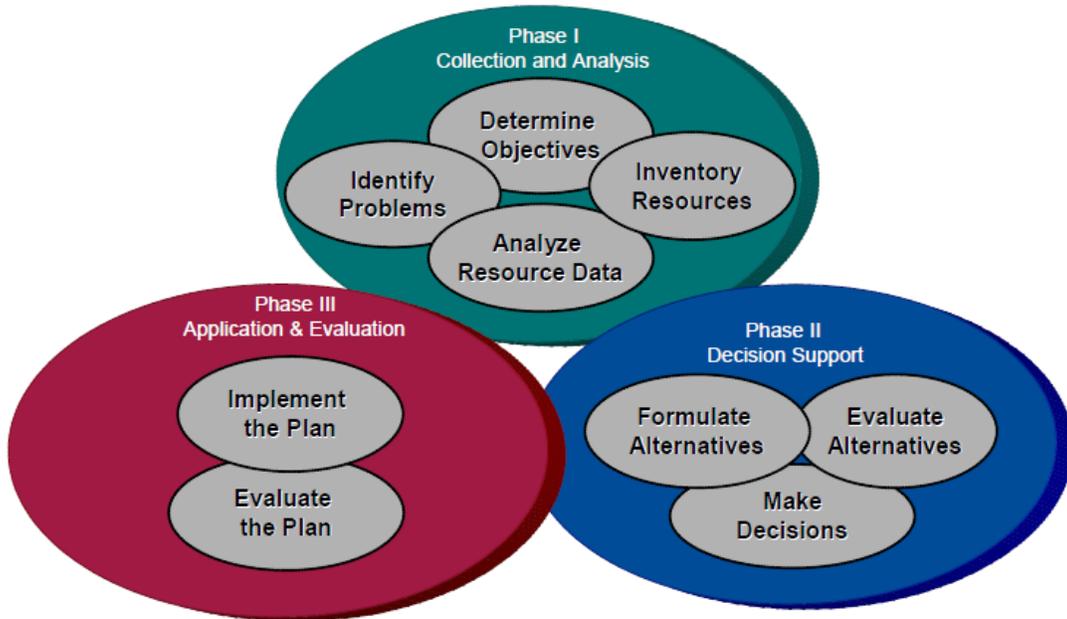


# NRCS Planning Process



**Figure 600-B2:** An illustration of the dynamic nature of the planning process

## Resource Concerns and Conservation Planning Criteria

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Resource Concern - Cause	Description of Concern	Land Use	Resource Concern Component	Planning Criteria		Measurement & Assessment Tools
<p>A resource concern (RC) is an expected degradation of the soil, water, air, plant, or animal resource base to an extent that the sustainability or intended use of the resource is impaired. Because NRCS quantifies or describes resource concerns as part of a comprehensive conservation planning process that includes client objectives, human and energy resources are considered components of the resource base. The "Cause" is the specific reason or threat to the resource that results in the resource concern.</p>		<p>* Required Assessment</p> <p>Range Is Listed Nationally As A Specific Land Use, But Is Not Applicable to VT</p>	<p>For planning purposes, some resource concerns are divided into components where there is a clear distinction in the causal factors, the mitigating actions, and the anticipated environmental effect.</p> <p>** = Not a Resource Concern In Vermont</p>	<p>A planning criterion is a quantitative or qualitative method to assess the existing condition of the natural resources on a site to determine whether additional treatment is needed to address a specific potential resource concern. <b>Planning Consideration</b> - A planning consideration is a description of potential actions or activities that should be considered to help address an identified resource concern and/or to address unintended consequences of an action. Planning considerations are identified for resource concerns when it is not appropriate or technologically feasible to identify specific criteria or a threshold for treatment.</p>		<p>Description of the technology or process for determining if assessment criteria are met.</p> <p><b>R</b> = Required Assessment Tool</p> <p><b>Note: 'Planner Field Assessment' includes written documentation of findings. Use Customer Interview forms section 'Documentation: Visual Assessment Of Resource Concerns'. Customer assistance notes must also always be used to document field visits.</b></p>
				<p><b>Screening Level</b></p> <p>Screening level criteria are defined, when appropriate, to identify sites with conditions that have little or no probability of needing additional treatment to address the specific resource concern. If the site meets the screening level criteria, then no other assessment is needed to document that planning criteria are met on this site. States can delete or edit nationally identified screening criteria to address localized conditions.</p>	<p><b>Basic Assessment Level</b></p> <p>Basic assessment level criteria are used when a site does not meet screening level criteria, or when no screening level criteria are defined. Assessment levels are also used when formulating and evaluating alternatives. National criteria establish the minimum for all sites. States may add state-specific criteria to address local conditions.</p>	

## Resource Concerns and Conservation Planning Criteria

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SOIL	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<b>SOIL EROSION - Sheet, rill, &amp; wind erosion</b>	Detachment and transportation of soil particles caused by rainfall runoff/splash, irrigation runoff or wind that degrades soil quality.	<ul style="list-style-type: none"> <li>• Crop*</li> <li>• Developed Land*</li> <li>• Farmsteads*</li> <li>• Associated Ag Land*</li> <li>• Designated Protected Area*</li> <li>• Other Rural Land*</li> <li>• Pasture*</li> </ul>	Sheet & Rill	Permanent ground cover > 90% and slope < 10%	Water erosion rate ≤ T	<b>R - RUSLE2</b>  Line Transect Residue Measurement (VT Agronomy Technical Note 1)
			Wind **		Wind erosion rate ≤ T	
		<ul style="list-style-type: none"> <li>• Forest*</li> </ul>	Sheet & Rill Wind **	Soil surface organic residue cover > 80%	Site is stable and without visible signs of erosion	<b>R - Planner Field Assessment</b>
<b>SOIL EROSION – Concentrated flow erosion</b>	Untreated classic gullies may enlarge progressively by head cutting and/or lateral widening. Ephemeral gullies occur in the same flow area and are obscured by tillage. This includes concentrated flow erosion caused by runoff from rainfall, snowmelt or irrigation water.	<ul style="list-style-type: none"> <li>• Crop*</li> </ul>	Ephemeral gullies	Ephemeral gullies are not occurring	Conservation practices and managements are in place to prevent or control ephemeral gullies	<b>R - Planner Field Observations / Assessment and measurements where gullies exist, documented using 'VT EGS Erosion Estimator'</b>  Note: This tool will also be used when ephemeral gullies are identified during Food Security Act HEL Compliance planning.
			Classic gullies	Classic gullies are not present	Classic gully management is adequate to stop the progression of head cutting and widening and are offsite impacts are minimized by vegetation and/or structures	
		<ul style="list-style-type: none"> <li>• Forest*</li> <li>• Farmsteads*</li> <li>• Pasture*</li> <li>• Developed Land*</li> <li>• Associated Ag Land*</li> <li>• Designated Protected Area*</li> <li>• Other Rural Land*</li> </ul>	Classic gullies	Classic gullies are not present	Classic gully management is adequate to stop the progression of head cutting and widening and are offsite impacts are minimized by vegetation and/or structures	
<b>SOIL EROSION– Excessive bank erosion from streams shorelines or water conveyance channels</b>	Sediment from banks or shorelines threatens to degrade water quality and limit use for intended purposes.	<ul style="list-style-type: none"> <li>• Crop*</li> <li>• Forest</li> <li>• Developed Land*</li> <li>• Associated Ag Land*</li> <li>• Designated Protected Area*</li> <li>• Water*</li> <li>• Other Rural Land*</li> <li>• Farmsteads*</li> <li>• Pasture*</li> </ul>		Bank erosion commensurate with normal geomorphic processes; or land mgt. not contributing to erosion; and not an objective of the landowner.	For streambanks; 'VT Visual Assessment of Streambank Stability' score of 7 or higher in each category.	<b>R - 'VT Visual Assessment of Streambank Stability Worksheet'</b>  SVAP2
<b>SOIL QUALITY DEGRADATION - Subsidence **</b>	Loss of volume and depth of organic soils due to oxidation caused by above normal microbial activity resulting from excessive water drainage, soil disturbance, or extended drought. This excludes karst / sinkholes issues or depressions caused by underground activities.	<ul style="list-style-type: none"> <li>• Crop</li> <li>• Forest</li> <li>• Associated Ag Land</li> <li>• Designated Protected Area</li> <li>• Pasture</li> </ul>		Histisol soils are not present  <b>OR</b>  Histisols soils are not exhibiting subsidence	Subsidence is adequately managed to meet client's objectives  Note: This resource concern is generally not applicable to Vermont.	<b>R - Planner Field Assessment</b>  Client input
<b>SOIL QUALITY DEGRADATION – Compaction</b>	Management induced soil compaction resulting in decreased rooting depth that reduces plant growth, animal habitat and soil biological activity.	<ul style="list-style-type: none"> <li>• Crop</li> <li>• Forest</li> <li>• Associated Ag Land</li> <li>• Designated Protected Area</li> <li>• Other Rural Land</li> <li>• Pasture</li> </ul>		Soil compaction is not a documented problem  Note: Activities such as tillage or use of heavy equipment often cause soil compaction	Compaction is managed to meet Client's production and management objectives  Note: Clients may not always be aware that compaction is causing problems. If unclear it is recommended to check a few representative fields with proper assessment tool.	<b>R - Planner Observation /Assessment of soil and/or plant condition</b>  <b>R - Client Interview</b>  Soil Probe, Penetrometer or Shovel

