Economic Development Corridor Study: Opportunities & Constraints

Town of Cairo

Greene County, New York

Prepared for:

Town of Cairo

Greene County Economic Development, Planning & Tourism

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1.0 Executive Summary

The Town of Cairo Economic Development Corridor Study: *Opportunities and Constraints Analysis* identifies the opportunities and constraints to economic development along the NYS Route 23 Corridor to determine priority sites for shovel-ready investment. The Study Area is comprised of nearly 200 individual parcels with a total area of about 1,200 acres. The geographic limits of the Corridor extend along a one and a quarter mile stretch of NYS Route 23 between its intersections with Bross Street in the north and County Route 23B in the south. The latitudinal limits extend from Joel M. Austin Road N./Mountain Avenue in the west to the Catskill Creek on the eastern edge. This Study outlines three locations for potential economic development sites and describes in conceptual terms the environmental, regulatory and market backdrop for each. Municipal water and sewer extensions are also explored.

The methodology for conducting this Study involved the creation of numerous detailed GIS-based maps of assemblages of parcels adjacent to NYS Route 23 with environmental and ownership characteristics delineated. These maps were used during project meetings conducted by experienced economic development professionals from the Greene County Department of Economic Development, Tourism and Planning, the Greene County IDA and Town of Cairo Officials to determine which parcels offer the best development potential. From these meetings, more detailed GIS-based analysis was conducted and additional work was advanced to further refine the site selection process.

The combination of GIS-based analysis and project meetings resulted in the creation of three potential economic development sites. The uses ranged between housing, office, commercial, high energy, distribution, manufacturing, warehousing, food processing, and agriculture. These three locations are the foundation of the Corridor Study. Each of the three options offer unique layouts, scales and land use alternatives for potential development.

With few exceptions, the Study demonstrates that the NYS Route 23 Corridor is well aligned to support and welcome the development envisioned by the Cairo community and local economic development professionals. The few constraints will require time and funding to be addressed;

however, there are no constraints that are substantial barriers to development. Each site was chosen due to its potential for development. The evaluation process prioritizes the sites that are most prepared to accommodate a shovel-ready project. The Study determined that the identified sites are highly developable from the standpoint of a number of perspectives.

Overall, the success of private sector development will provide definable benefits of private investment, quality job creation, revitalization of communities, a growth in population, expansion of both affordable and market housing, and investment in education, community organizations and the overall creative economy. With this transformation, families grow, quality of life is enhanced and the emotional commitment to community deepens as optimism for the future increases.

2.0 Project Overview

Interest in commercial and light industrial sites in Greene County (the "County") has led to an aggressive program for the creation of economic development sites. The majority of the industrial park development in the County has been located in the Historic River Towns due to the availability of flat vacant land, transportation infrastructure and access to water and wastewater infrastructure. Future development could be located in the Valley Towns, especially along NYS Route 23.

The Town of Cairo's (the "Town" or "Cairo") economic initiatives take advantage of its most important assets: scenic beauty and small-town environment. The Town is a well-maintained community where civic pride and positive attitudes drive a high quality of life for residents. Forests, streams, and other natural resources are maintained and continue to contribute to the health and welfare of the Town, County and Region as a whole. An affordable broad-based tax system supports quality public services, a well-maintained infrastructure that allows for controlled growth and a safe and supportive living environment. Through development and investment within the defined Study Area, the economy of the County becomes more robust.

The Greene County IDA (the "IDA") has demonstrated notable success in the advancement of economic development sites that have each begun with an anchor tenant and have resulted in the creation of substantial economic activity and employment in Greene County. Greene County's

shovel-ready economic development sites as well as pre-planned economic development sites are important assets for economic growth and development. However, the inventory of shovel-ready or pre-planned sites is presently very low and a need to explore new economic development sites has been identified. The County has identified the need for additional potential commercial and industrial development sites as critical to maintaining and expanding job growth opportunities.

The overarching goal of the Town of Cairo Economic Development Corridor Study: *Opportunities & Constraints Analysis* (the "Corridor Study" or "Study") is to document the opportunities and constraints of the land base and identify those sites possessing the greatest potential for economic development. This Study is envisioned to be a vehicle to identify potential economic development sites with excellent access to transportation and consistency with local land use plans revealing the potential development opportunities for each site.

The Study is intended to establish the basis for next steps towards market ready site development. The Town of Cairo has an opportunity with respect to environmentally prudent planning to support economic development via the provision of public water and wastewater treatment along NYS Route 23. All forms of economic development rely on the capacity, sustainability, viability, and cost of the underlying public infrastructure. The IDA and Greene County Department of Economic Development, Tourism and Planning (GCEDTP) undertook a County-wide Economic Development Study in 2016. The Economic Development Corridor Study is an extension of the 2016 Study focused specifically on the Town of Cairo. This new Study identifies the opportunities and constraints to economic development in the Town of Cairo, and specifically the defined Study Area, to determine priority sites for shovel-ready investment and potential infrastructure expansion.

2.1 Location

The Town of Cairo is located in the center of Greene County along the eastern edge of the Catskill Mountain range. Cairo is 110 miles north of NYC and 20 miles south of the City of Albany. It is bisected by NYS Highways 32 and 23. The western side of the Town is mountainous and as such zoned as the "Mountain District" (MT). The eastern side is primarily rural residential in nature. Commercial and industrial development is concentrated mainly in the central portion of the hamlets of Acra, Cairo, South Cairo, Purling, Roundtop and Gayhead. The hamlet of Cairo is the

largest and includes the Main Street business district, Town Hall, Cairo-Durham Central School and the community library. A Location Map is included as Attachment 1.

Cairo has experienced several phases of development throughout the past two centuries. Early industries included textile mills and iron forges that relied upon the rushing creeks of the town for power. Agricultural production of chickens, eggs and apples were predominant. As the tourist industry in Greene County grew, Cairo saw a boom in boarding houses and resorts. The hamlet of Cairo is experiencing new growth as new retail and service businesses move in along Main Street.

Main Street is the cultural and economic focus of the Town and is filled with businesses, historic buildings and landscaped streets. It has a diversity of retail and service businesses that meet the needs of local residents and provides jobs for all income and education levels. Many unique and historic buildings and locations have been preserved through Town and County efforts.

2.2 Methodology

The methodology for conducting this Study involved the creation of numerous detailed GIS-based maps of assemblages of parcels adjacent to NYS Route 23 with environmental and ownership characteristics delineated. These maps were used during project meetings conducted by experienced economic development professionals from the GCEDTP and the IDA to determine which parcels offer the best development potential. From these meetings, a more detailed GIS-based analysis was conducted and additional work was advanced to further refine the site selection process.

The identification of potential economic development sites is based on the provision of infrastructure as well as publicly available information regarding land use, zoning and other factors such as environmental constraints (e.g., significant documented wetlands, steep slopes, flood zones, etc.). Recommendations regarding infrastructure management and provisions was developed with an aim at maximizing the economic development potential of the identified sites. A Typical Development Considerations Table is included with this report (Attachment 2). This Table was used as a reference during the siting process.

Delaware Engineering, along with GCEDTP and IDA leadership and Cairo municipal partners, evaluated market conditions in the Region through review of the following:

- Availability of Land
- Building Activity
- Development Leads in Progress
- Mix of Industrial and Commercial Uses

Figure 1. Study Area

The Town contains 4,358 parcels and approximately 650 of those parcels are over 10 acres in size. As a result, the project team established a focused Study Area and identified properties on the market as well as vacant or underutilized parcels. Given the identified market conditions as well as properties on the market and vacant or underutilized land, Delaware Engineering developed criteria for screening sites:

- Minimum site size (10 Acres) for developable area (e.g., eliminate wetlands, watercourses, steep slopes)
- Maximum distance from highway access
- Zoning/Land Use
- Proximity to Water/Sewer Infrastructure

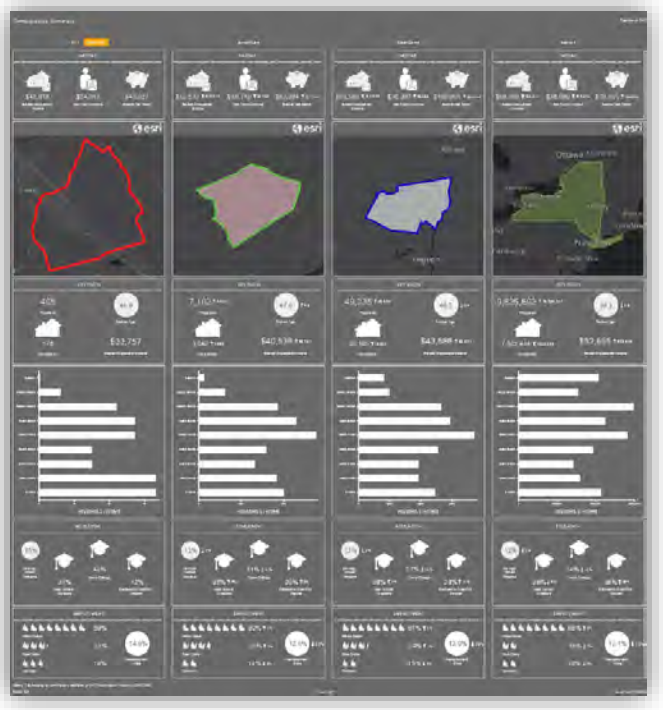
The Study Area includes much of the Central Hamlet and Main Street neighborhood where Town-owned water and sewer infrastructure is concentrated. This locale was chosen for its proximity to highway access, availability of infrastructure and abundance of vacant land. The Study Area includes approximately 216 parcels and encompasses 1,200 acres of relatively flat land. The geographic limits of the Corridor extend along a one and a quarter mile stretch of NYS Route 23 between its intersections with Bross Street in the north and County Route 23B in the south. The latitudinal limits extend from Joel M. Austin Road N./Mountain Avenue in the west to the

Coxsackie Creek on the eastern edge. An Economic Development Corridor Study Area Map is included as Attachment 3.

The team then applied the screening criteria to properties in the Town and developed a list of sites that match the desired criteria. With an initial list of properties identified, the next step involved comparing the list of sites relative to opportunities and constraints in the areas of environmental, infrastructure and zoning/land use. Tabular data with analysis along with maps identifying the screened properties were prepared to review initial findings of the analysis. An Economic Development Corridor Study Selected Sites Map is included as Attachment 4.

2.3 Socioeconomic and Demographic Conditions

Figure 2. Socioeconomic & Demographic Conditions



For this Study, socioeconomic data was obtained through the *ESRI Business Analyst's 2020 Infogroup, Inc. ESRI Data Allocation Method*. ESRI Business Analyst combines demographic, business, lifestyle, spending and census data with map-based analytics. Esri's Tapestry Segmentation is a geodemographic system that identifies distinctive markets in the U.S. based on socioeconomic and demographic characteristics to provide an accurate, comprehensive profile of U.S. consumers. Each year, population and household counts are updated by ESRI. Information provided allows for the comparison of data from the Study Area, Town, County and New York State. This assists in exploring the workforce available and industry sectors that are needed. Figure 2 above is included as an Attachment 5.

2.3.1 Greene County

The median household income for the County is estimated to be $55,563 with a per capita income of $30,307 (2020 data). The median disposable income in the County in 2020 was $43,588. 88%

of those individuals age 16 and over are employed. The median net worth for the County is estimated at $102,901 (Demographic Summary).

The education breakout shows that 23% of adults hold a Bachelor's Degree or greater, 27% have attended college below the Bachelor's Degree level, 38% have received a high school diploma only, and 12% have not received a high school diploma (Demographic Summary).

There is a total of 1,946 businesses within Greene County and a total of 18,668 employees (Business Summary). 61% of the County workforce aged 25 and over hold white collar jobs, 24% hold blue collar jobs, and 15% work in services. Countywide unemployment in 2020 was 12%. The primary employment industry is Health Care/Social Assistance which employs 17.6% of the County's workforce, followed by Retail Trade and Educational Services both which employ 9.8% of the County's workforce (Civilian Labor Force Profile). Demographic summaries for the County are included as Attachment 6.

2.3.2 Town of Cairo

The median household income for the Town is estimated to be $52,533 with a per capita income of $26,712 (2020 data). The median disposable income in the Town in 2020 was $40,538. 87.5% of those individuals age 16 and over are employed. The median net worth for the Town is estimated at $82,394.

The education breakout shows that 23% of adults 25 and over hold a Bachelor's Degree or greater, 27% have attended college below the Bachelor's Degree level, 38% have received a high school diploma only, and 12% have not received a high school diploma.

There is a total of 225 businesses within the Town and a total of 1,594 employees (Business Summary). There are 3,356 employed Town residents which indicates at least two thirds of the employed town residents work outside of the Town. 60% of the Town's workforce hold white collar jobs, 26% hold blue collar jobs, and 14% work in services. The primary employment industry is Health Care/Social Assistance which employs 18% of the Town's workforce, followed by Manufacturing both which employs 10.9% of the Town's workforce (Civilian Labor Force Profile). Demographic summaries for the Town are included as Attachment 7.

2.3.3 Study Area

The median household income for the Study Area is estimated to be $42,018 with a per capita income of $24,012 (2020 data). The median disposable income in the Study Area in 2020 was $33,757. 85.1% of those individuals age 16 and over are employed. The median net worth for the Study Area is estimated at $45,027 (Demographic Summary).

The education breakout shows that 12% of adults hold a Bachelor's Degree or greater, 42% have attended college below the Bachelor's Degree level, 31% have received a high school diploma only, and 15% have not received a high school diploma (Demographic Summary).

There is a total of 44 businesses within the Study Area with a total of 384 employees (Business Summary). 59% of the workforce aged 25 and over holds white collar jobs, 23% hold blue collar jobs, and 19% work in services. The unemployment rate is 14.9% for workers ages 16 and up. The primary employment industry is Health Care/Social Assistance which employs 16.9% of the Study Area's workforce, followed by Retail Trade which employs 15.1% and then Transportation/Warehousing at 11.6% (Civilian Labor Force Profile).

This data shows that there is need in the Study Area for additional employment opportunities. Demographic summaries for the Study Area are included as Attachment 8.

The population of the Study Area is characterized by the two economic tapestry segments categorized as the Cozy Country (L6) and Hometown (L12). Tapestry segmentation divides residential areas into sections, each providing an accurate, detailed description of their respective neighborhoods based on socioeconomic and demographic composition. This information allows the Town and County see what customer base is within the Study Area. It also shows potential workforce for specific industries.

There are 14 Life Mode groups within each tapestry as well as six Urbanization Groups. Life Mode groups represent markets that share a common experience—born in the same generation or immigration from another country—or a significant demographic trait, like affluence. The Dominant Tapestry Map and supporting documentation is included with the Demographic Summary in Attachment 8.

In the Study Area, Cozy Country is broken down into Salt of the Earth (6B) and The Great Outdoors (6C). Hometown contains one subgroup of Small Town Simplicity (12C). The Salt of the Earth subgroup includes older citizens that are entrenched in their traditional, rural lifestyle. The median age is 44 years and two in three households are composed of married couples. The Great Outdoors subgroup includes mostly educated empty nesters living a modest lifestyle. The median age is 47 years and over half of the households are comprised of married couples. The Small Town Simplicity subgroup includes young families and senior households bound by community ties. Over half of the households are aged 55 years or older and are predominantly single-person households.

While it is helpful to understand which industry groups currently have the highest leakage in a market area, another method to predict economic potential is to gain a better understanding of underserved markets through an analysis of consumer behavior – their lifestyle choices, what they buy, how they spend their free time, and more. This is accomplished through a process called **Tapestry Segmentation.**

Tapestry Segmentation classifies geographic areas into 67 unique segments based not only on demographics (age, income, home value, occupation, etc.) but also socioeconomic data and other consumer behavior characteristics. Tapestry Segmentation can provide valuable insights to help identify potential customers and underserved markets.

2.4 Cost of Development/Competitiveness

The overall affordability in the Greene County market will provide economic development officials an advantage as they compete with adjacent counties in close proximality to the NYS Route 23 and the NYS Thruway, as well as other locations in the Northeast. Cost effective pricing will help in the categories of land cost, construction, utilities, broadband, public water and sewer rates, excellent access to major highway access, and labor.

2.5 Jurisdictional Cooperation and Coordination

Development within the Study Area will involve jurisdictional cooperation and coordination among many parties, with the most notable being Greene County, the IDA and the Town of Cairo.

Additionally, the cooperation and coordination of state and regional agencies is also needed to bring the vision of economic vitality of the Study Area to life.

Greene County has a vital role to play: County level agencies can partner to create incentives to spur economic investment. Moreover, the Greene County legislature has the ability to support planning efforts along the Corridor with respect to supporting extensions of infrastructures, which is the next step recommended towards advancing the concepts presented herein towards market ready, then shovel-ready status. In these ways, large and small, all of Greene County has an important role to play in supporting the efforts to attract economic investment.

The Town of Cairo has a more granular role to play in supporting the development potential of the Study Area. The Hamlet is currently a hub of land use intensity, with a public water and sewer system that support the semi-dense development; however, it is understood that investment in the Town's infrastructure systems will be necessary (i.e., infrastructure extensions along NYS Route 23, Main Street, and County Route 23B). Development in the Town that utilizes infrastructure systems will result in both financing of improvements to the infrastructure systems and an increased customer base for the public utilities. In this way, the Town benefits from improvements to Town water and sewer systems financed by other than Town users/tax base, and the Town benefits an increased user base to share the costs of the infrastructure.

Further, investment in the Study Area to grow jobs and the economy will require infrastructure including water and sewer systems. There is a point at which extensions become too costly and a decentralized approach to infrastructure is favored. In this case, the Town can support the development of the corridor through taking proactive approaches to creating special improvement districts (e.g., water and sewer districts). While it is anticipated that grants and private investment will finance the infrastructure for decentralized systems, the Town and the County (where multiple municipalities are involved) have the authority to create special improvement districts to govern these services.

State and regional agencies also play a role in development. Fortunately, few substantive barriers to development have been identified and the role of state and regional agencies is anticipated to be administrative and regulatory in nature. There are many ways in which jurisdictional cooperation

and coordination will support the growth of the business base, with the critical relationships between the Town of Cairo and Greene County agencies at the heart of the matter.

2.6 Local Siting Efforts

It is absolutely essential to follow this process of potential site identification with a coordinated approach to infrastructure. This coordinated engagement with the communities, exploring maximum buildout and impacts to defined areas of interest is critical to market the potential sites with credibility and to respond in real time to opportunities for success. It is this strong partnership with the community, its leadership and local residents that sets the stage for victory in an environment very competitive for valued jobs and investment. In the end, predictability of timeframe and cost is absolutely required to engage with the site selector and commercial real estate professionals who drive the process for corporate America.

2.7 Economic Benefit

Overall, the anticipated economic value and benefit to local residents and communities from this initiative and anticipated economic development is substantial. This strategy to identify, gain approvals and develop new sites to support a diverse business attraction strategy will provide the stabilization of a local and regional economy more able to absorb downturns in any specific sector. With the development of shovel-ready sites, a welcoming attitude, an aggressive sales strategy and a strategic marketing approach, positive and diverse development will happen.

The success of private sector development will provide definable benefits of private investment, quality job creation, revitalization of urban communities, a growth in population, expansion of both affordable and market housing, and investment in education, community organizations and the overall creative economy. With this transformation, families grow, vibrancy returns, quality of life is enhanced and the emotional commitment to community deepens as optimism for the future increases.

2.8 Expected Employment Growth and Economic Benefits

It is too early in the process to estimate or predict with any certainty economic growth and the resulting economic benefits. Clarity will arise as potential economic development sites are fleshed out in more detail and specific building size, targeted sectors and overall scale are finalized.

2.9 Quality of Life Investment

To ensure local communities and their residents benefit from the success of economic development beyond the traditional ways (valued community partners, jobs and tax revenue), deal structures often include several categories of potential community benefits. The magnitude and level of this discussion is often based on several factors such as project size, level of investment, incentive package and the type of sector involved.

Key areas of consideration include preservation of community identified open space, habitat and sensitive environmental areas, and enhanced recreation spaces. This can include new and expanded park and activity areas, recreation facilities and strategic collaborative educational investments in partnership with local school districts.

3.0 Environmental Characteristics

With few exceptions, this Study Area is well aligned to support and welcome the development envisioned in this Study. The few constraints will require time and funding to be addressed; however, there are no constraints that should be considered substantial barriers to development. Details are presented herein.

3.1 Water Resources

3.1.1 Streams and Watercourses

The primary surface water feature within the Study Area is the Catskill Creek which creates its eastern border. The Catskill Creek is a tributary of the Hudson River Estuary and flows from northwest to southeast through the Town. Most of Cairo's streams and wetlands contribute to the Catskill Creek watershed. Development that would alter or diminish this feature is not contemplated in this Study. See Attachment 9 for an Environmental Features Map which includes waterbodies in the Study Area. The Study Area is highly developable without impacts to streams and other watercourses present; therefore, none are anticipated.

3.1.2 Wetlands

Wetlands are present in and around the Town of Cairo, but they are not a dominant feature in the Study Area. Wetlands are important environmental features due to their contribution to filtering

and recharging aquifers, flood control and contributing to wildlife habitats. Before economic development sites are disturbed, a wetland delineation should be performed to check the status and location of wetlands on-site.

Within the study area, NYSDEC has mapped wetland check zones as areas that may contain wetlands but need further investigation. A wetland delineation has already been prepared for one large track of land in the Study Area. This information is included in the Environmental Features Map. The Study Area is highly developable without impacts to wetlands present; therefore, none are anticipated.

3.1.3 Aquifers

Several aquifers are present in the Town of Cairo. Aquifers are often tapped for groundwater to be used as a primary drinking water source. One aquifer, associated with the current Town wells, is located just west of the Study Area. Another larger aquifer is located along the eastern side of the Study Area and follows the Catskill Creek. According to NYS GIS data, this is a high yield aquifer with a yield rate of >100 gallons per minute. The Study Area is highly developable without impacts to aquifers; therefore, none are anticipated. See Attachment 9 for an Environmental Features Map which includes aquifers in the Study Area.

3.1.4 Flood Zones

None of the selected sites are located in the vicinity of FEMA Flood Zone. The Study Area is highly developable without impacts to flooding; therefore, no adverse impacts are anticipated. See Attachment 10 for a FEMA Flood Map.

3.2 Air Resources

The nature of the proposed uses for the sites would be considered commercial and light industrial. While manufacturing is an option on some sites, heavy industry is not the primary focus. All air quality standards will be enforced by the appropriate regulatory agencies. There will also be a development-by-development site plan review process that would review any and all impacts associated with air quality.

3.3 Terrestrial and Aquatic Ecology

There is no evidence of threatened or endangered species, Natural Communities, Rare Plants and Animals within the Study Area and there are no Critical Environmental Areas of statewide significance within or adjacent to the Study Area. This results in an ecologically friendly setting for the type of development that is proposed.

3.4 Community Character

This Study Area has been chosen by the Town and County as an appropriate district for light industrial and commercial uses. There are already significant existing businesses that would be harmonious with the anticipated uses. There would be no effect on community character in that the community desires this type of character within the portion of the community. In fact, future development will provide a positive opportunity to re-develop areas where the properties are not improved to the best use.

3.5 Historic and Archeological Resources

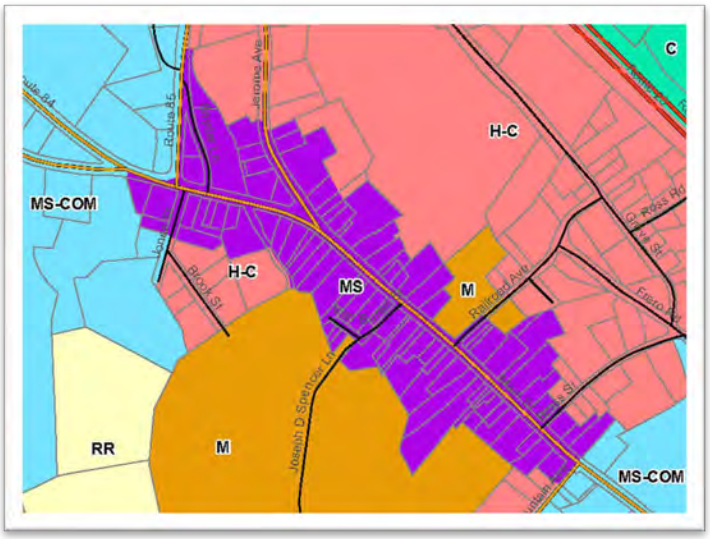
The Study Area shows no record of historical or archeologically significant areas within or adjacent to the proposed economic development sites.

4.0 Review of Land Use and Zoning Codes

The Town has targeted the Study Area for light industrial and commercial use due to the historic land use patterns in the area and as an effort to steer this type of development towards these sections of the Town. Through the adoption of the zoning regulations for commercial development ahead of time, the Study Area is primed for organized growth. The nature of commercial development is that it has the potential to be impactful to the community as well as the environment. Having zoning regulations in place will prove to provide a far smoother and more achievable path forward for future developments. The Town of Cairo Zoning was last updated in 2017. See Attachment 11 for an Economic Development Corridor Study Area Zoning Map.

Understanding land use trends allows for the identification of solutions for issues and concerns raised during the economic development process. Cairo's land use patterns still reflect its rural legacy. There are concentrated areas of development on small parcels in the hamlets. Analysis of recent tax data indicates that the Town has experienced significant conversions of property to residential parcels over the past three decades. The majority of the property in Cairo is categorized as residential (44%) or vacant land (32%). Residential properties also represent the largest contribution to total assessed value with 74% of the Town's total. While there is a relatively small amount of commercial property, this category makes up 8% of Cairo's total assessed value. Commercial land uses occupy just 3 percent of total land area in Cairo. They are mostly located in or near the hamlets. See Attachment 12 for an Economic Development Corridor Study Area Land Use Map.

Figure 3. Main Street Zoning Map



The Study Area contains active farmland and areas designated as Agricultural Districts by Greene County. The Greene County Agricultural Development and Protection Plan, adopted in 2002, established numerous Agricultural Districts pursuant to Agriculture and Markets Law 25AA. The plan is intended to protect productive farmland from non-agricultural development. Land use decisions in and adjacent to designated agricultural districts are subject to review by the Greene County Agricultural and Farmland Protection Board. See Attachment 13 for a Greene County Agricultural District Map.

As can be seen in the table below, the majority of parcels (via acreage and no. of parcels) in the Study Area are classified as Residential. Commercial and Vacant land also make up a large portion of the Study Area. One large agricultural parcel is located in the southeastern corner of the Study Area. It encompasses 16% of the total Study Area in acreage. Community Services in the Study Area include the Cairo-Durham Central School and three active churches. Two Public Services

parcels are owned and operated by Central Hudson Gas & Electric. A Land Use Map is included as Attachment 12.

Table 1. Study Area Parcels

RPS Class Code	No. of Parcels	% as Parcels	Acreage	% as Acres
100 - Agricultural	1	0%	185.9	16%
200 - Residential	112	52%	336.18	29%
300 - Vacant	46	21%	319	28%
411 – Apartments (Commercial)	7	3%	14.1	1%
400 - Commercial	42	19%	235.1	21%
500 - Recreation & Entertainment	2	1%	4.61	0%
600 - Community Services	4	2%	46.1	4%
700 - Industrial	0	0%	0	0%
800 - Public Services	2	1%	2.71	0%
900 - Wild, Forest, Conservation Lands	0	0%	0	0%
TOTALS =	**216**	**-**	**1,143.7**	**-**

5.0 Identification of Project Sectors

The process to identify sectors of opportunity focused on potential site scale, building size flexibility and available infrastructure. Also, factored into the analysis was success of attracting similar sectors to both New York and the Northeast. The focus was to identify the sectors that this area could be competitive to attract, combined with the compatibility of the site capabilities to meet specific needs of identified sectors.

Upon the completion of this review, several sectors were identified as viable business types that could be attracted to Greene County and the Town of Cairo and be accommodated by the potential economic development sites reviewed. The business sectors matching the identified economic development site potential are:

- **Manufacturing/Assembly:** Requires flexibility in site size, with public infrastructure and power based on the type of manufacturing and intensity of process. Connection to raw

material and product delivery markets and related transportation access are also important site location factors.

- **Warehousing:** Requires larger sites with minimal public infrastructure and quality transportation access to relevant markets. Proximity to the production of product requiring storage is important and temperature requirements for product storage can impact power requirements.

- **Commercial:** A general category that can include a variety of types ranging from intense users of infrastructure to limited demand. Overall, the site needs of this sector will be less intensive, but still require site readiness and timeframe predictability. Again, energy capacity and cost can be a factor depending on type of activity. A more in-depth analysis of Northeast activity will identify specific targets and clarity of targets for marketing purposes and detailed discussions with the regional commercial real estate community.

- **Office/Supportive Space:** Often the larger projects will create a need for office support and supply chain opportunities. The scale of these opportunities will range from very small to a significant number of potential employees and sf demand. Relatively speaking, the infrastructure and site needs are basic and low-volume with site approvals driving interest.

- **Hospitality:** Upgraded hotel and meeting space connected to the needs of future business activity and investment will provide a dynamic opportunity for this new business focused demand. Infrastructure needs will be limited, with location near business growth more important.

- **Workforce Housing:** Depending on the scale, public infrastructure with pre-approvals will be important to support the number of units to meet the housing needs of both the corridor and the overall growth in jobs throughout Greene County.

6.0 Economic Development Site Analysis

Main Street is the cultural and economic focus of the Town and is filled with vibrant businesses, beautiful buildings and landscaped streets. It has a diversity of retail and service businesses that meet the needs of local residents and provides jobs for all income and education levels.

The County is in competition with other areas in the Region and in particular those areas with excellent highway or multi-modal access for development of industrial/commercial sites. Greene County, as well as specifically the Town of Cairo, has leveraged highway access (the area around Exit 21B for warehousing and distribution as well as light manufacturing) and rail access (Schoharie Turnpike in Athens); however, existing land base that is accessible and shovel-ready (e.g. infrastructure is permitted and in place) is very limited. The site selection industry is highly competitive, with locations selected based on reduced cost to develop a site (e.g. no added cost to extend infrastructure) and reduced time to construction (e.g. SEQR and all permits are in place).

Through this Study, the Town of Cairo along with GCEDTP and the IDA identified several properties that could serve as economic development sites. This section describes each of the sites in detail. These properties met criteria in terms of size, proximity to the Cairo Hamlet as well as ability to connect to water and sewer infrastructure. Parcels were evaluated based on distance from water and sewer infrastructure. A 1 mile and 2-mile buffer range was put in place to help narrow down potential economic development sites. The concept plans for the various sites do not include details such as landscaping or visual elements; these details will be considered during the site plan review process for actual development proposals.

6.1 Economic Development Site 1: Schneider Property

This site consists of five large parcels totaling approximately 122 acres situated along the northeastern side of NYS Route 23 at its intersection with NYS Route 32. A map of this site is included as Attachment 14. The property is currently for sale and has had some interest from industrial and commercial developers. The property is not currently connected to the water or sewer system. While it is in very close proximity to both, extensions of the water and sewer districts will be required. The location is very convenient and has good road frontage along NYS Route 23.

Figure 4. Site 1 Parcels

Table 2. Site 1 Parcels

Parcel Number	Property Class	Size (Acres)
101.00-2-38	323 - Rural Vacant	6.83
101.00-2-13.2	465 – Commercial, Professional Building	17.2
101.00-2-37.1	330 – Commercial, Vacant	54.2
101.00-2-12	322 – Residential, Vacant	22.57
101.06-3-13	416 – Commercial, Mobile Home	21.4

These parcels are located in the Commercial Route 23 (C-23) Zoning District. The purpose of this District is to allow for mixed residential and non-retail commercial uses that would enhance, rather than compete with, Main Street Commercial or Main Street Downtown areas. These include, for example, professional offices, live/work developments, or small light industrial facilities.

Wetland delineations and some site plans as well as a feasibility report had been previously created for this property by the owner. The parcels contain ACOE Jurisdictional Wetlands (Appendix 1) that should be avoided during development. The land is divided by a Central Hudson Gas & Electric right-of-way. This limits the development potential on-site. Economic Opportunities and Site Challenges are summarized below.

Economic Opportunities:

- Single owner with whom to coordinate
- Flexible Mixed-Use Scale Site
- Accommodates Large, Medium & Smaller Projects
- Accommodates Small Low-Impact Projects
- Minimal Environmental Issues
- Highly Convenient Distance to Route 23 Access
- Highly Convenient Distance to I-87 Access
- Adjacent to Public Sewer

Figure 4. Site 1 Parcels

- Close proximity to Public Water
- Some Parcels are within the Water District
- Significant Road Frontage

Site Challenges:

- Expense for Extension of Public Sewer & Water
- Parcels are outside of Water/Sewer Districts
- Significant Expansion of Impervious Surface
- Power Upgrade May be needed based on Sector
- Close Proximity to Stream/Wetlands (Per Wetland Delineation)

As a result, of the targeted the market sectors, the best matches for this site are manufacturing/assembly and warehousing.

6.2 Economic Development Site 2: Buel Property

This property consists of one large 21-acre parcel and several smaller adjacent parcels situated between Main Street and NYS Route 32. A location map is included as Attachment 15. The property is not currently connected to the water or sewer system. While it is in close proximity to both, extensions of the water and sewer districts will be required. No wetland delineations, detailed engineering, or site plans have been created to date.

Table 3. Site 2 Parcels

Parcel Number	Property Class	Size (Acres)
101.00-4-16.12	330 – Commercial, Vacant	1.34
101.00-4-16.2	330 – Commercial, Vacant	0.69
101.00-4-15	270 - Residential Mobile Home	0.42
101.00-4-29.22	330 – Commercial, Vacant	21.6

This site is located in the Commercial Zoning District. The purpose of this District is to allow for a variety of retail, service, and commercial uses along Main Street. This District allows for larger uses that require more space than other locations on Main Street, but promotes compatibility and consistency with the scale, design, theme, and pedestrian atmosphere of Main Street. Economic Opportunities and Site Challenges are summarized below.

Economic Opportunities:

- Single owner with whom to coordinate
- Flexible Mixed-Use Scale Site
- Accommodates Medium & Smaller Projects
- Accommodates Small Low-Impact Projects
- Minimal Environmental Issues
- Highly Convenient Distance to Route 23 Access
- Highly Convenient Distance to I-87 Access
- Significant Road Frontage

Figure 5. Site 2 Parcels

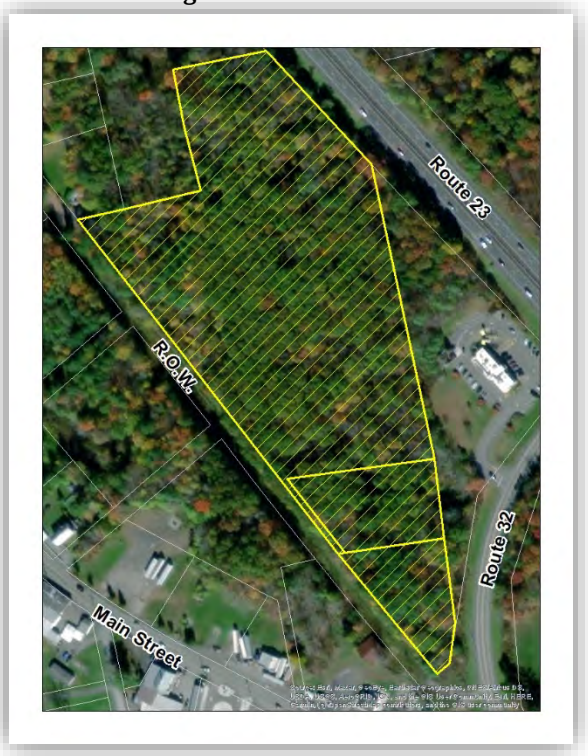
Site Challenges:

- Expense for Extension of Public Sewer & Water
- Located outside of the Water and Sewer Districts
- Parcels are outside of Water/Sewer Districts
- Significant Expansion of Impervious Surface
- Power Upgrade May be needed based on Sector
- Close Proximity to Stream/Wetlands (Per NYSDEC/NWI Mapping)

As a result, the identified market sectors best matched to this site are commercial, office/supportive space, and hospitality.

6.3 Economic Development Site 3: School-Owned/Miller Properties

Figure 6. Site 3 Parcels



The Cairo Durham Central School District has an underutilized piece of land located along NYS Route 23 that is bound by a utility ROW along the western most property line. A location map is included as Attachment 16. It consists of 11.2 acres, which is included in a 23-acre parcel. This parcel is located in the Hamlet Cairo (H-C) Zoning District. The purpose of this District is to promote the hamlet of Cairo as the town center and principal location for commercial, cultural and residential uses. This District allows and promotes a mix of residential and commercial structures that have a building scale, dimensions and design that is pedestrian oriented and consistent with the traditional character of the Hamlet. Commercial development shall be carefully controlled to protect neighboring residential properties from impact, while at the same time permitting needed growth. Since these parcels are located within both the water and sewer districts, no extension of the districts would be required.

Two adjacent parcels that are approximately 2.4 acres combined along NYS Route 23 that is bound by a utility ROW along the western most property line, directly south of the School-Owned parcel, are included in this site. The parcels are located in the Main Street Commercial Zoning District. The purpose of this District is to promote the hamlet of Cairo as the town center and principal location for commercial, cultural and residential uses. This District allows and promotes a mix of residential and commercial structures that have a building scale, dimensions and design that is pedestrian oriented and consistent with the traditional character of the Hamlet. Commercial development shall be carefully controlled to protect neighboring residential properties from impact, while at the same time permitting needed growth. Economic Opportunities and Site

Challenges are summarized below. No wetland delineations or detailed engineering site plans have been created to date.

Table 4. Site 3 Parcels

Parcel Number	Property Class	Size (Acres)
101.10-2-1	612 - Community Services, Schools	11.2 (23 total)
101.10-2-15	311 - Residential Vacant Land	1.3
101.10-2-14	311 - Residential Vacant Land	1.1

Economic Opportunities:

- Flexible Mixed-Use Scale Site
- Accommodates Small Low-Impact Projects
- Minimal Environmental Issues
- Highly Convenient Distance to Route 23 Access
- Highly Convenient Distance to I-87 Access
- Located within the Water and Sewer Districts
- Adjacent to Public Water & Sewer

Site Challenges:

- Expense for Extension of Public Sewer & Water
- Significant Expansion of Impervious Surface
- Power Upgrade May be needed based on Sector
- Two separate owners to coordinate with one being a public entity
- Parcels are in different Zoning Districts

As a result, the identified market sectors that best match the opportunities presented by this assemblage of properties are small scale commercial, office/supportive space, small scale hospitality and workforce housing.

7.0 Infrastructure Analysis

Public infrastructure is an important factor for economic development, providing a community the capacity to provide for existing and future development. Improvements to existing infrastructure require substantial financial means. The addition of new or the expansion of existing infrastructure also requires significant public investment and can impact community character and safety. Such expansion requires careful thought with regard to growth inducing impacts. It is untenable to consider a built-it-and-they-will-come plan for infrastructure expansion, extension and creation as it burdens the users of today with costs for the benefit of future users who may or may not materialize to support the cost of debt and operations and maintenance.

Water and wastewater resources, technical capacity and financial considerations affect every town and village in the County. Mechanisms such as shared services, expansions of service, and the formation of new districts and service areas offer communities additional resources and technical and financial capabilities relative to the provision of water and sewer. As a rule of thumb, every mile of water or sewer infrastructure constructed to serve future development costs $1.5 million if constructed by a municipality. Some savings are gained if the construction is not subject to public bidding, perhaps 10% and the construction of both water and sewer simultaneously can provide an economy of scale; however, such a reduction is perhaps another 10% cost savings only. The cost to expand water and sewer plants and related infrastructure will vary greatly depending on the nature of the systems to be expanded.

As communities contemplate capital investments and planning for infrastructure, the following should be considered:

- Opportunities for shared services
- Source water
- Treatment facilities
- Equipment used for operations and maintenance
- Personnel
- Treatment Unit Process sizing

- For wastewater systems, collection system pump stations and forcemains as well as the preliminary treatment should be sized sufficiently to accommodate peak hydraulic flows as well as a growth projection
- Select technologies that are readily expandable
- Consider construction of tankage that can accommodate additional equipment in the future for expansion
- Layout plant sites to ensure land base is available for future construction
- Ensure that extensions of distribution and collection pipelines are sized to serve a future area, not just a single project
- Anticipate future regulatory matters and plan for flexibility to add equipment and processes as needed without major reconstruction

7.1 Potable and Fire Suppression Water Supply

The opportunities and constraints include the provision of potable water and water for fire suppression systems due to the nature of the development that is envisioned. The demand for water by the potential economic development sites will vary based on build out and types of businesses.

There are opportunities to serve a portion of the Study Area with existing municipal systems that have been upgraded, and opportunities to create a new decentralized public water system. In addition, smaller, isolated uses may be served by individual on-site water systems.

7.1.1 Existing Public Water Supplies

The Town of Cairo owns and operates a water distribution system which relies on wells for water supply. Water storage is provided by a new 355,564-gallon tank. This system serves the central business area along Main Street, near the Routes 145, 32, and 23 intersections. Cairo recently completed a water infrastructure project funded through the NYSDEC WIIA grant and loan program. The project included: Replacement of old, clogged and leaking water pipes; installation of water meters with remote reading capacity; and, replacement of the water tank. Future projects include additional replacement of remaining old water mains and exploration of Water District and water line expansion. A Water System Map is included as Attachment 17.

