

**The Buzzards Bay Stormwater Collaborative
Illicit Discharge Investigation Trailer**



Town of Bourne Report

November 2022

MassDEP MS4 Municipal Assistance Grant Program 2020-2021

MassDEP MS4 Municipal Assistance Grant Program 2021-2022

**Stormwater Investigation Contract between the Town of Bourne and Massachusetts
Maritime Academy FY22**

**Stormwater Investigation Contract between the Town of Bourne and Massachusetts
Maritime Academy FY23**

Collaborative Partners: Massachusetts Maritime Academy, Buzzards Bay National Estuary Program and the municipalities of Bourne, Wareham, Marion, Mattapoisett, Fairhaven, Acushnet, Dartmouth, and Westport.

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Bourne IDDE Report

Illicit Discharge Detection and Elimination Field Work during the weeks of 06/14/2021, 08/09/2021, 10/04/2021, 12/06/2021, 03/14/2022, 09/12/2022, and 10/11/2022.

This report summarizes the findings from the Buzzards Bay Stormwater Collaborative discharge investigation under the 2021 MassDEP Stormwater Investigation Trailer grant, the 2022 MassDEP Stormwater Investigation Trailer grant, a FY22 contract between the town of Bourne and Massachusetts Maritime Academy and a FY23 contract between the town of Bourne and Massachusetts Maritime Academy. A total of 152 networks were examined for illicit connections. Each storm drain network is made up of structures connected to one another that discharge to one point, the outfall pipe, and is referred to by a facility ID. Each network is a reflection of the stormwater catchment in which the structures collect stormwater and runoff. The purpose of an IDDE is to detect illicit connections that do not comply with the MS4 permit for stormwater discharges. There were no illicit connections detected in the observed storm drain networks. The stormdrain issues found are minor and itemized in this report with recommendations of possible actions to address.

Within the networks surveyed, each structure was opened by the DPW and inspected for evidence of illicit connections. Any indications of odors, unusual colors, excessive trash or debris, sheens, suds, or structural issues were recorded. Each pipe entering the structure was recorded for size, type, and invert from the rim. Dry weather flow and standing water in the structure were also recorded. Direction to adjacent structures were verified and pipes with no apparent connection were checked with a camera or other method to best determine the situation. In areas with potential for a sewer cross connection the camera was used to inspect the pipe. Additionally, a few water samples were collected and analyzed for various parameters.

Some general observations for all the catchments visited: catchbasins are well maintained but a few had some composted debris accumulation; there were some sump pump and yard drain connections to catchbasins, several catchbasins were slightly sunken and in need of repair, and the public that stopped by to chat were generally interested in the environment.

Of these observations, the most significant is the sunken catchbasins. All catchbasins observed to be sunken are listed below each of their maps. To prevent further sinking and eventual road hazards it is suggested that attention be given to these basins as soon as possible.

The data collected was used to update the Buzzards Bay National Estuary Program stormwater GIS. Despite the extensive mapping of the Bourne drain network that the team started with before the investigation, there were opportunities for many corrections and additions while going through the investigation process. Updated maps depicting the inspected networks are included below. Red stars indicate the outfall pipes, light blue squares for catchbasins, brown circles for drain manholes, and blue

lines for connecting pipes. Issues found within the network are annotated. Issues and recommendations are included in the text below each map.

The areas where the drain networks were inspected were located in the watershed between Puritan Road and the Buzzards Bay Bypass as well as roads off of County Road. Below are the observations made for each of the 152 storm drain systems. Each drain system is referenced by the facility ID of the outfall pipe.



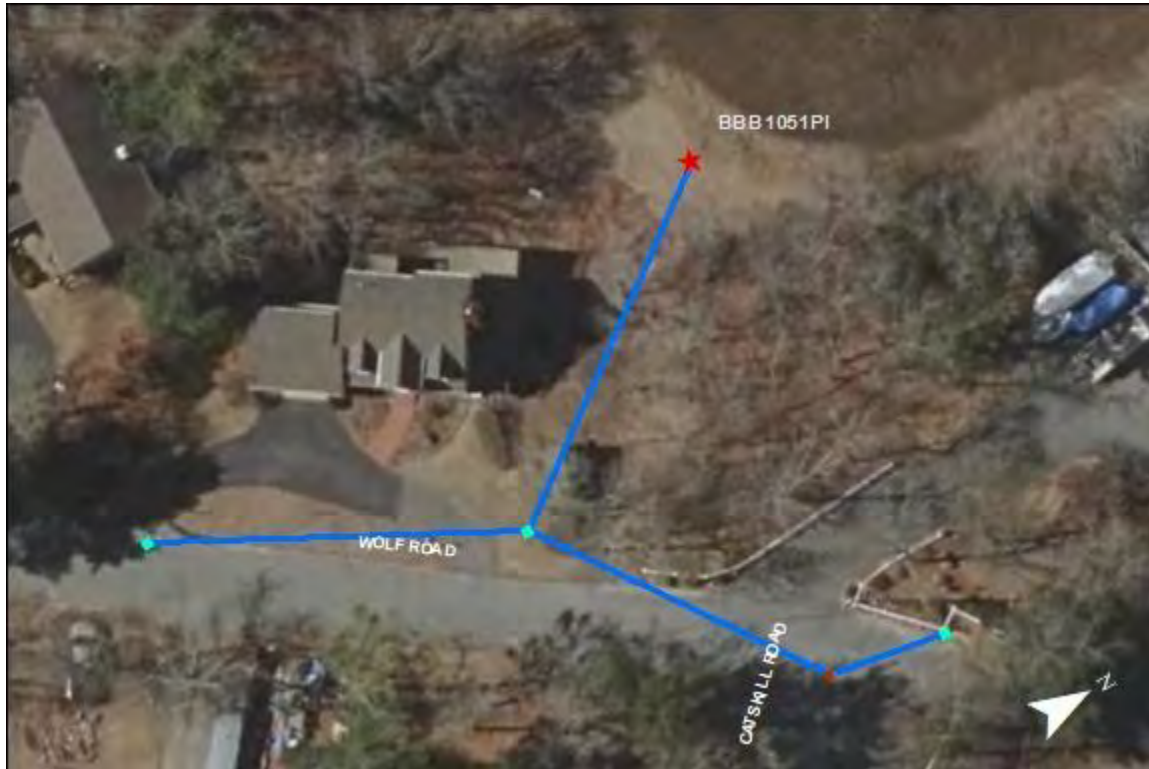
BBB1010PI- Gardenier Avenue: No issues found. This outfall is an overflow for an infiltration chamber under the parking area. The infiltration system appears to be clean and well maintained. There is a pipe entering the manhole at point A. Its origin is unknown. Further investigation is needed.



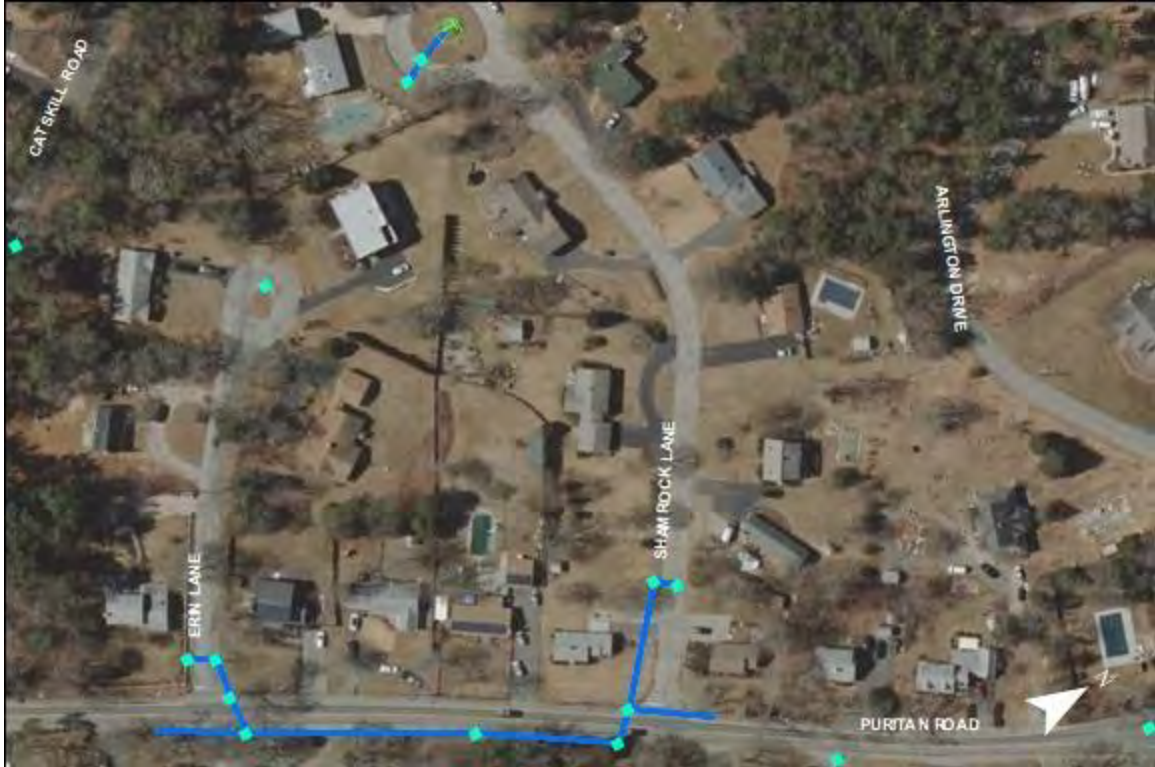
BBB1050PI- Catskill Road: No issues found. Former discharge pipe on Catskill Road blocked. Location of current discharge unknown. Further investigation needed. BBB1049PI- Puritan Road: No issues found.



BBB1011PI- Studio Drive: At point A, the catchbasin is paved over by driveway. No longer functioning. Evidence of basin on other side of the street not working correctly also. Large ditch adjacent to catchbasin acting as a road cut. Further attention is recommended. At point B there is a pipe leaving the catchbasin its destination is unknown. Further investigation needed.



BBB1051PI- Wolf Road: No Issues found.



Erin Lane and Shamrock Lane: No issues found. Outfall location unknown



BBB1017PI- Puritan Road: No issues found. There is a pipe leaving the catchbasin at point A. Its destination is unknown. There is also a pipe entering the manhole at point B. Its origins are unknown. Further investigation is needed for both.



BBB1021PI- Puritan Road: No Issues found. At point A pipe exits the catchbasin in a Northerly direction towards the bay. Destination of pipe unknown. Further investigation is required.



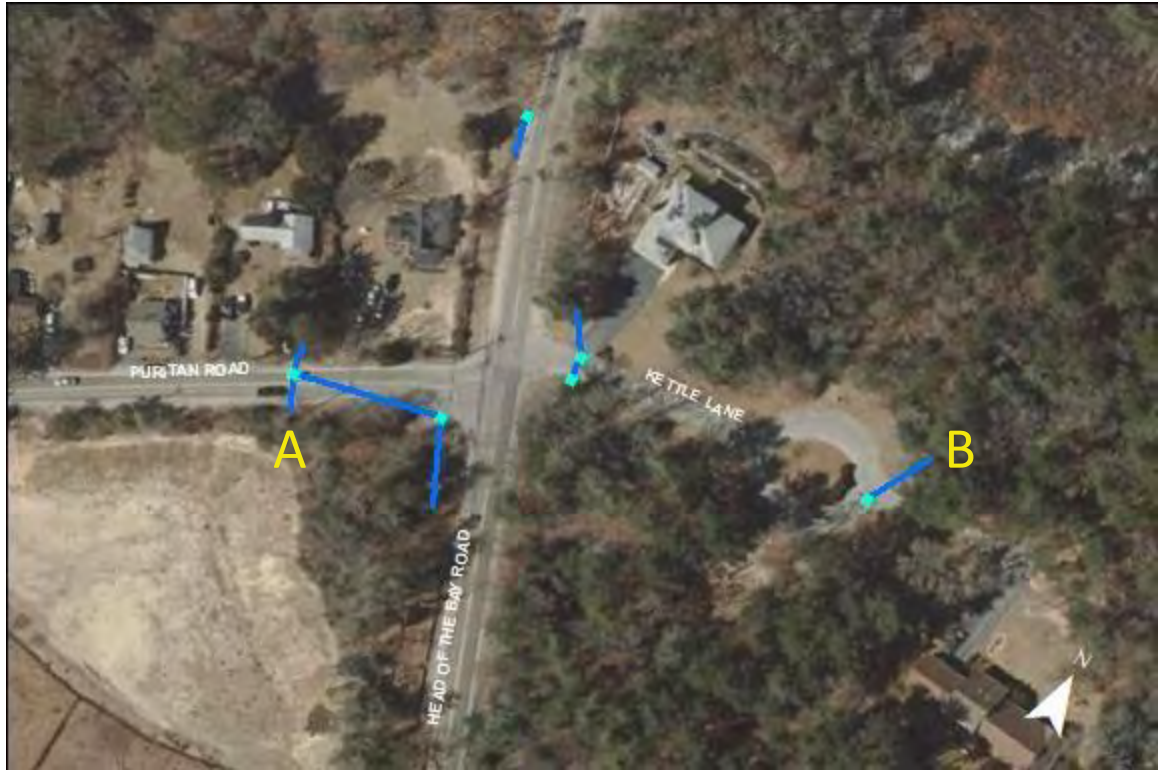
BBB1020PI- Cherry Street: No issues found. This outfall is an overflow for an infiltration chamber under the parking area. The infiltration system appears to be clean and well maintained.



BBB1022PI, and BBB1024PI- Maple Street: No Issues found.



BBB1031PI and BBB1030PI- Fabyan Way: No issues found. Not able to locate BBB1031PI. Further investigation needed. BBB1032PI and BBB1036PI: Little Bay Lane no issues found. BBB1026PI- Puritan Road: No issues found.



Puritan Road: At point A pipe exists the catchbasin in direction of the cranberry bogs. Kettle Lane: Pipe leaves catchbasin in direction of woods. Destination unknown. Pipe was clogged. Further investigation is needed. Police detail recommended for investigation of structures on Head of the Bay Road.



BBB1014PI- Oakley Avenue: No issues found. BBB1013PI- Pine Ridge Road: No issues found. At point A pipe enters catchbasin from direction of woods. Its orientation has not been identified. A pipe also exits the catchbasin, crossing over the street. It is suspected that there is a buried catchbasin there. Pipe was clogged. At point B pipe leaves catchbasin in direction of bay. It was never located. At point C pipe leaves catchbasin in direction of woods. A discharge is suspected. Further investigation is required.



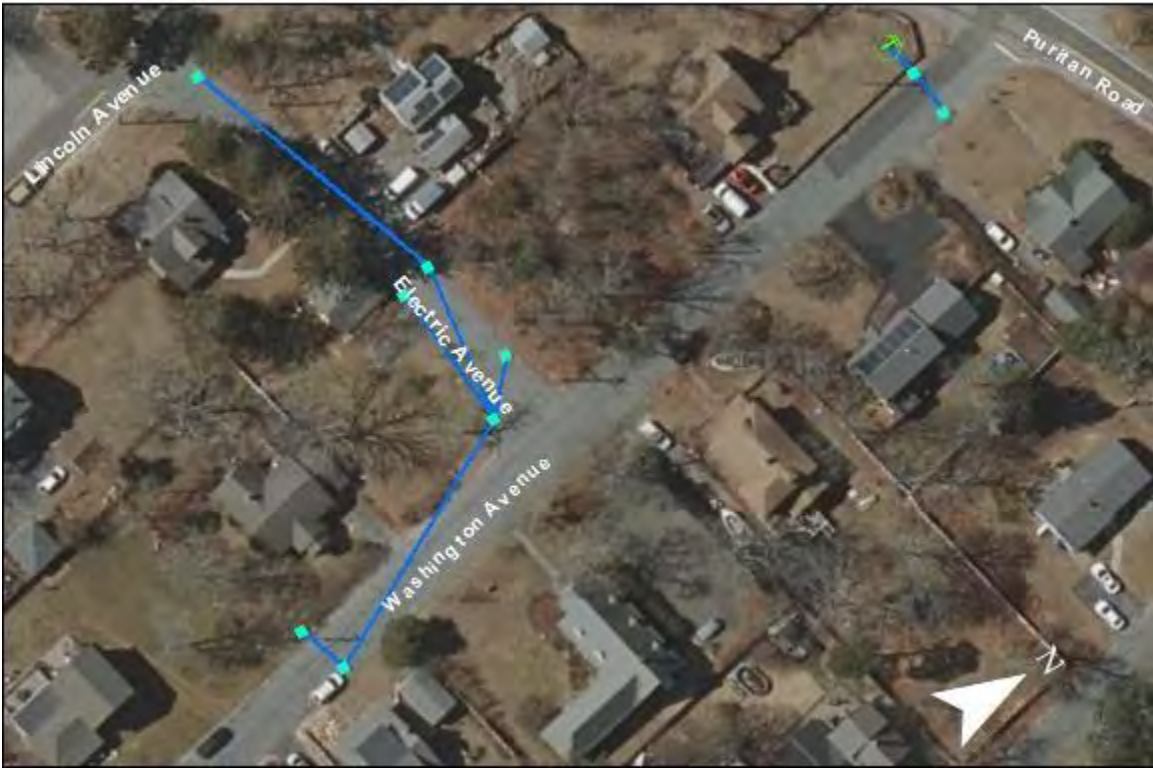
BBB1063PI- Colonial Road: No issues found. Significant flooding at outfall during rain events. At point A pipe leaves basin, the origin of the pipe is unknown. Further investigation is suggested.



Queens Bay Lane- No issues found. At point A pipe enters the manhole. Its origin is unknown. Further investigation is suggested.



BBB1008PI- Main Street: No issues found. At point A Bourne's stormwater system connects to Massachusetts state's stormwater system. Structures on the state road were not inspected. Outfall has been inventoried and tested when flowing.



Washington Avenue and Electric Avenue: No issues found.



Saint Margaret's Street, Tucey Avenue, and Armory Road: No issues found. At point A the Bourne's stormwater system connects to Massachusetts's stormwater system



Washington Avenue, Lafayette Avenue, and Buzzards Bay Avenue: No issues found. At point A, B, and C Bourne's stormwater system connects to Massachusetts state's stormwater system.



BBB1049PI- Puritan Road: No issues found. Buzzards Bay Avenue, Wilson Avenue, and Wallace Avenue: No issues found. At point A the Bourne's stormwater system connects to Massachusetts state's stormwater system. At point B the catchbasin is need of repair.



Saint Margaret’s Street, Alden Avenue, Tacy Avenue, and Amory Road: No issues found. At point A Bourne’s stormwater system connects to Massachusetts state’s stormwater system.



BBB1017PI- Puritan Road: No issues found. At point A pipe enters manhole from unknown origin. It's likely it is acting as an overflow for the treatment structures just up the road. Further investigation is suggested.



BBB1064PI and BBB1065PI- Blueberry Road: No issues found. At point A pipe leaves catch catchbasin, its origin is unknown. Further investigation is suggested.



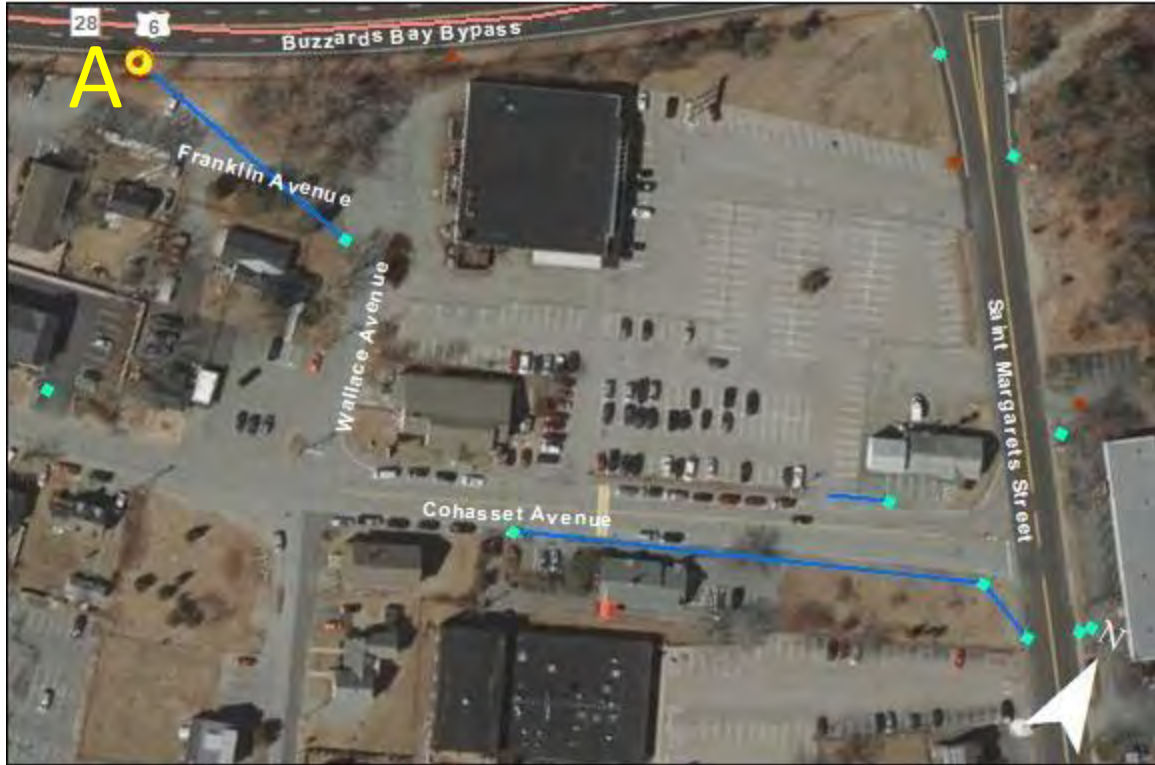
Cherry Street and Cranberry Road: No issues found. At points A and B, pipes were seen leaving the catchbasins, their origin is unknown. Further investigation is recommended.



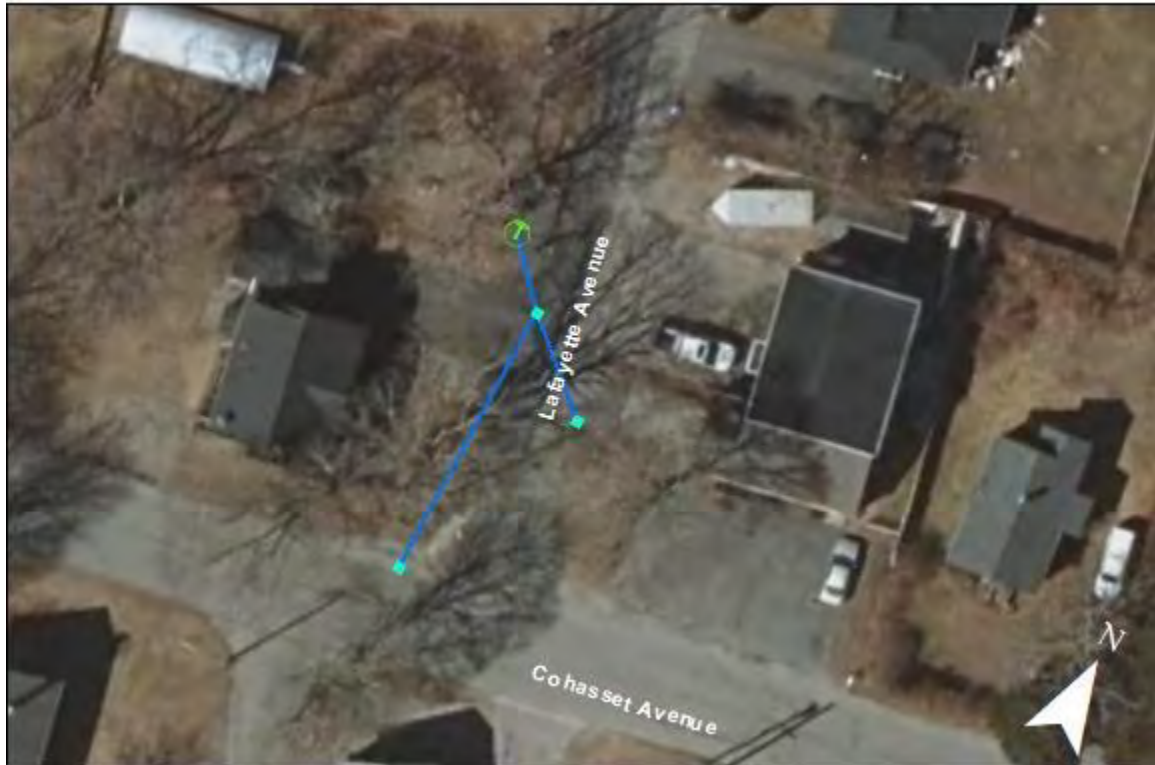
Canal View Road: No issues found. At point A, a pipe enters the catchbasin, its origin is unknown. Further investigation is recommended.



BBB1066PI- Holt Road and Main Street: No issues found. Catchment continues to collect stormwater from both directions of Main Street from the manhole at point A. Further investigation of this catchment is recommended. A police detail will be needed to complete.



Cohasset Avenue and Franklin Avenue: No issues found. At point A the Bourne’s stormwater system connects to Massachusetts state’s stormwater system.



Lafayette Avenue: No issues found.



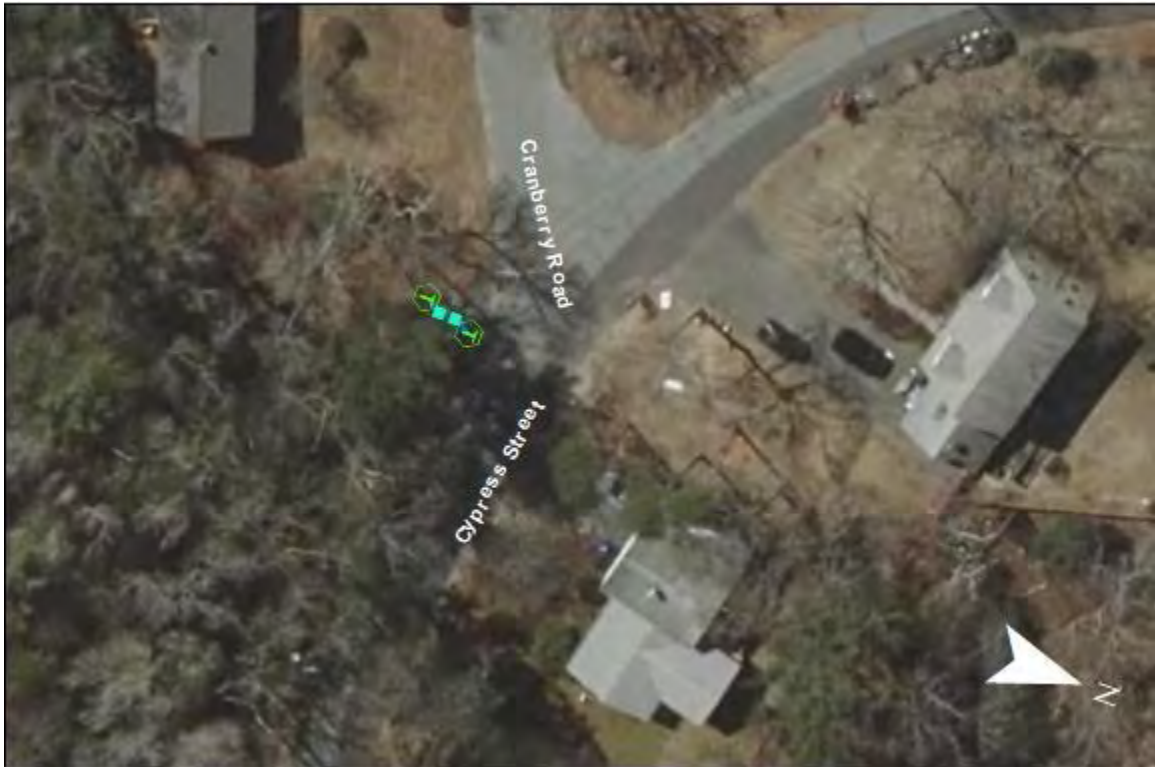
Parking lot between Cohasset Avenue and Main Street: No issues found.



Cranberry Road and Edith Avenue: No issues found. Both pipes travel toward large depression, neither of their destinations could be determined. Further investigation is suggested.



Maple Street: A pipe leaves catchbasin at point A. A pipe enters different catchbasin at point B. Further investigation is suggested to understand if and how these catchbasins connect.



Corner of Cranberry Road and Cypress Street: No issues found.



BBB1009RC and BBB1009RC- Maple Street and Birch Street: No issues found.



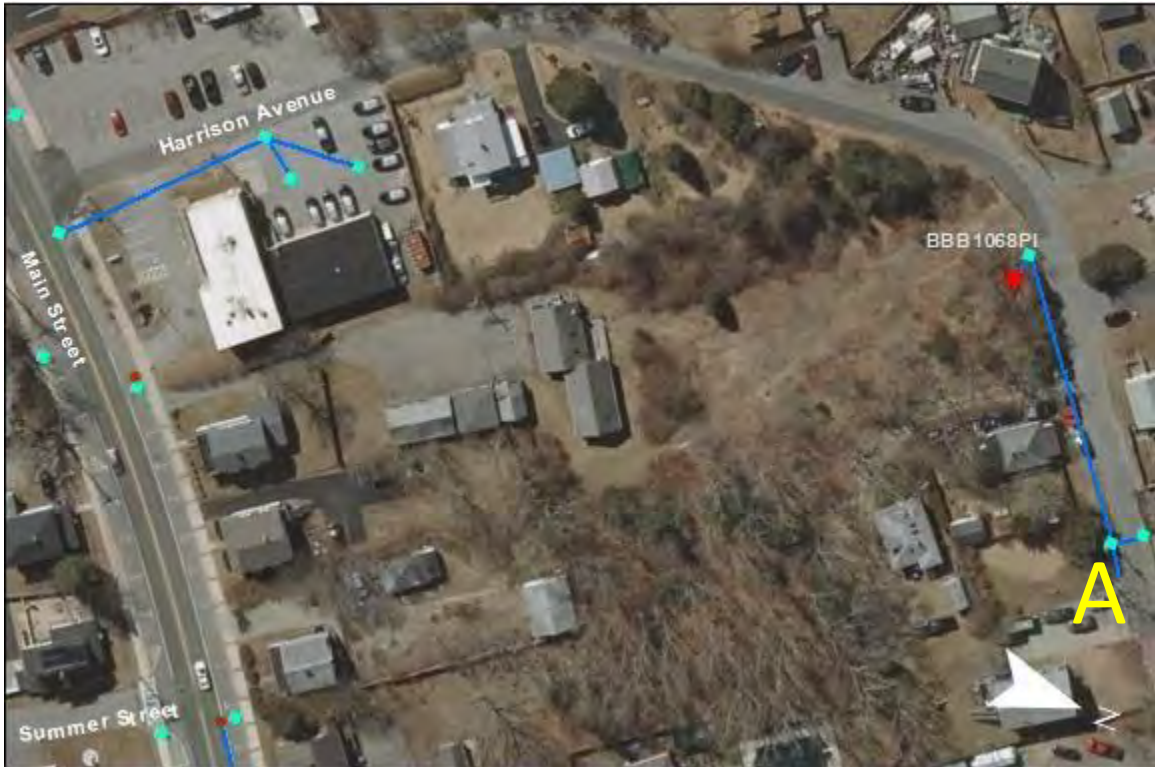
Speranza Lane: No significant issues found. Catchbasin at point A is slightly sunken and in need of repair. Street drainage connects to Main Street drainage. Police detail will be needed for all investigating done on Main Street.



BBB1018PI and BBB1067PI- Perry Avenue: No issues found.



Town Hall parking lot: Pipe at point A is collapsed. An outfall for this catchment has not been able to be identified. Further investigation is suggested.



BBB1068PI- Harrison Avenue: No issues found. Pipe Enter catchbasin at point A does not appear to have any present function. Further investigation is suggested to confirm this.



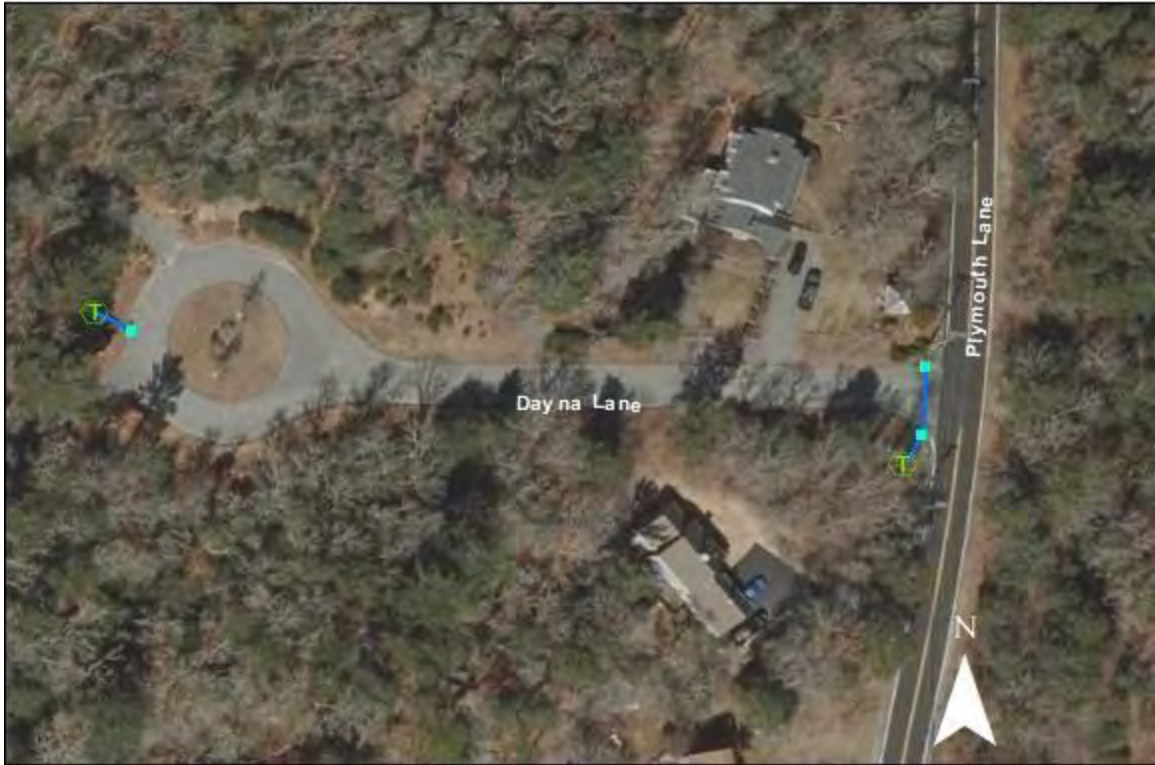
Harrison Avenue: No issues found. Pipe entering catchbasin at point A has unknown origin. Manhole cover adjacent was opened and supposed pipe was blocked off with concrete. Unclear where water goes. Further investigation is suggested.



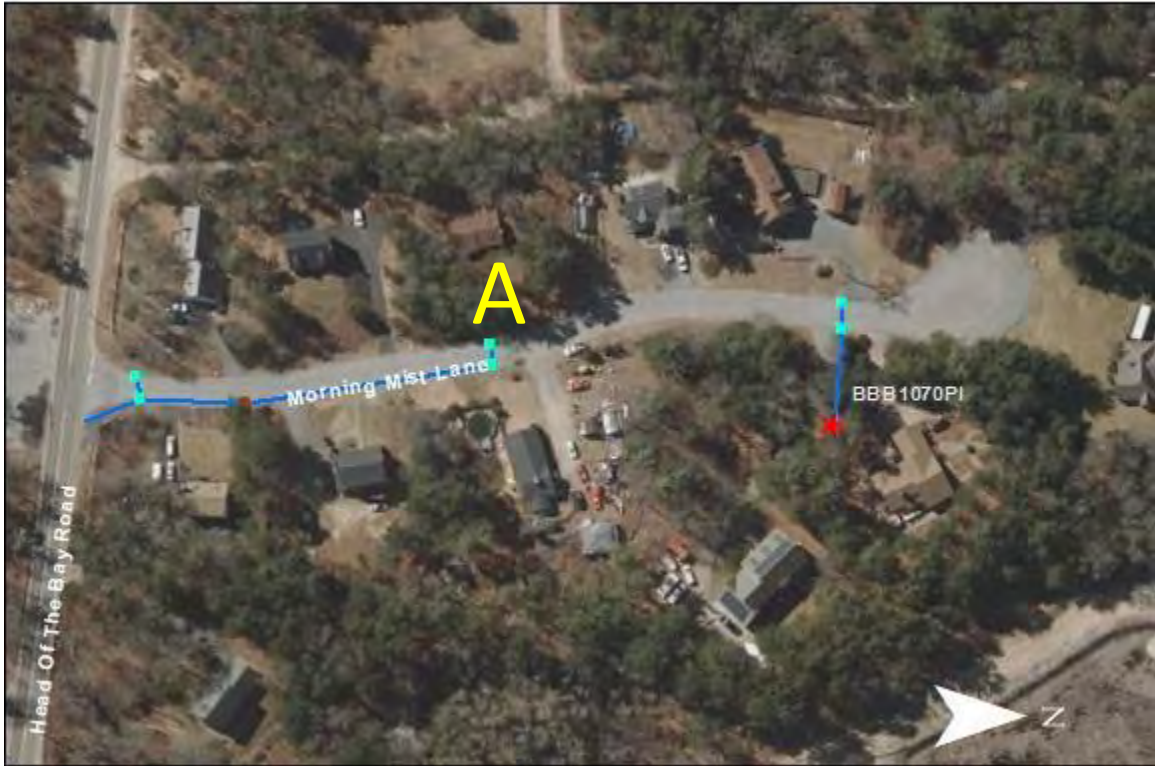
Smalley Road: No issues found.



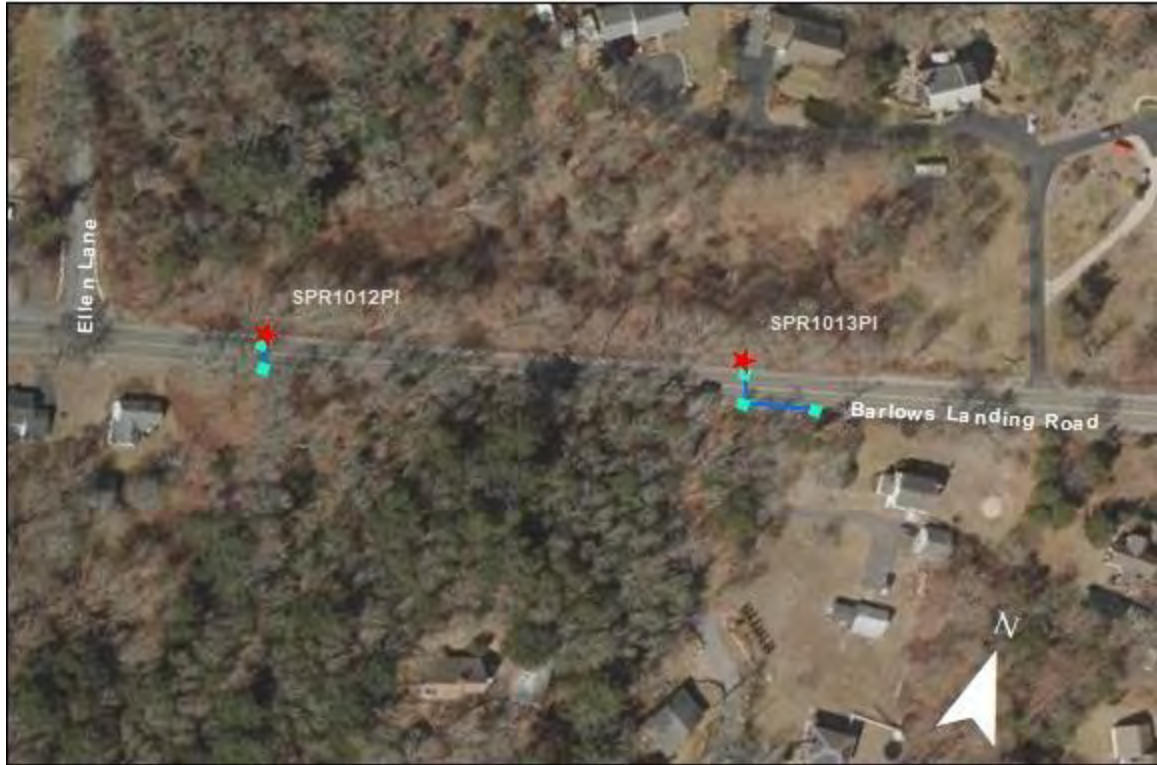
BBB1069PI- Wall Street: No issues found.



Dayna Lane: No issues found.



BBB1070PI- Morning Mist Lane: No significant issues found. The catchbasin at point A is slightly sunken and may need repair.



SPR1012PI and SPR1013PI- Barlows Landing Road: No issues found.



SPO1037PI and SPO1041PI- Red Brook Pond Road: No significant issues found. The catchbasins at point A and B are slightly sunken and may need repair. The catchbasins at point B are completely full of leaf debris. Unable to verify their connectivity to SPO1041PI. Further investigation is suggested.



SPO1004PI- Post Office Lane: No significant issues found. The catchbasin at point A is slightly sunken and may need to be repaired.



Old Cataumet Passage: No issues found.



SCN1000PI- Scraggy Neck Road: No issues found. Pipe at point A is blocked off and no longer functioning.



SMH1006PI- Oak Avenue: No issues found. Pipe is buried. Further investigation is suggested.



Intersection of Scraggy Neck Road and Ocean Avenue: No significant issues found. The catchbasin at point A is slightly sunken and may need to be repaired.



Club House Drive and Vesper Drive: No issues found.



Club House Drive: No issues found.



Club House Drive: No significant issues found. The catchbasin at point A is slightly sunken and may need repair.



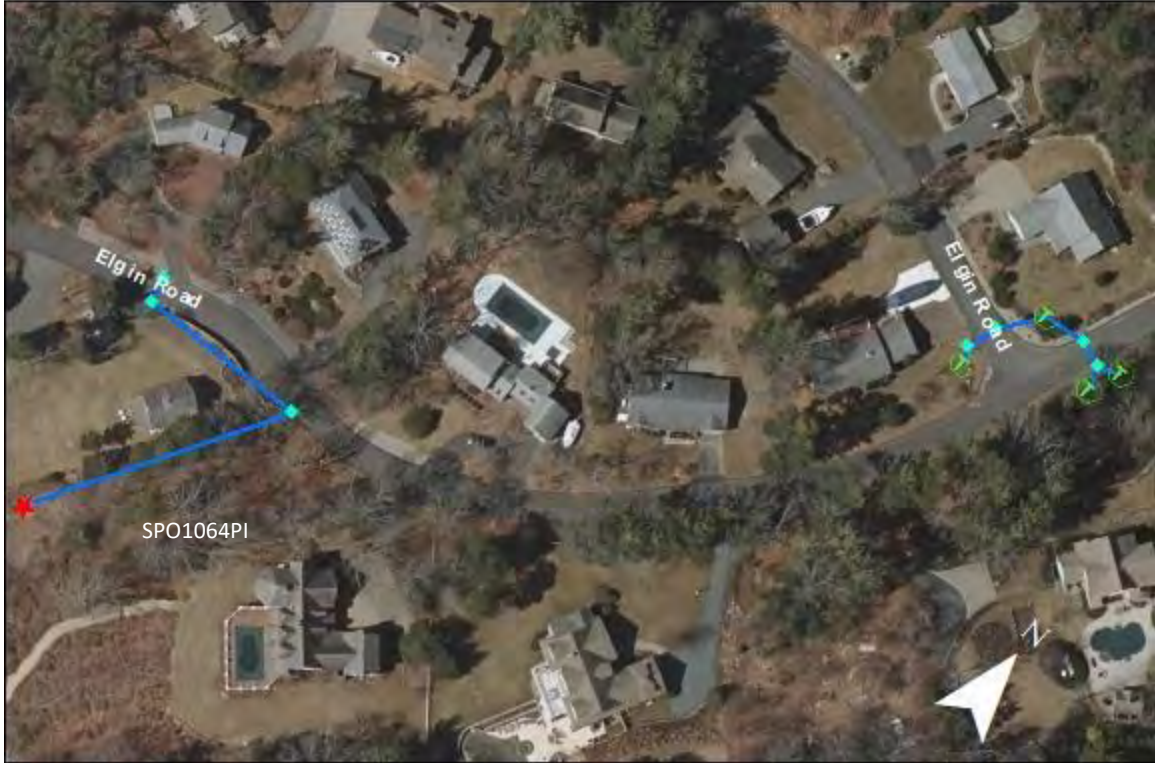
Elizabeth Road and Wing Road: No issues found.



SMH1000PI- Megansett Road: No issues found.



Windsong Circle: No issues found.



SPO1064PI- Elgin Road: No issues found. Outfall is buried but still functions.



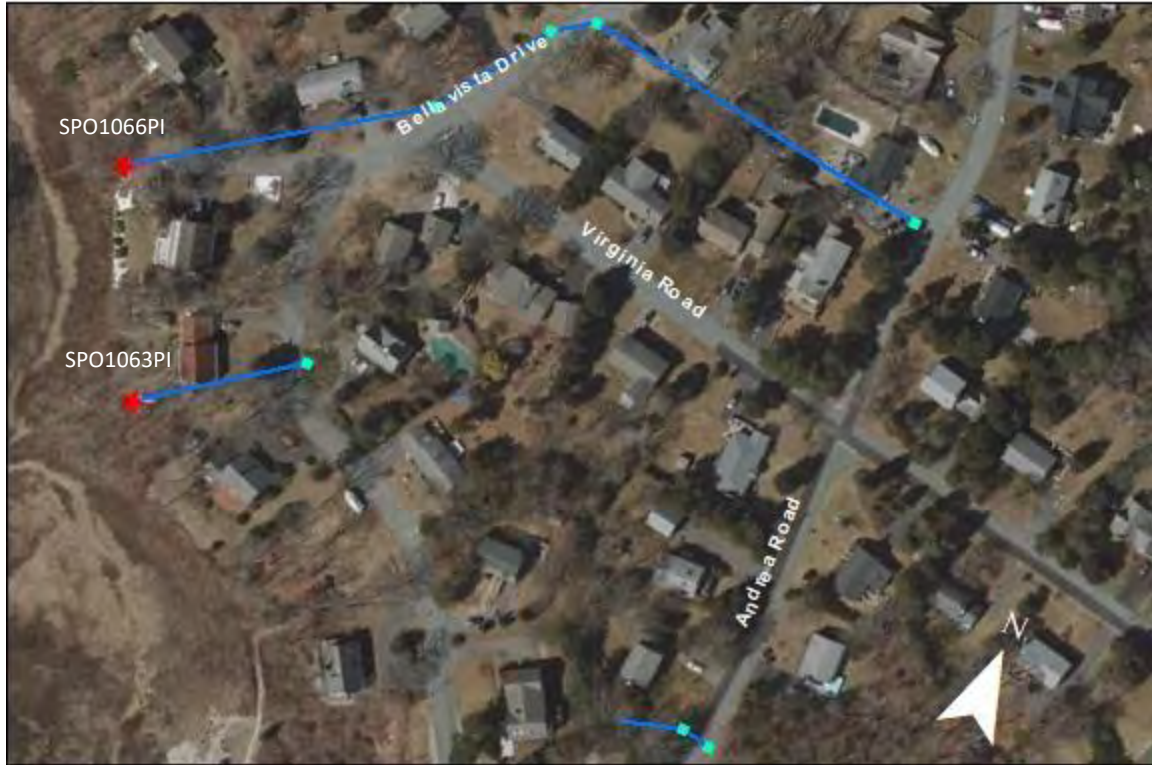
Elgin Road: No issues found.



SPO1007RC and SPO1065PI- Circuit Avenue: No issues found.



SPO1006PI, SPO1007PI, and SPO1008PI- Cedar Point Drive and Spruce Drive: Catchbasin at point A is collapsing and in need of repair.



SPO1063PI and SPO1066PI- Bellavista Road and Andrea Road: No issues found.



Squeteague Harbor Road: No issues found.



SMH1014PI and SMH1006RC- Scraggy Neck Road: No issues found.



SPO1010PI- Barlows landing Road: No significant issues found. Catchbasin at point A has begun to sink. Preventative maintenance is suggested.



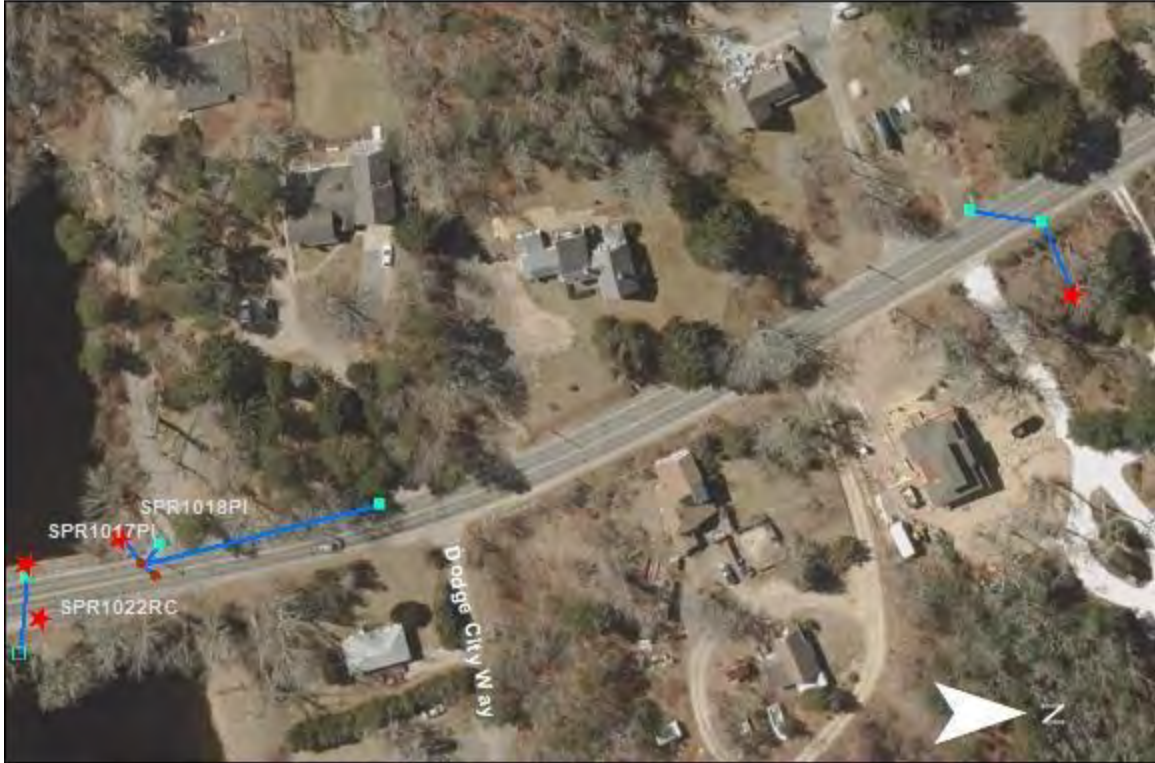
Barlows Landing Road: No significant issues found. Catchbasin at point A is slightly sunken. Preventative maintenance is suggested.



SPR1008PI- Barlows Landing Road: Discharge is slow to drain, may be slightly obstructed. Significant flooding in multiple areas during wet weather.



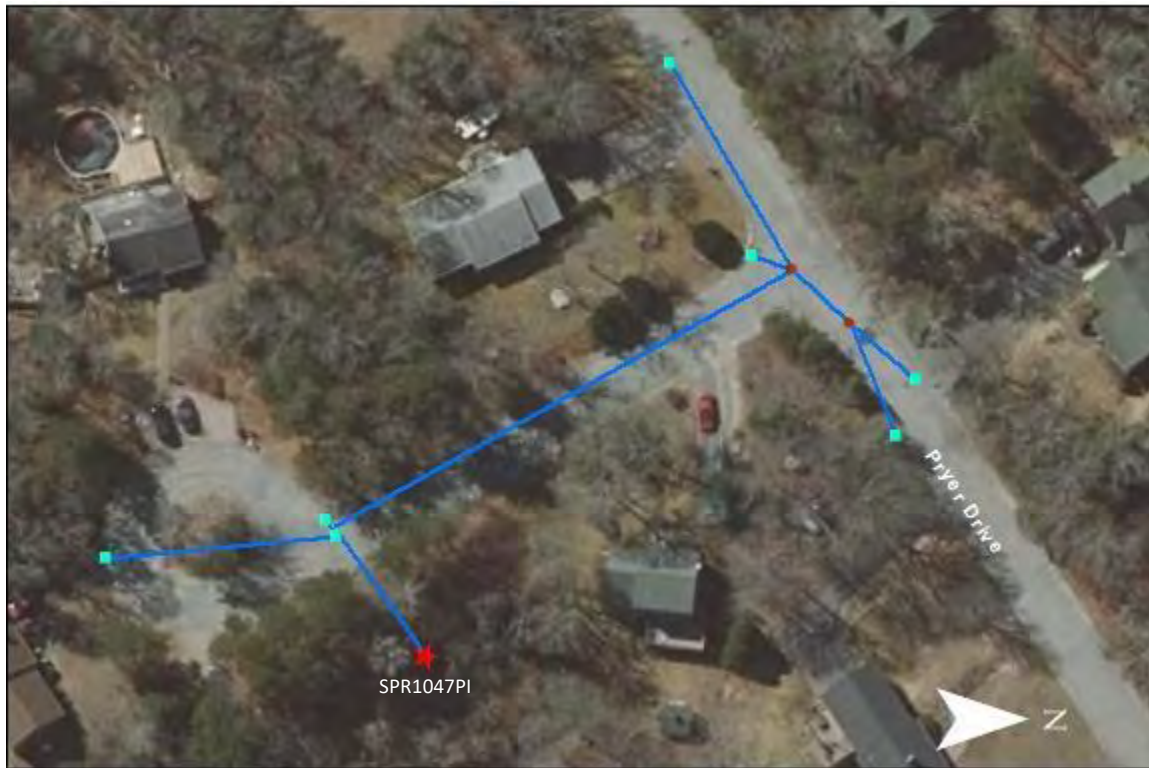
SPR1004PI and SPR1004PI- Barlows Landing Road: No issues found. Catchments not yet completed. Further investigation is recommended.



SPR1017PI, SPR1018PI, SPR1022RC, and SPR1045PI- Barlows Landing Road: No issues found.



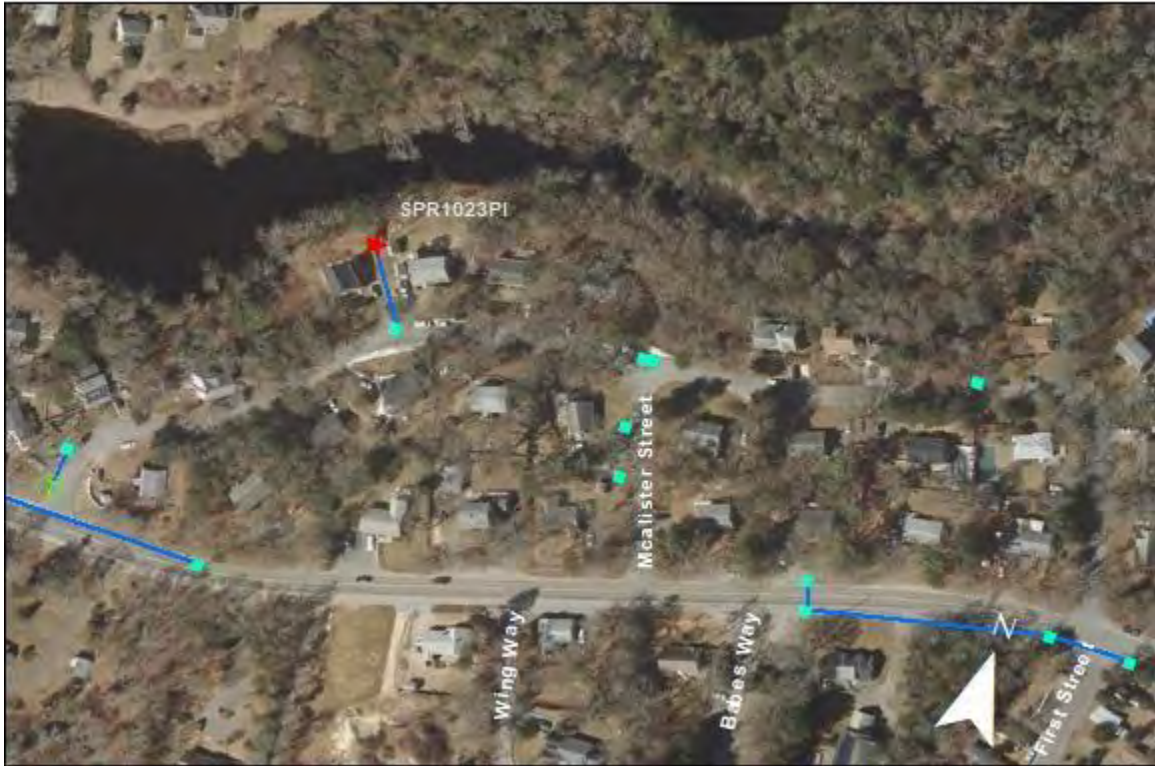
SPR1019PI- County Road: A manhole at point A had large piles of animal waste inside of it. At points B and C there are pipes leaving or entering the structures with no obvious origin. Pipes were clogged and difficult to inspect. Further investigation is suggested.



SPR1047PI- Pryer Drive: No issues found.



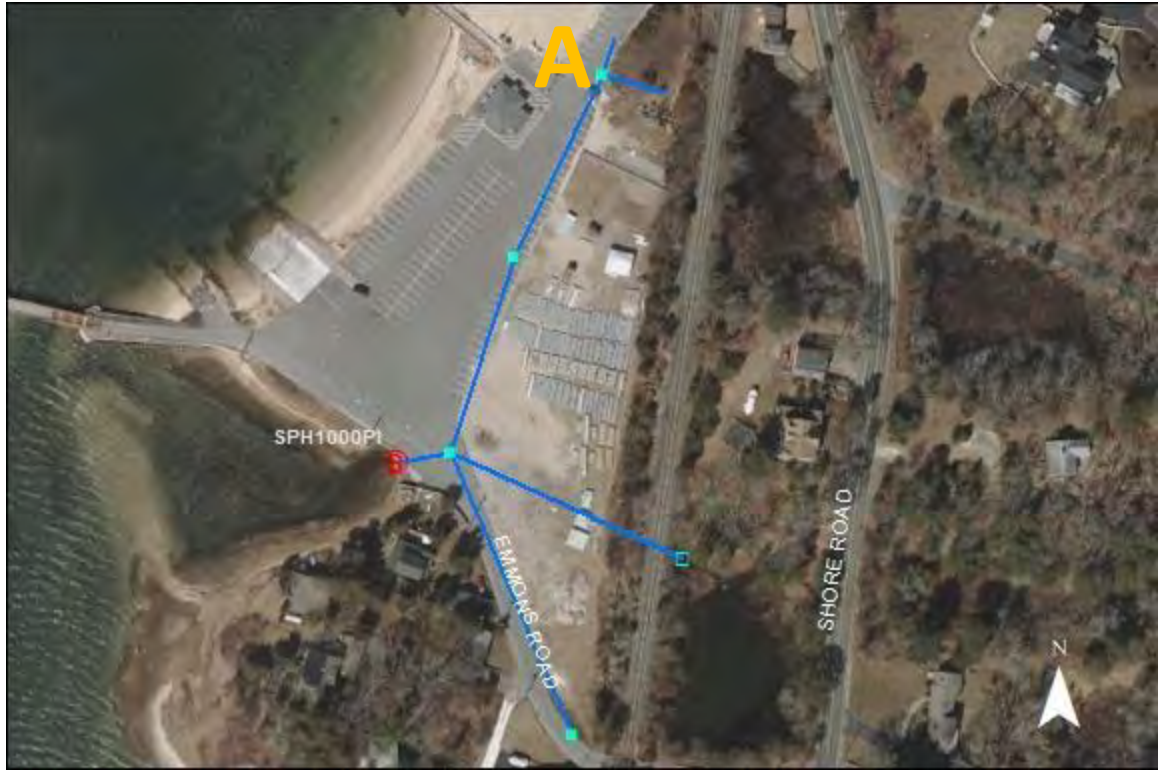
SPR1046PI- Pryer Drive: No issues found.



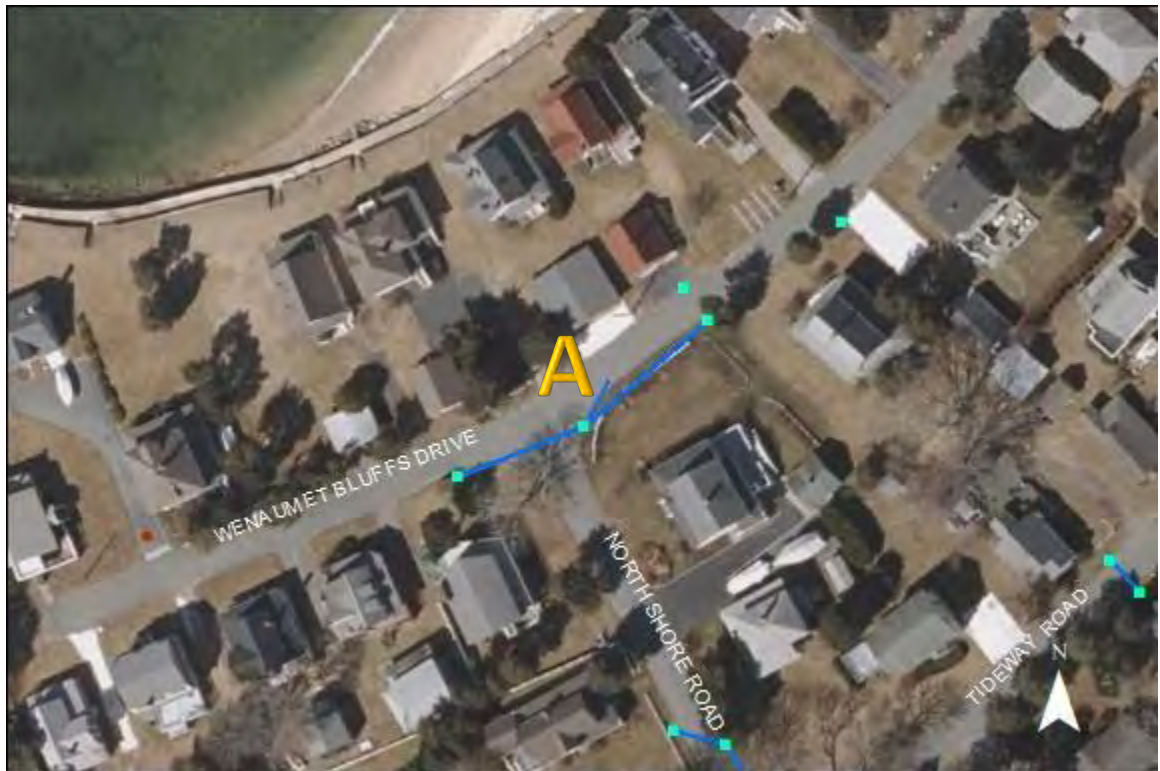
SPR1023PI- Observatory Lane: No issues found.



SPH1040PI- Shore Road, Beach Street, and Monument Avenue: No significant issues found. SPH1040PI is no longer in use. The outfall pipe was cemented off at the catchbasin. At point A and B, a 15" HDPE pipe enters the catchbasin/manhole. Their origins are unknown. Further investigation is recommended. Catchbasin at Rock Street and Beach Street is full of sand. Residents informed us that it is constantly flooding during rain events. Further maintenance is recommended.



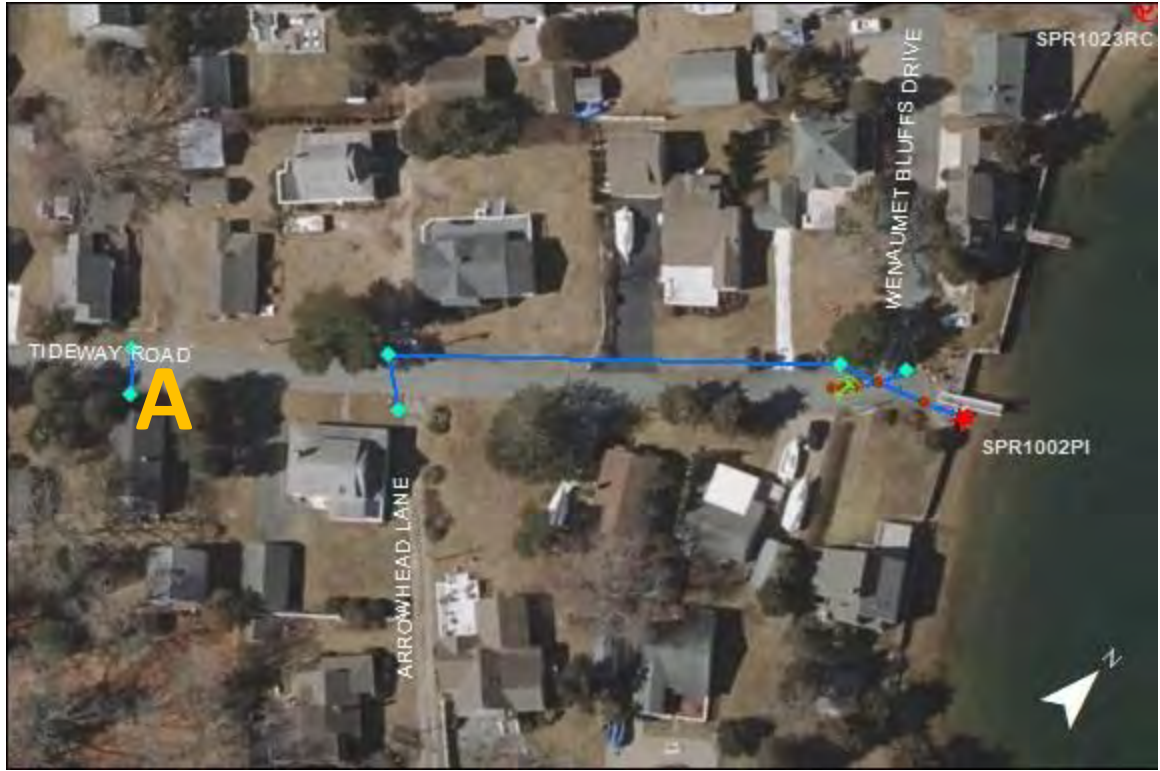
SPH1000PI- Emmons Road and Monument Beach: No significant issues found. At point A, a 15" concrete pipe enters the catchbasin its origin is unknown. Further investigation is recommended.



Wenaumet Bluffs Drive- No significant issues. At point A an 8" concrete pipe enters the catchbasin. Its origin is unknown. Further investigation is suggested.



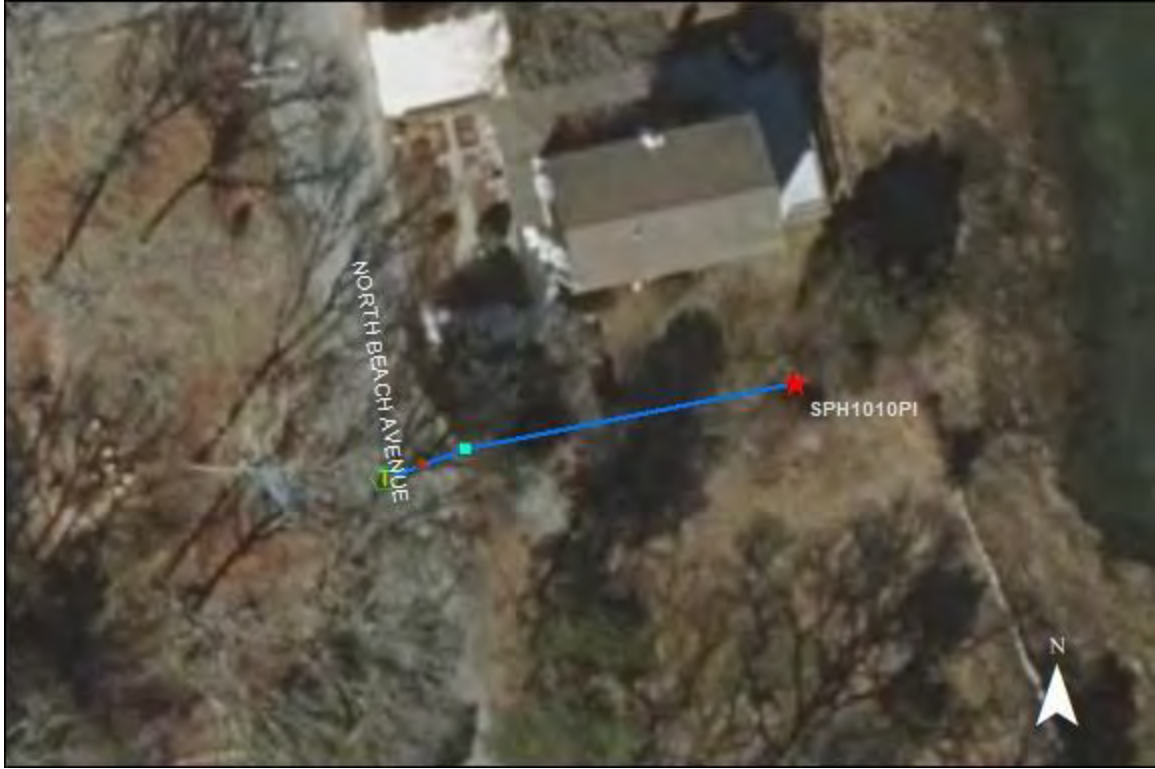
SPH1012PI- North Beach Avenue: At point A the manhole is in need of repair. Further maintenance is recommended.



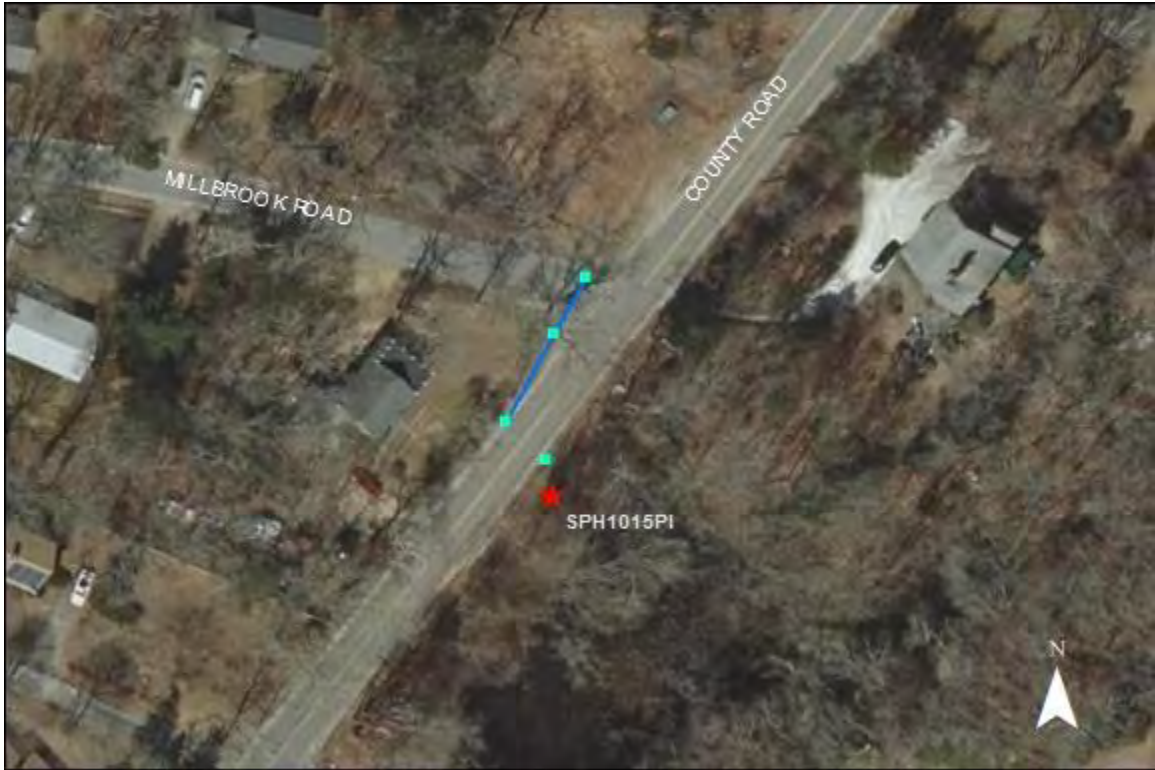
SPR1002PI- Tideway Road: At point A the catchbasin has begun to sink. Further maintenance is recommended.



SPH1007PI- Brooks Road: No issues found.



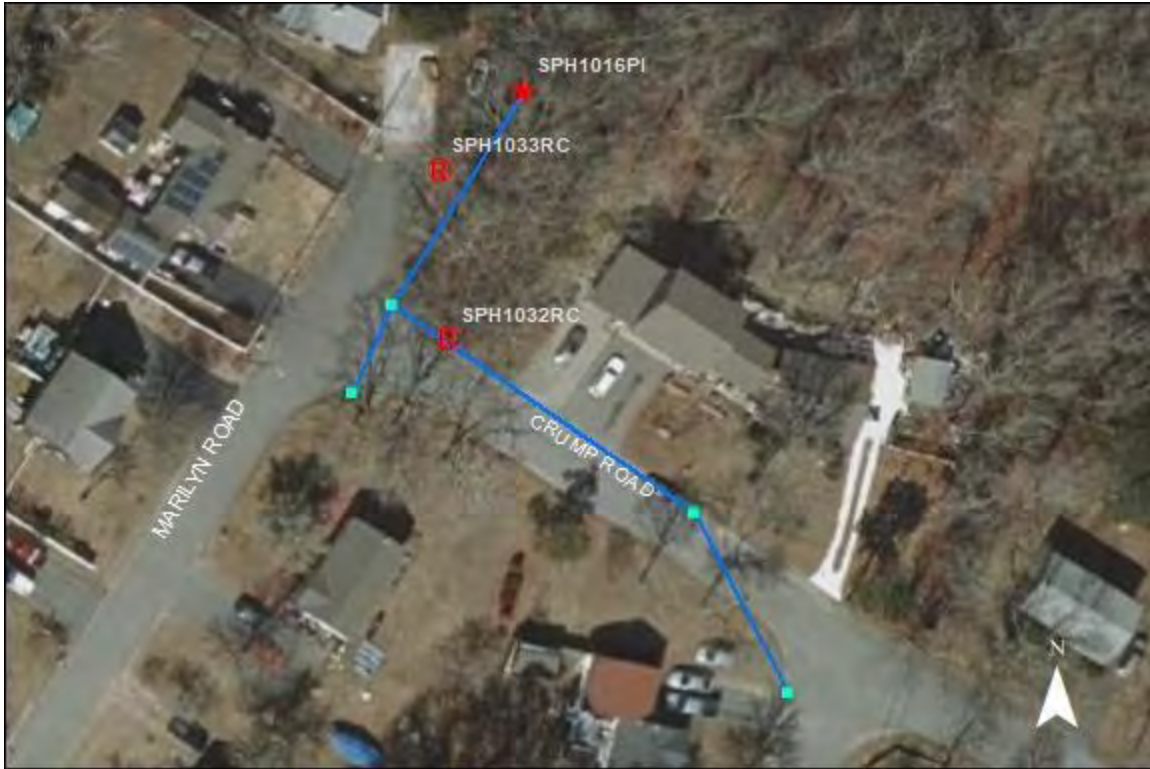
SPH1010PI- North Beach Avenue: No issues found.



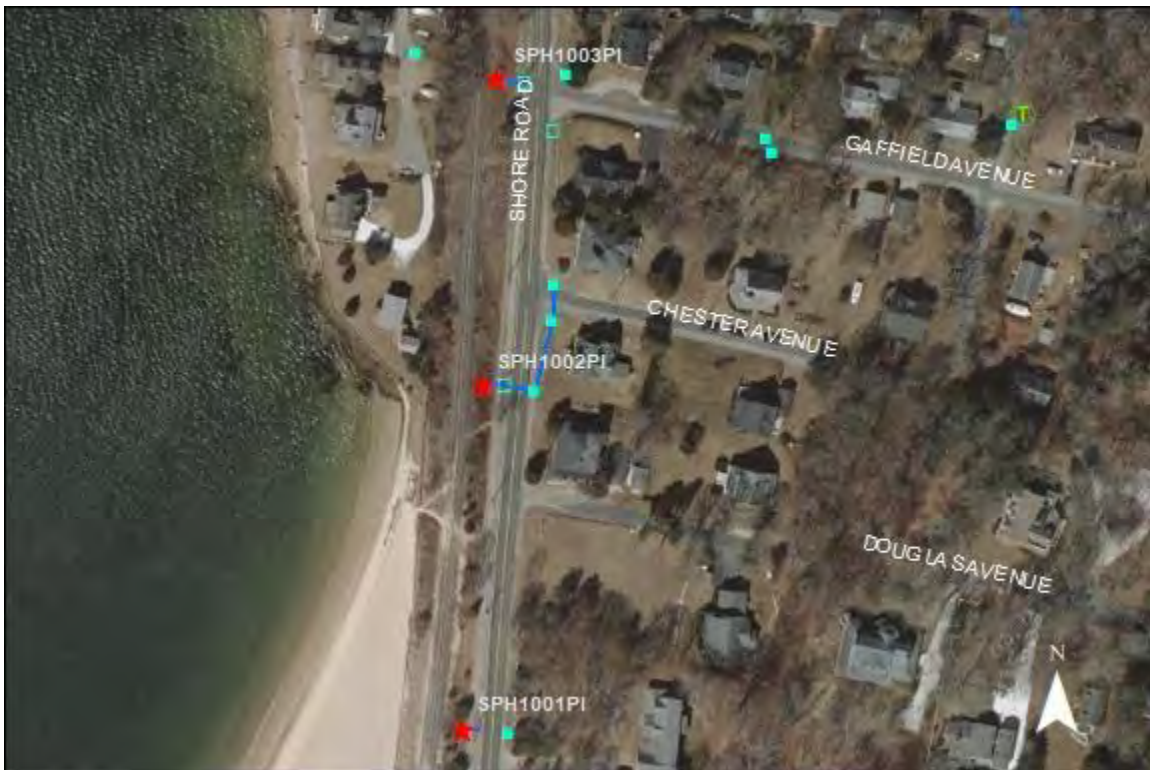
SPH1015PI- Millbrook Road: No significant issues found. Catchbasins were full of sand and need additional maintenance. In order to complete the catchment investigation a police detail is necessary for County Road.



SPH1041PI- Eel Pond Road: No issues found.



SPH1016PI, SPH1033RC, SPH1032RC- Marilyn Road and Crump Road: No issues found.



SPH1003PI, SPH1002PI, and SPH1001PI- Shore Road: No issues found.



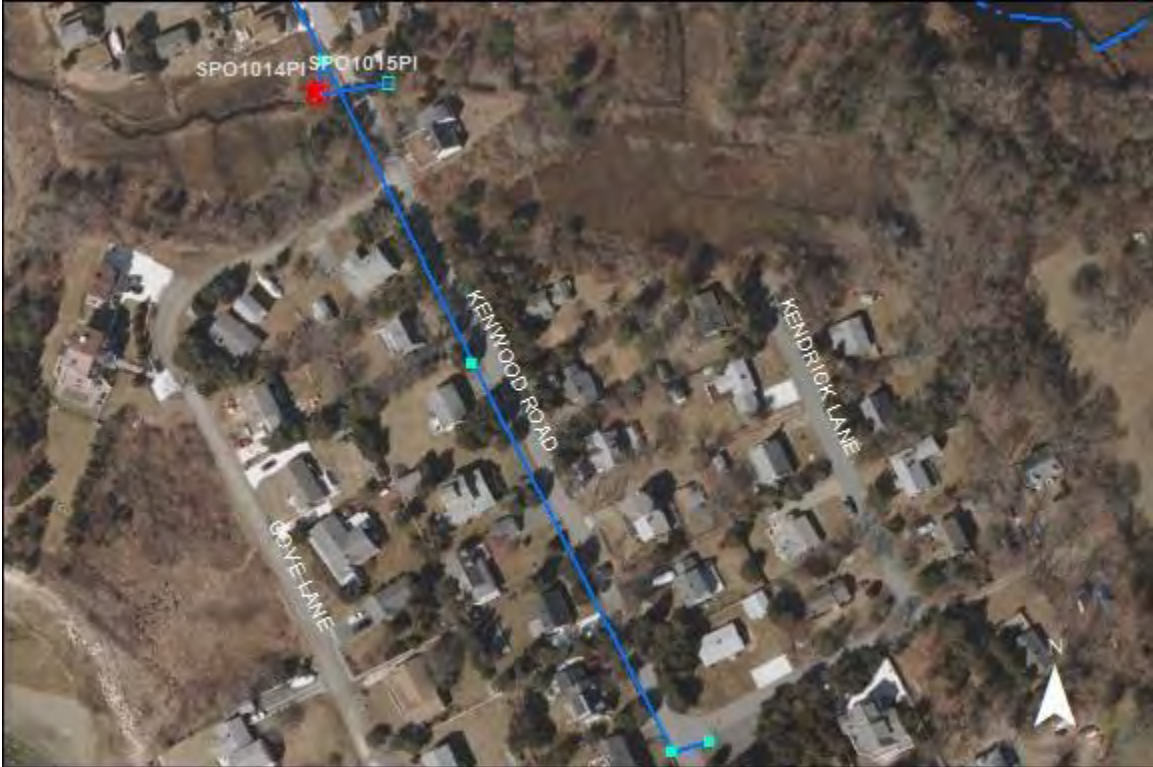
Wyman Avenue, Huntington Avenue, and Gaffield Avenue: No issues found. Catchment drains into underground infiltration chambers.



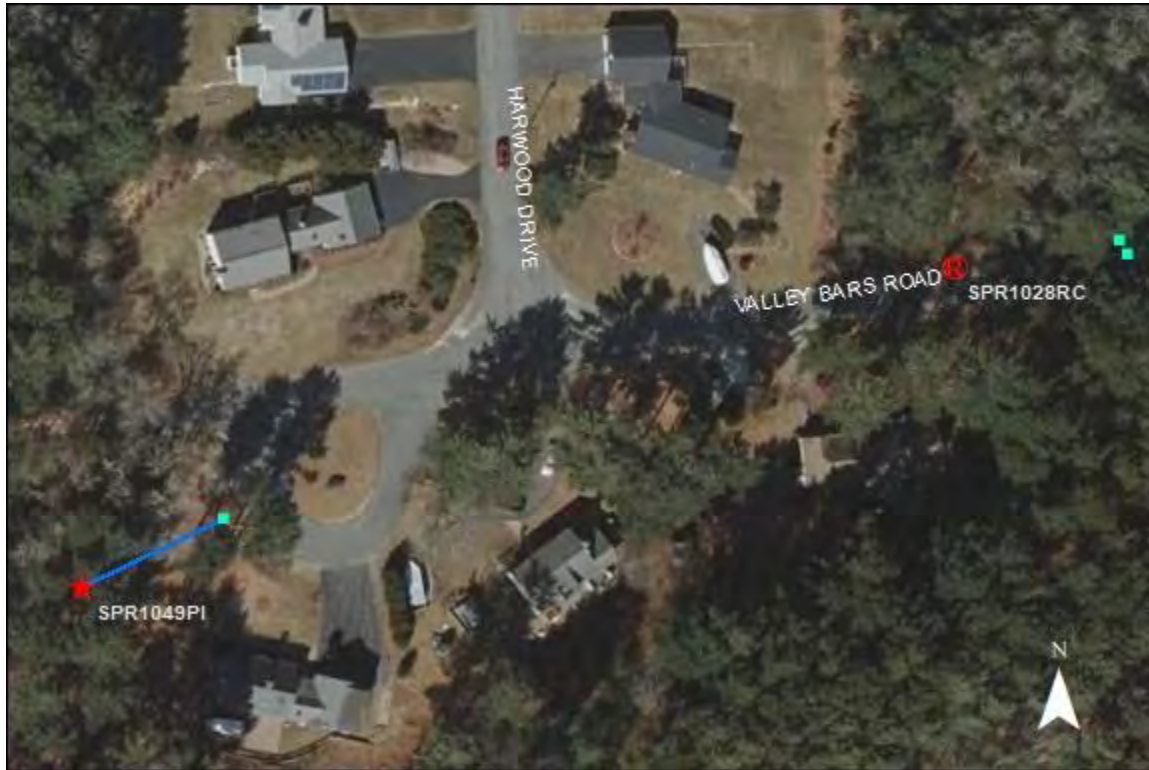
SPR1010PI and SPR1002RC- Shore Road and Bennets Neck Drive: No issues found. Need to revisit to complete catchment investigation. Police detail needed for structures on Shore Road.



SPR1015PI- Bennets Neck Drive: No issues found.



SPO1014PI and SPO1015PI- Kenwood Road: No issues found. The catchbasins directly connected with the outfalls are affected by tide. The IDDE team will revisit at low tide to complete catchment investigation.



SPR1049PI- Valley Bars Road: No issues found.



SPR1050PI- Harwood Drive: No significant issues found. At point A and B, two pipes enter the catchbasin. Their origins are unknown. Further investigation is recommended.



SPH1013PI- Eel Pond Road, Brooks Road, Carlton Road: No significant issues found. At points A and B, a pipe enters the manhole and catchbasin. Their origins are unknown. Further investigation is recommended.



SPO1024PI- Wings Neck Road: Catchbasin at point A has sunken drastically. Maintenance to catchbasin is strongly recommended. Catchbasin at point B has a lot of sediment in it. During rain events it acts more like a roadcut. Maintenance to basin is recommended. Catchbasin at point C is also collapsing. Maintenance to catchbasin is strongly recommended. At point D a pipe enters the Catchbasin. Its origin is unknown. Further investigation is recommended.



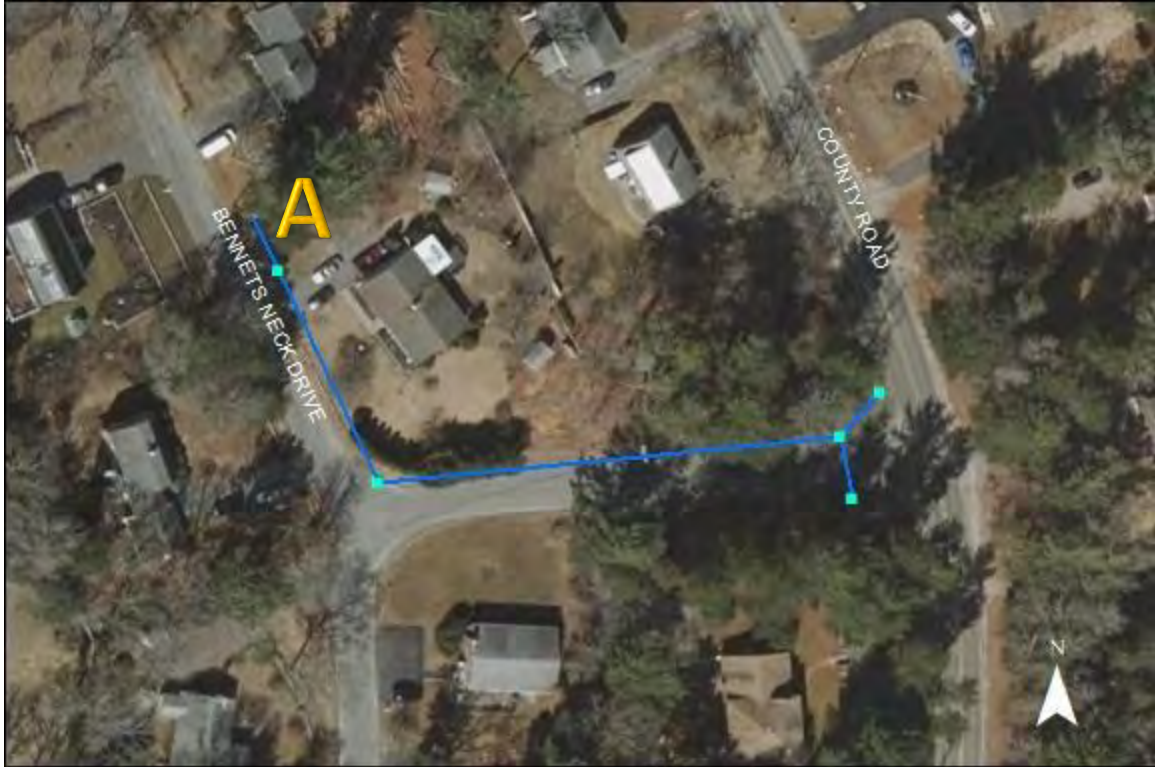
SPH1045PI- Carlton Road: No issues found.



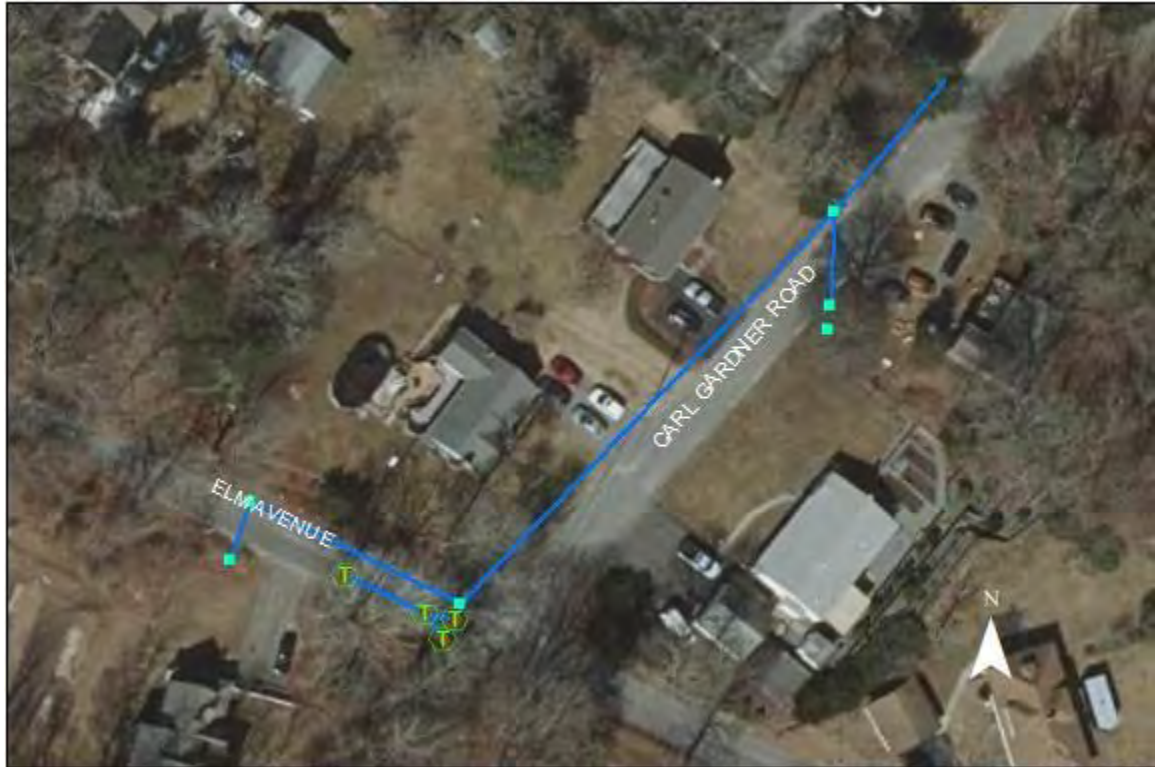
SPR1051PI and SPR1052PI- Mill Wheel Lane: No issues found.



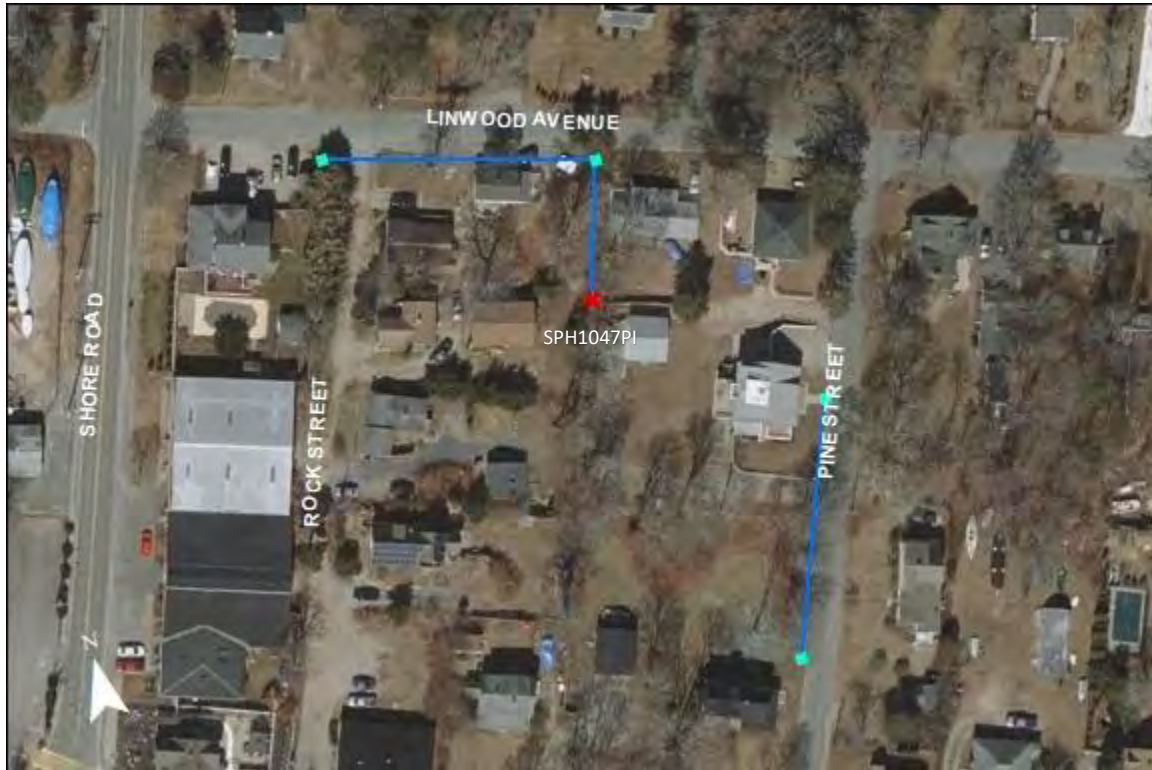
Carl Gardner Road: No significant issues found. Pipe enters catchbasin at point A. Its origin is unknown. Catchment investigation is not complete.



Bennets Neck Drive: No issues found. Need a police detail to complete the catchment investigation onto County Road. Origin of pipe entering catchbasin at point A is unknown. Further investigation is suggested.



Carl Gardener Road: No issues found.



SPH1047PI- Linwood Avenue and Pine Street: No Issues found.



SPR1038PI and SPR1042PI- Schooner Lane and Portside Drive: No issues found.



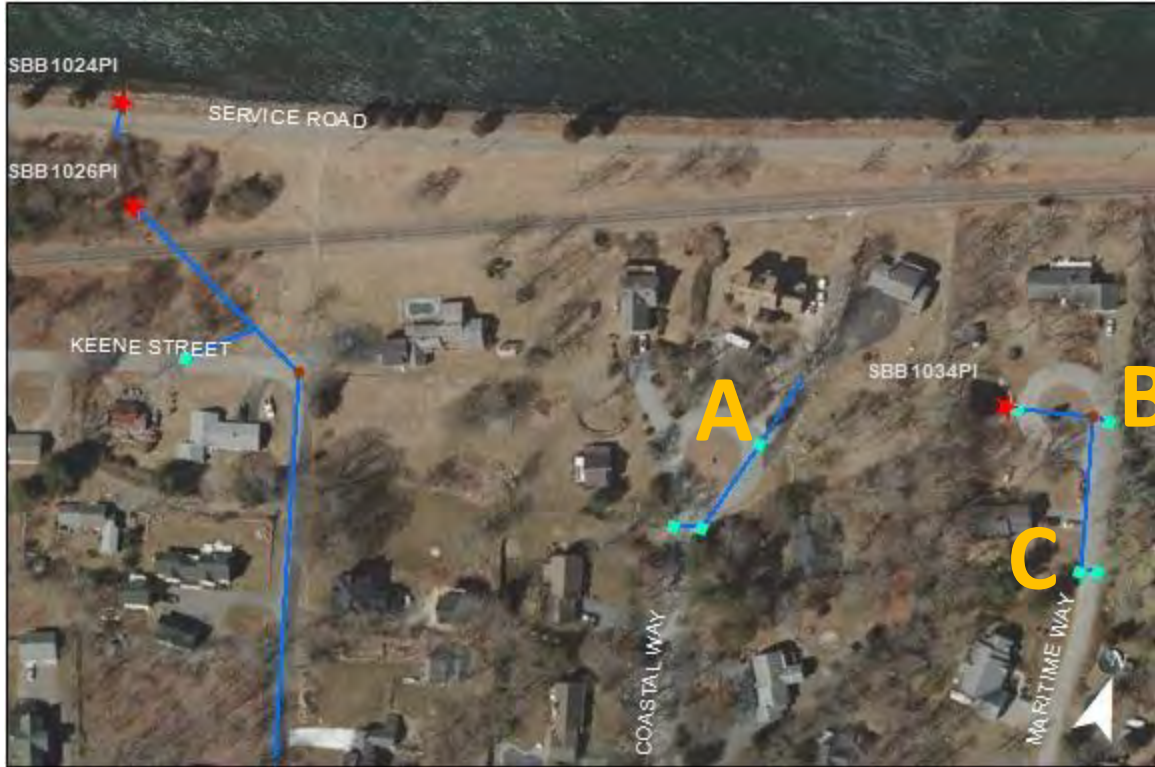
SPO1067PI, SPO1068PI, SPO1022PI and SPO1029PI- Depot Road: No issues found.



Partridge Lane: Pipes are extremely clogged. Not sure if pipe leads to an infiltration chamber or outfall. Area floods during rain events. Maintenance is strongly recommended.



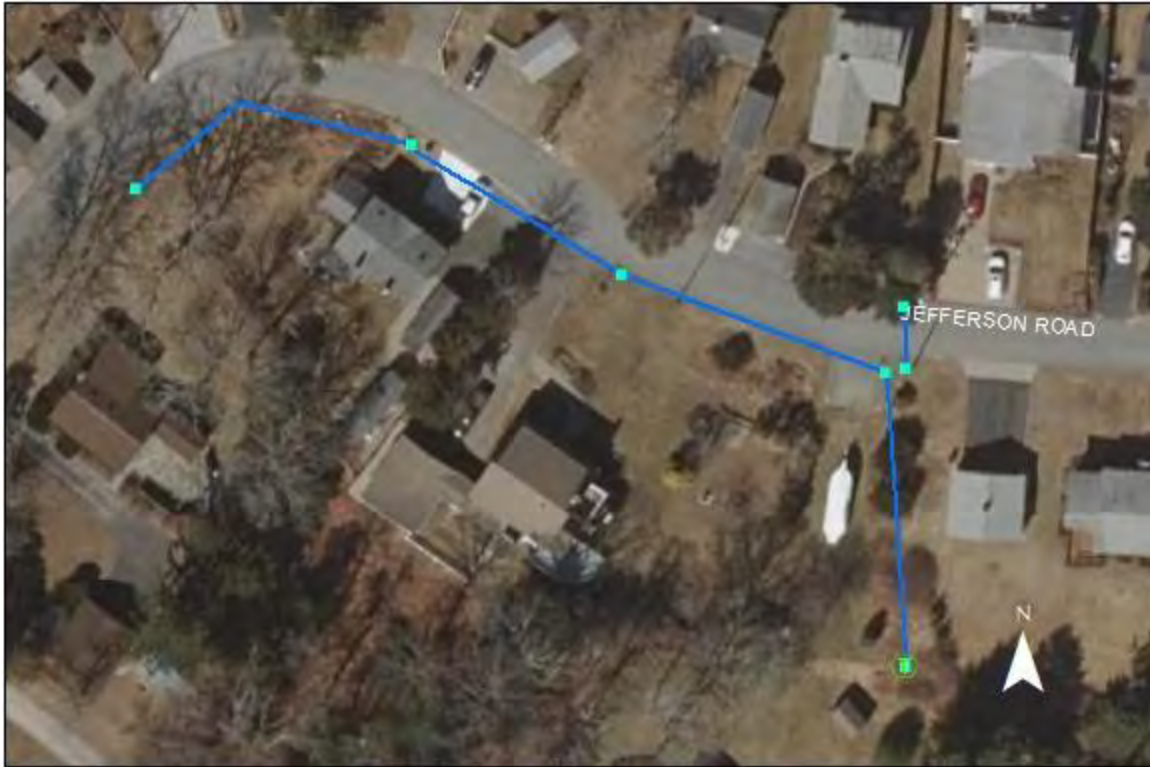
SBB1037PI- Winslow Street, Freeman Street, Farnum Road, and Emerson Avenue: No issues found. Unable to lift catchbasin at point A.



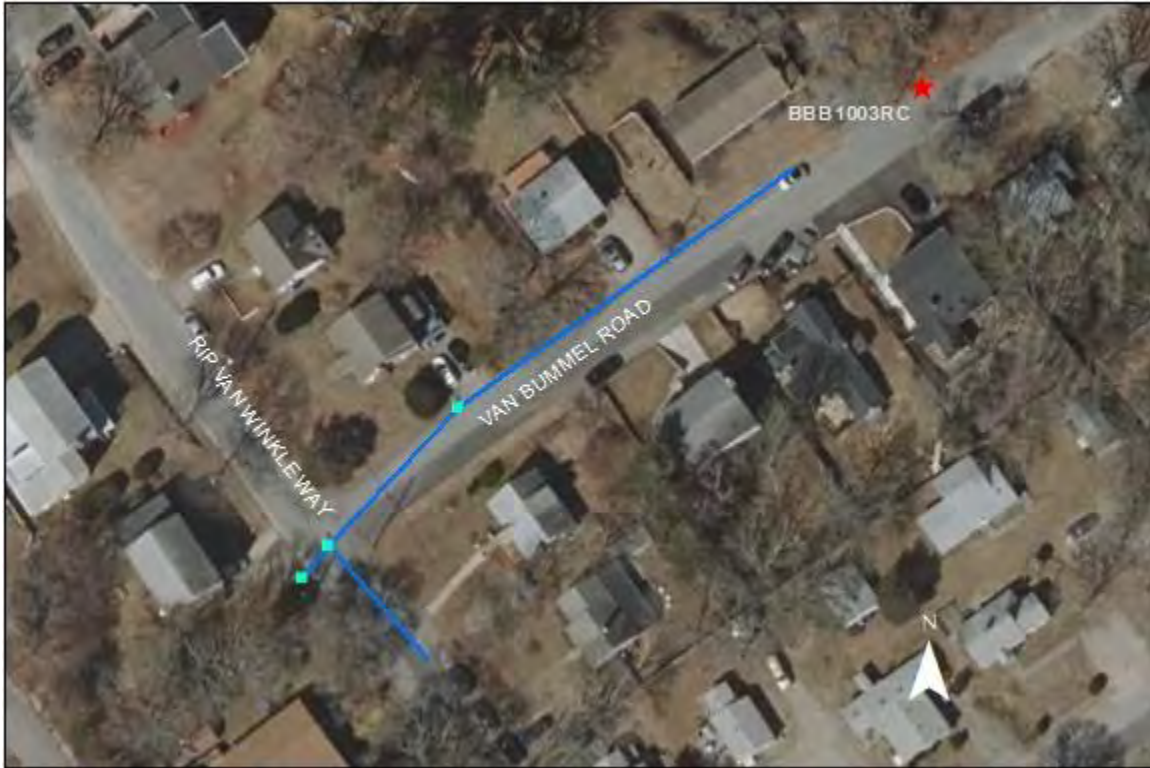
SBB1024PI, SBB1026PI, and SBB1034PI- Keene Street, Coastal Way, and Maritime Way: Catchbasins at points A, B, and C are sinking. Further maintenance is recommended.



Vesper Drive and Fairway Circle: Catchbasin at point A is sinking. Further maintenance is recommended.



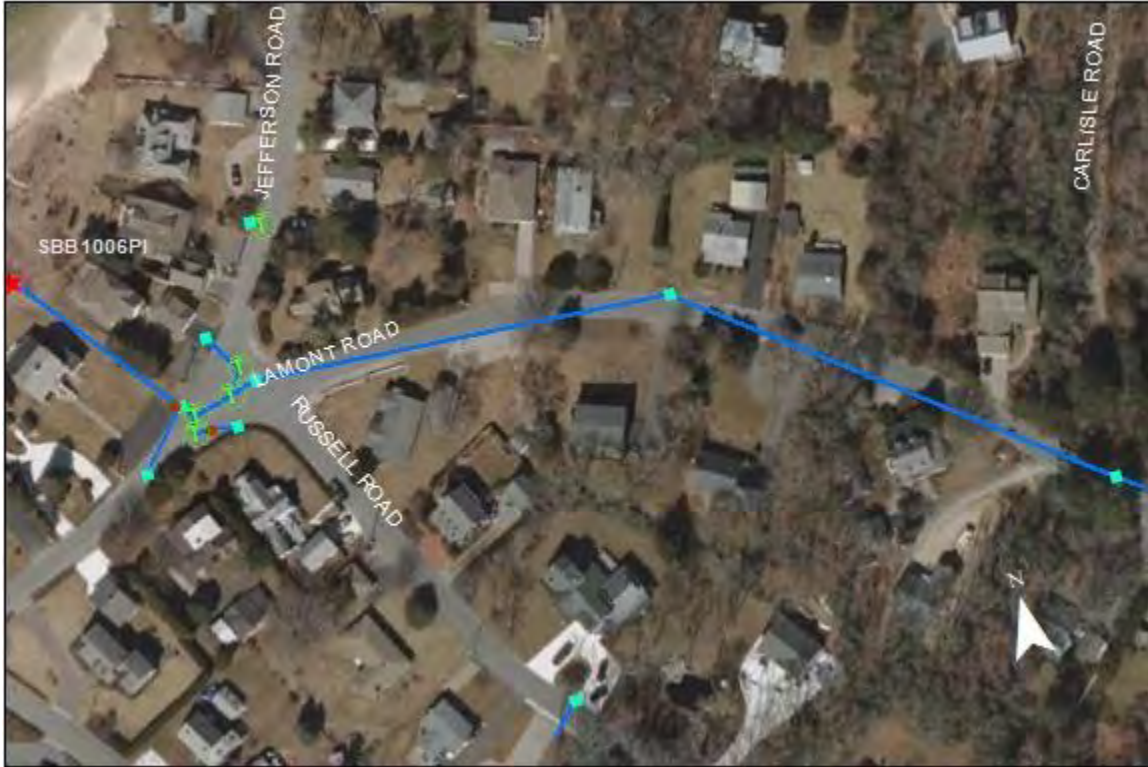
Jefferson Road: No issues found.



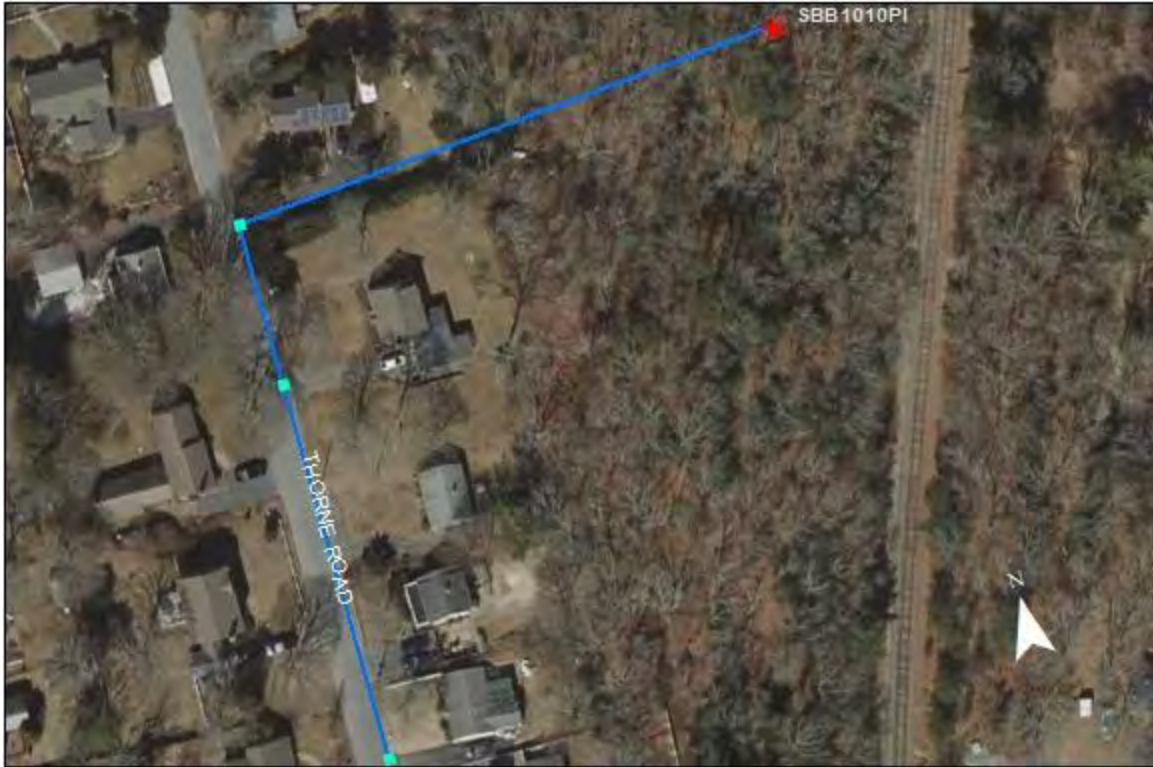
Van Bummel Road: No issues found. Catchment investigation is not complete.



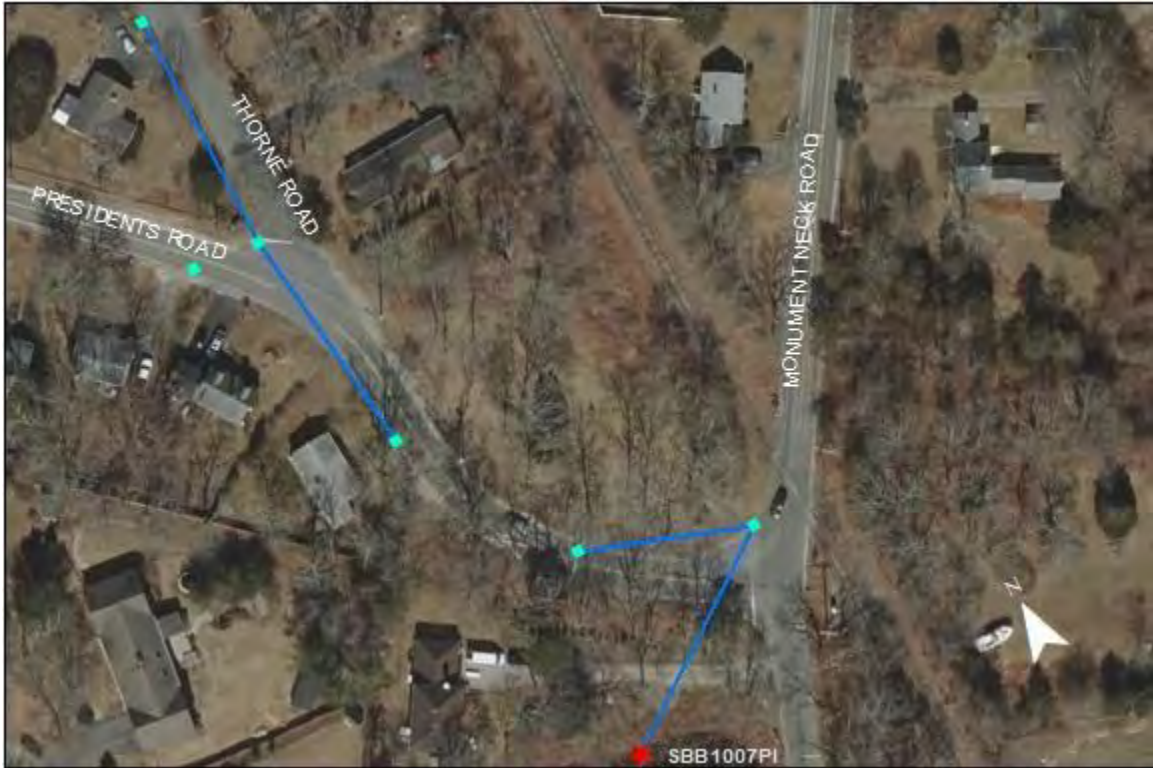
Russell Road: No issues found. The origin of the pipe entering each catchbasin is unknown. Further investigation is recommended.



SBB1006PI- Lamont Road and Jefferson Road: No issues found.



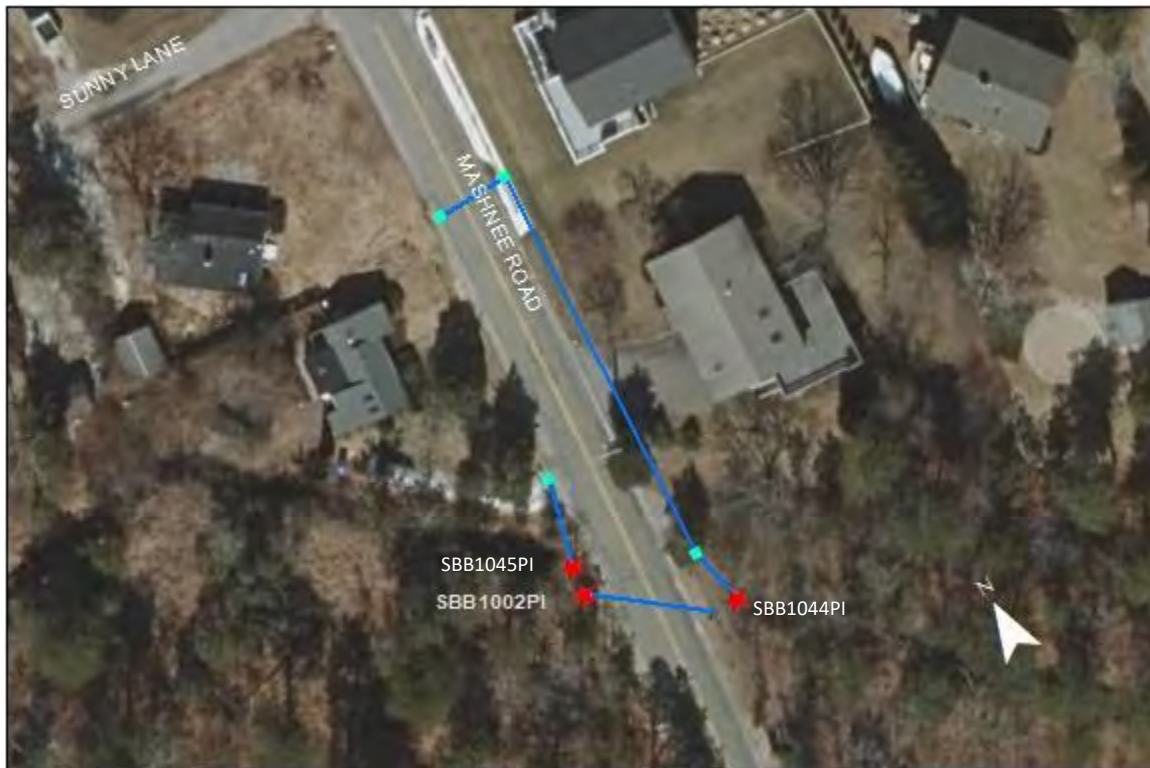
SBB1010PI- Thorne Road: No issues found.



SBB1007PI- Thorne Road: No issues found.



SBB1005PI- Jefferson Road: No issues found.



SBB1045PI, SBB1002PI, and SBB1044PI- Mashnee Road: All catchbasins were packed full of dirt. Further maintenance is suggested.



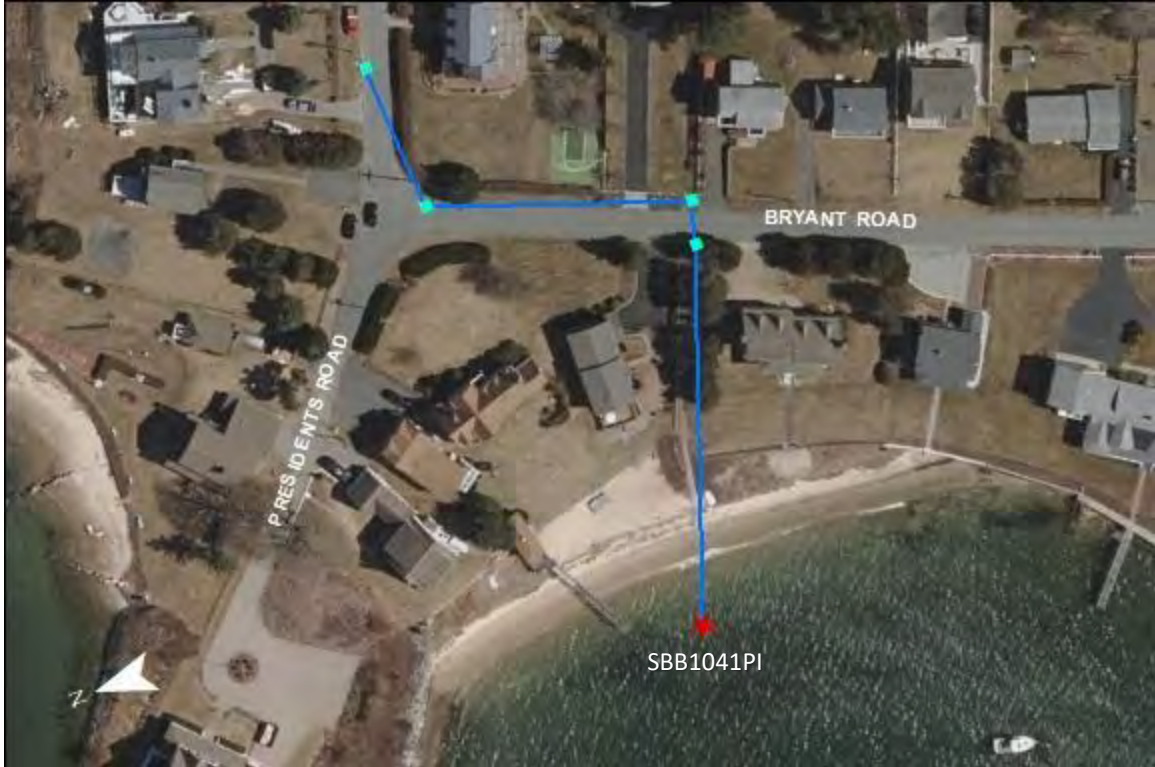
SBB1046PI, SBB1004PI and SBB1002RC- Sea Breeze Drive: No issues found.



Benedict Road: No issues found. Standalone basin.



SBB1042PI- Presidents Road: No issues found.



SBB1041PI- Bryant Road and Presidents Road: No issues found.



SBB1001PI- Warren Road: No issues found.



SPH1046PI- Mashnee Road: No issues found.



SPO1069PI- Sandy Lane: At point A three dead skunks were found in catchbasin. Removal is suggested. No further issues found.



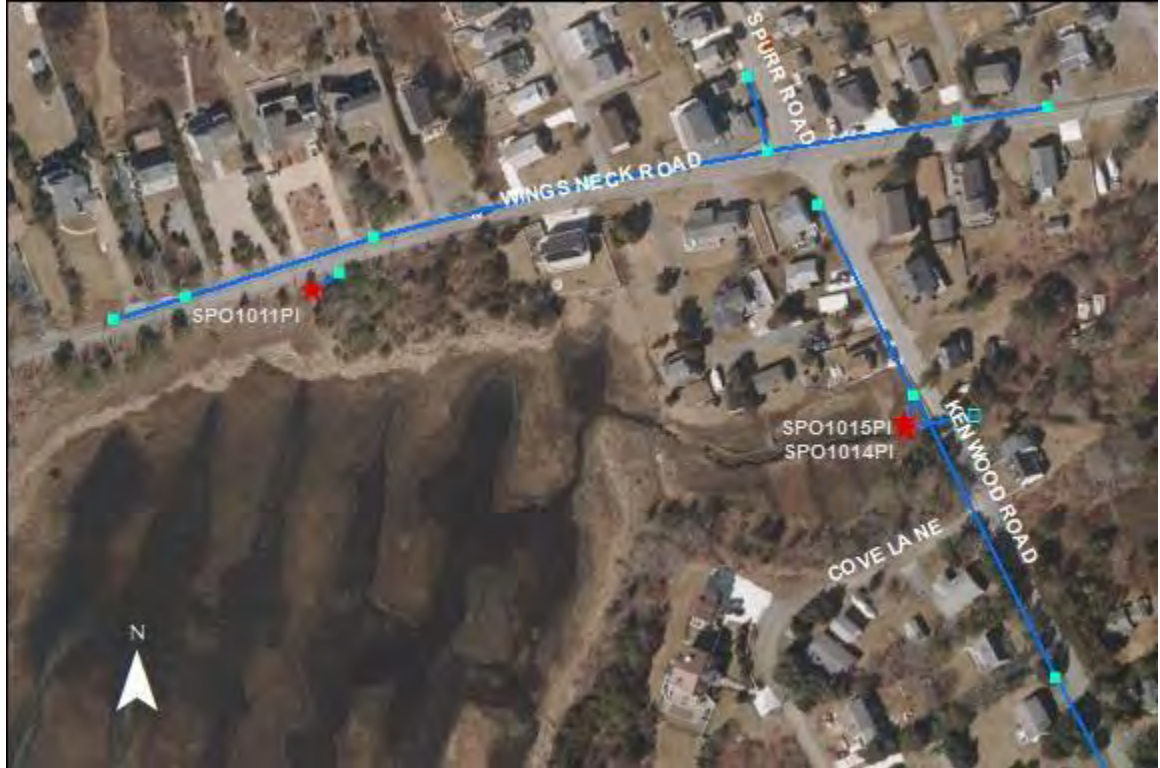
SBB1027PI- Deboer Lane: No issues found.



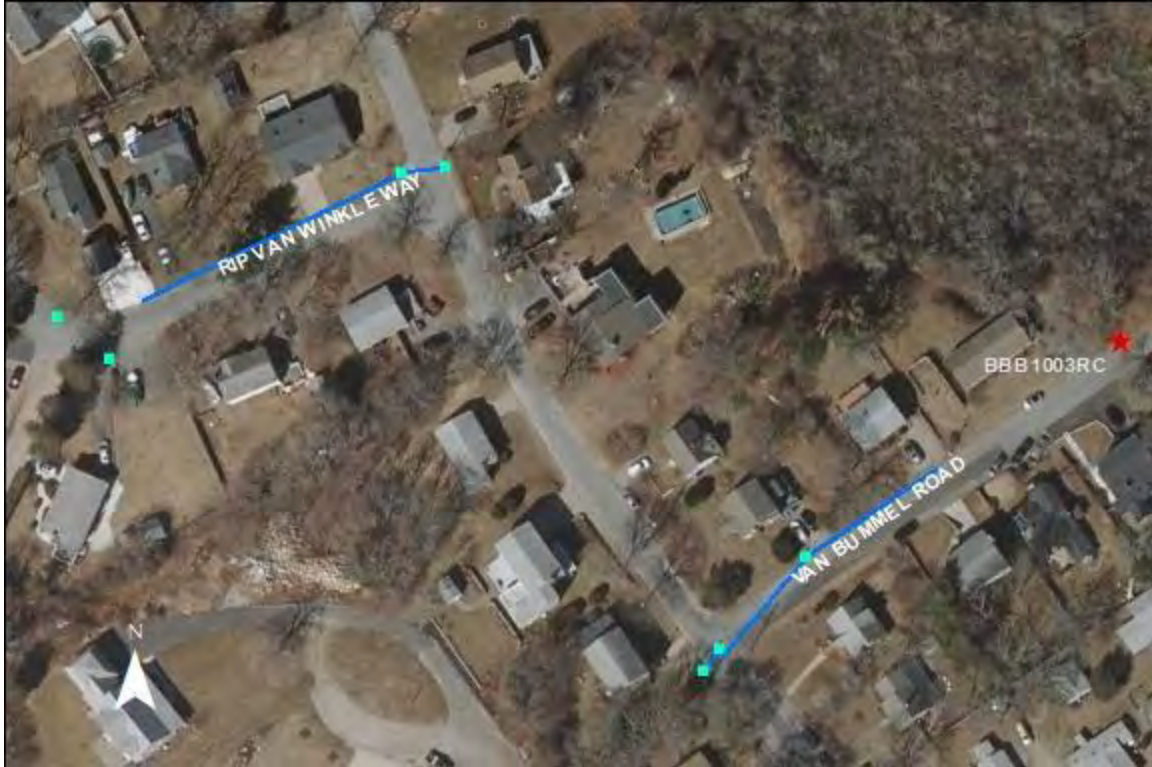
Colonel Drive- No issues found. Catchbasins are infiltration basins.



SPO1069PI- Wings Neck Road: No issues found.



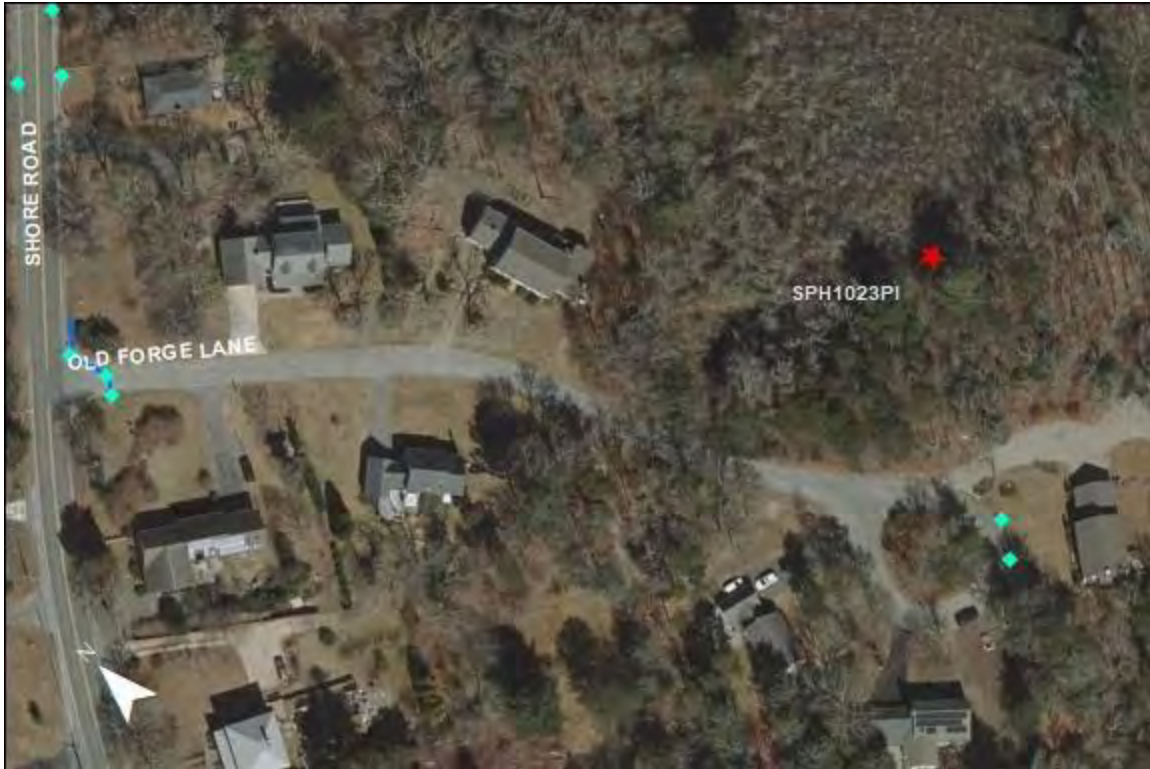
SPO1011PI- Wings Neck Road: No issues found. Uncertain where this part of Wings Neck Road drains to. Catchbasins were full of water at high tide. Further investigation during low tide is recommended.



Rip Van Winkle Way and Van Bummel Road: No issues found. Catchment to be completed at a later date.



Swan Circle: No issues found.



Old Forge Lane: Catchment continues onto Shore Road. Police detail needed for further inspection. Catchbasins at the cul-de-sac were completely full of water. The existence of SPH1023PI could not be confirmed. There could be a blockage, or they could be infiltration basins. Further investigation is recommended.



SPH1028PI- Marian Lane and Planter's Landing: No significant issues found. At point A the catchbasin has begun to sink. Preventative measures are suggested.



Dawe Lane and Dorothy Way: No issues found.



Great Rock Road: No issues found. Further investigation to determine if pipes lead to outfalls or underground treatment structures is recommended.