

ENVIRONMENTAL IMPACT STATEMENT

For

MPB Realty, LLC

Proposed Popeyes Restaurant & IHOP Restaurant

**470 Eagle Rock Avenue (CR 611)
Block 153, Lot 38
Township of West Orange
Essex County, New Jersey**

Prepared by:



**DYNAMIC
ENGINEERING**

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**June 2024
DEC #1021-99-025**

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REFERENCES

- Bureau of Air Monitoring (2022). *2021 New Jersey Air Quality Report*. New Jersey Department of Environmental Protection.
- Report of Geotechnical Investigation (2021). Dynamic Earth.
- Water Monitoring and Standards (2012). *Ambient Biomonitoring Network Volume 1 of 2*. New Jersey Department of Environmental Protection.

1. Introduction

This Environmental Impact Statement was prepared in accordance with the requirements of the West Orange Township Land Use Ordinance in support of a Preliminary and Final Major Site Plan application for a proposed Popeyes and IHOP restaurant to be located on Block 153, Lot 38 in the Township of West Orange, Essex County, New Jersey (hereafter “the site”). The site consists of 45,713 SF (1.05 Ac) and is occupied by a vacant 1-story building which was previously used as a restaurant.

The purpose of this Environmental Impact Statement is to summarize, highlight, or otherwise qualify the extent to which the proposed development will have an impact on the existing site and surrounding areas.

2. Project Description

The site is located at 470 Eagle Rock Avenue (CR 611) with secondary frontage along Rosney Terrace. The site is currently occupied by a vacant 1-story building which was previously used as a restaurant. Surrounding properties include:

- North: Eagle Rock Avenue
- East: Vacated Fundus Road right-of-way with adjacent commercial uses
- South: Existing residential uses within a commercial zone
- West: Rosney Terrace

According to the Township of West Orange Zoning Map, the site is located within the B-2 (General Business) Zone. The proposed development consists of retrofitting the existing building for the occupancy of a 2,391 SF Popeyes restaurant and a 3,797 SF IHOP restaurant. The Popeyes restaurants will also provide a drive-through component. Additional improvements will include parking, driveways, signage, lighting, landscaping, grading, walkways, utilities, stormwater management facilities, and other associated items as shown on the accompanying site plan drawings.

3. Existing Conditions

A. Vegetation

The subject site is currently developed with a vacant restaurant and parking lot. A tree survey was conducted by Dynamic Engineering Consultants, PC, and thirty-three (33) existing trees were found to be within the proposed limit of disturbance area around the

perimeter of the development. The existing trees consist of mostly maple, locust, and arborvitae species. The accompanying Demolition and Tree Removal Plan along with the Tree Removal Report provide a further analysis of the existing onsite trees.

B. Wildlife

Per NJDEP GeoWeb Mapping, there are no wildlife habitats within the site or any adjacent properties.

C. Topography

Per the Boundary and Topographic Survey prepared by Dynamic Survey, LLC, dated May 13, 2021, site grades generally slope from the southern corner towards the northern corner and Eagle Rock Avenue. Site elevations range between approximately 586 feet and 574 feet.

The Township of West Orange Land Use Ordinance defines steep slopes as, “any slope equal to or greater than 10 percent as measured over any minimum run of 10 feet.”

Manmade steep slopes are present onsite along the southeastern border as well as along Rosney Terrace.

D. Geology and Soil

Per the Report of Geotechnical Investigation, prepared by Dynamic Earth, LLC, dated June 3, 2021:

“The subject site is located in a region of the Piedmont Physiographic Province of New Jersey known as the Newark Basin. The Newark Basin contains rocks of the Newark Super Group which is a stratigraphic series of Triassic to Jurassic age sedimentary rocks containing intrusive sills and dikes as well as extrusive volcanics. The primary formation beneath the site is known as Orange Mountain Basalt of the Brunswick Group which includes basalt and siltstone. The overburden materials at the site include glacial till deposits and man-made fill.”

Based on site subsurface exploration completed by Dynamic Earth, LLC:

“Soil borings were performed within existing pavement areas and encountered approximately 1.5 inches to four inches of asphaltic concrete at the surface underlain by up to approximately four inch of apparent subbase material.

Beneath the surface cover, existing fill material was encountered that generally consisted of sand and gravel with variable amounts of silt and debris. The debris encountered included asphalt and wood. The existing fill material was encountered to depths ranging between approximately two feet and four feet below the ground surface; corresponding to elevations ranging between 580.5 feet and 575.3 feet. SPT N-values ranged between approximately five blows per foot (bpf) and 14 bpf. An unconfined compressive strength (Qp) pocket penetrometer value of 0.5 tons per square foot (tsf) was recorded within the fine-grained portions of the stratum.

Beneath the existing fill material, natural glacial deposits were encountered that generally consisted of sand (USCS: SM) and gravel (USCS: GP, GM and GP-GM) with variable amounts of silt and clay. The natural glacial deposits were encountered refusal depths ranging between approximately 3.5 feet and 12.5 feet below the ground surface; corresponding to elevations ranging between 578.3 feet and 566.8 feet. Except for split spoon sampler refusal, SPT N-values ranged between approximately 16 bpf and 63 bpf, and averaged 28 bpf; generally indicating a medium dense condition within the coarse-grained soils.”

E. Groundwater

Per the site subsurface exploration completed by Dynamic Earth, LLC, apparent perched groundwater within the existing fill material was encountered at a depth of approximately two feet below the ground surface (corresponding to an elevation of 578.7 feet).

Groundwater was not encountered at depths ranging between approximately 8 feet and 10 feet below the ground surface (corresponding to elevations ranging between 572.2 feet and 569.3 feet). Groundwater levels are expected to fluctuate seasonally and following significant periods of precipitation.

F. Surface Water

The site currently drains via overland flow towards existing onsite inlet structures, which discharge to the existing inlets within Rosney Terrace. These inlets ultimately discharge into the existing stormwater infrastructure within Eagle Rock Avenue.

Most of the site is located in the Lower Passaic and Saddle Watershed Management Area (WMA 4), within the Peckman River (above CG Res trib) subwatershed (04BA01), and Passaic River Lower (saddle to Pompton) watershed, which has a cumulative drainage of

5.03 square miles. The southern portion of the site is located in the Arthur Kill Watershed Management Area (WMA 7), within the Rahway River WB subwatershed (07DA01) and Rahway River/Woodbridge Creek watershed, which has a cumulative drainage of 8.52 square miles. According to the NJDEP GeoWeb, Crystal Lake is the nearest waterbody, approximately 1,000 feet southeast of the site. The waterway is classified as FW2-NT. “FW2” is a general surface water classification applied to those freshwaters that are not FW1 or pineland waters. According to the Surface Water Quality Standards (N.J.A.C. 7:9B), “NT” or “Nontrout waters” means fresh waters that have not been designated in N.J.A.C. 7:9B-1.15 as trout production or trout maintenance. These waters are generally not suitable for trout because of their physical, chemical or biological characteristics, but are suitable for a wide variety of other fish species.

Per FEMA FIRM Map Number 34013C0092F, effective date June 4, 2007, the site is not located within a Flood Hazard Area.

G. Freshwater Wetlands

Per NJDEP GeoWeb, the site does not contain freshwater wetlands. The closest wetlands are deciduous wooded wetlands located approximately 1,200 feet south of the site.

H. Water Supply

Water service is provided to the area by New Jersey American Water. There is an existing water main located adjacent to the property along both Eagle Rock Avenue and Rosney Terrace.

