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Development Feasibility Analysis - Kondelin Road Area

October 2023

Gloucester Economic Development and Industrial Corporation

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1.0 INTRODUCTION

The Gloucester Economic Development & Industrial Corporation (EDIC) has identified land with development potential near Kondelin Road. In 2010, the EDIC retained Weston & Sampson to perform a feasibility analysis of this area, to determine the amount of development that could be accommodated. The Weston & Sampson Project Team included Jeanne Boyle Consulting, LLC. The 2010 findings indicated that there may be constraints to development related to water, wastewater, and power. Since 2010, there have been local infrastructure improvements that may address these constraints. In 2023, the EDIC has again retained Weston & Sampson to update the 2010 preliminary schematic design and prepare cost opinions for land acquisition and development. While some conditions have not changed significantly since 2010, such as zoning; other conditions have, including property ownership, materials and labor costs, operational costs, land data, and regulations affecting the development.

This analysis has updated the information from 2010, while also further refining infrastructure needs, costs, and development potential. Specifically, Weston & Sampson reviewed and updated the 2010 preliminary schematic design, and then assessed it against the current infrastructure capacity. The 2010 assessment included a preliminary lot layout which was based on the existing residential zoning. As part of this current effort, Weston & Sampson has reviewed the site conditions, to identify constraints and provide a more realistic projection of future development capacity.

As part of this process, several stakeholder interviews were conducted. These stakeholder interviews provided locally specific information about market conditions, general regional and national economic development trends, potential sources of public funding and assistance, and updated information on local public infrastructure capacity. Following is a list of the interviews conducted during this effort:

- David Fields, *City of Gloucester Community Development Director*
- Sal Di Stefano, *Director of Economic Development*
- Gary Johnstone, *Tax Assessor*
- Dana Martin, *City of Gloucester Environmental Engineer*
- Michael Hale, *Director of Public Works*
- Jay McNiff, *McNiff Companies*
- Thomas Barry, *Vice President, CBRE – Providence, RI*
- Geetha Rao Ramani, *Vice President of Business Development, North Region, Mass Development*
- Debra Beavin, *EDA Economic Development Representative for Connecticut, Massachusetts, and Rhode Island*
- Edward Ackerley, *Property Owner*

This report begins with a discussion of the process used to prepare conceptual development projections for the study area. This is followed by a summary of current infrastructure conditions and projected costs for water, wastewater, future roadway development, electricity, and stormwater. This report also includes an assessment of regional and local market conditions, including a pro forma, and information on potential funding sources, and other approaches. The final section includes some recommendations for next steps.

1.1 Development Analysis

Weston & Sampson refined the estimate of development potential at Kondelin Road, based on the roadway layout from 2010, the updates in infrastructure capacity, and additional analysis into site conditions. The 2010 layout included lots that were platted to maximize redevelopment under the zoning – which is Residential-30 (R-30). R-30 has a minimum lot size of 30,000 square feet (sf) and a minimum frontage of 80 feet. The 2010 plan yielded 36 lots that were roughly an acre each. For the purposes of this analysis, the 2010 lot layout is considered the Study Area.

Rather than propose a new lot layout, Weston & Sampson focused on identifying areas that were more feasible for redevelopment, and areas that were less feasible. The future lot layout should be based on the needs of future tenants. This site analysis is a general assessment based upon site conditions and the associated additional costs. It does not preclude development anywhere in the Study Area and is meant to assist the GEDIC with next steps by providing a conceptual estimate of future development capacity and identifying priority areas for initial phases of development. Our team's conversations with local developers and other industry experts indicated that there is a need and market for flexible space. The Weston & Sampson team determined that the Study Area could accommodate 200,000-400,000 square feet of development if the entire area is master planned.

These estimates were arrived at through a GIS analysis. The first step was to identify how site constraints could impact future development. The team identified the most significant constraints to development – severe topography, depth to bedrock, and the presence of regulated wetland resources. The entire Study Area has shallow depth to bedrock. This is a condition that will increase costs for public and private construction and is consistent across the entire Study Area. The other two site constraints - wetland resources with their regulatory restrictions and topography – were mapped to try and identify the more feasible and less feasible parts of the Study Area. The team mapped the wetlands with their regulatory setbacks and divided the Study Area into areas with slopes less than 15%, and areas with slopes greater than 15%. Land with slopes greater than 15% has increased costs and complexity for development and these areas were determined to be less feasible for development. Overlaying these two constraints identified two general areas with reasonable slopes that were not within any wetland buffer areas. Figure 1, contained in Appendix A, highlights the areas which are more suitable for development. The areas defined by the circles make up approximately 5-6 acres. There is another area, to the west and south of the proposed roadway which also has more suitable site conditions, that is approximately 2 acres.

The analysis in this report is intended to maximize development potential. One strategy is to use a master planning approach to the redevelopment, specifically for the issues of stormwater and parking. Stormwater is discussed in the following section (section 1.2, Turning Stormwater Challenges into an Asset). The EDIC's approach to parking should involve an analysis to determine the most suitable land for development and to utilize the remainder of the land to provide parking. There are also opportunities to design the proposed roadway to maximize parking within the right of way. The goal should be to preserve the land most suitable for development for actual buildings and the necessary access and to accommodate surface parking, to the extent feasible, along the roadway and on land with higher costs for development. Planning for stormwater and parking also provides opportunities for more efficient overall design.

This Master Planning strategy allows for the maximization of the most suitable areas for development and provides parking, stormwater management, and other utilities in other parts of the Study Area. The new roadway can also be designed to maximize future development capacity. Based upon these assumptions, the team estimated approximately 200,000 square feet of single-story new construction within the circled areas in Figure 1, and other areas within the Study Area that meet the criteria for suitability. The 200,000 square feet, limited to the most feasible areas and consisting entirely of single-story buildings represents the low range of the development estimates.

Depending upon the future use, the buildings may be single-story or multiple stories. The analysis considered a scenario where 50% could be single-story and 50% would be two-story, for an additional 100,000 square feet. The analysis also considered that there could be some development on the remaining approximately 25 acres. If the initial development is successful, development of the "less suitable" land may become more feasible because of the initial infrastructure investments and the potential increases in revenues. Development on these 25 acres would be costly and inefficient and some of this area will be occupied by parking and stormwater infrastructure. The analysis assumed another 100,000 square feet, which represents roughly ten percent of the area. This additional 200,000 square feet is a best-case scenario and represents the higher range of development estimates.

1.2 Turning Stormwater Challenges into an Asset

In addition to steep slopes and wetlands, another constraint that could impact overall development capacity is the infrastructure needed for stormwater. Site conditions at the Kondelin Road site—including bedrock outcrop, shallow depth to restrictive layers, and steep topography—make stormwater management a challenge and have the potential to dissuade some prospects from the Kondelin Road site. However, addressing the stormwater challenge in advance as part of initial site development could attract developers who will likely view such an approach as innovative, thoughtful, and a sign of support for development. Furthermore, such an approach has the potential to reduce site development costs associated with stormwater as part of the private development process for individual lots.

This section discusses:

- Pre-permitting and shared stormwater infrastructure as a benefit to potential tenants.
- Siting, sizing, and phasing of stormwater infrastructure to minimize upfront cost and maximize efficacy.
- Opportunities for multi-purposing stormwater practice installation sites to get the most out of scarce land resources and to create amenities wherever practicable.
- Long-term management as a benefit to tenants and a source of revenue for the Gloucester EDIC.

1.2.1 Benefits of Pre-permitting and Sharing Stormwater Infrastructure

Pre-permitting stormwater infrastructure could save developers time and essentially eliminate the stormwater management obstacle. Thoughtful planning could allow the EDIC to create multipurpose stormwater management sites that might serve as amenities. The cost associated could be rolled into maintenance and rental fees to minimize the burden on EDIC and to create a long-term source of revenue.

1.2.2 Siting, Sizing, and Construction Phasing of Stormwater Infrastructure

Weston & Sampson developed a hypothetical layout of a stormwater management system for the Kondelin Road development site (Appendix A, Figure 1). The layout is based on the 2010 yield plan with a road layout that was prepared for the site previously. The hypothetical layout is intended for discussion purposes in this report only. Further analysis of the site will be necessary to design stormwater best management practices (BMPs).
Our hypothetical layout shows stormwater BMP sizing and potential locations based on the following assumptions:

- BMPs for the majority of the Study Area are assumed to be detention basins. The southwest access road is the one exception. This location is downgradient to the rest of the site and, therefore, outside of the catchment area of the detention basins. The access road is proposed to be managed by stormwater bioswales or subsurface detention along one or both sides of the road.
- Detention basins are assumed to be:
  - Approximately 3 feet deep.
  - Sized to store a volume equal to one inch of runoff over the impervious surface (i.e., roads, buildings, and other hardscapes).
  - BMPs are sited in low-lying areas to allow for capture by gravity flow. Flow is assumed to be primarily overland flow that will approximately follow existing topography.
  - Lots are anticipated to be developed at 70 percent impervious or less.

Using these assumptions, we calculated the hypothetical treatment volume needed to be approximately 100,300 cubic feet with an approximate BMP footprint of 36,500 square feet. Based on topography, we identified four locations as hypothetical stormwater detention BMP sites, which are noted in Table 1.

Table 1. Approximate Size of Storage Needed to Manage Anticipated Development Using Road Length as a Proxy			
Storage Area	Length of Road (ft)	Percent of Road Length	Footprint of Proposed Detention Area (SF)
A	730	28%	10,000
B	826	31%	11,400
C	623	23%	8,600
D	475	18%	6,500
Total	**2,654**	**100%**	**36,500**

We would suggest construction phasing to generally include the following items, which are listed below in sequential order:

- Clearing and grading.
- Installation of detention BMPs.
- Installation of the roadway including the access road with its proposed swale or subsurface detention.
- Development of individual lots.

Building stormwater BMPs using an as-needed approach may be possible to limit upfront capital outlay. We recommend exploring this during the next steps of design.

1.2.3 Multipurposing Stormwater Installation Sites

With thoughtful planning, stormwater BMPs can be integrated into development sites in a manner that allows them to serve multiple purposes. Two examples include designing BMPs as water as gardens and designing BMPs to accommodate photovoltaic solar cells. The photographs at the end of this section show examples of BMPs built with multipurposing in mind.

1.2.4 Financing Long-Term Stormwater Management

As the owner of the Kondelin Road properties, EDIC will want to ensure the effective operation of all its infrastructure, including the stormwater system. Stormwater BMPs require regular inspection and maintenance so that they continue to operate properly. Typically, BMP inspections are recommended on an annual basis with maintenance such as cleanout and minor repair on an as-needed basis.

Funding will be needed to support inspection and maintenance. We recommend that stormwater system operation and maintenance be included as part of rental or maintenance fees. Using available literature values for similar maintenance programs operated at the municipal level, $120 - $180 per acre served could be used for initial planning purposes when considering the cost to renters. Costs should be revisited and updated as part of the next steps in planning and design.

Photo 1. Examples of stormwater approaches.