Table 5. Town of Cairo Water Capacity

Town of Cairo Water Capacity		
Rated Capacity	**Current Demand**	**Remaining Capacity (MGD)**
0.216	0.12	0.096

Identification of an additional source of water has been a priority for a number of years. In an effort to supplement the water supply the Town has made efforts for over 10 years to identify additional groundwater sources in or around the Water District for development of an additional source of supply. These efforts have exhausted most of the obvious opportunities and the Town has concluded that a more concentrated and likely more costly effort will be needed.

A hydraulic analysis of the system confirms that there is enough capacity for the three sites. See Appendix 2 for the Water Hydraulic Analysis.

7.1.2 Potential Existing Public Water Service for Economic Development Sites

The economic development proposed herein is not likely to require additional water resources as the Town system has remaining capacity. Municipal water supply for the economic development sites is feasible with improvements which are conceptually characterized as improvements to the transmission and distribution infrastructure. Infrastructure Extension Plans for the Economic Development Sites are included in Appendix 3.

Table 6. Water Line Extension Cost Estimate for Site 1

Construction Component	**QTY**		**Price/QTY**	**Cost**
Hydrants	3	ea	$8,000.00	$24,000.00
Main Extension	1,500	ft	$175.00	$262,500.00
Water Meters	3	ea	$300.00	$900.00
Services	3	ea	$1,500.00	$4,500.00
Valves	1	ea	$1,600.00	$1,600.00
Pavement	450	ton	$120.00	$54,000.00
Backfill	420	cy	$40.00	$16,800.00
Construction Subtotal				*$364,300.00*
Engineering-Legal-Permits				$53,700.00
Contingency				$73,000.00
District Extension				$32,000.00
Total Cost				**$523,000.00**

Table 7. Water Line Extension Cost Estimate for Site 2

Construction Component	QTY		Price/QTY	Cost
Hydrants	6	ea	$8,000.00	$48,000.00
Main Extension	3,000	ft	$175.00	$525,000.00
Water Meters	10	ea	$300.00	$3,000.00
Services	10	ea	$1,500.00	$15,000.00
Valves	5	ea	$1,600.00	$8,000.00
Pavement	900	ton	$120.00	$108,000.00
Backfill	835	cy	$40.00	$33,400.00
Construction Subtotal				*$740,400.00*
Engineering-Legal-Permits				$111,600.00
Contingency				$148,000.00
District Extension				$32,000.00
Total Cost				**$1,032,000.00**

Table 8. Water Line Extension Cost Estimate for Sites 1, 2 & 3

Construction Component	QTY		Price/QTY	Cost
Hydrants	9	ea	$8,000.00	$72,000.00
Main Extension	4,500	ft	$175.00	$787,500.00
Water Meters	13	ea	$300.00	$4,200.00
Services	13	ea	$1,500.00	$21,000.00
Valves	6	ea	$1,600.00	$9,600.00
Pavement	1,350	ton	$120.00	$162,000.00
Backfill	1,250	cy	$40.00	$50,000.00
Construction Subtotal				*$1,106,300.00*
Engineering-Legal-Permits				$166,000.00
Contingency				$221,700.00
District Extension				$32,000.00
Total Cost				**$1,526,000.00**

All three sites are within close proximity to existing infrastructure. Each economic development sites will also need on-site water distribution facilities and may also need an on-site water storage tank and fire pump to satisfy fire flow requirements. In order to provide adequate fire protection, on-site water storage tanks and fire pumps are likely required at each site. These costs will be bore by the development entity specific to each site and not the Town of Cairo.

Economic Development Site 3 is located directly adjacent to existing water and sewer and is within each Town District, therefore, no infrastructure extensions are required. It would cost approximately $2,000 to add a service and water meter at this property.

Byas Property Well: An alternate to the use of existing municipal raw water resources within the municipal system is the potential to develop new source capacity in wells which could increase capacity. The County has identified an area where a new source well could be located. This parcel of land is in the Commercial Zoning District and also in a Greene County Agricultural District. It is currently an active farming operation located on 186 acres of land at the intersection of NYS Route 23 and County Route 23B. A map of the potential well site is included as Attachment 18.

A constraint to well siting is property ownership. Lands controlled by the municipality are usually best as they avoid purchasing a new site with all the complications that may entail. In evaluating the potential of added water resources, the County approached the land owners who have stated a willingness to consider the advancement of a test well. This entails:

- Digging a test well in the vicinity of the proposed well site
- 72-Hour Pump Test
- Evaluation of water quality and quantity data through a qualified testing lab
- Coordination with a Hydrogeologist

Table 9. Byas Test Well Cost Estimate

Construction Component	Cost
Install 6-inch Test Well	$10,000.00
Pumping Test	$5,000.00
Hydrogeologist	$25,000.00
Lab Testing	$2,000.00
Total	**$42,000.00**

Since the Town has ample water capacity to supply the proposed economic development sites, this option would only be explored if the Town wishes to replace all existing water sources with a new source. Alternatively, if the land owner determined large scale development on the parcel was desirable, this new well may be feasible.

Table 10. Byas Well Development and Water Line Extension Cost Estimate*

Construction Component	QTY		Price/QTY	Cost
Land Survey of Byas Site	1	ea	$10,000.00	$10,000.00
Well Drilling	1	ea	$50,000.00	$50,000.00
Hydrants	11	ea	$8,000.00	$88,000.00
Main Extension	5,300	ft	$175.00	$927,500.00
Valves	2	ea	$1,600.00	$3,200.00
Site Restoration	1	ea	$56,000.00	$56,000.00
Pump Station	1	ea	$75,000.00	$75,000.00
Pavement	1,590	ton	$120.00	$190,800.00
Backfill	1,473	cy	$40.00	$58,920.00
Construction Subtotal				*$1,459,420.00*
Engineering-Legal-Permits				$218,000.00
Contingency				$290,580.00
District Extension				$32,000.00
Total Cost				**$2,000,000.00**

***NOTE: Costs shown above do not include the cost of land acquisition**

Cedar Terrace Well: The Cedar Terrace Well site is a privately owned parcel, previously the Cedar Terrace Resort, located on County Route 85 in the Town of Cairo. This active well has been shown to have an above average yield compared to other wells in the area. The well was evaluated (Appendix 4) in 2016 as part of the Town's Water Improvement Project and it was found that this well has a sustainable capacity of 72,000 gallons per day but is hydraulically connected to the current water supply well at the Town Park. There are also private residential wells located within 600 feet of the Cedar Terrace well. The potential impact on these private wells from the use of the Cedar Terrace well has not been evaluated. If the community decided it wanted a more robust water supply this option could be explored further with additional testing and a comprehensive analysis of the hydraulic connections and water quality. A site map is included as Attachment 19.

Reservoir Well Rehab: The Town of Cairo relied for many years on surface water from a reservoir built in 1898 and located on Town land west of the water district. The District's original water supply came directly from surface water (the Reservoir) and the water was used without filtration. In 1991 the Town abandoned use of the reservoir and associated wells and began to rely instead a Well at the Town Park.

This water source is permitted for 144,000 gallons per day if filtration was added. An evaluation was performed in 2017 which shows that this water source would require costly water filtration, rendering it a less desirable source due to costs. If the community decided it wanted a more robust water supply this option could be explored further. The Town would be required to build a filtration plant to comply with the federal Enhanced Surface Water Treatment Rule as well as to remove minerals that would be an aesthetic concern. A Site Map is included as Attachment 20.

7.1.3 New, On-Site Private Water Systems

On-site individual wells may also be feasible; however, information to assess the viability of each site would be derived from site-specific analysis that is beyond the scope of this Study, and demands will vary based on degree of build out per site and types of occupying facilities.

7.2 Wastewater Collection and Treatment

The opportunities and constraints include the collection and treatment of sewage due to the nature of the development that is envisioned. The demand for sewage collection and treatment from potential development will vary based on build out and types of businesses. There are opportunities to serve the proposed sites with existing municipal systems that have been upgraded, and opportunities to create a new decentralized public wastewater system. In addition, smaller, isolated uses may be served by individual on-site sewer systems.

7.2.1 Existing Publicly Owned Treatment Works

The Town of Cairo owns and operates a WWTP, constructed in 2000 as an alternative design gray-water system, which utilizes on-site septic tanks, force mains, and relatively small diameter gravity sewer installed at a shallow depth. This system serves the central business area along Main Street, near the NYS Route 145, 32, and 23 intersections. A Sewer System Map is included as Attachment 21.

Table 11. Town of Cairo Sewer Capacity

Town of Cairo Sewer Capacity		
Rated Capacity	**Current ADF**	**Remaining Capacity (MGD)**
0.089	0.041	0.048

7.2.2 Potential Existing Public Sewer Service for Economic Development Sites

As with public water supply, the economic development sites could be provided with sewage treatment by the Town of Cairo if sewer extensions are added. It appears feasible for the sites to be connected to the Town of Cairo sewer system without increases the capacity. All three sites are within close proximity to existing infrastructure and all three are within the established Sewer District. Infrastructure Extension Plans for the Economic Development Sites are included in Appendix 3.

Table 12. Sewer Line Extension Cost Estimate for Site 1

Construction Component	QTY		Price/QTY	Cost
Upgrade PS	1	ea	$30,000.00	$30,000.00
Force Main	200	ft	$65.00	$13,000.00
Gravity Sewer	0	ft	$125.00	$0.00
Services	1	ea	$1,500.00	$1,500.00
Pavement	60	ton	$120.00	$7,200.00
Backfill	56	cy	$40.00	$23,000.00
Construction Subtotal				*$74,700.00*
Engineering-Legal-Permits				$11,200.00
Contingency				$10,800.00
Total Cost				**$96,700.00**

Table 13. Sewer Line Extension Cost Estimate for Site 2

Construction Component	QTY		Price/QTY	Cost
Upgrade PS	1	ea	$30,000.00	$30,000.00
Force Main	0	ft	$65.00	$0.00
Gravity Sewer	3000	ft	$125.00	$375,000.00
Services	10	ea	$1,500.00	$15,000.00
Pavement	1050	ton	$120.00	$126,000.00
Backfill	833	cy	$40.00	$40,000.00
Construction Subtotal				*$586,000.00*
Engineering-Legal-Permits				$88,000.00
Contingency				$116,000.00
Total Cost				**$790,000.00**

Table 14. Sewer Line Extension Cost Estimate for Site 3

Construction Component	QTY		Price/QTY	Cost
Upgrade PS	1	ea	$30,000.00	$30,000.00
Force Main	0	ft	$65.00	$0.00
Gravity Sewer	0	ft	$125.00	$0.00
Services	1	ea	$1,500.00	$1,500.00
Pavement	0	ton	$120.00	$0.00
Backfill	0	cy	$40.00	$0.00

Construction Subtotal	*$31,500.00*
Engineering-Legal-Permits	$4,700.00
Contingency	$6,300.00
Total Cost	**$42,500.00**

Table 15. Sewer Line Extension Cost Estimate for Sites 1, 2 & 3

Construction Component	QTY		Price/QTY	Cost
Upgrade PS	1	ea	$30,000.00	$30,000.00
Force Main	200	ft	$65.00	$13,000.00
Gravity Sewer	3000	ft	$125.00	$375,000.00
Services	11	ea	$1,500.00	$16,500.00
Pavement	1110	ton	$120.00	$133,200.00
Backfill	889	cy	$40.00	$42,000.00
Construction Subtotal				*$609,700.00*
Engineering-Legal-Permits				$92,000.00
Contingency				$121,300.00
Total Cost				**$823,000.00**

7.2.3 New, On-Site Private wastewater Systems

On-site individual sewer treatment systems may also be feasible; however, information to assess the viability of each site would be derived from site-specific analysis that is beyond the scope of this Study, and demands will vary based on degree of build out per types of occupying facilities.

7.3 Transportation

Greene County is located at the southern edge of the Capital Region and is within a 2-hour drive to the New York City Metropolitan Area – it has great accessibility to major markets. One of Greene County's biggest assets is its direct access to the New York State Thruway (I-87), which runs the entire length of the County's eastern side. Travel is simple and direct and allows for the delivery of goods for business and industry throughout the area. Exit 21 (Catskill-Cairo-Route 23) off of the Thruway is in very close proximity to the Study Area. Route 9W remains a key transportation access corridor while the major roadways provide direct and safe routes in and out of Greene County. Due to the original design and construction of NYS Route 23, ample additional capacity exists to accommodate the increase in traffic that full build out of the economic development Sites may realize.

The Town of Cairo has strong internal and external transportation linkages. Three major State Routes pass through Cairo and intersect in the vicinity of the Study Area. The most heavily traveled

road section in Cairo is at the intersection of NYS Routes 23 and 32. In addition, there are five County Routes through the Hamlet, making the Study Area the central locale of Cairo's road network. Currently a limited access highway, State Route 23 has relatively few crossings along its 9.3-mile stretch. Most of the original State Route 23 is now designated as County Route 23B. State Route 23 is a major east-west corridor connecting the Rip Van Winkle Bridge and New York State Thruway to the Catskill Mountains.

7.4 Power

7.4.1 Electric

The proximity of the Study Area to the South Cairo Substation is highly advantageous for those sites located within a mile. Depending on the scale and type of development that occurs, energy infrastructure upgrades may be required; alternative and creative approaches such as micro-grids may be explored to meet the demands of the future businesses. Seven (7) Watts per square foot is the average electrical usage for light industrial and commercial development.

It is anticipated that the County will need to continue its pro-active approach to encourage investment in the electrical infrastructure by Central Hudson. The continued strategy of working with State and local elected officials directly with the NYS Public Service Commission will provide strong regulatory support.

7.4.2 Gas

For natural gas, NYS is served by 15 different gas utility companies. The Town of Cairo is served by Central Hudson Gas and Electric. Natural Gas is currently not available in the Study Area. The closest community with available natural gas connections is in the Town of Catskill, Hamlet of Jefferson Heights. This is approximately 7 miles from the Study Area and would be cost prohibitive to bring in a natural gas pipeline for the Economic Development Sites.

Propane is readily available locally, and is an alternative to natural gas and electric power. There are a plethora of propane gas suppliers in Greene County which supply commercial and industrial users. Two comparison tables, authored by NYSERDA, are included as Appendix 5, which show a comparison of annual energy prices for industrial and commercial entities in the Mid-Hudson Region of NYS (includes Greene County and counties to the south).

7.4.3 Solar and Wind Energy

The Town Board recognizes that solar and wind energy are renewable energy sources that may reduce fossil fuel emissions and energy generated from renewable systems can be used to offset energy demand on the grid.

Private rooftop and flush-mounted solar arrays are permitted uses in all districts. Ground-mounted racks and freestanding private solar arrays are permitted through Special Use Permit and prohibited in the Main Street (MS) and Hamlet-Cairo (HC) districts. Building permits are required for the installation of all private solar arrays.

According to the National Renewable Energy Laboratory (NREL), New York State has about 4.00 $kWh/m^2/Day$ of annual average daily total solar energy. Average annual daily potential solar energy estimates the average daily potential kilowatt hours of solar energy that could be captured per square meter within each 12-digit HUC. This number is very low compared to the southwestern portion of the United States.

Greene County has several Community Solar Facilities located in Cairo, Greenville, Freehold, Palenville and Tannersville. These Facilities provide access to solar energy generation to houses and businesses that do not have access to solar due to mitigating factors. The Cairo Community Solar Project has ground mounted solar panels which allow residents and businesses to subscribe or purchase solar power.

Private wind towers are permitted in all districts and building permits shall be required for installation of any wind towers. Only one wind tower is allowed per lot at a height no more than 80 feet.

Greene County encourages the use of alternative energy and has a plethora of information on such endeavors on their website: Clean Energy Programs and Resources Resources in Greene County, NY- Greene Government.

7.5 Broadband

According to the Federal Communications Commission, most Greene County residents have access to fixed broadband. The options within the Town of Cairo for broadband service include Mid-Hudson CableVision, Mid-Hudson Data Corp., Verizon NY Inc., HughesNet, Skycasters, and Viasat Internet. Broadband connectivity should not be a hinderance to development for any property within the Study Area.

Speeds are available at greater than or equal to 100 megabits per second (mbps) throughout the Study Area. This will service the needs of small businesses and medium to large enterprises (*https://map.nysbroadband.ny.gov/html5viewer/?viewer=broadband*). Additionally, 5G coverage is available through T-Mobile for the entire Study Area.

8.0 Potential Project Impacts with Square Feet, Jobs, and Private Investment

The local impacts in Greene County that result from the anticipated success of development in the Study Area can only be generalized at this point in the process. The question is not will this project have success in attracting a variety of business sectors with valued jobs and private investment, it is at what scale and specific business sectors the success represents.

According to the *Census Bureau's County Business Patterns for various years*, the average number of jobs for a manufacturing facility nationally is 40 employees within an average building size of 37,000 square feet. This number of employees per establishment has risen since 2010 after a sharp decline over the two decades prior. About 92% of industrial facilities have fewer than 100 employees and 59% of those locations have fewer than 10 employees. The percentages of workers per size category curves from 34.5% in <100 employee establishments, 38% between 100 and 500 employee establishments, and 27.5% >1,000 employee establishments.

Industrial sectors with the largest numbers of employees per location include transportation equipment and computer/electronic products; followed by food processing, machinery development, chemical processing, primary metals facilities, and electrical equipment.

According to the *World Bank PPI Project Database*, investment in transportation, water, and sewer infrastructure has continued to rise since 2009, while private investment in the energy infrastructure has steadily fallen since 2009.

The only limiting obstacles to this success and eventual scale, will be the level of site readiness achieved, quality of workforce development and skills pipeline strategies and overall capacity of public infrastructure. Aggressively addressing these potential challenges, therefore transforming them to advantages, will drive significant success in reaching the desired levels of economic impact benefiting the local economy for many years to come. Any part of the ongoing process that results in limiting the scale of development and the predictability of timeframe to get shovels in the ground will have a negative impact on scale of opportunity and greatly reduce the ultimate goal of attracting quality jobs and a diversification of the Greene County economic base.

The business-related square feet, good paying jobs with important benefits, and significant levels of private investment will come. The continued advancement of "shovel-ready" sites and the connected credibility of Greene County, leadership and economic development professionals will demand a seat at the table as projects are considered and the best sites explored.

9.0 Marketing Strategies and Approach

The more advanced the approvals are and a defined process for a building permit is in place, the better. The recipe for success is achieving the position to answer all relevant site and infrastructure related questions with certainty, thus instilling confidence in advancing a project to meet a business-mandated schedule. This "shovel-ready" process can help overcome other challenges in competitiveness, location, labor shortages and other to-be-determined developer priorities.

Once this significant status of readiness is met, marketing material for each site can be produced to include a strong expression of confidence by providing all relevant detail on approvals, potential scale of development, infrastructure and flexibility to negotiate a deal beneficial to all parties.

10.0 Next Steps

The GCEDTP and Greene IDA have conducted this Opportunities and Constraints Analysis as the first of many steps towards developing the economy of the Study Area within the Town of Cairo. As a result of the Study that has been conducted, each viable economic development site location should be the subject of efforts to development concept plans, conduct SEQR and advance infrastructure.

Careful consideration was given with regards to availability of transportation and infrastructure as well as absence of environmental constraints. Water and sewer infrastructure IS the key to supporting existing residents and businesses, and to enhancing economic opportunities. Mechanisms such as shared services, planning for the future, expansion of services, as well as the formation of new special districts and service areas can offer the Town of Cairo additional resources and technical and/or financial capabilities relative to the provisions of water and sewer.

Concept planning leads to applications for grants and low-cost financing for the construction of site infrastructure which may include as curb cuts and roads, water and sewer extensions or decentralized systems, and stormwater facilities designed to accommodate the most impervious cover planned for the economic development sites. Securing this financing and constructing infrastructure will result in Shovel-Ready sites. Sites that are truly shovel-ready are highly marketable and the undeveloped property value is enhanced significantly as a result. With a Shovel-Ready site, the steps for development are greatly simplified.

In order to move forward with the development of the economic development sites infrastructure extensions and necessary improvements should be enacted.

11.0 Infrastructure Funding Strategy

The acquisition of easements, rights of way and real property to implement infrastructure improvements can be time consuming and subject to uncertainty, so avoidance of private property for the infrastructure is desirable, but not mandatory.

With respect to the infrastructure, studies and permits are likely needed for:

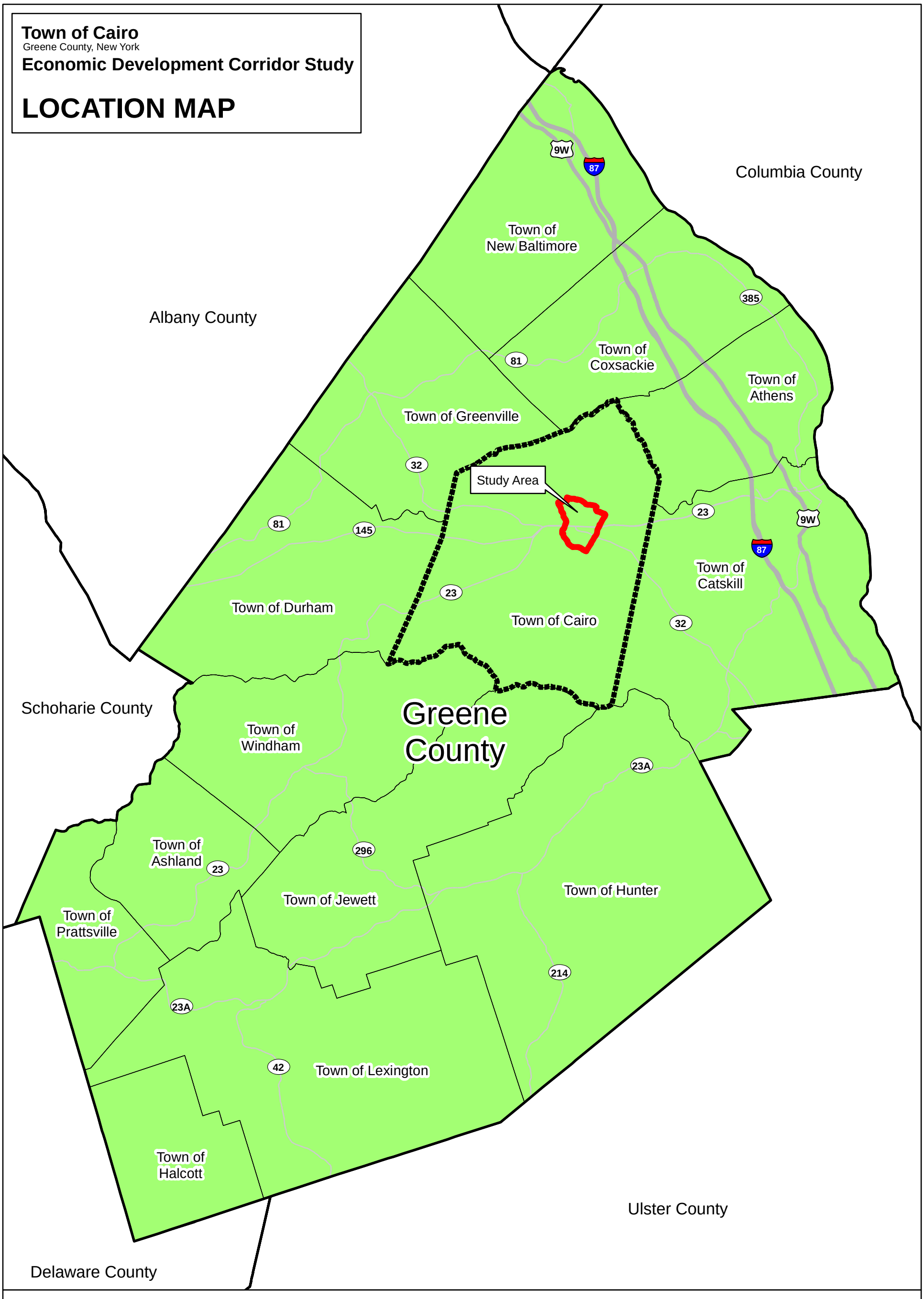
- Local Site Plan Review
- Possibly Subdivision Review
- Special Improvement Districts (Water and Sewer District Extensions)
- Wetlands and habitat
- Highway Work Permits (State, County and Town)
- Cultural resources
- Construction stormwater controls
- Infrastructure design and approval
- Water Taking Permits
- State Pollutant Discharge Elimination System (SPDES) permits

ATTACHMENTS

Attachment 1. Location Map

Town of Cairo
Greene County, New York
Economic Development Corridor Study

LOCATION MAP



Legend
- Economic Development Corridor Study Area
- County Boundaries
- Greene County
- Town of Cairo
- Major Roadways

N

0 6,500 13,000 19,500
Feet

Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: NYS Civil Boundaries; NYS Roadways; Economic Development Corridor Study Area

Attachment 2. Typical Development Considerations Table

Typical Development Considerations				
Regional & Local Factors	**Natural Features**	**Design and Aesthetics**	**Circulation**	**Miscellaneous**
Relationship to Local Laws (i.e. Zoning, Comprehensive Plan)	Geology	Site Usage	Vehicular	Construction Specifications
Compatibility with Surroundings	Topography	Structures	Ingress and Egress	Utilities
Accessibility	Soil Characteristics	-Relationship to Site Plans	-Road Layout	Maintenance
-Pedestrian	Vegetation	-Elevations	-Parking Areas	Staging of Development
-Automobile	Wildlife	-Functional Adequacy	-Loading Areas	
Economic Impact	Open Space	Architectural Features	-Traffic Control	
Fiscal Impact	Surface Drainage	Signs	Pedestrian	
Environmental Impact	Erosion	Landscaping	-Walkways	
Facilities and Services Available	Ground Waters	Recreation Areas	-Safety	
Visual Compatibility	Wetlands			
Historic and Archaeologic Considerations	Flood Hazard Areas			

Adapted from: Site Plan Review: James A. Coon Local Government Technical Series 2012

Attachment 3. Economic Development Corridor Study Area Map

Town of Cairo
Greene County, New York
Economic Development Corridor Study

STUDY AREA MAP

Bross Street
Catskill Creek
Frero Road
Bross Street
Mountain Avenue
Main Street
State Route 23
State Route 32
Main Street
County Route 23B
M. Simmons Road
1 inch = 875 feet
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Economic Development Corridor Study Area
- Cairo Parcels

N

0 260 520 780 1,040
Feet

Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: Greene County RPS Parcel Data;
NYS Civil Boundaries;
Economic Development Corridor Study Area

Attachment 4. Economic Development Corridor Study Selected Sites Map

Town of Cairo
Greene County, New York
Economic Development Corridor Study

SELECTED SITES MAP

Economic Development Site 1:
Five Privately-Owned Parcels
(122 Acres)

Economic Development Site 3:

Cairo-Durham Central
School-Owned Parcel
(11.2 Acres)

Two Privately-Owned Parcels
(2.4 Acres)

Economic Development Site 2:
Four Privately-Owned Parcels
(24 Acres)

Main Street
State Route 23
State Route 32
Main Street
CR 23B

1 inch = 500 feet

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Economic Development Corridor Study Area
- Economic Development Study Parcels
- Cairo Parcels

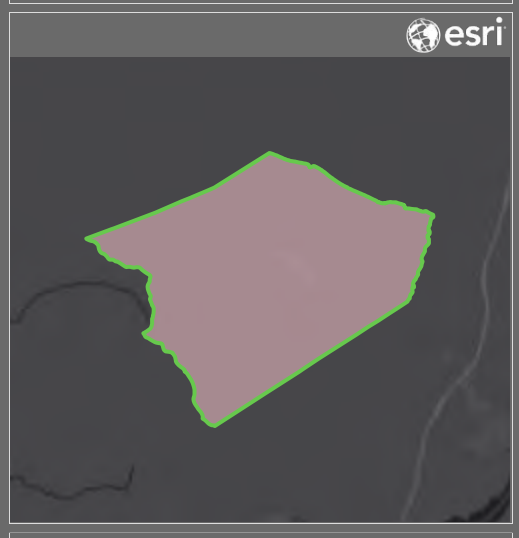
N

0 150 300 450 600
Feet

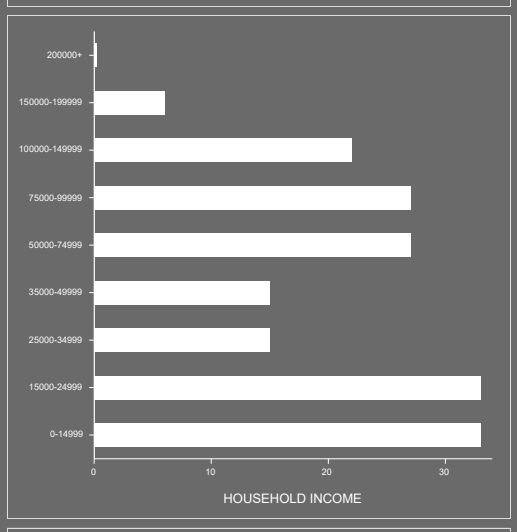
Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: Greene County RPS Parcel Data;
NYS Civil Boundaries;
Economic Development Corridor Study Area

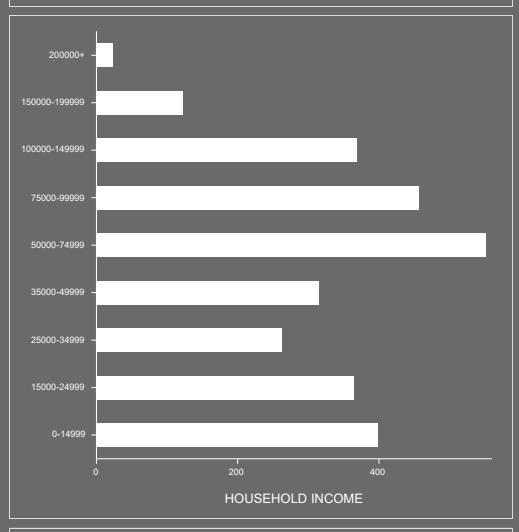
Attachment 5. Demographic Summary Comparison

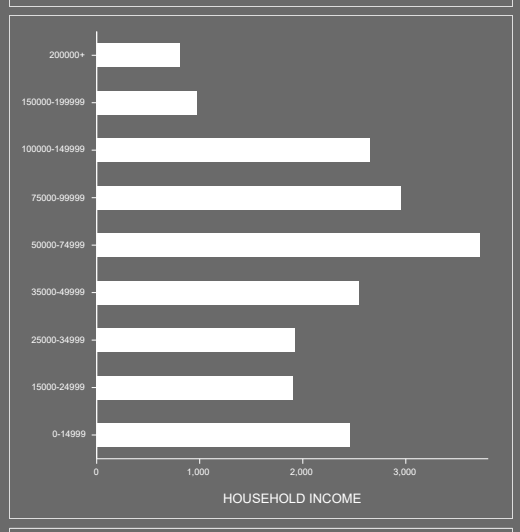
	Study Area (Benchmark)	Town of Cairo	Green County	New York
INCOME				
Median Household Income	$42,018	$52,533 ↑ $10,515	$55,563 ↑ $13,545	$68,828 ↑ $26,810
Per Capita Income	$24,012	$26,712 ↑ $2,700	$30,307 ↑ $6,295	$38,890 ↑ $14,878
Median Net Worth	$45,027	$82,394 ↑ $37,367	$102,901 ↑ $57,874	$79,925 ↑ $34,898

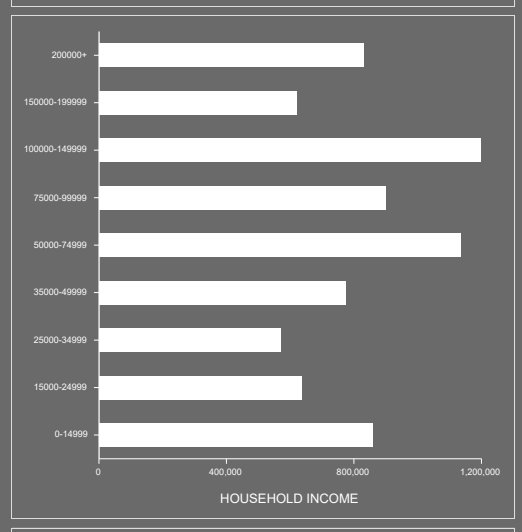


	Study Area (Benchmark)	Town of Cairo	Green County	New York
KEY FACTS				
Population	405	7,102 ↑ 6,697	49,035 ↑ 48,630	19,825,692 ↑ 19,825,287
Median Age	46.9	47.8 ↑ 0.9	46.5 ↓ 0.4	39.3 ↓ 7.6
Households	178	3,042 ↑ 2,864	20,105 ↑ 19,927	7,522,434 ↑ 7,522,256
Median Disposable Income	$33,757	$40,538 ↑ $6,781	$43,588 ↑ $9,831	$52,695 ↑ $18,938









	Study Area (Benchmark)	Town of Cairo	Green County	New York
EDUCATION				
No High School Diploma	15%	13% ↓ 2%	12% ↓ 3%	12% ↓ 3%
High School Graduate	31%	35% ↑ 4%	38% ↑ 7%	26% ↓ 5%
Some College	42%	31% ↓ 11%	27% ↓ 15%	24% ↓ 18%
Bachelor's/Grad/Prof Degree	12%	20% ↑ 8%	23% ↑ 11%	38% ↑ 26%
EMPLOYMENT				
White Collar	59%	60% ↑ 1%	61% ↑ 2%	68% ↑ 9%
Blue Collar	23%	26% ↑ 3%	24% ↑ 1%	16% ↓ 7%
Services	19%	14% ↓ 5%	15% ↓ 4%	16% ↓ 3%
Unemployment Rate	14.9%	12.5% ↓ 2.4%	12.0% ↓ 2.9%	12.1% ↓ 2.8%

Attachment 5

ESRI Business Analyst combines demographic, business, lifestyle, spending and census data with map-based analytics. Esri's Tapestry Segmentation is a geodemographic system that identifies distinctive markets in the U.S. based on socioeconomic and demographic characteristics to provide an accurate, comprehensive profile of U.S. consumers. Each year, population and household counts are updated by ESRI. Information provided allows for the comparison of data from the Study Area, Town, County and New York State. This assists in exploring the workforce available and industry sectors that are needed.

Attachment 6. Demographic Summaries and Reports for Greene County

Demographic Summary

Green County

Area: 657.57 square miles

Prepared by Esri

DEMOGRAPHIC SUMMARY

Green County

Area: 657.57 square miles

KEY FACTS

49,035

Population

46.5

Median Age

20,105

Households

$43,588

Median Disposable Income

EDUCATION

12%

No High School Diploma

38%

High School Graduate

27%

Some College

23%

Bachelor's/Grad/Prof Degree

INCOME

$55,563

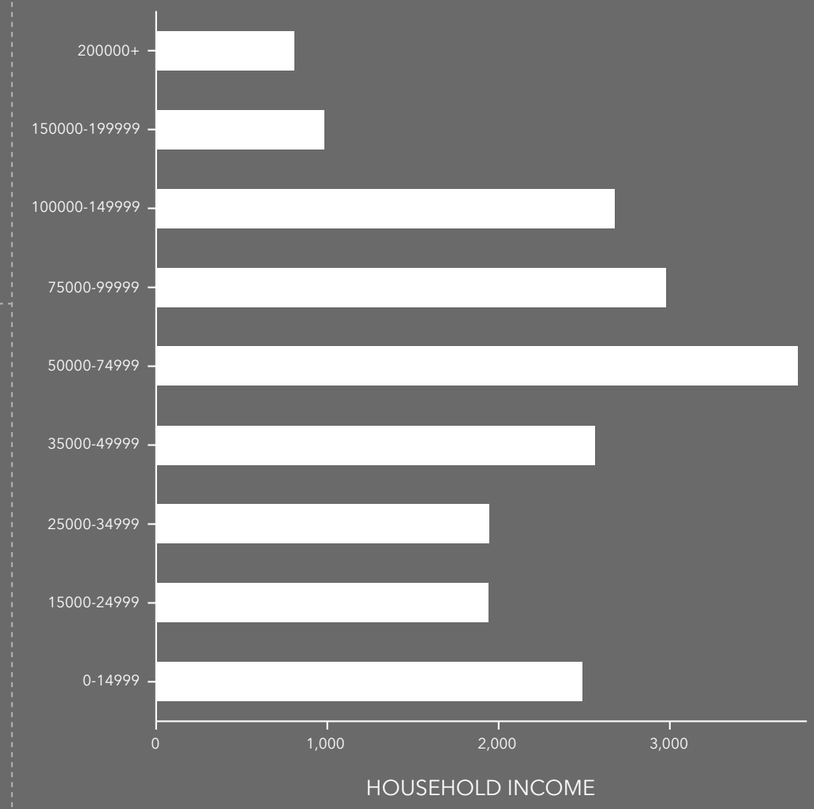
Median Household Income

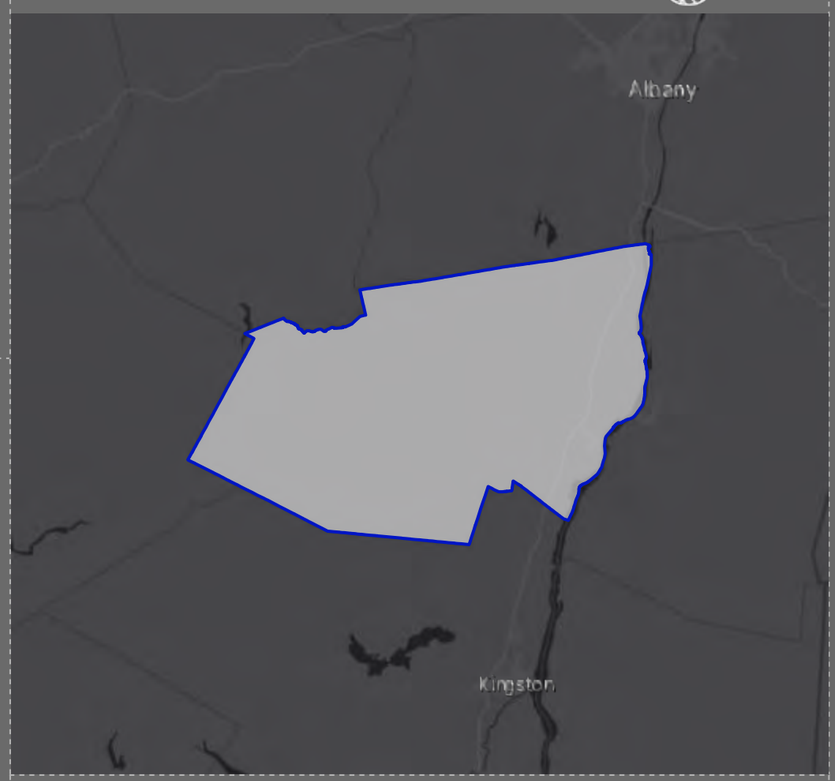
$30,307

Per Capita Income

$102,901

Median Net Worth





EMPLOYMENT

61%

White Collar

24%

Blue Collar

15%

Services

12.0%

Unemployment Rate

This infographic contains data provided by Esri. The vintage of the data is 2020, 2025.

Source: This infographic contains data provided by Esri. The vintage of the data is 2020, 2025.

