

Technical Memorandum

To	Ridgefield WPCA	Page	1 of 22
CC	C. Fisher, J. O'Brien, J. Pennell		
Subject	Town of Ridgefield, CT Phase 2 Wastewater Facilities Plan Technical Memorandum No. 1 – Dyed Water Testing and Tracing		
From	Jon Pearson/Alberto Angles		
Date	October 27, 2016		

INTRODUCTION

This Technical Memorandum summarizes the findings of the dyed water testing and tracing program conducted under the Phase 2 Wastewater Facilities Plan. Under the Phase 1 Wastewater Facilities Plan, the entire Sewer District 1 collection system was smoke tested in the fall of 2013 to identify sources of inflow. The results of the smoke testing indicated 160 suspect sources and 20 indirect sources that were recommended for further investigation. In February 2016, dyed water testing of the suspect sources was conducted, followed by dyed water tracing of the indirect sources in July 2016.

BACKGROUND

In 2007, the Town completed an I/I analysis of the wastewater collection system (Sewer Districts 1 and 2). The purpose of the investigation was to estimate the amount of I/I entering the wastewater collection system and to develop a prioritized program of additional investigations to identify sources of I/I for subsequent rehabilitation.

As a result of the 2007 I/I analysis, a number of recommendations were made. These recommendations included:

- Continued yearly TV inspection of the sewers to prioritize the rehabilitation of I/I sources and defects
- Sewer District 1 Inflow Investigations including:
 - Smoke testing
 - Dyed water testing and dyed water tracing (rainfall simulation) of suspect and indirect sources based on the findings of the smoke testing.
 - House-to-house inspections
- Sewer rehabilitation of specific sewer infiltration sources or defects which included:
 - Repair of leaking joints
 - Repair of cracked and broken pipes
 - Reduction of root intrusion by chemical root treatment

- Rehabilitation of 75 lateral service connections
- Excavation and replacement or lining of 1,000 linear feet of sewer

Subsequent to the 2007 I/I analysis, a sewer rehabilitation contract was undertaken to address the identified pipeline defects. The project was completed in May 2010 by the National Water Main Cleaning Company.

Smoke testing (all of Sewer District 1) and manhole inspections (Subarea 1 of Sewer District 1 only) were conducted as part of the Phase 1 Wastewater Facilities Plan. House-to-house inspections, manhole inspections, dyed water testing and dyed water tracing (dyed water flooding in conjunction with closed circuit television (CCTV) inspection of sanitary sewer), and selected CCTV inspection of main line and service connection laterals were undertaken as part of the Phase 2 Facilities Plan to further locate sources of I/I. This memorandum documents the dyed water testing and tracing activities and includes recommendations for rehabilitating identified sources.

DATA COLLECTION

Dyed water testing is performed to confirm suspect sources of inflow to the sewer system which were identified during smoke testing, such as downspouts, building drains, and area drains. Dyed water tracing (dyed water flooding in conjunction with CCTV inspection) is performed to confirm and locate indirect sources of inflow to the sewer system which smoked lightly during the smoke testing such as catch basins, defective service connections, or holes in the ground (as compared to direct sources which emit large amounts of smoke).

Dyed Water Testing

Dyed water testing was performed by Stacey DePasquale Engineering (SDE) under subcontract to AECOM. The dyed water testing was initiated in December 2015 and completed in January 2016. Prior to performing the dye test, all property owners were notified with the option to schedule an appointment.

Dyed water testing was recommended to confirm suspected sources of inflow as a result of smoke testing conducted in 2013. A total of 784 suspected inflow sources were identified. Of the 784 suspect sources, 686 suspect sources were identified at condominium complexes (Casagmo, Quail Ridge, and Fox Hill), and another 13 suspect sources were identified at the Ridgefield Recreation Center. The remaining 85 suspect sources were identified throughout the six sub-areas of Sewer District 1. Because of the large quantity of suspected sources identified, it was not recommended that all of these suspect sources be dyed water tested. Instead, given the similar age, construction and environmental conditions of each of the individual condominium complexes and the recreation center, it was recommended that a representative number, approximately 10%, of these suspect sources be dyed water tested. By doing so, a large number of the suspect sources may be able to be discounted, or if not, then further investigation may be warranted. Therefore, a total of 160 suspect sources were recommended to be dyed water tested consisting of 75 suspect sources at the condominium complexes and recreation center, and all of the remaining 85 suspect sources throughout the six sub-areas of Sewer District 1.

Dyed water testing was performed at locations throughout the six sub-areas of Sewer District 1. Figure 1 depicts the locations where dyed water testing was performed. The locations are listed in Table 1. Dyed water testing is performed by introducing a small amount of dyed water into a designated storm water structure such as downspouts, area drains, yard drains, driveway drains, building drains, and window well drains, without plugging the storm water structure. During the dyed water testing, surrounding sanitary manholes, storm drain manholes, catch basins, and other structures in the vicinity were opened and inspected for the visual observation of the presence of dyed water. The information collected in the field was tabulated and summarized by sub-area, including the discharge location of each suspect source. Field data logs, sketches and digital photographs were included. A copy of the Dye Testing Report is included as Attachment A.

Dyed Water Tracing

Dyed water tracing was performed by EST Associates under subcontract to SDE who in turn was subcontracted to AECOM. The dyed water tracing was conducted between July 14 and July 18, 2016.

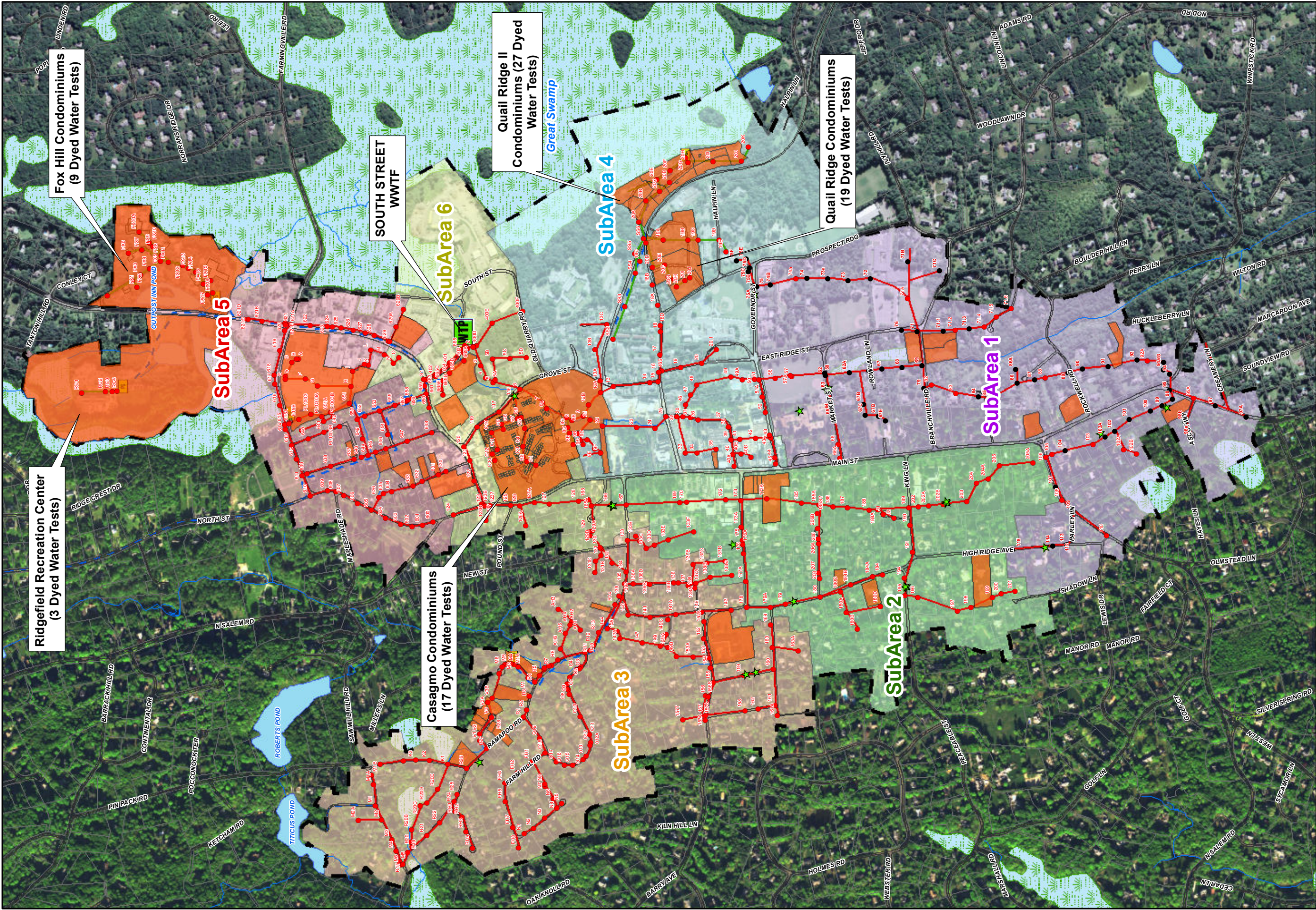
Dyed water tracing was recommended to identify the location of the connection where inflow enters the sanitary sewer of the 20 indirect inflow sources that were identified during smoke testing. These inflow sources were identified at 14 addresses, within sub-areas 1, 2, 3, and 6 of Sewer District 1. Figure 1 depicts these locations. The locations are also listed in Table 2.

Dyed water tracing was performed by introducing a large volume of dyed water into a designated catch basin or other designated inflow source which crosses or is in close proximity to the sanitary sewer. Where possible, the storm drain was plugged downstream of the potential indirect connection to simulate surcharged conditions as may be seen during a rain event. Downstream sanitary manholes were monitored for the presence of dye, thus indicating a connection. This was done in conjunction with CCTV inspection of the sanitary sewer to identify the location(s) of the indirect cross connection(s) between the storm drain and sanitary sewer. Field TV inspection logs, sketches, digital photos, and CCTV recordings were prepared to document each test. A copy of the Dye Flooding Report is included as Attachment B.

ANALYSIS

Dyed Water Testing

Table 1 lists the results of the dyed water testing. 159 of the 160 dyed water tests attempted were completed. There was one refusal at 470 Main Street. Four suspect sources were confirmed to be connected to the sanitary sewer system. The four confirmed sources of inflow from which dye was observed in the sewer system during dyed water testing operations are noted in bold. The four confirmed inflow sources are located at two addresses: 1 source at 21 King Lane, and 3 sources at 353 Main Street. The confirmed inflow source at 21 King Lane consists of two downspouts connected together with a single discharge to the sanitary sewer. The three confirmed inflow sources at 353 Main Street consist of 8 downspouts at the church building connected together with a single discharge to the sanitary sewer (1 confirmed inflow source) and 7 downspouts at the rectory building with 2 discharges to the sanitary sewer (2 confirmed inflow sources). At the request of the owner, the downspouts at 353 Main Street were retested and confirmed to be sources of inflow to the sanitary sewer system.



Drawn: BC 10/4/2016

Approved: AA 10/4/2016

Map Location

Legend

WWTF

Pump Station

Previously Inspected Manhole

Manhole- To Be Inspected

Dyed Water Tracing Locations

Municipal Sewer

Private Sewer

Roads

Force Main

Streams

Swamps

Waterbodies

Parcel Polygon

Sewer District 1 Boundary

Dyed Water Testing Locations

0

500

1,000

Feet

North Arrow

N

FIGURE 1: DYED WATER TESTING/TRACING

OCTOBER 2016

RIDGEFIELD, CT

PHASE II WASTEWATER FACILITIES PLAN

TABLE 1. DYED WATER TESTING SUMMARY TABLE

Sub-Area	Address	Location	Suspect Source Type	Result
1	48 Branchville Road	Yard - Back	Downspout	Connected to Surface
1	48 Branchville Road	Yard - Front	Downspout	Connected to Surface
1	50 Branchville Road	Yard - Front	Downspout	Unknown – No Dye Found
1	35 Copps Hill Road	Yard - Front	Downspout	Connected to Surface
1	35 Copps Hill Road	Yard - Back	Downspout	Connected to Surface
1	5 East Ridge Road	Yard - Back	Downspout	Connected to Surface
1	5 East Ridge Road	Yard - Front	Downspout	Connected to Surface
1	10 East Ridge Road (Middle School)	Roof	Building Drain/Flat Roof Drain	Connected to Drain
1	10 East Ridge Road (Middle School)	Roof	Building Drain/Flat Roof Drain	Connected to Drain
1	10 East Ridge Road (Middle School)	Roof	Building Drain/Flat Roof Drain	Connected to Surface
1	8 Governor Street (Elementary School)	Roof	Building Drain/Flat Roof Drain	Connected to Drain
1	8 Governor Street (Elementary School)	Roof	Building Drain/Flat Roof Drain	Connected to Drain
1	8 Governor Street (Elementary School)	Roof	Building Drain/Flat Roof Drain	Connected to Drain
1	8 Governor Street (Elementary School)	Roof	Building Drain/Flat Roof Drain	Connected to Drain
1	8 Governor Street (Elementary School)	Roof	Building Drain/Flat Roof Drain	Connected to Drain
1	32 Main Street	Yard - Back	Downspout	Unknown - No Dye Found
1	114 Main Street	Yard - Back	Driveway Drain	Unknown - No Dye Found
1	145 Main Street	Yard - Back	Downspout	Connected to Surface
1	145 Main Street	Yard - Back	Downspout	Unknown - No Dye Found
1	78 Prospect Street	Yard - Back	Downspout	Connected to Surface
1	78 Prospect Street	Yard - Front	Downspout	Connected to Surface
2	46 Danbury Road	Roof	Building Drain/Flat Roof Drain	Connected to Drain
2	61 High Ridge Avenue	Yard - Back	Downspout	Connected to Drain
2	61 High Ridge Avenue	Yard - Front	Downspout	Connected to Drain
2	111 High Ridge Avenue	Yard - Front	Downspout	Connected to Drain
2	125 High Ridge Avenue	Yard - Front	Downspout	Connected to Surface
2	183 High Ridge Avenue	Roof	Building Drain/Flat Roof Drain	Connected to Drain
2	183 High Ridge Avenue	Roof	Building Drain/Flat Roof Drain	Connected to Drain
2	183 High Ridge Avenue	Roof	Building Drain/Flat Roof Drain	Connected to Drain

TABLE 1. DYED WATER TESTING SUMMARY TABLE (CONT.)

Sub-Area	Address	Location	Suspect Source Type	Result
2	183 High Ridge Avenue	Roof	Building Drain/Flat Roof Drain	Connected to Drain
2	21 King Lane	Yard - Back	Downspout	Connected to Sewer
2	21 King Lane	Yard - Front	Downspout	Unknown - No Dye Found
2	1 Main Street	Yard - Front	Area Drain	Connected to Drain
2	88 Main Street	Yard - Back	Driveway Drain	Connected to Drain
2	88 Main Street	Yard - Front	Downspout	Connected to Drain
2	353 Main Street	Yard - Front	Downspout	Connected to Drain
2	353 Main Street	Yard - Side	Downspout	Connected to Drain
2	353 Main Street	Yard - Back	Downspout	Connected to Sewer
2	353 Main Street	Yard - Side	Downspout	Connected to Sewer
2	353 Main Street	Yard - Side	Downspout	Connected to Sewer
2	378 Main Street	Yard - Back	Downspout	Connected to Drain
2	381 Main Street	Yard - Back	Downspout	Connected to Surface
2	385 Main Street	Yard - Front	Downspout	Connected to Surface
2	387 – 389 Main Street	Yard - Back	Downspout	Connected to Surface
2	441 Main Street	Yard - Side	Downspout	Connected to Surface
3	10 Millstone Court	Yard - Front	Downspout	Connected to Surface
3	70 Ramapoo Road	Yard - Front	Downspout	Connected to Surface
3	70 Ramapoo Road	Yard - Front	Downspout	Connected to Surface
3	85 Ramapoo Road	Yard - Front	Downspout	Connected to Drain
3	86 Ramapoo Road	Paved Asph	Driveway Drain	Connected to Drain
3	102 Ramapoo Road	Yard - Front	Downspout	Connected to Surface
3	8 Victor Drive	Paved Asph	Driveway Drain	Connected to Drain
3	9 Victor Drive	Paved Asph	Driveway Drain	Connected to Drain
3	11 Victor Drive	Paved Asph	Driveway Drain	Connected to Drain
3	15 Victor Drive	Paved Asph	Driveway Drain	Unknown - No Dye Found
3	17 Victor Drive	Yard - Front	Downspout	Connected to Surface
4	18 Bailey Avenue	Roof	Building Drain/Flat Roof Drain	Connected to Surface
4	404 Main Street	Yard - Side	Downspout	Connected to Drain
4	404 Main Street	Yard - Side	Downspout	Connected to Drain

TABLE 1. DYED WATER TESTING SUMMARY TABLE (CONT.)

Sub-Area	Address	Location	Suspect Source Type	Result
4	418 Main Street	Yard - Back	Downspout	Connected to Drain
4	418 Main Street	Yard - Back	Downspout	Connected to Drain
4	426 Main Street	Yard - Side	Downspout	Connected to Drain
4	374 Main Street	Roof	Building Drain/Flat Roof Drain	Connected to Drain
4	396 Main Street	Yard - Back	Downspout	Connected to Drain
4	396 Main Street	Yard - Back	Downspout	Connected to Drain
4	51 Prospect Ridge	Yard - Front	Downspout	Connected to Drain
4	51 Prospect Ridge	Yard - Back	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 19,20	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 19,20	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 5,6,7,8,9,10	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 5,6,7,8,9,10	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 37,38,39,40,41,42	Driveway Drain	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 5,6,7,8,9,10	Yard Drain	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 37,38,39,40,41,42	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 43,44,45	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 56,57,58,59	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 60,61,62,63	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 48,47	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 56,57,58,59	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 52,53,54,55	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 52,53,54,55	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 49,50,51	Downspout	Connected to Drain
4	Quail Ridge 1 Condominiums	Building 25	Downspout	Connected to Surface
4	Quail Ridge 1 Condominiums	Building 29,30,31,32	Downspout	Connected to Surface
4	Quail Ridge 1 Condominiums	Building 21,23	Downspout	Connected to Surface
4	Quail Ridge 1 Condominiums	Building 25	Downspout	Connected to Surface
4	Quail Ridge 2 Condominiums	Building 30	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 20	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 21-22	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 28	Downspout	Connected to Drain

TABLE 1. DYED WATER TESTING SUMMARY TABLE (CONT.)

Sub-Area	Address	Location	Suspect Source Type	Result
4	Quail Ridge 2 Condominiums	Building 34	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 34	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 30	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 30	Yard Drain	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 15-17	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 20	Driveway Drain	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 30	Driveway Drain	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 66-68	Downspout	Connected to Surface
4	Quail Ridge 2 Condominiums	Building 62	Downspout	Connected to Surface
4	Quail Ridge 2 Condominiums	Building 55-56	Downspout	Connected to Surface
4	Quail Ridge 2 Condominiums	Building 51	Downspout	Connected to Surface
4	Quail Ridge 2 Condominiums	Building 46-47	Downspout	Connected to Surface
4	Quail Ridge 2 Condominiums	Building 42-43	Downspout	Connected to Surface
4	Quail Ridge 2 Condominiums	Building 42-43	Downspout	Connected to Surface
4	Quail Ridge 2 Condominiums	Building 69-70	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 4-1	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 4-1	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 1-8-9	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 4-1	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 10,11,12	Downspout	Connected to Drain
4	Quail Ridge 2 Condominiums	Building 1-8-9	Downspout	Connected to Surface
4	Quail Ridge 2 Condominiums	Building 72-71	Downspout	Connected to Surface
4	Quail Ridge 2 Condominiums	Building 64-61	Downspout	Connected to Surface
5	15 Danbury Road	Yard - Front	Downspout	Connected to Drain
5	Danbury Road (Stop & Shop)	Roof	Building Drain/Flat Roof Drain	Connected to Drain
5	195 Danbury Road (Rec Center)	Yard - Back	Downspout	Connected to Drain
5	195 Danbury Road (Rec Center)	Yard - Front	Downspout	Connected to Drain
5	195 Danbury Road (Rec Center)	Yard - Front	Downspout	Connected to Drain
5	Fox Hill Condominiums	Building 6 Zone 1	Downspout	Connected to Drain
5	Fox Hill Condominiums	Building 5 Zone 3	Downspout	Connected to Drain
5	Fox Hill Condominiums	Building 9 Zone 2	Downspout	Connected to Surface

TABLE 1. DYED WATER TESTING SUMMARY TABLE (CONT.)

Sub-Area	Address	Location	Suspect Source Type	Result
5	Fox Hill Condominiums	Building 9 Zone 2	Downspout	Connected to Surface
5	Fox Hill Condominiums	Building 8 Zone 2	Downspout	Connected to Surface
5	Fox Hill Condominiums	Building 8 Zone 2	Building Drain/Flat Roof Drain	Connected to Surface
5	Fox Hill Condominiums	Building 7 Zone 1	Downspout	Connected to Surface
5	Fox Hill Condominiums	Building 4 Zone 3	Downspout	Connected to Surface
5	Fox Hill Condominiums	Building 3 Zone 3	Building Drain/Flat Roof Drain	Connected to Surface
5	27 Mountain View Avenue	Paved Asph	Driveway Drain	Connected to Surface
5	6 Rochambeau Avenue	Yard - Front	Downspout	Connected to Surface
5	10 Roberts Lane	Yard - Back	Downspout	Connected to Surface
5	16 Roberts Lane	Yard - Front	Downspout	Connected to Surface
5	20 Roberts Lane	Yard - Back	Driveway Drain	Connected to Surface
5	26 Roberts Lane	Yard - Front	Downspout	Connected to Surface
5	1 Washington Avenue	Paved Asph	Driveway Drain	Connected to Drain
6	Casagmo Condominiums	Building 9-12	Downspout	Connected to Drain
6	Casagmo Condominiums	Building 60	Downspout	Connected to Drain
6	Casagmo Condominiums	Building 34-49	Downspout	Connected to Drain
6	Casagmo Condominiums	Building 57-60, 53-56	Downspout	Connected to Drain
6	Casagmo Condominiums	Building 16-18	Downspout	Connected to Drain
6	Casagmo Condominiums	Building 13-16, 21-24	Downspout	Connected to Drain
6	Casagmo Condominiums	Building 5-9	Downspout	Connected to Drain
6	Casagmo Condominiums	Building 54-57	Downspout	Connected to Drain
6	Casagmo Condominiums	Building 96-99	Downspout	Connected to Drain
6	Casagmo Condominiums	Building S of 5-8	Downspout	Connected to Drain
6	Casagmo Condominiums	Building 9-10	Downspout	Connected to Surface
6	Casagmo Condominiums	Building 5-6	Downspout	Connected to Surface
6	Casagmo Condominiums	Building 66-68, 61-64	Downspout	Connected to Surface
6	Casagmo Condominiums	Building 15-18	Yard Drain	Connected to Surface
6	Casagmo Condominiums	Building 15-18	Downspout	Connected to Surface
6	Casagmo Condominiums	Building 19-20, 23-26	Downspout	Connected to Surface
6	Casagmo Condominiums	Building 54-57	Downspout	Connected to Surface
6	14 Danbury Road	Yard - Front	Downspout	Connected to Drain

TABLE 1. DYED WATER TESTING SUMMARY TABLE (CONT.)

Sub-Area	Address	Location	Suspect Source Type	Result
6	14 Danbury Road	Yard - Front	Downspout	Connected to Drain
6	90 Danbury Road	Roof	Building Drain/Flat Roof Drain	Connected to Drain
6	90 Danbury Road	Roof	Building Drain/Flat Roof Drain	Connected to Drain
6	90 Danbury Road	Yard - Front	Downspout	Connected to Drain
6	10 South Street	Roof	Building Drain/Flat Roof Drain	Connected to Drain
6	10 South Street	Roof	Building Drain/Flat Roof Drain	Connected to Drain
6	10 South Street	Roof	Building Drain/Flat Roof Drain	Connected to Surface

Notes: 1. *Items noted in bold indicate a positive inflow source connected to the sanitary sewer.*

TABLE 2. SUMMARY OF INFLOW SOURCES RECOMMENDED FOR DYED WATER TRACING DURING SMOKE TESTING

Source No. (1)	Sub-area	From MH	To MH	Address	Source Description		
					Sector	Type	Location
5	1	75B	73A	84 Governor Street C	Private	Service Connection	Yard - Back
13	1	115	109	23 High Ridge Ave	Public	Catchbasin	Curb
16	1	66A	62	Market Street CB A at SMH 63	Public	Catchbasin	Curb
17	1	66A	62	Market Street CB B at SMH 63	Public	Catchbasin	Curb
18	1	66A	62	Market Street CB behind 316 Main Street	Public	Catchbasin	Yard - Back
24	2	205A	189	21 King Lane B	Private	Service Connection	Yard - Back
25	2	205A	189	21 King Lane C	Private	Catchbasin	Yard - Back
30	2	197	189	87 High Ridge Road - CB	Public	Catchbasin	Paved Asph.
31	2	197	189	87 High Ridge Road	Private	Service Connection	Yard - Side
40	2	184	178	CB at 150 High Ridge Road	Public	Catchbasin	Paved Asph.
49	2	177A	173	34 Catoonah Street	Private	Service Connection	Yard - Side
59	3	160	155, 156, 154	10 Greenfield Ave (CB) B	Public	Catchbasin	Paved Asph.
60	3	160	155, 156, 154	10 Greenfield Ave (CB) A	Public	Catchbasin	Paved Asph.
67	1	106	95	57 Main Street	Private	Service Connection	Yard - Back
68	1	106	95	7 Main Street	Private	Drain Culvert	Yard - Back

TABLE 2. SUMMARY OF INFLOW SOURCES RECOMMENDED FOR DYED WATER TRACING DURING SMOKE TESTING (CONT.)

Source No. (1)	Sub-area	From MH	To MH	Address	Source Description		
					Sector	Type	Location
69	3	R28	V2	99 Ramapoo Road	Private	Service Connection	Yard - Side
75	6	131, 167	128	18 Gilbert Street A	Private	Service Connection	Yard - Back
76	6	131, 167	128	18 Gilbert Street B	Private	Service Connection	Yard - Back
77	6	131, 167	128	18 Gilbert Street C	Private	Service Connection	Yard - Back
78	6	8	116	Grove Street SMH 116	Private	Service Connection	Non - Paved

Notes: 1. Source number refers to inflow source number identified during smoke testing.

Dyed water testing could not detect whether six suspect sources are connected to the sanitary sewer because no dyed water was observed discharging from the suspect sources. Ninety-three sources were confirmed to be connected to the storm drain system, and fifty-six sources were confirmed to discharge to the ground surface. None of the suspect sources at the condominium complexes or the recreation center that were dye tested were confirmed to be sources of inflow to the sanitary sewer system.

Table 3 summarizes the 4 inflow sources identified during dyed water testing and includes an estimate of peak inflow rate for each source as well as recommendations for rehabilitation and estimated rehabilitation costs including an allowance for engineering and contingencies. These sources are estimated to contribute inflow to the Sewer District 1 collection system at a peak rate of 0.133 mgd. The total estimated cost of rehabilitating the inflow sources identified in Table 3 is approximately \$11,900.

Dyed Water Tracing

The results of the dyed water tracing are summarized in Table 4. Dyed water tracing was attempted at 12 addresses, comprising 16 of the 20 indirect sources. Dyed water tracing was not conducted at 2 addresses, comprising the four remaining inflow sources. These included Source No. 69 at 99 Ramapoo Road because it was identified to be a loose fitting above grade flexible connection which connects a pipe that exits the foundation to a PVC bend which then continues below grade, and Source Nos. 75, 76, and 77 at 18 Gilbert Street because a garage was recently built over the holes in the ground that had smoked.

Of the 12 addresses where dyed water tracing was attempted, 9 sewer sections were TV inspected. Dye was observed entering the sanitary sewer in 5 of the 9 sections as a result of leaking service connections, defective joints, and a defective liner.

TV inspection was not performed at 3 of the addresses for various reasons. On Governor Street (Source No. 5) dye was observed entering SMH-74B through a potentially abandoned service connection, so further inspection by TV was not required. On Catoonah Street (Source No. 49), the dyed water tracing confirmed that previous damage to an ejector pump line had been repaired and the inflow source to the sanitary sewer was removed. On Grove Street (Source No. 78), no dye was observed at SMH-116 after flooding for approximately 45 minutes.

The dyed water tracing program identified 7 leaking service connections as sources of inflow into the sanitary sewer system. These included 6 private sources and 1 public source (at the Veterans Park Elementary School). 1 of the service connections, at 84 Governor Street (Source No. 5), is reported to be inactive. In addition to the leaking service connection at the Veterans Park Elementary School (Source No. 18), an open cleanout was found in the yard.

Table 4 summarizes the inflow sources identified during dyed water tracing and includes an estimate of peak inflow rate for each source as well as recommendations for rehabilitation and estimated rehabilitation costs including an allowance for engineering and contingencies. The confirmed inflow sources are estimated to contribute inflow to the Sewer District 1 collection system at a peak rate of 0.086 mgd. The total estimated cost for rehabilitating the inflow sources and further investigating the inconclusive findings identified in Table 4 is approximately \$33,000.

TABLE 3. SUMMARY OF INFLOW SOURCES IDENTIFIED DURING DYED WATER TESTING

Sub-area	From		To	Address	Source			Inflow Rate (gpd)	Recommended Rehabilitation	Estimated Rehabilitation Cost
	MH	MH			Sector	Type	Location			
2	202	189	189	21 King Lane (A 1 & A 2)	Private	Downspout	Yard - Back	27,200	Disconnect and re-route 2 downspouts (1) (2)	\$ 1,400
2	185	173A	173A	353 Main Street (Church)	Private	Downspout	Yard - Side	57,900	Disconnect and re-route 8 downspouts (2)	\$ 5,600
2	185	173A	173A	353 Main Street (Rectory)	Private	Downspout	Yard - Back	8,200	Disconnect and re-route 1 downspout (2)	\$ 700
2	185	173A	173A	353 Main Street (Rectory)	Private	Downspout	Yard - Side	39,300	Disconnect and re-route 6 downspouts (2)	\$ 4,200
TOTALS										\$ 11,900

Notes: 1. Previously identified as inflow Source Numbers 21 and 22 during smoke testing.
2. Owner has been instructed to disconnect roof drainage from sanitary sewer system.

TABLE 4. DYED WATER TRACING RESULTS SUMMARY TABLE

Source No.	Sub-area	Address	Sector	Work Performed	Result	Calculated Peak Inflow Rate (gpd)	Recommended Rehabilitation	Estimated Rehabilitation Cost (1)
5	1	84 Governor St C (SMH-74B)	Private	Dyed water flooding	Dye observed entering SMH-74B, possibly from abandoned service connection.	100	Inspect to confirm service connection not active; cut and cap service connection at manhole.	\$2,000
13	1	23 High Ridge Ave. From SMH-113 to SMH-114	Public	Dyed water flooding with TV inspection	Dyed water observed entering SMH-113 from annular space between pipe and liner.	13,600	Grout annular space between pipe and liner at upstream connection to SMH-113 (chemical seal).	(2)
16,17	1	Market Street (CB A and CB B at SMH-63 to SMH-62)	Public	Dyed water flooding with TV inspection	Dyed water entering sewer through: 1. offset joint and 2. capped service connection.	34,100	1. Clean, test and seal joints between SMH-63 and SMH-62. 2. Provide short liner Sta 0+9.5 to 0+14.5	\$3,650 \$9,250
18	1	Market Street (CB behind 316 Main Street) From SMH-64 to SMH-64.1	Public	Dyed water flooding with TV inspection	Dyed water entering sewer through a service connection to Veterans Park Elementary School (316 Main Street) 55 feet upstream of SMH-064. Open cleanout in yard.	100	1. Clean and inspect service connection to determine rehabilitation required. 2. Cap cleanout in yard.	\$1,250 \$700

TABLE 4. DYED WATER TRACING RESULTS SUMMARY TABLE (CONT.)

Source No.	Sub-area	Address	Sector	Work Performed	Result	Calculated Peak Inflow Rate (gpd)	Recommended Rehabilitation	Estimated Rehabilitation Cost (1)
67	1	Main Street Easement (57 Main Street) From SMH-102 to SMH-103	Private	Dyed water flooding with TV inspection	Dyed water entering sewer through leaking service connection at 57 Main Street, 135 ft upstream of SMH-102.	100	Clean and inspect service connection to determine rehabilitation required.	\$1,250
68	1	Main Street Easement (7 Main Street) From SMH-98 to SMH-100	Private	Dyed water flooding with TV inspection	Inconclusive - no dye observed in sanitary sewer; probably indirect cross connection between drain and sewer through service connection which crosses culvert to shed behind 7 Main St.	-	Clean and inspect service connection to determine rehabilitation required.	\$1,250
24, 25	2	21 King Lane (CBs B and C) From SMH-202 to 207 Main St.	Private	Dyed water flooding with TV inspection	Building connection inspected but abandoned due to debris in line at 49 ft upstream of SMH-202. Dyed water entering sewer through service connection.	2,800	Clean and inspect service connection to determine rehabilitation required.	\$1,250

TABLE 4. DYED WATER TRACING RESULTS SUMMARY TABLE (CONT.)

Source No.	Sub-area	Address	Sector	Work Performed	Result	Calculated Peak Inflow Rate (gpd)	Recommended Rehabilitation	Estimated Rehabilitation Cost (1)
30, 31	2	Peaceable St @ High Ridge Ave. (service connection at 87 High Ridge Ave. and catch basin) From SMH-194 to SMH-195	Private	Dyed water flooding with TV inspection	Inconclusive - no dye observed in sanitary sewer; it is possible dyed water could not surcharge high enough to reach indirect cross connection through service connection.	-	Clean and inspect service connection to determine rehabilitation required.	\$1,250
40	2	150 High Ridge Ave. (CB) From SMH-179 to SMH-180	Public	Dyed water flooding with TV inspection	Inconclusive - no dye observed in sanitary sewer; unable to surcharge drain system; suspect CMP drain corroded on bottom and leaches water.	-	Repair drain line and repeat dyed water tracing. (Cost of drain line repair not included)	\$1,100
49	2	34 Catoonah St.	Private	Dyed water flooding	No dye observed in sanitary sewer. Confirmed that previous damage was repaired.	-	No action.	-

TABLE 4. DYED WATER TRACING RESULTS SUMMARY TABLE (CONT.)

Source No.	Sub-area	Address	Sector	Work Performed	Result	Calculated Peak Inflow Rate (gpd)	Recommended Rehabilitation	Estimated Rehabilitation Cost (1)
59, 60	3	10 Greenfield Ave. (CBs B and A) From SMH-159 to SMH-160	Public	Dyed water flooding with TV inspection	Longitudinal fracture observed at 12 o'clock 12 ft. upstream of SMH-159. Dyed water entering sewer through leaking service connection 13 ft. upstream of SMH-159.	35,400	Lineal Spot Repair and reinstate service connection at Sta 0+9.5 to 0+14.5.	\$9,250
69	3	99 Ramapoo Road	Private	No dyed water flooding or TV Inspection	Above grade flexible pipe connection on sewer service connection.	-	Install new flexible connection.	\$700
75, 76, 77	6	18 Gilbert Street (CBs A, B, and C)	Private	No dyed water flooding or TV Inspection	Not tested. Garage was built over defect (3 holes in ground).	-	No action.	-
78	6	Grove St (SMH 116)	Public	Dyed water flooding	Inconclusive - no dye observed at SMH-116 after ~45 minutes.	-	No action.	-
Totals						86,200		\$33,000

- Notes: 1. Calculated peak inflow rate estimated by Rational Method.
2. Cost included in manhole rehabilitation recommendations made under Phase 1 Wastewater Facilities Plan.

REHABILITATION ALTERNATIVES

Sewer Rehabilitation

There are two general methodologies available for rehabilitating sewers; dig-and-replace and trenchless technologies. Dig-and-replace involves locating a defective pipe or pipe segment(s), excavating, and either repairing or replacing as necessary. Trenchless technologies require little or no excavation as repairs are made internal to the existing pipe using manholes for access. These techniques may also be used to repair leaking service connections.

Dig-and-Replace. Dig-and-replace is typically used when there are multiple defects in a given sewer and/or when the structural integrity of the line is in question. This method may be used when entire sewer lengths exhibit multiple defects such as cracks, separated joints and breaks, and for individual pipe segments (i.e., spot repairs) when there is a single defect. For example, if there is a section of collapsed pipe, but the rest of the line is in excellent condition, only the collapsed section needs to be replaced.

Joint Testing and Sealing (Trenchless). In the event of leaking or cracked joints, testing and sealing may be effective in reducing infiltration if the pipe is in structurally sound condition. Subsequent to hydraulic cleaning, each joint along the length of the sewer is pressure tested with air. If the joint fails the test, a chemical grout is applied to prevent infiltration from entering the system from that source.

Internal Spot Repairs (Trenchless). Where pipe is broken or cracked, spot repairs may be performed utilizing chemical grout, similar to joint sealing, or epoxy compounds for greater strength. Short cured-in-place liners or rigid sleeves may also be used for spot repair of more significant defects.

Root Control (Trenchless). Trees and shrubs adjacent to sewer lines often cause damage to sewer pipes with their roots. The roots may enter the pipe by separating joints or, under extreme conditions, breaking pipe. The resultant openings allow infiltration to enter the sewer system. Further, the roots can block the pipe and restrict flow in the pipe. When this occurs, the roots may be removed by grinding and cutting. After removal, an herbicide is applied to kill the roots in the immediate vicinity of the pipe. Resultant root damage may be repaired with other trenchless technologies where appropriate. In areas where root control is completed, pipe joints are often grouted to reduce future root penetration.

Sewer Relining (Trenchless). In sewer lines where there are multiple cracks, breaks and defective joints, it can be cost-effective to reline the pipe. Relining is an attractive alternative when conventional dig-and-replace is too disruptive for a given location (i.e., located within a busy roadway) and where the sewer line is relatively deep and only a minimum number of service connections are present. There are several methods available for relining. They range from mortar linings which are spun onto the interior surface of the existing pipe to tube liners which are cured-in-place. Insituform® is one example of cured-in-place pipe relining technology. Relining cannot be used in sewer lines where pipe segments are collapsed. Some companies also have relining methods which can be used on service laterals. This may require access to the service connection either from inside the building or through installation of a cleanout on the service lateral.

SUMMARY AND RECOMMENDATIONS

Tables 3 and 4 summarize the inflow sources identified during dyed water testing and tracing and include an estimate of the peak inflow rate for each source as well as recommendations for rehabilitation including an allowance for engineering and contingencies. The dyed water testing and tracing programs confirmed and documented a total of 12 inflow sources. These sources are estimated to contribute inflow to the Ridgefield Sewer District 1 collection system at a peak rate of approximately 218,800 gpd. The total estimated cost, including an allowance for engineering and contingencies, for rehabilitating and further investigating the inflow sources summarized in Tables 3 and 4 is approximately \$45,000.

Based on the dyed water testing and tracing performed, it is recommended that the Town implement a program to eliminate the inflow sources identified. The program would consist of three components: Capping and redirection of direct inflow sources, sewer pipeline rehabilitation, and further investigations of indirect inflow sources. Each of the recommended rehabilitation components are summarized below.

As previously noted, the dyed water testing and tracing activities have been conducted under the Phase 2 Wastewater Facilities Plan to further locate sources of I/I. Other activities to locate I/I sources conducted under the Facilities Plan include house-to-house inspections, manhole inspections, and selected CCTV inspection of main line and service connection laterals. The rehabilitation recommendations made herein along with recommendations arising from the other activities to locate I/I will be incorporated into an Inflow Reduction Plan that will present an approach for Town to reduce collection system inflow.

Capping and Redirection of Direct Inflow Sources

As summarized in Table 3, 4 inflow sources have been identified and are recommended for repair. The inflow sources include 17 privately owned downspouts connected to the sewer system. The estimated peak inflow rate of these inflow sources is 132,600 gpd. The elimination of these inflow sources should be a high priority for the Town. The stormwater runoff contributed by these sources may have a significant impact on the flows during wet weather conditions. To repair these defects it is recommended that the Town work with the property owners to implement the design and construction of capping and redirection of these inflow sources.

It is recommended that the open cleanout at Veterans Park Elementary School (Source No. 18) be capped.

Recommended repairs consist of capping and redirection of downspouts, and capping the open cleanout. The estimated cost for disconnection and rerouting of downspouts is based on a licensed plumber disconnecting the downspouts, capping the sewer connection, and installing a bend and splash pad. Similarly, the estimated cost for capping the open cleanout is based on a licensed plumber capping and sealing the open cleanout. The Town has initiated disconnection of these inflow sources with the property owners. After disconnection, it is recommended that these buildings be re-inspected to ensure that the inflow sources have been eliminated permanently.

It is recommended that the leaking service connection identified by dyed water tracing at 84 Governor Street (Source No. 5) be confirmed to be inactive, and then the connection be cut and capped at the manhole it enters (SMH-74B). The recommended repair consists of excavation at the exterior of the manhole, cutting out a section of the inactive service connection and plugging each end of the cut service connection with non-shrink grout.

Sewer Pipeline Rehabilitation

Dyed water was observed entering the sewer between SMH-62 and SMH-63 (Source Nos. 16 and 17) at an offset joint and at a capped service connection. It is recommended that this section of pipe be hydraulically cleaned, joint tested and sealed. To address the inflow observed entering the capped service connection, it is recommended that a short cured-in-place liner be installed at that location.

A longitudinal fracture was observed in the sewer section between SMH-159 and SMH-160 (Source Nos. 59 and 60). The observed inflow in this line was not at the fracture but just beyond at a leaking service connection. There is an offset joint at the interface between the mainline sewer and the sewer connection which allows the inflow. It is recommended that a short cured-in-place liner which incorporates the opening for the service connection be installed to include both the location of the longitudinal fracture and the service connection interface.

In addition to the above, dyed water was observed entering SMH-113 (Source No. 13) from the annular space between the host pipe and liner. Chemical sealing is recommended to be performed at this manhole to fill the annular space between the host pipe and the liner with chemical grout at the pipe to manhole connection. This manhole rehabilitation was previously recommended in the Phase 1 Wastewater Facilities Plan.

It is recommended that the loose fitting above grade flexible connection at 99 Ramapoo Road (Source No. 69) be inspected by Town staff to ensure the piping arrangement is allowable under the Town's ordinances. If acceptable it is recommended that a new, watertight flexible connection be installed.

Further Investigations

To determine the appropriate rehabilitation method (e.g., trenchless or dig-and-replace) of the five leaking service connections identified in Table 4, it is recommended that these laterals be cleaned and television inspected.

The six suspect sources identified in Table 1, for which no dye was found during dyed water testing, could be noted on a list for the local building inspector to perform an inspection as the opportunity arises (e.g., a real estate transfer, tax assessment, or building permit application).

At the address of inflow Source No. 40, where dyed water tracing was attempted between SMH-179 and SMH-180, the effort to surcharge the drain system was unsuccessful. It is suspected that the bottom of the corrugated metal drain pipe is corroded and leaches water. It is recommended that the Town repair the drain pipe and repeat the dyed water tracing.

Because the property owner at 470 Main Street declined to allow the dyed water testing to be conducted, it is recommended that the Town pursue an inspection of the property to ensure that there are no sources of inflow at this location.

It is important to note that all of the inflow sources confirmed by the dyed water testing program and half of the inflow sources confirmed by the dyed water tracing program are located on private property. In Ridgefield, the Town owns the mainline sewer and manholes, and each property owner owns the lateral sewer from the mainline sewer to the house. With the large percentage of positive sources identified located on private property, the Town needs to develop a policy and procedure regarding correction of privately owned inflow sources. It is strongly recommended that the inflow correction procedure make provisions for verification by Town staff that an identified private inflow source has been correctly and satisfactorily removed from the collection system. Information on a sample private inflow source removal program that is currently in use by the Town of Greenwich, CT was included in Technical Memorandum No. 1 of the Ridgefield Phase I Wastewater Facilities Plan.

Table 5 presents a summary of the estimated costs for the components of the recommendations. The costs presented in this table are only planning level cost estimates for budgeting purposes. A more accurate estimate of the anticipated costs may be determined during the design phases of the recommended program.

TABEL 5. SUMMARY OF ESTIMATED COSTS

Component	Total Estimated Cost
Capping and Redirection of Direct Inflow Sources	\$14,600
Sewer Pipeline Rehabilitation	\$22,900
Further Investigations	\$7,400
Total	\$44,900

Attachment A – SDE Dye Testing Report (1 CD)

Attachment B – EST Associates, Dye Flooding Report (1 CD and 3 DVDs)

Dye Testing Report

February 29, 2016

Prepared for:

Ridgefield, Connecticut

Prepared by:



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Table 1: Dye Test Results Overview

The table below is a tally of how many properties are connected to the Sanitary Sewer, Sewer and Drain, Storm Drain, Surface or Unknown.

	Sanitary Sewer	Sewer and Drain	Storm Drain	Surface	Unknown - No Dye Found
Sub-Area 1	0	0	7	10	4
Sub-Area 2	2	2	14	5	1
Sub-Area 3	0	0	5	5	1
Sub-Area 4	0	0	42	15	0
Sub-Area 5	0	0	8	13	0
Sub-Area 6	0	0	17	8	0
Total	2	2	93	56	6



Table 2A: Sub-Area 1, Connected to Sewer

Not Applicable. Sub-Area 1 did not have any connections to the sewer.

Table 2B: Sub-Area 1, Connected to Both the Sewer and Drain

Not Applicable. Sub-Area 1 did not have any connections to the sewer and drain.

Table 2C: Sub-Area 1, Connected to Drain

[illegible]



Table 2D: Sub-Area 1, Connected to Surface

Date	Sub-Area	Address	Location	Suspect Source Type	Results
21-Dec-15	Sub-Area 1	48 Branchville Road	Yard - Back	Downspout	Connected to Surface
05-Jan-16	Sub-Area 1	48 Branchville Road	Yard - Front	Downspout	Connected to Surface
20-Jan-16	Sub-Area 1	35 Copps Hill Road	Yard - Front	Downspout	Connected to Surface
20-Jan-16	Sub-Area 1	35 Copps Hill Road	Yard - Back	Downspout	Connected to Surface
28-Dec-15	Sub-Area 1	5 East Ridge Road	Yard - Back	Downspout	Connected to Surface
28-Dec-15	Sub-Area 1	5 East Ridge Road	Yard - Front	Downspout	Connected to Surface
16-Dec-15	Sub-Area 1	10 East Ridge Road (Middle School)	Roof	Building Drain/Flat Roof Drain	Connected to Surface
04-Jan-16	Sub-Area 1	145 Main Street	Yard - Back	Downspout	Connected to Surface
28-Dec-15	Sub-Area 1	78 Prospect Street	Yard - Back	Downspout	Connected to Surface
28-Dec-15	Sub-Area 1	78 Prospect Street	Yard - Front	Downspout	Connected to Surface

Table 2E: Sub-Area 1, Unknown – No Dye Found

Date	Sub-Area	Address	Location	Suspect Source Type	Results
05-Jan-16	Sub-Area 1	50 Branchville Road	Yard - Front	Downspout	Unknown - NDF
23-Dec-15	Sub-Area 1	32 Main Street	Yard - Back	Downspout	Unknown - NDF
04-Jan-16	Sub-Area 1	145 Main Street	Yard - Back	Downspout	Unknown - NDF
05-Jan-16	Sub-Area 1	114 Main Street	Yard - Back	Driveway Drain	Unknown - NDF



Table 3A: Sub-Area 2, Connected to Sewer

Date	Sub-Area	Address	Location	Suspect Source Type	Results
16-Dec-15	Sub-Area 2	21 King Lane	Yard - Back	Downspout	Connected to Sewer
05-Jan-16	Sub-Area 2	353 Main Street	Yard - Side	Downspout	Connected to Sewer

Table 3B: Sub-Area 2, Connected to Both the Sewer and Drain

Date	Sub-Area	Address	Location	Suspect Source Type	Results
03-Mar-16	Sub Area 2	353 Main Street	Yard - Back	Downspout	Connected to Sewer
03-Mar-16	Sub Area 2	353 Main Street	Yard - Side	Downspout	Connected to Sewer



Table 3C: Sub-Area 2, Connected to Drain

Date	Sub-Area	Address	Location	Suspect Source Type	Results
22-Dec-15	Sub Area 2	46 Danbury Road	Roof	Building Drain/Flat Roof Drain	Connected to Drain
29-Dec-15	Sub Area 2	111 High Ridge Avenue	Yard - Front	Downspout	Connected to Drain
06-Jan-16	Sub Area 2	61 High Ridge Avenue	Yard - Back	Downspout	Connected to Drain
06-Jan-16	Sub Area 2	61 High Ridge Avenue	Yard - Front	Downspout	Connected to Drain
20-Jan-16	Sub Area 2	183 High Ridge Avenue	Roof	Building Drain/Flat Roof Drain	Connected to Drain
20-Jan-16	Sub Area 2	183 High Ridge Avenue	Roof	Building Drain/Flat Roof Drain	Connected to Drain
20-Jan-16	Sub Area 2	183 High Ridge Avenue	Roof	Building Drain/Flat Roof Drain	Connected to Drain
20-Jan-16	Sub Area 2	183 High Ridge Avenue	Roof	Building Drain/Flat Roof Drain	Connected to Drain
17-Dec-15	Sub Area 2	1 Main Street	Yard - Front	Area Drain	Connected to Drain
17-Dec-15	Sub Area 2	88 Main Street	Yard - Back	Driveway Drain	Connected to Drain
17-Dec-15	Sub Area 2	88 Main Street	Yard - Front	Downspout	Connected to Drain
22-Dec-15	Sub Area 2	378 Main Street	Yard - Back	Downspout	Connected to Drain
04-Jan-16	Sub Area 2	353 Main Street	Yard - Front	Downspout	Connected to Drain
04-Jan-16	Sub Area 2	353 Main Street	Yard - Side	Downspout	Connected to Drain

Table 3D: Sub-Area 2, Connected to Surface

Date	Sub-Area	Address	Location	Suspect Source Type	Results
29-Dec-15	Sub-Area 2	125 High Ridge Avenue	Yard - Front	Downspout	Connected to Surface
21-Dec-15	Sub-Area 2	441 Main Street	Yard - Side	Downspout	Connected to Surface
29-Dec-15	Sub-Area 2	381 Main Street	Yard - Back	Downspout	Connected to Surface
29-Dec-15	Sub-Area 2	385 Main Street	Yard - Front	Downspout	Connected to Surface
29-Dec-15	Sub-Area 2	387 - 389 Main Street	Yard - Back	Downspout	Connected to Surface



Table 3E: Sub-Area 2, Unknown – No Dye Found

Date	Sub-Area	Address	Location	Suspect Source Type	Results
16-Dec-15	Sub-Area 2	21 King Lane	Yard - Front	Downspout	Unknown - NDF

Table 4A: Sub-Area 3, Connected to Sewer

Not Applicable. Sub-Area 3 did not have any connections to the sewer.

Table 4B: Sub-Area 3, Connected to Both the Sewer and Drain

Not Applicable. Sub-Area 3 did not have any connections to the sewer and drain.

Table 4C: Sub-Area 3, Connected to Drain

Date	Sub-Area	Address	Location	Suspect Source Type	Results
15-Dec-15	Sub-Area 3	85 Ramapoo Road	Yard - Front	Downspout	Connected to Drain
15-Dec-15	Sub-Area 3	86 Ramapoo Road	Paved Asph	Driveway Drain	Connected to Drain
15-Dec-15	Sub-Area 3	8 Victor Drive	Paved Asph	Driveway Drain	Connected to Drain
15-Dec-15	Sub-Area 3	11 Victor Drive	Paved Asph	Driveway Drain	Connected to Drain
20-Jan-16	Sub-Area 3	9 Victor Drive	Paved Asph	Driveway Drain	Connected to Drain



Table 4D: Sub-Area 3, Connected to Surface

Date	Sub-Area	Address	Location	Suspect Source Type	Results
04-Jan-16	Sub-Area 3	10 Millstone Court	Yard - Front	Downspout	Connected to Surface
15-Dec-15	Sub-Area 3	102 Ramapoo Road	Yard - Front	Downspout	Connected to Surface
15-Dec-15	Sub-Area 3	70 Ramapoo Road	Yard - Front	Downspout	Connected to Surface
15-Dec-15	Sub-Area 3	70 Ramapoo Road	Yard - Front	Downspout	Connected to Surface
15-Dec-15	Sub-Area 3	17 Victor Drive	Yard - Front	Downspout	Connected to Surface

Table 4E: Sub-Area 3, Unknown – No Dye Found

Date	Sub-Area	Address	Location	Suspect Source Type	Results
04-Jan-16	Sub-Area 3	15 Victor Drive	Paved Asph	Driveway Drain	Unknown - NDF

Table 5A: Sub-Area 4, Connected to Sewer

Not Applicable. Sub-Area 4 did not have any connections to the sewer.

Table 5B: Sub-Area 4, Connected to Both the Sewer and Drain

Not Applicable. Sub-Area 4 did not have any connections to the sewer and drain.

Table 5C: Sub-Area 4, Connected to Drain

Date	Sub-Area	Address	Location	Suspect Source Type	Results
22-Dec-15	Sub-Area 4	396 Main Street	Yard - Back	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	396 Main Street	Yard - Back	Downspout	Connected to Drain
06-Jan-16	Sub-Area 4	404 Main Street	Yard - Side	Downspout	Connected to Drain
06-Jan-16	Sub-Area 4	418 Main Street	Yard - Back	Downspout	Connected to Drain
06-Jan-16	Sub-Area 4	426 Main Street	Yard - Side	Downspout	Connected to Drain
06-Jan-16	Sub-Area 4	404 Main Street	Yard - Side	Downspout	Connected to Drain
06-Jan-16	Sub-Area 4	418 Main Street	Yard - Back	Downspout	Connected to Drain
20-Jan-16	Sub-Area 4	374 Main Street	Roof	Building Drain/Flat Roof Drain	Connected to Drain
29-Dec-15	Sub-Area 4	51 Prospect Ridge	Yard - Front	Downspout	Connected to Drain
29-Dec-15	Sub-Area 4	51 Prospect Ridge	Yard - Back	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 19,20	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 19,20	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 5,6,7,8,9,10	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 5,6,7,8,9,10	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 37,38,39,40,41,42	Driveway Drain	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 5,6,7,8,9,10	Yard Drain	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 37,38,39,40,41,42	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 43,44,45	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 56,57,58,59	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 60,61,62,63	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 48,47	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 56,57,58,59	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 52,53,54,55	Downspout	Connected to Drain
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 52,53,54,55	Downspout	Connected to Drain



Table 5C: Sub-Area 4, Connected to Drain

Date	Sub-Area	Address	Location	Suspect Source Type	Results
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 49,50,51	Downspout	Connected to Drain
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 30	Downspout	Connected to Drain
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 20	Downspout	Connected to Drain
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 21-22	Downspout	Connected to Drain
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 28	Downspout	Connected to Drain
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 34	Downspout	Connected to Drain
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 34	Downspout	Connected to Drain
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 30	Downspout	Connected to Drain
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 30	Yard Drain	Connected to Drain
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 15-17	Downspout	Connected to Drain
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 20	Driveway Drain	Connected to Drain
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 30	Driveway Drain	Connected to Drain
20-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 69-70	Downspout	Connected to Drain
20-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 4-1	Downspout	Connected to Drain
20-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 4-1	Downspout	Connected to Drain
20-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 1-8-9	Downspout	Connected to Drain
20-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 4-1	Downspout	Connected to Drain
20-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 10,11,12	Downspout	Connected to Drain



Table 5D: Sub-Area 4, Connected to Surface

Date	Sub-Area	Address	Location	Suspect Source Type	Results
06-Jan-16	Sub-Area 4	18 Bailey Avenue	Roof	Building Drain/Flat Roof Drain	Connected to Surface
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 25	Downspout	Connected to Surface
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 29,30,31,32	Downspout	Connected to Surface
22-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 21,23	Downspout	Connected to Surface
23-Dec-15	Sub-Area 4	Quail Ridge 1 Condominiums	Building 25	Downspout	Connected to Surface
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 66-68	Downspout	Connected to Surface
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 62	Downspout	Connected to Surface
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 55-56	Downspout	Connected to Surface
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 51	Downspout	Connected to Surface
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 46-47	Downspout	Connected to Surface
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 42-43	Downspout	Connected to Surface
18-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 42-43	Downspout	Connected to Surface
20-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 1-8-9	Downspout	Connected to Surface
20-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 72-71	Downspout	Connected to Surface
20-Jan-16	Sub-Area 4	Quail Ridge 2 Condominiums	Building 64-61	Downspout	Connected to Surface

Table 5E: Sub-Area 4, Unknown – No Dye Found

Not Applicable. Sub-Area 4 did not have any No Dye Found results.



