

FINAL MINUTES
HB 1295 COMMISSION TO STUDY THE ISSUE OF
STORMWATER MANAGEMENT

October 6, 2008 10:00am
NH Legislative Office Building, Room 305, Concord, NH

Members Present:

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| Chair: Dari Sassan | NH Office of Energy and Planning |
| Vice Chair: Judith Spang | NH House of Representatives |
| Eber Currier | NH Farm Bureau |
| Karen Ebel | The Nature Conservancy |
| Joe Robertie | NH Timber Owners Association |
| Donald Sienkiewicz | Home Builders and Remodelers Association |
| Newb LeRoy | Associated General Contractors of NH |
| Dave Danielson | NH Association of Regional Planning Commissions |
| Steve Kahl | NH Lakes Association |
| Paul Currier | NH Department of Environmental Services |
| Chris Devine | NH Local Government Center |
| Rob Roseen | University of New Hampshire Stormwater Center |
| Amy Manzelli | Business and Industry Association of NH |
| Carl Paulsen | NH Rivers Council |
| David Cedarholm | NH Public Works Association |

Others Present:

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| Mark Hemmerlein (for Charlie Hood) | NH Department of Transportation |
| Kevin Nyhan | NH Department of Transportation |
| Cordell Johnston | NH Municipal Association |
| Jamey Robichaud | Northeast Concrete Products Association |
| Jennifer Czysz | NH Office of Energy and Planning |

Commission Staff Present:

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| Jillian McCarthy | NH Department of Environmental Services |
| Joel Anderson | NH House of Representatives Staff |

I. ROLL CALL AND INTRODUCTIONS

Chairperson Sassan called the meeting to order at 10:05am. Commissioners, staff, and attendees introduced themselves by name and representation.

II. APPROVAL OF MINUTES FROM SEPTEMBER 4, 2008 MEETING

Mr. LeRoy brought the motion forward to accept the minutes from the September 4, 2008 meeting. **Ms. Ebel** seconded the motion. **All approved and none opposed.**

III. PRESENTATION

Mr. Rob Roseen, Commission member and director of the UNH Stormwater Center, presented a slideshow titled “Stormwater Management, Community Resiliency, and Climate Change” (http://www.nh.gov/oep/legislation/2008/hb1295/documents/stormwater_management_community_resiliency_and_climate_change.pdf). The presentation focused on redefining low impact development practices beyond water quality and small storm management. Stormwater management strategies used to reduce runoff volumes associations with land use changes can also be used to manage the increases in storm depth from climate change. **Mr. Roseen** stated that there are parts of the state that have experienced 20-25% population growth in the last 10 years. Storms in New Hampshire are roughly 30-60% larger, so the design storms used for the last 50 to 100 years are now out of date. This means that much of the infrastructure is under capacity by as much as 35%. To resize the infrastructure would essentially require all of the infrastructure to be replaced, similar to combined sewer overflow (CSO) separation, which is not practical. Instead, focus should be on decreasing the burden on existing infrastructure through stormwater management that reduces runoff volume.

Mr. Roseen explained that conventional stormwater management practices such as retention and detention ponds and other conveyance practices focus on peak runoff control. There is little focus on volume control, achieved by getting water back into the ground. Low impact development designs treat the first inch of runoff, reduce runoff volumes through infiltration, and provide extended detention for smaller storms. Peak runoff control is still done for the larger storms.

Ms. Manzelli asked what is meant by a “1-inch rainfall event”. **Mr. Roseen** explained that 92% of the storms over the last 100 years have been 1-inch or smaller. Stormwater management systems that are sized for a 1-inch storm will capture roughly 90% of the storm flows. The first inch of runoff is the dirtiest so when designing for stormwater treatment, the 1-inch storm is used. From a flooding and public safety perspective, the 25-year storm is still used for peak control.

Mr. Cedarholm asked what **Mr. Roseen** meant earlier when he mentioned municipal resiliency. **Mr. Roseen** explained that lack of resiliency is the inability to adapt to an extreme event. If a municipal infrastructure is at capacity, there is very little resiliency.

Mr. Roseen stated that most stormwater treatment devices fail two-thirds of the time for some water quality constituent. This means the stormwater management strategies used over the last 30 years, which focused primarily on water quantity and flood control, are actually contributing to water quality problems. This has resulted in stormwater management practices degrading water quality. Roughly 66% of the time, the water quality coming out of the system is worse than the water quality going in for some water quality parameter.

