APPENDIX C:

Problem Area Summary Table and Prioritization Matrix

					Water Quality Benefits											
Project Number	**Project Type**	**Location (Landowner)**	**Problem Area Description**	**BMP Type/Description**	**Nutrient Reduction**	**Sediment Reduction**	**Drainage Area**	**Impervious Drainage**	**Connectivity to Surface Waters**	**Landowner Support**	**O&M Requirements**	**Cost and Constructability**	**Additional Benefits**	**Additional Benefits Score**	**Total Score**	**Site Photos**
				Maximum Score	**4**	**4**	**1**	**3**	**3**	**2**	**2**	**6**		**5**	**30**	
LI-1	Road/ Parking/ Ditch Improvement and Maintenance	LI maintenance building (Lyndon Institute)	Runoff from a large rooftop area flows on to a high traffic gravel parking area before draining to a catchbasin, significant rilling was observed along the flow path.	Install a grassed a swale along the fence to separate "clean" runoff from the gravel parking area. **Project Completed 7/2017**	1	3	0	1	3	2	2	6	1, 5, 6, 8	3	21	968, 972
LI-2	Road/ Parking/ Ditch Improvement and Maintenance	Parking area behind LI maintenance building (Lyndon Institute)	Three gullies have formed along the steep bank at the edge of the parking area. Winter plowing has altered the grading so runoff does not drain to the armored swale.	Excavate the loose soil and plowing materials along the edge of the parking lot and install an armored spillway, grade the edge of the parking lot to direct all flow to armored spillways, and create a winter plowing plan to minimize future gully formation.	2	4	0	2	3	1	1	4	1,2	3	20	969-971, 973-976
LI-3a	Road/ Parking/ Ditch Improvement and Maintenance	Parking area between Campbell House and soccer fields (Lyndon Institute)	A stormwater pipe draining portions of Back Center Road and Matty House Circle outlets onto a dirt parking area causing severe rilling and erosion. The pipe is very steep and likely discharges large volumes of water directly onto the unpaved area. The catchbasin along the circle receives sediment from the unpaved road shoulder that is used for parking and as a fire lane.	Excavate the existing compacted soils and Install a grass-lined sediment trap along the edge of the parking area. Install a large rock check dam and a splash apron at the culvert outlet to diffuse the high velocity flow and protect against scour. The sediment trap should be sized to store the WQv storm. The sediment trap will overflow through a second rock check dam in to a grass-lined swale. **Project Completed 7/2017**	3	4	0	1	2	2	1	4	1, 2, 5, 9	4	21	980-982
LI-3b	Road/ Parking/ Ditch Improvement and Maintenance	Firelane along Matty House Circle	An unpaved firelane along the road has been highly compacted by parked cars and is eroding into the storm drain.	Install signage and a row of low paving stones to discourage parking but retain fire lane access. Excavate compacted soils and install an infiltration/filtration trench with an underdrain tied in to the existing stormwater pipe.	1	3	0	1	2	2	1	3	1, 4, 8, 9	4	17	985, 606-607
LI-4a	BMP Installation/ Retrofit	Existing BMP between the Luther B. Harris building and the softball field (Lyndon Institute)	Site grading along the walking paths and parking area do not appear to direct much surface runoff into the dry detention basin.	Regrade the paved paths to direct runoff in to the BMP. E. Outlet structure needs to be lowered by ~6". Additional swales could direct more runoff to the site from adjacent buildings	1	2	0	1	1	2	1	3	4, 6, 8, 9	4	15	990
LI-4b	BMP Installation/ Retrofit	Unpaved circle in front of Hilton Hall (Lyndon Institute)	The circle was intended to be an aesthetic design feature, but fire truck access require most of the edge to be drivable. Currently it is a significant source of sediment and has compacted soils from vehicle traffic. Sediment from this site is likely overloading the infiltration trench.	Extend pavement around the edge of the circle and establish a rain garden type BMP in the center, must maintain emergency vehicle access, but prevent small cars.	1	3	0	2	1	2	0	2	1, 3, 4, 8, 9	5	16	601
LI-5	Road/ Parking/ Ditch Improvement and Maintenance	Parking area along softball field (Lyndon Institute and Town)	Concentrated runoff from the gravel road around the softball field has created several large gullies along the steep valley wall dropping to the stream, the slope appears unstable. Winter plowing is exacerbating the problem and adding large volumes of sediment to the actively eroding areas.	Install a stone lined swale to intercept runoff along the edge of the road and parking area and divert it to a stone lined depression with a stone lined spillway to the stream. Likely not enough space for full treatment, but some sediment settling could be established.	3	4	0	1	3	1	1	2	1, 4, 5	3	18	992-994