I. Sanitary Sewer Service

Sanitary sewer collection service is provided by the Township of West Orange with wastewater treatment provided by the Joint Meeting of Essex and Union Counties (JMEUC). The JMEUC operates under NJPDES Permit No. NJ0024741 and is permitted for flows up to 85.0 million gallons per day (MGD). An eight (8) inch sanitary sewer main exists adjacent to the property along Eagle Rock Avenue.

J. Air Quality

The following was taken from the 2021 New Jersey Air Quality Report: “this report presents the New Jersey Department of Environmental Protection (NJDEP) air quality data for 2021, collected from NJDEP’s extensive air monitoring network. The state of New Jersey has been

monitoring air quality since 1965. During that time, as a result of state, regional and national air pollution reduction efforts, pollution levels have improved significantly.

This report includes detailed chapters for ozone, particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide and lead. These are the criteria pollutants, that is, those for which National Ambient Air Quality Standards (NAAQS), or criteria, have been set. Other measurements made at our air monitoring stations and discussed in this report include air toxics, ozone precursors, and chemical components of airborne fine particles.

The Air Quality Index (AQI) is a national air quality rating system based on the National Ambient Air Quality Standards (NAAQS). An index value of 100 is equal to the primary, or health-based, NAAQS for each pollutant. This allows for a comparison of each of the pollutants used in the AQI. These pollutants are ozone, particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide. Although air concentrations of pollutants have been dropping over the past few years, the U.S. Environmental Protection Agency (USEPA) periodically reviews the NAAQS to make sure that they are protective of public health, and adjusts them accordingly in response to new research.”

Table 3-1
Air Quality Index Levels and Associated Health Impacts

AQI Level of Health Concern	Numerical Value	Meaning	Color Code
Good	0 to 50	Air quality is considered satisfactory, and air pollution poses little or no risk.	Green
Moderate	51 to 100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.	Yellow
Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.	Orange
Unhealthy	151 to 200	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.	Red
Very Unhealthy	201 to 300	Health warnings of emergency conditions. The entire population is more likely to be affected.	Purple
Hazardous	301 to 500	Health alert: everyone may experience more serious health effects.	Maroon

Table 3-2
AQI Suggested Actions to Protect Health

Air Quality Index Level	AQI Value Actions to Protect Your Health
Good (1-50)	None
Moderate (51-100)	Unusually sensitive individuals should consider limiting prolonged outdoor exertion.
Unhealthy for Sensitive Groups (101-150)	Children, active adults, and people with respiratory disease such as asthma should limit prolonged outdoor exertion.
Unhealthy (151-200)	Children, active adults, and people with respiratory disease such as asthma should avoid prolonged outdoor exertion. Everyone else should limit prolonged outdoor exertion.
Very Unhealthy (201-300)	Children, active adults, and people with respiratory disease such as asthma should avoid outdoor exertion. Everyone else should limit outdoor exertion.
Hazardous (301-500)	Everyone should avoid all physical activity outdoors.

Table 3-3
AQI Pollutant-Specific Ranges

Category	AQI Level	O ₃	PM _{2.5}	NO ₂	SO ₂	CO
		(ppm) 8-hour	(µg/m ³) 24-hour	(ppb) 1-hour	(ppb) 1-hour	(ppm) 8-hour
Good	0-50	0.000-0.054	0.0-12.0	0-53	0-35	0.0-4.4
Moderate	51-100	0.055-0.070	12.1-35.4	54-100	36-75	4.5-9.4
Unhealthy for Sensitive Groups	101-150	0.071-0.085	35.5-55.4	101-360	76-185	9.5-12.4
Unhealthy	151- 200	0.086-0.105	55.5-150.4	361-649	186-304	12.5-15.4
Very Unhealthy	201-300	0.106-0.200	150.5-250.4	605-1249	305-604	15.5-30.4
Hazardous	301-500	>0.200	250.5-500.4	1250-2049	605-1004	30.5-1004

Pollutants:

O₃ – Ozone
 PM_{2.5} – Fine particulate matter
 NO₂ – Nitrogen dioxide
 SO₂ – Sulfur dioxide
 CO – Carbon monoxide

Units:

ppm – parts per million
 µg/m³ – micrograms per cubic meter
 ppb – parts per billion

The nearest monitoring location is in Paterson, NJ and this monitoring station includes ozone and particle matter. The 2022 report is provided below:

Air Quality Index Report

Geographic Area: Passaic County, NJ
Summary: by County
Year: 2022

		Number of Days when Air Quality was...						AQI Statistics			Number of Days when AQI Pollutant was...				
County	# Days with AQI	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy	Hazardous	Maximum	90th Percentile	Median	CO	NO2	O3	PM2.5	PM10
Passaic County, NJ	304	279	25	.	.	.	.	89	50	36	.	.	223	81	.

K. Noise

The project site is located in a suburban residential atmosphere. Ambient noise conditions onsite are mostly associated with the traffic along Eagle Rock Avenue. The property is currently vacant and therefore does not generate any noise.

Per the NJDEP Compliance and Enforcement website: “the NJDEP promulgated noise regulations to control noise from stationary commercial and industrial sources in 1974, pursuant to the Noise Control Act of 1971, N.J.S.A. 13:1G-1 et seq. Within the noise regulations, there are established sound level standards of 50 decibels during nighttime (10:00 p.m. to 7:00 a.m.) and 65 decibels during daytime.”

The local noise regulation is set forth in Chapter 4 of the Code of the Township of West Orange. Section 4-4 (*Noise*) provides language that subjectively prohibits “excessively loud and disturbing noise which injures or endangers the health, comfort or safety of others within the limits of the township,” and does not provide any quantitative sound level limits.

L. Cultural/Historical Resources

Per NJDEP GeoWeb Mapping, there are no mapped historic districts nor historic properties associated with the site or at adjacent properties. The site is also not located within an archaeological site grid.

The NJDEP NJ-GeoWeb Map Viewer data layers entitled “NJDEP Historic Properties of New Jersey”, “NJDEP Historic Districts of New Jersey” and “NJDEP Archaeological Site Grid of New Jersey” were reviewed. The Historic Properties, Historic Districts and Archaeological Site Grid data layers display historic properties and archaeological grids that are either included in the New Jersey or National Registers of Historic Places, have been determined eligible for inclusion through federal or state processes as administered by the

New Jersey Historic Preservation Office (HPO), or have been identified through cultural resource survey or other documentation on file at the HPO.

There are no historic properties, historic districts or archaeological grid sites mapped on or within the vicinity of the site.

M. Land Use

The site is located at 470 Eagle Rock Avenue (CR 611) and is identified as Block 153, Lot 38 on the Township of West Orange Tax Map Sheet No. 84. The site is currently occupied by a vacant 1-story building which was previously used as a restaurant. The site is located within the B-2 (General Business) Zone where restaurants are a permitted use with fast food restaurants being a permitted conditional use.

The B-2 Zone permitted principal uses include:

- Retail stores
- Personal service stores or studios
- Offices or office buildings
- Businesses or vocational schools
- Restaurants
- Bars
- Massage, bodywork, or somatic therapy establishments
- Fitness centers/health clubs

The B-2 Zone extends to the north, east and southwest of the property. The R-6 Residential Zone borders the property to the west along Rosney Terrace.

4. Potential Impacts and Environmental Performance Controls and Mitigation

This section describes the potential impacts of the proposed development and the environmental performance controls and mitigation measures that will be utilized to minimize or eliminate potentially adverse environmental impacts. These controls and mitigation measures will be planned and implemented during construction and operated subsequent to completion of the proposed project.

A. Vegetation

There will be an unavoidable impact regarding the removal of existing vegetation in order to construct the proposed development. Areas within the development footprint of the site will be cleared for construction. Existing vegetation cannot be preserved in the development area due to the proposed site improvements and changes in grading. The proposed development results in a decrease in impervious coverage, which will provide for an increase in vegetated areas post construction.

There will be controls implemented to mitigate disturbance to vegetation outside the development footprint. The limits of disturbance will be field located and construction activities will be limited accordingly. Areas beyond the established limits of disturbance will be preserved in their existing condition. Where appropriate, silt fence and tree protection fence will be utilized to establish the limit of construction and/or to protect vegetation that is to remain.

As a mitigation to offset the loss of vegetation, additional landscaping will be incorporated into the proposed pervious areas. The landscaping is designed to generally comply with the Township of West Orange Ordinance requirements, complement the proposed buildings, roadways and other hardscape improvements, to provide aesthetic appeal to the development and to provide shade, screening and buffering of proposed improvements and to/from adjacent properties.

B. Wildlife

There are no known wildlife habitats within the site or at adjacent properties. Therefore, it is not anticipated that the proposed project will adversely affect any wildlife.

C. Soil

There is a temporary impact to existing on-site soil. On-site soil will be regraded as part of the development. However, the proposed development has been designed in accordance with the New Jersey Standards for Soil Erosion and Sediment Control in order to mitigate any impacts of soil erosion and sedimentation resulting from construction and the completed development.

The first set of controls that will be implemented prior to and during construction will include the following:

- Stabilized construction entrance (stone anti-tracking pad) at construction entrance;
- Haybale sediment filters;
- Silt fencing along limit of disturbance;
- Tree protection fence where appropriate along limit of disturbance;
- Stabilizing soil stockpiles with temporary vegetative cover;
- Minimizing disturbance to vegetation;
- Inlet filters;
- Storm inlet filter bags; and
- Conduit outlet protection.

The second set of controls that will be utilized is construction timing.

- Install stone anti-tracking pad, tree protection and silt fencing;
- Clear and rough grade;
- Excavate, construct and stabilize the underground piping and drainage structures;
- Complete building construction;
- Excavate and install remaining on-site improvements;
- Final grading; and
- Install paving, concrete and landscaping.

Upon completion, most of these devices will be removed except for those that will become part of the permanent system. The final controls will include the completed stormwater management system and the permanent landscaping.

D. Degradation of Groundwater Quality

There is no predicted impact to groundwater quality. The major impacts to groundwater quality from the development are typically untreated stormwater recharge and subsurface sewage disposal systems. Due to the proposed reduction in impervious coverage, the proposed development meets the water quality requirements for stormwater design under NJAC 7:8. Additionally, the project does not propose any subsurface sewage disposal system. All sanitary effluent will be serviced by public sanitary sewer mains and public wastewater treatment facilities.

E. Flooding

There is no predicted impact associated with flooding. Stormwater runoff resulting from the proposed improvements has been designed to maintain existing drainage patterns. Ten (10)

additional inlets are proposed within the site to assist in collecting stormwater runoff from the project area, which are routed via a series of underground reinforced concrete pipes ultimately tributary to the existing inlet within Rosney Terrace. Due to the reduction in impervious coverage, the volume and peak discharge runoff rates for the 2-, 10- & 100-year design storms have been reduced. As such, there shall be no adverse impacts to the properties located upstream and downstream of the site.

Based upon the fact that the proposed improvements will result in more than one (1) acre of land disturbance, this project is classified as a “major development” and is subject to compliance with the Stormwater Regulations set forth in NJAC 7:8. The proposed development has been designed to meet the water quantity and groundwater recharge requirements set forth by the Township of West Orange Land Development Ordinance and NJAC 7:8.

F. Degradation of Surface Water Quality

There is no predicted impact to surface water quality. The proposed development results in a decrease in motor vehicle surface and therefore provides for an increase in surface water quality complying with the water quality standards set forth in NJAC 7:8.

G. Degradation of Freshwater Wetlands

The proposed development does not impact freshwater wetlands or wetlands transition areas, therefore there will be no degradation to freshwater wetlands or transition areas on-site.

H. Water Supply

There is no predicted impact to water supply. The water service for the proposed development will be provided by a proposed 2” water line for domestic service and a proposed 6” water line for fire service. Each line will connect to the existing water main within Rosney Terrace. The estimated domestic water demand for the two uses is approximately 3,180 GPD.

I. Sewage Disposal

There is no predicted impact to sewage disposal. Each of the two uses will be serviced by a proposed 4” sanitary sewer lateral. The laterals will each discharge to the existing sanitary sewer main located within Eagle Rock Avenue via separate saddle connections. Each use

will also be provided a separate 4” sanitary sewer lateral and 2,500-gallon grease trap for grease effluent, prior to discharge into the sanitary sewer main. The estimated sanitary sewer demand for the two uses is approximately 4,670 GPD.

J. Degradation of Air Quality

There will be a short-term impact associated with air quality during construction of the site and a negligible overall impact associated with the development. There may be temporary airborne dust particulates associated with construction activities, but these will dissipate with the daily construction schedule. Additionally, soil erosion and sediment control measures will be employed to mitigate the potential for airborne air quality impacts.

The impact of the development on air quality would be limited to vehicular exhaust. This is typical of all passenger, construction, delivery vehicles and elevated levels will dissipate as traffic disperses off-site.

K. Odor

The project proposes one (1) 2,500-gallon grease trap for each of the proposed buildings. The grease traps will be located underground adjacent to the buildings and are designed not to omit odor. The grease traps will each be cleaned four (4) times per year. Proposed trees and dense vegetation along the rear property line will assist in screening any odor emitted during cleanings, which is temporary and in an open-air setting.

The project proposes one (1) trash enclosure located at the southern corner of the property. Trash will be stored in six (6) cubic yard dumpsters with lids and screened by a six (6) foot masonry wall. The trash enclosure has been located adjacent to the Fundus Road right-of-way, away from the existing residential dwellings. Existing vegetation along the rear property line is to remain, with additional landscaping proposed to screen the enclosure and filter any potential odors. Trash pickup will occur three (3) times a week, with additional pickups to be scheduled as needed to eliminate stagnant waste.

Exhaust filters are installed on the ventilation equipment on the roof of the building to catch grease prior to exiting the building. The exhaust filters are cleaned and maintained on a regular schedule to remove the accumulation of grease and prevent odors from exiting the restaurants.

L. Noise

Lewis S. Goodfriend & Associates (LSG&A) completed an evaluation of the expected outdoor sound pressure levels due to the mechanical equipment, drive-thru intercom loudspeaker and anticipated vehicular traffic for the proposed project and the results of the evaluation indicate that the sound levels are expected to meet the applicable limits of the NJDEP noise regulation at the nearest property lines with the recommended maximum equipment sound levels.

There will be a short-term impact associated with noise during construction of the site. Noise control equipment to be utilized during construction shall be standard earth moving equipment, which are required to meet both the Township of West Orange and State Noise Control Standards.

Although an increase in noise levels is anticipated, it will be short term and intermittent. Noise impacts are typically mitigated by employing the following noise abatement measures during construction:

- Proper maintenance of equipment;
- Use of exhaust muffling equipment;
- Efficient air intake silencers;
- Proper cooling system operations; and
- Avoiding prolonged idling of equipment.