The LID subdivision project at Jordan Cove in Connecticut that compared a conventional vs. a LID subdivision was presented. The data from the LID subdivision shows that an increase in impervious surface resulted in no change in runoff volume. There was actually less runoff in the post-development in the LID subdivision. This is what the UNH Stormwater Center has been seeing in their models. This is because sites with existing poor soils are actually creating more storage on site than existed previously. This means that development can occur while still maintaining watershed health and protecting aquatic habitat.

Mr. Sienkiewicz asked how it is possible to increase impervious surfaces and not increase runoff. **Mr. Roseen** explained that this happens by implementing Low Impact Development (LID) techniques that reduce the impact of the impervious surfaces. He also described the difference between the runoff from a conventional parking lot and a porous parking lot and showed the corresponding data from the UNH Stormwater center.

The Commission members discussed porous pavements and posed questions to Mr. Roseen. Concerns were raised on the issue of maintenance, quality control, and cold climate performance. **Mr. Roseen** explained that at the UNH Stormwater Center they expected to see reduced infiltration rates for the porous asphalt parking lot in the winter. Instead the rainfall thawed the frozen media and the pores in the pavement remained open and still had hydraulic capacity. In addition, most vegetated LID systems provide excellent removal in the winter months. The UNH Stormwater Center also observed a tremendous amount of excess salt on their porous asphalt parking lot. They studied the comparison of salt application on conventional versus porous asphalt parking lots and found that less salt, up to 75% less, is needed on porous asphalt parking lots than conventional parking lots. They also found that the braking capability in cold climates is better on unsalted porous asphalt than on salted conventional pavement. **Mr. Roseen** explained that porous pavement installation has an additional cost due to the greater depth of sub-base, but that this additional cost is offset by the reduced cost of catch basins, pipes, and other infrastructure not required in a porous system. Cost savings range from 15-80% for LID versus conventional systems.

Mr. E. Currier asked if porous concrete has the same benefits. **Mr. Roseen** replied that they are similar. Concrete has added structural benefits, but they don't have the cold climate benefit because they are lighter in color than porous

asphalt. They can perform better in cold climates if they are tinted. **Mr. E. Currier** asked if the cost factor is the same. **Mr. Roseen** explained that asphalt has been more competitive than concrete, but asphalt prices are high right now. Concrete is now getting more competitive.

Mr. Paulsen asked if there are options for LID chloride controls. **Mr. Roseen** explained that nothing treats chlorides. Chloride remediation won't be a technology solution. The solution could be an alternative deicer or source control or a switch back to sanding the roads. Management practices can remove sand, but they can't remove chlorides.

Ms. Ebel asked if porous pavements clog with sand. **Mr. Roseen** answered yes and explained that transition areas clog more frequently. **Mr. Cedarholm** asked about porous pavement performance with ice storms. **Mr. Roseen** said that porous lots will ice up too.

Rep. Spang asked about the cost and availability of the pavement itself. **Mr. Roseen** stated that it is approximately 15% higher than conventional. The availability is getting better. Concrete is easier to get.

Mr. Sienkiewicz asked about the use of porous pavement on slopes. **Mr. Roseen** said that he doesn't have good data on slopes, but that it can be designed with "steps" underneath it. There is going to be some point where the infiltration rate, combined with slope, is going to create runoff.

Mr. LeRoy presented the Commission with a document produced by the National Asphalt Pavement Association titled "Porous Asphalt Pavements" and requested that the Commission staff copy the document and send it to the membership.

IV. DISCUSSION OF FUTURE MEETING TOPICS AND DATES

Chairperson Sassan passed around a handout titled "HB1295 Stormwater Commission Action Plan" and proposed a process to complete the duties of the Commission. He proposed that duties a, b, and f are in progress as a result of the presentations and discussion from the September 4, 2008 meeting as well as from recommendations for future presentations. The proposed action plan document outlines a process to complete the remaining duties c, d, and e. **Chairperson Sassan** described the proposed process to the Commission and stated that developing a goal statement could be a first objective and an item to complete during this meeting.

Rep. Spang asked if it would be possible for a copy of the stormwater chapter from the draft Water Resources Primer to be emailed to the Commission members. **Mr. P. Currier** said that he would check, but that it is out to a volunteer review committee right now. After review comments are incorporated

he may be able get it to the Commission. **Rep. Spang** would like to see if there is relevant information in the introductory chapters as well.