LI-6	Road/ Parking/ Ditch Improvement and Maintenance	Large parking area for the softball fields and the Fenton Chester arena (Town)	The 1.4 acre gravel parking lot drains south and is diverted into a water bar that empties into a narrow strip of vegetation along the top of the steep valley wall leading to the stream. Sediment is trapped in the vegetation; however, no additional treatment or slope stabilization measures are in place. A small but active gully was observed along the top of the steep slope.	Install a stone lined settling basin and a stone lined spillway to the stream. The water bar should be improved and stabilized. A stone lined swale or water bar should be installed along the top of the slope extending towards the arena to reduce gully formation	2	4	1	3	3	1	1	4	1, 4, 5	3	22	997-001
LI-7	Road/ Parking/ Ditch Improvement and Maintenance	Large parking area for the softball fields and the Fenton Chester arena (Town)	Erosion is visible along the western edge of the parking lot and a large volume of sediment is delivered to a catchbasin in front of the arena, which is piped directly to the stream.	A grassed swale could be installed along the western edge of the parking lot and the existing catchbasin could be retrofitted with a small rain garden or sediment trap.	1	3	0	2	3	1	1	5	1, 4, 8, 9	3	19	999-001
LI-8	Road/ Parking/ Ditch Improvement and Maintenance	Paved parking area for the auditorium and the Main Building along College Road (Lyndon Institute and Town)	The large paved parking lot and a steep section of College Road drain to a catch basin that drains directly in to Institute Pond. Runoff from portions of the parking area flows across exposed sediment along the edge of the parking lot. Some runoff continues down the steep slope directly in to the pond.	Repair the damaged curb to prevent runoff from flowing over the exposed soil and down the steep slope. Establish vegetation along the bank and install a stone line overflow if necessary. Catchbasin should inspected and cleaned more frequently.	2	1	0	3	3	1	1	4	1, 4, 5, 6	3	18	002-005

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LI-9	Other Erosion	Simpson nature trail (Lyndon Institute)	The network of hiking trails includes several steep sections that lack proper drainage diversions and have areas of deep gullying and erosion. Runoff from these trail sections currently has some treatment before reaching Institute Pond, ongoing erosion will increase sediment and nutrient loading to the pond.	Install water bars and other water diversion and trail stabilization measures. The steepest trail section should be closed and stabilized.	2	3	1	0	1	2	2	6	1, 4	3	20	006-007, 067
LSC-1	Road/ Parking/ Ditch Improvement and Maintenance	Maintenance building parking lot (Lyndon State College)	Sheetflow from buildings and parking lot travels down the steep vegetated bank and into a small depression with a catchbasin. The depression requires frequent cleanout. Minor erosion is visible along the slope.	Install a small rain garden along the top of the slope to intercept and treat runoff. Install a stone lined overflow down the steep bank. The catchbasin grate may need to be lowered slightly.	1	2	0	2	1	2	1	4	4	1	14	922-924
LSC-2	BMP Installation/ Retrofit	Varsity field (Lyndon State College)	A grassed swale (mowed) along the south edge of varsity field collects runoff from the field and portions of College Road. The swale drains in to a catchbasin that empties directly in to Dragon Pond. Portions of the field along the swale are wet year-round and are considered a problem area. The underlying soils for the entire field are D-type and hydric. Fertilizer applications to the field likely result in excess nutrient delivery to the pond.	Implement a "no-mow" buffer along the swale and plant appropriate wetland shrub species to improve nutrient retention and reduce wet areas along the field. Minor excavation to better define the swale would likely improve field conditions. Project may include additional partnership with Health and Safety to include a footpath near the guardrail to keep students off of the road.	4	1	1	1	3	2	2	3	2, 3, 4, 6	4	21	967