## Resource Concerns and Conservation Planning Criteria

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SOIL	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<b>SOIL QUALITY DEGRADATION – Organic matter depletion</b>	Soil organic matter is not adequate to provide a suitable medium for plant growth, animal habitat, and soil biological activity.	• Crop* • Pasture		Permanent ground cover > 80%	SCI > 0	<b>R</b> - RUSLE2
		• Forest		Soil organic matter depletion is not a problem <b>AND</b> Activities do not cause soil organic matter depletion	Soil organic matter is managed to meet Client objectives	<b>R</b> - Planner Observation/Assessment of soil and/or plant condition <b>R</b> - Client Interview
<b>SOIL QUALITY DEGRADATION – Concentration of salts or other chemicals</b>	Concentration of salts leading to salinity and/or sodicity reducing productivity or limiting desired use, or concentrations of other chemicals impacting productivity or limiting desired use.	• Crop • Pasture • Associated Ag Land • Farmsteads	VT - Includes: Dairy operations use and/or disposal methods of Copper Sulfate for livestock hoof treatment	Activities do not cause salinity/sodicity or other chemical concentration concerns	Conservation practices and managements are in place to mitigate on-site effects	<b>R</b> - Planner Field Assessment <b>R</b> - Client Interview Soil diagnostic evaluations (soil tests)
WATER	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<b>EXCESS WATER – Ponding, flooding, seasonal high water table, seeps, and drifted snow</b>	Surface water or poor subsurface drainage restricts land use and management goals. Wind-blown snow accumulates around and over surface structures, restricting access to humans and animals.	• Crop • Forest • Farmsteads • Pasture • Developed Land • Associated Ag Land • Designated Protected Area • Other Rural Land	Ponding and Flooding	Ponding or flooding not a problem <b>AND</b> Activities do not cause ponding/flooding problems	Excess water is managed to meet Client's objectives within regulatory authority	<b>R</b> - Planner Field Assessment <b>R</b> - Client Interview
			Seasonal High Water Table	Seasonal high water table does not cause a problem		
			Seeps	Excess water from seeps does not cause a problem		
<b>INSUFFICIENT WATER – Inefficient moisture management</b>	Natural precipitation is not optimally managed to support desired land use goals or ecological processes.  Note: This is focused on the capture and retention of moisture for crop production.	• Crop • Developed Land • Forest • Associated Ag Land • Designated Protected Area • Pasture		Moisture management is not a problem <b>AND</b> Activities do not cause inefficient moisture management problems	Runoff and evapotranspiration levels are minimized to meet Client's management objectives	<b>R</b> -Planner Field Assessment <b>R</b> - Client Interview
<b>INSUFFICIENT WATER – Inefficient use of irrigation water</b>	Irrigation water is not stored, delivered, scheduled and/or applied efficiently. Aquifer or surface water withdrawals threaten sustained availability of ground or surface water. Available irrigation water supplies have been reduced due to aquifer depletion, competition, regulation and/or drought.	• All*		PLU is not irrigated	Meets clients goal for water use efficiency <b>AND</b> There are no documented problems with water withdrawal from surface waters or aquifers	<b>R</b> -Planner Field Assessment <b>R</b> - Client Interview

## Resource Concerns and Conservation Planning Criteria

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WATER	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<b>WATER QUALITY DEGRADATION: Excess nutrients in surface and ground waters</b>	Nutrients - organic and inorganic - are transported to receiving waters through surface runoff and/or leaching into shallow ground waters in quantities that degrade water quality and limit use for intended purposes.	<ul style="list-style-type: none"> <li>• Crop*</li> <li>• Pasture*</li> </ul>	Excess nutrients in surface water	Organic or inorganic nutrients are not applied	Nutrient and amendment applications are based on soil or tissue tests and nutrient budgets for realistic yields, <b>AND</b> Conservation practices and managements are in place to minimize surface water impacts	R -Planner Field Assessment  R - Client Interview
			Excess nutrients in groundwater	<b>AND</b> PLU is not grazed	Nutrient and amendment applications are based on soil or tissue tests and nutrient budgets for realistic yields <b>AND</b> Conservation practices and managements are in place to minimize groundwater impacts	Nutrient budget/NPM
		<ul style="list-style-type: none"> <li>• Developed Land</li> </ul>	Excess nutrients in surface water	Organic or inorganic nutrients are not applied	Nutrients if applied, are based on a soil test, tissue tests or nutrient budget <b>AND</b> Conservation practices and managements are in place to minimize surface water impacts	R - Planner Field Assessment
			Excess nutrients in groundwater		Nutrients if applied, are based on a soil test, tissue tests or nutrient budget <b>AND</b> Conservation practices and managements are in place to minimize groundwater impacts	R - Client Interview  Nutrient budget/NMP
<b>WATER QUALITY DEGRADATION: Excess nutrients in surface and ground waters (continued)</b>	Nutrients - organic and inorganic - are transported to receiving waters through surface runoff and/or leaching into shallow ground waters in quantities that degrade water quality and limit use for intended purposes.	<ul style="list-style-type: none"> <li>• Other Rural Land</li> <li>• Associated Ag Land</li> <li>• Designated Protected Area</li> <li>• Water</li> <li>• Forest</li> </ul>	Excess nutrients in surface water	Organic or inorganic nutrients are not applied <b>AND</b> PLU is not grazed	Nutrients if applied, are based on a soil test, tissue tests or nutrient budget <b>AND</b> Conservation practices and managements are in place to minimize surface water impacts	R - Planner Field Assessment  R - Client Interview
			Excess nutrients in groundwater	There are no confined livestock areas	Nutrients if applied, are based on a soil test, tissue tests or nutrient budget <b>AND</b> Conservation practices and managements are in place to minimize groundwater impacts	Nutrient budget/NMP
		<ul style="list-style-type: none"> <li>• Farmsteads*</li> </ul>	Excess nutrients in surface water	Organic or inorganic nutrients are not applied or present <b>AND</b> PLU is not grazed	Conservation practices and managements are in place to minimize surface water impacts <b>AND</b> Surface waters are protected from contamination due to runoff and leaching from storage sites, spill and other concentrated sources	R - Planner Field Assessment  R - Client Interview
			Excess nutrients in groundwater	There are no confined livestock areas	Conservation practices and managements are in place to minimize groundwater impacts <b>AND</b> Groundwater is protected from contamination due to runoff and leaching from storage sites, spill and other concentrated sources	R- VT7 Manure Storage Assessment  Nutrient budget

## Resource Concerns and Conservation Planning Criteria

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WATER	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<b>WATER QUALITY DEGRADATION – Pesticides transported to surface and ground waters</b>	Pest control chemicals are transported to receiving waters in quantities that degrade water quality and limit use for intended purposes.	• All	Pesticides transported to surface water	Pesticides are not stored on-farm and are not applied by the client	Pesticides are stored, handled, disposed and managed to prevent runoff, spills, leaks and leaching <b>AND</b> Conservation practices and managements are in place to minimize surface or groundwater impacts	R - Client Interview R - WinPST R- VT2 Pesticide Storage and Handling Assessment Planner Field Assessment
			Pesticides transported to groundwater			
<b>WATER QUALITY DEGRADATION – Excess pathogens and chemicals from manure, bio-solids or compost applications</b>	Pathogens, pharmaceuticals, and other chemicals carried by land applied soil amendments are transported to receiving waters in quantities that degrade water quality and limit use for intended purposes. This resource concern also includes the off-site transport of leachate and runoff from compost or other organic materials of animal origin.	• Crop* • Farmsteads* • Forest • Developed Land • Associated Ag Land • Other Rural Land • Designated Protected Area • Water • Pasture*	Pathogens and chemicals from manure, bio-solids, or compost applications transported to surface water	Potential sources of pathogens or pharmaceuticals are not applied on the land	Organic materials are applied, stored, and/or handled to mitigate negative impacts to surface water sources	R - Planner Field Assessment
			Pathogens and chemicals from manure, bio-solids, or compost applications transported to groundwater	Potential sources of pathogens or pharmaceuticals are not applied on the land <b>AND</b> Animal mortalities are not handled on-farm <b>OR</b> Facilities are constructed and maintained to 316 standard	Organic materials are applied, stored, and/or handled to mitigate negative impacts to groundwater sources <b>AND</b> Animal Mortality Worksheet Score of 2.5 or greater	R - Client Interview R-Animal Mortality Handling Assessment
<b>WATER QUALITY DEGRADATION – Excessive salts in surface and ground waters **</b>	Irrigation or rainfall runoff transports salts to receiving water in quantities that degrade water quality and limit use for intended purposes.	• All	Excessive salts in surface water	Excess salt is not a problem <b>AND</b> Activities do not contribute to excess salt problem	Salt concentrations are managed to mitigate off-site transport to surface waters	N/A **
			Excessive salts in groundwater		Salt concentrations are managed to mitigate off-site transport to groundwater	
<b>WATER QUALITY DEGRADATION – Petroleum, heavy metals and other pollutants transported to receiving waters</b>	Heavy metals, petroleum and other pollutants are transported to receiving water sources in quantities that degrade water quality and limit use for intended purposes.	• All	Petroleum, heavy metals, and other pollutants transported to surface water	Activities do not present the potential for contamination by petroleum, heavy metals and other pollutants	Petroleum, heavy metals or other potential pollutants are stored and handled to avoid runoff to surface water	R -Planner Field Assessment R - Client Interview
			Petroleum, heavy metals, and other pollutants transported to groundwater	Activities do not present the potential for contamination by petroleum, heavy metals and other pollutants	Petroleum, heavy metals or other potential pollutants are stored and handled to avoid leaching to groundwater	R - Vermont NRCS worksheet 'VT4-PetroleumProductStorage'

## Resource Concerns and Conservation Planning Criteria

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WATER	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<b>WATER QUALITY DEGRADATION – Excessive sediment in surface waters</b>	Off-site transport of sediment from sheet, rill, gully, and wind erosion into surface water that threatens to degrade surface water quality and limit use for intended purposes.	<ul style="list-style-type: none"> <li>• Crop*</li> <li>• Developed Land*</li> <li>• Farmsteads*</li> <li>• Other Rural Land</li> <li>• Associated Ag Land</li> <li>• Designated Protected Area</li> <li>• Water</li> <li>• Pasture*</li> </ul>		Permanent ground cover > 90% and slope < 10% <b>OR</b> Ephemeral gullies do not occur and classic gullies are not present <b>OR</b> Tilled crop fields < or = to 3% slope <b>OR</b> Tilled crop fields >3 slope without a direct hydrologic connection to surface waters	Upslope treatment and buffer practices address concentrated flows to water bodies <b>AND</b> Livestock and vehicle water crossings are stable <b>AND</b> Water erosion rate ≤ T <b>AND</b> For tilled cropland, Sediment Indicators Worksheet results in score of 'Good' or better	<b>R</b> - RUSLE2  <b>R</b> - Planner Field Assessment  <b>R</b> - Client Interview  <b>R</b> - VT NRCS Worksheet: Sediment Indicators For Cropland
		<ul style="list-style-type: none"> <li>• Forest*</li> </ul>		There are no untreated sources of erosion <b>AND</b> Streams or shoreline are not on or adjacent to site <b>AND</b> Stream erosion is natural geomorphic process	Upslope treatment and buffer practices address concentrated flows to water bodies <b>AND</b> Heavy use areas are stable <b>AND</b> For streambanks; 'VT Visual Assessment of Streambank Stability' score of 7 or higher in each category.	<b>R</b> - Client input / planner observation <b>R</b> - 'VT Visual Assessment of Streambank Stability Worksheet'
<b>WATER QUALITY DEGRADATION – Elevated water temperature</b>	Surface water temperatures exceed State/Federal standards and/or limit use for intended purposes.	<ul style="list-style-type: none"> <li>• All</li> </ul>		Water courses on or adjacent to the site are not designated by VTDEC as temperature impaired	Existing conservation practices are in place to address water temperature <b>AND</b> VT_Stream Temperature Assessment results in a score of 7 or greater <b>OR</b> [SVAP2 - riparian area quality element score ≥ 5 <b>AND</b> SVAP2 - riparian area quantity quality element score ≥ 5 <b>AND</b> SVAP2 - canopy cover element score ≥ 6	<b>R</b> - Planner Field Assessment  <b>R</b> - Client Interview  <b>R</b> - VT_Stream Temperature Assessment  303(d) List of Impaired Streams  SVAP2  VT ANR Atlas

