



Buzzards Bay National Estuary Program Drift Road stormwater treatment designs project

Tuesday, August 27, 2013 at 2 PM
Westport Town Hall
Selectmen's meeting room

Joseph Costa, Executive Director, Buzzards Bay NEP, MCZM

Michael Clark, PE, Principal - Polaris Consultants LLC

Visit our website: www.buzzardsbay.org

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Agenda

Tuesday, August 27, 2013
Westport Town Hall, Selectmen's meeting room

2:00 – 2:05	Costa: Welcome, introductions, opening remarks
2:05 – 2:20	Origins of Initiative, problem statement, project goals
2:20 – 2:35	Contract tasks, stormwater treatment easements
2:35 – 2:45	Clark: Background, Polaris services, options to be considered
2:45 – 2:55	All: Question and answer, discussion
3:00 – 3:45	Site Visit

Project Origins

June 2012: The Town of Westport applied to the Buzzards Bay NEP for a \$20,000 technical assistance municipal grant for funding for engineering designs to treat stormwater discharging to the East Branch of the Westport River from Drift Road

November 2012: MA Executive Office of Environmental Affairs announced Westport would receive the technical assistance grant.

The required match: your DPW would dig the necessary test pits and provide municipal staff to participate in the development of the designs.

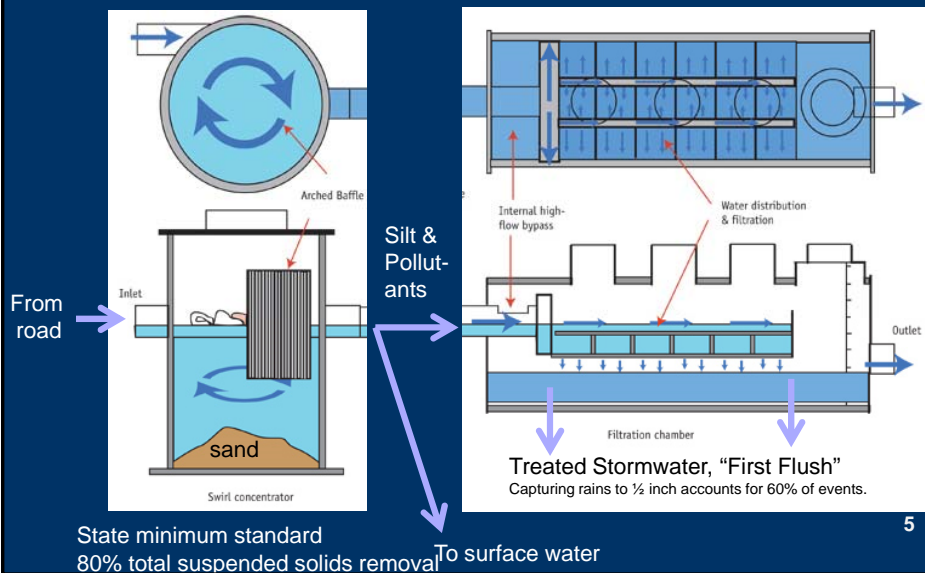
[This was not the first time the Town of Westport applied for a grant. In 2009 we hired Norfolk Ram to develop stormwater designs to treat stormwater discharges from the Westport Middle School. You subsequently received a section 319 grant from Massachusetts DEP in the amount of \$233,930 to construct the stormwater treatment designs.]

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Why stormwater contracts are directly overseen by the BBNEP

Reduce oversight burdens by municipalities

Ensure highest quality of designs and performance



Initial Steps

Important Note: Prior to this project, the culvert at Sam Tripp Brook was washed out and you received disaster relief funding to replace it. However, the designs and construction as implemented were causing erosion problems at the stream crossing.

December- April: Meetings and communication with Con Com, Town Administrator, site visits regarding our project, and to develop a scope for the engineering solicitation. We also gave the town guidance to address problems associated with the culvert.

