

TOWN OF ESSEX
STORMWATER (MS4) WORKING GROUP
Meeting Minutes
June 10, 2020
Zoom Meeting

The Essex Stormwater (MS4) Working Group Meeting was held on Wednesday, June 10, 2020 by Zoom.

Attendees

Jessica Sypher (Assessor)
William Drouin (Apex Co)
Lisa Fasulo (Health Director)
Rebecca Talamini (MapGeo GIS)
Maria Lucarelli (Selectman's Office)
Robert Doane (Town Engineer)
John Guskowski (Town Planner)

Absent

Ryan Welch (DPW)
Norman Needleman (First Selectman)
Joe Budrow (Planning/Zoning/IWWC/Land Use)

Guest

Annual Report

Lisa Fasulo reported the Town sent in the payment for the annual report and she did receive confirmation the State received it, but the check has not yet cleared. Bill requested that Lisa send him a copy of the green registered receipt card for his files.

General Discussion:

Bill Drouin mentioned the MS4 Tasks for 2004 Permittees (copy attached).

There was discussion on the baseline GCIA, develop a retrofit plan (using more green stormwater management programs, like a retention pod or infiltration gallery), completing a dry weather outfall samples (outfalls that have a discharge) IDDE Program, more detail MS4 mapping, inspect all catch basins. Bill would like to make sure we are hitting our priority areas. The Town of Essex is following the plan and programs. The Town must be demonstrating they are working towards their goals and heading in the right direction.

Bill Drouin reported on that he is always looking for more detail on the MS4 mapping, which the Town is doing.

Lisa Fasulo reported that ZEO Joe Budrow compiled a list of post construction stormwater information from November 2011 to 2019 and produced a list of properties that have done retention and/or retrofit on their property. Bill requested Lisa send him the list for his files.

There was discussion on dry weather outfall sampling. Bill reported that Ryan Welch has this on his list of items to do.

Bill stated the Town should always push for newer / greener stormwater infiltration systems.

Bob Doane inquired if we had to dry weather testing. Bill stated that it should be done if there is a flow, or if there is an illicit discharge. Bob said these are different than the 6 sampling locations in our priority areas. Such as wells in the areas, endangered species issue, etc. We look at the 6 areas and then you move onto the next 6 areas.

Rebecca reported there are 212 catchment areas on her list, and she will forward that list to the group. Rebecca reminded everyone to send her any changes or sketches so she can update the data. Bill said these 212 areas are the ones that should be checked for discharges after 72 hours of dry. Bill said the Town should look at all these outfalls over time and do a few every year. Rebecca did report that most of these have been looked at once already. Bill suggested that Ryan look at all these areas, but to look at them all over time. Maybe do a 1/3 this year, and 1/3 next year, and 1/3 the last year.

DCIA Calculations

Rebecca Talamini reported she received all the DCIA calculations and Essex' general average is 6.75% The goal is to be below 11%. Essex is doing fantastic!!! Bill discussed how the Town came up with the DCIA and discussed the maps, etc. DEP anticipates the Town is not going to meet the goal, but the Town has met the goal. Essex is doing everything that is appropriate. . .

Bill reported the Town still should work towards public participation and work towards reducing MS4, and adding oil water separators, etc. Look at what town facilities we are maintaining, at how many streets are swept, how much sand we use during storms, etc. We still want to do these things, but just monitor them better.

Lisa reported the Town of Essex is in great shape and we are on the right track. We have the right people, in the right place, doing the right thing.

Rebecca did report she went out and took photographs of probably 157 area and only 5 were noted as having some type of flow. Rebecca stated she would send those 5 locations to Ryan to go out and look at them to classify the type of discharge and to see what the outfall looks like or grab a couple of samples from these outflows. And find out whether it is biological, physical, chemical? Bill asked that Ryan reach out to him if he had any questions or needed any assistance.

