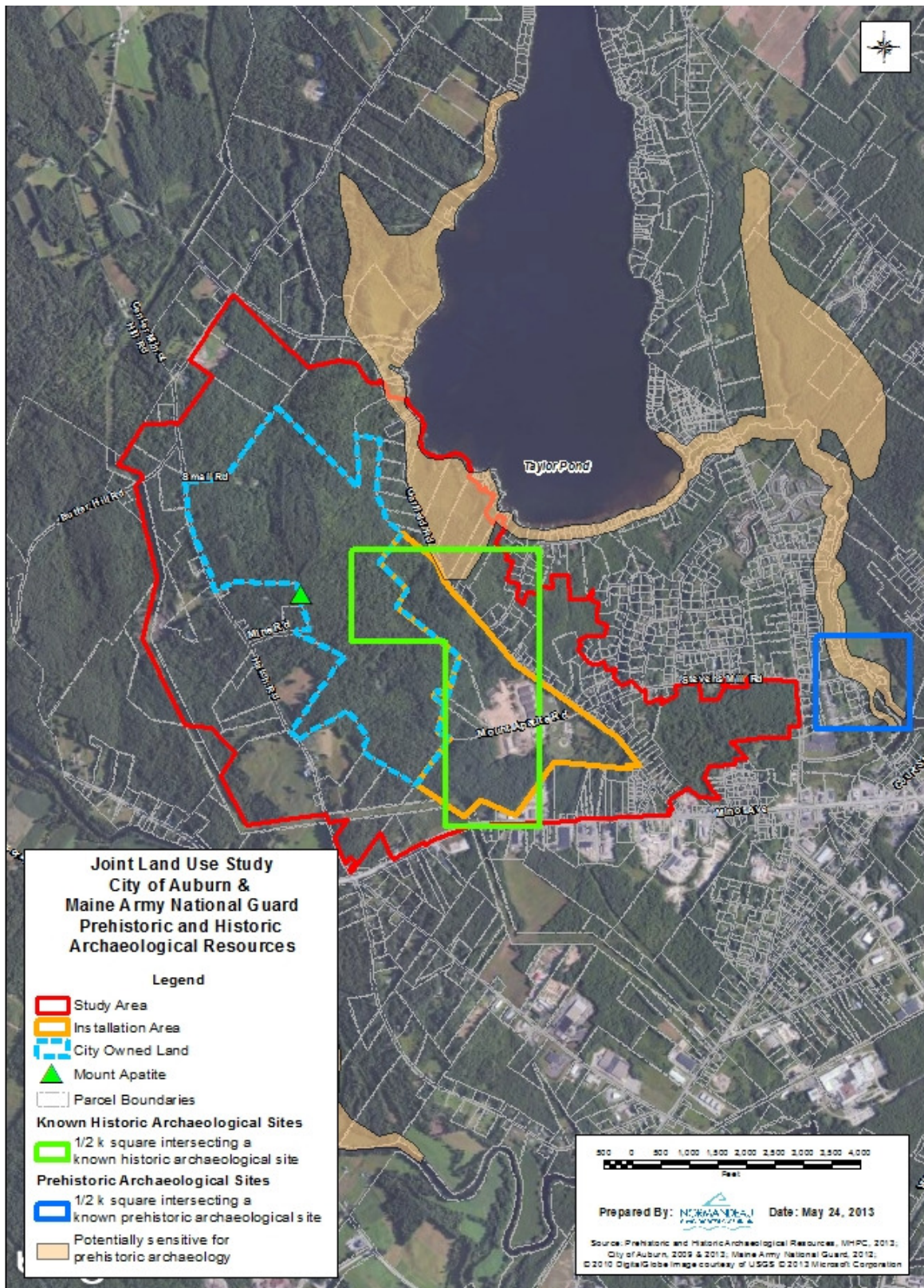


Figure 3.8 Prehistoric and Historic Archaeological Resources

Figure 3.9 JLUS Constraints Analysis			
Elements	High Limitations -3	Medium Limitations-2	Low Limitations-1
Farmland soils		Prime soils, soils of statewide significance, areas within 50 ft of farmland soils	
Hydric soils	All hydric soils and the area within 50 ft of hydric soils	Within 50+/- 75 ft of hydric soils	Within 75+/- 100 ft of hydric soils
Wetlands - salt marsh, shrubby swamp, forested swamp	All wetlands and the area within 50 ft of wetlands	Within 50+/- 75 ft of wetlands	Within 75+/- 100 ft of wetlands
Surface water	Surface water and areas within 75 ft of surface water	Within 75+/- 150 ft of surface water	Within 150+/- 250 ft of surface water
Shoreland zoning	Areas within 250 ft of great ponds, areas within 75 ft of streams		
Endangered animals / plants		All	
Key habitat (inland wading waterfowl habitat, high value brook trout habitat)		All	Within 75 ft
Archaeological Resources (historic and prehistoric)		Known site - historic or prehistoric	Check for archaeological resources
Potential habitat connectors and potential riparian connectors		All	
Undeveloped blocks (>500 acres)			All
Slopes	>25%		>15 - 25%
Buildings		On site and immediately adjacent	
Ballfields at GRC			All
All clear area	x2		
2013 delineated wetlands	All		
2013 delineated streams	All		
2013 delineated vernal pools	All		
Noise contours	Level III	Level II	
Source: Integrated Planning Solutions, 2013			

3 - impact on health / safety and / or highly regulated by federal / state government or issue of very high value to community

2 - issue of value to community

1 - issue of value to community and impacts likely can be mitigated through good design