LSC-3	BMP Installation/ Retrofit	Stonehenge complex parking lot (Lyndon State College)	A footpath across the swale leading to the dry detention basin is compacted and has bare soil with active erosion. Portions of the parking lot drain directly to this path and vegetation will be hard to establish due to foot traffic. Excess sediment from this site is likely reducing the effectiveness of the existing BMP.	Install a footbridge across the swale and create a defined walking path with a stone and/or hedge border. Till compacted soil and establish vegetation. Boxed infiltration will reduce runoff from the parking lot. **Project Completed 7/2017.**	2	3	1	3	1	2	2	5	1, 3, 4, 8	4	23	933-937
LSC-4	BMP Installation/ Retrofit	McGoff Hill at Dragon Pond (Lyndon State College)	Runoff from McGoff Hill is causing erosion along the road edges and flows directly in to Dragon Pond near the outlet.	Install a grassed swale along the edge of the parking spots along McGoff Hill. Install a gravel wetland at the bottom of the slope with an armored overflow into Dragon Pond. This will require the loss of up to 4 parking spots and will require changes to winter plowing.	2	3	0	2	3	2	1	2	1, 3, 4, 5, 7, 9	5	20	938-942
LSC-5	BMP Installation/ Retrofit	Library Pond (Lyndon State College)	Runoff from paths to the Vail Center is causing erosion along the northwest corner of Library Pond.	Install a defined swale along the paths to better convey runoff and install a small rain garden at the top of the embankment to the pond.	1	2	0	1	3	1	1	5	1, 4	1	15	943
LSC-6	BMP Installation/ Retrofit	Baseball Fields (Lyndon State College)	A grassed swale (mowed) between the two baseball fields collects runoff from a large portion of the fields and drains to an existing low point at the top of the steep bank before spilling over into an armored swale down the steep bank. Nutrient loads from this drainage area likely very high.	Install a rain garden with native shrub plantings in the existing low point. Installation will likely require some additional excavation to enlarge the rain garden and increase capacity. Remove debris from west side to improve overflow conveyance into the armored swale. **Project Completed 7/2017.**	4	1	0	0	2	2	2	6	3, 4, 6, 9	4	21	951-954
LSC-7	BMP Installation/ Retrofit	Faculty and staff parking lot along College Road near baseball fields (Lyndon State College)	Runoff from the baseball fields through the swale described in LSC-6 and from a catchbasin near the concession stand flow down an armored swale to a grassed swale along the southern end of the parking lot. Nutrient loads are very high from this drainage. The southern portion of the parking lot also drains to this area. The culvert under College Road is in poor condition.	Improve the swale along the parking lot and install a gravel treatment wetland to increase nutrient uptake. The installation will remove 2-4 parking spaces from the end of the lot. The CMP culvert under College Road should be considered for replacement during construction. Winter plowing will no longer be able to stockpile snow in this area.	4	2	1	2	2	2	1	2	1, 3, 4, 7, 9	5	21	955-964
LSC-8	Road/ Parking/ Ditch Improvement and Maintenance	College Road near baseball fields	The ditch along the east side of College Road is partially filled and frequently overflows across the road.	The ditch should be excavated and enlarged with check dams installed along the southern portion where slope increases.	1	2	0	1	1	2	1	5		0	13	948-950, 966
LY-1	BMP Installation/ Retrofit	Fastenal loading dock access - Industrial Pkwy (Town/Private)	Runoff from portions of the building roof and the dirt road and parking area flow along the driveway and into the roadside ditch. Some gully erosion and evidence of significant sediment loading. All flow goes to a downslope detention basin.	Install a sediment trap near the end of the driveway with an armored spillways into the ditch.	1	3	0	2	0	0	1	5	8	1	13	042-045
LY-2	BMP Installation/ Retrofit	Corner Medical Industrial Pkwy (Private/Town)	Large area of paved parking and rooftop drain to a grassed swale before crossing under Industrial Pkwy into a wetland. Some areas of erosion along the road edge.	Enhance sediment and nutrient retention within the existing swale with native shrub plantings. Stabilize the eroding road edge with rock.	1	2	0	2	1	0	1	4	5, 8	2	13	048-050