## Resource Concerns and Conservation Planning Criteria

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PLANT	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<b>DEGRADED PLANT CONDITION – Undesirable plant productivity and health</b>	Plant productivity, vigor and/or quality negatively impacts other resources or does not meet yield potential due to improper fertility, management or plants not adapted to site. This includes addressing pollinators and beneficial insects.	<ul style="list-style-type: none"> <li>• Crop</li> <li>• Farmsteads</li> <li>• Developed Land</li> <li>• Designated Protected Area</li> <li>• Associated Ag Land</li> <li>• Other Rural Land</li> </ul>		Plant production and health is not a client concern	Plants are adapted to the site, meet production goals and do not negatively impact other resources <b>AND</b> Plant damage from wind erosion is below Crop Damage Tolerance levels	<b>R</b> - Planner Field Assessment <b>R</b> - Client Interview Crop Tolerance Table
		<ul style="list-style-type: none"> <li>• Pasture*</li> </ul>		No pasture <b>OR</b> Plant production and plant health/productivity is not a client concern	VT PCS - results in a ranking of 'Good or Very Good'  Plants are adapted to the site, meet production goals and do not negatively impact other resources	<b>R</b> - Vermont NRCS Pasture Condition Score Sheet (PCS) (if plant production is a client concern) <b>R</b> - Planner Field Assessment
		<ul style="list-style-type: none"> <li>• Forest</li> </ul>		Plant production and health is not a client concern	Forest species are adapted to site <b>AND</b> Composition and stand density meets the Client's objectives and production goals	<b>R</b> - Planner Field Assessment <b>R</b> - Client Interview Forest Management Plan Stand Descriptions Silvicultural/Stocking Guides
<b>DEGRADED PLANT CONDITION – Inadequate structure and composition</b>	Plant communities have insufficient composition and structure to achieve ecological functions and management objectives. This includes degradation of wetland habitat, targeted ecosystems, or unique plant communities.	<ul style="list-style-type: none"> <li>• Forest</li> <li>• Designated Protected Area</li> <li>• Associated Ag Land</li> <li>• Water</li> <li>• Pasture</li> </ul>		Plant communities support the intended land use and desired ecological functions	Plant communities contain adequate diversity, composition and structure to support desired ecological functions	<b>R</b> - Planner Field Assessment <b>R</b> - Client Interview Natural Plant Communities Guide(s) 'Wetland, Woodlands, Wildlife' Forest Management Plan Stand Descriptions
<b>DEGRADED PLANT CONDITION – Excessive plant pest pressure</b>	Excessive pest damage to plants including that from undesired plants, diseases, animals, soil borne pathogens, and nematodes. This concern addresses invasive plant, animal and insect species.	<ul style="list-style-type: none"> <li>• Crop</li> <li>• Forest*</li> <li>• Farmsteads</li> <li>• Developed Land</li> <li>• Associated Ag Land</li> <li>• Designated Protected Area</li> <li>• Water</li> <li>• Other Rural Land</li> <li>• Pasture*</li> </ul>		Plant productivity is not limited from pest pressure	Pest damage to plants are below economic or environmental thresholds or client-identified criteria <b>AND</b> Plant pests, including noxious and invasive species are managed to meet client objectives	<b>R</b> - Planner Field Assessment <b>R</b> - Client Interview Forest Management Plan

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PLANT	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<p><b>DEGRADED PLANT CONDITION– Wildfire hazard, excessive biomass accumulation</b> **</p>	<p>The kinds and amounts of fuel loadings - plant biomass - create wildfire hazards that pose risks to human safety, structures, plants, animals, and air resources.</p>	<p>• All</p>		<p>Wildfire hazard is not a concern</p>	<p>Fuel loads and fuel ladders are managed to provide defensible space and meet client objectives</p>	<p>N/A **</p>
ANIMAL	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<p><b>INADEQUATE HABITAT FOR FISH AND WILDLIFE – Habitat degradation</b></p>	<p>Quantity and quality of food is inadequate to meet requirements of identified fish, wildlife or invertebrate species.</p>	<p>All with “wildlife” modifier - (Required when Land Use has a wildlife modifier)</p>	<p>Quantity, quality of food is inadequate to meet requirements of identified fish, wildlife or invertebrate species</p>	<p>Landowner has no fish and wildlife habitat objective for the land unit  * Planner must still inform the landowner about the potential habitat importance and opportunities for their land. See Required Assessment Tool Client Interview: Additional Interview Notes.</p>	<p>Habitat resource concerns (limitations to wildlife), target species/habitats, and plan alternatives are identified and documented within the Wildlife Habitat Plan. <b>OR</b>  WHSI rating <math>\geq 0.7</math>(for all NRCS habitat models used) <b>AND</b> (when surface stream present) [SVAP2 – fish habitat complexity element score <math>\geq 7</math> <b>AND</b> SVAP2– aquatic invertebrate habitat element score <math>\geq 7</math>] <b>OR</b> Conservation practices and management are in place that meet or exceed species or guild-specific habitat model thresholds <b>OR</b> Food is available in quality and extent to support habitat requirements for the species of interest</p>	<p><b>R</b> - Planner Field Assessment  *<b>R</b> - Client Interview: 'Additional Customer Interview Notes:' section of the Customer Interview form is completed and client is provided information regarding wildlife benefit opportunities  <b>R</b> - Wildlife Habitat Plan Template  Species-specific wildlife habitat assessment tools  SVAP2  Generalized WHSI Index finalized by States, and detailed models by selected species and habitat type</p>
<p><b>INADEQUATE HABITAT FOR FISH AND WILDLIFE – Habitat degradation</b> (continued)</p>	<p>Quantity, quality or connectivity water is inadequate to meet requirements of identified fish, wildlife or invertebrate species.</p>	<p>All with “wildlife” modifier - (Required when Land Use has a wildlife modifier)</p>	<p>Quantity, quality of water is inadequate to meet requirements of identified fish, wildlife or invertebrate species</p>	<p>Landowner has no fish and wildlife habitat objective for the land unit  * Planner must still inform the landowner about the potential habitat importance and opportunities for their land. See Required Assessment Tool Client Interview: Additional Interview Notes.</p>	<p>Habitat resource concerns (limitations to wildlife), target species/habitats, and plan alternatives are identified and documented within the Wildlife Habitat Plan. <b>OR</b>  WHSI rating <math>\geq 0.7</math> (for all NRCS habitat models used) <b>AND</b> (when surface stream present) SVAP2 – aquatic invertebrate habitat element score <math>\geq 7</math> <b>OR</b> Conservation practices and management are in place that meet or exceed species or guild-specific habitat model thresholds <b>OR</b> Water is available in quality and extent to support habitat requirements for the species of interest</p>	<p><b>R</b> - Planner Field Assessment  *<b>R</b> - Client Interview: 'Additional Customer Interview Notes:' section of the Customer Interview form is completed and client is provided information regarding wildlife benefit opportunities  <b>R</b> - Wildlife Habitat Plan Template  Species-specific wildlife habitat assessment tools  SVAP2  Generalized WHSI Index finalized by States, and detailed models by selected species and habitat type</p>

**Resource Concerns and Conservation Planning Criteria**

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ANIMAL	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<p><b>INADEQUATE HABITAT FOR FISH AND WILDLIFE – Habitat degradation (continued)</b></p>	<p>Quantity, quality of cover and shelter is inadequate to meet requirements of identified fish, wildlife or invertebrate species.</p>	<p>All with “wildlife” modifier - (Required when Land Use has a wildlife modifier)</p>	<p>Quantity and quality of cover and shelter is inadequate to meet requirements of identified fish, wildlife or invertebrate species</p>	<p>Landowner has no fish and wildlife habitat objective for the land unit</p> <p>* Planner must still inform the landowner about the potential habitat importance and opportunities for their land. See Required Assessment Tool Client Interview: Additional Interview Notes.</p>	<p>Habitat resource concerns (limitations to wildlife), target species/habitats, and plan alternatives are identified and documented within the Wildlife Habitat Plan. <b>OR</b></p> <p>WHSI rating <math>\geq 0.7</math> (for all NRCS habitat models used) <b>AND</b> (when surface stream present) [SVAP2 – barriers to movement element score <math>\geq 7</math> <b>AND</b> SVAP2 – fish habitat complexity element score <math>\geq 7</math> <b>AND</b> SVAP2–aquatic invertebrate habitat element score <math>\geq 7</math> ] <b>OR</b></p> <p>Conservation practices and management are in place that meet or exceed species or guild-specific habitat model thresholds</p> <p><b>OR</b></p> <p>Cover is of available quality and extent to support habitat requirements for the species of interest</p>	<p><b>R</b> - Planner Field Assessment</p> <p><b>*R</b> - Client Interview: 'Additional Customer Interview Notes:' section of the Customer Interview form is completed and client is provided information regarding wildlife benefit opportunities</p> <p><b>R</b> - Wildlife Habitat Plan Template</p> <p>Species-specific wildlife habitat assessment tools</p> <p>SVAP2</p> <p>Generalized WHSI Index finalized by States, and detailed models by selected species and habitat type</p>
<p><b>INADEQUATE HABITAT FOR FISH AND WILDLIFE – Habitat degradation (continued)</b></p>	<p>Quantity, quality of space is inadequate to meet requirements of identified fish, wildlife or invertebrate species.</p>	<p>All with “wildlife” modifier - (Required when Land Use has a wildlife modifier)</p>	<p>Habitat continuity and/or space is inadequate to meet requirements of identified fish, wildlife or invertebrate species</p>	<p>Landowner has no fish and wildlife habitat objective for the land unit</p> <p>* Planner must still inform the landowner about the potential habitat importance and opportunities for their land. See Required Assessment Tool Client Interview: Additional Interview Notes.</p>	<p>Habitat resource concerns (limitations to wildlife), target species/habitats, and plan alternatives are identified and documented within the Wildlife Habitat Plan. <b>OR</b></p> <p>WHSI rating <math>\geq 0.7</math> (for all NRCS habitat models used) <b>AND</b> (when surface stream present) [SVAP2 – barriers to movement element score <math>\geq 7</math> <b>AND</b> SVAP2–aquatic invertebrate habitat element score <math>\geq 7</math> ] <b>OR</b></p> <p>Conservation practices and management are in place that meet or exceed species or guild-specific habitat model thresholds</p> <p><b>OR</b></p> <p>The connectivity of habitat components are adequate to support stable populations of targeted species</p>	<p><b>R</b> - Planner Field Assessment</p> <p><b>*R</b> - Client Interview: 'Additional Customer Interview Notes:' section of the Customer Interview form is completed and client is provided information regarding wildlife benefit opportunities</p> <p><b>R</b> - Wildlife Habitat Plan Template</p> <p>Species-specific wildlife habitat assessment tools</p> <p>Species-specific wildlife habitat assessment tools</p> <p>SVAP2</p> <p>Generalized WHSI Index finalized by States, and detailed models by selected species and habitat type</p>