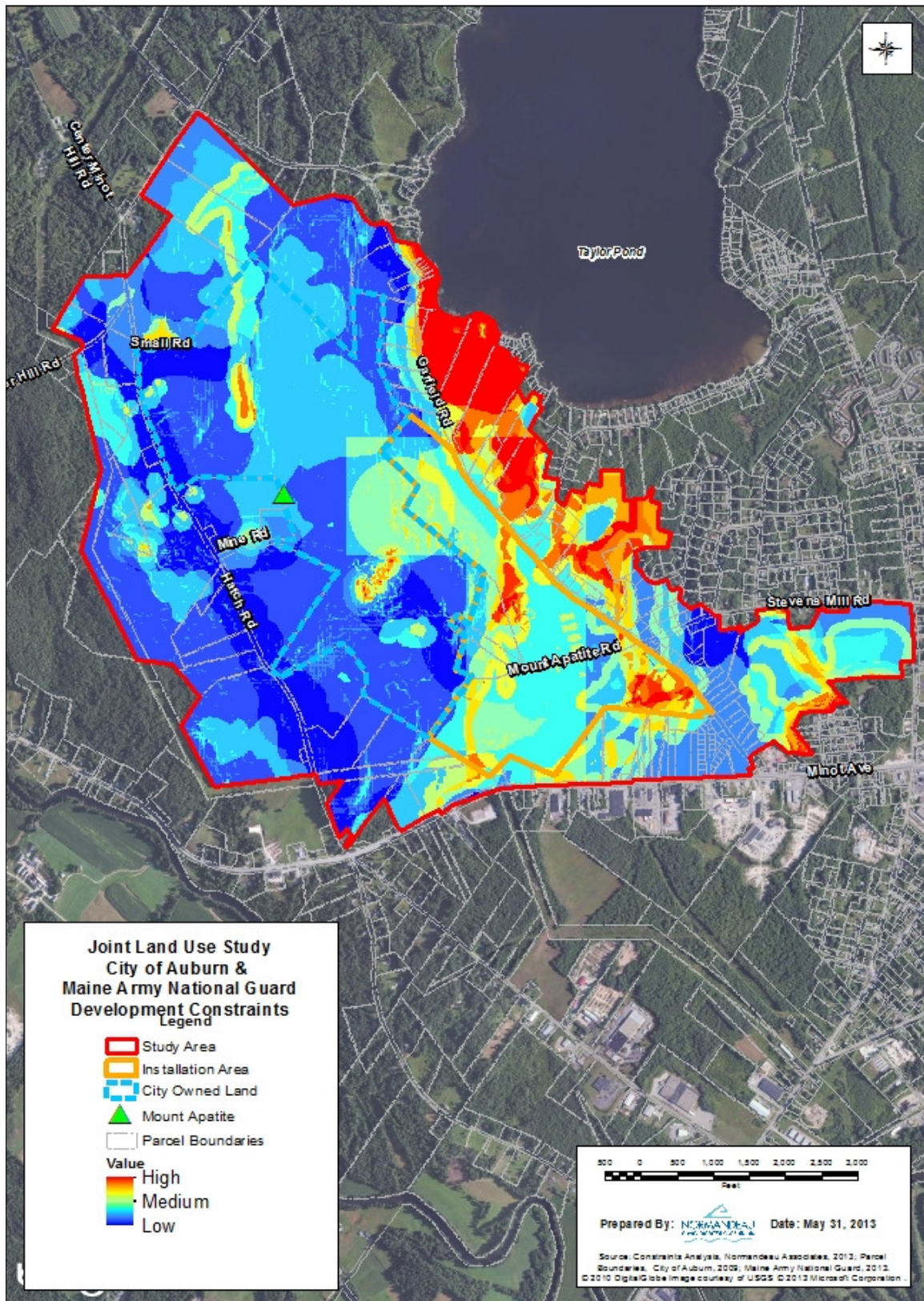


Figure 3.10 Development Constraints

Areas in the other color ranges resulted in a score that was somewhere in the middle of the spectrum. Most of the area in blue is owned by the City and is part of Mount Apatite Park. Areas in blue outside the city land are mostly privately-owned and while they have fewer development constraints, the properties are limited by city policy and land use regulations, further discussed on page 33.

History:

As in so many areas, geology and topography have led to the historic use of the Mount Apatite area. And its hydrology, with Taylor Pond and associated wetlands, has had an important impact on the MEARNG installation and city land management efforts, particularly connected with managing growth of the area and with creation of the GRC.

Post Civil War Mining:

The quarries were excavated for pegmatite, which contains feldspar, quartz and muscovite (mica) and have a long history of mineral production. Exploratory mining of the area began as early as 1868 and in 1902, an area on the Hatch Farm was leased by the Maine Feldspar Company of Auburn and mining for commercial feldspar began. The feldspar was hauled to a nearby mill at Littlefield Station, where it was ground and readied for industrial use. Feldspar produced in Maine was shipped to England for use in porcelain and china factories. With the closure of the Maine Feldspar Company's operations in the early 1930s, there has been no commercial mining at Mount Apatite.

During commercial mining years, workers sometimes found rare green and pink gem

tourmalines, purple apatite, transparent and smoky quartz and garnet which were sometimes set aside for museums and gem cutters, but which were viewed by superintendents as distracting to mining operations. The mountain is named after a mineral called apatite, which is a beautiful deep purple crystal found on the west side of the hill.

The complexity of the array and amounts of minerals found in the Mount Apatite area is matched by only a few other locations in Maine. The American Museum of Natural History in New York City displays an 11.87 carat tourmaline from Mount Apatite. Mount Apatite, and its mineral wealth, is familiar to collectors the world over.

Various features around the quarries illustrate former mining techniques and the linkages between Maine's geologic and human history and "rock hounds" from far and wide continue to search the mine tailings for apatite, tourmaline and quartz. By the time the photo displayed as Figure 3.11 was taken in June of 1913, a tremendous amount of feldspar and a small quantity of gem material had been removed from the Maine Feldspar Quarry.

Post WWI Presence for MEARNG Installation: The US Government acquired 154 acres in the Mount Apatite area in 1926 for use as a training site for US military personnel. In 1950, 1951 and 1972, this land holding was expanded to include the lease of three parcels of unimproved land from the Auburn Gun Club and Elizabeth Tinkham (approximately 16 acres total). Today, the open space and developed portions of the DoD property consist of administrative offices, a maintenance area,

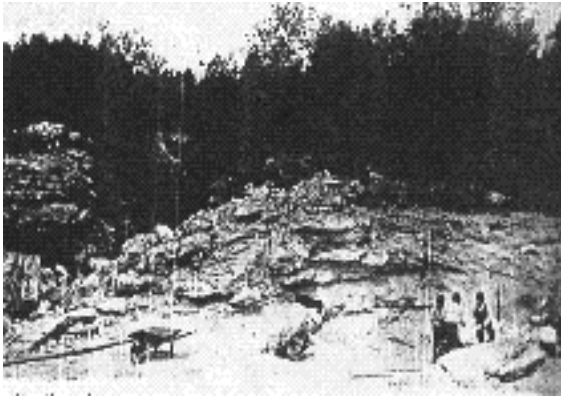


Figure 3.11 Historic mining operations at Mount Apatite Quarries - 1913

storage buildings and parking facilities for heavy military construction equipment and trucks. The field maintenance shop, consisting of several buildings, fields and open gravel areas, is used for heavy construction equipment maneuvering and training.

A live fire 10-25 meter baffled firing range is located adjacent to this open field area. The baffled range was closed in 2009 for its unsafe and dilapidated conditions.

The forested area on the site contains a compass course, the remains of one firing range, an existing baffled range and an 800-1000 KD (known distance) range used from 1926 until the early 1960's. These early ranges contained three target structures, portions of which are still evident today.

Today, MEARNG's facilities on the property include:

- land navigation course
- maneuver training area,
- refueling pad
- engineer equipment training
- 2 field maintenance shops (12,614 sf built in 1962) and surrounding area

- 4 humidity-controlled preservation shelters (70,000 sf, built in 2008)
- firing range, built before 1980 but closed in October 2009 (anticipate request for upgrade / repair, projected cost of \$1.5M in future)

See Figure 3.12 for an illustration of MEARNG's installation and operational areas.

Auburn residents have a history of using the land surrounding and in the Auburn training site, which has limited the training utility of the site. The movement of military operations / personnel can be impeded when both baseball and softball games occur at the same time as MEARNG activities on the training site. This activity overlap creates safety and potential liability issues for both user groups.

City Acquisition:

During the early 1970s, the City purchased approximately 300 acres of open space on Mount Apatite north and west of the MEARNG property at a municipal cost of \$100,000. The State of Maine listed the Mount Apatite quarries as Critical Area #92 in 1977. The principal management recommendation for the area was that it should not be used for purposes that would preclude access to the bedrock features.

There has been little development in the Park since its purchase. The City received a \$2,500 grant in 1976 and worked with the Andy Valley Sno Gypsies snowmobile club to construct snowmobile trails, a shelter, picnic grounds and sanitary facilities.