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LY-3	Road/ Parking/ Ditch Improvement and Maintenance	Latter Day Saints Church (Private)	The large parking area associated with the church was covered in winter sand and the two dry wells at the edge of the parking lot are likely receiving more sediment load than they are designed for. The swale between the medical building and the church does not receive any runoff from the church, the back portion of the parking lot drains directly into the floodplain with increased sediment loading.	Implement a parking lot sweeping program and inspect the dry wells and clean as necessary. Assess grading changes to direct parking lot runoff towards the swale. Stockpile plowing snow in the swale area instead of at the top of the bank leading to the floodplain.	0	4	0	2	1	0	1	5	6, 8	2	15	051-056
LY-4	Road/ Parking/ Ditch Improvement and Maintenance	Chamberlain Covered Bridge (Town)	Runoff from the intersection at the south end of the covered bridge is bypassing the storm drain and flowing down the embankment and through a steep yard, causing a large gully. Storm drain flows directly in to the river.	Lower the storm drain inlet and raise pavement to better direct runoff. Assess opportunities for stormwater treatment upslope.	1	3	0	1	3	2	2	4	1, 5, 6	4	20	061-062
LY-5	BMP Installation/ Retrofit	Kingdom Hall of Jehovah's Witnesses (Private)	Runoff from the lower parking area sheetflows directly in to Wheelock Brook. Two small gullies have formed in areas of concentrated runoff. Winter plowing appears to push snow off of the east edge of the lot, directly into the stream and adjacent floodplain.	Install a swale along the edge of the parking lot or consider installation of underground storage vaults to reduce sediment and peak runoff from the parking lot. Pave the overflow parking area.	1	2	0	3	3	0	1	4	1,4,5,7, 9	4	18	057-060
LY-6	BMP Installation/ Retrofit	Butlers Bus Service (Private and State)	Two flow paths split the large gravel parking lot and rooftop drainage delivering sediment to grassed ditch that empties into a Passumpsic River side channel. Severe gullying is visible at the inlet and outlet of both driveway culverts.	Install water bars to direct parking lot runoff to sediment traps located along the edge of the parking lot and near the business sign. Stabilize the ditch near the inlets to stop gully erosion and add stone check dams to concentrate sediment deposition for cleanout.	2	4	1	3	2	1	1	4	1, 5, 8	4	22	219-224
LY-7	Road/ Parking/ Ditch Improvement and Maintenance	White Pine Lane (Town)	Ditches are fairly stable but carry a very large sediment load and are filled. South road edge has extensive erosion dumping sand into swale, and western terminus could use a sediment trap or more frequent cleaning. All stormwater appears to infiltrate.	Fix road crown and stabilize road edge to stop erosion, Install check dams in the southern swale, and install a sediment trap along the western portion of the ditch.	2	3	0	2	0	1	1	4	1, 5, 8	3	16	211-214
LY-8	Road/ Parking/ Ditch Improvement and Maintenance	Lily Pond Rd (Town)	The ditch along the east side of the road is badly eroded and is sending large volumes of sediment into the adjacent intermittent stream. The cross-culvert outlet is unstable and has a large gully along the road edge.	Enlarge and stabilize ditches, establish grass or line with stone based on slope as specified in MRGP guidance. Check dams may be required to facilitate sediment cleanout. Stabilize all gully erosion areas with rock and assess the size of culverts along the ditch. Stabilize the culvert outlet and install a header,	2	4	1	3	3	2	2	6	1, 4, 5	2	25	206-210
LY-9	Road/ Parking/ Ditch Improvement and Maintenance	Horseshoe Circle (Town)	Recently cleaned ditch is very raw and is sending large volumes of sediment into the adjacent wetland. Ditch drops steeply to culvert inlet and has gully erosion.	Stabilize the steep sections of ditch with rock and install a culvert header. Improve cleanout practices for future maintenance.	2	3	0	1	3	1	1	4	5	1	16	215-218
LY-10	BMP Installation/ Retrofit	Tute Hill (Private? Town?)	Runoff from the two private roads and driveway carry large volumes of sediment to the steep swale at the top of Tute Hill Road. The swale is filled with sediment before it drains to the a stream to the north.	Install a sediment trap along the edge of the road before the steep swale. Work with private landowners to stabilize ditches upslope.	1	4	0	2	1	1	1	4	1	2	16	172-176