Mr. E. Currier asked the Commission to consider looking at the impacts on farmland. **Chairperson Sassan** asked if Mr. E Currier had a proposal to best address that. **Mr. E. Currier** explained that his experience has been with stormwater that goes onto farmland from adjacent development and when the development creates wetlands in places where wetlands are not wanted. **Chairperson Sassan** asked if there is existing research that could be referenced in our interim or final reports. **Mr. E. Currier** said he doesn't have research, but that it is something they are seeing more of, in particular along the Massachusetts border. The farmers in southern New Hampshire have more of a concern than those in the northern part of the state. **Chairperson Sassan** informed Mr. E. Currier that his feedback would be requested on the draft reports to insure that his concerns were represented. **Mr. Cedarholm** suggested that the Commission look at the opposing viewpoint of the impact that agriculture has on stormwater, and suggested looking at the two issues together. **Mr. Roseen** stated that agricultural issues should be looked at in duty b. **Mr. P. Currier** stated that there does exist literature on the impacts of development on agriculture and the impact of agriculture on stormwater because it is a big issue in other parts of the country.

Mr. LeRoy asked if there is anything Mr. P. Currier can do to assist those who need to comply with the MSGP-2008 (Multi-Sector General Permit – 2008). **Mr. P. Currier** said he'll see what he can do.

Chairperson Sassan suggested working on a goal statement for the Commission. **Mr. Danielson** said that he isn't sure of the intent of the legislature, but he has gone over the duties of the Commission and doesn't see an outcome that is requested. All he sees is a study that gets presented. **Chairperson Sassan** proposed that a thorough study includes sound, implementable recommendations. As a starting point for discussion, he suggested a stated goal of bringing to the purview of every landowner, the responsibility for the management of stormwater. On a parcel-by-parcel basis there is no net increase in stormwater from the pre-developed to the post-developed condition or, participation in a stormwater community system, such as a stormwater utility. **Mr. Danielson** said that a similar statement was brought up in the town of Bedford and the residents saw it as a taking of land. He suggested that when structuring language like this, public perception needs to be considered.

Ms. Manzelli asked about the owners that are already regulated and how those regulations interact with other regulations. She would like to see how all of the regulations fit together. **Mr. Danielson** suggested that DES could look at and interpret the federal and state regulations fairly easily. The local regulations also need to be looked at, but that is a much more difficult task because they are great different between the municipalities.

Rep. Spang suggested that the Commission be pragmatic and start from the bottom up to identify the problems, find solutions, and look at the regulations. **Mr. E. Currier** agreed that it is excellent to start from the ground up, but it is a problem when engineers are using the same runoff coefficient for pre-development as for post-development.

Chairperson Sassan suggested that the Commission recognize the different land use and regulatory situations that exist in the state. These include both urban and rural areas, MS4 communities, and development that requires Alteration of Terrain permitting. The Commission could research each situation one by one and ask the questions that Rep. Spang suggested. What are the problems on the ground? What's in place now that is working? What is not working? **Mr. P. Currier** agreed with the approach and added the MSGP-2008 and all other permits that are regulated under EPA's National Pollutant Discharge Elimination System (NPDES) program. He suggested that the Commission consider each of these situations in two parts. 1.) regulations when the landscape changes and 2.) appropriate actions for the built out landscaping as it is – re-development.

Mr. Roseen stated that the Commission needs to address the variability in local government stormwater programs because local control is essential. The state and federal authority represent a fairly small amount of the stormwater management in the state. There needs to be emphasis on producing resources and recommendations for local municipalities. **Chairperson Sassan** mentioned the Innovative Land Use Guidance document with model ordinances for municipalities and suggested that there might be other resources that could be pulled together. **Mr. P. Currier** stated that he thinks that the major issue, especially with small municipalities, is not the availability of resources, but the ability or capacity of the some municipalities to actually use the resources. **Mr. Danielson** stated that the Regional Planning Commissions are a resource for those municipalities. Technical assistance and ordinance development are items that the RPC's could assist with. **Ms. Ebel** added that there is very little going on in rural areas. They are using old methods and she sees a need for model ordinances as well as education at the local level.

Chairperson Sassan directed the members back to setting a goal of the Commission and suggested the goal of bringing the responsibility of stormwater management to every property owner in New Hampshire.