Construction activity will take place during normal working hours, in accordance with Township of West Orange Ordinances. The noise impact of the construction on-site to surrounding areas is lessened due to the distance from the source. Sound levels are inversely proportional to the distance from the source. To quantify, each time the distance from the source doubles, the sound pressure level (SPL) is halved..

M. Degradation of Cultural/Historical Resources

The proposed project is not located in a Historical District, nor is the site considered to be historical itself. Therefore, it is not anticipated that the proposed project will adversely affect any historical districts and properties.

N. Land Use

The proposed use is a conditionally permitted use in the zone and will require a variance. The conditional use requirements are not met due to the proposed fast food restaurant being located on a lot adjacent to a residential district boundary line, the frontage along Rosney Terrace being less than 200 feet, and the proposed driveway being less than 100 feet from a street intersection. The Professional Planner for the project will provide testimony at the Zoning Board of Adjustment hearing to support the proposed land use.

5. Alternatives to the Proposed Project

A. “No Project” or “No-Action” Alternative

The “No Project” or “No-Action” alternative would leave the site vacant and underutilized. The proposed use has minimal traffic volumes, is similar to previous uses occupying the property, and is compatible with the existing nearby properties. The “No Project” alternative would eliminate potential economic growth/commerce for the Township of West Orange as well as leave a void in providing the new eateries this project offers to the residents of West Orange. In addition, the neighboring environment would not benefit from the reduction in impervious coverage and increase in vegetative buffering to the adjacent residential uses.

B. Alternative Layouts

Alternative layouts have been considered but the proposed development layout provided the best balance of the following factors:

- Grading within the development
- Access from the adjacent streets
- Screening of on-site amenities from neighboring uses
- Maintaining the existing building and site layout to the maximum extent

6. Permits Required

The following permits will be required for the approval and construction of the proposed development:

- Township of West Orange Zoning Board of Adjustment – Site Plan Approval
- Hudson Essex Passaic Soil Conservation District – Certification
- Essex County Planning Board – Site Plan Approval

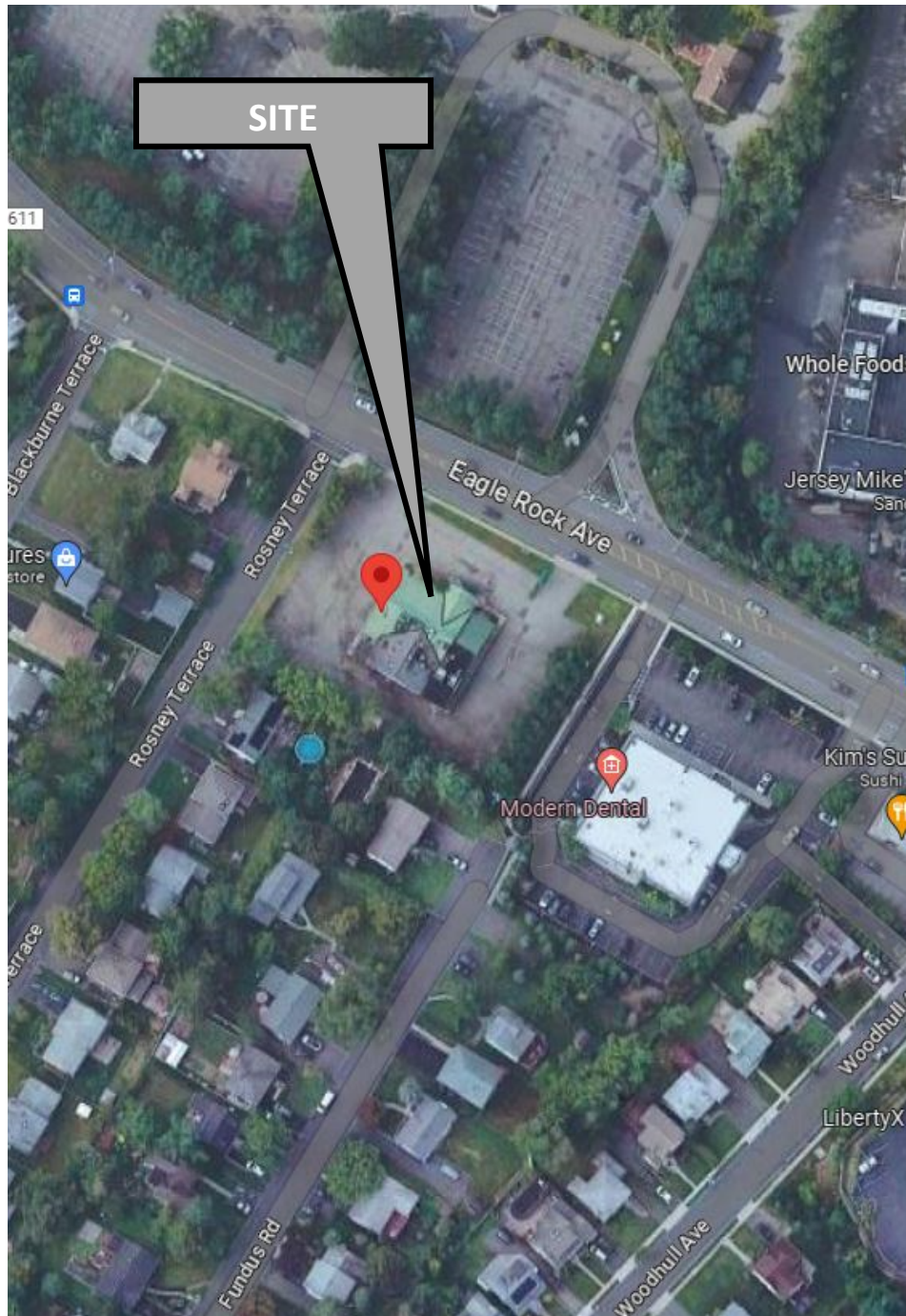
- Joint Meeting of Essex and Union Counties – Sewer Service Approval
- New Jersey American Water – Water Service Approval
- PSE&G – Electric and Gas Service Approval

7. Conclusion

Due to the location of the site, the proposed design and proposed mitigation measures, it is the opinion of this firm that the expected impacts to the existing natural resources on site and within the Township for this development would be consistent with those from any other permitted development. The development will provide value to the community and the proposed increase in open space and vegetation would provide long-term benefits for the surrounding environment.