## Resource Concerns and Conservation Planning Criteria

10/1/2013 VT

ANIMAL	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<b>LIVESTOCK PRODUCTION LIMITATION – Inadequate feed and forage</b>	Feed and forage quality or quantity is inadequate for nutritional needs and production goals of the kinds and classes of livestock.	• All with “grazed” modifier (Applicable when Land Use is grazed)			Livestock forage, roughage and supplemental nutritional requirements addressed.	<b>R</b> - Planner Field Assessment <b>R</b> - Client Interview VT NRCS Livestock Forage Balance worksheets.
<b>LIVESTOCK PRODUCTION LIMITATION – Inadequate livestock shelter</b>	Livestock lack adequate shelter from climatic conditions to maintain health or production goals.	• All with “grazed” modifier (Applicable when Land Use is grazed)			Artificial or natural shelters meet animal health needs and client objectives.	<b>R</b> - Planner Field Assessment <b>R</b> - Client Interview
<b>LIVESTOCK PRODUCTION LIMITATION – Inadequate livestock water</b>	Quantity, quality and/or distribution of drinking water are insufficient to maintain health or production goals for the kinds and classes of livestock.	• All with “grazed” modifier (Applicable when Land Use is grazed)			Water of acceptable quality and quantity adequately distributed to meet animal needs.	<b>R</b> - Planner Field Assessment <b>R</b> - Client Interview
ENERGY	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<b>INEFFICIENT ENERGY USE – Equipment and facilities</b>	Inefficient use of energy in the Farm Operation increases dependence on non-renewable energy sources that can be addressed through improved energy efficiency and the use of on-farm renewable energy sources. As an example, this concern addresses inefficient energy use in pumping plants, on-farm processing, drying and storage.	• All		Client is not interested in improving equipment and facilities energy efficiency	A USDA approved energy audit been implemented that address equipment and facilities to meet client objectives <b>OR</b> On-farm renewable energy and/or energy conserving practices have been implemented to meet client objectives	<b>R</b> - Planner Field Assessment <b>R</b> - Client Interview USDA approved Energy Audit NRCS Energy Estimator
<b>INEFFICIENT ENERGY USE – Farming/ranching practices and field operations</b>	Inefficient use of energy in field operations increases dependence on non-renewable energy sources that can be addressed through improved efficiency and the use of on-farm renewable energy sources.	• All		Client is not interested in improving energy use in farm and ranch field operations	A USDA approved energy audit been implemented that address field operations to meet client objectives <b>OR</b> On-farm renewable energy and/or energy conserving practices have been implemented to meet client objectives	<b>R</b> - Planner Field Assessment <b>R</b> - Client Interview USDA approved Energy Audit NRCS Energy Estimator Conservation on the Farm Checklist (CSP Farmer Self-evaluation)

## Resource Concerns and Conservation Planning Criteria

10/1/2013 VT

AIR	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<b>AIR QUALITY IMPACTS - Emissions of Particulate Matter - PM - and PM Precursors</b>	Direct emissions of particulate matter - dust and smoke -, as well as the formation of fine particulate matter in the atmosphere from other agricultural emissions - ammonia, NOx, and VOCs - cause multiple environmental impacts, such as: - The unintended movement of particulate matter - typically dust or smoke - results in safety or nuisance visibility restriction. - The unintended movement of particulate matter and/or chemical droplets results in unwanted deposits on surfaces. - Increased atmospheric concentrations of particulate matter can impact human and animal health and degrade regional visibility.	<ul style="list-style-type: none"> <li>• Crop</li> <li>• Pasture</li> <li>• Forest</li> <li>• Other Rural Land</li> <li>• Associated Ag Land</li> <li>• Designated Protected Areas</li> <li>• Developed Land</li> <li>• Farmsteads</li> </ul>		Activities are not present that contribute to agricultural source PM or PM precursor emissions PM Producing Activity Examples: • Prescribed Burn is conducted • Travel ways unpaved or untreated with binding agents • Engines (combustion source) • Tillage • Pesticides are applied • Fertilization (manure/ commercial) • CAFO/manure management) <b>AND</b> Episodes or complaints of emissions of PM (dust, smoke, exhaust, etc.), or chemical drift have not occurred	PM and PM Precursor emissions are managed to meet client objectives	R - Planner Field Assessment  R - Client Interview
<b>AIR QUALITY IMPACTS - Emissions of Greenhouse Gases - GHGs</b>	Emissions increase atmospheric concentrations of greenhouse gases.	<ul style="list-style-type: none"> <li>• All</li> </ul>		Activities are not present that produce GHGs emissions GHG Producing Activities: •Fertilization (manure/commercial) •CAFO/manure management •Engines (combustion source) •Tillage <b>AND</b> GHGs are not regulated in this planning area	Greenhouse gas emissions are managed to meet client objectives	R - Planner Field Assessment  R - Client Interview
<b>AIR QUALITY IMPACTS - Emissions of Ozone Precursors</b>	Emissions of ozone precursors - NOx and VOCs - resulting in formation of ground- level ozone that cause negative impacts to plants and animals.	<ul style="list-style-type: none"> <li>• All</li> </ul>		Operations are not present that produce ozone precursor emissions Ozone precursor producing activities: • Engines (combustion source) • Pesticide application • Burning • CAFO/manure management • Fertilization (manure /commercial)	Ozone precursor emissions are managed to meet client objectives	R - Planner Field Assessment  R - Client Interview

## Resource Concerns and Conservation Planning Criteria

10/1/2013 VT

AIR	Description	Land Use	Component	Screening	Assessment Level	Assessment Tools
<b>AIR QUALITY IMPACTS - Objectionable odors</b>	Emissions of odorous compounds - VOCs, ammonia and odorous sulfur compounds - cause nuisance conditions.	<ul style="list-style-type: none"> <li>• Crop</li> <li>• Pasture</li> <li>• Farmsteads</li> <li>• Other Rural Land</li> </ul>		Activities are not present that contribute to odor nuisance air quality conditions Odor nuisance producing activities: <ul style="list-style-type: none"> <li>• Pesticide application</li> <li>• CAFO / manure management</li> <li>• Composting is conducted</li> </ul> <b>AND</b> Odor sources are not regulated in this planning area <b>AND</b> Episodes or complaints of odor nuisance have not occurred	Odors are managed to meet client objectives <b>AND</b> Odors are managed to reduce or eliminate concerns/complaints from the general public	<b>R</b> - Planner Field Assessment  <b>R</b> - Client Interview  Olfactory Assessment

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**FILTER STRIP**

(Ac.)

**CODE 393**

**DEFINITION**

A strip or area of herbaceous vegetation that removes contaminants from overland flow.

State-listed noxious plants will not be established in the filter strip. Filter strips shall not be used as a travel lane for equipment or livestock.

**PURPOSE**

- Reduce suspended solids and associated contaminants in runoff.
- Reduce dissolved contaminant loadings in runoff.
- Reduce suspended solids and associated contaminants in irrigation tailwater.

***Additional Criteria to Reduce Suspended Solids and Associated Contaminants in Runoff***

The filter strip will be designed to have a 10-year life span, following the procedure in the Agronomy Technical Note No. 2 (Using RUSLE2 for the Design and Predicted Effectiveness of Vegetative Filter Strips (VFS for Sediment), based on the sediment delivery in RUSLE2 to the upper edge of the filter strip and ratio of the filter strip flow length to the length of the flow path from the contributing area.

**CONDITIONS WHERE PRACTICE APPLIES**

Filter strips are established where environmentally-sensitive areas need to be protected from sediment, other suspended solids and dissolved contaminants in runoff.

[Vermont NRCS Excel worksheet 'Filter Strip Life Span Design for Sediment'](#) will be used to design the practice to achieve the 10 year practice lifespan. In addition, the 'Trapping Efficiency' as calculated by the worksheet will meet or exceed 60%.

**CRITERIA**

**General Criteria Applicable to All Purposes**

Overland flow entering the filter strip shall be uniform sheet flow.

Concentrated flow shall be dispersed before it enters the filter strip.

The maximum gradient along the leading edge of the filter strip shall not exceed one-half of the up-and-down hill slope percent, immediately upslope from the filter strip, up to a maximum of 5%.

The minimum flow length through the filter strip shall be **25** feet.

The filter strip shall be located immediately downslope from the source area of contaminants.

The drainage area above the filter strip shall have a slope of 1% or greater.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

**Vegetation.** The filter strip shall be established to permanent herbaceous vegetation.

Species selected shall be:

- able to withstand partial burial from sediment deposition and
- tolerant of herbicides used on the area that contributes runoff to the filter strip.

Species selected shall have stiff stems and a high stem density near the ground surface.

Species selected for seeding or planting shall be suited to current site conditions and intended uses. Selected species will have the capacity to achieve adequate density and vigor within an appropriate period to stabilize the site sufficiently to permit suited uses with ordinary management activities.

Species, rates of seeding or planting, minimum quality of planting stock, such as PLS or stem caliper, and method of establishment shall be specified before application. Only viable, high quality seed or planting stock will be used.

Site preparation and seeding or planting shall be done at a time and in a manner that best ensures survival and growth of the selected species. What constitutes successful establishment, e.g. minimum percent ground/canopy cover, percent survival, stand density, etc. shall be specified before application.

Planting dates shall be scheduled during periods when soil moisture is adequate for germination and/or establishment.

The minimum seeding and stem density shall be equivalent to a high quality grass hay seeding rate for the climate area or the density of vegetation selected in RUSLE2 to determine trapping efficiency, whichever is the higher seeding rate.

***Additional Criteria to Reduce Dissolved Contaminants in Runoff***

The criteria given in “**Additional criteria to reduce suspended solids and associated contaminants in runoff**” for location, drainage area and vegetation characteristics also apply to this purpose.

The minimum flow length for this purpose shall be 35 feet.

***Additional Criteria to Reduce Suspended Solids and Associated Contaminants in Irrigation Tailwater***

Filter strip vegetation shall be a small grain or other suitable annual plant.

The seeding rate shall be sufficient to ensure that the plant spacing does not exceed 4 inches.

Filter strips shall be established early enough prior to the irrigation season so that the vegetation is mature enough to filter sediment from the first irrigation.

The minimum flow length for this purpose shall be 25 feet.

**CONSIDERATIONS**

**General.** Filter strip width (flow length) can be increased as necessary to accommodate harvest and maintenance equipment.

Consider increasing the width of the filter strip for the following instances:

- if the adjacent cropland soils contain more than 20 ppm P according to a UVM soil test or scores High or Very High on the Vermont P Index. This applies to Lake Champlain and Lake Memphremagog watersheds and to inland lake sub-watersheds in the Connecticut River watershed.
- if the buffer is adjacent to a Vermont 303(d) listed stream reach for which the impairments are specifically attributed to agricultural run-off. This includes all upstream reaches within the watershed contributing to the listed reach.
- if field assessments indicate contributing areas with concentrated flow.

Filters strips with the leading edge on the contour will function better than those with a gradient along the leading edge.