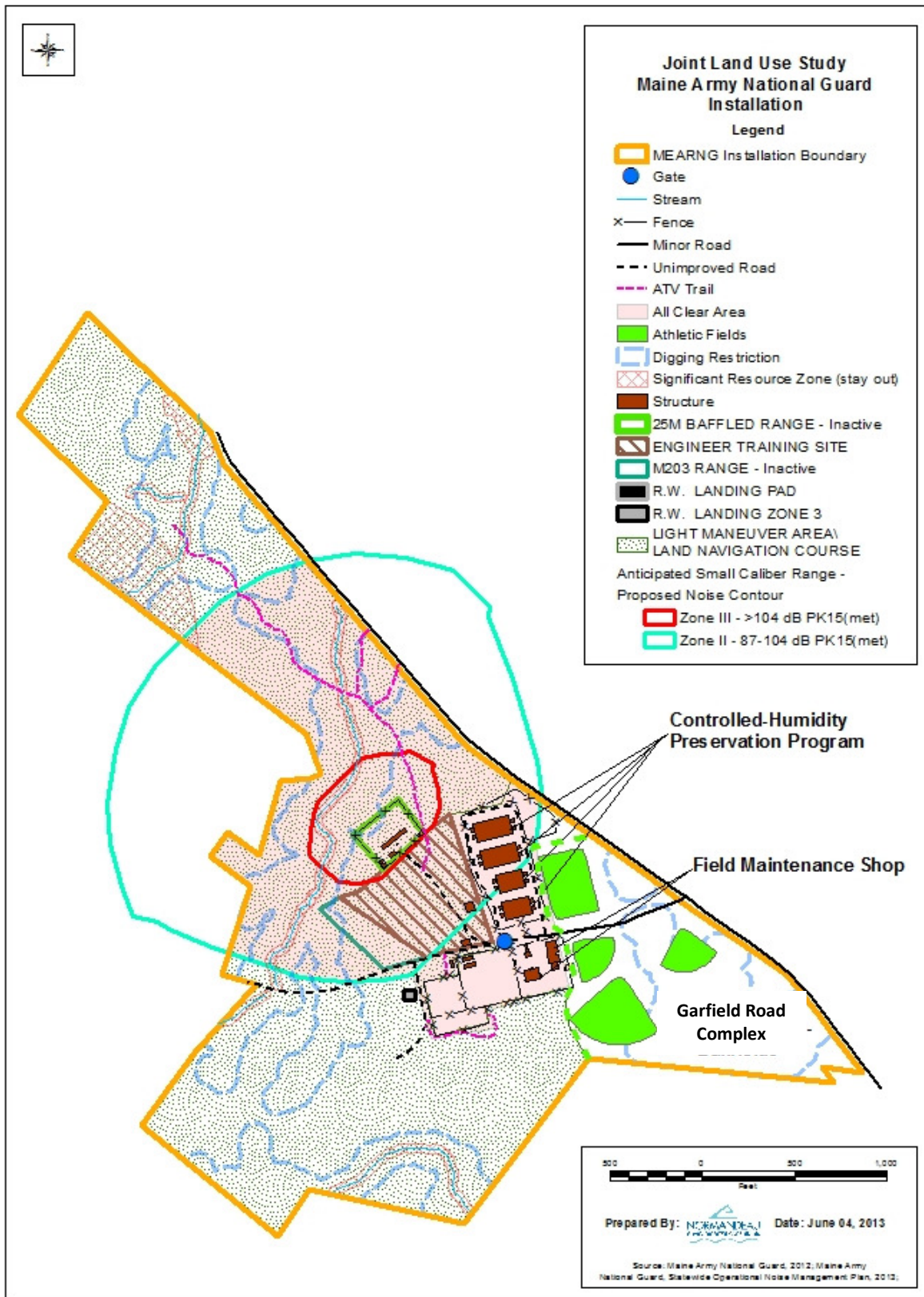


Figure 3.12 MEARNG Installation and Operational Areas and Garfield Road Complex

That same year, Comprehensive Employment and Training Act (CETA) program employees helped work on trail clearing, safety wall construction around the quarry areas and construction of park entrance signs.

In 1991 the City commissioned a study, funded by the Land and Water Conservation Act, of how best to use Mount Apatite Park. An advisory committee worked with John Ackerman, Landscape Architect, to prepare a plan. In 1994, a 3.2 mile (5k) multi-use trail for hiking and cross-country skiing was constructed. In 1997, trails to the quarry area were added and signs were posted.

In the winter, trails are groomed for snowmobiling, cross country skiing and snow shoeing. In the spring, summer and fall, trails are open to mountain bikers, runners, hikers and other non-motorized trail users.

Mount Apatite Park offers a wide variety of recreational opportunities not often found in a municipal park. Rock hounds still search the mine tailings for apatite, tourmaline and quartz specimens. The Park features approximately four miles of trails for the non-motorized uses previously mentioned. The Andy Valley Sno Gypsies also maintain a snowmobile trailhead within the Park off Small Road, which links to miles of regional snowmobile trails.

The Park is open from dawn until dusk year-round. As with all municipal parks, hunting is not allowed within the Park. A trail map is available at the Auburn Parks and Recreation Department along with a manual on trail etiquette and park use guidelines.

Three nineteenth century structures have been identified in areas of substantial development, where some structural remains of these buildings may exist amidst a heavily disturbed area. The MHPC recommends that further documentation of the twentieth century mining operation be undertaken before further disturbing the area.

Lease Agreements and Licenses:

The Auburn City Council and the Andy Valley Sno Gypsies snowmobile club entered into a lease agreement on July 18, 1977 that allowed the club to construct a clubhouse on city owned land off Small Road and to construct snowmobile trails. This agreement was for a period of five years and is automatically renewed for additional one year terms, unless either of the parties gives notice of termination.

As cited in the 1991 Mount Apatite Multiple Use Recreation Plan, the City and the US Army agreed to a land exchange on March 3, 1989 that allowed the City to acquire 42.5 acres of Army National Guard property in exchange for 104.5 acres of city owned property for the construction of the GRC. This land swap ratio was determined based on the appraised value of the affected parcels.

While the DoD, which owns the 154 acres of installation land, usually requires a license for public use of its property, historically, MEARNG has allowed recreational use of parts of the installation except during training periods. Around 1989, a city appointed Mount Apatite Committee and the MEARNG coordinated site planning to maximize development resources for public use of both properties.

Thirty-one acres of property that includes the GRC and portions of surrounding city recreation area were authorized by a MEARNG license but it expired in 1995. That license was never renewed leaving the current use of the GRC unauthorized.

In 1989, the City leased to the Auburn Suburban Little League for a period of 25 years, the premises located on the westerly side of the Garfield Road and bounded on the southeast by the Central Maine Power line, on the west and northwest by land of the Army National Guard, and on the north by Mount Apatite Road. That lease includes a right to renew for an additional 25 years; but without a city license from MEARNG, the likelihood of renewal is questionable.

General Development Trends and Future Land Use Plans:

As a major population and service center within an otherwise largely rural state, Auburn is at the heart of a constantly changing economic and residential base. It is also a city that, while growing, seeks to maintain a balance between urban and rural ideals, growth and quality of life. In Auburn's 2010 Comprehensive Plan *Vision* for the future cites Auburn's desire to ensure that its "neighborhoods are safe and well connected, people take pride in their community, open space is preserved and protected, and adequate economic, recreation, and housing opportunities exist to meet the needs of all residents."

As indicated in Figure 3.13, Auburn's population declined between 1990 and 2010. At the same time, the population of Androscoggin County, the state, and nation grew, with a far slower rate of growth at

the county and state level than that experienced at the national level. Zooming in to the study area, Figure 3.14 shows Auburn's population at the Census Tract level. Tracts 107 (yellow) and 108 (yellow, green and blue) show that the study area's population remains under 1,000 people.

Auburn's commitment to the ideals expressed in its *Vision* is demonstrated in the City's long history of comprehensive planning. The City adopted its first long range plan in 1919. Fifty years ago, the City realized the need to protect sensitive and largely undeveloped areas from disjointed, leapfrogging land development and sprawl; to that end in 1961, Auburn adopted the Agriculture and Resource Protection (AG) zoning district. The AG zone prohibits residential encroachment on agricultural uses.

The City currently has thirteen zoning districts (one for industrial uses, five for varying commercial purposes, six for residential uses, and one for agricultural purposes).

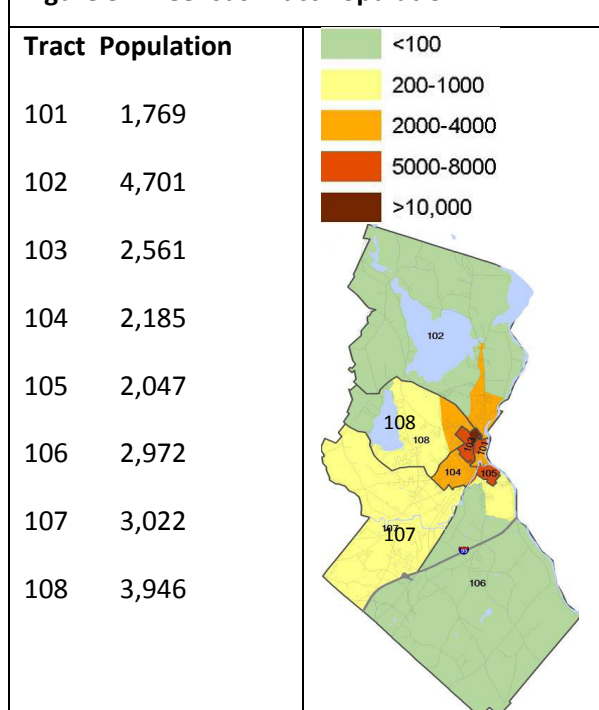
Approximately 40% of Auburn's land is zoned AG and, as a result, the City has a strong track record of preventing sprawl in targeted areas, thereby protecting natural resources and directing growth to areas where there are municipal services or where they can be efficiently extended. The effect of the AG District is similar to what has been accomplished in Portland Oregon, for example, with an Urban Growth Boundary.