1.3 Property Acquisition

The proposed extension of Kondelin Road to create additional sites for development requires the use of both public and private property. Most of the land is in public ownership, by the city and the Gloucester EDIC. Most of the private land within the Study Area is owned by a single property owner with whom the EDIC has discussed this potential opportunity. As the design for the roadway is refined further, the need for additional property will also be refined. Figure 2, in Appendix A, shows property ownership within the Study Area and Table 2 lists the property owners.

Table 2. Parcels with Ownership

Parcel Identification	Type of Ownership
195-4	Private ownership
195-3	Gloucester EDIC
195-1	Non-Profit
195-17	Private
198-1	City of Gloucester
198-3	Unknown
194-72	City of Gloucester
194-73	City of Gloucester
195-2	Unknown

2.0 INFRASTRUCTURE

There have been significant changes within the city that impact the assumptions made in the 2010 analysis. The most significant change is related to wastewater, which had been identified in 2010 as a major restriction to development. For this report and based on information presented in the 2010 Phase II Feasibility Analysis, Weston & Sampson still assumes a water storage tank will be installed and the Roadway Schematic 3, will be constructed. This section includes a discussion of wastewater, water, future roadway, and electrical capacity.

2.1 Wastewater

The existing wastewater treatment facility (WWTF) for the City of Gloucester is permitted for treating to primary standards and to process 5.15 million gallons per day (MGD) of flow per day on a rolling average basis. The facility recently received the re-issued National Pollution Discharge Elimination System (NPDES Permit – No. MA0100625), which requires an upgrade to secondary treatment standards. As part of this upgrade, the facility will be permitted to discharge an estimated 7.24 MGD of flow following the completion of these secondary treatment upgrades. These upgrades provide opportunities that were not available in 2010.

In the 2010 evaluation of Kondelin Road, there was a focus on managing wastewater on site. It was thought that if "new" flow was added at the Wastewater Treatment Facility (WWTF), there was a strong possibility of regulators requiring an upgrade to secondary treatment, as the WWTF was one of the few remaining primary WWTFs at that time. This led the team to focus on an onsite wastewater management approach with groundwater discharge or a septic system to serve the development. Ultimately, it was envisioned that a septic system sized at less than 10,000 gallons per day would serve the proposed development. With the new requirement for the treatment facility to upgrade to secondary treatment, which will in turn increase capacity, the focus has shifted from local septic to an analysis that will evaluate connection to the WWTF.

The Comprehensive Wastewater Management Plan (CWMP) was prepared for the City by Wright-Pierce in 2022. The CWMP does not specifically allocate flow for the re-development of the Kondelin Road area but does identify some "available capacity." Table 3 from the CWMP included below, from *CWMP DRAFT Phase 3 – Detailed Evaluation of Alternatives and Recommended Wastewater Management Plan – Dated August 2022*, shows that there are approximately 0.91 million gallons per day (MGD) of capacity available at the current WWTF, with that available capacity increasing to 3.0 MGD following the upgrades to secondary treatment.

Table 3. Build-Out Wastewater Flows for 20-Year Planning Period from CWMP DRAFT Phase 3 – Detailed Evaluation of Alternatives and Recommended Wastewater Management Plan

ADF Source	Average Daily Flow – MGD (without Secondary Treatment)	Average Daily Flow – MGD (including Secondary Treatment and capacity upgrades)
Current WPCF ADF	3.75	3.75
Total Permitted Design Flow at WPCF	5.15	7.24

Needs Areas Flow Additions		
Estimated Flow from Existing Buildings on Septic Systems[1,2,3]	0.16	0.16
I/I	0.06	0.06
Build-Out Flow	0.02	0.02
Total Needs Areas Estimated Flow	0.24	0.24
Sewered Areas Flow Addition		
Estimated Flow from Existing Buildings on Septic Systems in Sewered Area[1,2,3]	0.13	0.13
Build-Out Flow in Sewered Area	0.12	0.12
Total Sewered Areas Estimated Flow	**0.25**	**0.25**
Remaining Available Capacity at WPCF	0.91[3,5]	3.0[4,5]

Notes:

1. Estimated build-out flow was calculated based on TR-16 Guidelines using 70 gpd per capita. The City of Gloucester averages 2.27 capita per household.
2. Number of parcels in existing sewered area that are on septic systems = 625.
3. 900,000 gallons / 70 gpd/capita / 2.27 capita/home = approximately 5,660 homes of available capacity.
4. 3,000,000 gallons / 70 gpd/capita / 2.27 capita/home = approximately 18,900 homes of available capacity.
5. If only Needs Areas Flows or Sewered Areas Flows were added the remaining available capacity at WPCF is 1.15 MGD without Secondary Treatment and 3.24 MGD with the addition of Secondary Treatment and capacity expansion upgrades.

Source: CWMP, 2022

Table 4. Projected Wastewater Flow from the Study Area at Full Buildout

Type of Development	Square Footage	Number of Employees	Flow Basis	Total Flow (gpd) Max Daily
Office Space	80,000	NA	75 gpd/1,000 sf	6,000
Industrial Space	320,000	2,134 (150 sf/employee)	20 gpd/employee	42,680
			TOTAL FLOW	48,680
			ROUNDED FLOW	50,000

The Kondelin Road project would greatly benefit from a connection to the WWTF, as it would allow the maximization of the development area. For the purposes of our analysis, we would suggest working with the City of Gloucester to allocate 50,000 gpd +/- of flow to the Kondelin Road development project. Flows presented below are Maximum Daily Flows utilizing criteria from 310

CMR 15.000 – The State Environmental Code, Title 5. Average daily flows are assumed to be approximately two-thirds of the flow values presented below. The envisioned breakdown of flows anticipated from the 400,000 square feet of development across the project as shown in Table 4.

Weston & Sampson confirmed with representatives from the City that based on the planned upgrades at the WWTF there will hypothetically be capacity for Kondelin Road to connect to the existing treatment plant. Once a development plan is prepared and a sewer flow calculation established, a sewer connection permit can be requested. While the City has no current plans to set aside capacity for development of the Study Area, City officials are aware that this project is in motion and could have a positive impact on local tax revenues. Following a determination of flow calculation, it is likely the City will require a sewer capacity evaluation to be performed for all sewer infrastructure downstream of a proposed connection. This is typical of all significant new connections to an existing collection system to determine if the additional flow will cause or exacerbate backups or overflows downstream of the planned connection to the existing sewer system.

Preliminary layouts for the local collection system as well as the connection to the existing City collection system are included as Figures 3 and 4 in Appendix A. A local gravity sewer will be required to collect flow from the proposed development properties on Kondelin Road, which would then connect to a new higher-pressure force main sewer to convey this flow to the existing collection system. Weston & Sampson recommends the new forcemain be connected the existing collection system on Magnolia Avenue at Essex Avenue and using the existing sewer infrastructure to convey the flow to the WWTF. The proposed forcemain route is shown on Figure 4. Based on the current understanding of the proposed development potential we expect the Study Area will require the following local sewer infrastructure:

- One (1) Submersible Pump Station with 6-foot diameter precast wetwell would be installed approximately 12-feet below grade with two (2) 15 horsepower (HP) submersible pumps.
- One Standby Generator. In order to provide standby power to this infrastructure a backup generator of at least 40 kW is required.
- 3,900 linear feet of Gravity Sewer likely ranging in size from 8-inch to 10-inch in diameter. Precast sewer manholes will be installed approximately every 300 linear feet, and sewer service laterals to each parcel is required. A conceptual layout of the gravity sewer is shown on Figure 3.
- A 5-inch HDPE forcemain installed from this pumping station to the discharge location. The force main is expected to be approximately 9,500 linear feet in length. This will result in a forcemain capacity of approximately 130 GPM at 140 feet of total head.
- As the extend of the ledge removal is not completely known at this time we recommend carrying full depth removal of ledge for the above infrastructure.

A connection to the existing pumping station wetwell at Essex Avenue would impact two (2) existing sewer pumping facilities including approximately 2,300 linear feet of 12-inch forcemain, as well as approximately 7,500 linear feet of existing gravity sewer pipe ranging in size from 15-inch to 36-inch. The existing pipe and pumping stations impacted are shown clouded on Figure 3. This is likely the extent of infrastructure that would be analyzed in a sewer capacity flow evaluation.

A connection directly to the WWTF could be constructed so no capacity impacts are imposed on the existing collection system by the additional flow. However, this approach was determined to be cost-prohibitive as it would require approximately 7,500 linear feet of *additional* forcemain pipe. This approach would only be recommended if a sewer capacity analysis determines the existing collection system will require significant upgrades to handle the increased flow from Kondelin Road. At that point, a cost-benefit analysis would be recommended.

2.1.1 Cost

The following table contains a summary of the order-of-magnitude costs for the wastewater infrastructure portion of the project.

Table 5. Order-of-Magnitude Cost Opinion for Infrastructure to Support Development of the Study Area

Item	Unit Type	Quantity	Unit Pricing	Total Price
Submersible Pump Station with Standby Generator and Controls	Lump Sum	1	$ 1,000,000.00	$ 1,000,000.00
Gravity Sewers, Manholes and Services	Linear Foot	3,900	$ 400.00	$ 1,560,000.00
5-inch HDPE Forcemain Piping	Linear Foot	9,500	$ 200.00	$ 1,800,000.00
Allowance for Pipeline Rock Excavation	Linear Foot	13,400	$ 50.00	$ 670,000.00
Sewer Capacity Flow Evaluation	Lump Sum	1	$ 50,000.00	$ 50,000.00
			Subtotal	$5,080,000
			15% Contingency	$ 762,000
			Construction Subtotal	$5,842,000
			25% Allowance for Engineering Design and Construction Administration Services	$1,460,500
			Wastewater Infrastructure Costs	$ 7,302,500
			Rounded Wastewater Infrastructure Costs	$7,300,000

It is our assumption that the Gloucester EDIC would not be charged capacity fees by the City for the available capacity at the WWTF, but any connection fees will be borne by the developer of the land/parcels.

2.2 Water

As part of the 2010 Phase II Feasibility Analysis, Weston & Sampson determined the existing water distribution system adjacent to Cape Ann Industrial Park at Kondelin Road would be unable to meet the Department of Environmental Protection (DEP) guidelines that requires a minimum water pressure of 35 pounds per square in (psi). There have been no meaningful upgrades to the water distribution system that would increase the pressure at Kondelin Road, so our assumption is that these conditions still exist today.

Weston & Sampson again recommends the highest elevated customer in this area receive a minimum water pressure of 50 psi. The proposed Kondelin Road area has ground elevations ranging from approximately 60 to 200 feet. First-floor elevations for any building within the

development would therefore range from about 65 to over 200 feet. The average of the buildable land in the development's lots is at elevations around 160 feet. To provide 50 psi (equivalent to 115 feet of water column) to a potential building at an elevation of 200 feet, the pressure system's hydraulic grade line would be at an approximate elevation of 315 feet (115' + 200').
To achieve the required water pressure, two options were considered and are still feasible at this time:

- An above-ground elevated water storage tank - The new tank would be best located at the highest point of the site. The high point of the project site is in lot 21. This setup creates water storage that does not require constant pumping to maintain system pressure. In the event of a pump failure, the water tank can maintain some pressure for emergencies due to its elevated volume. A tank of approximately 300,000 gallons would allow for adequate storage for water system equalization as well as emergency water for fire flow. The tank would be approximately 48 feet in diameter, but the dimensions can vary depending on the site constraints.
- An underground water storage tank - The new tank could be a reservoir-type tank located within the project site. This setup requires less land taken from development and does not produce infrastructure that will be visible once completed. The setup does require constant pumping to maintain system pressure as a loss of pumps will quickly result in the system pressure dropping.