Seeding rates that establish a higher stem density than the normal density for a high quality grass hay crop will be more effective in trapping and treating contaminants.

***Reducing Suspended Solids and Associated Contaminants in Runoff.***

Increasing the width of the filter strip beyond the minimum required will increase the potential for capturing contaminants in runoff.

***Creating, Restoring or Enhancing Herbaceous Habitat for Wildlife and Beneficial Insects.***

Filter strips are often the only break in the monotony of intensively-cropped areas. The wildlife benefits of this herbaceous cover can be enhanced by:

- Increasing the width beyond the minimum required, and planting this additional area to species that can provide food and cover for wildlife. This additional width should be added on the downslope side of the filter strip.
- Adding herbaceous plant species to the filter strip seeding mix that are beneficial to wildlife and compatible for one of the listed purposes. Changing the seeding mix should not detract from the purpose for which the filter strip was established.

***Maintain or Enhance Watershed Functions and Values.***

Filter strips can:

- enhance connectivity of corridors and non-cultivated patches of vegetation within the watershed.
- enhance the aesthetics of a watershed.
- be strategically located to reduce runoff, and increase infiltration and ground water recharge throughout the watershed.

***Air Quality.*** Increasing the width of a filter strip beyond the minimum required will increase the potential for carbon sequestration.

**PLANS AND SPECIFICATIONS**

Plans and specifications shall be prepared for each field site where a filter strip will be installed. A plan includes information about the location, construction sequence, vegetation establishment, and management and maintenance requirements. As a minimum, the plans shall include:

- a) Length, width (flow path), and slope of the filter strip to accomplish the planned purpose (width refers to flow length through the filter strip).
- b) Species selection and seeding or sprigging rates to accomplish the planned purpose [using information provided in the 'Vermont Specification Guide Sheet for Filter Strip'.](#)
- c) Planting dates, care and handling of the seed to ensure that planted materials have an acceptable rate of survival
- d) A statement that only viable, high quality and regionally adapted seed will be used
- e) Site preparation sufficient to establish and grow selected species

[A completed Vermont NRCS Filter Strip Job Sheet will be used as the practice design format. In addition, if a planned purpose for the filter strip is to 'reduce suspended solids and associated contaminants in runoff', the Vermont NRCS Excel worksheet 'Filter Strip Life Span Design for Sediment' will be used. A completed sediment design will be attached to the filter strip job sheet.](#)

**OPERATION AND MAINTENANCE**

For the purposes of filtering contaminants, permanent filter strip vegetative plantings shall be harvested as appropriate to encourage dense growth, maintain an upright growth habit and remove nutrients and other contaminants that are contained in the plant tissue.

Control undesired weed species, especially state-listed noxious weeds.

If prescribed burning is used to manage and maintain the filter strip, an approved burn plan must be developed.

Inspect the filter strip after storm events and repair any gullies that have formed, remove unevenly deposited sediment accumulation that will disrupt sheet flow, reseed disturbed areas and take other measures to prevent concentrated flow through the filter strip.

Apply supplemental nutrients as needed, [according to soil tests](#), to maintain the desired

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

species composition and stand density of the filter strip.

Periodically re-grade and re-establish the filter strip area when sediment deposition at the filter strip-field interface jeopardizes its function. Reestablish the filter strip vegetation in these regraded areas, if needed.

If grazing is used to harvest vegetation from the filter strip, [it must be according to an NRCS approved grazing plan](#). The grazing plan must insure that the integrity and function of the filter strip is not adversely affected. [Grazing will be permitted only when the vegetation root system has been sufficiently established and when soil moisture conditions support livestock traffic without excessive compaction](#).

## REFERENCES

Dillaha, T.A., J.H. Sherrard, and D. Lee. 1986. Long-Term Effectiveness and Maintenance of Vegetative Filter Strips. VPI-VWRRC Bulletin 153.

Dillaha, T.A., and J.C. Hayes. 1991. A Procedure for the Design of Vegetative Filter Strips: Final Report Prepared for U.S. Soil Conservation Service.

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Renard, K.G., G.R. Foster, G.A. Weesies, D.K. McCool, and D.C. Yoder, coordinators. 1997. Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE). U.S. Department of Agriculture. Agriculture Handbook 703.

**NATURAL RESOURCES CONSERVATION SERVICE**  
**CONSERVATION PRACTICE STANDARD**  
**HEAVY USE AREA PROTECTION**

(Acre)

CODE 561

**DEFINITION**

The stabilization of areas frequently and intensively used by people, animals or vehicles by establishing vegetative cover, surfacing with suitable materials, and/or installing needed structures.

**PURPOSE**

- To provide a stable, non-eroding surface for areas frequently used by animals, people or vehicles
- To protect and improve water quality

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies to agricultural, urban, recreational and other frequently and/or intensively used areas requiring treatment to address one or more resource concerns.

**CRITERIA**

**General Criteria Applicable to All Purposes**

**Laws and Regulations.** Plan and design heavy use areas to comply with federal, state, and local laws and regulations. [These include Vermont Accepted Agricultural Practices and Large and Medium Farm Operation Regulations.](#)

**Design Load.** Base the design load on the type and frequency of traffic, (vehicular, animal, or human) anticipated on the heavy use area.

**Foundation.** Evaluate all site foundations for soil moisture, permeability, texture and bearing strength based on the design load and planned frequency of use.

Where necessary, prepare the foundation by removal and disposal of materials that are not adequate to support the design loads.

Use a base course of gravel, crushed stone, other suitable material and/or geotextile on all sites that need increased load bearing strength, drainage, separation of material and soil reinforcement. Refer to Natural Resources Conservation Service (NRCS), National Engineering Handbook, Parts 642 and Design Note 24, Guide for Use of Geotextiles, for guidance on geotextile selection.

On sites with porous foundations (high permeability rate), with a need to protect ground water from contamination, provide an impervious barrier.

**Surface Treatment.** Select a surface treatment that is stable and appropriate to the purpose of the heavy use area. Surface treatments must meet the following requirements according to the material used.

**Concrete.** Design the thickness and compressive strength of concrete according to the expected loading and use. For installations where it is necessary to limit the permeability of the concrete, refer to NRCS Conservation Practice Standard, Waste Storage Facility (313) and ACI 360R-06, Design of Slabs-on-Ground, for design criteria for slabs on grade. [For barnyards and feedlots, the minimum concrete thickness shall be four inches. For concrete slab with no reinforcement, maximum control joint spacing shall be 10 feet. For concrete slabs reinforced with W1.4 x W1.4 \(10 GA.\) welded wire fabric \(WWF\), maximum control joint spacing shall be 30 feet. Concrete slab shall be strengthened in areas where anticipated heavy](#)

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service [State Office](#) or visit the [electronic Field Office Technical Guide](#).

equipment traffic is anticipated. Concrete slab shall be roughed for better traction.

Bituminous Concrete Pavement. Refer to *AASHTO Guide for Design of Pavement Structures* or the applicable state department of highway's specification for design criteria for bituminous concrete paving.

In lieu of a site specific design, for areas that will be subject to light use, pave with a minimum of 4 inches of compacted bituminous concrete over a subgrade of at least 4 inches of well compacted gravel. Use bituminous concrete mixtures commonly used for road paving in the area. Compact the surface with a heavy steel wheel roller until the bituminous concrete is thoroughly compacted and roller marks are eliminated.

Other Cementitious Materials. Other cementitious materials such as soil cement, roller compacted concrete, and coal combustion by-products (flue gas desulphurization sludge and fly ash) can be used to provide a durable, stable surfacing material. Develop site specific mix designs based on the properties of the material with compressive strengths necessary for the expected use and loading on the heavy use area.

Aggregate. Design fine or coarse aggregate surfaces at least 4-inches thick. If the surface will be compacted, choose a well graded aggregate. Aggregate may be clean bank run material. It shall be well graded, free draining, non-friable, durable stone and coarse sand containing no more than 10% fines (200 sieve). The maximum particle size shall not exceed two-thirds the thickness of the layer being placed.

Sprays and Artificial Mulches. When utilizing sprays of asphalt, oil, plastic, manufactured mulches, and similar materials, follow the manufacturer's recommendations for design requirements.

Other. Surfacing materials, such as limestone screenings, cinders, tanbark, bark mulch, brick chips, shredded rubber and/or sawdust, shall have a minimum layer thickness of 4 inches.

**Structures.** Design any structures associated with the heavy use area including roofs, according to appropriate NRCS standards.

Where NRCS standards do not exist, design structures according to the requirements of the particular construction material and accepted engineering practice. Base environmental design loads for buildings associated with heavy use areas on criteria in ASCE 7 - Minimum Design Loads for Buildings and Other Structures: ASCE/SEI 7-05.

**Drainage and Erosion Control.** Include provisions in the design for surface and subsurface drainage, as needed. Include provisions for disposal of runoff without causing erosion or water quality impairment. To the extent possible, install practices such as diversions, waterways and roof runoff structure, to prevent runoff from entering the heavy use area.

**Vegetative Measures.** Where appropriate, stabilize all areas disturbed by construction with vegetation as soon as possible after construction. Refer to NRCS Conservation Practice Standard, Critical Area Planting (342). If vegetation is not appropriate for the site, use other measures to stabilize the area.

#### **Additional Criteria for Livestock Heavy Use Areas (Barnyards)**

**CNMP.** A Comprehensive Nutrient Management Plan (CNMP) shall be developed before a heavy use area protection can be installed for livestock use. The plan shall include decisions by producer to manage animal movement in such a way as to not create another untreated barnyard area.

**Location.** To minimize the potential for contamination of streams, barnyards and/or other livestock concentration areas shall be located outside of the 25-year floodplains. Separation distances shall be such that prevailing winds and landscape elements such as building arrangement, landforms, and vegetation minimize odors and protect aesthetic values. When possible, springs and wells shall be located as far from barnyards and other livestock concentration areas as practical. Where separation distance is a concern, practices shall be installed to protect nearby springs and wells from contaminated runoff.

Heavy use areas shall not be installed closer than 200 feet to neighboring wells or potable water sources.

**Size.** Heavy Use Area size will vary depending on the size and weight of the animals that will be using the facility. A paved area for dairy cattle shall not exceed 50 square feet per animal unit. This space will allow room for bale feeders, feed bunks, watering facilities, etc. so livestock can feed and exercise. The treated area can include all areas where livestock congregate and cause surface stability problems. This includes feeding areas, portable hay rings, watering facilities, feeding troughs, mineral boxes and other facilities where livestock concentrations cause resource concerns.

Use NRCS Conservation Practice Standards Manure Transfer (634), Critical Area Planting (342); Fencing (382); Prescribed Grazing (528); Access Control (472); Animal Trails and Walkways (575); Diversion (362); Roof Runoff Structure (558), or other similar standards as companion practices, when needed to meet the intended purpose of the heavy use area protection.

Include provisions in the design of the heavy use area to collect, store, utilize and/or treat manure and contaminated runoff.