Both Auburn's strategic location and its commitment to planning are reflected in its transportation network.

Figure 3.13 Population Surrounding Auburn training site

	1990	2000	2010	1990-2000 % Change	2000-2010 % Change
Auburn	24,309	23,203	23,055	-0.5	-0.1
Androscoggin County	105,246	103,793	107,702	-1.4	3.8
Maine	1,227,928	1,271,923	1,328,361	3.5	4.4
US	248,709,873	281,421,906	308,745,538	13	9.7

Source: US Census Bureau, 1990, 2000, 2010 Census

Figure 3.14 Census Tract Population

- Auburn is at the heart of a transportation hub, with highways leading to points throughout the state, the northeast, and Canada.
- Auburn is located at Exit 75 of the Maine Turnpike (Interstate 95) and hosts the Lewiston-Auburn airport which is designated as a commercial point of entry.

- In addition, the St. Lawrence and Atlantic Railroad passes through the City near the airport. Minot Avenue is a commercial strip and provides access to hinterlands west of the City. See Figure 3.15.

Development in the study area reflects the zoning districts. See Figures 3.16 and 3.17. The vast majority of the area is zoned for agriculture. The area along Minot Avenue is zoned General Business, Industrial, or Rural Residential.

The area off Garfield Road is developed with residential uses along a gradient from most dense at the intersection with Minot Avenue to least dense and largely undeveloped at the intersection with Perkins Ridge Road. Zoning guides this development pattern from Urban Residential along a small portion of Taylor Pond's shoreline, Suburban Residential from the intersection with Minot Avenue to approximately 40% of the length of Garfield Road, to Low Density Country Residential for the remaining 60% to the intersection with Hatch and Perkins Ridge Roads.

The Taylor Pond Overlay District extends into the study area 250 feet back from the high-water mark of the Pond. The intent of

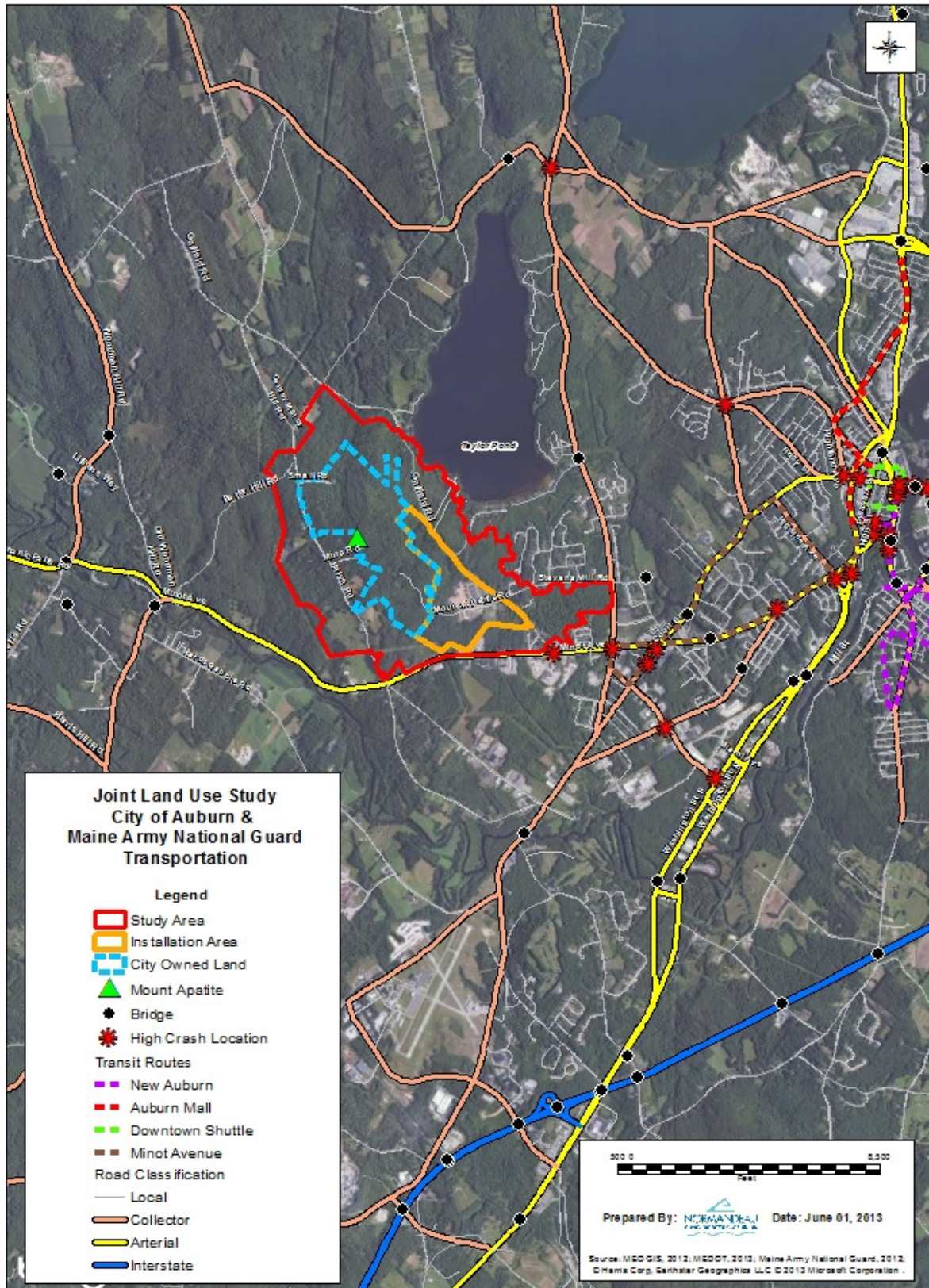


Figure 3.15 Auburn Transportation Network

the Overlay District is to protect the area from adverse effects associated with increased land development. Regulations within this district deal with the conversion of seasonal homes to full-time residences with standards requiring connection to public sewer, compliance with existing codes, and meeting the setback requirements.

The study area is also subject to the City's Phosphorus Control Ordinance, which limits additional phosphorus discharge into Taylor Pond (and Lake Auburn) by requiring that phosphorus related to disturbance of soil and creation of impervious surfaces be handled on site. Both of these regulations limit the amount and type of future growth in the study area.

Historically, the predominant uses in the study area were industrial, agricultural and military with limited residential uses and thus resulted in few if any incompatibilities. As development of the area continued over the last 75 years or more, more residential uses have been established and most industrial activities have ceased. As such, the MEARNG installation is currently constrained and bounded on all sides by recreational, residential and a few commercial uses.

The Mount Apatite area is one of the least densely developed areas of the City. It does, however, support a density of

between 200 and 1,000 people per square mile and might more appropriately be thought of as an area in transition between the urban core of the community and the rural communities further west. This is recognized in the City's 2010 Comprehensive and Future Land Use Plan.

Census figures show that more people live in the rural areas than in the city center. This further exemplifies the preference for rural over urban living.

Public water and sewer are available along Minot Ave and portions of Garfield Road adjacent to Taylor Pond. See Figure 3.18

Most residential development off Garfield Road is pretty well established with some infill, noted on Figure 3.19 in green, yellow, and red. The un-shaded areas on the map are undeveloped parcels, indicating the potential for additional development. Only one subdivision has been approved in the study area since 1994 – the Taylor Ridge Subdivision, which was approved in 2003.

The subdivision included a seventh lot that was donated to the City and is the strip of land at the back of the subdivision (hatched in pink) that is now combined with the Mount Apatite parcel. The red areas on the map indicate nonresidential development since 1994 – primarily located along Minot Ave.