Given either plan, the overflow elevation would match the existing Bond Hill reservoir and would be best located at an elevation of approximately 180 to 185 feet within the site. This would ensure no additional pressure was placed on the City's existing infrastructure.

Although an above-ground tank (Option 1) is generally more expensive than an underground tank (Option 2), there are site conditions that affect these costs. Given the shallow depth of bedrock in this area the above-ground tank will save significant cost and time for blasting required for the below-ground tank. With either option, an added benefit to installing water storage required for this development will provide more reliability to the system and provide increased fire flows to the existing Kondelin Road area businesses.

A new high-service distribution system would consist of the installation of a new water main, a water storage tank, and a booster pump station. The booster pump station would be required to supply water to fill the tank (Option 1) or maintain system pressure (Option 2). The booster pump station would be best located at a point of low ground elevation near Kondelin Road (Option 1) or next to the storage reservoir (Option 2).

Tank and booster pump sizing will need to be re-considered once a final development plan is established. The following table contains a summary of budgetary level costs for water system infrastructure to serve the proposed Kondelin Road development.

Table 6. Order-of-Magnitude Cost Opinion for Water Infrastructure to Support Development of the Study Area				
Item	Unit Type	Quantity	Unit Pricing	Total Price
300,000 gallon Above Grade Glass Fused to Steel Water Storage Tank (115' tall)	Lump Sum	1	$ 3,000,000.00	$ 3,000,000.00
Water Booster Pump Station with Standby Generator and Controls	Lump Sum	1	$ 1,800,000.00	$ 1,800,000.00
12-inch Water Main and Water Services	Linear Foot	3,750	$ 300.00	$ 1,125,000.00
Allowance for Pipeline Rock Excavation	Linear Foot	3,750	$ 50.00	$ 187,500.00
			Subtotal	$6,112,500
			15% Contingency	$916,875
			Construction Subtotal	**$7,029,375**
			25% Allowance for Engineering Design and Construction Administration Services	**$1,757,344**
			Water Infrastructure Costs	**$8,786,719**
			Rounded Water Infrastructure Costs	**$8,800,000**

2.3 Roadway

As part of the 2010 Phase II Feasibility Analysis Weston & Sampson prepared four layout options for the proposed access road to the Area "B" development. Ultimately, it was recommended that Proposed Roadway Schematic 3 would be the preferred layout. As stated in the 2010 report, this proposed schematic would require a taking as it would take advantage of vacant property available adjacent to the existing building at Parcel 197-12 and proceed diagonally across the private property, ascending along the existing slope. The proposed roadway would begin between the Gloucester Warehouse Inc property (Parcel 197-12) and Waste Management property (Parcel 197-13). The road would then ascend the property proceeding south, avoiding wet areas, and then in a northeasterly direction terminating before the Edmonds property at the eastern end of the development. his proposed roadway layout has significantly less excavation and rock removal costs because it uses more of the existing topography of the site. The complete build-out length would be 3,950 feet. Table 7 contains the projected roadway costs.

Table 7. Projected roadway costs			
	Roadway Length	Excavation/Ledge Cost	Total Roadway Construction Cost
Schematic 3	3,950'	$790,000	$4,004,693
		Rounded	$4,000,000

2.4 Electrical infrastructure

While this report was being developed, the Gloucester EDIC received the results of the Daymark Energy Advisors, Inc, (Daymark) assessment of the present capability of National Grid's electric system supplying the North Shore Region. This report summarizes its assessment from a technical qualitative basis based on their review of publicly available. Their study area encompassed a portion of the North Shore, including, Manchester-by-the-Sea, Gloucester, Rockport, Essex, Hamilton, Wenham, and Beverly. This North Shore Region of Massachusetts's ability to maintain the secure operation of its critical infrastructure is constrained by existing infrastructure. The transmission and distribution systems serving this region have reached capacity and have limited ability to support current demands nor accommodate any expansion. No improvement plans or expansion plans were identified. Proposed development is facing "first mover" issues, including requirements to make substantial expensive network upgrades to the systems.

The study concluded that effective long-range planning needs to occur to address current issues and allow for continued growth. The study proposed some alternatives for improvement and expansion. Conceptual planning suggests investments in infrastructure ranging from $70M to $110M to construct new capacity configured to support a resilient and reliable system. The findings of this study have highlighted power as a potential constraint to future development.

Weston & Sampson reviewed the U.S. Energy Information Administration's 2018 Commercial Buildings Energy Consumption Survey. Table C22, *Electricity consumption totals and conditional intensities by building activity subcategories 2018,* provides some information on the average use of power for several different uses. Conversations around redevelopment of Kondelin Road have included warehouse and storage, office, and laboratory. The median distribution of building-level intensities – in kilowatt hours per square foot of building – for these types of uses are listed below:

- Laboratory – 13.5 kilowatt hours per square foot.
- Warehouse and storage – 5.8 kilowatt hours per square foot.
- Office – 10.1 kilowatt hours per square foot.

Electricity was consumed most for cooling, ventilation, lighting, and other end uses. Laboratory uses are on the higher end of power usage, but the future development of 400,000 square feet of new industrial space will create a need for an additional 2 to 4 million kilowatt hours annually which the Daymark Report indicates may not be available.

2.5 Permitting Requirements

The proposed expansion of Kondelin Road will require state, local and federal permits. The Study Area is adjacent to the Cape Ann Industrial Park but is currently zoned "Low-Density Residential." Industrial development is not an allowed use, so the area needs to be rezoned. Environmental permitting for the Study Area will depend on the development proposed. However, due the location of wetland resources, wetland delineation and permitting will be required. The project may also trigger a Massachusetts Environmental Policy Act (MEPA) review. The project may require approvals from the Army Corp of Engineers and also the City of Gloucester Conservation Commission.

2.5.1 Ledge Removal

The owner of the largest quantity of privately owned land in this proposed development area has indicated their company could potentially be utilized to perform some of the ledge removal. Weston & Sampson recommends this work be performed before or as part of the negotiated purchase price of the land. Establishing a public-private partnership, working with the City, could result in cost savings for the site. Table 8 summarizes the infrastructure costs.

Table 8. Projected infrastructure costs	
Project Task	Total Cost
Roadway Construction	$4,000,000
Wastewater Infrastructure	$7,300,000
Water Infrastructure	$9,000,000
Electrical Infrastructure	*
Total Estimated Cost	**$20,300,000**

* Costs for electrical infrastructure will depend on the availability of service.

Through the team's interviews with local stakeholders, we were informed that the lack of available industrial space has hindered the expansion of existing manufacturers and resulted in the relocation of others outside of Gloucester. Although the industrial market has cooled to some extent, demand is expected to continue to grow, albeit at a more moderate pace. The production of new industrial space may be attractive to local manufacturers seeking to expand and to emerging *blue economy* markets. Class A industrial space is expected to continue to be in high demand and production of such space at Kondelin Road, especially if designed to be suitable for such tenants, could be a unique and highly desirable product. The estimated 2023 construction costs for a new warehouse/industrial facility are approximately range from $120 to $140 psf in the Boston metropolitan region. Biotechnology uses may be accommodated provided water and wastewater demand is planned to correspond with availability. (A 2021 report from JLL estimated biotechnology psf construction costs in the Boston Metropolitan area to range from approximately $400 to $2500.)

Real estate professionals have suggested that space in the 50,000 sf to 100,000 sf range is likely to be in the greatest demand for the Gloucester market, but to allow for flexibility in subdividing the space into smaller units. These recommendations are discussed further, in Section 3.0. The team was advised that it is unlikely that larger-sized units will be sought at the Kondelin Road location given that this size of warehouse/manufacturing space is being developed at a significant amount in more central locations with better interstate proximity.

2.5.2 Solar Opportunities

The topography within these areas is challenging for development because of the steep slopes and shallow depth to bedrock. The GIS analysis attempted to identify areas where the grade was less than 15% because development costs for grades steeper than 15% can make projects unfeasible. Weston & Sampson reviewed some of these steeper areas for their viability for solar panels. Solar panels can be installed on slopes up to 30%, in some cases. The land that the site analysis determined to be less desirable for development should be assessed for solar capacity. Weston & Sampson recommend that the use of some of Kondelin Road for solar be investigated further, particularly considering the power constraints identified in the Daymark report. There are different ways to incorporate solar, and Gloucester EDIC could develop a Request for Proposals for solar developers to explore these options.

3.0 MARKET CONDITIONS/FUNDING OPPORTUNITIES

Several studies have been conducted in recent years which have documented the decline in the fishing fleet which once defined the economy of the North Shore and particularly the City of Gloucester. Although the fishing industry still plays a large and critical role in the economy of Gloucester and the other communities that make up the North Shore, there has been a growing realization among public leaders and economic development professionals that the region must turn to other industries to offset the projected decline in employment in that sector. The consulting team was referred by the EDIC to recent research that documented the potential for growth in industries associated with the Blue Economy also referred to as Ocean-Facing sectors. The team reviewed those studies and others to gain a better understanding of the Blue Economy market opportunities including the following reports:

- North Shore Blue Economy Phase I Findings and Vision Forward-UMass Amherst, 2021
- Navigating the Global Economy: A Comprehensive Analysis of the Massachusetts Maritime Economy- UMass Dartmouth, 2017
- The Value of RI's Blue Economy- University of RI, Coastal Resources Center, 2020
- NOAA Blue Economy Strategic Plan-2021-2025, 2021
- Gloucester Harbor Marine Industrial and Bioscience Survey MAPC 2012

There are several common conclusions which may be drawn from a review of these reports:

- The Blue Economy industries are generally broken down into a few primary sectors that extend beyond traditional notions of marine businesses. They include:
- Coastal Tourism and Recreation
- Living Resources
- Marine Transportation
- Marine Construction
- Ship& Boat Building & Repair
- Offshore Minerals

Tourism and recreation, one of the traditional employment sectors associated with the Blue Economy, provide a high number of jobs and the lowest wages. Another traditional sector, Living Resources, provides higher-paying jobs but has shown a significant decline in the number of jobs. The Living Resources sector is to some extent reinventing itself by turning to new fishery products and aquaculture.

The Blue Economy contributes significantly to the Massachusetts economy and to the US economy. In Massachusetts, in 2015, the Blue Economy generated an estimated $17 billion in sales output, more than 135,000 jobs, and nearly $7 billion in income output. Nationally, the Blue Economy contributed about $373 billion to the economy in 2018, growing at a faster rate than the US economy overall.

Massachusetts and other New England states are increasingly focusing investment on marine science and technology businesses. Jobs in these sectors are significantly higher paying than those in the tourism and living resources sectors. Applications for innovations in these areas are wide-ranging and may include all sectors of the Blue Economy. This emphasis is mirrored by policies at the Federal and even international levels. Concerns regarding trained and available workers for Blue Economy businesses are a recurring theme expressed by employers, public officials, and others. The scarcity of skilled workers is exacerbated by affordable housing and transportation challenges.