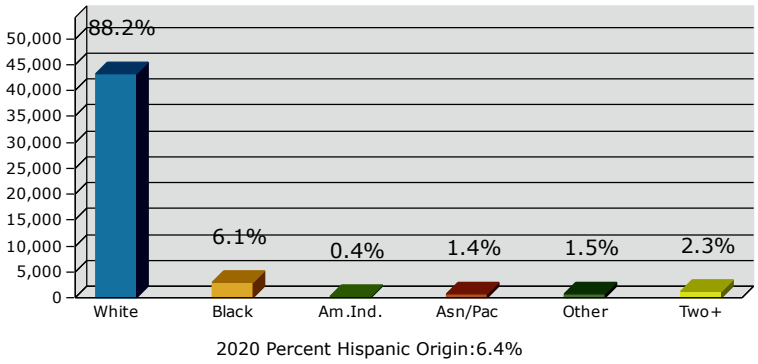
December 29, 2020

Graphic Profile

Green County
Area: 657.57 square miles

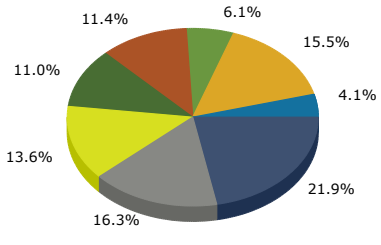
Prepared by Esri

2020 Population by Race

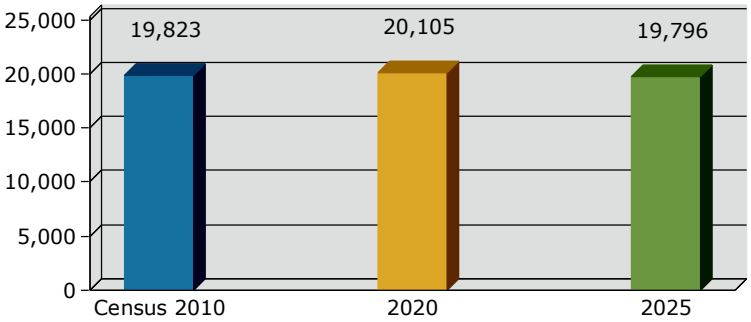


2020 Percent Hispanic Origin:6.4%

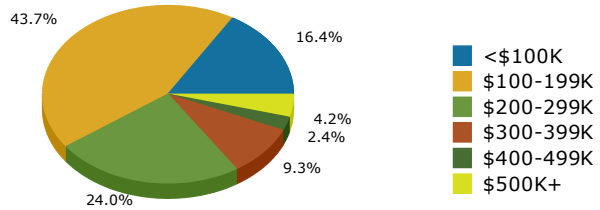
2020 Population by Age



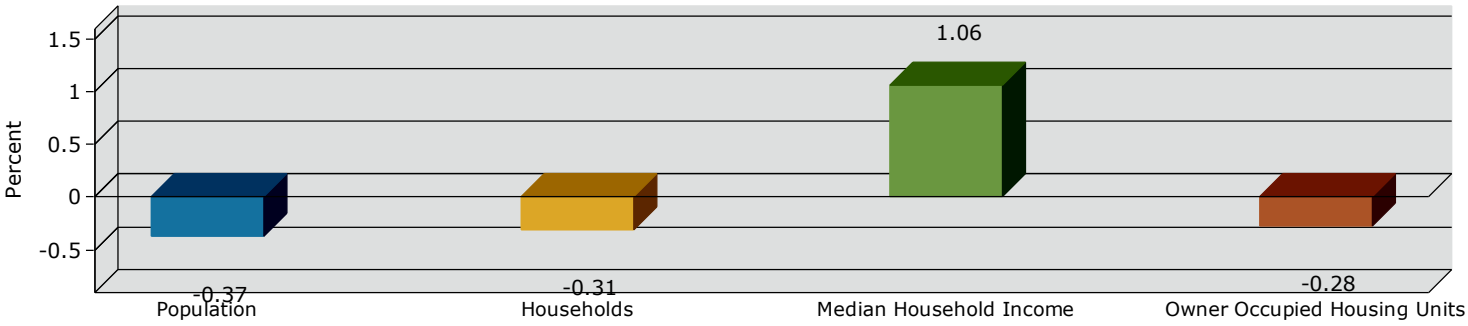
Households



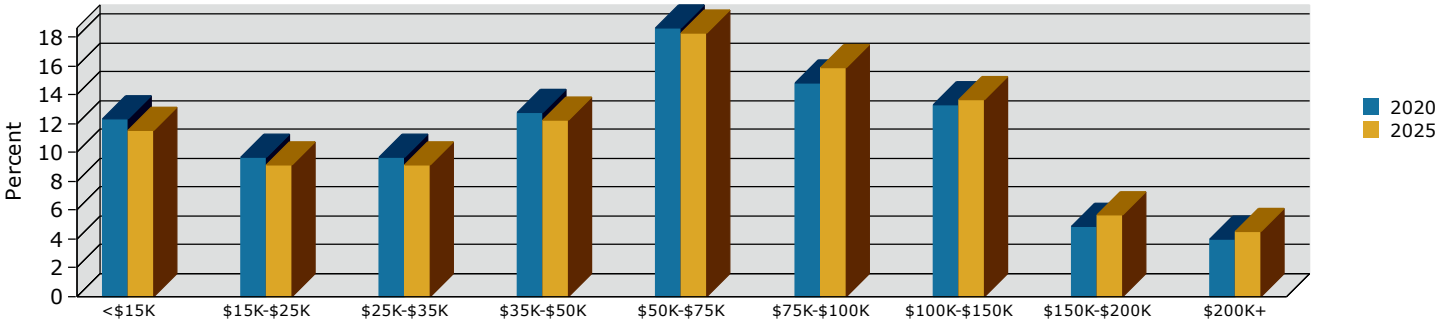
2020 Home Value



2020-2025 Annual Growth Rate



Household Income



Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2020 and 2025.

December 31, 2020

Business Summary

Green County
Area: 657.57 square miles

Prepared by Esri

Data for all businesses in area	
Total Businesses:	1,946
Total Employees:	18,668
Total Residential Population:	49,035
Employee/Residential Population Ratio (per 100 Residents)	38

	Businesses		Employees	
by SIC Codes	**Number**	**Percent**	**Number**	**Percent**
Agriculture & Mining	47	2.4%	177	0.9%
Construction	148	7.6%	596	3.2%
Manufacturing	42	2.2%	1,081	5.8%
Transportation	67	3.4%	582	3.1%
Communication	7	0.4%	48	0.3%
Utility	14	0.7%	83	0.4%
Wholesale Trade	44	2.3%	365	2.0%
Retail Trade Summary	448	23.0%	3,599	19.3%
Home Improvement	31	1.6%	458	2.5%
General Merchandise Stores	19	1.0%	439	2.4%
Food Stores	51	2.6%	699	3.7%
Auto Dealers, Gas Stations, Auto Aftermarket	52	2.7%	352	1.9%
Apparel & Accessory Stores	9	0.5%	34	0.2%
Furniture & Home Furnishings	21	1.1%	108	0.6%
Eating & Drinking Places	144	7.4%	1,048	5.6%
Miscellaneous Retail	121	6.2%	460	2.5%
Finance, Insurance, Real Estate Summary	139	7.1%	894	4.8%
Banks, Savings & Lending Institutions	28	1.4%	230	1.2%
Securities Brokers	5	0.3%	12	0.1%
Insurance Carriers & Agents	20	1.0%	105	0.6%
Real Estate, Holding, Other Investment Offices	86	4.4%	547	2.9%
Services Summary	715	36.7%	8,346	44.7%
Hotels & Lodging	101	5.2%	2,962	15.9%
Automotive Services	68	3.5%	287	1.5%
Motion Pictures & Amusements	56	2.9%	450	2.4%
Health Services	65	3.3%	771	4.1%
Legal Services	20	1.0%	70	0.4%
Education Institutions & Libraries	42	2.2%	1,872	10.0%
Other Services	363	18.7%	1,934	10.4%
Government	179	9.2%	2,808	15.0%
Unclassified Establishments	95	4.9%	89	0.5%
Totals	1,946	100.0%	18,668	100.0%

Date Note: Data on the Business Summary report is calculated using **Esri's Data allocation method** which uses census block groups to allocate business summary data to custom areas.

December 29, 2020

Business Summary

Green County
Area: 657.57 square miles

Prepared by Esri

by NAICS Codes	Businesses		Employees	
	Number	Percent	Number	Percent
Agriculture, Forestry, Fishing & Hunting	17	0.9%	56	0.3%
Mining	2	0.1%	8	0.0%
Utilities	8	0.4%	39	0.2%
Construction	152	7.8%	598	3.2%
Manufacturing	45	2.3%	985	5.3%
Wholesale Trade	42	2.2%	355	1.9%
Retail Trade	294	15.1%	2,455	13.2%
Motor Vehicle & Parts Dealers	36	1.8%	274	1.5%
Furniture & Home Furnishings Stores	12	0.6%	82	0.4%
Electronics & Appliance Stores	9	0.5%	21	0.1%
Bldg Material & Garden Equipment & Supplies Dealers	31	1.6%	458	2.5%
Food & Beverage Stores	52	2.7%	634	3.4%
Health & Personal Care Stores	22	1.1%	188	1.0%
Gasoline Stations	16	0.8%	78	0.4%
Clothing & Clothing Accessories Stores	11	0.6%	44	0.2%
Sport Goods, Hobby, Book, & Music Stores	26	1.3%	98	0.5%
General Merchandise Stores	19	1.0%	439	2.4%
Miscellaneous Store Retailers	46	2.4%	128	0.7%
Nonstore Retailers	14	0.7%	11	0.1%
Transportation & Warehousing	47	2.4%	458	2.5%
Information	32	1.6%	275	1.5%
Finance & Insurance	53	2.7%	347	1.9%
Central Bank/Credit Intermediation & Related Activities	28	1.4%	230	1.2%
Securities, Commodity Contracts & Other Financial	5	0.3%	12	0.1%
Insurance Carriers & Related Activities; Funds, Trusts &	20	1.0%	105	0.6%
Real Estate, Rental & Leasing	94	4.8%	513	2.7%
Professional, Scientific & Tech Services	94	4.8%	353	1.9%
Legal Services	22	1.1%	76	0.4%
Management of Companies & Enterprises	2	0.1%	60	0.3%
Administrative & Support & Waste Management & Remediation	54	2.8%	267	1.4%
Educational Services	40	2.1%	1,882	10.1%
Health Care & Social Assistance	104	5.3%	1,556	8.3%
Arts, Entertainment & Recreation	66	3.4%	555	3.0%
Accommodation & Food Services	250	12.8%	4,082	21.9%
Accommodation	101	5.2%	2,962	15.9%
Food Services & Drinking Places	149	7.7%	1,119	6.0%
Other Services (except Public Administration)	276	14.2%	928	5.0%
Automotive Repair & Maintenance	60	3.1%	248	1.3%
Public Administration	179	9.2%	2,808	15.0%
Unclassified Establishments	94	4.8%	88	0.5%
Total	1,946	100.0%	18,668	100.0%

Date Note: Data on the Business Summary report is calculated using **Esri's Data allocation method** which uses census block groups to allocate business summary data to custom areas.

December 29, 2020

Civilian Labor Force Profile

0
Area: 657.57 square miles

Prepared by Esri

2020 Labor Force

Age Group	Population	Employed	Unemployed	Unemployment Rate	Labor Force Participation Rate	Employment-Population Ratio
16+	41,735	20,393	2,772	12.0%	55.5%	48.9%
16-24	5,312	2,269	517	18.6%	52.4%	42.7%
25-54	17,662	11,572	1,464	11.2%	73.8%	65.5%
55-64	8,002	4,561	580	11.3%	64.2%	57.0%
65+	10,759	1,991	211	9.6%	20.5%	18.5%

Industry	Employed	Percent	US Percent	Location Quotient
Total	20,393	100.0%	100.0%	-
Agriculture/Forestry/Fishing	229	1.1%	1.3%	0.85
Mining/Quarrying/Oil & Gas	45	0.2%	0.5%	0.40
Construction	1,724	8.5%	7.4%	1.15
Manufacturing	1,508	7.4%	10.6%	0.70
Wholesale Trade	278	1.4%	2.5%	0.56
Retail Trade	1,996	9.8%	9.7%	1.01
Transportation/Warehousing	1,314	6.4%	4.7%	1.36
Utilities	316	1.5%	0.9%	1.67
Information	396	1.9%	1.8%	1.06
Finance/Insurance	847	4.2%	4.9%	0.86
Real Estate/Rental/Leasing	277	1.4%	2.1%	0.67
Professional/Scientific/Tech	999	4.9%	8.2%	0.60
Management of Companies	0	0.0%	0.1%	0.00
Admin/Support/Waste Management	311	1.5%	3.9%	0.38
Educational Services	1,990	9.8%	9.7%	1.01
Health Care/Social Assistance	3,595	17.6%	15.1%	1.17
Arts/Entertainment/Recreation	549	2.7%	1.6%	1.69
Accommodation/Food Services	1,165	5.7%	5.6%	1.02
Other Services (Excluding Public)	1,044	5.1%	4.6%	1.11
Public Administration	1,810	8.9%	4.8%	1.85

Occupation	Employed	Percent	US Percent	Location Quotient
Total	20,393	100.0%	100.0%	-
White Collar	11,725	57.5%	61.8%	0.93
Management	1,788	8.8%	10.2%	0.86
Business/Financial	481	2.4%	5.1%	0.47
Computer/Mathematical	399	2.0%	3.0%	0.67
Architecture/Engineering	308	1.5%	2.0%	0.75
Life/Physical/Social Sciences	74	0.4%	0.9%	0.44
Community/Social Service	800	3.9%	1.8%	2.17
Legal	240	1.2%	1.2%	1.00
Education/Training/Library	1,426	7.0%	6.4%	1.09
Arts/Design/Entertainment	561	2.8%	1.8%	1.56
Healthcare Practitioner	1,223	6.0%	6.3%	0.95
Sales and Sales Related	1,551	7.6%	9.7%	0.78
Office/Administrative Support	2,874	14.1%	13.3%	1.06
Blue Collar	4,898	24.0%	21.4%	1.11
Farming/Fishing/Forestry	90	0.4%	0.8%	0.50
Construction/Extraction	1,212	5.9%	5.4%	1.09
Installation/Maintenance/Repair	785	3.8%	3.1%	1.23
Production	1,069	5.2%	5.9%	0.88
Transportation/Material Moving	1,742	8.5%	6.1%	1.39
Services	3,770	18.5%	16.8%	1.10
Healthcare Support	698	3.4%	2.7%	1.26
Protective Service	741	3.6%	2.2%	1.64
Food Preparation/Serving	867	4.3%	4.4%	0.98
Building Maintenance	660	3.2%	3.9%	0.82
Personal Care/Service	804	3.9%	3.6%	1.08

Data Note: Location Quotients compare the industry/occupation share of a local area's employment relative to that same share nationally. A value lower/greater than 1 indicates that the local area is less/more specialized in that industry or occupation category than the US as a whole.

Explore the Esri Labor Force Learn Lesson for more information on how to use and interpret the estimates in this report.

Source: Esri forecasts for 2020 and 2025.

December 23, 2020

Attachment 7. Demographic Summaries and Reports for the Town of Cairo

Demographic Summary

Town of Cairo

Area: 60.12 square miles

Prepared by Esri

DEMOGRAPHIC SUMMARY

Town of Cairo

Area: 60.12 square miles

KEY FACTS

7,102

Population

47.8

Median Age

3,042

Households

$40,538

Median Disposable Income

EDUCATION

13%

No High School Diploma

35%

High School Graduate

31%

Some College

20%

Bachelor's/Grad/Prof Degree

INCOME

$52,533

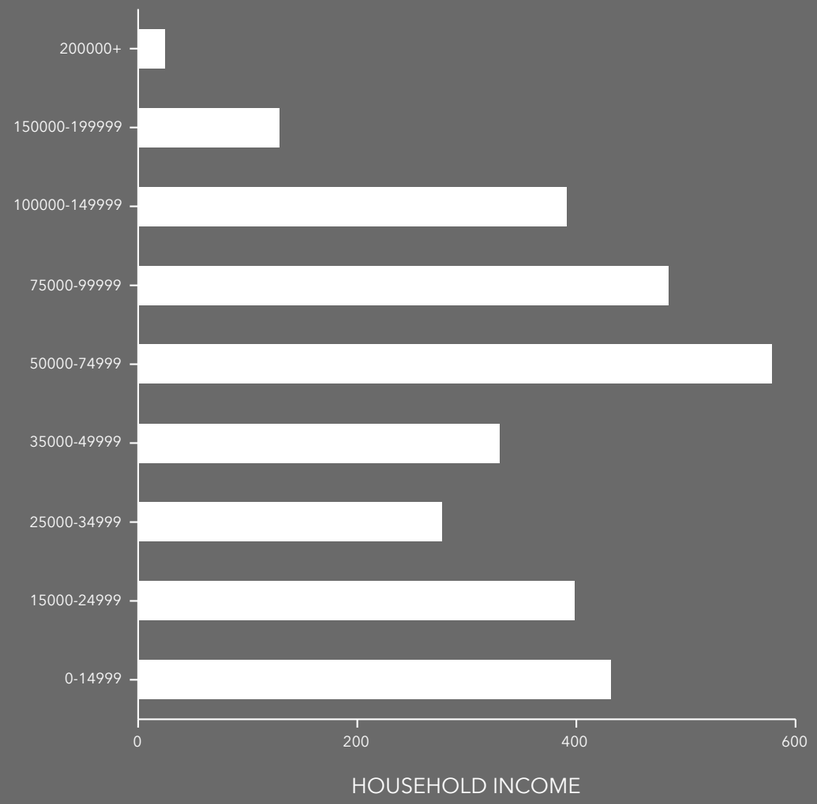
Median Household Income

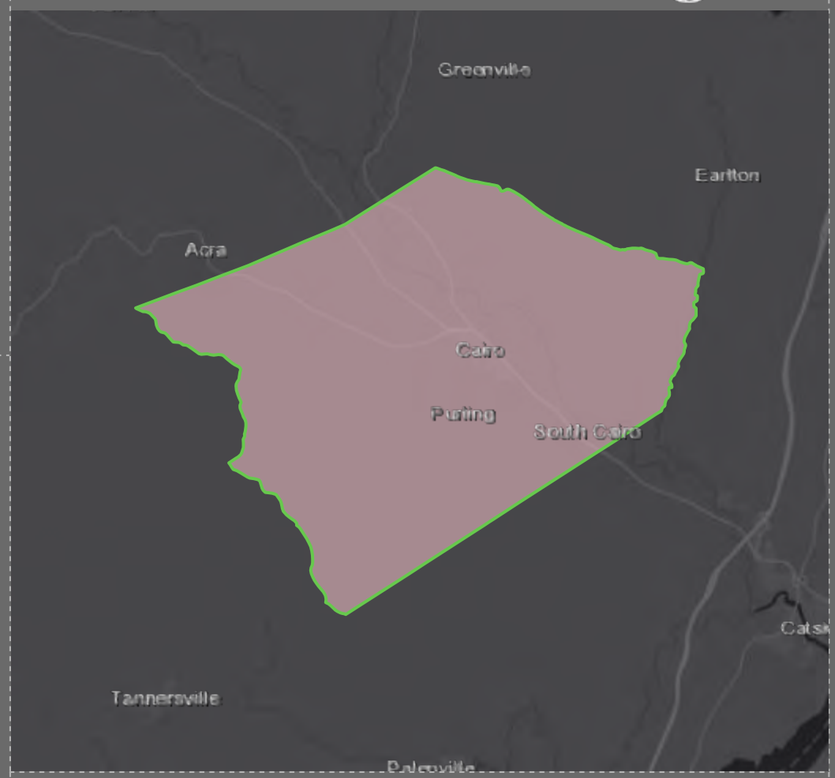
$26,712

Per Capita Income

$82,394

Median Net Worth





EMPLOYMENT

60%

White Collar

26%

Blue Collar

14%

Services

12.5%

Unemployment Rate

This infographic contains data provided by Esri. The vintage of the data is 2020, 2025.

Source: This infographic contains data provided by Esri. The vintage of the data is 2020, 2025.

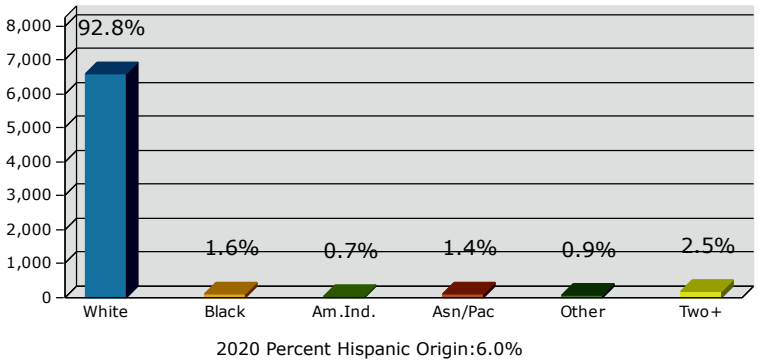
December 29, 2020

Graphic Profile

Town of Cairo
Area: 60.12 square miles

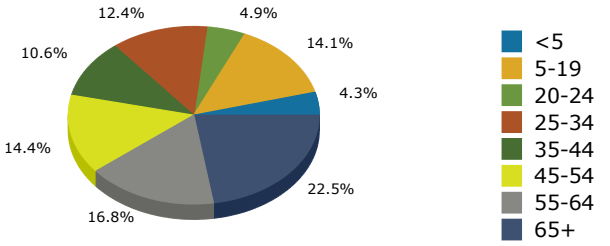
Prepared by Esri

2020 Population by Race

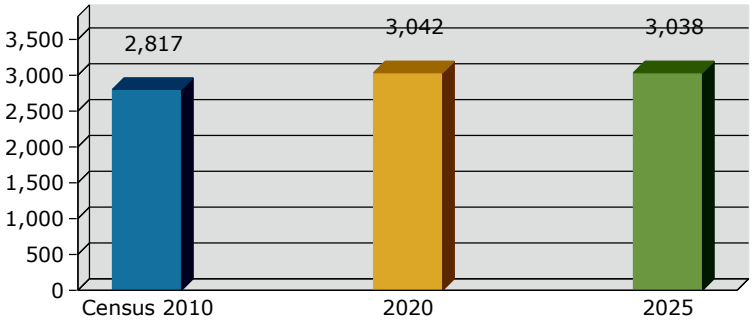


2020 Percent Hispanic Origin:6.0%

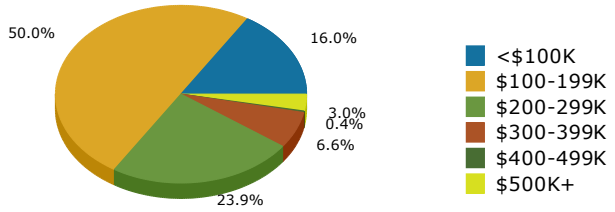
2020 Population by Age



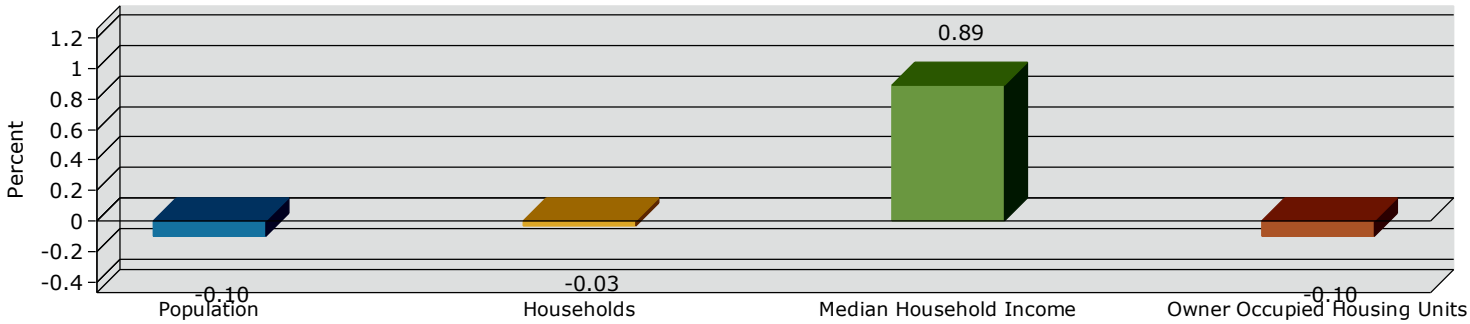
Households



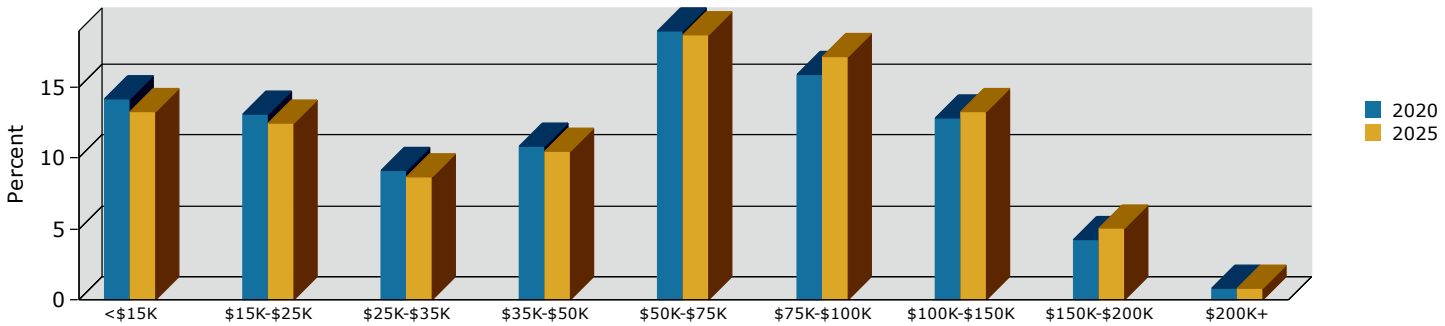
2020 Home Value



2020-2025 Annual Growth Rate



Household Income



Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2020 and 2025.

December 31, 2020

Business Summary

Town of Cairo
Area: 60.12 square miles

Prepared by Esri

Data for all businesses in area	
Total Businesses:	225
Total Employees:	1,594
Total Residential Population:	7,102
Employee/Residential Population Ratio (per 100 Residents)	22

	Businesses		Employees	
by SIC Codes	**Number**	**Percent**	**Number**	**Percent**
Agriculture & Mining	3	1.3%	17	1.1%
Construction	19	8.4%	64	4.0%
Manufacturing	5	2.2%	16	1.0%
Transportation	4	1.8%	22	1.4%
Communication	1	0.4%	3	0.2%
Utility	6	2.7%	39	2.4%
Wholesale Trade	7	3.1%	67	4.2%
Retail Trade Summary	45	20.0%	373	23.4%
Home Improvement	6	2.7%	19	1.2%
General Merchandise Stores	3	1.3%	17	1.1%
Food Stores	7	3.1%	165	10.4%
Auto Dealers, Gas Stations, Auto Aftermarket	6	2.7%	14	0.9%
Apparel & Accessory Stores	2	0.9%	3	0.2%
Furniture & Home Furnishings	2	0.9%	5	0.3%
Eating & Drinking Places	11	4.9%	107	6.7%
Miscellaneous Retail	8	3.6%	43	2.7%
Finance, Insurance, Real Estate Summary	15	6.7%	83	5.2%
Banks, Savings & Lending Institutions	2	0.9%	15	0.9%
Securities Brokers	0	0.0%	0	0.0%
Insurance Carriers & Agents	0	0.0%	0	0.0%
Real Estate, Holding, Other Investment Offices	13	5.8%	68	4.3%
Services Summary	99	44.0%	734	46.0%
Hotels & Lodging	15	6.7%	99	6.2%
Automotive Services	14	6.2%	33	2.1%
Motion Pictures & Amusements	9	4.0%	44	2.8%
Health Services	7	3.1%	102	6.4%
Legal Services	1	0.4%	6	0.4%
Education Institutions & Libraries	4	1.8%	183	11.5%
Other Services	49	21.8%	267	16.8%
Government	10	4.4%	168	10.5%
Unclassified Establishments	11	4.9%	8	0.5%
Totals	225	100.0%	1,594	100.0%

Date Note: Data on the Business Summary report is calculated using **Esri's Data allocation method** which uses census block groups to allocate business summary data to custom areas.

December 29, 2020

Business Summary

Town of Cairo
Area: 60.12 square miles

Prepared by Esri

by NAICS Codes	Businesses		Employees	
	Number	Percent	Number	Percent
Agriculture, Forestry, Fishing & Hunting	4	1.8%	19	1.2%
Mining	0	0.0%	0	0.0%
Utilities	2	0.9%	2	0.1%
Construction	19	8.4%	64	4.0%
Manufacturing	4	1.8%	14	0.9%
Wholesale Trade	6	2.7%	62	3.9%
Retail Trade	33	14.7%	254	15.9%
Motor Vehicle & Parts Dealers	5	2.2%	11	0.7%
Furniture & Home Furnishings Stores	1	0.4%	4	0.3%
Electronics & Appliance Stores	1	0.4%	1	0.1%
Bldg Material & Garden Equipment & Supplies Dealers	6	2.7%	19	1.2%
Food & Beverage Stores	7	3.1%	155	9.7%
Health & Personal Care Stores	3	1.3%	35	2.2%
Gasoline Stations	1	0.4%	3	0.2%
Clothing & Clothing Accessories Stores	2	0.9%	3	0.2%
Sport Goods, Hobby, Book, & Music Stores	0	0.0%	0	0.0%
General Merchandise Stores	3	1.3%	17	1.1%
Miscellaneous Store Retailers	1	0.4%	4	0.3%
Nonstore Retailers	3	1.3%	2	0.1%
Transportation & Warehousing	4	1.8%	24	1.5%
Information	3	1.3%	8	0.5%
Finance & Insurance	2	0.9%	15	0.9%
Central Bank/Credit Intermediation & Related Activities	2	0.9%	15	0.9%
Securities, Commodity Contracts & Other Financial	0	0.0%	0	0.0%
Insurance Carriers & Related Activities; Funds, Trusts &	0	0.0%	0	0.0%
Real Estate, Rental & Leasing	15	6.7%	66	4.1%
Professional, Scientific & Tech Services	10	4.4%	42	2.6%
Legal Services	1	0.4%	6	0.4%
Management of Companies & Enterprises	0	0.0%	0	0.0%
Administrative & Support & Waste Management & Remediation	7	3.1%	58	3.6%
Educational Services	3	1.3%	180	11.3%
Health Care & Social Assistance	12	5.3%	211	13.2%
Arts, Entertainment & Recreation	10	4.4%	50	3.1%
Accommodation & Food Services	27	12.0%	218	13.7%
Accommodation	15	6.7%	99	6.2%
Food Services & Drinking Places	12	5.3%	119	7.5%
Other Services (except Public Administration)	43	19.1%	131	8.2%
Automotive Repair & Maintenance	12	5.3%	27	1.7%
Public Administration	10	4.4%	168	10.5%
Unclassified Establishments	11	4.9%	8	0.5%
Total	225	100.0%	1,594	100.0%

Date Note: Data on the Business Summary report is calculated using **Esri's Data allocation method** which uses census block groups to allocate business summary data to custom areas.

December 29, 2020

Civilian Labor Force Profile

Town of Cairo
Area: 60.12 square miles

Prepared by Esri

2020 Labor Force

Age Group	Population	Employed	Unemployed	Unemployment Rate	Labor Force Participation Rate	Employment-Population Ratio
16+	6,048	3,356	479	12.5%	63.4%	55.5%
16-24	603	390	128	24.7%	85.9%	64.7%
25-54	2,655	1,975	255	11.4%	84.0%	74.4%
55-64	1,191	649	67	9.4%	60.1%	54.5%
65+	1,599	342	29	7.8%	23.2%	21.4%

Industry	Employed	Percent	US Percent	Location Quotient
Total	3,356	100.0%	100.0%	-
Agriculture/Forestry/Fishing	10	0.3%	1.3%	0.23
Mining/Quarrying/Oil & Gas	0	0.0%	0.5%	0.00
Construction	212	6.3%	7.4%	0.85
Manufacturing	367	10.9%	10.6%	1.03
Wholesale Trade	0	0.0%	2.5%	0.00
Retail Trade	346	10.3%	9.7%	1.06
Transportation/Warehousing	336	10.0%	4.7%	2.13
Utilities	0	0.0%	0.9%	0.00
Information	37	1.1%	1.8%	0.61
Finance/Insurance	164	4.9%	4.9%	1.00
Real Estate/Rental/Leasing	27	0.8%	2.1%	0.38
Professional/Scientific/Tech	234	7.0%	8.2%	0.85
Management of Companies	0	0.0%	0.1%	0.00
Admin/Support/Waste Management	19	0.6%	3.9%	0.15
Educational Services	332	9.9%	9.7%	1.02
Health Care/Social Assistance	603	18.0%	15.1%	1.19
Arts/Entertainment/Recreation	85	2.5%	1.6%	1.56
Accommodation/Food Services	147	4.4%	5.6%	0.79
Other Services (Excluding Public)	188	5.6%	4.6%	1.22
Public Administration	249	7.4%	4.8%	1.54

Occupation	Employed	Percent	US Percent	Location Quotient
Total	3,356	100.0%	100.0%	-
White Collar	1,848	55.1%	61.8%	0.89
Management	336	10.0%	10.2%	0.98
Business/Financial	76	2.3%	5.1%	0.45
Computer/Mathematical	35	1.0%	3.0%	0.33
Architecture/Engineering	62	1.8%	2.0%	0.90
Life/Physical/Social Sciences	0	0.0%	0.9%	0.00
Community/Social Service	75	2.2%	1.8%	1.22
Legal	31	0.9%	1.2%	0.75
Education/Training/Library	249	7.4%	6.4%	1.16
Arts/Design/Entertainment	116	3.5%	1.8%	1.94
Healthcare Practitioner	202	6.0%	6.3%	0.95
Sales and Sales Related	150	4.5%	9.7%	0.46
Office/Administrative Support	516	15.4%	13.3%	1.16
Blue Collar	860	25.6%	21.4%	1.20
Farming/Fishing/Forestry	0	0.0%	0.8%	0.00
Construction/Extraction	103	3.1%	5.4%	0.57
Installation/Maintenance/Repair	182	5.4%	3.1%	1.74
Production	114	3.4%	5.9%	0.58
Transportation/Material Moving	461	13.7%	6.1%	2.25
Services	648	19.3%	16.8%	1.15
Healthcare Support	170	5.1%	2.7%	1.89
Protective Service	174	5.2%	2.2%	2.36
Food Preparation/Serving	67	2.0%	4.4%	0.45
Building Maintenance	119	3.5%	3.9%	0.90
Personal Care/Service	118	3.5%	3.6%	0.97

Data Note: Location Quotients compare the industry/occupation share of a local area's employment relative to that same share nationally. A value lower/greater than 1 indicates that the local area is less/more specialized in that industry or occupation category than the US as a whole.

Explore the Esri Labor Force Learn Lesson for more information on how to use and interpret the estimates in this report.

Source: Esri forecasts for 2020 and 2025.

December 29, 2020

Attachment 8. Demographic Summaries and Reports for the Study Area

Demographic Summary

Economic Development Corridor Study Area

Area: 1.82 square miles

Prepared by Esri

DEMOGRAPHIC SUMMARY

Economic Development Corridor Study Area

Area: 1.82 square miles

KEY FACTS

405

Population

46.9

Median Age

178

Households

$33,757

Median Disposable Income

EDUCATION

15%

No High School Diploma

31%

High School Graduate

42%

Some College

12%

Bachelor's/Grad/Prof Degree

INCOME

$42,018

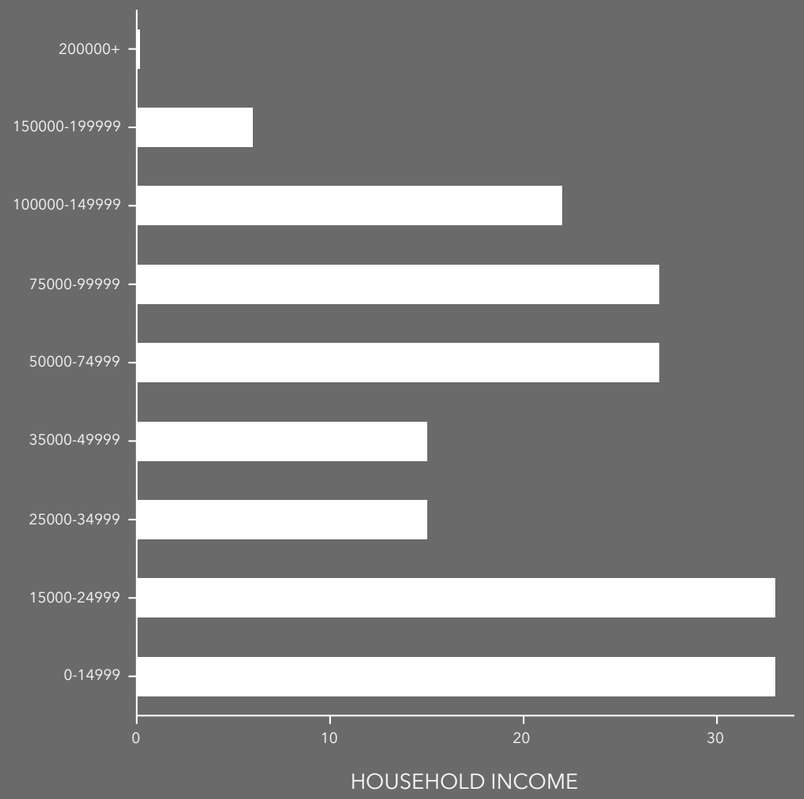
Median Household Income

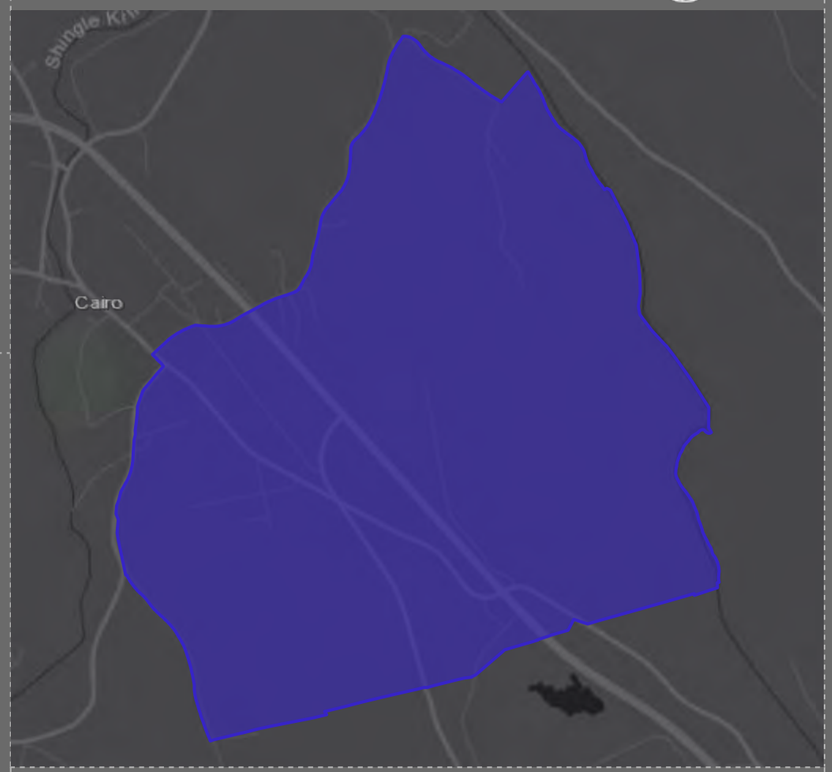
$24,012

Per Capita Income

$45,027

Median Net Worth





EMPLOYMENT

59%

White Collar

23%

Blue Collar

19%

Services

14.9%

Unemployment Rate

This infographic contains data provided by Esri. The vintage of the data is 2020, 2025.

Source: This infographic contains data provided by Esri. The vintage of the data is 2020, 2025.

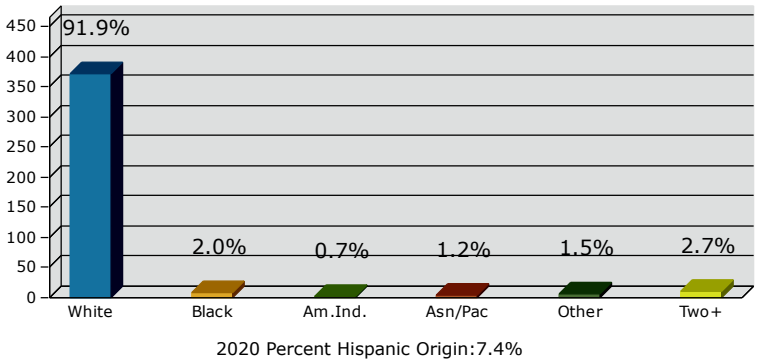
December 31, 2020

Graphic Profile

Study Area
Area: 1.82 square miles

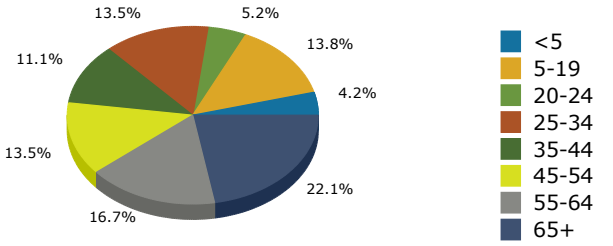
Prepared by Esri

2020 Population by Race

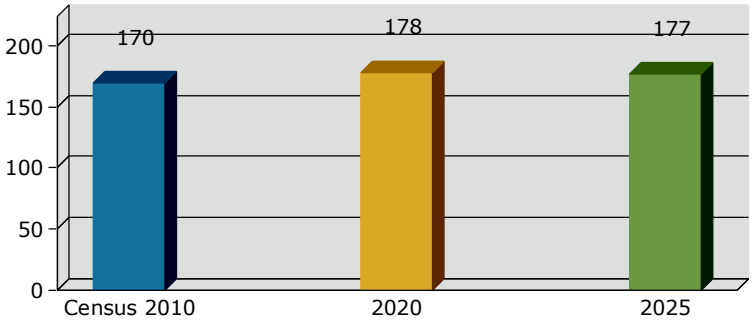


2020 Percent Hispanic Origin:7.4%

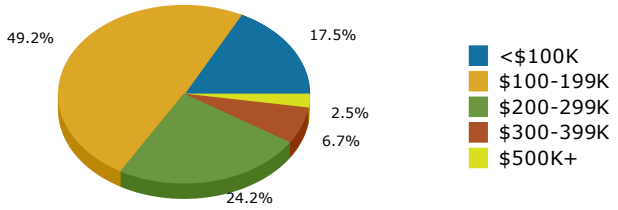
2020 Population by Age



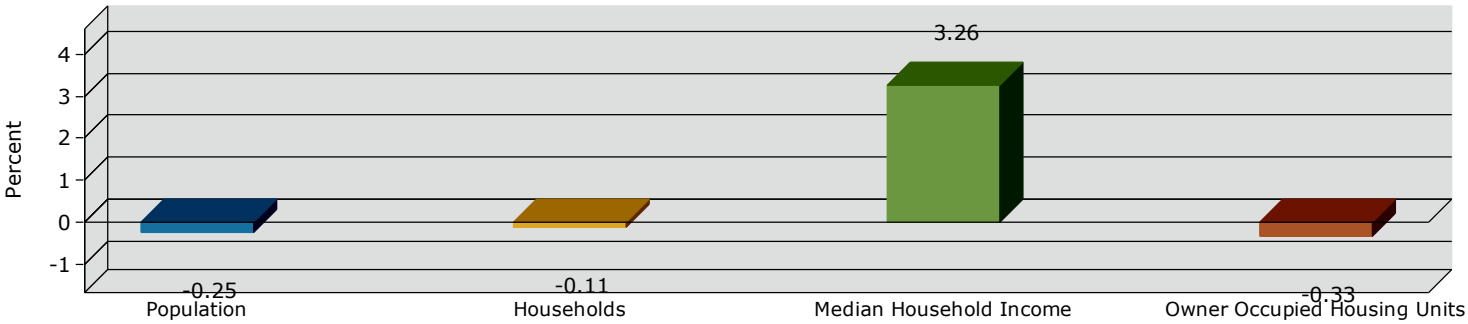
Households



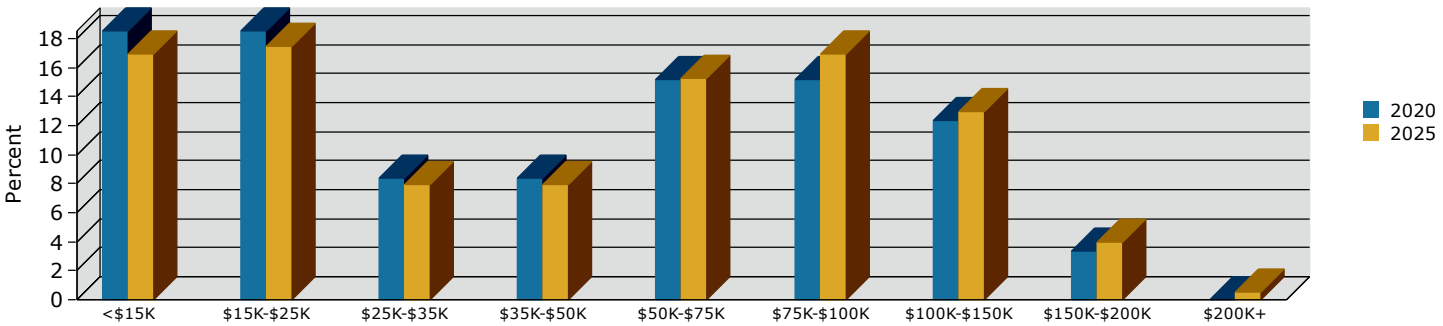
2020 Home Value



2020-2025 Annual Growth Rate



Household Income



Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2020 and 2025.