Table 6A: Sub-Area 5, Connected to Sewer

Not Applicable. Sub-Area 5 did not have any connections to the sewer.

Table 6B: Sub-Area 5, Connected to Both the Sewer and Drain

Not Applicable. Sub-Area 5 did not have any connections to the sewer and drain.

Table 6C: Sub-Area 5, Connected to Drain

Date	Sub-Area	Address	Location	Suspect Source Type	Results
29-Dec-15	Sub-Area 5	15 Danbury Road	Yard - Front	Downspout	Connected to Drain
30-Dec-15	Sub-Area 5	Danbury Road (Stop & Shop)	Roof	Building Drain/Flat Roof Drain	Connected to Drain
06-Jan-16	Sub-Area 5	195 Danbury Road (Rec Center)	Yard - Back	Downspout	Connected to Drain
06-Jan-16	Sub-Area 5	195 Danbury Road (Rec Center)	Yard - Front	Downspout	Connected to Drain
06-Jan-16	Sub-Area 5	195 Danbury Road (Rec Center)	Yard - Front	Downspout	Connected to Drain
07-Jan-16	Sub-Area 5	Fox Hill Condominiums	Building 6 Zone 1	Downspout	Connected to Drain
07-Jan-16	Sub-Area 5	Fox Hill Condominiums	Building 5 Zone 3	Downspout	Connected to Drain
23-Dec-15	Sub-Area 5	1 Washington Avenue	Paved Asph	Driveway Drain	Connected to Drain



Table 6D: Sub-Area 5, Connected to Surface

Date	Sub-Area	Address	Location	Suspect Source Type	Results
07-Jan-16	Sub-Area 5	Fox Hill Condominiums	Building 9 Zone 2	Downspout	Connected to Surface
07-Jan-16	Sub-Area 5	Fox Hill Condominiums	Building 9 Zone 2	Downspout	Connected to Surface
07-Jan-16	Sub-Area 5	Fox Hill Condominiums	Building 8 Zone 2	Downspout	Connected to Surface
07-Jan-16	Sub-Area 5	Fox Hill Condominiums	Building 8 Zone 2	Building Drain/Flat Roof Drain	Connected to Surface
07-Jan-16	Sub-Area 5	Fox Hill Condominiums	Building 7 Zone 1	Downspout	Connected to Surface
07-Jan-16	Sub-Area 5	Fox Hill Condominiums	Building 4 Zone 3	Downspout	Connected to Surface
07-Jan-16	Sub-Area 5	Fox Hill Condominiums	Building 3 Zone 3	Building Drain/Flat Roof Drain	Connected to Surface
05-Jan-16	Sub-Area 5	27 Mountain View Avenue	Paved Asph	Driveway Drain	Connected to Surface
28-Dec-15	Sub-Area 5	26 Roberts Lane	Yard - Front	Downspout	Connected to Surface
05-Jan-16	Sub-Area 5	20 Roberts Lane	Yard - Back	Driveway Drain	Connected to Surface
07-Jan-16	Sub-Area 5	16 Roberts Lane	Yard - Front	Downspout	Connected to Surface
30-Dec-15	Sub-Area 5	10 Roberts Lane	Yard - Back	Downspout	Connected to Surface
21-Dec-15	Sub-Area 5	6 Rochambeau Avenue	Yard - Front	Downspout	Connected to Surface

Table 6E: Sub-Area 5, Unknown – No Dye Found

Not Applicable. Sub-Area 5 did not have any No Dye Found results.

Table 7A: Sub-Area 6, Connected to Sewer

Not Applicable. Sub-Area 6 did not have any connections to the sewer.

Table 7B: Sub-Area 6, Connected to Both the Sewer and Drain

Not Applicable. Sub-Area 6 did not have any connections to the sewer and drain.



Table 7C: Sub-Area 6, Connected to Drain

Date	Sub-Area	Address	Location	Suspect Source Type	Results
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 9-12	Downspout	Connected to Drain
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 60	Downspout	Connected to Drain
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 34-49	Downspout	Connected to Drain
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 57-60, 53-56	Downspout	Connected to Drain
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 16-18	Downspout	Connected to Drain
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 13-16, 21-24	Downspout	Connected to Drain
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 5-9	Downspout	Connected to Drain
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 54-57	Downspout	Connected to Drain
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 96-99	Downspout	Connected to Drain
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building S of 5-8	Downspout	Connected to Drain
15-Dec-15	Sub-Area 6	14 Danbury Road	Yard - Front	Downspout	Connected to Drain
15-Dec-15	Sub-Area 6	14 Danbury Road	Yard - Front	Downspout	Connected to Drain
20-Jan-16	Sub-Area 6	90 Danbury Road	Roof	Building Drain/Flat Roof Drain	Connected to Drain
20-Jan-16	Sub-Area 6	90 Danbury Road	Roof	Building Drain/Flat Roof Drain	Connected to Drain
20-Jan-16	Sub-Area 6	90 Danbury Road	Yard - Front	Downspout	Connected to Drain
20-Jan-16	Sub-Area 6	10 South Street	Roof	Building Drain/Flat Roof Drain	Connected to Drain
20-Jan-16	Sub-Area 6	10 South Street	Roof	Building Drain/Flat Roof Drain	Connected to Drain



Table 7D: Sub-Area 6, Connected to Surface

Date	Sub-Area	Street	Location	Suspect Source Type	Results
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 9-10	Downspout	Connected to Surface
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 5-6	Downspout	Connected to Surface
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 66-68, 61-64	Downspout	Connected to Surface
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 15-18	Yard Drain	Connected to Surface
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 15-18	Downspout	Connected to Surface
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 19-20, 23-26	Downspout	Connected to Surface
19-Jan-16	Sub-Area 6	Casagmo Condominiums	Building 54-57	Downspout	Connected to Surface
20-Jan-16	Sub-Area 6	10 South Street	Roof	Building Drain/Flat Roof Drain	Connected to Surface

Table 7E: Sub-Area 6, Unknown – No Dye Found

Not Applicable. Sub-Area 6 did not have any No Dye Found results.

Attachment 1

Sub-Area 1

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/5/2016

Sub Area: Sub Area 1

Address: 29 Branchville Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 69

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

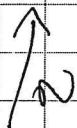
Dye Test Results:

Connected to Surface

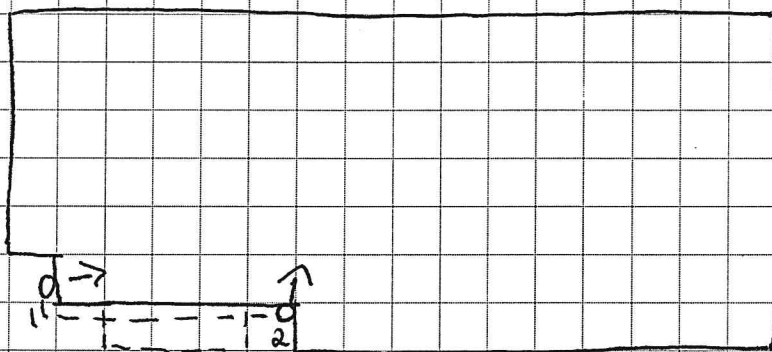
Comments

Dye tested downspout 2 from sketch. Dye seen discharging from PVC pipe to ground surface.

29 Branchville Rd

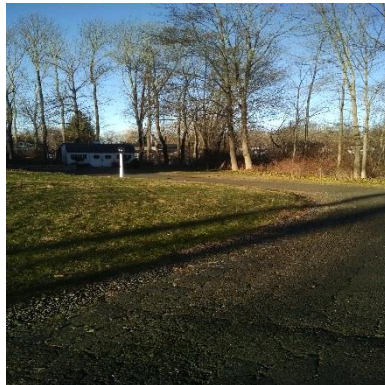


Dye seen discharging
to surface
here →



Branchville RD

- Downspouts 1 and 2 connect, sand tested
- Surface discharge



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/21/2015

Sub Area: Sub Area 1

Address: 48 Branchville Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 69

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

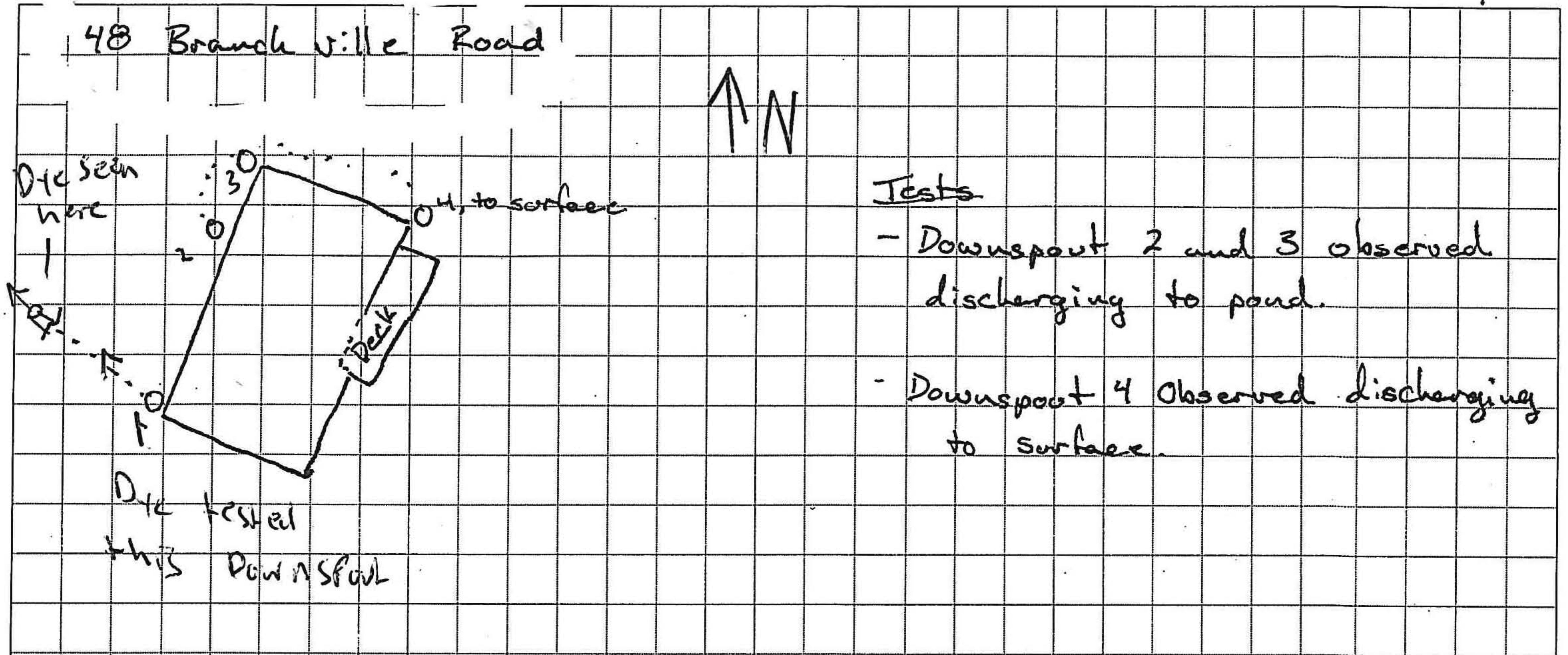
Dye Test Results:

Connected to Surface

Comments

Dye tested downspout 1 from sketch. Dye observed discharging to yard and pond. All other downspouts observed discharging to surface.

12/21/15





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/5/2016

Sub Area: Sub Area 1

Address: 50 Branchville Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 69

Dye Observed: No

Drain Manhole ID:

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

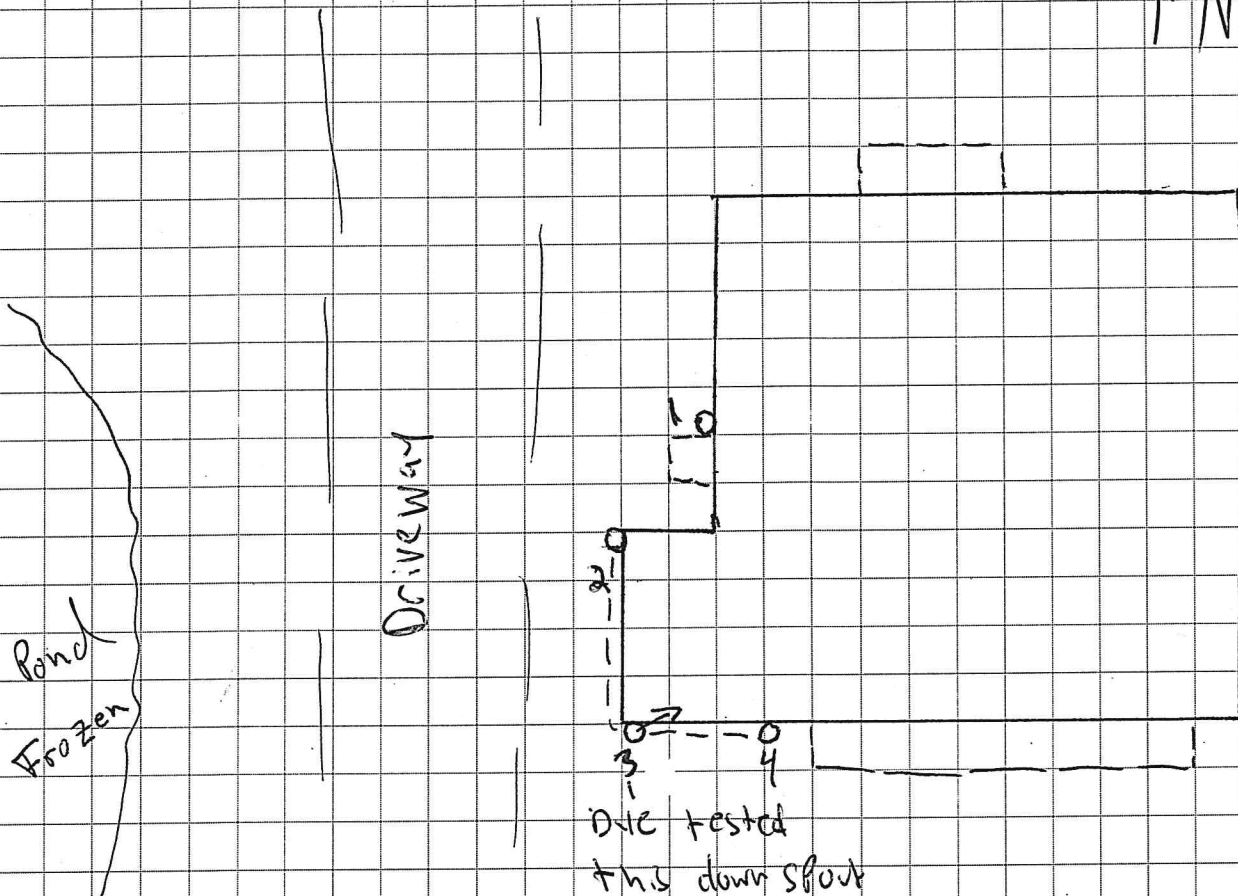
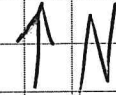
Dye Test Results:

Unknown - NDF

Comments

Crew poured over 100 gal of water into downspouts and waited at the sewer and drain for over an hour. Homeowner mentioned they either had a sump pump or ejector pump in the basement. Pond across the driveway was frozen. Downspout was tested 3 times.

50 Branchville Rd



- Downspouts 2-4 Connect, sand tested
- Crew panned over 100gal into drain and waited over an hour at the sewer and drain
- Pond across the driveway frozen at the time
- Homeowner mentioned they either have a sump pump or ejector pump in the basement

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016 Sub Area: Sub Area 1

Address:	<u>35</u>	<u>Copps Hill Road</u>
----------	-----------	------------------------

Building Characteristics

Sector: Private
Suspect Source Type: Downspout
Location: Yard - Front

Observations

Sewer Manhole ID: <u>615</u>	Dye Observed: <u>No</u>
Drain Manhole ID: <u>N/A</u>	Dye Observed: <u>No</u>
Other Manhole ID 1:	Dye Observed:

Dye Test Results: <u>Connected to Surface</u>

Comments

Dye seen discharging from outfall into wetland area behind building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 1

Address: 35 Copps Hill Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 615

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

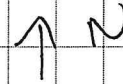
Dye Test Results:

Connected to Surface

Comments

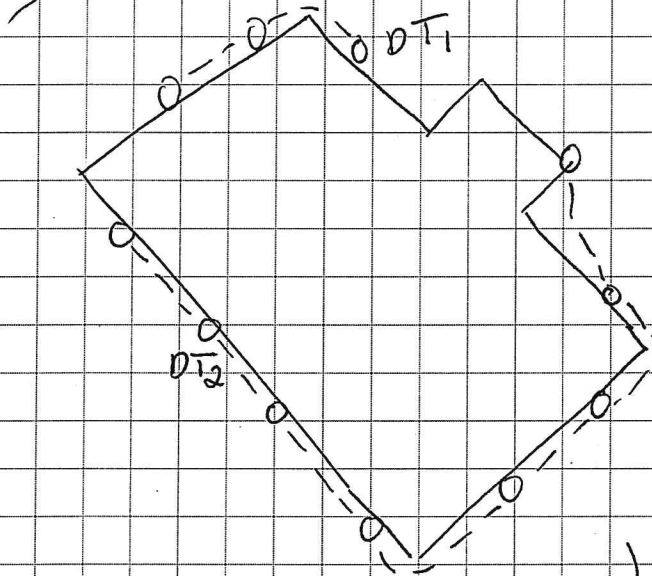
Dye seen discharging from outfall into wetland area behind building.

35 Capps Hill (School)



outfall

DS are tested
to this outfall



Capps Hill Rd

All downspouts discharge to ground surface in wetland
area.





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/28/2015

Sub Area: Sub Area 1

Address: 5 East Ridge Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 6Z

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Tested DS 0.25' S of NW corner and 0.25' from wall. Dye was observed discharging to yard to the N of tested DS.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/28/2015

Sub Area: Sub Area 1

Address: 5 East Ridge Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 67

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

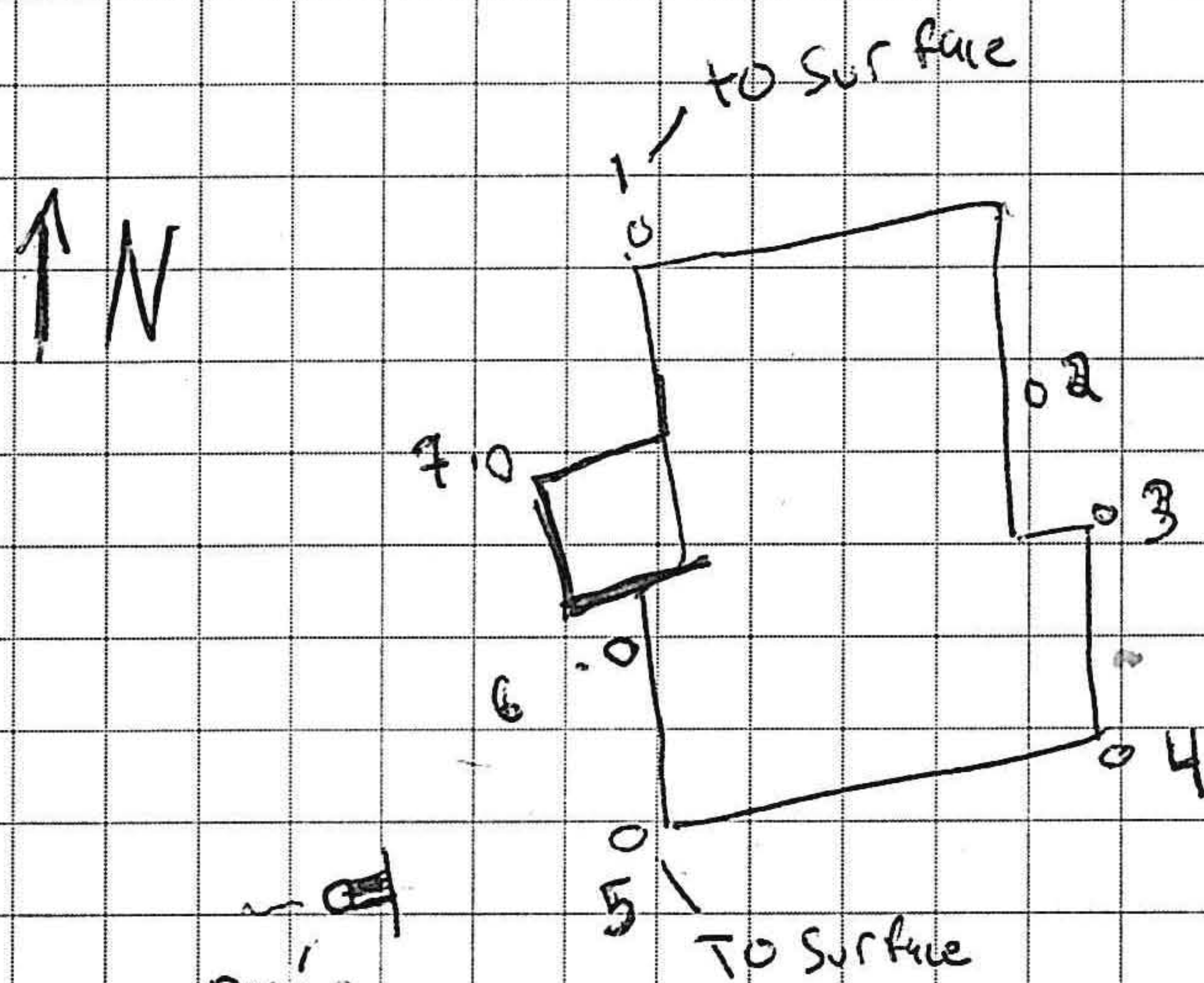
Comments

Tested downspout 0.25' E of SW corner and 0.25' from wall. Dye was observed discharging out a pipe west towards a wetland.

5 EAST RIDGE ROAD

RIDGEFIELD, CT

12/28/15



Downspouts 6, 7 discharge to surface.

Dye tested downspouts 5, observed discharging to surface.

Dye tested downspout 1, observed discharging to surface.



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/16/2015

Sub Area: Sub Area 1

Address: 10 East Ridge Road (Middle School)

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 71

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Dye tested roof drain located in Zone 1 from sketch. Dye seen in CB1 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/16/2015

Sub Area: Sub Area 1

Address: 10 East Ridge Road (Middle School)

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 71

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Dye tested roof drain located in Zone 5 from sketch. Dye seen discharging to ground surface at OF-1 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/16/2015

Sub Area: Sub Area 1

Address: 10 East Ridge Road (Middle School)

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 71

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

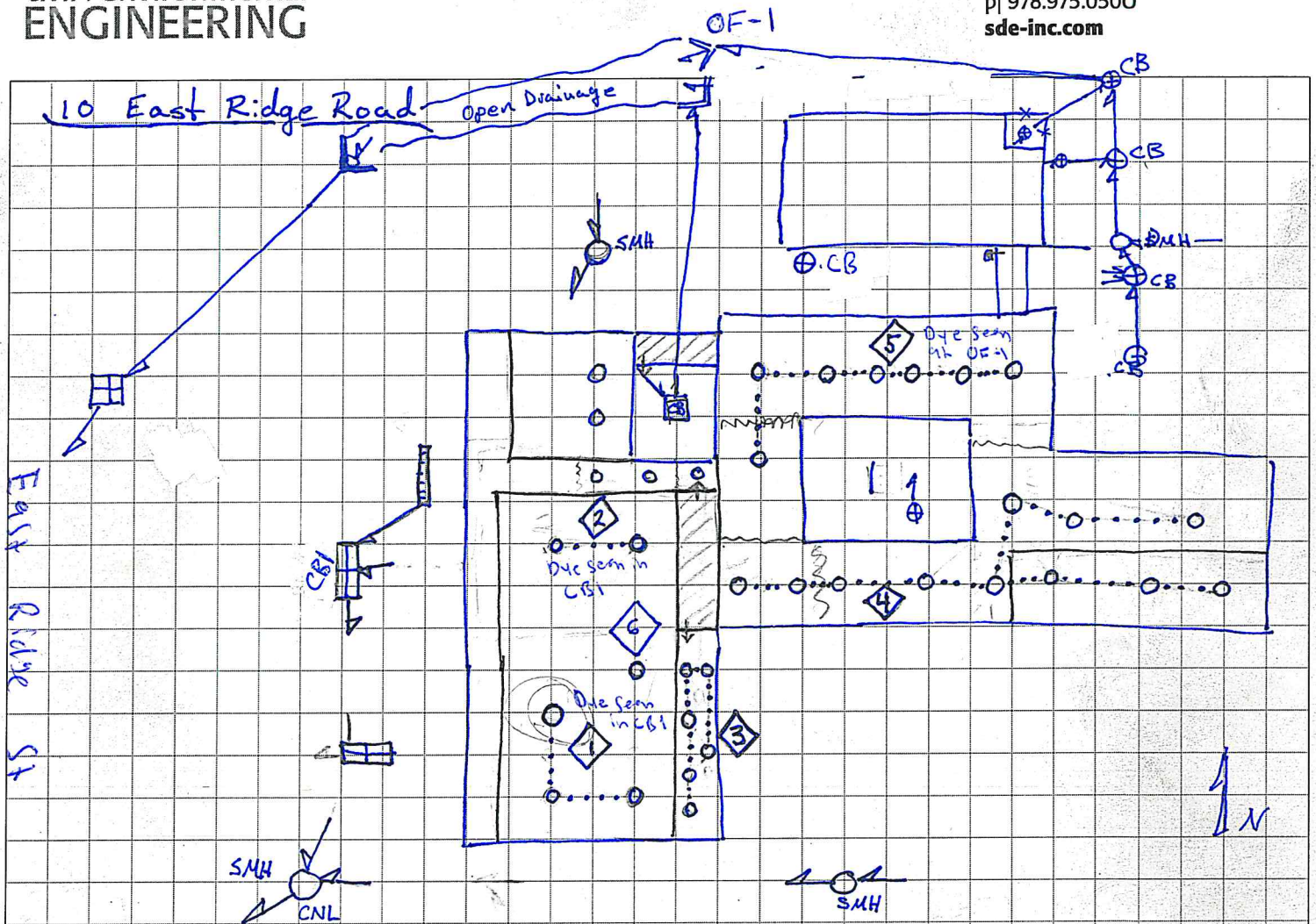
Connected to Drain

Comments

Dye tested roof drain located in zone 2 from sketch. Dye seen in CB1 from sketch.

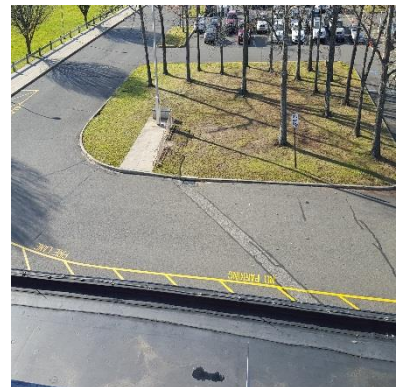
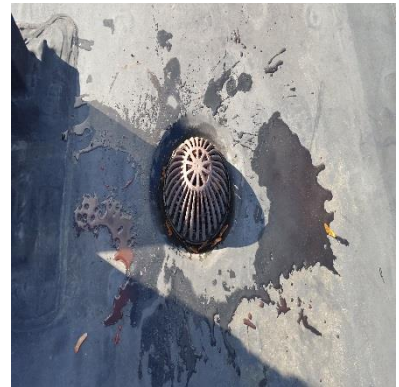
12/16/15

354 Merrimack Street, Suite 200
Lawrence, MA 01843-1755
p| 978.975.0500
sde-inc.com



Tests

- Tested roof drains using sound tests to find common connections with drains. Sound connections denoted with dotted lines and labeled with a Zone number in a "◇"
- Zone 1 Sound tested to catch basin in front of school, and dye tested to the same catch basin (CBI)
- Zone 2 Dye tested to catch basin (CBI) in front of the school.
- Zone 5 Dye tested to the outfall (OF-1) to the north of the school.





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/17/2015

Sub Area: Sub Area 1

Address: 8 Governor Street (Elementary School)

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 51

Dye Observed: No

Drain Manhole ID: CB-02

Dye Observed: Yes

Other Manhole ID 1: 43

Sanitary Se

Dye Observed: No

Dye Test Results:

Connected to Drain

Comments

Roof drain in zone 1 (Refer to drawing for zones and CB).

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/17/2015

Sub Area: Sub Area 1

Address: 8 Governor Street (Elementary School)

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 51 Dye Observed: No

Drain Manhole ID: CB-01 Dye Observed: Yes

Other Manhole ID 1: 43 Sanitary Se Dye Observed: No

Dye Test Results:

Connected to Drain

Comments

Roof drain in zone 5 (Refer to drawing for zones and CB).

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/17/2015

Sub Area: Sub Area 1

Address: 8 Governor Street (Elementary School)

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 51

Dye Observed: No

Drain Manhole ID: CB-00

Dye Observed: Yes

Other Manhole ID 1: 43

Sanitary Se

Dye Observed: No

Dye Test Results:

Connected to Drain

Comments

Roof drain in zone 2 (Refer to drawing for zones and CB).

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/17/2015

Sub Area: Sub Area 1

Address: 8 Governor Street (Elementary School)

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 51

Dye Observed: No

Drain Manhole ID: CB-00

Dye Observed: Yes

Other Manhole ID 1: 43

Sanitary Se

Dye Observed: No

Dye Test Results:

Connected to Drain

Comments

Roof drain in zone 3 (Refer to drawing for zones and CB).

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/17/2015

Sub Area: Sub Area 1

Address: 8 Governor Street (Elementary School)

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 51

Dye Observed: No

Drain Manhole ID: CB-03

Dye Observed: Yes

Other Manhole ID 1: 43

Sanitary Se

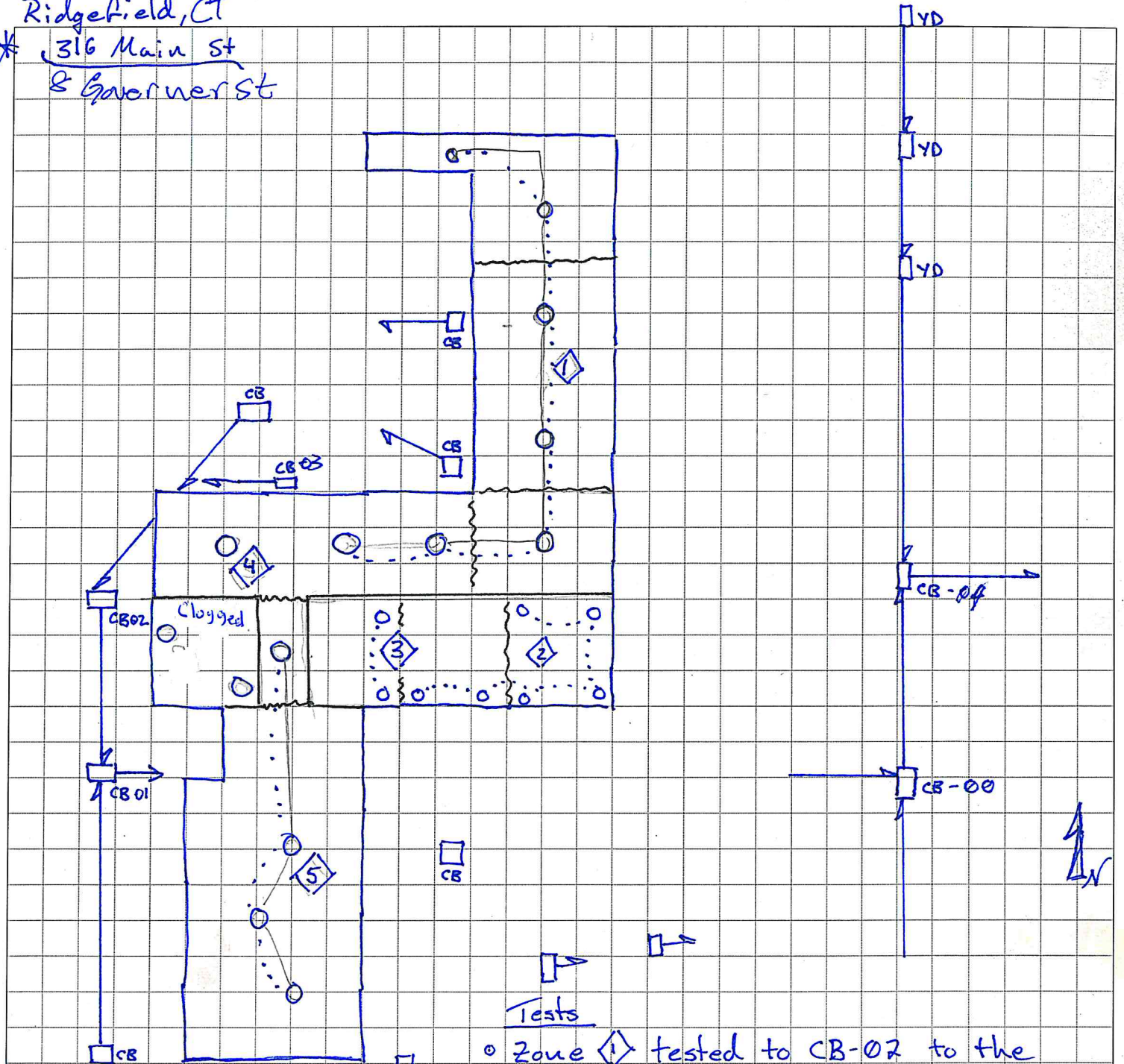
Dye Observed: No

Dye Test Results:

Connected to Drain

Comments

Roof drain in zone 4 (Refer to drawing for zones and CB).



Tests

- Zone ① tested to CB-02 to the West of the school.
- Zone ② tested to CB00 in Soccer field
- Zone ③ tested to CB00 in the Soccer field
- Zone ④ tested to CB03 on the W. Mid-line of the school
- Zone ⑤ tested to CB01 on the W. side of the school

positive sound test







Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/23/2015

Sub Area: Sub Area 1

Address: 32 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 89

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Unknown - NDF

Comments

Dye tested downspout 15' from NE corner of house and 0.25' from wall. All other DS Runoff to surface through perforated pipe. Could not determine if tested DS discharges to surface behind residence due to heavy debris and yard waste piles. Used 25 gal of H2O. It was raining during test. Waited for dye for over 1 hour.

32 Main St.

CBO

Drive Drain

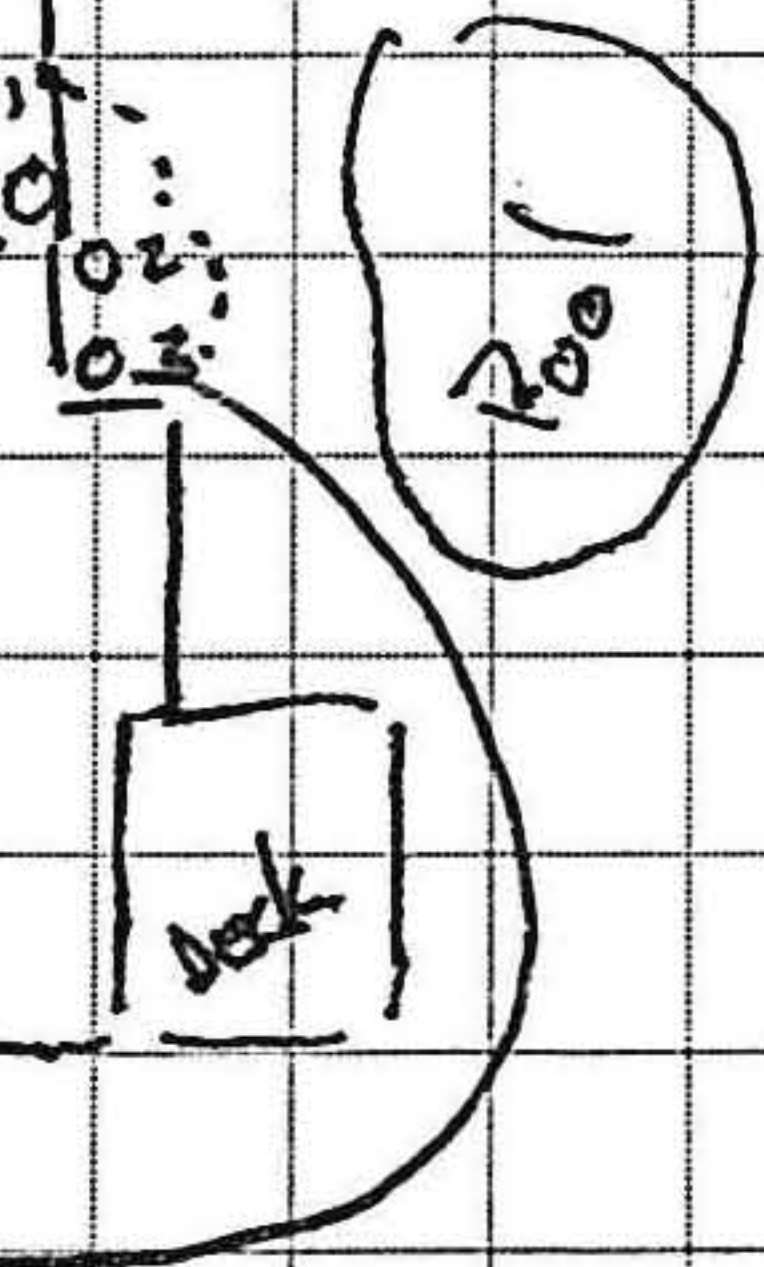
↑ N

Tested

- Downspout 3 with dye.
Observed no dye in Sewer
or Drain.

Retaining
wall
(surrounded by
leaf debris)

Te Steel & h. down spot.
used 25 gallons of water.
It was raining during test.
Waited for dye for 1 hr.





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/5/2016

Sub Area: Sub Area 1

Address: 114 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Yard - Back

Observations

Sewer Manhole ID: 104

Dye Observed: No

Drain Manhole ID:

Dye Observed: No

Other Manhole ID 1:

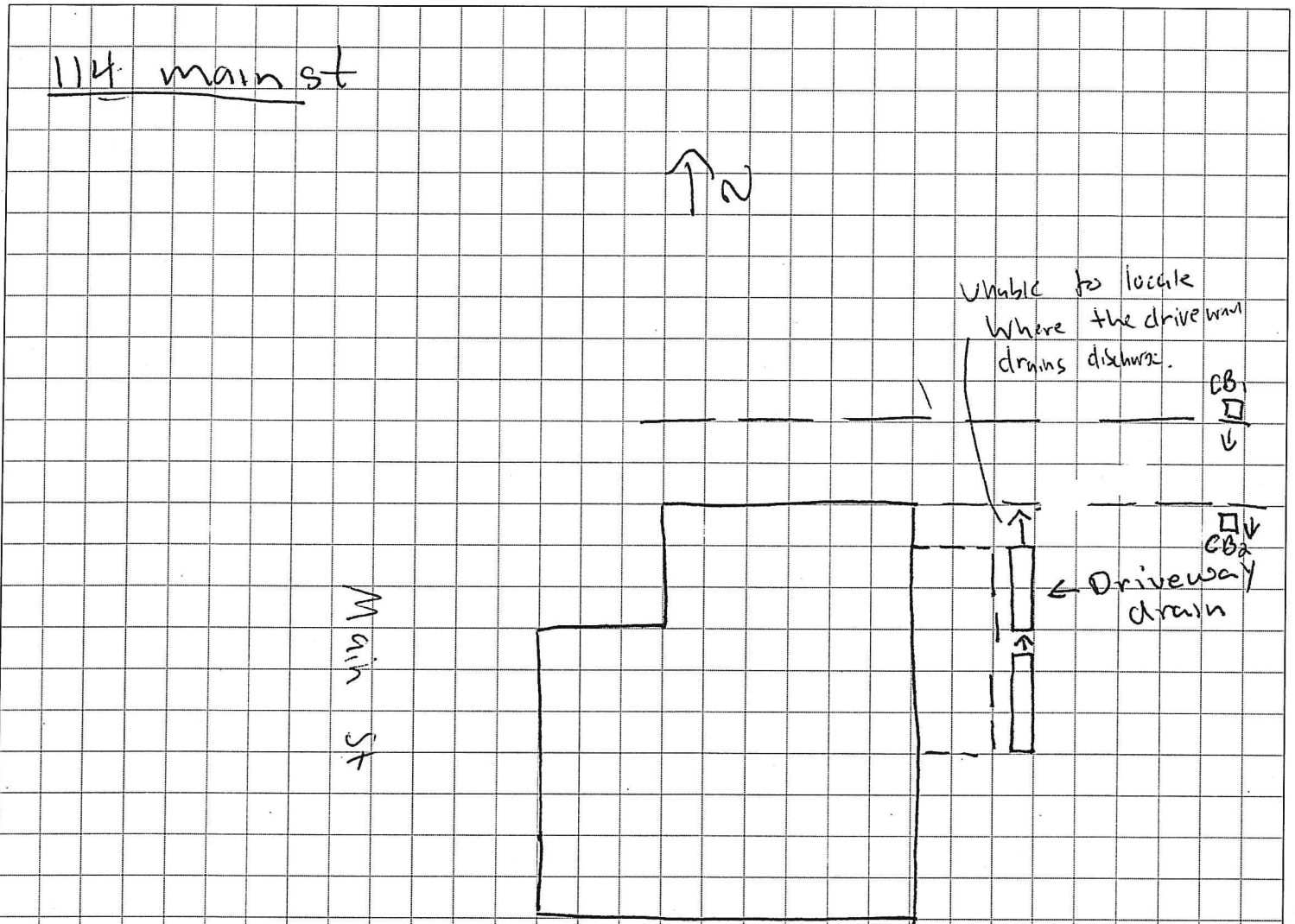
Dye Observed:

Dye Test Results:

Unknown - NDF

Comments

Crew poured 60 gallons of water into drain and waited roughly 1 hour. Homeowner told crew that the driveway drains go to the ground surface. Multiple discharge pipes seen but no dye observed.



- Crew poured about 60 gal of water into driveway drain
- Homeowner claimed that all the yard drains discharge on to surface. Crew found multiple discharge pipes but no dye observed.



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/4/2016

Sub Area: Sub Area 1

Address: 145 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 205

Dye Observed: No

Drain Manhole ID: DMH1

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Tested downspout 1 from sketch. Downspout discharges into the ground. pipe not visible. Dye seen percolating up from ground.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/4/2016

Sub Area: Sub Area 1

Address: 145 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 205

Dye Observed: No

Drain Manhole ID: DMH1

Dye Observed: No

Other Manhole ID 1: CB2

Storm Drai

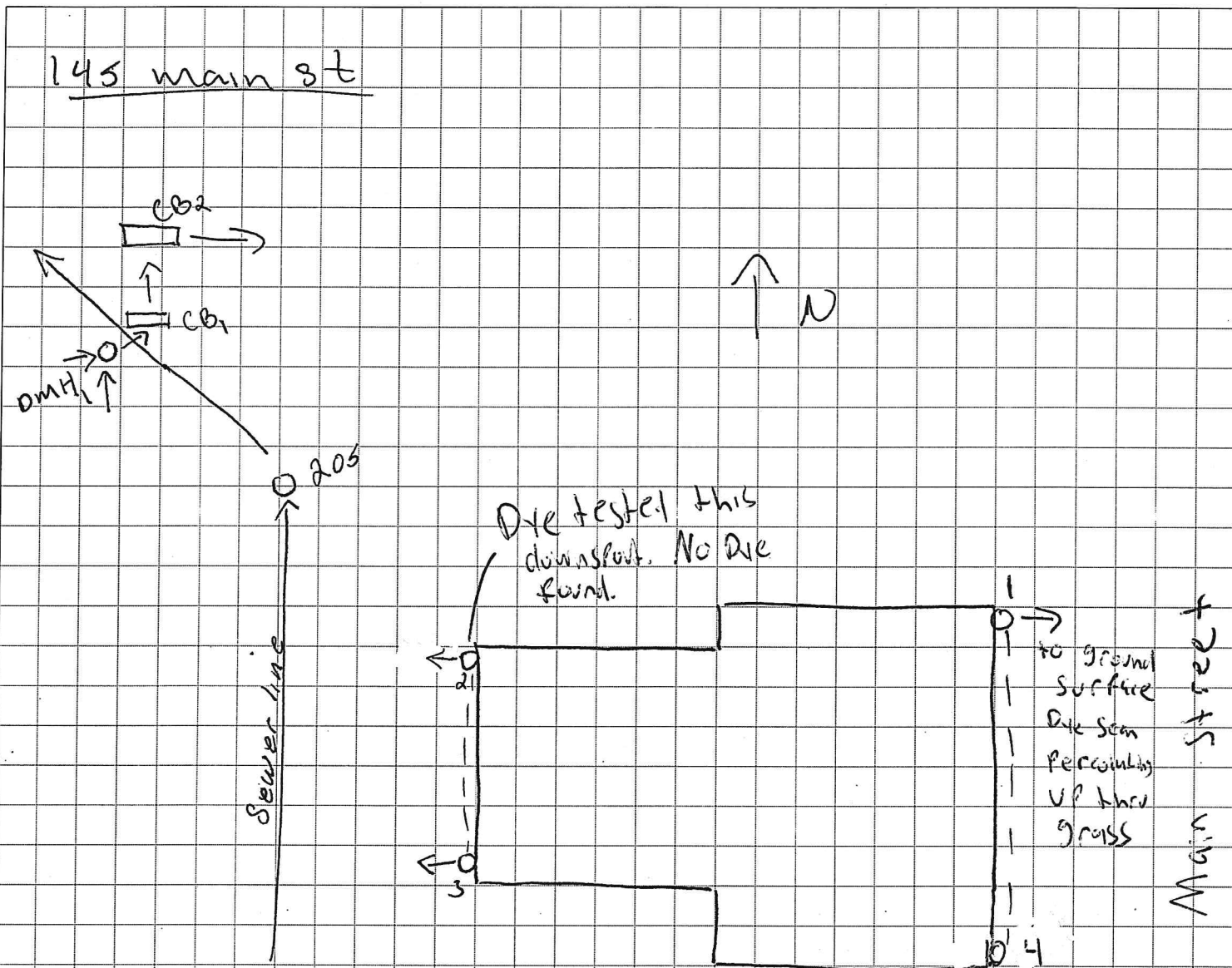
Dye Observed: No

Dye Test Results:

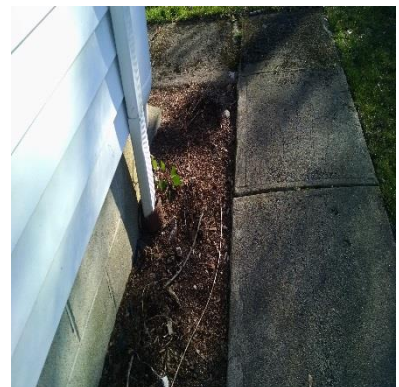
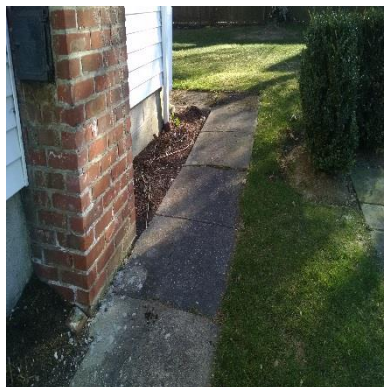
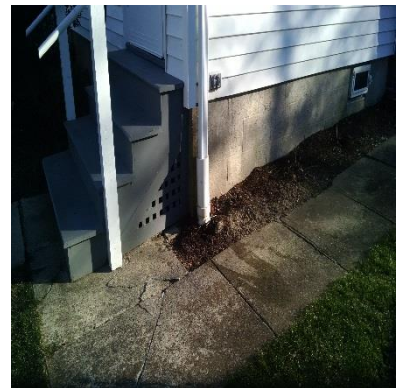
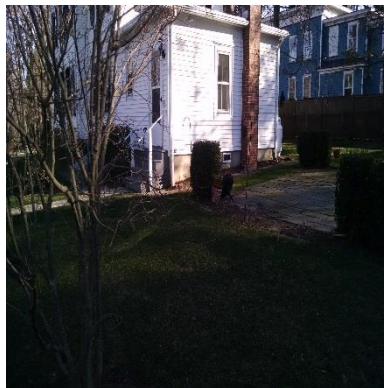
Unknown - NDF

Comments

Tested downspout 2 from sketch. Crew added roughly 60 gallons of water and waited for over 1 hour. No dye found in sewer, drain or discharging to ground surface.



- Downspouts 3 and 2 connect, sand tested
- Crew poured about 60 gal of water into downspout 2 and waited at the sewer MH 205 and drain MH1 for about an hour. Crew noticed a wetland area behind the property with small amount of flow but no dye seen after an hour.
- Downspout 1 discharges onto surface





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/28/2015

Sub Area: Sub Area 1

Address: 78 Prospect Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 74

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Dye tested downspout 0.25' W of the SE corner of house and 0.25' from wall (downspout 5 from sketch). Dye observed discharging into wetland behind house from PVC outlet.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/28/2015

Sub Area: Sub Area 1

Address: 78 Prospect Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 74

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

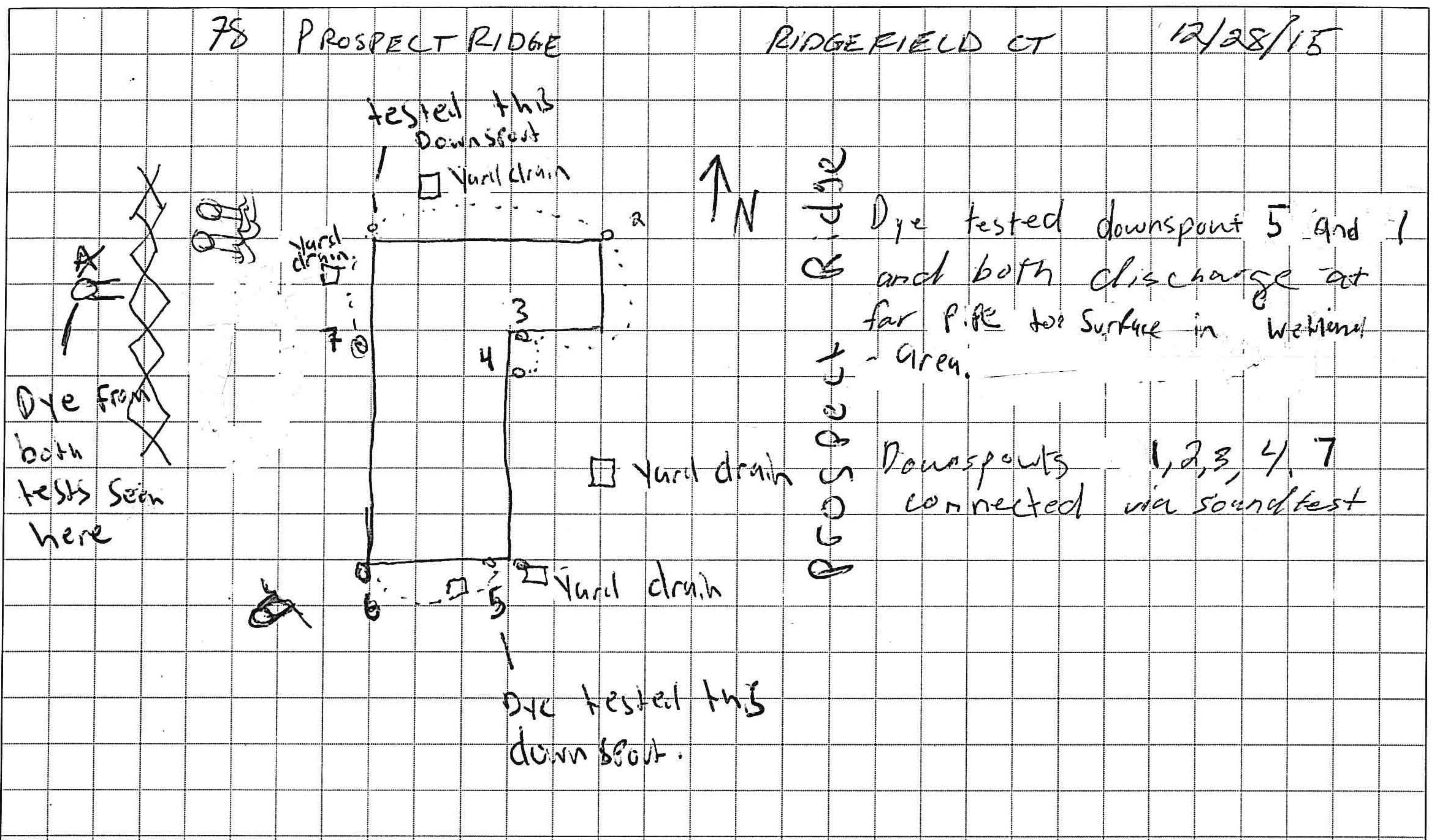
Dye Observed:

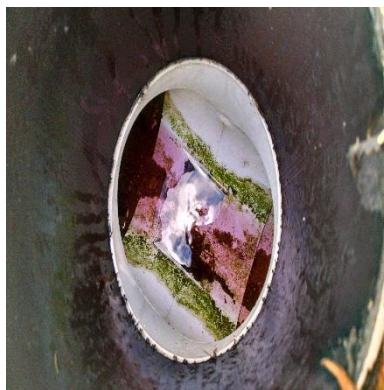
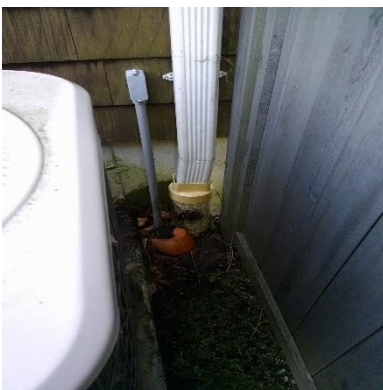
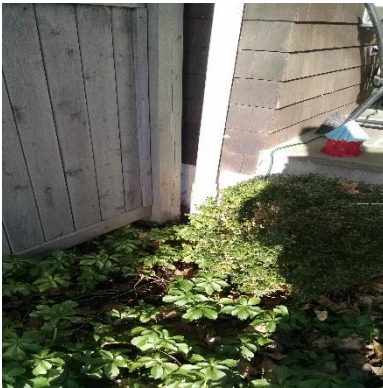
Dye Test Results:

Connected to Surface

Comments

Dye tested DS 0.5' E of NW corner of building and 0.25' from wall(downspout 1 from sketch). Dye was seen discharging into wetland from PVC outlet.





