RUTGERS
New Jersey Agricultural Experiment Station

Water Resources Program

Hamilton Township in Mercer County

Stormwater Outfall Assessment

Developed by Rutgers Cooperative Extension Water Resources Program

Funded by Hamilton Township, Mercer County, New Jersey

December 2015

Acknowledgements

The Hamilton Township (Mercer County) Stormwater Outfall Assessment has been produced by the **Rutgers Cooperative Extension (RCE) Water Resources Program**. The principal authors were **Jeremiah Bergstrom, LLA, ASLA**, Senior Research Project Manager and **Robert Brown**, staff intern. Field work for the assessments was conducted by the RCE Water Resources Program interns **Dillon Swiderski Soto**, **Dominick Cardella**, **Elizabeth Pyshnik**, **Enrique Jimenez**, and **Amna Rahman**.

Funding for this project was generously provided by the **Township of Hamilton, Mercer County, NJ** and in part by the **New Jersey Agricultural Experiment Station** through the United States Department of Agriculture.

Contents

Introduction

Hamilton Township in Mercer County New Jersey maintains over 400 stormwater outfalls that drain directly into waterways. This document is a summary of the outfall pipe inspection program conducted in 2015 to provide a baseline assessment of existing conditions related to stream scouring at stormwater outfall discharge locations in streams and waterways. This assessment evaluates the physical condition of outfall structures, erosion caused by the outfalls, structural integrity and other factors.

It was not the intent of this program to be a complete and comprehensive inventory of all stormwater outfalls in the MS4 system. All efforts for this project were for the purpose of mapping and inventorying outfall pipes that discharge directly to mapped streams.

The assessments were performed between June and August of 2015 by Rutgers Cooperative Extension (RCE) Water Resources Program staff members.

Methods and Procedures

A multi-part approach was taken to assess stormwater outfalls that discharge directly to waterways in Hamilton Township. A geographic information system (GIS) was created to visualize the location of mapped outfall locations. A GIS data layer was created to be compatible with the ESRI Collector Application. The Collector Application software was used to develop a mobile assessment tool that could record information collected in the field using hand held tablet computers. Field staff then used the tablet computers and ESRI Collector Application software to photograph, record data, and geotag the location of each stormwater outfall assessed. RCE Water Resources Program staff visited and assessed accessible stormwater outfalls mapped by the GIS and Collector Application software. A total of 261 outfalls were located and assessed in 2015. Information about the condition, material, diameter, and other factors was recorded for each assessed outfall.

A maintenance prioritization was developed using the field data collected for the 261 stormwater outfalls. Priority was given to outfalls that showed significant signs of deterioration, were causing downstream erosion, were unstable due to erosion, or showed signs of illicit connections. Consideration was also given to the amount of vegetation growth in and around the outfall, quantity of sediment deposits, areas of known commercial or industrial uses and other factors.

Summary of Key Findings

The following conclusions were formed after reviewing data for the 261 outfalls assessed. A total of 8% of assessed outfalls were designated as high priority locations in need of maintenance, 31% were designated as medium priority and 61% were designated as low maintenance priority sites. Approximately 25% of outfalls were found to be showing signs of significant deterioration. An estimated 30% of the outfalls were found to be causing downstream erosion and 16% of outfalls

were noted to be unstable due to erosion. Information about each outfall assessed can be found in the Tabular Data section of this document. Summary maps of this information can be found in the Summary Maps section.

Description of Summary Maps

A series of four summary maps were created illustrating the key findings noted above. These maps include, "Outfall Maintenance Prioritization". This map represents a prioritization for maintenance of stormwater outfalls. Higher priority was given to damaged outfalls, outfalls that are causing erosion, outfalls that are unstable due to erosion, areas with floatables, and unknown sources of odors. The "Outfall Pipe Condition" map identifies outfall structures with visible cracking, spalling, corrosion, and peeling. There were 65 stormwater outfalls identified as having a degraded physical condition. The "Downstream Erosion" map represents outfall locations where downstream erosion was noted due to the outfall discharge. There are a total of 81 outfalls identified to be causing downstream erosion. The final summary map, "Outfall Stability," identifies those outfalls that are unstable due to erosion in and around the outfall structure. There are 43 outfalls that have been identified as showing concerns with overall outfall structural stability.

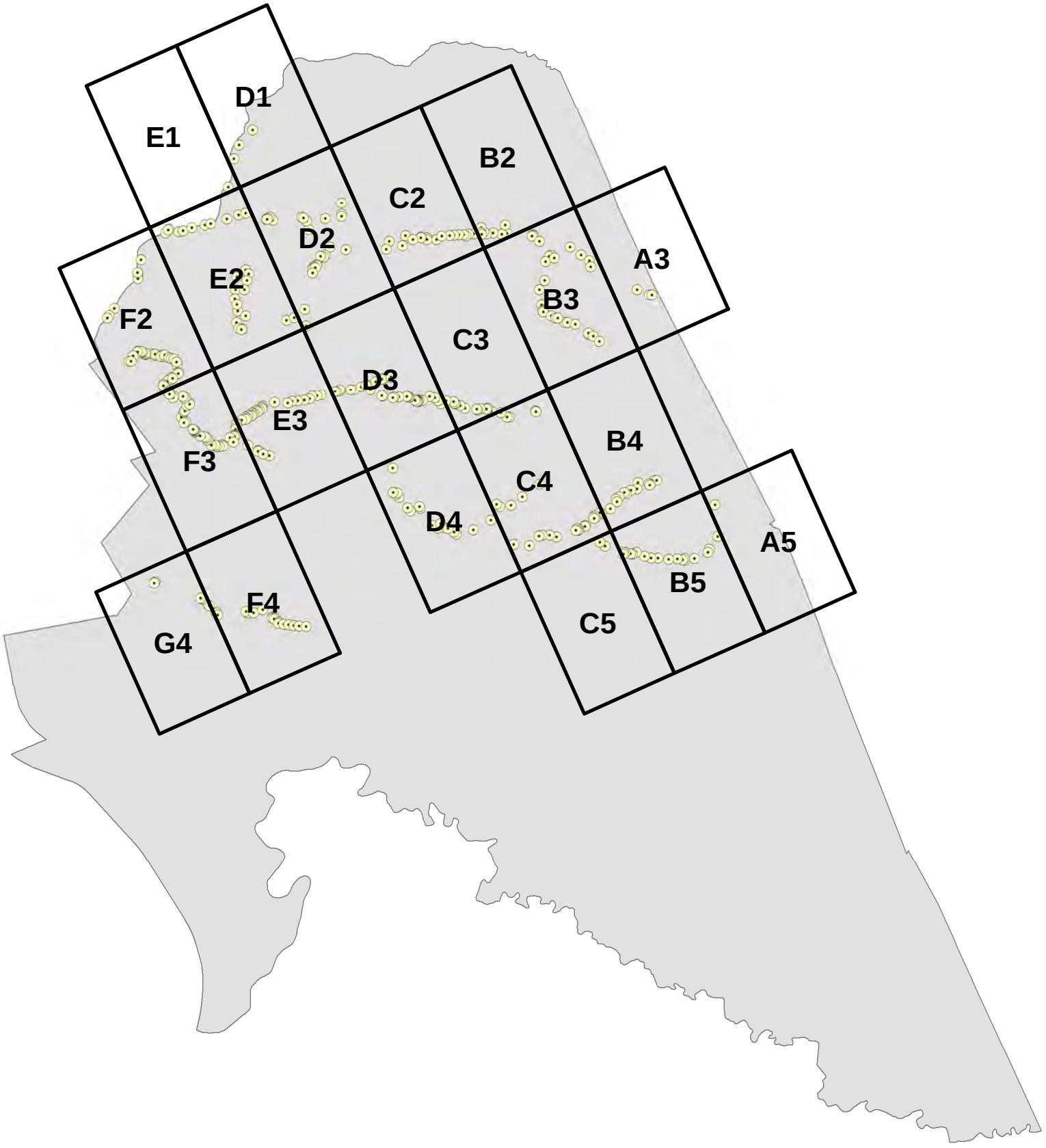
Recommendations

Based on the assessment and summary findings, preliminary recommendations for remediation and maintenance include the following:.

1. The 21 outfalls identified as high priority for maintenance should be visited by Township personnel and a plan and schedule should be developed to take necessary corrective actions as soon as possible.
2. A complete maintenance plan and schedule should be developed for all stormwater outfalls to address the deficiencies noted in this assessment in a timely manner.

This assessment was not intended to be a complete and comprehensive inventory of all stormwater outfalls in the MS4 system. Efforts for this project focused solely on mapping and inventorying known outfall pipes discharging directly to mapped streams. Other outfalls in the MS4 system exist and may need to be investigated at a later time.