LY-11	Road/ Parking/ Ditch Improvement and Maintenance	Tute Hill at Route 5 (Village)	The steep section at the bottom of Tute Hill is lacking a ditch along the south side and has an eroding ditch on the north side. Sediment and runoff are reaching Route 5	Install a ditch along the south side of the road and add stone check dams to the north ditch	1	3	0	3	2	1	1	3	5	1	15	169-171
LY-12	Gully Prevention/ Stabilization	South Prospect St (Private)	A very large and steep gully has formed along the steep valley wall. No obvious concentrated flow paths lead to the gully, a stormwater pipe outlet 4' from the top may be increasing erosion.	Conduct an alternatives analysis to identify options for stabilizing the gully and reducing overland and piped runoff to the site. Consider using onsite soils to infiltrate all runoff from catch basin	2	4	0	2	3	1	2	2	1, 5	3	19	571-576
LY-13	BMP Installation/ Retrofit	High St (Village)	Three catch basins draining steep sections of Chase St, High St, and Pinehurst St drain to a settling pond. Significant erosion is visible along the flow path from the Pinehurst outfall. The pond outlet is too low and stone armor at the inlet is insufficient.	Stabilize the channels from the culvert outlets and repair stone step near pond inlet. Clean out the pond and install a new outlet structure with a low flow orifice and raise the elevation of the primary outlet.	3	4	1	3	1	2	2	3	1, 6, 8, 9	4	23	155-168
LY-14	BMP Installation/ Retrofit	Raymond St (Town)	Paved roadside ditch drains a large area that is primarily impervious.	Remove the pavement and install an infiltration swale. Retrofit the catchbasin with an elevated beehive grate.	1	3	0	2	2	1	1	3	4, 6	2	15	547-550
LY-15	BMP Installation/ Retrofit	Hopkins and Sons (Private, possibly some railroad)	A large industrial complex with dirt parking areas partially drains to the southwest corner of the property near the train tracks. Runoff currently flows into a series of catchbasins which appear non-functioning.	Install a stormwater treatment system and grade the site to better direct flow to the BMP. High sediment loads and potential diesel contamination are design considerations.	3	4	1	3	2	0	0	1	1, 4, 5, 6, 9	5	19	551-556

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LY-16	Gully Prevention/ Stabilization	Pinehurst St (Village)	Sheetflow from road drains down a very steep slope to a wetland area. Recent extensive stone armor installation suggests that the slope is unstable. A gully may form along the end of the stone armor.	Assess the site and install more stone armor as needed to protect the slope.	1	3	0	1	2	0	1	3	5	1	12	151-154
LY-17	Road/ Parking/ Ditch Improvement and Maintenance	Trotter Way (Town)	Gravel road with some gullying, unstable culvert inlet and large sediment deposit in lawn at outlet. Runoff and sediment appear to be well treated in the grassed ditch going north.	Stabilize the ditch at the culvert inlet with rock and install a sediment trap at the culvert outlet.	2	2	0	1	1	1	1	4	1, 4, 5, 8	4	16	147-150
LY-18	Road/ Parking/ Ditch Improvement and Maintenance	Strawberry Hill Neighborhood (Town)	Many ditches along Strawberry Hill, Whipple Hill, Fairview Lane, James Way are steep and eroding, Additional gully erosion was observed along the road edge. Several locations of severe gully erosion where the ditch drops sharply to a cross-culvert inlet.	Steep ditches should be stone lined and check dams installed where necessary, following MRGP guidance. Undersized ditches should be enlarged and deepened. Road grading should be improved in areas with excessive erosion along the road edge.	2	4	1	3	2	2	1	4	1, 4, 5	3	22	177-181
LY-19	Road/ Parking/ Ditch Improvement and Maintenance	Whipple Hill Dr (Town)	Several turnouts along the steep dirt road are directing flow and sediment down the steep bank and into a stream.	Install sediment traps at each turnout to collect sediment for easy removal.	1	3	0	1	3	1	1	4	1, 5, 8	2	16	196-198
LY-20	Road/ Parking/ Ditch Improvement and Maintenance	Clover Hollow (Town)	Sheetflow across the road has formed a large gully at a culvert inlet.	Improve road grading to reduce concentrated flow, install rock along steep bank to culvert inlet.	1	3	0	1	3	1	2	5	5	1	17	194-195
LY-21	Gully Prevention/ Stabilization	Highland Circle	A small gully has formed where the roadside ditch empties down a steep bank to the stream. The bank is relatively stable and the gully doesn't appear to be progressing.	Consider stone installation where the gully has formed.	1	2	0	1	3	1	2	3		0	13	190-193