Mr. Sienkiewicz stated that the Commission has talked a lot of recommending model ordinances and increasing education and outreach resources for municipalities, but that local governments have high turnover, are often understaffed, and often have volunteer planning boards. They need more than ordinances and education. He explained that homebuilders who work in more than one municipality have a difficult time with widely varying municipal regulations, and where, as in the stormwater/water quality arena, there is a strong basis in science for uniform regulations across the state, and little justification for

regulations which vary from municipality to municipality, a uniform state regulatory scheme makes sense because it provides predictability in permitting and uniformity in results, and is not dependent on the technical competence or vigilance of a given planning board. Stormwater quality and quantity management is science-based and he feels there is potential for state level regulation. He added that would not see the Commission as a success if education and model ordinances were the only recommendations of the Commission. The Commission members agreed that there need to be recommendations beyond education and resources. **Mr. Roseen** stated that the Commission needs to understand the difficulty with the local government volunteer boards and other municipal government challenges because the bulk of stormwater management occurs at the municipal planning board and zoning board level.

Mr. Kahl made special emphasis that ecology does not acknowledge town borders.

Mr. P. Currier said that he feels the topic is very productive one for the Commission to work on. The state septic system program is a successful example of a statewide program that interacts with municipalities. Those relationships already exist and the Commission should talk about the merits of the process with stormwater.

Mr. Danielson told the Commission that there is more technical ability in the RPC's than people realize. He stated that the public works directors and road agents are very concerned about more regulations coming their way. They are the ones who have to deal with the budget impacts. If the responsibility is moved further away from the towns' authorities, they may become more suspicious. The support should be close to the towns.

Mr. Cedarholm has worked with the city of Durham to develop and ordinance using the DES model ordinance. He had great success bringing it to the planning board, but the ordinance had to be approved by the town council. The town council saw the ordinance as having potential to slow down economic development, which the council doesn't want to do. The council asked if the city could have an ordinance that tells people to develop stormwater management systems that meet state and federal regulations.

Mr. Hemmerlien stated that if regulatory authority is moved from the local to state level, there are some differences that need to be recognized between site development and linear transportation development. There is a big difference in those situations. It is difficult to take site development regulations and apply them to linear projects. Linear project constraints need to be incorporated into the regulations.

Mr. E. Currier suggested the Commission consider that the impact of stormwater in different areas of the state have different value. For example, the

impact of stormwater on farms up north may not as great as the impact on a farm closer to the Massachusetts border. He thinks the towns should be the regulatory authority.

Rep. Spang asked the Commission if they want to start at the level of the regulations or if they want to start where the largest amount of stormwater problems are and then focus on what needs to be done there. **Chairperson Sassan** asked the Commission to look at the situations (e.g., MS4, urban, rural, Alteration of Terrain, MSGP) and tackle each one on a meeting-by-meeting basis to investigate the problems, the barriers, determine what is in place, determine any overlaps in state, federal, and local regulations, and then come up with recommendations for each of those scenarios.

Ms. Manzelli asked if there is room in the proposed process for land uses that aren't listed or don't fit into these categories. **Chairperson Sassan** responded the he hopes the categories will be named in such a way that everything is included.

Mr. Danielson asked if Mr. Roseen were looking at it, wouldn't the problem areas be thought of as those with the most impervious cover and wouldn't those be mostly MS4? **Mr. Roseen** said in most cases that is right, but not always.

Mr. P. Currier suggested going back to the idea of a goal statement and repeated what Chairperson Sassan had proposed to have no net addition of volume or pollutants on a parcel-by-parcel basis. If the Commission could agree on a goal statement, they could then focus on how to accomplish the goal. **Mr. Sienkiewicz** suggested that parcel-by-parcel language might not work. **Chairperson Sassan** agreed that there is a potential for "parcel-by-parcel" to be misunderstood. In a dense village center, you may not need or want to retain the stormwater at that site, but there still is a responsibility of the property owners to participate in a cooperative system such as a stormwater utility. **Mr. P. Currier** agreed and said that this brings up the idea of trading. **Mr. Roseen** suggested the clarification that it is parcel-by-parcel on a watershed basis.

Chairperson Sassan asked the members to go back to the idea of generating a goal statement. **Mr. Kahl** repeated the idea of no net addition in stormwater volume or pollutants for new development and asked what would be the requirement for existing development. Would it require net reductions?

Rep. Spang said that she would like to go for a softer goal such as "work toward approaches for reducing impacts". **Chairperson Sassan** suggested the goal statement, "To bring the responsibility of stormwater management to every landowner in the state of New Hampshire. The net impact of new development will result in no increase in volume or quality from pre-developed conditions." And then a third sentence dealing with existing development.