Hamilton Outfall Assessment Grid Index



Hamilton

Assessed Stormwater Outfalls

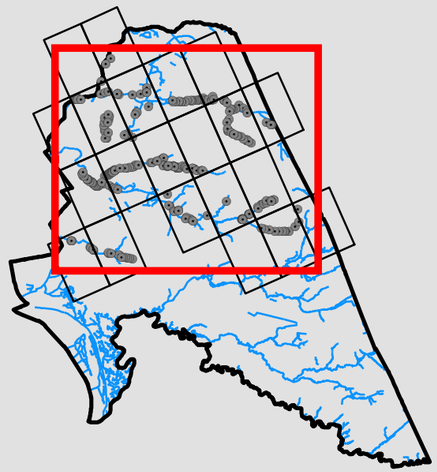
Hamilton

Stream

Road

Assessed Outfall

Outfalls Assessed: 263



N

W E

S

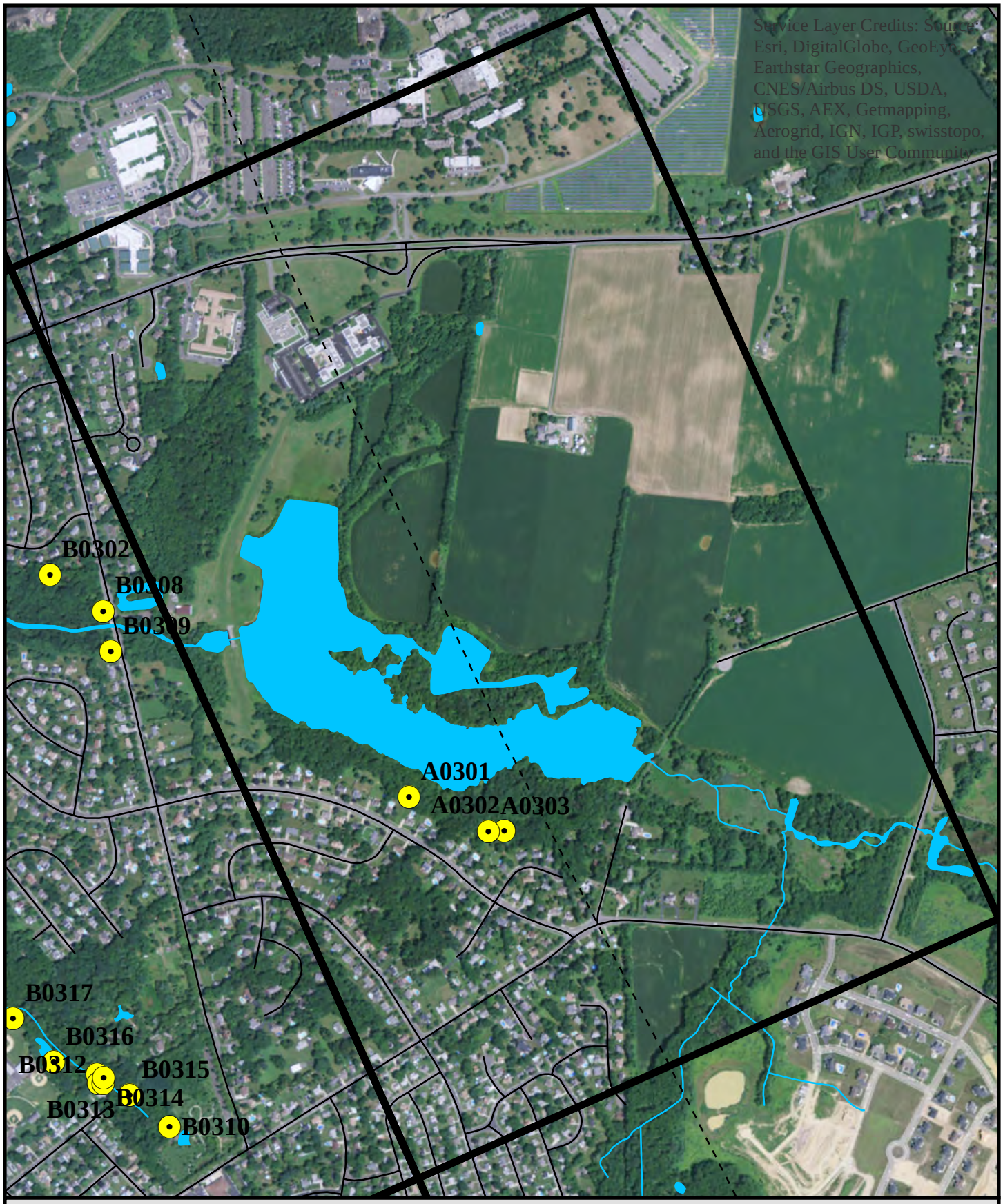
0 0.25 0.5

Miles

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS



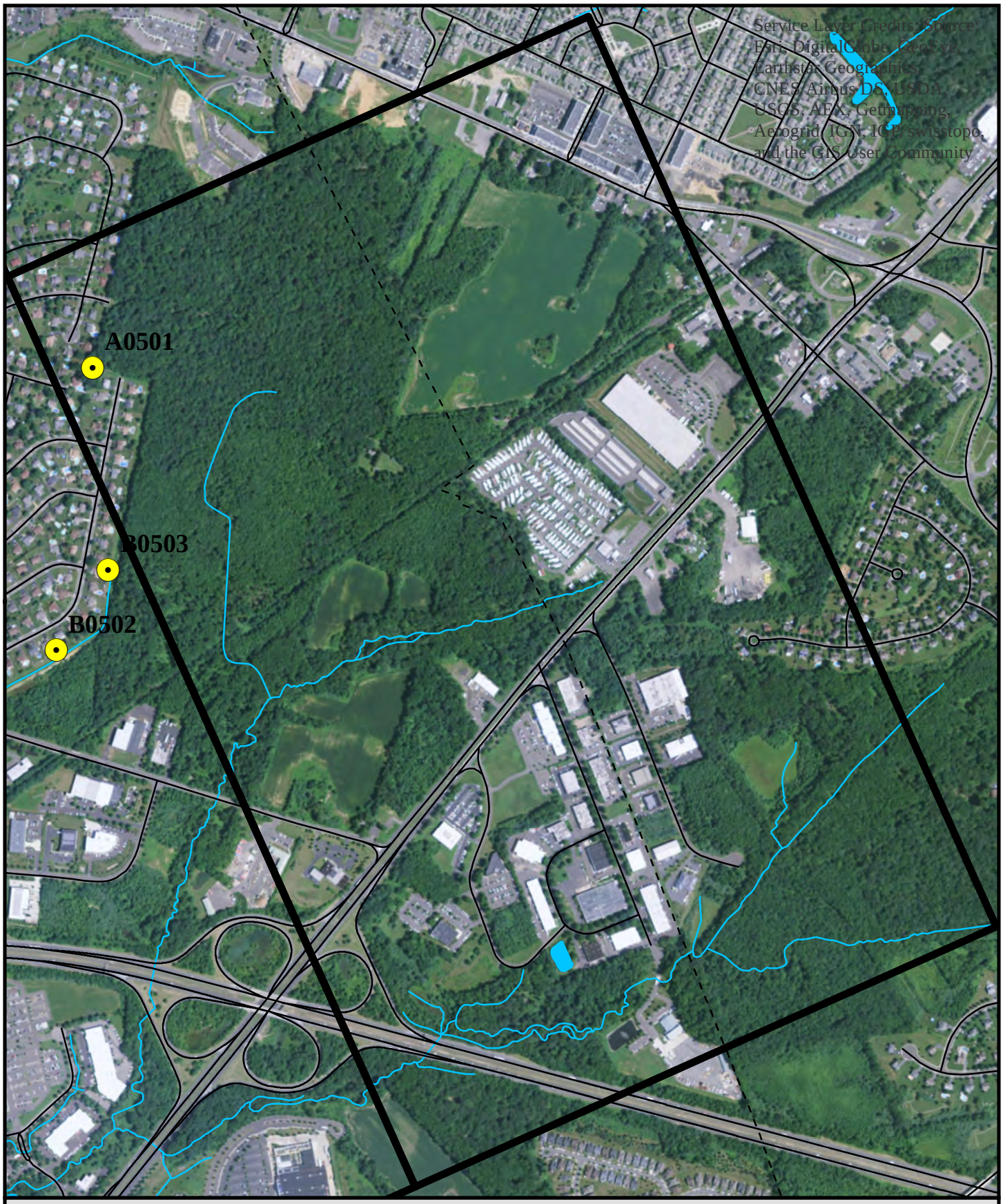
Grid ID: A3

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Grid ID: A5

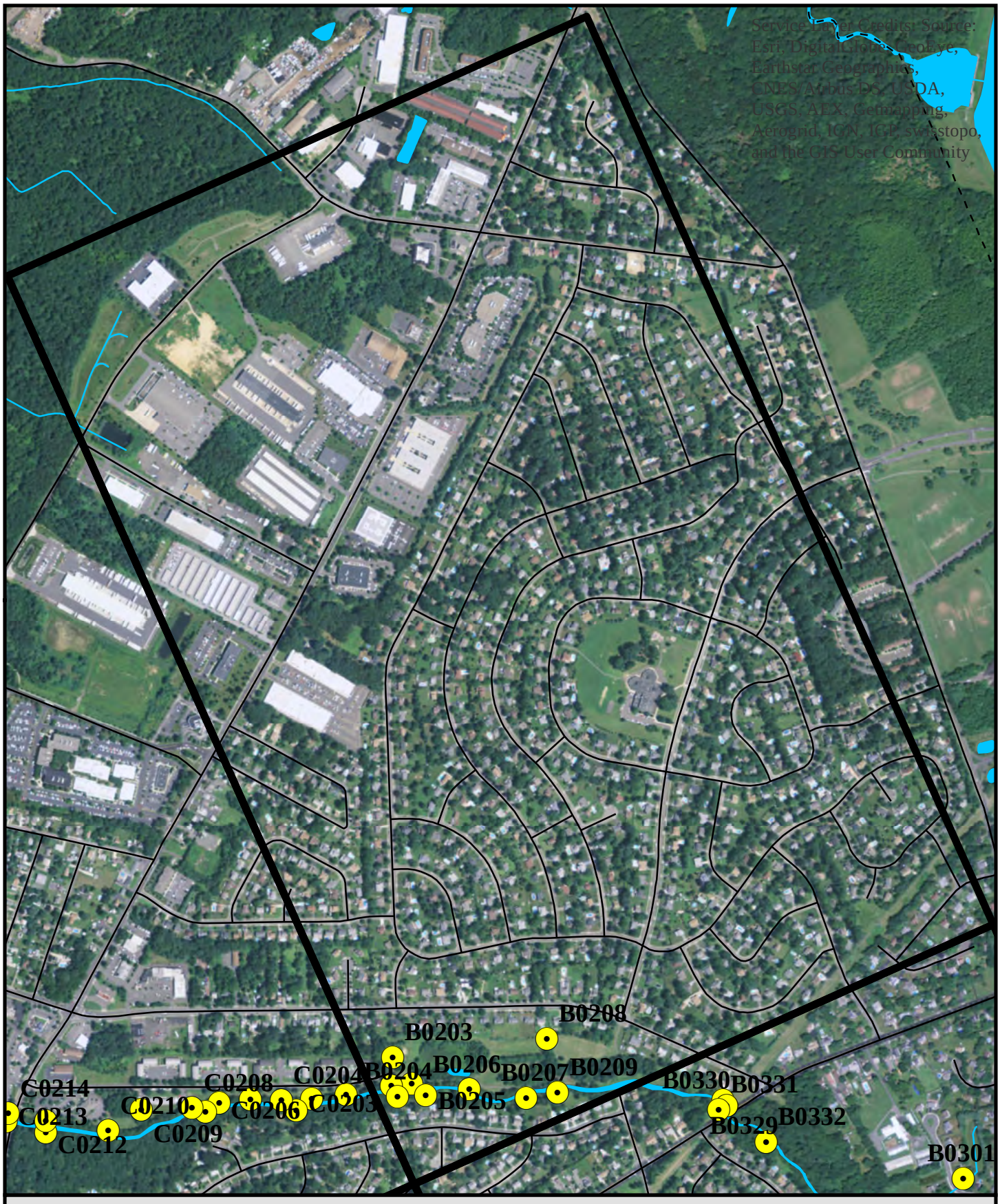
N
W E
S

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Grid ID: B2

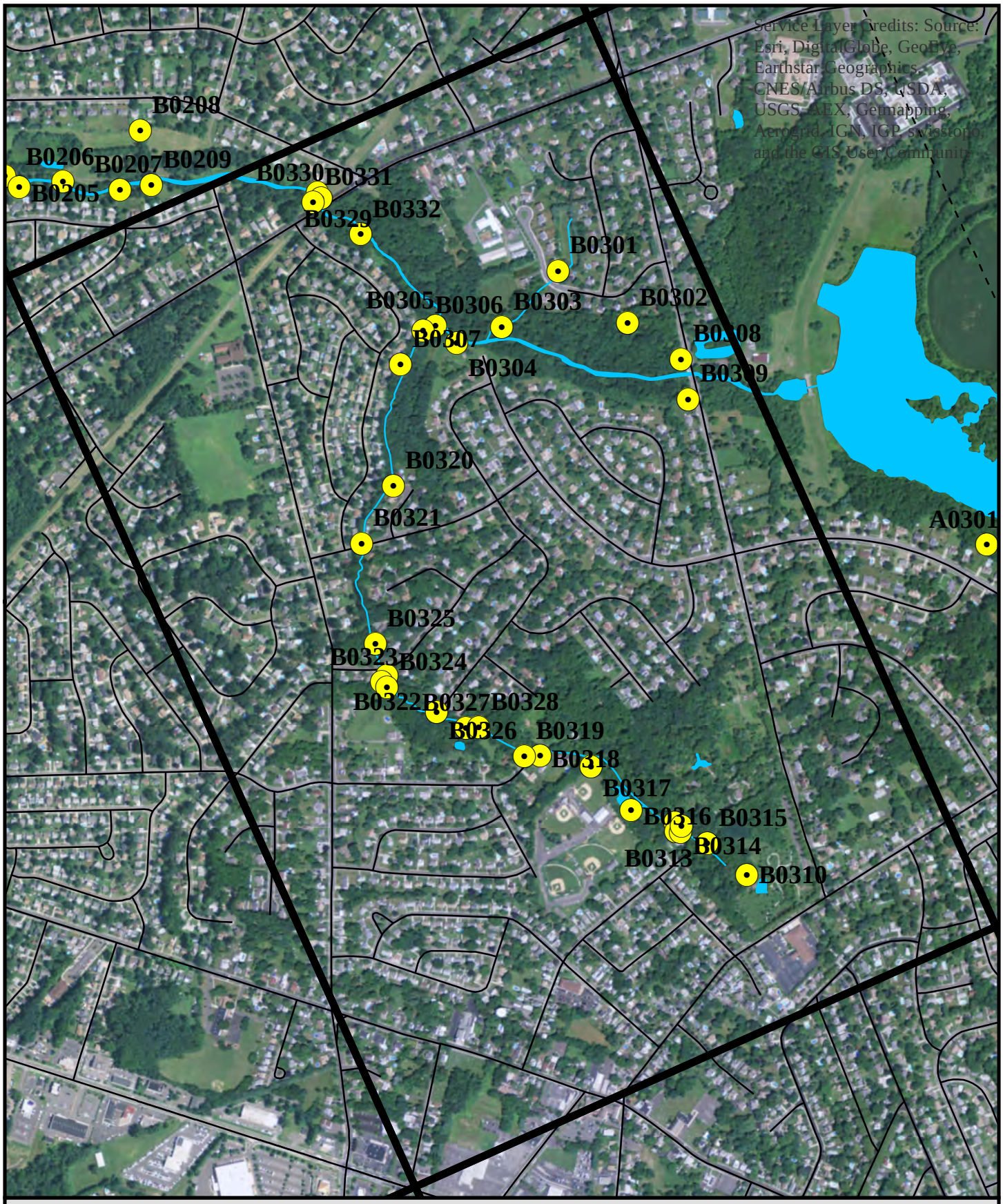
N
W E
S

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Grid ID: B3

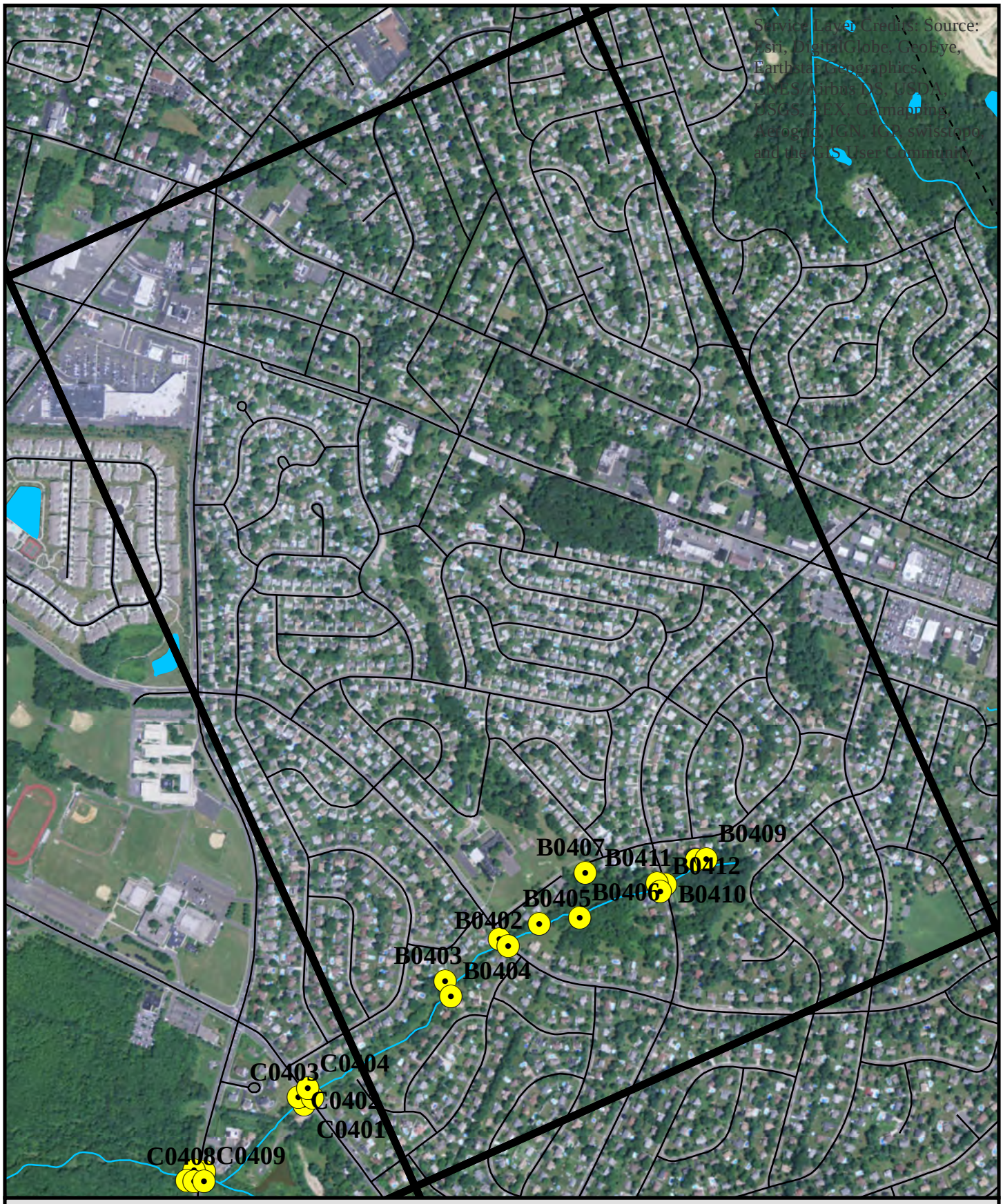
N W E S

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



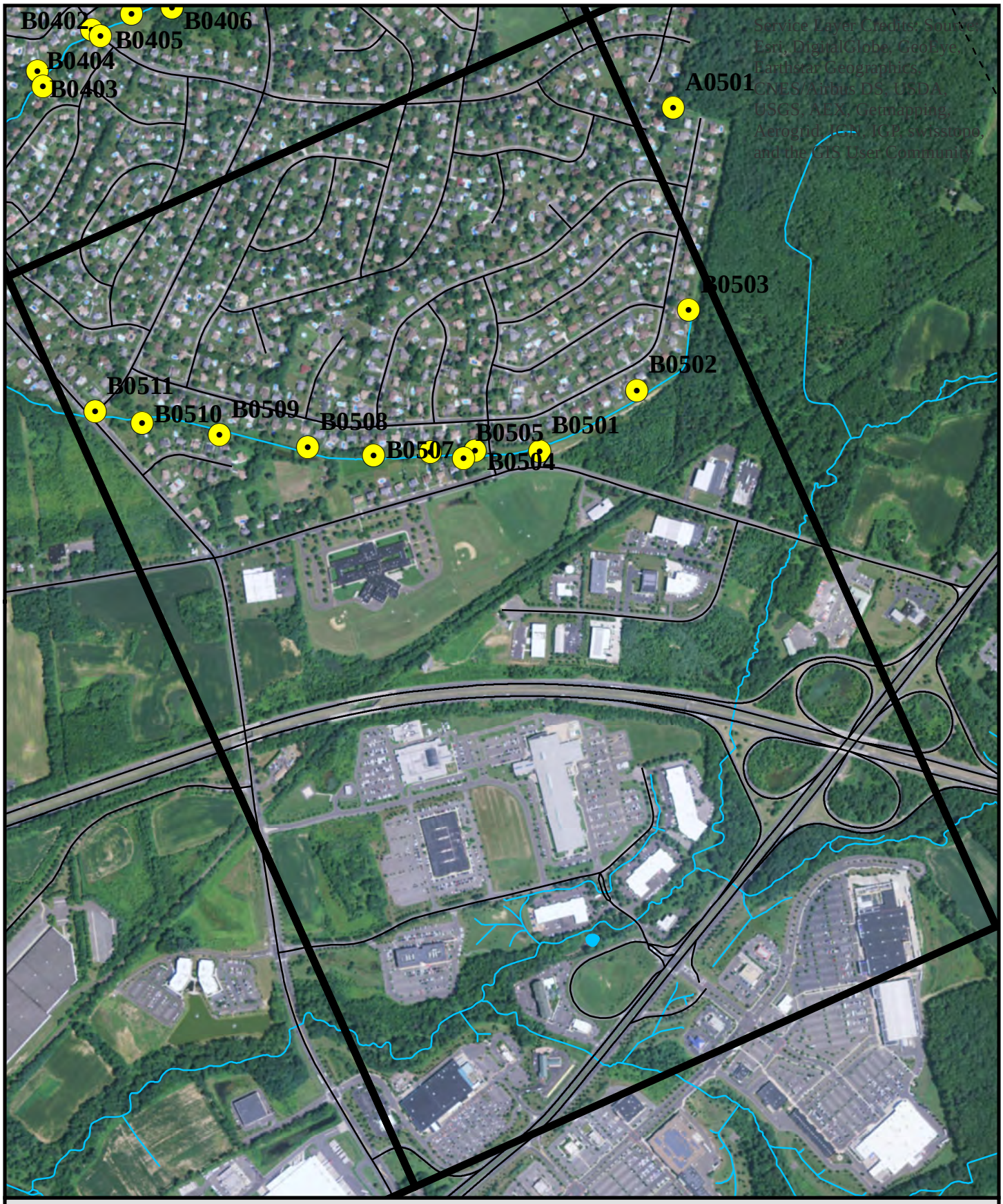
Grid ID: B4

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



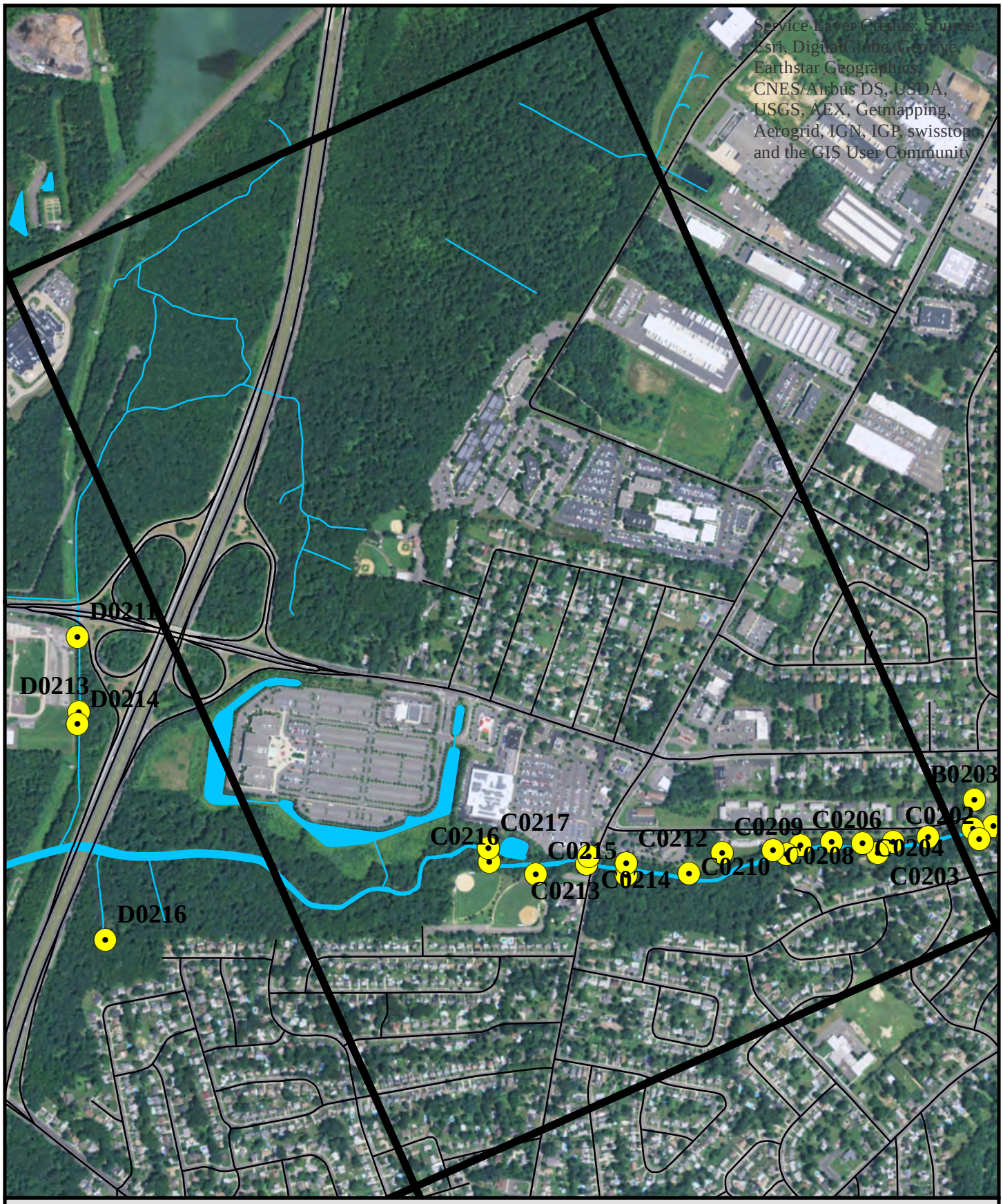
Grid ID: B5

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



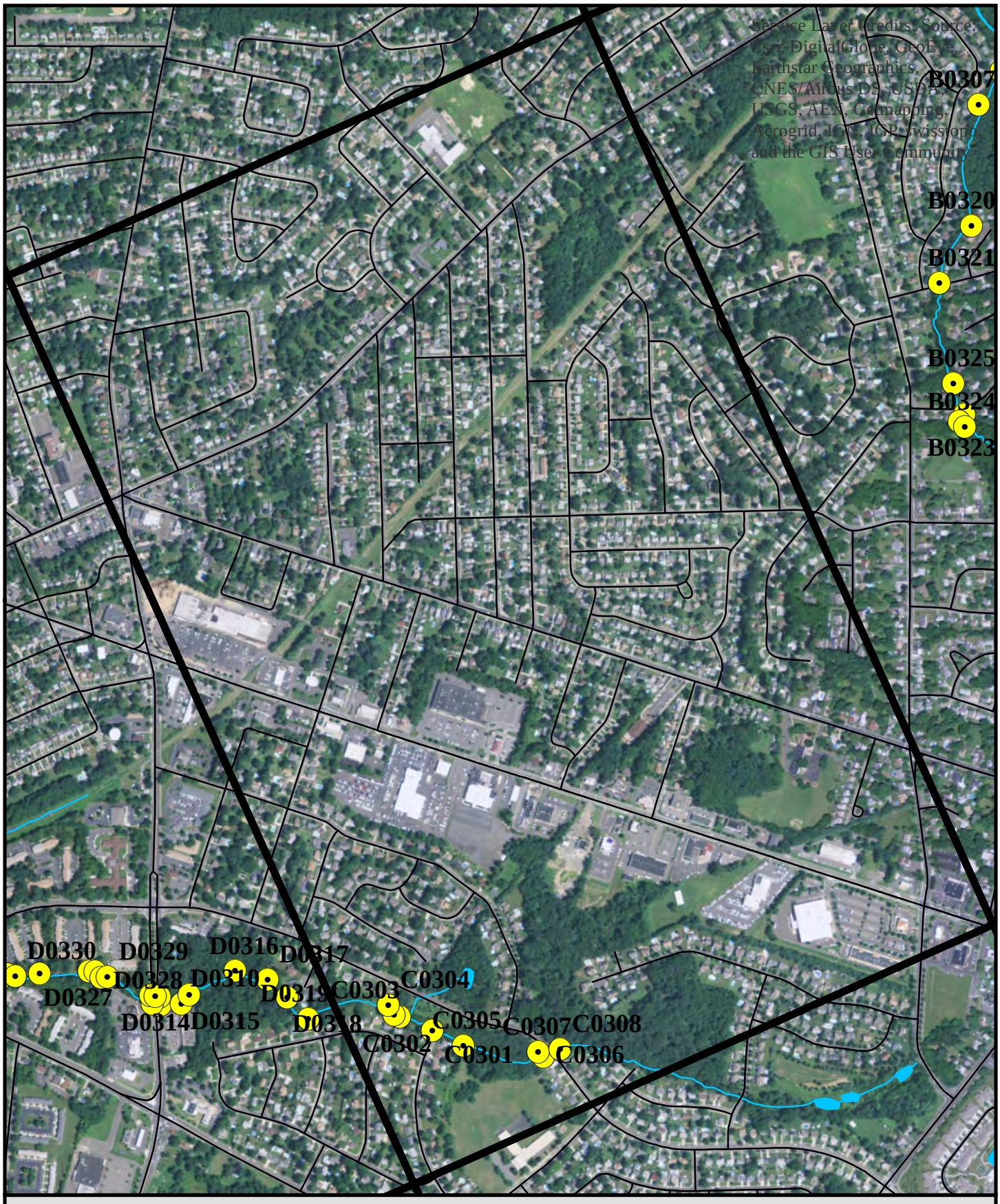
Grid ID: C2

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Grid ID: C3

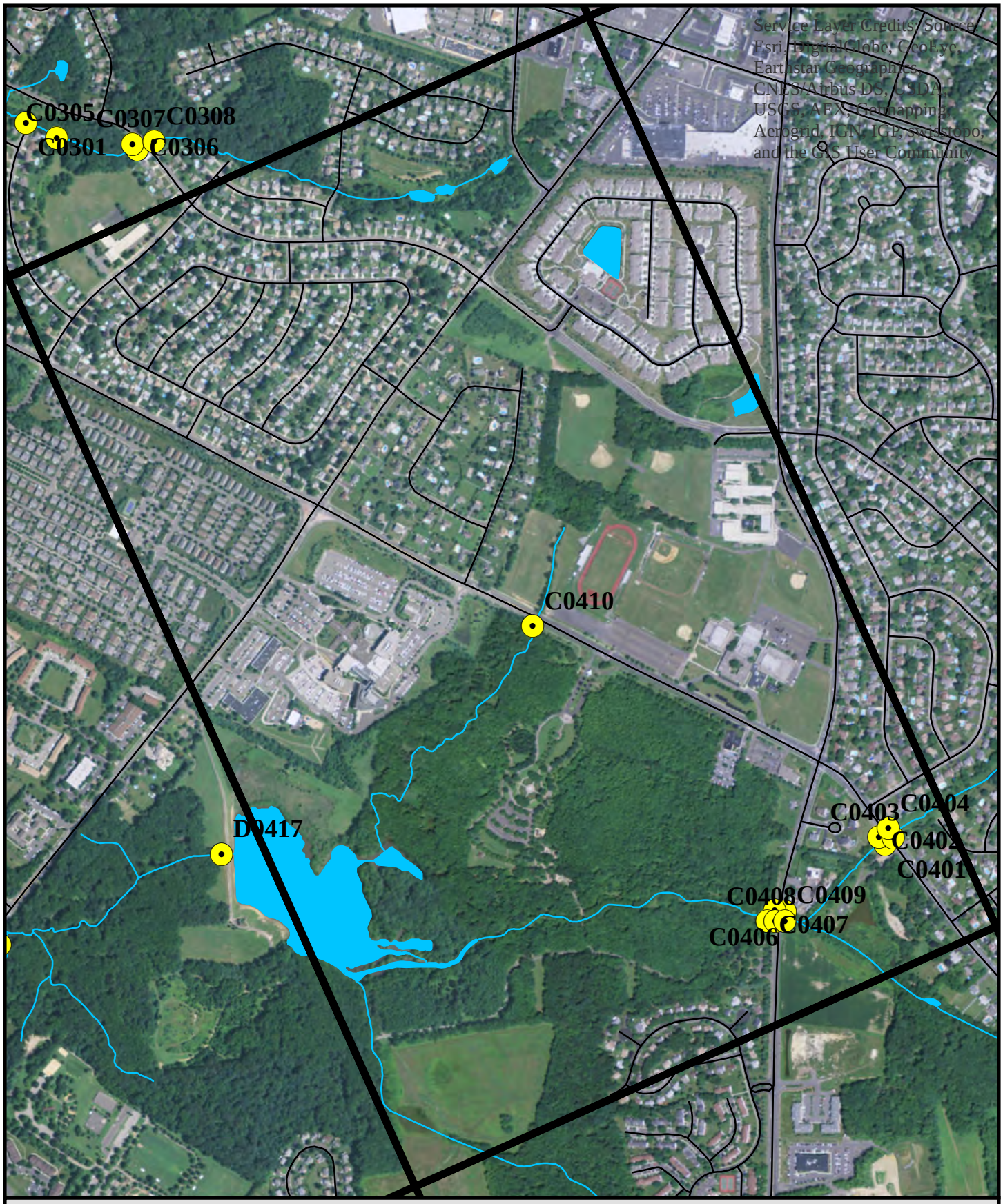
N
W E
S

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



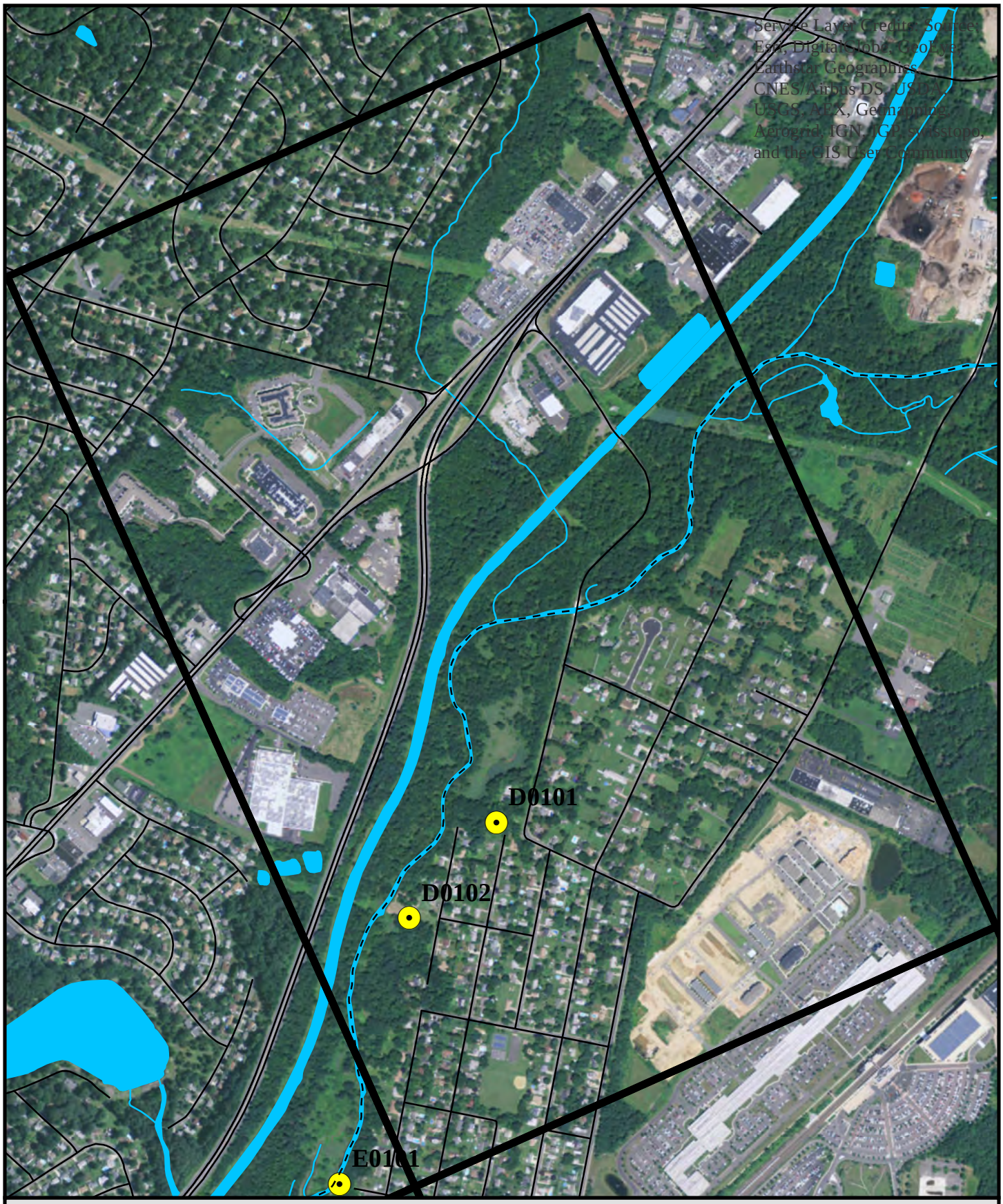
Grid ID: C4

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Grid ID: D1

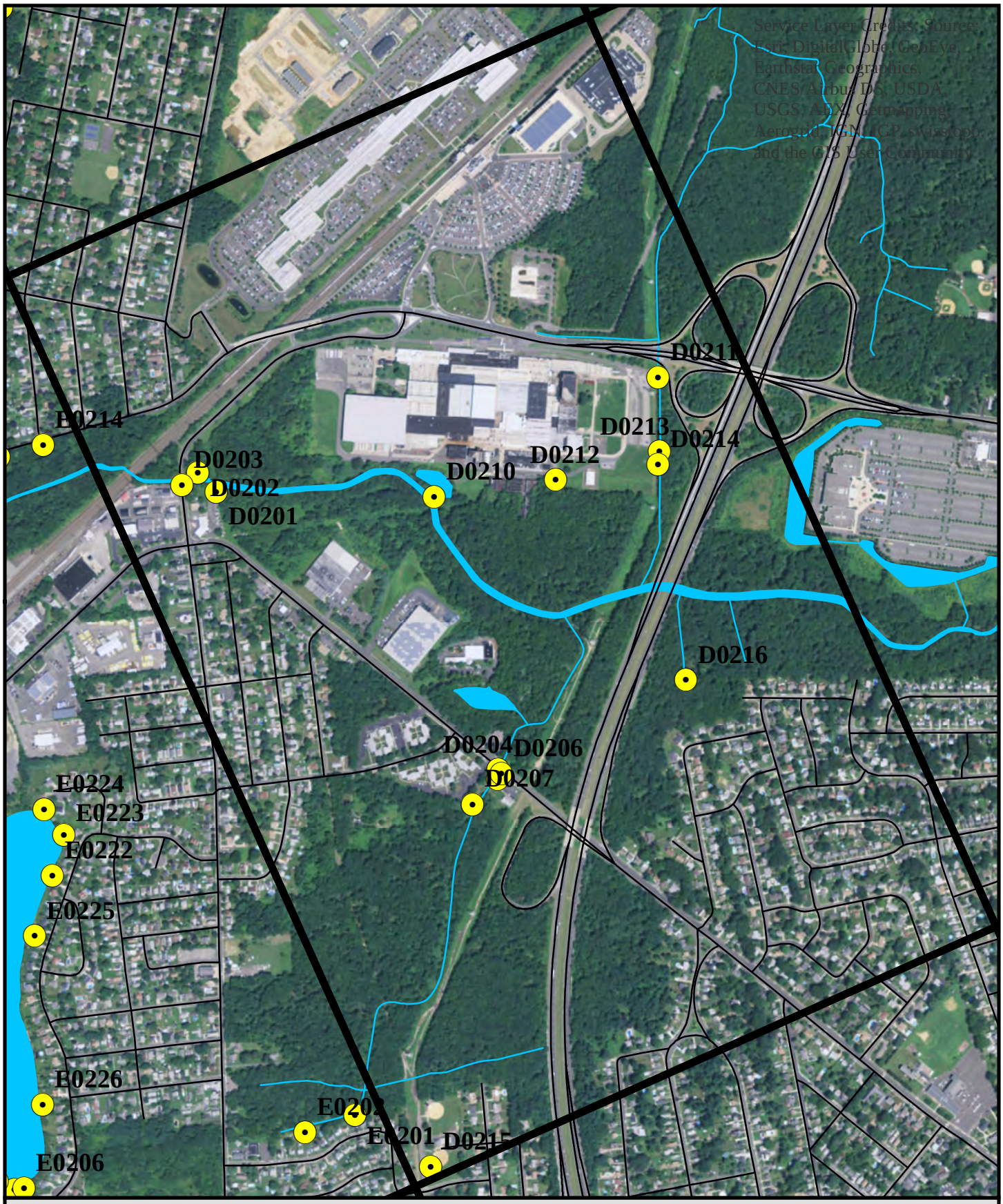
N
W E
S

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



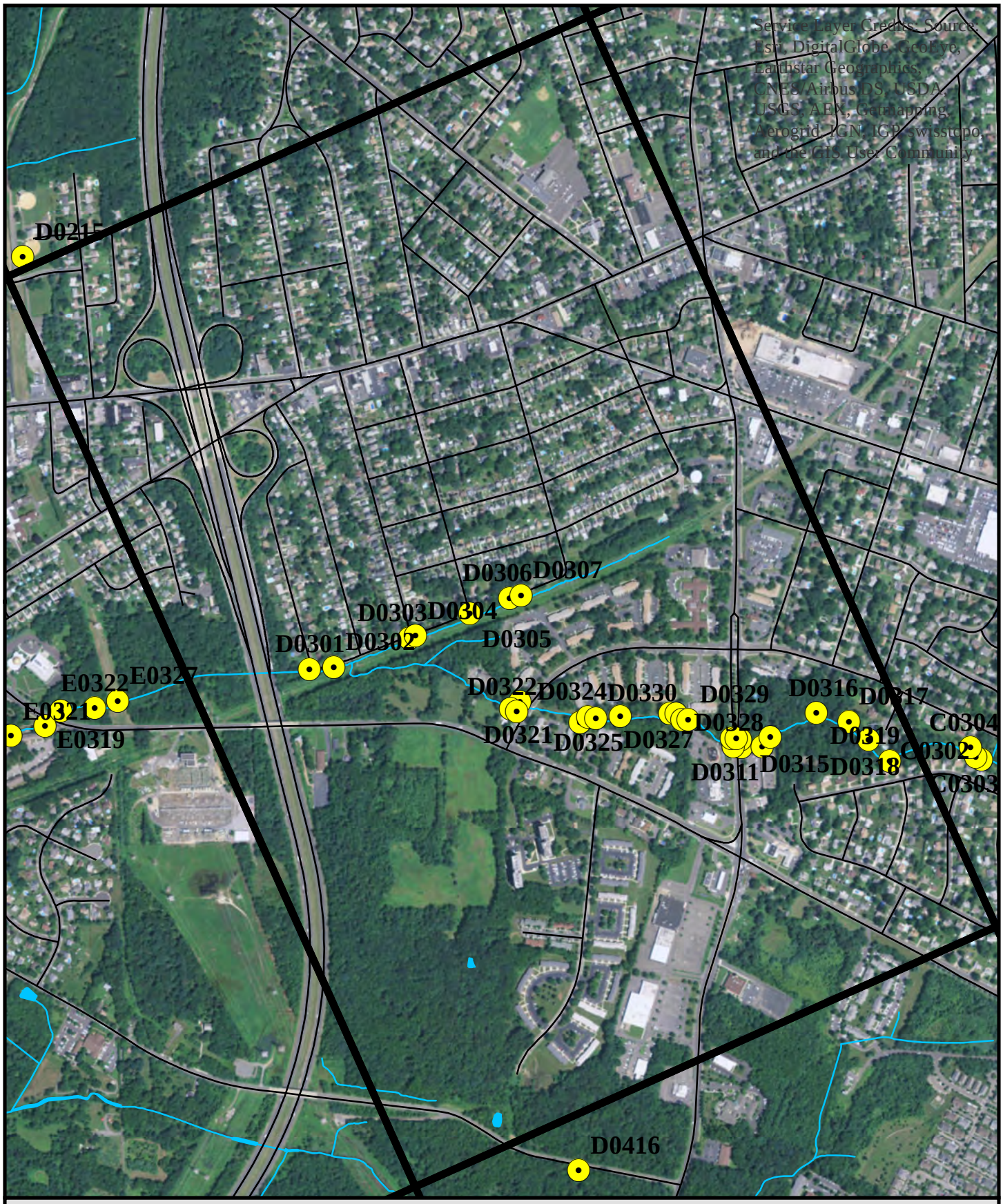
Grid ID: D2

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Grid ID: D3

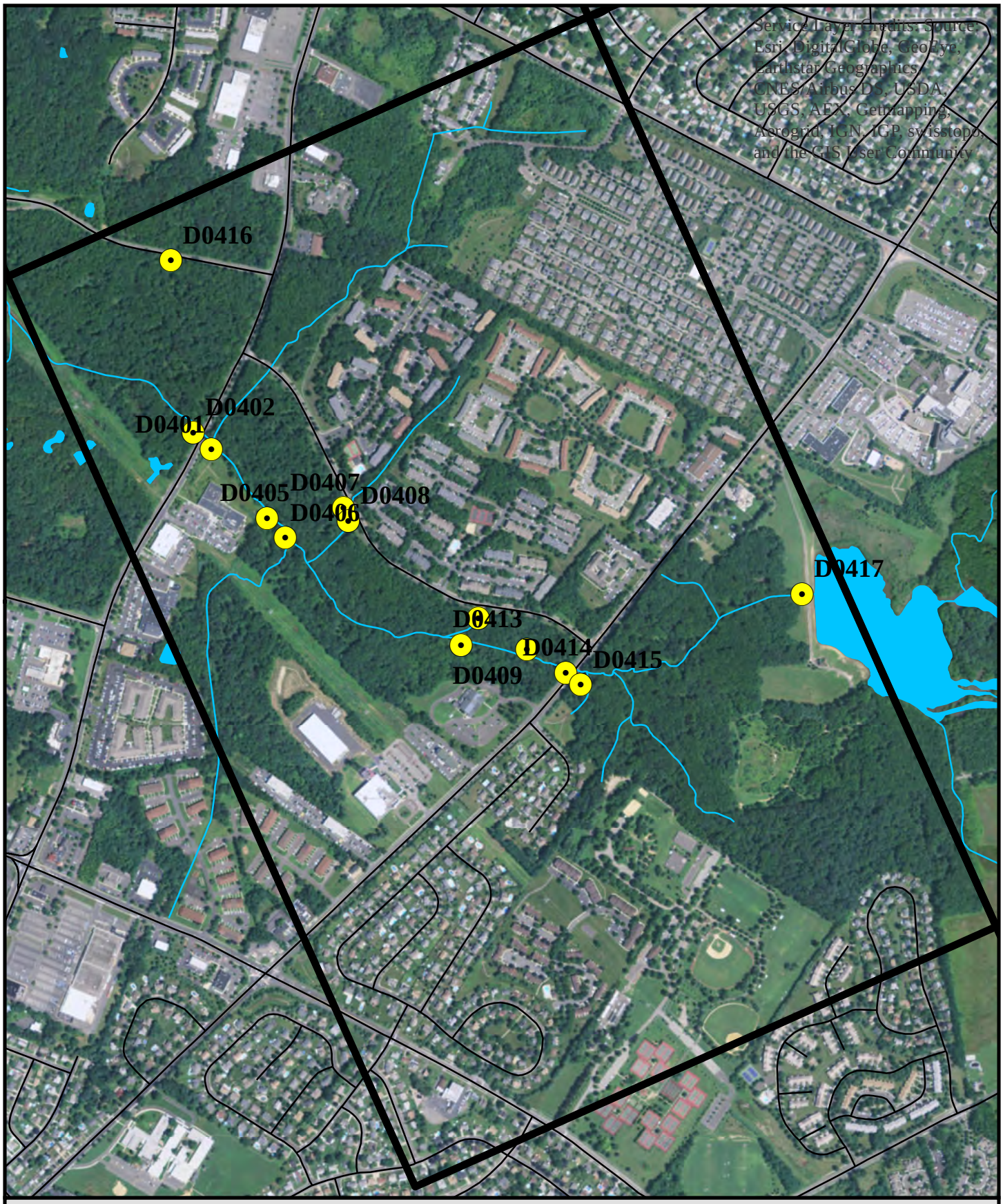
N
W E
S

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Grid ID: D4