LY-22	Road/ Parking/ Ditch Improvement and Maintenance	Strawberry Hill at Finney Drive (Town/Private)	Huge volumes of sediment are deposited on the lawn adjacent to an intermittent stream channel. Sediment is coming from two different culvert outlets and from gully erosion along the road edge. Additional erosion was observed at the inlet and outlet of the stream culvert under Strawberry Hill Rd. Town has been dealing with erosion issues here for years.	Install a sediment trap at each culvert outlet and grade/stabilize the road edges to reduce gully erosion. The culvert under strawberry hill needs an outlet header and stone armor along the embankment.	2	4	1	2	2	2	1	3	1, 4, 5, 8	4	21	182-189
LY-23	BMP Installation/ Retrofit	Lyndon Town School (Town)	A ditch through the lawn area carries flow out of the wetland connecting to the roadside ditch. Portions of the roof and parking lots drain to the wetland.	Restore sinuosity and flood benches to the ditched area and plant with native wetland vegetation. Assess if more impervious surface runoff can be directed into the wetland.	2	2	1	2	3	2	2	3	3,4,5, 7	4	21	487-488
LY-24	BMP Installation/ Retrofit	Lily Pond Rd (Town/Private)	An asphalt lined ditch carries runoff from a large portion of the Lyndon Town School property and portions of Lily Pond Road. The ditch spills down a steep bank into the stream with	Install a linear treatment feature to infiltrate stormwater and trap sediment and stabilize the outlet channel down to the stream.	2	3	1	3	3	0	1	3	4, 7, 9	3	19	202-205
LY-25	BMP Installation/ Retrofit	Lyndon Town School (Town)	A single outlet pipe carries runoff from a large parking area and discharges to a small sediment basin before overflowing to a mowed swale.	Install a larger infiltration basin at the pipe outlet and likely include a stone lined forebay to dissipate energy from the steep pipe. Reduced mowing along the swale would further increase nutrient and sediment removal.	2	2	1	3	1	1	1	3	3, 4, 8	2	16	492-501
LY-26	Road/ Parking/ Ditch Improvement and Maintenance	Deer Run Ln at Abbey Rd (Town)	The CMP culvert under Deer Run is undersized (50% wbkf) and perched, preventing AOP. The road edge is badly eroded along the downstream culvert header.	Replace the culvert with a larger structure and ensure that appropriate backwater conditions exist for AOP. Stabilize the road edge with a taller header and add stone armor along the road embankment.	1	3	1	1	3	1	1	2	5	1	14	199-200
LY-27	BMP Installation/ Retrofit	Cemetery Circle	The gravel driveway for Cemetery Circle does not have a defined ditch and flow along the northern edge of the road is causing erosion and increased sediment loading to the catch basin along Center Rd.	Install a grassed swale along the northern edge of the road. Assess rooftop drainage to see if additional grading is necessary to capture more runoff.	1	3	0	1	2	1	2	5	4, 6	2	17	9
LY-28	Road/ Parking/ Ditch Improvement and Maintenance	College Road near I-91 (Town)	The north side of the road lacks a defined ditch and surface runoff is causing moderate to severe erosion of the road shoulder. Two turnouts are only partially accessible leading to increased flow along the edge of the pavement. Some runoff and sediment is reaching Institute Pond.	Install a ditch along the north side of the road and improve connection to the existing turnouts. Stone checkdams may be necessary in the steeper sections of the ditch.	1	3	1	2	2	2	2	4	1, 4, 5, 6, 8	4	21	010-013
LY-29	Road/ Parking/ Ditch Improvement and Maintenance	Calista Ave (Town)	The ditches along a moderately steep section of Calista Ave are poorly defined, leading to erosion and rilling. The southern end of the road lacks a cross-culvert and runoff crosses the road causing rilling.	Improve or install ditches on both sides of road, include check dams where appropriate. Install a cross-culvert at southern end of road.	1	4	1	3	2	1	1	4	1, 5	2	19	016-018
LY-30	Road/ Parking/ Ditch Improvement and Maintenance	Mountain View Ln (Town)	Concentrated runoff from the gravel road has created a large gully down the steep embankment to the road ditch at a small intermittent stream crossing under the road.	Improve the road crown to reduce concentrated runoff and install stone along the steep embankment along any flow paths.	1	2	0	1	3	1	1	3	5	1	13	022-

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LY-31	Road/ Parking/ Ditch Improvement and Maintenance	Valley Ln (Town)	The steep ditch along Valley Lane has stone check dams that are buried and has several areas of severe gully erosion along the road edge.	Cleanout ditch and install larger stone check dams, improve road crown to reduce concentrated flow and gully erosion along road edge.	1	3	0	1	1	1	1	4	1, 5	2	14	019-021