In recent years, the industrial real estate market, both nationally and regionally, has enjoyed an unprecedented increase in demand resulting in extremely low vacancy rates, marked increases in lease rates, and new production of industrial space. There are several factors that are thought to have contributed to this trend including the return of some domestic manufacturing and the "Amazon Effect" in warehousing and distribution. The team reviewed several analyses produced by real estate professionals which documented the impact of these trends upon the Boston regional market:

- JLL National Industrial Outlook 2023 Q1 (includes analysis of Boston regional market)
- JLL The Race for industrial Space 2022
- CBRE Industrial Figures Q1 2023 April 2023
- Cushman & Wakefield Marketbeat U.S. National Industrial Q1 2023

The team also interviewed Thomas Barry from the Providence Office of CBRE, a specialist in industrial leasing who is familiar with the Boston regional market.

3.1 Conclusions

- The market for industrial and warehouse and distribution space has been extraordinarily strong for several years nationally and the Boston metropolitan market has been no exception.
- Asking rents in the Boston regional market have nearly doubled in the last ten years and industrial vacancy rates are close to their lowest ten-year historical average.
- Production of large amounts of new industrial space in 2022, particularly warehouse and distribution space, has resulted in a slight increase in vacancy rates and a leveling of lease rates.
- Over 1 million sf of new industrial space was delivered in the Boston region in the first quarter of 2023 with another 6 million sf in the pipeline for 2023. This new product is expected to impact vacancy rates and further stabilize lease rates in the region for 2023.
- Concerns regarding rising interest rates and recessionary signs are also pointing to a slowing of demand for industrial space in the near term. Demand in unique markets such as those near ports or highway interchanges is not expected to be affected.
- Notwithstanding the high demand for industrial space, aging industrial space (50+ years) is of limited utility to current clients seeking high-bay or mezzanine space and trends will likely see the demolition and replacement of such space with more suitable industrial space.
- Locations in secondary or tertiary markets with limited highway access and lesser proximity to Boston or other metropolitan areas will be challenged to command the higher average rents associated with new construction. These challenges are exacerbated by workforce shortages.
- Gloucester Industrial Real Estate Market

Gloucester is characterized by certain unique advantages and disadvantages which affect its ability to attract and retain industrial businesses. The team reviewed documents including:

- Blackburn and Cape Ann Industrial Parks Assessment UMass Boston, 2019
- City of Gloucester Rapid Recovery Plan, 2021
- Gloucester Harbor Economic Development Plan, Mt. Auburn Associates, 2010
- State of Possible 2025 Report: Advancing Massachusetts Leadership in the Life Sciences, Mass Bio 2020

The team also conducted interviews with local real estate professionals, businesspersons, and municipal officials to gain their insights regarding Gloucester's commercial and industrial market attributes. The main conclusions drawn from these reports and conversations are as follows:

3.1.1 Strengths

- Its coastal location is a clear advantage in marketing Gloucester to Blue Economy businesses and builds upon the longstanding reputation of Gloucester as a marine community.
- Gloucester's base of marine commerce, particularly in the fishing industry, provides an established workforce with skills in trades associated with the Blue Economy. These skills are considered transferable to some related fields such as aquaculture and marine tech.
- Several of the local businesspersons and public sector representatives cited the exceptional quality of life that exists in Gloucester as a factor in retaining and attracting employees and chief executives of businesses.
- Commercial and industrial lease rates are more affordable than those found in communities closer to the Boston metropolitan center allowing for greater opportunities for small start-up businesses to become established or for existing businesses with lower margins to thrive.
- There are existing manufacturing businesses and research institutions located in Gloucester which are currently involved in the Blue Economy or in sectors related to the Blue Economy. They include Applied Materials/Varien, and the Gloucester Marine Genomics Institute.
- There is an identified shortage of available space for biomanufacturing in the Boston metro area and Gloucester has been noted to be within the same distance to Cambridge and Boston as the majority of existing biomanufacturing facilities in the Boston metro area.

3.1.2 Challenges

- Gloucester is located at nearly the most distant part of Cape Ann from the Boston metropolitan area which limits the catchment area from which to draw potential new commercial and industrial tenants. This places Gloucester at a competitive disadvantage relative to other Boston metropolitan communities.
- Access to the Kondelin Road or Cape Ann Industrial Park from Route 28 is particularly challenging and was noted as a source of dissatisfaction by existing businesses and cited as an issue for recruitment of new businesses.
- The locational disadvantage noted above also diminishes the availability of potential workers for Gloucester businesses.
- The workforce in Gloucester is aging as is common in many communities regionally and in New England, adding to labor force availability challenges for businesses seeking to expand or locate in Gloucester.

- Most of the industrial space in Gloucester, especially in the Kondelin Road Park, is older, approaching 50 years old, and does not meet requirements of many modern industrial users who often seek high bay space with multiple loading docks and robust electrical service. Much of it has been subdivided for small-scale uses. Higher-quality, higher priced, larger-scale industrial space is generally limited in Gloucester except for a few more modern buildings located in the Blackburn Industrial Park.
- As described in other portions of this report, the Kondelin Road Park and the proposed extension have some limitations associated with the existing infrastructure system including water, sewer, and electrical capacity. The proposed extension has additional challenges associated with site development conditions which may add to the costs of new development translating to higher industrial lease rates. This potential premium on lease rates may diminish the marketability of the new development site.
- The team has examined the potential for biomanufacturing businesses to expand in Gloucester. Although this is an extremely high value, high-wage sector, wastewater and water service limitations may inhibit the ability to attract such businesses to the new industrial development.
- Conceptual Industrial Development Proforma

3.2 Proforma Assumptions

The team prepared a hypothetical proforma for the development of a spec industrial building which is included in this report as Appendix B. For the purposes of the proforma analysis, we used the following assumptions:

- 400,000 sf of warehouse/manufacturing space to be constructed. This square footage was derived from the most aggressive development scenario projected by the team's engineers in terms of buildable space. Although the conceptual plan prepared by the team's engineers depicts multiple buildings to reach the 400,000-sf number, for the purposes of the proforma analysis it was treated as a single, one-structure, 400,000 sf development.
- We used a construction cost of $130 per square foot (psf). The team reviewed documentation from several real estate and construction sources to arrive at an estimated cost of construction. The most relevant source was a regional builder currently constructing a similar facility in the Boston area at a cost of $ 126 psf who recommended we use a figure of $130 psf given the Gloucester location.
- Soft costs were based upon the standard proforma model and reviewed for accuracy with our building industry source.
- We did not assign a premium cost for site development constraints such as grading or ledge. This premium could add another 30% to the construction costs.
- The proforma assumes a pad-ready site with infrastructure such as roadway and utilities paid for by others.
- We used conventional financing terms with no State or City incentives applied to reduce the cost of debt or amount of equity.
- Full property taxes with no abatements were estimated based on comparable properties suggested by the Gloucester Tax Assessor.
- Site acquisition cost was also based on comparable properties provided by the Gloucester Tax Assessor.

- We assumed that the facility would be constructed by a private developer (or the EDIC) and leased to a third party (or parties) not constructed by an owner/operator.
- Lease rates for new industrial space are reported to be in the $12 psf to $16 psf range for the Boston regional market. We used a mid-range number of $14 psf.
- The team worked with Leshinsky Finance in the development of the proforma. Leshinsky specializes in the preparation of business and development proformas.

Table 9 contains the summary of findings from the proforma analysis.

Table 9. Findings of the Conceptual Proforma Analysis	
Debt Financing (75%)	$47,364,255
Equity (25%)	$15,788,085
Estimated Total Development Cost	$63,252,431
Total Net Effective Income Range	$63,252,431
	$10,100,000 (Year 10)
Free Cash Flow	$1,100,000 (Year 1)
	$2,400,000 (Year 10)
Debt Coverage Ratio Range	1.26 (Year 1)
	1.57 (Year 10)

3.2.1 Proforma Conclusions

The conceptual proforma illustrates that a newly constructed industrial building at the Kondelin Road location may be financially viable based on current market conditions for construction costs, lease rates, and financing rates. The caveats associated with this analysis include the uncertainty associated with the cost of site preparation, the variability of financing costs and construction costs, and the questions associated with achieving mid-range lease levels in the Gloucester sub-market. It may be possible to offset these potential challenges by taking advantage of the financing and economic incentives available through Mass Development such as loan guarantees, industrial revenue bonds, and marketing assistance. Local incentives such as tax stabilization may also be helpful in addressing any gaps that may be identified for future development. These potential incentives are discussed later in this report.

3.3 Development Opportunities

Although there are challenges associated with marketing industrial development in the City of Gloucester and in the Kondelin Road in particular, the scarcity of developable industrial land and modern industrial space makes the Kondelin Road industrial park expansion an option and opportunity well worth considering.

Through the team's interviews with local stakeholders, we were informed that the lack of available industrial space has hindered the expansion of existing manufacturers and resulted in the relocation of others outside of Gloucester. Although the industrial market has cooled to some extent, demand is expected to continue to grow, albeit at a more moderate pace. The production of new industrial space may be attractive to local manufacturers seeking to expand and to emerging Blue Economy markets. Class A industrial space is expected to continue to be in high demand and production of such space at Kondelin Road, especially if designed to be suitable for such tenants, could be a unique and highly desirable product. Biotechnology uses may be accommodated provided water and wastewater demand is planned to correspond with availability. Estimated 2023 construction costs for a new warehouse/industrial facility range from approximately $120 to $140 per square foot in the Boston metropolitan region and a 2021 report from JLL estimated biotechnology per square foot construction costs in this same region to range from approximately $400 to $2500.

Real estate professionals have suggested that space in the 50,000 sf to 100,000 sf range is likely to be in the greatest demand for the Gloucester market, especially if there is flexibility in subdividing the space into smaller units. The team was advised that it is unlikely that larger-sized units will be sought at the Kondelin Road location given that this size of warehouse/manufacturing space is being developed at a significant amount in more central locations with better interstate proximity.

3.3.1 Funding Opportunities Available in the City of Gloucester

The Project Team interviewed Sal Di Stefano, Director of Economic Development, David Fields, Community Development Director, and Gary Johnstone, Tax Assessor. City staff were uniformly supportive of the proposed project as an opportunity to grow the City's tax base and to increase jobs in the community. Infrastructure and other developmental challenges were identified and are discussed elsewhere in this report. They mentioned the potential to use Tax Increment Financing or a TIF to defray some of the costs associated with the project. Tax increment financing uses new property taxes generated by a development project to pay debt service on bonds issued to pay for infrastructure improvements associated with facilitating new development, such as streets, sewers, stormwater and water service. Development Incentive Financing or DIF is a similar public financing tool. This may be an avenue to explore with the city and with Mass Development as DIF's are generally done in coordination between municipalities and the State. Given the potential increase in taxable value associated with the new industrial development as well as the likely large number of jobs generated by that development, this project appears to meet some of the threshold requirements of this financing tool (District Improvement Financing (massdevelopment.com)).