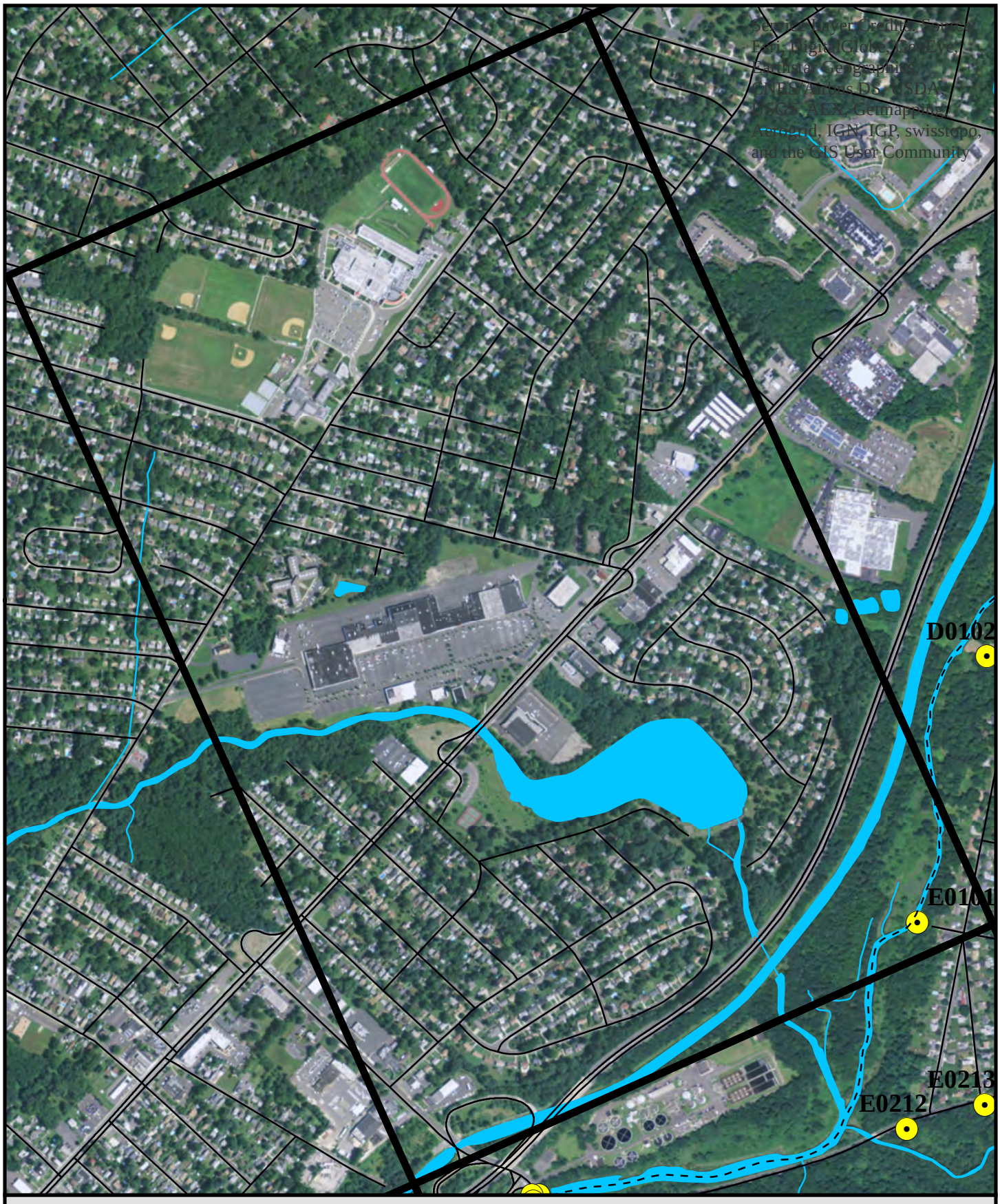
N W E S

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Grid ID: E1

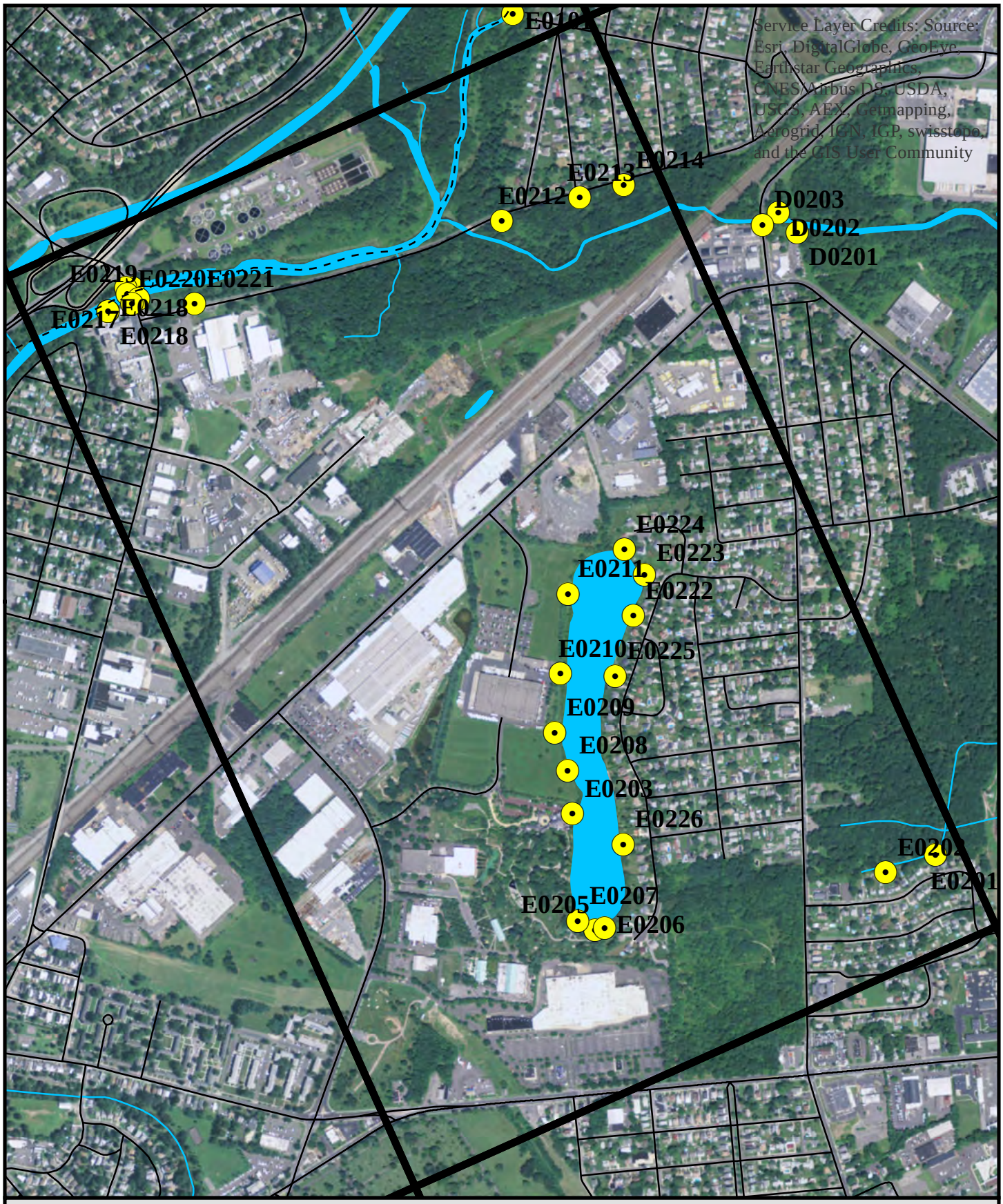
N
W E
S

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Grid ID: E2

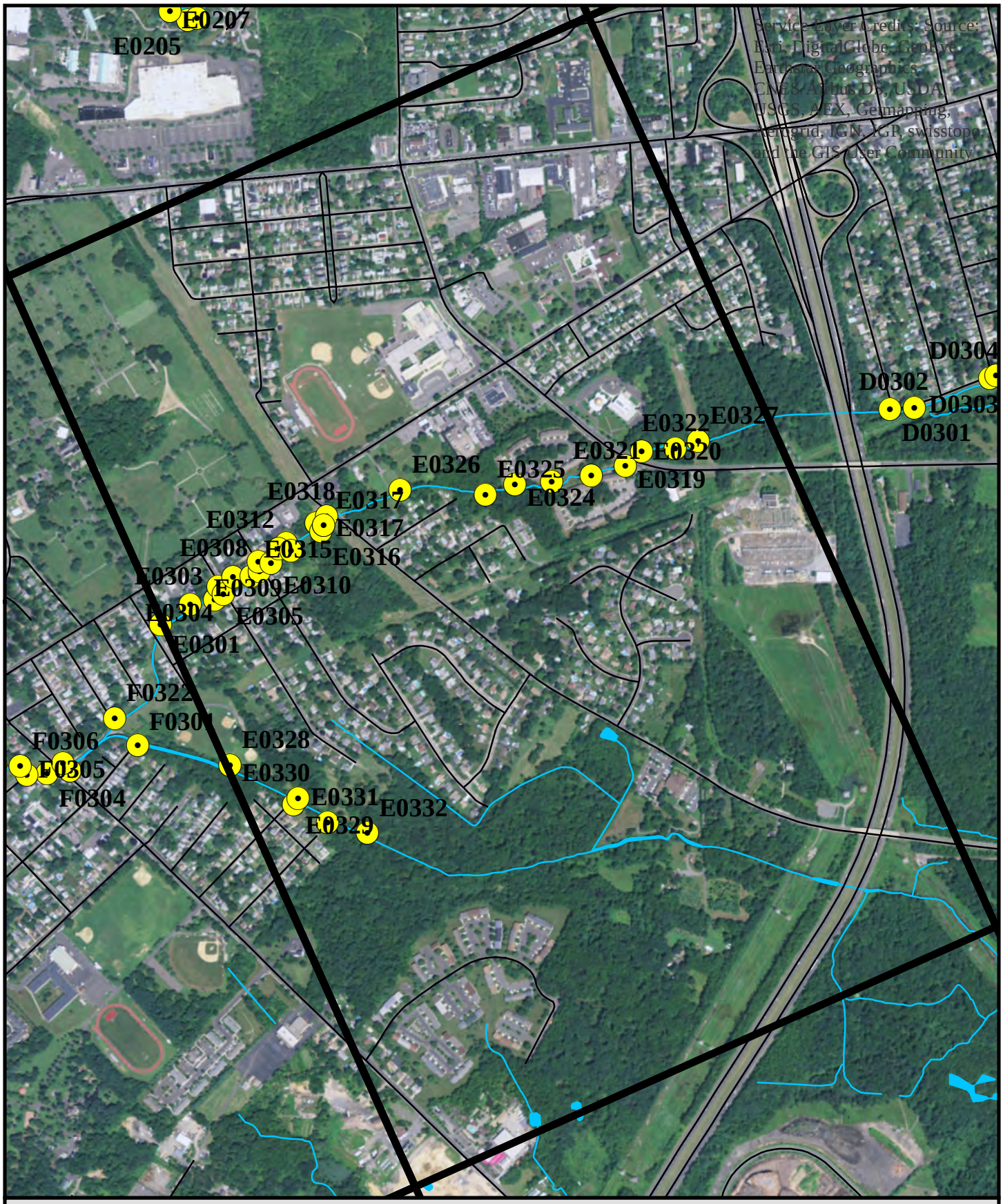
N W E S

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Grid ID: E3

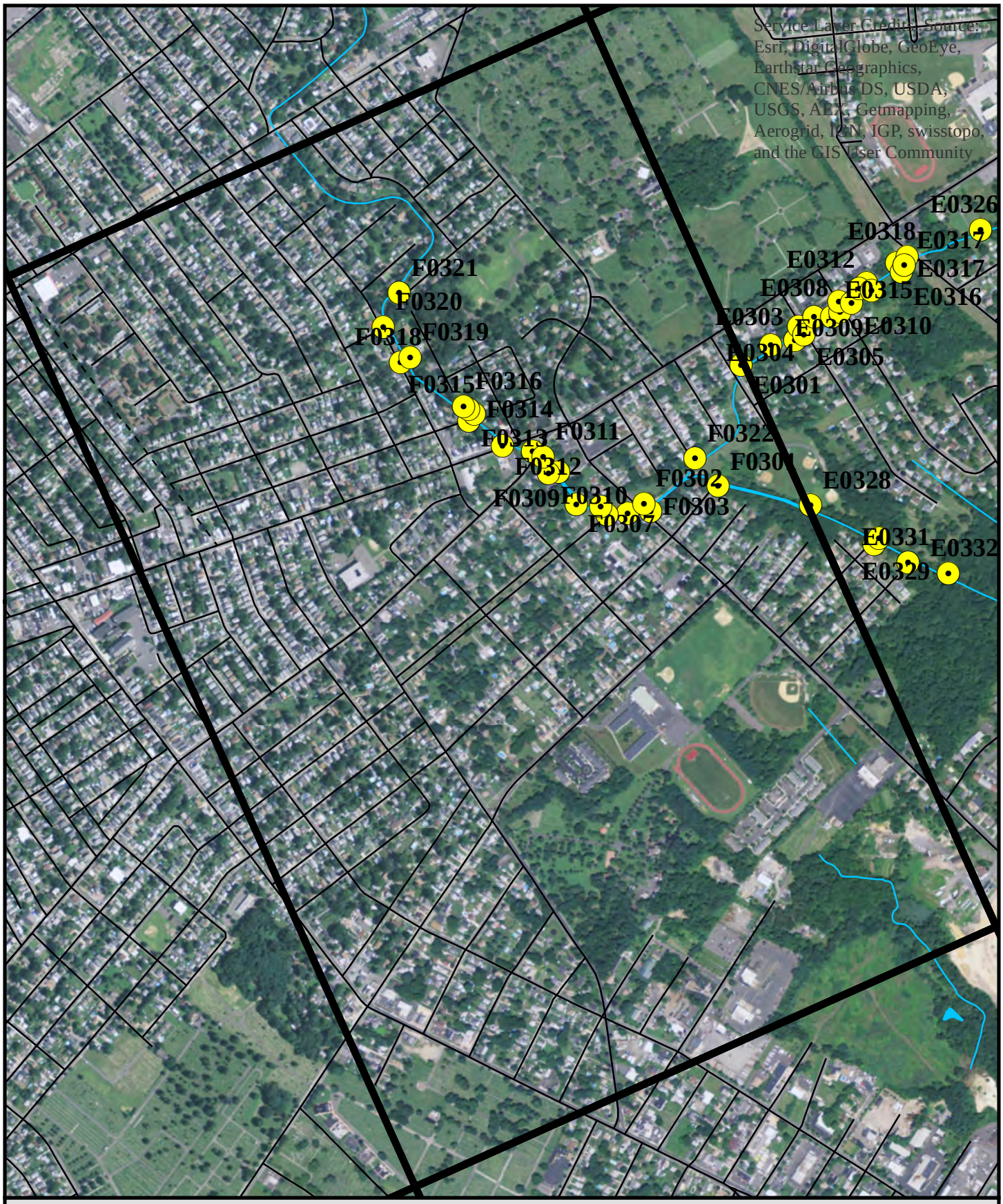
N
W E
S

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

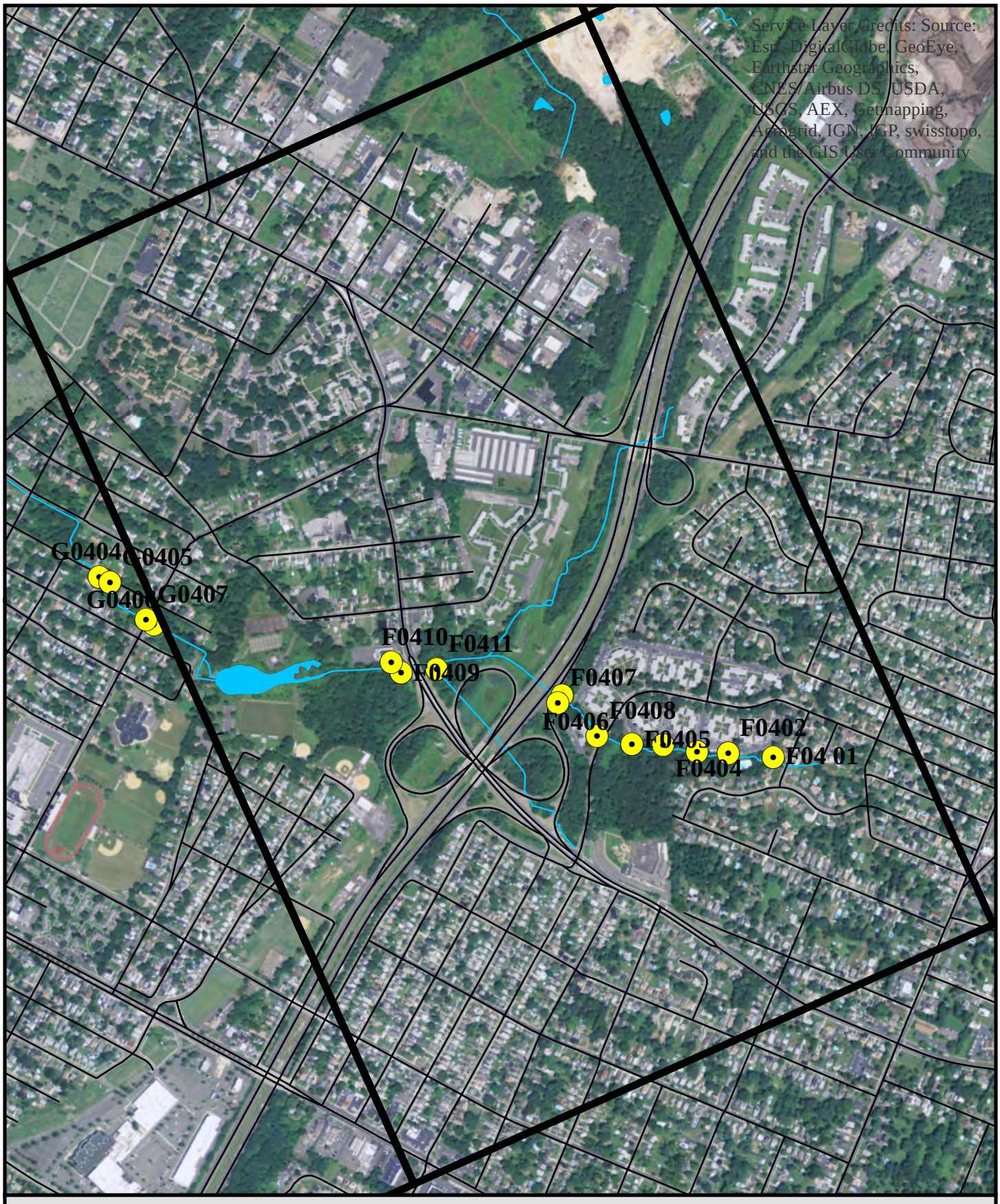
Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Grid ID: F4

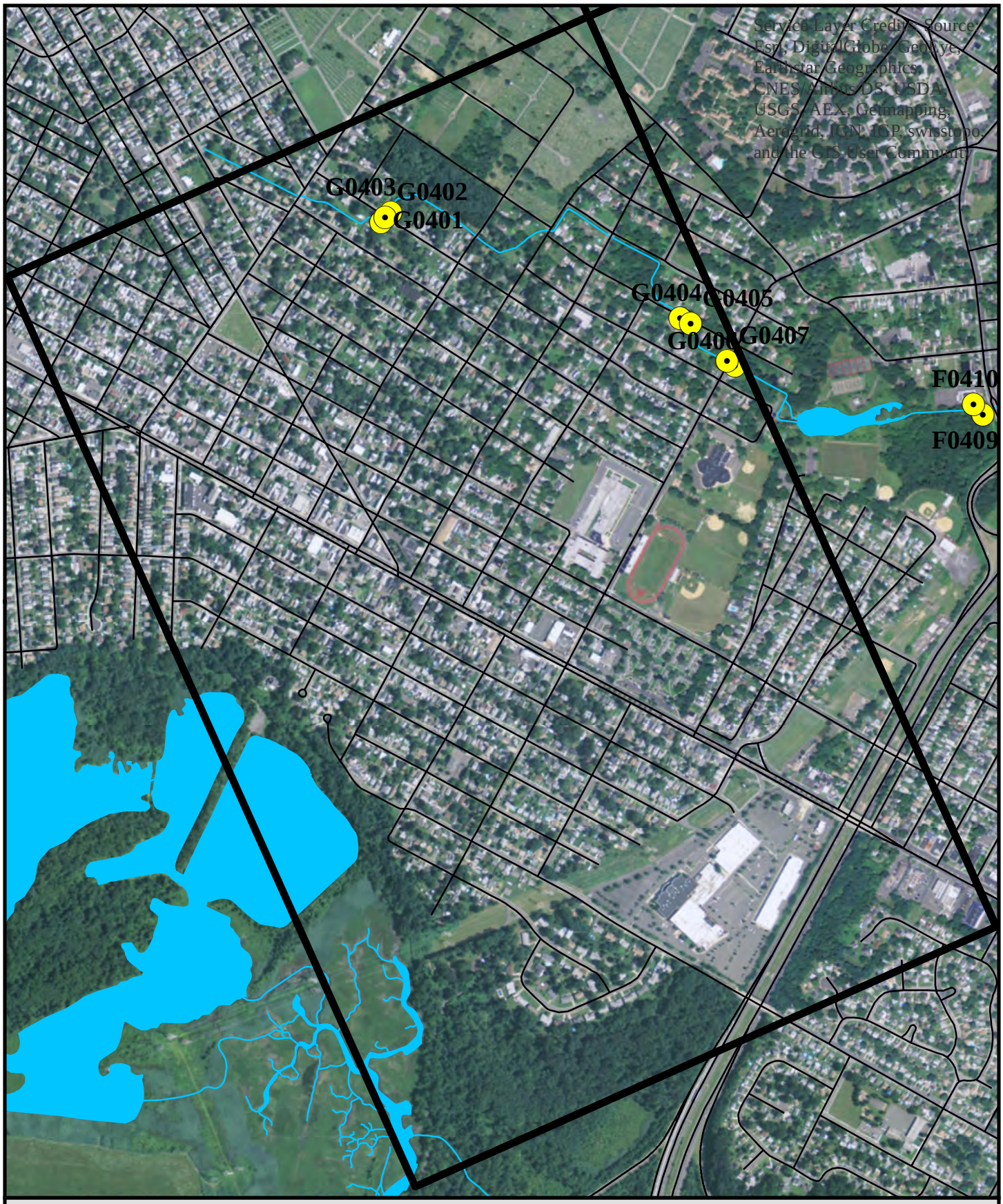
N
W E
S

0 500 1,000 Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Grid ID: G4

N
W E
S

0 500 1,000
Feet

Stormwater Outfall | Municipal Border | Grid | Waterbody | Road

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

RUTGERS
New Jersey Agricultural Experiment Station

Stormwater Infrastructure Assessment Program
Stormwater Outfall Inspection Checklist

GENERAL INFORMATION	
	Site ID:
Name(s) person inspecting the outfall:	Date:
Location Address and Cross Streets:	Watershed:
Name of Creek, Stream, or area into which the outfall discharges:	Property Owner / Tax Parcel Block & Lot:
Contact information:	
STRUCTURAL COMPONENTS	
Outfall description:	Is the outfall accessible to maintain? Yes / No Is it maintained: Mowed, clear of woody plants, blockages?
Outfall Material:	
Weather over past 24 Hours:	Outlet diameter:

GENERAL OBSERVATIONS	YES	NO	NOTES/REMARKS
1) Any reports on the outlet not functioning?			
2) Are there any unauthorized or malfunctioning structures connected to the outfall?			

RUTGERS
New Jersey Agricultural Experiment Station