April 9: RFR for services was issued by Commonwealth

May 30: RFR closes, 5 vendors apply

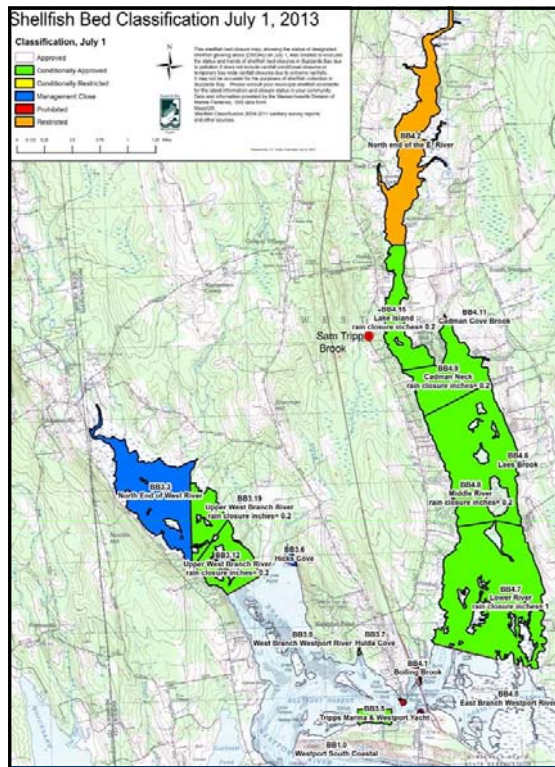
June 12: A five-member selection committee meets in Westport (plus observers). Two of the 5 members represented Westport: Jack Healey, Tony Vieira (BOS). Polaris is the unanimous 1st choice of the panel

July 8: Meeting with Westport officials to discuss project challenges

July 22: Westport BOS affirm they want to continue with this project

August 7: Energy and Environmental approves the Polaris Contract

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Project Goals

The primary goal of the project is to reduce bacterial discharges to the Westport River in order to both prevent expansion or lead to reductions of existing closures in space or time or rainfall amount.

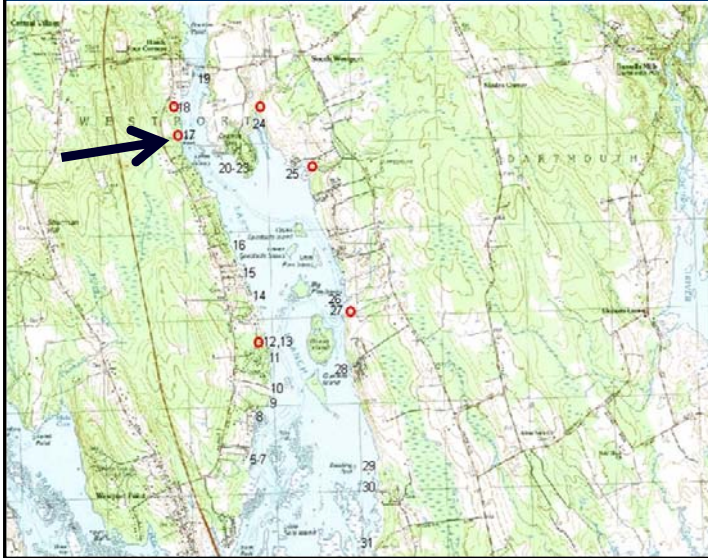
Important secondary goals are to reduce sediments and other pollutants, minimize erosive damage to Sam Tripp Brook, preserve natural stream temperatures

With respect to shellfish bed closures, we recognize no one project in a system the size of the WR will change closure status, but that many similar actions must be taken to reduce pollution discharges.

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Discharge Importance

The MA Div of Marine Fisheries conducts periodic sanitary surveys of shellfish growing areas. In their 2012 annual review DMF noted that of the 31 actual and potential pollution sources on the East Branch, Sam Tripp Brook was one of 6 identified as an actual contributing source.



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Overall Solution and Problems

Best strategy to meet this goal is to reduce, to the greatest extent practicable, the volume of stormwater discharging to the river. This means soaking into the ground (infiltrating) as much stormwater as we can.

Note: Pretreatment systems like swirl separators remove sediments and some pollutants, but do little to reduce bacteria.

Biggest Problems:

Large volume of stormwater on a steep slope with mostly poor soils. Treatment in road layout alone may not meet project goals.