Attachment 2

Sub-Area 2

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 2

Address: 46 Danbury Road

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 665E

Dye Observed: No

Drain Manhole ID: DMH1

Dye Observed: Yes

Other Manhole ID 1: 650

Sanitary Se

Dye Observed: No

Dye Test Results:

Connected to Drain

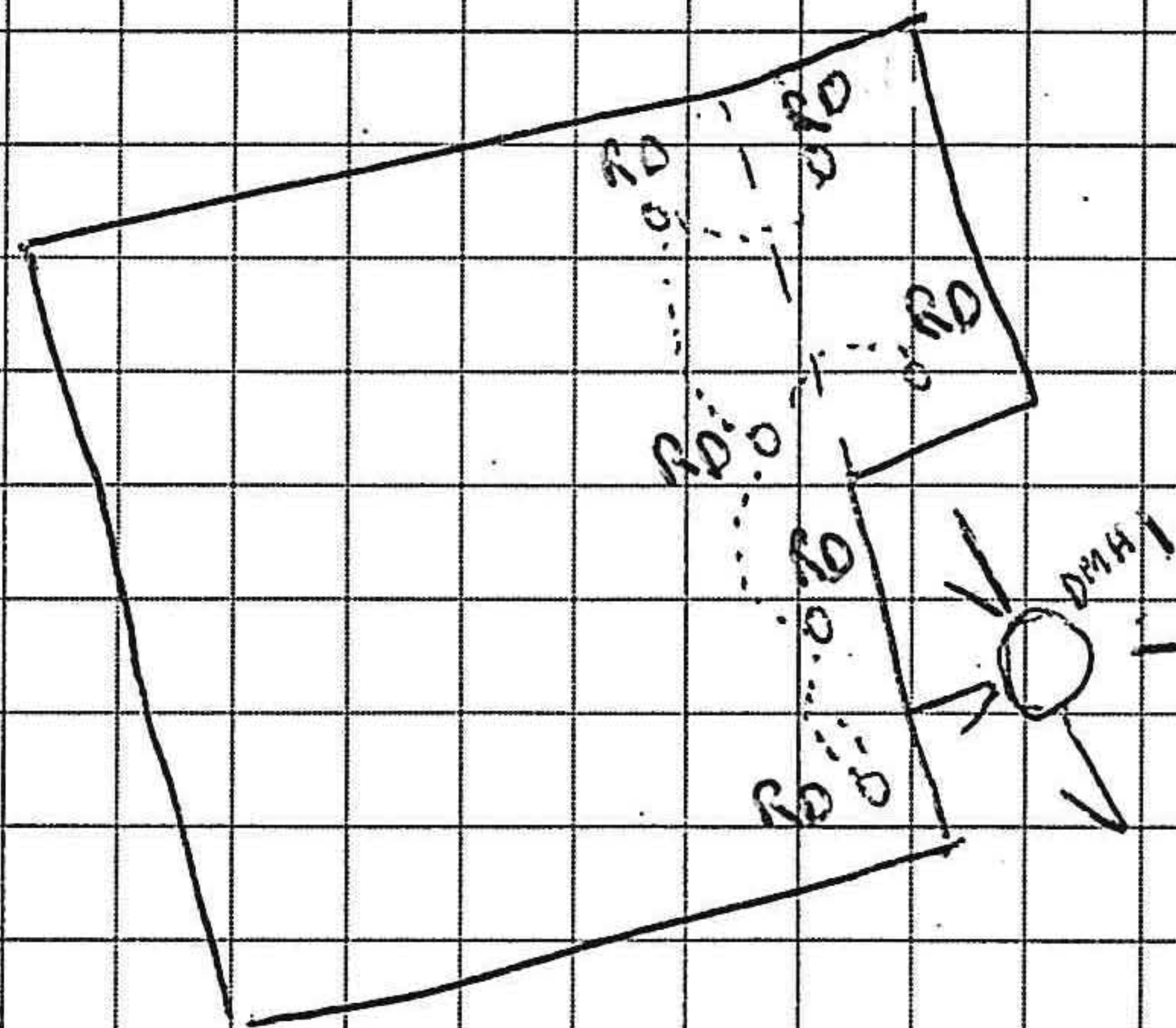
Comments

Tested roof drain located 3' from North end of building and 54' from East. Dye seen in DMH1 from sketch located behind building.

12/22/15 46 DANBURY ROAD

Danbury Rd

↑ N



Test

Roof drains
observed discharging to
DMH 1

One from RD
Seen here

↓
CBI →



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/6/2016

Sub Area: Sub Area 2

Address: 61 High Ridge Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 199

Dye Observed: No

Drain Manhole ID: DMH1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

All downspouts on the back of the house discharge into driveway drain. Tested Driveway drain discharges into DMH on Shadow Ln.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/6/2016

Sub Area: Sub Area 2

Address: 61 High Ridge Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 199

Dye Observed: No

Drain Manhole ID: CB

Dye Observed: Yes

Other Manhole ID 1:

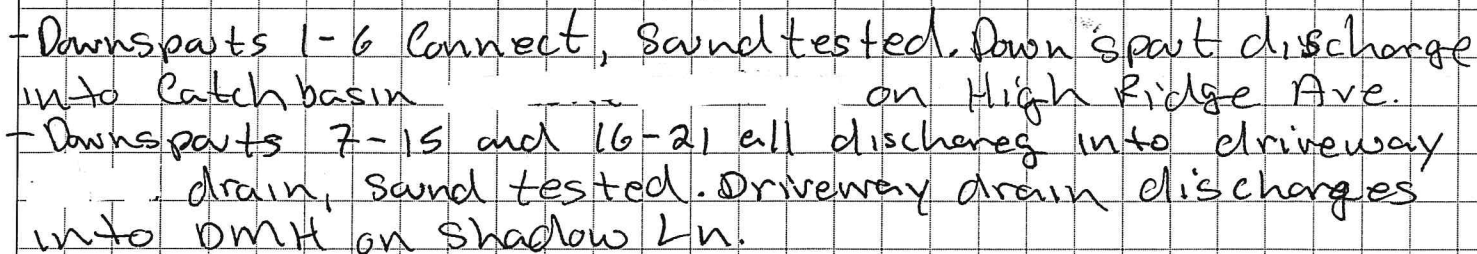
Dye Observed:

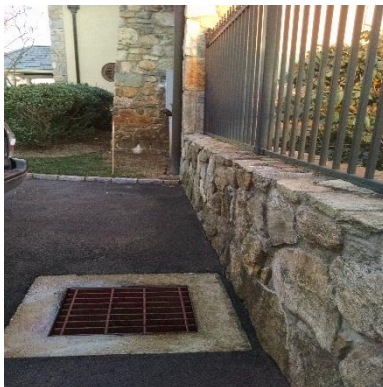
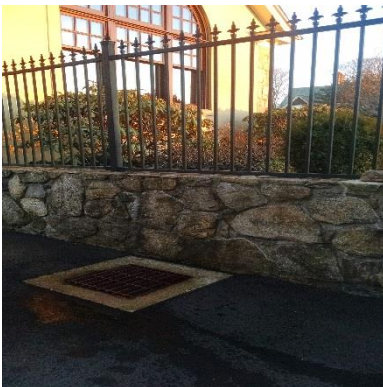
Dye Test Results:

Connected to Drain

Comments

Downspouts on the front of the house connect, sound tested. Tested downspout 1 from sketch. Downspouts discharge into catch basin on High Ridge Ave.







Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/29/2015

Sub Area: Sub Area 2

Address: 111 High Ridge Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 184B

Dye Observed: No

Drain Manhole ID: CB

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

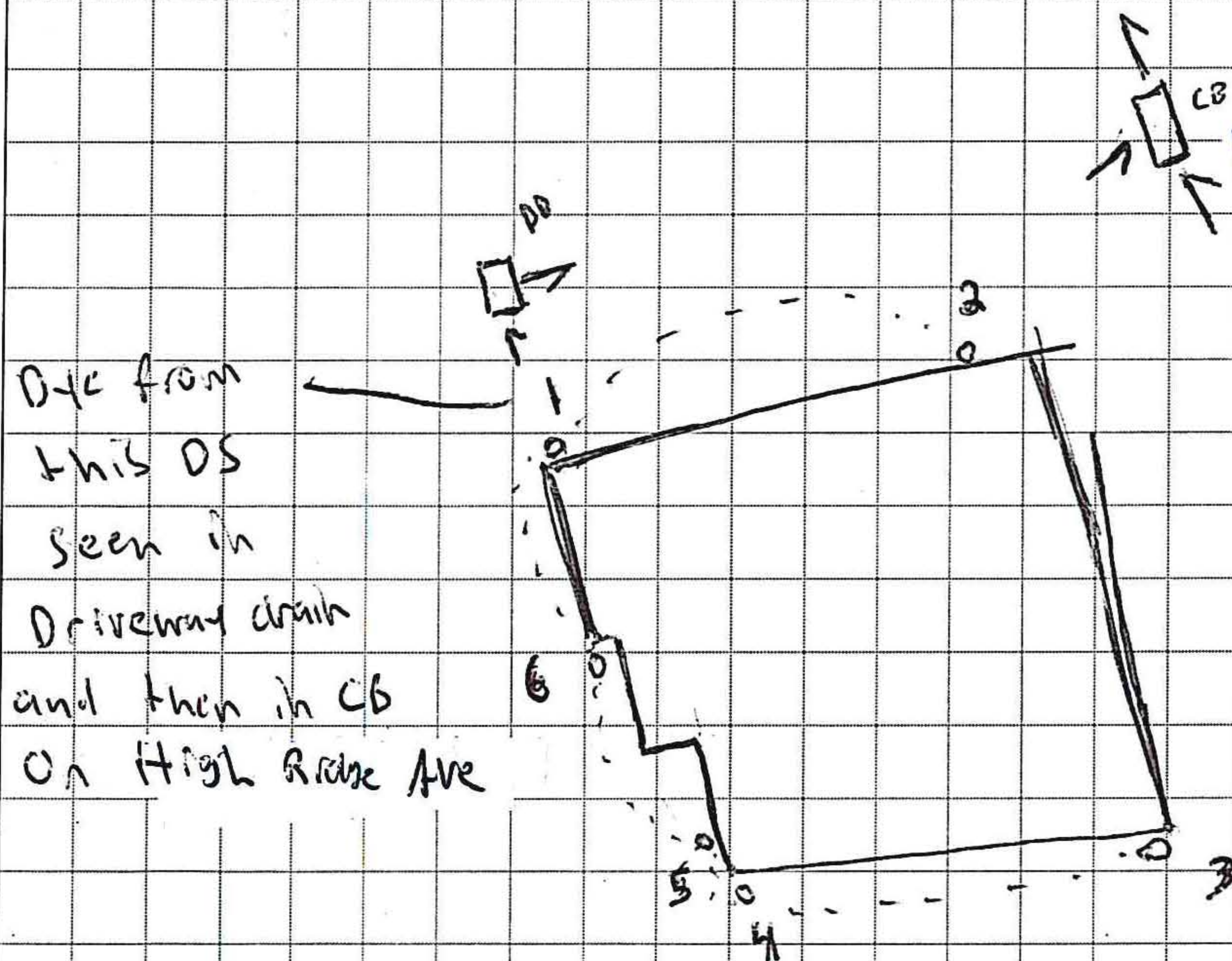
Tested DS 0.5' E of NW corner of building and 0.25' from wall. all DS for building sound tested together. Dye was observed passing through driveway drain and then discharging into a CB in front of 111 High Ridge Ave.

RIDGEFIELD, CT

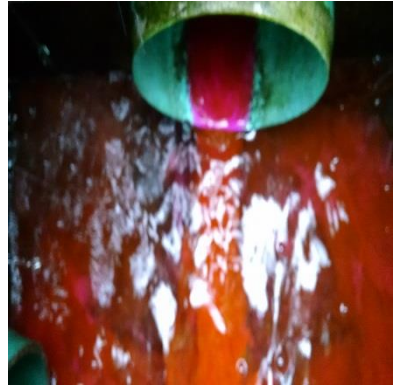
12/29/15

114 HIGH RIDGE AVENUE

All downspouts are connected
via sound test.



Dye tested downspout 1, observed discharging in Driveway drain catch basin from SE inlet, observed emptying into catch basin on street from SW inlet.



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/29/2015

Sub Area: Sub Area 2

Address: 125 High Ridge Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 180

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

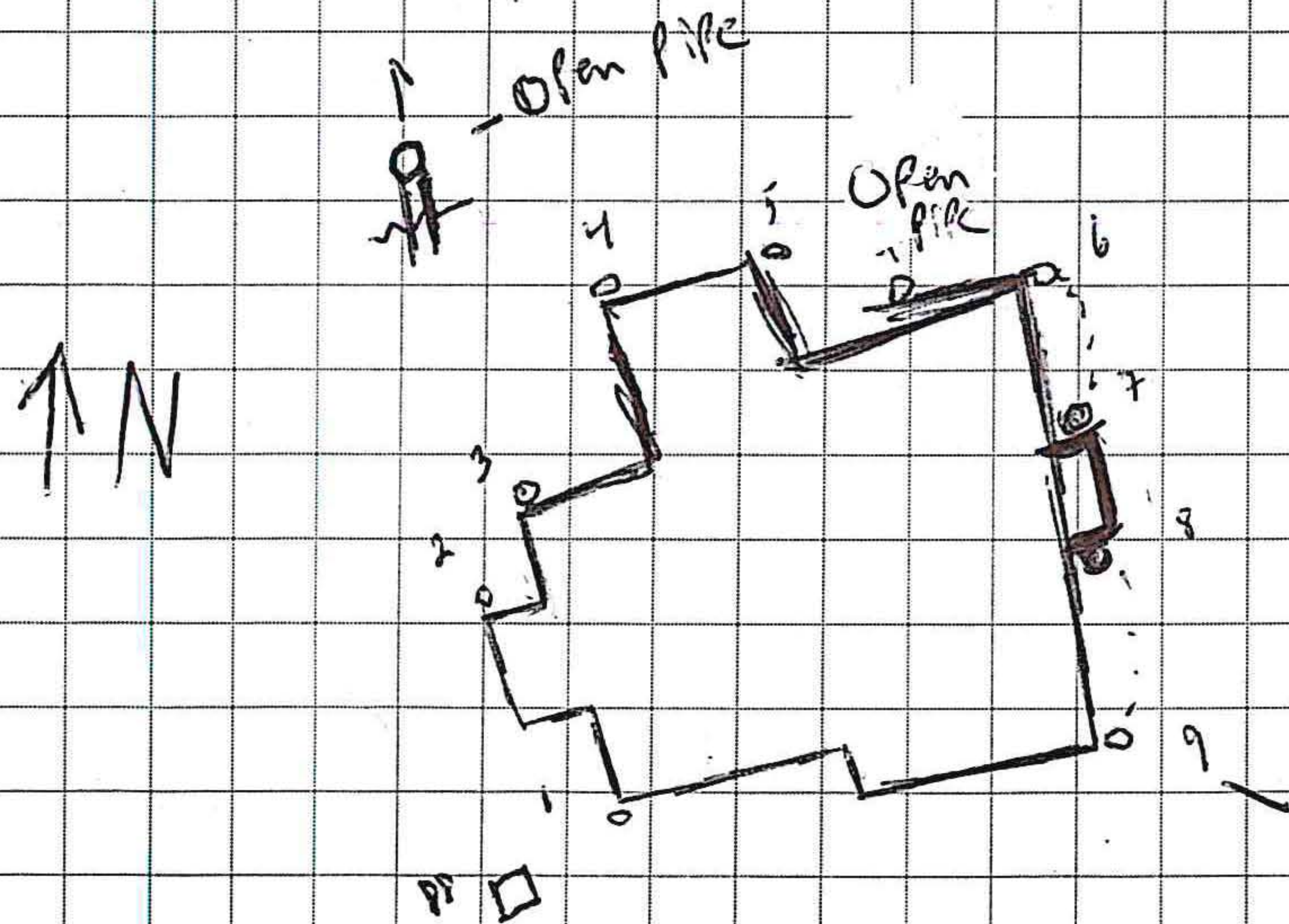
Dye Test Results:

Connected to Surface

Comments

Downspout is 0.5' N of SE corner and 0.25' from wall (downspout 9 from sketch). Dye was observed discharging from a pipe in the yard North of building.

125 HIGH RIDGE



Dye tested downspout 1,
observed discharging to
surface in yard.

dye tested this
downspout. Dye seen
discharging from open pipe.



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 2

Address: 183 High Ridge Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 153

Dye Observed: No

Drain Manhole ID: DMH1

Dye Observed: No

Other Manhole ID 1: CB1

Storm Drai

Dye Observed: Yes

Dye Test Results:

Connected to Drain

Comments

RD4 from sketch. Catch basin located in the school parking lot.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 2

Address: 183 High Ridge Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 153

Dye Observed: No

Drain Manhole ID: DMH1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

RD3 from sketch. Drain manhole located in the school parking lot.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 2

Address: 183 High Ridge Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 153

Dye Observed: No

Drain Manhole ID: DMH1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

RD2 from sketch. Drain manhole located in the school parking lot.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 2

Address: 183 High Ridge Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 153

Dye Observed: No

Drain Manhole ID: DMH1

Dye Observed: Yes

Other Manhole ID 1:

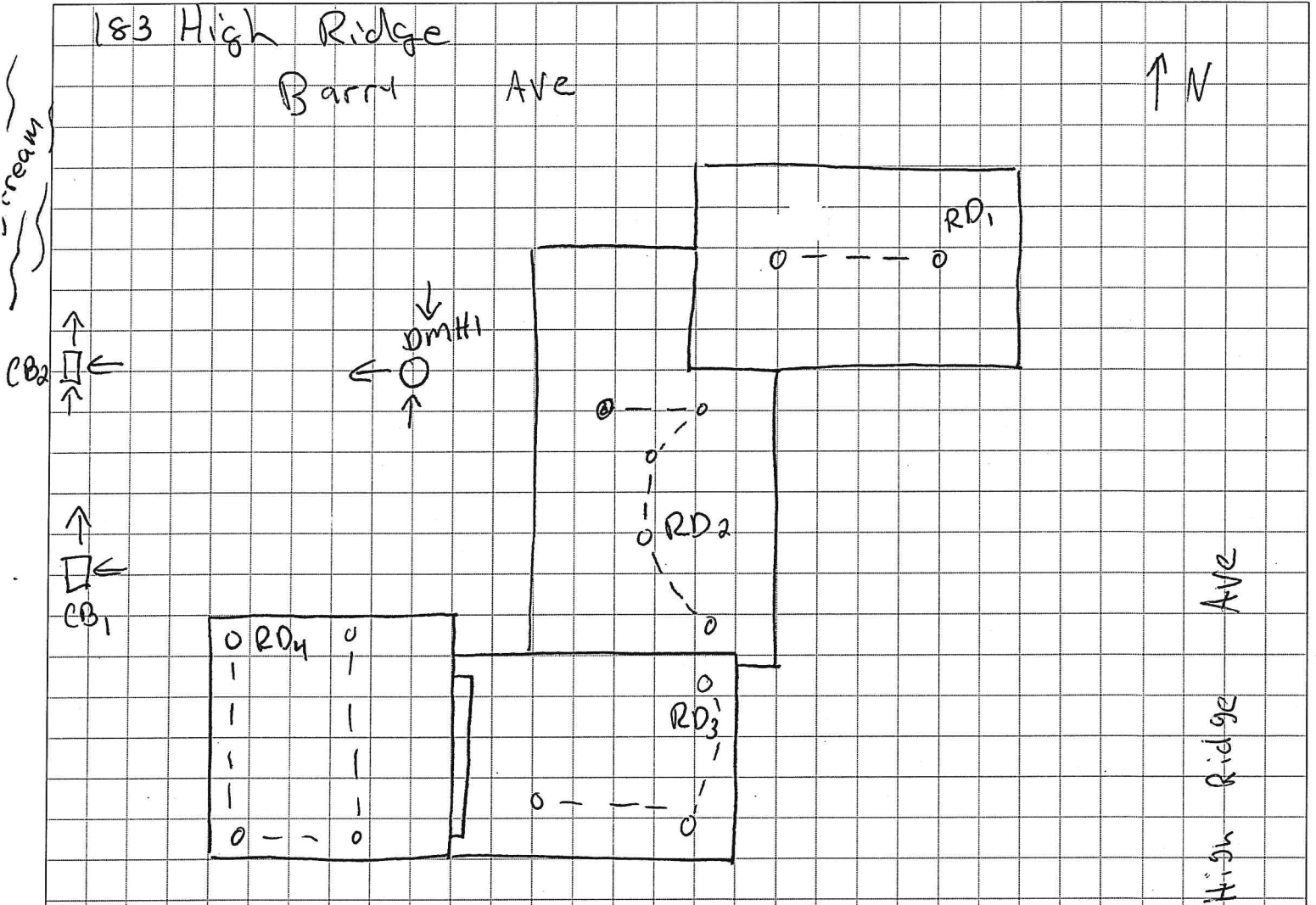
Dye Observed:

Dye Test Results:

Connected to Drain

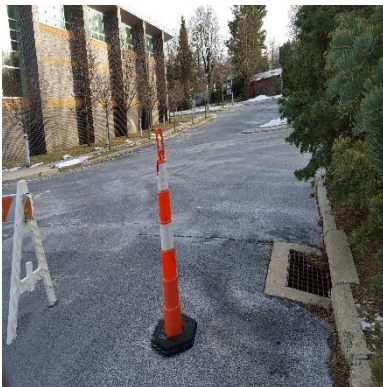
Comments

RD1 from sketch. Drain manhole located in the school parking lot.



- Roof drains (RD₁) discharges into DMH1
- Roof drains (RD₂) discharges into DMH1
- Roof drains (RD₃) discharges into DMH1
- Roof drains (RD₄) discharges into catch basin (CB₁)





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/16/2015

Sub Area: Sub Area 2

Address: 21 King Lane

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 202

Dye Observed: Yes

Drain Manhole ID:

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Sewer

Comments

Downspouts #2. Downspouts 1 and 2 connect, confirmed by sound test.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/16/2015

Sub Area: Sub Area 2

Address: 21 King Lane

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 202

Dye Observed: No

Drain Manhole ID:

Dye Observed: No

Other Manhole ID 1: 199

Sanitary Se

Dye Observed: No

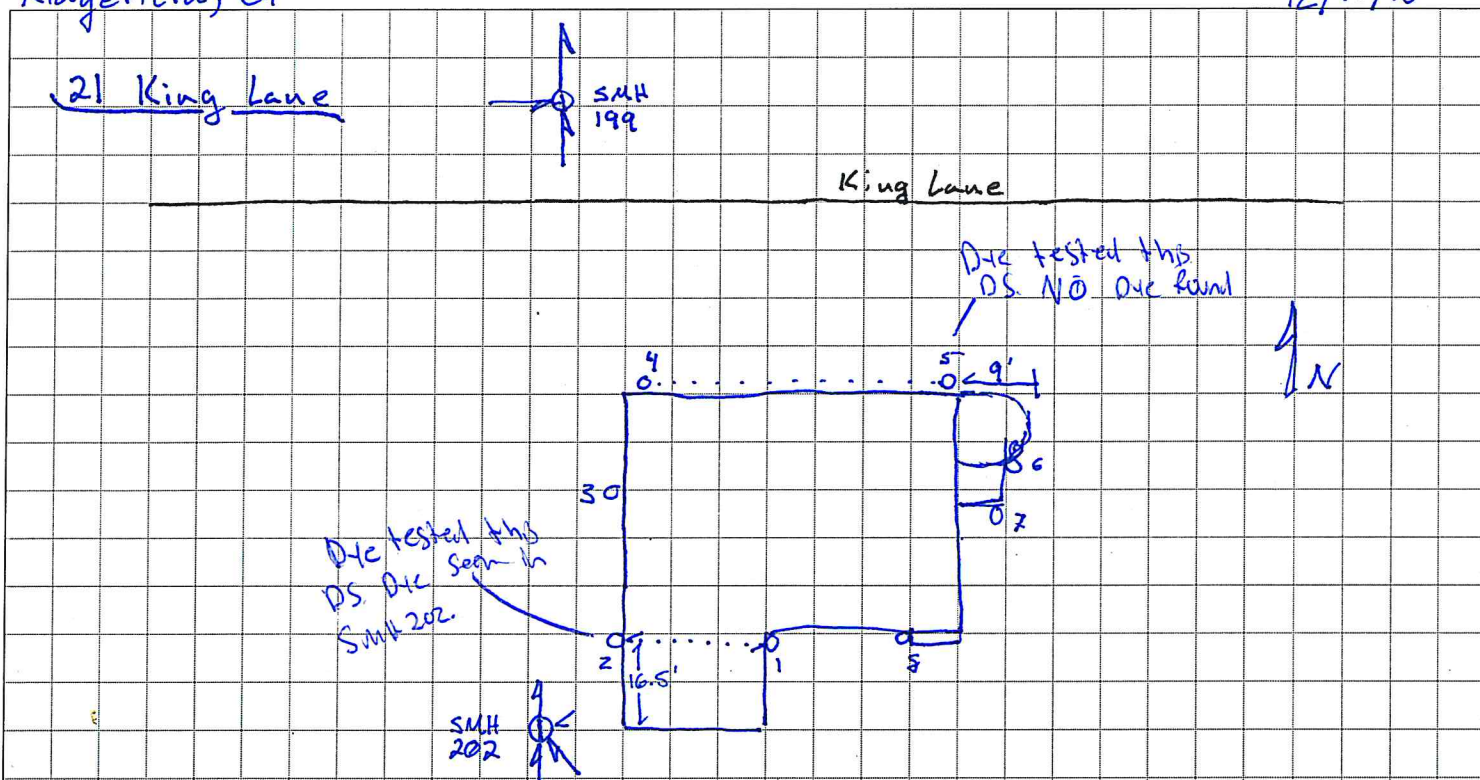
Dye Test Results:

Unknown - NDF

Comments

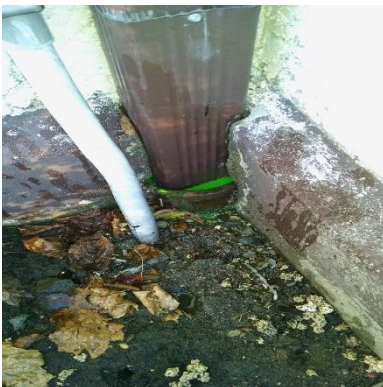
Crew poured about 20 gallons of water into iron pipe and waited at the sewer and drain for over an hour.
Downspout appear to be clogged, crew had to wait 5 minutes in between each gallon poured.

12/16/15



Tests

- Downspout 1 sound tested to Downspout 2. Downspout 2 dye tested to SMH 202 from the S.E. inlet. Dye seen in this inlet.
- Downspout 4 sound tested to Downspout 5. Downspout 5 was dye tested with 20gal H₂O and was waited on for 1.25hr, No dye was observed.
- Downspout 8 did not sound test to any other downspouts and was dye tested with 20gal H₂O and waited on for 1.5hr, No dye was seen.
- Downspouts 3 and 7 were found to be clogged and would overflow when filled with water.
- Downspout 6 was seen discharging to ground surface.





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/17/2015

Sub Area: Sub Area 2

Address: 1 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Area Drain

Location: Yard - Front

Observations

Sewer Manhole ID:

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

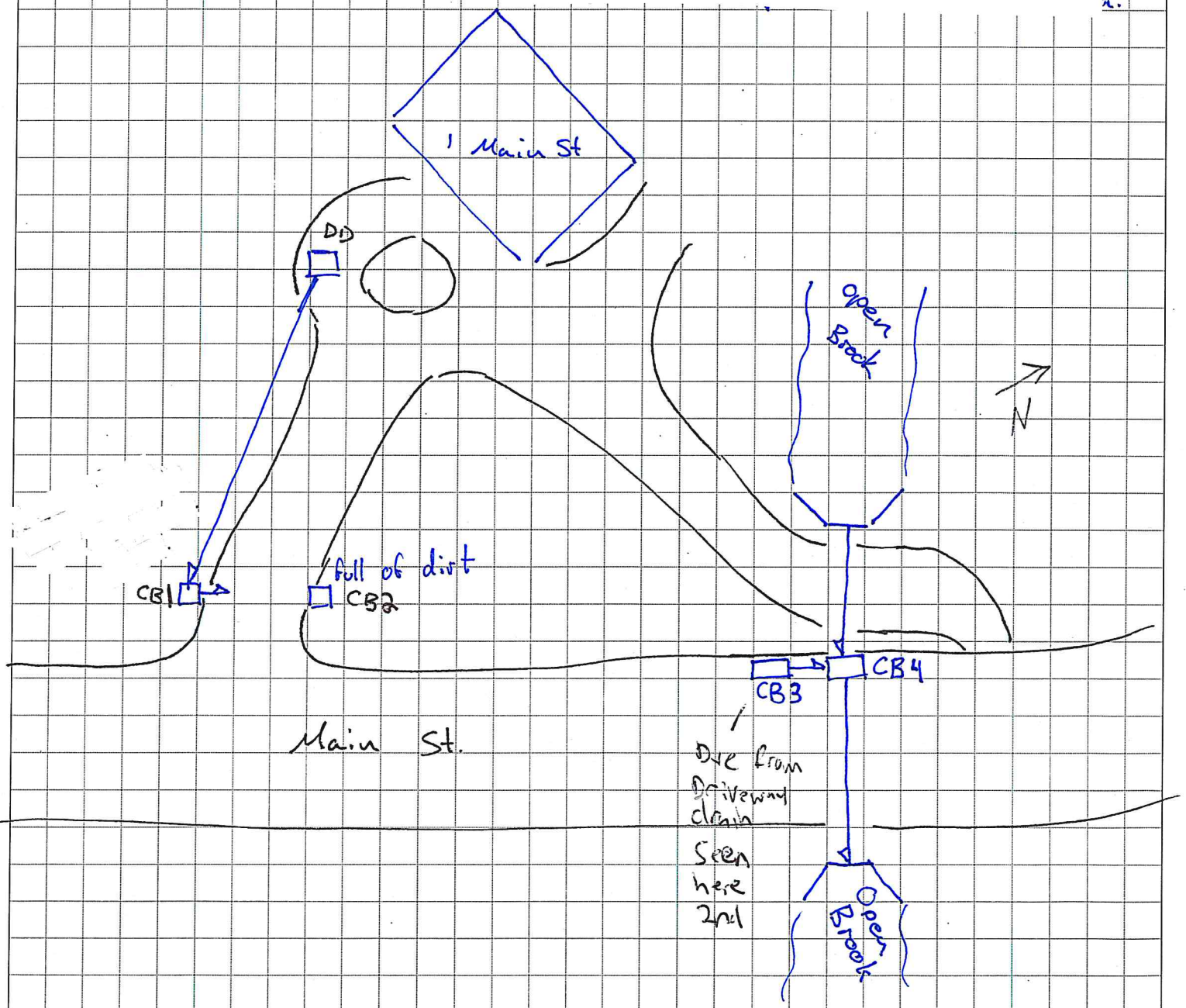
Comments

Listed on suspect source list as 1 Wilton St. Dye seen in the CB1 from sketch that connects to CB3 and discharges into a small stream. Property yard has three drains, two connect and the third is full of dirt. No sewer map provided.

1 Main St

Tests

- Driveway drain marked DD sound tested to Drain marked CB1.
- Dye test at CB1 was observed in catch basin marked CB3.





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/17/2015

Sub Area: Sub Area 2

Address: 88 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: NA

Dye Observed: No

Drain Manhole ID: CB

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

All downspouts connect confirmed by sound test. Two floor drain on the back of the house also connect. No sewer manholes found in the area. Dye seen in CB in front of 15 Rockwell Rd.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/17/2015

Sub Area: Sub Area 2

Address: 88 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Yard - Back

Observations

Sewer Manhole ID: NA

Dye Observed: No

Drain Manhole ID: CB

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

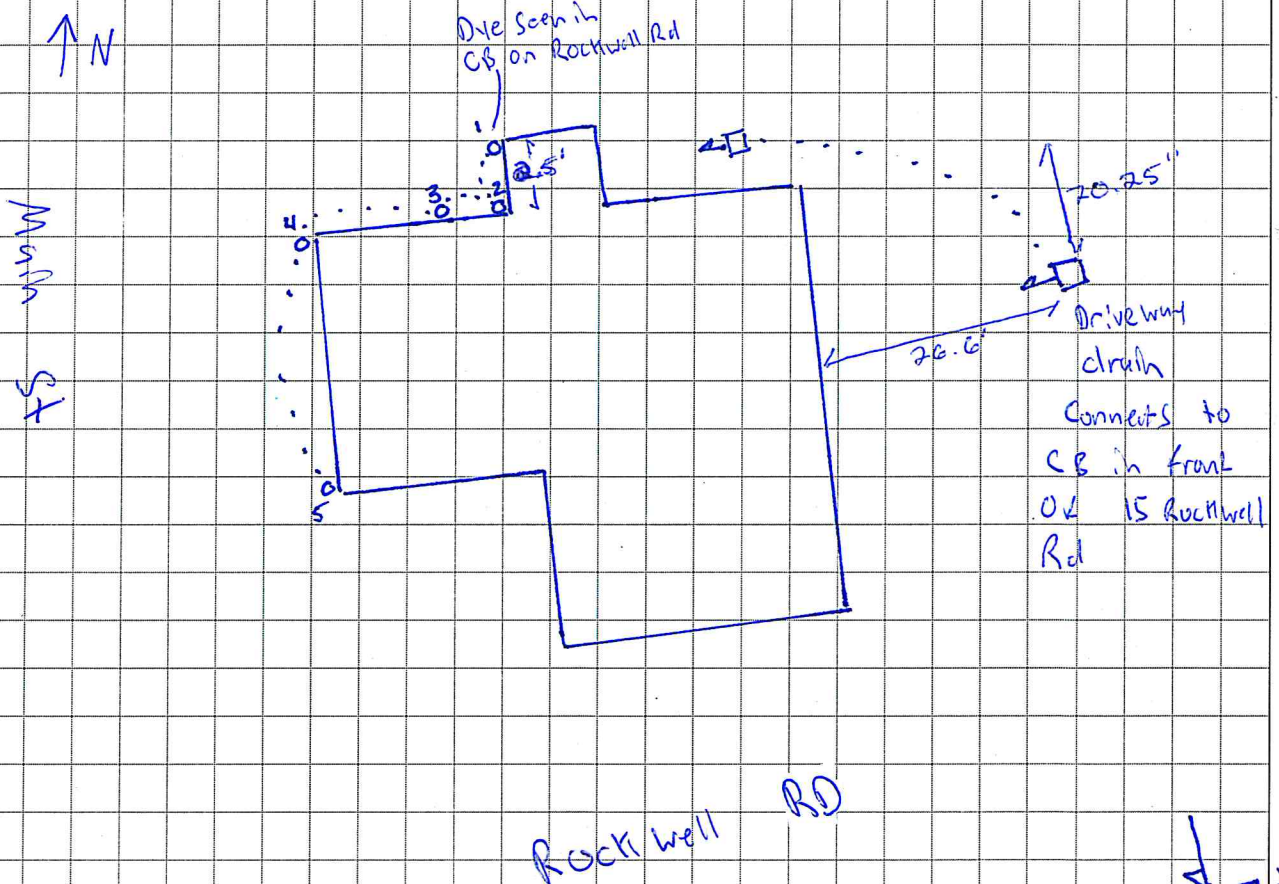
Connected to Drain

Comments

Dye seen in catch basin in front of 15 Rockwell Rd. No sewer manholes found in the area.

12/17/15

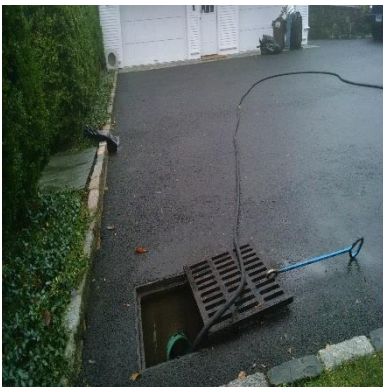
88 Main Street



Tests

Sound test

- Downspouts 1-5 confirmed connected by sound testing. Downspout 1 was confirmed connected to the catch basin in front of 15 Rockwell Rd.
- Driveway drain was dye tested and confirmed connected to the catch basin in front of 15 Rockwell Rd.





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/4/2016

Sub Area: Sub Area 2

Address: 353 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 173A

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Tested downspout 12 from sketch. part of North Hall. Dye seen in CB between building and SMH 173A.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/4/2016

Sub Area: Sub Area 2

Address: 353 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Side

Observations

Sewer Manhole ID: 173A

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Tested Downspout 6 from sketch, part of the North Hall. Dye seen in CB between building and SMH 173A.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/5/2016

Sub Area: Sub Area 2

Address: 353 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Side

Observations

Sewer Manhole ID: 173A

Dye Observed: Yes

Drain Manhole ID: CB1

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Sewer

Comments

Church Building

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 3/3/2016 Sub Area: Sub Area 1

Address:	<u>353</u>	<u>Main Street</u>
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Building Characteristics

Sector: Private
Suspect Source Type: Downspout
Location: Yard - Side

Observations

Sewer Manhole ID: <u>173A</u>	Dye Observed: <u>Yes</u>
Drain Manhole ID: <u>Cistern</u>	Dye Observed: <u>Yes</u>
Other Manhole ID 1: <u>Brook</u> <u>Surface</u>	Dye Observed: <u>Yes</u>

Dye Test Results: <u>Connected to Both</u> <u>Sewer and Drain</u>

Comments

Re-test, previous results indicated connection to sewer. Rectory Building. Dye first seen in the cistern (drain structure) located in the back of the building and then in the sewer and the brook about 30 minutes after test was conducted. Connection to sewer appears to be indirect.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 3/3/2016 Sub Area: Sub Area 1

Address:	<u>353</u>	<u>Main Street</u>
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Building Characteristics

Sector: Private
Suspect Source Type: Downspout
Location: Yard - Back

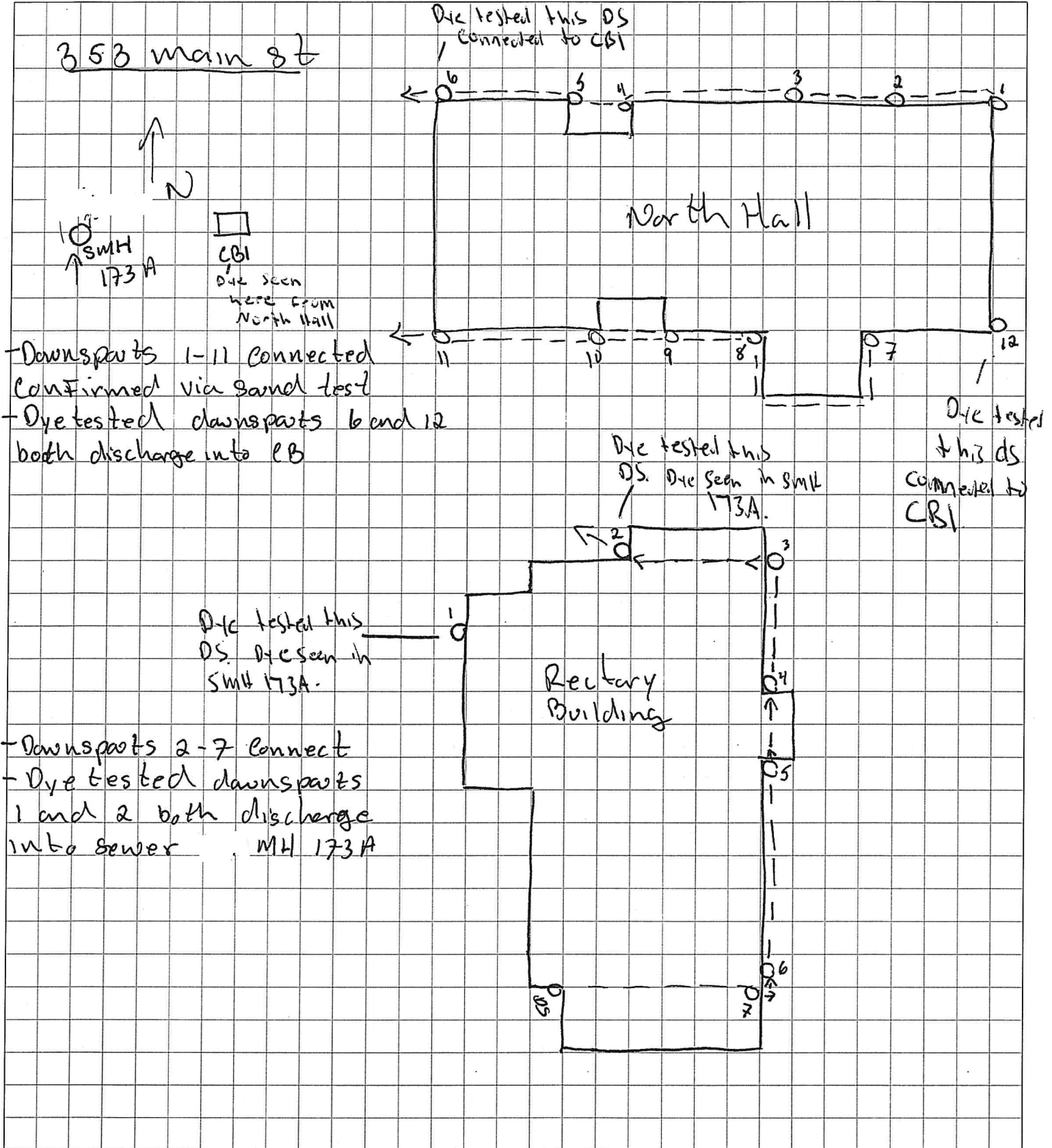
Observations

Sewer Manhole ID: <u>173A</u>	Dye Observed: <u>Yes</u>
Drain Manhole ID: <u>Cistern</u>	Dye Observed: <u>Yes</u>
Other Manhole ID 1: <u>Brook</u> <u>Surface</u>	Dye Observed: <u>Yes</u>

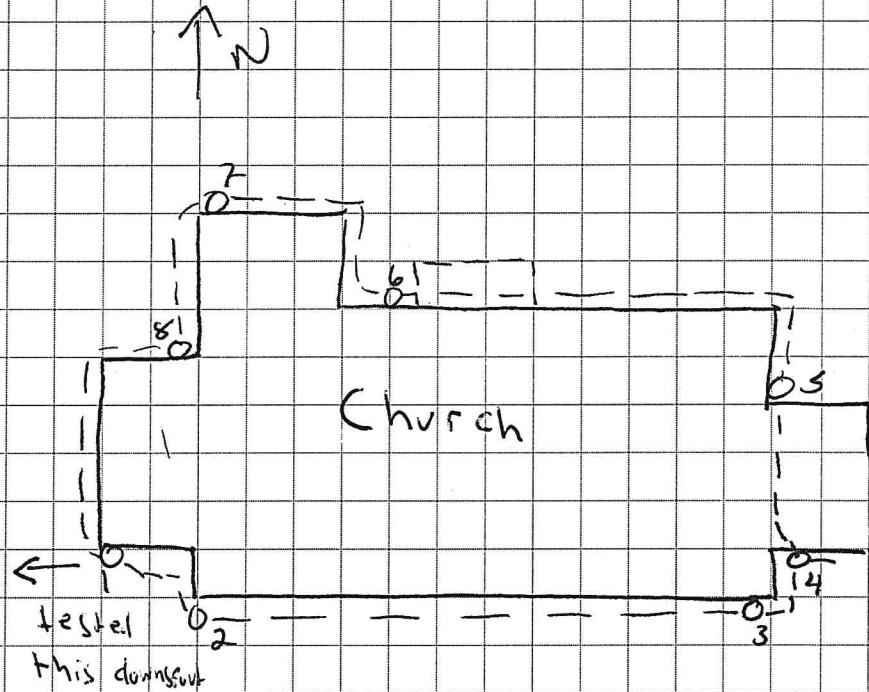
Dye Test Results: <u>Connected to Both</u> <u>Sewer and Drain</u>

Comments

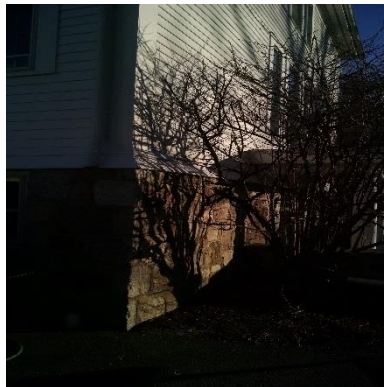
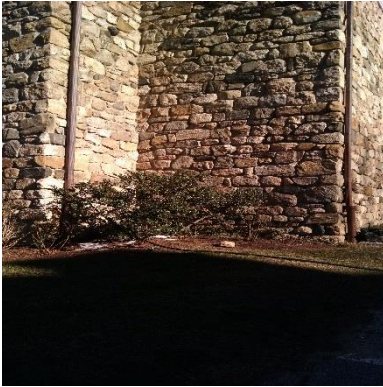
Re-test, previous results indicated connection to sewer. Rectory Building. Dye first seen in the cistern (drain structure) located in the back of the building and then in the sewer and the brook about 30 minutes after test was conducted. Connection to sewer appears to be indirect.



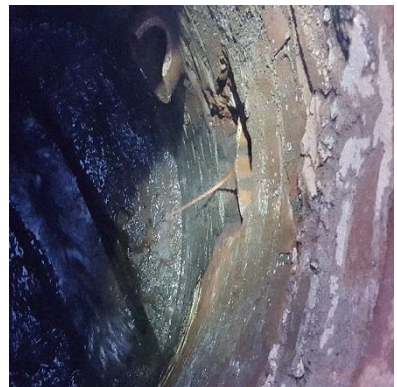
353 main st (church)



- All downspouts connect, sand test
- Downspouts discharges into sewer MH 173A









Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 2

Address: 378 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 39

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

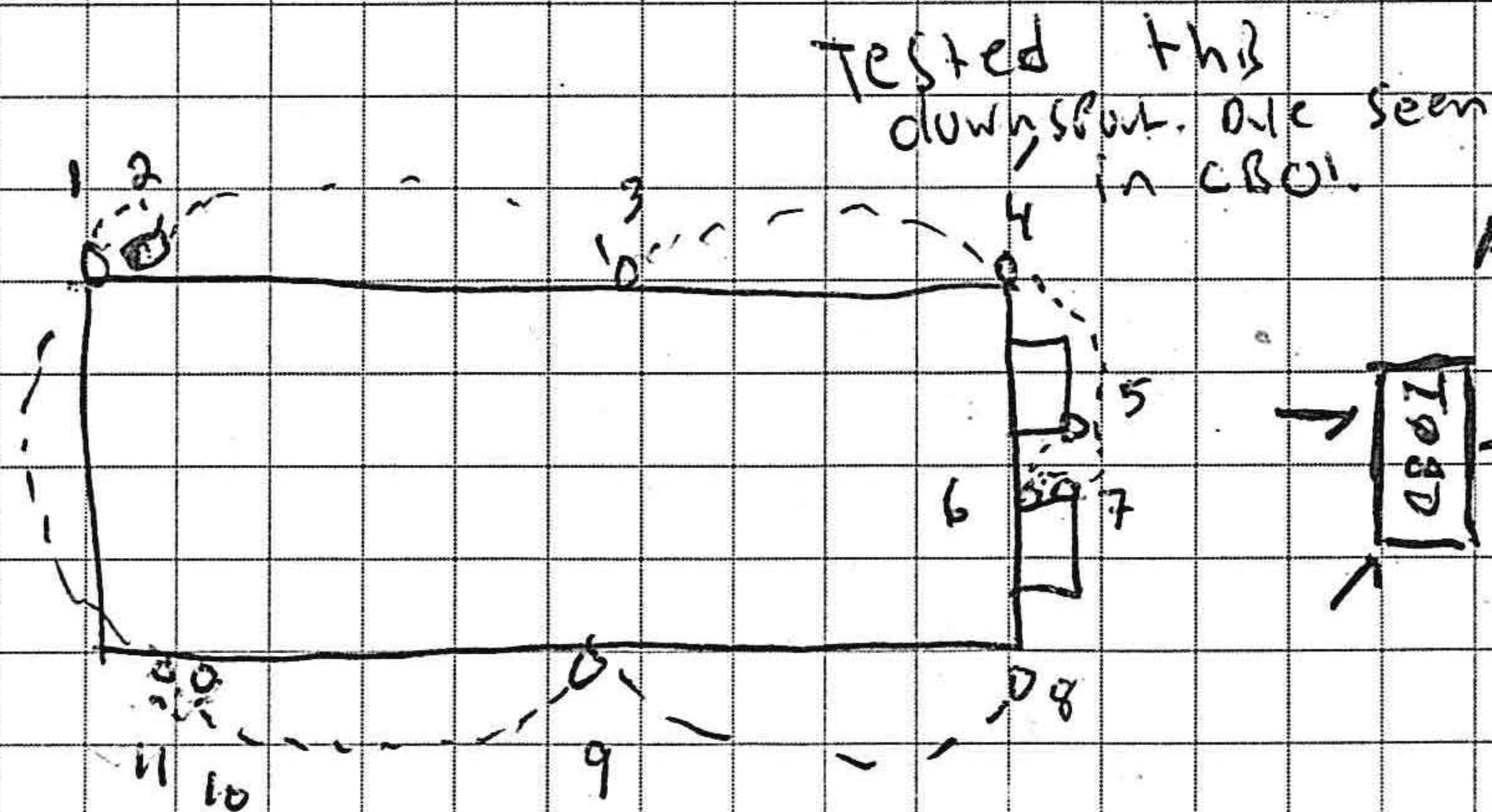
Dye Test Results:

Connected to Drain

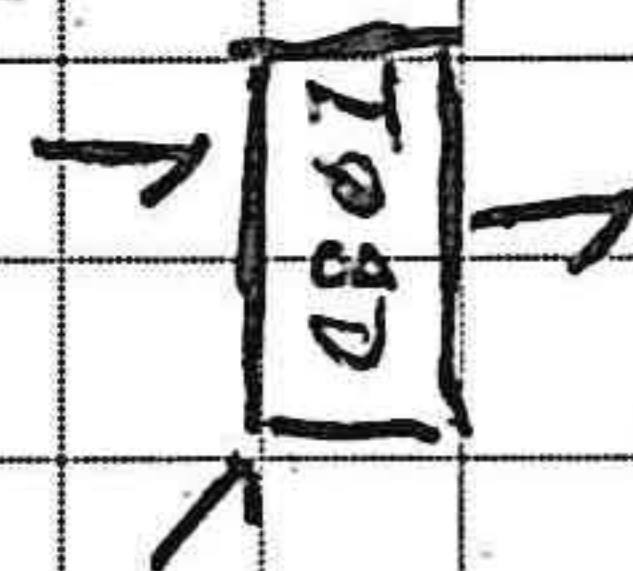
Comments

Front yard downspouts sound tested connected to back yard downspouts. Backyard downspouts dye tested to CB01 in parking lot behind building.

378 MAIN ST



All downspouts sound tested to each other.



Dye tested downstream
4/ to catch basin.
CB07



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/29/2015

Sub Area: Sub Area 2

Address: 381 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 173

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Downspouts on N side of building sound tested to DS tested on SE corner of 385 Main St.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/29/2015

Sub Area: Sub Area 2

Address: 385 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 173

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Tested DS 0.25' E of SE corner and 0.25' off wall. Dye was observed in a DD behind building that discharged to an open Brook.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/29/2015

Sub Area: Sub Area 2

Address: 387 - 389 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 173

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

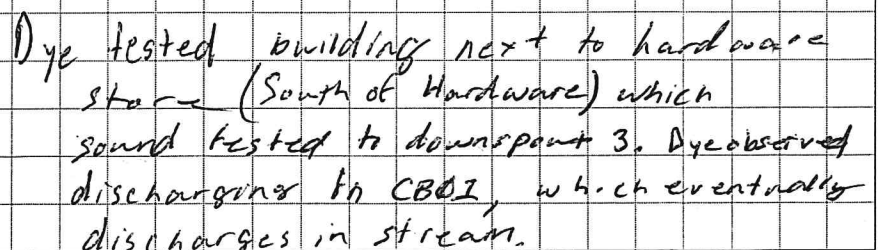
Dye Test Results:

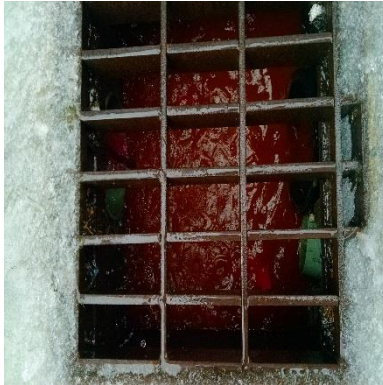
Connected to Surface

Comments

Dye tested DS 45' S of NW corner of building and 0.25' from wall. Dye from test was observed discharging from pipe in curbing onto surface of Catoonah St.

12/29/15







Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/21/2015

Sub Area: Sub Area 2

Address: 441 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard-side

Observations

Sewer Manhole ID: 170

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

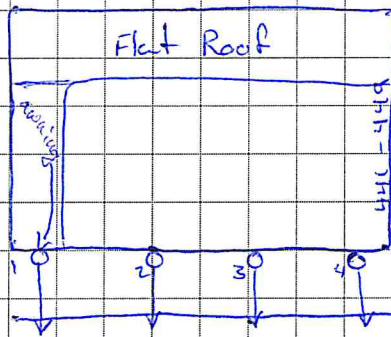
Dye Test Results:

Connected to Surface

Comments

All downspouts discharge to parking lot surface. No dye required for inspection.

441 Main St



Main Street

Driveway to parking lot

Notes: 4 downspouts on S. side
of building all discharge
to Driveway surface



Attachment 3

Sub-Area 3

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/4/2016

Sub Area: Sub Area 3

Address: 10 Millstone Court

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: M1A

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

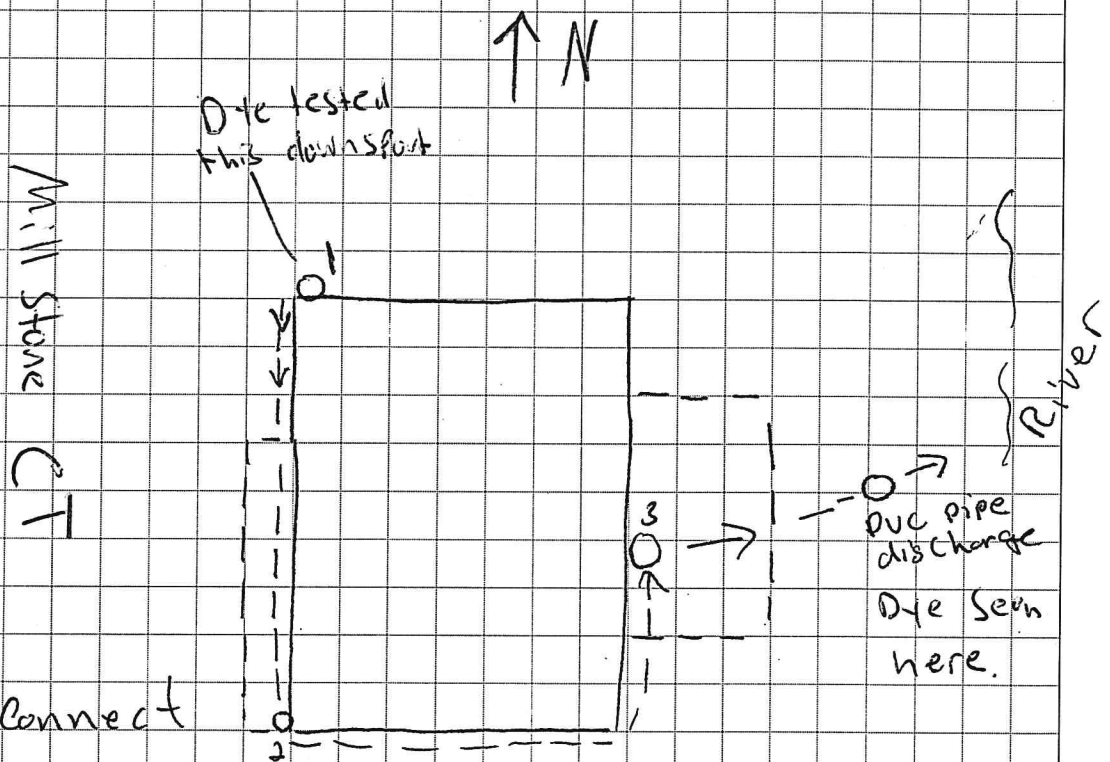
Dye Test Results:

Connected to Surface

Comments

Dye tested downpout 1 from sketch. Dye seen discharging from PVC pipe behind house.

10 millstone pt



- Downspouts all connect
- Sander tested
- PVC pipe discharge into river

Rama Poo RD



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/15/2015

Sub Area: Sub Area 3

Address: 70 Ramapoo Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: R3

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Tested downspouts 1 (from sketch) in front of the house, left corner. Downspout discharges onto the surface, back of the house (pipe 1 from sketch).