Stormwater Infrastructure Assessment Program

Stormwater Outfall Inspection Checklist

OUTLET	YES	NO	NOTES/REMARKS
1) Known industrial or commercial uses in drainage area?			
2) Odor? (Sewage, Sulfide, Oil, Gas, Rancid or Sour, Other)			
3) Color? (None, Yellow, Brown, Green, Gray)			
4) Turbidity? (Clear, Cloudy, Opaque)			
5) Floatables? (Petroleum Slick, Raw Sewage, Trash)			
6) Deposits? (Sediment, Oil, Other)			
7) Vegetation? (Normal, Excessive, Inhibited)			
8) Outfall Pipe Condition? (No Damages, Cracking, Spalling, Corrosion, Peeling Paint)			
9) Has Erosion Undermined the stability of the outfall?			
10) Extent of Erosion Damage in square feet? (None, Under 100, Between 100 and 500, Over 500)			

SUMMARY AND NOTES: Identify unique characteristics and/or opportunities

Outfall ID	Diameter in Inches	Weather over past 24 hours?	Maintenance Priority	Pipe Material	Industrial or commercial uses in drainage area	Odor	Color	Turbidity	Floatables	Deposits	Vegetation	Outfall pipe condition	Has erosion undermined the stability of the outfall?	Extent of erosion damage in square feet
A0301	24	Clouds	Low	Concrete	Yes	None	Brown	Cloudy	None	Sediment	Normal	Normal	No	Under 100
A0302	21	Clouds	Medium	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	Yes	Under 100
A0303	36	Clouds	Low	Concrete	Yes	None	Brown	Cloudy	None	Sediment	Normal	Normal	No	Under 100
A0501	24	Sun	Low	Concrete	Yes	None	None	Clear	None	Sediment	Normal	Normal	No	None
B0201	36	Clouds	Medium	Concrete	No	None	Gray	Cloudy	None	Sediment	Normal	Normal	Yes	Under 100
B0202	24	Clouds	Low	Concrete	No	None	None	Clear	None	Sediment	Normal	Normal	No	None