December 22, 2020

Business Summary

Study Area
Area: 1.82 square miles

Prepared by Esri

Data for all businesses in area	
Total Businesses:	44
Total Employees:	384
Total Residential Population:	405
Employee/Residential Population Ratio (per 100 Residents)	95

	Businesses		Employees	
by SIC Codes	**Number**	**Percent**	**Number**	**Percent**
Agriculture & Mining	0	0.0%	0	0.0%
Construction	1	2.3%	3	0.8%
Manufacturing	0	0.0%	2	0.5%
Transportation	0	0.0%	0	0.0%
Communication	0	0.0%	0	0.0%
Utility	1	2.3%	4	1.0%
Wholesale Trade	1	2.3%	16	4.2%
Retail Trade Summary	12	27.3%	119	31.0%
Home Improvement	1	2.3%	4	1.0%
General Merchandise Stores	1	2.3%	6	1.6%
Food Stores	2	4.5%	61	15.9%
Auto Dealers, Gas Stations, Auto Aftermarket	1	2.3%	2	0.5%
Apparel & Accessory Stores	0	0.0%	0	0.0%
Furniture & Home Furnishings	0	0.0%	0	0.0%
Eating & Drinking Places	3	6.8%	35	9.1%
Miscellaneous Retail	3	6.8%	11	2.9%
Finance, Insurance, Real Estate Summary	4	9.1%	26	6.8%
Banks, Savings & Lending Institutions	1	2.3%	6	1.6%
Securities Brokers	0	0.0%	0	0.0%
Insurance Carriers & Agents	0	0.0%	0	0.0%
Real Estate, Holding, Other Investment Offices	3	6.8%	20	5.2%
Services Summary	21	47.7%	178	46.4%
Hotels & Lodging	1	2.3%	4	1.0%
Automotive Services	3	6.8%	7	1.8%
Motion Pictures & Amusements	2	4.5%	2	0.5%
Health Services	3	6.8%	40	10.4%
Legal Services	0	0.0%	1	0.3%
Education Institutions & Libraries	1	2.3%	70	18.2%
Other Services	11	25.0%	55	14.3%
Government	2	4.5%	34	8.9%
Unclassified Establishments	2	4.5%	2	0.5%
Totals	44	100.0%	384	100.0%

Date Note: Data on the Business Summary report is calculated using **Esri's Data allocation method** which uses census block groups to allocate business summary data to custom areas.

December 22, 2020

Business Summary

Study Area
Area: 1.82 square miles

Prepared by Esri

by NAICS Codes	Businesses		Employees	
	Number	Percent	Number	Percent
Agriculture, Forestry, Fishing & Hunting	0	0.0%	0	0.0%
Mining	0	0.0%	0	0.0%
Utilities	0	0.0%	0	0.0%
Construction	1	2.3%	3	0.8%
Manufacturing	0	0.0%	2	0.5%
Wholesale Trade	1	2.3%	16	4.2%
Retail Trade	8	18.2%	79	20.6%
Motor Vehicle & Parts Dealers	1	2.3%	1	0.3%
Furniture & Home Furnishings Stores	0	0.0%	0	0.0%
Electronics & Appliance Stores	0	0.0%	0	0.0%
Bldg Material & Garden Equipment & Supplies Dealers	1	2.3%	4	1.0%
Food & Beverage Stores	2	4.5%	57	14.8%
Health & Personal Care Stores	1	2.3%	8	2.1%
Gasoline Stations	0	0.0%	1	0.3%
Clothing & Clothing Accessories Stores	0	0.0%	0	0.0%
Sport Goods, Hobby, Book, & Music Stores	0	0.0%	0	0.0%
General Merchandise Stores	1	2.3%	6	1.6%
Miscellaneous Store Retailers	0	0.0%	2	0.5%
Nonstore Retailers	1	2.3%	1	0.3%
Transportation & Warehousing	0	0.0%	1	0.3%
Information	0	0.0%	1	0.3%
Finance & Insurance	1	2.3%	6	1.6%
Central Bank/Credit Intermediation & Related Activities	1	2.3%	6	1.6%
Securities, Commodity Contracts & Other Financial	0	0.0%	0	0.0%
Insurance Carriers & Related Activities; Funds, Trusts &	0	0.0%	0	0.0%
Real Estate, Rental & Leasing	4	9.1%	19	4.9%
Professional, Scientific & Tech Services	2	4.5%	10	2.6%
Legal Services	0	0.0%	1	0.3%
Management of Companies & Enterprises	0	0.0%	0	0.0%
Administrative & Support & Waste Management & Remediation	1	2.3%	11	2.9%
Educational Services	1	2.3%	68	17.7%
Health Care & Social Assistance	3	6.8%	49	12.8%
Arts, Entertainment & Recreation	1	2.3%	3	0.8%
Accommodation & Food Services	4	9.1%	43	11.2%
Accommodation	1	2.3%	4	1.0%
Food Services & Drinking Places	4	9.1%	39	10.2%
Other Services (except Public Administration)	11	25.0%	35	9.1%
Automotive Repair & Maintenance	3	6.8%	6	1.6%
Public Administration	2	4.5%	34	8.9%
Unclassified Establishments	2	4.5%	2	0.5%
Total	44	100.0%	384	100.0%

Date Note: Data on the Business Summary report is calculated using **Esri's Data allocation method** which uses census block groups to allocate business summary data to custom areas.

December 22, 2020

Civilian Labor Force Profile

Study Area
Area: 1.82 square miles

Prepared by Esri

2020 Labor Force

Age Group	Population	Employed	Unemployed	Unemployment Rate	Labor Force Participation Rate	Employment-Population Ratio
16+	346	172	30	14.9%	58.4%	49.7%
16-24	35	20	9	31.0%	82.9%	57.1%
25-54	155	107	16	13.0%	79.4%	69.0%
55-64	68	31	4	11.4%	51.5%	45.6%
65+	90	14	1	6.7%	16.7%	15.6%

Industry	Employed	Percent	US Percent	Location Quotient
Total	172	100.0%	100.0%	-
Agriculture/Forestry/Fishing	0	0.0%	1.3%	0.00
Mining/Quarrying/Oil & Gas	0	0.0%	0.5%	0.00
Construction	9	5.2%	7.4%	0.70
Manufacturing	15	8.7%	10.6%	0.82
Wholesale Trade	0	0.0%	2.5%	0.00
Retail Trade	26	15.1%	9.7%	1.56
Transportation/Warehousing	20	11.6%	4.7%	2.47
Utilities	0	0.0%	0.9%	0.00
Information	3	1.7%	1.8%	0.94
Finance/Insurance	15	8.7%	4.9%	1.78
Real Estate/Rental/Leasing	0	0.0%	2.1%	0.00
Professional/Scientific/Tech	9	5.2%	8.2%	0.63
Management of Companies	0	0.0%	0.1%	0.00
Admin/Support/Waste Management	0	0.0%	3.9%	0.00
Educational Services	9	5.2%	9.7%	0.54
Health Care/Social Assistance	29	16.9%	15.1%	1.12
Arts/Entertainment/Recreation	3	1.7%	1.6%	1.06
Accommodation/Food Services	8	4.7%	5.6%	0.84
Other Services (Excluding Public)	12	7.0%	4.6%	1.52
Public Administration	16	9.3%	4.8%	1.94

Occupation	Employed	Percent	US Percent	Location Quotient
Total	172	100.0%	100.0%	-
White Collar	91	52.9%	61.8%	0.86
Management	13	7.6%	10.2%	0.75
Business/Financial	3	1.7%	5.1%	0.33
Computer/Mathematical	3	1.7%	3.0%	0.57
Architecture/Engineering	0	0.0%	2.0%	0.00
Life/Physical/Social Sciences	0	0.0%	0.9%	0.00
Community/Social Service	1	0.6%	1.8%	0.33
Legal	1	0.6%	1.2%	0.50
Education/Training/Library	6	3.5%	6.4%	0.55
Arts/Design/Entertainment	4	2.3%	1.8%	1.28
Healthcare Practitioner	11	6.4%	6.3%	1.02
Sales and Sales Related	11	6.4%	9.7%	0.66
Office/Administrative Support	38	22.1%	13.3%	1.66
Blue Collar	39	22.7%	21.4%	1.06
Farming/Fishing/Forestry	0	0.0%	0.8%	0.00
Construction/Extraction	5	2.9%	5.4%	0.54
Installation/Maintenance/Repair	16	9.3%	3.1%	3.00
Production	3	1.7%	5.9%	0.29
Transportation/Material Moving	15	8.7%	6.1%	1.43
Services	43	25.0%	16.8%	1.48
Healthcare Support	10	5.8%	2.7%	2.15
Protective Service	9	5.2%	2.2%	2.36
Food Preparation/Serving	6	3.5%	4.4%	0.80
Building Maintenance	9	5.2%	3.9%	1.33
Personal Care/Service	9	5.2%	3.6%	1.44

Data Note: Location Quotients compare the industry/occupation share of a local area's employment relative to that same share nationally. A value lower/greater than 1 indicates that the local area is less/more specialized in that industry or occupation category than the US as a whole.

Explore the Esri Labor Force Learn Lesson for more information on how to use and interpret the estimates in this report.

Source: Esri forecasts for 2020 and 2025.

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Community Profile

Study Area
Area: 1.82 square miles

Prepared by Esri

Population Summary	
2000 Total Population	386
2010 Total Population	392
2020 Total Population	405
2020 Group Quarters	3
2025 Total Population	400
2020-2025 Annual Rate	-0.25%
2020 Total Daytime Population	584
Workers	349
Residents	235
Household Summary	
2000 Households	159
2000 Average Household Size	2.41
2010 Households	170
2010 Average Household Size	2.29
2020 Households	178
2020 Average Household Size	2.26
2025 Households	177
2025 Average Household Size	2.25
2020-2025 Annual Rate	-0.11%
2010 Families	102
2010 Average Family Size	2.87
2020 Families	106
2020 Average Family Size	2.83
2025 Families	104
2025 Average Family Size	2.85
2020-2025 Annual Rate	-0.38%
Housing Unit Summary	
2000 Housing Units	192
Owner Occupied Housing Units	55.7%
Renter Occupied Housing Units	27.1%
Vacant Housing Units	17.2%
2010 Housing Units	206
Owner Occupied Housing Units	54.9%
Renter Occupied Housing Units	27.7%
Vacant Housing Units	17.5%
2020 Housing Units	224
Owner Occupied Housing Units	54.0%
Renter Occupied Housing Units	25.4%
Vacant Housing Units	20.5%
2025 Housing Units	230
Owner Occupied Housing Units	51.7%
Renter Occupied Housing Units	24.8%
Vacant Housing Units	23.0%
Median Household Income	
2020	$42,018
2025	$49,320
Median Home Value	
2020	$162,963
2025	$174,038
Per Capita Income	
2020	$24,012
2025	$26,667
Median Age	
2010	44.0
2020	46.9
2025	47.9

Data Note: Household population includes persons not residing in group quarters. Average Household Size is the household population divided by total households. Persons in families include the householder and persons related to the householder by birth, marriage, or adoption. Per Capita Income represents the income received by all persons aged 15 years and over divided by the total population.

Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2020 and 2025 Esri converted Census 2000 data into 2010 geography.

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2020 Households by Income	
Household Income Base	178
<$15,000	18.5%
$15,000 - $24,999	18.5%
$25,000 - $34,999	8.4%
$35,000 - $49,999	8.4%
$50,000 - $74,999	15.2%
$75,000 - $99,999	15.2%
$100,000 - $149,999	12.4%
$150,000 - $199,999	3.4%
$200,000+	0.0%
Average Household Income	$55,134
2025 Households by Income	
Household Income Base	177
<$15,000	16.9%
$15,000 - $24,999	17.5%
$25,000 - $34,999	7.9%
$35,000 - $49,999	7.9%
$50,000 - $74,999	15.3%
$75,000 - $99,999	16.9%
$100,000 - $149,999	13.0%
$150,000 - $199,999	4.0%
$200,000+	0.6%
Average Household Income	$60,801
2020 Owner Occupied Housing Units by Value	
Total	121
<$50,000	8.3%
$50,000 - $99,999	9.1%
$100,000 - $149,999	26.4%
$150,000 - $199,999	22.3%
$200,000 - $249,999	13.2%
$250,000 - $299,999	10.7%
$300,000 - $399,999	6.6%
$400,000 - $499,999	0.0%
$500,000 - $749,999	0.0%
$750,000 - $999,999	2.5%
$1,000,000 - $1,499,999	0.0%
$1,500,000 - $1,999,999	0.0%
$2,000,000 +	0.0%
Average Home Value	$186,667
2025 Owner Occupied Housing Units by Value	
Total	119
<$50,000	7.6%
$50,000 - $99,999	8.4%
$100,000 - $149,999	24.4%
$150,000 - $199,999	21.8%
$200,000 - $249,999	14.3%
$250,000 - $299,999	12.6%
$300,000 - $399,999	9.2%
$400,000 - $499,999	0.0%
$500,000 - $749,999	0.0%
$750,000 - $999,999	3.4%
$1,000,000 - $1,499,999	0.0%
$1,500,000 - $1,999,999	0.0%
$2,000,000 +	0.0%
Average Home Value	$202,066

Data Note: Income represents the preceding year, expressed in current dollars. Household income includes wage and salary earnings, interest dividends, net rents, pensions, SSI and welfare payments, child support, and alimony.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2020 and 2025 Esri converted Census 2000 data into 2010 geography.

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2010 Population by Age	
Total	395
0 - 4	4.8%
5 - 9	4.3%
10 - 14	6.1%
15 - 24	12.7%
25 - 34	10.1%
35 - 44	12.9%
45 - 54	16.2%
55 - 64	13.2%
65 - 74	10.6%
75 - 84	5.8%
85 +	2.3%
18 +	80.0%
2020 Population by Age	
Total	407
0 - 4	4.2%
5 - 9	4.7%
10 - 14	4.9%
15 - 24	9.3%
25 - 34	13.5%
35 - 44	11.1%
45 - 54	13.5%
55 - 64	16.7%
65 - 74	12.5%
75 - 84	7.1%
85 +	2.5%
18 +	83.5%
2025 Population by Age	
Total	402
0 - 4	4.2%
5 - 9	4.5%
10 - 14	5.0%
15 - 24	8.5%
25 - 34	11.2%
35 - 44	13.7%
45 - 54	11.7%
55 - 64	16.2%
65 - 74	14.4%
75 - 84	8.2%
85 +	2.5%
18 +	83.3%
2010 Population by Sex	
Males	188
Females	204
2020 Population by Sex	
Males	194
Females	211
2025 Population by Sex	
Males	191
Females	209

Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2020 and 2025 Esri converted Census 2000 data into 2010 geography.

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2010 Population by Race/Ethnicity	
Total	392
White Alone	94.1%
Black Alone	1.5%
American Indian Alone	0.5%
Asian Alone	0.8%
Pacific Islander Alone	0.0%
Some Other Race Alone	1.0%
Two or More Races	2.0%
Hispanic Origin	5.6%
Diversity Index	20.7
2020 Population by Race/Ethnicity	
Total	405
White Alone	91.9%
Black Alone	2.0%
American Indian Alone	0.7%
Asian Alone	1.2%
Pacific Islander Alone	0.0%
Some Other Race Alone	1.5%
Two or More Races	2.7%
Hispanic Origin	7.4%
Diversity Index	27.2
2025 Population by Race/Ethnicity	
Total	401
White Alone	90.5%
Black Alone	2.2%
American Indian Alone	1.0%
Asian Alone	1.5%
Pacific Islander Alone	0.0%
Some Other Race Alone	1.5%
Two or More Races	3.2%
Hispanic Origin	8.5%
Diversity Index	30.4
2010 Population by Relationship and Household Type	
Total	392
In Households	99.2%
In Family Households	78.3%
Householder	26.0%
Spouse	18.4%
Child	27.0%
Other relative	3.6%
Nonrelative	3.8%
In Nonfamily Households	20.9%
In Group Quarters	0.8%
Institutionalized Population	0.0%
Noninstitutionalized Population	0.8%

Data Note: Persons of Hispanic Origin may be of any race. The Diversity Index measures the probability that two people from the same area will be from different race/ethnic groups.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2020 and 2025 Esri converted Census 2000 data into 2010 geography.

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2020 Population 25+ by Educational Attainment	
Total	313
Less than 9th Grade	1.3%
9th - 12th Grade, No Diploma	13.4%
High School Graduate	26.2%
GED/Alternative Credential	4.8%
Some College, No Degree	31.6%
Associate Degree	10.5%
Bachelor's Degree	8.0%
Graduate/Professional Degree	4.2%
2020 Population 15+ by Marital Status	
Total	349
Never Married	28.7%
Married	50.1%
Widowed	7.7%
Divorced	13.5%
2020 Civilian Population 16+ in Labor Force	
Civilian Population 16+	202
Population 16+ Employed	85.1%
Population 16+ Unemployment rate	14.9%
Population 16-24 Employed	11.6%
Population 16-24 Unemployment rate	31.0%
Population 25-54 Employed	62.2%
Population 25-54 Unemployment rate	13.0%
Population 55-64 Employed	18.0%
Population 55-64 Unemployment rate	11.4%
Population 65+ Employed	8.1%
Population 65+ Unemployment rate	6.7%
2020 Employed Population 16+ by Industry	
Total	172
Agriculture/Mining	0.0%
Construction	5.2%
Manufacturing	8.7%
Wholesale Trade	0.0%
Retail Trade	15.1%
Transportation/Utilities	11.6%
Information	1.7%
Finance/Insurance/Real Estate	8.7%
Services	40.7%
Public Administration	9.3%
2020 Employed Population 16+ by Occupation	
Total	173
White Collar	52.9%
Management/Business/Financial	9.3%
Professional	15.1%
Sales	6.4%
Administrative Support	22.1%
Services	25.0%
Blue Collar	22.7%
Farming/Forestry/Fishing	0.0%
Construction/Extraction	2.9%
Installation/Maintenance/Repair	9.3%
Production	1.7%
Transportation/Material Moving	8.7%

Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2020 and 2025 Esri converted Census 2000 data into 2010 geography.

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2010 Households by Type	
Total	171
Households with 1 Person	32.7%
Households with 2+ People	67.3%
Family Households	59.6%
Husband-wife Families	42.1%
With Related Children	15.2%
Other Family (No Spouse Present)	17.5%
Other Family with Male Householder	5.3%
With Related Children	2.9%
Other Family with Female Householder	12.9%
With Related Children	7.6%
Nonfamily Households	7.6%
All Households with Children	26.5%
Multigenerational Households	2.4%
Unmarried Partner Households	10.6%
Male-female	9.4%
Same-sex	1.2%
2010 Households by Size	
Total	170
1 Person Household	32.9%
2 Person Household	33.5%
3 Person Household	15.9%
4 Person Household	10.6%
5 Person Household	5.3%
6 Person Household	1.2%
7 + Person Household	0.6%
2010 Households by Tenure and Mortgage Status	
Total	170
Owner Occupied	66.5%
Owned with a Mortgage/Loan	41.8%
Owned Free and Clear	24.7%
Renter Occupied	33.5%
2020 Affordability, Mortgage and Wealth	
Housing Affordability Index	124
Percent of Income for Mortgage	16.2%
Wealth Index	47
2010 Housing Units By Urban/ Rural Status	
Total Housing Units	206
Housing Units Inside Urbanized Area	0.0%
Housing Units Inside Urbanized Cluster	24.3%
Rural Housing Units	75.7%
2010 Population By Urban/ Rural Status	
Total Population	392
Population Inside Urbanized Area	0.0%
Population Inside Urbanized Cluster	24.5%
Rural Population	75.5%

Data Note: Households with children include any households with people under age 18, related or not. Multigenerational households are families with 3 or more parent-child relationships. Unmarried partner households are usually classified as nonfamily households unless there is another member of the household related to the householder. Multigenerational and unmarried partner households are reported only to the tract level. Esri estimated block group data, which is used to estimate polygons or non-standard geography.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2020 and 2025 Esri converted Census 2000 data into 2010 geography.

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Top 3 Tapestry Segments	
1.	The Great Outdoors (6C)
2.	Small Town Simplicity (12C)
3.	
2020 Consumer Spending	
Apparel & Services: Total $	$227,892
Average Spent	$1,280.29
Spending Potential Index	60
Education: Total $	$177,106
Average Spent	$994.98
Spending Potential Index	56
Entertainment/Recreation: Total $	$375,881
Average Spent	$2,111.69
Spending Potential Index	65
Food at Home: Total $	$620,553
Average Spent	$3,486.25
Spending Potential Index	65
Food Away from Home: Total $	$412,140
Average Spent	$2,315.39
Spending Potential Index	61
Health Care: Total $	$677,466
Average Spent	$3,805.99
Spending Potential Index	66
HH Furnishings & Equipment: Total $	$236,309
Average Spent	$1,327.58
Spending Potential Index	61
Personal Care Products & Services: Total $	$96,111
Average Spent	$539.95
Spending Potential Index	59
Shelter: Total $	$2,078,010
Average Spent	$11,674.21
Spending Potential Index	60
Support Payments/Cash Contributions/Gifts in Kind: Total $	$294,828
Average Spent	$1,656.34
Spending Potential Index	71
Travel: Total $	$262,749
Average Spent	$1,476.12
Spending Potential Index	61
Vehicle Maintenance & Repairs: Total $	$137,663
Average Spent	$773.39
Spending Potential Index	67

Data Note: Consumer spending shows the amount spent on a variety of goods and services by households that reside in the area. Expenditures are shown by broad budget categories that are not mutually exclusive. Consumer spending does not equal business revenue. Total and Average Amount Spent Per Household represent annual figures. The Spending Potential Index represents the amount spent in the area relative to a national average of 100.
Source: Consumer Spending data are derived from the 2017 and 2018 Consumer Expenditure Surveys, Bureau of Labor Statistics. Esri.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2020 and 2025 Esri converted Census 2000 data into 2010 geography.

December 22, 2020

Dominant Tapestry Map

Area: 1.82 square miles

Prepared by Esri

Tapestry LifeMode

- L1: Affluent Estates
- L2: Upscale Avenues
- L3: Uptown Individuals
- L4: Family Landscapes
- L5: GenXurban
- L6: Cozy Country
- L7: Ethnic Enclaves
- L8: Middle Ground
- L9: Senior Styles
- L10: Rustic Outposts
- L11: Midtown Singles
- L12: Hometown
- L13: Next Wave
- L14: Scholars and Patriots

Source: Esri

December 29, 2020

Dominant Tapestry Map

Study Area
Area: 1.82 square miles

Prepared by Esri

Tapestry Segmentation

Tapestry Segmentation represents the latest generation of market segmentation systems that began over 30 years ago. The 68-segment Tapestry Segmentation system classifies U.S. neighborhoods based on their socioeconomic and demographic composition. Each segment is identified by its two-digit Segment Code. Match the two-digit segment labels on the map to the list below. Click each segment below for a detailed description.

Segment 1A (Top Tier)
Segment 1B (Professional Pride)
Segment 1C (Boomburbs)
Segment 1D (Savvy Suburbanites)
Segment 1E (Exurbanites)
Segment 2A (Urban Chic)
Segment 2B (Pleasantville)
Segment 2C (Pacific Heights)
Segment 2D (Enterprising Professionals)
Segment 3A (Laptops and Lattes)
Segment 3B (Metro Renters)
Segment 3C (Trendsetters)
Segment 4A (Soccer Moms)
Segment 4B (Home Improvement)
Segment 4C (Middleburg)
Segment 5A (Comfortable Empty Nesters)
Segment 5B (In Style)
Segment 5C (Parks and Rec)
Segment 5D (Rustbelt Traditions)
Segment 5E (Midlife Constants)
Segment 6A (Green Acres)
Segment 6B (Salt of the Earth)
Segment 6C (The Great Outdoors)
Segment 6D (Prairie Living)
Segment 6E (Rural Resort Dwellers)
Segment 6F (Heartland Communities)
Segment 7A (Up and Coming Families)
Segment 7B (Urban Villages)
Segment 7C (American Dreamers)
Segment 7D (Barrios Urbanos)
Segment 7E (Valley Growers)
Segment 7F (Southwestern Families)
Segment 8A (City Lights)
Segment 8B (Emerald City)
Segment 8C (Bright Young Professionals)
Segment 8D (Downtown Melting Pot)
Segment 8E (Front Porches)
Segment 8F (Old and Newcomers)
Segment 8G (Hardscrabble Road)
Segment 9A (Silver & Gold)
Segment 9B (Golden Years)
Segment 9C (The Elders)
Segment 9D (Senior Escapes)
Segment 9E (Retirement Communities)
Segment 9F (Social Security Set)
Segment 10A (Southern Satellites)
Segment 10B (Rooted Rural)
Segment 10C (Diners & Miners)
Segment 10D (Down the Road)
Segment 10E (Rural Bypasses)
Segment 11A (City Strivers)
Segment 11B (Young and Restless)
Segment 11C (Metro Fusion)
Segment 11D (Set to Impress)
Segment 11E (City Commons)
Segment 12A (Family Foundations)
Segment 12B (Traditional Living)
Segment 12C (Small Town Simplicity)
Segment 12D (Modest Income Homes)
Segment 13A (International Marketplace)
Segment 13B (Las Casas)
Segment 13C (NeWest Residents)
Segment 13D (Fresh Ambitions)
Segment 13E (High Rise Renters)
Segment 14A (Military Proximity)
Segment 14B (College Towns)
Segment 14C (Dorms to Diplomas)
Segment 15 (Unclassified)

Source: Esri

December 29, 2020

LifeMode Group: Cozy Country Living

Salt of the Earth

6B

Households: 3,545,800

Average Household Size: 2.59

Median Age: 44.1

Median Household Income: $56,300

WHO ARE WE?

Salt of the Earth residents are entrenched in their traditional, rural lifestyles. Citizens here are older, and many have grown children that have moved away. They still cherish family time and also tending to their vegetable gardens and preparing homemade meals. Residents embrace the outdoors; they spend most of their free time preparing for their next fishing, boating, or camping trip. The majority has at least a high school diploma or some college education; many have expanded their skill set during their years of employment in the manufacturing and related industries. They may be experts with DIY projects, but the latest technology is not their forte. They use it when absolutely necessary, but seek face-to-face contact in their routine activities.

OUR NEIGHBORHOOD

- This large segment is concentrated in the Midwest, particularly in Ohio, Pennsylvania, and Indiana.
- Due to their rural setting, households own two vehicles to cover their long commutes, often across county boundaries.
- Home ownership rates are very high (Index 133). Single-family homes are affordable, valued at 25 percent less than the national market.
- Nearly two in three households are com posed of married couples; less than half have children at home.

SOCIOECONOMIC TRAITS

- Steady employment in construction, manufacturing, and related service industries.
- Completed education: 40% with a high school diploma only.
- Household income just over the national median, while net worth is nearly double the national median.
- Spending time with family their top priority.
- Cost-conscious consumers, loyal to brands they like, with a focus on buying American.
- Last to buy the latest and greatest products.
- Try to eat healthy, tracking the nutrition and ingredients in the food they purchase.

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100.
Consumer preferences are estimated from data by GfK MRI.

6B

LifeMode Group: Cozy Country Living

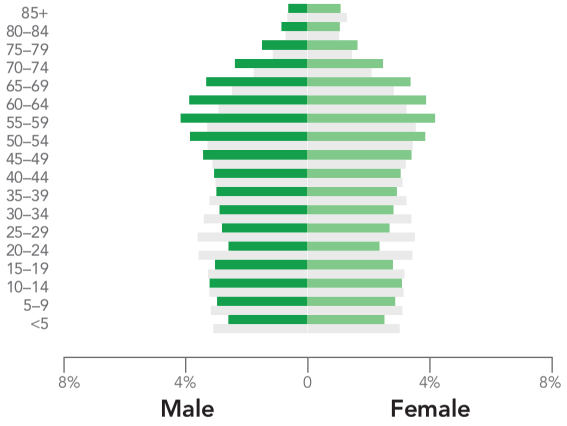
Salt of the Earth

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 44.1 US: 38.2

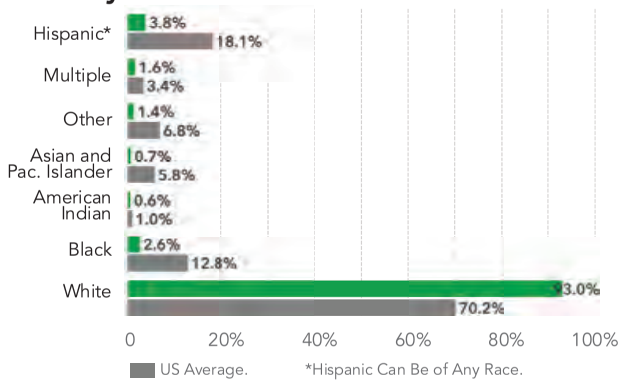
Indicates US



RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: 19.8 US: 64.0

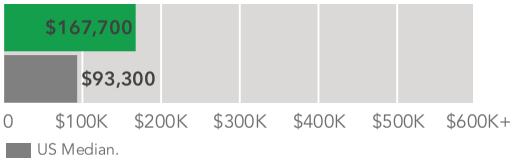


INCOME AND NET WORTH

Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

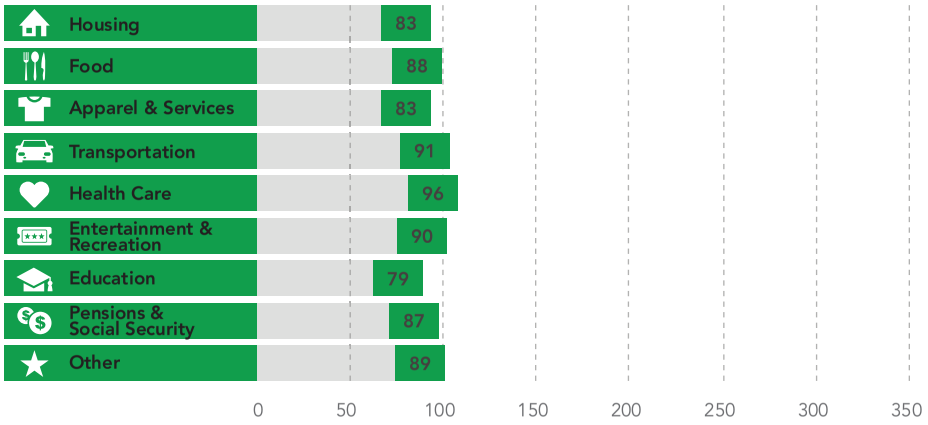
Median Household Income

Median Net Worth



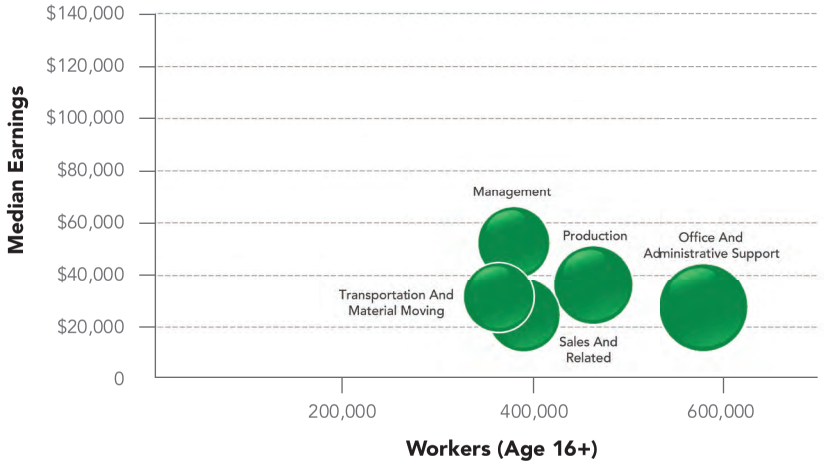
AVERAGE HOUSEHOLD BUDGET INDEX

The index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An index of 100 is average. An index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.



OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.



6B

LifeMode Group: Cozy Country Living

Salt of the Earth

TAPESTRY SEGMENTATION
esri.com/tapestry

MARKET PROFILE (Consumer preferences are estimated from data by GfK MRI)

- Outdoor sports and activities, such as fishing, boating, hunting, and overnight camping trips are popular.
- To support their pastimes, truck ownership is high; many also own an ATV.
- They own the equipment to maintain their lawns and tend to their vegetable gardens.
- Residents often tackle home remodeling and improvement jobs themselves.
- Due to their locale, they own satellite dishes, and have access to high speed internet connections like DSL.
- These conservative consumers prefer to conduct their business in person rather than online. They use an agent to purchase insurance.

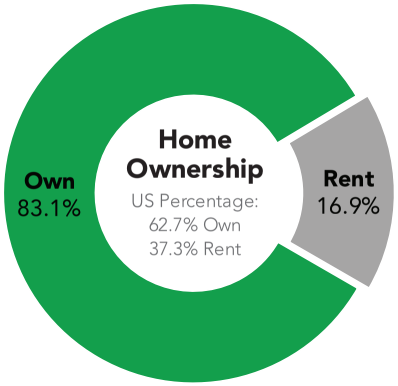
HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Single Family

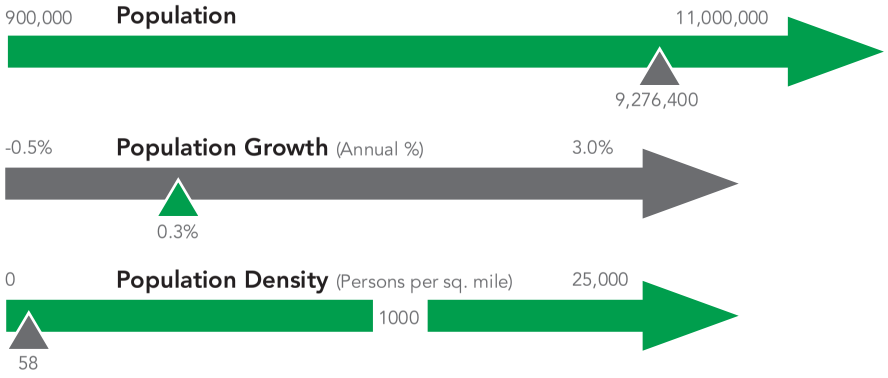
Median Value:
$154,300

US Median: $207,300



POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.



ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

6B

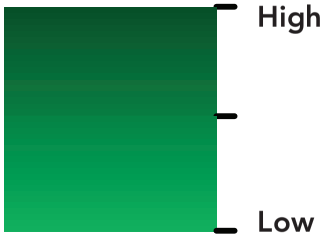
LifeMode Group: Cozy Country Living

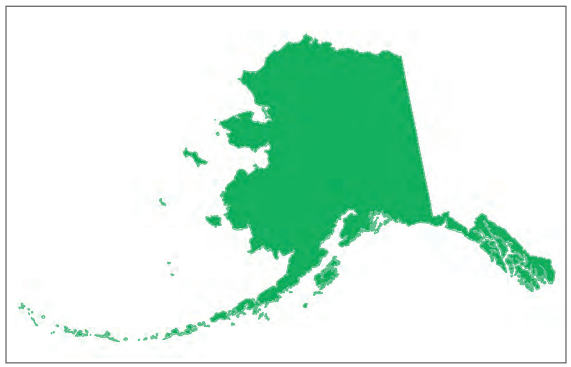
Salt of the Earth

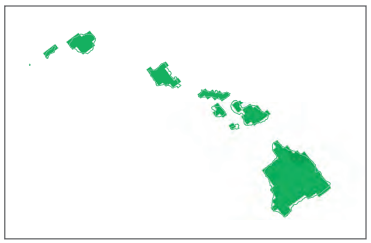
TAPESTRY SEGMENTATION
esri.com/tapestry

SEGMENT DENSITY

This map illustrates the density and distribution of the *Salt of the Earth* Tapestry Segment by households.







G826513
ESRI2C1/20ms

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info@esri.com
esri.com

esri THE SCIENCE OF WHERE™

LifeMode Group: Hometown

Small Town Simplicity

12C

Households: 2,305,700

Average Household Size: 2.26

Median Age: 40.8

Median Household Income: $31,500

WHO ARE WE?

Small Town Simplicity includes young families and senior householders that are bound by community ties. The lifestyle is down-to-earth and semirural, with television for entertainment and news, and emphasis on convenience for both young parents and senior citizens. Residents embark on pursuits including online computer games, renting movies, indoor gardening, and rural activities like hunting and fishing. Since 1 in 4 households is below poverty level, residents also keep their finances simple—paying bills in person and avoiding debt.

OUR NEIGHBORHOOD

- They reside in small towns or semirural neighborhoods, mostly outside metropolitan areas.
- Homes are a mix of older single-family houses (61%), apartments, and mobile homes.
- Half of all homes are owner-occupied (Index 79).
- Median home value of $92,300 is about half the US median.
- Average rent is $639 (Index 62).
- This is an older market, with half of the householders aged 55 years or older, and predominantly single-person households (Index 139).

SOCIOECONOMIC TRAITS

- Education: 67% with high school diploma or some college.
- Unemployment higher at 7.7% (Index 141).
- Labor force participation lower at 52% (Index 83), which could result from lack of jobs or retirement.
- Income from wages and salaries (Index 83), Social Security (Index 133) or retirement (Index 106), increased by Supplemental Security Income (Index 183).
- Price-conscious consumers that shop accordingly, with coupons at discount centers.
- Connected, but not to the latest or greatest gadgets; keep their landlines.
- Community-orientated residents; more conservative than middle-of-the-road.
- Rely on television or newspapers to stay informed.

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100.
Consumer preferences are estimated from data by GfK MRI.