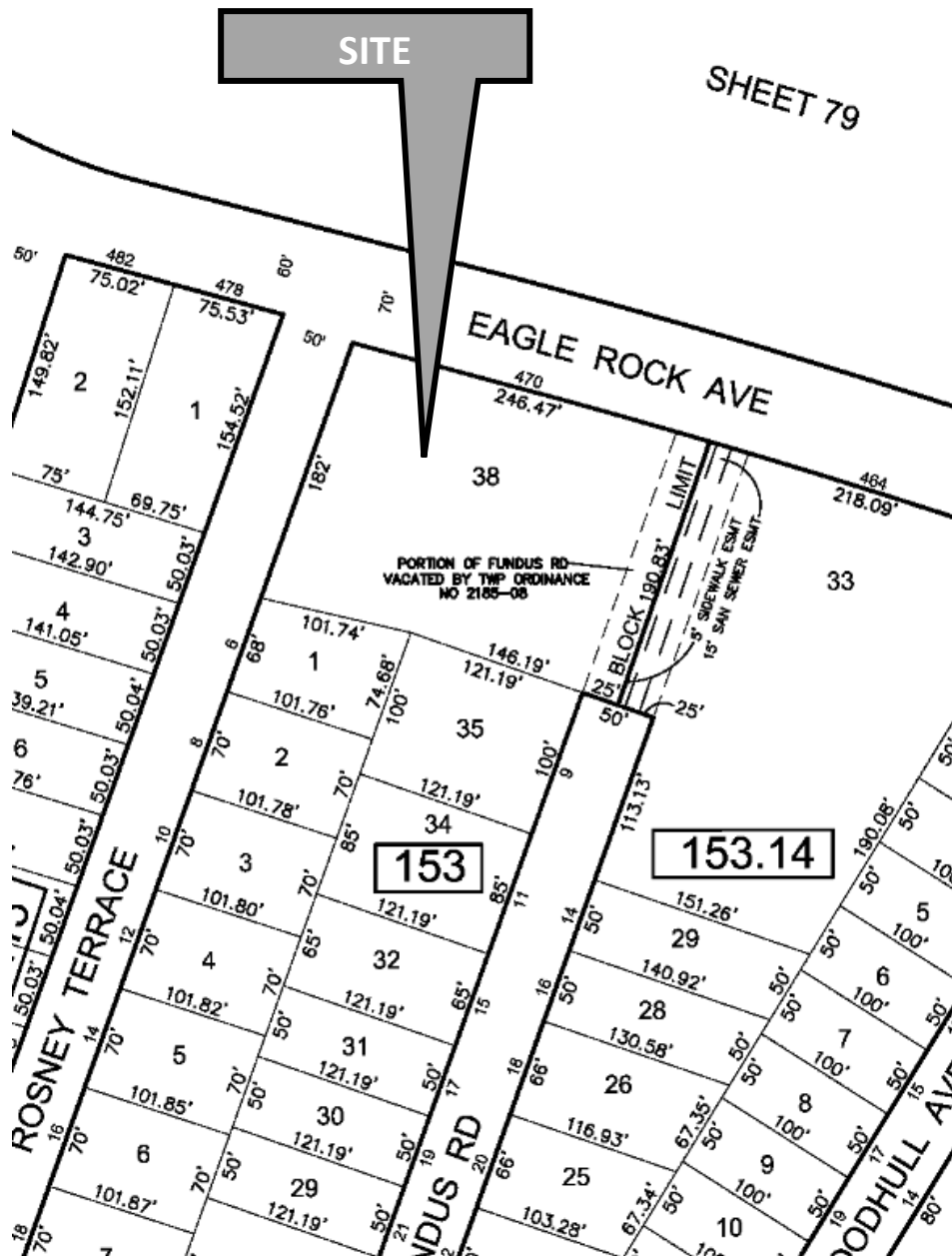
APPENDIX

Aerial Photo Map



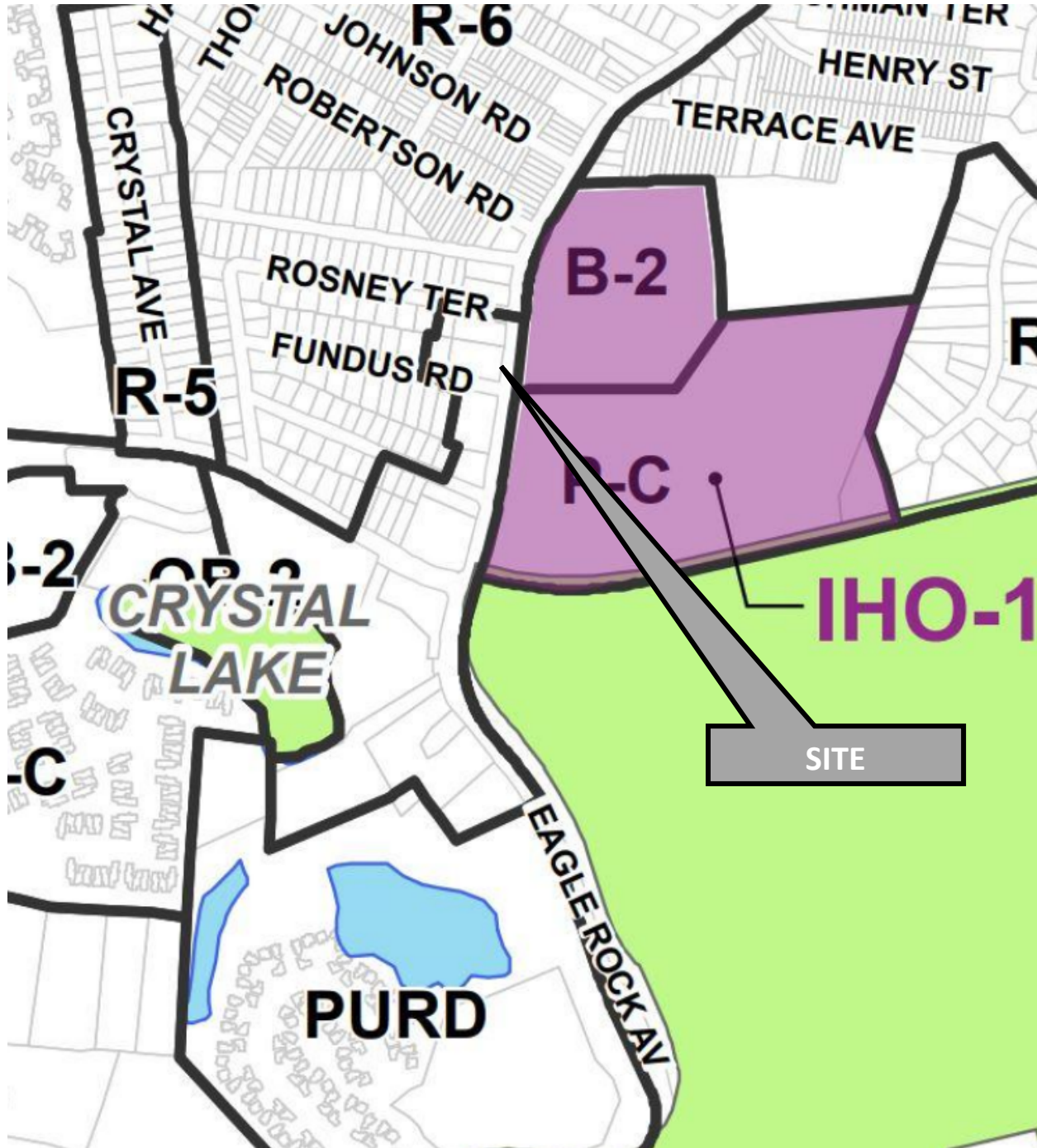
Aerial Map

Tax Map



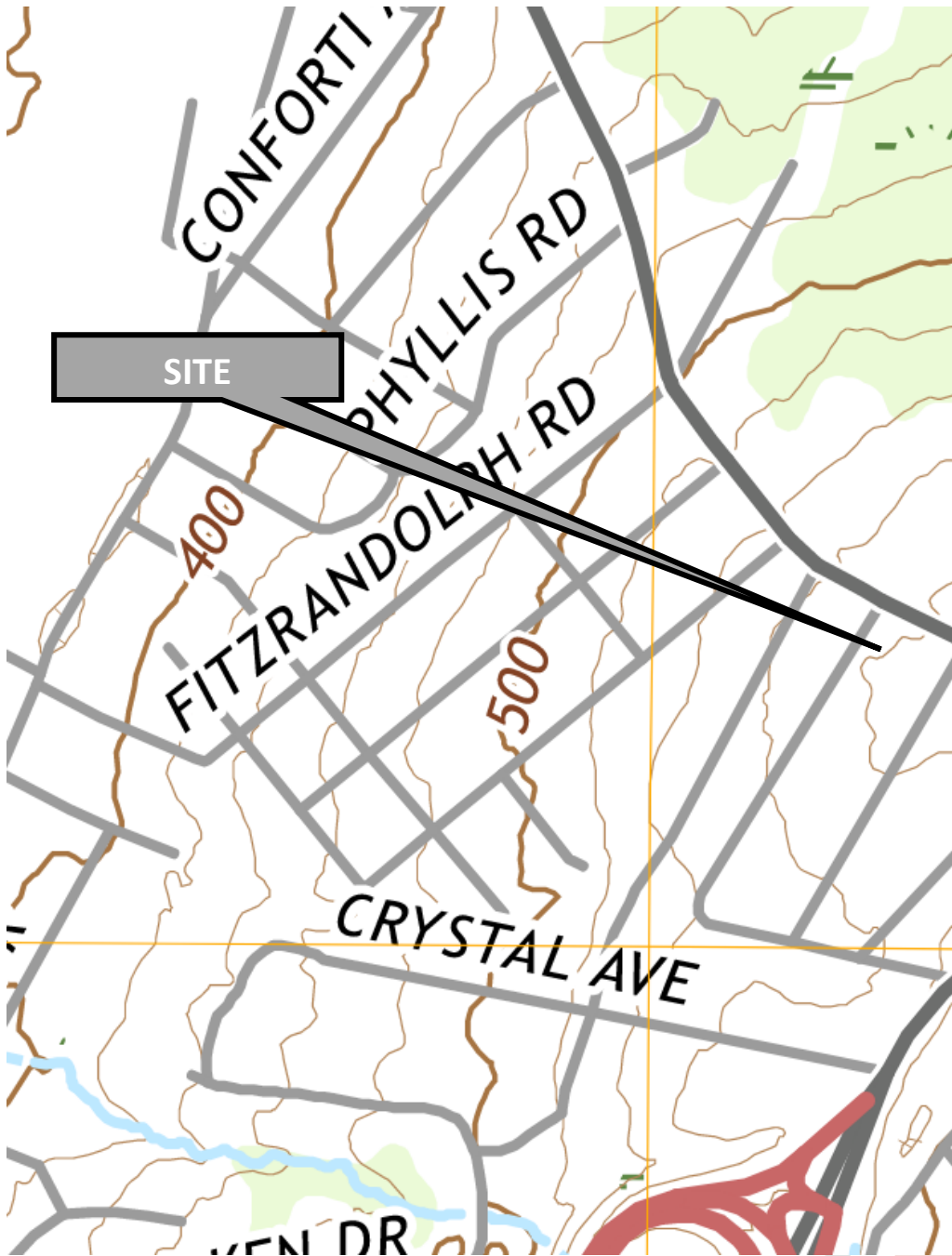
Tax Map

Zoning Map



Zoning Map

USGS Map



USGS Map – Caldwell Quadrangle

FEMA Effective FIRM Map

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevation** (BFE) and/or **Flowway** have been determined, users are encouraged to consult the **Flood Profiles and Floodway Data** tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Flood Elevation (CFE) shown on this map apply only to landward of 0' North American Vertical Datum (NAVD83). Users of this FIRM should be aware that coastal flood elevations may also be provided in the Summary of Floodway Elevations table in the Flood Insurance Study report for this community. Elevations shown in the Summary of Floodway Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **Flowways** were compiled at cross sections and interpolated between cross sections. The flowways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Flowway widths and other pertinent flowway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The projection used in the preparation of this map is Universal Transverse Mercator (UTM) zone 18. The horizontal datum is NAD83. GRS1980 geoid differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geospatial Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geospatial Survey website at www.ngs.noaa.gov or contact the National Geospatial Survey at the following address:

Special Reference System Division
National Geospatial Survey, NOAA
Silver Spring Metro Center
1215 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geospatial Survey at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the New Jersey Office of Information Technology produced in State Plane NAD83 Coordinates (US Survey) with 1 foot point resolution and a scale of 1:24000 from photography captured during February-April 2002.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a listing of Communities at Risk concerning National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, **Letters of Map Revision** or **Letters of Map Amendment** (covering portions of this zone), and digital versions of this PANEL may be available. Contact the **FEMA Map Service Center** at the following phone numbers and Internet address for information on all related products available from FEMA:

Phone: 800-358-9616
FAX: 800-358-9620
www.fema.gov

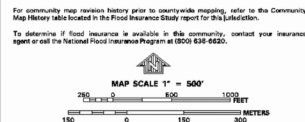
If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodprone and flowways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.



LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD (FIRM)**
- The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The base flood (base flood elevation) is the water surface elevation of the 1% annual chance flood. The base flood elevation is the water surface elevation of the 1% annual chance flood.
- ZONE A** No base flood elevations determined.
- ZONE AE** Base flood elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet locally shallow ponding; base flood elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet locally shallow flow on sloping terrain; average depths determined. For areas of shallow but locally shallow flow.
- ZONE AR** Areas of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently destroyed. Zone AR indicates that the former flood control system is being maintained to provide protection from the 1% annual chance or greater flood event.
- ZONE AR0** Areas to be protected from 1% annual chance flood event by a Federal flood control system under construction; no base flood elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no base flood elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); base flood elevations determined.
- FLOODWAY AREAS IN ZONE AE**
- The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Zone D boundary
- Floodway boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or velocities
- Base Flood Elevation line and water elevation in feet*
- *Referenced to the North American Vertical Datum of 1988
- EL 9873
- A Cross Section Line
- Traverse Line
- 97°10'18", 32°22'23"
- 4276084
- 600000 FT
- 1000-meter Universal Transverse Mercator grid values, zone 18
- 6000-foot grid ticks
- DX5510 X
- Bench mark base elevation in Notes to Users section of this FIRM panel.
- M 1.5
- River Mile
- MAP REPOSITORY**
- Refer to Repository Listing on Index Map
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP**
- JUNE 4, 2007
- EFFECTIVE DATES OF REVISIONS TO THIS PANEL**



NATIONAL FLOOD INSURANCE PROGRAM

PANEL D092F

FIRM

FLOOD INSURANCE RATE MAP

ESSEX COUNTY, NEW JERSEY (ALL JURISDICTIONS)

PANEL 92 OF 200

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY: JEROME, PAUL, ARTHUR

FILENAME, DIRECTORY OF: 181010 0000 F
181010 0000 F
181010 0000 F

Notes to User: The Map Number shown below should be used when making this map to the community website where shown should be used on insurance applications for the subject community.

MAP NUMBER

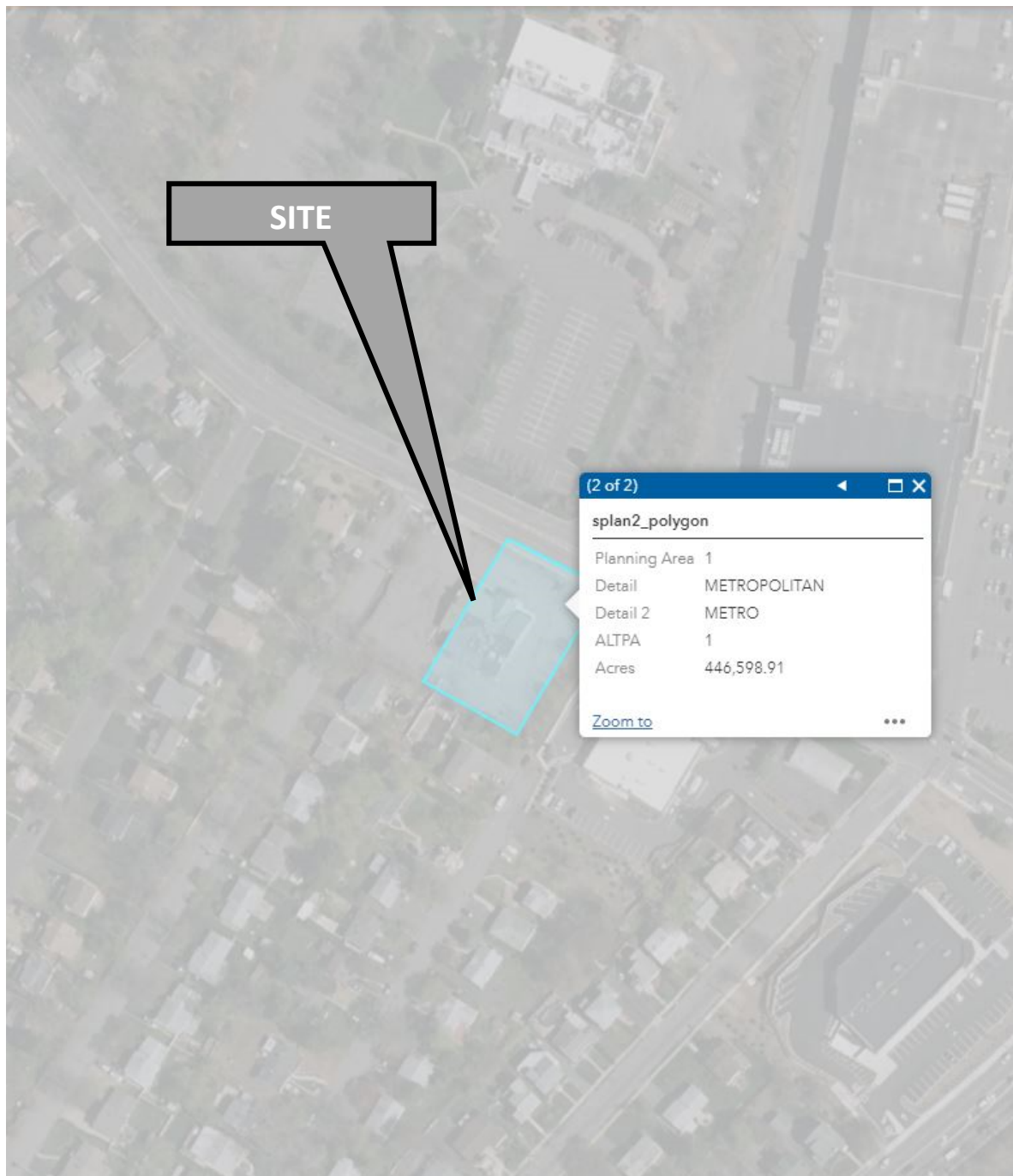
34013C0092F

EFFECTIVE DATE:

JUNE 4, 2007

Federal Emergency Management Agency

NJDEP GeoWeb - State Planning Area Map



State Planning Area Map

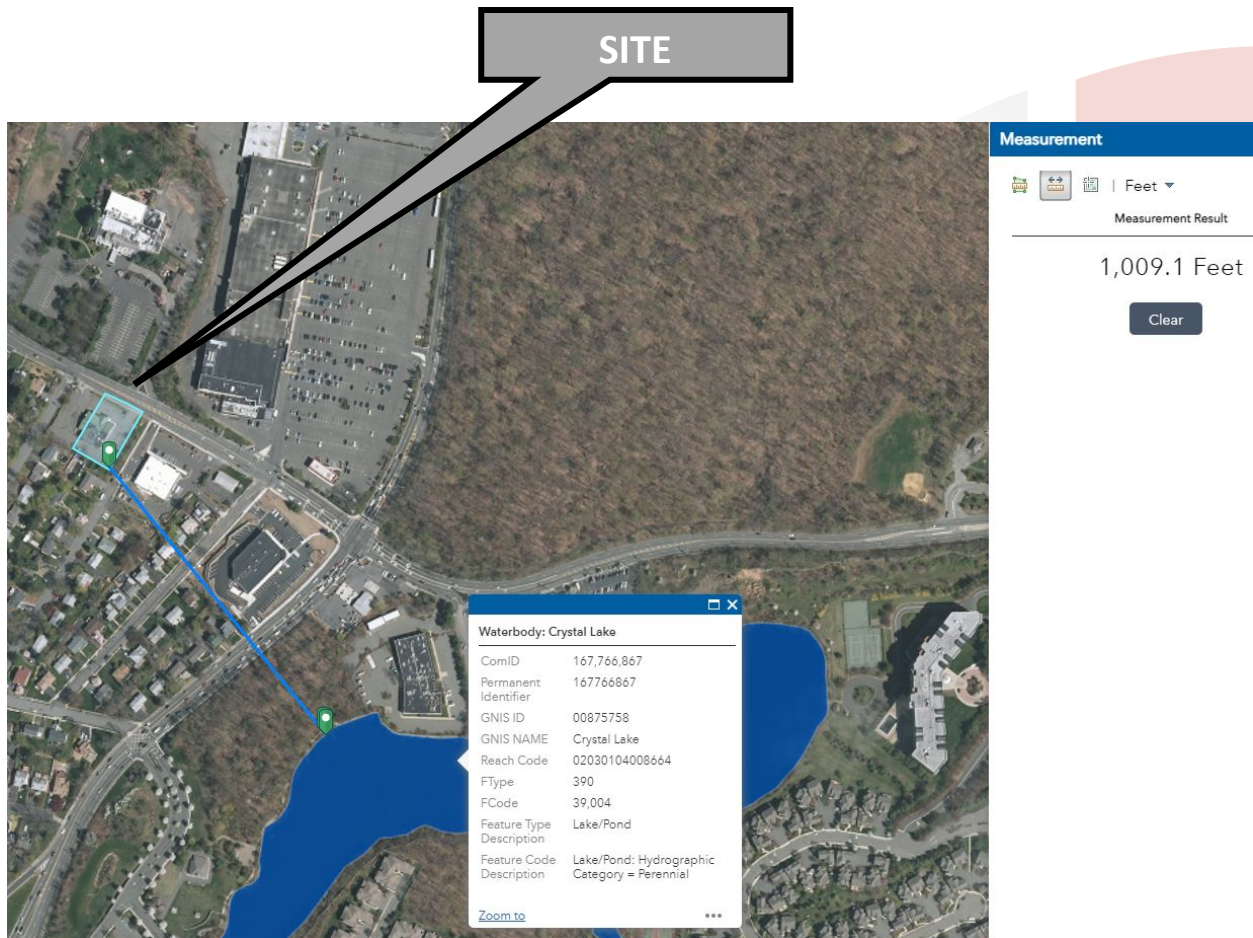
NJDEP GeoWeb - Landscape Region Map



Landscape Region Map

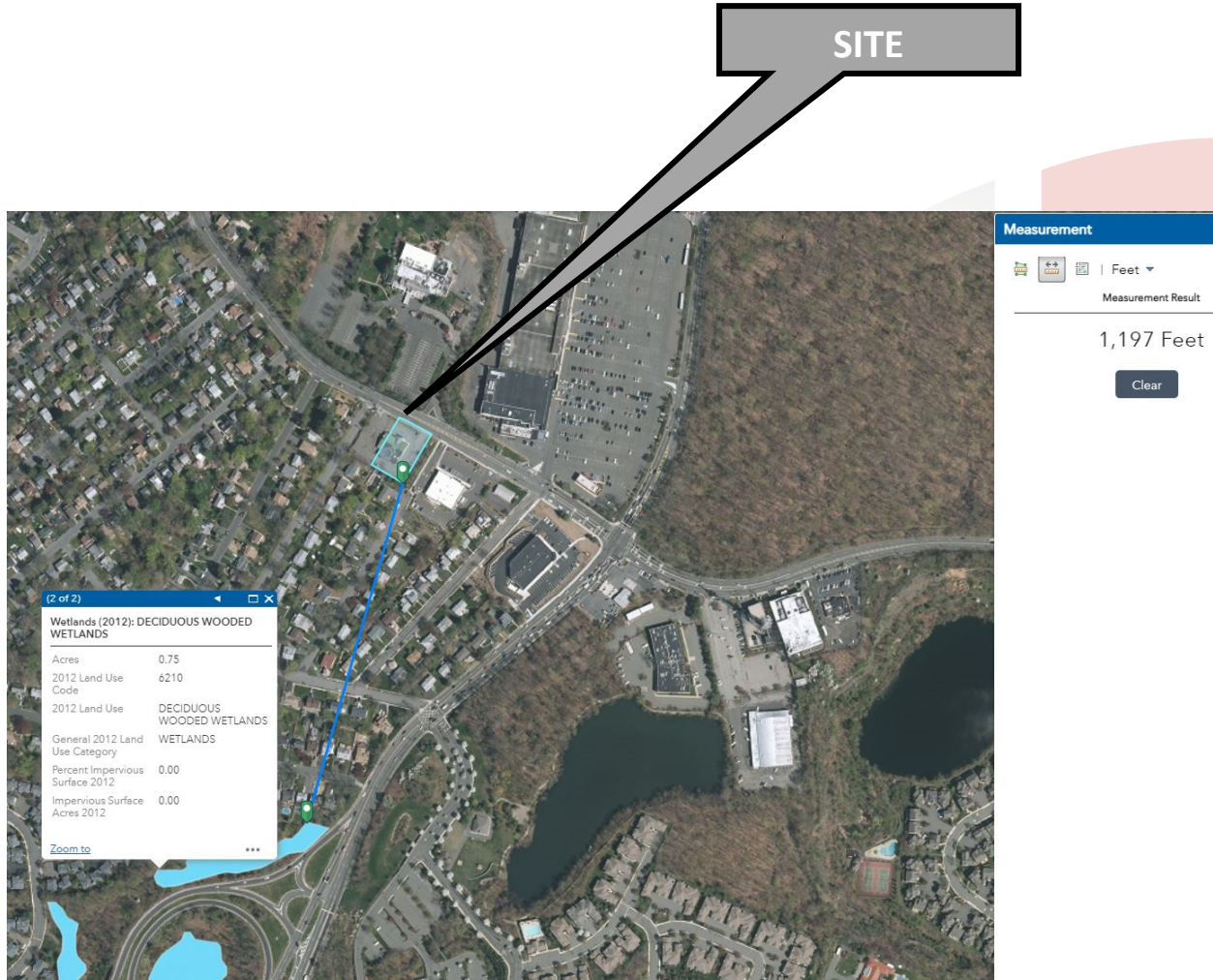
www.dynamiccec.com

NJDEP GeoWeb - Streams & Waterbodies



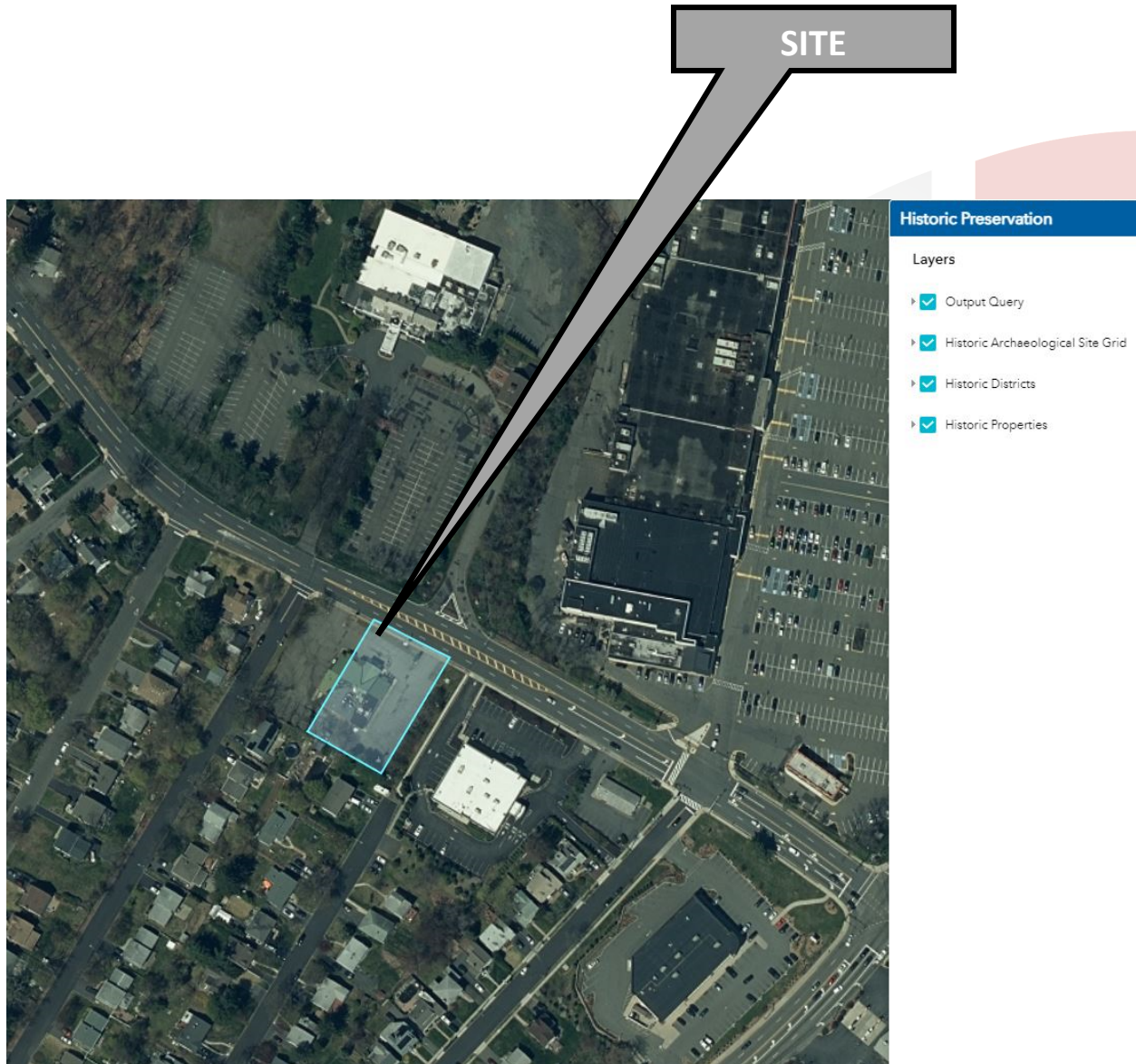
Stream/Waterbody Map

NJDEP GeoWeb - Wetlands Map



Wetlands Map

NJDEP GeoWeb - Historic Properties Map



Historic Properties Map