B0203	24	Clouds	Medium	Concrete	Yes	None	Gray	Cloudy	Trash	Sediment	Normal	Normal	Yes	Under 100
B0204		Clouds	Medium	Concrete	No	None	Gray	Clear	None	None	Normal	Cracking	No	Under 100
B0205		Clouds	Medium	Concrete	Unknown	None	Gray	Cloudy	None	Sediment	Normal	Normal	Yes	Under 100
B0206	12	Clouds	Low	Concrete	Yes	None	Gray	Clear	None	Sediment	Normal	Normal	No	None
B0207		Clouds	High	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Cracking	Yes	Under 100
B0208	24	Clouds	Low	Metal	Yes	None	Gray	Clear	None	None	Normal	Normal	No	None
B0209	26	Clouds	Medium	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	Yes	Under 100
B0301	53	Clouds	Low	Concrete	No	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
B0302	16	Clouds	Medium	Concrete	No	None	Other	Clear	None	Sediment	Normal	Cracking	No	None
B0303	24	Clouds	Low	Concrete	No	None	None	Clear	None	Sediment	Normal	Normal	No	None
B0304	14	Clouds	High	Concrete	Yes	Sewage	Gray	Cloudy	Trash	None	Normal	Spalling	No	None
B0305	40	Clouds	Low	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	No	None
B0306	14	Clouds	Medium	Concrete	Yes	None	Gray	Cloudy	None	Oil	Normal	Normal	No	None
B0307	26	Clouds	Medium	Concrete	Yes	Sewage	Gray	Cloudy	None	Sediment	Normal	Cracking	No	Under 100
B0308	34	Clouds	Low	Concrete	No	None	None	Clear	Trash	Sediment	Normal	Normal	No	None
B0309	28	Clouds	High	Concrete	No	Sewage	Gray	Cloudy	Trash	Sediment	Normal	Normal	Yes	Under 100
B0310	31	Clouds	Medium	Concrete	Unknown	None	None	Clear	None	Sediment	Normal	Cracking	Yes	Under 100
B0311	14	Clouds	Low	Plastic	No	Sewage	None	Clear	None	Sediment	Normal	Normal	No	None
B0312	26	Clouds	Low	Concrete	Unknown	None	None	Clear	None	Sediment	Normal	Normal	No	None