Attached is the Town of Essex CT DCIA Calculations and the Town of Essex DCIA Map.

Invoices

Jessica asked Rebecca to please get invoices to her before the end of the month or early July. Bill will also submit his invoices prior to July 1 for work to date.

Public Training / Education

Bill reported the next annual report is March or April of 2021 and that Essex needs more public participation.

MapGeo

There was discussion on the pros and cons of making the Town MapGeo layers more public. John asked if he could have access to all the Town layers on MapGeo and he would like to view them. Jessica stated that she would give John the Town login and password to MappGeo. Some of the layers are utilities, signs, hydrants, poles, utilities poles, street signs, water system.

Rebecca and Bill mentioned they are both working from their home offices.

Bill reminded Ryan that he needs to two semi-annual samples, he needs one before March 30 and one before September 30 – (003) discharge to the north of the town garage building. Semi-annual requirements. Lisa stated she would email Ryan to remind him of these requirements.

Pollution Prevention – Training Training Training & Educating

People need to think about where their water is going!

Next Stormwater Meeting: Wednesday, November 18, 2020 at 11:00 am via Zoom

MS4 Tasks for 2004 Permittees

Legend							Permit page	Implementation Deadline	Year 1	Year 2	Year 3	Year 4	Year 5
MCM 1	MCM 2	MCM 3	MCM 4	MCM 5	MCM 6	Monitoring			July 2017 - June 2018	July 2018 - June 2019	July 2019 - June 2020	July 2020 - June 2021	July 2021 - June 2022
Employee stormwater management training program							31	Jul 1 2017	✓	✓	✓	✓	✓
Update and implement public education and outreach program							19	Jul 1 2017	✓	✓	✓	✓	✓
Interdepartmental Coordination plan							26	Jul 1 2017	✓	✓	✓	✓	✓
Site plan review for stormwater practices							26	Jul 1 2017	✓	✓	✓	✓	✓
Site inspections for stormwater practices							26	Jul 1 2017	✓	✓	✓	✓	✓
Receive public input to development projects							26	Jul 1 2017	✓	✓	✓	✓	✓
Notify developers of DEEP construction general permit							26	Jul 1 2017	✓	✓	✓	✓	✓
Track DCIA (additions and subtractions)							30	Jul 1 2017	✓	✓	✓	✓	✓
Citizen reporting program							22	Jul 1 2017	✓	✓	✓	✓	✓
Record illicit discharge abatement activities							23	Jul 1 2017	✓	✓	✓	✓	✓
Maintain Inventory of known SSOs (5 year look back)							App B p2	Oct 30 2017	✓	✓	✓	✓	✓
Post draft Annual Report							21	Feb 15 annually	✓	✓	✓	✓	✓
Submit final Annual Report to DEEP							21	Apr 1 annually	✓	✓	✓	✓	✓
Sweep streets in Priority Areas at least 1x per year							35	none specified	✓	✓	✓	✓	✓
MS4 Property O&M							33	none specified	✓	✓	✓	✓	✓
Log catch basin inspections & cleanings (including volume of material removed)							37	none specified	✓	✓	✓	✓	✓
Develop/implement deicing material SOP							37	none specified	✓	✓	✓	✓	✓
Implement snow/ice SOP to minimize stormwater pollution							37	none specified	✓	✓	✓	✓	✓
Establish catch basin inspection and cleaning schedule							36	Jul 1 2018	✓				
Develop alternate plan for sweeping streets outside Priority Area (if not sweeping < 1x per year)							35	Jul 1 2018	✓				
Develop written IDDE program							22 & App B p4	Jul 1 2018	✓				
Establish IDDE legal authority							23 & App B p5	Jul 1 2018	✓				
Map all MS4 outfalls							23 & App B p2	Jul 1 2019		✓			
Update construction site legal authority							25	Jul 1 2019		✓			
Maintenance plan for SW ponds & treatment structures							30	Jul 1 2019		✓			
Determine baseline DCIA							30	Jul 1 2020			✓		
Develop retrofit plan							32	Jul 1 2020			✓		
Complete dry weather outfall sampling (for high & low priority catchments)							App B p12	Jul 1 2020			✓		
Detailed MS4 mapping							App B p3	Jul 1 2020			✓		
Inspect all catch basins in Priority Areas							36	Jul 1 2020			✓		
Review regulations for LID barriers							27	Jul 1 2021				✓	
Legal authority for SW retention standards							27	Jul 1 2021				✓	
Monitor 6 'worst' outfalls to impaired waters annually							43	Jul 1 2021				✓	✓
Implement projects from retrofit plan							33	Jul 1 2021				✓	✓
Inspect all catch basins outside Priority Areas							36	Jul 1 2022					✓
2% impervious disconnection goal							33	Jul 1 2022					✓
Screen all outfalls to impaired waters							44	Jul 1 2022			50%		✓