3.3.2 Funding Opportunities Available in the Commonwealth of Massachusetts

The Project Team conducted an interview with Geetha Rao Ramani, Vice President of Business Development for the North Region for Mass Development. Ms. Ramani expressed great interest in the potential for new industrial development in Gloucester and described several programs available through Mass Development that could reduce the cost of construction and operation for new industrial development associated with the proposed project. These programs included the following:

- Tax-exempt bonds
- Low-interest loans with Mass Development or in partnership with a private lender
- Loan guarantees
- Green loans
- Commercial Property Assessed Clean Energy (CPACE) financing
- Real Estate Advisory services

The financing programs offered by Mass Development may prove to be essential in leveling the playing field in making the Kondelin Road development competitive with more centrally located properties in the metro region.

Ms. Ramani also offered to arrange a follow-up discussion with the staff from Mass Works to discuss potential funding of the public infrastructure needs. This funding may be able to pay for a portion of the costs of the roadway, stormwater, sewer, and water improvements. This discussion was deferred until the study was completed and the nature and cost of the infrastructure needs were identified. Coordination among the EDIC, City of Gloucester, and Mass Works would be a precursor to the potential submission of an application through the One Stop Program.

Ms. Ramani discussed opportunities to work with stakeholders in Gloucester to enhance workforce training opportunities associated with Blue Economy jobs. She emphasized that such jobs and businesses were a high priority of the State and asked if consideration had been given to including an on-site training facility as part of the development program. The team is aware of such facilities being developed in other areas with the assistance of State, Federal, and private sector funding.

3.3.3 Economic Development Administration

A Notice of Funding Opportunity (NOFO) for funding was recently posted on the EDA website for the availability of funding in 2023. This program provides funding for infrastructure improvements that directly support economic development, such as the Kondelin Road extension. The EDA investment priorities stress equity, workforce development, and climate change resiliency. With its emphasis on growing Blue Economy businesses, resilient development strategies, and assisting in the retraining of workers in the marine trades, this project would meet several of those priority goals. Non-profits and municipalities are eligible to apply, and funding awards may range from $100 thousand to $30 million. Early coordination with State economic development agencies and Federal delegation staff is critical to success in this process. Public Works grants are available on a rolling basis.

The Project Team conducted an interview with Debra Beavin, EDA Economic Development Representative for Connecticut, Massachusetts, and Rhode Island. Ms., Beavin confirmed that the proposed Kondelin Road Park expansion with its potential to create industrial space and manufacturing jobs would be consistent with the goals of the EDA's Public Works Program. She emphasized that there needed to be clear documentation of demand for industrial space as the EDA does not invest its funding in speculative ventures.

Expressions of interest from local manufacturers seeking expansion space or from new businesses seeking to relocate to Gloucester would be needed as part of the application for funding. She informed the team that project infrastructure would be eligible for EDA funding including roadways, wastewater, water and electrical upgrades, stormwater improvements, and even shared solar.

According to Ms. Beavin, a competitive application would likely be in the range of $2.5 million to $2.6 million request for a project of this size.

EDA funds may only be awarded to a public entity such as a municipality or a quasi-public agency such as a redevelopment agency; Ms. Beavin suggested a joint application by the City of Gloucester and the EDIC. (EDA recently awarded funding to the City of Gloucester to protect the wastewater plant from flooding.) EDA is very accustomed to working in collaboration with MassDevelopment in funding projects such as this one, and Ms. Beavin encouraged early contact among the EDIC, the City of Gloucester, Mass Development, and the EDA. Mass Development may be a source of required matching funds through its MassWorks program as may the City of Gloucester, potentially through TIF financing.

Ms. Beavin stressed that the EDA grant process is rigorous and will require the completion of preliminary engineering and historical and environmental reviews. EDA Public Works grants are available on a rolling basis and Ms. Beavin said that should the EDIC and the City be able to complete the preliminary work in the next nine to twelve months an application in early summer of 2024 may be feasible.

Ms. Beavin expressed great interest in training components. She noted the strong correlation between the skills of workers in the traditional marine industries and emerging Blue Economy sectors and the need to ensure a pipeline of trained workers for the new businesses that may be attracted to the area. She mentioned that the EDA recently awarded $24 million in ARPA funds to the State of Massachusetts for workforce training initiatives and that this may be an area for the EDIC and the City to explore with the State as part of this project.

3.3.4 Other Federal Funding Sources

Several Federal agencies have been providing funding to businesses and research institutions associated with products, services, and technologies related to the Blue Economy. The Department of Defense has supplied significant funding in the form of contracts to businesses involved in undersea technology and cybersecurity. The Department of Defense and the Department of Energy are also involved in investments in the composites industry and its applications in the boat building and offshore wind sectors. The Department of Energy has also supplied funding to marine energy projects as it looks to invest in this emerging Blue Economy market.

NOAA does not provide direct funding to Blue Economy businesses at this time but has started a collaborative initiative of research and data sharing with businesses and institutions involved in the Blue Economy in the areas of coastal resilience, seafood competitiveness, ocean exploration, marine transportation, and tourism and recreation.

4.0 RECOMMENDATIONS

- Rezone the Study Area, limiting the rezoning area to the developable areas where feasible. This will provide a buffer between the development and the residential uses along Magnolia. The city may wish to consider approaching the neighboring homeowners about purchasing that non-usable land in their house lots.

- Clarify the business development model relative to EDIC's role in the ownership and development of the project. Either public or non-profit status has implications for tax status and eligibility for certain public financing.

- Follow up with representatives from the city, EDA, MassDevelopment regarding potential funding of infrastructure costs. This may include funding through a City TIF, Mass Development DIF, Mass Works One-Stop process, and EDA Public Works grant.

- Approach local companies with a need for expansion with the results of this report. Public funding sources will not create infrastructure based on speculation and will require that potential businesses and the economic benefits associated with their expansion or relocation are identified.

- Engage with Mass Development regarding Real Estate Advisory Services for assistance in locating potential businesses in the Kondelin Road location.

- Begin discussions with City and Mass Development regarding workforce development and training opportunities. The availability of skilled workers may also contribute to attracting businesses to the Kondelin Road location.

APPENDIX A

Report Figures

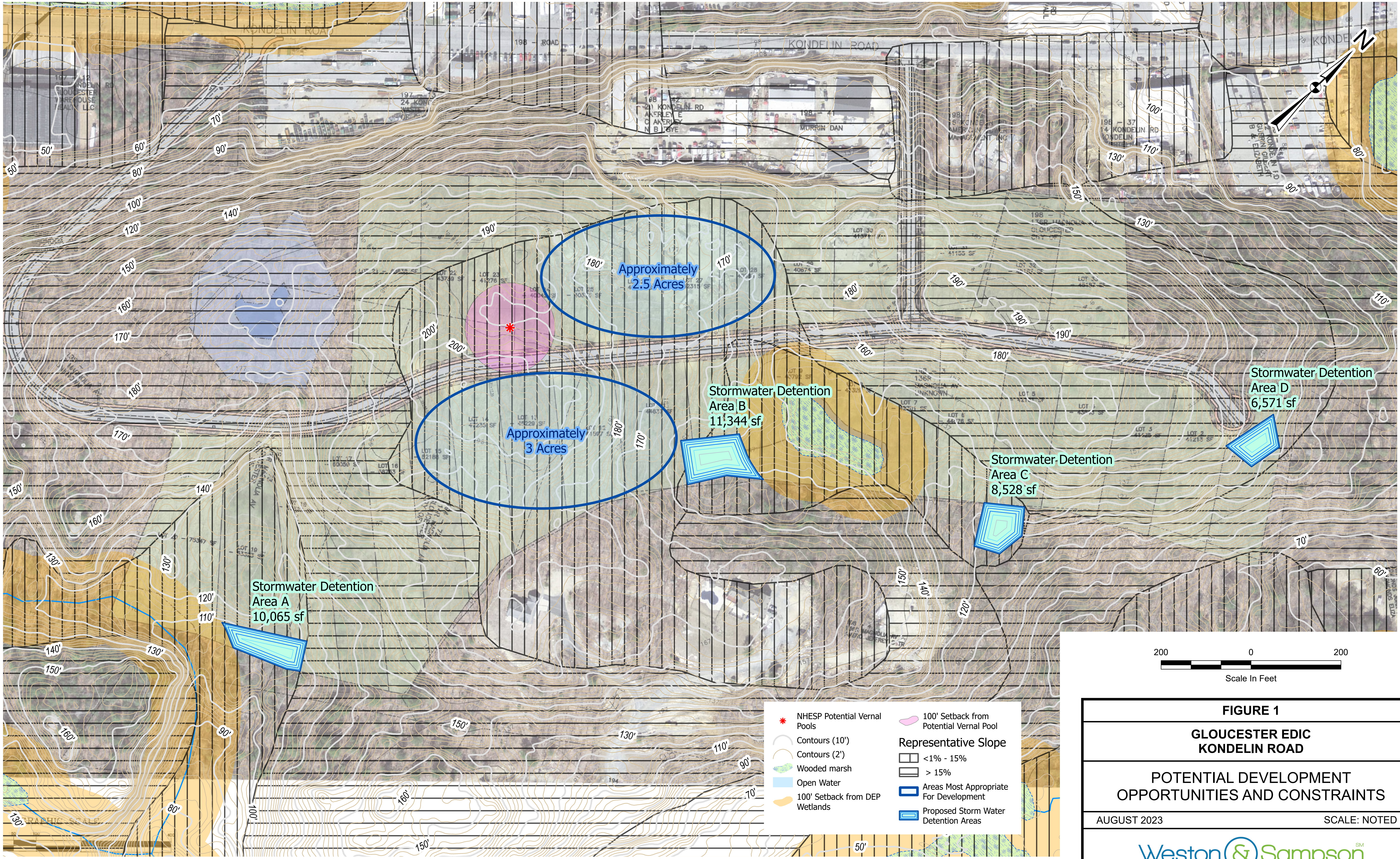

FIGURE 1

GLOUCESTER EDIC
KONDELIN ROAD

POTENTIAL DEVELOPMENT OPPORTUNITIES AND CONSTRAINTS

AUGUST 2023 SCALE: NOTED

Weston & Sampson

Path: \\wse03.local\wse\Depts\GISdata\Client\Gloucester MA\Project\ENG23-0317 EDIC\Gloucester MA EDIC\Gloucester MA EDIC.aprx **Map:** Site Conditions **User:** ShinnickD **Saved:** 9/7/2023 3:53 PM **Opened:** 9/7/2023 8:32 PM