B0313	14	Clouds	Medium	Metal	Unknown	None	None	Clear	None	Sediment	Normal	Normal	Yes	Under 100
B0314	6	Clouds	Low	Metal	No	None	None	Clear	None	None	Normal	Normal	No	None
B0315	16	Clouds	Medium	Plastic	No	Sewage	None	Clear	Trash	Sediment	Excessive	Normal	No	None
B0316		Clouds	Low		No	None	Other	Clear	None	None	Excessive	Normal	No	None
B0317	26	Clouds	High	Concrete	Yes	None	None	Clear	Trash	Sediment	Excessive	Cracking	Yes	100 to 500
B0318	9	Clouds	High	Clay	No	None	None	Clear	None	Sediment	Excessive	Spalling	Yes	Under 100
B0319	14	Clouds	Low	Plastic	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	No	None
B0320	18	Clouds	Medium	Concrete	Yes	None	Gray	Clear	None	Sediment	Normal	Cracking	Yes	Under 100
B0321	18	Clouds	Low	Concrete	Yes	None	Gray	Clear	None	None	Normal	Normal	No	None
B0322	30	Clouds	Medium	Concrete	Yes	None	Gray	Clear	None	None	Normal	Spalling	No	None
B0323	40	Clouds	Medium	Concrete	Yes	None	Gray	Clear	None	Sediment	Normal	Spalling	No	None
B0324	15	Clouds	Medium	Concrete	Yes	None	Gray	Clear	None	Sediment	Normal	Spalling	Yes	Under 100
B0325	12	Clouds	Medium	Concrete	Yes	None	Gray	Clear	None	Sediment	Normal	Normal	Yes	Under 100
B0326	24	Clouds	High	Concrete	Yes	Sewage	Gray	Clear	None	Sediment	Normal	Cracking	Yes	Under 100
B0327		Clouds	Low		Unknown	None	None	Clear	None	None	Normal	Normal	No	Under 100
B0328		Clouds	Low		Unknown	None	None	Clear	None	Sediment	Normal	Normal	No	Under 100
B0329	36	Clouds	Medium	Concrete	No	Sewage	Gray	Cloudy	None	Sediment	Normal	Spalling	No	Under 100
B0330		Clouds	Medium	Concrete	Unknown	Sewage	Gray	Cloudy	None	Sediment	Normal	Normal	No	None
B0331		Clouds	Low	Concrete	Unknown	Sewage	None	Clear	None	None	None	Normal	No	None