LY-32	BMP Installation/ Retrofit	Park and Ride lot at Center St and 122 (Town)	Most of the paved parking lot drains to a low point that is rutted and eroding before flowing in to the adjacent wetland.	Install a rain garden or other small BMP structure to remove sediment and nutrients from the runoff before discharging to the wetland.	1	2	0	2	2	1	1	5	4, 5	2	16	483-486
LY-33	BMP Installation/ Retrofit	Lower Pudding Hill Road at Route 122 (Town/State)	Large area of steep paved road - Pudding Hill Rd drains to a swale before crossing under Route 122 and discharging to a wetland. Moderate erosion along road edge and sediment from driveways.	Enhance the swale to improve sediment and nutrient retention	1	1	1	3	2	1	2	4	4, 8	1	16	136
LY-34	Road/Parking/Ditch Improvement and Maintenance	Shores Hill at Lower Pudding Hill (Town)	Steep road segment with erosion and no ditches. Steep drop to cross-culvert inlet has gully erosion. Storm drain directly connected to intermittent stream draining to wetland.	Install a stone lined ditch to trap sediment upslope of the storm drain. Pave road?	2	4	0	1	3	2	1	4	1, 5	3	20	140-141
LY-35	Road/ Parking/ Ditch Improvement and Maintenance	Shores Hill at Route 122 (Town)	Steep road segment with erosion and no ditches. Stormwater flows across road and empties in to wetland to the southwest. Town appears to have made a temporary	Establish a stone lined ditch along the north side of road and construct a stone lined sediment trap at culvert outlet, pave road?	2	4	0	1	3	2	1	4	1, 5	3	20	137-139
LY-36	Road/ Parking/ Ditch Improvement and Maintenance	Pudding Hill Road (Town)	Steep section of road drains to a poorly formed ditch, gully erosion at culvert inlet	Excavate the ditch and line with stone. Construct stone check dams. Reduce elevation drop from ditch to culvert inlet to prevent gully formation.	2	3	0	2	1	1	1	4	1, 5	2	16	132-134
Rt5-1	Road/ Parking/ Ditch Improvement and	Route 5 at Hoagie's (Town)	Mowed swale drains portions of the parking lot and Route 5 before draining to the river.	Enhance swale function through reduced mowing	1	2	0	1	2	1	2	6	8	1	16	590-591
Rt5-2	BMP Installation/ Retrofit	White's Market parking lot (Private)	Runoff from the parking lot drains to the west and into a poorly defined swale. Several low points collect water and discharge to the river. Soils along the edge of the pavement are extremely compacted.	Identify priority runoff treatment areas and install BMPs to improve sediment and nutrient retention and mitigate peak runoff during smaller storm events. Parking and plowing changes will be required.	1	2	0	3	2	0	1	4	1, 8, 9	4	17	593-595
Rt5-3	BMP Installation/ Retrofit	Dollar General (Private)	Employee parking area (dirt) along the edge of pavement is eroding and sending large volumes of sediment to Broad St. A small infiltration basin located along the road receives some of this runoff.	Improve the function of the infiltration basin and potentially enlarge the basin. Create a stone lined water bar and ditch to intercept all runoff from the gravel parking area.	1	3	0	2	1	0	1	4	1, 5, 8, 9	4	16	586-589
Rt5-4	BMP Installation/ Retrofit	Lyndonville Redemption and Beverage (Private)	A mowed swale between the liquor store and car dealer drains portions of each property and connects to a small wetland.	Excavate the grassed swale and install a treatment wetland connecting to the existing wetland. Stabilize eroding flow paths from rooftop drainage.	2	2	0	2	0	1	1	4	2, 8	2	14	582-584
Rt5-5	BMP Installation/ Retrofit	Behind Kinney Drugs (Village/Railroad)	The large pond and swale system between Route 5 and the railroad could be retrofitted to increase storage capacity.	Install a water level control structure with low flow orifices to increase storage capacity of the existing pond and swales	2	3	1	3	3	0	1	2	2, 5, 8, 9	3	18	577-578
Rt5-6	BMP Installation/ Retrofit	Lyndonville Hardware (Private)	An existing grassed swale north of Lyndonville Hardware flows into the ditch running parallel to the RR tracks and into the large pond system to the south.	Enhance the swale to increase capacity and retention times. Swale could be excavated and/or an inlet control structure could be added to the culvert.	2	2	1	3	1	0	1	4	8	1	15	694-697