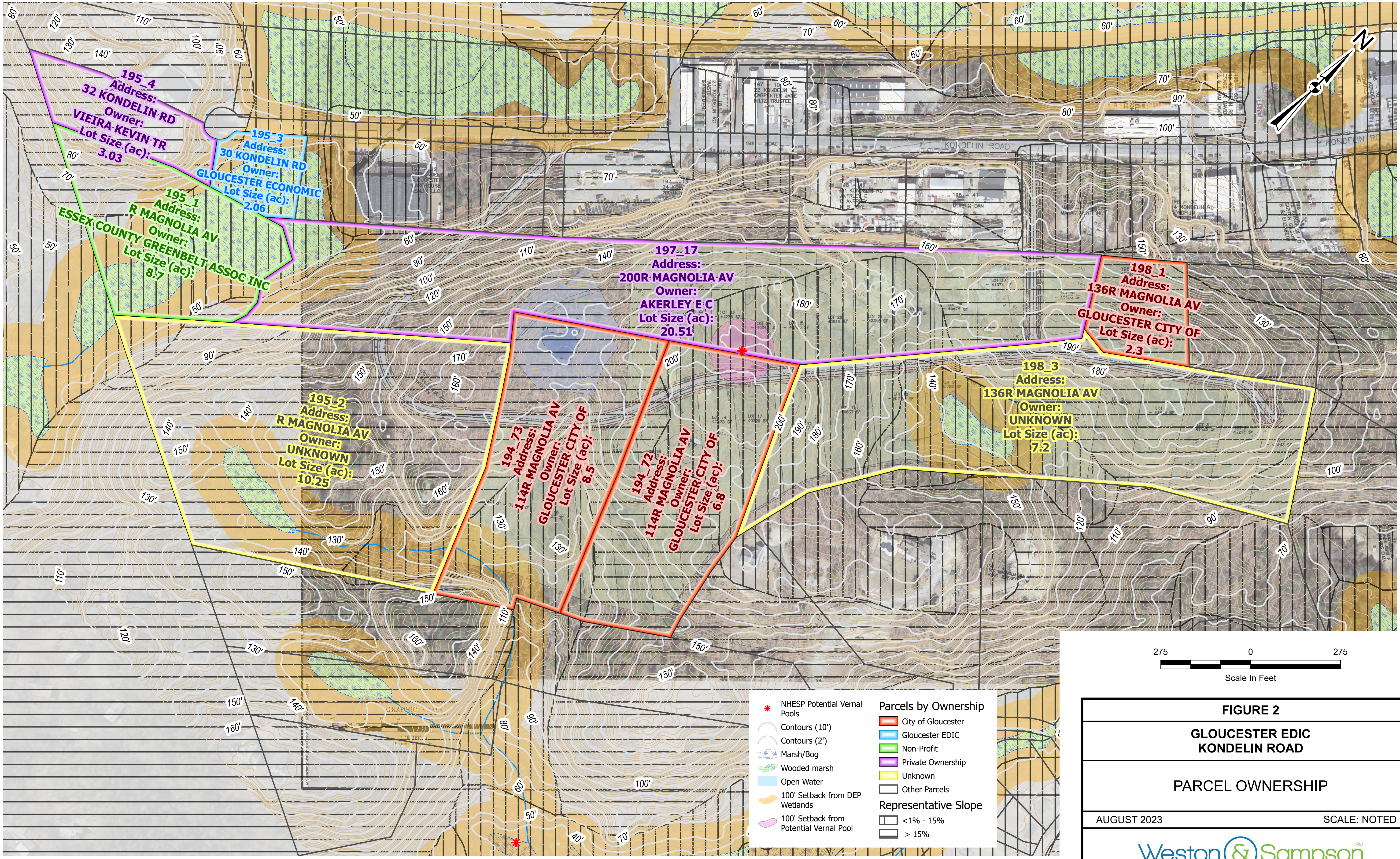

FIGURE 2

GLOUCESTER EDIC
KONDELIN ROAD

PARCEL OWNERSHIP

AUGUST 2023 SCALE: NOTED

Weston & Sampson

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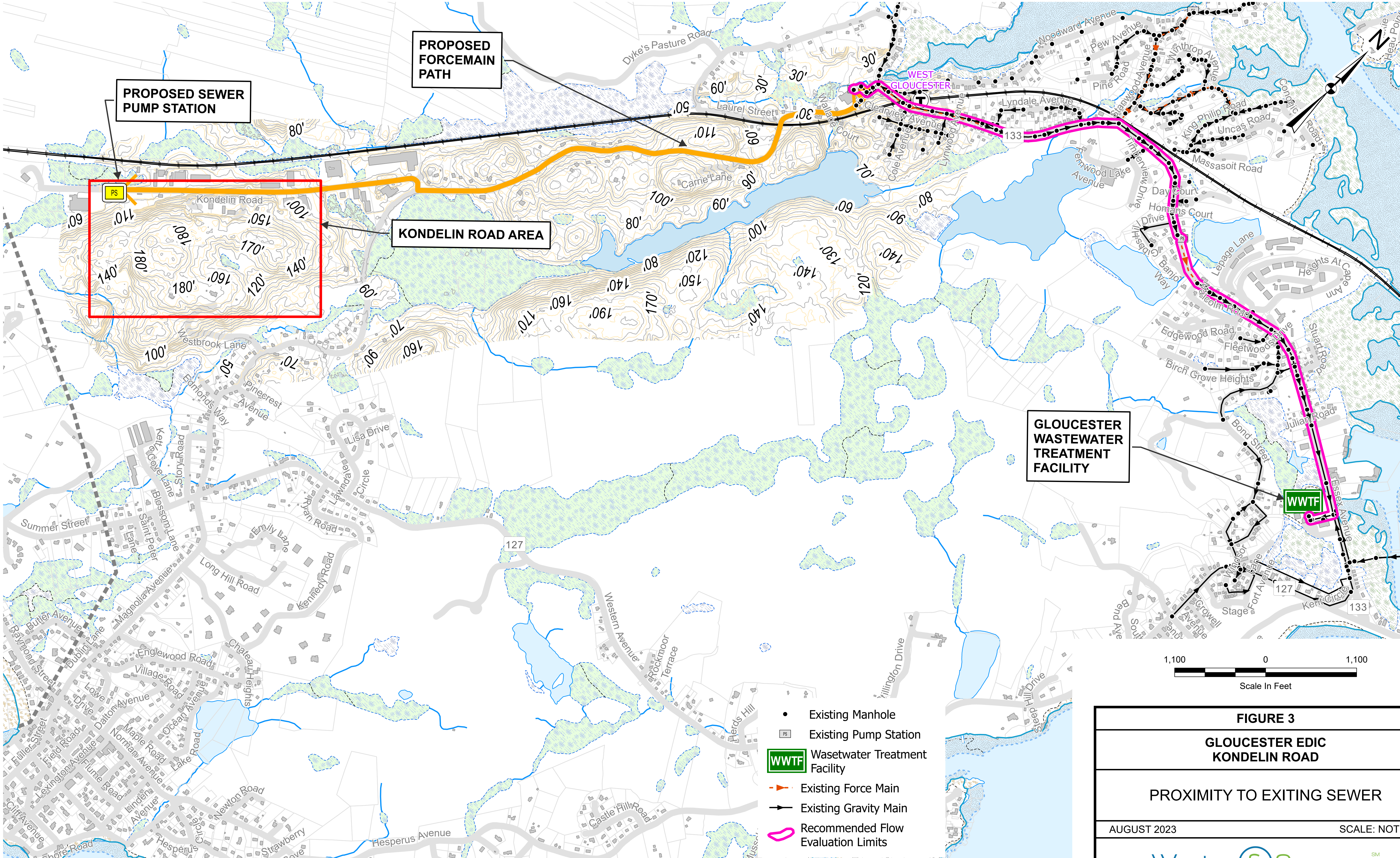


FIGURE 3

GLOUCESTER EDIC
KONDELIN ROAD

PROXIMITY TO EXITING SEWER

AUGUST 2023 SCALE: NOTED

Weston & Sampson

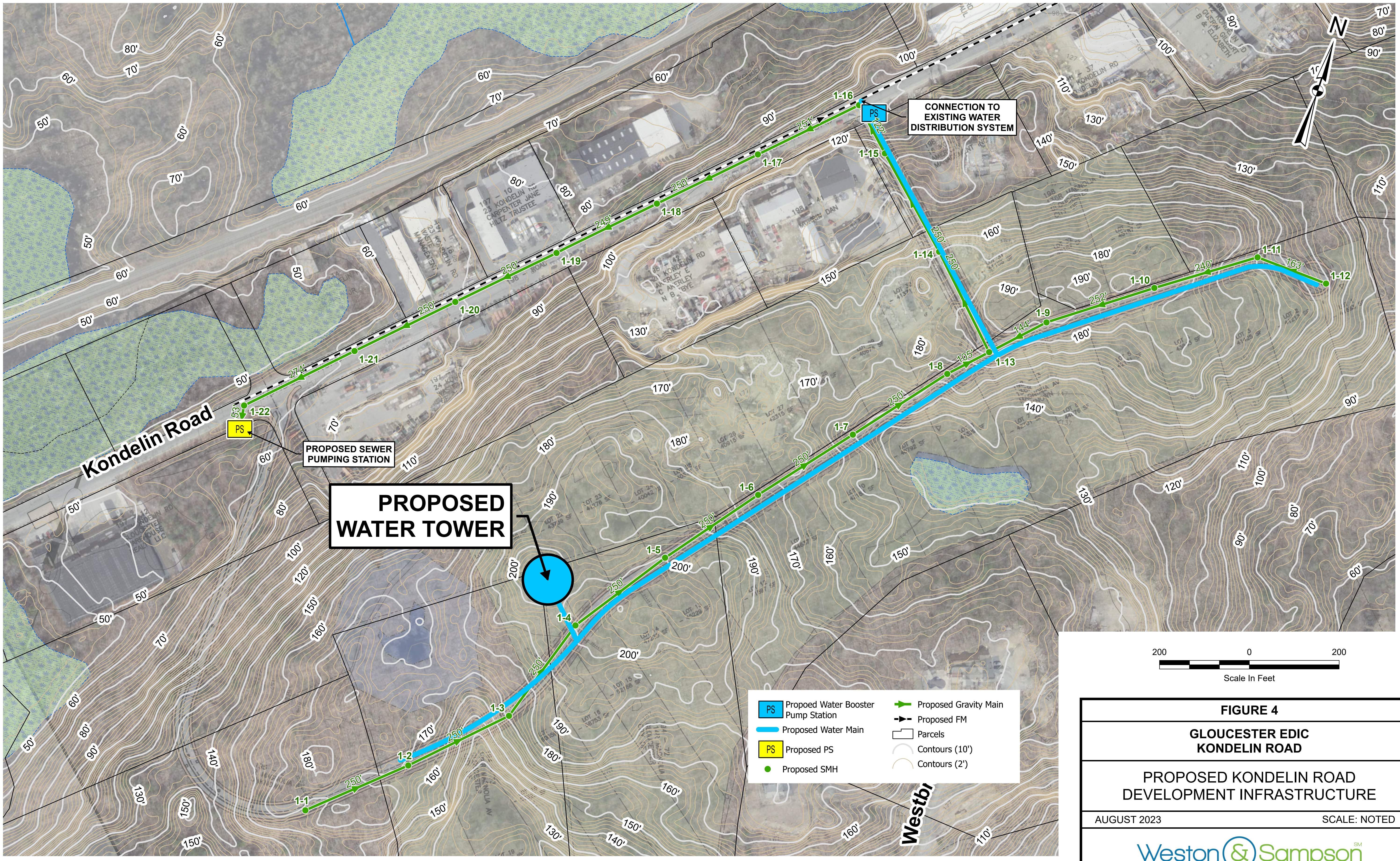


FIGURE 4

GLOUCESTER EDIC
KONDELIN ROAD

PROPOSED KONDELIN ROAD DEVELOPMENT INFRASTRUCTURE

AUGUST 2023 | SCALE: NOTED

Weston & Sampson

APPENDIX B

Project Pro Forma

GLOUCESTER

JULY 6, 2023

CONTENTS

DISCLAIMER

Any projections or other estimates in this presentation, including estimates of returns or performance, are “forward-looking statements” and are based upon certain assumptions. Other events, which were not taken into account, may occur and may significantly affect the analyses. Any assumptions should not be construed to be indicative of the actual events that will occur. Actual events are difficult to predict and may depend upon factors that are beyond the Fund’s control. Certain assumptions have been made to simplify the presentation and, accordingly, actual results may differ, perhaps materially, from those presented. Important factors which could cause actual results to differ materially from projections or estimates in any forward-looking statements include, without limitation, the following: financial, market, economic or legal conditions, and foreign exchange developments. Accordingly, neither the Fund nor the sponsor can make any assurances that estimated returns or projections can be realized or that actual returns or results will not be materially lower than those estimated herein. Such estimated returns and projections should be viewed as hypothetical and do not represent the actual returns that may be achieved by an investor. Investors should conduct their own analysis using such assumptions as they deem appropriate and should fully consider other available information. Investors can identify forward-looking statements in this Memorandum by the use of terminology such as “may”, “will”, “should”, “could”, “would”, “projects”, “targets”, “seek”, “target”, “expect”, “anticipate”, “believe”, “intend”, “estimate” or the negative thereof or other variations thereon or comparable terminology.

