

Lamoille County Conservation District (LCCD) Green Stormwater Infrastructure (GSI) Maintenance Assessment Project Peter Danforth – District Manager LCCD



Project Abstract

- This study looks at all Green Stormwater Infrastructure (GSI) work in Lamoille County that LCCD has participated in either directly or indirectly in the past decade.
- The purpose of the study was to determine what difficulties were encountered to effectively maintain implementations and what recommendations could made to improve maintenance needs.
- These recommendations will hopefully help lead to a template that could be used by other districts in Vermont to assist in their GSI maintenance needs.

Inventory of GSI Sites

- Over the past 10-15 years LCCD has partnered with over 25 partners (municipalities, state agencies, private landowners, businesses, public institutions, contractors, engineers, etc..) to install what can be defined as GSI installations.
- 8 projects were completed during this time with numerous GSI features within each. Of these 8 projects LCCD entered into 5 Memorandum of Agreements (MOUs)



GSI projects ranged from simple to complex



Observations and Recommendations



- Observation: Due to high turnover rates of Conservation District Managers and different filing methods of projects it is difficult to track the history of a project and how it has been maintained.
- Recommendation: Transfer all reports and materials regarding GSI work into one file. Subfolders within this file should be by town and by year. When training a new staff or new district manager be sure they understand your procedure.



Observations and Recommendations

- Observation: Memorandums of Understanding (MOUs) or Operation and Maintenance Agreements (O&Ms) are only good if they are followed to the letter. Often times staff turnover and weak language will end up undermining their purpose.
- Recommendations:
 - Yearly meetings in winter or spring to determine maintenance needs and responsibilities.
 - Does site need maintenance or a retrofit?
 - Volunteer work or contracted work required?





"above ground" or "below ground"

- Observations: A bioretention feature or raingarden will only be effective if a feeling of "ownership" and "value" is in place. An underground infiltration feature may be more costly but requires less maintenance.
- Recommendations: Public perception of a project is important if a District or Watershed Group wants to continue creating "above ground" projects.



Observations and Recommendations

- Observation: Finding help to maintain GSI features with volunteer or contractual work can be complicated and time consuming.
- Recommendations: Try to establish return "groups" to maintain features on an annual basis. Vermont Youth Conservation Corps (VYCC) or Vermont Offenders Work Program (VOWP) are two groups LCCD have used and will continue to use in the future. Conservation Commissions and Library Groups are also good choices.

Post Planting Photo



Final Observation

- Under The Clean Water Act 76, Regional Clean Water Service Providers (CWSPs) will be established in 2021 to identify and implement clean water projects and provide grants to organizations to implement them as part of the regions responsibility to reduce Total Maximum Daily Loads (TMDL) of Phosphorus loading into the Lake Champlain Watershed.
- A certain portion of funding will be applied to O&M of projects. Hopefully the recommendations sited in this study will be considered by the CWSPs as part of the O&M Template