**Soil and foundation.** The heavy use area shall be located in soils with an acceptable permeability that meets all applicable regulation. If the barnyard is located in an area where the soils are predominantly sandy or gravelly, a SEEPAGE analysis shall be performed or other documentation to show minimal threat to the ground water.

The heavy use area shall have a floor elevation that is a minimum of 2 feet above bedrock and the seasonal high water table. The water table may be lowered by use of subsurface drainage, if feasible, to meet this requirement. Blasting, if necessary, must be approved by the State Conservation Engineer.

**Curbing.** Curbing shall be installed only in areas necessary to:

- Aid in scraping and removal of manure from the barnyard
- Divert clean water away from barnyard
- Divert manure laden runoff to storage or treatment facility.

Minimum curb height shall be twelve (12) inches except at locations where equipment has to cross. In areas where the curbing is used to aid scraping equipment to remove manure, the minimum curb (or wall) height shall be two feet. Curbing may be constructed of concrete, asphalt, pressure treated wood, earth or other durable material. For organic operations, timber curbing must meet National Organic Program standards. Curbing shall be designed against scour and over turning forces of manure scraping and handling equipment.

**Walkways and Watering Facilities.** Gravel pads or walkways may be installed in association with Animal Trails and Walkways (575) and Watering Facilities ((614). Runoff from these areas does not need to be collected, contained or treated; provided these pads and walkways are relatively small and are installed a suitable distance from sensitive areas such as wells, springs, streams, lakes, ponds, etc.

**Fencing.** Any fencing necessary around feedlots and barnyards to contain livestock or exclude wildlife and people shall be designed and installed in accordance to Practice Standard 382 - Fence.

**Roof Runoff Structure.** To the fullest extent possible, all clean roof runoff water shall be diverted away from barnyards and feedlots. Practices shall be designed and installed in accordance to Practice Standard 558 - Roof Runoff Structure.

**Roofs.** A roof may be installed over a heavy use area for the purpose of diverting precipitation away from the area when no other practices are practical and cost effective. The roof and supporting structure shall be designed and installed in accordance to Practice Standard 367 – Roofs and Covers.

#### **Additional Criteria for Recreation Areas**

Heavy use protection in recreation areas that are accessible to the public must meet the requirements of the Americans with Disabilities Act.

## CONSIDERATIONS

Heavy use areas can have a significant impact on adjoining land uses. These impacts can be environmental, visual and cultural. Care should be taken when selecting the type of treatment to ensure that it is compatible with adjoining areas. Consider such things as proximity to neighbors, utilities, cultural resources, environmentally sensitive areas and the land use where the stabilization will take place. Stabilization techniques used in a cattle feeding area may not be appropriate for a recreation area.

By its very nature, a heavy use area will be subject to intensive use. If vegetation will be part of the stabilization technique, consider the durability of the vegetation. Choose plant species that can withstand the expected use. Additional techniques such as geogrids, other reinforcing techniques or planned periods of rest and recovery may need to be employed to ensure that vegetative stabilization will succeed.

Heavy use areas will be intensely used by animals, people or both. Consider the safety of the users both human and animal during the design. Avoid slippery surfaces, sharp corners or surfaces and structures that might entrap users. For heavy use areas used by livestock avoid the use of sharp aggregates that might injure livestock hooves.

For livestock heavy use areas, provide positive drainage to prevent ponding of water. Such wet areas can have adverse affects on animal health and comfort.

Heavy use area protection often involves paving or otherwise reducing the permeability of the heavily used area. This can reduce infiltration and increase surface runoff. Depending on the size of the heavy use area, this can have an impact on the water budget of the surrounding area. During the planning and design, consider the effects to ground and surface water.

Heavy use areas are places where animals, people or vehicles are concentrated. The resulting manure, sediments, bacteria, petroleum products and trash that might accumulate on the heavy use area can result in degraded runoff water quality. During planning and design consider how these

pollutants will be handled to reduce offsite impacts.

To reduce the negative water quality impact of heavy use areas consider locating them as far as possible from waterbodies or water courses. In some cases this may require relocating the heavily used area rather than just armoring an area that is already in use.

Surface erosion can be a problem on large heavy use areas that do not use a hard surface such as concrete. In these cases the designer may need to include measures on the area that reduce the flow length of runoff to reduce erosion problems.

To reduce the potential for air quality problems from particulate matter associated with heavy use areas, consider the use of NRCS Conservation Practice Standards Windbreak/Shelterbelt Establishment (380), Herbaceous Wind Barriers (603) or the use of palliative treatments such as lignosulfonate, synthetic polymers, organic oils, or chloride compounds to control dust from bare heavy use areas.

Heavy use areas for livestock can vary widely in size depending on how the operator manages his livestock. Because heavy use areas can be expensive to construct and maintain, a significant consideration should be to reduce the size of the heavy use area as much as possible. This may require changes in how the livestock are managed but in the long run may result in less maintenance and a more efficient operation.

For areas that will need to be cleaned frequently by scraping, loose aggregate or other non-cementitious materials may not be the best choice. Consider a more durable surface such as concrete.

Byproducts from coal fired power plants such as fly ash and sludge from scrubbers can vary significantly. Therefore, their toxicity and cementation characteristics should be known to ensure they are compatible with the intended use.

[Due consideration should be given to environmental concerns, economics, the overall waste management system plan, and safety and health factors.](#)

Neighboring relationships should be considered when locating and installing a heavy use area, roofed or otherwise.

This practice may adversely affect cultural resources. Planning, installation and maintenance must comply with GM 420, Part 401, *Cultural Resources (Archeological and Historic Properties)*.

## PLANS AND SPECIFICATIONS

Prepare plans and specifications for Heavy Use Area Protection that describe the requirements for installing the practice according to this standard. As a minimum the plans and specifications shall include:

1. A plan view showing the location and extent of the practice.
2. Where appropriate, cross-sections showing the type and required thickness of paving or stabilization materials.
3. Where appropriate, plans for required structural details.
4. Where appropriate, vegetation establishment requirements.
5. Construction specifications that describe in writing site specific installation requirements for the heavy use area protection.

## OPERATION AND MAINTENANCE

Prepare an operation and maintenance (O&M) plan for the operator. [The operator shall signed the O&M plan to indicate and understanding of the requirements and commitment to operate and maintain the practices specified.](#) The minimum requirements to be addressed in the O&M plan are:

1. Periodic inspections, especially immediately following significant rainfall events.
2. Prompt repair or replacement of damaged components especially surfaces that are subjected to wear or erosion.
3. For livestock heavy use areas include requirements for the regular removal and management of manure.

4. Where vegetation is specified, periodic mowing, fertilization and control of vegetation.

## REFERENCES

American Association of State Highway and Transportation Officials. 2006. Standard Specification for Geotextiles Used for Highway Applications. AASHTO Standard M288. Washington, DC.

American Association of State Highway and Transportation Officials. 1998. Guide for Design of Pavement Structures with 1998 Supplements. Washington, DC

American Concrete Institute. 2008. Building Code Requirements and Specifications for Masonry Structures. The Masonry Standards Joint Committee. Farmington Hills, MI.

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American Forest & Paper Association and American Wood Council. 2005. National Design Specification for Wood Construction. Washington, DC.

American Institute of Steel Construction Inc. 2005. Steel Construction Manual, 13<sup>th</sup> Edition. Chicago, IL.

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The Asphalt Institute. 1975. Full Depth Asphalt Pavement for Private Driveways, Construction Leaflet No. 11. Lexington, KY.

Korcak, R. F. 1998. Agricultural Uses of Coal Combustion Byproducts. P. 103-119. *In* Wright, R. J., et al (eds.) Agricultural Uses of Municipal, Animal and Industrial Byproducts. USDA-ARS, Conservation Research Report 44.

Portland Cement Association. 1970. Thickness for Soil Cement Pavements. Skokie, IL.

USDA-Natural Resources Conservation Service. 2008. National Engineering Handbook, Part 642. Washington, DC.

USDA-Natural Resources Conservation Service. 1991. Guide for the Use of Geotextiles, Design Note Number 24. Washington, DC.

A. Approved FY 2014 CAPS, Associated ProTracts Subaccounts and General Descriptions

Practice Code	Conservation Activity Plan Name	Required to be offered?	Required ranking in EQIP program subaccounts	General Description
102	Comprehensive Nutrient Management Plan	All States	Rank in any appropriate EQIP subaccount.	A comprehensive nutrient management plan (CNMP) is a conservation plan for an animal feeding operation (AFO) that documents how nutrients and contaminants will be managed in the production and land treatment areas of the farm to protect animal & human health, and the environment.
104	Nutrient Management Plan	All States	Rank in national "Organic Initiative" subaccount or other appropriate EQIP subaccount.	Nutrient management plans are documents of record of how nutrients will be managed for plant production and to address the environmental concerns related to the offsite movement of nutrients from agricultural fields.
106	Forest Management Plan	All States	Rank in any appropriate EQIP subaccount.	A forest management plan is a site specific plan developed for a client, which addresses one or more resource concerns on land where forestry-related conservation activities or practices will be planned and applied.
108	Feed Management Plan	All States	Rank in any appropriate EQIP subaccount.	A feed management plan is a farm-specific documented plan developed for a client who addresses manipulation and control of the quantity and quality of available nutrients, feedstuffs, and/or additives fed to livestock and poultry.
110	Grazing Management Plan	All States	Rank in any appropriate EQIP subaccount.	A grazing management plan is a site-specific plan, developed with a client to address one or more resource concerns on land where grazing related activities or practices will be applied.
112	Prescribed Burning Plan	All States	Rank in any appropriate EQIP subaccount.	A prescribed burning plan is a site-specific plan developed with a client that addresses one or more resource concerns on land through the use of fire.
114	Integrated Pest Management	All States	Rank in any appropriate EQIP subaccount.	Integrated pest management (IPM) is an ecosystem-based strategy that is a sustainable approach to manage pests using a combination of techniques such as chemical tools biological control, habitat manipulation, and modification of cultural practices and use of resistant varieties.
118	Irrigation Water Management Plan	All States	Rank in any appropriate EQIP subaccount.	The objective of irrigation water management (IWM) is to control the volume, frequency, and rate of water for efficient irrigation. Measurements of soil moisture, plant water use, and climate provide feedback to decide when to irrigate, and how much water to apply.
122	Agricultural Energy Management Plan – Headquarters	All States	Rank only in the EQIP subaccounts with an Account Type of "On-Farm Energy Initiative".	An agricultural energy management plan – headquarters (AgEMP) is a detailed documentation of energy-consuming components and practices of the current operation, the previous year's on-farm energy consumption, and the strategy by which the producer will explore and address their on-farm energy conservation concerns, objectives, and opportunities.