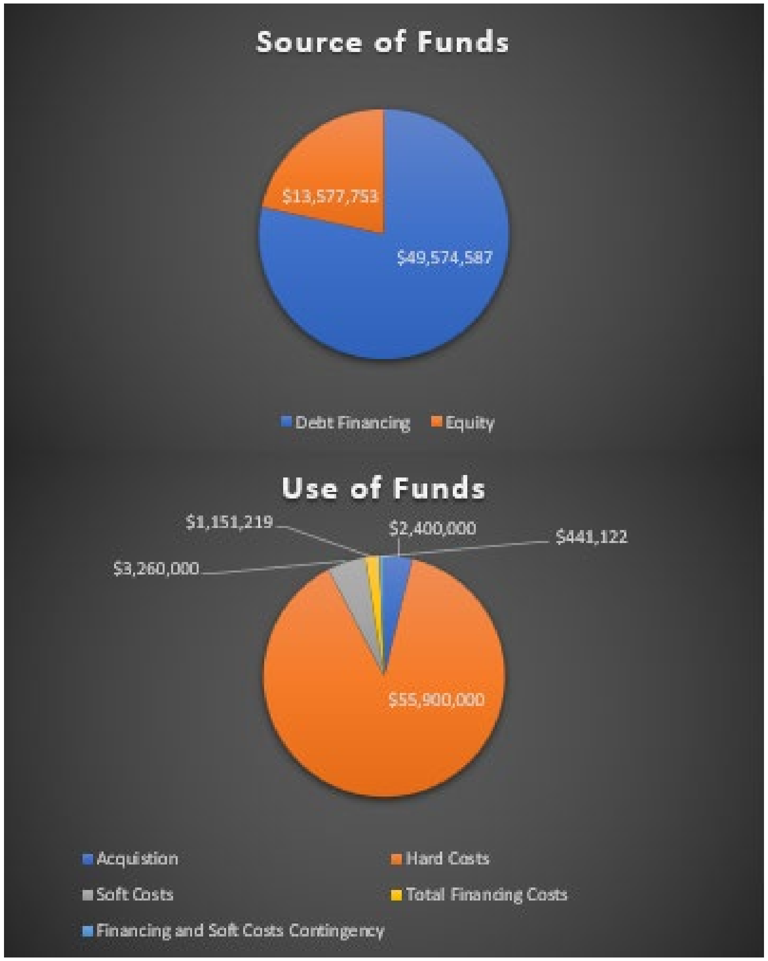
Source of Funds		
Debt Financing	$ 49,574,587	78.50%
Equity	$ 13,577,753	21.50%
Total	$ 63,152,341	100.00%

Use of Funds		
Acquistion	$ 2,400,000	3.80%

Construction Costs		
Hard Costs	$ 52,000,000	82.34%
Contigency Allowance	$ 3,900,000	6.18%
Total Hard Costs	$ 55,900,000	88.52%

Soft Costs		
Architectural Fees	$ 2,000,000	3.17%
Structural Engineering	$ 525,000	0.83%
Civil Engineering & Survey	$ 500,000	0.79%
Environmental Review & Due Diligence	$ 60,000	0.10%
Legal	$ 90,000	0.14%
Title Ins & Recording	$ 10,000	0.02%
Appraisal & Market Study	$ 25,000	0.04%
Consulting	$ 50,000	0.08%
Total Soft Costs	$ 3,260,000	5.16%

Financing Costs		
Origination Fee	$ 200,000	0.32%
Bank Inspections	$ 70,000	0.11%
Construction Period Interest	$ 881,219	1.40%
Total Financing Costs	$ 1,151,219	1.82%
Financing and Soft Costs Contingency	$ 441,122	0.70%
Total Development Cost	$ 63,152,341	100.00%



Assumptions:

Rent per Sq ft = 14 annual, Cost per Sq Ft = 130, NNN rent with exclduing General and Admin line

REAL ESTATE PRO FORMA AFTER STABILIZATION

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Income										
Net Effective Income	5,600,000	5,740,000	5,883,500	6,030,588	6,181,352	6,335,886	6,494,283	6,656,640	6,823,056	6,993,633
Expense Reimbursement	$ 1,082,722	$ 1,088,959	$ 1,095,383	$ 1,102,000	$ 1,108,815	$ 1,115,835	$ 1,123,065	$ 1,130,512	$ 1,138,183	$ 1,146,084
Total Net Effective Income	6,682,722	6,828,959	6,978,883	7,132,587	7,290,167	7,451,721	7,617,348	7,787,153	7,961,239	8,139,717
Expenses	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
General & Admin										
Property Management Fee	$ 66,827	$ 68,290	$ 69,789	$ 71,326	$ 72,902	$ 74,517	$ 76,173	$ 77,872	$ 79,612	$ 81,397
Accounting and Audit	$ 26,063	$ 26,844	$ 27,650	$ 28,479	$ 29,334	$ 30,214	$ 31,120	$ 32,054	$ 33,015	$ 34,006
Misc	$ 76,851	$ 79,157	$ 81,532	$ 83,977	$ 86,497	$ 89,092	$ 91,764	$ 94,517	$ 97,353	$ 100,274
Total	**$ 169,741**	**$ 174,291**	**$ 178,970**	**$ 183,783**	**$ 188,732**	**$ 193,823**	**$ 199,058**	**$ 204,443**	**$ 209,981**	**$ 215,676**
Utilities										
Electric	$ 30,240	$ 31,147	$ 32,082	$ 33,044	$ 34,035	$ 35,056	$ 36,108	$ 37,191	$ 38,307	$ 39,456
Gas	$ 32,160	$ 33,125	$ 34,119	$ 35,142	$ 36,196	$ 37,282	$ 38,401	$ 39,553	$ 40,739	$ 41,962
Total	**$ 62,400**	**$ 64,272**	**$ 66,200**	**$ 68,186**	**$ 70,232**	**$ 72,339**	**$ 74,509**	**$ 76,744**	**$ 79,046**	**$ 81,418**
Maintenance & Repair										
Grounds Maintenance	$ 48,500	$ 49,955	$ 51,454	$ 52,997	$ 54,587	$ 56,225	$ 57,912	$ 59,649	$ 61,438	$ 63,281
Snow Removal	$ 49,000	$ 50,470	$ 51,984	$ 53,544	$ 55,150	$ 56,804	$ 58,509	$ 60,264	$ 62,072	$ 63,934
Total	**$ 97,500**	**$ 100,425**	**$ 103,438**	**$ 106,541**	**$ 109,737**	**$ 113,029**	**$ 116,420**	**$ 119,913**	**$ 123,510**	**$ 127,215**
Taxes & Insurance										
Insurance	$ 48,000	$ 49,440	$ 50,923	$ 52,451	$ 54,024	$ 55,645	$ 57,315	$ 59,034	$ 60,805	$ 62,629
Real Estate Taxes	$ 874,822	$ 874,822	$ 874,822	$ 874,822	$ 874,822	$ 874,822	$ 874,822	$ 874,822	$ 874,822	$ 874,822
Total	**922,822**	**924,262**	**925,745**	**927,272**	**928,846**	**930,467**	**932,136**	**933,856**	**935,627**	**937,451**
Total Operating Expenses	1,252,463	1,263,250	1,274,353	1,285,782	1,297,547	1,309,657	1,322,123	1,334,955	1,348,164	1,361,760
Operating Income	5,430,259	5,565,709	5,704,530	5,846,805	5,992,620	6,142,063	6,295,225	6,452,198	6,613,076	6,777,956
Bank Debt	4,523,368	4,523,368	4,523,368	4,523,368	4,523,368	4,523,368	4,523,368	4,523,368	4,523,368	4,523,368
Free Cash Flow	906,891	1,042,341	1,181,162	1,323,437	1,469,252	1,618,696	1,771,857	1,928,830	2,089,708	2,254,588
Debt to cover	1.20	1.23	1.26	1.29	1.32	1.36	1.39	1.43	1.46	1.50