Outfall ID	Diameter in Inches	Weather over past 24 hours?	Maintenance Priority	Pipe Material	Industrial or commercial uses in drainage area	Odor	Color	Turbidity	Floatables	Deposits	Vegetation	Outfall pipe condition	Has erosion undermined the stability of the outfall?	Extent of erosion damage in square feet
B0332	24	Clouds	High	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Cracking	Yes	Under 100
B0401	40	Sun	Low	Concrete	No	Other	None	Clear	None	Oil	Normal	Normal	No	None
B0402	16	Sun	Low	Concrete	No	None	None	Clear	None	Sediment	Normal	Normal	No	None
B0403	8	Sun	Medium	Concrete	No	None	None	Clear	Trash	Oil	Normal	Normal	No	None
B0404	16	Sun	Medium	Concrete	No	None	Brown	Opaque	None	Sediment	Normal	Spalling	No	Under 100
B0405	16	Sun	Low	Concrete	No	None	None	Clear	None	Sediment	Normal	Normal	No	None
B0406		Sun	Medium	Concrete	No	None	None	Clear	None	None	None	Cracking	Yes	None
B0407	76	Sun	Low	Concrete	No	None	None	Clear	None	None	Normal	Cracking	No	None
B0408		Sun	Low	Concrete	No	None	None	Clear	None	None	None	Normal	No	None
B0409	53	Sun	Low	Concrete	No	RS	Other	Clear	None	None	Normal	Normal	No	None
B0410	24	Sun	Low	Concrete	No	None	None	Clear	Trash	None	Normal	Normal	No	None
B0411	30	Sun	Medium	Concrete	No	RS	Brown	Opaque	Sewage	None	Normal	Normal	No	Under 100
B0412	36	Sun	Low	Concrete	No	None	None	Clear	None	Other	Normal	Normal	No	None
B0501		Sun	Medium	Concrete	No	None	None	Clear	Trash	Sediment	Excessive	Spalling	No	None
B0502	24	Sun	Low	Concrete	No	None	None	Clear	None	None	Normal	Normal	No	None
B0503	30	Sun	Low	Concrete	No	None	None	Clear	None	Sediment	Normal	Normal	No	None
B0504	48	Sun	Low	Concrete	No	None	None	Clear	None	Sediment	Normal	Normal	No	None
B0505	16	Sun	Medium	Concrete	No	None	None	Clear	None	Sediment	Normal	Spalling	Yes	Under 100
B0506	22	Sun	Medium	Concrete	No	None	None	Clear	Trash	Sediment	Inhibited	Normal	No	Under 100
B0507	48	Sun	Low	Concrete	No	None	None	Clear	None	Sediment	Normal	Normal	No	None
B0508	36	Sun	Low	Concrete	No	None	None	Clear	None	None	Normal	Normal	No	Under 100
B0509	16	Sun	Low	Concrete	No	None	None	Clear	None	None	Normal	Normal	No	None
B0510	20	Sun	Low	Concrete	No	None	None	Clear	None	Sediment	Normal	Normal	No	Under 100
B0511		Sun	Medium	Concrete	Unknown	RS	Brown	Cloudy	None	None	Normal	Spalling	No	None
C0201	8	Clouds	Low	Metal	Yes	None	Gray	Cloudy	None	None	Normal	Normal	No	None
C0202	10	Clouds	Low	Metal	Yes	None	Gray	Clear	None	Sediment	None	Normal	No	None
C0203	36	Clouds	High	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Cracking	Yes	Under 100
C0204	8	Clouds	Low	Metal	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	No	None
C0205	10	Clouds	Medium	Metal	Yes	None	Gray	Clear	None	Sediment	Excessive	Normal	No	None
C0206	10	Clouds	Low	Metal	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	No	None
C0207	36	Clouds	Low	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	No	Under 100
C0208	12	Clouds	Medium	Metal	Yes	None	Gray	Cloudy	None	Sediment	Normal	Peeling	No	None
C0209	24	Clouds	Low	Concrete	Yes	None	Brown	Cloudy	None	Sediment	Normal	Normal	No	None
C0210	18	Clouds	Low	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	No	Under 100
C0211	14	Clouds	Low	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	No	None
C0212	18	Clouds	Low	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	No	None
C0213	36	Clouds	Medium	Concrete	Yes	None	Gray	Clear	None	Sediment	Normal	Cracking	Yes	Under 100
C0214	48	Clouds	Medium	Concrete	Yes	None	Gray	Clear	None	None	Normal	Spalling	No	None
C0215		Sun	Medium	Concrete	Yes	None	Gray	Clear	None	Sediment	Excessive	Cracking	No	None
C0216	14	Sun	Medium	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Spalling	No	None
C0217	38	Sun	Medium	Metal	Yes	None	Gray	Cloudy	None	Oil	Normal	Corrosion	No	Under 100
C0301	42	Sun	Medium	Concrete	No	None	Brown	Cloudy	Trash	None	Normal	Corrosion	No	Under 100
C0302	24	Sun	Low	Concrete	No	None	None	Clear	None	None	Normal	Normal	No	Under 100
C0303	36	Sun	Low	Concrete	No	None	None	Clear	None	None	Normal	Normal	No	Under 100

Outfall ID	Diameter in Inches	Weather over past 24 hours?	Maintenance Priority	Pipe Material	Industrial or commercial uses in drainage area	Odor	Color	Turbidity	Floatables	Deposits	Vegetation	Outfall pipe condition	Has erosion undermined the stability of the outfall?	Extent of erosion damage in square feet
C0304	18	Sun	Medium	Concrete	No	None	Brown	Opaque	None	Oil	Normal	Normal	No	Under 100
C0305		Sun	Low		Unknown	None	None	Clear	None	None	None	Normal	No	None
C0306	20	Clouds	Low	Concrete	No	None	None	Clear	None	None	Normal	Normal	No	None
C0307		Sun	Medium	Concrete	Unknown	RS	Brown	Cloudy	None	None	Normal	Corrosion	No	Under 100
C0308	25	Sun	Low	Concrete	No	None	None	Clear	Trash	None	Normal	Normal	No	Under 100
C0401	24	Sun	Low	Concrete	Yes	None	None	Clear	None	None	Normal	Normal	No	None
C0402	24	Sun	Low	Concrete	Yes	None	None	Clear	None	None	Normal	Normal	No	None
C0403	24	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	Under 100
C0404	24	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	Under 100
C0405	36	Sun	Low	Concrete	Yes	None	None	Clear	None	None	Normal	Cracking	No	None
C0406	36	Sun	Low	Concrete	Yes	None	None	Clear	None	Oil	Normal	Normal	No	None
C0407	18	Sun	Low	Metal	Yes	None	None	Clear	Other	Other	Excessive	Normal	No	None
C0408	12	Sun	Medium	Metal	Yes	None	None	Clear	None	None	Normal	Corrosion	Yes	None
C0409	18	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
C0410	28	Sun	Medium	Concrete	Yes	None	Brown	Clear	None	Sediment	Excessive	Spalling	No	Under 100
D0101	57	Sun	Medium	Concrete	No	None	Gray	Opaque	None	None	Normal	Normal	Yes	100 to 500
D0102	12	Sun	High	Concrete	No	None	None	Clear	Trash	Sediment	Excessive	Cracking	Yes	Under 100
D0201	28	Rain	High	Concrete	Yes	Sulfide	Gray	Cloudy	Trash	Sediment	Normal	Cracking	Yes	Under 100
D0202		Rain	High	Concrete	Unknown	None	Gray	Clear	None	Sediment	Excessive	Spalling	Yes	None
D0203	32	Rain	Medium	Concrete	Unknown	None	Gray	Cloudy	None	None	Excessive	Normal	No	None
D0204	28	Rain	Medium	Metal	Unknown	None	Brown	Cloudy	None	Oil	Normal	Cracking	No	None
D0205	28	Rain	High	Metal	No	None	Brown	Cloudy	None	Oil	Excessive	Cracking	No	None
D0206	32	Rain	High	Concrete	No	None	Gray	Cloudy	Trash	Sediment	Excessive	Normal	Yes	100 to 500
D0207	32	Rain	High	Concrete	No	None	Gray	Cloudy	Trash	Sediment	Excessive	Normal	Yes	100 to 500
D0210		Rain	Medium	Concrete	Yes	None	Gray	Opaque	Trash	Sediment	Normal	Normal	No	Under 100
D0211	30	Rain	Medium	Concrete	No	RS	Brown	Opaque	None	Sediment	Excessive	Normal	No	None
D0212		Rain	High	Metal	No	None	None	Clear	None	Sediment	Excessive	Cracking	Yes	Under 100
D0213	25	Rain	Medium	Concrete	Unknown	None	Gray	Cloudy	Trash	Sediment	Excessive	Normal	No	Under 100
D0214		Rain	Medium	Concrete	No	Sewage	Brown	Opaque	Sewage	Sediment	Normal	Normal	No	None
D0215	38	Rain	Medium	Concrete	No	None	Brown	Cloudy	Trash	Sediment	Normal	Corrosion	No	Under 100
D0216	48	Rain	Medium	Concrete	No	None	Other	Clear	None	Sediment	Normal	Cracking	No	100 to 500
D0301	15	Rain	Medium	Concrete	No	None	None	Clear	None	None	Normal	Cracking	Yes	100 to 500
D0302	15	Rain	Medium	Concrete	No	None	None	Clear	None	Sediment	Normal	Normal	Yes	Under 100
D0303	16	Rain	High	Concrete	No	Sewage	Brown	Opaque	Trash	Sediment	Excessive	Cracking	No	Under 100
D0304	16	Rain	High	Concrete	No	Sewage	Brown	Opaque	Trash	Sediment	Excessive	Cracking	No	Under 100
D0305	32	Rain	Medium	Concrete	Yes	None	None	Clear	None	None	Excessive	Corrosion	No	None
D0306	15	Rain	Low	Concrete	No	None	Gray	Opaque	None	None	Normal	Normal	No	None
D0307	16	Rain	High	Metal	No	None	Brown	Clear	Trash	Sediment	Normal	Peeling	Yes	Under 100
D0308	18	Rain	Low	Concrete	Yes	None	None	Clear	None	Sediment	Normal	Normal	No	None
D0309	18	Rain	Low	Concrete	No	None	None	Clear	None	Sediment	Normal	Normal	No	None
D0310	18	Rain	Low	Concrete	Yes	None	None	Clear	None	None	Normal	Normal	No	None
D0311	36	Rain	Low	Concrete	Unknown	None	None	Clear	None	Sediment	Normal	Normal	No	None
D0312	18	Rain	Low	Concrete	Yes	None	None	Clear	None	None	Normal	Normal	No	None
D0313	24	Rain	Low	Concrete	Unknown	None	None	Clear	None	None	Normal	Normal	No	None