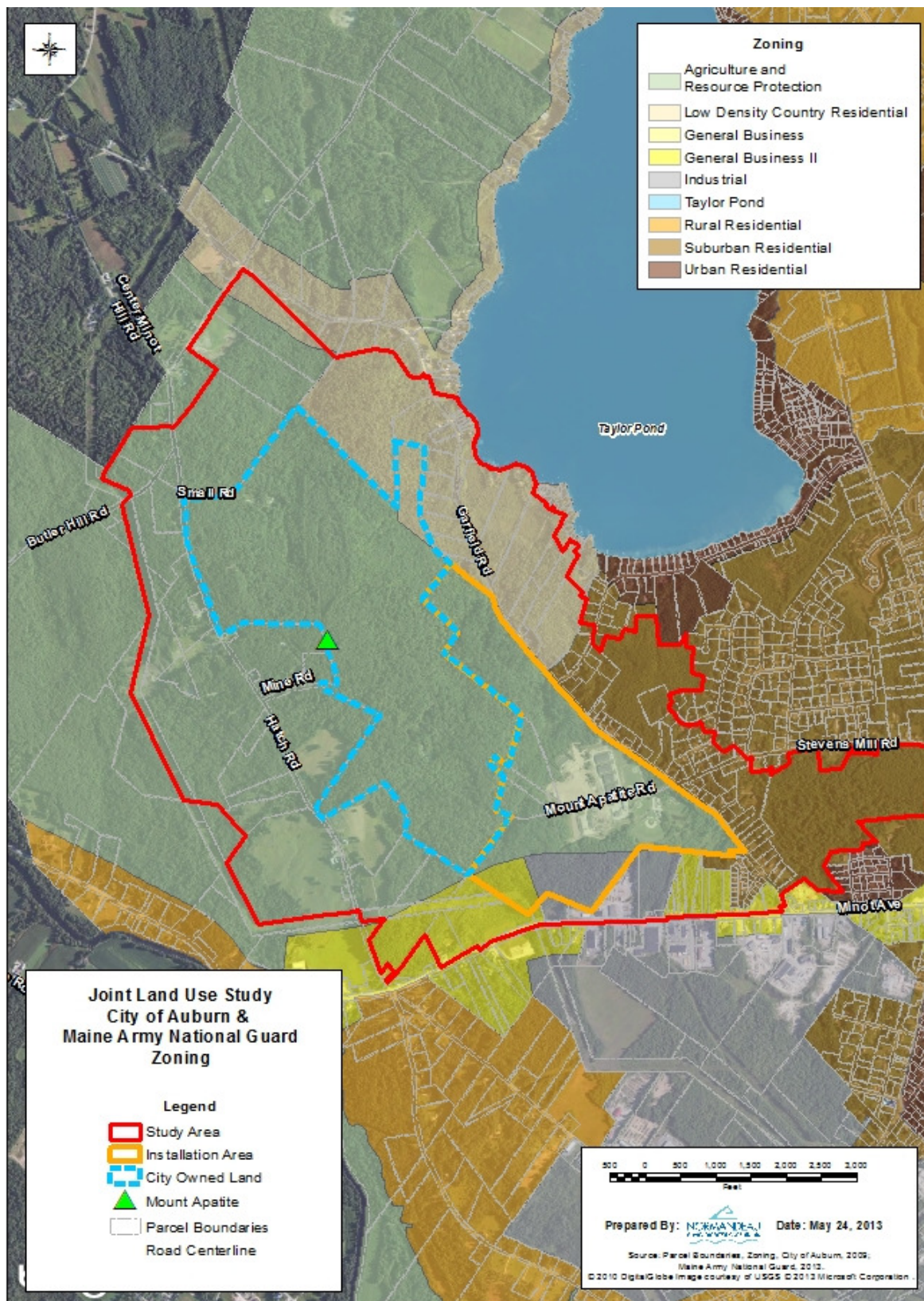


Figure 3.17 Current Zoning Designations in JLUS Study Area

AGRICULTURE AND RESOURCE PROTECTION (AR)
<p><u>Allowed Uses</u></p> <p><i>Permitted</i> – single family detached dwellings only when accessory to agricultural operations and the occupants earn more than 50% of household income from farming; accessory uses; forest products; farms & gardens; plant & tree nurseries; greenhouses; handling, storage, sale of agricultural products; livestock operations; wayside stands</p> <p><i>Special exception</i> - two family dwellings converted from single family dwellings constructed prior to 1900; sawmills; veterinary hospitals; handling, storage & sale of agricultural services, equipment & supplies; residences for farm labor; public recreational uses; reconstruction of legally nonconforming summer camp or cottages destroyed by fire; shooting ranges; cemeteries; municipal landfills; radio, radar, TV, telephone towers; wholesale nurseries; processing & storage of compost & bulking agents from municipal wastewater sewerage sludge facilities; licensed hospice care facility</p>
<p><u>Development Standards</u></p> <p><i>Min lot area, width and depth</i> – 10 ac not including water bodies of 1/4 ac or more & not <250' street frontage & 200' depth. Building may be erected on lot not <50,000 sf with minimum frontage provided it is contiguous with other lots or parcels in same ownership containing an aggregate of not <10 ac</p> <p><i>Density</i> - not > average of 1 du / 10 ac</p>
LOW DENSITY COUNTRY RESIDENTIAL
<p><u>Allowed Uses</u></p> <p><i>Permitted</i> – uses permitted in the AR; one-family detached dwellings; lawn maintenance services</p> <p><i>Special exceptions</i> – special exception uses in the AR; bed and breakfast</p>
<p><u>Development Standards</u></p> <p><i>Min lot area, width and depth</i> – 3 ac & not <325' width or <200' depth</p> <p><i>Density</i> - not >1 du / ac</p>
SUBURBAN RESIDENTIAL
<p><u>Allowed Uses</u></p> <p><i>Permitted</i> – single & two family dwellings; PUDs; mobile home parks; plant & animal farming; orchards; greenhouses; veterinarians; wayside stands; accessories; lawn maintenance services; municipal uses & buildings</p> <p><i>Special exceptions</i> – special exception uses in the Rural Residence (RR) District; professional offices subject to conditions</p>
<p><u>Development Standards</u></p> <p><i>Min lot area, width and depth</i> – 21,780 sf & <150' width & <125' depth</p> <p><i>Density</i> – not >2 du / ac</p>

Figure 3.17 Current Zoning Designations in JLUS Study Area

GENERAL BUSINESS II
<p><u>Allowed Uses</u></p> <p><i>Permitted</i> - residential du permitted in the Multifamily Suburban (MFS) District; general retail stores & services; hotels & motels; funeral homes & mortuaries; child day care centers; medical & dental clinics; financial services; offices; municipal, civic or public service facilities; restaurants; theaters; places of indoor amusement or recreation; animal hospitals, but not kennels; radio & TV studios; printing shops, but not publishing plants; carwashes; accessory uses; greenhouses; seasonal outdoor places of amusement; churches & temples; shelters for abused persons</p> <p><i>Special exceptions</i> – commercial parks; automobile repair & service stations; hospitals, care homes & lodging; research or philanthropic institutions; outdoor theaters; drive-in or carry-out restaurants; sales, rental & service of farm, trucks, trailers & construction equipment; light industrial plants; convenience stores; research labs; landscape & lawn services; halls, private clubs & lodges; outpatient addiction treatment clinics; new building ≥5,000 sf or existing building of 5,000 sf or more</p>
<p><u>Development Standards</u></p> <p><i>Min lot width & depth</i> - 10,000 sf & 100' feet width & not <100' depth; residential uses have same minimum lot area, width & depth as in MFS</p> <p><i>Density</i> – not >30% of total lot area shall be buildings for commercial or office uses; density of residential same as in MFS District</p>
INDUSTRIAL
<p><u>Allowed Uses</u></p> <p><i>Permitted</i> – farming; plant & tree nurseries; landscape services; greenhouses, on-premises sales; farm dwellings; financial institutions; offices; post offices; telephone exchanges or offices; public transportation passenger stations; churches or temples; municipal uses; airports; wholesale businesses, warehouses, trucking & distribution except bulk storage of flammable, explosive or noxious material; manufacture, compounding, processing or packaging of foods, ceramic products, ice; building material sales & storage; research labs; lumber yard; beverage bottling; public utilities; accessories; training schools; similar uses; new or existing building proposed as a complex of 3 or more businesses</p> <p><i>Special exceptions</i> – uses similar to permitted & not elsewhere named; auto & marine filling & service stations; body repair shops; restaurants & diners, including drive-in & carry-out; retail food stores; microwave, radio, radar, TV or telephone transmitting or broadcasting towers, studios, or offices; motels; auto scrap yards; off-street parking accessory to permitted use; outdoor advertising; junkyard; manufacture & assembly of airplanes, alcohol, methanol or ethanol, autos, alcohol, flammable, explosive or noxious materials, machinery & machine tools,</p>