124	Agricultural Energy Management Plan – Landscape	All States	Rank only in the EQIP subaccounts with an Account Type of “On-Farm Energy Initiative”.	A landscape energy plan is a detailed report/audit documenting the energy consuming components and practices of the current operation’s on-farm field energy consumption involved in the cropland, pasture/hayland, range, and woodland activities with recommended strategies to conserve energy resources.
126	Comprehensive Air Quality Management Plan	Required in National Air Quality States. Optional in other States	Rank <u>only</u> in a subaccount with account type of “Air Quality National” or “Air Quality State.”	Comprehensive air quality management plans (CAQMPs) may be part of conservation plans applicable to many agricultural operations. These plans assess practices and strategies adopted by agricultural operations to address environmental concerns directly related to air quality and atmospheric change.
130	Drainage Water Management Plan	All States	Rank in any appropriate EQIP subaccount.	The objective of drainage water management (DWM) is to control soil water table elevations and the timing of water discharges from subsurface or surface agricultural drainage systems, allowing the opportunity for crop use of the subsurface water and nutrients.
134	Conservation Plan Supporting Transition from Irrigation to Dryland Plan	Required in AWEP States. Optional in other States	Rank in any appropriate EQIP subaccount.	A transition from irrigated to dryland farming and ranching conservation activity plan is a conservation system that focuses on crop yield sustainability and water conservation/water harvesting techniques.
138	Conservation Plan Supporting Organic Transition	All States	Rank <u>only</u> in EQIP “Organic Transition” subaccount	A “Conservation Plan Supporting Organic Transition” is a conservation activity plan documenting decisions by producers/growers who agree to implement a system of conservation practices which assist the producer to transition from conventional farming or ranching systems to an organic production system.
142	Fish and Wildlife Habitat Plan	All States	Rank in any appropriate EQIP subaccount.	A fish and wildlife habitat plan is a site-specific plan developed with a client who is ready to plan and implement conservation activities or practices with consideration for fish and wildlife habitat.
146	Pollinator Habitat Plan	All States	Rank in any appropriate EQIP subaccount.	A pollinator habitat enhancement plan is a site-specific conservation plan developed for a client that addresses the improvement, restoration, enhancement, expansion of flower-rich habitat that supports native and/or managed pollinators.
154	IPM Herbicide Resistant Weed Conservation Plan	Optional all States	Rank in any appropriate EQIP subaccount.	Integrated pest management herbicide resistance weed conservation plan is a plan with emphasis on modifying herbicide use for suppressing weeds on cropland.



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JASON FLEURY  
 CONSERVATION PLANNER

## Land Treatment Plan



### Cover Crop (340)

Close-growing grasses, legumes, or small grains will be planted in this crop field to reduce erosion between harvest and planting seasons. This practice must be performed annually each year that a row crop is grown. The practice will be considered implemented when the cover crop is established.

Tract	Field	Planned Amount	Month	Year	Applied Amount	Date
1	1	1 ac	10	2008		
1	2	5.8 ac	10	2008		
1	3	3.1 ac	10	2008		
1	4	6.4 ac	10	2008		
2	1	1.9 ac	10	2008		
Total:		18.2 ac				

### Forage Harvest Management (511)

Practice lifespan equals 5 years. This (these) field(s) will be managed as hay, greenchop or ensilage. Mow at proper cutting height and time for the species. Maintain hayland in good cover with seed mixture which suits drainage limitations of the soil. Lime and fertilize according to soil test.

Tract	Field	Planned Amount	Month	Year	Applied Amount	Date
1	1	7.8 ac	6	2009		
1	2	0.7 ac	6	2009		
1	3	21.9 ac	6	2009		
1	4	1.4 ac	6	2009		
1	5	13.9 ac	6	2009		
2	1	4.7 ac	6	2009		
2	2	0.5 ac	6	2009		
2	3	6.5 ac	6	2009		
Total:		57.4 ac				

**Nutrient Management (590)**

This conservation practice will be applied annually. The amount, timing, and placement of plant nutrients will be managed according to a nutrient management plan developed and/or approved by a certified nutrient management specialist. This plan will include nutrients available from all sources as well as the calculated nutrient requirements for total crop production and the listing of either supplemental nutrients needed or excess manure not utilized. A plan summary will be provided to include application rate by crop and/or field, timing and method of application and special management considerations for environmental concerns.

Tract	Field	Planned Amount	Month	Year	Applied Amount	Date
1	1	1 ac	9	2008R		
1	2	7.8 ac	9	2008R		
1	3	0.7 ac	9	2008R		
1	4	21.9 ac	9	2008R		
1	5	1.4 ac	9	2008R		
1	6	5.8 ac	9	2008R		
1	7	13.9 ac	9	2008R		
1	8	3.1 ac	9	2008R		
1	9	6.4 ac	9	2008R		
2	1	4.7 ac	9	2008R		
2	2	1.9 ac	9	2008R		
2	3	0.5 ac	9	2008R		
2	4	6.5 ac	9	2008R		
	Total:	75.6 ac				

**25' Grass Buffer/Manure Spreading Set-back**

Adjoining surface waters shall be buffered from crops lands by as least 25 ft of perennial vegetation. No manure shall be applied within vegetative buffers (25 ft manure spreading set-back for permanent hayland). Use of fertilizer for the establishment and maintenance of the vegetative buffer is allowed. Tillage shall not occur in a vegetative buffer except for the establishment or maintenance of the buffer. Harvesting the buffer as a perennial crop is allowed. Also, no manure or nitrogen fertilizer can be applied within 50 ft of a private well. This standard is in accordance to the state Medium Farm Operation rules and General Permit regulations. Refer to the Environmental Concerns Maps in Tab 3 for these areas.

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CERTIFICATION OF PARTICIPANTS

---

\_\_\_\_\_ DATE

---

CERTIFICATION OF:

---

CONSERVATION PLANNER  
\_\_\_\_\_  
JASON FLEURY DATE

CONSERVATION DISTRICT  
\_\_\_\_\_  
WHITE RIVER DISTRICT DATE

PUBLIC BURDEN STATEMENT

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collections is 0578-0013. The time required to complete this information collection is estimated to average 45/0.75 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information.

PRIVACY ACT

The above statements are made in accordance with the Privacy Act of 1974 (5 U.S.C 522a). Furnishing this information is voluntary; however failure to furnish correct, complete information will result in the withholding or withdrawal of such technical or financial assistance. The information may be furnished to other USDA agencies, the Internal Revenue Service, the Department of Justice, or other state or federal law enforcement agencies, or in response to orders of a court, magistrate, or administrative tribunal.

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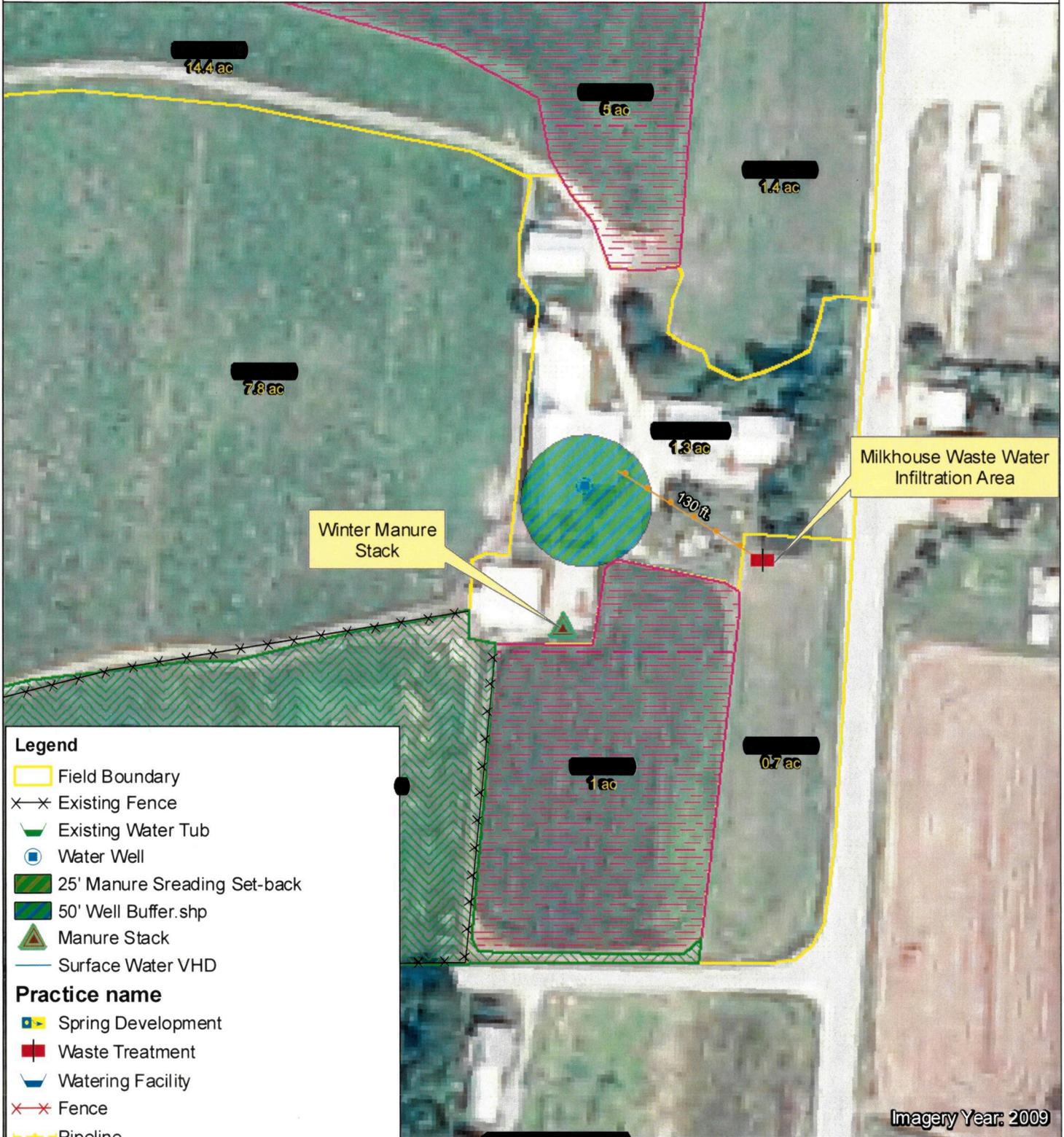
R - Designates Recurring Practices

# Practice Map

Date: 8/18/2011

Customer(s): [REDACTED]  
 District: White River District  
 Farm [REDACTED] Tract [REDACTED]

Field Office: Berlin Service Center  
 Assisted By: Jason Fleury  
 State and County: VT, Orange



**Legend**

- Field Boundary
- Existing Fence
- Existing Water Tub
- Water Well
- 25' Manure Spreading Set-back
- 50' Well Buffer.shp
- Manure Stack
- Surface Water VHD

**Practice name**

- Spring Development
- Waste Treatment
- Watering Facility
- Fence
- Pipeline
- Waste Transfer
- Brush Management
- Forage and Biomass Planting
- Residue and Tillage Management, No-Till

Imagery Year: 2009

[REDACTED] VT

Feet

1:1,200  
1 inch equals 100 feet

**CONSERVATION PLAN OR SCHEDULE OF OPERATIONS**

<b>PARTICIPANT</b> [REDACTED]	<b>COUNTY AND STATE</b> GRAND ISLE County, VT	<b>PROGRAM AND CONTRACT NUMBER</b> EQIP 2014 [REDACTED]	<b>SUBACCOUNT</b> Pasture and Perennial Cropland (County Funds)	
<b>LAND UNITS OR LEGAL DESCRIPTION</b> [REDACTED]		<b>WATERSHED</b> St Albans Bay-Lake Champlain	<b>ACRES</b> 119	<b>EXPIRATION DATE</b> 1/31/2020

**Contract Item 1: Forage and Biomass Planting(512)** **Practice Lifespan:** 5 years **Status:** Draft 2014

Practice lifespan equals 5 years. The field will be prepared and planted to a long term stand of forage crops to reduce soil erosion. All tillage and planting operations will occur during the growing season. Lime and fertilize according to a current soil test. Forage crops must be established by the planned date. Refer to attached job sheet for practice 512.