Mr. Sienkiewicz asked if it is necessary to establish a goal statement. He thinks it may be too early. **Mr. Paulsen** agreed.

Mr. Hemmerlien said that ultimately, the goal of the Commission is to make recommendations to the legislature and to look at existing regulations.

Chairperson Sassan asked the Commission members if they want to go forward with addressing each situation (MS4, urban, rural, Alteration of Terrain (AoT), MSGP) and begin discussions from the ground up, as previously described. The proposed situations would fall under six categories: urban MS4, urban non-MS4, rural AoT, rural non-AoT, MSGP-2008, construction general permit (CGP).

Mr. P. Currier suggested not spending a lot of time on construction phase controls and to focus on post-construction. **Mr. Roseen** agreed. **Mr. LeRoy** disagreed, saying there is some overlap. **Rep. Spang** stated that the failure of federal regulations is a big problem and cited lack of inspections. **Mr. Cedarholm** explained that, from a local ordinance perspective, the construction phase controls are more acceptable than post-construction controls.

Chairperson Sassan asked the Commission to agree to looking at each situation one-by-one and asking the questions outlined in the handout. **Ms. Manzelli** asked to add a question on the regulatory framework for each of the situations according to duty c. of the Commission. All agreed.

Rep. Spang reminded the Commission members that the charge of the commission is not only to look at and make recommendations on regulations. **Chairperson Sassan** agreed that regulations shouldn't be the only focus and stated that, in addition to regulations, the Commission members have discussed education, cap and trade (offset) programs, incentives, seeking funding, Regional Planning Commission involvement, economics, and stormwater utilities, which makes it apparent that the Commission is not focused solely on regulation.

Mr. Danielson stated that the idea of a "rain tax" must be addressed. Some people think that the government has no right to regulate stormwater. There needs to be education. **Rep. Spang** agreed that education should be one of the Commission's recommendations. **Mr. Roseen** asked to add to the list of recommendation the idea of redefining the issue in terms of cost. Cost is the bottom line. If there was a document that shows the economic incentives for early adoption and talks about it in terms of costs and economic incentives there could be greater support. **Rep. Spang** also added that local governments not wanting to limit development and see stormwater management and local controls as limiting need to be addressed. **Mr. Cedarholm** explained that he sees innovative development come forward in Durham without ordinances. If people were only doing what state and federal regulations require (as was suggested by the town council), it would be a big step backward. Innovative design hasn't been a deterrent to development in Durham. It isn't a big cost in the big scheme.

Chairperson Sassan asked for informal agreement to make the topic of future meetings these situations as a way to pull out information in these environments. All agreed. **Rep. Spang** asked to make sure that each land use type is represented. **Chairperson Sassan** suggested that at the end of each meeting, the Commission agrees on each land use will be covered at the next meeting. He asked if the Commission would like to invite Michael Simpson from Antioch for the next meeting. **Mr. P. Currier** asked if the Commission should spend time at the next meeting to go over the existing regulatory framework and the interaction between regulations for each land use. **Mr. Kahl** suggested that DES put together a presentation on regulation for the next meeting. The Commission also agreed to invite NH Fish and Game to present on the wildlife and habitat impacts at the next meeting.

FUTURE MEETING DATE

Chairperson Sassan asked if the first Monday of the month at 1pm works for Commission members to schedule regular meetings. All agreed to this day and time.

| <u>Date</u> | <u>Time</u> | <u>Location</u> |
|-------------|-------------|-----------------|
| November 3 | 1:00pm | LOB 305 |
| December 1 | 1:00pm | LOB 305 |

Chairperson Sassan informed the Commission of the next Land Use Commission meeting date and agenda, which is on October 21 at 9:00 am in room 305 of the Legislative Office Building.

V. DISCUSSION OF INTERIM REPORT

Chairperson Sassan informed the Commission members that he and Jillian McCarthy will work on the interim report, which is due before the Commission meets again. His understanding is that it doesn't need to be lengthy and that if the report clearly describes what has been done so far and lays out a road map for future work the reporting requirements should be fulfilled. He asked the Commission members if it would be OK to submit a draft of the report to the Commission members for their review a week before the report is due. The Commission members gave an informal approval.

VI. ADJOURNMENT

At 12:15pm, **Rep. Spang** brought motion to adjourn forward. **Mr. P. Currier** seconded. **All voted in favor.**