Town of Essex CT DCIA Calculations

J&D Civil Engineering delineated catchment areas for each Town owned outfall and some state owned outfalls that interconnected with the Town's system. Once the catchments were delineated, each catchment was evaluated for a level of connectivity based on UCONN's NEMO MS4 DCIA calculation table.

Connectivity Level	Description of Contributing Area	Land use type	Equation	Example for a watershed with 20% impervious cover (IC)
1. Fully Connected (default)	100% storm sewered with all IC	High density mixed use, commercial	None. DCIA% = IC%	20% DCIA
2. Wicked Connected	Mostly storm sewered with curb and gutter, residential rooftops connected to MS4	High density residential, commercial, industrial, institutional	$DCIA\% = 0.4(IC\%)^{1.2}$	$0.4(20)^{1.2} = 14.6\% \text{ DCIA}$
3. Moderately Connection	Mostly storm sewered with curb and gutter, residential rooftops NOT connected to MS4	Medium density residential, commercial, industrial, institutional, open land	$DCIA\% = 0.1(IC\%)^{1.5}$	$0.1(20)^{1.5} = 8.9\% \text{ DCIA}$
4. Sorta Connected	50% storm sewered with some infiltration and residential rooftops not connected to MS4	Low density residential, open land	$DCIA\% = 0.04(IC\%)^{1.7}$	$0.04(20)^{1.7} = 6.5\% \text{ DCIA}$
5. Slightly Connected	Small % of urban area storm sewered or mostly infiltration	Agricultural, forested, natural areas	$DCIA\% = 0.01(IC\%)^2$	$0.01(20)^2 = 4\% \text{ DCIA}$

AppGeo then processed the catchment areas to determine the DCIA for each through the following steps:

1. Calculated size of the catchment area, in acres
2. Calculated amount of impervious cover, in acres, (buildings, roads, sidewalks, parking lots, etc.) within each catchment
3. From those two calculations the impervious cover percent (IC%) could be calculated
4. Using the NEMO equations, the IC% could be filled into the equations, based on the connectivity level determined by J&D, to determine the DCIA %