**Fields:**  
[REDACTED]

Contract Item	Planned Conservation Treatment	Planned Amount	Unit Cost	Cost Share Rate/Method	COMPLETION SCHEDULE AND ESTIMATED COST-SHARE OR PAYMENT BY YEAR										
					2014 \$	2015 \$	2016 \$	2017 \$	2018 \$						
1	Forage and Biomass Planting(512)	12.8 ac			8,513										
1a	HU-Cool Season, Establish or Reseed, Foregone Income	12.8 Ac	\$665.0700/ Ac	PR <sup>1</sup>	8,513										

**Notes:** <sup>1</sup>Payment rates define the unit cost rate of compensation to be received by the participant.

**Contract Item 2: Forage and Biomass Planting(512)** **Practice Lifespan:** 5 years **Status:** Planned 2014

Practice lifespan equals 5 years. The field will be prepared and planted to a long term stand of forage crops to reduce soil erosion. All tillage and planting operations will occur during the growing season. Lime and fertilize according to a current soil test. Forage crops must be established by the planned date. Refer to attached job sheet for practice 512.

**Fields:**  
[REDACTED]

Contract Item	Planned Conservation Treatment	Planned Amount	Unit Cost	Cost Share Rate/Method	COMPLETION SCHEDULE AND ESTIMATED COST-SHARE OR PAYMENT BY YEAR										
					2014 \$	2015 \$	2016 \$	2017 \$	2018 \$						
2	Forage and Biomass Planting(512)	9.3 ac			6,186										
2a	HU-Cool Season, Establish or Reseed, Foregone Income	9.3 Ac	\$665.0700/ Ac	PR <sup>1</sup>	6,186										

**Notes:** <sup>1</sup>Payment rates define the unit cost rate of compensation to be received by the participant.

**Contract Item 3: Forage and Biomass Planting(512)** **Practice Lifespan:** 5 years **Status:** Planned 2014

Practice lifespan equals 5 years. The field will be prepared and planted to a long term stand of forage crops to reduce soil erosion. All tillage and planting operations will occur during the growing season. Lime and fertilize according to a current soil test. Forage crops must be established by the planned date. Refer to attached job sheet for practice 512.

**CONSERVATION PLAN OR SCHEDULE OF OPERATIONS**

<b>PARTICIPANT</b> [REDACTED]	<b>COUNTY AND STATE</b> GRAND ISLE County, VT	<b>PROGRAM AND CONTRACT NUMBER</b> EQIP [REDACTED]	<b>SUBACCOUNT</b> Pasture and Perennial Cropland (County Funds)	
		<b>WATERSHED</b> St Albans Bay-Lake Champlain	<b>ACRES</b> 119	<b>EXPIRATION DATE</b> 1/31/2020

**Fields:**

Contract Item	Planned Conservation Treatment	Planned Amount	Unit Cost	Cost Share Rate/Method	COMPLETION SCHEDULE AND ESTIMATED COST-SHARE OR PAYMENT BY YEAR												
					2014 \$	2015 \$	2016 \$	2017 \$	2018 \$								
7	Fence(382)	3150 ft				7,560											
7a	HU-2-4 Wire Electrified, High Tensile	3150 Ft	\$2.4000/ Ft	PR <sup>1</sup>		7,560											

**Notes:** <sup>1</sup>Payment rates define the unit cost rate of compensation to be received by the participant.

**Contract Item 8: Livestock Pipeline(516) Practice Lifespan: 20 years Status: Planned 2015**

Practice Lifespan equals 20 years. Install a pipeline to convey water for grazing livestock from supply source to points of use. Install according to an approved design or job sheet, and maintain according to the attached Operation and Maintenance information.

**Fields:**

Contract Item	Planned Conservation Treatment	Planned Amount	Unit Cost	Cost Share Rate/Method	COMPLETION SCHEDULE AND ESTIMATED COST-SHARE OR PAYMENT BY YEAR												
					2014 \$	2015 \$	2016 \$	2017 \$	2018 \$								
8	Livestock Pipeline(516)	1155 ft				1,317											
8a	HU-PE Pipe less than or equal to 1in. Dia., Above Ground	1155 LnFt	\$1.1400/ LnFt	PR <sup>1</sup>		1,317											

**Notes:** <sup>1</sup>Payment rates define the unit cost rate of compensation to be received by the participant.

**Contract Item 9: Watering Facility(614) Practice Lifespan: 20 years Status: Planned 2015**

Practice lifespan equals 20 years. Install a movable livestock watering facility using polyethylene, metal or other approved trough(s). This practice will be implemented in order to: protect and enhance vegetative cover through proper distribution of grazing; provide erosion control through better grassland management; or protect streams, ponds and water supplies from contamination by providing alternative access to water. Refer to the attached Job Sheet for more specifics regarding location, type and size of trough, and operation and maintenance of the practice.

**CONSERVATION PLAN OR SCHEDULE OF OPERATIONS**

<b>PARTICIPANT</b> [REDACTED]	<b>COUNTY AND STATE</b> GRAND ISLE County, VT	<b>PROGRAM AND CONTRACT NUMBER</b> EQIP 2014 [REDACTED]	<b>SUBACCOUNT</b> Pasture and Perennial Cropland (County Funds)	
		<b>WATERSHED</b> St Albans Bay-Lake Champlain	<b>ACRES</b> 119	<b>EXPIRATION DATE</b> 1/31/2020

**Fields:**

[REDACTED]

Contract Item	Planned Conservation Treatment	Planned Amount	Unit Cost	Cost Share Rate/Method	COMPLETION SCHEDULE AND ESTIMATED COST-SHARE OR PAYMENT BY YEAR										
					2014 \$	2015 \$	2016 \$	2017 \$	2018 \$						
9	Watering Facility(614)	1 no				118									
9a	HU-Portable Drinking/Storage upto 100 Gallons	100 Gal	\$1.1800/ Gal	PR <sup>1</sup>		118									

**Notes:** <sup>1</sup>Payment rates define the unit cost rate of compensation to be received by the participant.

**Contract Item 10: Livestock Pipeline(516) Practice Lifespan: 20 years Status: Planned 2016**

Practice Lifespan equals 20 years. Install a pipeline to convey water for grazing livestock from supply source to points of use. Install according to an approved design or job sheet, and maintain according to the attached Operation and Maintenance information.

**Fields:**

[REDACTED]

Contract Item	Planned Conservation Treatment	Planned Amount	Unit Cost	Cost Share Rate/Method	COMPLETION SCHEDULE AND ESTIMATED COST-SHARE OR PAYMENT BY YEAR										
					2014 \$	2015 \$	2016 \$	2017 \$	2018 \$						
10	Livestock Pipeline(516)	2580 ft					2,942								
10a	HU-PE Pipe less than or equal to 1in. Dia., Above Ground	2580 LnFt	\$1.1400/ LnFt	PR <sup>1</sup>			2,942								

**Notes:** <sup>1</sup>Payment rates define the unit cost rate of compensation to be received by the participant.

**Contract Item 11: Critical Area Planting(342) Practice Lifespan: 10 years Status: Planned 2016**

Areas disturbed during construction of the animal trail will be seeding down to prevent any soil erosion.

**CONSERVATION PLAN OR SCHEDULE OF OPERATIONS**

<b>PARTICIPANT</b> [REDACTED]	<b>COUNTY AND STATE</b> GRAND ISLE County, VT	<b>PROGRAM AND CONTRACT NUMBER</b> EQIP 2014-[REDACTED]	<b>SUBACCOUNT</b> Pasture and Perennial Cropland (County Funds)	
<b>LAND UNITS OR LEGAL DESCRIPTION</b> [REDACTED]		<b>WATERSHED</b> St Albans Bay-Lake Champlain	<b>ACRES</b> 119	<b>EXPIRATION DATE</b> 1/31/2020

Total Cost-Share or Payment by Year										Total Contract Payment	
Year	2014	2015	2016	2017	2018						
Amount(\$)	\$36,382	\$10,171	\$66,558	\$37,159	\$25,363						<b>\$175,633</b>

NOTES: A. All items numbers on form NRCS-CPA-1155 must be carried out as part of this contract to prevent violation.  
 B. When established, the conservation practices identified by the numbered items must be maintained by the participant at no cost to the government.  
 C. All cost share rates are based on average cost (AC) with the following exceptions:  
 AA = Actual cost not to exceed average cost; FR = Flat Rate; NC = Non cost-shared; AM = Actual cost not to exceed a specified maximum; PR = Payment rates.  
 D. By signing, the participant acknowledges receipt of this conservation plan including this form NRCS-CPA-1155 and agrees to comply with the terms and conditions here of.

Certification of Participants					
Signature	Date	Signature	Date	Signature	Date
[REDACTED]					

Signatures of Reviewing Officials	
<b>Designated Conservationist - Technical Adequacy Certification</b> Signature:  Date:	<b>NRCS Approving Official</b> Signature:  Date:

## Links to NRCS Technical information

Regional Conservation Partnership Program Information (RCPP):

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/vt/programs/farmbill/rcpp/>

Vermont List of Resource Concerns and Planning Criteria:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/vt/programs/farmbill/rcpp/>

(On the RCPP page of the Vermont NRCS website)

Vermont NRCS Practice Standards:

<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/vt/technical/?cid=stelprdb1080585>

National Conservation Activity Plan Webpage:

<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/financial/eqip/?cid=stelprdb1193480>

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/vt/programs/farmbill/rcpp/>

(list of NRCS approved CAPs on the RCPP page of the Vermont NRCS website)

National Planning Procedures Handbook:

<http://directives.sc.egov.usda.gov/default.aspx> (look under Handbooks, then Tilt180 – National Planning Procedures Handbook)

Example NRCS Conservation Plan:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/vt/programs/farmbill/rcpp/>

(On the RCPP page of the Vermont NRCS website)

Example NRCS Conservation Program Contract:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/vt/programs/farmbill/rcpp/>

(On the RCPP page of the Vermont NRCS website)