Figure 3.17 Current Zoning Designations in JLUS Study Area

cosmetics, toiletries & pharmaceuticals, asphalt, concrete or cement products, meat & food packaging, plastic & pyroxylin; metal fabrication; municipal incinerator or sewage treatment plant; grain processing & storage; coal distillation & derivation of coal products; iron or steel foundry; similar uses not enumerated elsewhere; accessory uses including retail sales of products manufactured on premises & single du for security personnel; hospital; automobile & marine sales; child day care centers >5,000 sf; outpatient addiction treatment clinics; new building ≥10,000 sf or existing building which proposes a permitted use which will occupy 10,000 sf or more; uses allowed by City Council

Prohibited unless approved by City Council - Uses similar to permitted uses & not elsewhere named; fish smoking, curing or canning; manufacture & storage of oilcloth, linoleum, stove or shoe polish, acetylene gas, ammonia or bleaching powder, asphalt, cement products, chlorine or other acids, creosote, explosives, fertilizers, gas from coal, rubber or gutta-percha, soap, sodium compounds, tar products, paint, oil, shellac, turpentine, lacquer or varnish, paper; textile dyeing or bleaching; petroleum refining or storage in more than tank car lots; smelting of ores; steel furnace or rolling mill; processing or canning of fish, vinegar or yeast; slaughterhouse, stockyard, abattoir, dressing plant; tanning or curing raw hides; wool fueling or scouring; processing, rendering or disposal of bones, offal, dead animals, fats & oils, fish or poultry wastes; treatment, storage, processing or disposal of solid waste with exceptions

Development Standards

Min lot width and depth – 150' width & not <250' depth

Density - not >40% of total lot area covered by buildings

TAYLOR POND OVERLAY DISTRICT

Permitted Uses – uses in underlying zone; summer camps converted to year round single family dwelling; single family detached dwelling; existing private, commercial & public water-related recreational uses; existing summer camps

Development standards – requires connection to public sewer; compliance with city codes, dimensional minimums; setbacks; conversion permit

PHOSPHOROUS CONTROL STANDARDS

Best management practices; erosion control plan; phosphorous control plan and maintenance provisions meeting the standards set forth in the manual Phosphorus Control and Lake Watersheds A Technical Guide to Evaluating New Development (Maine DEP et al., September 1989, with the Simple Review Method revised in May 1990). [meeting phosphorus allocations may reduce density below that allowed in underlying zone]

Abbreviations:

Ac = acre or acres

Sf = square feet

Du = dwelling unit

PUD = planned unit development

' = feet

< = less than

≤ = less than or equal to

> = greater than

≥ = greater than or equal to

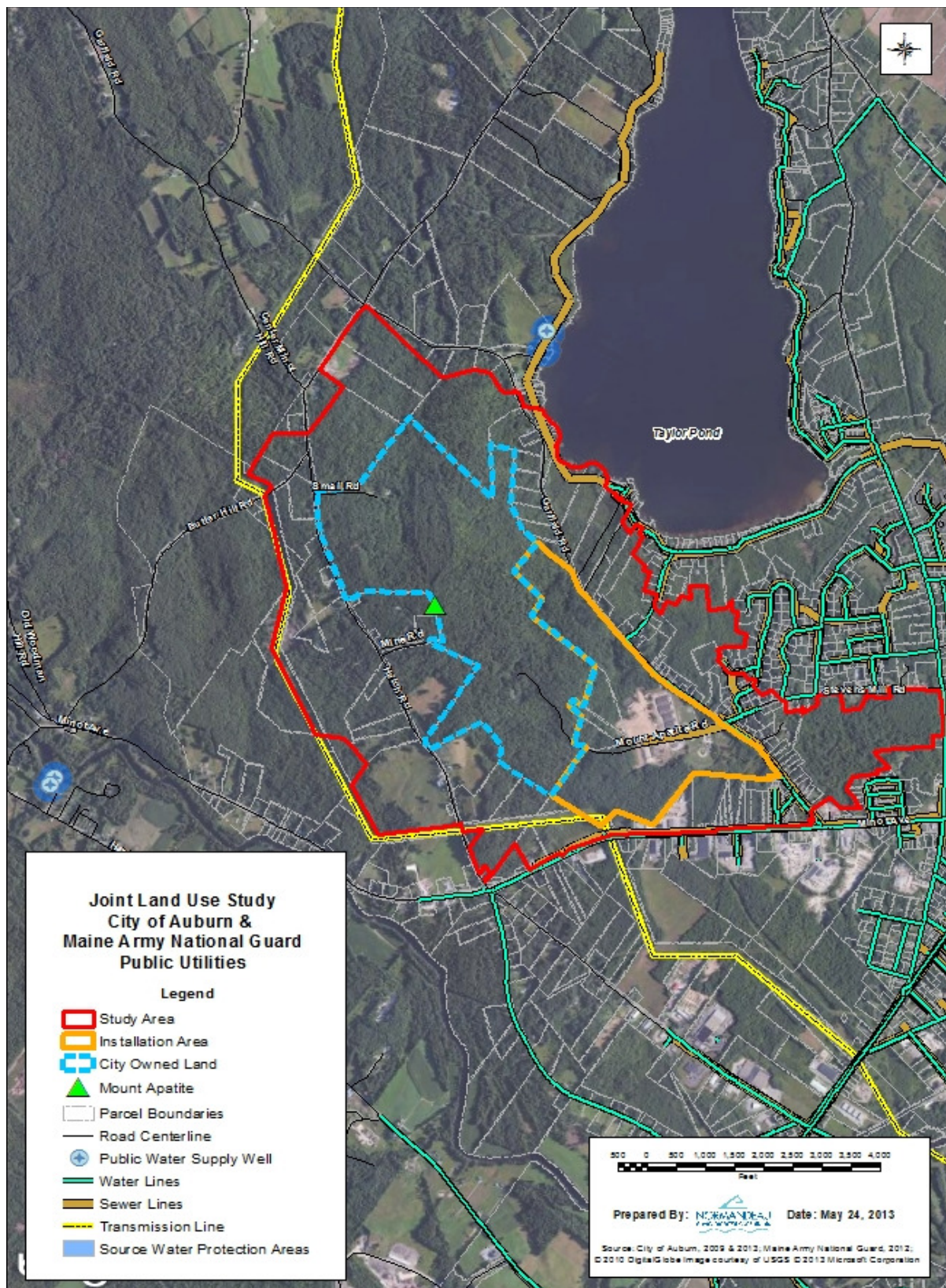


Figure 3.18: Public Utilities

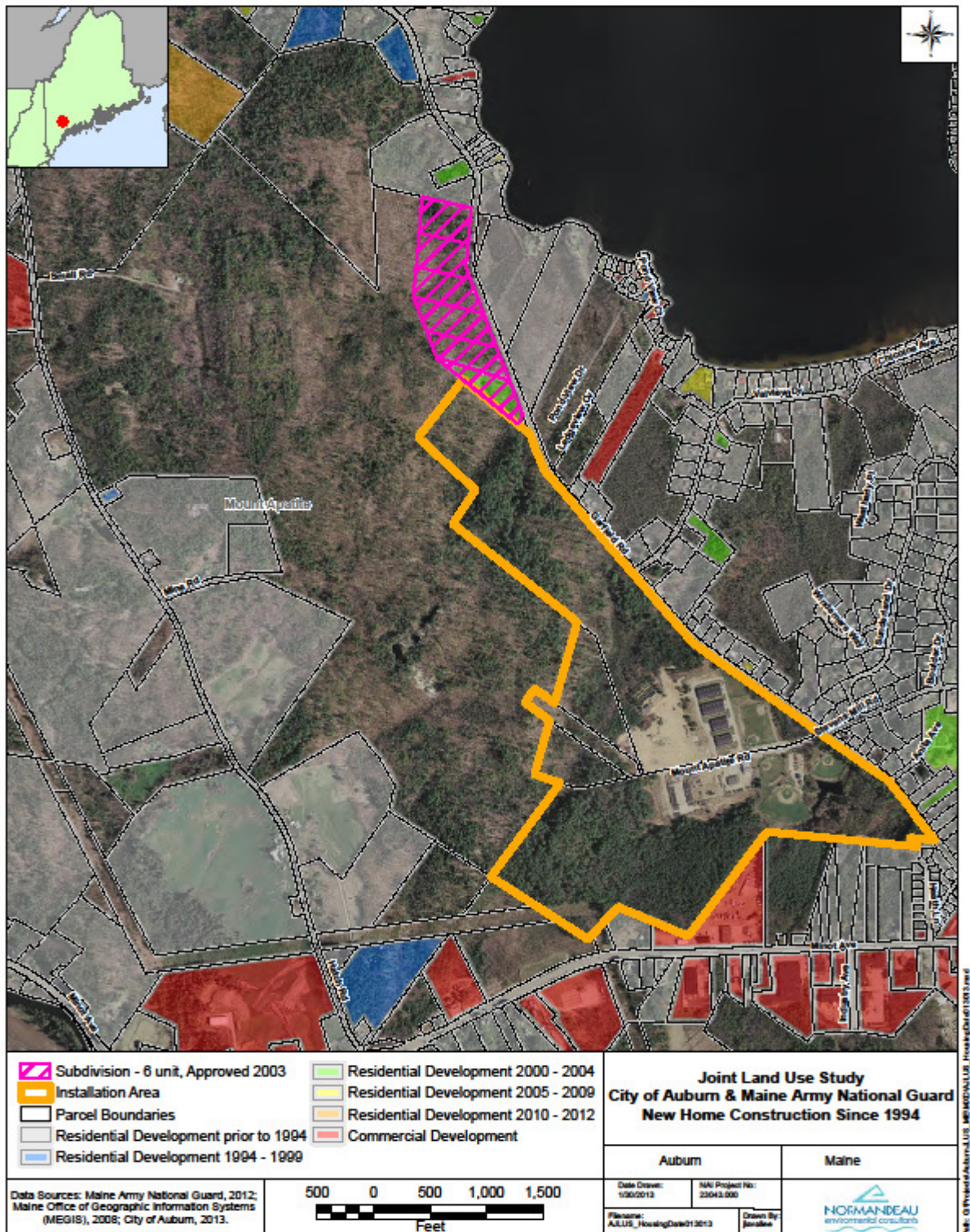
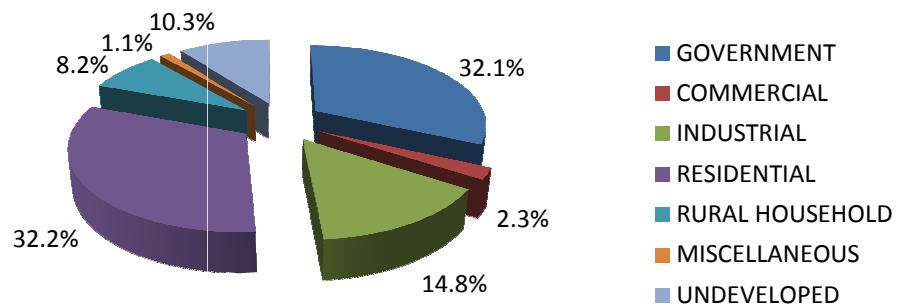


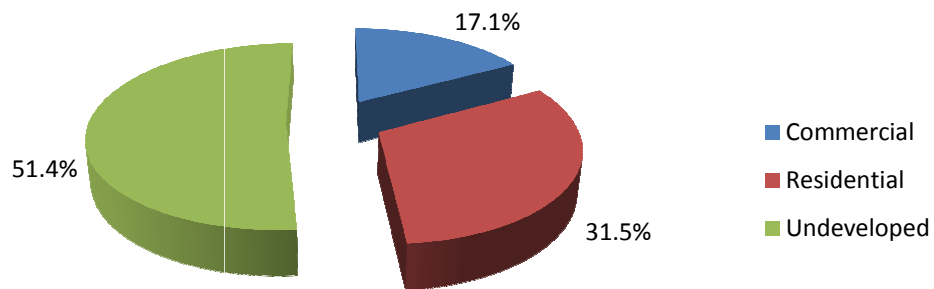
Figure 3.19 New Home Construction (1994 – 2010)

Figure 3.20 Current Distribution of Land Uses in Study Area



Note: Approximately 140 acres, or just over 10%, of the study area is undeveloped.

Figure 3.21 Current Distribution of Land Use Abutting Garfield Road



Note: Approximately 10 acres are undeveloped on parcels abutting Garfield Road.

Future Land Use Plan:

The City's 2010 Comprehensive Plan provides a Future Land Use Plan. See the circled area on Figure 3.22 for that portion of the City's Future Land Use Plan that applies to the study area. Orange shades are used to designate areas for growth. Green shades designate areas where growth is restricted. Yellow shades are used to designate transition areas where growth is limited. All three types of designations are found within the study area; however, the Plan makes it clear that the study area is largely in the Restricted Growth Area, though the eastern half of Garfield Road to Taylor Pond is designated a Growth Area. Note the shift from the *growth* designation along Minot Avenue to the *limited growth* designation that extends to Stevens Mill Road and the *restricted growth* designation for the rest of the study area.

Figures 3.23 and 3.24 shows future land use designations in greater detail, distinguishing between the Community Use designation for Mount Apatite Park and MEARNG properties and Agriculture / Rural for the areas off Hatch and Perkins Ridge Road as well as decreasing densities for residential development from Minot Avenue to Perkins Ridge Road along the southern shoreline of Taylor Pond.

However, Figure 3.4 Surface Water and Wetlands on page 20, shows that much of the undeveloped area off Garfield Road (approximately 167 acres) has features that contain either NWI wetlands or hydric soils (approximately 98 acres), both of which limit future development potential. Assuming that approximately 70 acres are not constrained by wetlands or hydric soils, then the potential number of new housing

units on undeveloped land would be between 139 and 209.

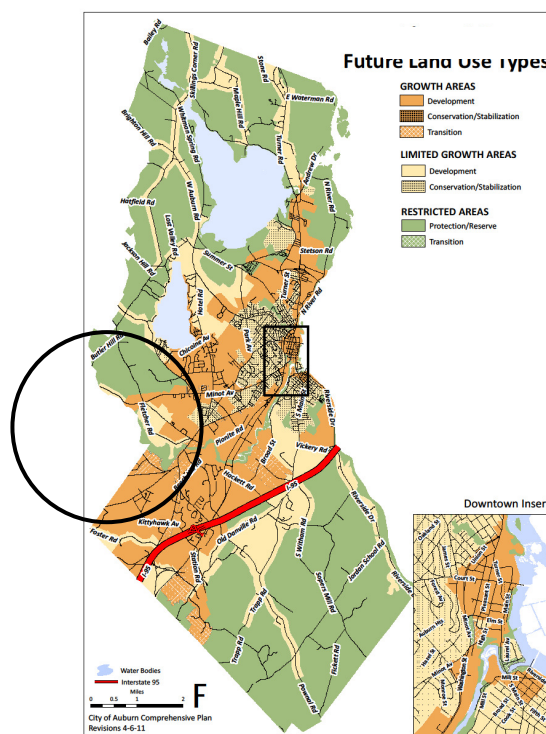


Figure 3.22 Future Land Use Types

While the City's 2010 Comprehensive Plan calls for limited development within most of the study area, which when implemented will manage the impacts of most of the additional development along and off Garfield Road, the Plan provides little recognition of the presence or unique nature of the MEARNG site. The Plan's inventory and analysis section does not discuss safety issues related to mixing Army National Guard training and city recreational use in such close proximity, nor does it reflect MEARNG use by title in the Future Land Use Plan, despite the fact that the installation occupies significant acreage in what is labeled an Agricultural / Rural area. Nonetheless, the Comprehensive Plan does recognize that as more development occurs in this area, the potential for conflict increases.