12C

LifeMode Group: Hometown

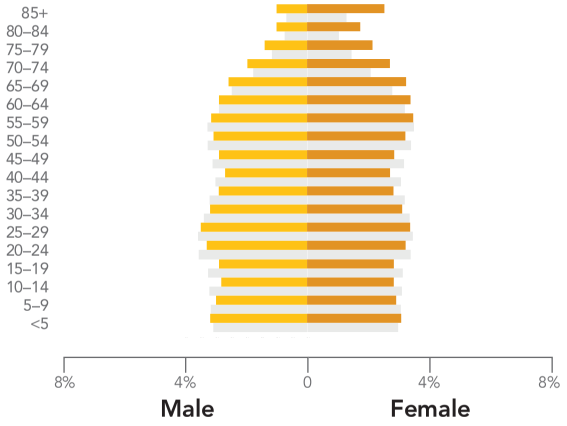
Small Town Simplicity

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 40.8 US: 38.2

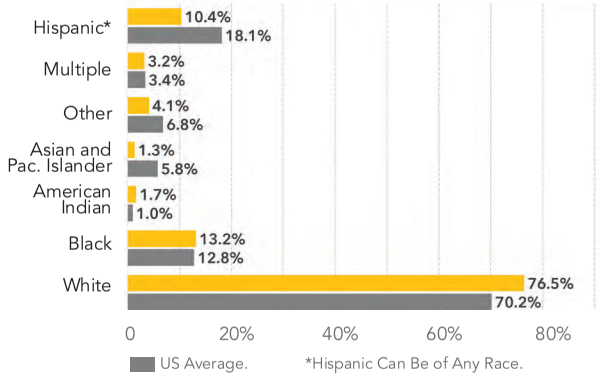
Indicates US



RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: 51.0 US: 64.0



INCOME AND NET WORTH

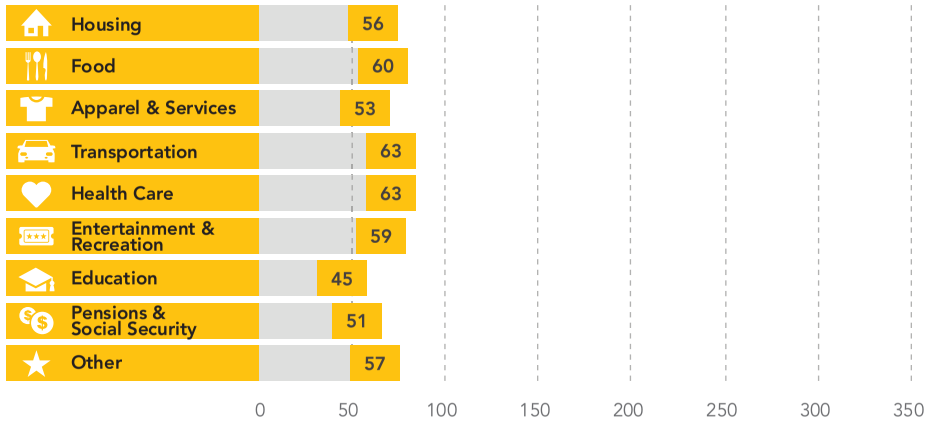
Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

Median Net Worth

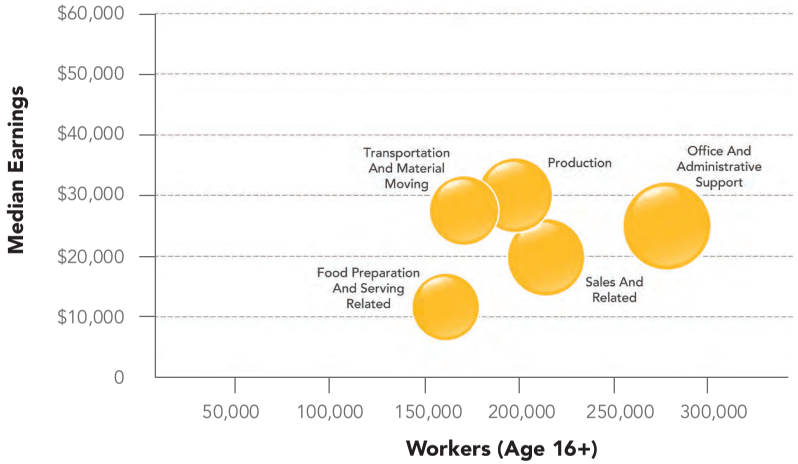
AVERAGE HOUSEHOLD BUDGET INDEX

The index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An index of 100 is average. An index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.



OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.



12C

LifeMode Group: Hometown

Small Town Simplicity

TAPESTRY SEGMENTATION
esri.com/tapestry

MARKET PROFILE (Consumer preferences are estimated from data by GfK MRI)

- *Small Town Simplicity* features a semirural lifestyle, complete with trucks and SUVs (domestic, of course), ATVs, and vegetable gardens.
- Residents enjoy outdoor activities like hunting and fishing as well as watching NASCAR and college football and basketball on TV.
- A large senior population visit doctors and health practitioners regularly.
- However, a largely single population favors convenience over cooking—frozen meals and fast food.
- Home improvement is not a priority, but vehicle maintenance is.

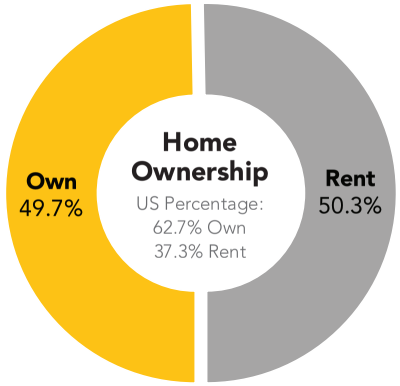
HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Single Family

Median Value:
$92,300

US Median: $207,300



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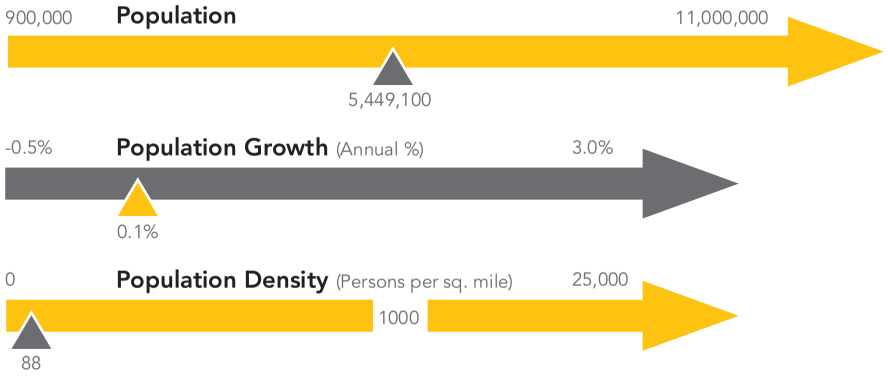


ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

12C

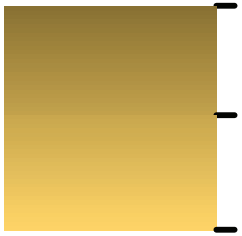
LifeMode Group: Hometown

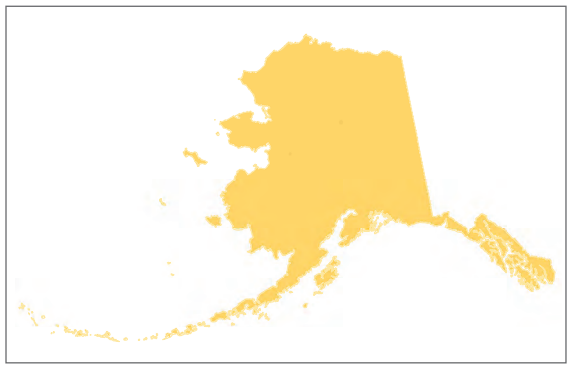
Small Town Simplicity

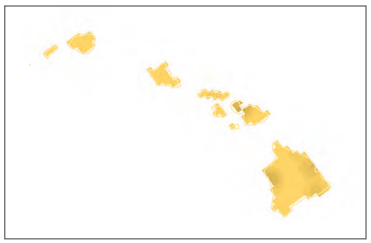
TAPESTRY SEGMENTATION
esri.com/tapestry

SEGMENT DENSITY

This map illustrates the density and distribution of the *Small Town Simplicity* Tapestry Segment by households.







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ESRI2C1/20ms

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esri THE SCIENCE OF WHERE™

LifeMode Group: Cozy Country Living

The Great Outdoors

6C

Households: 1,908,600

Average Household Size: 2.44

Median Age: 47.4

Median Household Income: $56,400

WHO ARE WE?

These neighborhoods are found in pastoral settings throughout the United States. Consumers are educated empty nesters living an active but modest lifestyle. Their focus is land. They are more likely to invest in real estate or a vacation home than stocks. They are active gardeners and partial to homegrown and home-cooked meals. Although retirement beckons, most of these residents still work, with incomes slightly above the US level.

TAPESTRY SEGMENTATION
esri.com/tapestry

OUR NEIGHBORHOOD

- Over 55% of households are married-couple families; 36% are couples with no children living at home.
- Average household size is slightly smaller at 2.44.
- Typical of areas with rustic appeal, the housing inventory features single-family homes (77%) and mobile homes (15%); a significant inventory of seasonal housing is available (Index 397).
- Residents live in small towns and rural communities throughout the West, South, and Northeast regions of the country.
- More than half of all homes were constructed between 1970 and 2000.
- Most households have one or two vehicles; average travel time to work is slightly higher (28 minutes) despite a disproportionate number that work from home (Index 149).

SOCIOECONOMIC TRAITS

- 60% have attended college or hold a degree.
- Unemployment is lower at 4.8% (Index 88), but so is labor force participation at 60%.
- Typical of neighborhoods with older residents, income from retirement and Social Security is common, but residents also derive income from self-employment and investments.
- Residents are very do-it-yourself oriented and cost conscious.
- Many service their own autos, work on home improvement and remodeling projects, and maintain their own yards.
- They prefer domestic travel to trips abroad.

Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100.
Consumer preferences are estimated from data by GfK MRI.

6C

LifeMode Group: Cozy Country Living

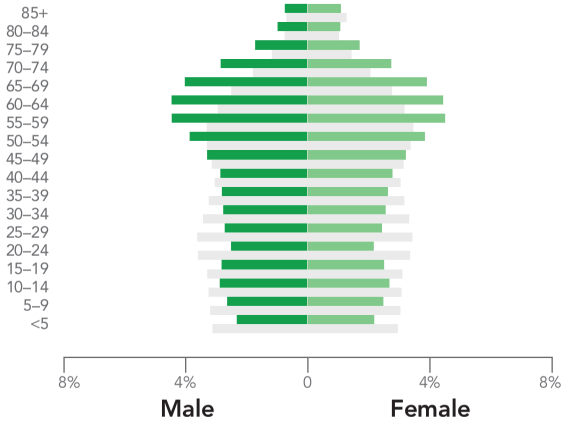
The Great Outdoors

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 47.4 US: 38.2

Indicates US



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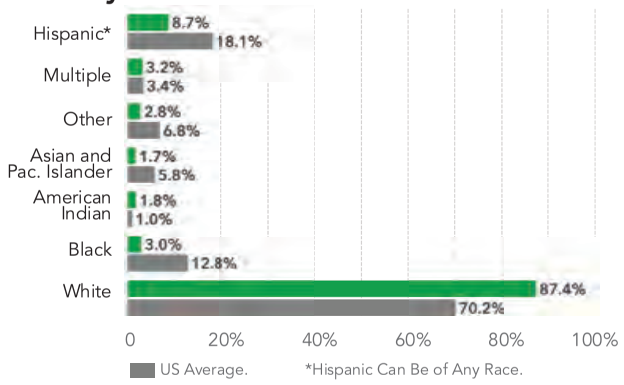

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Median Household Income

Median Net Worth

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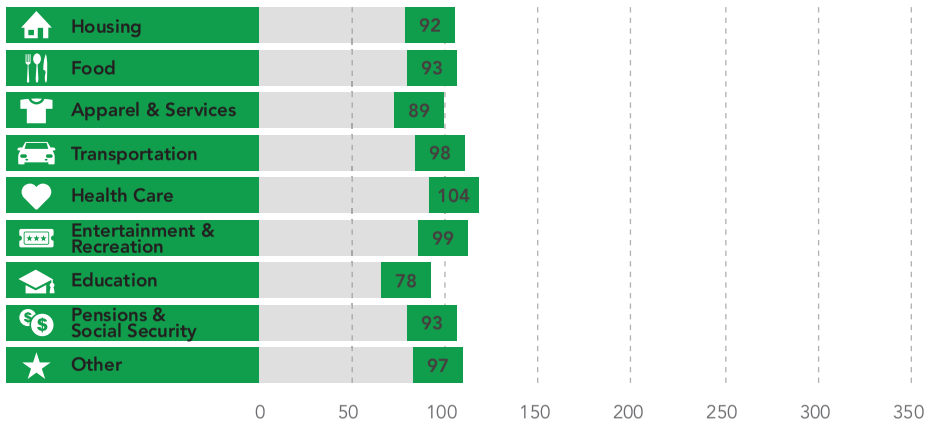

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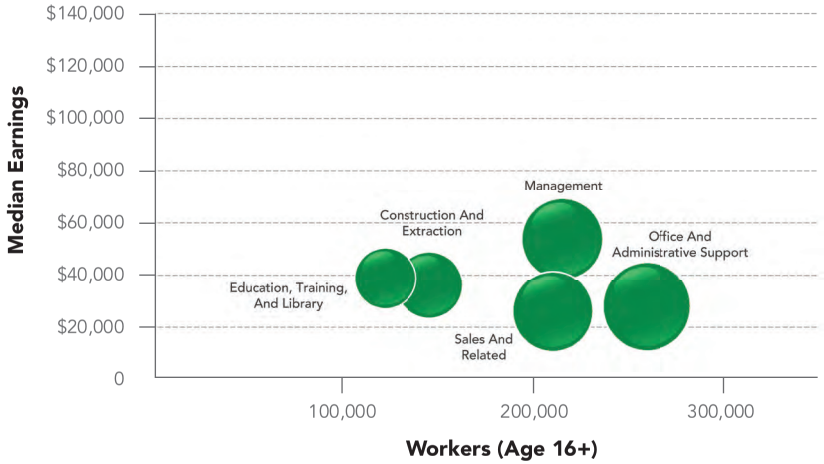


6C

LifeMode Group: Cozy Country Living

The Great Outdoors

TAPESTRY SEGMENTATION
esri.com/tapestry

MARKET PROFILE (Consumer preferences are estimated from data by GfK MRI)

- Satellite dishes and riding lawn mowers are familiar sights in these rural settings, along with multiple vehicles; four-wheel drive trucks are popular, too.
- Residents are members of AARP and veterans' clubs and support various civic causes.
- Technology is not central in their lives: light use of Internet connectivity for shopping to entertainment.
- Most households have pets—dogs or cats.
- Television channels such as CMT, History, and Fox News are popular.
- They enjoy outdoor activities such as hiking, hunting, fishing, and boating.

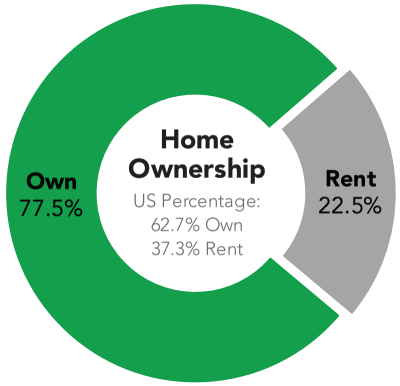
HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Single Family

Median Value:
$239,500

US Median: $207,300



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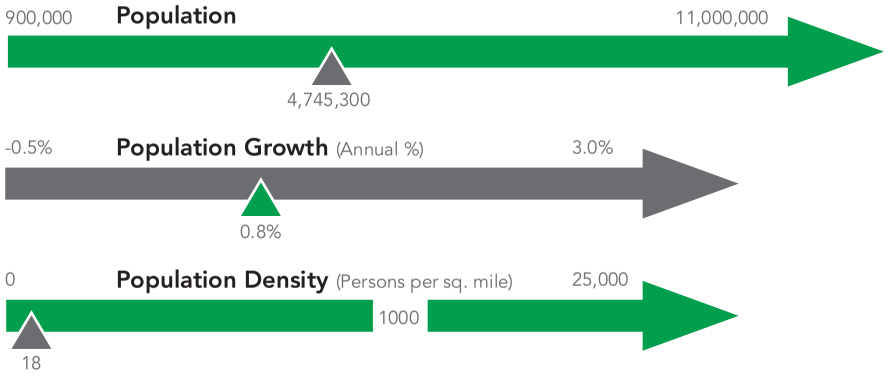

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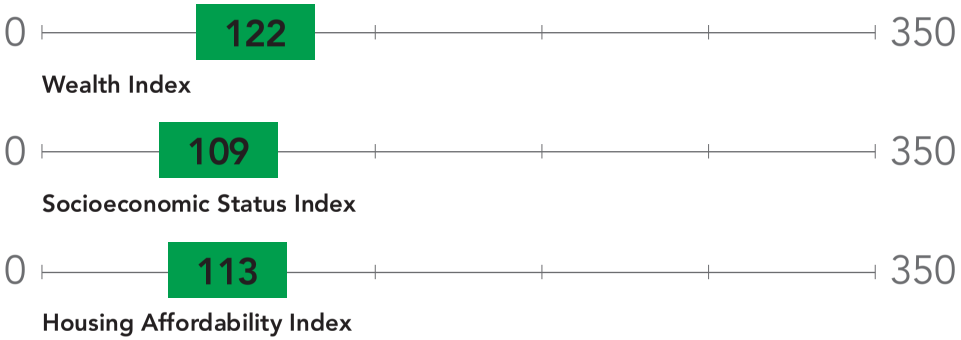

6C

LifeMode Group: Cozy Country Living

The Great Outdoors

TAPESTRY SEGMENTATION
esri.com/tapestry

SEGMENT DENSITY

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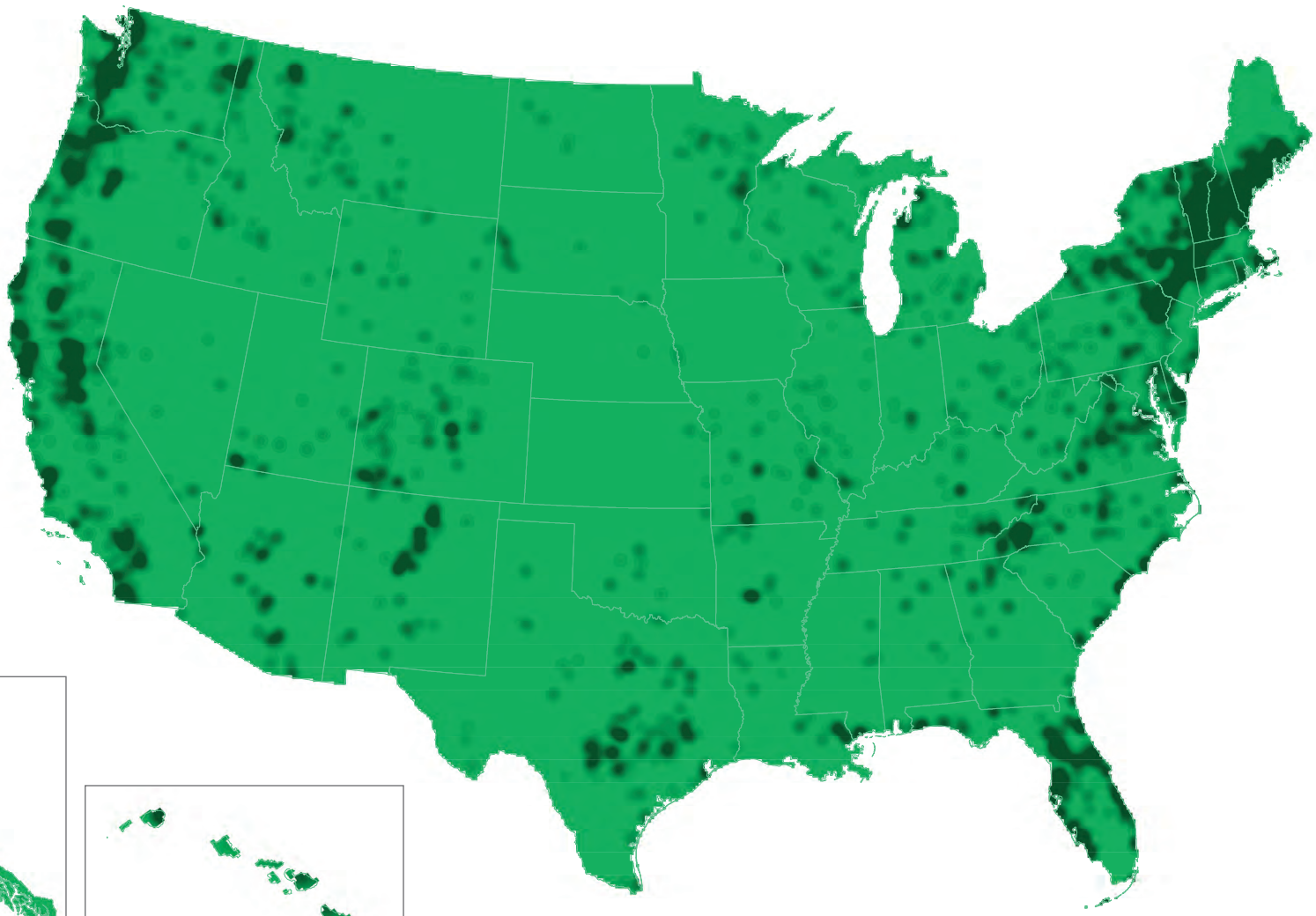

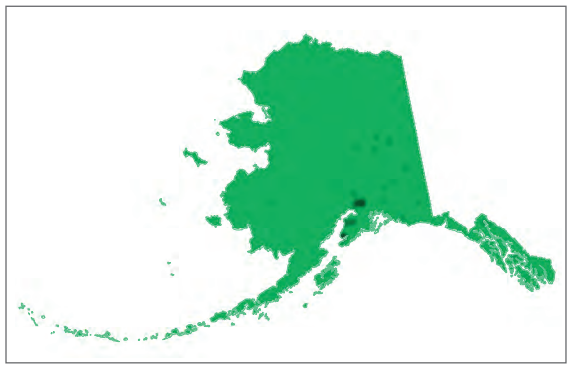

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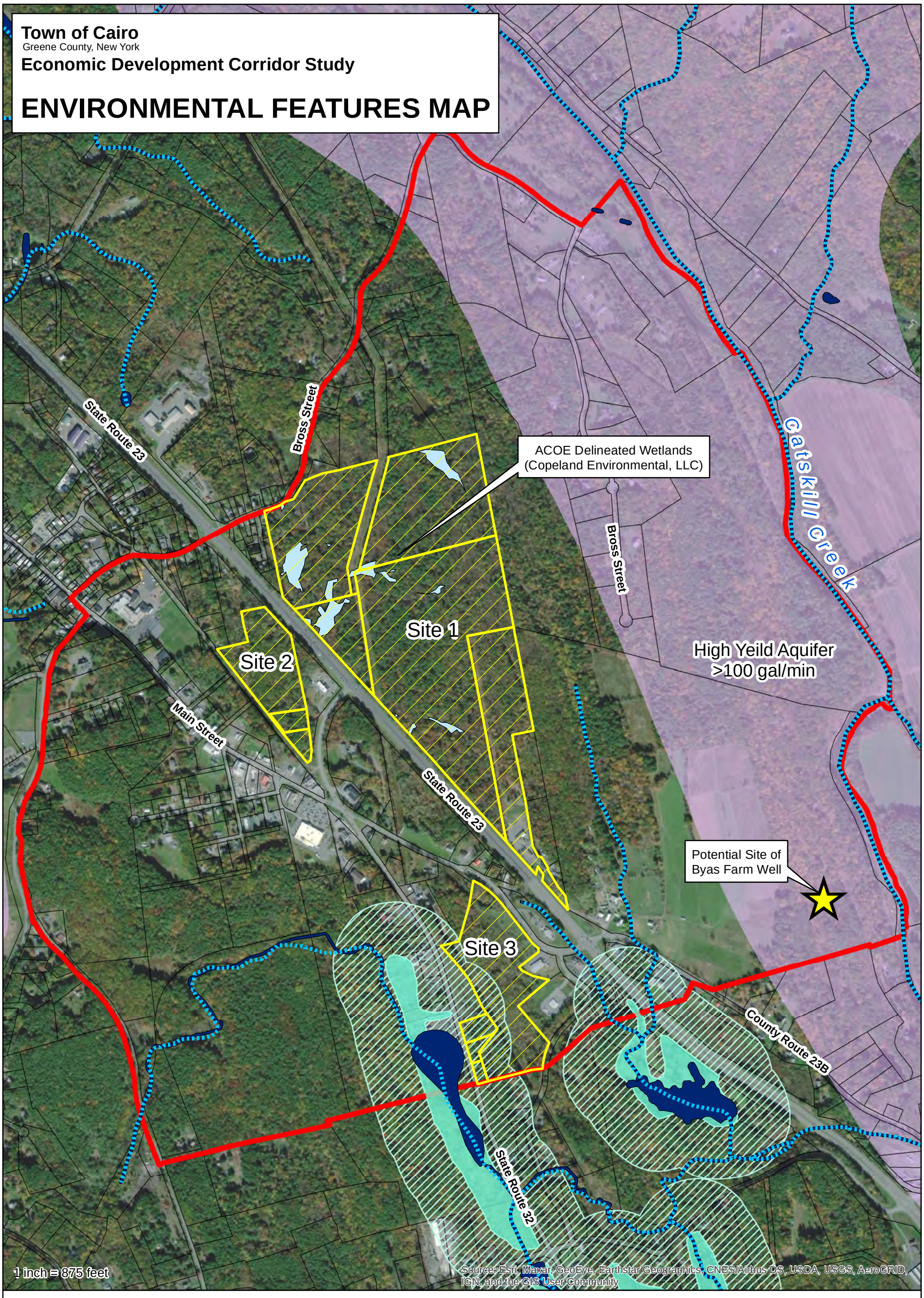
Attachment 9. Environmental Features Map

Town of Cairo
Greene County, New York
Economic Development Corridor Study

ENVIRONMENTAL FEATURES MAP



Legend

- Economic Development Corridor Study Area
- Economic Development Study Parcels
- Cairo Parcels

Environmental Features

- Schneider Delineated Wetlands
- Streams
- NWI Wetlands
- Aquifers
- NYSDEC Wetlands
- NYSDEC Wetland Checkzones

N

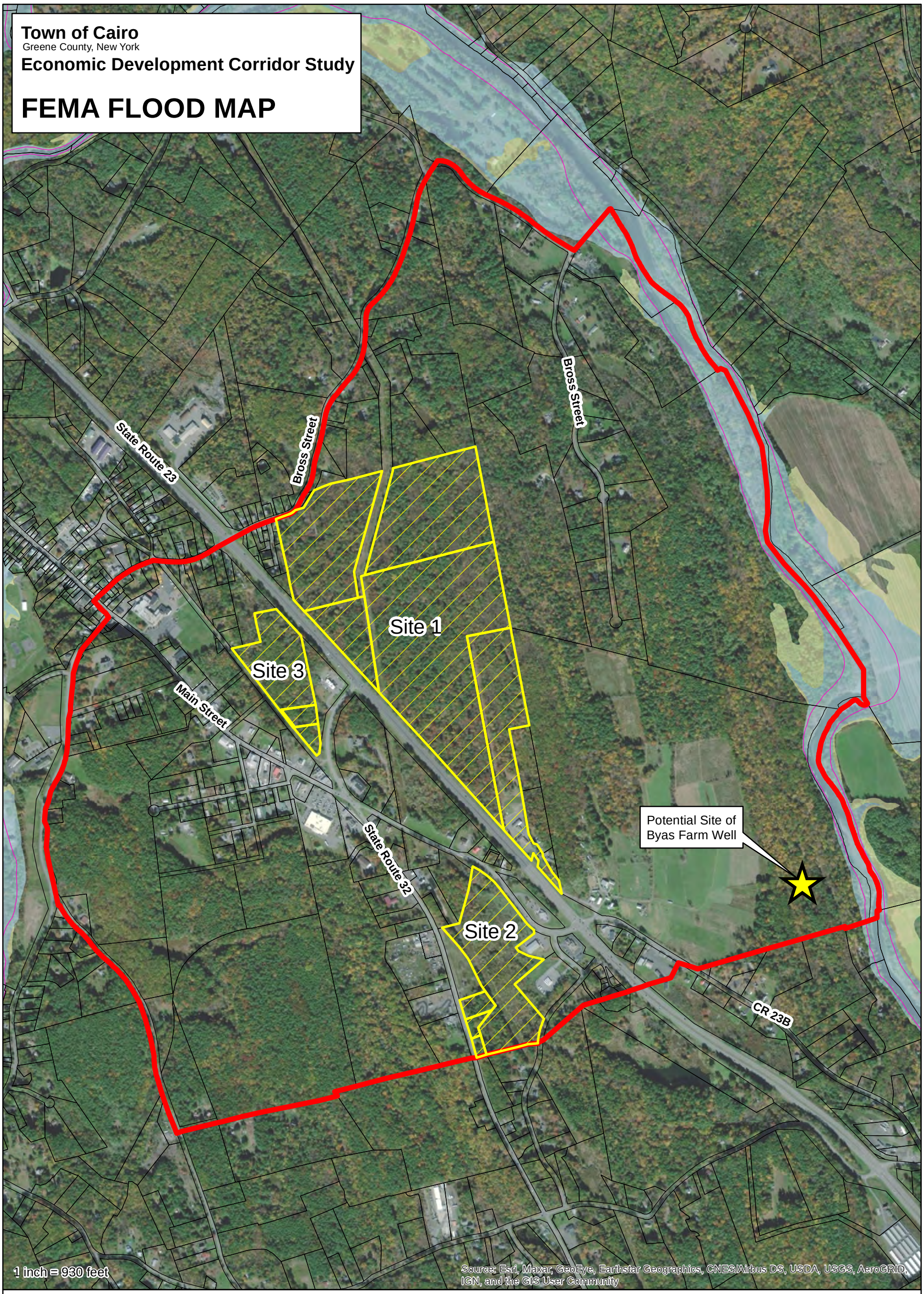
0 500 1,000 1,500 2,000
Feet

Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: Greene County RPS Parcel Data;
NYS Civil Boundaries; NWI Wetlands; NYSDEC Wetlands;
Economic Development Corridor Study Area;
NYS Aquifer Data; NYS Classified Streams

Attachment 10. FEMA Flood Map

Town of Cairo
Greene County, New York
Economic Development Corridor Study

FEMA FLOOD MAP



Legend
- Economic Development Corridor Study Area
- Economic Development Study Parcels
- Cairo Parcels

FEMA Flood Data
- Floodway
- 100-Year Flood Zone (A)
- 500-Year Flood Zone (Z)

N

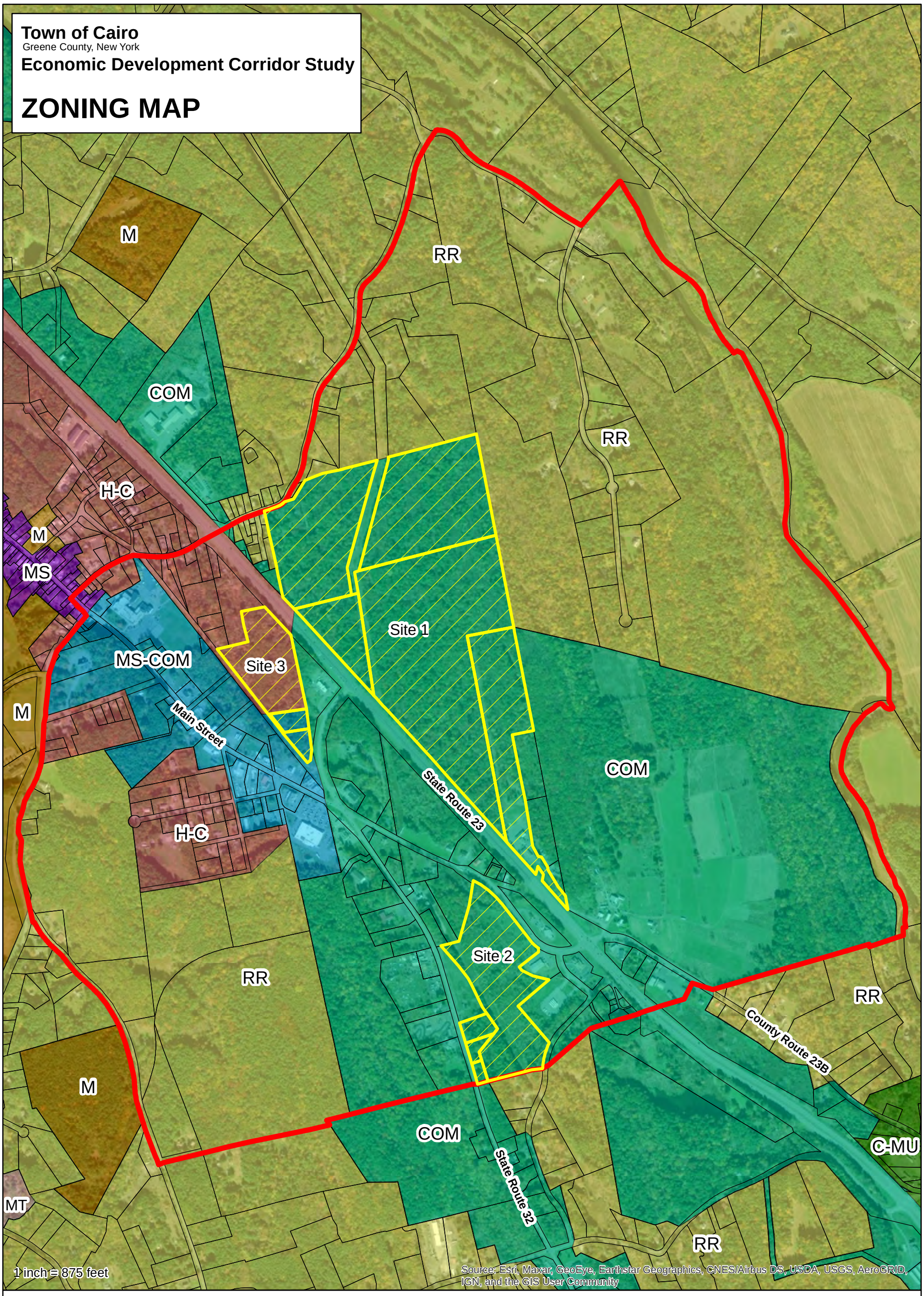
0 280 560 840 1,120
Feet

Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: Greene County RPS Parcel Data; NYS Civil Boundaries; FEMA Flood Maps; Economic Development Corridor Study Area

Attachment 11. Economic Development Corridor Study Zoning Map

Town of Cairo
Greene County, New York
Economic Development Corridor Study

ZONING MAP



Legend

- Economic Development Corridor Study Area
- Economic Development Study Parcels
- Cairo Parcels

Cairo Zoning

- CMU: Commercial Mixed Use
- COM: Commercial
- HC: Hamlet Cairo
- M: Municipal
- MS: Main Street
- MSCOM: Main Street Commercial
- MT: Mountain District
- RR: Rural Residential

N

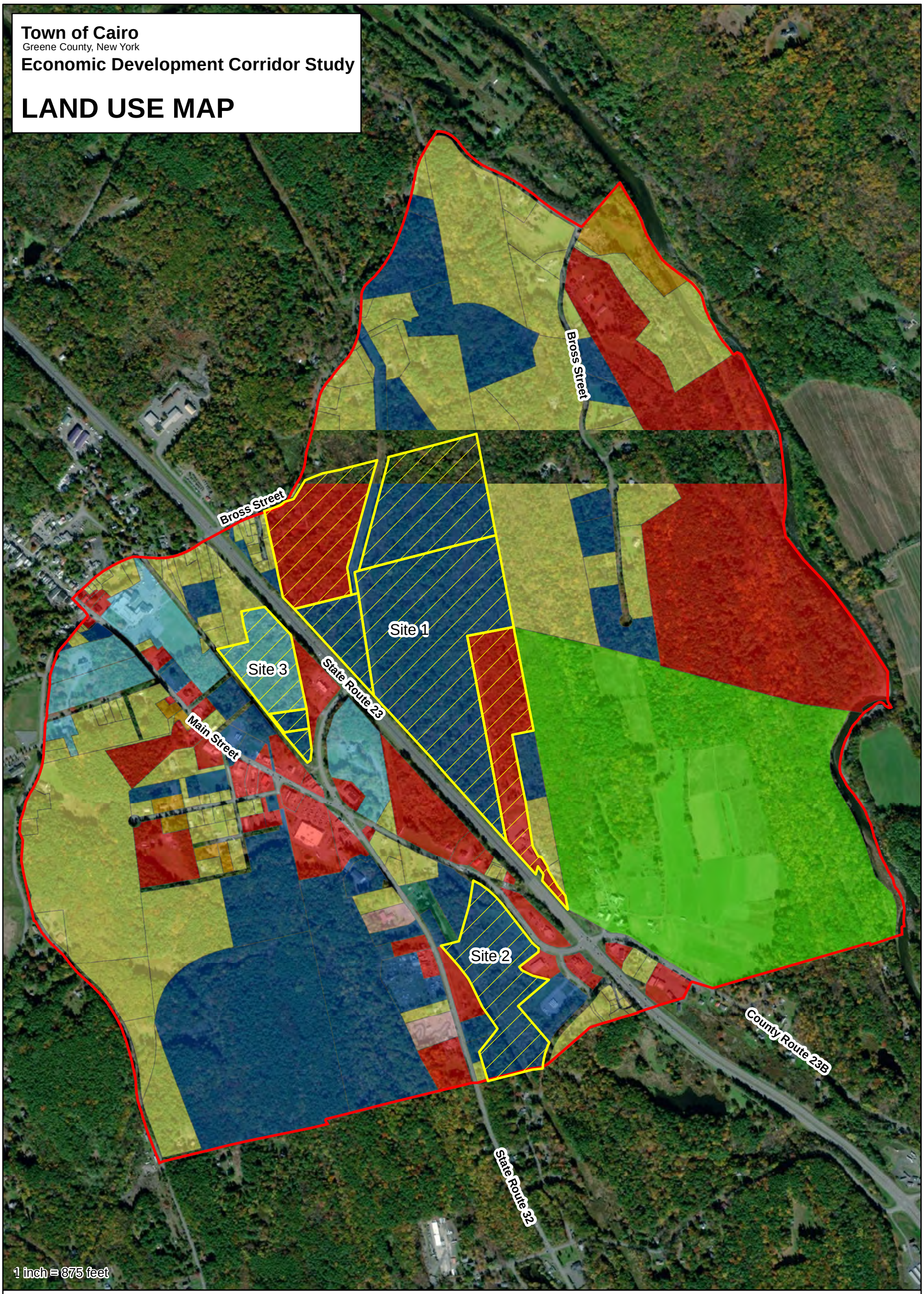
0 260 520 780 1,040
Feet

Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: Greene County RPS Parcel Data; Town of Cairo Zoning 2017; NYS Civil Boundaries; Economic Development Corridor Study Area

Attachment 12. Economic Development Corridor Study Land Use Map

Town of Cairo
Greene County, New York
Economic Development Corridor Study

LAND USE MAP



Legend

- Economic Development Corridor Study Area
- Economic Development Study Parcels
- Cairo Parcels

RPS Property Class

- Agricutural - 100
- Residential - 200
- Vacant - 300
- Apartments - 411
- Commercial - 400
- Rec. & Entertainment - 500
- Community Services - 600
- Public Services - 800

N

0 260 520 780 1,040
Feet

Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: Greene County RPS Parcel Data;
NYS Civil Boundaries;
Economic Development Corridor Study Area

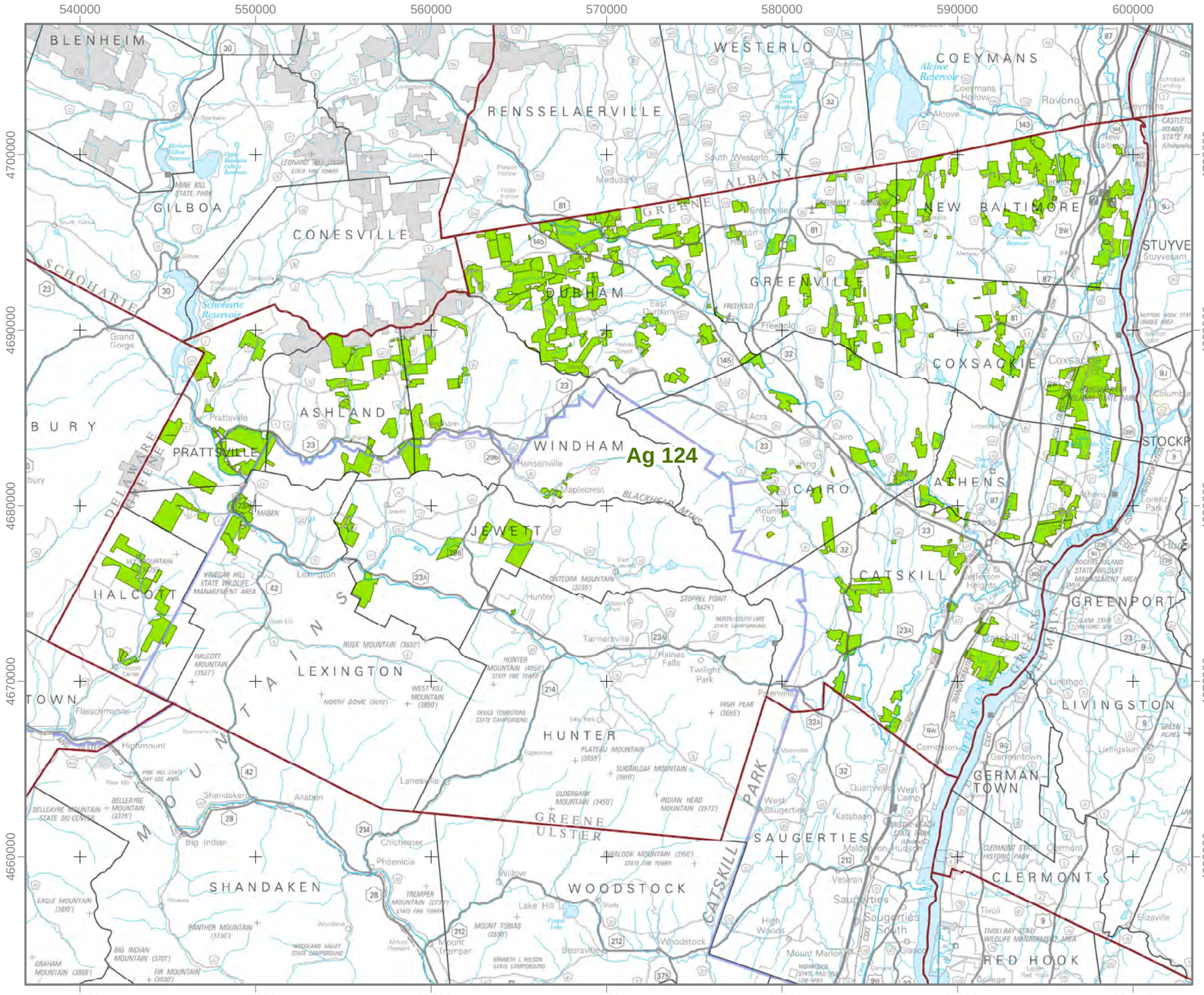
Attachment 13. Greene County Agricultural District Map

New York State Dept of Agriculture and Markets

Agricultural Districts 2013

GREENE COUNTY

Attachment 13



MAP PROJECTION
UTM Zone 18, NAD83 meters

5 4 3 2 1 0 5 miles
10,000 5,000 0 10,000 meters

KEY

Ag. District 124

DISTRICT CERTIFICATION and TOWNS

DISTRICT 124
CERTIFIED 4/27/2012
Ashland
Athens
Cairo
Catskill
Coxsackie
Durham
Greenville
Halcott
Hunter
Jewett
Lexington
New Baltimore
Prattsville
Windham

MAP SOURCE INFORMATION

Map created at Cornell IRIS (Institute for Resource Information Sciences) <http://iris.css.cornell.edu> for the NYS Department of Agriculture and Markets

Agricultural Districts boundary data is available at CUGIR (Cornell University Geospatial Information Repository) website: <http://cugir.mannlib.cornell.edu>

Base Map: state250_bw.tif 1998 Scale: 1:250,000; County boundaries imported from the file nyshore.e00 from the NYSGIS Clearinghouse website: <http://gis.ny.gov>

DISCLAIMER
This is a general reference to Agricultural District boundaries; not a legal substitute for actual tax parcel information.

Boundaries as certified prior to January 2013

Open Enrollment Annual Additions are not included in this data. Check with county agencies to confirm the status of individual parcels.

Attachment 13

Attachment 14. Economic Development Site #1: Schneider Conceptual Plan

Town of Cairo
Greene County, New York

Economic Development Corridor Study

Economic Dev't. Site 1

Parcel Number	Property Class	Zoning	Size (Acres)
101.00-2-38	323 - Rural Vacant	Commerical (COM)	6.83
101.00-2-13.2	465 - Commercial Professional Building	Commerical (COM)	17.2
101.00-2-37.1	330 - Commercial Vacant	Commerical (COM)	54.2
101.00-2-12	322 - Residential Vacant	Commerical (COM)	22.57
101.06-3-13	416 - Commerical Mobile Home	Commerical (COM)	21.4

Water Infrastructure Extension Required from Bross Street

Bross Street

101.06-3-13

101.00-2-12

Potential Light Industrial Building/Warehouse 1 Story, 480,000 sf

101.00-2-37.1

101.00-2-38

Potential Parking Area 500+ Potential Parking Spaces

Sewer Infrastructure Extension Required across Route 23

State Route 23

101.00-2-13.2

Main Street

State Route 32

Site 1 Economic Opportunities:

-Manufacturing/Assembly
-Warehousing
-Single Owner for Coordination
-Flexible Mixed-Use Scale Site
-Accommodates Large, Medium & Smaller Projects
-Accommodates Small Low-Impact Projects
-Minimal Environmental Issues
-Highly Convenient Distance to NYS Route 23 Access
-Highly Convenient Distance to I-87 Access
-Adjacent to Public Sewer
-Close Proximity to Public Water
-Some Parcels are within the Water District
-Significant Road Frontage
-Zoned Commercial (COM)

New York State, Maxar, Microsoft

1 inch = 500 feet

Legend

- Economic Development Corridor Study Area
- Economic Development Study Parcels
- Cairo Parcels

Infrastructure

- Water Lines
- Sewer Lines

N

0 250 500 750 1,000
Feet

Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: Greene County RPS Parcel Data;
NYS Civil Boundaries; Town of Cairo Water & Sewer Data;
Economic Development Corridor Study Area;

Attachment 15. Economic Development Site #2: Buel Conceptual Plan

Town of Cairo
Greene County, New York
Economic Development Corridor Study
Economic Dev't. Site 2

Parcel Number	Property Class	Zoning	Size (Acres)
101.00-4-16.12	330 - Commercial Vacant	Commerical (COM)	1.34
101.00-4-16.2	330 - Commercial Vacant	Commerical (COM)	0.69
101.00-4-15	270 - Residential Mobile Home	Commerical (COM)	0.42
101.00-4-29.22	330 - Commercial Vacant	Commerical (COM)	21.6

Water & Sewer Infrastructure Extensions required along Main Street

Potential Parking Area
110,000 Square Feet
600+ Potential Parking Spaces

Main Street

State Route 32

State Route 23

Potential Mixed Use
Residential/Commercial Building
Up to 2 Stories
60,000 Square Feet

101.00-4-29.22

Potential Solar Array

101.00-4-16.12

101.00-4-16.2

101.00-4-15

Site 1 Economic Opportunities:

-Commercial
-Office/Supportive Space
-Hospitality
-Single Owner for Coordination
-Flexible Mixed-Use Scale Site
-Accommodates Medium & Smaller Projects
-Accommodates Small Low-Impact Projects
-Minimal Environmental Issues
-Highly Convenient Distance to NYS Route 23 Access
-Highly Convenient Distance to I-87 Access
-Significant Road Frontage
-Zoned Commercial (COM)

New York State, Maxar, Microsoft

1:2,400

Legend
- Economic Development Corridor Study Area
- Economic Development Study Parcels
- Cairo Parcels

Infrastructure
- Water Lines
- Sewer Lines

N

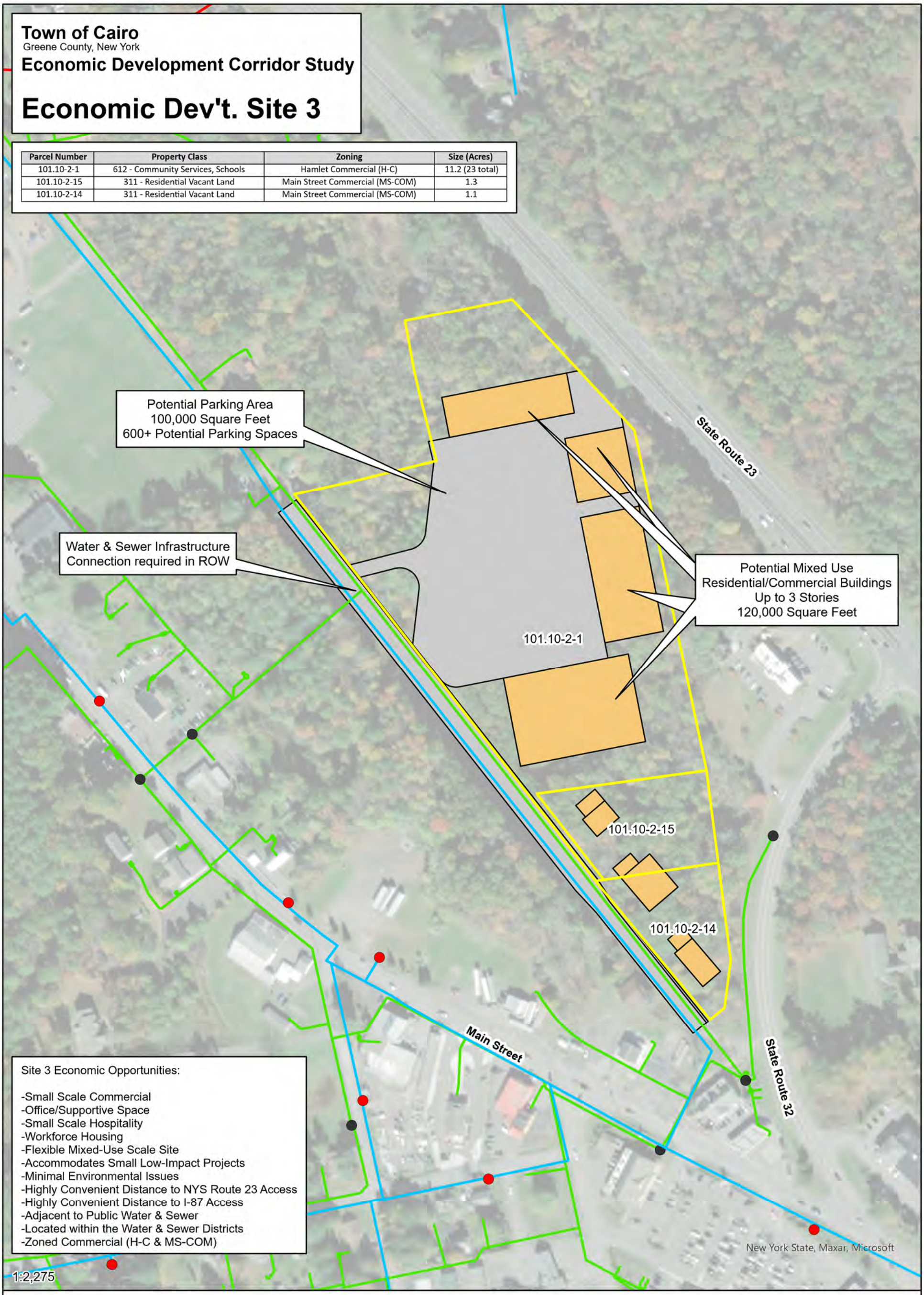
0 100 200 300
Feet

Prepared by: Delaware Engineering, D.P.C
Date: December 2020
Source: Greene County RPS Parcel Data; NYS Civil Boundaries; NWI Wetlands; Economic Development Corridor Study Area; NYSDEC Wetlands; NYSDEC Checkzones; NYS Classified Streams.

Attachment 16. Economic Development Site #3: School-Owned/Miller Conceptual Plan

Town of Cairo
Greene County, New York
Economic Development Corridor Study
Economic Dev't. Site 3

Parcel Number	Property Class	Zoning	Size (Acres)
101.10-2-1	612 - Community Services, Schools	Hamlet Commercial (H-C)	11.2 (23 total)
101.10-2-15	311 - Residential Vacant Land	Main Street Commercial (MS-COM)	1.3
101.10-2-14	311 - Residential Vacant Land	Main Street Commercial (MS-COM)	1.1



Legend
- Economic Development Corridor Study Area
- Economic Development Study Parcels
- Cairo Parcels

Infrastructure
- Water Lines
- Sewer Lines

N

0 190 380 570
Feet

Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: Greene County RPS Parcel Data;Economic Development Corridor Study Area; NYS Civil Boundaries; Town of Cairo Water and Sewer Data

Attachment 17. Water System Map

Town of Cairo Water Map

Infrastructure, Districts, and Taxing Parcels

Prepared by: Delaware Engineering DPC, Nov 2017
Source: NYS Digital Orto Imagery Spring 2016
Green County 2017 Tax Parcels
Utility Infrastructure Base Map
NYSDEC Unconsolidated Aquifers

Legend

- Existing Well
- Test Well
- DEC Well
- Test Well Site
- Water District
- Water Valves
- Fire Hydrants
- Potential New Water Main
- Water Main
- Cairo Parcels
- Surface Water

Aquifer Yield

- 10-100 gal/min
- >100 gal/min
- Unknown

Town of Cairo Water District

Drawn By:

Sheet No.
CW1

Checked by:

Date:

Attachment 18. Byas Farm Well Site Map

Town of Cairo
Greene County, New York
Economic Development Corridor Study

Byas Farm Well Site

Town of Cairo
Existing Water & Sewer Systems

Main Street
State Route 32
State Route 23
County Route 23B

Proposed Water Main Extension
Location: Southwest side of Main Street
Diameter: 12-Inch Ductile Iron Pipe
Length: 5,300 Feet
Directional Bore Under Highway

High Yeild Aquifer
>100 gal/min

Potential Site of
Byas Farm Well

Catskill Creek

1 inch = 425 feet

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Economic Development Corridor Study Area
- Cairo Parcels
- Byas Farm Parcel

Environmental Features
- Aquifers

Infrastructure
- Water Lines
- Sewer Lines
- Sewer Pump Station

N

0 425 850
Feet

Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: Greene County RPS Parcel Data; NYS Civil Boundaries; NWI Wetlands; Economic Development Corridor Study Area; NYSDEC Wetlands; NYSDEC Checkzones; NYS Aquifers; NYS Classified Streams; Town of Cairo Water and Sewer Data

Attachment 19. Cedar Terrace Well Site Map

Town of Cairo
Greene County, New York
Economic Development Corridor Study

Cedar Terrace Well Site

Parcel No.: 101.00-1-2.2
Size: 7.9 Acres
Property Class: 411, Commercial/Apartments

Cedar Terrace Well

Aquifer
Unknown Yeild

Jerome Avenue
Shingle Kill Creek
County Route 84
County Route 85
Main Street
Main Street

1 inch = 125 feet

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

Cairo Parcels
Cedar Terrace Well Parcel

Environmental Features
Streams
NWI Wetlands
Aquifers

Infrastructure
Water Lines
Sewer Lines

N

0 125 250
Feet

Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: Greene County RPS Parcel Data; NYS Civil Boundaries; NWI Wetlands; Economic Development Corridor Study Area; NYS Aquifers; NYS Classified Streams; Town of Cairo Water and Sewer Data

Attachment 20. Reservoir Well Site Map

Town of Cairo
Greene County, New York
Economic Development Corridor Study

Reservoir Well Site

Reservoir

Aquifer
Yeild Unknown

Parcel: 83.00-5-10
Owner: Town of Cairo
Size: 26.7 Acres
Prop. Class: 822, Public Services/Water Supply

Town of Cairo
Water Storage Tank

State Route 23
Main Street
State Route 145
County Route 84

1 inch = 350 feet

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

Cairo Parcels
Reservoir Well Parcel

Environmental Features
Aquifers

Infrastructure
Water Lines

N

0 350 700
Feet

Prepared by: Delaware Engineering, D.P.C.
Date: December 2020
Source: Greene County RPS Parcel Data; NYS Civil Boundaries; NYS Aquifers; Town of Cairo Water and Sewer Data

Attachment 21. Sewer System Map

0 125 250 500 750 1,000 Feet

Cairo Water Sewer

Infrastructure, Districts, and Taxing Parcels

Legend

- Wastewater Lines
- Sewer District
- Distict Extension
- Sewer Manhole
- Cleanouts
- Cairo Parcels

Prepared by: Delaware Engineering DPC, Nov 2017
Source: NYS Digital Orto Imagery Spring 2016
Green County 2017 Tax Parcels
Utility Infrastructure Base Map
NYSDEC Unconsolidated Aquifers

Town of Cairo Sewer District

Drawn By:

Sheet No. **CS1**

Checked by:

Date:

APPENDICES

Appendix 1. Schneider Reports: Project Feasibility and Geotechnical Report Excerpts

Preliminary Geotechnical Engineering Report

Proposed Distribution Center
Cairo, New York
November 8, 2019
Terracon Project No. JB195077

Prepared for:
NAI Platform
Albany, New York

Prepared by:
Terracon Consultants-NY, Inc.
Dba Dente Group
Watervliet, New York

November 8, 2019

NAI Platform
14 Corporate Woods Boulevard, Suite 100
Albany, New York 12210

Attn: Mr. Daniel Slote
P: (518) 322-9752
E: dslote@naiplatform.com

Re: Preliminary Geotechnical Engineering Report
Proposed Distribution Center
NYS Route 23
Cairo, New York
Terracon Project No. JB195077

Dear Mr. Slote:

We have completed the Preliminary Geotechnical Engineering services for the above-referenced project. This study was performed in general accordance with Dente Group proposal no. PJB195077 dated April 11, 2019. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs, and pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants-NY, Inc.

John S. Hutchison, P.E.
Senior Engineer

Fred A. Dente, P.E.
Principal

REPORT TOPICS

Note: This report was originally delivered in a web-based format. **Orange Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the ***GeoReport*** logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

Note: Refer to each individual Attachment for a listing of contents.

Preliminary Geotechnical Engineering Report

Proposed Distribution Center

NYS Route 23

Cairo, New York

Terracon Project No. JB195077

November 8, 2019

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering evaluation performed for the proposed Surgery Center to be located off NYS Route 23 in Cairo, New York. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Site preparation and earthwork
- Excavation considerations
- Foundation design and construction
- Floor slab design and construction
- Seismic site classification per NYSBC
- Pavement design and construction

The geotechnical engineering Scope of Services for this project included the advancement of ten test borings, to depths ranging from 1.2 to 7.0 feet below existing site grades. Note that this report is preliminary in scope, and final design should be based on a more thorough and comprehensive investigation commensurate with the scale of the project when site and grading plans are more fully developed.

Maps indicating the site and test boring locations are included as the attached **Site Location** and **Exploration Plans**, respectively.

SITE CONDITIONS

The project site is located east of NYS Route 23 and south of Bross Street in Cairo, New York. The site is some 100 acres or more in size and is for the most part wooded and undeveloped. An overhead utility line easement traverses the site along its west side. Survey mapping by others identifies some isolated wetland areas across the property, and USGS topographic mapping indicates terrain which in general slopes gently upward to the east between the elevations of roughly 400 and 430 feet across much of the site. At its northeast corner, grades drop off rather abruptly between the elevations of about 430 and 380 feet.

A representative from our office made a site reconnaissance on May 28, 2019 and collected photographs of the general site conditions. The photos are provided in our **Photography Log**.

PROJECT DESCRIPTION

As we understand it, the project entails construction of a new, one-story, slab on grade warehouse building, along with associated concrete aprons, paved parking and stormwater management areas. Current plans show a main warehouse/distribution building with an overall plan area of about 1,100,000 ft^2 and a second warehouse building with a footprint of about 100,000 ft^2 south of the main building. Because the project is currently in the concept stage, a topographic survey of the site was unavailable, and proposed finished floor elevation and site grading had not yet been established. Anticipated foundation, floor loading and traffic volumes were also unavailable.

SUBSURFACE CHARACTERIZATION

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical analysis and evaluation of site preparation and foundation options. Conditions encountered at each exploration point are indicated on the individual test boring logs. The logs can be found in the **Exploration Results** section and the GeoModel can be found in the **Figures** section of this report.

The following model layers were identified within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	**Surface Material**	Topsoil
2	**Glacial Till**	Silty sand with gravel, occasional to frequent cobbles and boulders, silt and/or clay portions occasionally predominant.
3	**Weathered Rock**	Gray to red sandstone exhibiting significant weathering
4	**Rock**	Gray sandstone, moderately weathered

The native soils as revealed by the test borings were glacial deposits generally composed of silty and/or gravelly sand with lesser amounts of clay, along with occasional to frequent cobbles and boulders. These soils were judged to be loose to medium dense as indicated by measured SPT N-values. The overburden soils were found to be no more than a few feet thick, and mantle bedrock at relatively shallow depth across the site.

All the boreholes completed for this study met refusal, at depths ranging from 1.2 to 6.2 feet below the existing ground surface. While the refusals appear to be an indication the bedrock surface was reached (or nearly reached), they may have been caused by cobbles and boulders overlying bedrock in some instances. It was also noted the upper few feet of bedrock were substantially weathered in places, where the drill's augers were able to be penetrate beneath its surface.

Confirmatory rock core sampling was performed at boreholes B-2 and B-6 and the core samples retrieved indicate the bedrock consists of sandstone which is relatively hard and generally thin bedded. Measured RQD ranged from 0 to 13 percent. For information purposes, the Geologic Map of New York – Hudson-Mohawk Sheet (New York State Education Department – 1970) indicates that bedrock beneath the project area generally consists of sandstones and shales of the Hamilton group.

No measurable groundwater was present in the boreholes as they were drilled or upon completion of sampling (prior to any rock coring), nor were any wet soil samples recovered. It therefore appears that groundwater was scarce or absent within the depths explored at the time of investigation.

Nevertheless, locally perched or trapped water may be present at times, and as previously noted, some isolated areas across the site are mapped as wetlands. Groundwater conditions, and the extent of any perched water, should be expected to vary with seasonal fluctuations in precipitation and runoff.

GEOTECHNICAL OVERVIEW

General

From a geotechnical perspective, the project site is considered suitable for the planned construction using conventional shallow spread foundations to support the building along with standard slab-on-grade design.

The most significant factors which will impact on the planning for the site design and construction include the bulk cut and fill work required to level the sloping site and the possible rock excavation or borrow soil import which may be necessary. Any cuts will be predominantly within glacial till soils and sandstone bedrock, both of which can be reused as site fill and backfill when following the guideline recommendations presented subsequently.

The glacial till encountered across the site, if excavated to achieve planned grades, may be reused as a source of structural and general fill (although it is noted that not much overburden is present atop the bedrock). It should be understood these soils have a substantial quantity of fine-textured sand and silt and a lesser amount clay and thus will have a very narrow moisture content within which they will be easily compactible. The soils will likely require moisture modification and possibly amendment with lime or kiln dust to bring and maintain their moisture content within ranges necessary to achieve their compaction. Should site development proceed during seasonally wet periods, it will likely be difficult to adequately dry the cut soils and the use of an imported granular fill may become necessary.

Where excavated bedrock is placed as fill to raise site grades, it will likely be necessary to crush and process the material to render it suitable for reuse. The material should be screened as necessary to exclude particles larger than four (4) inches and processed such that it is suitably dense graded.

Bedrock was encountered across the site at depths in the range of one to five feet below grade. The rock appears to be weathered near the surface, and while it may be possible to remove it for shallow depths of say a few feet using a large track-mounted backhoe equipped with rock teeth, controlled blasting should be planned to achieve its economical mass removal.

Controlled blasting should be performed by a NYS licensed contractor in a manner that limits the maximum peak particle velocity (PPV) to less than two inches per second (ips) at the property limits and less than 1-½ ips at the nearest adjacent residence or at levels required by the local utility company. In addition, the peak airblast overpressure must also be limited to less than 0.014 psi at the nearest adjacent occupied structure.

Except for the wetland areas, groundwater is not expected to be encountered across widespread areas or have a significant impact in the design and construction of cuts at the site. Groundwater in wetland areas, or any perched water elsewhere (which may be found seasonally in the upper few feet of soil and at or near the bedrock surface), should be diverted from the construction areas through swales and/or interceptor trenches, or otherwise removed as necessary.

Additional Cut and Fill Considerations

The following general guidelines may be assumed for preliminary planning purposes:

The bedrock may be cut as steep as 1V on 1.5H and be globally stable, however, the rock surface may weather and ravel to the slope toe over time. For these reasons the toe of rock cut slopes should be separated from the planned roadway shoulder to create a rock ravel/fall collection ditch. Cuts in the overburden soils should not exceed 1V on 2H.

During construction, excavated rock faces should be cleaned of all loose rock and soil, and thoroughly examined for any unfavorable bed and joint orientations which could create unstable rock masses. Should such unfavorable conditions be found, they should be remediated as appropriate.

Where excavations intercept the rock/overburden interface, we recommend the overburden be stripped back from the face between about five to ten feet to allow construction of a swale to collect runoff and direct it away from the rock face. Perched groundwater may also be intercepted by the cuts planned at this site, requiring the construction of fabric lined and stone filled drainage trenches upon the overburden slopes. Swales should be provided along the toe of all excavated slopes to collect and dispose of the waters.

Fills to raise site grades should be placed in lifts not exceeding one foot thick and should be compacted to at least 95 percent of the material's maximum dry density as determined by ASTM D1557 (Modified Proctor compaction test). Embankment slopes constructed of the cut soil or bedrock

materials should be graded no steeper than about 1V on 2.5H and should be protected from erosion. Runoff should not be allowed to traverse either the filled or excavated slopes at this site at any time.

Finally, even well compacted bulk fills consolidate over time and the effects this will have on the building will be dependent upon the site grades selected and the depths of the fills to be placed. For example, well compacted granular fill 20 feet in depth may consolidate causing settlements on the order of one-quarter (1/4) inch in three to four years and three-quarters (3/4) inch settlement in 15 to 20 years. This would be in addition to the estimated foundation and slab settlements presented subsequently.

The following sections of this report provide more detailed recommendations to assist in planning for the geotechnical related aspects of the project. It is again noted that this report is preliminary in scope, and final design should be based on a more thorough and comprehensive investigation commensurate with the scale of the project when plans are more fully developed.

In any event, we should be provided with the opportunity to review plans and specifications prior to their release for bidding to confirm that our recommendations were properly understood and implemented, and to allow us to refine our recommendations, if warranted, based upon the final design.

The **General Comments** section provides an understanding of the report limitations.

SEISMIC CONSIDERATIONS

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC).

Seismic Site Classification

Based on the soil properties encountered at the site and as described on the test boring logs, it is our professional opinion that the **Seismic Site Class will likely be either B where the sandstone bedrock immediately underlies the building or Site Class C where more than ten (10) feet of soil separates the building and the bedrock surface**. Subsurface explorations at this site were extended to a maximum depth of 7.0 feet. The site properties below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth.

Liquefaction

Based upon the composition and relative density of the site soils, and other factors, their liquefaction is not expected to occur in response to earthquake motions.

EARTHWORK

Earthwork is anticipated to include clearing and grubbing, bulk cuts and fills, excavations and fill/backfill placement. The following sections provide recommendations for use in the preparation of specifications for the work. The recommendations include critical quality criteria as necessary to render the site suitable for construction of foundations, floor slabs and pavements.

Construction site safety is the sole responsibility of the contractor, who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

Site Preparation

If possible, site preparation should be planned during a seasonal dry period to limit the adverse impacts of perched groundwater and soft subgrade conditions on construction. The contractor should take precautions to maintain the subgrades in a relatively dry and firm condition. This may include sloping of the subgrade surfaces to promote runoff away from the site, installation of interceptor trenches or drainage swales if necessary to divert surface runoff or perched groundwater away from the site, and restricting construction equipment from travelling directly over the subgrade soils when they are wet.

Site preparation should begin with clearing and stripping of all topsoil and surficial organic matter from the building pad and pavement areas. Any existing fill should be removed from beneath new foundations, along with any remains of former structures or otherwise unsuitable materials that may be found. The Geotechnical Engineer should observe the excavations to confirm that all unacceptable materials are removed.

Prior to placing fills to raise site grades and/or after cuts are made to the plan subgrade elevations, the building and pavement subgrades should be proof-rolled using a steel drum roller with a static weight of at least ten tons. The roller should operate in its non-vibratory mode, unless requested otherwise by the Geotechnical Engineer observing the work, and travel at a speed not exceeding three feet per second (two miles per hour). Soft areas identified by the proof-rolling should be investigated to determine the cause and stabilized accordingly.

Fill Material Types

For preliminary planning purposes, it may be assumed that the excavated onsite soil and bedrock materials may be reused as fill and backfill beneath building and pavement areas (within the limitations and under the parameters described herein). The suitability for reuse of the materials should be confirmed by the Geotechnical Engineer at the time of construction based upon the conditions encountered. Onsite soils may require moisture conditioning or amendment with lime, kiln dust or Portland Cement to facilitate their compaction.

All grade increases for support of foundations, parking areas, and roadways at the site should be made using structural fill. Structural fill should consist of either offsite borrow, or excavated onsite soil and/or crushed bedrock materials processed as necessary. The structural fill material, whether excavated, processed or imported, should be sound and durable, and also free of deleterious materials such as organics, pyritic rock, shale, or contaminants of a chemical, mineral, or biological nature. Structural Fill should meet the following gradation: 100% finer than the 4" sieve, between 30 and 70% finer than the #4 sieve, and less than 15% finer than the #200 sieve.

Fill Compaction Requirements

Both the onsite or imported Structural Fill should be placed in uniform loose layers no more than about one-foot thick where heavy vibratory compaction equipment is used. Smaller lifts should be used where hand operated equipment is required for compaction. Each lift should be compacted to no less than 95 percent of its maximum dry density as determined by the Modified Proctor compaction test, ASTM D1557. In landscape areas, the compaction requirement may be relaxed to 90 percent of maximum dry density.

Grading and Drainage

All grades must provide effective drainage away from the building during and after construction and should be maintained throughout the life of the structure. Water retained next to the building can result in soil movements greater than those discussed in this report. Excessive movements can result in unsatisfactory differential floor slab and/or foundation movements, cracked slabs and walls, and roof leaks.

Temporary Excavation Slopes

As a minimum, temporary excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, “Excavations” and its appendices for an OSHA Type C soil, and in accordance with any applicable local and/or state regulations. The contractor should be aware that slope height, slope inclination, and excavation depth should in no instance exceed OSHA regulations. Flatter slopes than those stipulated by the regulations or temporary shoring may be required depending upon the soil conditions encountered and other external factors. OSHA

regulations are strictly enforced and if they are not followed, the owner, contractor, and/or earthwork and utility subcontractor could be liable and subject to substantial penalties.

Construction Observation and Testing

The earthwork efforts should be monitored under the direction of the Geotechnical Engineer. Monitoring should include documentation of adequate removal of vegetation, topsoil, and existing fills, proof-rolling and mitigation of any unstable areas revealed by the proof-roll.

Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, until approved by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 2,500 square feet of compacted fill in the building areas. One density and water content test should be performed for every 50 linear feet of compacted utility trench backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated under the direction of the Geotechnical Engineer. If unanticipated conditions are encountered, the Geotechnical Engineer should prescribe mitigation options.

It should be understood the actual subsurface conditions that exist will only be known when the site is excavated. The continuation of the Geotechnical Engineer into the construction phase of the project will allow for validation of the subsurface conditions assumed to exist for this study and the design parameters recommended in this report, including assessing variations, providing recommendations and reviewing associated design changes.

SHALLOW FOUNDATIONS

If the site has been prepared in accordance with the requirements noted previously in **Earthwork** and below under the **Foundation Construction Considerations**, the following design parameters may be assumed.

Design Parameters – Compressive Loads

Item	Description
Maximum Net Allowable Bearing Pressure [1, 2]	5,000 psf
Required Bearing Stratum [3]	Natural soils, structural fill or bedrock
Minimum Foundation Dimensions	Columns: 36 inches Continuous: 24 inches
Ultimate Coefficient of Sliding Friction [4]	0.30 (native soils) 0.45 (imported structural fill) 0.60 (bedrock)

Item	Description
Minimum Embedment below Finished Grade [5]	Exterior footings: 48 inches Interior footings in heated areas: 24 inches Interior footings in unheated areas: 48 inches
Estimated Total Settlement from Structural Loads [2]	Less than about one (1) inch on soil Negligible on bedrock
Estimated Differential Settlement [2, 6]	About 75% of total settlement

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. An appropriate factor of safety has been applied.
2. Values provided are for maximum loads noted in **Project Description**.
3. The bearing grades should be prepared per the recommendations presented below in the **Foundation Construction Considerations**.
4. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Should be neglected for foundations subject to net uplift conditions.
5. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure. Interior footings in heated area may be seated at the 24-inch depth if allowed by local building codes.
6. Differential settlements are as measured over a span of 50 feet and will be greatest where bearing transitions from overburden to the bedrock.

Preliminary plans should include a perimeter foundation drain to collect and relieve any water which enters the backfill soils after construction is complete (until final plans and grades are available to confirm its need or elimination). The drains should consist of nominal four-inch diameter perforated PVC pipe set within ± 12 inches of crushed stone composed of ASTM C33 Blend 57 material which is wrapped with a synthetic filter fabric such as Mirafi 140N. All drains should be provided with clean outs for their maintenance.

Foundation Construction Considerations

The foundation bearing grades should be proof-compacted using a mechanical or large reversible plate tamper to densify the soils loosened by the excavation process. If groundwater seepage occurs, proof-compacting should be eliminated, and a minimum six-inch thick base of clean crushed stone placed over a geotextile fabric should be provided to establish a more uniform and stable base for construction and to assist in dewatering. The stone should be an ASTM C33 Blend 57 aggregate and the fabric a Mirafi 500X or equivalent. All final bearing grades should be relatively firm, stable, and free of loose soil, mud, water and frost.

FLOOR SLABS

Floor Slab Design Parameters

Interior floor slabs should be constructed over a minimum 12-inch-thick base course of subbase stone; consideration should be given to using a thicker subbase course in areas subject to heavier loads and/or use, or in any unheated areas. The subbase should consist of a crusher run stone meeting NYSDOT Specification no. 304.12 Type 2. Where moisture sensitive floor coverings will be applied, a vapor retarder (e.g., Stego Wrap 15 mil Class A or equivalent) should be placed above or below the crushed stone per ACI 302 and/or ACI 360 guidelines.

Floor slab subgrades should be prepared as outlined in the **Earthwork** section herein. Under these parameters, a modulus of subgrade reaction equal to 200 pounds per cubic inch (pci) may be assumed at the top of the stone base layer for slab design purposes.

It should be understood that frost heave may occur beneath exterior sidewalks or pavements, and the heave may be differential, particularly where sidewalks and pavements meet building doorways and curbs. If these conditions exist and the potential for heaving is to be minimized, a 16-inch thick base of crushed stone with underdrains should be placed beneath the sidewalks or pavements to limit heave to generally tolerable magnitudes for most winters.

Floor Slab Construction Considerations

Even with the base course recommended above, we caution that the subgrades may not support repeated heavy construction traffic or telehandlers without suffering rutting and weaving that may be especially severe during wet seasons. If the grades are to be repeatedly traversed by these types of equipment, they should be reinforced as necessary to support them. Areas which become disturbed should be excavated and stabilized accordingly.

The Geotechnical Engineer should approve the condition of the floor slab subgrades immediately prior to placement of the floor slab subbase course. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

PAVEMENTS

General Pavement Comments

A critical aspect of pavement performance is site preparation. The pavement designs listed in this section assume the site will be prepared as recommended in the **Earthwork** section.

Pavement Section Thicknesses

Two pavement sections are provided for consideration dependent upon anticipated traffic types. A Heavy Duty Section should be used for entrance drives and areas subject to repeated truck traffic, and a Light Duty section for areas subject to automobile parking and occasional delivery or service trucks only.

The pavement sections presented below were developed assuming that the subgrades consist of site or borrowed soils with a CBR equal to 10 or greater. The pavement sections assume a 20-year pavement life and 18-kip daily equivalent single axle loads of 1 for Light Duty pavements and 600 for the Heavy Duty section.

Flexible Pavement Design			
Layer	**NYSDOT Item Number** [1]	**Light Duty (inches)**	**Heavy Duty (inches)**
Asphalt Concrete Top	#402.127303	1.5	1.5
Asphalt Concrete Binder	#402.257903	2.0	4.0
Crusher-Run Stone Base	#304.12 Type 2	6	12
Processed Sand and Gravel Subbase	#304.12 Type 4	12	18
Stabilization Fabric [2]	NA	Single ply	Single ply

1. **All materials should meet the current New York State Department of Transportation (NYSDOT) Standard Specifications for Construction and Materials**
2. **Stabilization Fabric should be Mirafi 500X or approved equivalent**

Rigid Portland concrete pavements in light service areas may be designed to bear upon six (6) inches of NYSDOT Type 2 crusher-run stone and the synthetic fabric recommended above. Rigid Portland concrete pavements in heavy service areas may be designed to bear upon twelve (12) inches of NYSDOT Type 2 crusher-run stone and the synthetic fabric recommended above.

The rigid pavements may be designed in accord with the recommended procedures of the American Concrete Institute or Portland Cement Association using a composite modulus of subgrade reaction equal to 200 pounds per cubic inch at the top of the stone base layer.

Drainage swales and/or interceptor trenches should be planned along the sides of the pavements to enhance drainage of the base materials. Accumulation of water on pavement subgrades should be avoided by grading the subgrade to a slope of at least two percent, and/or by providing

underdrains. Failure to provide adequate drainage and routine maintenance as necessary will shorten pavement life.

GENERAL COMMENTS

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including excavation support, dewatering requirements and design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

Photo 1 – Typical site interior

Photo 2 – Typical site interior

Photo 3 – Typical site interior

Photo 4 – View along overhead utility right-of-way

Laberge Group
ENGINEERING • ARCHITECTURE • SURVEYING • PLANNING

April 15, 2013

Dr. James Schneider
25 Visher Ferry Road
Rexford, NY 12148

Re: **Letter Report on Project Feasibility**
812 Enterprises
Town of Cairo, New York

Dear Dr. Schneider:

We have completed the preparation of potential site development concepts for the several parcels totaling 127 acres in the Town of Cairo. Three concepts have been prepared for your review and consideration ranging from a single building concept to a multiple building concept. These concepts are described in additional detail below. The plans were developed based upon known site constraints and information that is currently available. The following information assisted in forming the basis of the plans presented herein.

Project Base Map

In developing the concept site plans, a site base map of the project area was compiled from available mapping resources including NYS Geographic Information Systems (GIS), US Geological Survey Mapping, Greene County GIS, Town record drawings of water and Sewer services and; limited land survey of wetlands delineations. While some of the information is relatively accurate, further survey and mapping will be required to develop plans beyond the concept level.

Wetlands

The site contains federal wetlands which have been delineated by Copeland Environmental, LLC. These wetlands have been surveyed and added to the base map identified above. The wetlands delineation map indicates the wetlands that may be regulated by the US Army Corp of Engineers (ACOE). A request for a Jurisdictional Determination (JD) by the ACOE regarding the wetlands has been submitted. Currently the ACOE scheduled April 29, 2013 for a field review of the potential wetland areas.

Based upon the experience of Copeland Environmental, LLC we have designated wetland areas that are probable ACOE regulated and those that are likely isolated or non-jurisdictional. Based upon these wetland areas and site reconnaissance, concept plans were developed to avoid potential wetland impact where possible, balancing wetland impact with site development that is attractive to potential land buyers or site developers.

Threatened or Endangered Species

Our site review indicates that due to the site's dense woodland canopy and minimal undergrowth, the site is not likely to provide habitat for threatened or endangered species. The US Fish and Wildlife Service list Green County as having the potential for occurrences of the Bald Eagle and the Indiana Bat. Presence of habitat for these two species in affected site areas will require additional review and if present, appropriate avoidance of mitigation established.

Water and Sanitary Sewer Service

Water and sewer service are available in the vicinity of the project site. They are not however immediately accessible.

a) We have obtained limited mapping of Town water and sanitary sewage disposal facilities from the Town of Cairo. While a portion of the site is within the Town's water supply district the entire site is outside of the Town's sewer district. These services terminate near the intersection of NYS Route 32 and William Dinger Street, approximately 1,200 feet south of NYS Route 23.

b) Extending these services to the site would require the extension of both the sewer and water district requiring the Town to approve the extension as well as the approval of the NYSDEC for the required water supply application and the NYSDOT for the required occupation of NYS Route 32 for the utility lines as well as the crossing of NYS Route 23. Health department approval of the proposed plans will also be required.

c) The Town has indicated that adequate water pressure exists at the point of connection at William Dinger Street. The pressure at that point is approximately 50 psi. Based upon the elevation differential, it is estimated that water pressure available at the site will range from approximately 23 psi to 42 psi. For the proposed development, this pressure is relatively low assuming that significant fire flow will be required to adequately insure the property. Thus, depending upon the development, a water storage tank sized appropriately for the fire protection volume requirements will likely be required.

d) The Town's sewer system is a gray water system. This requires that an on-site septic tank be installed to provide the initial wastewater treatment. The tanks will have to be sized to accommodate the flow from each building. Due to the assumed limiting available depth for the economical construction of gravity sewers, a pumped discharge would likely be more cost effective than a gravity system.

e) A review of the "Report on Groundwater Resources Town of Cairo Jan 2009" indicates that water service may be made available by installation of a drilled bedrock well. Wells in this area of Town have an average potential of producing 12 gallons per minute and are typically developed to 175' deep into bedrock. If onsite wells are to be considered there will likely be multiple wells to provide not only domestic water requirements but to provide water to a water storage tank for fire protection purposes.

f) Review of USDA soils surveys indicates that approximately 90% of the project area is underlain by a restrictive layer at from 10 to 40 inches below the surface. This being the case, on-site subsurface sewerage disposal while possible, is not recommended when sanitary sewers are reasonably available. The concepts therefore assume that the most attractive option for sanitary sewer disposal is connection to the existing Town sewer system. Performing geotechnical investigations will enable a further determination as to the feasibility of developing an on-site subsurface sewage disposal system.

Central Hudson Gas & Electric Corp.

The lands that make up the project area are divided by land and an easement in favor of the Central Hudson Gas & Electric Corp. If the power transmission main can be relocated to the perimeter of the project site, land development potential is greatly increased. Of further interest to potential developers is the time frame it would take to accomplish this relocation of the utility.

a) In our conversations with Central Hudson Gas & Electric Corp regarding this matter, they are willing to study the relocation by conducting an engineering field review, performing preliminary design and development of an opinion of the probable cost to relocate the utility.

b) Relocation of the utility would also require:

   i) Establishment of a perimeter utility easement in Central Hudson Gas & Electric Corp's favor;

   ii) Obtaining the land rights of Central Hudson Gas & Electric Corp's land that is currently owned and dividing the project area and;

   iii) Obtaining a quit claim to Central Hudson Gas & Electric Corp's easement rights.

c) Central Hudson Gas & Electric have estimated that permitting and legal documents alone will take over a year to accomplish. Actual construction time is unknown at this time but could be upwards of an additional year to clear the site project area.

Cultural Resources

As part of our concept planning services we have contacted the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and requested a project review. Their response to this inquiry indicated that there may be significant site(s) in or adjacent to the project area. As such, the OPRHP has recommended a Phase I Archeological survey be performed to clear the site. A Phase I survey would determine the presence or absence of archeological sites or other cultural resources on the site which may be impacted by the project. The purpose of this investigation is to screen the site for the presence of cultural material that may be of significance. The findings of this investigation are reported to the State Office of Historic Preservation (SHPO) for their review. SHPO may request additional investigations or may clear the site for development. SHPO site clearance is extremely important since

any required state permits for the project cannot be issued without their "clearance" of the project site. Due to the nature of a cultural resource study, the findings do not change with time and as such the sooner SHPO clearance is completed the better.

NYS Department of Transportation

In discussions with the NYSDOT, they recognized that providing access to the land opposite the existing signalized T-intersection with Route 23 and 32 would be a desirable access point for the property. Alternatively, access to the site via Bross Street could be considered.

a) Noteworthy of our discussions was that should a request to gain access be presented, the NYS DOT will require compliance with the State Environmental Quality Review Act (SEQRA) and may possibly require compliance with the National Environmental Policy Act (NEPA.)

b) NYS DOT noted the limitation of "thruway" tandem tractor trailers to within a mile of the thruway exit. As such, trucks accessing the site will be limited to regular truck traffic and not tandem units.

c) The project frontage along NYS Route 23 does not currently have access to the highway since the right of way for the road was taken without access rights. Obtaining direct access to Route 23 would greatly increase the potential for sale of the project. In order for the project to obtain a "break in access" from NYSDOT a Fair Market Value Analysis (FMVA) of the project lands will be required. This may then be presented to NYS DOT initiating a request for a break in access to Route 23. The analysis will develop a reasonable value for the right to access, based upon a fair market analysis of the benefit received by the land upon gaining access to Route 23. It should be noted that the wetlands throughout the site restricts its complete development and therefore reduce the sites fair market value and benefit received by obtaining access to Route-23.

Zoning

The Town of Cairo is currently reviewing draft Zoning and Land Use Regulations. If the Town adopts the regulations, this project area will lie within Zoning District C-23 (Commercial Route 23). This zoning designation requires a minimum lot size of 2 acres, a minimum road frontage of 60 feet, a minimum property setback of 50 ft/front, 20 ft/side, 40 ft/rear, a minimum depth of 150 ft, a maximum building height of 35 ft and maximum lot coverage of 60%.

Should the project development proceed to provide a "shovel ready" site, the Town would also require that a site plan approval be obtained for earth moving activities on slopes of 15% or greater, and filling, grading or tree removal disturbing an area greater than 20,000 square feet.

Concept Site Development

As requested we have completed the concept plans for the project. As you know, the project consists of several properties located northeasterly of the intersection of New York State Routes 23 and 32 in the Town of Cairo, Green County, New York. The project concept plans show the development potential of approximately 127 acres consisting of several parcels of land to accommodate a large distribution center.

Applicable to all three development concepts is the available land or readily developable area. Exhibit 4 presents land area that has limited development potential. These areas are limited by potentially regulated wetland areas, existing buildings, power utility land and easement and topographic features.

For example, in the northern corner of the project area, a steep ridge line exists rising approximately 50 feet in elevation over a relatively short distance of just over 100 feet horizontally. Further restricting development potential in this northern portion is yet another wetland area. These restricted development areas make up approximately 38 acres of the 127 total project acreage or approximately 30 percent. This means approximately 89 acres is readily available for development. However not all of this area is contiguous, being separated by the power utility and wetland areas.

Likewise, project development must comply with the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity. This permit requires that project stormwater runoff be treated and controlled during construction and post construction. The concepts presented indicate approximate areas that will need to be allocated for construction of stormwater quality and quantity control. These areas further reduce the previously stated buildable area of 89 acres and are so located to provide the required site drainage to the treatment areas.

The following provides a brief description of the three Concept plans developed for this property. Please refer to exhibits 5, 6 and 7 for the respective concept drawings.

Concept 1

Concept 1 presents the development of the project lands with a single L-shaped building of ±944,000 square feet. This size and shape of the structure is typical of large distribution warehouse arrangements for shipping and receiving goods. Paved parking and loading areas for tractor trailers is provided along with a perimeter access road around the building suitable for truck traffic and fire protection apparatus.

The site layout proposes access to Route 23 at the existing T-intersection with Route 32. Alternatively, access could be obtained via Bross Street. This alternative would likely require the improvement of Bross Street from approximately 20 ft wide to 24 ft wide to the intersection with Route 23. Either site access location would likely require additional improvements mandated by NYS DOT due to traffic impacts.

Although the Town may allow up to 60 percent lot coverage with buildings, roads, parking areas; Concept 1 site coverage is approximately 37 percent of the total project area of 127 acres, but over 50%

of the readily developable land. The sites coverage or development is limited by site topography, wetland areas, Central Hudson Gas & Electric Corp's utility and a need to provide area for use in meeting the State stormwater discharge regulations.

Stormwater discharge from the developed project site is required to be treated for water quality and controlled to maintain allowable stormwater runoff from the site. The concept plan indicates open areas designated for use in providing stormwater quality and quantity management based upon the area of impervious land.

This concept proposes to relocate Central Hudson Gas & Electric Corp's utility around the project perimeter. While this would make a large connected development feasible, land is still required to be reserved for the utility thus reducing the sites maximum developable area.

Likewise the presence of potentially regulated wetlands reduces the sites developable area. This concept minimizes wetland impacts with the exception of Wetland "G". Wetland "G", being a potentially isolated non-jurisdictional wetland, is proposed to be developed. Other wetland areas are avoided by this concept.

The site generally slopes from Route 23 up through the project site westerly with the exception of a steep ridgeline along the northern portion of the project. Therefore, orientation of major building lines should be along the slope. Building into the slope would require excessive earthwork to develop the site. Further, the ridgeline limits development to the north beyond the ridgeline, reducing the total feasible project area that may be developed.

Concept 2

Concept 2 presents the development of the property with a rectangular shaped building of ±480,000 square feet. Similar to Concept 1, this size and shape is typical of large distribution warehouse with parking and loading areas along with a perimeter access road around the building.

Demonstrating the potential of this project to ultimately obtain access to Route 23, this site layout concept proposes access to Route 23 via Birch Hill Drive/Route 32B to the east of the project

It is likely that this concept alternative for accessing Route 23 would also require additional improvements mandated by NYS DOT due to traffic impacts.

Concept 2's site coverage with buildings, roads, and parking areas is limited by site topography, wetland areas, Central Hudson Gas & Electric Corp's utility and a need to provide area for use in meeting the State stormwater discharge regulations. Concept 2's coverage is approximately 22 percent of the total project area of 127 acres, but over 32% of the readily developable land.

Stormwater discharge from the developed project site is indicated in open areas designated for use in providing stormwater quality and quantity management based upon the area of impervious land. These areas further reduce developable land.

This concept proposes to avoid or maintain the Central Hudson Gas & Electric Corp's utility which cuts through the project area. Maintaining this utility and its easement further reduces project development.

Concept 2 proposes to minimize wetland impacts with the exception of Wetland "G". Other wetland areas are avoided by this concept.

As noted previously, the site slopes from Route 23 up through the project site westerly with the exception of a steep ridgeline along the northern portion of the project which tends to limit development further to the north.

Concept 3

Concept 3 presents the development of the property with two buildings. One building is shown as ±106,000 square feet and the other with ±328,000 square feet for a total building area of 434,000 square feet. This concept, like the others, provides a large area for distribution warehouses with parking and loading areas along with a perimeter access road around the building. Additionally a large employee parking area is indicated with a potential for 260 vehicles.

This concept also shows a potential access to Route 23, via Birch Hill Drive/Route 32B to the east of the project. It is likely that this concept alternative for accessing Route 23 would also require additional improvements mandated by NYS DOT due to traffic impacts.

Site coverage is limited by topography, wetland areas, Central Hudson Gas & Electric Corp's utility and area reserved for stormwater management. Thus, Concept 3 coverage is limited and as proposed is approximately 36 percent of the total project area of 127 acres, but over 50% of the readily developable land.

Stormwater discharge from the developed project site is indicated in open areas designated for use in providing stormwater quality and quantity management based upon the area of impervious land. These areas further reduce developable land.

This concept proposes to avoid or maintain the Central Hudson Gas & Electric Corp's utility which cuts through the project area. Maintaining this utility and its easement further reduces project development.

Concept 3 avoids all wetland impacts.

As noted previously, the site slopes from Route 23 up through the project site westerly with the exception of a steep ridgeline along the northern portion of the project which tends to limit development further to the north.

Table 1: Summary of Site Plan Development Concept Features

Concept Feature	Concept 1	Concept 2	Concept 3
Building Area, SF	±944,000	±480,000	±434,000
Site Coverage, %	37	22	36
Access To Rte. 23@ existing T-intersection w/ Rte.32	Yes	No	No
Indirect Access To Rte.23	Yes alternative connect to Bross St.	Yes via Birch Hill Drive	Yes via Birch Hill Drive
Relocate Cen Hud G&E	Yes	No	No
Wetland Impact	Wetland "G"	Wetland "G"	None
Water & Sewer under Rte. 23 along Rte. 32	Yes	Yes	Yes
On-site water potential	12 gpm	12 gpm	12 gpm
On-site sewage disposal	Limited	Limited	Limited

Concept Plan Development / Next Steps

It is our understanding that the concept plans will be initially marketed for purchase by providing a clear vision of the project site's potential. Our experience has shown that having more information available and more development approvals in place make a property more saleable.

We therefore recommend that you advance the project taking the following steps:

1) Prepare a detailed planimetric and topographic map of the project area. Preparing this map will enable advancement of site engineering plans and enable further required studies that will be required by various approving authorities;

2) Select a preferred concept 1, 2 or 3 or select items from all three concepts that would be advanced into a preferred site development concept. A development concept once selected may be advanced to include the design of site infrastructure such as water, sanitary sewers and storm water management and storm water quality control;

3) Conducting site specific investigations and studies that are necessary to obtain site development approvals from various involved local, state and federal authorizes. These studies should initially include:

   a) Geotechnical/soils investigations;

   b) Phase I Archeological.

   c) Traffic impact report. The traffic impact report would document existing and proposed traffic volumes and identify what improvements, if any, to the transportation network are required.

Based upon our discussions with the New York State Department of Transportation (NYS DOT) Region 1, a traffic impact report would be required for project approval.

4) Perform a Fair Market Value Analysis (FMVA).

5) Prepare an opinion of the probable cost to construct the project;

6) Further investigation of the cost and schedule to relocate the power transmission main.

Project Approval.

In our discussions with the Town and in a review of their pending Zoning Regulations, the Town Planning Board will require a site plan approval of the proposed development. The process generally is to:

1) Meet with the planning board for a sketch plan review;

2) Prepare detailed plans, details and specification and submit these with a preliminary site plan application and supporting documentation;

3) Upon preliminary approval, submit a final site plan application for review.

   a) The final application would include supporting documentation that may be required by the Town. This may include: wetlands reports, archaeological investigation reports, geotechnical soils investigations, Storm Water Pollution Prevention Plan (SWPPP) with a stormwater management report, traffic impact study, and visual impact assessment. Most if not all of this supporting documentation would be required under the State Environmental Quality Review Act (SEQRA) and be provided along with an Environmental Assessment Form (EAF).

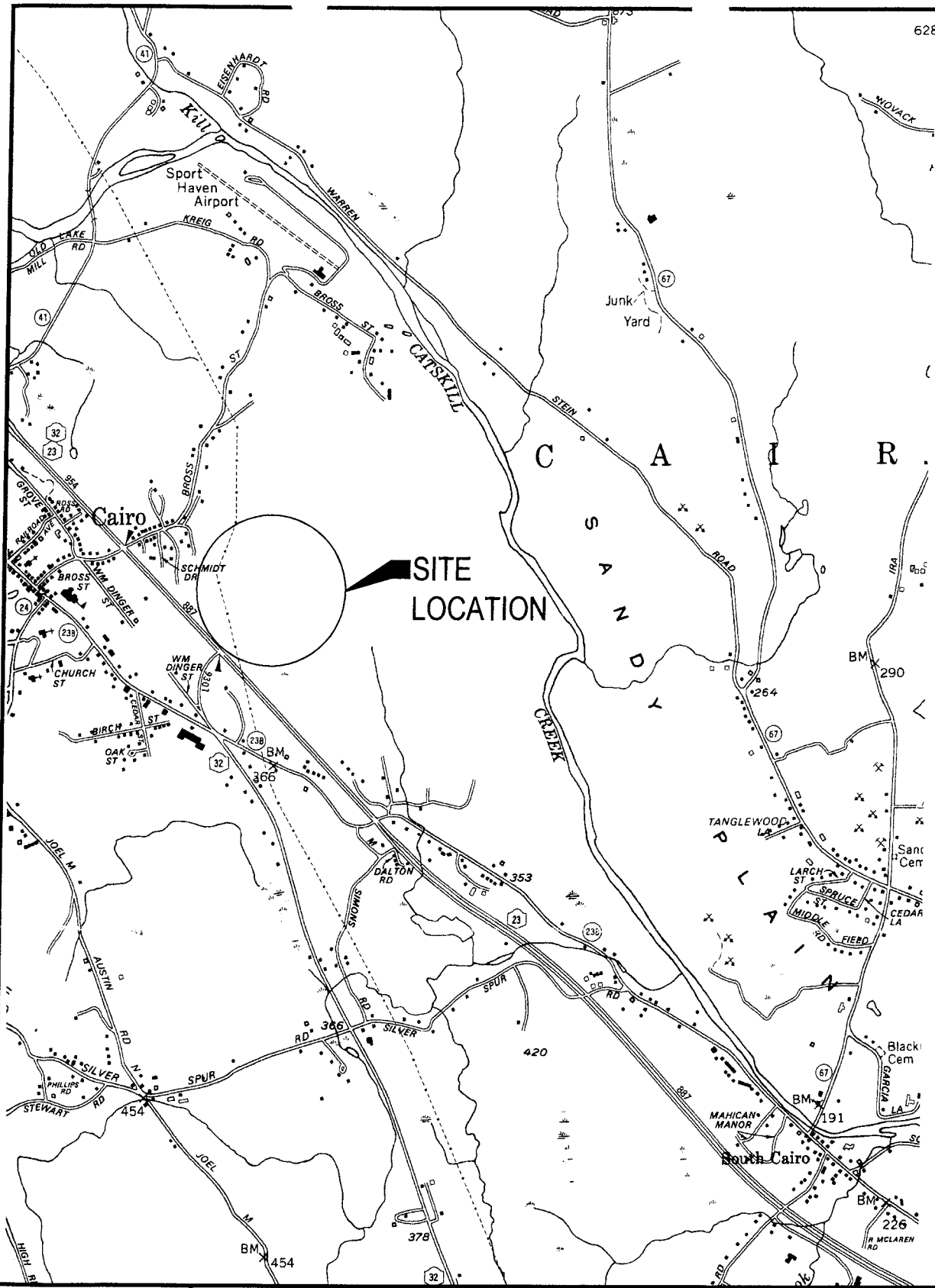
   b) SEQRA requires the establishment of a lead review agency. In our meetings with the NYS DOT, it was inferred that the NYS DOT would not request lead agency status. NYS DOT also noted that if Rte 23 was constructed with aid from federal money sources, that the National Environmental Protection Act (NEPA) would also require compliance.

If you have any questions or comments, please do not hesitate to contact our office.

Very truly yours,
LABERGE GROUP

By: 
Philip E. Koziol, P.E.
Project Manager

PEK:ahb



PRELIMINARY PLANS NOT FOR CONSTRUCTION 03/27/13

Alteration of this document, except by a licensed professional engineer is illegal.

This document, and the ideas and designs incorporated herein, as an instrument of professional service, is the property of Laberge Group Limited and is not to be used, in whole or in part, for any other project without the written authorization of Laberge Group Limits

REVISIONS

NO.	DATE	DESCRIPTION	BY

TOWN OF CAIRO
GREENE COUNTY * NEW YORK STATE

812 ENTERPRISES, LLC

SITE LOCATION MAP

DESIGNED BY PEK
DRAWN BY WJB
REVIEWED BY

Laberge ENGINEERING ARCHITECTURE Group SURVEYING PLANNING
4 Computer Drive West • Albany, New York 12205
(518) 458-7112 • www.labergegroup.com

DATE 3/27/13
SCALE 1"=2000'
SHEET 1 OF 1

WETLAND DELINEATION REPORT

For:

812 Enterprises LLC
NYS Route 23
Town of Cairo
Greene County, New York

February 2013

Prepared for:

Laberge Group
4 Computer Drive West
Albany, NY 12205

Prepared by:

Copeland Environmental, LLC
3 Buchman Drive, Albany NY 12211
(518) 874-1888

Table of Contents

This report describes the wetlands and other aquatic resources on approximately 127 acres of land located along the north side of NYS Route 23 at its intersection with NYS Route 32 in the Town of Cairo, Greene County, New York. The property is located at the coordinates W 73.92578 and N 42.30031. The property owners include 812 Enterprises LLC, Mahwah Partners LLC and Patricia Schneider. The site is located in the Hudson River Basin.

Federal and/or State wetlands occurring on the parcel were delineated on the property in December 2012, by Kim Copenhaver of Copeland Environmental LLC, utilizing the routine wetland determination methods prescribed in the 1987 U.S. Army Corps of Engineers (ACOE) Wetland Delineation Manual and Regional Supplements. The purpose of the delineation was to identify the boundary of wetlands, streams, and other watercourses, which are considered waters of the United States, and therefore subject to the jurisdiction of the U.S. Army Corps of Engineers, pursuant to Section 404 of the Clean Water Act. A review of the NYS Department of Environmental Conservation (DEC) freshwater wetland and stream maps indicates that no state regulated wetlands or streams are located on the property.

This report includes a general site description, and detailed wetland and stream descriptions. The report is complemented by a wetland survey, photographs, wetland data sheets, and soils information, which are presented as Appendices and Maps.

The site is located near the intersection of NYS Routes 23 and 32 in the Town of Cairo, Greene County, New York. A small portion of the site borders Bross Street. The surrounding land use in the vicinity of the site can be characterized as mixed residential, commercial and some agriculture. Established residential homes and commercial sites are located near the property corners. Woodlands border the majority of the site.

The property consists primarily of successional deciduous forests, with stone walls that once bordered old farm fields throughout the property. A maintained utility line right of way traverses the property. Several existing mobile homes are located near the Bross Street frontage and a commercial site that has been partially cleared of woodlands, with several buildings on it, is located on the Schneider property at the southeast corner of the site. The site primarily slopes towards the southwest with wetlands situated in low-lying depressions. The site generally flows to a man made roadside ditch or to unnamed tributaries of Catskill Creek which drains to the Hudson River. There are some potentially isolated wetlands on the site

A. Vegetation – The vegetation at the site is typical of successional agricultural land that has grown to woodlands that are dominated by Ash, Maple, Red Oak, White Oak, Buckthorn, Witch Hazel, White Pine, Ironwood, Hemlock, Hickory, Dogwood, Beech, Grape Vine and Honeysuckle. Common woodland forbs dominate the forest floor. The wetland areas are dominated by Red Maple, Ferns, Green Ash, Moneywort, Manna Grass and Sedges.

B. Soils – Soil data for the project site was obtained from the Green County Soil Survey, which is provided in the map section of this document. The soils for majority of the site are mapped as Mardin gravely silt loam (MeC) which is moderately well drained loamy till covered with cobbles, stones or boulders. Flooding and soil moisture is low within this soil series. Other soils on the site include Arnot Lordstown channery silt loam (AuC) a well drained loamy till and Valois gravelly loam (VaC) another loamy till soil. The soil survey mapping was confirmed by the on-site inspections. Cobbles and stones covered the forest floor throughout the site.

C. Hydrology – Overall, the wetlands on the site are fed by precipitation and general overland runoff from the woodlands. There are no streams or floodplains on the site. The wetlands were found in depressional areas or areas that were once excavated. Water becomes trapped easily on the site due to the stony nature of the property, the flat topography and the extensive old stone walls on site. Several of the wetlands appear to be isolated from the tributary system, while others flow south towards roadside ditches alone Route 23, then into culverts that carry flow under the highway. Topography indicates that the southern portion of the site flows to the south and then east to an unnamed tributary. The western and northern wetlands drain northwest, off site to another unnamed tributary. The site is located in the Catskill Creek drainage basin, a tributary of the Hudson River and the closest Traditional Navigable Waterway. A tributary map is provided in the map section.

The delineation of the wetland boundaries was conducted in accordance with the procedures provided in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and the Northeast Regional Supplement. The "Routine Wetland Determination" method was used based on the characteristics of the project site.

Prior to visiting the site, various maps and other sources of background information were reviewed. These include the New York State Freshwater Wetlands Map, aerial photographs, and the topographic map (Hudson Falls U.S.G.S. Quadrangle). Wetland boundaries were then determined in the field based on the three-parameter approach, whereby an area is a wetland if it exhibits a dominance of wetland vegetation (FAC, FACW or OBL), hydric soils, and the presence or evidence of water at or near the soil surface during the growing season.

Stream boundaries are identified based on field observations, which demonstrate defined bed and banks. This evidence includes scouring, a lack of vegetation, cobbled streambeds, water sorted materials and channelization, in addition to defined stream flows. However, no streams were found on the site.

Isolated wetlands are delineated based on the three-parameter approach referenced above. However, the lack of evidence of any direct, indirect, or historical connection to the tributary systems is the primary parameter for isolated determinations. It should be noted that all determinations regarding isolated waters must be confirmed by the ACOE.

Representative photographs of the wetlands, streams and upland portions of the site were taken during the field visit and are provided in Appendix A. In addition, wetland data sheets were completed and are provided in Appendix B of this report.

Based on the methodology discussed in Section III of this report, the limits of the Federal wetlands were identified and delineated on the property. A surveyed delineation map of the wetland boundaries is provided in Appendix C of this report. This map outlines ten wetlands totaling 5.38 acres on the site. Most of these wetlands appear to be part of the overall tributary system. However several wetlands (approximately 0.55 acres) appear to be potentially isolated from the tributary system and therefore may not be jurisdictional to the ACOE. Please note that all determinations regarding isolated waters must be confirmed by the ACOE. The wetlands are clearly identified on the wetland survey map and are discussed in more detail below.

The site and the wetlands are approximately 3 river miles and 1 aerial mile from the closest traditionally navigable waterway (TNW) Catskill Creek. This site is located in the headwaters of unnamed tributaries to Catskill Creek in the Hudson River drainage basin. The annual rain and snow fall data for the region is 39 inches of rain and 63 inches of snow. The coordinates for each of the wetlands is provided in Exhibit A

A. Wetlands:

All of the wetlands on the site have similar characteristics, with seasonal and precipitation driven hydrology, and shallow top soil over stones and bedrock. Most of the wetlands are forested, located in depressional areas that collect water. Representative vegetation includes Red Maple, Green Ash, Elm, some Swamp Oak, Dogwoods, Ferns, and Sedges. The delineation was preformed in December limiting vegetation identification. A site inspection is recommended in the spring to confirm the delineation.

"Wetland K" is located along Bross Road and consists of a forested and shrub scrub wetland with pocket of emergent marsh. This wetland is located along the road side and flows to a culvert that enters a seasonal stream located on an adjacent property. The wetland is dominated by Red Maple, Honeysuckle, Dogwood and a variety of Ferns and other forbs The wetland is considered abutting an RPW. The drainage basin that feeds this wetland is less than 3 acres.

"Wetland A" is located in the southwest corner of the site, adjacent to existing mobile home sites. This wetland consists of old borrow areas, woodlands and an old logging road that have developed into forested and emergent marsh wetland. A man made ditch was constructed in the southeastern corner of this wetland in an apparent attempt to get it to drain to the highway ditch. The swale was dry during the site inspection. However, it is likely that this wetland flows seasonally to the tributary system through this swale. The wetland is dominated by Red Maple, Gray Birch, Green Ash, Dogwood and a variety of ferns, sedges and other wetland forbs. The wetland is likely to be considered abutting an RPW, but further investigation is recommended in the spring; along with confirmation from the ACOE. The drainage basin that feeds this wetland is less than 4 acres.

"Wetland B" is located just north of wetland A and consists of a small wetland located in a depressional area. This wetland does not appear to flow to another wetland or to the tributary system. Therefore, it may be considered potentially isolated. However, all determination regarding isolated waters must be confirmed by the ACOE. The wetland is dominated by sedges and Green Ash. The drainage basin that feeds this wetland is less than 1 acre.

"Wetland C" is a forested wetland that crosses the utility corridors and eventually connects to Wetland D, referenced below. The wetland is primarily forested with similar chrematistics as others on site. As the wetland crosses the utility corridor it converts to emergent marsh and shrub scrub wetland. The wetland would be considered abutting an RPW, because it is connected to wetland D. The drainage basin that feeds this wetland is approximately10 acres.

"Wetland D" consists of a forested wetland with pockets of emergent marsh throughout. Some logging activity has taken place in this area. Wetland D flows to the south towards the highway ditch that eventually enters a culvert. It would be considered abutting an RPW by means of ditches and culverts. The flow is discrete and seasonally precipitation driven. The drainage basin that feeds this wetland is approximately 25 acres.

"Wetlands E and F" are small, forested wetland pockets that have developed in low lying areas near the state highway. It is unclear if these wetlands flow regularly off site. The highway ditch and an associated culvert are located adjacent to these wetlands. However, minimal flows were observed. "Wetland E" appears to be potentially isolated from the tributary system while "Wetland F", may flow onto the highway ROW, then towards a culvert. Additional review of these two wetlands should be completed in the spring. The drainage basin that feeds each of these wetlands is less than 1 acre.

"Wetland J" is a forested wetland located in a low-lying bench between two slopes and several old stone walls. The wetland is forested and appears to be potentially isolated from the tributary system. A berm of wood and stone is located at the lower end of the wetland and appears to interrupt the flow in that direction. No evidence of surface flow was observed leaving the wetland during our inspection. A recheck in the spring is recommended, with confirmation from the ACOE. As stated earlier, all determinations regarding isolated waters must be confirmed by the ACOE. The drainage basin that feeds this wetland is less than 3 acres.

"Wetland G" is a small wetland located in a flat area of woodlands surrounded by stone walls. This wetland has a small pocket of saturated soils with shrub growth. The rest is forested with Red Maple and Green Ash. The water is trapped at the site from old stone walls with a small amount seeming to flow to the east. However, it never seems to reach the overall tributary system. This wetland is potentially isolated. However, all determinations regarding isolated wetlands must be confirmed by the ACOE. The drainage basin that feeds this wetland is approximately 3 acres.

"Wetland L" is located in the northwest corner of the property at the base of a steep cliff or escarpment. The wetland is forested and is part of a larger wetland complex that flows north to an unnamed tributary off site. The wetland would be considered abutting an RPW. The drainage basin that feeds this is approximately 15 acres.

B. Streams:

No streams were found on the site and no streams are shown on the availible natural resource maps.

EXHIBIT A
WETLAND LOCATIONS

Wetland	Area (ac.)	Potentially Isolated (ac.)	NYS Plane NAD83 Coordinates		Universal Transverse Mercator Lat./Long.	
			Easting	Northing	Easting	Northing
A	1.475	--	629,895.9305	1,263,235.5043	1,913,363.062	15,366,008.333
B	0.018	0.018	630,218.3877	1,263,415.0562	1,913,684.383	15,366,189.733
C	0.723	--	630,601.1722	1,263,178.1950	1,914,068.461	15,365,955.180
D	1.542	--	630,213.0536	1,262,719.2354	1,913,683.136	15,365,494.058
E	0.016	0.016	630,859.0495	1,261,788.9049	1,914,334.431	15,364,567.756
F	0.09	0.09	631,006.8872	1,261,667.9921	1,914,482.941	15,364,447.742
G	0.125	0.125	631,257.3384	1,262,980.4412	1,914,725.622	15,365,761.329
J	0.304	0.304	631,336.0272	1,261,697.7023	1,914,811.824	15,364,479.378
K	0.04	--	629,775.6636	1,263,783.2172	1,913,239.602	15,366,555.201
L	1.043	--	631,275.4362	1,264,220.3032	1,914,736.435	15,367,000.984
Total:	5.376	0.553	--	--		

Notes:

NYS Plane NAD 83

The North American Datum of 1983 (NAD 83) is "The *horizontal control datum* for the United States, Canada, Mexico, and Central America, based on a geocentric origin and the *Geodetic Reference System 1980.*

Greene County NY039 NAD83

Zone 3101 Transverse Mercator / Eastern Zone UTM Zone 18

NYS Plane coordinates converted to UTM using Corpscon for windows 5.11.08

All of the aquatic resources on the 127-acre project site were delineated. The wetlands total 5.38 acres on the site and are primarily forested wetland. No streams or other water bodies were observed on the site. Due to the late seasonal conditions that the delineation occurred, it is recommended that the site be revisited again in the spring.

The majority of these wetlands would be considered part of the overall tributary system and would be regulated by the ACOE under Section 404 of the Clean Water Act (CWA) as "waters of the United States". These resources would also be protected under Section 401 of the CWA, which is implemented by the DEC under their State Water Quality Certificate Program. The wetlands are not identified on the State wetland maps, therefore no additional natural resource permits from the DEC appear to be necessary.

Approximately 0.55 acres of these wetlands appear to be potentially isolated from the tributary system and therefore *may* not be regulated under the Clean Water Act as "Waters of the United States". All determinations regarding isolated wetlands must be confirmed by the ACOE, prior to any disturbance occurring in those areas.

The field work and this report were prepared by Kim Copenhaver of Copeland Environmental LLC. Please contact Kim with any questions (518) 874-1888.

NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONVEYANCE MAP

SOUTH CAIRO–CAIRO
S.H. NO. 887

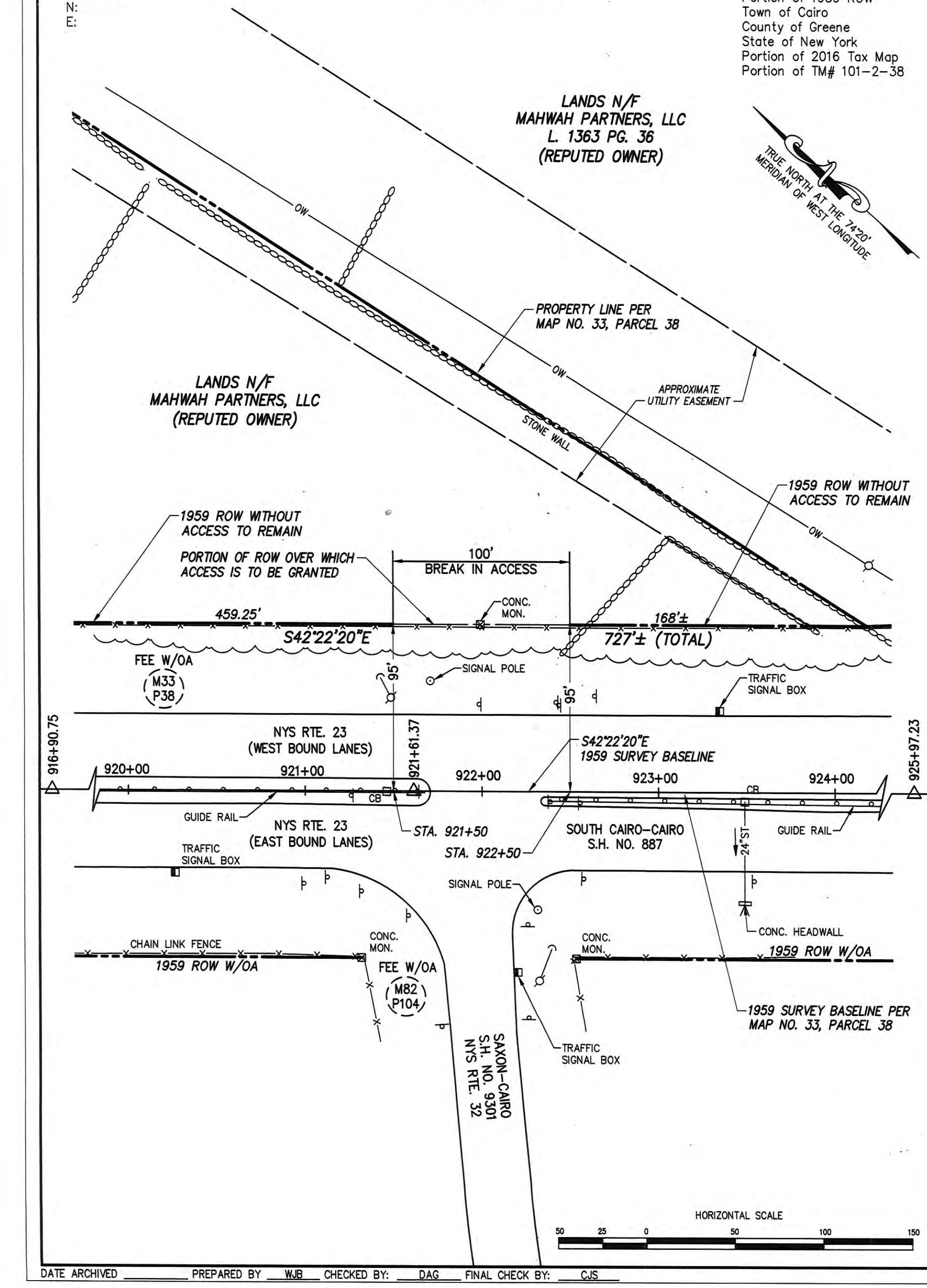
PIN

MAP NO. 90–C
PARCEL NO. 173
SHEET 1 OF 2 SHEETS

MAP REFERENCE INFORMATION:
Parcel Locator Points:
Parcel No:
N:
E:

BREAK IN ACCESS TO BE GRANTED TO
MAHWAH PARTNERS LLC

PARCEL SUMMARY:
TYPE: BREAK IN ACCESS
Portion of 1959 ROW
Town of Cairo
County of Greene
State of New York
Portion of 2016 Tax Map
Portion of TM# 101–2–38



DATE ARCHIVED _____ PREPARED BY WJB CHECKED BY: DAG FINAL CHECK BY: CJS

NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONVEYANCE MAP

SOUTH CAIRO–CAIRO
S.H. NO. 887

PIN

MAP NO. 90–C
PARCEL NO. 173
SHEET 2 OF 2 SHEETS

The purpose of this map is to allow the right of access to and from the abutting property along the existing highway boundary in the Town of Cairo, County of Greene and State of New York described below, where access had theretofore been prohibited to adjacent owners under Map No. 33 Parcel No. 38, a copy of said map was filed in the Office of the Department of Public works on August 4 1959.

Beginning at a point on the northerly boundary of Parcel No. 38, acquired in fee without Access by Appropriation by the People of the State of New York by virtue of Map No. 33 for State Highway 887, New York State Route 23, said point being 95.0 feet distant northeasterly measured at right angles from Station 921+50.0 of the hereinafter described 1959 survey baseline of the aforementioned State Highway; Thence along the Northerly boundary of the aforementioned State Highway South 42° 22' 20" East 100.00 feet to a point being 95.0 feet distant northeasterly measured at right angles from Station 922+50.0 of said baseline.

The above mentioned survey baseline is a portion of the 1959 survey baseline for the construction of State Highway 887, New York State Route 23, as shown on a map on file in the State Department of Transportation, and describes as follows: Beginning at Station 911+46.33 thence S 42° 30' 35" E a distance of 544.42 feet to Station 916+90.75, thence S 42° 22' 20" E a distance of 470.62 feet to Station 921+61.37 = "A" 0+00, thence S 42° 22' 20" E a distance of 435.86 feet to Station 925+97.23, thence S 42° 22' 20" E a distance of 430.23 feet to Station 930+27.46. All bearings refer to true north at the 74° 20' Meridian of West Longitude.

I hereby certify that the right of access to and from abutting property is to be granted along the portion of the existing highway boundary described and maped above.

Date _____ 20____

_____

Mark J. Kennedy, P.E.
Traffic and Transportation Safety Engineer
for the Regional Director of Transportation
Region No. 1

"Unauthorized alteration of a survey map bearing a licensed land surveyor's seal is a violation of the New York State Education Law."

I hereby certify that this map was prepared in accordance with current NYSDOT policies, standards and procedures.

Date May 24 2016

Gurley Engineering,
Surveying and Mapping Group, P.C.

Christopher J. Schroeder, Land Surveyor
P.L.S. License No. 050965

STATE OF NEW YORK
CHRISTOPHER J. SCHROEDER
050965
LICENSED LAND SURVEYOR

BREAK IN ACCESS TO BE GRANTED TO
MAHWAH PARTNERS LLC

Description and map of a portion of the existing highway boundary over which the Commissioner of Transportation deems necessary that the right of access to and from abutting property shall be granted for purposes connected with the highway system of the State of New York pursuant to Section 30 of the Highway Law and the Eminent Domain Procedure Law.

There is excepted from this appropriation all the right, title and interest, if any, of the United States of America in or to said property.

Pursuant to the statute(s) set forth above and the authority delegated to me by Official Order of the Commissioner of Transportation, this acquisition map is hereby approved and filed in the main office of the New York State Department of Transportation.

Date _____ 20____

_____
Office of Right–of–Way

I have compared the foregoing copy of the map with the original thereof, as filed in the office of the Department of Transportation, and I do hereby certify the same to be a true and correct copy of the original and of the whole thereof.

_____
Office of Right–of–Way

DATE ARCHIVED _____ PREPARED BY WJB CHECKED BY: CJS FINAL CHECK BY: CJS

Appendix 2. Water Hydraulic Analysis

The following is a summary of the fire flow tests conducted by Delaware Engineering staff on the night of April 19, 2021. A series of four (4) flow tests were completed. Two of which were along Main Street, another was on the easternmost side of the system, just north of Route 23 on Bross Street, and one was at the intersection of Klingerman Drive and Monti Drive (see attached map for reference).

The hydrant nearest the water tower appeared to be out of service and the next nearest to the water tower looked newly installed, but the water valve was off. Therefore, the first hydrant that was flowed was at the intersection of Klingerman Drive and Monti Drive. It was the first hydrant in the upper part of the system where we were able to obtain flow This hydrant yielded a flow of 910 GPM. The static gauge for this test was placed on a hydrant on Monti Drive. It was determined that this hydrant was not on the same line as the hydrant being flowed as there was no change in pressure.

The second flow test was performed on Main Street, east of the first test. There was 450 GPM of flow and the static hydrant showed a difference of 5 psi. It had a static pressure of 70 psi and a residual pressure of 65 psi.

The next point of study was on Bross Street. The flow hydrant yielded 920 GPM. A difference of 10 psi was recorded at the static hydrant, the static pressure was 55 psi and the residual pressure was 45 psi.

The final flow test that was conducted at the intersection of Main Street and Route 32. The hydrant here had a flow of 915 GPM. The static hydrant was located on Birch Street near Lake Avenue. It was recorded that there was a drop in pressure of 15 psi. The static pressure was observed at 60 psi and the residual was 45 psi.

Below are the tabulated results for each of the four hydrants tested:

Klingerman Drive & Monti Drive

Flow	910 GPM
Static	N/A
Residual	N/A

Bross Street

Flow	920 GPM
Static	55 psi
Residual	45 psi

Main Street

Flow	450 GPM
Static	70 psi
Residual	65 psi

Main Street & Route 32

Flow	915 GPM
Static	60 psi
Residual	45 psi

Hydrant Flow Test Results

Town of Cairo, Greene County, NY

- Hydrants
- Water Tower
- Water Nodes
- WaterMains

N

0 375 750 1,500 US Feet

Prepared By: Delaware Engineering, D.P.C.
Date: April 2021
Sources: ESRI, OpenStreetMap

Flow Hydrant: 910 GPM

Flow Hydrant: 450 GPM

Static Hydrant: Static (psi)-70 Residual (psi)-65

Static Hydrant: Static (psi)-55 Residual (psi)-45

Flow Hydrant: 920 GPM

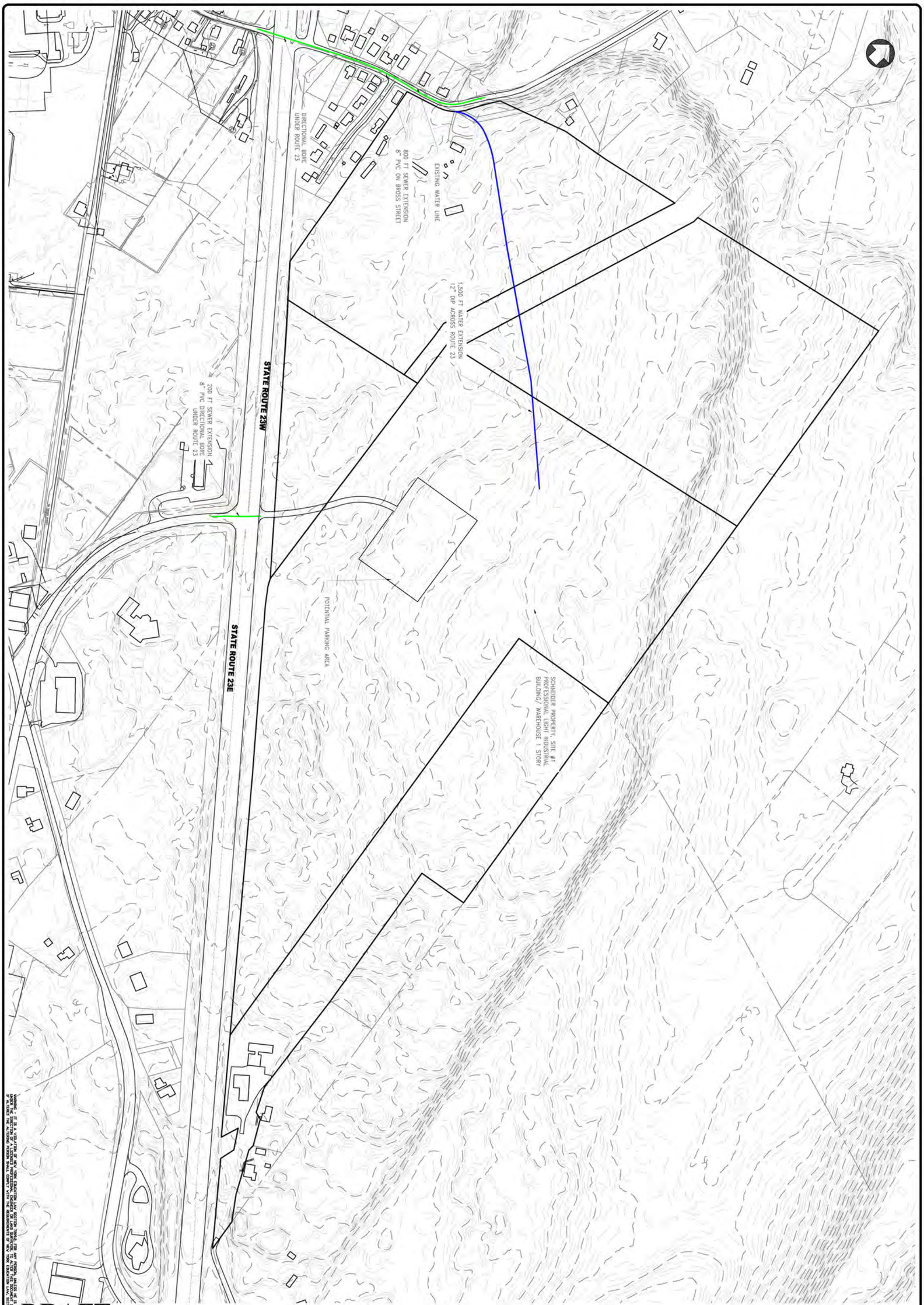
Flow Hydrant: 915 GPM

Static Hydrant: Static (psi)-60 Residual (psi)-45

NY 145
NY 23
NY 32
State Highway 23
CR 41A
CR 23B
CR 41
CR 80
CR 24
Cornell Avenue
Lincoln Drive
Malmstrom Drive
Meyers Street
Lake Mills Road
Marie Drive
Bross Street
Christina Drive
Monfil Drive
Main Street
Shoti Drive
Snyder Lane
Stanley Drive
Frero Road
Angelo Canna Park
Mountain Avenue
Church Street
Volunteer Drive
William Dinger Road
Lake Avenue
Vernal Butler Road
Cairo

Appendix 3. Infrastructure Extension Plans

H:\Drawings\Cairo\Water\Economic Development\FIGURE#3.dwg



DRAFT

SHEET: F1

ECONOMIC DEVELOPMENT SITE #1

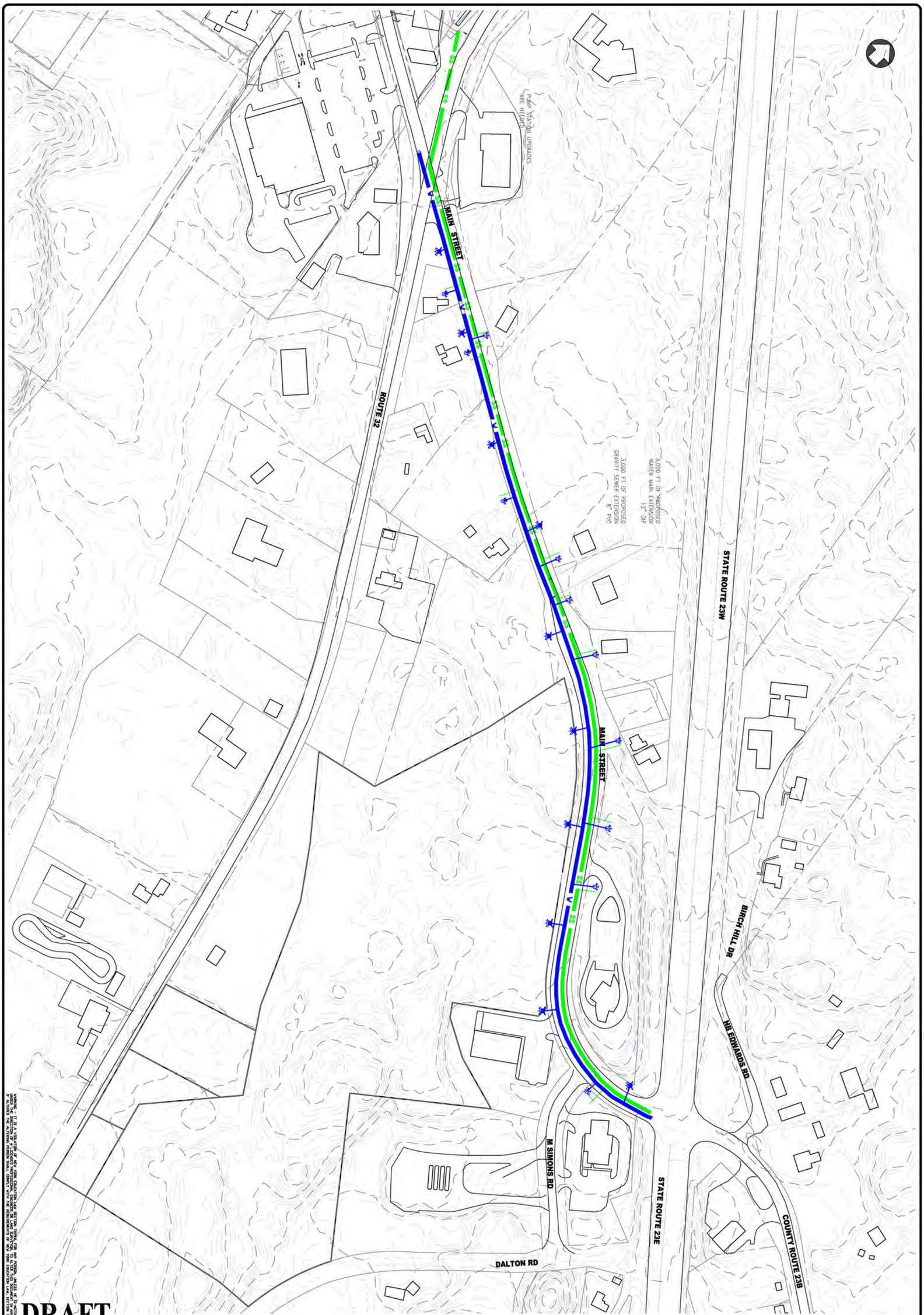
ECONOMIC DEVELOPMENT
TOWN OF CAIRO
GREENE COUNTY, NY

REVISIONS		
NO.	DATE	DESCRIPTION
.	.	.

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9952
6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.7777

DATE: 5/27/2021
DRAWN BY: BROILESI
SCALE: 1" = 180'
REVIEWED BY: XX
PROJECT NO.: 20-2028
FILE: FIGURE#3

H:\Drawings\Cairo\Water\Economic Development\FIGURE#2.dwg



DRAFT

SHEET: F2

ECONOMIC DEVELOPMENT
SITE #2

ECONOMIC DEVELOPMENT
TOWN OF CAIRO
GREENE COUNTY, NY

REVISIONS

NO.	DATE	DESCRIPTION
.	.	.

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9952
6 TOWNSEND STREET, WALTON, NY 13855 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.7777

DATE: 5/18/2021
DRAWN BY: BROILESI
SCALE: 1" = 120'
REVIEWED BY: XX
PROJECT NO.: 20-2028
FILE: FIGURE#2

H:\Drawings\Cairo\Water\Economic Development\FIGURE#4.dwg

DRAFT

SHEET: F3

ECONOMIC DEVELOPMENT
SITE #3

ECONOMIC DEVELOPMENT
TOWN OF CAIRO
GREENE COUNTY, NY

REVISIONS		
NO.	DATE	DESCRIPTION
.	.	.

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9952
6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.7777

DATE: 5/27/2021
DRAWN BY: BROILESI
SCALE: 1" = 80'
REVIEWED BY: XX
PROJECT NO.: 20-2028
FILE: FIGURE#4

Appendix 4. Cedar Terrace Well Evaluation

ALPHA GEOSCIENCE

Geology
Hydrology
Remediation
Water Supply

June 6, 2016

Mr. Alan Tavenner, P.E.
Delaware Engineering, D.P.C.
28 Madison Avenue Extension
Albany, New York 12203

Re: Cedar Terrace Pool Well Evaluation
Cairo, New York

Dear Alan:

This correspondence was prepared by Alpha Geoscience (Alpha) at the request of Delaware Engineering, D.C. to document the evaluation of the Pool Well located at the property known as the Cedar Terrace in Cairo, New York. Alpha and a water well contractor, Titan Drilling Corporation (Titan) performed a short term pumping test to evaluate the yield and water quality of the Pool Well on May 11, 2016. A description of the well testing procedure, data collection and a summary of the results are described herein.

The short term test included 3 consecutive pumping periods (steps), a water level recovery monitoring period, and a final pumping period. The first 3 steps included pumping rates of approximately 56 gallons per minute (gpm) for a 60 minute period, 77 gpm for a 60 minute period, and 101 gpm for a 290 minute period. The final pumping period was performed for 31 minutes at approximately 42 gpm for most of the pumping period. The objective of the last pumping period was to stabilize the pumping level at a depth of a water-bearing feature identified by a cascading sound within the well at approximately 45 feet below ground surface. A semi-log graph that shows drawdown data collected during the test is presented as Attachment A. Attachment B presents a 180-day drawdown projection to evaluate the potential long-term capacity of the well based on the data collected during the first 3 steps. The New York State Department of Health (NYSDOH) requires a 72-hour pumping test for a new community water system well. However, Alpha typically recommends longer duration pumping tests such as 72 hour to 120 hour tests to evaluate long-term well capacity because the potential impact of aquifer boundaries may not be seen during short-term tests.

The evaluation of the potential impact of Pool Well pumping on the current water supply well (Well WS) for the Cedar Terrace property included monitoring the water level in the WS Well throughout the testing period. The WS Well was not pumping during the testing period except for a brief period at the very end of the testing. A semi-log graph that includes WS Well drawdown data and a drawdown projection is presented as Attachment C.

Water quality of the Pool Well discharge was evaluated by field water quality monitoring and by laboratory analysis of routine physical and inorganic parameters. A table that includes the field

water quality data is presented as Attachment D and Attachment E presents the laboratory water quality testing results.

Results Summary

The results of the short term testing indicate that the Pool Well has an above average yield compared to most of the other wells in this area that Alpha has evaluated based on testing or review of well log information. There was a relatively small amount of drawdown as a result of the 56 gpm step (Attachment B). Much more drawdown was produced at the 77 gpm and 101 gpm pumping rates and the 180-day projection indicated that a rate of 101 gpm was not sustainable for longer pumping periods with the pumping level reaching the pump intake in approximately 10 days.

The testing results indicated that the Pool Well and the WS Well are hydraulically connected. The data collected during the test indicate that the water level in the WS Well dropped significantly during Pool Well pumping (Attachment C). The drawdown projection indicated that pumping the Pool Well will drop the water level to the pump intake depth (estimated) in the WS Well in approximately 10 days. It is important to note that private wells on Jones Street are located within approximately 600 feet of the Pool Well based on information provided by a representative of Cairo. The potential impact on these private wells was not evaluated during this evaluation.

A cascading sound was observed at both the Pool Well and the WS Well when the water level in these wells reached a depth of approximately 45 feet below ground surface. This cascading sound indicates that a water-bearing feature is present at this depth in both wells. No well logs are available for these wells so it could not be determined if this is a bedrock feature such as a fracture or leakage from the overlying unconsolidated deposits that enters the well around the bottom of the well casing. It is important to recognize that shallow ground water sources can have greater vulnerability to surface or near surface contamination sources. Additionally, shallow ground water sources can be more vulnerable to dry conditions with their yield potential decreasing significantly during dry periods.

The results of the field water quality monitoring (Attachment D) and laboratory testing (Attachment E) indicate that the results met the NYSDOH water quality standards for the parameters that were tested. The water quality is more typical of a shallow ground water source compared to a deeper bedrock source based on Alpha's experience evaluating wells in this area. The laboratory result for nitrate was below the maximum contaminant level for this parameter, but is generally higher than deeper bedrock aquifer sources.

Recommendations

The following recommendations are provided if the decision is made to further evaluate the Cedar Terrace site as a potential potable water source:

- Contact the New York State Department of Health (NYSDOH) to determine if the Pool Well or another well installed at the site can be used as a potable water source for Cairo. The regulatory requirements should be identified including, but not limited to well design (casing and grout seal) and required setback distances to potential contamination sources such as septic systems. If a new well(s) are installed at the site they may not have the same water-bearing potential as the Pool Well.
- Perform a longer-term pumping test at the site such as a 72-hour to 120-hour constant rate test to evaluate long-term well yield, water quality and potential impacts of pumping on other water supplies. Water quality testing should include a full NYSDOH Part 5 analysis. A test rate of 50 gpm for the long-term test is recommended. Additional evaluation could be performed before the long term test to evaluate if a slightly higher pumping rate could be considered.

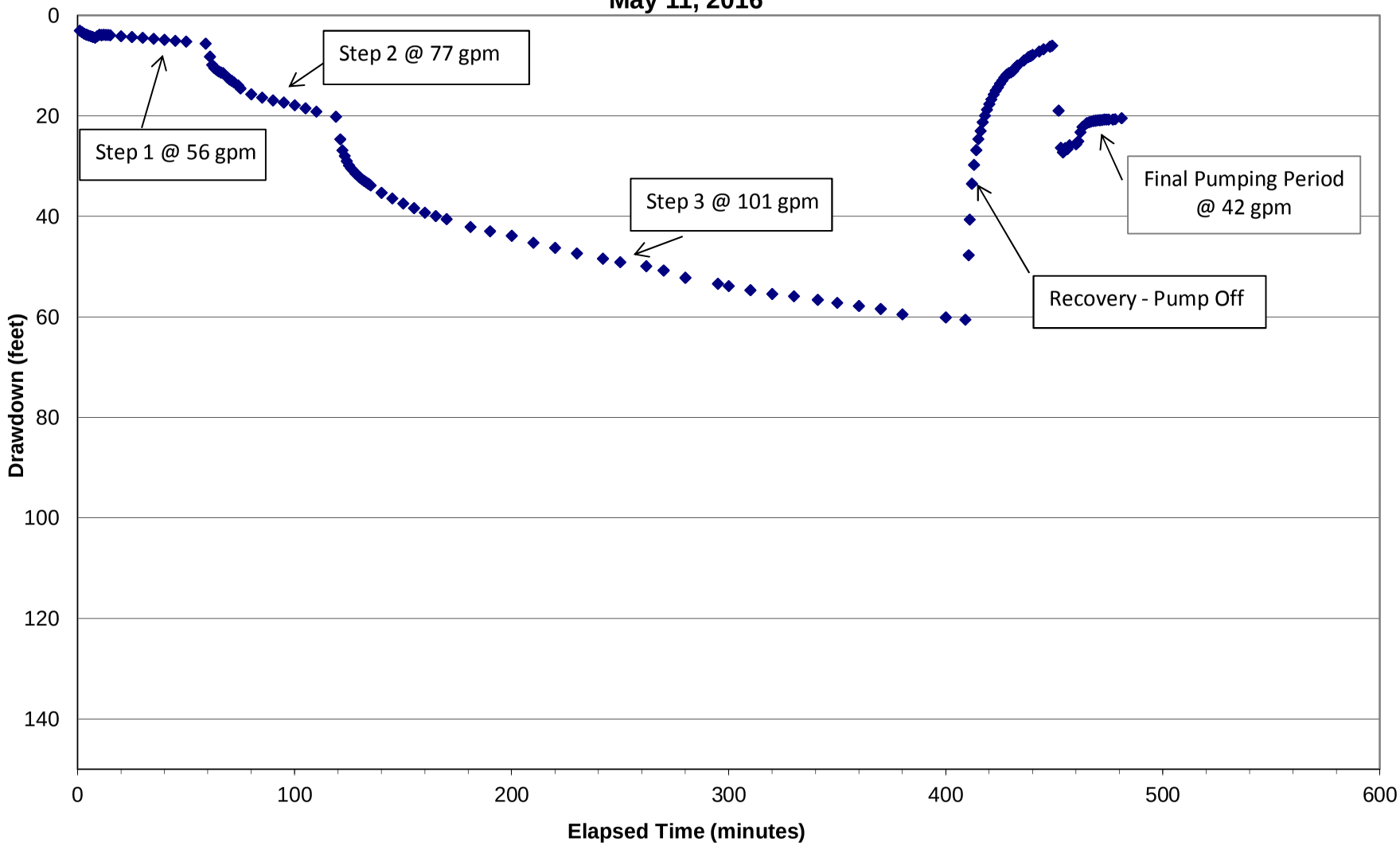
Sincerely,
Alpha Geoscience

Michael D. Palleschi, CPG
Senior Hydrogeologist

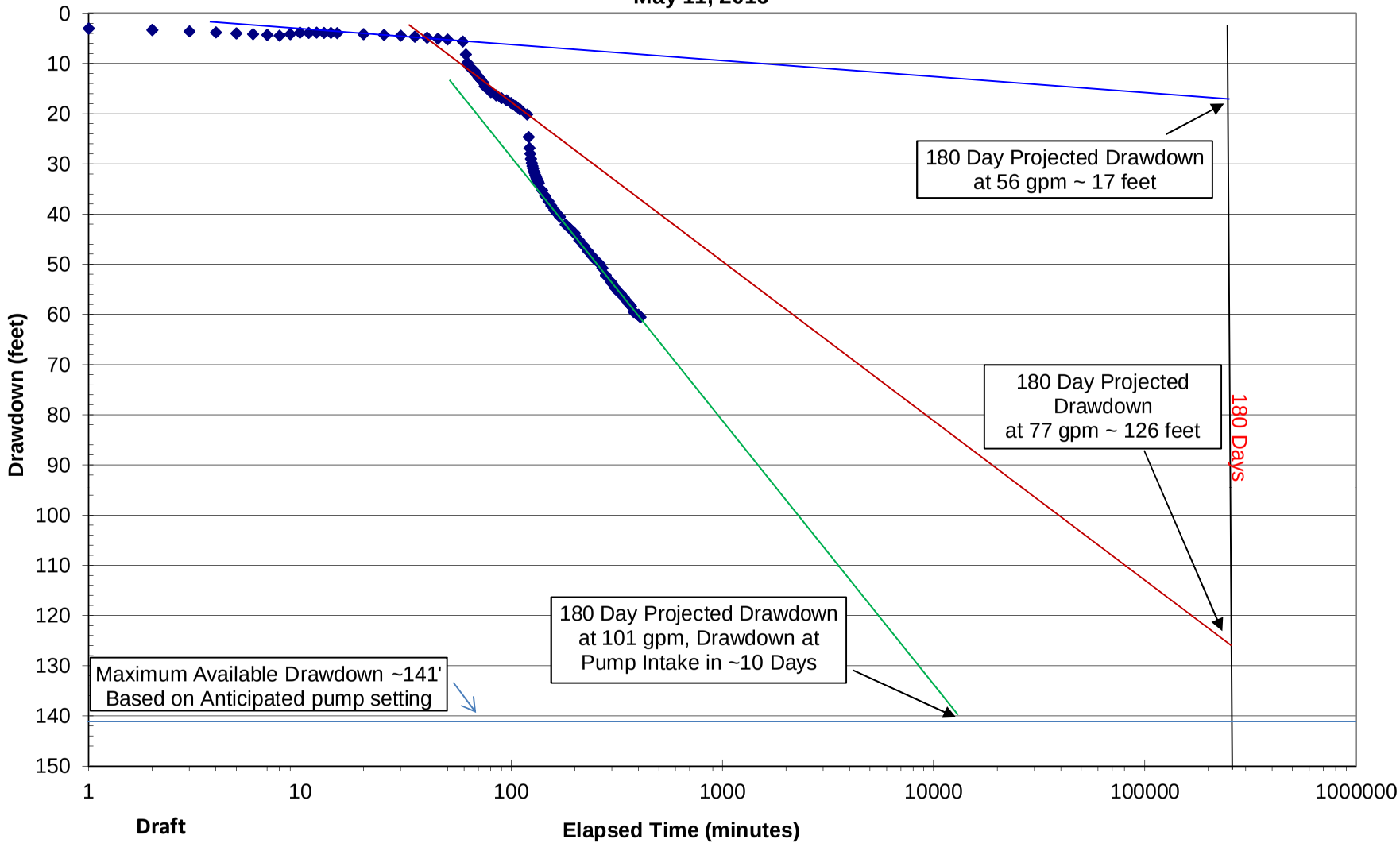
Attachments

Z:\projects\2013\13121 - 13140\13121 - Cedar Terrace\Cedar Evaluation 6-6-16.doc

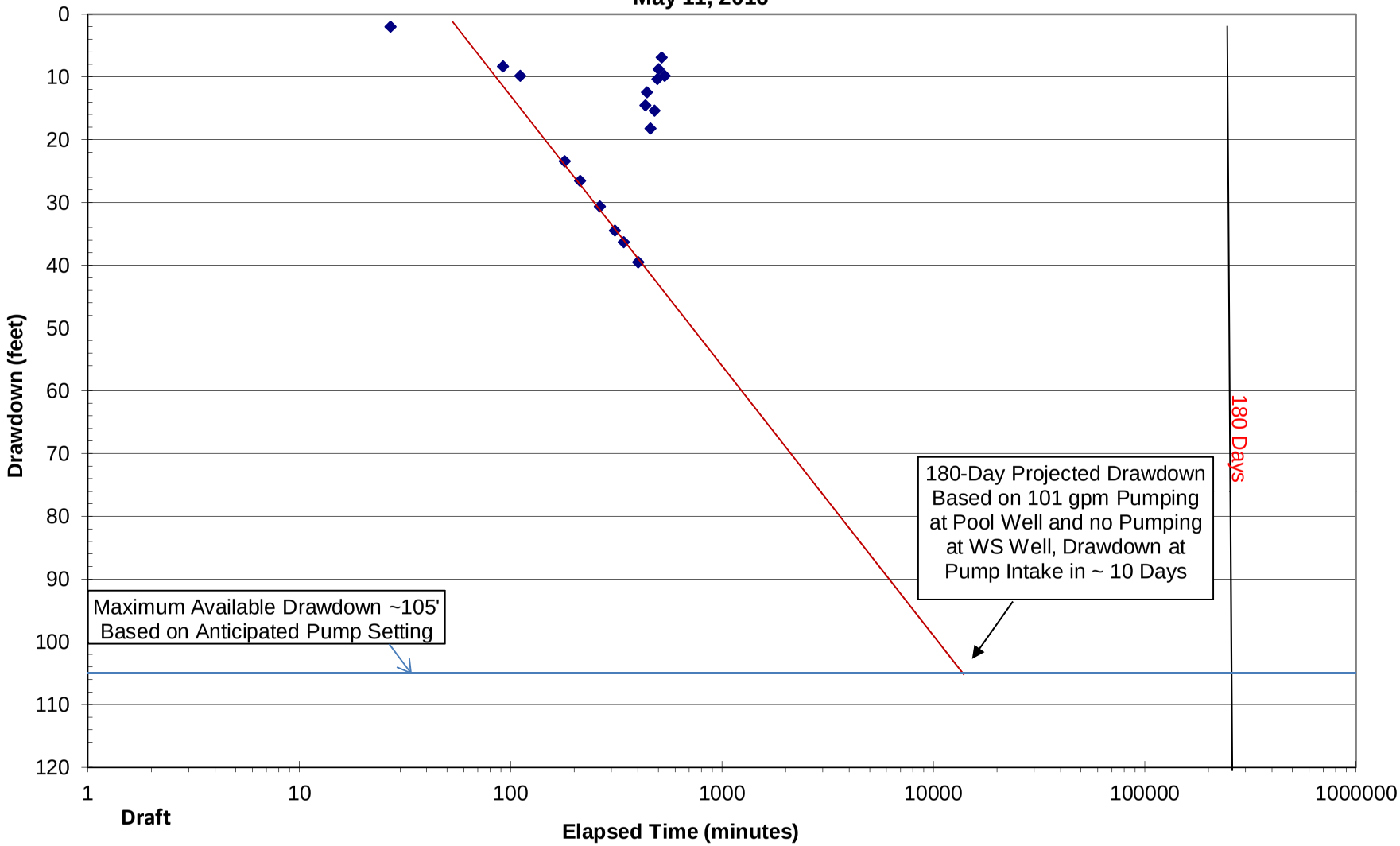
ATTACHMENT A
TOWN OF CAIRO
Pool Well Water Level Data
May 11, 2016



ATTACHMENT B
TOWN OF CAIRO
Cedar Terrace Pool Well - Projected Drawdown
May 11, 2016



ATTACHMENT C
TOWN OF CAIRO
WS Well - Projected Drawdown
May 11, 2016



ATTACHMENT D

TOWN OF CAIRO
Cedar Terrace Pool Well
Field Water Quality Data
May 11, 2016

Time	pH	Conductivity (us/cm)	TDS (ppm)	Turbidity (Visual)	Remarks
9:16	6.45	171	89	Clear	Step 1; no odor
10:24	6.23	220	114	Clear	Step 2; no odor
11:36	6.22	225	119	Clear	Step 3; no odor
12:52	6.36	234	123	Clear	Step 3; no odor
14:05	6.28	243	128	Clear	Step 3; no odor
14:52	6.40	244	129	Clear	Step 3; no odor
15:23	6.38	246	130	Clear	Step 3; no odor

Note: Samples collected at pipe orifice

ATTACHMENT E

PHOENIX
Environmental Laboratories, Inc.

Wednesday, May 18, 2016

Attn: Mr. Michael Palleschi
Alpha GeoScience
679 Plank Road
Clifton Park, NY 12065

Project ID: CAIRO LSS
Sample ID#s: BN31762 - BN31763

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Analysis Report

May 18, 2016

FOR: Attn: Mr. Michael Palleschi
Alpha GeoScience
679 Plank Road
Clifton Park, NY 12065

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:	MP	05/11/16	15:30
Location Code:	ALPHAGEO	Received by:	LB	05/12/16	17:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBN31762
Phoenix ID: BN31762

Project ID: CAIRO LSS
Client ID: CEDAR POOL

Parameter	Result	RL/ PQL	DIL	Units	DW MCL	Sec Goal	Date/Time	By	Reference	
Hardness (CaCO3)	58.8	0.1	1	mg/L			05/14/16		E200.7	
Alkalinity-CaCO3	60	20.0	1	mg/L			05/13/16	RR/EG	SM2320B-97	
Chloride	35.5	3.0	1	mg/L		250	05/12/16	BS/EG	E300.0	
Nitrate as Nitrogen	1.30	0.05	1	mg/L	10		05/12/16 20:59	BS/EG	E300.0	
pH	7.09	0.10	1	pH Units		6.5-8.5	05/13/16 06:02	RR/EG	SM4500-H B-00	1
Sulfate	9.5	3.0	1	mg/L		250	05/12/16	BS/EG	E300.0	
Tot. Diss. Solids	140	10	1	mg/L		500	05/13/16	KH	SM2540C-97	
Turbidity	0.99	0.200	1	NTU		5	05/13/16 06:02	RR/EG	SM2130B-01	
Arsenic	< 0.0005	0.0005	1	mg/L	0.01		05/14/16	MA/TH	E200.9/SM3113B-10	
Calcium	19.5	0.005	1	mg/L			05/13/16	LK	E200.7	
Iron	0.25	0.01	1	mg/L		0.3	05/13/16	LK	E200.7	
Magnesium	2.46	0.005	1	mg/L			05/13/16	LK	E200.7	
Manganese	0.010	0.001	1	mg/L		0.05	05/13/16	LK	E200.7	
Sodium	30.2	1.0	10	mg/L			05/14/16	LK	E200.7	
***** Sodium exceeds Secondary Goal *****										
Total Metal Digestion	Completed						05/12/16	AG/T	E200.9	
Total Metal Digestion	Completed						05/12/16	AG/TH/TH	E200.5/E200.7	

Parameter	Result	RL/ PQL	DIL	Units	DW MCL	Sec Goal	Date/Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal

Comments:

Maximum Contaminant Level (Lower of): 40 CFR Part 141; Public Health Law, Section 225 Part 5, Subpart 5-1. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Secondary DW Maximum Contaminant Level Goal (MCLG): 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

Phyllis Shiller, Laboratory Director
May 18, 2016
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

May 18, 2016

FOR: Attn: Mr. Michael Palleschi
Alpha GeoScience
679 Plank Road
Clifton Park, NY 12065

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:	MP	05/11/16	15:30
Location Code:	ALPHAGEO	Received by:	LB	05/12/16	17:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBN31762
Phoenix ID: BN31763

Project ID: CAIRO LSS
Client ID: CEDAR POOL-D

Parameter	Result	RL/ PQL	DIL	Units	DW MCL	Sec Goal	Date/Time	By	Reference
Arsenic, Dissolved	< 0.0005	0.0005	1	mg/L	0.01		05/13/16	MA/TH	E200.9
Iron (Dissolved)	0.096	0.011	1	mg/L		0.3	05/13/16	LK	E200.7
Manganese (Dissolved)	0.006	0.001	1	mg/L		0.05	05/13/16	LK	E200.7
Dissolved Metals Preparation	Completed						05/12/16	AG	SW3005A

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal

Comments:

Maximum Contaminant Level (Lower of): 40 CFR Part 141; Public Health Law, Section 225 Part 5, Subpart 5-1. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Secondary DW Maximum Contaminant Level Goal (MCLG): 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

Phyllis Shiller, Laboratory Director
May 18, 2016
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

May 18, 2016

QA/QC Data

SDG I.D.: GBN31762

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 345275 (mg/L), QC Sample No: BN30169 (BN31763)													
ICP Metals - Dissolved													
Iron	BRL	0.011	<0.011	<0.011	NC	90.1			91.7			75 - 125	20
Manganese	BRL	0.001	0.002	0.002	NC	89.1			90.6			75 - 125	20
QA/QC Batch 345349A (mg/L), QC Sample No: BN30325 (BN31762)													
ICP Metals - Aqueous													
Calcium	BRL	0.005				108			NC			85 - 115	20
Iron	BRL	0.01				102			97.2			85 - 115	20
Magnesium	BRL	0.005				99.9			NC			85 - 115	20
Manganese	BRL	0.001				101			97.6			85 - 115	20
Sodium	BRL	0.1				110			NC			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 345423A (mg/L), QC Sample No: BN31692 (BN31762)													
Arsenic	BRL	0.001				101			99.3			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

May 18, 2016

QA/QC Data

SDG I.D.: GBN31762

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 345464 (mg/L), QC Sample No: BN30991 (BN31762)													
Tot. Diss. Solids	BRL	10	87	95	8.80	93.0						85 - 115	20
QA/QC Batch 345510 (mg/L), QC Sample No: BN31374 (BN31762)													
Alkalinity-CaCO3	BRL	5.00	103	104	1.00	99.7						85 - 115	20
QA/QC Batch 345505 (pH), QC Sample No: BN31374 (BN31762)													
pH			7.61	7.56	0.70	98.8						85 - 115	20
QA/QC Batch 345515 (NTU), QC Sample No: BN31374 (BN31762)													
Turbidity	0.20	0.200	1.02	0.97	NC	91.0						85 - 115	20
QA/QC Batch 345543 (mg/L), QC Sample No: BN31736 (BN31762)													
Chloride	BRL	3.0	<2.0	<3.0	NC	96.2			94.1				
Nitrate as Nitrogen	BRL	0.05	0.76	0.75	1.30	98.6			98.6			90 - 110	20
Sulfate	BRL	3.0	4.2	4.1	NC	93.1			94.5			85 - 115	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
May 18, 2016

Sample Criteria Exceedences Report

GBN31762 - ALPHAGEO

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
BN31762	NA-DW	Sodium	EPA / 40 CFR 141 DW / 143.3 Secondary MCLs	30.2	1.0		0.2	mg/L

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 9 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

NY/NJ CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Contact Options:
☐ Fax:
☒ Phone: 518-441-6236
☒ Email: mg.lleschi@alpha...

Customer: Alpha Geoscience
Address: 679 Plank Road, Clifton Park, NY 12065

Project: Cairo WSS
Report to: Michael Pelleschi
Invoice to: Alpha Geoscience

Project P.O: 13121

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 5/11/16

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
OIL=Oil B=Bulk L=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	pH, Alkalinity, Turbidity, Total Hardness, Chloride, Sodium, Nitrate, Calcium, Sulfate, Iron, Arsenic, Magnesium, Manganese	Dissolved Iron, Arsenic	Dissolved Manganese	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
31762	Cedar Pool	DW	5/11	15:30	X	X	X						2	1			1
31763	Cedar Pool-D	DW	5/11	15:30				X	X					1			

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	5/12/16	1350
[signature]	[signature]	5-12-16	17:30

Comments, Special Requirements or Regulations:
Drinking Water
No Filtering Needed – Dissolved
Sample Was Filtered In Field

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ 5 Days
☐ 10 Days
☐ Other
* SURCHARGE APPLIES

NJ
☐ Res. Criteria
☐ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ GW Criteria

NY
☐ TAGM 4046 GW
☐ TAGM 4046 SOIL
☐ NY375 Unrestricted Use Soil
☐ NY375 Residential Soil
☐ Restricted/Residential
☐ Commercial
☐ Industrial

Data Format
☐ Phoenix Std Report
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ NJ Hazsite EDD
☐ NY EZ EDD (ASP)
☐ Other

Data Package
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B) *
☐ Other

State where samples were collected: NY

Appendix 5. Energy Comparison Tables from NYSERDA

New York State
Commercial Energy Prices
in Nominal Dollars,
2002–2016

Table 4-2a. (in physical units)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/Ton	Cents/Gal.	$/bbl	Cents/Gal.	Cents/Gal.	$/Mcf	Cents/kWh	2016=1
2002	45.11	88.39	25.90	106.92	101.68	6.42	11.79	0.750
2003	41.35	109.87	34.20	134.60	120.53	8.60	12.93	0.767
2004	43.94	134.78	33.70	162.14	134.47	10.11	12.98	0.787
2005	48.87	188.53	47.59	214.92	151.09	11.80	14.36	0.814
2006	67.67	215.40	55.26	260.15	166.73	11.91	15.51	0.840
2007	64.85	236.32	61.74	289.85	193.44	11.82	15.92	0.864
2008	105.50	324.51	83.43	365.31	233.36	12.87	16.79	0.897
2009	136.28	206.74	62.49	281.21	188.33	10.72	15.48	0.894
2010	138.86	254.51	81.10	320.90	215.73	10.87	16.31	0.909
2011	135.81	340.10	109.46	379.76	245.96	9.33	15.81	0.937
2012	N/A	354.55	115.43	399.87	195.09	7.84	15.06	0.957
2013	N/A	344.10	105.87	400.68	192.17	8.00	15.35	0.971
2014	N/A	299.51	92.73	402.84	203.22	8.31	16.12	0.986
2015	N/A	199.07	49.23	224.78	122.48	6.86	15.31	0.988
2016	N/A	157.30	38.35	179.15	115.17	6.18	14.45	1.000

Table 4-2b. (in $/million Btu)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	2016=1
2002	1.92	6.38	4.12	7.92	11.82	6.26	34.55	0.750
2003	1.76	7.93	5.44	9.97	13.95	8.37	37.89	0.767
2004	1.87	9.73	5.36	12.01	15.61	9.84	38.04	0.787
2005	2.08	13.61	7.57	15.92	17.53	11.50	42.08	0.814
2006	2.88	15.59	8.79	19.27	19.43	11.65	45.46	0.840
2007	2.76	17.16	9.82	21.47	21.18	11.54	46.65	0.864
2008	4.49	23.58	13.27	27.06	25.55	12.59	49.22	0.897
2009	5.80	15.02	9.94	20.83	20.62	10.49	45.36	0.894
2010	5.91	18.50	12.90	23.77	23.62	10.63	47.79	0.909
2011	5.78	24.73	17.41	28.13	26.93	9.08	46.33	0.937
2012	N/A	25.79	18.36	29.62	21.36	7.60	44.13	0.957
2013	N/A	25.03	16.84	29.68	21.04	7.73	45.00	0.971
2014	N/A	21.79	14.75	29.84	22.25	8.04	47.25	0.986
2015	N/A	14.49	7.83	16.65	13.41	6.64	44.86	0.988
2016	N/A	11.45	6.10	13.27	12.61	5.99	42.35	1.000

1 Home heating oil.
2 To convert prices to 2016 dollars, divide the selected price by the deflator factor in the same row.

New York State
Industrial Energy Prices
in Nominal Dollars,
2002–2016

Table 4-3a. (in physical units)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/Ton	Cents/Gal.	$/bbl	Cents/Gal.	Cents/Gal.	$/Mcf	Cents/kWh	2016=1
2002	51.26	88.53	25.90	81.41	105.90	5.54	5.18	0.750
2003	48.42	107.93	34.20	109.76	130.56	7.35	7.14	0.767
2004	52.50	127.44	33.70	137.97	147.39	8.05	7.04	0.787
2005	59.97	190.19	47.59	181.85	160.92	10.75	8.23	0.814
2006	77.95	218.86	55.26	213.17	177.71	10.56	9.39	0.840
2007	76.91	238.52	61.74	243.27	220.66	11.43	8.71	0.864
2008	90.61	327.12	83.43	306.86	264.41	12.30	9.39	0.897
2009	105.75	197.66	62.49	204.39	217.46	9.53	8.37	0.894
2010	116.04	263.59	81.10	251.24	225.50	8.54	8.79	0.909
2011	123.02	324.56	109.46	331.56	260.39	8.19	7.83	0.937
2012	133.00	342.04	115.43	346.55	200.75	6.91	6.69	0.957
2013	120.89	332.42	105.87	351.41	197.28	7.44	6.59	0.971
2014	117.10	312.98	92.73	332.64	210.25	8.13	6.58	0.986
2015	110.68	206.62	49.23	194.54	115.72	6.62	6.31	0.988
2016	100.05	154.69	38.35	152.28	107.13	5.92	6.03	1.000

Table 4-3b. (in $/million Btu)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	2016=1
2002	1.92	6.39	4.12	6.03	12.31	5.40	15.17	0.750
2003	1.81	7.79	5.44	8.13	15.11	7.15	20.92	0.767
2004	1.96	9.20	5.36	10.22	17.11	7.84	20.63	0.787
2005	2.27	13.73	7.57	13.47	18.67	10.48	24.11	0.814
2006	2.97	15.84	8.79	15.79	20.71	10.33	27.53	0.840
2007	2.91	17.32	9.82	18.02	24.16	11.16	25.53	0.864
2008	3.44	23.77	13.27	22.73	28.95	12.04	27.53	0.897
2009	4.01	14.36	9.94	15.14	23.81	9.32	24.54	0.894
2010	4.44	19.16	12.90	18.61	24.69	8.35	25.76	0.909
2011	4.74	23.60	17.41	24.56	28.51	7.97	22.96	0.937
2012	4.73	24.88	18.36	25.67	21.98	6.70	19.62	0.957
2013	4.37	24.18	16.84	26.03	21.60	7.19	19.30	0.971
2014	4.24	22.77	14.75	24.64	23.02	7.87	19.28	0.986
2015	4.02	15.04	7.83	14.41	12.67	6.41	18.49	0.988
2016	3.60	11.26	6.10	11.28	11.73	5.74	17.67	1.000

[1] Home heating oil.
[2] To convert prices to 2016 dollars, divide the selected price by the deflator factor in the same row.

Appendix 6. Marketing Flyer

Economic Opportunities:

1. Single owner with whom to coordinate
2. Flexible Mixed-Use Scale Site
3. Accommodates Large, Medium & Smaller Projects
4. Accommodates Small Low-Impact Projects
5. Minimal Environmental Issues
6. Highly Convenient Direct Access from NYS Route 23
7. Highly Convenient Distance to I-87 Access
8. Adjacent to Public Sewer
9. Close Proximity to Public Water
10. Some Parcels are within the Water District
11. Significant Road Frontage

Development Capacity	Business Sector Uses
Total Acreage – 122.2 Developable Acres – 119.7 % Developable – 80% Building Area – 4,258,425SF	Light Manufacturing Distribution Warehouse Office

122.2 Acre Schneider Development Site

This development site consists of 5 tax parcels with 122.2 acres of total area within the Town of Cairo. The site has visibility for more than 4,000 ft along NYS Route 23. The proposed uses for this site are light manufacturing, distribution, warehousing, and office uses. This site is positioned within seven miles of the exit 21 ramps for the NYS Thruway. It is adjacent to public sewer and is within close proximity to public water. The zoning on this site is in exclusively within the Commercial (COM) District. All of the proposed uses are permitted within the COM zone.

GREENE COUNTY E.D.C.
ECONOMIC DEVELOPMENT CORPORATION

For more information, contact: Warren Hart, Deputy County Administrator
411 Main Street | Catskill, New York 12414
518.719.3290 | whart@discovergreene.com | www.discovergreene.com

GREENE COUNTY E.D.C.

ECONOMIC DEVELOPMENT CORPORATION

ROUTE 23 ECONOMIC CORRIDOR

122.2 Acre Schneider Development Site

Present Zoning	Commercial (COM) District
Location	Town of Cairo, Greene County
Nearest Interstate	Located on NY-23 with close proximity to I-87, Exit 21, 7 Miles to interchange
Total Area	4,258,425 Square Feet
Nearest Commercial Airport	Columbia County Airport, 20 Miles Albany International Airport, 47 Miles
On-Site Broadband	Verizon NY Inc. or Mid-Hudson CableVision/Data Corp.