KEY RATIOS

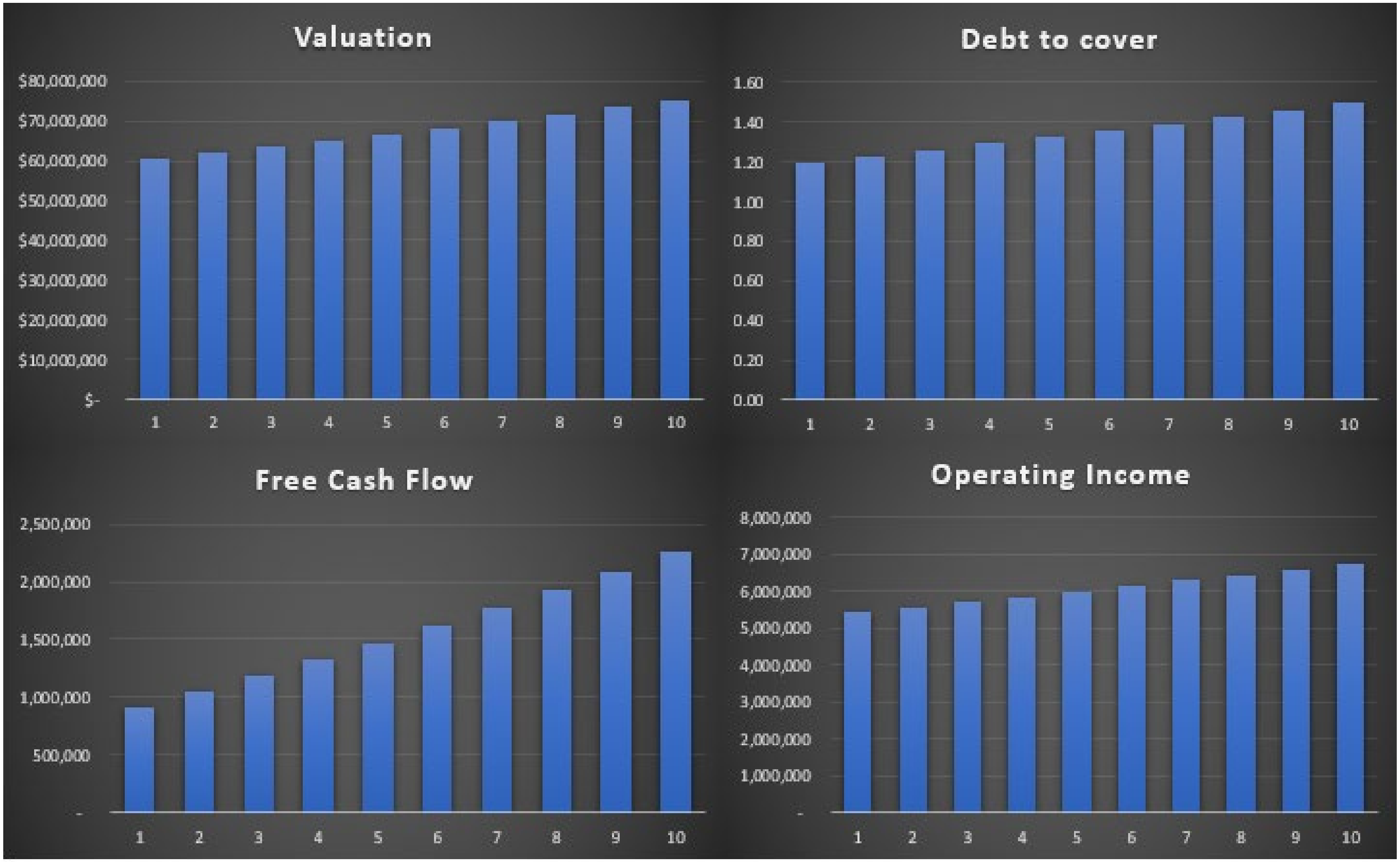
Key Ratios	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Exit
Cash On Cash											
Cash After Debt Service		$ 906,891	$ 1,042,341	$ 1,181,162	$ 1,323,437	$ 1,469,252	$ 1,618,696	$ 1,771,857	$ 1,928,830	$ 2,089,708	$ 2,254,588
Initial Equity Investment	$ 13,577,753	$ 13,577,753	$ 13,577,753	$ 13,577,753	$ 13,577,753	$ 13,577,753	$ 13,577,753	$ 13,577,753	$ 13,577,753	$ 13,577,753	$ 13,577,753
Cash on Cash		7%	8%	9%	10%	11%	12%	13%	14%	15%	17%
Debt To Cover											
NOI		$ 5,430,259	$ 5,565,709	$ 5,704,530	$ 5,846,805	$ 5,992,620	$ 6,142,063	$ 6,295,225	$ 6,452,198	$ 6,613,076	$ 6,777,956
Total Debt Serivce		$ 4,523,368	$ 4,523,368	$ 4,523,368	$ 4,523,368	$ 4,523,368	$ 4,523,368	$ 4,523,368	$ 4,523,368	$ 4,523,368	$ 4,523,368
Debt to Cover		1.20	1.23	1.26	1.29	1.32	1.36	1.39	1.43	1.46	1.50
Exit Value											
NOI		$ 5,430,259	$ 5,565,709	$ 5,704,530	$ 5,846,805	$ 5,992,620	$ 6,142,063	$ 6,295,225	$ 6,452,198	$ 6,613,076	$ 6,777,956
Cap Rate		9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Sale Price		$ 60,336,210	$ 61,841,212	$ 63,383,664	$ 64,964,498	$ 66,584,667	$ 68,245,148	$ 69,946,945	$ 71,691,084	$ 73,478,617	$ 75,310,624

ECONOMICS

Yearly Returns	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Exit
Exit price/Refinance		$ 60,336,210	$ 61,841,212	$ 63,383,664	$ 64,964,498	$ 66,584,667	$ 68,245,148	$ 69,946,945	$ 71,691,084	$ 73,478,617	$ 75,310,624
Balance on debt		$ 48,255,477	$ 46,949,439	$ 45,552,464	$ 44,058,222	$ 42,459,938	$ 40,750,369	$ 38,921,766	$ 36,965,841	$ 34,873,729	$ 32,635,948
Net b4 tax		$ 12,080,733	$ 14,891,773	$ 17,831,200	$ 20,906,276	$ 24,124,729	$ 27,494,780	$ 31,025,179	$ 34,725,243	$ 38,604,888	$ 42,674,676

GP Returns	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Exit
General Partner	$ 13,577,753										
GP Pref		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Developer Fee		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
GP Annual Waterfall Distributions		$ 906,891	$ 1,042,341	$ 1,181,162	$ 1,323,437	$ 1,469,252	$ 1,618,696	$ 1,771,857	$ 1,928,830	$ 2,089,708	$ 2,254,588
GP Estimated Equity Value											$ 42,674,676
Net Cash Flow	$ (13,577,753)	$ 906,891	$ 1,042,341	$ 1,181,162	$ 1,323,437	$ 1,469,252	$ 1,618,696	$ 1,771,857	$ 1,928,830	$ 2,089,708	$ 44,929,264

NPV	$23,041,957
Net profit	$ 44,683,684
ROI	329%
IRR	19%



Valuation
$80,000,000
$70,000,000
$60,000,000
$50,000,000
$40,000,000
$30,000,000
$20,000,000
$10,000,000
$-
1 2 3 4 5 6 7 8 9 10
Debt to cover
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
1 2 3 4 5 6 7 8 9 10
Free Cash Flow
2,500,000
2,000,000
1,500,000
1,000,000
500,000
-
1 2 3 4 5 6 7 8 9 10
Operating Income
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
-
1 2 3 4 5 6 7 8 9 10

SENSITIVITY ANALYSIS

Change in Operating Income

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
15%	$ 6,244,798	$ 6,400,565	$ 6,560,209	$ 6,723,826	$ 6,891,513	$ 7,063,373	$ 7,239,509	$ 7,420,027	$ 7,605,037	$ 7,794,650
10%	$ 5,973,285	$ 6,122,280	$ 6,274,983	$ 6,431,485	$ 6,591,882	$ 6,756,270	$ 6,924,748	$ 7,097,417	$ 7,274,383	$ 7,455,752
5%	$ 5,701,772	$ 5,843,995	$ 5,989,756	$ 6,139,145	$ 6,292,251	$ 6,449,167	$ 6,609,986	$ 6,774,807	$ 6,943,729	$ 7,116,854
0%	$ 5,430,259	$ 5,565,709	$ 5,704,530	$ 5,846,805	$ 5,992,620	$ 6,142,063	$ 6,295,225	$ 6,452,198	$ 6,613,076	$ 6,777,956
-5%	$ 5,158,746	$ 5,287,424	$ 5,419,303	$ 5,554,465	$ 5,692,989	$ 5,834,960	$ 5,980,464	$ 6,129,588	$ 6,282,422	$ 6,439,058
-10%	$ 4,887,233	$ 5,009,138	$ 5,134,077	$ 5,262,124	$ 5,393,358	$ 5,527,857	$ 5,665,703	$ 5,806,978	$ 5,951,768	$ 6,100,161
-15%	$ 4,615,720	$ 4,730,853	$ 4,848,850	$ 4,969,784	$ 5,093,727	$ 5,220,754	$ 5,350,941	$ 5,484,368	$ 5,621,114	$ 5,761,263

NOI After Debt as a Fuction of Change in Operating Income

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
15%	$ 1,721,430	$ 1,877,198	$ 2,036,841	$ 2,200,458	$ 2,368,145	$ 2,540,005	$ 2,716,141	$ 2,896,659	$ 3,081,669	$ 3,271,282
10%	$ 1,449,917	$ 1,598,912	$ 1,751,615	$ 1,908,117	$ 2,068,514	$ 2,232,902	$ 2,401,380	$ 2,574,049	$ 2,751,015	$ 2,932,384
5%	$ 1,178,404	$ 1,320,627	$ 1,466,388	$ 1,615,777	$ 1,768,883	$ 1,925,799	$ 2,086,618	$ 2,251,440	$ 2,420,361	$ 2,593,486
0%	$ 906,891	$ 1,042,341	$ 1,181,162	$ 1,323,437	$ 1,469,252	$ 1,618,696	$ 1,771,857	$ 1,928,830	$ 2,089,708	$ 2,254,588
-5%	$ 635,378	$ 764,056	$ 895,935	$ 1,031,097	$ 1,169,621	$ 1,311,592	$ 1,457,096	$ 1,606,220	$ 1,759,054	$ 1,915,690
-10%	$ 363,865	$ 485,770	$ 610,709	$ 738,756	$ 869,990	$ 1,004,489	$ 1,142,335	$ 1,283,610	$ 1,428,400	$ 1,576,793
-15%	$ 92,352	$ 207,485	$ 325,482	$ 446,416	$ 570,359	$ 697,386	$ 827,573	$ 961,000	$ 1,097,746	$ 1,237,895

DSCR as a function of chance in Operating Income

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
15%	1.38	1.41	1.45	1.49	1.52	1.56	1.60	1.64	1.68	1.72
10%	1.32	1.35	1.39	1.42	1.46	1.49	1.53	1.57	1.61	1.65
5%	1.26	1.29	1.32	1.36	1.39	1.43	1.46	1.50	1.54	1.57
0%	1.20	1.23	1.26	1.29	1.32	1.36	1.39	1.43	1.46	1.50
-5%	1.14	1.17	1.20	1.23	1.26	1.29	1.32	1.36	1.39	1.42
-10%	1.08	1.11	1.14	1.16	1.19	1.22	1.25	1.28	1.32	1.35
-15%	1.02	1.05	1.07	1.10	1.13	1.15	1.18	1.21	1.24	1.27

CONFIDENCE INTERVALS

Confidence Intervals of the mean DSCR	
Mean	1.200490222
Standard Error	0.049009808
Median	1.200490222
Mode	#N/A
Standard Deviation	0.129667764
Sample Variance	0.016813729
Kurtosis	-1.2
Skewness	-1.03621E-15
Range	0.360147067
Minimum	1.020416689
Maximum	1.380563756
Sum	8.403431557
Count	7
Confidence Level(95.0%)	0.11992268
Upper CI (95%)	1.380563756
Lower CI (95%)	1.020416689

Confidence Interval of the mean NOI after Debt Service	
Mean	906891.03
Standard Error	221689.39
Median	906891.03
Mode	#N/A
Standard Deviation	586534.99
Sample Variance	344023299783
Kurtosis	-1.20
Skewness	0.00
Range	1629077.66
Minimum	92352.19
Maximum	1721429.86
Sum	6348237.18
Count	7.00
Confidence Level(95.0%)	542454.40
Upper CI (95%)	$ 1,721,430
Lower CI (95%)	$ 92,352