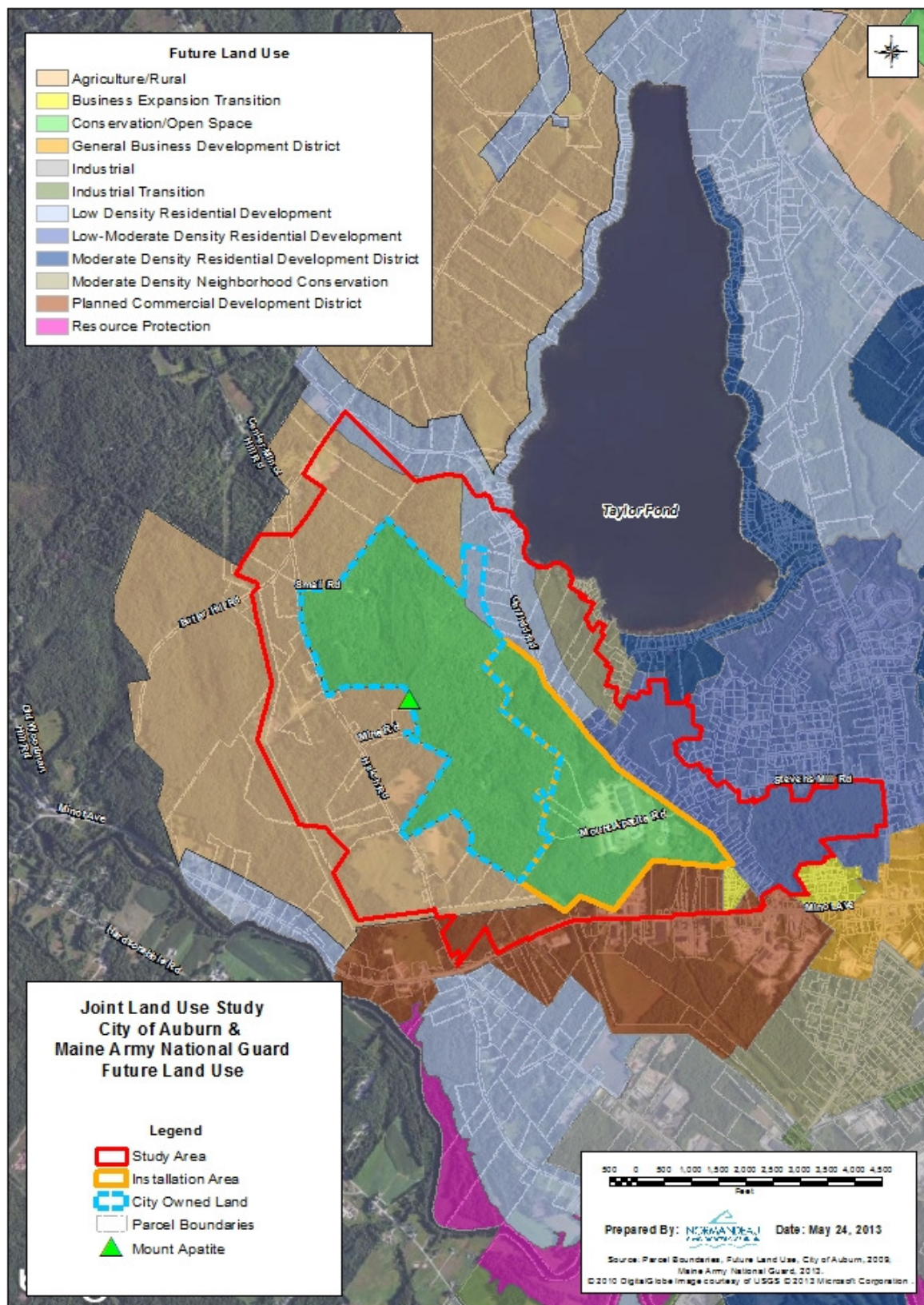


Figure 3.23 Future Land Use Zones in Study Area

Figure 3.24 Future Land Use Designations in JLUS Study Area
AGRICULTURE / RURAL (AG) – Protection / Reserve Designation
<p><u>Allowed uses</u></p> <p>Uses allowed in current Agriculture / Resource Protection District (AG / RP), broader range of rural uses including agricultural related retail & service activities, natural resource industries, reuse of existing agricultural buildings for low intensity non-agricultural related uses, residential limited to accessory use to commercial agricultural or natural resource use</p>
<p><u>Development standards</u></p> <p><i>Density</i> – maintain current AG / RP standards except greater flexibility in siting accessory residential units, 1 du / 10 ac if part of PUD Best management standards for stormwater management & environmental protection, low impact development standards (LID – limiting impervious surfaces, minimizing lot disturbances, natural buffers, capturing / treating runoff)</p>
CONSERVATION OPEN SPACE (C / OS) – Protection / Reserve Designation
<p><u>Allowed uses</u></p> <p>Low intensity recreational facilities & natural resource uses, including agriculture & forestry</p>
<p><u>Development standards</u></p> <p>flexibility for appropriate use of the land while protecting natural resource & ecological values</p>
LOW DENSITY RESIDENTIAL DEVELOPMENT (LDRD) – Limited Growth Designation
<p><u>Allowed uses</u> –</p> <p>Single & two family homes and town house style units, uses allowed in current Rural Residential District (RR)</p>
<p><u>Development standards</u></p> <p><i>Minimum lot size</i> – variable <i>Density</i> – ≤1 du / ac</p>
LOW-MODERATE DENSITY RESIDENTIAL DEVELOPMENT (LMODRD) – Development Designation
<p><u>Allowed uses</u></p> <p>Detached single & two family homes, home occupations, community services & government uses, agriculture</p>
<p><u>Development standards</u></p> <p><i>Minimum lot Size</i> - 15,000-20,000 sf</p>

Figure 3.24 Future Land Use Designations in JLUS Study Area	
Density – 2-3 du / ac	
MODERATE DENSITY NEIGHBORHOOD CONSERVATION (MODNC) – Development Designation	
<u>Allowed uses</u>	
Detached single & two family homes, attached town house style homes, multifamily housing, home occupations, community services & government uses, agriculture	
<u>Development standards</u>	
Minimum lot Size - 7,500-10,000 sf	
Density – 4-6 du / ac for single family; ≤6-8 du / ac for town house & multifamily	
PLANNED COMMERCIAL DEVELOPMENT (PCD) – Development Designation	
<u>Allowed uses</u>	
Small & moderate size retail (<40,000 sf), personal & business services, offices, restaurants excluding drive-through service, hotel & lodging, single & two family, townhouse and multifamily housing, community services & government uses, small & moderate size research, light manufacturing, assembly, & wholesale uses (<20,000 sf), contractors & similar activities, motor vehicle service, motor vehicle sales as an accessory use), recreational uses & facilities	
<u>Development standards</u>	
Enhanced development & design standards	
GENERAL BUSINESS DEVELOPMENT (GBD) – Development Designation	
<u>Allowed uses</u>	
Retail including large retail (>100,000 sf), personal & business services, offices, medical facilities & clinics, restaurants, hotels & lodging establishments, townhouses & multifamily housing, community service & government uses, contractors & similar activities, motor vehicle & equipment repair, recreational & entertainment facilities	
<u>Development standards</u>	
Provide flexibility in use & development – manage access, stormwater runoff / environmental impacts, require attractive treatment of streetscape, buffer adjacent residential districts	
<i>The Comprehensive Plan does not propose minimum lot size to manage intensity of development, instead recommending use of density to do so. It also indicates that alternative measures to manage intensity of development might include the amount of floor area or the Floor Area Ratio (FAR), the number of vehicle trips or the number of bedrooms.</i>	
Abbreviations:	
Ac = acre or acres	< = less than
Sf = square feet	≤ = less than or equal to
Du = dwelling unit	> = greater than
PUD = planned unit development	≥ = greater than or equal to
' = feet	

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