Desirable to treat some stormwater outside of the road layout

Would require drainage easements with possible costs. Permission to dig test pits on private property, etc. We need to understand where the road layout ends in the vicinity of treatment structures.



Contract Details and Oversight

End Date: December 31, 2013

The principal end product to be produced by the vendor is stamped engineer site plans and supporting design calculations to address stormwater runoff.

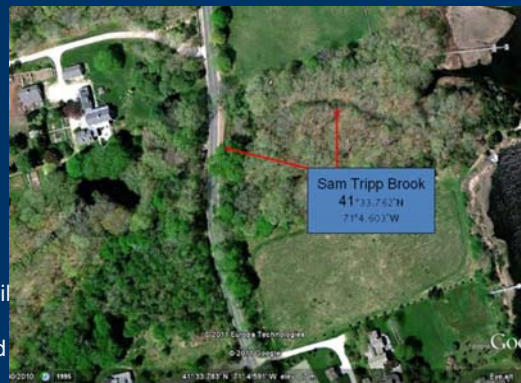
Task 1- Data Inventory, Collection, and Analysis

Plan profiles, determination of contributing areas both pervious and impervious surfaces on private and public property, soil logs and water table. Westport Highway Department will provide the equipment and operator to dig all test pits.

Task 2 – Designs: preliminary, draft final, final

Task 3 – Meetings

- An initial meeting with the Buzzards Bay NEP, staff from the town of Westport and partners to discuss goals and objectives.
- A meeting on the preliminary design.
- A public meeting with the Westport Board of Selectmen to discuss the draft final design plans



Other staff contacts:

Wetland Issues:

John Rockwell,
508.291.3625 x14

Stormwater Designs:

Bernadette Taber
(USDA/NRCS)
508.291.3625 x16

Polaris Consultants

Summary of expertise and understanding brought to the table

Project Manager: Michael F. Clark, PE, LEED-AP

UMass Dartmouth Graduate

Over 25 years experience designing stormwater projects.

Project Manager on the Cohasset LID Project which won a Commonwealth of Massachusetts Smart Growth Award and the US EPA's Performance in the SRF Creating Environmental Success Award

Currently working with the Massachusetts Watershed Coalition, City of Leominster and Town of Wellesley implementing innovative stormwater Quality treatment projects.

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Range of treatment options to be considered.

Bioretention



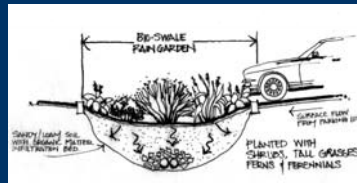
Tree Filter



Infiltration Trench



Bioswale

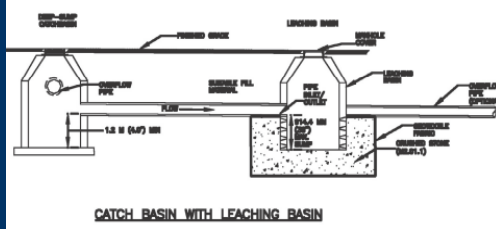


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Range of treatment options to be considered.

Infiltrating Catchbasins

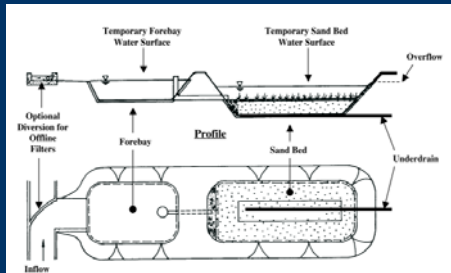


Proprietary media Filters

Wet Basins

Infiltration Basins

Sand Filter



Stormwater Wetland



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Proposed Evaluation Criteria.

- Pretreatment Requirements
- Efficiency in removing bacteria, TSS and nitrogen
- Construction and maintenance costs
- Maintenance with existing Town equipment.
- Stormwater contributory area.
- Ability to infiltrate run-off and need for underdrains.
- Ability to pass large storm events.
- Impact on surrounding infrastructure and property.
- Easements
- Amount of the Water Quality Volume that can be treated.

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