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/15/2015

Sub Area: Sub Area 3

Address: 70 Ramapoo Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: R3

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

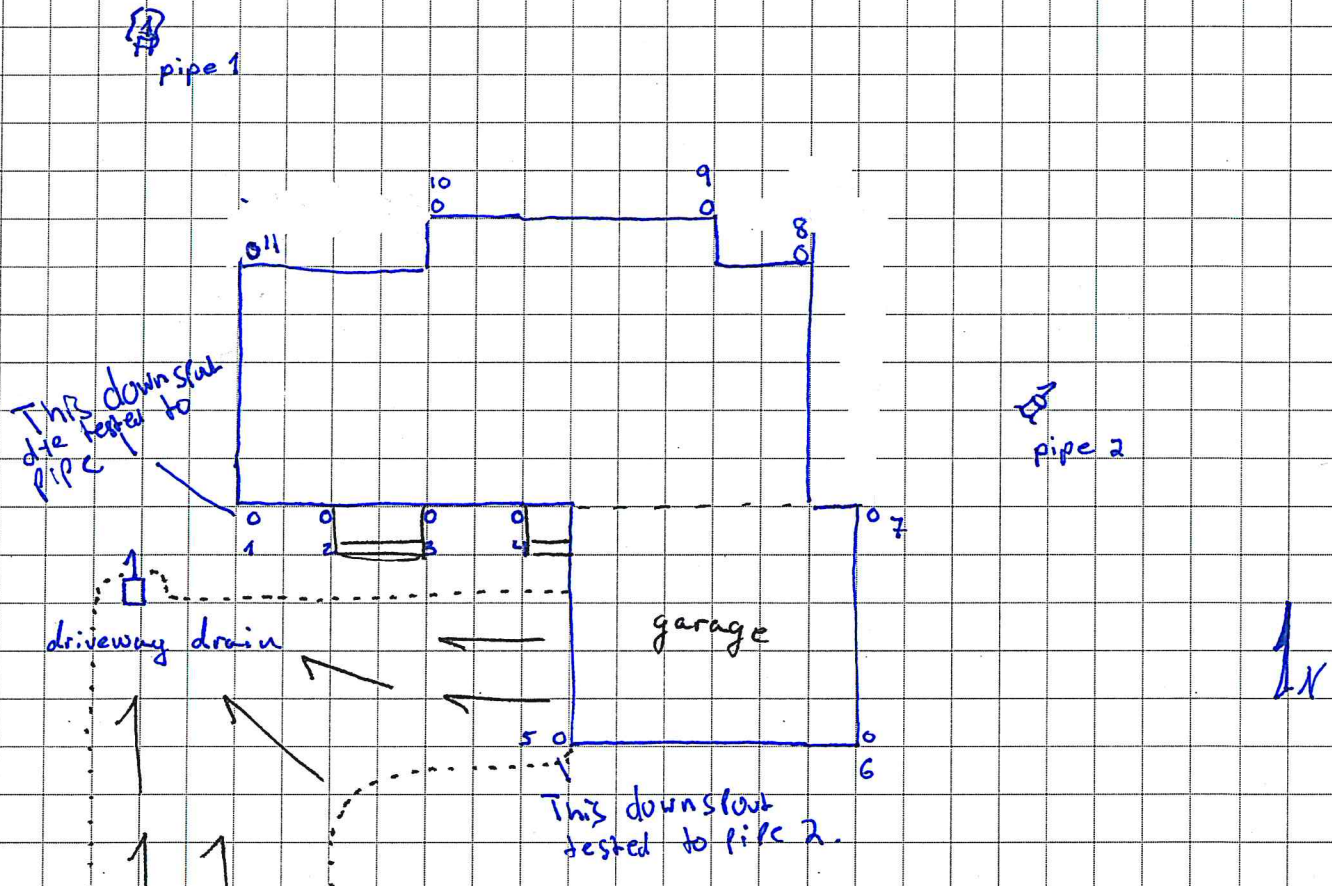
Connected to Surface

Comments

Tested downspouts 5 (from sketch) in front of the house, left corner. Downspout discharge onto surface, right side of the house (pipe 2 from sketch).

12/15/15

70 Ramapoo Road



- downspout 1 dye tested to pipe 1, drains to backyard
- downspout 5 dye tested to pipe 2, drains to backyard
- driveway drain sound tested positive to downspout 1



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/15/2015

Sub Area: Sub Area 3

Address: 85 Ramapoo Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: R27

Dye Observed: No

Drain Manhole ID: CB

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

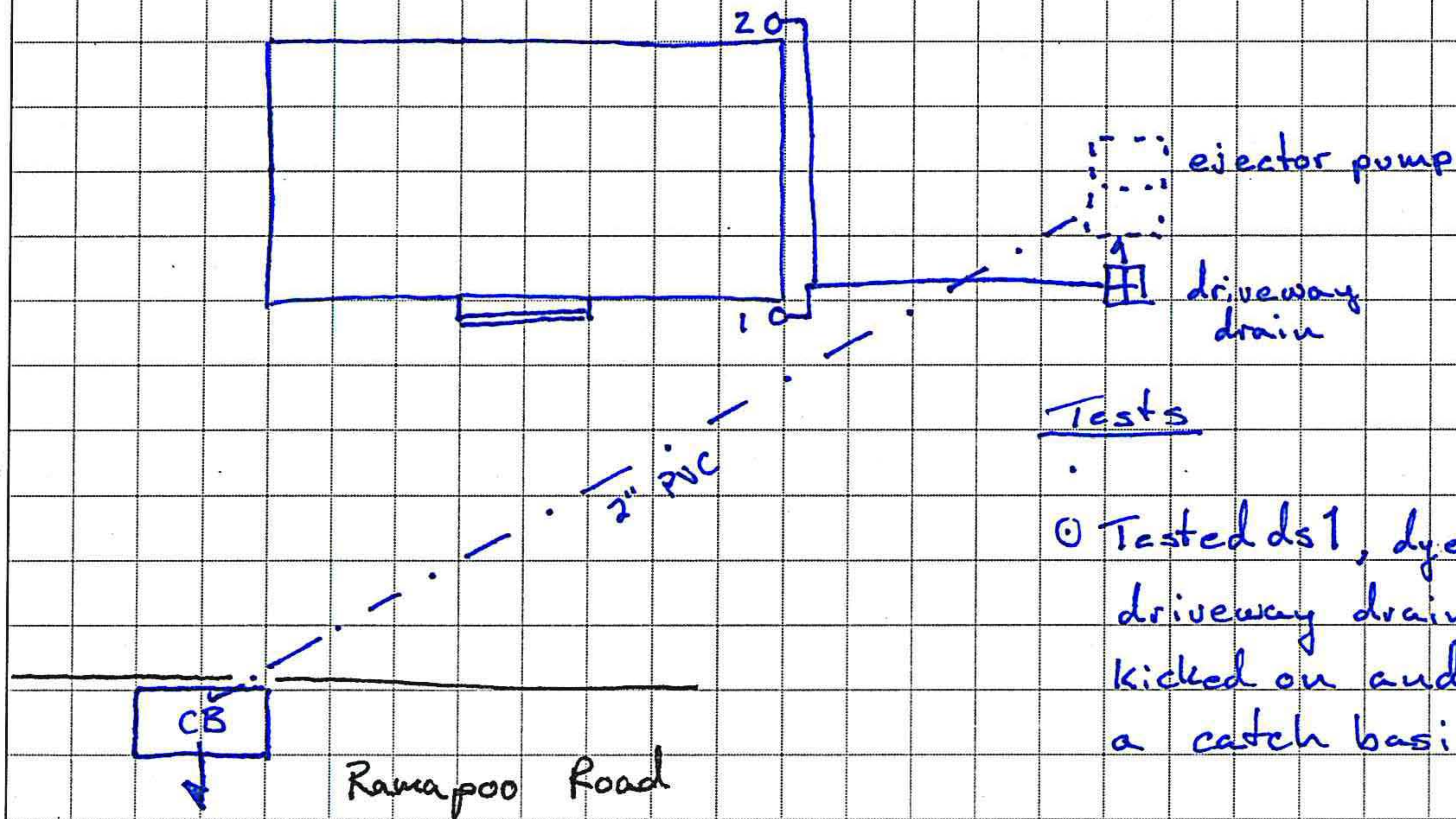
Dye Test Results:

Connected to Drain

Comments

Downspout discharges into driveway drain. Driveway drain discharges into ejector pump then into catch basin.

85 Ramapoo Road



Tests

- ① Tested ds1, dye was seen in the driveway drain. The ejector pump kicked on and pumped the dye into a catch basin on Ramapoo Rd

N →



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/15/2015

Sub Area: Sub Area 3

Address: 86 Ramapoo Road

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Paved Asph

Observations

Sewer Manhole ID: R27

Dye Observed: No

Drain Manhole ID: CB

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

All four downspouts discharge into driveway drain. Dye from driveway drain seen in the catch basin on Ramapoo Rd.

sde

civil+environmental
ENGINEERING

Ridgefield, CT

354 Merrimack Street, Suite 200

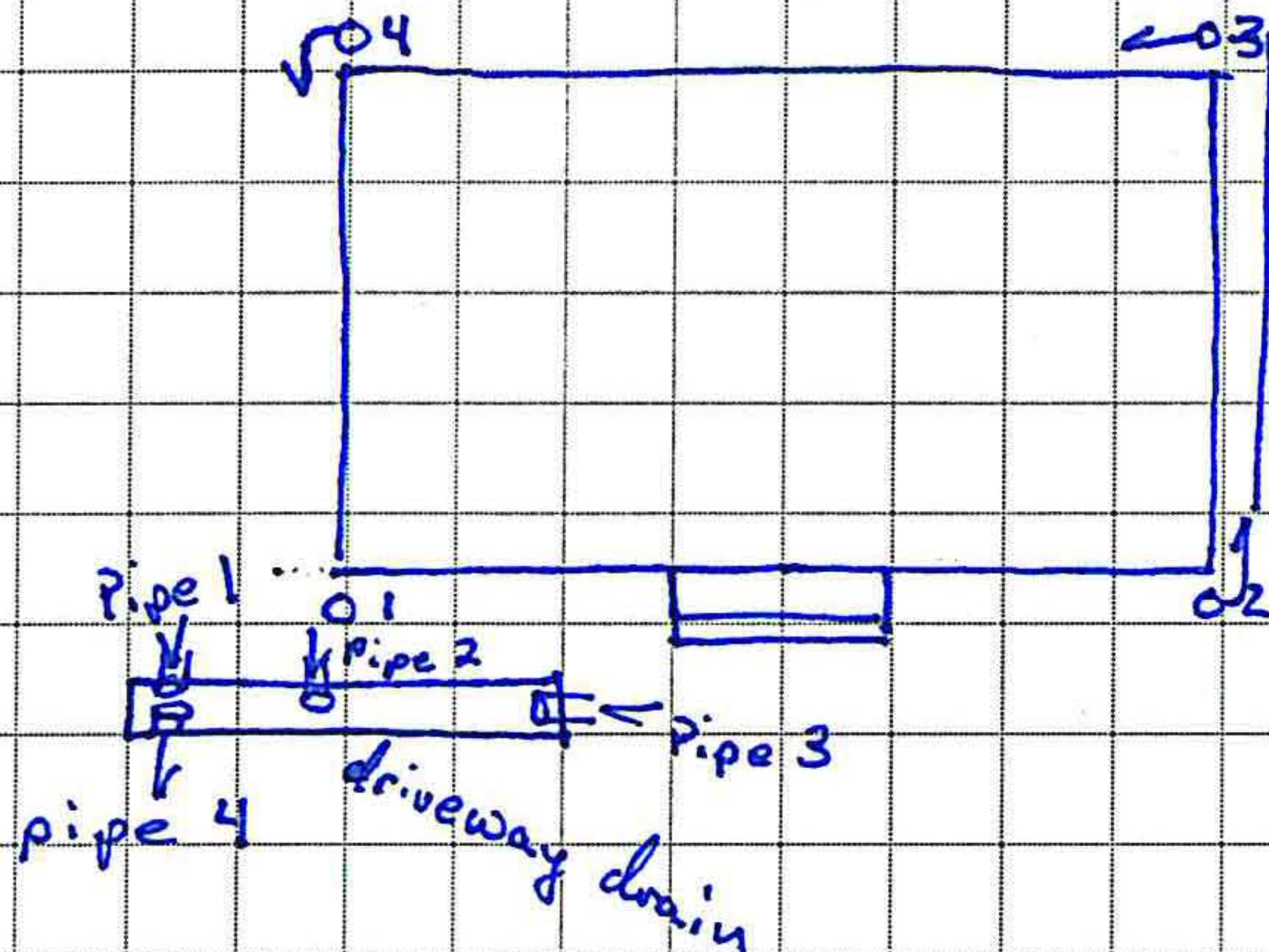
Lawrence, MA 01843-1755

p| 978.975.0500

sde-inc.com

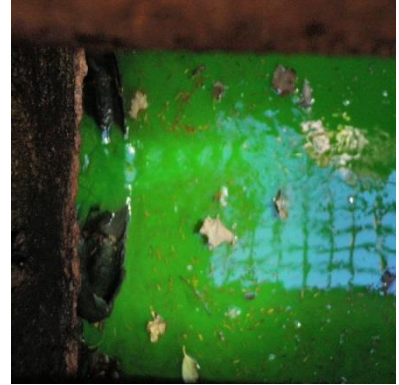
12/15/15

86 Ramapoo Road



Tests

- ① downspout 1 ^{dye} tested to driveway drain from pipe 1 using dye.
- ② downspout 2 tested to pipe 1 in the driveway drain. Also saw dye from ds2 in ds3.
- ③ Driveway drain was tested and dye was seen in the drain pipe on Ramapoo Rd S. of Victor Dr.



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/15/2015

Sub Area: Sub Area 3

Address: 102 Ramapoo Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: R27

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

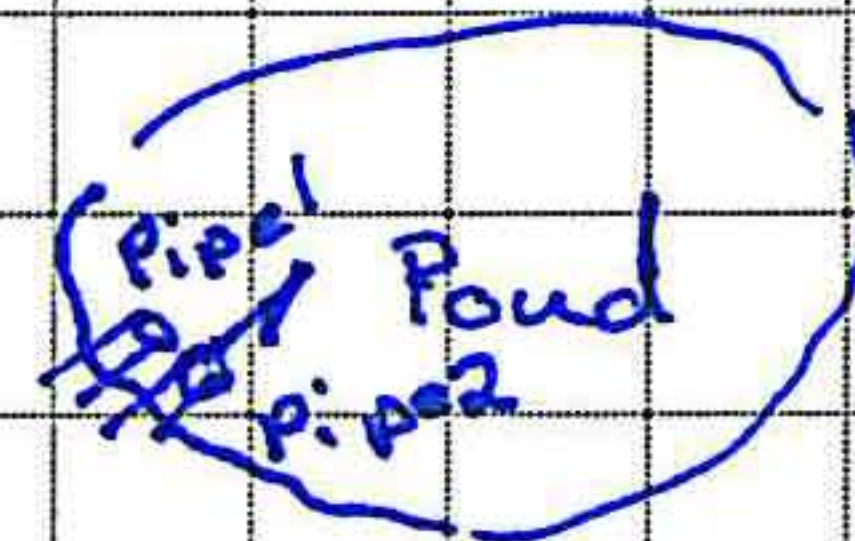
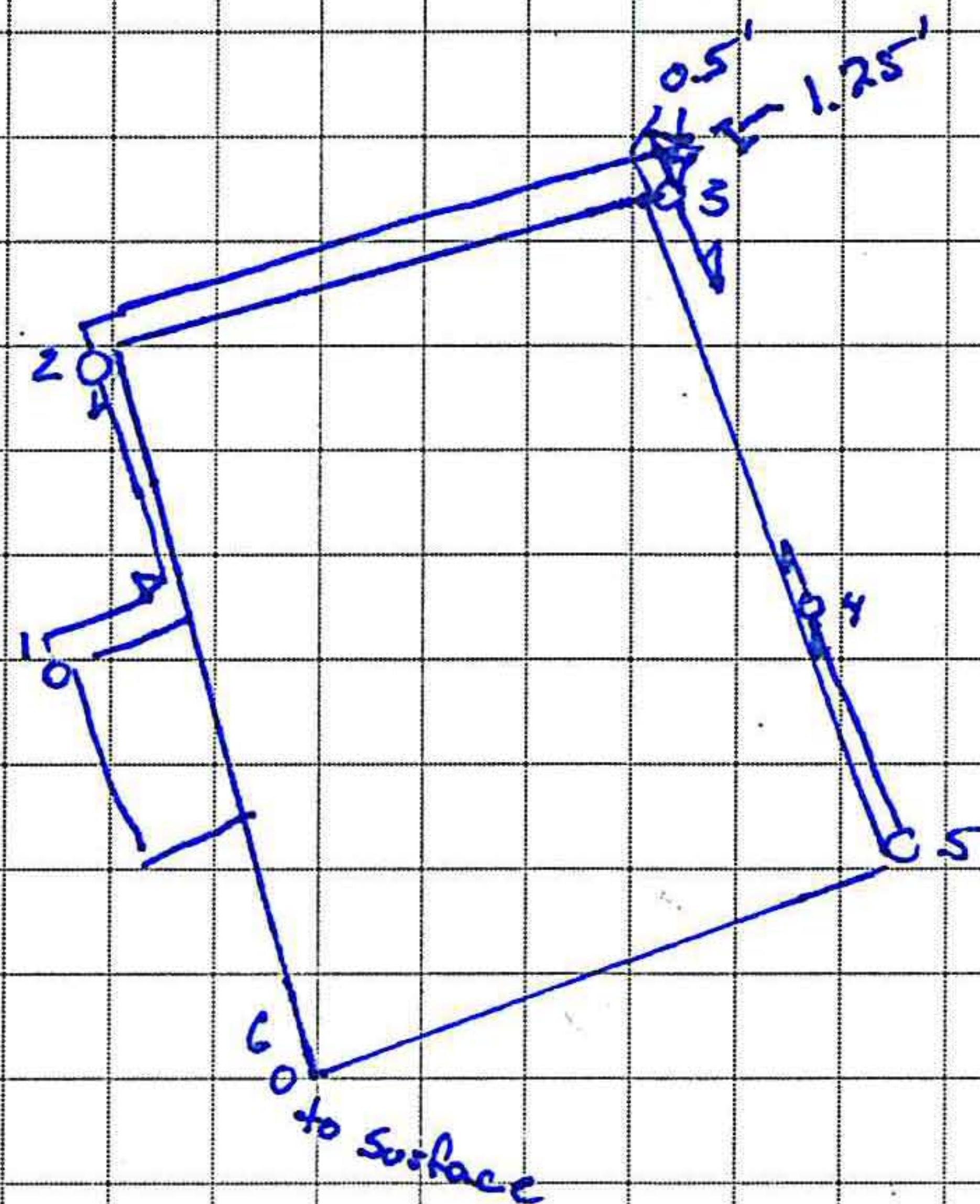
Connected to Surface

Comments

All downspouts connect confirmed by sound test. Downspouts discharge into small pond in the back of the house.

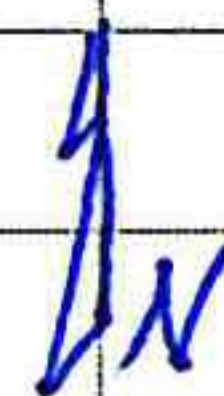
102 Ramapoo Road

Ramapoo Rd



Tests

- ① downspouts 1-5 sound tested to each other.
- ② downspout 3 tested to pipe 2 in the pond behind 102 Ramapoo Rd





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/15/2015

Sub Area: Sub Area 3

Address: 8 Victor Drive

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Paved Asph

Observations

Sewer Manhole ID: V3

Dye Observed: No

Drain Manhole ID: CB

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

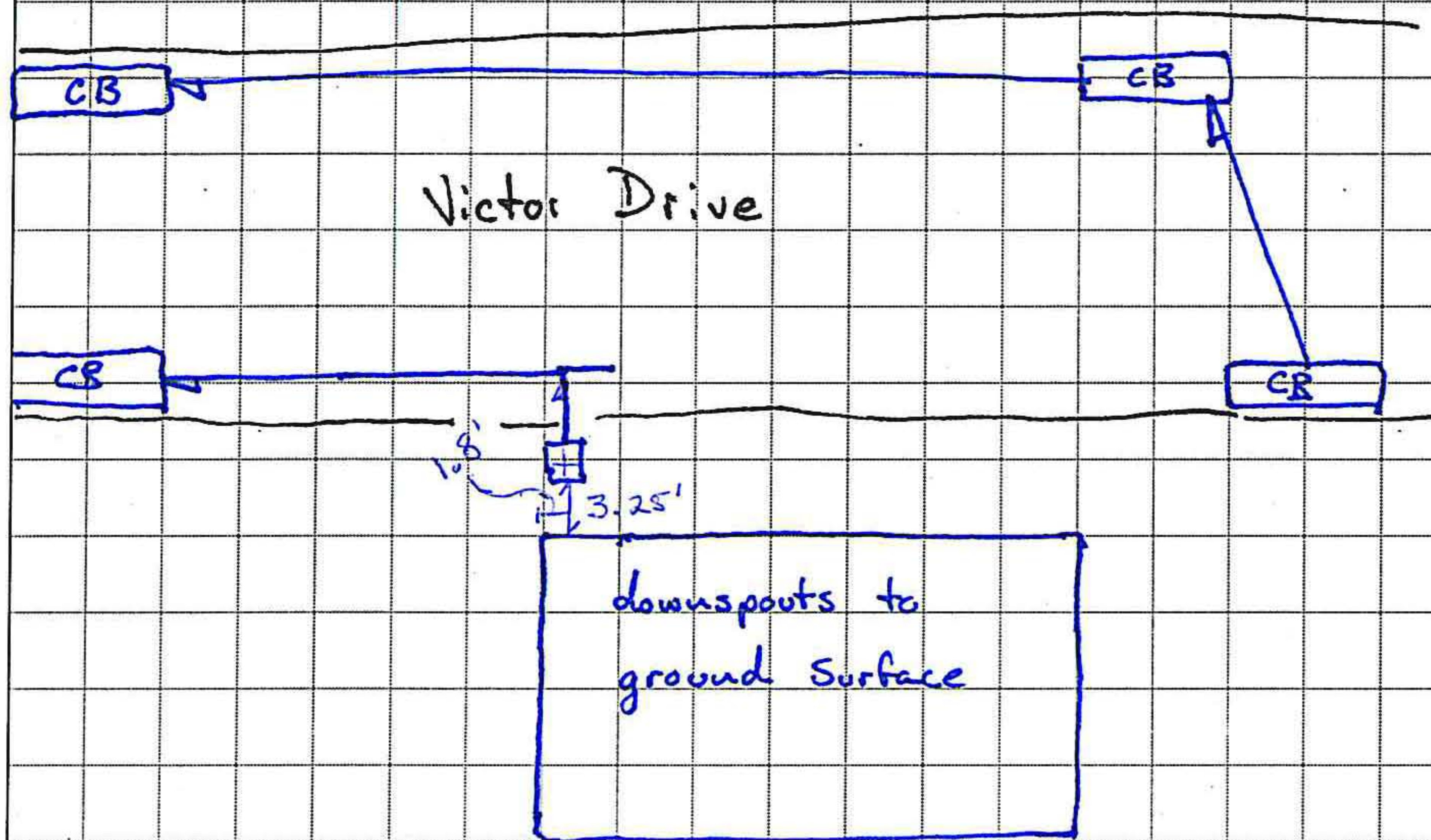
Dye Test Results:

Connected to Drain

Comments

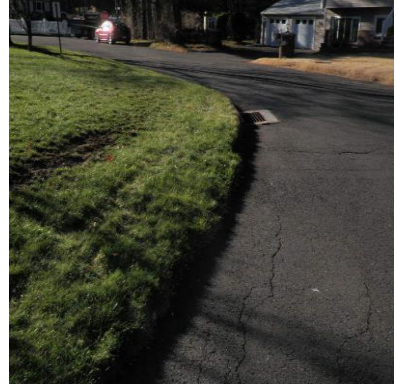
Dye seen in CB in front of 2 Victor Dr.

8 Victor Drive



Tests

- ① driveway drain was tested and dye was observed in a catch basin in front of #2 Victor Drive.



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 3

Address: 9 Victor Drive

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Paved Asph

Observations

Sewer Manhole ID: V3

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

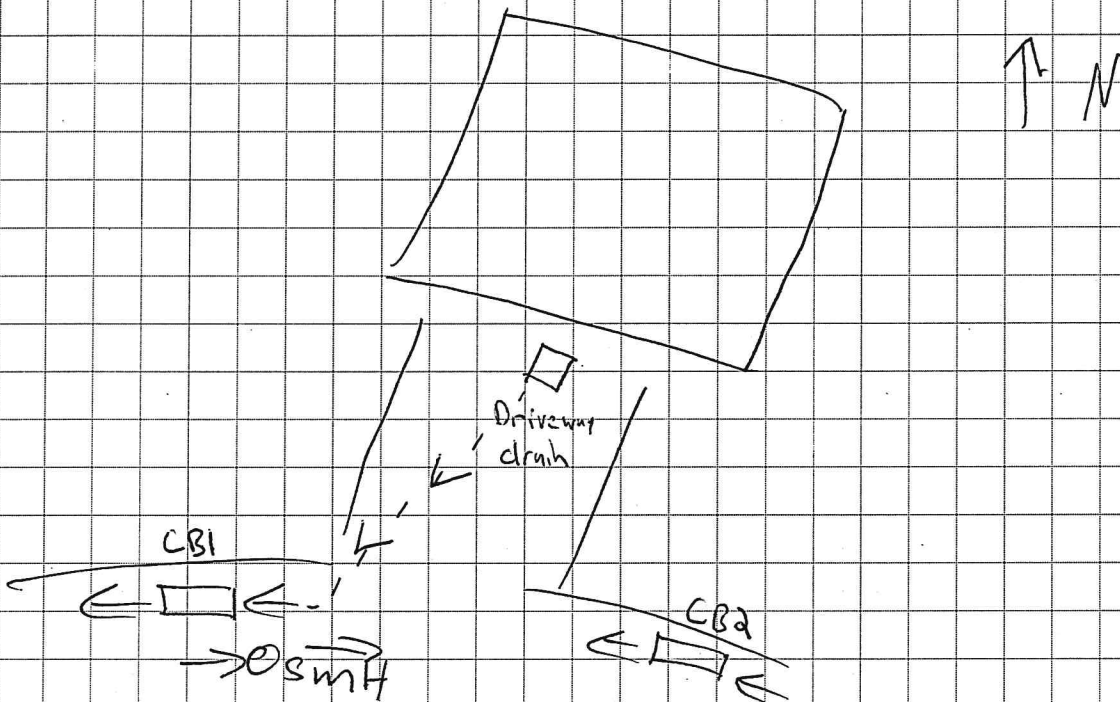
Dye Test Results:

Connected to Drain

Comments

Driveway drain discharges into catch basin in front of 7 Victor Dr (CB1 from sketch).

9 victor Dr



*Driveway drain discharges into catch basin
in front of 7 Victor Dr.



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/15/2015

Sub Area: Sub Area 3

Address: 11 Victor Drive

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Paved Asph

Observations

Sewer Manhole ID: V3

Dye Observed: No

Drain Manhole ID: CB

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

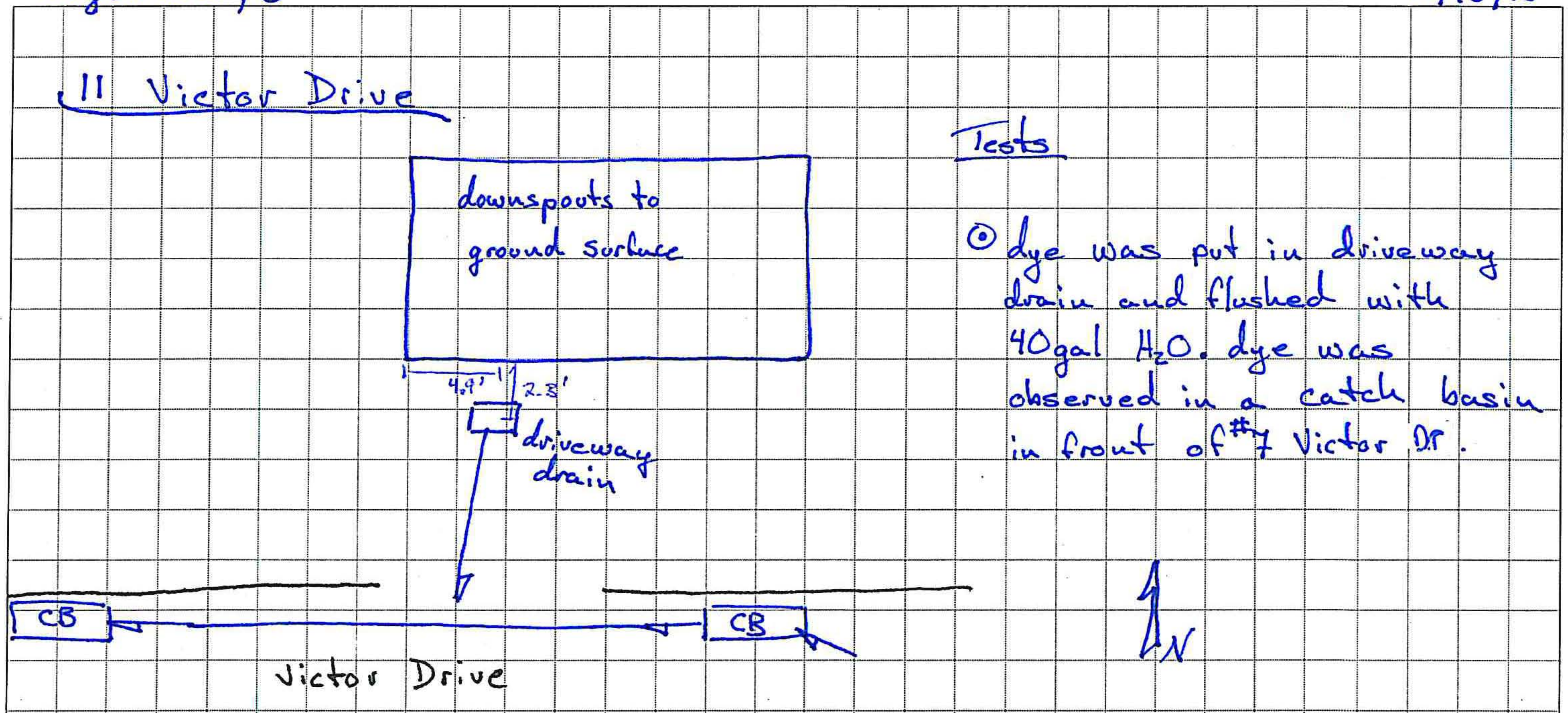
Dye Test Results:

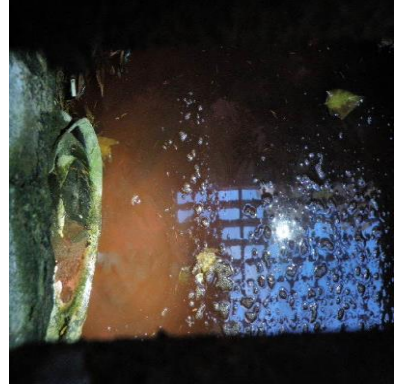
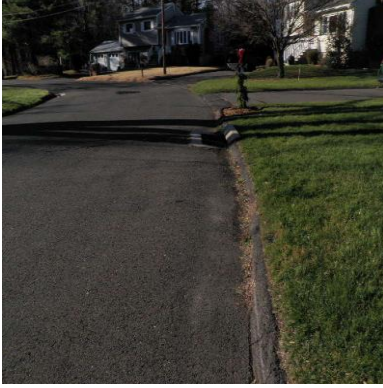
Connected to Drain

Comments

Dye seen in CB in front of 7 Victor Dr.

12/15/15





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/4/2016

Sub Area: Sub Area 3

Address: 15 Victor Drive

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Paved Asph

Observations

Sewer Manhole ID: M4

Dye Observed: No

Drain Manhole ID: CB

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

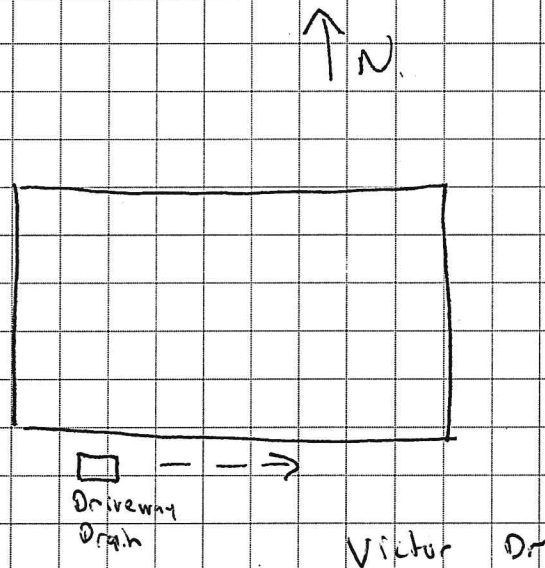
Dye Test Results:

Unknown - NDF

Comments

Crew poured about 80 gal into driveway drain and waited for about an hour. Homeowner mentioned a dry well located behind the house that was covered up with rocks. Crew returned at the end of the day but no dye was seen.

15 Victor Dr



- Crew poured about 80 Gal of water into Driveway drain and waited for about an hour at the sewer (M4) and drain. Homeowner mentioned there was a dry well behind the house and that it was covered up with rocks. Crew returned at the end of the day but no dye was seen.



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/15/2015

Sub Area: Sub Area 3

Address: 17 Victor Drive

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: M4

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Downspouts discharge outlet visible confirmed via sound test.

sde

civil+environmental
ENGINEERING

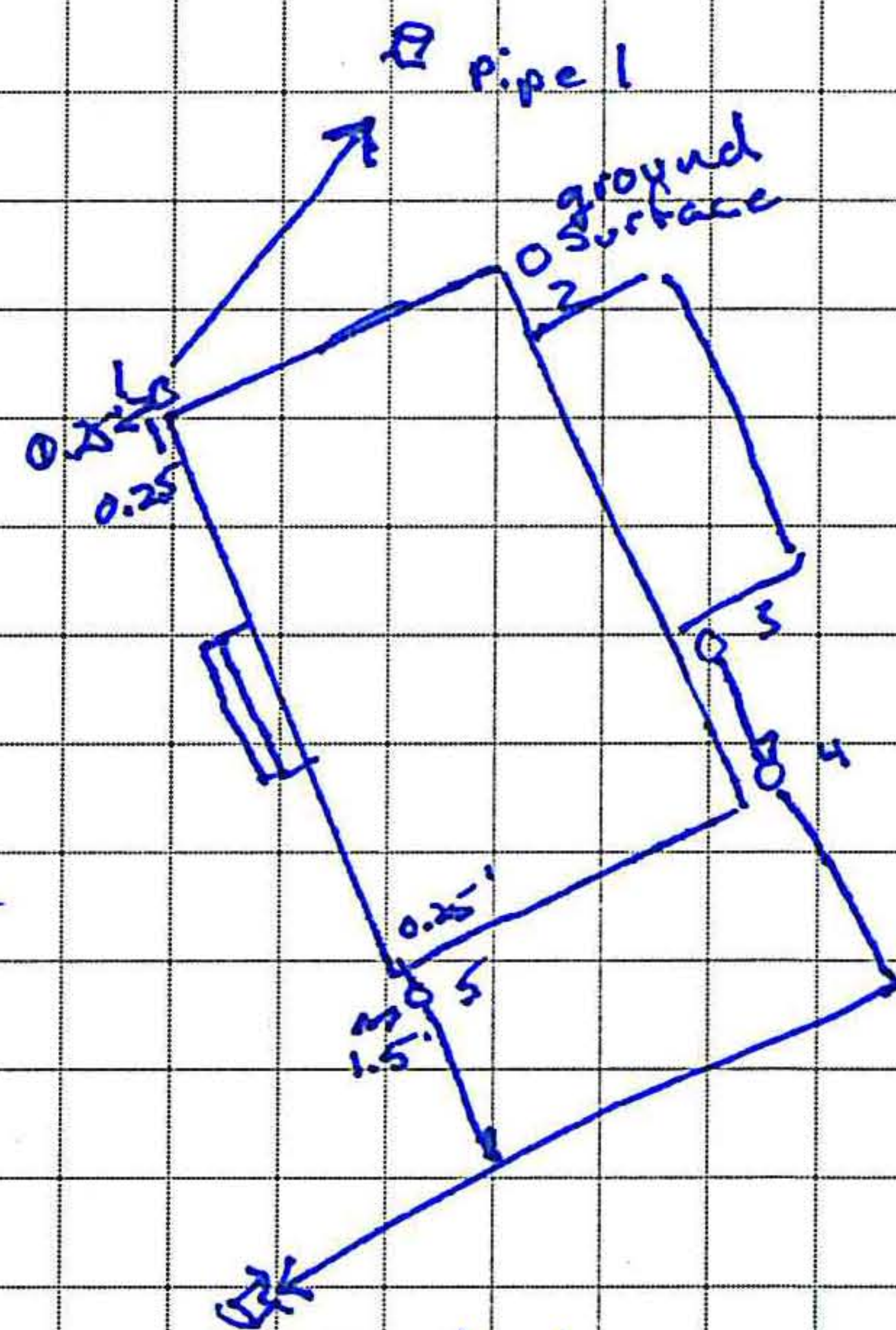
Ridgefield, CT

354 Merrimack Street, Suite 200
Lawrence, MA 01843-1755
p| 978.975.0500
sde-inc.com

12/15/15

17 Victor Drive

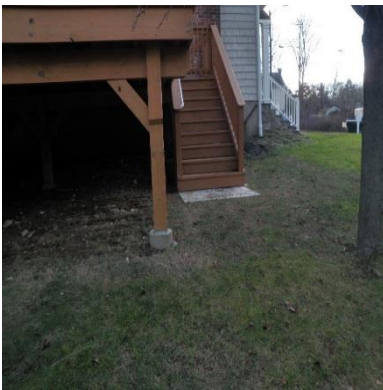
Victor Dr



pipe 2 - discharges onto street

Tests

- ① downspout 1 sound tested to pipe 1 in backyard
- ② downspouts 3, 4 observed connected and sound tested to pipe 2.
- ③ downspout 5 sound tested to pipe 2.



Attachment 4

Sub-Area 4

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/6/2016

Sub Area: Sub Area 4

Address: 18 Bailey Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 39

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

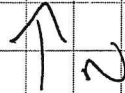
Dye Test Results:

Connected to Surface

Comments

Roof pitched towards the back of the building. Downspout discharges onto surface.

18 Bailey Ave



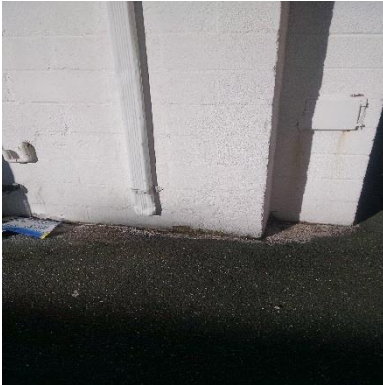
Bailey Ave



OS

Roof Pitched towards
this downspout. Discharges to
Surface.

- No Flat roof on the building. Downspout
discharge onto Surface



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 4

Address: 374 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 42

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

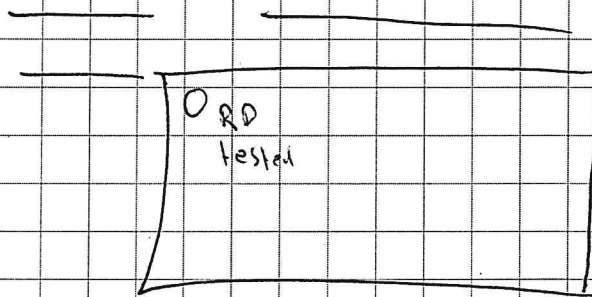
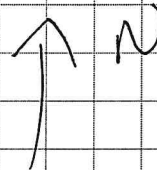
Dye Test Results:

Connected to Drain

Comments

Roof drain discharges into catch basin behind building (on sketch as CB01).

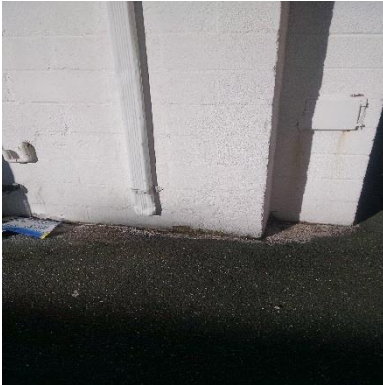
374 Main St (Bank)



CB01

One from RD
Seen in CB.

- Roof drain discharges into catch basin
behind the building



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: 396 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 41

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS on NE corner of building. DS partially clogged. 0.3' W of NE corner. 0.4' N of NE corner. Downspout 4 from sketch. Dye seen in CB1 behind building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: 396 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 41

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

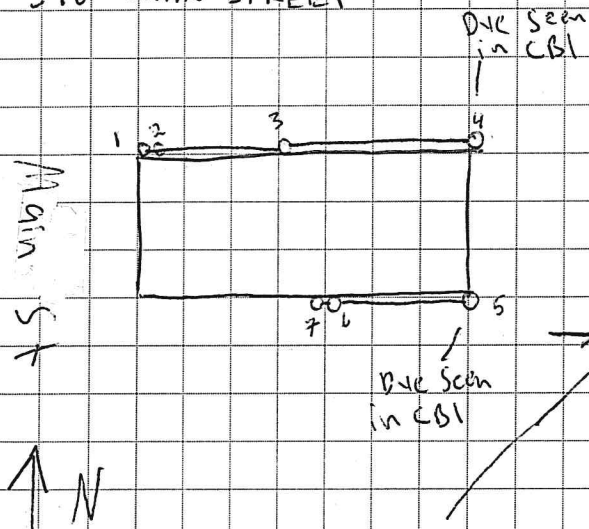
Connected to Drain

Comments

DS on SE corner of building. 0.3' from the east and 0.2' from the edge of building. Downspout 5 from sketch.
Dye seen in CB1 behind building.

12/21/15

396 MAIN STREET



→ 3 is perforated pipe

→ Dye tested downspout number 4

→ Downspouts 7, 6, 5 are visually observed as connected, dye tested at 5, observed discharging to drain

Dye from both downspout
4 and 5 Seen in CBI



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/6/2016

Sub Area: Sub Area 4

Address: 404 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Side

Observations

Sewer Manhole ID: 33

Dye Observed: No

Drain Manhole ID: CB5

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building does not have a flat roof. Tested downspout 6 from sketch. Dye seen in CB5 behind building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/6/2016

Sub Area: Sub Area 4

Address: 404 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Side

Observations

Sewer Manhole ID: 33

Dye Observed: No

Drain Manhole ID: CB4

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building does not have a flat roof. Tested downspout 1 from sketch. Dye seen in CB4 from sketch on Bailey Ave.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/6/2016

Sub Area: Sub Area 4

Address: 418 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 33

Dye Observed: No

Drain Manhole ID: CB2

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

418-422 Main St Same building mapped as 410 Main St. Pitched roof drains toward the back of the building.
Tested downspout 7 from sketch. Dye seen in CB2 behind building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/6/2016

Sub Area: Sub Area 4

Address: 418 Main Street

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 33

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

418-422 Main St Same building mapped as 410 Main St. Pitched roof drains toward the back of the building.
Tested downspout 4 from sketch. Dye seen in CB1 behind building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/6/2016 Sub Area: Sub Area 4

Address:	<u>426</u>	<u>Main Street</u>
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Building Characteristics

Sector: Private
Suspect Source Type: Downspout
Location: Yard - Side

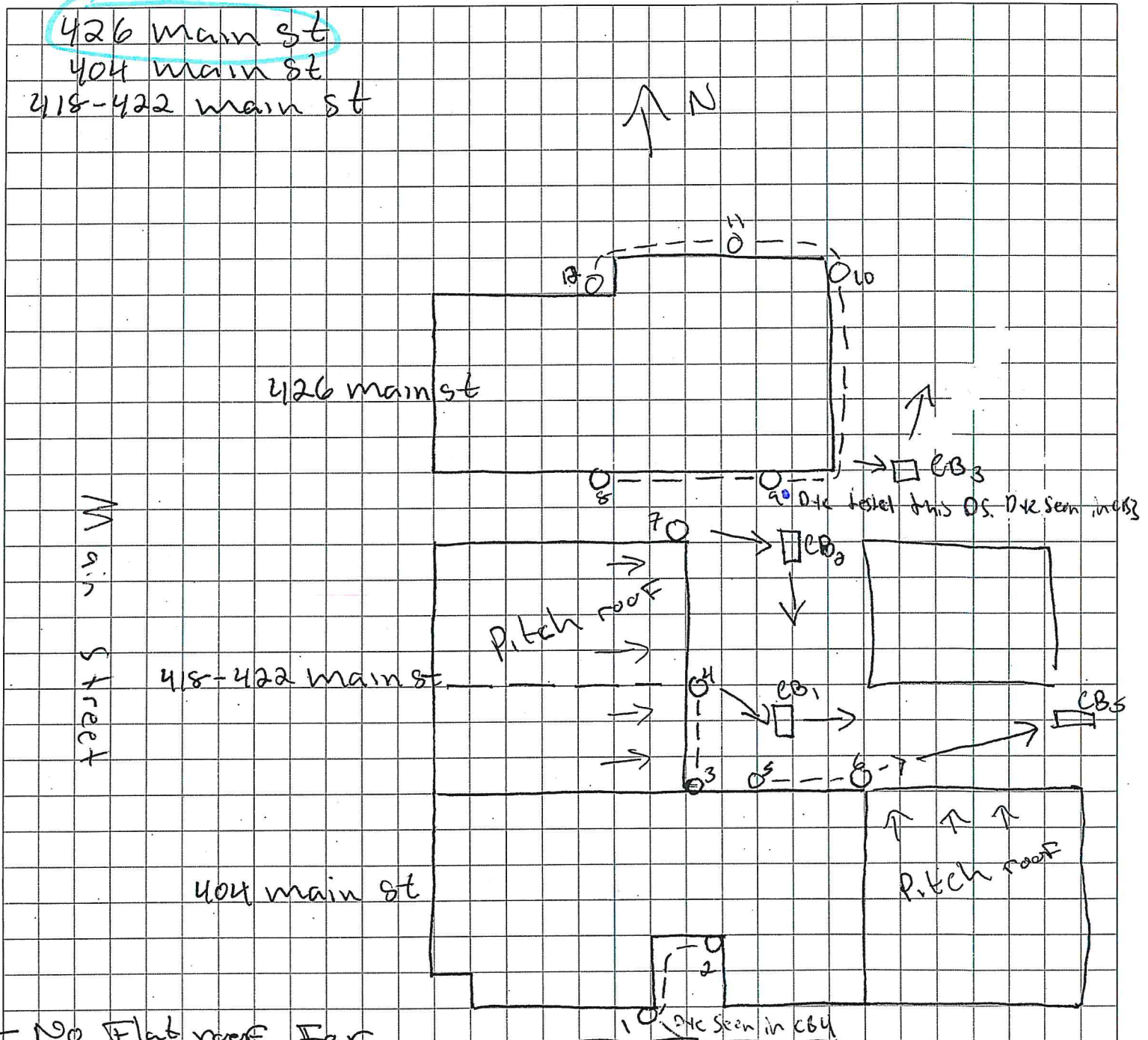
Observations

Sewer Manhole ID: <u>33</u>	Dye Observed: <u>No</u>
Drain Manhole ID: <u>CB3</u>	Dye Observed: <u>Yes</u>
Other Manhole ID 1:	Dye Observed:

Dye Test Results: <u>Connected to Drain</u>

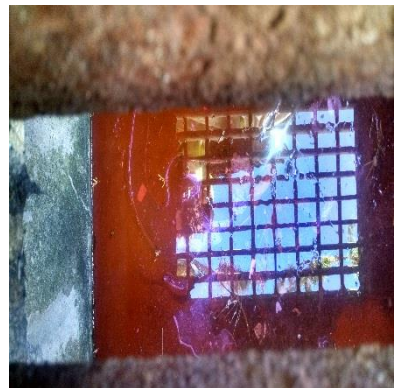
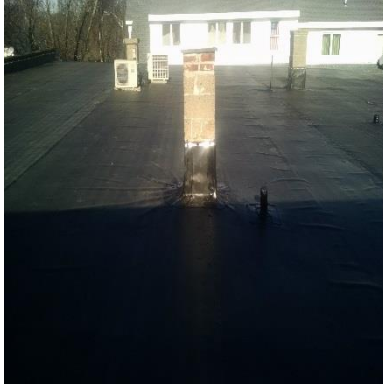
Comments

Not a flat roof. All downspouts connected. Dye seen in CB3 behind the building.

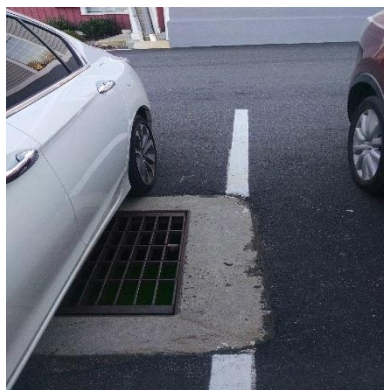


- No Flat roof for 426 and 418-422 main st
- Down spouts for 426 all discharge into CB3
- 418-422 main st Downspout 7 discharge into CB2 and downspout 3-4 discharge into CB1
- 404 main st has no Flat roofs. Down spouts on the South end of the building discharge into CB4 on Bailey Ave. Down spout on the North of the building discharge into CB5.









Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/29/2015

Sub Area: Sub Area 4

Address: 51 Prospect Ridge

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 75D

Dye Observed: No

Drain Manhole ID: CB2

Dye Observed: Yes

Other Manhole ID 1: 19D

Sanitary Se

Dye Observed: No

Dye Test Results:

Connected to Drain

Comments

Tested DS was 8' S of NW corner and 0.25' from the wall (on sketch as downspout 2). Dye was observed in a CB on Halpin Ln on sketch as CB2.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/29/2015

Sub Area: Sub Area 4

Address: 51 Prospect Ridge

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 75D

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1: 19D

Sanitary Se

Dye Observed: No

Dye Test Results:

Connected to Drain

Comments

Tested DS was 50' W of SE corner and 0.5' from wall (on sketch as downspout 1). Dye was observed in a catch basin in loop South of building on sketch as CB1.

12/29/15



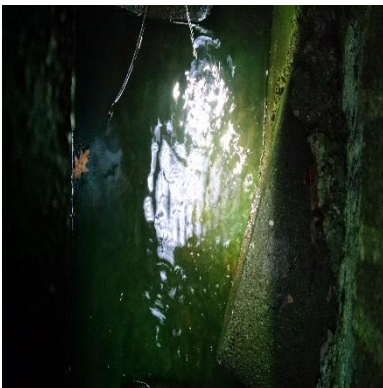
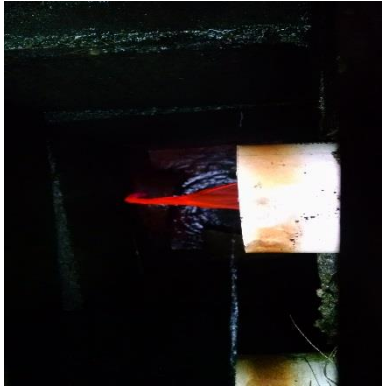
Dte tested this
Down South
Dte Seen in
CR2

Dye tested		
this DS.		
Dye seen in		
CSI.		

----- Sound tested Connect

Notes: Dye test of DS ① appeared in the catch basin to the S of the tested DS.

Dye test ② appeared in the catch basin to the NE of building, on Halpin Lane



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Yard Drain

Location: Building 5,6,7,8,9,10

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: CB02

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Yard drain 12' E of NO 7 Quail Ridge 1 and 0.25' from wall. Dye tested to CB in walkway off SW corner of NO 15 Quail Ridge 1 on sketch as CB02.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 5,6,7,8,9,10

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS 25' W from NE corner and 0.25' from wall (downspout 7 from sketch). Dye tested to CB on street corner in front of NO 15 Quail Ridge 1 on sketch as CB01.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 5,6,7,8,9,10

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS 25' S from NE corner and 0.25' from wall (downspout 4 from sketch). Dye tested to CB on street corner in front of NO 15 Quail Ridge 1 on sketch as CB01.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 19.20

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS 0.25' from SE corner and 0.25' from wall. Dye tested to CB on street corner on sketch as CB01.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 19.20

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS 0.25' from SE corner and 0.25' from wall. Dye tested to CB on street corner.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 21.23

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

DS on 0.25' E of NW corner (downspout 2 from sketch). Dye observed discharging to yard surface E of building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 25

Observations

Sewer Manhole ID: SS6

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Downspout 4 from sketch. Dye was observed discharging from lawn to N of building, surface discharge 2 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/23/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 25

Observations

Sewer Manhole ID: SS6

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

DS 0.25' S of NE corner and 0.25' from wall. Downspout 1 from sketch. Dye was observed discharging from lawn to E of building. surface discharge 1 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 29,30,31,32

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

DS 4' E of NO 32 Door and 0.25' from wall (downspout 9 from sketch). Dye tested to surface, DS buried off SE corner of building, discharges to driveway.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 37,38,39,40,41,42

Observations

Sewer Manhole ID: 19A

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS 0.25' from NE corner and 0.25' from wall. Dye tested to CB in rear parking lot on sketch as CB01.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Building 37,38,39,40,41,42

Observations

Sewer Manhole ID: 19A

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Driveway drain 15' W off NE corner and 0.3' from wall in front of unit 38. Dye tested to CB in rear parking lot on sketch as CB01.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 43,44,45

Observations

Sewer Manhole ID: 19A

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS 16' From SE corner and 0.25' from wall (downspout 10 from sketch). Dye tested to CB in front of NO. 49 Quail Ridge 1 on sketch as CB01.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 48.47

Observations

Sewer Manhole ID: 19A

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS ' from NW and 0.25' from wall. DS Dye tested to CB in front of NO 47 Quail Ridge 1 on sketch as CB01.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 49,50,51

Observations

Sewer Manhole ID: 19A

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS 67' from NW corner and 0.25' from wall (downspout 5 from sketch). Dye tested to CB in front of NO. 50 Quail Ridge 1 on sketch as CB01.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 52,53,54,55

Observations

Sewer Manhole ID: 19A

Dye Observed: No

Drain Manhole ID: CB02

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS 0.25' from NE corner and 0.25' from wall (downspout 5 from sketch). Dye tested to CB E of NO. 52 Quail Ridge 1 on sketch as CB02.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 52,53,54,55

Observations

Sewer Manhole ID: 19A

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS 50.5' from NW corner and 0.25' from wall (downspout 2 from sketch). Dye tested to CB N of 52 Quail Ridge on sketch as CB01.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 56.57.58.59

Observations

Sewer Manhole ID: SS6

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS on NW corner of building 0.25' from NW corner and 0.25' from wall. Dye tested to CB at the intersection of Prospect St and Sunset Ln on sketch as CB01.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 56,57,58,59

Observations

Sewer Manhole ID: SS6

Dye Observed: No

Drain Manhole ID: CB02

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS on E corner of building. 0.25' S of corner. 0.25' from wall. Dye tested to CB in front of 56 Quail Ridge 1 on sketch as CB02.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/22/2015

Sub Area: Sub Area 4

Address: Quail Ridge 1 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 60,61,62,63

Observations

Sewer Manhole ID: SS6

Dye Observed: No

Drain Manhole ID: CB01

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

DS's on building sound tested positive together or go to ground surface. Tested DS is 50.5' from NE corner and 0.25' from wall. Dye observed in CB on Prospect St on sketch as CB01.

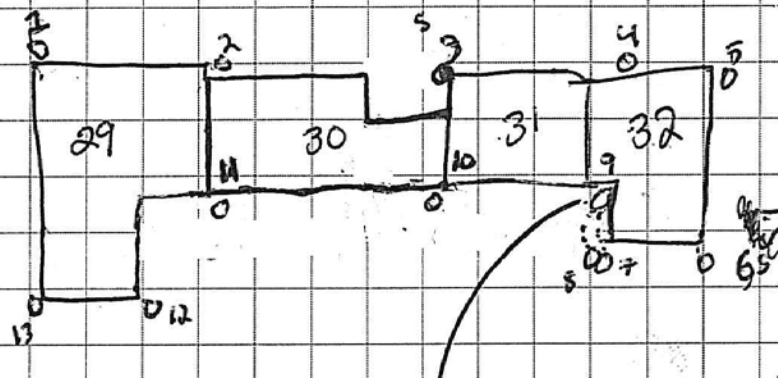
UNITS 29-32

RIDGEFIELD, CT

12/22/15

Quail Ridge I

↑ N



→ Downspouts 3, 6 were observed discharging to surface.

→ Downspouts 7, 8, 9 connected via sound test

Dye tested downspout 9, observed discharging to surface, next to man hole on side of driveway.

Dye tested this downspout. Discharges to surface.

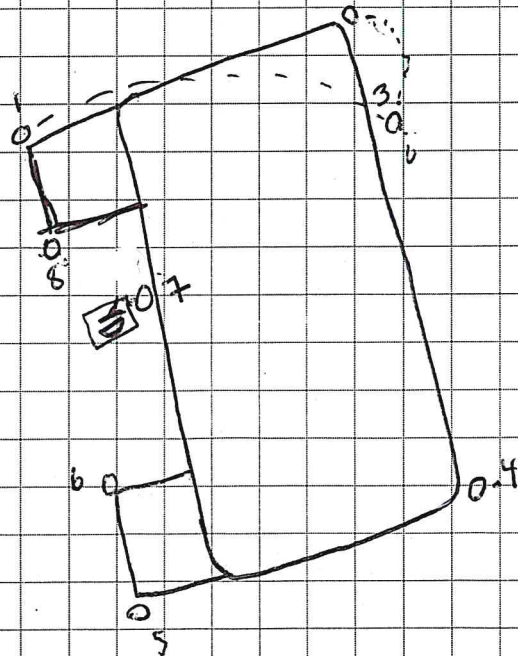
Quail Ridge 1

UNITS 21-23

Downspout 3

is open stack,
exposed to surface,
no downspout.

N ↑



tested this
downspout 2 Dye seen on
lawn.

Downspout 4 observed
discharging to surface

Downspout 1+2 sound
tested to 3 but not
1 to 2.

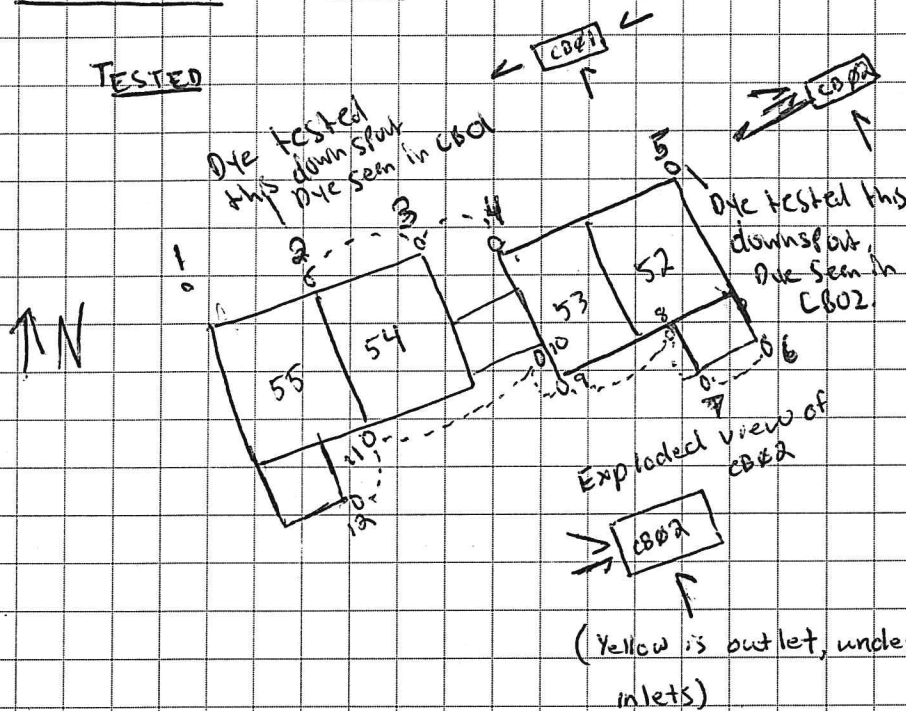
Dye tested downspout 2
observed discharging on
surface (lawn).

QUAIL RIDGE

UNITS 52-55

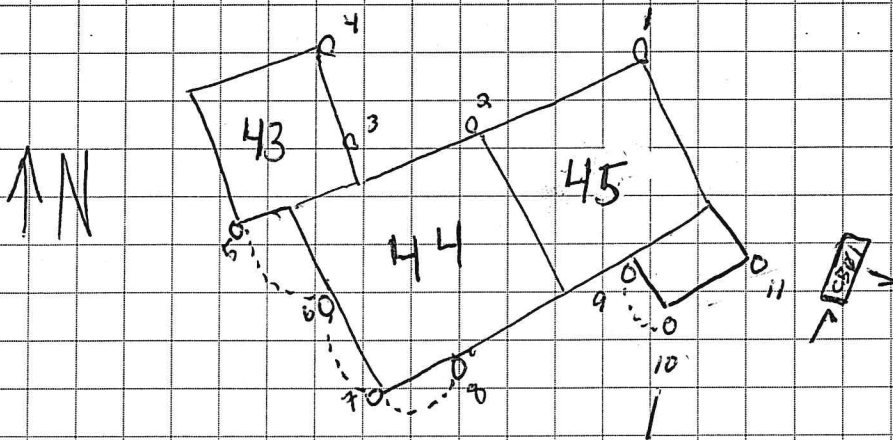
12/22/15

TESTED



- Downspouts 2,3,4 are connected via sound test.
- Downspout 1 was observed to be discharging to surface
- Dye tested downspout 2, observed discharging in catch basin CB01
- Dye tested downspout 5, observed discharging in catch basin CB02, South western inlet.
- Dye tested downspout 6, observed discharging into CB02 from the westerly pipe.

UNITS 43-45



- Downspouts 1,2,3,4 observed discharging to surface
- Downspouts 5,6,7,8,9,10 connected via sound test, and visual orientation of pipes.
- Dye tested downspout 10, observed discharging to catch basin CB01.

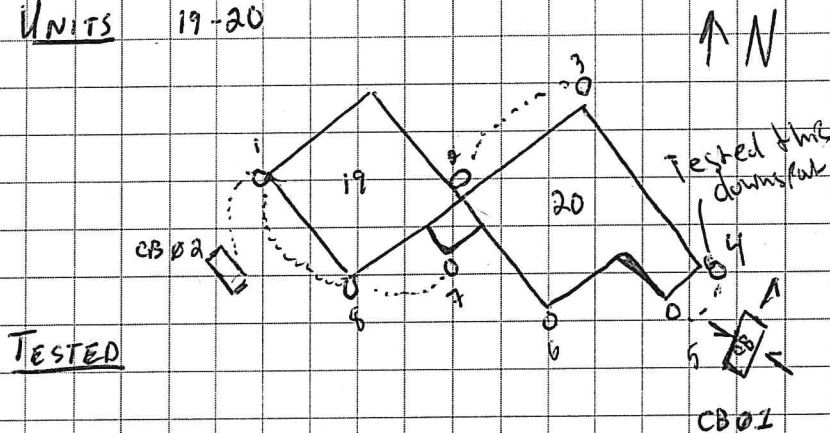
Dye tested
this downspout.
Dye seen in CB01.

Quail Ridge 1

RIDGEFIELD, CT

12/22/15

UNITS 19-20



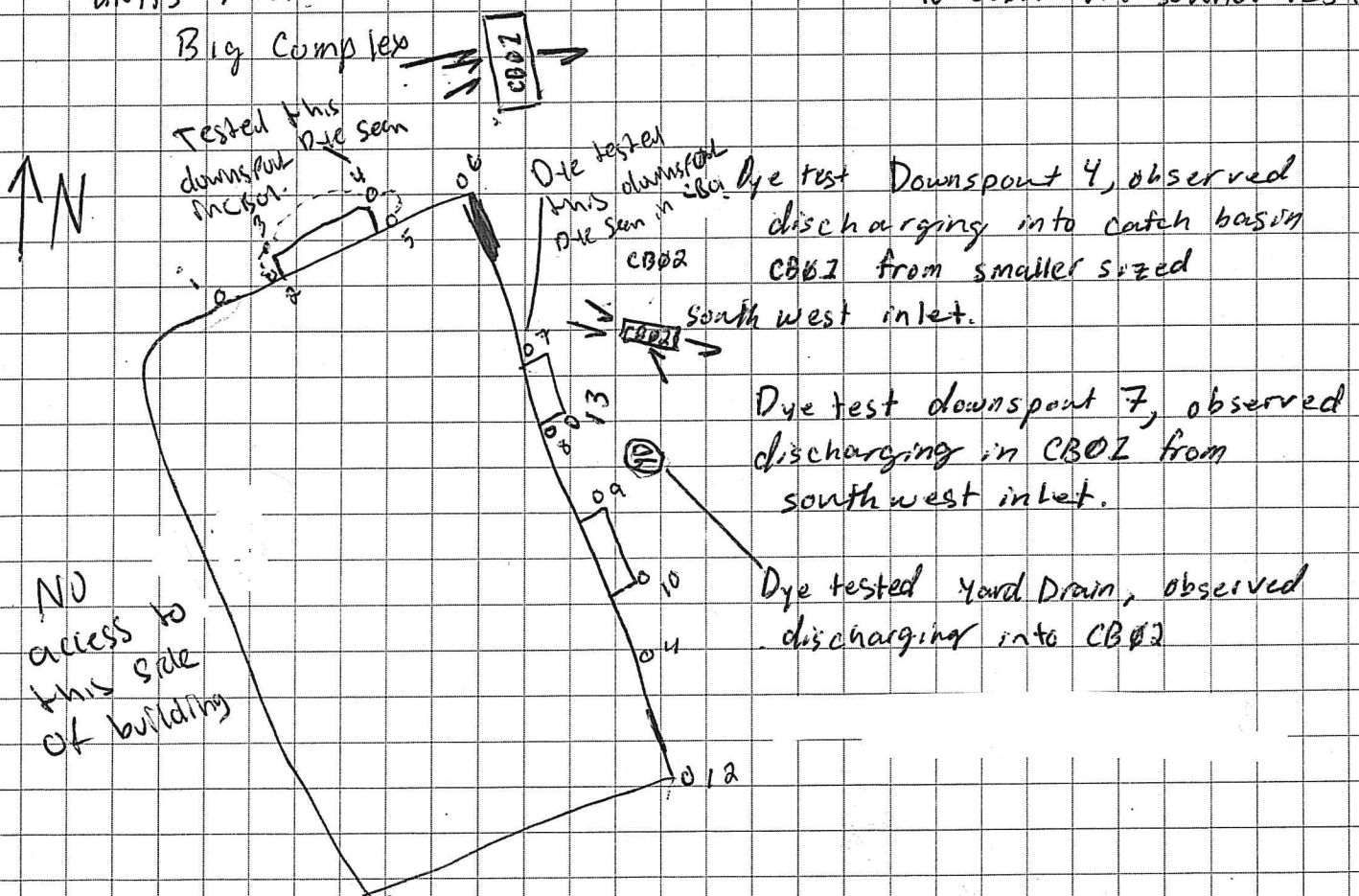
Dye tested downspout 4, observed discharging in catch basin CB02 from the NW inlet.

Downspouts 2 & 3 and 4 & 5 are connected via sound test.

Downspouts 1, 8, 7 are connected via sound test, also connected to CB02 via sound test.

UNITS 4-12

Big Complex

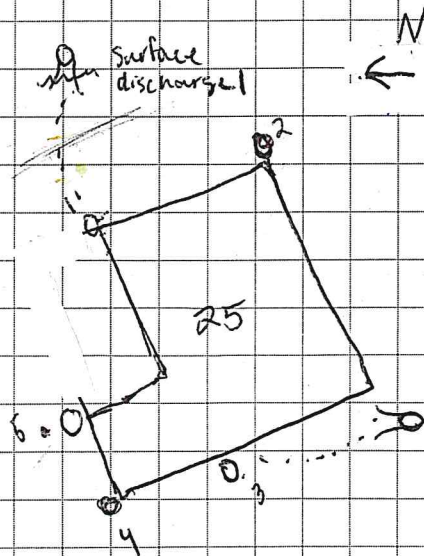


Quail Ridge 1

UNIT 25

Surface dis. 2

Dye from
DS 4 seen
here.



Dye tested
this downspout.
Dye seen at Surface
discharge 2.

Downspout 5 discharges to
surface.

Downspout 1, 3 sound tested
to surface discharges.

Dye tested downspout 4,
observed discharging
at surface discharge
2.

UNITS 49-51

Quail Ridge I

RIDGEFIELD, CT

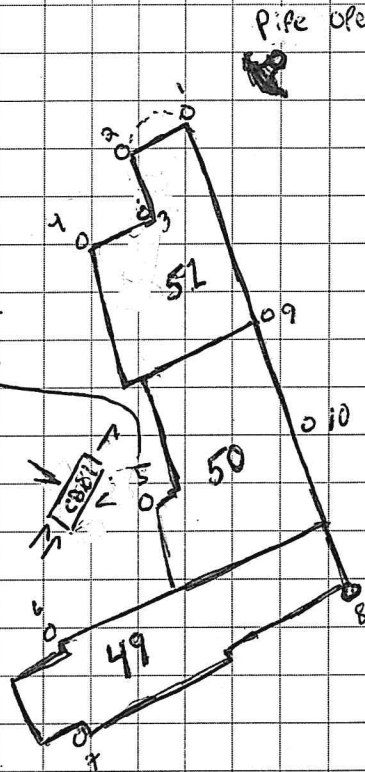
12/22/15

NOTE DSITS =
Downspout to
surface

TESTED

↑ N

Tested
this downspout
die seen in
CBSOL.



Pipe opening

Downspout 1, 2, 3, 9, 10
discharging to surface

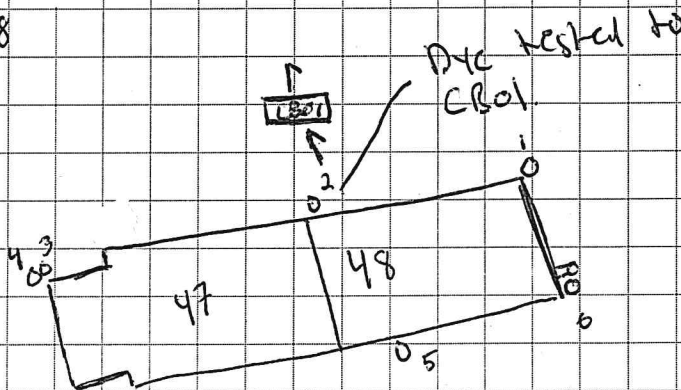
Dye tested downspout 4
observed discharging to
surface, at Pipe Opening 1

downspout 5,
observed discharging into
storm drain CBSOL

UNITS 47-48

TESTED

↑ N



Dye tested to
CBSOL

Dye tested downspout 2,
observed discharging to
drain catch basin CBSOL

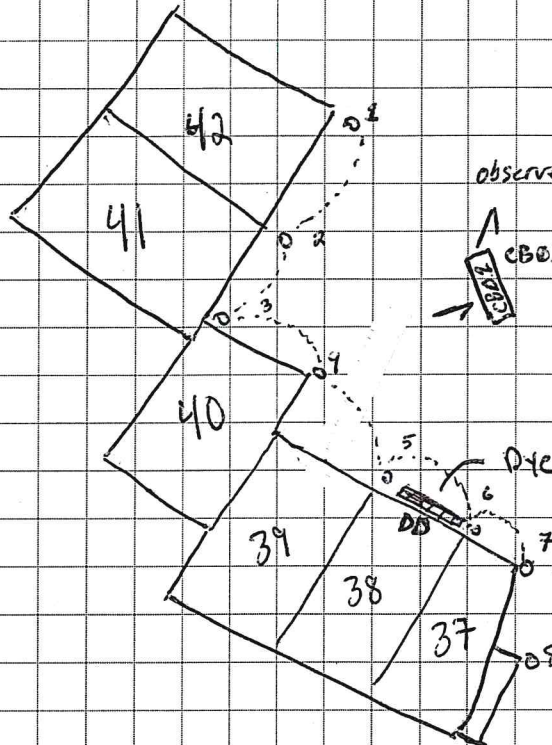
Downspouts 1, 3, 4, 5, 6
observed discharging to
surface

Quail Ridge 1
UNITS 37-42

RIDGEFIELD, CT

12/22/15

TESTED



→ Downspouts 1, 2, 3, 4, 5, 6, 7, 8 are connected via sound test

→ Dye tested downspout 7, observed discharging to drain catch basin CB01.

→ Dye tested DD in front of Unit #38 garage bays, observed discharging into CB01

Dye tested to CB01.

Dye tested to CB01.

RIDGEFIELD, CT

QUAIL BRIDGE

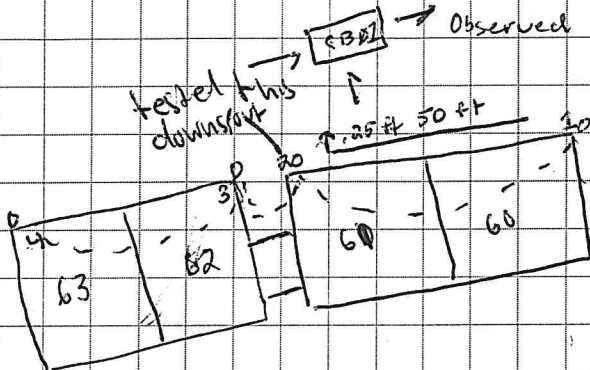
12/22/15

Tested

Dye test Downspout 2, observed discharging in drain catch basin #1

UNIT 60-61

Observed downspout 1,2,3,4 connected by sound test.



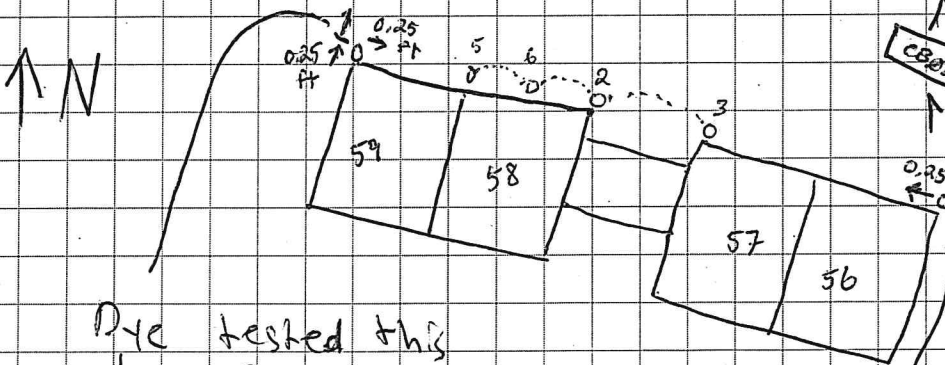
UNITS

56-59

CB#1

Tested

Downspouts 56,2,3 are connected by sound test. 1,4 are independent



Dye tested this downspout. Dye seen in CB#1.

Dye tested downspout 1, observed discharging into drain catch basin #1 at the end of prospect st.

Dye test downspout 4, observed discharging in CB#2

Dye tested this downspout. Dye seen in CB#2.

UNITS

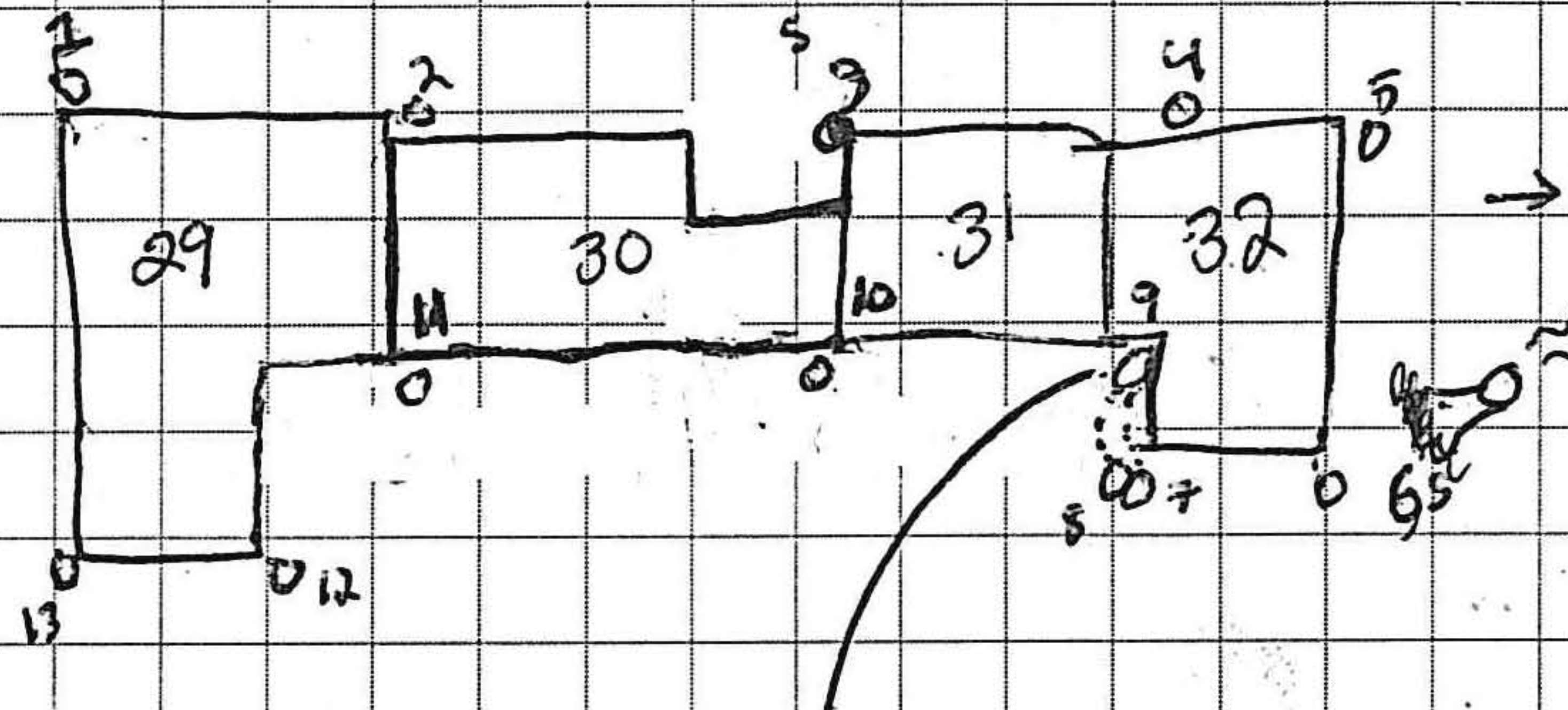
29-32

RIDGEFIELD, CT

12/22/15

Quail Ridge 1

↑ N

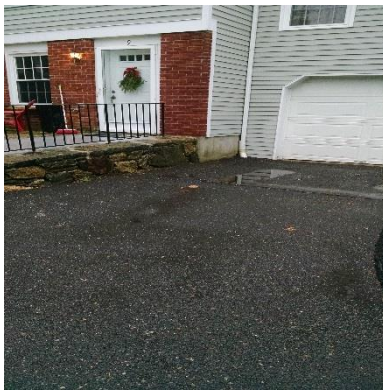


→ Downspouts 3, 6 were observed discharging to surface.

→ Downspouts 7, 8, 9 connected via sound test

Dye tested downspout 9, observed discharging to surface, next to man hole on side of driveway.

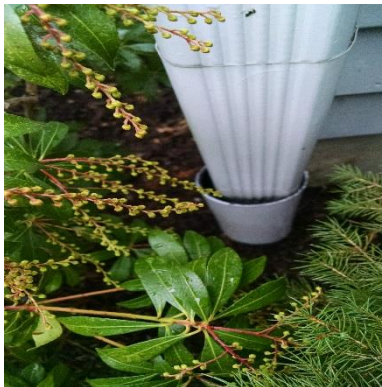
Dye tested this downspout. Discharges to surface.

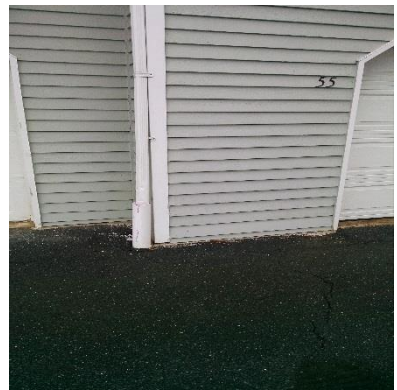


















Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 1-8-9

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Building No. 1-8-9. Dye test 20. Dye seen discharging to the surface.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 1-8-9

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: CB13

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 1-8-9. Dye test 19. Dye seen in CB13 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 4-1

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: CB12

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 4-3-2-1. Dye test 24. Dye seen in CB12 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 4-1

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: CB14

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 4-3-2-1. Dye test 23. Dye seen in CB14 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 4-1

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: CB12

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 4-3-2-1. Dye test 22. Dye seen in CB12 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 4

Address:	<u>Quail Ridge 2 Condominiums</u>
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Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 10.11.12

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: CB10

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results: <u>Connected to Drain</u>

Comments

Dye test 21. Dye seen in CB10 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 15-17

Observations

Sewer Manhole ID: 20C

Dye Observed: No

Drain Manhole ID: CB12

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 15-17. Dye test 15. Dye seen in CB12 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Building 20

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: CB10

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Adjacent to Building No. 20. Dye seen in CB10 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 20

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: CB10

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 20. Dye test 14. Dye seen in CB10 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address:	<u>Quail Ridge 2 Condominiums</u>
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Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 21-22

Observations

Sewer Manhole ID: 20F

Dye Observed: No

Drain Manhole ID: CB6

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results: <u>Connected to Drain</u>
--

Comments

Dye test 13. Dye seen in CB6 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 28

Observations

Sewer Manhole ID: 20C

Dye Observed: No

Drain Manhole ID: CB8

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 28. Dye test 12. Dye seen in CB8 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Yard Drain

Location: Building 30

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: CB3

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Adjacent to Building No. 30. Dye seen in CB3 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Building 30

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: CB3

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Adjacent to Building No. 30. Dye Seen in CB3 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 30

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: CB3

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 30. Dye test 6. Dye seen in CB3 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 30

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: CB3

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 30. Dye test 7. Dye seen in CB3 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 34

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: CB4

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 34. Dye Test 10. Dye seen in CB4 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 34

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: CB4

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 34. Dye Test 11. Dye seen in CB4 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 42-43

Observations

Sewer Manhole ID: 20I

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Building No. 42-43. Dye test 2. Dye seen discharging to the surface from OF2 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 42-43

Observations

Sewer Manhole ID: 20I

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Building No. 42-43. Dye test 1. Dye seen discharging to the surface from OF1 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 46-47

Observations

Sewer Manhole ID: 20I

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Building No. 46-47. Dye test 3. Dye seen seen discharging to the surface from OF3 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 51

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Building No. 51. Dye test 4. Dye seen discharging to the surface from OF5 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 55-56

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Building No. 55-56. Dye Test 5. Dye seen discharging to surface from OF5 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 62

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Building No. 62. Dye Test 8. Dye seen discharging to the surface at OF8 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 64-61

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Building No. 64-61. Dye test 16. Dye seen dischargin to the surface at OF9 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/18/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 66-68

Observations

Sewer Manhole ID: 20G

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Building No. 66-68. Dye Test 9. Dye seen discharging to the surface at OF10 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 69-70

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: CB10

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Building No. 69-70. Dye test 17. Dye seen in CB10 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 4

Address: Quail Ridge 2 Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 72-71

Observations

Sewer Manhole ID: 20E

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

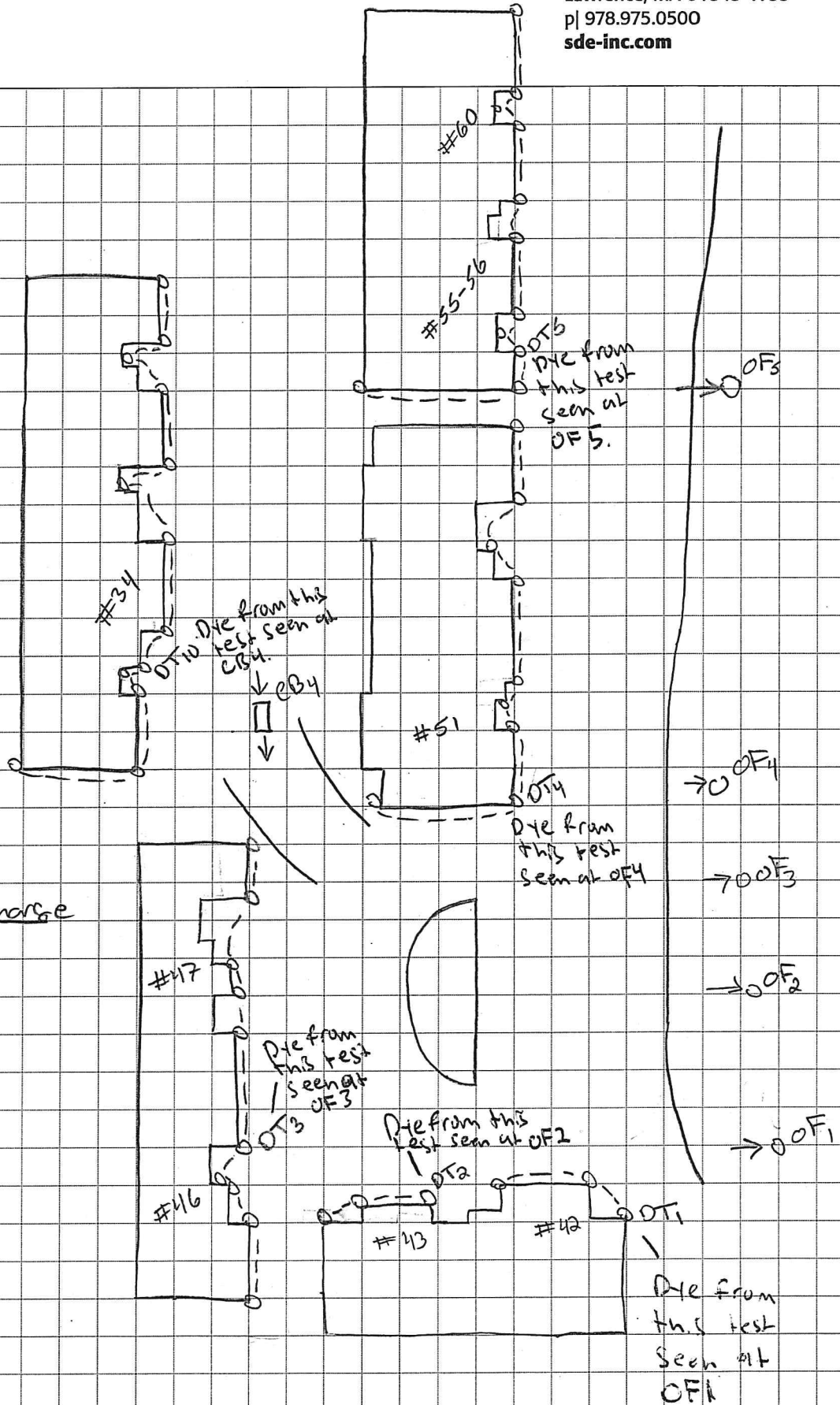
Connected to Surface

Comments

Building No. 72-71. Dye test 18. Dye seen discharging to the surface.

8
↑

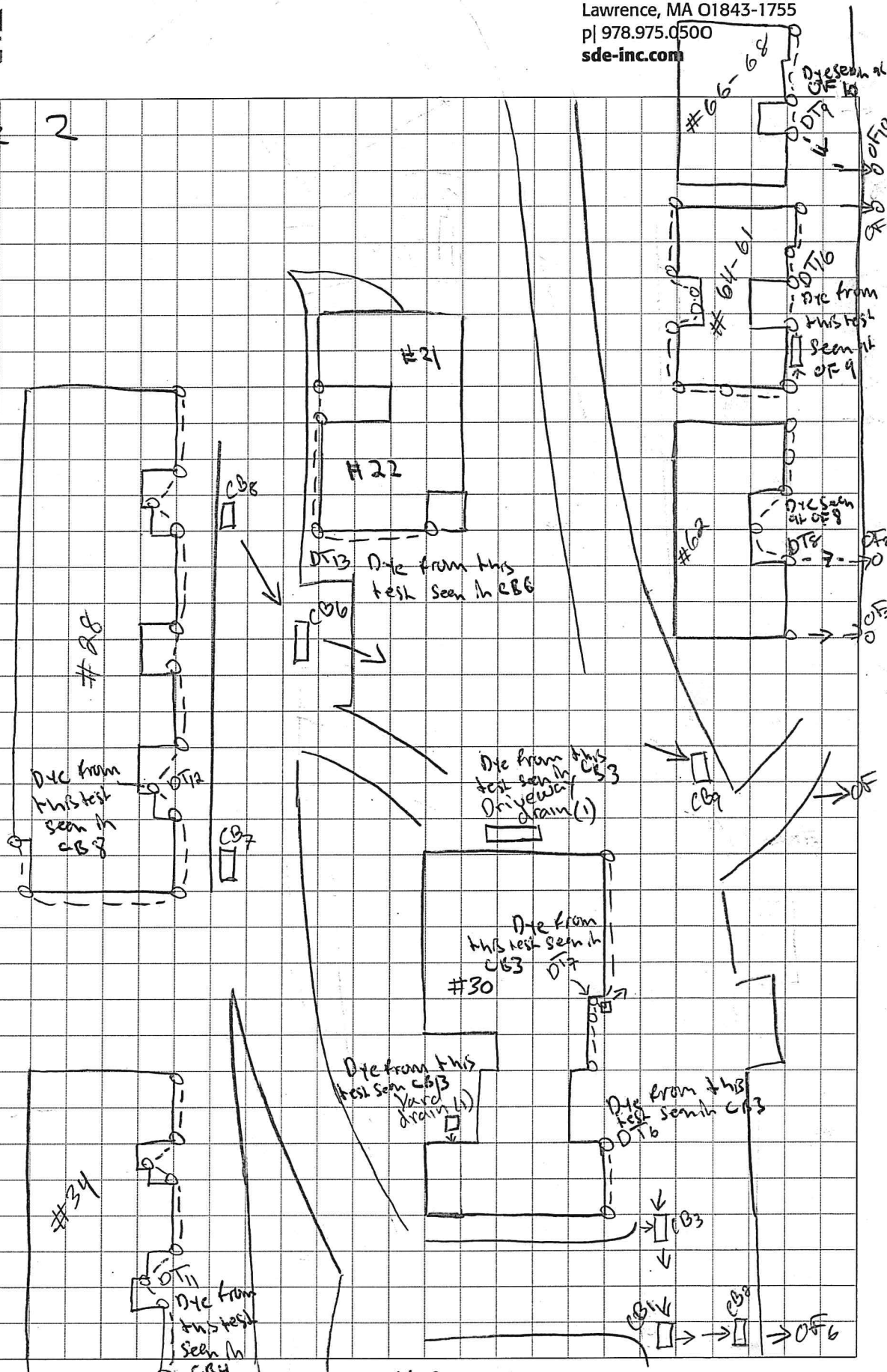
Quail Ridge II



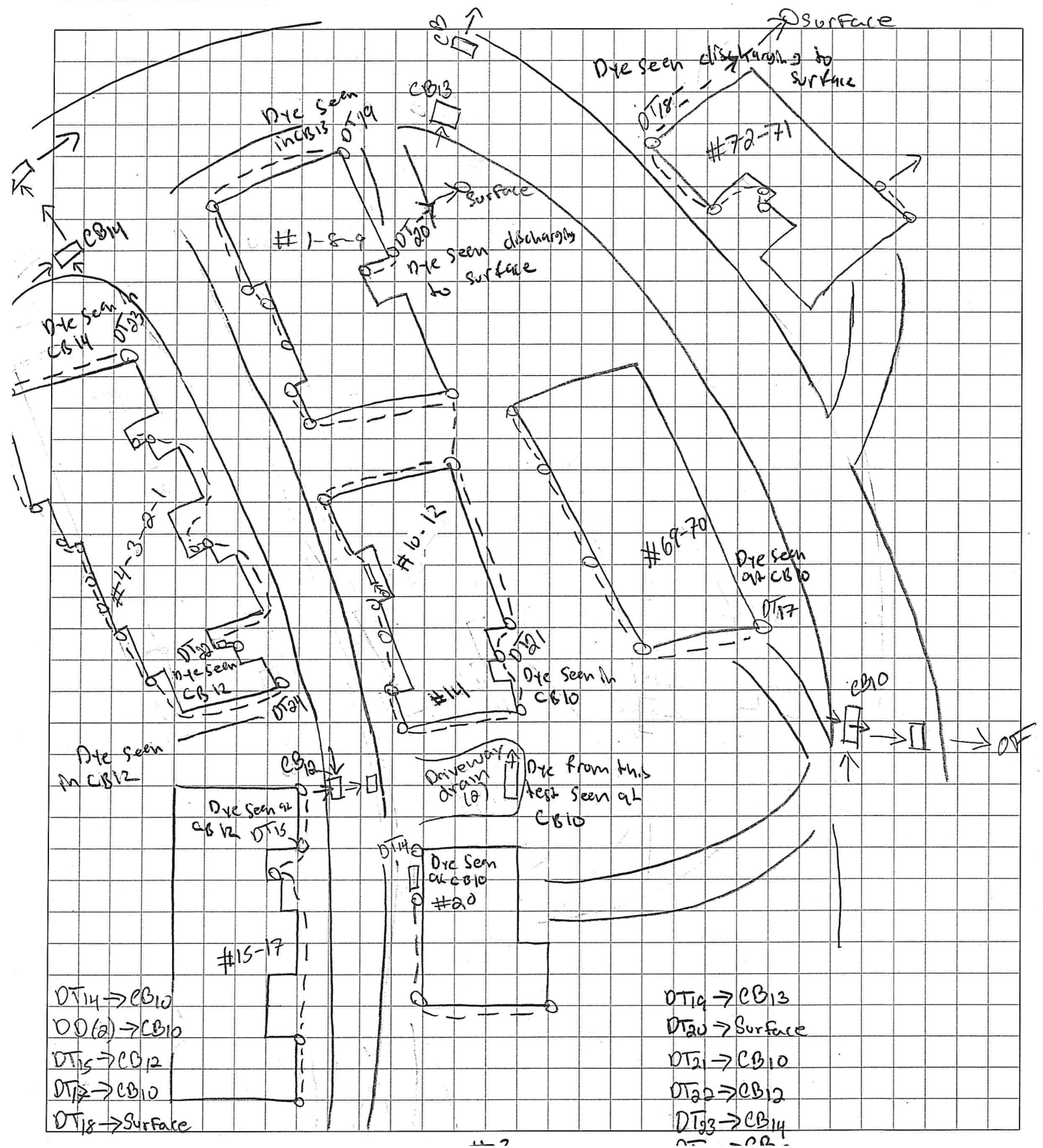
Dye Test and discharge

- DT1 → OF1
- DT2 → OF2
- DT3 → OF3
- DT4 → OF4
- DT5 → OF5
- DT10 → CB4

DT6 \rightarrow CB3
DT7 \rightarrow CB3
DT8 \rightarrow CF8
DT9 \rightarrow CF10
DT16 \rightarrow CF9
DT11 \rightarrow CB4
DT12 \rightarrow CB8
DT13 \rightarrow CB6
Driveway Drain \rightarrow CB3
Yard Drain \rightarrow CB3



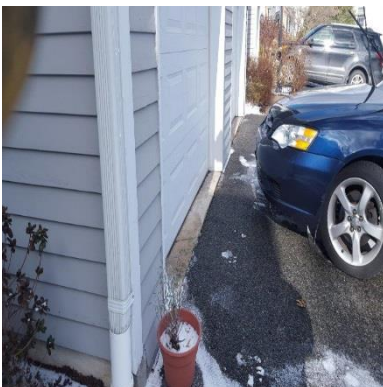
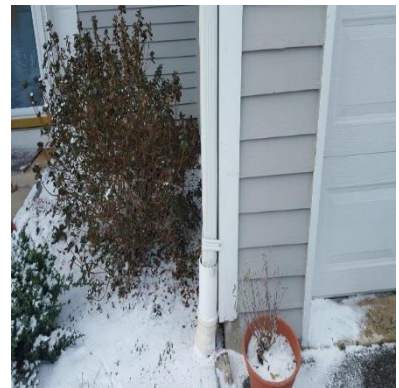
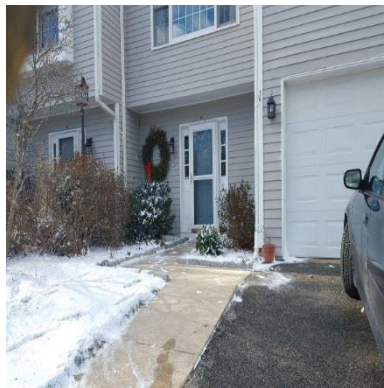
Quail Ridge 2







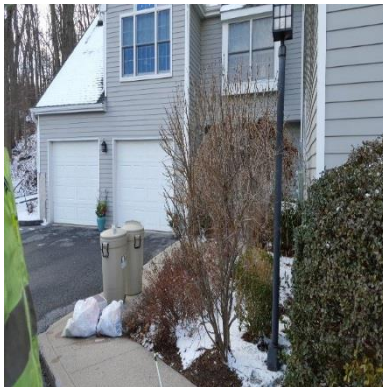




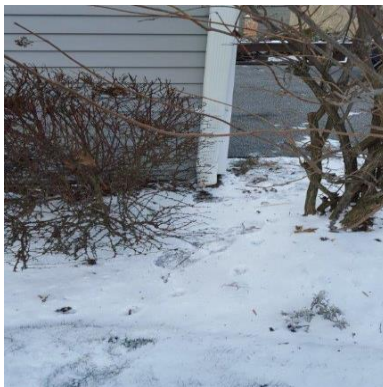






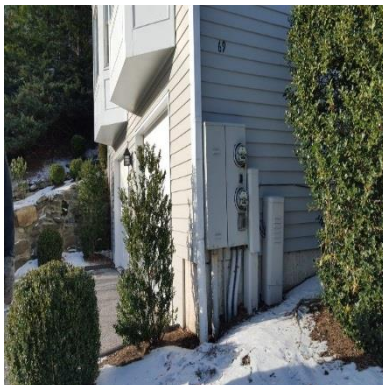


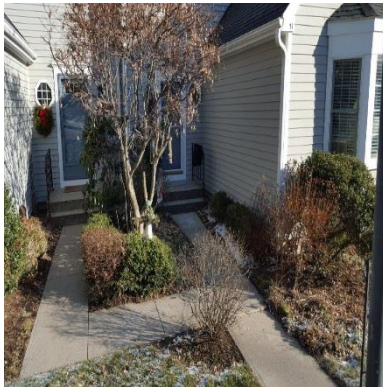




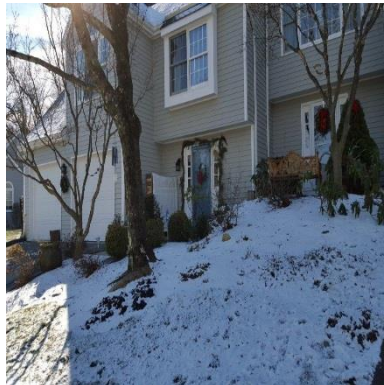
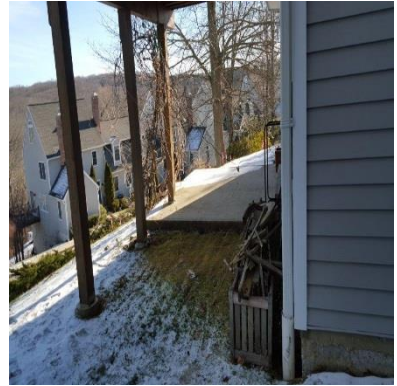


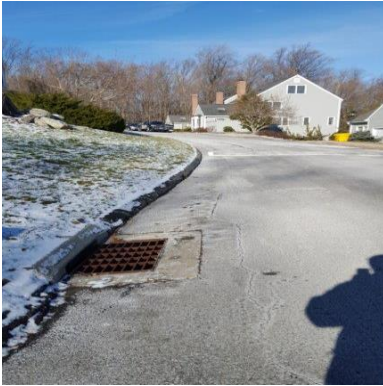














Attachment 5

Sub-Area 5

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/29/2015

Sub Area: Sub Area 5

Address: 15 Danbury Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 121

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1: 630

Sanitary Se

Dye Observed: No

Dye Test Results:

Connected to Drain

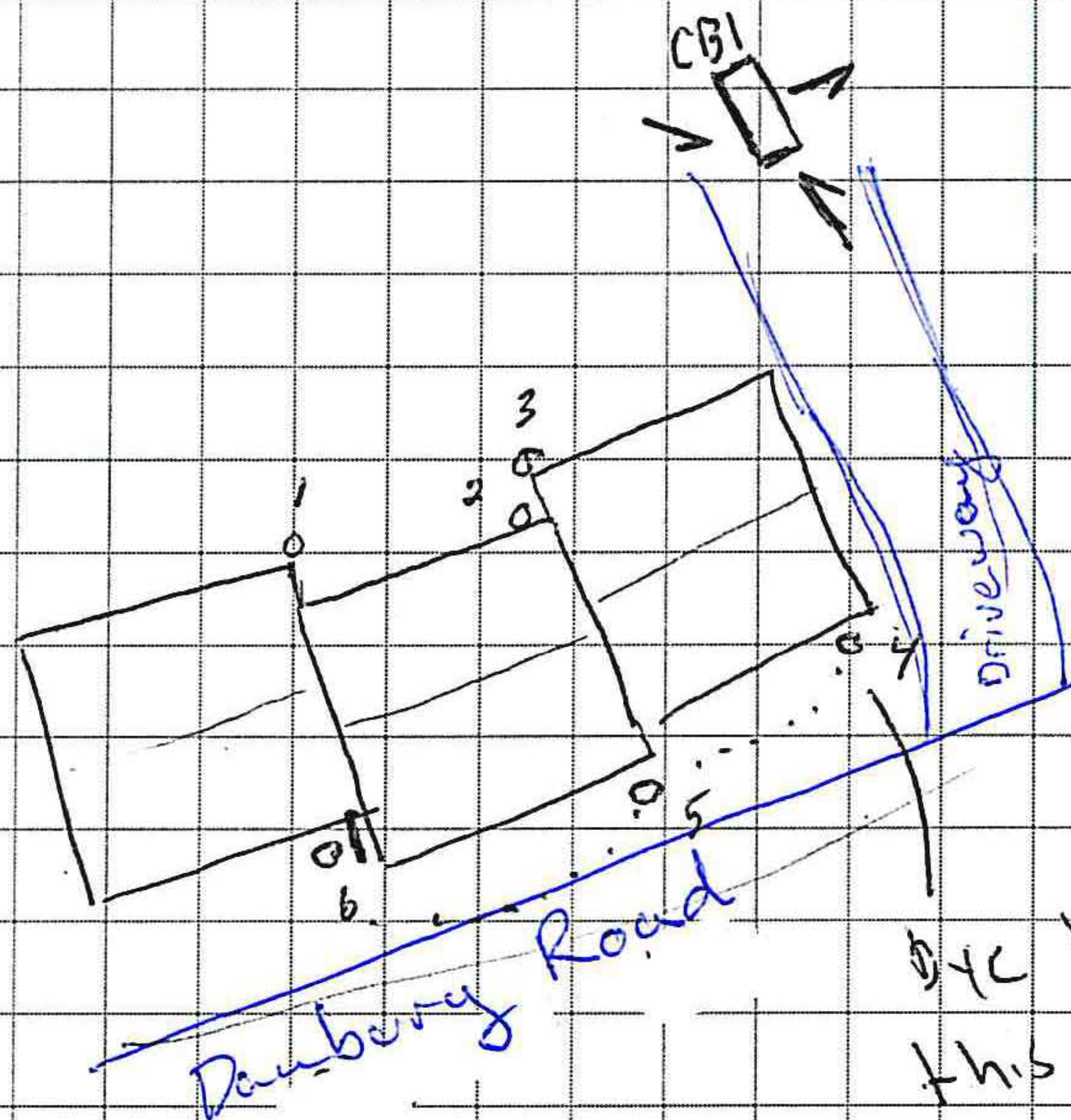
Comments

Downspout 0.5' S of NE corner and 0.5' from wall (downspout 4 from sketch). Dye was observed in a CB1, NW of the building.

15 DANBURY ROAD

12/29/15

↑ N



Downspouts 4, 5, 6 connect
via sound test

Dye tested downspout 4,
observed discharges in CBI
from SE inlet.

Dye tested
this downspout.
Dye seen in
CBI.



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/6/2016

Sub Area: Sub Area 5

Address: 195 Danbury Road (Rec Center)

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: RC4

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Downspouts on the South part of the building discharged into CB1 from sketch located in front of the building.
CB1 discharges to outfall 2 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/6/2016

Sub Area: Sub Area 5

Address: 195 Danbury Road (Rec Center)

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: RC4

Dye Observed: No

Drain Manhole ID: DMH2

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Downspouts on the North part of the building discharged into DMH2 from sketch. Crew also located outfall behind the building where DMH1 and DMH2 discharge.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/6/2016

Sub Area: Sub Area 5

Address: 195 Danbury Road (Rec Center)

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: RC4

Dye Observed: No

Drain Manhole ID: DMH2

Dye Observed: Yes

Other Manhole ID 1:

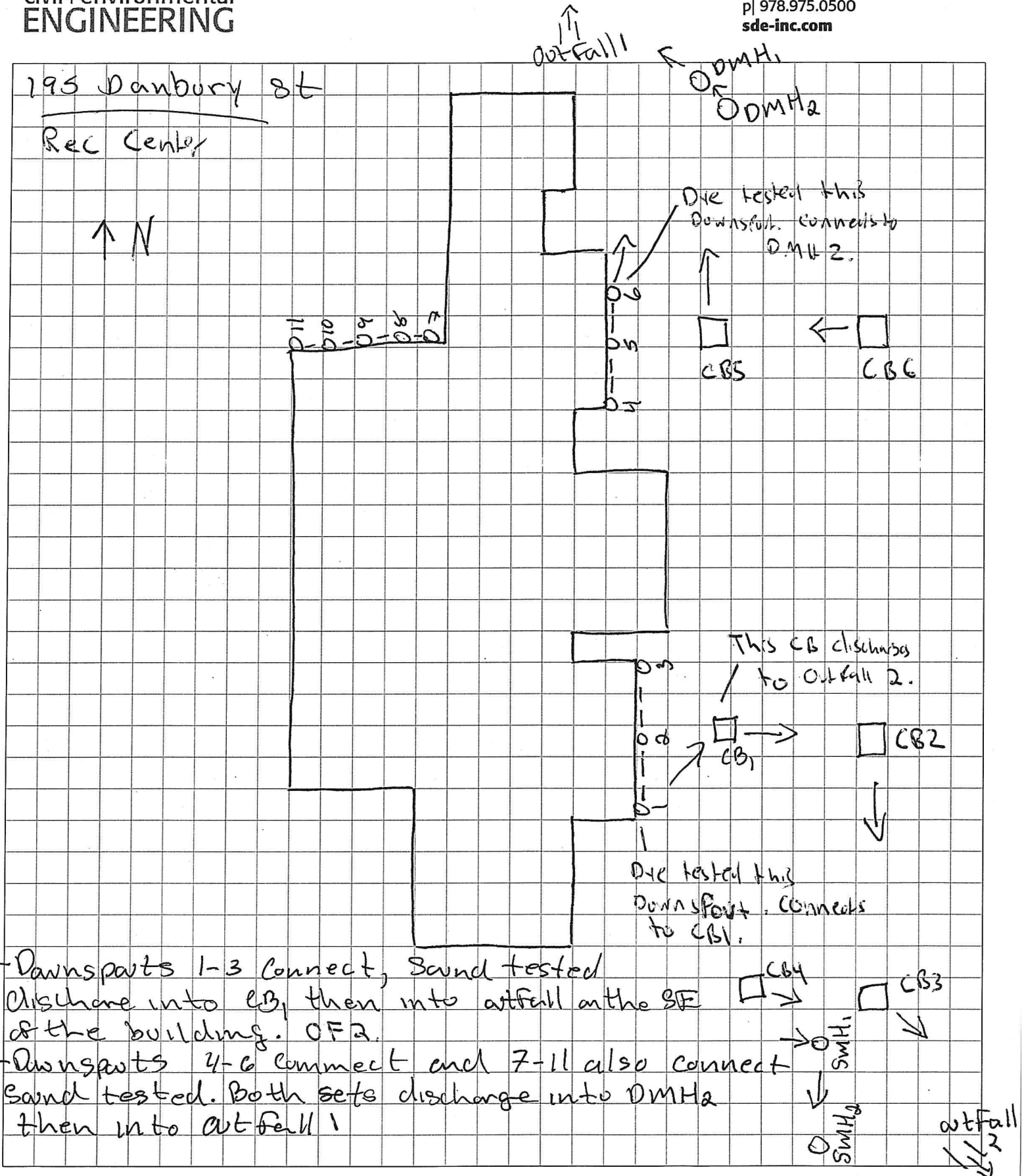
Dye Observed:

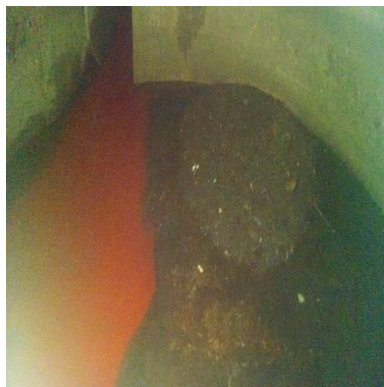
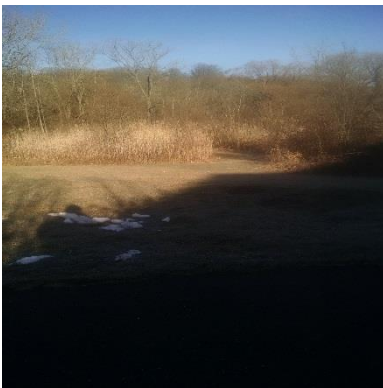
Dye Test Results:

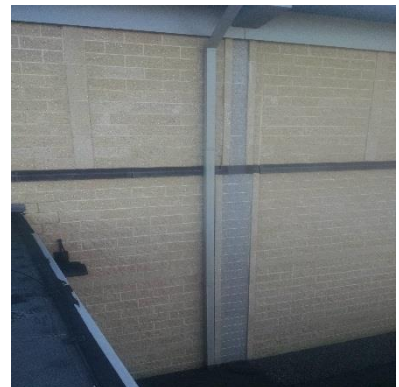
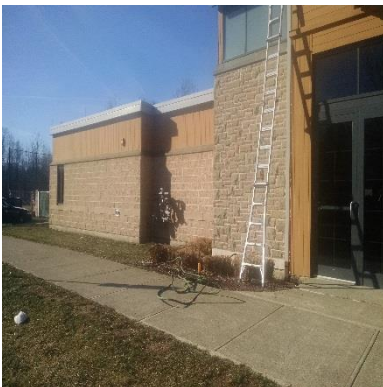
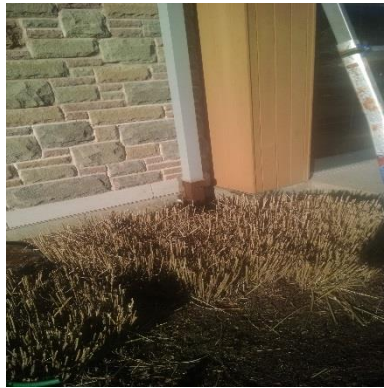
Connected to Drain

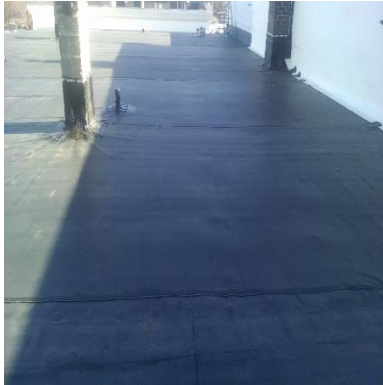
Comments

Downspouts on the North part of the building discharged into DMH2 from sketch. Crew also located outfall behind the building where DMH1 and DMH2 discharge









Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/30/2015

Sub Area: Sub Area 5

Address: Stop & Shop Danbury Road

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 615A

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

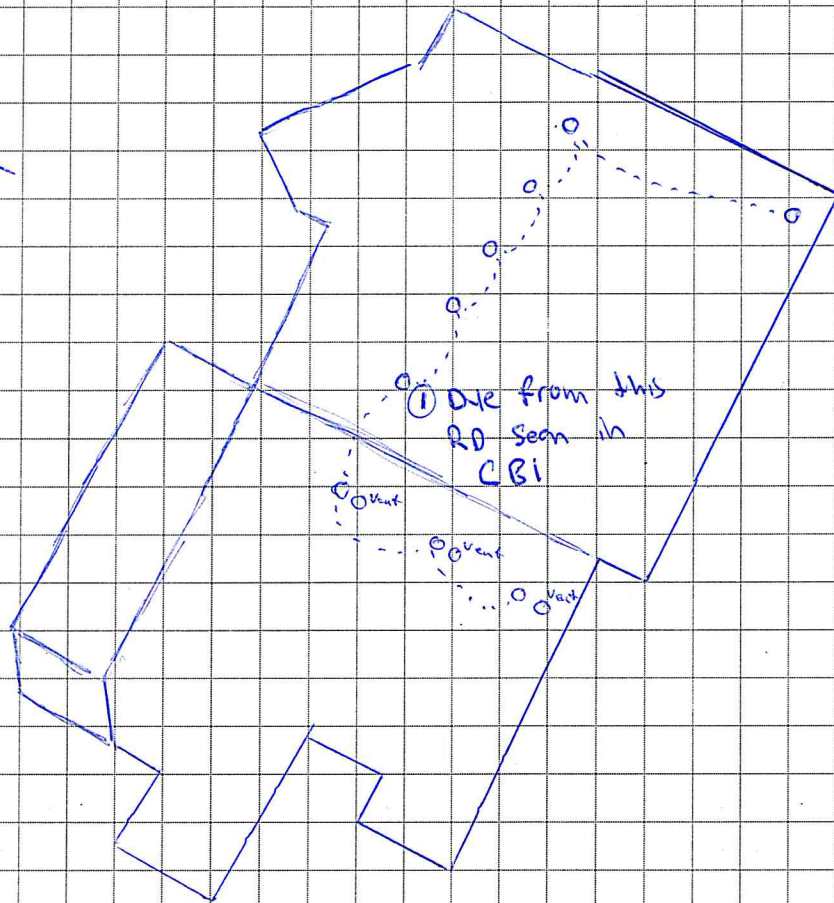
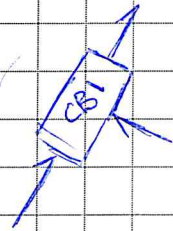
Comments

Tested roof Drain 60' from West edge and 180' from North edge of building on sketch as RD1. Dye was observed in a storm manhole behind Stop & Shop and then in a catch basin upstream labelled as CB1 on sketch and at outfall to stream North of Stop & Shop.

12/30/15

Stop and Shop @ Coppas Hill Plaza

Coppas Hill Road



---- Sound tested together

Notes: All Roof drains sound tested positive for connections to dyed Roof drain marked as ①.

Tested Roof drains dye was observed in a catch basin NW of building, and at the stormwater outfall to the NE.



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/7/2016

Sub Area: Sub Area 5

Address: **Fox Hill Condominiums**

Building Characteristics

Sector: **Private**

Suspect Source Type: **Building Drain/Flat Roof Drain**

Location: **Building 3 Zone 3**

Observations

Sewer Manhole ID: **FX16**

Dye Observed: **No**

Drain Manhole ID: **N/A**

Dye Observed: **No**

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Roof drain discharges into Ridgefield Brook.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/7/2016

Sub Area: Sub Area 5

Address: **Fox Hill Condominiums**

Building Characteristics

Sector: **Private**

Suspect Source Type: **Downspout**

Location: **Building 4 Zone 3**

Observations

Sewer Manhole ID: **FX16**

Dye Observed: **No**

Drain Manhole ID: **N/A**

Dye Observed: **No**

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Downspouts discharge into Ridgefield Brook.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/7/2016

Sub Area: Sub Area 5

Address: **Fox Hill Condominiums**

Building Characteristics

Sector: **Private**

Suspect Source Type: **Downspout**

Location: **Building 5 Zone 3**

Observations

Sewer Manhole ID: **FX14**

Dye Observed: **No**

Drain Manhole ID: **CB2**

Dye Observed: **Yes**

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Downspouts discharge into CB2 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/7/2016

Sub Area: Sub Area 5

Address: **Fox Hill Condominiums**

Building Characteristics

Sector: **Private**

Suspect Source Type: **Downspout**

Location: **Building 6 Zone 1**

Observations

Sewer Manhole ID: **FX13**

Dye Observed: **No**

Drain Manhole ID: **CB3**

Dye Observed: **Yes**

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Dye seen moving backward into catch basin do to frozen pond. CB3 appears to discharge into pond.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/7/2016

Sub Area: Sub Area 5

Address: **Fox Hill Condominiums**

Building Characteristics

Sector: **Private**

Suspect Source Type: **Downspout**

Location: **Building 7 Zone 1**

Observations

Sewer Manhole ID: **FX13**

Dye Observed: **No**

Drain Manhole ID: **N/A**

Dye Observed: **No**

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Downspouts discharge into pond.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/7/2016

Sub Area: Sub Area 5

Address: **Fox Hill Condominiums**

Building Characteristics

Sector: **Private**

Suspect Source Type: **Downspout**

Location: **Building 8 Zone 2**

Observations

Sewer Manhole ID: **FX9**

Dye Observed: **No**

Drain Manhole ID: **N/A**

Dye Observed: **No**

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Downspout (DP1) discharges to surface behind the building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/7/2016

Sub Area: Sub Area 5

Address: **Fox Hill Condominiums**

Building Characteristics

Sector: **Private**

Suspect Source Type: **Building Drain/Flat Roof Drain**

Location: **Building 8 Zone 2**

Observations

Sewer Manhole ID: **FX9**

Dye Observed: **No**

Drain Manhole ID: **N/A**

Dye Observed: **No**

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Roof drain discharges onto surface behind the building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/7/2016

Sub Area: Sub Area 5

Address: **Fox Hill Condominiums**

Building Characteristics

Sector: **Private**

Suspect Source Type: **Downspout**

Location: **Building 9 Zone 2**

Observations

Sewer Manhole ID: **FX9**

Dye Observed: **No**

Drain Manhole ID: **N/A**

Dye Observed: **No**

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Downspout (DP2) discharges to surface behind the building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/7/2016

Sub Area: Sub Area 5

Address: **Fox Hill Condominiums**

Building Characteristics

Sector: **Private**

Suspect Source Type: **Downspout**

Location: **Building 9 Zone 2**

Observations

Sewer Manhole ID: **FX9**

Dye Observed: **No**

Drain Manhole ID: **N/A**

Dye Observed: **No**

Other Manhole ID 1:

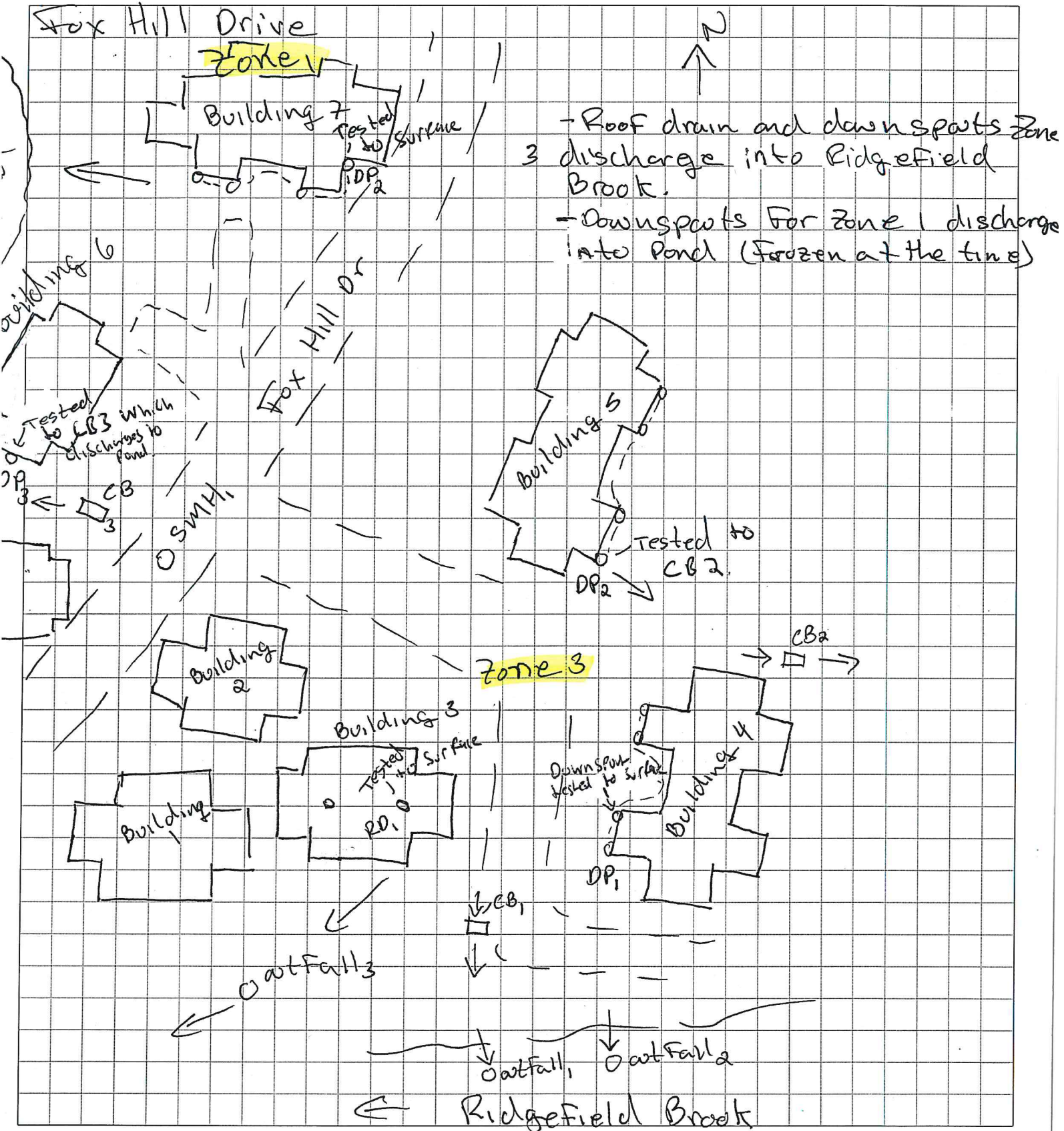
Dye Observed:

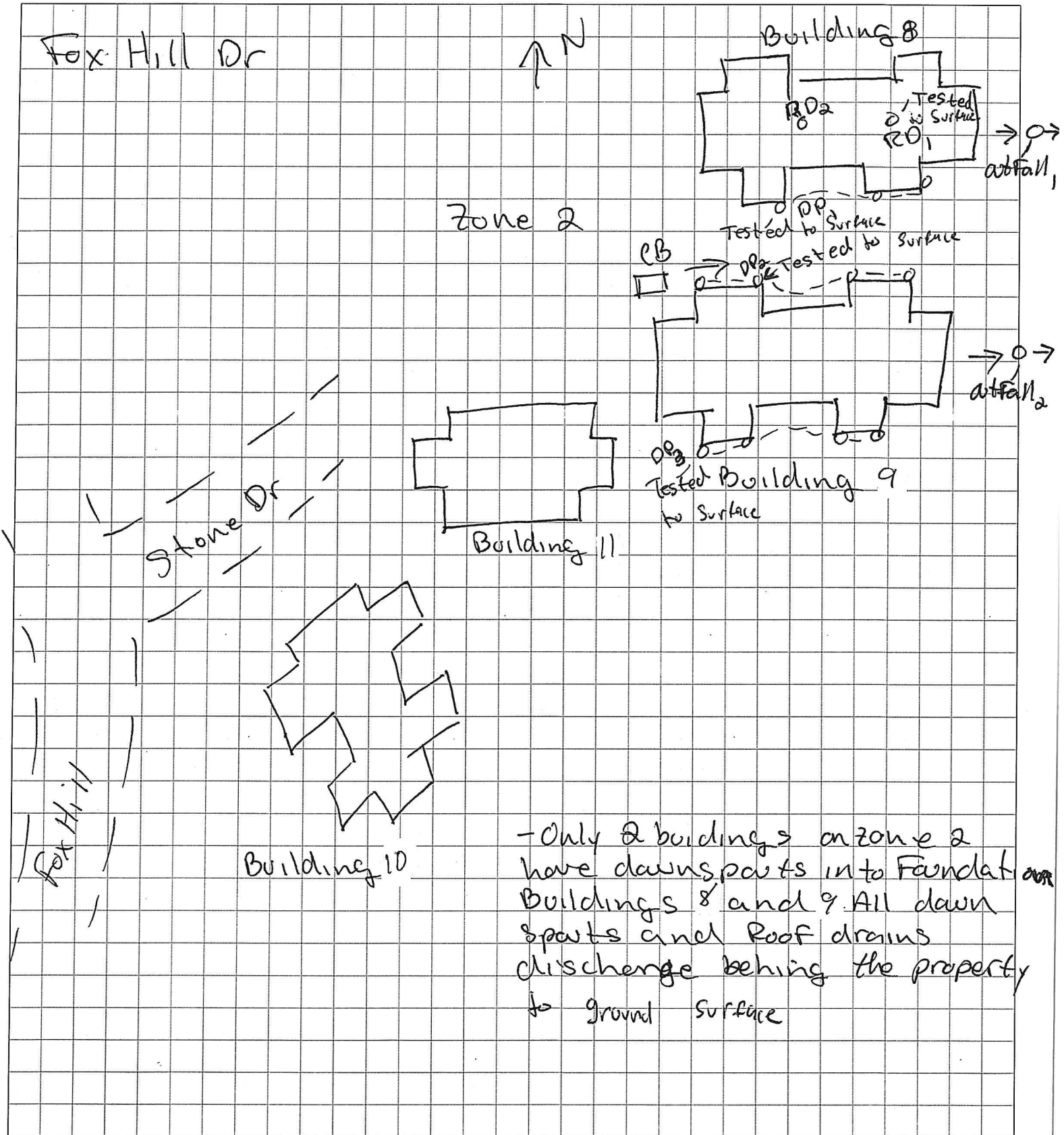
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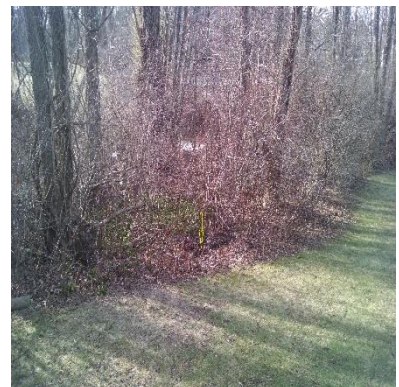
Connected to Surface

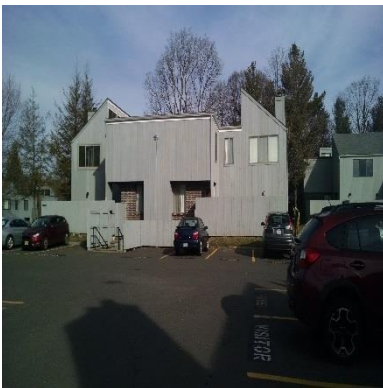
Comments

Downspout (DP3) discharges to surface behind the building.

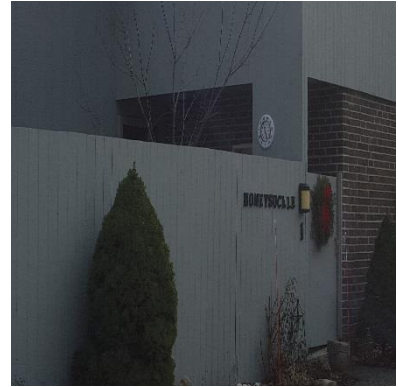


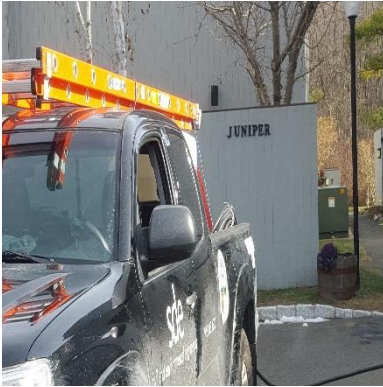


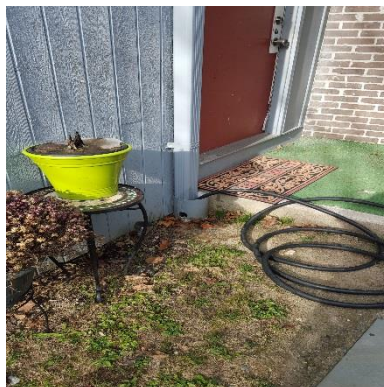
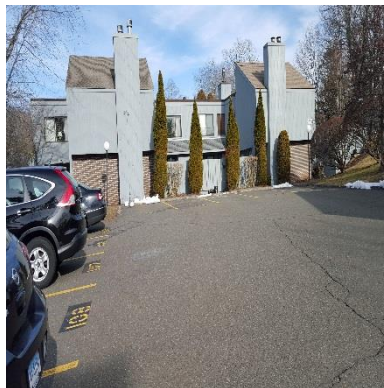


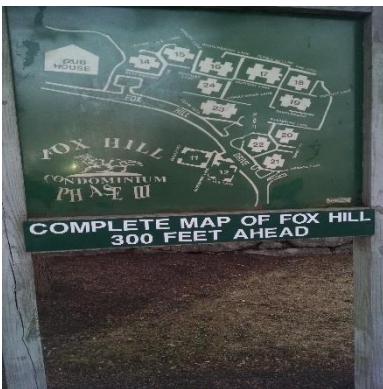












Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/5/2016

Sub Area: Sub Area 5

Address: 27 Mountain View Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Paved Asph

Observations

Sewer Manhole ID: 646

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

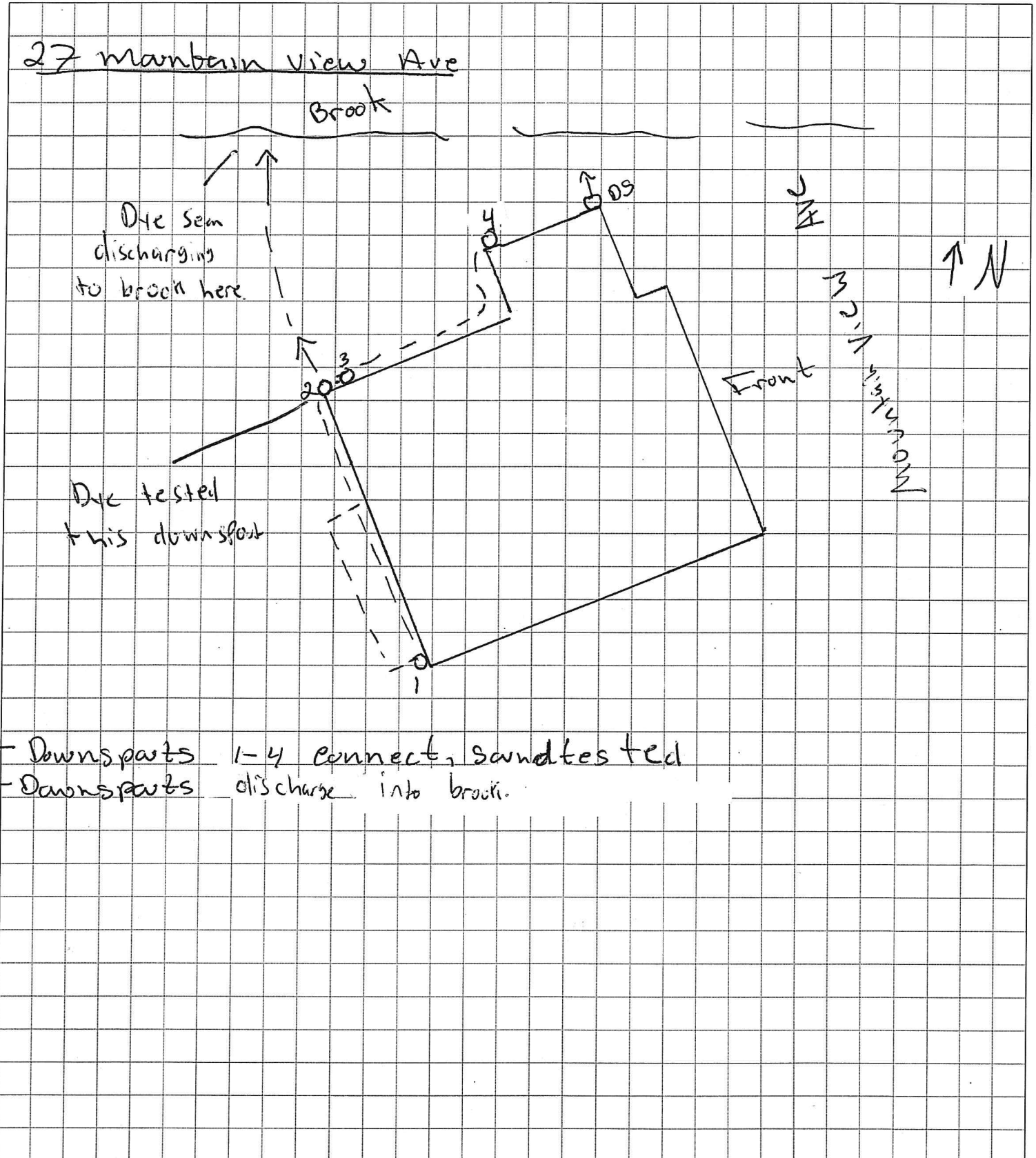
Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Tested downspout 2 from sketch. Downspouts discharge into brook beside house.





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/30/2015

Sub Area: Sub Area 5

Address: 10 Roberts Lane

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Back

Observations

Sewer Manhole ID: 120

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1: 630

Sanitary Se

Dye Observed: No

Dye Test Results:

Connected to Surface

Comments

No Dye Used. buildings downspouts observed going to surface. On maps as 35 Danbury St.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/7/2016

Sub Area: Sub Area 5

Address: 16 Roberts Lane

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 632

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

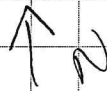
Dye Test Results:

Connected to Surface

Comments

Downspouts discharge into brook behind the property.

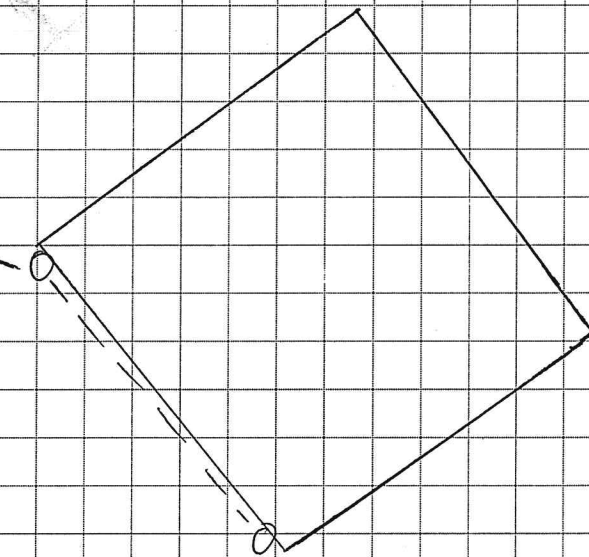
16 Roberts Ln



clay pipe
downspouts
discharge to
surface in small
brook here

tested this
downspout

Roberts Ln



- Front of the house downspouts connected
- Downspouts discharge into brook behind the property



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/5/2016

Sub Area: Sub Area 5

Address: 20 Roberts Lane

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Yard - Back

Observations

Sewer Manhole ID: 632

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

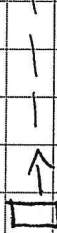
Dye seen discharging to small brook behind the building.

20 Roberts Ln

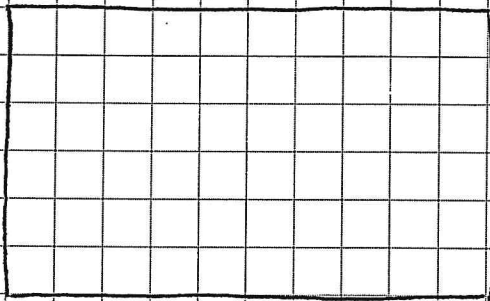


Small Brook

discharges to surface
here



die tested
yard drain



- Drain located at the back of the house



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/28/2015

Sub Area: Sub Area 5

Address: 26 Roberts Lane

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 634

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

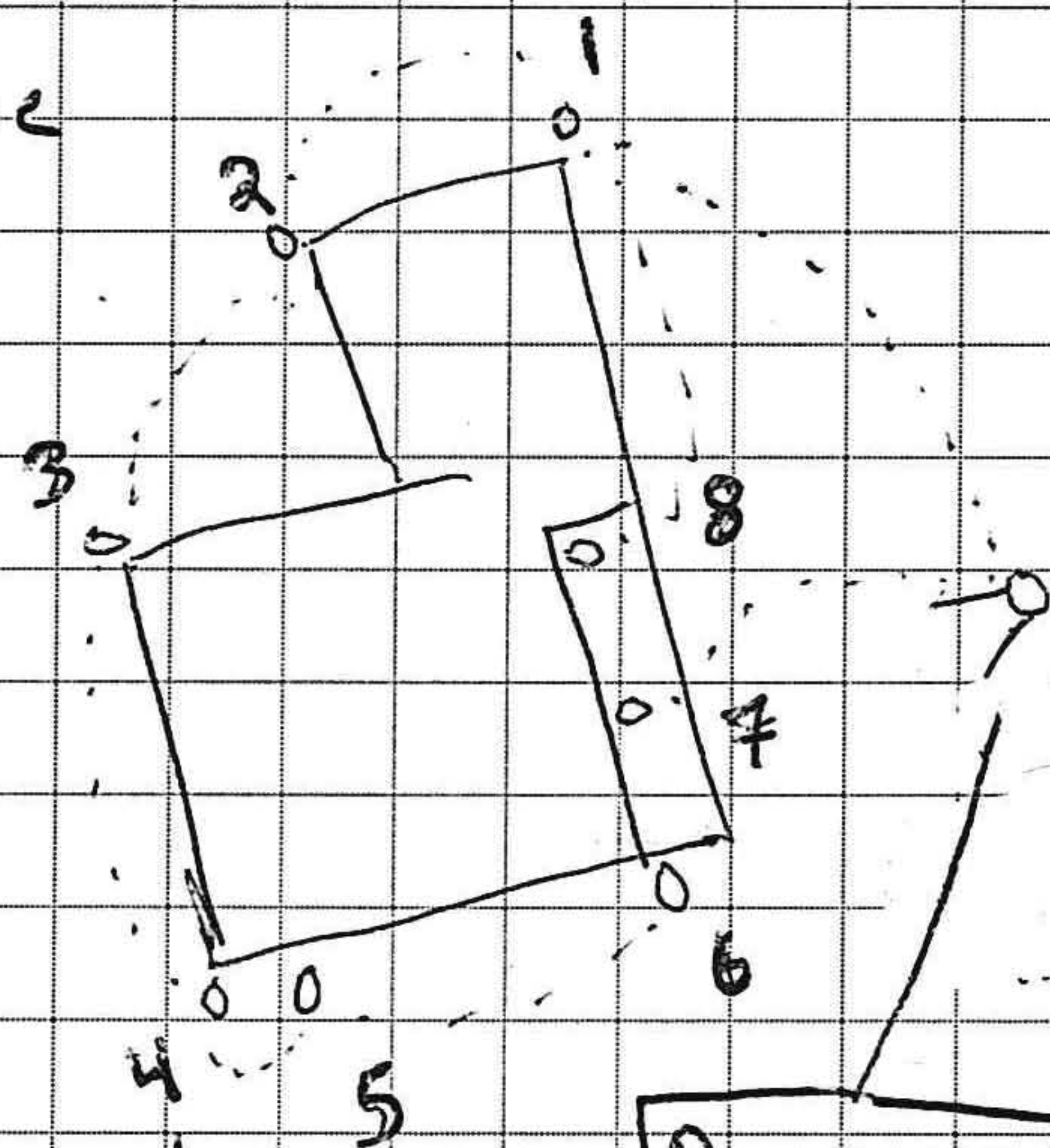
Dye Test Results:

Connected to Surface

Comments

Dye tested downspout 0.25' E of NW corner and 0.25' from wall (downspout 4 from sketch). Dye observed discharging from PVC pipe in back yard to into small brook.

26 ROBERTS Lane



Die tested this downspout

Downs points 1, 2, 3, 4, 5, 6,
8 sound tested 45 connected
9150 sound tested to surface
discharge on edge of
stream.

Downs point 7 : is connected
to surface discharge
via sound test

Dye tested downstream 4
observed discharging to
surface on edge of stream.

One seen discharging
to surface
here



Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/21/2015

Sub Area: Sub Area 5

Address: 6 Rochambeau Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 639

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

All downspouts observed discharging to surface.

sde

civil+environmental
ENGINEERING

Ridgefield, CT

354 Merrimack Street, Suite 200

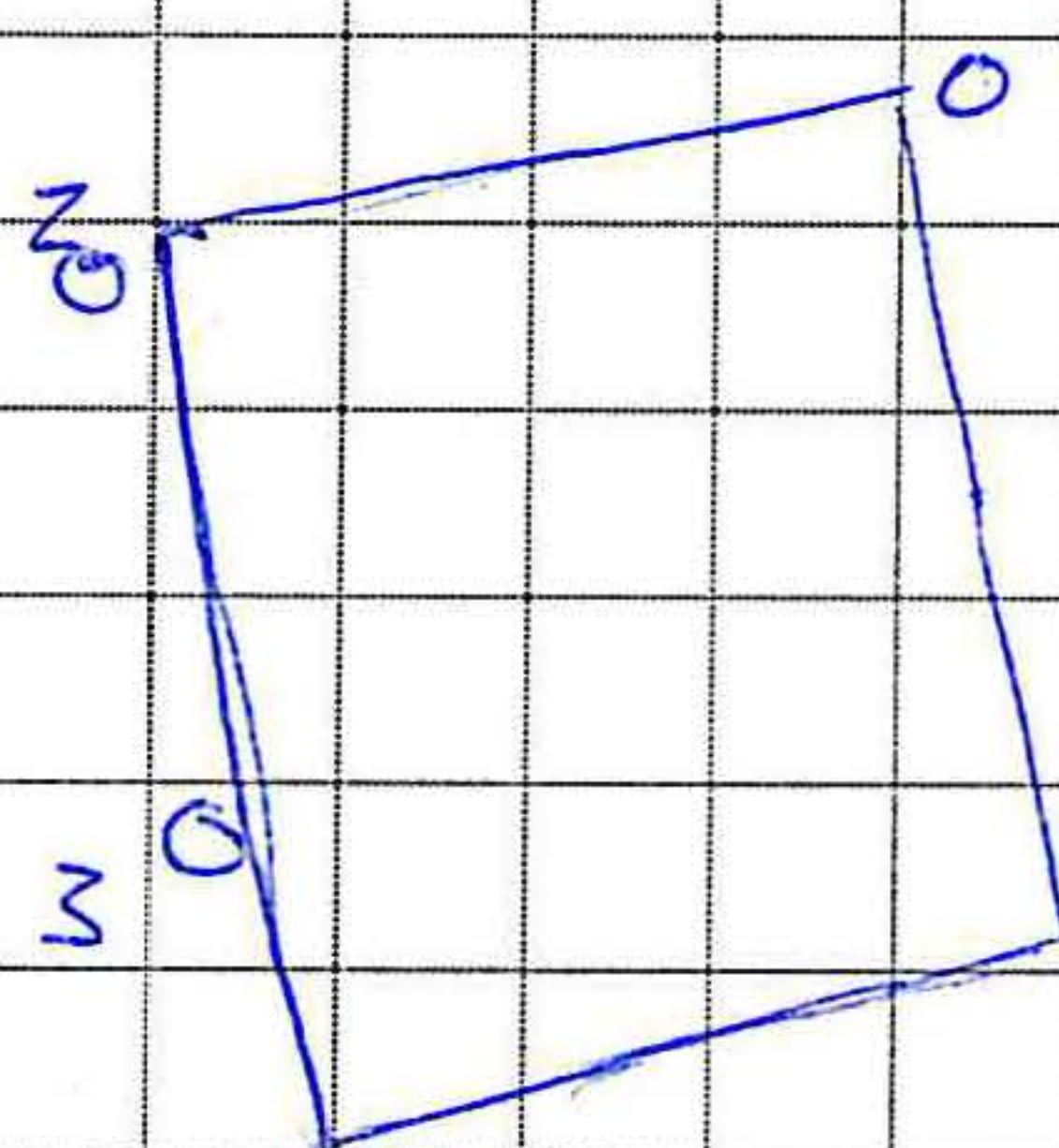
Lawrence, MA 01843-1755

p| 978.975.0500

sde-inc.com

12/21/15

6 Rochambeau Ave



Rochambeau Ave



Tests

• all downspouts observed discharging to surface.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/23/2015

Sub Area: Sub Area 5

Address: 1 Washington Avenue

Building Characteristics

Sector: Private

Suspect Source Type: Driveway Drain

Location: Paved Asph

Observations

Sewer Manhole ID: 637

Dye Observed: No

Drain Manhole ID: CB02

Dye Observed: Yes

Other Manhole ID 1: 643

Sanitary Se

Dye Observed: No

Dye Test Results:

Connected to Drain

Comments

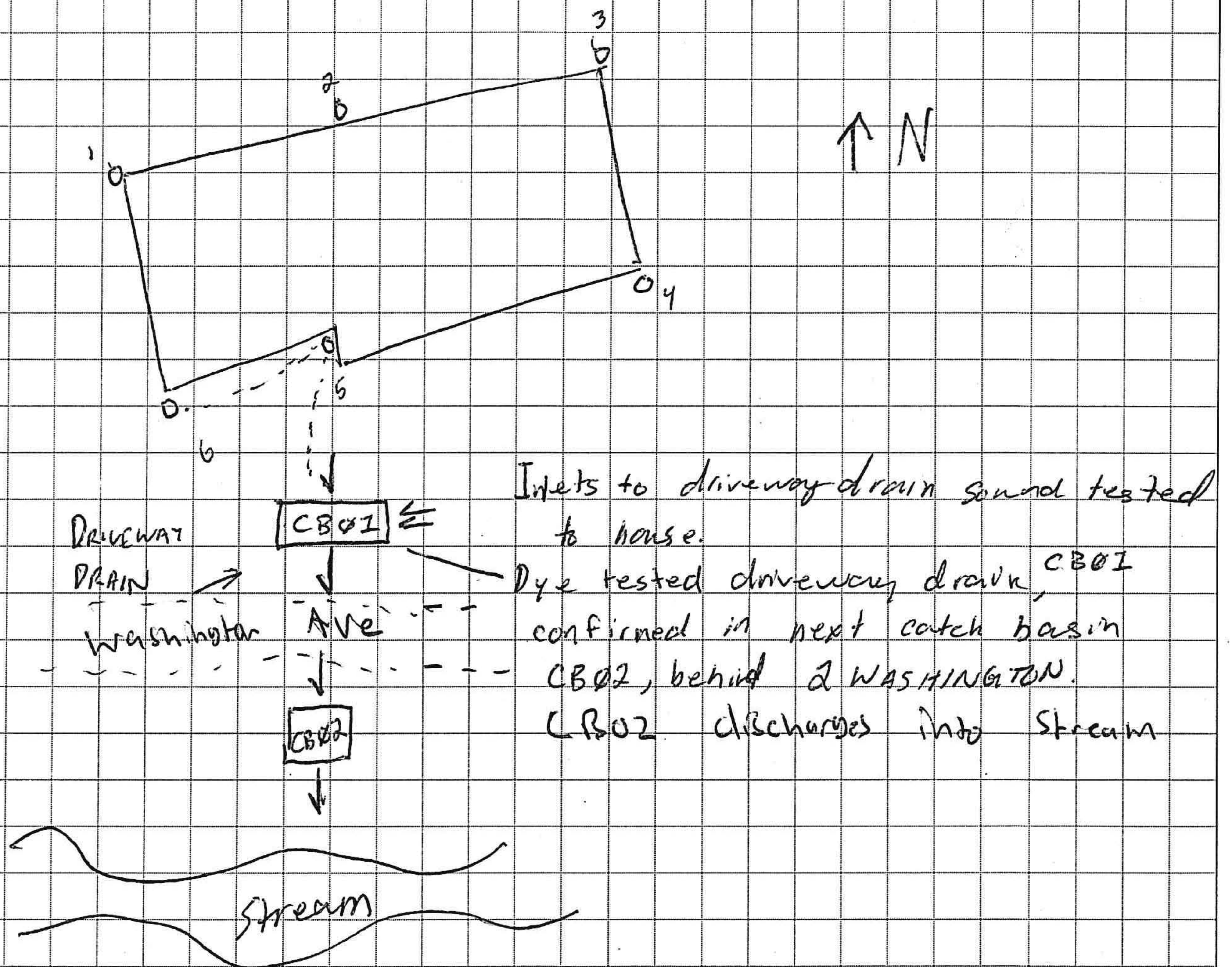
Driveway Drain at SW corner of driveway (on sketch as CB01). Sound tested to downspouts for residence.
Driveway Drain Dye tested positive to CB02 from sketch located in back yard of 2 Washington that discharges
to into a brook.

①

1 WASHINGTON Ave

RIDGEFIELD, CT

12/23/15





Attachment 6

Sub-Area 6

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 5-6

Observations

Sewer Manhole ID: 8a

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Casagmo Condominiums. Building No. 5-6. Dye test 14. Dye seen discharging to surface from OF6 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 5-9

Observations

Sewer Manhole ID: C12

Dye Observed: No

Drain Manhole ID: CB12

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Casagmo Condominiums. Building No. 5-8. Dye test 10. Dye seen in CB12 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 9-10

Observations

Sewer Manhole ID: 8a

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Casagmo Condominiums. Building No. 9-10. Dye test 15. Dye seen discharging to surface from OF7 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 9-12

Observations

Sewer Manhole ID: C5

Dye Observed: No

Drain Manhole ID: CB20

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Casagmo Condominiums. Building No. 9-10, 11-12. Dye test 16. Dye seen in CB20 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 13-16, 21-24

Observations

Sewer Manhole ID: C9

Dye Observed: No

Drain Manhole ID: CB11

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Casagmo Condominiums. Building No. 13-16, 21-24. Dye test 9. Dye seen in CB11 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 15-18

Observations

Sewer Manhole ID: Z

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Casagmo Condominiums. Building No.15-18. Dye test 6. Dye seen discharging to the surface from OF5 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Yard Drain

Location: Building 15-18

Observations

Sewer Manhole ID: Z

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Casagmo Condominiums. Building No. 15-18. Dye seen discharging to the surface from OF5 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 16-18

Observations

Sewer Manhole ID: C5

Dye Observed: No

Drain Manhole ID: CB8

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Casagmo Condominiums. Building No.16-17, 18. Dye Test 13. Dye seen in CB8 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 19-20, 23-26

Observations

Sewer Manhole ID: 6

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Casagmo Condominiums. Building No. 19-20, 23-26. Dye test 5. Dye seen discharging to the surface.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 34-49

Observations

Sewer Manhole ID: C4

Dye Observed: No

Drain Manhole ID: CB5

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Casagmo Condominiums. Building No. 34-49. Dye test 4. Dye seen in CB5 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 54-57

Observations

Sewer Manhole ID: C5

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Casagmo Condominiums. Building No. 54-57. Dye test 2. Dye seen discharging into pond (surface) from OF1 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 54-57

Observations

Sewer Manhole ID: C5

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Casagmo Condominiums. Building No. 54-57. Dye test 1. Dye seen in CB1 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 57-60, 53-56

Observations

Sewer Manhole ID: C4

Dye Observed: No

Drain Manhole ID: CB6

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Casagmo Condominiums. Building No. 57-60, 53-56. Dye Test 7. Dye seen in CB6 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 60

Observations

Sewer Manhole ID: C7

Dye Observed: No

Drain Manhole ID: CB3

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Casagmo Condominiums. Building No. 60. Dye test 3. Dye seen in CB3 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 66-68, 61-64

Observations

Sewer Manhole ID: C10

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Casagmo Condominiums. Building No. 66-68, 61-64. Dye test 8. Dye seen discharging into pond (surface) from OF4 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building S of 5-8

Observations

Sewer Manhole ID: C4

Dye Observed: No

Drain Manhole ID: CB14

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Casagmo Condominiums. Building South of 5-8. Dye test 11. Dye seen in CB14 from sketch.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/19/2016

Sub Area: Sub Area 6

Address: Casagmo Condominiums

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Building 96-99

Observations

Sewer Manhole ID: C2

Dye Observed: No

Drain Manhole ID: CB15

Dye Observed: Yes

Other Manhole ID 1:

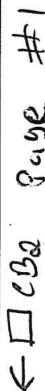
Dye Observed:

Dye Test Results:

Connected to Drain

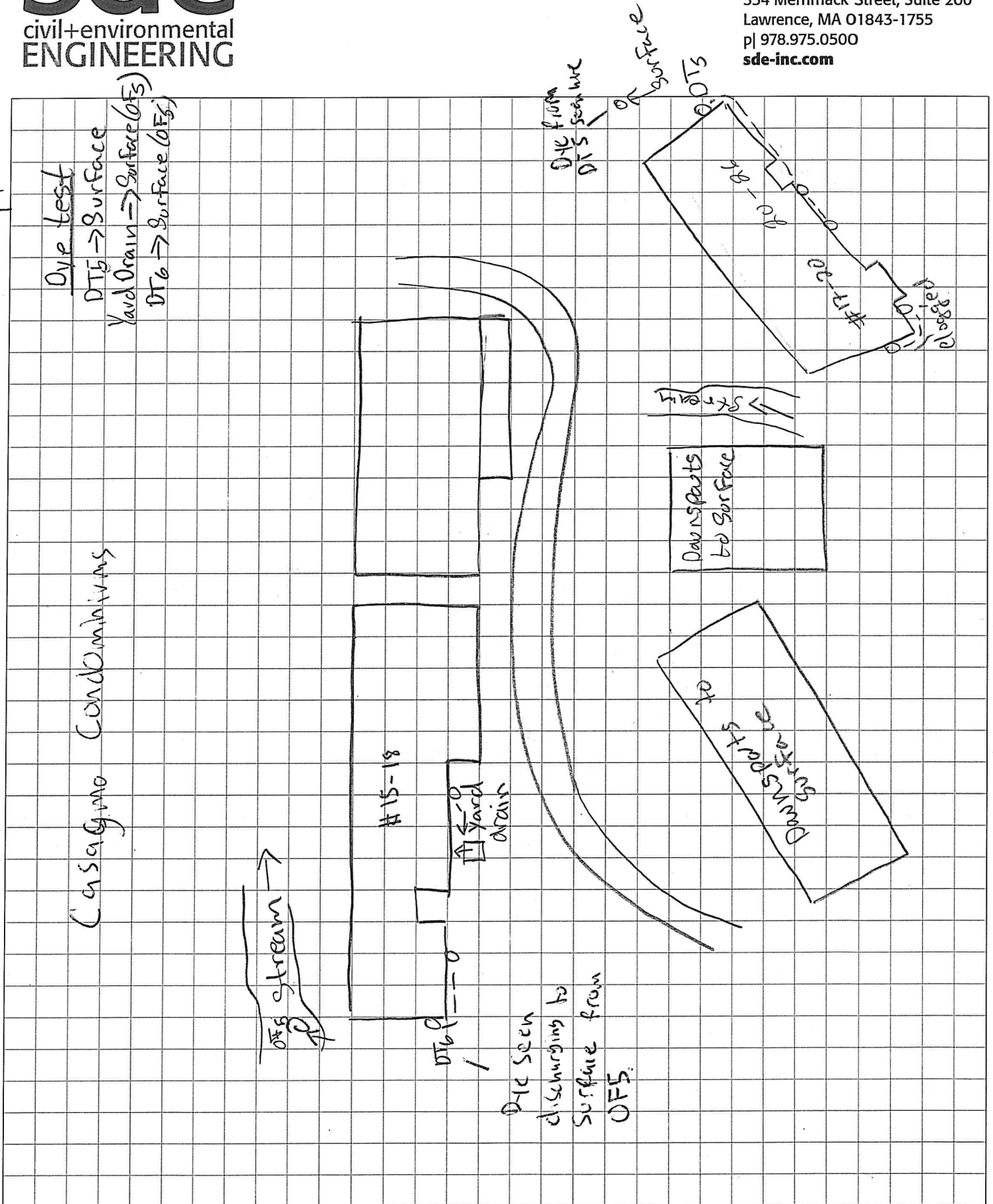
Comments

Casagmo Condominiums. Building No. 96-99. Dye test 12. Dye seen in CB15 from sketch.



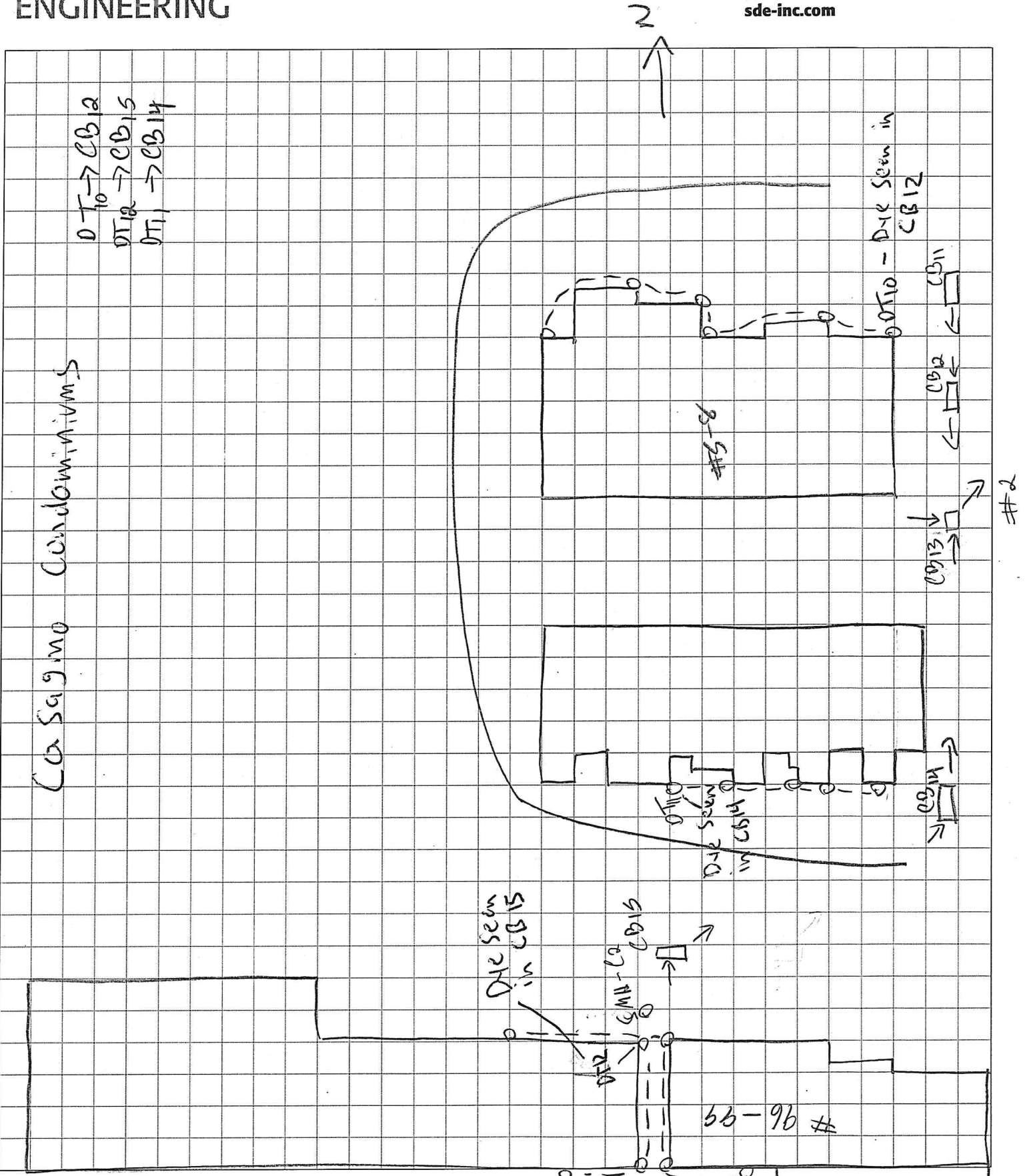
Casagmo Condominiums

354 Merrimack Street, Suite 200
Lawrence, MA 01843-1755
p| 978.975.0500
sde-inc.com



Co Sagino Condominiums

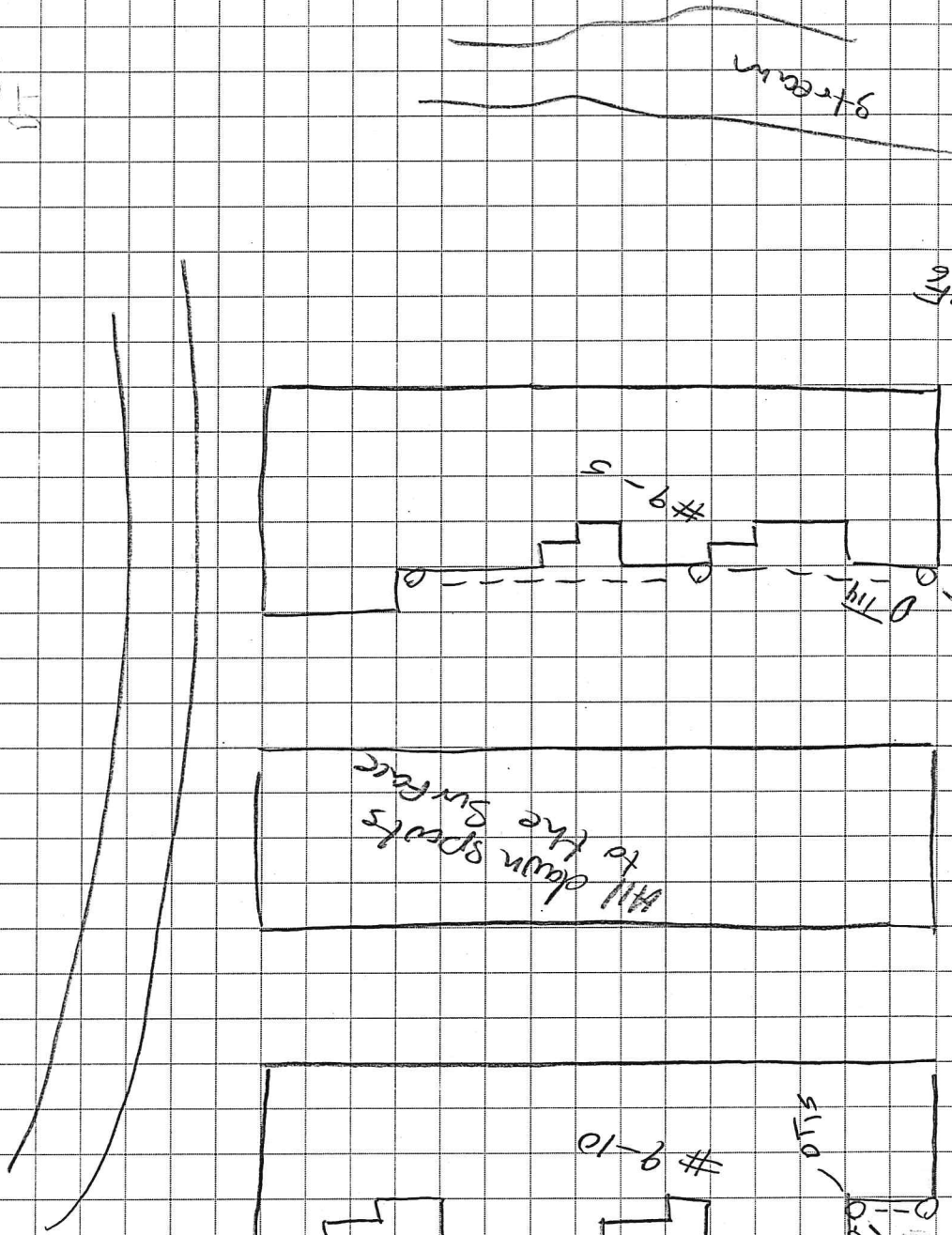
DT₁₀ → CB₁₂
DT₁₂ → CB₁₅
DT₁₁ → CB₁₄



↑N

Casa Gmo Condominiums

Dye Test
DT14 → Surface (OFF6)
DT15 → Surface (OFF7)

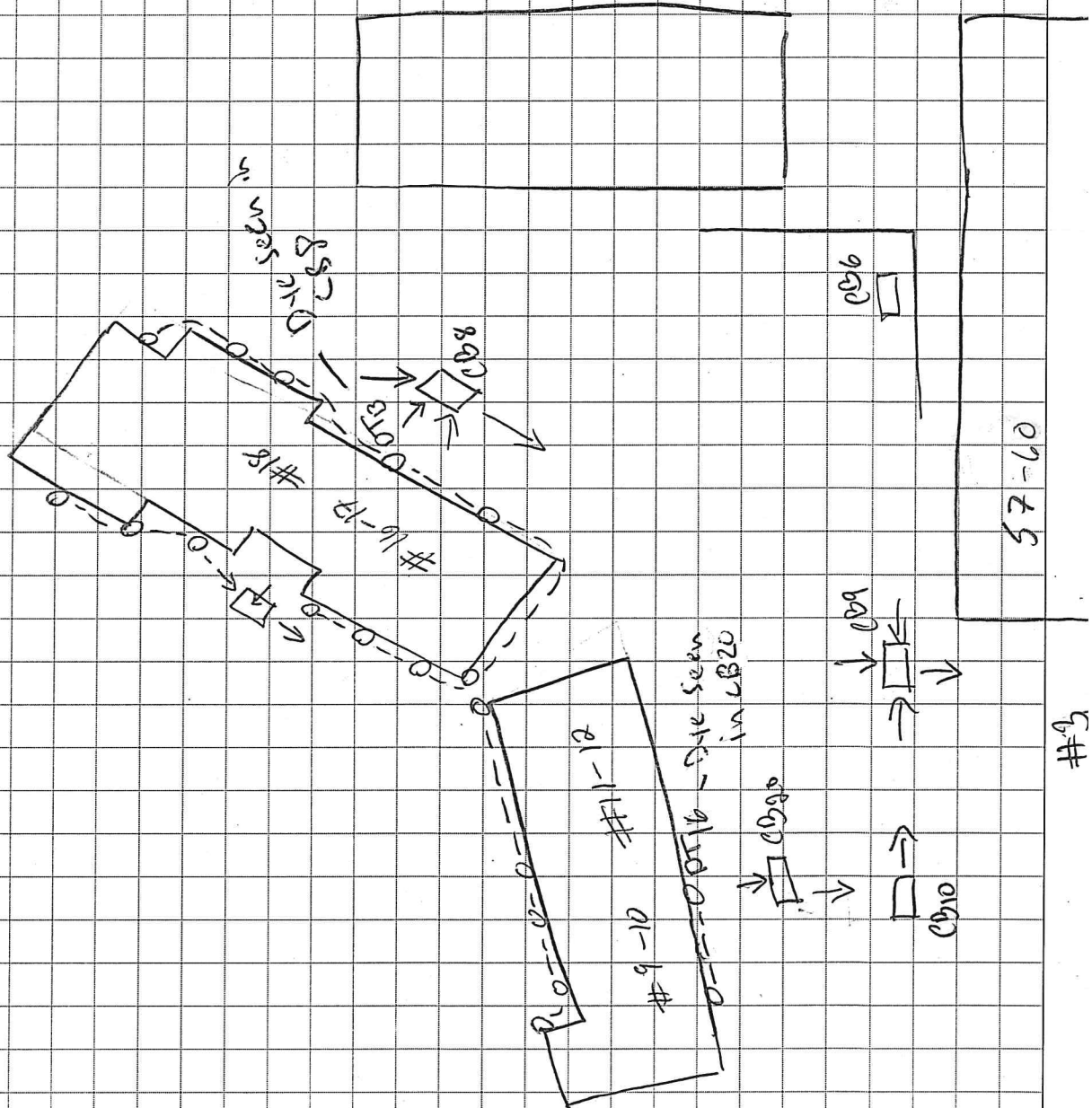


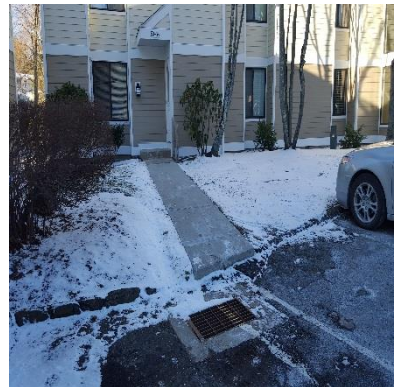
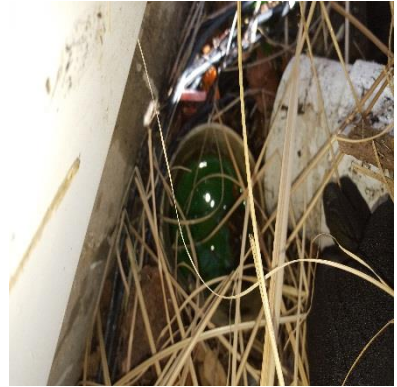
↑OFF6
↑OFF7

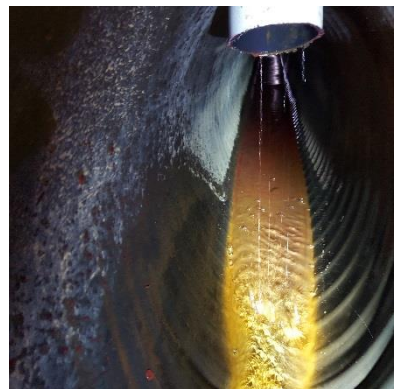
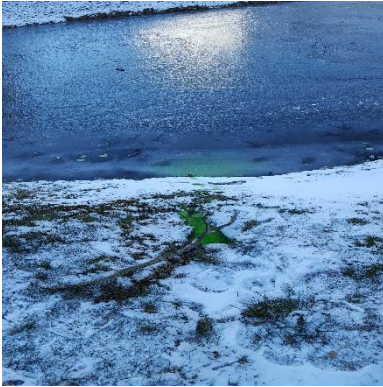
Dye Seen
discharging to
Surface from OFF6

Dye Seen
discharging to
Surface from
OFF7

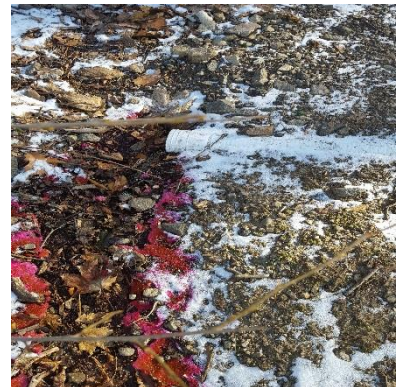
Co-Signing Conditions

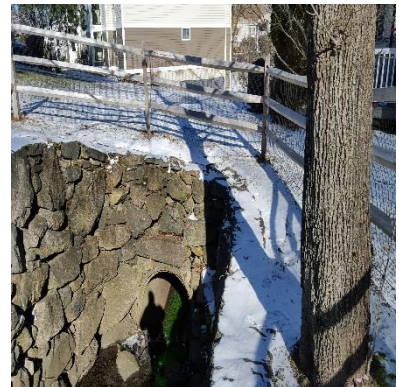
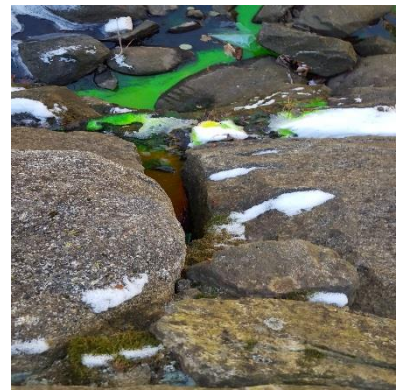


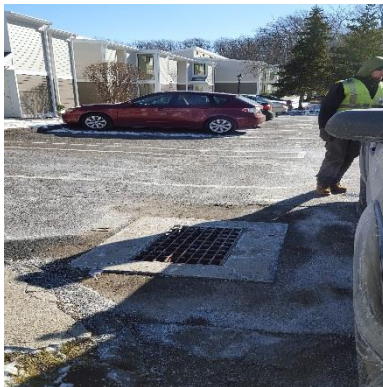








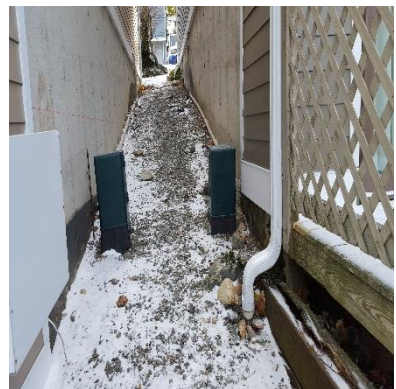


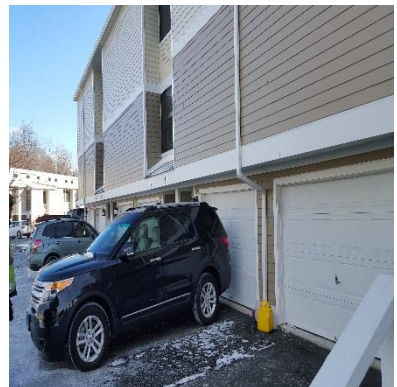
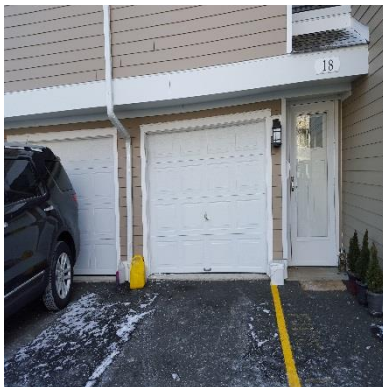


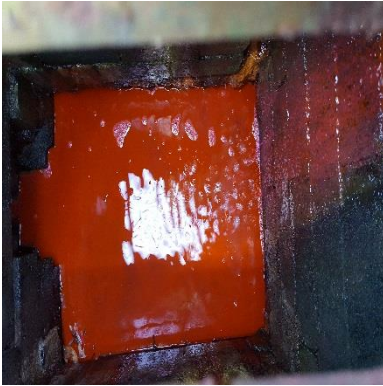


















Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/15/2015

Sub Area: Sub Area 6

Address: 14 Danbury Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 121

Dye Observed: No

Drain Manhole ID: CB2

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Downspout 2. All downspouts connect and discharge into the same catch basin behind the building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 12/15/2015

Sub Area: Sub Area 6

Address: 14 Danbury Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 121

Dye Observed: No

Drain Manhole ID: CB2

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

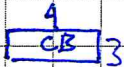
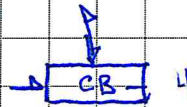
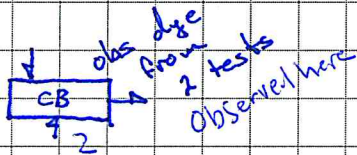
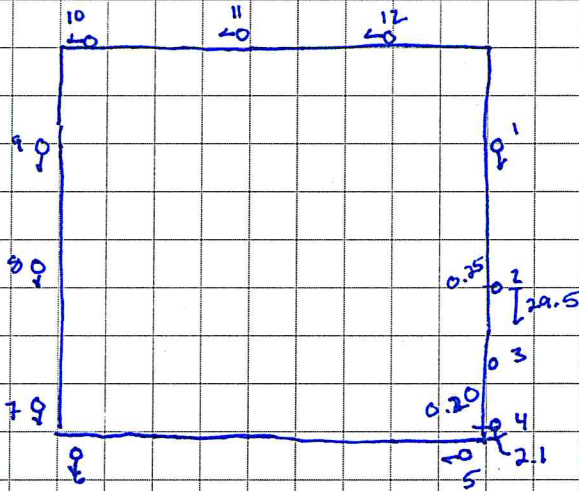
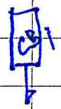
Comments

Downspout 4. All downspouts connect and discharge into the same catch basin behind the building.

12/16/15

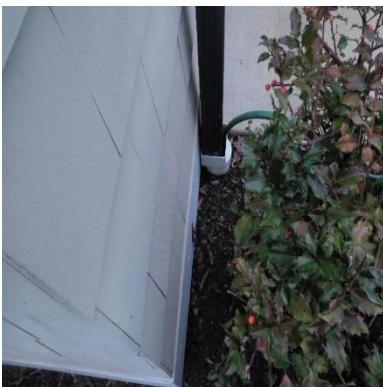
Danbury Road

14 Danbury Road



Tests

- ① downspouts 1, and 2 sound tested.
- ② downspouts 3-12 sound tested.
- ③ dye tested ds 2, dye observed in CB2





Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 6

Address: 90 Danbury Road

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 629

Dye Observed: No

Drain Manhole ID: CB2

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Catch basin located on the parking lot behind the building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 6

Address: 90 Danbury Road

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 629

Dye Observed: No

Drain Manhole ID: CB3

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Catch basin located on the parking lot behind the building.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 6

Address: 90 Danbury Road

Building Characteristics

Sector: Private

Suspect Source Type: Downspout

Location: Yard - Front

Observations

Sewer Manhole ID: 629

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

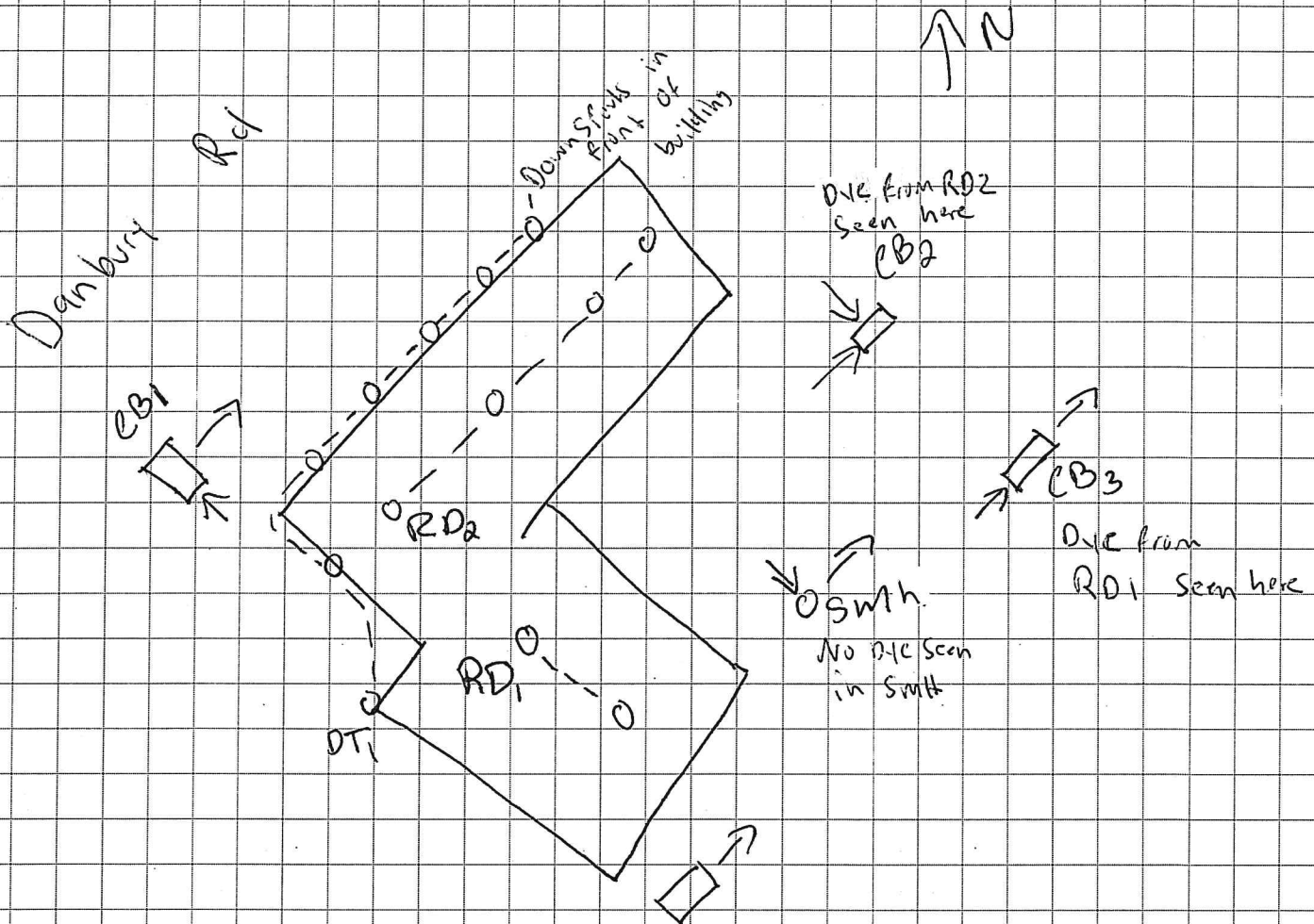
Dye Test Results:

Connected to Drain

Comments

Tested downspouts in front of the building. Catch basin located in the parking lot in front of the building.

90 Danbury RD

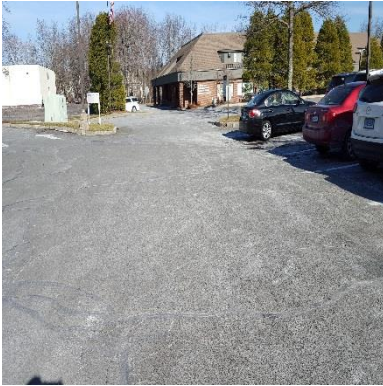


* All downspouts connect and discharge into CB1

* RD1 set discharges into catchbasin CB3

* RD2 set discharges into catchbasin CB2







Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 6

Address: 10 South Street

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 665A

Dye Observed: No

Drain Manhole ID: N/A

Dye Observed: No

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Surface

Comments

Roof drain/downspouts.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 6

Address: 10 South Street

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 665A

Dye Observed: No

Drain Manhole ID: CB2

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

Connected to Drain

Comments

Roof drain discharges into catch basin on South St.

Town of Ridgefield
Dyed Water Testing
Dye Testing Report

Dye Test Date: 1/20/2016

Sub Area: Sub Area 6

Address: 10 South Street

Building Characteristics

Sector: Private

Suspect Source Type: Building Drain/Flat Roof Drain

Location: Roof

Observations

Sewer Manhole ID: 665A

Dye Observed: No

Drain Manhole ID: CB1

Dye Observed: Yes

Other Manhole ID 1:

Dye Observed:

Dye Test Results:

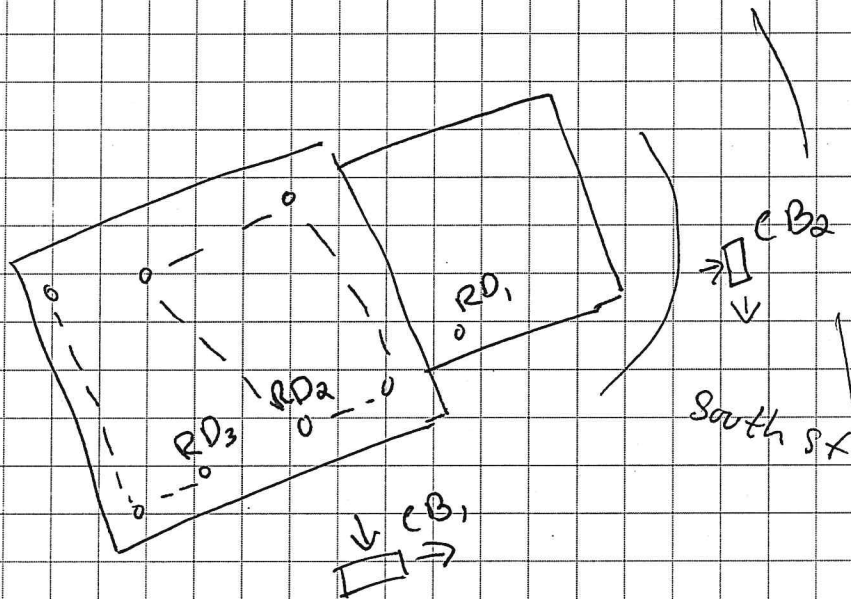
Connected to Drain

Comments

Roof drain discharges into catch basin located in the parking lot.

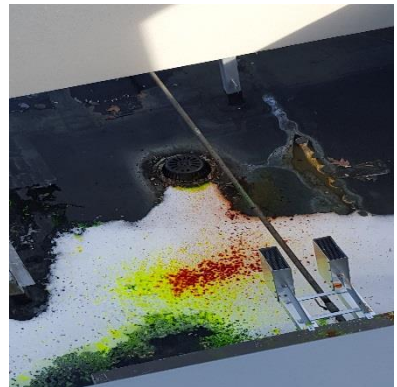
10 South St

↑ N



outfall ↓ DR from RD3 seen here

- Roof Drain (RD3) discharges to Surface (outfall)
- Roof Drain (RD2) discharge into catch basin (CB1)
- Roof Drain (RD1) discharge into catch basin (CB2)





RIDGEFIELD, CT

DYE FLOODING REPORT

Prepared for:

AECOM
701 Edgewater Drive
Wakefield, MA 01880

Prepared by:

EST Associates, Inc.
51 Fremont Street
Needham, MA 02494

July 2016

**Dye Flooding
with
CCTV Inspections
July 14, 2016**



Associates, Inc.

EST ASSOCIATES
51 FREMONT STREET
NEEDHAM, MA
Tel 781-455-0003
Fax: 781-455-8336
E-mail:

Inspection Report / Inspection: 1

Date 7/14/2016	P/O. No.	Weather Dry	Surveyor's Name TJH	Pipe Segment Reference	Section No. 1
Certificate No. U-214-06020356	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning No Pre-Cleaning	Sewer Category

Street 123 City Loc. details Location Code	Market Street Ridgefield CT Light Highway	Use of Sewer Drainage Area Flow Control Length surveyed	Sanitary 1 51.00 ft	Upstream MH Downstream MH Dir. of Survey Section Length	SMH-63 SMH-62 Downstream 51.00 ft
---	---	--	-------------------------------	--	--

Purpose of Survey	Joint Length	3.00 ft
Year Laid	Dia./Height	8 inch
Year Rehabilitated	Material	Vitrified Clay Pipe
Tape / Media No.	Lining Method	

Add. Information :

1:135 Position Code Observation Grade

SMH-63	0.00	AMH	Upstream Manhole, Survey Begins / SMH-064	
	0.00	MWL	Water Level, 5 % of cross sectional area	M 2
	3.00	MYV	Dye Test Visible / 3ft green dye	M 5
	12.00	TFC	Tap Factory Made Capped, at 09 o'clock, 6", within 8 inches of joint: YES	
	12.00	MYV	Dye Test Visible / 12 ft green dye	M 5
	51.00	TFC	Tap Factory Made Capped, at 03 o'clock, 6", within 8 inches of joint: YES	
	51.00	MSA	Survey Abandoned / found source	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	5221	0	12	12	0	4	4

sde

16, 17, 18

Smoke Testing Form

Owner: Ridgelyield, CT

Inspection Crew: MR / SS / TH

Inspection Date/Time: 9-11-13 0820

Location/Interceptor: Subarea 1

Set Up MH: SMH-63

Map:

Upstream MH: SMH-66A

Sheet:

Downstream MH: SMH-62

Segment Length: 935'

Observations

Weather/Ground

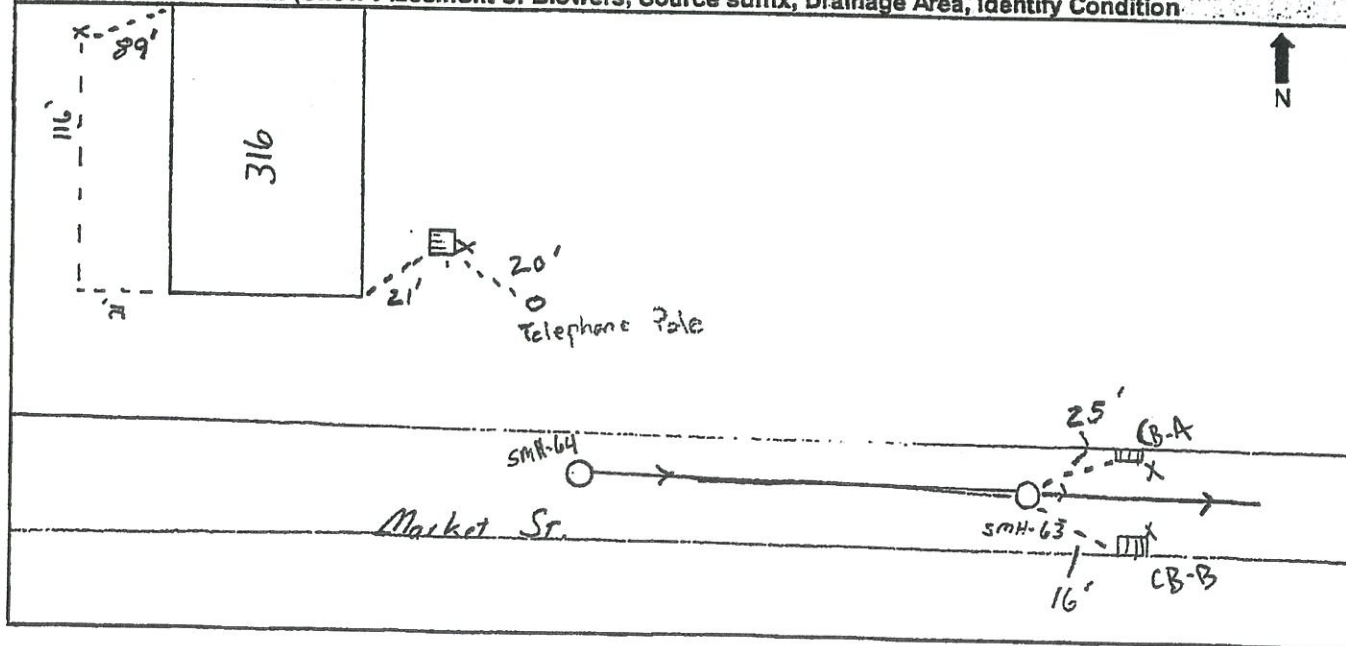
- ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff C	Flow (grams)
CB-A at SMH-63	2	1	10	5	250	.40	
CB-B at SMH 63	2	1	10	5	250	.40	
CB Behind 316 Main St	2	1	10	7	50	.17	
316 Main St	2	1	14	6	2	.11	

Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Postive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- + Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
7-		Downspout Connection	Yard - Back
8-		Fountain Drain	Yard - Side
9-		Building Drain	Non - Paved
10-		Catch Basin	Creek Bottom
11-		Storm Ditch	Field
12-		Storm Manhole	Golf Course
13-		Man Sewer	
14-		Clean out	

Sketch: (Show Placement of Blowers, Source suffix, Drainage Area, Identify Condition)

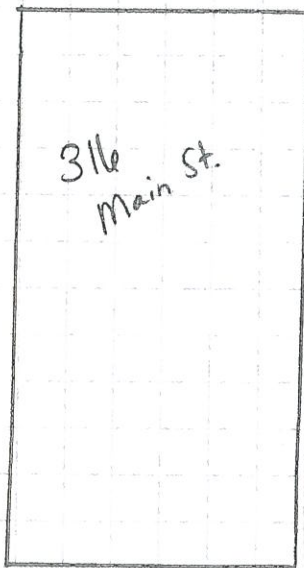




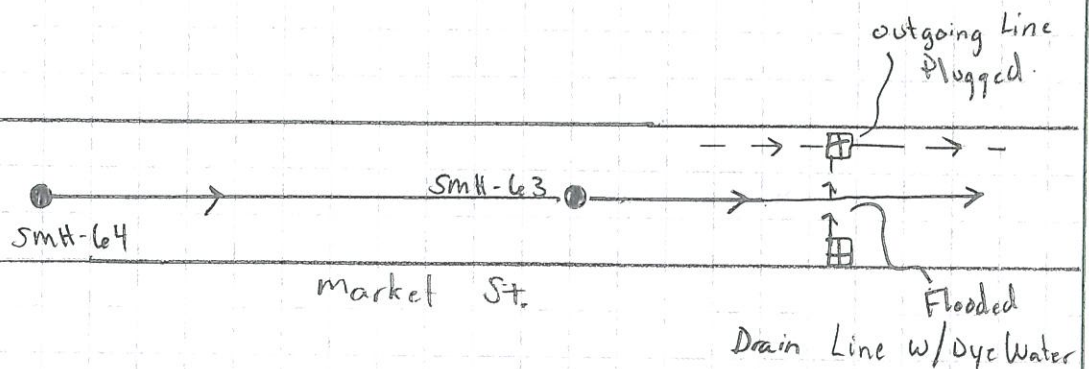


Date 7/14/16 Project Market St @ SMH-63 Initial S.S.

Flood #1



Sanitary Line was televised from SMH-63 Down stream while the storm drain was plugged and Flooded with Dye. The drain crosses the Sanitary. Two leaks had been found.





EST ASSOCIATES
51 FREMONT STREET
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Fax: 781-455-8336
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Inspection Report / Inspection: 1

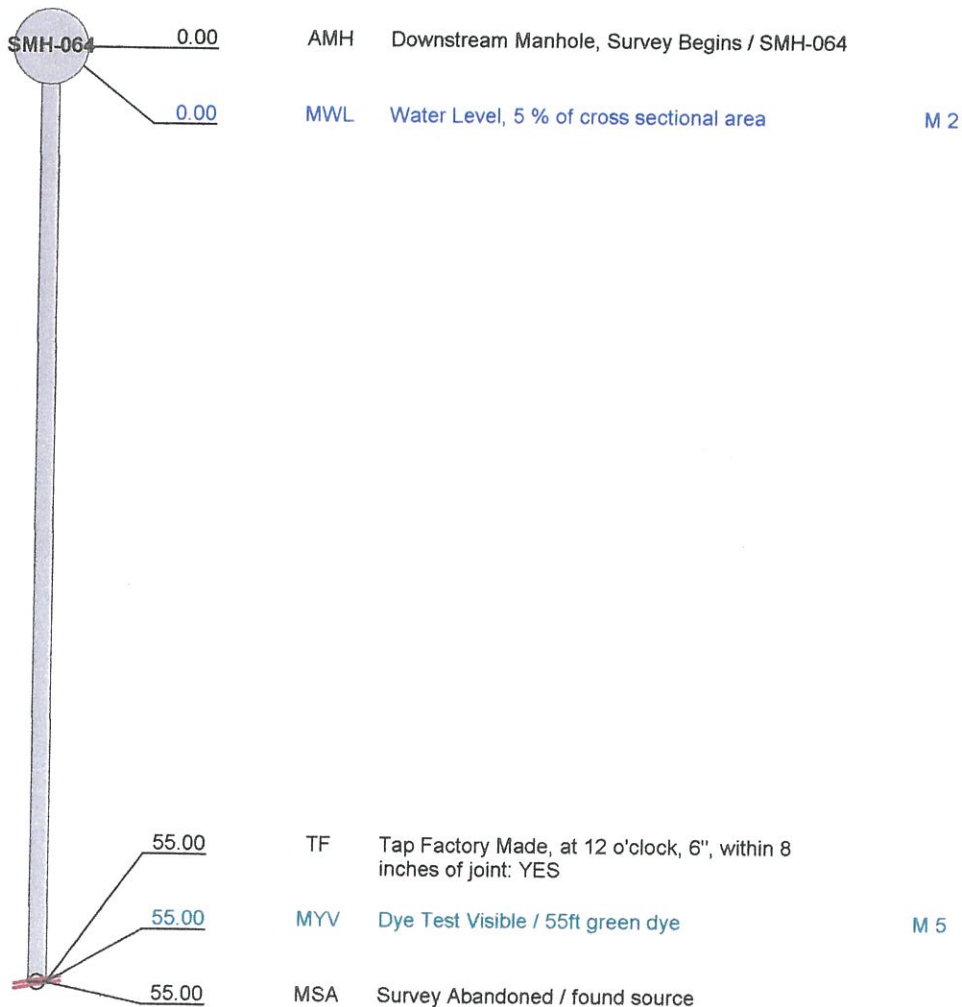
Date 7/14/2016	P/O. No.	Weather Dry	Surveyor's Name TJH	Pipe Segment Reference	Section No. 2
Certificate No. U-214-06020356	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning No Pre-Cleaning	Sewer Category

Street 123 City Loc. details Location Code	Market Street Ridgefield CT Light Highway	Use of Sewer Drainage Area Flow Control Length surveyed	Sanitary 1 55.00 ft	Upstream MH Downstream MH Dir. of Survey Section Length	SMH-064.1 SMH-064 Upstream 55.00 ft
---	---	--	-------------------------------	--	--

Purpose of Survey	Joint Length	13.00 ft
Year Laid	Dia./Height	8 inch
Year Rehabilitated	Material	Polyvinyl Chloride
Tape / Media No.	Lining Method	

Add. Information :

1:135 Position Code Observation Grade



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	5121	0	7	7	0	3.5	3.5

sde

16, 17, 18

Smoke Testing Form

Owner: Ridgelyield, CT

Inspection Date/Time: 9-11-13 0820

Set Up MH: SMH-63

Upstream MH: SMH-64

Downstream MH: SMH-62

Inspection Crew: MR/SC/TH

Location/Interceptor: Subarea 1

Map: _____

Sheet: _____

Segment Length: 935'

Observations

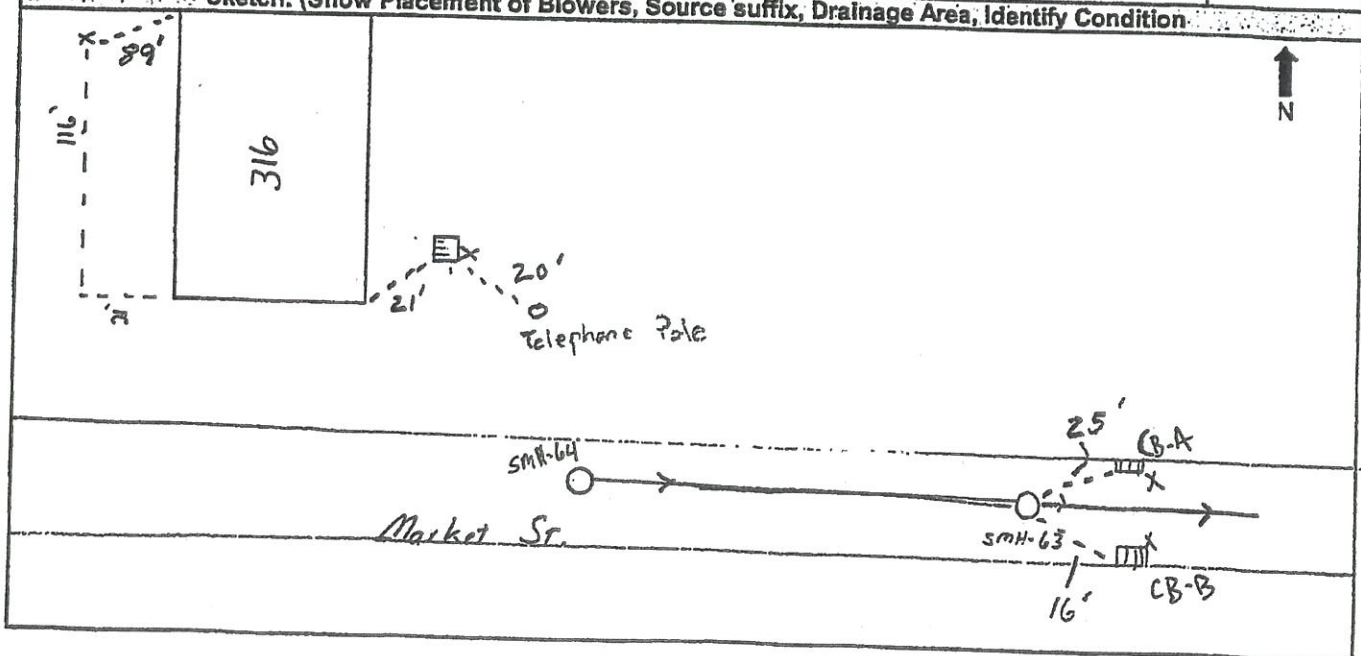
Weather/Ground ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

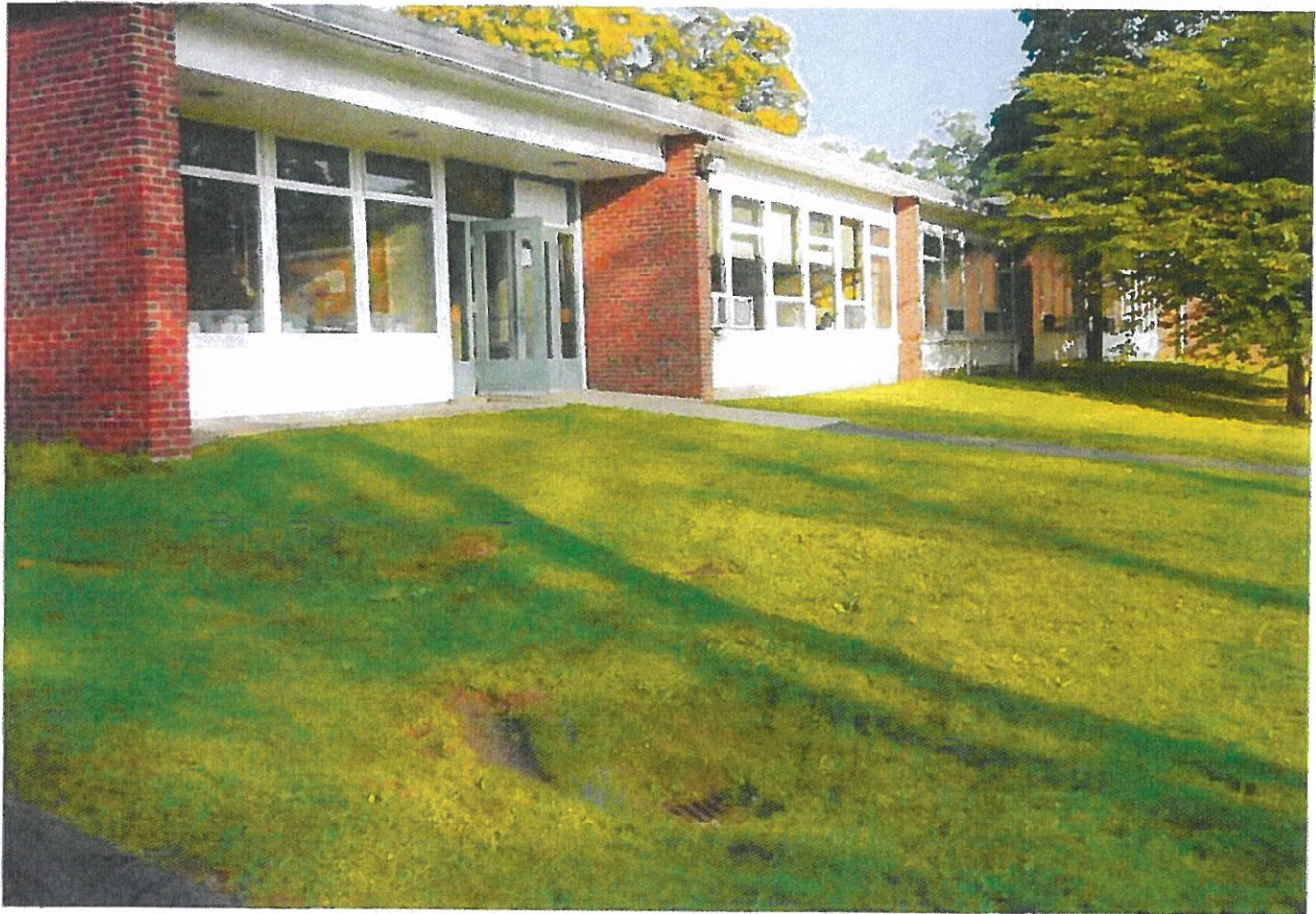
Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff C	Flow (grams)
CB-A at SMH-63	2	1	10	5	1250	.90	
CB-B at SMH 63	2	1	10	5	1250	.90	
CB Behind 316 Main St	2	1	10	7	50	.17	
316 Main St.	2	1	14	6	5	.17	

Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Positive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- + Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
		Downspout Connection	Yard - Back
		Fountain Drain	Yard - Side
		Building Drain	Non - Paved
		Catch Basin	Creek Bottom
		Storm Ditch	Field
		Storm Manhole	Golf Course
		Man Sewer	
		Clean out	

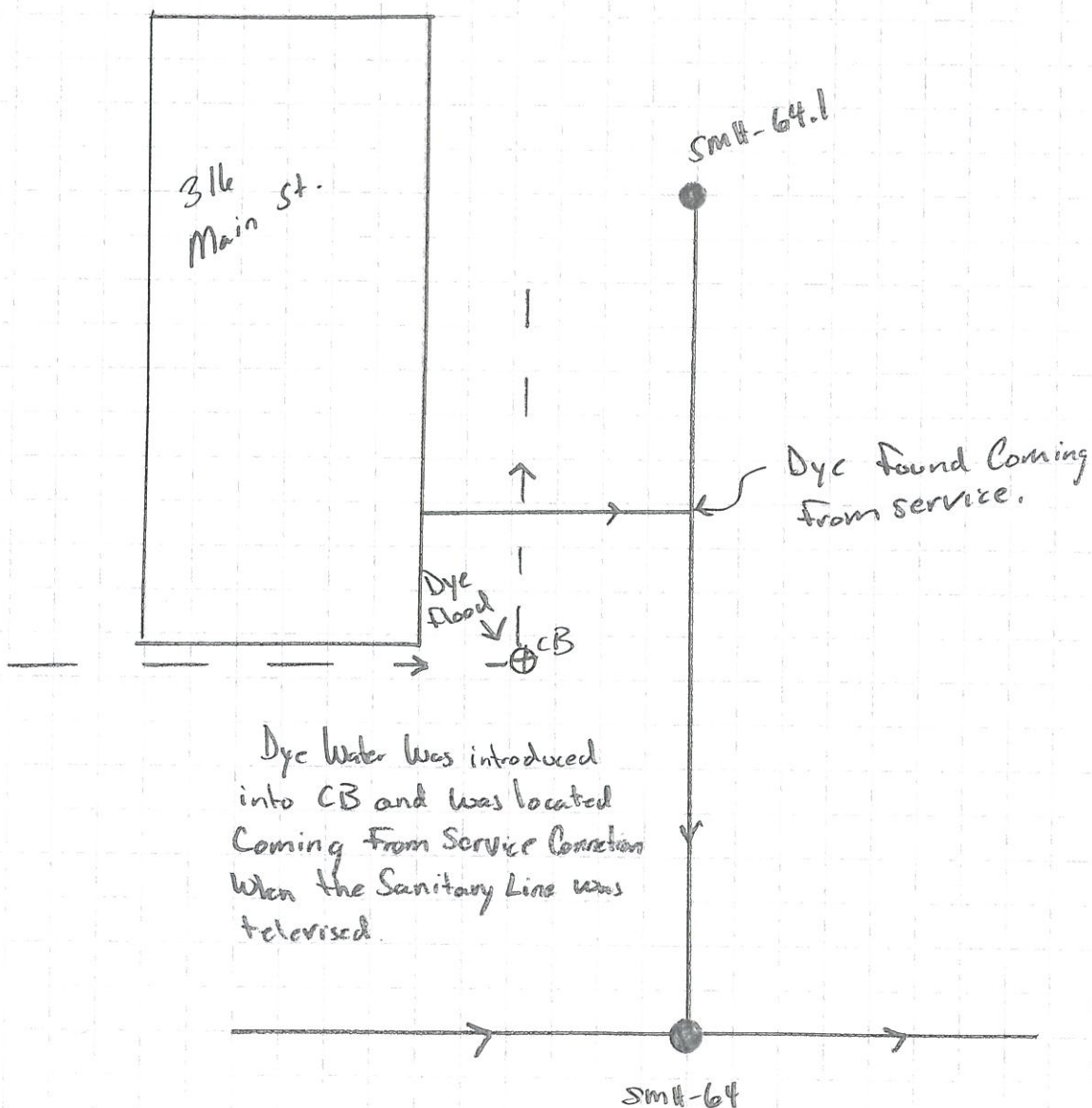
Sketch: (Show Placement of Blowers, Source suffix, Drainage Area, Identify Condition)





Date 7/14/16 Project 316 Main St. Initial S.S.

Flood # 2



* Not to Scale.



Associates, Inc.

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Inspection Report / Inspection: 1

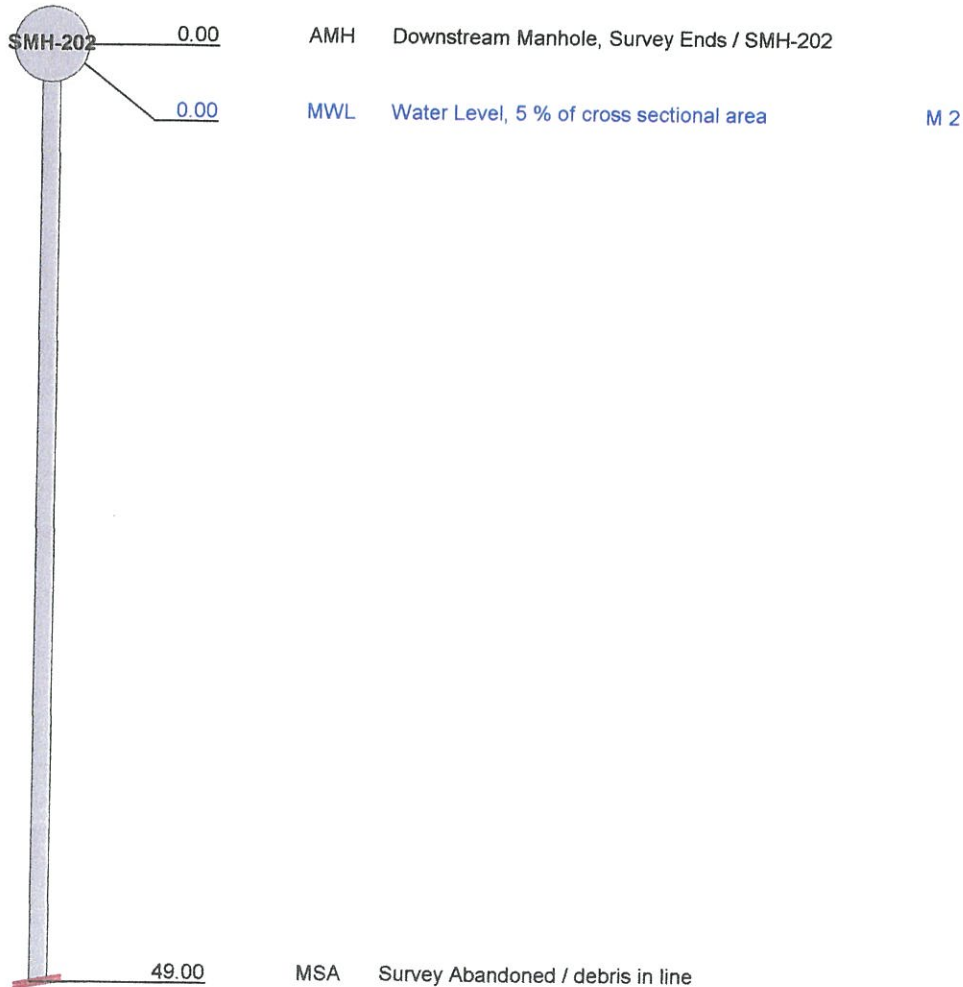
Date 7/14/2016	P/O. No.	Weather Dry	Surveyor's Name TJH	Pipe Segment Reference	Section No. 3
Certificate No. U-214-06020356	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning No Pre-Cleaning	Sewer Category

Street 123 City Loc. details Location Code	King Lane Ridgefield CT Light Highway	Use of Sewer Drainage Area Flow Control Length surveyed	Sanitary 2 49.00 ft	Upstream MH Downstream MH Dir. of Survey Section Length	207 Main Street SMH-202 Upstream 49.00 ft
---	---	--	-------------------------------	--	--

Purpose of Survey	Joint Length	3.00 ft
Year Laid	Dia./Height	8 inch
Year Rehabilitated	Material	Vitrified Clay Pipe
Tape / Media No.	Lining Method	

Add. Information :

1:120 Position Code Observation Grade



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	2100	0	2	2	0	2	2

sde

Smoke Testing Form

Owner: Ridgefield, CT
 Inspection Date/Time: 9-11-13 1000
 Set Up MH: SMH-203
 Upstream MH: SMH-205A
 Downstream MH: SMH-189

Inspection Crew: mk lcs / TH
 Location/Interceptor: Subarea 2
 Map: _____
 Sheet: _____
 Segment Length: 1440'

Observations

Weather/Ground ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

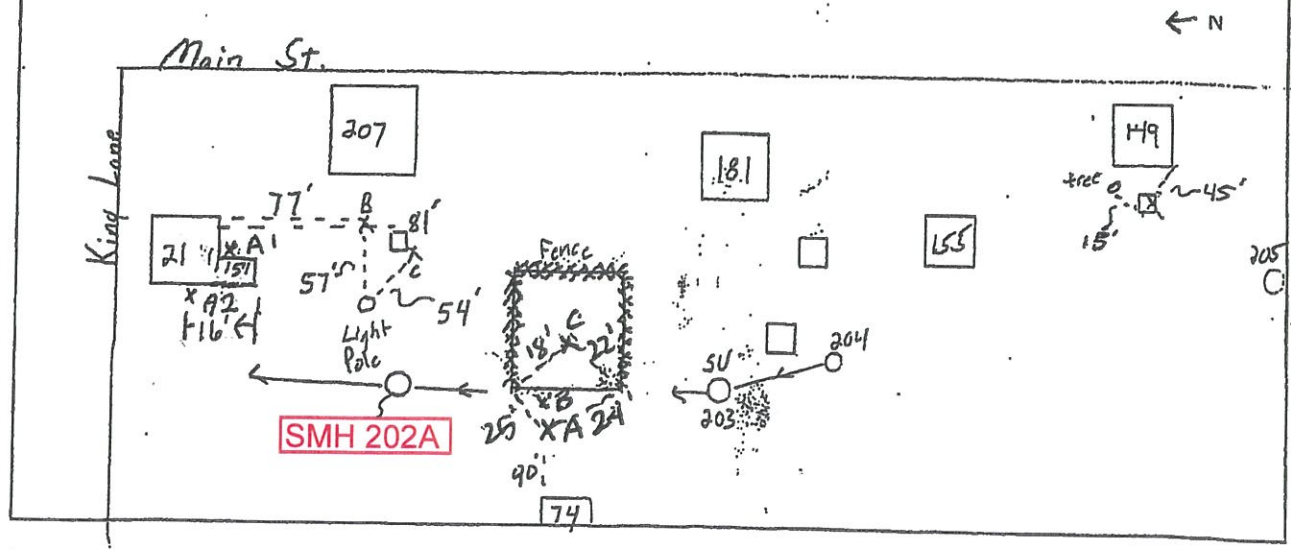
Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Positive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- + Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
7-		Downspout Connection	Yard - Back
8-		Fountain Drain	Yard - Side
9-		Building Drain	Non - Paved
10-		Catch Basin	Creek Bottom
11-		Storm Ditch	Field
12-		Storm Manhole	Golf Course
13-		Man Sewer	
14-		Clean out	

Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff C	Flow (grams)
149 Main Street	2	2	13	3	105	90	
21 King Lane A1 + A2	2	2	7	7	100	90	
21 King Lane B	2	2	1	7	100	17	
21 King Lane E	2	2	10	7	100	17	
74 High Ridge Ave	2	2	14	7	100	21	

Sketch: (Show Placement of Blowers; Source suffix, Drainage Area; Identify Condition)

21 King Lane has a sump pump discharging into the sewer line in basement







25

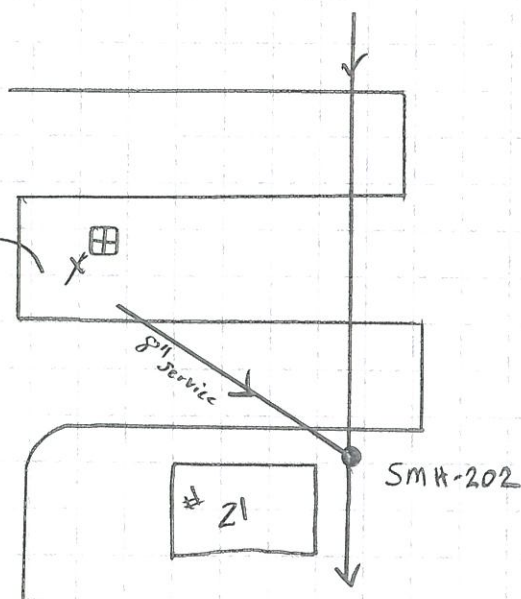
Date 7/4/16

Project 21 King Ln.

Initial S.J.

Flood # 3

Dye was introduced
into hole in ground
By CB. Dye was found
Coming From Service Connection
into SMH-202



King Ln.

* Not to Scale.



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Inspection Report / Inspection: 1

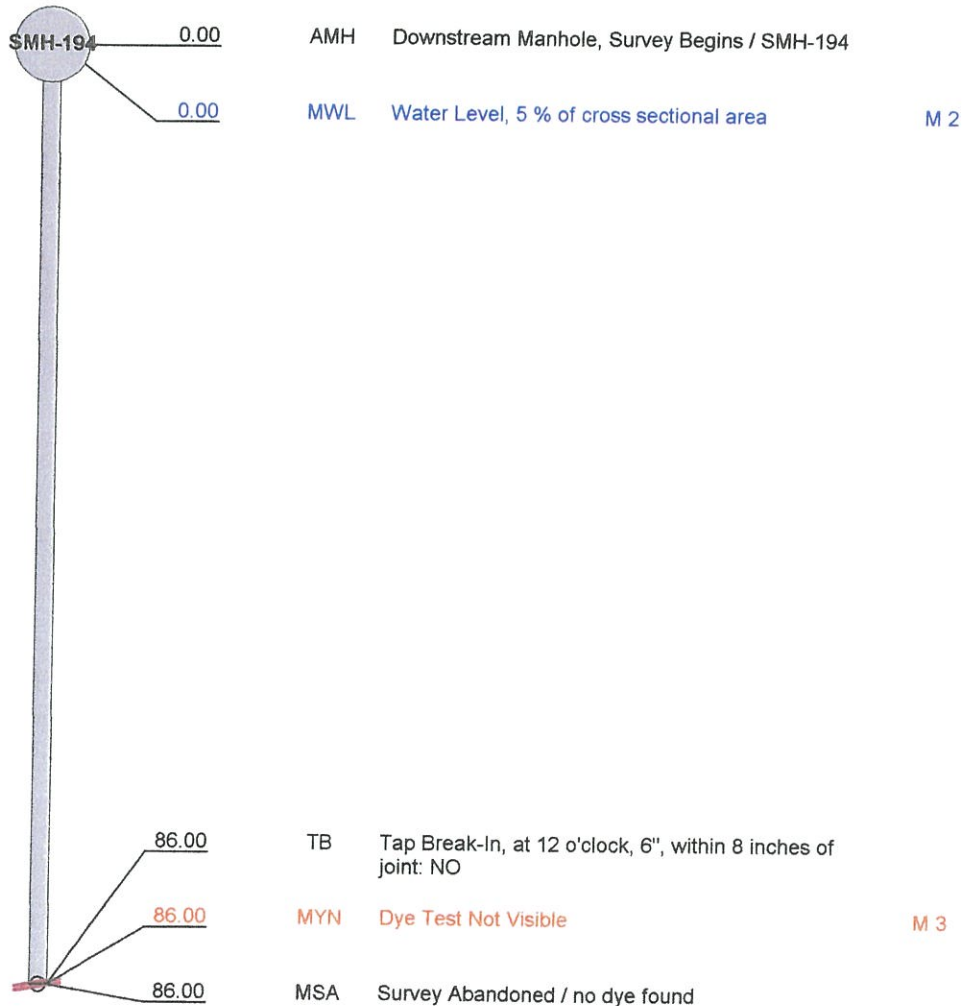
Date 7/14/2016	P/O. No.	Weather Dry	Surveyor's Name TJH	Pipe Segment Reference	Section No. 4
Certificate No. U-214-06020356	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning No Pre-Cleaning	Sewer Category

Street 123	Peaceable Street	Use of Sewer	Sanitary	Upstream MH	SMH-195
City	Ridgefield CT	Drainage Area	2	Downstream MH	SMH-194
Loc. details		Flow Control		Dir. of Survey	Upstream
Location Code	Light Highway	Length surveyed	86.00 ft	Section Length	86.00 ft

Purpose of Survey	Joint Length	3.00 ft
Year Laid	Dia./Height	10 - 8 inch
Year Rehabilitated	Material	Other
Tape / Media No.	Lining Method	

Add. Information :

1:210 Position Code Observation Grade



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	3121	0	5	5	0	2.5	2.5

469
218
15

sde

Smoke Testing Form

Owner: Ridgefield, CTInspection Crew: MK/SS/THInspection Date/Time: 9-11-13 1300Location/Interceptor: Subarea 2Set Up MH: SMH-191

Map: _____

Upstream MH: SMH-197

Sheet: _____

Downstream MH: SMH-189Segment Length: 1056'

Observations

Weather/Ground

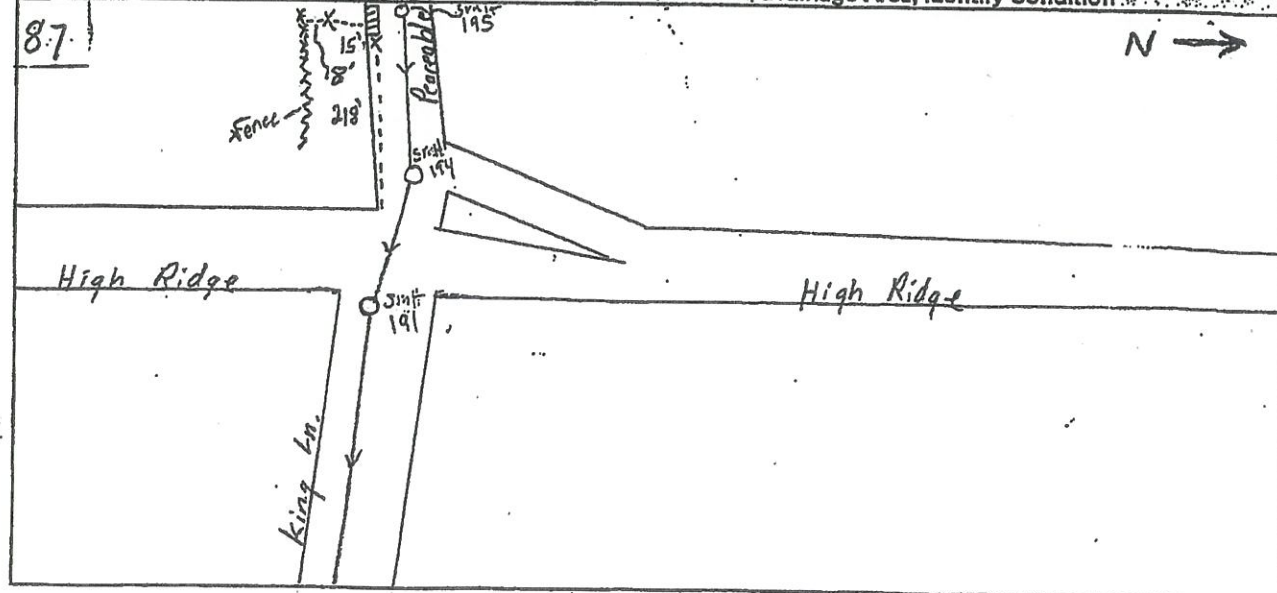
- ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff C	Flow (grams)
87 High Ridge Ave-CB	2	1	10	2	100	.90	
87 High Ridge Ave	2	2	1	8	40	.17	

Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Postive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- + Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
7-		Downspout Connection	Yard - Back
8-		Fountain Drain	Yard - Side
9-		Building Drain	Non - Paved
10-		Catch Basin	Creek Bottom
11-		Storm Ditch	Field
12-		Storm Manhole	Golf Course
13-		Man Sewer	
14-		Clean out	

Sketch: (Show Placement of Blowers, Source suffix; Drainage Area; Identify Condition)



30



31





Associates, Inc.

Environmental Monitoring
Pipeline Services
Operations & Maintenance

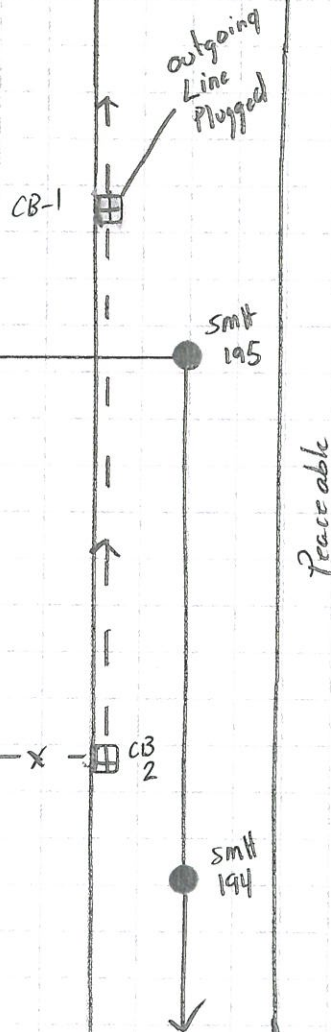
Date 7/14/16

Project 87 High Ridge

Initial S.S.

Outgoing Line in CB-1 was plugged and the Drain Line was flooded upto CB-2, we also Plugged 6" Sideline into CB-2 and Flooded through hole in ground that Smoked - No dye was found.

Possible that Sanitary service and Small 6" drain Line in CB-2 are in same trench?



* Not to Scale.

king Ln.

High Ridge Ave.



Associates, Inc.

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Inspection Report / Inspection: 1

Date 7/14/2016	P/O. No.	Weather Dry	Surveyor's Name TJH	Pipe Segment Reference	Section No. 5
Certificate No. U-214-06020356	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning No Pre-Cleaning	Sewer Category

Street 123	High Ridge Avenue	Use of Sewer	Sanitary	Upstream MH	SMH-114
City	Ridgefield CT	Drainage Area	1	Downstream MH	SMH-113
Loc. details		Flow Control		Dir. of Survey	Upstream
Location Code	Light Highway	Length surveyed	0.00 ft	Section Length	0.00 ft

Purpose of Survey	Joint Length	3.00 ft
Year Laid	Dia./Height	8 inch
Year Rehabilitated	Material	Vitrified Clay Pipe - LNE
Tape / Media No.	Lining Method	

Add. Information :

1:50 Position Code Observation Grade

SMH-113	0.00	AMH	Downstream Manhole, Survey Begins / SMH-113	
	0.00	MYV	Dye Test Visible / 0ft under liner	M 5
	0.00	MSA	Survey Abandoned / 0ft source found	
	0.00	MWL	Water Level, 5 % of cross sectional area	M 2

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	5121	0	7	7	0	3.5	3.5

Smoke Testing Form

Owner: Ridgefield, CT

Inspection Crew: mk/ss/tt

Inspection Date/Time: 9-10-13 12:35

Location/Interceptor: Sub-1

Set Up MH: SMH-112

Map:

Upstream MH: SMH-115

Sheet:

Downstream MH: SMH-109

Segment Length: 1000'

Observations:

Weather/Ground

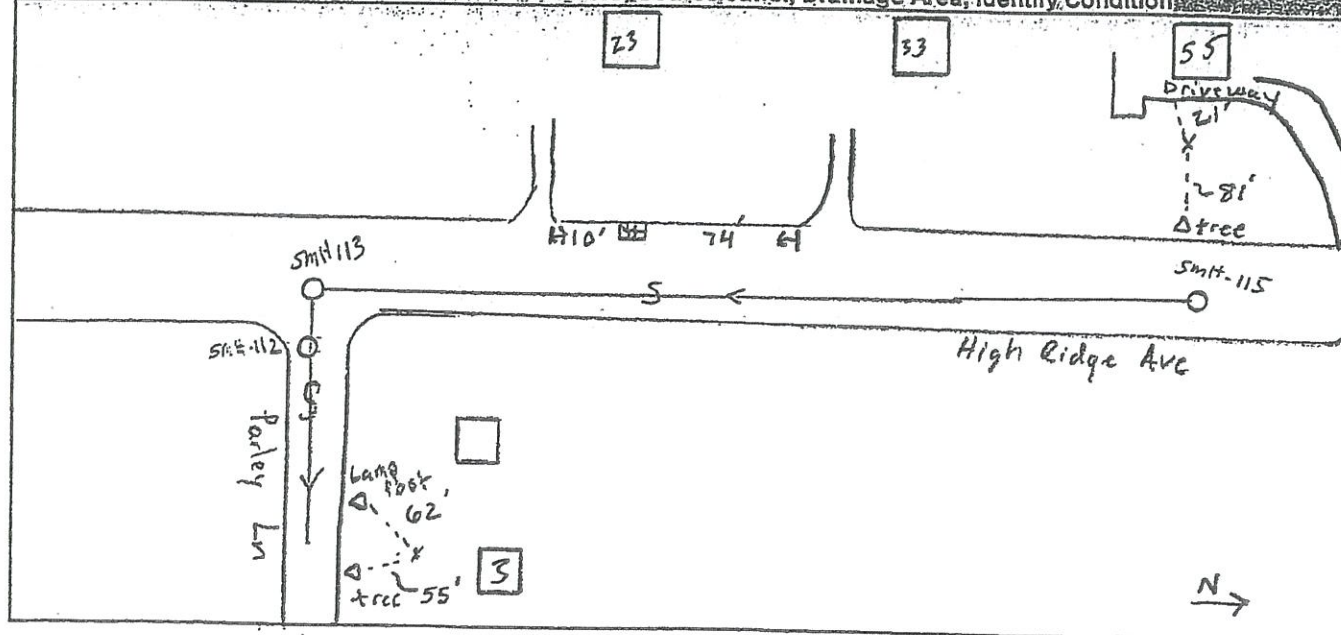
- ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Positive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- + Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
7-		Downspout Connection	Yard - Back
8-		Fountain Drain	Yard - Side
9-		Building Drain	Non - Paved
10-		Catch Basin	Creek Bottom
11-		Storm Ditch	Field
12-		Storm Manhole	Golf Course
13-		Sewer Manhole	
14-		Clean out	

Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff C.	Flow (grams)
55 High Ridge Ave.	2	2	14	6	10'	17	
23 High Ridge Ave.	2	1	10	5	10'00	10	
3 Parley Ln.	2	2	14	6	10'	17	

Sketch: (Show Placement of Blowers, Source suffix, Drainage Area, Identify Condition)





Date 7/14/16

Project 23 High Ridge Ave

Initial SS

Drain Line was flooded with Dye water
During the flood, dye was observed entering
SMH-113 at the Pipe Connection of incoming
Line from behind the Liner, it appeared to
have not sealed correctly.

Incoming drain line
plugged and upstream
line flooded with
Dye water.

23

SMH
113

SMH-115
114

High Ridge Ave.

Farley Ln.

* Not to Scale.

**Dye Flooding
with
CCTV Inspections
July 15, 2016**



EST ASSOCIATES
51 FREMONT STREET
NEEDHAM, MA
Tel 781-455-0003
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E-mail:

Inspection Report / Inspection: 1

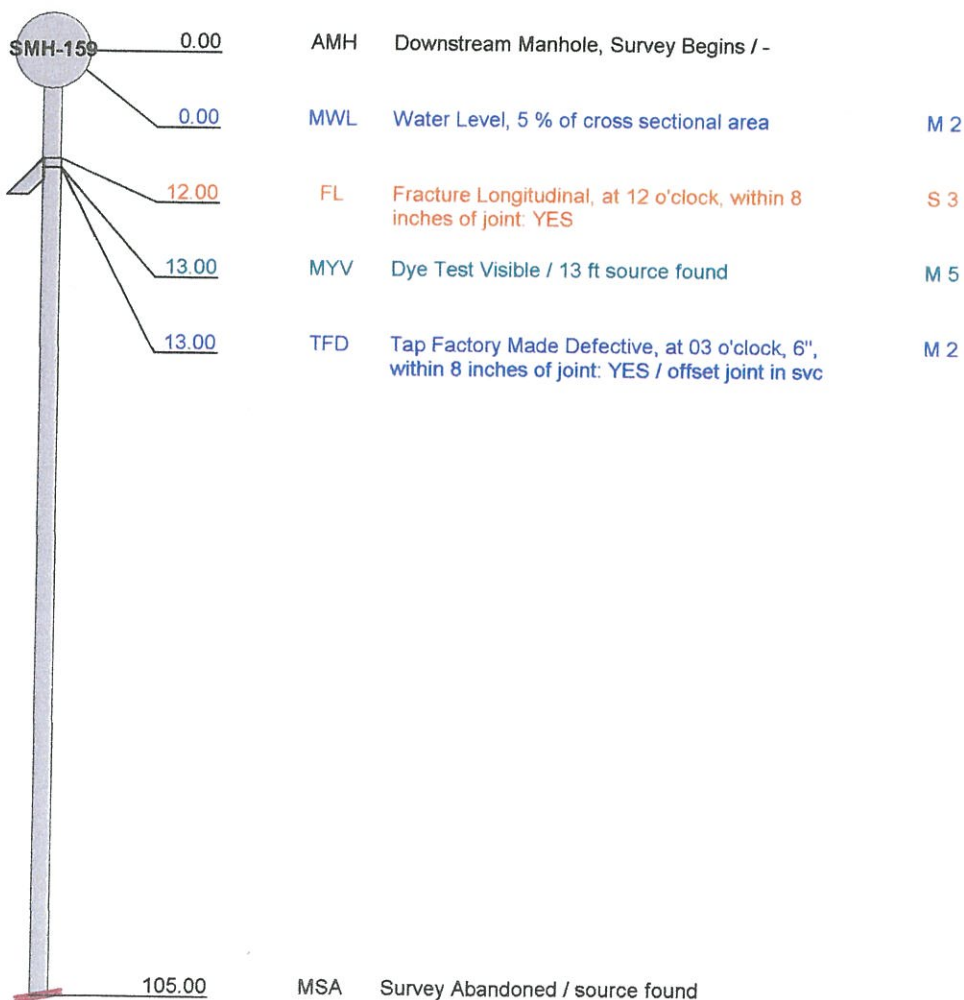
Date 7/15/2016	P/O. No.	Weather Dry	Surveyor's Name TJH	Pipe Segment Reference	Section No. 6
Certificate No. U-214-06020356	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning No Pre-Cleaning	Sewer Category

Street 123	Greenfield Road	Use of Sewer	Sanitary	Upstream MH	SMH-160
City	Ridgefield CT	Drainage Area	3	Downtown MH	SMH-159
Loc. details		Flow Control		Dir. of Survey	Upstream
Location Code	Light Highway	Length surveyed	105.00 ft	Section Length	105.00 ft

Purpose of Survey	Joint Length	3.00 ft
Year Laid	Dia./Height	8 Inch
Year Rehabilitated	Material	Vitrified Clay Pipe
Tape / Media No.	Lining Method	

Add. Information :

1:255 Position Code Observation Grade



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
3100	5122	3	9	12	3	3	2



Smoke Testing Form

Owner: Ridge Field, CT
 Inspection Date/Time: 9/26/13
 Set Up MH: 159
 Upstream MH: 160
 Downstream MH: 155, 156, 154

Inspection Crew: JC, SS, TH
 Location/Interceptor: _____
 Map: Subarea 3
 Sheet: _____
 Segment Length: 1325'

Observations

Weather/Ground

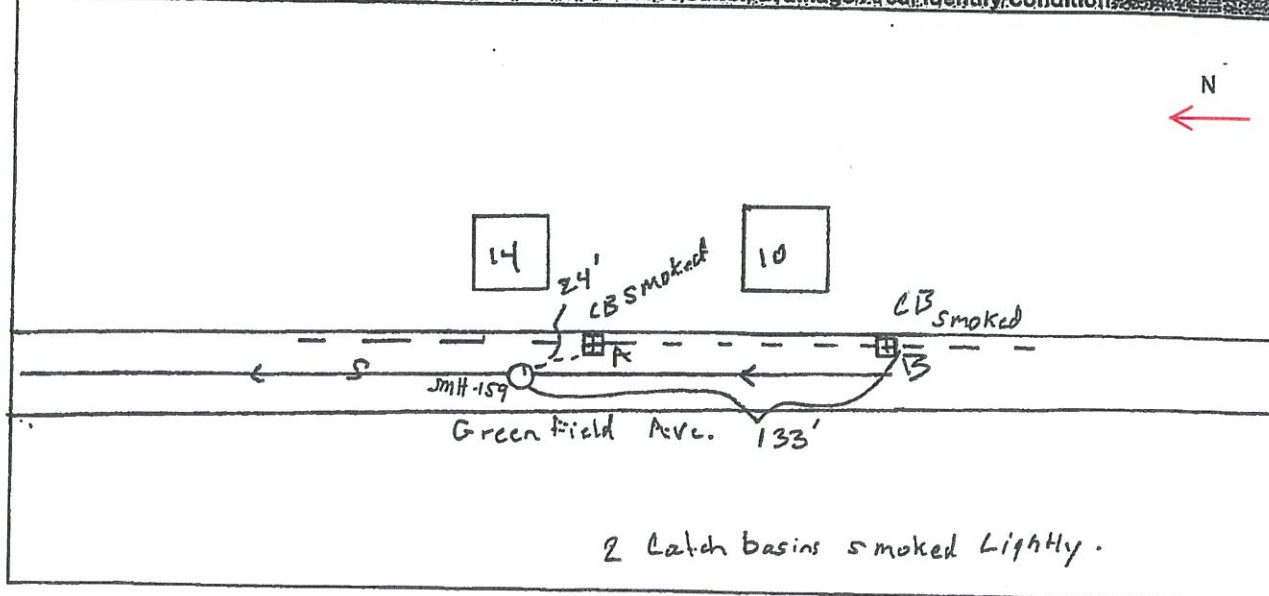
- ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff C	Flow (grams)
B 10 Greenfield Ave (CB)	2	1	10	2	1400	90	
A 10 Greenfield Ave (CB)	2	1	10	2	1200	90	

Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Positive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- + Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
7-		Downspout Connection	Yard - Back
8-		Fountain Drain	Yard - Side
9-		Building Drain	Non - Paved
10-		Catch Basin	Creek Bottom
11-		Storm Ditch	Field
12-		Storm Manhole	Golf Course
13-		Sewer Manhole	
14-		Clean out	

Sketch (Show Placement of Blowers, Source, suffix, Drainage Area, Identify Conditions)





B

59



A

60

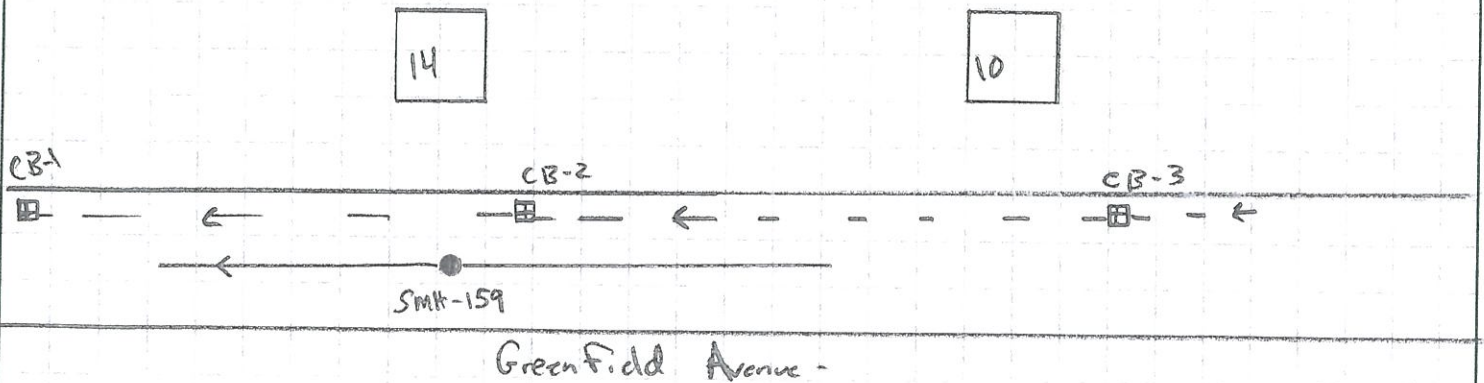


Associates, Inc.

Environmental Monitoring
Pipeline Services
Operations & Maintenance

Date 7/15/14 Project 10 Greenfield Ave Initial SS

We plugged the incoming line of CB-1 and dye flooded the Drain Line
We then televised the Sanitary Sewer Line upstream of SMH-159
and a leak was found at a service Connection.



* Not to Scale.



Associates, Inc.

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E-mail:

Inspection Report / Inspection: 1

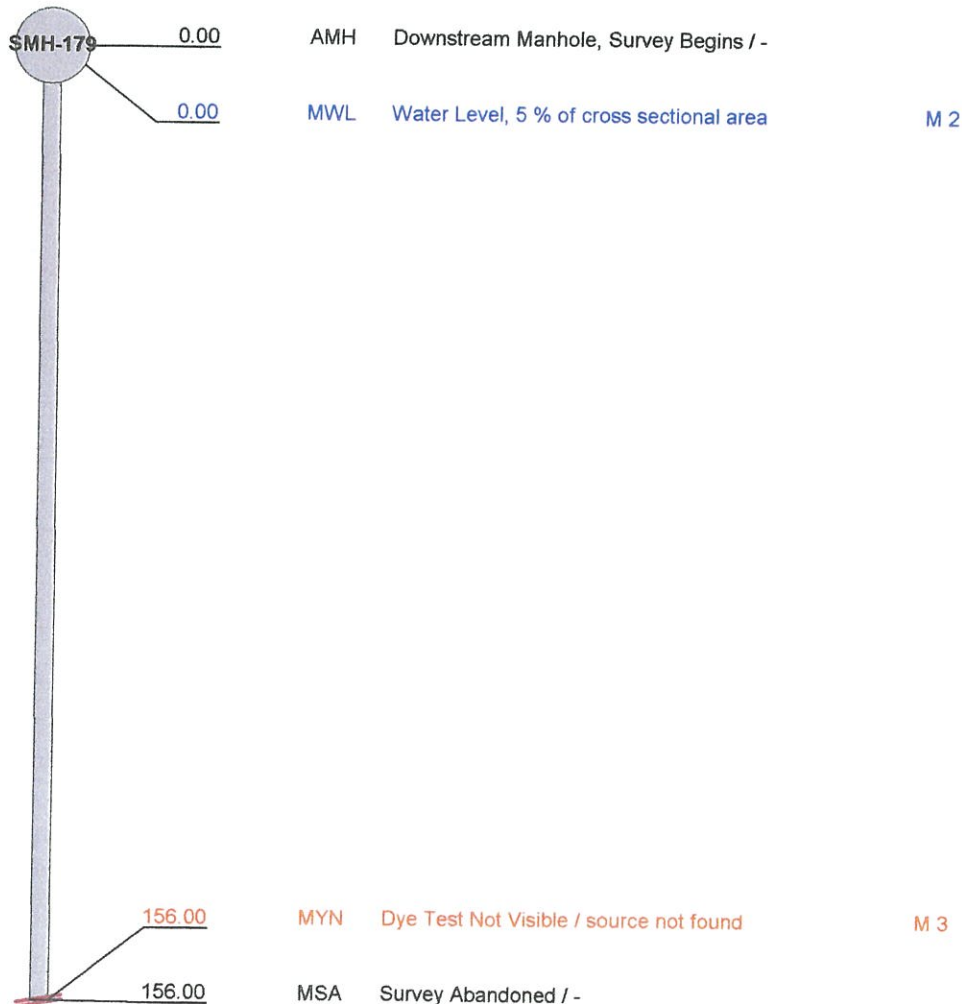
Date 7/15/2016	P/O. No.	Weather Dry	Surveyor's Name TJH	Pipe Segment Reference	Section No. 7
Certificate No. U-214-06020356	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning No Pre-Cleaning	Sewer Category

Street123	High Ridge Avenue	Use of Sewer	Sanitary	Upstream MH	SMH-180
City	Ridgefield CT	Drainage Area	2	Dowstream MH	SMH-179
Loc. details		Flow Control		Dir. of Survey	Upstream
Location Code	Light Highway	Length surveyed	156.00 ft	Section Length	156.00 ft

Purpose of Survey	Joint Length	3.00 ft
Year Laid	Dia./Height	10 inch
Year Rehabilitated	Material	Vitrified Clay Pipe
Tape / Media No.	Lining Method	

Add. Information :

1:375 Position Code Observation Grade



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	3121	0	5	5	0	2.5	2.5

275.

sde

Smoke Testing Form

Owner: Ridgefield, CTInspection Crew: MK/SS/THInspection Date/Time: 9-12-13 0935Location/Interceptor: Subarea 2Set Up MH: SMH - 180

Map:

Upstream MH: SMH - 184

Sheet:

Downstream MH: SMH - 178Segment Length: 1441'

Observations

Weather/Ground

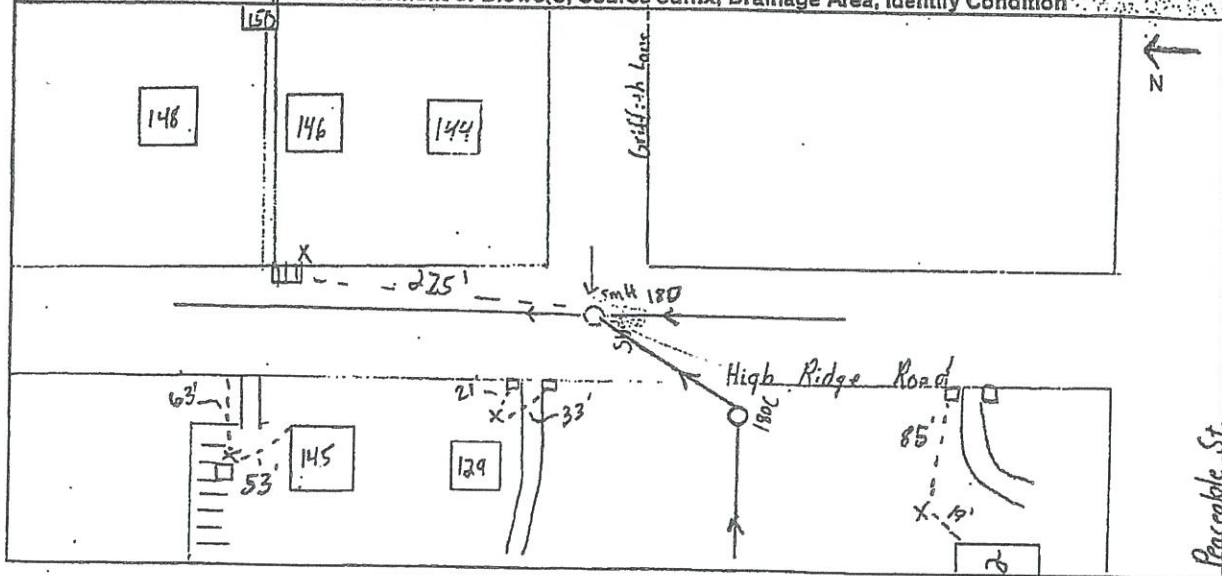
- ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff C	Flow (grams)
2 Peacocks St.	2	2	146	40	17		
129 High Ridge Rd.	2	2	146	20	17		
145 High Ridge Rd.	2	2	133	100	90		
CB @ 150 High Ridge Rd.	2	1	102	90	90		

Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Positive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- +Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
7-		Downspout Connection	Yard - Back
8-		Fountain Drain	Yard - Side
9-		Building Drain	Non - Paved
10-		Catch Basin	Creek Bottom
11-		Storm Ditch	Field
12-		Storm Manhole	Golf Course
13-		Man Sewer	
14-		Clean out	

Sketch: (Show Placement of Blowers; Source suffix; Drainage Area; Identify Condition)







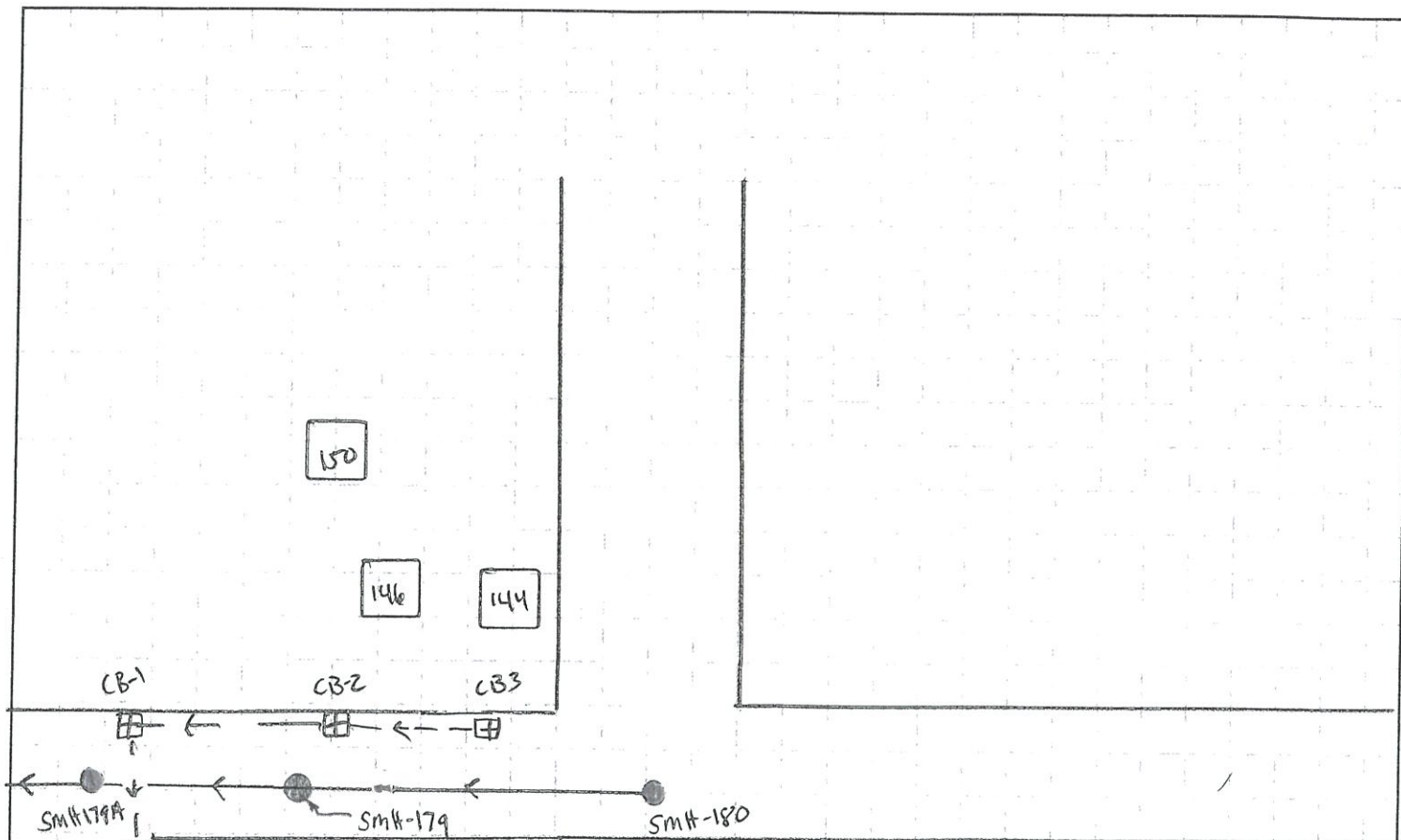
Associates, Inc.

Environmental Monitoring
Pipeline Services
Operations & Maintenance

Date 7/15/16

Project CB @ 150 High Ridge Rd-

Initial S.S



CB-1 Incoming Line was Plugged and line was flooded, the Corrugated pipe was so deteriorated it wouldn't hold water, we then Plugged CB-2 and Flooded upstream to CB-3, the Sanitary sewer was televised and no dye was found.

CB-2 is the Structure that Smoked, It is possible the defect is Between CB-1 and CB-2, but not being able to Flood pipe due to deteriorated pipe hindered results.

* Not to Scale-



EST ASSOCIATES
 51 FREMONT STREET
 NEEDHAM, MA
 Tel: 781-455-0003
 Fax: 781-455-8336
 E-mail:

Inspection Report / Inspection: 1

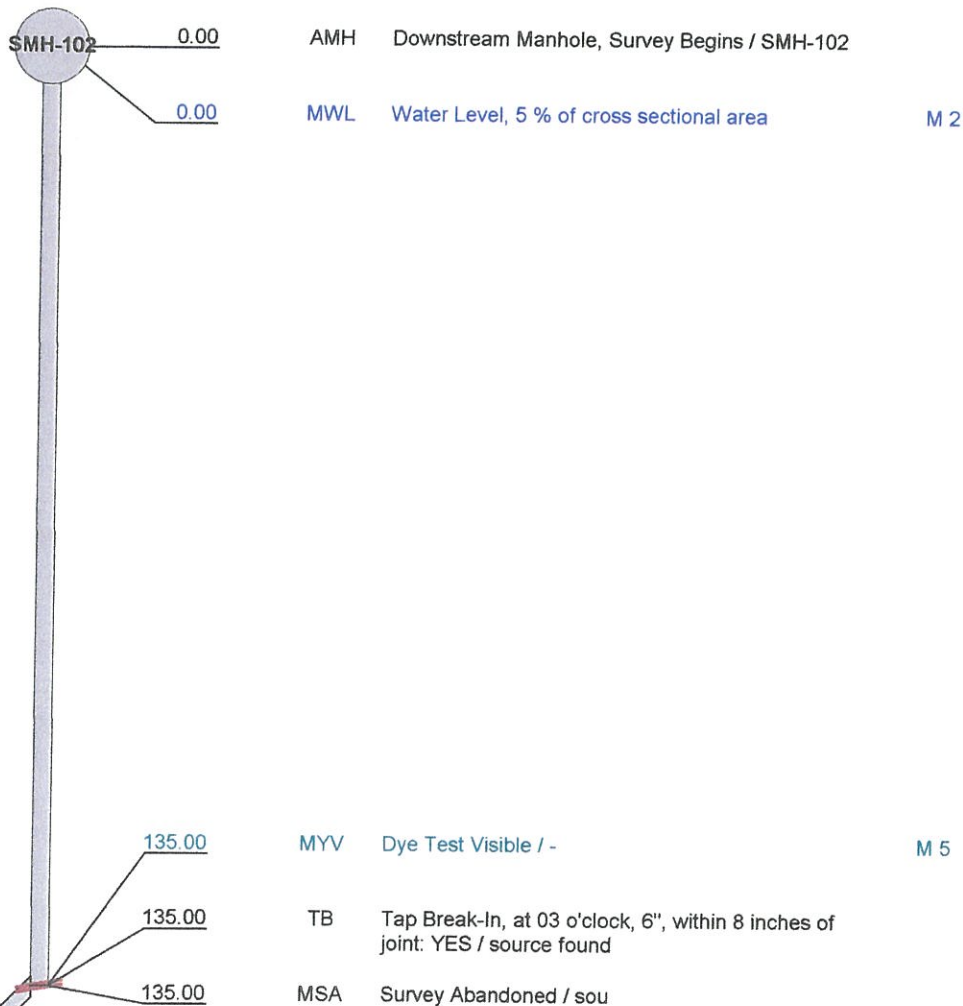
Date 7/15/2016	P/O. No.	Weather Dry	Surveyor's Name TJH	Pipe Segment Reference	Section No. 8
Certificate No. U-214-06020356	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning No Pre-Cleaning	Sewer Category

Street123	Main Street Easement	Use of Sewer	Sanitary	Upstream MH	SMH-103
City	Ridgefield CT	Drainage Area	1	Dowstream MH	SMH-102
Loc. details		Flow Control		Dir. of Survey	Upstream
Location Code	Easement/Right of Way	Length surveyed	135.00 ft	Section Length	135.00 ft

Purpose of Survey	Joint Length	3.00 ft
Year Laid	Dia./Height	12 Inch
Year Rehabilitated	Material	Other
Tape / Media No.	Lining Method	

Add. Information :

1:330 Position Code Observation Grade



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	5121	0	7	7	0	3.5	3.5



Smoke Testing Form

Owner: Ridgefield, CT
 Inspection Date/Time: 10-1-13 1020
 Set Up MH: SMH-104
 Upstream MH: 106, 102A, 102B
 Downstream MH: 95

Inspection Crew: MR/TC/SS/TH
 Location/Interceptor: Subarea 1
 Map:
 Sheet:
 Segment Length: 1248'

Observations

Weather/Ground

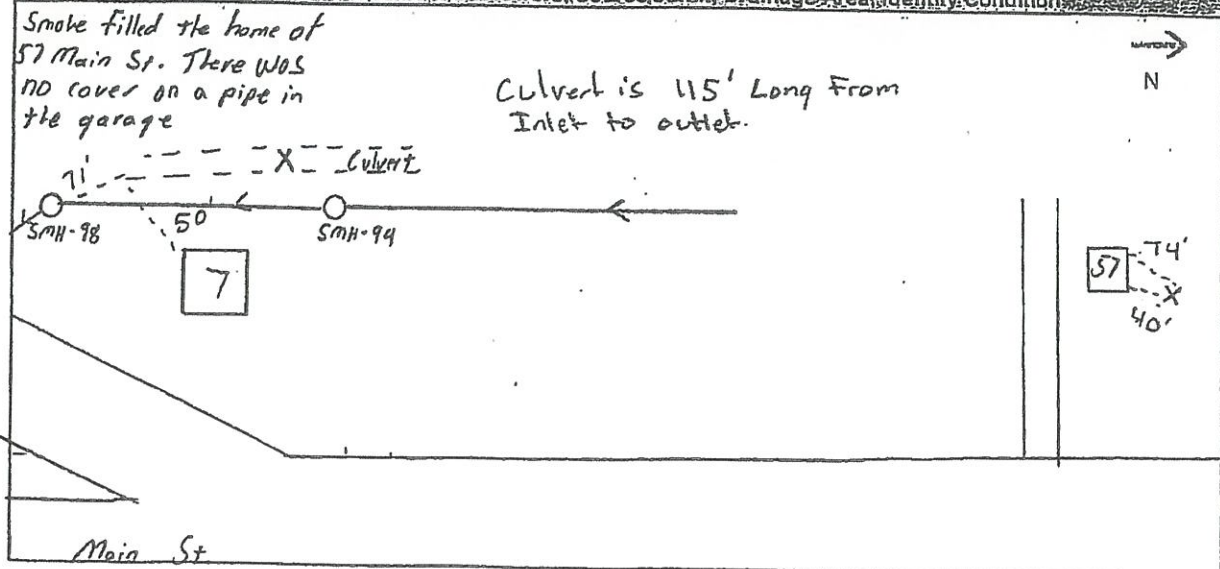
- ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff C	Flow (grams)
57 Main St	2	2	1	7	40	.17	
7 Main St	2	2	1	7	-	-	

Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Positive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- + Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
7-		Downspout Connection	Yard - Back
8-		Fountain Drain	Yard - Side
9-		Building Drain	Non - Paved
10-		Catch Basin	Creek Bottom
11-		Storm Ditch	Field
12-		Storm Manhole	Golf Course
13-		Sewer Manhole	
14-		Clean out	

Sketch (Show Placement of Blowers, Source, suffix, Drainage Area, Identify Conditions)





The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Source 67 - 57 Main Street

5/25/2016 10:33:47 AM



1:1200
1"=100'

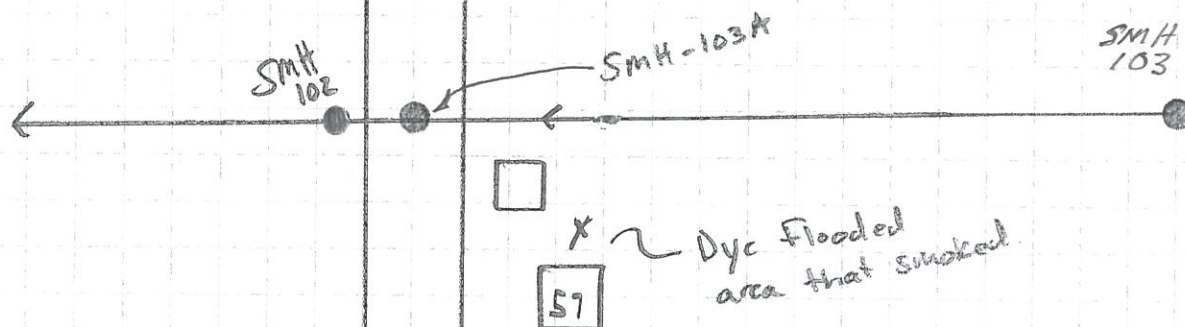




67



Date 7/15/16 Project 57 Main St. Initial S.S.



Main St.

Dye water was introduced to the area that smoked behind 57 Main St. The sewer was televised from SMH-102 upstream and dye water was observed coming out of a service connection at 135'

**Dye Flooding
with
CCTV Inspections
July 18, 2016**

Inspection Report / Inspection: 1

Date 7/18/2016	P/O. No.	Weather Dry	Surveyor's Name TJH	Pipe Segment Reference	Section No. 9
Certificate No. U-214-06020356	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning No Pre-Cleaning	Sewer Category

Street123	Main Street Easement	Use of Sewer	Sanitary	Upstream MH	SMH-098
City	Ridgefield CT	Drainage Area	1	Dowstream MH	SMH-098
Loc. details		Flow Control		Dir. of Survey	Upstream
Location Code	Easement/Right of Way	Length surveyed	168.00 ft	Section Length	168.00 ft

Purpose of Survey	Joint Length	3.00 ft
Year Laid	Dia./Height	12 inch
Year Rehabilitated	Material	Other
Tape / Media No.	Lining Method	

Add. Information :

1:405 Position Code Observation Grade

SMH-098 0.00 AMH Downstream Manhole, Survey Begins / SMH-098

0.00 MWL Water Level, 5 % of cross sectional area M 2

168.00 TBD Tap Break-In Defective, at 12 o'clock, 6" within 8 inches of joint: YES / roots in svc M 3

168.00 MYN Dye Test Not Visible M 3

168.00 MSA Survey Abandoned / source not found

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	3221	0	8	8	0	2.67	2.67



Smoke Testing Form

Owner: Ridgefield, CTInspection Crew: mk/te/ss/THInspection Date/Time: 10-1-13 1020Location/Interceptor: Subarea 1Set Up MH: SMH-104

Map:

Upstream MH: 106, 102A, 102B

Sheet:

Downstream MH: 95Segment Length: 1248'

Observations:

Weather/Ground

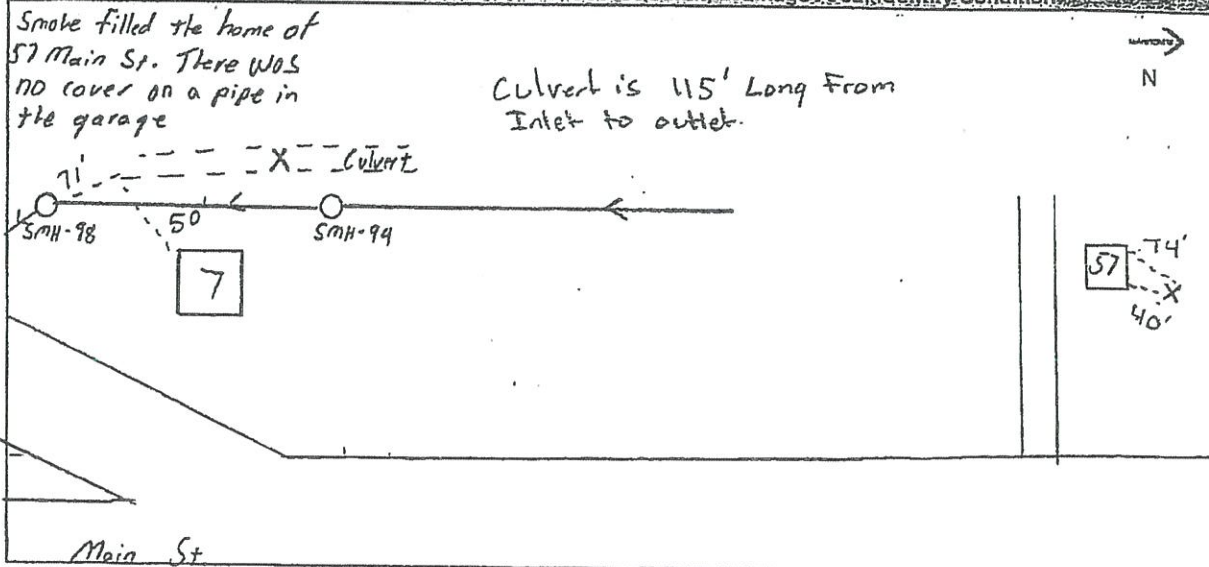
- ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

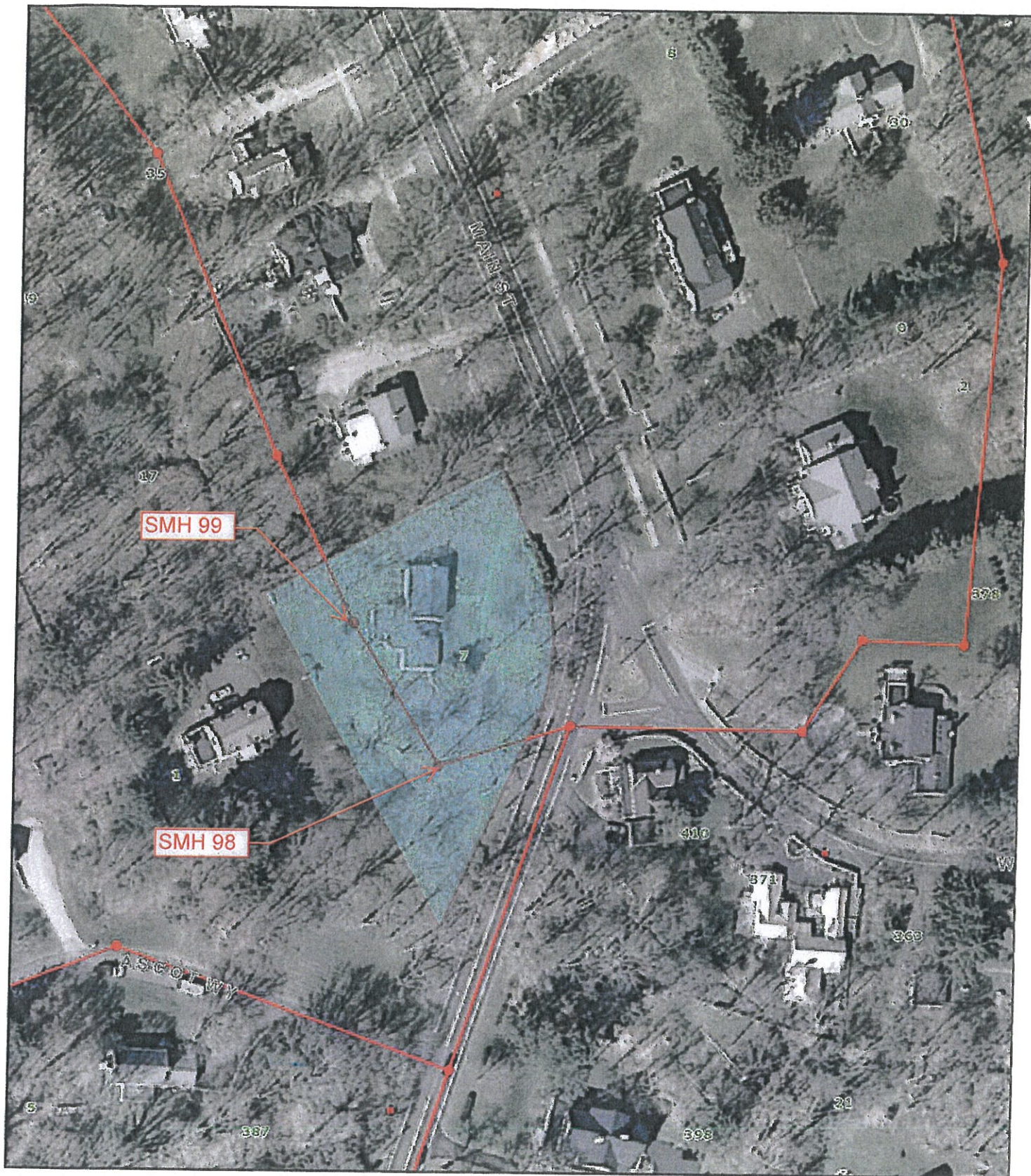
Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff C	Flow (grams)
57 Main St	2	2	1	7	40	17	
7 Main St	2	2	1	7	-	-	

Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Positive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- + Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
7-		Downspout Connection	Yard - Back
8-		Fountain Drain	Yard - Side
9-		Building Drain	Non - Paved
10-		Catch Basin	Creek Bottom
11-		Storm Ditch	Field
12-		Storm Manhole	Golf Course
13-		Sewer Manhole	
14-		Clean out	

Sketch (Show Placement of Blowers, Source, suffix, Drainage Area, Identity Condition)





The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Source 68 - 7 Main Street

5/25/2016 10:37:03 AM



1:1200
1"=100'





**Dye Flooding
Without
CCTV Inspections
July 15, 2016**



500
336

345

Smoke Testing Form

Owner: Ridgefield, CT
 Inspection Date/Time: 10-10-13 0810
 Set Up MH: SMH-8A
 Upstream MH: SMH-8
 Downstream MH: SMH-116

Inspection Crew: mk/ls/jc/th
 Location/Interceptor: Subarea 6
 Map: _____
 Sheet: _____
 Segment Length: 836'

Observations:

Weather/Ground

- ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

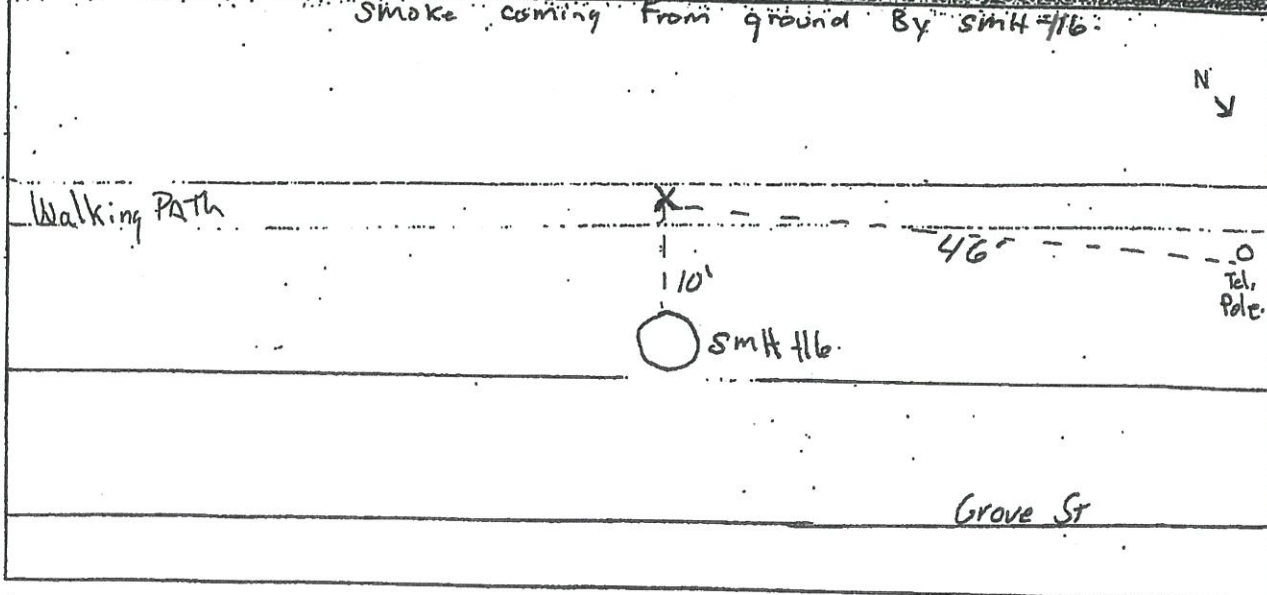
Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff-C	Flow (grams)
SMH-116 - Ground Smoking Area	2	2	1	9	50'	125	

Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Positive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- + Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
7-		Downspout Connection	Yard - Back
8-		Fountain Drain	Yard - Side
9-		Building Drain	Non - Paved
10-		Catch Basin	Creek Bottom
11-		Storm Ditch	Field
12-		Storm Manhole	Golf Course
13-		Sewer Manhole	
14-		Clear-out	

Sketch/Show Placement of Blowers, Source, and Drainage Area and any condition.

Smoke coming from ground by SMH-116







Associates, Inc.

Environmental Monitoring
Pipeline Services
Operations & Maintenance

Date 7/15/16 Project Grove St. Dye Flood Initial S.S.

Dye was introduced onto walking path and a Pool was created. No Dye was visible after a 30-45 minute test. SMH-116 was observed.

Walking Path.

SMH-116

Grove St

**Dye Flooding
without
CCTV Inspections
July 18, 2016**

Smoke Testing Form

Owner: Ridgely, CT

Inspection Crew: MK/ss/TH

Inspection Date/Time: 9-9-13

Location/Interceptor: Subarea 1

Set Up MH: SMH-75

Map: _____

Upstream MH: SMH-75B

Sheet: _____

Downstream MH: SMH-73A

Segment Length: 768'

Observations

Weather/Ground

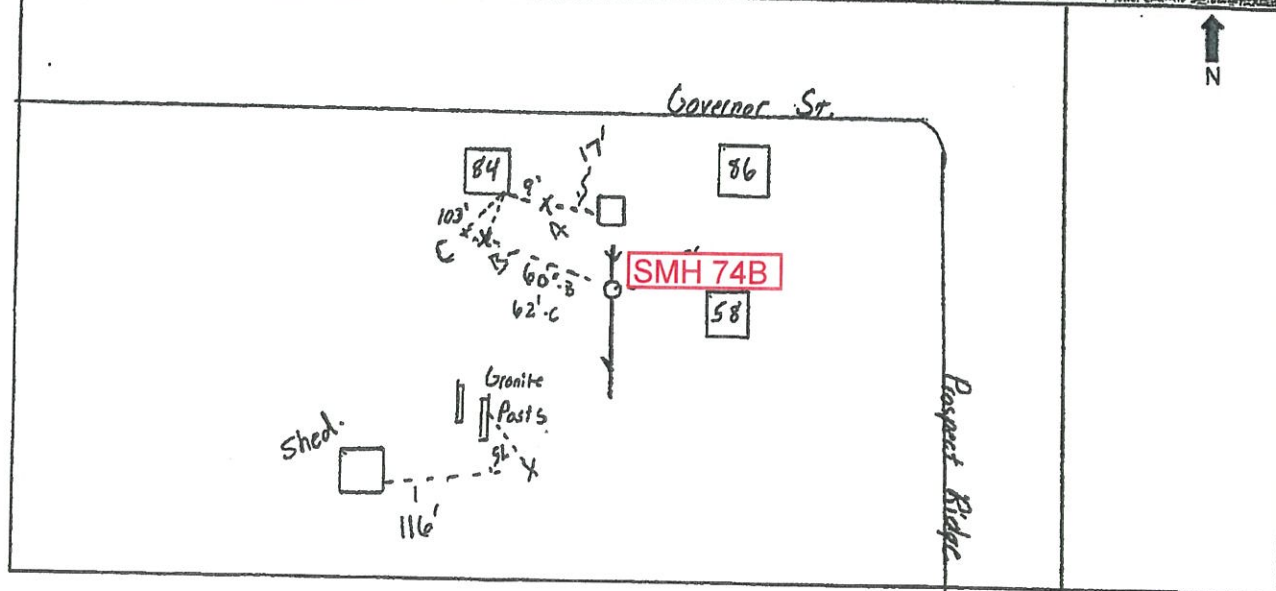
- ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff C	Flow (grams)
84 Governor St. A	2	2	14	7	20'	17	
84 Governor St. B	2	2	14	7	20'	17	
84 Governor St. C	2	2	1	7	10'	17	
58 Prospect Ridge St.	2	2	14	7	20'	17	

Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Positive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- + Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
7-		Downspout Connection	Yard - Back
8-		Fountain Drain	Yard - Side
9-		Building Drain	Non - Paved
10-		Catch Basin	Creek Bottom
11-		Storm Ditch	Field
12-		Storm Manhole	Golf Course
13-		Sewer Manhole	
14-		Clean out	

Sketch (Show Placement of Blowers, Source, suffix, Drainage Area, Identify Conditions)







Associates, Inc.

Environmental Monitoring
Pipeline Services
Operations & Maintenance

Date 7/18/16 Project 84 Governor St. Initial S.S.

We flooded the area around the defect "hole"
with green dye and green dye was found
coming into SMH- 74B through what appeared
to be a possible abandoned service connection.

Governor Street

84

Hole
X:

1" Service

SMH 74B

Fresquet Ridge



Smoke Testing Form

Owner: Ridgefield, CTInspection Crew: mk/ss/TH/LDInspection Date/Time: 9-24-13 1944Location/Interceptor: Sylvan 2Set Up MH: SMH-176A

Map:

Upstream MH: SMH-177A

Sheet:

Downstream MH: SMH-173Segment Length: 839'

Observations

Weather/Ground

- ☒ 1. Dry
☐ 2. Moderate
☐ 3. Wet

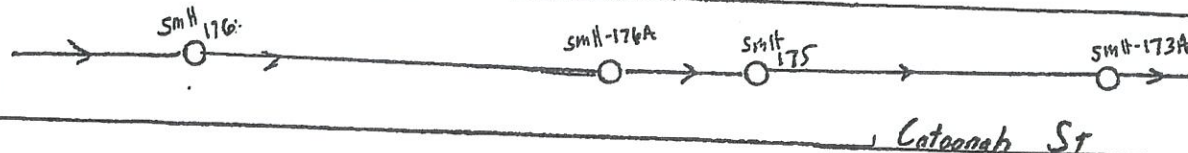
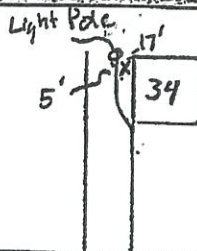
Source Note / Address	Results	Sector	Source Type	Location	Area	Runoff C	Flow (grams)
34 Catoonah St	2	2	1	8	20'		

Codes

Results	Sector	Source Type	Location
1- Negative	Public	Service Connection	Paved Conc.
2- Positive	Private	Driveway Drain	Paved Asph.
3- Cannot Test		Window Well Drain	Driveway
4- + Dye Tested		Stairwell Drain	Sidewalk
5- -Dye Tested		Area Drain	Curb
6- Suspect		Downspout	Yard - Front
7-		Downspout Connection	Yard - Back
8-		Fountain Drain	Yard - Side
9-		Building Drain	Non-Paved
10-		Catch Basin	Creek Bottom
11-		Storm Ditch	Field
12-		Storm Manhole	Golf Course
13-		Sewer Manhole	
14-		Clean out	

Sketch (Show Placement of Blowers, Source, Sump, Drainage Area, Identify Condition)

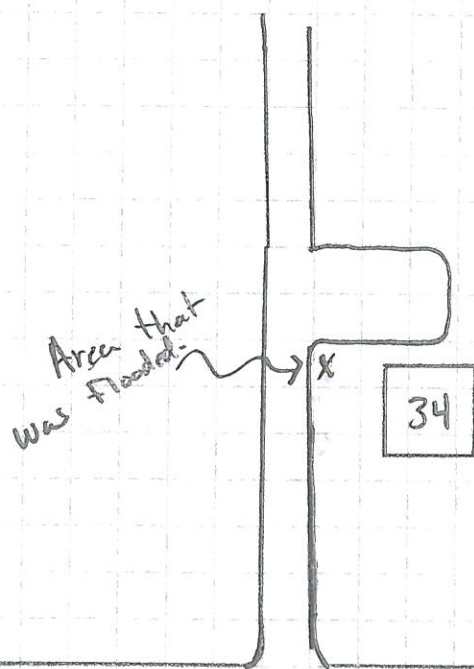
35 Catoonah St has
 2 sump pumps tied
 into the sewer. Smoke
 was observed coming
 from the pits





Date 7/15/16 Project 34 Catoonah St. Initial SS

Defect at 34 Catoonah St. had been repaired prior to doing dye Flood. The defect was caused by a contractor that installed a gas line and punctured a 2" Ejector Pump Line. A dye flood was performed to confirm and no dye was found in the Sanitary Sewer.



smH-176H smH-17J

Catoonah St.

* Not to Scale.