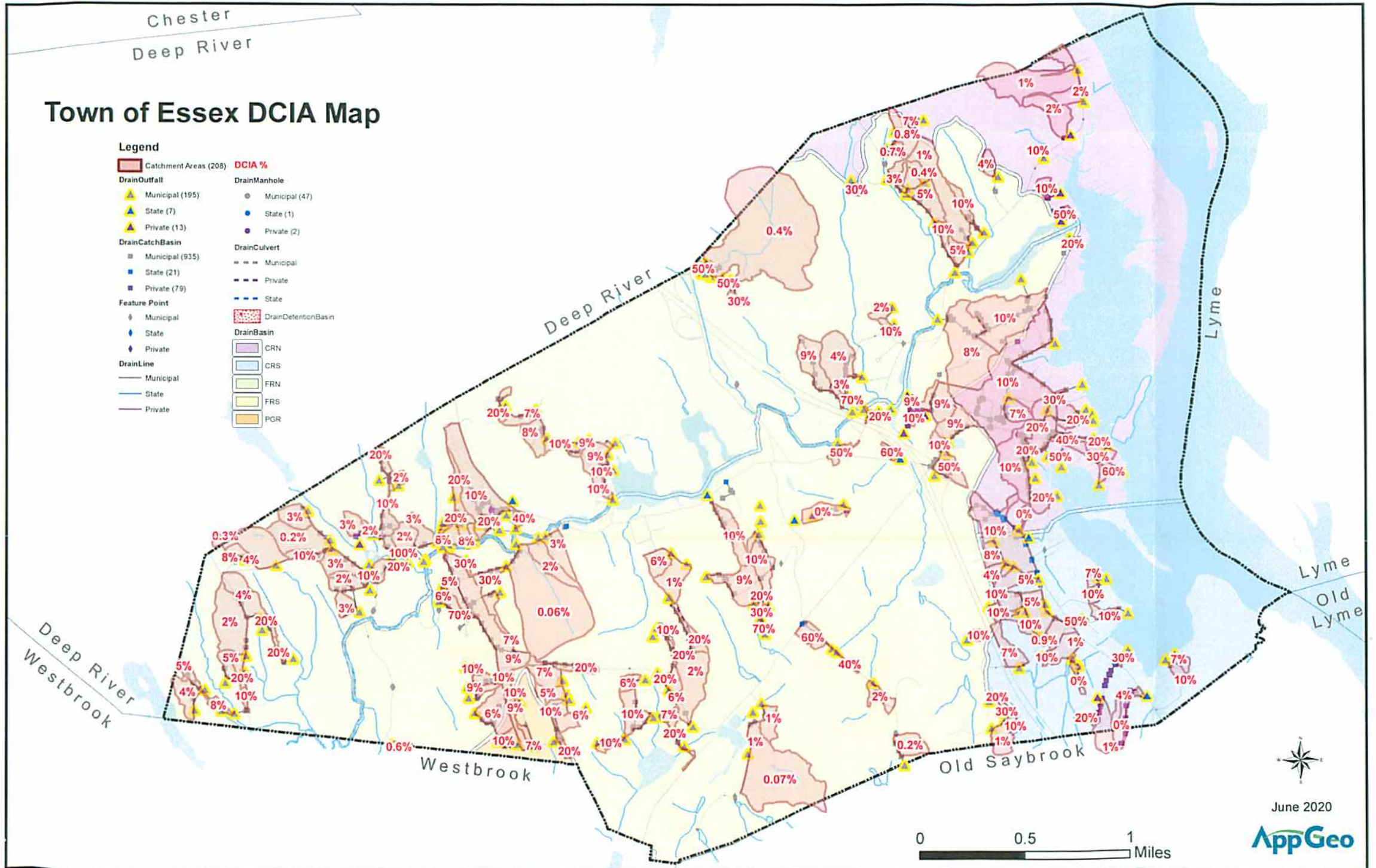
To estimate the DCIA % for the town, the total acres of catchment areas (1507.67 acres) and impervious cover within those catchments (250.52 acres) were used to get the towns IC% (16%). Equation 3 was used as an average for all the catchments to estimate the town's DCIA% to be **6.78%**.

Chester
Deep River

Town of Essex DCIA Map

Legend

Catchment Areas (208)	DCIA %
DrainOutfall	DrainManhole
Municipal (195)	Municipal (47)
State (7)	State (1)
Private (13)	Private (2)
DrainCatchBasin	DrainCulvert
Municipal (935)	Municipal
State (21)	Private
Private (79)	State
Feature Point	DrainDetentionBasin
Municipal	DrainBasin
State	CRN
Private	CRS
DrainLine	FRN
Municipal	FRS
State	PGR
Private	



June 2020

AppGeo