Rt5-7	BMP Installation/ Retrofit	CarQuest (Private)	The catchbasin behing CarQuest does not receive runoff from the western portion of the lot and several areas of moderate erosion were observed along roof lines and flow paths.	Install a sediment trap or other small BMP in the green space west of the existing catchbasin.	1	2	0	2	1	0	1	4		0	11	691-693
Rt5-8	BMP Installation/ Retrofit	Hill St at train tracks (Railroad)	A small ditch along the train tracks is carrying high sediment loads to the catchbasin draining directly to floodplain wetlands. Room for a BMP on both sides of road.	Install a sediment trap on both sides of the road at the toe of the slope. Stabilize the outlet to reduce erosion along the tracks.	2	3	0	1	2	0	1	3	1,5	3	15	566-568
Rt5-9	BMP Installation/ Retrofit	Swale along RR tracks behind Cumberland Farms (Village/Railroad)	A stormwater pipe draining portions of Williams St outlets to a grassed swale along the train tracks. All runoff appears to infiltrate.	Infiltration and nutrient/sediment retention could be enhanced with a small raingarden.	1	1	0	1	0	0	2	4	8	1	10	559-560
Rt5-10	BMP Installation/ Retrofit	Lyndon Municipal Offices (Village)	Large catch basin behind municipal office building is the last connection before the large stormwater subwatershed drains to a wet meadow.	Retrofit the catch basin to direct WQV storm to a new treatment area	2	2	1	3	2	1	0	2	4, 5, 9	3	16	533-534
Rt5-11	BMP Installation/ Retrofit	Park Ave at Maple St (Village)	Unpaved parking area for the park is eroding. Low point along the edge of the road receives runoff from park and road, draining to a catchbasin on Maple St. **Storm drainage was added to the site by Lydon Public Works, Summer 2017**	Grade the site to encourage flow into a gravel swale and install a small BMP at the corner of the park. An overflow outlet can tie in to the existing catch basin.	2	3	0	2	2	1	1	4	2, 3, 4, 6, 9	4	19	535-538
Rt5-12	BMP Installation/ Retrofit	Church Road (Village)	The road shoulder has several low areas that are currently poorly covered with grass.	Install tree box filters along the road shoulder	2	2	0	1	2	1	2	2	4, 6, 7, 9	3	15	522-527

					Water Quality Benefits											
Project Number	**Project Type**	**Location (Landowner)**	**Problem Area Description**	**BMP Type/Description**	**Nutrient Reduction**	**Sediment Reduction**	**Drainage Area**	**Impervious Drainage**	**Connectivity to Surface Waters**	**Landowner Support**	**O&M Requirements**	**Cost and Constructability**	**Additional Benefits**	**Additional Benefits Score**	**Total Score**	**Site Photos**
Rt5-13	Other Erosion	Power Park (Village)	The steep forested bank located at the mapped stormwater outlet (not visible) is badly eroded and drains directly into a large forested wetland.	Stabilize the bank and uncover the stormwater outlet.	2	2	0	1	3	1	2	4	0	0	15	510-512
Rt5-14	BMP Installation/ Retrofit	Basin 1 Outlet off of Main St (Private)	The outlet pipe for basin 1 flows through an eroded channel and into a natural swale area within the woods where all stormwater infiltrates. The flow path also receives runoff from the badly eroding ditch along the side of the driveway.	Additional treatment could be provided in the back corner of the cleared yard area, currently filled with Japanese knotweed. A sediment trap forebay at the bottom of the ditch and near the pipe outlet could be cleaned as needed to reduce fine sediment loading into the forest.	3	3	1	3	1	0	1	3	2, 8	1	16	516-521
Rt5-15	BMP Installation/ Retrofit	Commercial Area behind Nick's Gas and Go (Private)	Impervious area consisting of several small commercial buildings and parking area drains to a deep ditch with a narrow tree buffer. The ditch flows east through a culvert to a forested wetland complex that drains north to the river.	Enhance the existing ditch to improve sediment and nutrient retention and allow for cleanouts.	2	2	0	2	2	0	1	4	8	1	14	506-509
Rt5-16	BMP Installation/ Retrofit	Everybuddy's Restaurant - Main St (Private)	Large paved parking lot and some roof area drains to a narrow strip of lawn before reaching the Passumpsic River.	Construct a rain garden or small gravel wetland to treat the parking lot runoff.	2	3	0	2	3	0	1	3	4, 5, 7	2	16	142-143
Rt5-17	BMP Installation/ Retrofit	Lynburke Motel (Private)	Large parking lot and rooftop area for motel drains to two different areas before reaching the roadside ditch and entering a catchbasin.	Install a filter strip or swale along the edge of the parking lot in the existing lawn area. Overflow should be directed to the catchbasin.	2	3	0	2	1	0	1	3	2, 4, 6	2	14	144-146