Outfall ID	Diameter in Inches	Weather over past 24 hours?	Maintenance Priority	Pipe Material	Industrial or commercial uses in drainage area	Odor	Color	Turbidity	Floatables	Deposits	Vegetation	Outfall pipe condition	Has erosion undermined the stability of the outfall?	Extent of erosion damage in square feet
D0314	36	Rain	Low	Concrete	Unknown	None	None	Clear	None	Oil	Normal	Normal	No	Under 100
D0315	16	Rain	Medium	Concrete	Unknown	None	Gray	Clear	None	Sediment	Normal	Normal	Yes	Under 100
D0316	32	Rain	Medium	Concrete	Unknown	None	None	Clear	Trash	Oil	Normal	Normal	Yes	None
D0317	48	Rain	Low	Concrete	Unknown	None	Brown	Cloudy	None	None	Normal	Normal	No	None
D0318	15	Rain	Low	Concrete	No	None	None	Clear	None	None	Normal	Normal	No	None
D0319	38	Rain	Low	Concrete	No	None	Brown	Cloudy	None	None	Normal	Normal	No	Under 100
D0320	18	Sun	Low	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	No	Under 100
D0321	40	Sun	Medium	Concrete	Yes	None	Gray	Clear	None	Sediment	Normal	Spalling	No	Under 100
D0322	14	Sun	Low	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	No	Under 100
D0323	24	Sun	Low	Concrete	Yes	None	Gray	Clear	None	Sediment	Normal	Normal	No	Under 100
D0324	24	Sun	Low	Concrete	Yes	None	Gray	Clear	None	None	Normal	Normal	No	None
D0325	24	Sun	Low	Concrete	Yes	None	Gray	Clear	None	None	Normal	Normal	No	None
D0326	24	Sun	Low	Concrete	Yes	None	Gray	Cloudy	None	Sediment	Normal	Normal	No	None
D0327	12	Sun	Low	Plastic	No	None	Gray	Clear	None	None	Normal	Normal	No	None
D0328	12	Sun	Low	Concrete	Yes	None	Gray	Clear	None	Sediment	Normal	Normal	No	None
D0329		Sun	Low	Concrete	Yes	None	Gray	Clear	None	None	Normal	Normal	No	None
D0330		Sun	Low		Unknown	None	Gray	Clear	None	None	Normal	Normal	No	Under 100
D0401	26	Sun	Low	Concrete	Yes	None	None	Clear	None	None	Normal	Normal	No	None
D0402		Sun	Medium		Unknown	None	Brown	Cloudy	Trash	Sediment	None	Normal	Yes	None
D0405		Sun	Low		Unknown	None	None	Clear	None	None	None	Normal	No	None
D0406		Sun	Low		Unknown	None	None	Clear	None	None	None	Normal	No	None
D0407	14	Sun	Low	Concrete	Yes	None	None	Clear	None	Sediment	Normal	Normal	No	None
D0408	36	Sun	Low	Concrete	Yes	None	Gray	Clear	None	Sediment	Normal	Normal	No	Under 100
D0409		Sun	Low		Yes	None	None	Clear	Trash	Sediment	Normal	Normal	No	Under 100
D0410	27	Clouds	Medium	Concrete	Yes	None	Brown	Cloudy	Trash	Sediment	Normal	Normal	No	Under 100
D0413		Sun	Low		No	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
D0414	27	Sun	Low	Concrete	Yes	None	Brown	Cloudy	None	Sediment	Normal	Normal	No	None
D0415	18	Sun	Low	Concrete	Unknown	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
D0416	30	Sun	Medium	Concrete	Yes	None	Brown	Cloudy	None	Sediment	Normal	Spalling	No	None
D0417	36	Sun	Medium	Concrete	Yes	None	Green	Cloudy	None	Sediment	Normal	Normal	No	100 to 500
E0101	30	Sun	High	Concrete	No	None	None	Clear	Trash	None	Normal	Cracking	Yes	100 to 500
E0201	29	Clouds	Low	Metal	No	None	None	Clear	None	None	Normal	Cracking	No	None
E0202	22	Clouds	Low	Metal	No	None	None	Clear	None	None	Normal	Cracking	No	None
E0203	23	Clouds	Medium	Concrete	Yes	None	None	Clear	Trash	Oil	Normal	Normal	No	None
E0205	24	Clouds	Medium	Metal	Yes	None	None	Clear	Trash	Sediment	Normal	Corrosion	No	None
E0206	24	Clouds	Medium	Concrete	Yes	None	None	Clear	Trash	None	Normal	Cracking	No	None
E0207	6	Clouds	Low	Plastic	Yes	None	None	Clear	None	None	Normal	Normal	No	None
E0208	20	Clouds	Low	Concrete	Yes	None	None	Clear	None	None	Normal	Normal	No	None
E0209	4.5	Clouds	Low	Plastic	Yes	None	None	Clear	None	None	Normal	Normal	No	None
E0210	25	Clouds	Medium	Concrete	Yes	None	None	Cloudy	Trash	Sediment	Normal	Normal	No	None
E0211	30	Clouds	Medium	Concrete	Yes	None	Gray	Cloudy	Trash	None	Normal	Normal	No	None
E0212	25	Clouds	Medium	Concrete	No	None	None	Clear	None	Sediment	Normal	Cracking	No	None
E0213	16	Clouds	Medium	Concrete	No	None	Brown	Clear	None	Sediment	Normal	Cracking	Yes	None
E0214	12	Clouds	Medium	Concrete	No	None	None	Clear	None	Sediment	Excessive	Corrosion	No	None

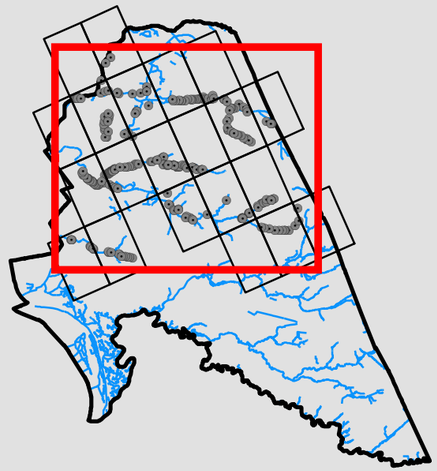
Outfall ID	Diameter in Inches	Weather over past 24 hours?	Maintenance Priority	Pipe Material	Industrial or commercial uses in drainage area	Odor	Color	Turbidity	Floatables	Deposits	Vegetation	Outfall pipe condition	Has erosion undermined the stability of the outfall?	Extent of erosion damage in square feet
E0215	18	Clouds	Low	Concrete	Yes	None	Brown	Cloudy	None	Sediment	None	Normal	No	None
E0216	18	Clouds	Low	Concrete	Unknown	None	Gray	Clear	Trash	None	None	Normal	No	None
E0217	36	Clouds	Low	Concrete	Yes	None	Gray	Cloudy	None	None	Normal	Normal	No	None
E0218	17	Clouds	Low	Concrete	Yes	None	None	Clear	None	None	Normal	Normal	No	None
E0218	17	Clouds	Low	Concrete	Yes	None	Other	Clear	None	Sediment	Normal	Normal	No	None
E0219	18	Clouds	Low	Concrete	No	None	None	Cloudy	None	None	None	Normal	No	None
E0220	18	Clouds	Low	Concrete	No	None	None	Clear	None	Sediment	None	Normal	No	None
E0221	12	Clouds	Medium	Metal	Yes	None	None	Clear	Trash	Sediment	Excessive	Normal	No	None
E0222	16	Sun	Medium	Concrete	No	None	None	Clear	Trash	Oil	Normal	Normal	No	None
E0223		Sun	Low		Unknown	None	None	Clear	None	None	None	Normal	No	None
E0224	28	Sun	Medium	Concrete	No	None	None	Clear	Trash	None	Normal	Spalling	Yes	Under 100
E0225	20	Sun	Low	Concrete	No	None	None	Clear	Trash	Sediment	Normal	Normal	No	None
E0226	18	Sun	Low	Concrete	No	None	None	Clear	None	Sediment	None	Normal	No	None
E0301	18	Sun	Medium	Metal	Yes	None	Brown	Clear	None	Sediment	Normal	Spalling	No	None
E0302		Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Excessive	Normal	No	None
E0303	16	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
E0304	24	Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
E0305	24	Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
E0306	14	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
E0307	14	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
E0308		Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
E0309		Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
E0310	16	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
E0311	14	Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
E0312		Sun	Low		Unknown	None	None	Clear	None	None	None	Normal	No	None
E0313		Sun	Low	Concrete	Unknown	None	None	Clear	None	None	None	Normal	No	None
E0315	16	Sun	Low	Concrete	Yes	Gas	Brown	Clear	None	None	Normal	Normal	No	None
E0316	18	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
E0317	18	Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
E0317	18	Sun	Low	Concrete	Yes	None	Brown	Cloudy	None	None	Normal	Normal	No	None
E0318	24	Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
E0319	26	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	Under 100
E0320	26	Sun	Medium	Concrete	Yes	None	Brown	Clear	None	Sediment	Excessive	Normal	No	None
E0321	36	Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
E0322	16	Sun	Medium	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Spalling	No	None
E0323	36	Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
E0324	36	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
E0325	18	Sun	High	Concrete	Yes	None	Brown	Clear	Trash	Sediment	None	Cracking	Yes	Under 100
E0326	6	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
E0327	12	Sun	Medium	Concrete	Yes	None	Brown	Clear	Trash	Sediment	Normal	Normal	Yes	Under 100
E0328	24	Sun	Low	Concrete	Yes	None	Brown	Cloudy	None	Sediment	Normal	Normal	No	None
E0329	24	Sun	Low	Concrete	Unknown	None	None	Clear	None	Sediment	Normal	Normal	No	None
E0330	16	Sun	Low	Concrete	Yes	None	None	Clear	None	Sediment	Normal	Normal	No	None
E0331		Sun	High	Concrete	Yes	None	Brown	Cloudy	None	Sediment	Normal	Cracking	Yes	None

Outfall ID	Diameter in Inches	Weather over past 24 hours?	Maintenance Priority	Pipe Material	Industrial or commercial uses in drainage area	Odor	Color	Turbidity	Floatables	Deposits	Vegetation	Outfall pipe condition	Has erosion undermined the stability of the outfall?	Extent of erosion damage in square feet
E0332	24	Sun	Low	Concrete	Yes	None	Brown	Cloudy	None	Sediment	Normal	Normal	No	None
F0301		Sun	Low		Yes	None	None	Clear	None	None	None	Normal	No	None
F0302	24	Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
F0303	24	Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
F0304	12	Sun	Low	Plastic	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
F0305	18	Sun	Medium	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Cracking	No	None
F0306	10	Sun	Low	Plastic	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
F0307	12	Sun	Low	Plastic	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
F0308		Sun	Medium	Concrete	Yes	None	None	Clear	None	Sediment	None	Cracking	No	None
F0309	12	Sun	Low	Concrete	Yes	None	None	Clear	None	Sediment	None	Normal	No	None
F0310	10	Sun	Low	Plastic	Yes	None	Green	Cloudy	None	Sediment	Normal	Normal	No	None
F0311	10	Sun	Low	Plastic	Yes	None	Green	Cloudy	None	Sediment	Normal	Normal	No	None
F0312	10	Sun	Low	Concrete	Yes	None	None	Clear	Trash	Sediment	None	Normal	No	None
F0313	12	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
F0314	12	Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
F0315	10	Sun	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
F0316	8	Sun	Low	Plastic	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
F0318		Clouds	Low	Concrete	Yes	None	Brown	Clear	None	None	Normal	Normal	No	None
F0319	10	Sun	Low	Concrete	Yes	None	Brown	Clear	None	Sediment	Normal	Normal	No	None
F0320	24	Sun	Low	Concrete	Yes	Oil	Green	Clear	None	None	Normal	Normal	No	None
F0321		Sun	Low		Unknown	Oil	None	Clear	None	None	None	Normal	No	None
F0322		Sun	Low		Unknown	None	None	Clear	None	None	Excessive	Normal	No	None
F0401		Rain	Medium	Concrete	No	None	Brown	Cloudy	Trash	Sediment	Normal	Spalling	No	Under 100
F0402		Rain	Low		Unknown	None	None	Clear	None	None	None	Normal	No	None
F0403		Rain	Medium	Concrete	No	None	None	Clear	None	Sediment	Normal	Cracking	Yes	Under 100
F0404	20	Rain	Low	Concrete	No	None	None	Clear	None	None	Normal	Normal	Yes	Under 100
F0405	20	Rain	Medium	Concrete	No	None	None	Clear	Trash	Sediment	Normal	Normal	Yes	Under 100
F0406	16	Rain	Low	Concrete	No	None	None	Clear	None	None	Normal	Spalling	No	None
F0407		Rain	Low	Metal	No	None	None	Clear	None	None	None	Normal	No	Under 100
F0408	26	Rain	Low	Concrete	No	None	None	Cloudy	None	None	Excessive	Normal	No	None
F0409	41	Rain	Medium	Concrete	Yes	None	Brown	Opaque	Trash	None	Normal	Normal	No	Under 100
F0410	13	Rain	Medium	Concrete	Yes	None	Brown	Opaque	None	Oil	Normal	Normal	No	Under 100
F0411	20	Rain	Low	Concrete	Unknown	None	None	Clear	None	None	None	Normal	No	None
G0401		Sun	Low	Concrete	Unknown	None	None	Clear	None	Sediment	Normal	Normal	No	None
G0402		Sun	Low		Yes	None	None	Clear	None	None	None	Normal	No	None
G0403		Sun	Low		Yes	None	None	Clear	Trash	Sediment	None	Normal	No	None
G0404	15	Sun	Medium	Plastic	Yes	None	Brown	Clear	None	Sediment	Excessive	Normal	No	None
G0405	15	Sun	Medium	Plastic	Yes	None	Brown	Clear	None	Sediment	Excessive	Normal	No	None
G0406		Sun	Low		Yes	None	None	Clear	None	Sediment	Excessive	Normal	No	None
G0407		Sun	Low		Yes	None	None	Clear	None	Sediment	Excessive	Normal	No	None

Hamilton

Outfall Maintenance Prioritization

- High: 21
- Medium: 82
- Low: 158



N W E S

0 0.25 0.5 Miles

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

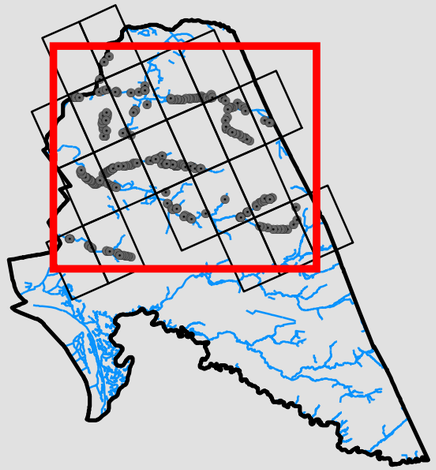
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS

Hamilton

Outfall Pipe Condition

- Corrosion: 8
- Cracking: 34
- Peeling: 2
- Spalling: 21
- Normal: 198



N W E S

0 0.25 0.5 Miles

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

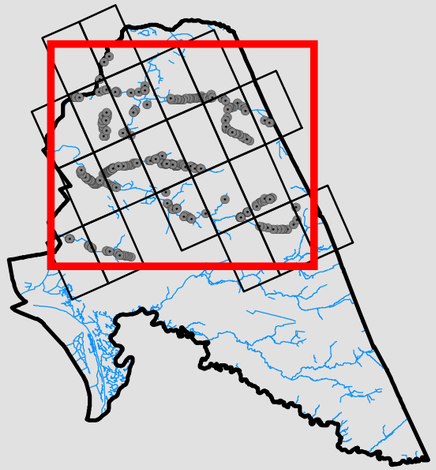
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS

Hamilton

Downstream Erosion

- High: 8
- Medium: 30
- Low: 43
- None: 182



N
W E
S

0 0.25 0.5 Miles

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

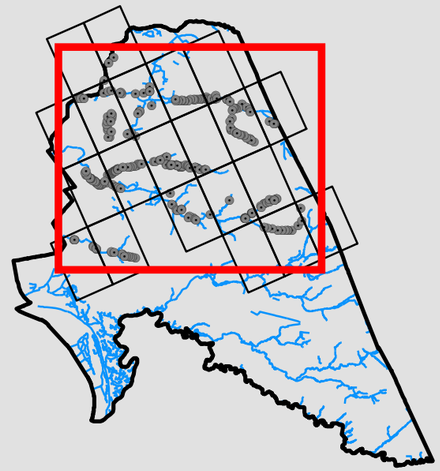
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS

Hamilton

Outfall Stability

Unstable: 43

Stable: 218



N
W E
S

0 0.25 0.5 Miles

Data Sources: NJOIT, NJDOT, NJDEP, RCE Water Resources Program

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS