

PRACTICE CODE	PRACTICE NAME	SCENARIO NAME	SCENARIO DESCRIPTION	ADDITIONAL PRACTICES	ASSOCIATED PRACTICES	COST COMPONENTS	COST CALCULATION GUIDANCE
				REQUIRED to ACHIEVE COMPLETE PRACTICE		(All costs include the necessary mobilization and demobilization).	
309	Agrichemical Handling Facility	Open building, locked chemical storage room, concrete slab floor	This practice scenario is an open, roofed agrichemical handling facility. The facility contains a locked storage room and area for mixing, loading and storage of chemicals on a concrete floor. This practice addresses water quality degradation and due to mis-handling, storing, and mixing of agrichemicals where nutrients and/or chemicals are running off into surface waters or leaching into ground water.		Associated practices: Heavy Use Area Protection (561), Diversion (362), Access Road (560), Pumping Plant for Water Control (533), Nutrient Management (590), Pest Management (595), Roof Runoff Management (558). Includes roof.	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, compaction, grading, impermeable liner, emergency shower and eye wash station, reinforced concrete, catch basin, impermeable concrete sealer, post frame building structure, exterior wall (concrete), steel door.	Total Storage + Containment Area = Total Storage Area
309	Agrichemical Handling Facility	Enclosed building, locked chemical storage room, concrete slab floor	This practice scenario is a roofed and enclosed agrichemical handling facility. The facility contains a locked storage room and area for mixing, loading and storage of chemicals on a concrete floor. This practice addresses water quality degradation and due to mis-handling, storing, and mixing of agrichemicals where nutrients and/or chemicals are running off into surface waters or leaching into ground water. A flexible membrane liner is installed beneath the concrete slab.		Associated practices: Heavy Use Area Protection (561), Diversion (362), Access Road (560), Pumping Plant for Water Control (533), Nutrient Management (590), Pest Management (595), Roof Runoff Management (558). Includes roof.	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, compaction, grading, impermeable liner, emergency shower and eye wash station, reinforced concrete, catch basin, synthetic liner, impermeable concrete sealer, post frame building structure, exterior wall (concrete), steel door and polytank reservoir.	Total Storage + Containment Area = Total Storage Area
313	Waste Storage Facility	Earthen storage facility	An earthen waste impoundment constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. This practice will address soil and water quality by reducing the pollution potential for surface water and groundwater quality degradation. Earthen storage liners are addressed with another standard. Vehicular and equipment access is addressed in Heavy Use Area Protection (561) to adequately protect liner at agitation and access points.	Pond Sealing or Lining, Bentonite Sealant (521C), Pond Sealing or Lining, Compacted Clay Treatment (521D), Pond Sealing or Lining, Flexible Membrane (521A), Pond Sealing or Lining, Soil Dispersant (521B),	Fence (382), Critical Area Planting (342), Nutrient Management (590), Waste Transfer (634), Heavy Use Area Protection (561), Roofs and Covers (367), and Solid/Liquid Waste Separation Facility (632), Waste Treatment (629)	Includes costs of all materials, equipment use and labor required to install excavation, compaction, stripping and stockpiling topsoil, structural steel tubing (drawdown marker).	Design Storage Volume
313	Waste Storage Facility	Earthen storage facility high water table	An earthen waste impoundment constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. Due to high watertable conditions, the earthen embankment is constructed on the soil surface. This practice will address soil and water quality by reducing the pollution potential for surface water and groundwater quality degradation. Earthen storage liners are addressed with another standard. Vehicular and equipment access is addressed in Heavy Use Area Protection (561) to adequately protect liner at agitation and access points.		Fence (382), Critical Area Planting (342), Nutrient Management (590), Waste Transfer (634), Heavy Use Area Protection (561), Roof and Covers (367), Solid/Liquid Waste Separation Facility (632), Waste Treatment (629), Subsurface Drain (606), and Underground Outlet (620)	Includes costs of all materials, equipment use and labor required to install excavation, earthfill, compaction, stripping and stockpiling topsoil, structural steel tubing (drawdown marker).	Design Storage Volume
313	Waste Storage Facility	Above ground steel/concrete	An above ground circular glass lined steel or concrete structure constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system.		Fence (382), Critical Area Planting (342), Nutrient Management (590), Waste Transfer (634), Heavy Use Area Protection (561), Solid/Liquid Waste Separation Facility (632), Waste Treatment (629), and Pumping Plant (533)	Includes costs of all materials, equipment use and labor required to install excavation, earthfill, compaction, reinforced concrete, waste storage glass lined steel structure.	Design Storage Volume
313	Waste Storage Facility	Dry stack, concrete floor, wood wall	This scenario consists of a dry stack facility with reinforced concrete floor with pressure treated wood walls. This scenario is applicable when geological, soil, climate conditions or state and local regulations prohibit the use of an earthen surface, and requires a hard working surface such as concrete. The purpose of this practice is to temporarily, properly store manure and other agricultural by-products until they can be hauled away from the site for proper disposal or utilization on land at agronomical rates.	Roofs and Covers (367)	Critical Area Planting (342), Diversion (362), Heavy Use Area Protection (561), Roof Runoff Structure (558), Composting Facility (317), Waste Transfer (634), Waste Recycling (633), Vegetated Treatment Area (635)	Includes costs of all materials, equipment use and labor required to install excavation, earthfill, compaction, reinforced concrete, non-reinforced concrete, wood planks and posts.	Square Foot Floor Area
313	Waste Storage Facility	Concrete lined waste storage pond	A concrete lined impoundment constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. Soils are typically (1) very sandy with no structure thus having not stable side slopes when covering standard liners or (2) the soils are very rocky with little to no bedding making concrete the more suitable lining material. Also, concrete is typically used in Karst area where sinkholes may develop. Design volume does not include freeboard. Earthen storage liners are addressed with another standard. Vehicular and equipment access is addressed in Heavy Use Area Protection (561) to adequately protect liner at agitation and access points.		Potential Associated Practices: Fence (382), Critical Area Planting (342), Nutrient Management (590), Waste Transfer (634), Heavy Use Area Protection (561), Solid/Liquid Waste Separation Facility (632), Diversion (362), Subsurface Drain (606), and Underground Outlet (620), Waste Utilization (633), Pumping Plant (533).	Includes costs of all materials, equipment use and labor required to install excavation, earthfill, compaction, stripping and stockpiling topsoil, reinforced concrete, structural steel tubing (drawdown marker).	Design Storage Volume
314	Brush Management	Mechanical, Hand tools	Removal or cutting off of woody plants at or below the root collar using hand tools which may axes, shovels, hoes, nippers, brush pullers, and chainsaws. Typical area is moderate rolling to gentle sloping, moderately deep to deep soils that have stands of woody and non herbaceous species that are in the early phases of invasions.		Firebreak, (Code 394), Prescribed Burning, (Code 338), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for mechanical treatments such as axes, shovels, hoes, nippers, brush pullers, and chainsaws.	
314	Brush Management	Mechanical Bush Hog	Removal of small woody vegetation of light infestations on gentle sloping to moderately deep to deep soils in order to reduce fuel loading and improve ecological site condition. Brush density has exceeded desired levels based on ecological site potential. It has been determined that the brush is at a light infestation.		Firebreak, (Code 394), Prescribed Burning, (Code 338), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for mechanical treatments such as mower (e.g. cutter), bush hog or other light equipment.	
314	Brush Management	Mechanical Roller Chopper	Removal of small woody vegetation of heavy infestations on gentle sloping to moderately deep to deep soils. The practice entails the removal of brush by the use of in order to reduce fuel loading and improve ecological site condition. Brush density has exceeded desired levels based on ecological site potential. It has been determined that the brush is at the heavy infestation.		Firebreak, (Code 394), Prescribed Burning, (Code 338), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for mechanical treatments such as a flail shredder, hydro axe, mechanical cutter or roller chopper.	

314 Brush Management	Mechanical & Chemical, Small Shrubs, Light Infestation	Removal of small woody vegetation of light infestations on gentle sloping to moderately deep to deep soils. The practice entails the removal of brush in order to reduce fuel loading and improve ecological site condition. Brush density has exceeded desired levels based on ecological site potential. It has been determined that the brush is at the light infestation rate.	Pest Management, (Code 595), Firebreak, (Code 394), Prescribed Burning, (Code 338), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for mechanical treatments such as a flail shredder, hydro axe, mechanical cutter or roller chopper followed by an application of low cost chemicals in low volumes.
314 Brush Management	Mechanical & Chemical, Small Shrubs, Medium Infestation	Removal of small woody vegetation of medium infestations on gentle sloping to moderately deep to deep soils. The practice entails the removal of brush in order to reduce fuel loading and improve ecological site condition. Brush density has exceeded desired levels based on ecological site potential. It has been determined that the brush is at the medium infestation rate.	Pest Management, (Code 595), Firebreak, (Code 394), Prescribed Burning, (Code 338), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for mechanical treatments such as a flail shredder, hydro axe, mechanical cutter or roller chopper followed by an application of low cost chemicals in low volumes.
314 Brush Management	Mechanical & Chemical, Small Shrubs, Heavy Infestation	Removal of small woody vegetation of heavy infestations on gentle sloping to moderately deep to deep soils. The practice entails the removal of brush in order to reduce fuel loading and improve ecological site condition. Brush density has exceeded desired levels based on ecological site potential. It has been determined that the brush is at the heavy infestation.	Pest Management, (Code 595), Firebreak (Code 394), Prescribed Burning, (Code 338), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for mechanical treatments such as a flail shredder, hydro axe, mechanical cutter or roller chopper followed by an application of low cost chemicals in low volumes. Because of the heavy infestation, additional labor hours are required.
314 Brush Management	Chemical Hand	Implementation of brush management on range, pasture or native pasture using Individual Plant Treatment (IPT). The typical method of control is application of herbicides (basal or foliar location) on selected individual plants.	Pest Management, (Code 595), Firebreak (Code 394), Prescribed Burning, (Code 338), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for application of low cost chemicals in low volumes using equipment such as a back pack sprayer.
314 Brush Management	Chemical - Ground Applied	Apply brush management or remove undesirable deciduous species (brush) in uplands and other areas not in or directly adjacent to streams, ponds, or wetlands.	Pest Management, (Code 595), Prescribed Burning, (Code 338), Firebreak, (Code 394), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for application of low cost chemicals in low volumes thru broadcast application using equipment ground equipment.
314 Brush Management	Chemical, Aerial Applied	Apply brush management to reduce or remove undesirable deciduous species (brush) in uplands and other areas not in or directly adjacent to streams, ponds, or wetlands.	Pest Management, (Code 595), Prescribed Burning, (Code 338), Firebreak, (Code 394), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for application of low cost chemicals in low volumes using equipment thru the use of aerial application.
314 Brush Management	Invasive	Control the spread of undesirable, noxious, and/or invasive woody plant species in order to promote the regeneration of natural plant communities or the health and vigor of desirable forage species. Treatment of mimosa, chinaberry, privet, wisteria, melaleuca, and other similar species. (Please refer to the Florida Exotic Pest Plant Council, Category I List of Invasive Species and the Florida Department of Agriculture and Consumer Services, Noxious Weed List.)	Pest Management, (Code 595), Prescribed Burning (338), Firebreak, (Code 394), Prescribed Grazing (528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor required for application of low cost chemicals in low volumes through the use of spot treatment.
314 Brush Management	Invasive Heavy	Control the spread of undesirable, noxious, and/or invasive woody plant species in order to promote the regeneration of natural plant communities or the health and vigor of desirable forage species. To specifically address Brazilian pepper by cut and stump application.	Pest Management, (Code 595), Prescribed Burning, (Code 338), Firebreak, (Code 394), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor required for chemical and mechanical treatments using mechanical and hand crew techniques.
315 Herbaceous Weed Control	Mechanical	Removal of herbaceous weeds of light infestations on gentle sloping to moderately deep to deep soils. The practice entails the removal of herbaceous weeds in order to reduce fuel loading and improve ecological site condition. Weed has exceeded desired levels based on ecological site potential.	Prescribed Burning, (Code 338), Firebreak, (Code 394), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for mechanical treatments such as mower, bush hog or other light equipment.
315 Herbaceous Weed Control	Chemical, Spot	Land unit on which weed control would be beneficial in order to set back the plant community succession, improve the ecological condition, and improve forage conditions for domestic livestock or wildlife. The practice entails the treatment of vegetation by use of weed treatment using hand-carried equipment (such as a backpack and hand-sprayer) to apply chemicals, in order to eliminate noxious weeds, promote forage productivity, and improve ecological condition.	Pest Management, (Code 595), Prescribed Burning, (Code 338), Firebreak, (Code 394), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for application of low cost chemicals in low volumes using equipment such as a back pack sprayer.
315 Herbaceous Weed Control	Chemical, Ground	Land unit on which weed control would be beneficial in order to set back the plant community succession, improve the ecological condition, and improve forage conditions for domestic livestock or wildlife. The practice entails the treatment of vegetation by use of weed treatment using ground equipment to apply chemicals, in order to treat noxious weeds, promote forage productivity, and improve ecological condition.	Pest Management, (Code 595), Prescribed Burning, (Code 338), Firebreak, (Code 394), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for application of low cost chemicals in low volumes using equipment thru the use of broadcast application with ground equipment.
315 Herbaceous Weed Control	Chemical Invasive	Land unit on which weed control would be beneficial in order to set back the plant community succession, improve the ecological condition, and improve forage conditions for domestic livestock or wildlife. The practice entails the treatment of vegetation by use of weed treatment using ground equipment to apply chemicals, in order to treat noxious weeds, promote forage productivity, and improve ecological condition. (Please refer to the Florida Exotic Pest Plant Council, Category I List of Invasive Species and the Florida Department of Agriculture and Consumer Services, Noxious Weed List. This includes Tropical Soda Apple and all other non-native, invasive (noxious) plants.)	Pest Management, (Code 595), Prescribed Burning, (Code 338), Firebreak, (Code 394), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for application of low cost chemicals in low volumes with ground equipment for the treatment of invasive species.

315 Herbaceous Weed Control	Invasive Chemical and Mechanical	Land unit on which weed control would be beneficial in order to set back the plant community succession, improve the ecological condition, and improve forage conditions for domestic livestock or wildlife. The practice entails the eradication of vegetation by use of weed treatment using ground equipment to apply chemicals, in order to eliminate noxious weeds, promote forage productivity, and improve ecological condition. Includes costs of treatment for Climbing fern (<i>Lygodium</i>) and Jasminum (Gold Coast - <i>J. dichotomum</i> or Brazilian - <i>J. fluminense</i>), Burma reed (<i>Neyraudia reynaudiana</i>), Napier grass (<i>Pennisetum purpurem</i>).		Pest Management, (Code 595), Prescribed Burning, (Code 338), Firebreak, (Code 394), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for mechanical treatments such as a flail shredder, hydro axe, mechanical cutter or roller chopper followed by an application of low cost chemicals in low volumes for the treatment of invasive species.
315 Herbaceous Weed Control	Chemical Broad Band	Land unit on which weed control would be beneficial in order to set back the plant community succession, improve ecological condition, improving health and vigor of pine species by spraying a 4 - 6 foot wide chemical band application over the top of pine seedlings usually in early spring after planting. The practice entails the eradication of vegetation by use of weed treatment using ground equipment to apply chemicals, in order to eliminate noxious weeds, promote wildlife, and improve ecological condition.		Pest Management, (Code 595), Prescribed Burning, (Code 338), Firebreak, (Code 394), Prescribed Grazing, (Code 528), Upland Wildlife Habitat Management, (Code 645), Wetland Wildlife Habitat Management, (Code 644)	Includes the cost of materials, equipment use and labor for application of low cost chemicals in low volumes using equipment thru the use of broadcast application with ground equipment.
316 Animal Mortality Facility	Static pile, Wood Bin(s)	This scenario consists of installing a group of small bins along two sides of a concrete pad to compost poultry or small swine mortality in static pile(s) that have sufficient bulking material to allow natural aeration. Piles are turned to go through a second heat cycle prior to final land application. The roofed portion of the facility is addressed with Roofs and Covers (367).	Roofs and Covers (367)	Heavy Use Area Protection (561), Critical Area Planting (342), Mulching (484), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Roof Runoff Structure (558), Diversion (362), Subsurface Drain (606), and Underground Outlet (620).	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, grading, compaction, reinforced concrete (floor and ramps), non-reinforced concrete and wood planks and posts.
317 Composting Facility	Concrete floor, outer wood wall no bins	The composting facility, with complete concrete floor and equipment lane and outer wood walls (complete on the long side and partial on the short side) is installed to address water quality concerns and disease vectors resulting from improper waste disposal by providing a dedicated facility for storage and treatment. This scenario is applicable when geological, soil or climate conditions prohibit the use of only partial concrete surfaces (bins only).	Roofs and Covers (367)	Pond Sealing or Lining, Bentonite Sealant (521C), Pond Sealing or Lining, Compacted Clay Treatment (521D), Pond Sealing or Lining, Flexible Membrane (521A), Pond Sealing or Lining, Soil Dispersant (521B), Fence (382), Critical Area Planting (342), Mulching (484), Nutrient Management (590), Access Road (560), Structure for water control (587), Diversion (362), Pipeline (516), Subsurface Drain (606), Heavy Use Area Protection (561), Roofs and Covers (367), Roof Runoff Structure (558), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, grading, compaction, reinforced concrete, non-reinforced concrete and wood planks and posts.
317 Composting Facility	Composter, whole concrete floor, wood or concrete bins	The composting facility, with complete concrete floor, equipment lane and under bins, is installed to address water quality concerns and disease vectors resulting from improper waste disposal by providing a dedicated facility for storage and treatment, and by creating a compost product that can be used in multiple ways including land application for enrichment of crop ground. This scenario is applicable when geological, soil or climate conditions prohibit the use of only partial concrete surfaces (bins only).	Roofs and Covers (367)	Pond Sealing or Lining, Bentonite Sealant (521C), Pond Sealing or Lining, Compacted Clay Treatment (521D), Pond Sealing or Lining, Flexible Membrane (521A), Pond Sealing or Lining, Soil Dispersant (521B), Fence (382), Critical Area Planting (342), Mulching (484), Nutrient Management (590), Access Road (560), Structure for water control (587), Diversion (362), Pipeline (516), Subsurface Drain (606), Heavy Use Area Protection (561), Roofs and Covers (367), Roof Runoff Structure (558), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, grading, compaction, reinforced concrete, non-reinforced concrete and wood planks and posts.
317 Composting Facility	Composter, whole concrete floor, no bins, organic	The composting facility, with complete concrete floor is installed to address water quality concerns and disease vectors resulting from improper waste disposal by providing a dedicated facility for storage and treatment, and by creating a compost product that can be used in multiple ways including land application for enrichment of crop ground. This scenario is applicable when geological, soil or climate conditions prohibit the use of only partial concrete surfaces (bins only).	Roofs and Covers (367)	Pond Sealing or Lining, Bentonite Sealant (521C), Pond Sealing or Lining, Compacted Clay Treatment (521D), Pond Sealing or Lining, Flexible Membrane (521A), Pond Sealing or Lining, Soil Dispersant (521B), Fence (382), Critical Area Planting (342), Mulching (484), Nutrient Management (590), Access Road (560), Structure for water control (587), Diversion (362), Pipeline (516), Subsurface Drain (606), Heavy Use Area Protection (561), Roofs and Covers (367), Roof Runoff Structure (558), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, grading, compaction, reinforced concrete and non-reinforced concrete (floor and ramps).
320 Irrigation Canal or Lateral	Irrigation Canal	An earthen canal that has adequate capacity to convey sufficient irrigation water to meet the demands of the system and make irrigation practical for the crops being grown.		Irrigation Field Ditch (388), Irrigation System, Surface or Subsurface (443); Pumping Plant (533), Irrigation Pipeline (430), Structure for Water Control (587), Irrigation Water Management (449)	Includes cost of all materials, equipment use and labor required Volume of earth excavated. for excavation and spoil spreading.

327 Conservation Cover	Native Grass	This practice applies on land to be retired from agricultural production and on other lands needing permanent protective cover. This practice typically involves conversion from a clean-tilled (conventional tilled) intensive cropping system to permanent native vegetation (scenario includes native grass). This practice scenario is typically used to reduce soil erosion, reduce soil quality degradation, improve water quality and develop wildlife habitat.	Cover Crop (Code 340); Irrigation Water Management (Code 449); Pest Management (Code 595); Nutrient Management (Code 590); Residue Management (Code 345, 329); Stripcropping (Code 585); Upland Wildlife Habitat Management (Code 645)	Includes the cost of materials, equipment use and labor required to install adequate seedbed, herbicide for site preparation, broadcast or no till/grass drill, native grass.
327 Conservation Cover	Pollinator Habitat	Permanent vegetation, including mix of native grasses, legume, forbs (mix may also include non-native species), established on any land needing permanent vegetative cover that provides habitat for pollinators. In addition to providing pollinator habitat, this practice scenario may also reduce sheet and rill erosion, improve soil quality and improve water quality. The practice may also provide wildlife habitat. Practice applicable on cropland, odd areas, corners, etc.	Cover Crop (Code 340); Irrigation Water Management (Code 449); Pest Management (Code 595); Nutrient Management (Code 590); Residue Management (Code 345, 329); Stripcropping (Code 585); Upland Wildlife Habitat Management (Code 645)	Includes the cost of materials, equipment use and labor required to install adequate seedbed, herbicide for site preparation, broadcast or no till/grass drill, native grass and native forbs for pollinators.
327 Conservation Cover	Legume	This practice applies on cropland or orchards and vineyards needing permanent protective cover in the alleyways between tree and vine rows. This practice typically involves conversion from a clean-tilled (conventional tilled) intensive cropping system to permanent vegetation (scenario includes non-native grass and legume mix). This practice scenario is typically used to reduce soil erosion, reduce soil quality degradation, improve water quality, enhance wildlife and/or pollinator habitat and manage plant pests.	Cover Crop (Code 340); Irrigation Water Management (Code 449); Pest Management (Code 595); Nutrient Management (Code 590); Residue Management (Code 345, 329); Stripcropping (Code 585); Upland Wildlife Habitat Management (Code 645)	Includes the cost of materials, equipment use and labor required to install adequate seedbed, herbicide for site preparation, broadcast or no till/grass drill, legumes and fertilizer.
328 Conservation Crop Rotation	Sod-Based	This practice may be part of a conservation management system to: 1) Reduce sheet and rill erosion 2) Reduce soil erosion from wind 3) Maintain or improve soil organic matter 4) Manage the balance of plant nutrient 5) Improve water use efficiency 6) Manage plant pests (weeds, insects, and diseases). 7) Provide food for domestic livestock and 8) Provide food and cover for wildlife.	Cover Crop (Code 340); Irrigation Water Management (Code 449); Pest Management (Code 595); Nutrient Management (Code 590); Residue Management (Code 345, 329); Stripcropping (Code 585); Upland Wildlife Habitat Management (Code 645)	This practice payment is provided to acquire the technical knowledge and skills necessary to effectively implement a conservation crop rotation on a typical cropland farm.
328 Conservation Crop Rotation	Standard Rotation	In this region this practice may be part of a conservation management system to: 1) Reduce sheet and rill erosion 2) Reduce soil erosion from wind 3) Maintain or improve soil organic matter 4) Manage the balance of plant nutrient 5) Improve water use efficiency 6) Manage plant pests (weeds, insects, and diseases). 7) Provide food for domestic livestock and 8) Provide food and cover for wildlife.	Cover Crop (Code 340); Irrigation Water Management (Code 449); Pest Management (Code 595); Nutrient Management (Code 590); Residue Management (Code 345, 329); Stripcropping (Code 585); Upland Wildlife Habitat Management (Code 645)	This practice payment is provided to acquire the technical knowledge and skills necessary to effectively implement a conservation crop rotation on a typical specialty crop farm.
329 Residue and Tillage Management - No-Till/Strip-Till No Till/Strip Till/Direct Seed		This practice typically involves conversion from a clean-tilled (conventional tilled) system to no-till or strip-till (conservation tilled) system on cropland. This involves managing the amount, orientation and distribution of crop and other plant residue on the soil surface year round while limiting soil-disturbing activities used to grow and harvest crops in systems. The practice is used to reduce sheet and rill erosion, reduce wind erosion, improve soil quality, reduce CO2 losses from the soil, reduce energy use, increase plant available moisture and provide food and escape cover for wildlife. The no-till/strip-till system includes chemical weed control (rather than cultivation) and may also include a period of chemical fallow. System is applicable in both irrigated and non-irrigated fields.	Conservation Crop Rotation (328), Contour Farming (330), Cover Crop (340), Field Border (386), Nutrient Management (590), Pest Management (595)	Includes cost of using no-till/strip till planter, power unit (e.g. tractor) and labor.
332 Contour Buffer Strips	Native	Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. This practice applies to all cropland.	Nutrient Management (590), Critical Area Planting (342), Mulching (484), Forage and Biomass Planting (512), Upland Wildlife Habitat Management (645), Stripcropping (585)	Includes the cost of materials, equipment use and labor required to install adequate seedbed, herbicide for site preparation, broadcast or no till/grass drill, native grass.
332 Contour Buffer Strips	Introduced	Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. This practice applies to all cropland.	Nutrient Management (590), Critical Area Planting (342), Mulching (484), Forage and Biomass Planting (512), Upland Wildlife Habitat Management (645), Stripcropping (585)	Includes the cost of materials, equipment use and labor required to install adequate seedbed, herbicide for site preparation, broadcast or no till/grass drill, introduced grass and fertilizer for establishment.
332 Contour Buffer Strips	Organic Seed	Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. This practice applies to all cropland.	Nutrient Management (590), Critical Area Planting (342), Mulching (484), Forage and Biomass Planting (512), Upland Wildlife Habitat Management (645), Stripcropping (585)	Includes the cost of materials, equipment use and labor required to install adequate seedbed, herbicide for site preparation, broadcast or no till/grass drill, organic perennial grass or organic legumes, organic fertilizer for establishment.
338 Prescribed Burning	Prescribed Burning	Applying a prescribed burn according to designed burn plan and NRCS Prescribed Burning (338) standard and specifications. A burn can consume debris or leaf litter under controlled conditions that otherwise could burn uncontrollably and devastatingly. Burn should be cool enough not to cause mortality to residual stand but also must reduce litter and debris.	Firebreak, (Code 394); Upland Wildlife Habitat Management, (Code 645); Wetland Wildlife Habitat Management, (Code 644); Prescribed Grazing, (Code 338); Wetland Restoration, (Code 657); Pest Management (Code 595); Forest Stand Improvement, (Code 666); Herbaceous Weed Control and Management (Code 797), Brush Management, (Code 314)	Includes the cost of materials, equipment use and labor required for to install burn fuel, operate fire suppression equipment and monitoring.
338 Prescribed Burning - High Risk	Prescribed Burning - High Risk	Applying a prescribed burn according to designed burn plan and NRCS Prescribed Burning (338) standard and specifications. A burn can consume debris or leaf litter under controlled conditions that otherwise could burn uncontrollably and devastatingly. Burn should be cool enough not to cause mortality to residual stand but also must reduce litter and debris. Burn to take place is a smoke sensitive area.	Firebreak, (Code 394); Upland Wildlife Habitat Management, (Code 645); Wetland Wildlife Habitat Management, (Code 644); Prescribed Grazing, (Code 338); Wetland Restoration, (Code 657); Pest Management (Code 595); Forest Stand Improvement, (Code 666); Herbaceous Weed Control and Management (Code 797), Brush Management, (Code 314)	Includes the cost of materials, equipment use and labor required for to install burn fuel, operate fire suppression equipment and monitoring.

340 Cover Crop	Cover Crop-Chemical Kill	Typically a small grain or small grain-legume mix will be planted as a cover crop after harvest of a row crop, and will be followed by a row crop that will utilize the residue as a mulch. This scenario assumes that seed will be planted with a no-till drill. The cover crop should be allowed to generate as much biomass as possible, without delaying planting of the following crop. The cover crop will be terminated using an approved herbicide a minimum of 3 weeks prior to planting the subsequent crop.		Conservation Crop Rotation (328), Nutrient Management (590), Pest Management (595), Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue Management, Mulch Till (345)	Includes the cost of materials, equipment use and labor required to no-till/grass drill summer or winter cover crops (small grains) and one-time application of herbicide to terminate vegetation.
340 Cover Crop	Legume-N Fixation	A legume will be planted as a cover crop immediately after harvest of a row crop, and will be followed by a row crop that will utilize fixed nitrogen and cover crop biomass as a mulch. This scenario assumes that seed will be drilled. Legume seeds must be inoculated with the proper inoculant prior to planting. The cover crop should be allowed to reach early to mid-bloom before it is terminated, using an approved herbicide, in order to maximize nitrogen fixation. The legume will promote biological nitrogen fixation and reduce energy use by reducing the need for commercial nitrogen fertilizer in following crops.		Conservation Crop Rotation (328), Nutrient Management (590), Pest Management (595), Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue Management, Mulch Till (345)	Includes the cost of materials, equipment use and labor required to no-till/grass drill summer or winter cover crops (legumes) and one-time application of herbicide to terminate vegetation.
340 Cover Crop	Organic Cover Crop	Typically a small grain or small grain-legume mix will be planted as a cover crop after harvest of an organically grown crop, and will be followed by an organically grown crop that will utilize the residue as a mulch. This scenario assumes that seed will be drilled. The cover crop should be allowed to generate as much biomass as possible, without delaying planting of the following crop. The cover crop will be terminated using a mechanical kill method (mowing, rolling, undercutting, etc.), a minimum of 3 weeks prior to planting the subsequent crop. This scenario REQUIRES use of Certified Organic Seed.		Conservation Crop Rotation (328), Nutrient Management (590), Pest Management (595), Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue Management, Mulch Till (345)	Includes the cost of materials, equipment use and labor required to no-till/grass drill summer or winter cover crops (organic small grains) and mechanical application with a mower, shredder, etc. in order to terminate vegetation.
340 Cover Crop	Organic Legume	Typically a small grain or small grain-legume mix will be planted as a cover crop immediately after harvest of an organically grown crop, and will be followed by an organically grown crop that will utilize the residue as a mulch. This scenario assumes that seed will be drilled. The cover crop should be allowed to generate as much biomass as possible, without delaying planting of the following crop. The cover crop will be terminated using a mechanical kill method (mowing, rolling, undercutting, etc.), a minimum of 3 weeks prior to planting the subsequent crop. This scenario REQUIRES use of Certified Organic Seed.		Conservation Crop Rotation (328), Nutrient Management (590), Pest Management (595), Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue Management, Mulch Till (345)	Includes the cost of materials, equipment use and labor required to no-till/grass drill summer or winter cover crops (organic legumes) and mechanical application with a mower, shredder, etc. in order to terminate vegetation.
342 Critical Area Planting	Native seeding - normal tillage	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural occurrence or a newly constructed conservation practice.	If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484).	Diversion (362), Field Border (386), Land Smoothing (466), Obstruction Removal (500), Surface and Subsurface Drains (607), Underground Outlet (620), Forage and Biomass Planting (512), Tree and Shrub Establishment (612)	Includes the cost of materials, equipment use and labor required to install adequate seedbed, cultipacking, planting, native grass, fertilizer and lime for establishment.
342 Critical Area Planting	Grass/legume mix-normal tillage	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural occurrence or a newly constructed conservation practice.	If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484).	Diversion (362), Field Border (386), Land Smoothing (466), Obstruction Removal (500), Surface and Subsurface Drains (607), Underground Outlet (620), Forage and Biomass Planting (512), Tree and Shrub Establishment (612)	Includes the cost of materials, equipment use and labor required to install adequate seedbed, cultipacking, no-till/grass drill, perennial grass (seed or sprigs), nurse crop, fertilizer and lime for establishment.
342 Critical Area Planting	Hydroseeding	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural occurrence or a newly constructed conservation practice.	If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484).	Diversion (362), Field Border (386), Land Smoothing (466), Obstruction Removal (500), Surface and Subsurface Drains (607), Underground Outlet (620), Forage and Biomass Planting (512), Tree and Shrub Establishment (612)	Includes the cost of materials, equipment use and labor required to use hydroseeder, perennial grass (seed or sprigs) and fertilizer and lime for establishment.
345 Residue and Tillage Management - Mulch till-Basic Mulch Till		Mulch-till is managing the amount, orientation and distribution of crop and other plant residue on the soil surface year round while limiting the soil-disturbing activities used to grow crops in systems where the entire field surface is tilled prior to planting. This practice includes tillage methods commonly referred to as mulch tillage or chiseling and disking. It applies to stubble mulching on summer-fallowed land, to tillage for annually planted crops and to tillage for planted crops and to tillage for planting perennial crops. All residue shall be uniformly surface throughout critical wind erosion period. All residue shall be uniformly distributed over the entire field and not burned or removed. These periods of intensive tillage have led to excessive soil loss, often above the Soil Loss Tolerance (T), due to the loss of critical crop or weed residue. The RUSLE 2 model will be used to review the farming operation and determine if enough residue is being retained, throughout the rotation, to keep soil loss below T. The producer will then remove operations, or select alternate operations, to reduce erosion below T.		Conservation Crop Rotation (328), Contour Farming (330), Cover Crop (340), Field Border (386), Nutrient Management (590), Pest Management (595)	Includes cost of managing crop residues on the soil surface while planting and growing crops where the entire field has been tilled just prior to planting.
350 Sediment Basin	Embankment earthen basin with no pipe	An low hazard class embankment earthen sediment basin in an existing drainage way on a farm for purpose of trapping sediment and preserving the capacity of reservoirs, ditches, canals, diversions, waterways and streams and to prevent undesirable deposition on bottom lands and other developed lands. An earthen embankment will be constructed with an earthen auxiliary spillway, as designed. Resource concerns addressed include excessive suspended sediment and turbidity in surface water, damage from sediment deposition, and reduced capacity of conveyances by sediment deposition. Surface water causes the sediment (and potentially pesticides and nutrients) to be transported into the riparian areas and water bodies downstream.		Critical Area Planting (342), Mulching (484), Structure for Water Control (587), Pond Sealing or Lining (521A, 521B, 521C, 521D).	Includes cost of all materials, equipment use and labor required to install excavation.

351 Water Well Decommissioning	Small Drilled Well	A licensed well driller will seal and permanently close an inactive, abandoned, or unusable water well to prevent excess nutrients in surface and groundwater and to eliminate pesticides transported to surface and ground water. Assumes a 4" diameter casing. Well will be cleared of all equipment and materials. Residual water column must be treated with chlorine according to local, State, Tribal, or Federal regulations. Procedures and sealing materials shall conform to ASTM D5299 and be compatible with all local, State, Tribal, and Federal requirements. Backfill shall be placed and compacted in a manner that minimizes segregation and bulking to prevent surface subsidence.	Critical Area Planting (342)	Includes cost of all materials, equipment use and labor required to install tremie pipe, cement and/or bentonite grout, chlorine, sealant, backfill.
351 Water Well Decommissioning	Large Drilled Well	A licensed well driller will seal and permanently close an inactive, abandoned, or unusable water well to prevent excess nutrients in surface and groundwater and to eliminate pesticides transported to surface and ground water. Assumes a 8" diameter casing. Well will be cleared of all equipment and materials. Residual water column must be treated with chlorine according to local, State, Tribal, or Federal regulations. Procedures and sealing materials shall conform to ASTM D5299 and be compatible with all local, State, Tribal, and Federal requirements. Backfill shall be placed and compacted in a manner that minimizes segregation and bulking to prevent surface subsidence.	Critical Area Planting (342)	Includes cost of all materials, equipment use and labor required to install tremie pipe, cement and/or bentonite grout, chlorine, sealant, backfill.
356 Dike	Material haul < 1 mile; On-Site	Construction of a barrier, constructed of an earthen embankment, to control water level. Embankment structure to provide adequate freeboard, allowance for settlement, and foundation and embankment stability.	Conservation Cover (327), Constructed Wetland (656), Critical Area Planting (342), Mulching (484), Pond (378), Fence (382), Irrigation Land Levelling (464), Obstruction Removal (500), Prescribed Grazing (528), Structure for Water Control (587), Underground Outlet (620), Upland Wildlife Management (645), Wetland Creation (658), Wetland Enhancement (659), Wetland Restoration (657), Wetland Wildlife Habitat Management (644).	Includes cost of all materials, equipment use and labor required to install excavation, side-cast and compaction.
356 Dike	Material haul > 1 mile; Off-Site	Construction of a barrier, constructed of an earthen embankment, to control water level. Embankment structure to provide adequate freeboard, allowance for settlement, and foundation and embankment stability.	Conservation Cover (327), Constructed Wetland (656), Critical Area Planting (342), Mulching (484), Pond (378), Fence (382), Irrigation Land Levelling (464), Obstruction Removal (500), Prescribed Grazing (528), Structure for Water Control (587), Underground Outlet (620), Upland Wildlife Management (645), Wetland Creation (658), Wetland Enhancement (659), Wetland Restoration (657), Wetland Wildlife Habitat Management (644).	Includes cost of all materials, equipment use and labor required to install excavation, side-cast and compaction.
359 Waste Treatment Lagoon	Waste Treatment Lagoon	A waste treatment lagoon is a component of a waste management system that provides biological treatment of manure and other byproducts of animal agricultural operations by reducing the pollution potential. Resource concern addressed is water quality by reducing the pollution potential to surface and groundwater by treating and storing liquid waste. Earthen lagoon liners are addressed with another standard.	Pond Sealing or Lining, Bentonite Sealant (521C), Pond Sealing or Lining, Compacted Clay Treatment (521D), Pond Sealing or Lining, Flexible Membrane (521A), Pond Sealing or Lining, Soil Dispersant (521B), Fence (382), Critical Area Planting (342), Mulching (484), Nutrient Management (590), Waste Transfer (634), Heavy Use Area Protection (561), and Solid/Liquid Waste Separation Facility (632).	Includes costs of all materials, equipment use and labor required to install excavation, earthfill, compaction, stripping and stockpiling topsoil, structural steel tubing (drawdown marker).
360 Waste Facility Closure	Liquid Waste Impoundment Closure with no liquid/slurry	This practice scenario includes the decommissioning of an earthen liquid waste impoundment (embankment/excavated type) where there is no waste material (liquid/slurry/sludge) to be removed. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters. The embankment material will be used to fill in the excavated area of the waste storage pond. The area will be overfilled to compensate for settling. The area will be properly graded so there is no standing surface water. Structural removal, as necessary, may include the sealing or removal and disposal of waste transfer components and other appurtenances associated with closure of the facility. All inflow devices and associated appurtenances will be removed and properly disposed of. The disturbed areas shall be vegetated in accordance with Critical Area Planting (342).	Nutrient Management (590), Critical Area Planting (342), Mulching (484)	Includes cost of all materials, equipment use and labor required to install agitation and pumping wastewater and sludge from either earthen or lined waste storage or treatment lagoon.
362 Diversion	Diversion	An earthen channel constructed across long slopes with supporting ridge on lower side, to divert runoff away from farmsteads, agricultural waste systems, gullies, critical erosion areas, construction areas or other sensitive areas. Outlet may be waterway, underground outlet, or other suitable outlet. Channel may be level or gradient and ridge may be vegetated or farmed. The quantity of excavation and fill is balanced. Field system meets "T" or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste.	Critical Area Planting (342), Mulching (484), Grassed Waterway (412), Underground Outlet (620), Mulching (484), and Subsurface Drainage (606)	Includes cost of all materials, equipment use and labor required to install excavation and side cast.
367 Roofs and Covers	Timber or Steel Sheet Roof less than 60 ft	A timber framed building with a timber or steel "sheet" roof and supporting foundation. Manure is stored as a liquid in basins, tanks, and as a solid on concrete and earthen surfaces. Excess precipitation can cause premature filling of storages or cause nutrients to leach from solid manure piles leading to uncontrolled runoff.	Waste Storage Facility (313), Animal Mortality Facility (316), Composting Facility (317), Agrichemical Handling Facility (309), Roof Runoff Structure (558), Waste Treatment (629).	Includes cost of all materials, equipment use and labor required to install post frame and steel roof.

367	Roofs and Covers	Steel Frame and Roof	A steel framed building with steel "sheet" roof and supporting foundation. Manure is stored as a liquid in basins, tanks, and as a solid on concrete and earthen surfaces. Excess precipitation can cause premature filling of storages or cause nutrients to leach from solid manure piles leading to uncontrolled runoff.	Waste Storage Facility (313), Animal Mortality Facility (316), Composting Facility (317), Roof Runoff Structure (558), Waste Treatment (629).	Includes cost of all materials, equipment use and labor required to install steel frame and steel roof.
372	Combustion System Improvement	IC Engine Repower, Up to 99 bhp	Older diesel engine replaced with new diesel engine repower. The existing diesel engine may be operating an irrigation pump or an auxiliary engine providing mechanical function for agricultural equipment.	Farmstead Energy Improvement (374), Pumping Plant (533), Irrigation Pipeline (430), Irrigation System, Microirrigation (441), Irrigation System, Sprinkler (442), Irrigation System, Tailwater Recovery (447), Irrigation Water Management, (449), Pipeline (516), Waste Storage Facility (313), Waste Transfer, (634), Watering Facility, (614), Water Well, (642), CAP 126 Comprehensive Air Quality Management Plan, CAP 122 Agricultural Energy Management Plan - Headquarters, and CAP 124 Agricultural Energy Management Plan - Landscape.	Includes cost of all materials, equipment use and labor required to install most current tier level diesel or cleaner 50 - 99 HP IC engine.
372	Combustion System Improvement	IC Engine Repower, 100 to 150 bhp	Older diesel engine replaced with new diesel engine repower. The existing diesel engine may be operating an irrigation pump or an auxiliary engine providing mechanical function for agricultural equipment.	Farmstead Energy Improvement (374), Pumping Plant (533), Irrigation Pipeline (430), Irrigation System, Microirrigation (441), Irrigation System, Sprinkler (442), Irrigation System, Tailwater Recovery (447), Irrigation Water Management, (449), Pipeline (516), Waste Storage Facility (313), Waste Transfer, (634), Watering Facility, (614), Water Well, (642), CAP 126 Comprehensive Air Quality Management Plan, CAP 122 Agricultural Energy Management Plan - Headquarters, and CAP 124 Agricultural Energy Management Plan - Landscape.	Includes cost of all materials, equipment use and labor required to install most current tier level diesel or cleaner 100 - 199 HP IC engine.
372	Combustion System Improvement	Electric Motor/Centrifugal Pump Combination Unit in-lieu of IC Engine, < 100 hp	Replace an existing IC engine operating an irrigation well with a new electric motor/centrifugal pump combination unit. This replacement provides the greatest emission reductions by eliminating NOx, VOC, and PM emissions from the source.	Farmstead Energy Improvement (374), Pumping Plant (533), Irrigation Pipeline (430), Irrigation System, Microirrigation (441), Irrigation System, Sprinkler (442), Irrigation System, Tailwater Recovery (447), Irrigation Water Management, (449), Pipeline (516), Waste Storage Facility (313), Waste Transfer, (634), Watering Facility, (614), Water Well, (642), CAP 126 Comprehensive Air Quality Management Plan, CAP 122 Agricultural Energy Management Plan - Headquarters, and CAP 124 Agricultural Energy Management Plan - Landscape.	Includes cost of all materials, equipment use and labor required to install a premium National Electrical Manufacturers Association (NEMA) < 100 hp electric motor and centrifugal pump.
372	Combustion System Improvement	Electric Motor in-lieu of IC Engine, less than 100 hp	Replace an existing IC engine operating an irrigation well with a new electric motor. This replacement provides the greatest emission reductions by eliminating NOx, VOC, and PM emissions from the source.	Farmstead Energy Improvement (374), Pumping Plant (533), Irrigation Pipeline (430), Irrigation System, Microirrigation (441), Irrigation System, Sprinkler (442), Irrigation System, Tailwater Recovery (447), Irrigation Water Management, (449), Pipeline (516), Waste Storage Facility (313), Waste Transfer, (634), Watering Facility, (614), Water Well, (642), CAP 126 Comprehensive Air Quality Management Plan, CAP 122 Agricultural Energy Management Plan - Headquarters, and CAP 124 Agricultural Energy Management Plan - Landscape.	Includes cost of all materials, equipment use and labor required to install a premium National Electrical Manufacturers Association (NEMA) < 100 hp electric motor.
372	Combustion System Improvement	Electric Motor in-lieu of IC Engine, greater than or equal to 100 hp	Replace an existing IC engine operating an irrigation well with a new electric motor. An existing IC engine is stationary (does not propel a vehicle and is not an auxiliary IC engine on a vehicle).	Farmstead Energy Improvement (374), Pumping Plant (533), Irrigation Pipeline (430), Irrigation System, Microirrigation (441), Irrigation System, Sprinkler (442), Irrigation System, Tailwater Recovery (447), Irrigation Water Management, (449), Pipeline (516), Waste Storage Facility (313), Waste Transfer, (634), Watering Facility, (614), Water Well, (642), CAP 126 Comprehensive Air Quality Management Plan, CAP 122 Agricultural Energy Management Plan - Headquarters, and CAP 124 Agricultural Energy Management Plan - Landscape.	Includes cost of all materials, equipment use and labor required to install a premium National Electrical Manufacturers Association (NEMA) ≥ 100 hp electric motor.
374	Farmstead Energy Improvement	Lighting - LED	To install dimmable LEDs to replace incandescent lamps on a one-for-one basis. Light fixtures do not have to be replaced. LED requirements: minimum 6 Watt, 3700 Kelvin, dimmable, grow-out bulb; industrial grade; suitably protected from dirt accumulation. In high humidity environments or areas subject to wash down, gasketed or weatherproof housings are required to prevent corrosion and premature failure.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install LED, 6 watt light bulb.
374	Farmstead Energy Improvement	Lighting - CFL	To install dimmable CFLs to replace incandescent lamps on a one-for-one basis. Light fixtures do not have to be replaced. CFL requirements: minimum 8 Watt, 4100 Kelvin, dimmable, grow-out bulb; industrial grade; suitably protected from dirt accumulation. In high humidity environments or areas subject to wash down, gasketed or weatherproof housings are required to prevent corrosion and premature failure.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install CFL, 8 watt light bulb.
374	Farmstead Energy Improvement	Lighting - Linear Fluorescent	The lighting system consists of a four-foot, three-lamp fixture with a single electronic ballast. The high-efficiency lighting system uses high-efficiency T8 or T5 fluorescent lamps. Associated materials for installation of replacement fixtures are included.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install linear, fluorescent 75 watt light bulbs.

374 Farmstead Energy Improvement	Pulse Start - Metal Halide	The lighting system consists of a Pulse-Start Metal Halide (PSMH) lamp with a matched ballast or light-emitting diode (LED) equivalent fixtures (as detailed in ASABE S612-compliant energy audit). Associated materials for installation of replacement fixtures are included.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install replacement with Pulse Start Metal Halide (PSMH).
374 Farmstead Energy Improvement	Ventilation - Exhaust	Replacement of a conventional exhaust fan with high volume, low speed, efficient exhaust fan. Fans being installed should be models previously tested by BESS Lab or the Air Movement and Control Association and be in top 20 percentile of fans tested.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install high efficiency fan.
374 Farmstead Energy Improvement	Ventilation - HAF	A system of fans are installed to create a horizontal air circulation pattern; the new system promotes efficient heat and moisture distribution. Fan performance meets Energy Audit efficiency criteria as tested by AMCA or BESS Labs.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install Horizontal Air Flow (HAF) fan with VER rating of 13 CFM/Watt.
374 Farmstead Energy Improvement	Ventilation - Paddle Stir Fan	A system of fans are installed to create a vertical air circulation pattern; the new system promotes efficient heat and moisture distribution. Fan performance meets Energy Audit efficiency criteria as tested by AMCA or BESS Labs.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install a high efficiency Horizontal Air Flow (HAF) fan with 1/10 to 1/15 hp.
374 Farmstead Energy Improvement	Plate Cooler ≤ 499 gal/hr	High-efficiency milk cooling system which reduces energy use. The new milk cooling equipment will pre-cool the milk and reduce overall power requirements (kW) compared to the existing milk cooling system (where most of the cooling was accomplished in the bulk tank) as evidenced in an energy audit.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install ≤ 499 gal/hr dual pass milk plate cooler.
374 Farmstead Energy Improvement	Plate Cooler 500 - 749 gal/hr	High-efficiency milk cooling system which reduces energy use. The new milk cooling equipment will pre-cool the milk and reduce overall power requirements (kW) compared to the existing milk cooling system (where most of the cooling was accomplished in the bulk tank) as evidenced in an energy audit.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install 500 - 749 gal/hr dual pass milk plate cooler.
374 Farmstead Energy Improvement	Plate Cooler 750 - 999 gal/hr	High-efficiency milk cooling system which reduces energy use. The new milk cooling equipment will pre-cool the milk and reduce overall power requirements (kW) compared to the existing milk cooling system (where most of the cooling was accomplished in the bulk tank) as evidenced in an energy audit.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install 750 - 999 gal/hr dual pass milk plate cooler.
374 Farmstead Energy Improvement	Plate Cooler 1,000 - 4,999 gal/hr	High-efficiency milk cooling system which reduces energy use. The new milk cooling equipment will pre-cool the milk and reduce overall power requirements (kW) compared to the existing milk cooling system (where most of the cooling was accomplished in the bulk tank) as evidenced in an energy audit.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install 1000 - 4999 gal/hr dual pass milk plate cooler.
374 Farmstead Energy Improvement	Scroll Compressor	A more efficient scroll compressor, which will reduce energy use, is evidenced by the energy audit. A comparably sized scroll compressor provides refrigeration capacity at a higher efficiency than a reciprocating compressor. Newer scroll compressor systems typically reduce electricity use by 15 to 25 percent compared to reciprocating compressors.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install scroll compressor.
374 Farmstead Energy Improvement	Variable Speed Drive ≤ 50 HP	The typical scenario consists of a variable speed drive (VSD) and appurtenances, such as hook-ups, control panels, wiring, control blocks, filters, switches, pads, etc. attached to an electric motor used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production. The motor size, on which the VSD is added, is less than or equal to 50 HP.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install less than or equal to 50 HP variable speed drive (VSD).
374 Farmstead Energy Improvement	Variable Speed Drive > 50 HP	The typical scenario consists of a variable speed drive (VSD) and appurtenances, such as hook-ups, control panels, wiring, control blocks, filters, switches, pads, etc. attached to an electric motor used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production. The motor size, on which the VSD is added, is greater than 50 HP.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install greater than 50 HP variable speed drive (VSD).
374 Farmstead Energy Improvement	Automatic Controller System	The typical scenario consists of an automatic control system installed on an existing manually controlled agricultural system.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install wiring, sensors, data logger, logic controller, communication link, software, switches, and relay.
374 Farmstead Energy Improvement	Motor Upgrade ≤ 2 HP	The typical scenario consists of replacing an existing electric motor used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production with a new, high efficiency motor. The motor size is less than or equal to 2 HP.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install a premium National Electrical Manufacturers Association (NEMA) less than or equal to 2 HP electric motor.
374 Farmstead Energy Improvement	Motor Upgrade > 2 and < 40 HP	The typical scenario consists of replacing an existing electric motor used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production with a new, high efficiency motor. The motor size is larger than 2 HP or less than 40 HP.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install a premium National Electrical Manufacturers Association (NEMA) greater than 2 HP and less than 40 HP electric motor.
374 Farmstead Energy Improvement	Motor Upgrade 40 and < 100 HP	The typical scenario consists of replacing an existing electric motor used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production with a new, high efficiency motor. The motor size is equal to 40 HP or than 100 HP.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install a premium National Electrical Manufacturers Association (NEMA) equal to 40 HP and less than 100 HP electric motor.
374 Farmstead Energy Improvement	Motor Upgrade = or > 100 HP	The typical scenario consists of replacing an existing electric motor used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production with a new, high efficiency motor. The motor size is greater than 100 HP.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install a premium National Electrical Manufacturers Association (NEMA) greater than 100 HP electric motor.

374 Farmstead Energy Improvement	Vacuum Pump - Compatible w/Variable Speed	The typical scenario consists of replacing an existing vacuum pump not compatible with an add-on variable frequency drive to a vacuum pump compatible with an add-on variable frequency drive; typically used in a milking system for a dairy. The motor size and the Variable Speed Drive (VSD) on which the vacuum pump is added, generally ranges from 7.5 to 15 HP.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install a vacuum pump, stand, silencer and drive kit.
374 Farmstead Energy Improvement	Heating - Radiant Tube	Replace "pancake" brood heaters in a poultry house with Radiant Tube Heaters. Alternate acceptable radiant heating systems can include radiant brooders and quad radiant systems as evidenced by the energy audit.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install radiant tube heaters.
374 Farmstead Energy Improvement	Heating (Building)	Replace existing low efficiency heaters with new high efficiency heaters. High-efficiency heating systems include any heating unit with efficiency rating of 80%+ for fuel oil and 90%+ for natural gas and propane. Applications may be air heating/building environment and hydronic (boiler) heating for agricultural operations, including under bench, or root zone heating.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install natural gas, propane, or oil unit high efficiency heater.
374 Farmstead Energy Improvement	Heating - Attic Heat Recovery vents	Install actuated inlets or automatic latching gravity inlets that draw warmer, drier air from the attic to assist with moisture and heat control when ventilation fans are being operated in poultry houses and swine barns. Other systems to transfer heat, as detailed in ASABE S612-compliant energy audit may also be used.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install poultry house attic air inlets.
374 Farmstead Energy Improvement	Building Envelope - Attic Insulation	Install a minimum R-7 insulation in addition to existing attic or ceiling to reduce heat transfer. Increased insulation reduces seasonal heat loss and heat gain which reduces the respective need for heating and cooling equipment to operate.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install fiberglass or cellulose R-15 insulation.
374 Farmstead Energy Improvement	Building Envelope - Wall Insulation	Enclose both sidewalls and endwalls from ceiling to floor in one of two manners: 1) metal exterior, 3.5" fiberglass batts (R-11), vapor barrier, & interior plywood or OSB sheathing, or 2) closed-cell polyurethane foam application (minimum 1" thickness (R-7) of 2.5 lbs/cu.ft. or higher density, (3.0 or higher density preferred) with a form of physical protective barrier on lower 2' (may be 6 lbs/cu.ft. or higher density 1/8" thick foam, or treated lumber).	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install closed cell polyurethane R-7 foam insulation (minimum 1" thickness) with protective sheathing barrier.
374 Farmstead Energy Improvement	Building Envelope - Tunnel Doors	A typical scenario is the installation of tunnel doors to replace tunnel curtain openings.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install tunnel doors.
374 Farmstead Energy Improvement	Building Envelope - Sealant	A typical scenario is sealing the gaps between walls, gables, ceiling, etc. in a poultry house or greenhouse. Sealing is performed by a professional contractor, not merely use of spray foam from a can.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install building gap sealant.
374 Farmstead Energy Improvement	Building Envelope - Greenhouse Screens	The mechanical energy screen system consists of a drive motor, support cables, controls, and shade material, which may be woven, knitted, or non-woven strips of aluminum fiber, polyethylene, nylon or other synthetic material. The screen provides a means to better control solar heat gain and heat transfer during night or cold weather conditions to reduce energy use. Screens and similar devices may also be used to divide internal areas and allow for differentiated heating, ventilation, or cooling system operation to reduce energy use.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install thermal blanket greenhouse screens, which an includes mechanical energy screen system consisting of a drive motor, support cables, controls, shade material (woven, knitted or non-woven).
374 Farmstead Energy Improvement	Greenhouse - Insulate Unglazed Walls	A typical scenario is the installation insulation in green house to address energy loss. The insulation can be either of the cellulose or bubble type (or equivalent). The increased insulation reduces seasonal heat loss and heat gain which reduces the respective need for heating and cooling equipment to operate.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install reflective bubble greenhouse insulation.
374 Farmstead Energy Improvement	Compressor Heat Recovery Unit	Install a new heat recovery unit (a desuperheater), associated controls, wiring, and materials to an existing refrigeration system. The heat extracted from the warm milk is used to pre-heat water before it enters a conventional water heater. Energy savings comes from the reduced heating required in a water heater.	122-AgEMP - HQ, and other activities within Farmstead Energy Improvement (374). Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Includes cost of all materials, equipment use and labor required to install compressor heat recovery (CHR) [insulated storage tank heat exchangers] added to a refrigeration system.
378 Pond	Excavated Pit	A low-hazard water impoundment structure on agricultural lands to improve water quality and to provide water for livestock. Pond is created solely by excavation and impounds less than 3 feet against the embankment or spoil. Excavated material is spoiled, not placed in a designed embankment. Earthen spillway is constructed as needed.	Vegetation will be completed under Critical Area Planting (342), Mulching (484). Other associated practices include Fence (382), Pipeline (516), Pond Sealing and Lining, Flexible Membrane (521A), Pumping Plant (533), Watering Facility (614), Structure for Water Control (587).	Includes the cost of materials, equipment use and labor required for install excavation. Excavated Volume
378 Pond	Embankment Pond with Pipe	A low-hazard water impoundment structure on agricultural land to improve water quality and to provide water for livestock, fish and wildlife, recreation, fire control, developing renewable energy systems, and other related uses to maintain or improve water quality. An earthen embankment will be constructed with a principle spillway conduit and earthen auxiliary spillway, as designed.	Vegetation will be completed under Critical Area Planting (342), Mulching (484). Other associated practices include Fence (382), Pipeline (516), Pond Sealing and Lining, Flexible Membrane (521A), Pumping Plant (533), Watering Facility (614), Structure for Water Control (587).	Includes the cost of materials, equipment use and labor required for install excavation, earthfill, reinforced concrete, trash guard, corrugated metal galvanized pipe. Embankment Volume
378 Pond	Embankment Pond with Siphon Pipe	A low-hazard water impoundment structure on agricultural land to improve water quality and to provide water for livestock, fish and wildlife, recreation, fire control, developing renewable energy systems, and other related uses to maintain or improve water quality. An earthen embankment will be constructed with a principle spillway conduit and earthen auxiliary spillway, as designed.	Vegetation will be completed under Critical Area Planting (342), Mulching (484). Other associated practices include Fence (382), Pipeline (516), Pond Sealing and Lining, Flexible Membrane (521A), Pumping Plant (533), Watering Facility (614), Structure for Water Control (587).	Includes the cost of materials, equipment use and labor required for install excavation, SCH 40 PVC pipe. Embankment Volume
380 Windbreak/Shelterbelt Establishment	1 row windbreak, trees, hand planted	Single row of tree seedlings for wind protection, wildlife habitat. This practice is typically applied to crop, pasture or range lands. Wind velocity suitably reduced to reduce soil erosion. Additional wildlife food and cover.	Tree Shrub Site Preparation (490), Tree Shrub Establishment (612), Mulching (484)	Includes cost of all materials, equipment use and labor required to install a 1 row configuration planting of bareroot trees.

380 Windbreak/Shelterbelt Establishment	2-row windbreak, trees, machine planted	Two rows of hardwood trees for wind protection, energy conservation, wildlife habitat or to provide a visual screen. This practice is typically applied to crop, pasture or range lands. Wind velocity suitably reduced to reduce soil erosion. Additional wildlife food and cover.	Tree Shrub Site Preparation (490), Tree Shrub Establishment (612), Microirrigation (441), Mulching (484)	Includes cost of all materials, equipment use and labor required to install a 2 row configuration planting of bareroot trees.
381 Silvopasture	Commercial Thinning, Establish Native Grasses	Commercial thinning of an existing stand of trees followed by establishment of native grasses. The stand is thinned commercially allowing adequate sunlight to the forest floor for grass production, yet still provide shade and some protection from the elements for livestock and wildlife. Since thinning is done commercially, no harvesting costs are incurred. The soil is prepared for planting using chemical and mechanical means, then a mix of native warm-season grasses will be established, providing forage to livestock and wildlife.	Forage and Biomass Planting (512), Forest Stand Improvement (666)	Includes cost of all materials, equipment use and labor required to install thinning of existing stand and preparing adequate seedbed, herbicide for site preparation, no till/grass drill, native grasses.
381 Silvopasture	Commercial Thinning, Establish Introduced Grasses	Commercial thinning of an existing stand of trees followed by establishment of introduced grasses. The stand is thinned commercially allowing adequate sunlight to the forest floor for grass production, yet still provide shade and some protection from the elements for livestock and wildlife. Since thinning is done commercially, no harvesting costs are incurred. The soil is prepared for planting using chemical and mechanical means, then a mix of cool-season grasses and legumes will be established, providing forage to livestock and wildlife.	Forage and Biomass Planting (512), Forest Stand Improvement (666)	Includes cost of all materials, equipment use and labor required to install thinning of existing stand and adequate seedbed, herbicide for site preparation, no till/grass drill, introduced grass, legume, fertilizer and lime for establishment.
381 Silvopasture	Tree Establishment	Establishment of trees into an existing pasture that contains adequate native or introduced forage. The site will be prepared using Tree/Shrub Site Preparation (490), if needed, and then pine trees per acre will be planted, providing shade and wind protection to livestock and wildlife, and, in time, producing a viable wood products crop. Per the conservation practice standard, livestock grazing will be deferred until the trees reach adequate height to resist damage, or use exclusion measures are established.	Tree Shrub Site Preparation (490), Tree Shrub Establishment (612), Forage and Biomass Planting (512)	Includes the cost of pines (bareroot, tublings)and all materials, equipment use and labor required to plant pines (machine or hand planted).
382 Fence	Barbed/Smooth Wire	Installation of fence will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds.	Prescribed Grazing (528)	Includes cost of all materials, equipment use and labor required to install barbed wire, line posts, corner posts, gate posts, single H braces, double H braces, staples, stays and gates.
382 Fence	Woven Wire	Installation of fence will allow for implementation of a grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. Woven wire is typically used in applications with sheep, goats, hogs.	Prescribed Grazing (528)	Includes cost of all materials, equipment use and labor required to install woven wire, line posts, corner posts, gate posts, single H braces, double H braces, staples, stays and gates.
382 Fence	Permanent Electric	Installation of fence will allow for implementation of a grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds.	Prescribed Grazing (528)	Includes cost of all materials, equipment use and labor required to install high tensile wire, electric strand, energizer, lightning diverter, line posts, corner posts, gate posts, single H braces, double H braces, staples, stays and gates.
386 Field Border	Native Grasses	A strip of permanent vegetation established at the edge or around the perimeter of a field. This practice applies to agronomic crops including where forages are grown.	Contour Farming (330), Critical Area Planting (342), Mulching (484), Nutrient Management (590), Forage and Biomass Planting (595), Pest Management (595), Tree Shrub Establishment (612), Upland Wildlife Habitat Management (645)	Includes cost of all materials, equipment use and labor required to install adequate seedbed, no-till/grass till and native grasses.
386 Field Border	Pollinator Habitat	A strip of permanent vegetation established at the edge or around the perimeter of a field. This practice applies to agronomic crops including where forages are grown.	Contour Farming (330), Critical Area Planting (342), Mulching (484), Nutrient Management (590), Forage and Biomass Planting (595), Pest Management (595), Tree Shrub Establishment (612), Upland Wildlife Habitat Management (645)	Includes cost of all materials, equipment use and labor required to install adequate seedbed, no-till/grass till, native grasses, and legumes and forbs (pollinator mix).
388 Irrigation Field Ditch	Irrigation Field Ditch	An earthen canal that has adequate capacity to convey sufficient irrigation water to meet the demands of the system and make irrigation practical for the crops being grown.	Irrigation Canal or Lateral (320), Irrigation System, Surface or Subsurface (443), Pumping Plant, (533) Irrigation Pipeline (430)	Includes cost of all materials, equipment use and labor required for excavation.
391 Riparian Forest Buffer	Bare-root, hand planted	Establish a buffer of trees and/or shrubs into a suitably prepared site to restore riparian plant communities and associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body extending a minimum of 35 feet wide. The planting will consist of hand planted bare-root hardwood trees. One third of the area will be planted to each woody plant type.	Streambank and Shoreline Protection, (580), Fence (382), Riparian Forest Buffer (390), Range Planting, (550), Filter Strip (393), Access Control (472), Prescribed Grazing (528), Brush Management (314), Upland Wildlife Habitat Management (644), Wetland Wildlife Habitat Management (645)	Includes the cost of all materials, equipment use and labor required to install site preparation, hand planting, bareroot trees.
391 Riparian Forest Buffer	Bare-root, machine planted	Establish a buffer of trees and/or shrubs into a suitably prepared site to restore riparian plant communities and associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body extending a minimum of 35 feet wide. The planting will consist of machine planted bare-root hardwood trees. One third of the area will be planted to each woody plant type.	Streambank and Shoreline Protection, (580), Fence (382), Riparian Forest Buffer (390), Range Planting, (550), Filter Strip (393), Access Control (472), Prescribed Grazing (528), Brush Management (314), Upland Wildlife Habitat Management (644), Wetland Wildlife Habitat Management (645)	Includes the cost of all materials, equipment use and labor required to install site preparation, machine planting, bareroot trees.
393 Filter Strip	Native Grasses	A strip or area of native herbaceous vegetation situated between cropland, grazing land or disturbed land and sensitive areas. The planned filter strip will be established and maintained per the practice plan that will meet the criteria for the planned purpose(s). The vegetation will consist of native species. The filter strip will have adequate width to filter the planned pollutants. Species selected shall be able to withstand partial burial by sediment and tolerant of herbicides used on contribution area while protecting environmentally-sensitive areas.	Nutrient Management (590), Forage and Biomass Planting (512), Prescribed Burning (338), Prescribed Grazing (338), Riparian Forest Buffer (391).	Includes cost of all materials, equipment use and labor required to install adequate seedbed, native grass, no-till/grass drill planting.

393 Filter Strip	Introduced Grasses	A strip or area of Introduced herbaceous vegetation situated between cropland, grazing land or disturbed land and sensitive areas. The vegetation will consist of native species. The filter strip will have adequate width to filter the planned pollutants. Species selected shall be able to withstand partial burial by sediment and tolerant of herbicides used on contribution area while protecting environmentally-sensitive areas.		Nutrient Management (590), Forage and Biomass Planting (512), Prescribed Burning (338), Prescribed Grazing (338), Riparian Forest Buffer (391).	Includes cost of all materials, equipment use and labor required to install adequate seedbed, no-till/grass drill planting, perennial grass, fertilizer and herbicide for establishment.
393 Filter Strip	Organic	A strip or area of Introduced herbaceous vegetation situated between cropland, grazing land or disturbed land and sensitive areas. The planned filter strip will be established and maintained per the practice plan that will meet the criteria for the planned purpose(s). The vegetation will consist of introduced species. The filter strip will have adequate width to filter the planned pollutants. Species selected shall be able to withstand partial burial by sediment and tolerant of herbicides used on contribution area while protecting environmentally-sensitive areas.		Nutrient Management (590), Forage and Biomass Planting (512), Prescribed Burning (338), Prescribed Grazing (338), Riparian Forest Buffer (391).	Includes cost of all materials, equipment use and labor required to install adequate seedbed, no-till/grass drill planting, organic legumes and perennial grass, organic fertilizer for establishment.
394 Firebreak	Firebreak	Installation of a bare-ground firebreak. Generally water control devices such as water bars are not needed due either to the lack of steep terrain or the temporary nature of the firebreak.		Prescribed Burning (338)	Includes cost of all materials, equipment use and labor to construct a firebreak prepared by normal farm type machinery (offset harrow or chisel plow), fireplow, small dozer or similar type equipment.
410 Grade Stabilization Structure	Embankment, Pipe <12"	An earthen embankment dam with a principle spillway pipe less than 12 inches, anti-seep collars or sand diaphragm, and excavated plunge pool basin. Installed to stabilized the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. A non-lined plunge pool protects the outlet channel.		Disturbed areas are protected with permanent vegetative cover. Any needed re-vegetation of disturbed areas use Critical Area Planting (342), Mulching (484). Other associated practices such as; Pond (378), Dam (402), Fence (382), Pumping Plant (533), Watering Facility (614), and Livestock Pipeline (516).	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, compaction, filter diaphragm sand, PVC pipe (drain pipe). Cubic Yards of Earthfill
410 Grade Stabilization Structure	Embankment, Pipe >12"	An earthen embankment dam with a principle spillway pipe greater than 12 inches. Installed to stabilized the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. A rock lined plunge pool protects the outlet channel.		Disturbed areas are protected with permanent vegetative cover. Any needed re-vegetation of disturbed areas use Critical Area Planting (342), Mulching (484). Other associated practices include Pond (378), Dam (402), Fence (382), Pumping Plant (533), Watering Facility (614), Livestock Pipeline (516).	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, compaction, non-reinforced and reinforced concrete, steel pipe, lumber (pipe support), anti-seep collars, rock rip rap, geotextile fabric. Cubic Yards of Earthfill
410 Grade Stabilization Structure	Pipe Drop	A full flow pipe drop grade stabilization structure designed and constructed using plastic pipe without anti-seep collars. Installed to stabilized the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion.		Disturbed areas are protected with permanent vegetative cover. Any needed re-vegetation of disturbed areas use Critical Area Planting (342), Mulching (484). Other associated practices include Pond (378), Dam (402), Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), and Irrigation Canal or Lateral (320).	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, compaction, reinforced concrete, PVC pipe (drain pipe). Barrel Length
410 Grade Stabilization Structure	Weir Drop Structures	A Straight, semicircular, or Box Drop structure composed of metal or reinforced concrete used to stabilized the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion.		Disturbed areas are protected with permanent vegetative cover. Any needed re-vegetation of disturbed areas use Critical Area Planting (342), Mulching (484). Other associated practices include Pond (378), Dam (402), Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), Subsurface Drain (606), and Underground Outlet (620).	Includes cost of all materials, equipment use and labor required to install steel pipe, CMP pipe, rock rip rap, excavation, earthfill, compaction, reinforced concrete, geotextile PVC pipe (drain pipe). The unit of payment measurement is defined as weir length times drop in "feet". The drop (feet) is defined as the structure inlet crest elevation minus the control outlet elevation (ie: outlet apron elevation).
410 Grade Stabilization Structure	Rock Drop Structures	A Straight Drop structure constructed of rock riprap held in place by galvanized wire, such as, gabion baskets, fence panels, or "sausage" baskets. These structures are used to stabilized the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion.		Disturbed areas are protected with permanent vegetative cover. Any needed re-vegetation of disturbed areas use Critical Area Planting (342), Mulching (484). Other associated practices include Pond (378), Dam (402), Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), Subsurface Drain (606), and Underground Outlet (620).	Includes cost of all materials, equipment use and labor required to install gabion basket or mat, earthfill, compaction, geotextile, excavation. The unit of payment measurement is defined as weir length times drop in "feet". The drop (feet) is defined as the structure inlet crest elevation minus the control outlet elevation (ie: outlet apron elevation).
412 Grassed Waterway	Base Waterway	A grass waterway that is a shaped or graded channel and is established with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet.	Use Critical Area Planting (342) for establishment of waterway vegetation. If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484).	Drainage tile, if needed, will be installed according to Subsurface Drain (606). Outlets, if needed will be installed using Structure for Water Control (587). If inlet structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Includes cost of all materials, equipment use and labor required to install excavation and associated work to construct the overall shape and grade of the waterway. Waterway area measured from top of bank to top of bank.
412 Grassed Waterway	With Checks	A grass waterway that is a shaped or graded channel and is established with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet. Fabric or stone checks are installed every 100 feet along the length of the waterway perpendicular to waterflow and are 2/3 the waterway top width to reduce maintenance and provide temporary protection until vegetation is established. Fabric Checks are installed 18" deep with 12" laid over on the surface. (Alternatively, rock checks could be installed).	Use Critical Area Planting (342) for establishment of waterway vegetation. If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484).	Drainage tile, if needed, will be installed according to Subsurface Drain (606). Outlets, if needed will be installed using Structure for Water Control (587). If inlet structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, compaction and geotextile and associated work to construct the overall shape and grade of the waterway. Waterway area measured from top of bank to top of bank.

422 Hedgerow Planting	Pollinator Habitat	Where pollinator habitat is an additional wildlife habitat concern this scenario addresses the resource concern of inadequate fish and wildlife habitat. It provides both physical habitat by providing areas that are not disturbed by annual tillage and provides pollen and nectar throughout the growing season by establishing a diverse mixture of flowering plants. Typically a mixture of 5 or more species is planted to improve diversity so that pollen and nectar are available as long as possible. Typical installation is in or at the edge of cropland or pasture. Typical installation involves tillage to prepare the site for planting. Flowering shrubs adapted for local climatic and edaphic conditions. A native grass adapted to the local climatic and edaphic conditions will be drilled into the site at a rate that will achieve a minimum of 20 seeds per square foot. A locally adapted mixture of at 3 pollen and nectar producing plants will be drilled into the site. Species adapted to local climatic and edaphic conditions will be listed in the specification for the site.	Tree Shrub Establishment (612), Contour Farming (330), Stripcropping (585), Forage and Biomass Planting (512)	Includes the cost of all materials, equipment use and labor required to install adequate seedbed, native grasses and forbs, bareroot shrubs/trees.
422 Hedgerow Planting	Wildlife, Machine Plant	This scenario is for machine planting of woody species. Typically installed in or at the edge of cropland or pasture. Specifically, the establishment of dense vegetation in a linear design can be used to provide for several habitat elements depending on the needs identified in the habitat assessment. This scenario can provide: habitat connectivity, food, and cover for wildlife depending on design and plant species selection. The 422 standard for wildlife criteria calls for a minimum of two species of native plants. Typical installation involves tillage to prepare the site for planting. Two trees and/or shrubs adapted for local climatic and edaphic conditions. A mix of 2 native grasses adapted to the local climatic and edaphic conditions will be drilled into the site at a rate that will achieve a minimum of 20 seeds per square foot. Plant species adapted to the local climatic and edaphic conditions that address the resource concern will be stated in the specification for the site.	Tree Shrub Establishment (612), Contour Farming (330), Stripcropping (585), Forage and Biomass Planting (512)	Includes the cost of all materials, equipment use and labor required to install adequate seedbed, native grasses, bareroot shrubs/trees.
430 Irrigation Pipeline	PVC (Iron Pipe Size)	Below ground installation of PVC (Iron Pipe Size) pipeline. PVC (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 24-inch; and typical scenario size is 6-inch. The unit is weight of pipe material in pounds.	Irrigation Reservoir (436), Irrigation System, Microirrigation (441), Irrigation System, Sprinkler (442), Irrigation System, Surface & Subsurface (443), Irrigation System, Tailwater Recovery (447), Pumping Plant (533), Waste Transfer (634)	Includes cost of all materials, equipment use and labor required to install trenching and backfill, couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material.
430 Irrigation Pipeline	PVC (Plastic Irrigation Pipe) ≤ 8"	Below ground installation of PVC (Plastic Irrigation Pipe) pipeline. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 6-inch. The unit is weight of pipe in pounds.	Irrigation Reservoir (436), Irrigation System, Microirrigation (441), Irrigation System, Sprinkler (442), Irrigation System, Surface & Subsurface (443), Irrigation System, Tailwater Recovery (447), Pumping Plant (533), Waste Transfer (634)	Includes cost of all materials, equipment use and labor required to install trenching and backfill, couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material.
430 Irrigation Pipeline	Steel (Iron Pipe Size) ≤ 8"	Below ground installation of Steel (Iron Pipe Size) pipeline. Steel (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 18-inch; and typical scenario size is 6-inch. The unit is weight of pipe in pounds.	Irrigation Reservoir (436), Irrigation System, Microirrigation (441), Irrigation System, Sprinkler (442), Irrigation System, Surface & Subsurface (443), Irrigation System, Tailwater Recovery (447), Pumping Plant (533), Waste Transfer (634)	Includes cost of all materials, equipment use and labor required to install trenching and backfill, couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material.
436 Irrigation Reservoir	Embankment Dam with On-Site Borrow	The reservoir, created by an embankment built across a natural depression, with a principal spillway outlet through the embankment, controlled by a canal-style gate. Outlet can also serve as overflow protection with a diameter standpipe and tee to a pipe. Any watershed runoff will be diverted around reservoir.	521 - Pond Sealing or Lining (521A, 521B, 521C, 521D), 320 - Irrigation Canal or Lateral, (320), Irrigation Pipeline (430), Irrigation Ditch Lining, (428), Pumping Plant (533), Irrigation Systems, Microirrigation 441, Irrigation Systems, Sprinkler (442), Irrigation System, Surface and Subsurface (443), Irrigation System, Tailwater Recovery (447), Pond (378), Mulching (484), Critical Area Planting (342)	Includes cost of all materials, equipment use and labor required to install excavation, compaction, HDPE pipe, HDPE coupling, screw gate. Volume of Compacted Earthfill
436 Irrigation Reservoir	Embankment Reservoir ≤ 30 Acre-Feet	This is a small rectangular embankment reservoir with a principal spillway through the embankment controlled by a canal-type gate. It is designed to accumulate, store, and deliver water by gravity to an open ditch or non-pressurized pipeline, in excess of 5 cfs.	521 - Pond Sealing or Lining (521A, 521B, 521C, 521D), 320 - Irrigation Canal or Lateral, (320), Irrigation Pipeline (430), Irrigation Ditch Lining, (428), Pumping Plant (533), Irrigation Systems, Microirrigation 441, Irrigation Systems, Sprinkler (442), Irrigation System, Surface and Subsurface (443), Irrigation System, Tailwater Recovery (447), Pond (378), Mulching (484), Critical Area Planting (342)	Includes cost of all materials, equipment use and labor required to install excavation, compaction, HDPE pipe, metal catwalk, screw gate. Volume of Compacted Earthfill
436 Irrigation Reservoir	Steel Tank	A 20,000 Gallon, above ground, enclosed fabricated Steel or bottomless Corrugated Metal (with plastic liner and cover) tank with fittings, is installed on 6" of well compacted drain rock support pad with sand padding (CM tank), to store water from a reliable source for irrigation of an area less than 5 acres. The scenario also assumes a base pad to extend a minimum of 2 feet past the base of tank for adequate foundation support.	Irrigation Pipeline, (430), Irrigation System, Microirrigation, (441), Irrigation System, Sprinkler (442), Pumping Plant, (533), Irrigation System, Tailwater Recovery (447)	Includes cost of all materials, equipment use and labor required to install earthfill, compaction, corrugated metal storage tank. This cost estimate scenario is for cost of the tank and pad only and does not include the cost for pumps, pipe, or fittings for the pipeline. Volume of Tank Storage
436 Irrigation Reservoir	Plastic Tank	A 3,000 Gallon, above-ground, High Density Polyethylene plastic enclosed tank, is installed on 6" of well-compacted drain rock or a 4" thick reinforced concrete support pad, to store water from a reliable source for irrigation of an area less than one acre. The scenario assumes a 126" diameter gravel base or concrete pad to extend a minimum of 12" past the base of tank for adequate foundation support.	Irrigation Pipeline, (430), Irrigation System, Microirrigation, (441), Irrigation System, Sprinkler (442), Pumping Plant, (533), Irrigation System, Tailwater Recovery (447)	Includes cost of all materials, equipment use and labor required to install aggregate, compaction, poly-enclosed storage tank. This cost estimate scenario is for cost of the tank and pad only and does not include estimate for pumps, pipe, or connecting fittings. Volume of Tank Storage

436 Irrigation Reservoir	Fiberglass Tank	A 10,000 Gallon above ground, enclosed, fiberglass tank, is installed on 6" of well compacted drain rock support pad. The tank is used to store water from a reliable source for irrigation of areas less than 3 acres. The scenario assumes a 19 feet diameter gravel base pad to extend a minimum of 2 feet past the base of tank for adequate foundation support.	Irrigation Pipeline, (430), Irrigation System, Microirrigation, (441), Irrigation System, Sprinkler (442), Pumping Plant, (533), Irrigation System, Tailwater Recovery (447)	Includes cost of all materials, equipment use and labor required to install aggregate, compaction, fiberglass storage tank. This cost estimate scenario is for cost of the tank and pad only and does not include estimate for pumps, pipe, fittings for the pipeline, or catchment area.
441 Irrigation System, Microirrigation	SDI (Subsurface Drip Irrigation)	A subsurface drip irrigation system (SDI) with a lateral spacing between 37-59 inches. This buried drip irrigation system utilizes a thinwall dripperline or tape with inline emitters at a uniform spacing for the system laterals. The dripperline or tape is normally installed by being plowed in approx 10-14 inches deep with a chisel shank type plow equipped with tape reels. This type of drip irrigation system utilizes a buried supply manifold with automated zone control valves and a buried flush manifold with manual flush valves.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430), Conservation Crop Rotation (328), Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install a permanent micro-irrigation system including an automated filter station, flow meter, backflow prevention device, automated control box or timer, the thinwall dipperline or tape for laterals, both a supply and a flushing manifold and numerous types of water control valves. This is an all-inclusive system starting with the filter station including all required system components out to the flush valves. The water supply line from the water source to the filter station is an irrigation pipeline (430) and is not included as part of this system.
441 Irrigation System, Microirrigation	Sprayjet/Microjet	A micro-irrigation system, utilizing micro-jets to provide irrigation and/or frost protection for an orchard or other specialty crops grown in a grid pattern. The system is installed with all fittings, control valves, pressure reducing/regulating valves, air/vacuum release, sand media/screen/disc filters, pressure gauges, submains, lateral lines, and micro-jet sprayers to deliver water to the trees. This practice applies to systems designed to discharge < 60 gal/hr at each individual lateral discharge point. Does not include Pump, Power source, Water source (well or reservoir). The typical installation is a permanent, microjet -irrigation system installed on a 60 acre orchard with laerals spaced 15 to 25 feet.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430), Conservation Crop Rotation (328), Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install the system with all pvc pipe, fittings, automatic controller and timer, control valves, pressure reducing/regulating valves, air/vacuum release, sand media/screen/disc filters, flow meter, pressure gauges, submains, lateral lines, and micro-jet sprayers or emitters and tubing to deliver water to the trees. Pipe downstream of the filter (i.e. mainline, sub main, manifold, flush manifold). Pipe upstream of the filter should use payment schedule for irrigation pipeline (Code 430).
441 Irrigation System, Microirrigation	Polytube and emitter retrofit	Replacement of orchard, vineyard, groves micro-irrigation system components that have exceeded 15 years of service (design lifespan) OR that do not meet current 441 practice standard criteria. Replace above ground durable tubing, emitters or sprayers with new durable tubing, emitters or sprayers.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430), Conservation Crop Rotation (328), Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install poly tubing, drip tape, lateral lines, and emitters.
441 Irrigation System, Microirrigation	Surface micro for orchard/vineyard	A micro-irrigation system, utilizing surface PE tubing (can be placed on trellis, on or above ground) with emitters to provide irrigation for an blueberries, orchard, vinyard, or other specialty crop grown in a grid pattern. The typical system is a permanent system, installed on a 60 acre vineyard on the ground surface or trellis. Laterals are spaced 4-12 feet apart.This system utilizes emitters at each tree or plant as the water application device. Typical scenario lateral spacing 8 ft.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430), Conservation Crop Rotation (328), Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install the system with all pvc pipe, fittings, automatic controller and timer, control valves, pressure reducing/regulating valves, air/vacuum release, sand media/screen/disc filters, flow meter, pressure gauges, submains, lateral lines, and micro-jet sprayers or emitters and tubing to deliver water to the trees. Pipe downstream of the filter (i.e. mainline, sub main, manifold, flush manifold). Pipe upstream of the filter should use payment schedule for irrigation pipeline (Code 430).
441 Irrigation System, Microirrigation	Surface micro using a surface water source - vegetables	A micro-irrigation system using drip tape or similar type micro irrigation material on the surface for vegetables with water sources being surface waters (pond, river, stream). Spacing of drip tape similar type micro irrigation material is based on soil type or row alignment but will typically vary from 18" to 36".	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430), Conservation Crop Rotation (328), Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install sand or media filter, (includes plumbing connection and automatic controller), drip tubing and laterals.
441 Irrigation System, Microirrigation	Surface micro using a well water source - vegetables	A micro-irrigation system using drip tape or similar type micro irrigation material on the surface for vegetables with water source being well. Spacing of drip tape, drip line, bubblers or similar type micro irrigaiton material is based on soil type or row alignment but will typically vary from 18" to 36".	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430), Conservation Crop Rotation (328), Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install sand or media filter, drip tubing and laterals.
441 Irrigation System, Microirrigation	SDI (Subsurface Drip Irrigation) less than 50 acres using a surface water source	A subsurface drip irrigation system (SDI) with a lateral spacing between 30-59 inches with water source being surface waters (pond, stream, river). This buried drip irrigation system utilizes a thinwall dripperline or tape with inline emitters at a uniform spacing for the system laterals. The dripperline or tape is normally installed by being plowed in approx 10-14 inches deep with a chisel shank type plow equipped with tape reels. This type of drip irrigation system utilizes a buried supply manifold with automated zone control valves and a buried flush manifold with manual flush valves.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430), Conservation Crop Rotation (328), Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install permanent micro-irrigation system includes an automated filter station, flow meter, backflow prevention device, automated control box or timer, the thinwall dipperline or tape for laterals, both a supply and a flushing manifold and numerous types of water control valves. This is an all-inclusive system starting with the filter station including all required system components out to the flush valves. The water supply line from the water source to the filter station is an irrigation pipeline (430) and is not included as part of this system

441 Irrigation System, Microirrigation	SDI (Subsurface Drip Irrigation) less than 50 acres using a well water source	A subsurface drip irrigation system (SDI) with a lateral spacing between 30-59 inches. This buried drip irrigation system utilizes a thinwall dripperline or tape with inline emitters at a uniform spacing for the system laterals. The dripperline or tape is normally installed by being plowed in approx 10-14 inches deep with a chisel shank type plow equipped with tape reels. This type of drip irrigation system utilizes a buried supply manifold with automated zone control valves and a buried flush manifold with manual flush valves.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430), Conservation Crop Rotation (328), Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install permanent micro-irrigation system includes an automated filter station, flow meter, backflow prevention device, automated control box or timer, the thinwall dipperline or tape for laterals, both a supply and a flushing manifold and numerous types of water control valves. This is an all-inclusive system starting with the filter station including all required system components out to the flush valves. The water supply line from the water source to the filter station is an irrigation pipeline (430) and is not included as part of this system.
441 Irrigation System, Microirrigation	Microirrigation High Tunnel	A micro-irrigation system, utilizing surface PE tubing (can be placed on trellis or above ground) with emitters to provide irrigation for crops grown under a seasonal high tunnel. The typical system is a permanent system, installed on the ground surface under a 30' x 72' seasonal high tunnel. This system utilizes drip tape on each plant row as the water application device.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430), Conservation Crop Rotation (328), Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install drip tape on each plant row as the water application device. This system includes a filter system, drip tape, PVC manifolds, and submains, valves, fittings, , etc. This practice applies to systems designed to discharge < 2 gpm for the drip tape under the seasonal high tunnel.
441 Irrigation System, Microirrigation	Nursery	A micro-irrigation system, utilizing drippers or spray stakes to provide irrigation and/or frost protection for a nursery or other specialty crops grown in a grid pattern. The typical installation is a permanent, microirrigation system installed on a 5 acre container nursery.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430), Conservation Crop Rotation (328), Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install all fittings, control valves, pressure reducing/regulating valves, air/vacuum release, sand media/screen/disc filters, pressure gauges, submains, lateral lines, and micro-jet sprayers to deliver water to the nursery or speciality crops.
441 Irrigation System, Microirrigation	SDI (Subsurface Drip Irrigation-Wide Lateral Spacing)	A subsurface drip irrigation system (SDI) with a lateral spacing between 20-26 feet. This buried drip irrigation system utilizes a thinwall dripperline or tape with inline emitters at a uniform spacing for the system laterals. The dripperline or tape is normally installed by being plowed in approx 10-14 inches deep with a chisel shank type plow equipped with tape reels.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430), Conservation Crop Rotation (328), Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install a buried supply manifold with automated zone control valves and a buried flush manifold with manual flush valves. This permanent micro-irrigation system includes an automated filter station, flow meter, backflow prevention device, automated control box or timer, the thinwall dipperline or tape for laterals, both a supply and a flushing manifold and numerous types of water control valves. The water supply line from the water source to the filter station is an irrigation pipeline (430) and is not included as part of this system.
442 Irrigation System, Sprinkler	Center Pivot	Installation of a low pressure center pivot system.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430)	Includes cost of all materials, equipment use and labor required to install a center pivot including concrete pad or anchoring device, pivot structure, spans, nozzles, control pad and end of field stops.
442 Irrigation System, Sprinkler	Linear Move	Installation of a linear or lateral move sprinkler system with sprinklers on drops with or without drag hoses to improve irrigation efficiency and reduce soil erosion.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430)	Includes cost of all materials, equipment use and labor required to install a linear move system including central and lateral towers, pipes, sprinklers and controllers.
442 Irrigation System, Sprinkler	Solid Set	A solid set irrigation system with 3-4 inch pipe sizes and sprinklers set 30 – 50 ft apart.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430)	Includes cost of all materials, equipment use and labor required to install pipe, sprinklers, and connectors.
442 Irrigation System, Sprinkler	Traveling Gun	A portable big gun system used to apply waste water from animal feeding operations. This traveling big gun unit includes a sprinkler, towable cart, 1200' or more of PE hard hose, a self propelled reel that moves the sprinkler toward the reel during operation. The reel attaches to a mainline with appropriately designed towpath width. The scenario describes an irrigation system that is typical to confined animal feeding operations.	Irrigation Pipeline (430), Pumping Plant (533), Irrigation Water Management (449), Conservation Crop Rotation (328), Cover Crop (340), Nutrient Management (590), Waste Utilization (633), Manure Transfer (634)	Includes cost of all materials, equipment use and labor required to install impact sprinkler gun, gun cart, hose, hose caddy, drive system, control, fittings and adaptors.
442 Irrigation System, Sprinkler	System Retrofit	Center Pivot and Linear Move sprinkler systems are used in large crop fields with fairly regular field borders and flat topography. The scenario involves changing nozzles on center pivot or lateral move irrigation systems to low-pressure systems to improve efficiency of water use and reduce energy use. This scenario is intended for cropland areas where the objective is water conservation.	Irrigation Pipeline (430), Pumping Plant (533), Irrigation Water Management (449)	Includes cost of all materials, equipment use and labor required to install sprinkler package, including pressure regulators, drop lines, weights and hoses including end booms renozzled with low-pressure nozzles.
442 Irrigation System, Sprinkler	VRI System Retrofit	Upgrading existing irrigation system with a more uniform and efficient (vendor provided and installed modular system) center pivot system for the purpose of protecting water quality and utilizing water effectively. Integrating variable application technology onto a center pivot system for precision zone placement of water along the length of the system for water savings. A variable application over the field based on EM mapping and a grid system. This scenario is to retrofit an existing high pressure system with low pressure drop nozzles and to add the proper components to install a VRI sytem for more effective utilization of water.	Irrigation Pipeline (430), Pumping Plant (533), Irrigation Water Management (449)	Includes cost of all materials, equipment use and labor required to install sprinkler package, including pressure regulators, drop lines, weights and hoses including end booms renozzled with low-pressure nozzles, flow meter, nodes, logic controller, valves, valve tubing, pressure regulating valve, GPS.

442 Irrigation System, Sprinkler	VRI System Renovation	Upgrading existing irrigation system with a more uniform and efficient (vendor provided and installed modular system) center pivot system for the purpose of protecting water quality and utilizing water effectively. Integrating variable application technology onto a center pivot system for precision zone placement of water along the length of the system for water savings. A variable application over the field based on EM mapping and a grid system. This scenario is to renovate a previously retrofitted irrigation system with proper modular components and pressure regulating devices, along with other needed components to install a VRI system for more effective utilization of water.	Irrigation Pipeline (430), Pumping Plant (533), Irrigation Water Management (449)	Includes cost of all materials, equipment use and labor required to install flow meter, nodes, logic controller, valves, valve tubing, pressure regulating valve, GPS.
442 Irrigation System, Sprinkler	VRI New System	Upgrading existing irrigation system with a more uniform and efficient (vendor provided and installed modular system) center pivot system for the purpose of protecting water quality and utilizing water effectively. Integrating variable application technology onto a center pivot system for precision zone placement of water along the length of the system for water savings. A variable application over the field based on EM mapping and a grid system. This scenario is a new system to replace an old system which has exceeded its practice life or is leaking resulting in water wastage, with the proper components, nozzles, and pressure regulating devices, along with other needed components for installation of a VRI system for more effective utilization of water.	Irrigation Pipeline (430), Pumping Plant (533), Irrigation Water Management (449)	Includes cost of all materials, equipment use and labor required to install a center pivot including concrete pad or anchoring device, pivot structure, spans, nozzles, control pad and end of field stops, flow meter, nodes, logic controller, valves, valve tubing, pressure regulating valve, GPS.
443 Irrigation System, Surface and Subsurface	Ebb and Flow Benches	Water tight benches, that are housed within the interior of a greenhouse, are installed that re-circulates (ebb and flow) water for irrigation purposes as a permanent subsurface irrigation system. The bench is flooded then slowly drained to allow water to upflux of water into potted plants located on the bench.	Irrigation Pipeline (430), Irrigation Reservoir (436), Pumping Plant (533), Underground Outlet (620)	Includes cost of all materials, equipment use and labor required to install sliding benches or troughs, filters and automated zone control valves.
443 Irrigation System, Surface and Subsurface	Subsurface Irrigation System	An underground conduit irrigation system with laterals spaced at 40 feet. The buried laterals consist of 4" subsurface tubing installed at a depth of 2-3 feet. This system begins at the supply control valve out to the discharge point into an existing outlet.	Pumping Plant (533), Irrigation Water Management (449), Irrigation Pipeline (430)	Includes cost of all materials, equipment use and labor required to install HDPE pipe, supply manifolds with manual control valves and drainage manifolds which regulate the water table with operable structures.
449 Irrigation Water Management	Basic IWM	A low Intensity irrigation water management system for producers using a checkbook method (crop grown, soil moisture conditions prior to irrigation, dates of irrigation start and stop, depths of irrigation applied, duration of irrigations, and amount of rainfall). For a typical scenario, soil moisture is determined by the feel method, volumes of irrigation water are based on energy or water district bills, records are kept on paper copies, and calculations are made by hand.	Irrigation System Microirrigation (441), Irrigation System, Sprinkler (442), Irrigation System Surface and Subsurface, (443)	Includes the cost of practicing proper irrigation scheduling with appropriate record records of soil moisture, crop water use, rainfall amounts and irrigation timing and amounts. Irrigations are scheduled based on measured crop water requirements. At the end of the irrigation season all the data has been reviewed and evaluated. Improvements planned for the next season have been determined.
449 Irrigation Water Management	Advanced IWM	A high intensity irrigation water management system for producers using a checkbook method with advanced methods of determining irrigation water applied, and estimating crop evapotranspiration, monitoring field soil moisture, or monitoring crop temperature stress. Typical methods include flow measurement, daily record keeping, and use of real-time evapotranspiration estimates (such as those provided dedicated weather stations) and/or soil moisture sensors with automated data logging to monitor field soil moisture content and/or crop temperature. For this scenario, soil moisture is determined by automated soil moisture monitoring stations equipped with telemetry data. Irrigation amounts are recorded from a flow meter near the pump. Telemetry data is automatically sent to a computer with irrigation software. Some data such as total water applied may be entered into computer software manually.	Irrigation System Microirrigation (441), Irrigation System Sprinkler (442), Irrigation System Surface and Subsurface (443)	Includes the cost of practicing proper irrigation scheduling with appropriate record records of soil moisture, crop water use, rainfall amounts and irrigation timing and amounts. Irrigations are scheduled based on measured crop water requirements and soil moisture measurements. At the end of the irrigation season all the data has been reviewed and evaluated. Improvements planned for the next season have been determined.
449 Irrigation Water Management	Variable Rate IWM	A high intensity irrigation water management system for producers employing a Variable Rate Irrigation system. IWM is carried out using a checkbook method with advanced methods of determining irrigation water applied, and estimating crop evapotranspiration, monitoring field soil moisture, or monitoring crop temperature stress, and variable rate application of irrigation water. Typical methods include flow measurement, daily record keeping, and use of real-time evapotranspiration estimates (such as those provided dedicated weather stations) and/or soil moisture sensors with automated data logging to monitor field soil moisture content and/or crop temperature. Soil moisture is determined by automated soil moisture monitoring stations equipped with telemetry data. Irrigation amounts are recorded from a flow meter near the pump. Telemetry data is automatically sent to a computer with irrigation software. Irrigator also receives real time data via mobile phone applications. Some data such as total water applied may be entered into computer software manually.	Irrigation System Microirrigation (441), Irrigation System Sprinkler (442), Irrigation System Surface and Subsurface (443)	Includes the cost of practicing proper irrigation scheduling with appropriate record records of soil moisture, crop water use, rainfall amounts and irrigation timing and amounts. Irrigations are scheduled based on measured crop water requirements, soil moisture measurements, and variable rate application of irrigation water. At the end of the irrigation season all the data has been reviewed and evaluated. Improvements planned for the next season have been determined.

449 Irrigation Water Management	Soil Moisture Sensors	This practice includes the installation of soil moisture sensors such as tensiometers, gyp blocks, capacitance sensors etc, that are installed and read to determine point in time soil moisture by depth; and the labor of using the equipment for the first year. Typical Scenario involves installation of 4 resistance sensor blocks per site and 2 sites per typical 60 acre field of irrigated cropland. Producer periodically monitors soil moisture sensors during the growing season. One soil moisture meter can be used on multiple sites.	Irrigation Water Management, (Code 449), Structure for water Control, (Code 587), Conservation Crop Rotation (Code 528), Nutrient Management, (Code 590).	The installation includes the purchase of soil moisture meters and sensors, installation equipment, and labor to install and utilize sensors and readings in making IWM decisions during first year.	
460 Land Clearing	Heavy Equipment	Site preparation of a field with dozer or equivalent heavy equipment to achieve a conservation objective. Typical scenario is approximately 1 acre or less of trees and shrubs to be cleared.	Critical Area Planting, (Code 342)	Includes the cost of all materials, equipment use and labor required for clearing trees any diameter, grubbing and removing stumps.	
462 Precision Land Forming	Minor Shaping	The land surface is shaped or leveled to a specific elevation and grade for various land uses. Cuts and fills are small.	Critical Area Planting, (Code 342)	Includes cost of all materials, equipment use and labor required to precision land form a field to the designed grade.	
464 Irrigation Land Leveling	Irrigation Land Leveling	This is scenario will level an irrigated crop land surface to enhance uniform flow of surface water to improve irrigation efficiency using dirt pans/carry-all/pan-scraper equipment.	Irrigation System, Surface and Subsurface (443), Surface Drain, Field Ditch (407), Irrigation Field Ditch (388), Irrigation Water Management (449), Structure for Water Control (587)	Includes cost of all materials, equipment use and labor required to land level a field to the designed grade for a surface irrigation system.	
466 Land Smoothing	Minor Shaping	Removing irregularities on the land surface of cropland by use of heavy equipment.	Critical Area Planting (342), Diversion (362), Grassed Waterway, (412), Terrace (600)	Includes cost of all materials, equipment use and labor required to smooth a field to the designed grade.	
468 Lined Waterway or Outlet	Turf Reinforced Matting	Install a deep trapezoidal or parabolic shaped waterway lined with Turf Reinforced Matting (TRM). Half the channel is excavated. Excess excavation is spoiled in the immediate area. TRM is installed over the wetted area of the waterway to prevent scour and aid in waterway establishment.	Critical Area Planting, (Code 342)	Includes the cost of all materials, equipment use and labor required to install excavation, spoil spreading and Turf Reinforcement Mat (TRM).	Lined waterway width is measured from top of bank to top of bank.
468 Lined Waterway or Outlet	Rock Lined - 12" or less	Install deep trapezoidal or parabolic shaped waterway lined with riprap (D100 = 9", Velocity ~ 8 ft/sec). Excess excavation is spoiled in the immediate area. Riprap is installed over 100% of the width of the waterway to prevent scour.	Critical Area Planting, (Code 342)	Includes the cost of all materials, equipment use and labor required to install excavation, spoil spreading, geotextile fabric, rock rip rap.	Lined waterway width is measured from top of bank to top of bank.
468 Lined Waterway or Outlet	Concrete	Install deep trapezoidal or parabolic shaped waterway lined with concrete. Excess excavation is spoiled in the immediate area. Concrete is installed over 100% of the width of the waterway to prevent scour.	Critical Area Planting, (Code 342)	Includes the cost of all materials, equipment use and labor required to install excavation, spoil spreading, earthfill, reinforced concrete.	Lined waterway width is measured from top of bank to top of bank.
484 Mulching	Natural Material - Full Coverage	Application of straw mulch or other other state approved natural material to reduce erosion and facilitate the establishment of vegetative cover. Mulch provides full coverage and is typically used with critical area planting. Typical scenario ranges from a 0.1 to 1.0 acre disturbed site around a newly constructed structural practice. The potential for soil erosion is high and mulch is needed to stabilize the soil and facilitate the establishment of vegetative cover.	Irrigation Water Management (449), Pest Management (595), Nutrient Management (590)	Includes the cost of all materials, equipment use and labor required to place and spread straw mulch or other state approved natural mulch.	
484 Mulching	Erosion Control Blanket	Installation of erosion control blanket on critical areas with steep slopes, grassed waterways or diversions. Blanket is typically made of coconut coir, wood fiber, straw and is typically covered on both sides with polypropylene netting. Used to help control erosion and establish vegetative cover.	Irrigation Water Management (449), Pest Management (595), Nutrient Management (590)	Includes the cost of all materials, equipment use and labor required to place and spread erosion control blanket (biodegradable).	
490 Tree and Shrub Site Preparation	Mechanical - Heavy	This practice involves the use of heavy machinery to treat an area in order to improve site conditions for establishing trees and/or shrubs. Typical sites include trees and brush cover that is not appropriate to the site or providing the desired condition for the landowner.	Tree and Shrub Establishment (612), Brush Management (314), Field Border (386), Hedgerow Planting (422), Pest Management (595), Range Planting (550), Riparian Forest Buffer (391), Upland Wildlife Habitat Management (645), Wetland Wildlife Habitat Management (644), Wetland Restoration (647), Wetland Enhancement (659), Wetland Creation (658), Bedding (311)	Includes cost of all materials, equipment use and labor required for mechanical site preparation down to the soil to prepare an adequate seedbed prior to planting trees. This includes applications such as a raking, V-blading, shearing, KG-blading.	
490 Tree and Shrub Site Preparation	Mechanical - Medium	This practice involves the use of machinery to treat an area in order to improve site conditions for establishing trees and/or shrubs. Typical sites include trees and brush cover that is not appropriate to the site or providing the desired condition for the landowner.	Tree and Shrub Establishment (612), Brush Management (314), Field Border (386), Hedgerow Planting (422), Pest Management (595), Range Planting (550), Riparian Forest Buffer (391), Upland Wildlife Habitat Management (645), Wetland Wildlife Habitat Management (644), Wetland Restoration (647), Wetland Enhancement (659), Wetland Creation (658), Bedding (311)	Includes cost of all materials, equipment use and labor required for mechanical site preparation down to the soil to prepare an adequate seedbed prior to planting trees. This includes applications such as a V-blading, shearing, KG-blading.	
490 Tree and Shrub Site Preparation	Mechanical - Light	This practice involves the use of light/moderate machinery to clear above ground vegetation and to also rip/cut/lift underground root systems in order to improve site conditions for establishing trees and/or shrubs.	Tree and Shrub Establishment (612), Brush Management (314), Field Border (386), Hedgerow Planting (422), Pest Management (595), Range Planting (550), Riparian Forest Buffer (391), Upland Wildlife Habitat Management (645), Wetland Wildlife Habitat Management (644), Wetland Restoration (647), Wetland Enhancement (659), Wetland Creation (658), Bedding (311)	Includes cost of all materials, equipment use and labor required for mechanical site preparation down to the soil to prepare an adequate seedbed prior to planting trees. This includes applications such as a bush hog, offset disk, chisel plow.	
490 Tree and Shrub Site Preparation	Mechanical - Very Light	This practice involves the use of light/moderate machinery to clear above ground vegetation and to also rip/cut/lift underground root systems in order to improve site conditions for establishing trees and/or shrubs.	Tree and Shrub Establishment (612), Brush Management (314), Field Border (386), Hedgerow Planting (422), Pest Management (595), Range Planting (550), Riparian Forest Buffer (391), Upland Wildlife Habitat Management (645), Wetland Wildlife Habitat Management (644), Wetland Restoration (647), Wetland Enhancement (659), Wetland Creation (658), Bedding (311)	Includes cost of all materials, equipment use and labor required for mechanical site preparation down to the soil to prepare an adequate seedbed prior to planting trees. This includes applications such as a mowing, light disk.	

490 Tree and Shrub Site Preparation	Chemical - Ground Application	This practice involves the use of various herbicides applied using ground-based machinery (and some hack-n-squirt treatment of select trees) in order to remove undesirable vegetation and improve site conditions for establishing trees and/or shrubs.	Tree and Shrub Establishment (612), Brush Management (314), Field Border (386), Hedgerow Planting (422), Pest Management (595), Range Planting (550), Riparian Forest Buffer (391), Upland Wildlife Habitat Management (645), Wetland Wildlife Habitat Management (644), Wetland Restoration (647), Wetland Enhancement (659), Wetland Creation (658), Bedding (311)	Includes the cost of materials, equipment use and labor for the application of low cost chemicals in low volumes.
490 Tree and Shrub Site Preparation	Chemical - Aerial Application	This practice involves the use of herbicides applied by aerial application in order to remove undesirable vegetation and improve site conditions for establishing trees and/or shrubs.	Tree and Shrub Establishment (612), Brush Management (314), Field Border (386), Hedgerow Planting (422), Pest Management (595), Range Planting (550), Riparian Forest Buffer (391), Upland Wildlife Habitat Management (645), Wetland Wildlife Habitat Management (644), Wetland Restoration (647), Wetland Enhancement (659), Wetland Creation (658), Bedding (311)	Includes the cost of materials, equipment use and labor for the application of low cost chemicals in low volumes through aerial application.
512 Forage and Biomass Planting	Seedbed Prep. Seed & Seeding- Native Perennial Warm Season Grasses	Establish adapted perennial native warm season grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial native warm season grasses for pasture.	Pest Management (595); Prescribed Grazing (528); Prescribed Burning (338), Brush Management (314)	Includes the cost of all materials, equipment use and labor required to install an adequate seedbed, herbicide for site preparation, no-till/grass drill, and native grass.
512 Forage and Biomass Planting	Seedbed Prep. Seed & Seeding- Introduced Perennial Grasses.	Establish adapted introduced grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced warm season grasses for pasture.	Pest Management (595); Prescribed Grazing (528); Prescribed Burning (338), Brush Management (314)	Includes the cost of all materials, equipment use and labor required to install an adequate seedbed herbicide for site preparation, no-till/grass drill, introduced perennial grass and fertilizer and lime for establishment.
512 Forage and Biomass Planting	Seedbed Prep. Seed & Seeding- Introduced Perennial Grasses Organic	Establish adapted introduced grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced warm season grasses for pasture.	Pest Management (595); Prescribed Grazing (528); Prescribed Burning (338), Brush Management (314)	Includes the cost of all materials, equipment use and labor required to install an adequate seedbed, no-till/grass drill, introduced organic perennial grass and organic fertilizer for establishment.
512 Forage and Biomass Planting	Grass Establishment-Sprigging	Sprigging new grasses with sprigging application for the purpose of providing forage, increasing plant diversity, soil quality and fertility, and plant health.	Pest Management (595); Prescribed Grazing (528); Prescribed Burning (338), Brush Management (314)	Includes the cost of all materials, equipment use and labor required to install an adequate seedbed, herbicide for site preparation, introduced sprigged perennial grass, fertilizer and lime for establishment.
512 Forage and Biomass Planting	Overseeding Legumes	Establishment of legumes for the purpose of increasing plant diversity, soil quality and fertility, and plant health and enhancing the quality of forage.	Pest Management (595); Prescribed Grazing (528); Prescribed Burning (338), Brush Management (314)	Includes the cost of all materials, equipment use and labor required to install an adequate seedbed, legumes, no-till/grass drill, and fertilizer and lime for establishment.
512 Forage and Biomass Planting	Overseeding Legumes - Organic	Establishment of legumes for the purpose of increasing plant diversity, soil quality and fertility, and plant health and enhancing the quality of forage.	Pest Management (595); Prescribed Grazing (528); Prescribed Burning (338), Brush Management (314)	Includes the cost of all materials, equipment use and labor required to install an adequate seedbed, certified organic legumes, no-till/grass drill, and organic fertilizer for establishment.
516 Pipeline	PVC (Iron Pipe Size)	Below ground installation of PVC (Iron Pipe Size) pipeline. The unit is weight of pipe in pounds. PVC (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 1-inch to 4-inch; and typical scenario size is 1½-inch.	Critical Area Planting (342), Pumping Plant (533), Watering Facility (614), Water Harvesting Catchment (636)	Includes the cost of all materials, equipment use and labor required to install PVC pipe including couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1).
521A Pond Sealing or Lining - Flexible Membrane	Flexible Membrane - Uncovered without liner drainage or venting	Installation of a flexible geosynthetic membrane liner, uncovered, to reduce seepage from ponds or waste storage impoundment structures.	Pond (378), Waste Storage Facility (313)	Includes the cost of all materials, equipment use and labor required to install geotextile or soil cushion to protect the liner from subgrade damage.
521A Pond Sealing or Lining - Flexible Membrane	Flexible Membrane - Uncovered with liner drainage or venting	Installation of a flexible geosynthetic membrane liner, uncovered, to reduce seepage from ponds or waste storage impoundment structures.	Pond (378), Waste Storage Facility (313)	Includes the cost of all materials, equipment use and labor required to install a geotextile or soil cushion to protect the liner from subgrade damage, and liner drainage or venting.
521A Pond Sealing or Lining - Flexible Membrane	Flexible Membrane - Covered without liner drainage or venting	Installation of a flexible geosynthetic membrane liner to reduce seepage from ponds or waste storage impoundment structures.	Pond (378), Waste Storage Facility (313)	Includes the cost of all materials, equipment use and labor required to install one foot of soil cover for liner protection, and a geotextile or soil cushion to protect liner from subgrade damage.
521A Pond Sealing or Lining - Flexible Membrane	Flexible Membrane - Covered with liner drainage or venting	Installation of a flexible geosynthetic membrane liner to reduce seepage from ponds or waste storage impoundment structures.	Pond (378), Waste Storage Facility (313)	Includes the cost of all materials, equipment use and labor required to install one foot of soil cover for liner protection, a geotextile or soil cushion to protect liner from subgrade damage, and liner drainage or venting.
521B Pond Sealing or Lining - Soil Dispersant	Soil Dispersant - Uncovered	Construction of a compacted soil liner, treated with a soil dispersant, to reduce seepage from ponds or waste storage impoundment structures.	Pond (378), Waste Storage Facility (313)	Includes the cost of all materials, equipment use and labor required to install the dispersant with the soil liner under proper moisture conditions and compaction to the designed liner thickness.

521B Pond Sealing or Lining - Soil Dispersant	Soil Dispersant - Covered	Construction of a compacted soil liner, treated with a soil dispersant, to reduce seepage from ponds or waste storage impoundment structures.	Pond (378), Waste Storage Facility (313)	Includes the cost of all materials, equipment use and labor required to install the dispersant with the soil liner under proper moisture conditions, compaction to the designed liner thickness, and placement of soil cover over the treated liner.
521C Pond Sealing or Lining - Bentonite	Bentonite Treatment - Uncovered	Construction of a compacted soil liner, treated with bentonite, to reduce seepage from ponds or waste storage impoundment structures.	Pond (378), Waste Storage Facility (313)	Includes the cost of all materials, equipment use and labor required to install the bentonite with the soil under proper moisture conditions, compaction to the designed liner thickness.
521C Pond Sealing or Lining - Bentonite	Bentonite Treatment - Covered	Construction of a compacted soil liner, treated with bentonite, to reduce seepage from ponds or waste storage impoundment structures.	Pond (378), Waste Storage Facility (313)	Includes the cost of all materials, equipment use and labor required to install the bentonite with the soil under proper moisture conditions, compaction to the designed liner thickness, and placement of soil cover over the treated liner.
521D Pond Sealing or Lining - Compacted Clay Treatment	Material Onsite	Construction of a compacted soil liner, treated with compacted clay, to reduce seepage from ponds or waste storage impoundment structures.	Pond (378), Waste Storage Facility (313)	Includes the cost of all materials, equipment use and labor required to install of the soil liner with compaction under proper moisture conditions to the designed liner thickness, and soil cover to protect the finished liner.
521D Pond Sealing or Lining - Compacted Clay Treatment	Material Hauled	Construction of a compacted soil liner, treated with compacted clay, to reduce seepage from ponds or waste storage impoundment structures.	Pond (378), Waste Storage Facility (313)	Includes the cost of all materials, equipment use and labor required to install the soil liner with compaction under proper moisture conditions to the designed liner thickness, and protection of the finished liner. Material hauled.
528 Prescribed Grazing	Standard	Design and implementation of a grazing system that will enhance pasture/range condition and ecosystem function as well as optimize efficiency and economic return through monitoring (ex:photo points, stubble height after grazing, etc) & record keeping. Rotated on a cycle of 5 days or more.	Brush Management (314), Fence (382), Forage and Biomass Planting (512), Pipeline (516), Pond (378), Prescribed Burning (338), Range Planting (550), Upland Wildlife Habitat Management (645), Watering Facility (614), Water Well (642), Wetland Wildlife Habitat Management (644)	Includes the cost of rotationing herd(s), and monitoring responses to grasses/forages to ensure adequate forage.
528 Prescribed Grazing	Intensive	Design and implementation of a grazing system that will enhance pasture/range condition and ecosystem function as well as optimize efficiency and economic return through monitoring (ex: trend, composition, production, etc), record keeping. Rotated on a 3 - 4 day cycle.	Brush Management (314), Fence (382), Forage and Biomass Planting (512), Pipeline (516), Pond (378), Prescribed Burning (338), Range Planting (550), Upland Wildlife Habitat Management (645), Watering Facility (614), Water Well (642), Wetland Wildlife Habitat Management (644)	Includes the cost of rotationing herd(s), and monitoring responses to grasses/forages to ensure adequate forage.
533 Pumping Plant	Electric-Powered Pump ≤ 3 Hp	A submersible electric-powered pump is installed in a well or structure; or a close-coupled electric-powered centrifugal pump is mounted on a platform. It is used for watering livestock as part of a prescribed grazing system or tailwater recovery, or for transferring liquid waste in a waste transfer system.	Farmstead Energy Improvement (374), Livestock Pipeline (516), Waste Storage Facility (313), Waste Transfer (634), Watering Facility (614)	Includes the cost of all materials, equipment use and labor required to install an electric centrifugal or submersible pump.
533 Pumping Plant	Electric-Powered Pump ≤ 3 HP with Pressure Tank	A submersible electric-powered pump is installed in a well or structure; or a close-coupled electric-powered centrifugal pump is mounted on a platform. It is used for watering livestock as part of a prescribed grazing system.	Farmstead Energy Improvement (374), Livestock Pipeline (516), Waste Storage Facility (313), Waste Transfer (634), Watering Facility (614)	Includes the cost of all materials, equipment use and labor required to install an electric centrifugal or submersible pump and pressure tank and foundation.
533 Pumping Plant	Electric-Powered Pump >3 to 10 HP	This is a close-coupled electric-powered centrifugal pump, mounted on a platform. It is for a large, high-pressure (200 psi) livestock pipeline, used for watering livestock as part of a prescribed grazing system; or a medium-sized (400 gpm and 20 psi) waste transfer system.	Farmstead Energy Improvement (374), Livestock Pipeline (516)	Includes the cost of all materials, equipment use and labor required to install pump and appurtenances.
533 Pumping Plant	Electric-Powered Pump >10 to 40 HP	This is a close-coupled, 3-phase, electric-powered centrifugal pump mounted on a platform for pressurizing a medium-sized (600 gpm and 50 psi) sprinkler or large microirrigation (850 gpm and 35 psi) system or a large-sized surface irrigaiton system (1,200 gpm) or a large-sized (1,200 gpm and 25 psi) waste transfer system.	Farmstead Energy Improvement (374), Livestock Pipeline (516), Waste Storage Facility (313), Waste Transfer (634), Watering Facility (614)	Includes the cost of all materials, equipment use and labor required to install pump and appurtenances.
533 Pumping Plant	Photovoltaic-Powered Pump	The typical scenario assumes installation of a submersible solar-powered pump in a well. Note: It is generally not advisable to use a storage battery for a number of reasons. A storage tank is generally the most efficient method to store energy.	Farmstead Energy Improvement (374), Fence (383), Livestock Pipeline (516), Heavy Use Area Protection (516) Watering Facility (614)	Includes the cost of all materials, equipment use and labor to install pump, solar modules (panels), platform, control box, pole top mount brackets, wiring kit, pump connector kit, drop pipe, safety rope, pump cable, hardware kit.
533 Pumping Plant	Variable Frequency Drive	This is an installation of electrical and electronic components designed to vary the frequency of the voltage to an electric motor and thus the ability to vary the speed of the motor. This directly affects pressure and flowrate.	Farmstead Energy Improvement (374), Fence (383), Livestock Pipeline (516), Heavy Use Area Protection (516) Watering Facility (614)	Includes the cost of all materials, equipment use and labor to install a variable frequency drive.
550 Range Planting	Native -Standard prep	Establishment of a mixture of adapted native, range perennial species on a rangeland unit to improve forage condition, improve wildlife habitat and/or reduce erosion.	Brush Management (314), Fence (382), Forage and Biomass Planting (512), Pipeline (516), Pond (378), Prescribed Burning (338), Upland Wildlife Habitat Management (645), Watering Facility (614), Water Well (642), Wetland Wildlife Habitat Management (644)	Includes the cost of all materials, equipment use and labor to install adequate seedbed, no-till/grass drill, range drill, or broadcasting, native grass.

554 Drainage Water Management	Drainage Water Management	This scenario is the process of managing water discharges from surface and/or subsurface agricultural drainage systems by reducing nutrient loading into surface waters. Typical systems consist of a field with existing drainage tile lines and installed water control structures. The operator goes to the field in order to adjust water control structures (riser boards). While on site the date and adjustment information is recorded/logged.	Subsurface Drain (606), Surface Drain, Field Ditch (607), Surface Drain, Main or Lateral (680), Structure for Water Control (587), Nutrient Management (590)	Includes the cost of recording, monitoring and controlling water surface elevations and discharge from surface and subsurface drainage systems and acquiring technical knowledge.	
558 Roof Runoff Structure	Roof Gutter	A roof runoff structure, consisting of gutter(s), downspout(s), and appropriate outlet facilities. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface.	Waste Storage Facility (313), Composting Facility (317), Heavy Use Area Protection (561), Watering Facility (614), Underground Outlet (620), Diversion (362) and any relevant irrigation practices.	Includes cost of all materials, equipment use and labor required to install gutters and downspouts.	
558 Roof Runoff Structure	Concrete Curb	A roof runoff structure, consisting of a concrete curb or parabolic channel installed on existing impervious surface or the ground with appropriate outlet facilities. Environmental/design considerations or a building without proper structural support needed for gutters dictate the use of an on-ground concrete curb. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface.	Waste Storage Facility (313), Composting Facility (317), Heavy Use Area Protection (561), Underground Outlet (620), Diversion (362)	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, non-reinforced concrete, geotextile.	
558 Roof Runoff Structure	Trench Drain	A roof runoff structure, consisting of a trench filled with rock, with a polyethylene, corrugated, perforated drain tile installed in trench bottom. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Environmental/design considerations or a building without proper structural support needed for gutters dictate the use of a trench drain.	Waste Storage Facility (313), Composting Facility (317), Heavy Use Area Protection (561), Underground Outlet (620), Diversion (362)	Includes cost of all materials, equipment use and labor required to install HDPE pipe, excavation, earthfill, geotextile.	
560 Access Road	New earth road in dry, level terrain.	Newly constructed compacted earth road. A properly constructed, well defined access road will address resource concerns related with compaction and excessive sediment in surface water.		Includes the cost of all materials, equipment use and labor to install earthfill, compaction, grading.	
561 Heavy Use Area Protection	Concrete with sand or gravel foundation	The stabilization of areas around facilities that are frequently and intensively used by surfacing with reinforced concrete on a sand or gravel foundation to provide a stable, non-eroding surface.	All needed roads must use Access Road (560). Any needed treatment of stream crossings must use Stream Crossing (578). Any needed vegetation of disturbed areas must use Critical Area Planting (342). Provisions to collect, store, utilize, and or treat contaminated runoff must use Sediment Basin (350), Waste Storage Facility (313), or Waste Treatment (629) as appropriate.	Includes the cost of all materials, equipment use and labor to install excavation, earthfill, non-reinforced concrete.	
561 Heavy Use Area Protection	Steel Reinforced Concrete with sand or gravel foundation	The stabilization of areas around facilities that are frequently and intensively used by surfacing with fiber reinforced concrete on a sand or gravel foundation to provide a stable, non-eroding surface.	All needed roads must use Access Road (560). Any needed treatment of stream crossings must use Stream Crossing (578). Any needed vegetation of disturbed areas must use Critical Area Planting (342). Provisions to collect, store, utilize, and or treat contaminated runoff must use Sediment Basin (350), Waste Storage Facility (313), or Waste Treatment (629) as appropriate.	Includes the cost of all materials, equipment use and labor to install aggregate, excavation, reinforced concrete.	
561 Heavy Use Area Protection	Aggregate Shell/Rock	The stabilization of areas around watering facilities that are frequently and intensively used by surfacing with aggregate shell/rock foundation to provide a stable, non-eroding surface.	All needed roads must use Access Road (560). Any needed treatment of stream crossings must use Stream Crossing (578). Any needed vegetation of disturbed areas must use Critical Area Planting (342). Provisions to collect, store, utilize, and or treat contaminated runoff must use Sediment Basin (350), Waste Storage Facility (313), or Waste Treatment (629) as appropriate.	Includes the cost of all materials, equipment use and labor to install aggregate shell, excavation.	
570 Stormwater Runoff Control	Storm Water Retention	This scenario involves installation of a stormwater retention area as part of a conservation engineering system. The combined system shall include the construction of dikes to enclosed an embankment to collect and treat runoff water from farmland before reaching downstream public waterways and retain water on site as needed.	The protection and/or construction of inlets and structures depending on the combination shall be cover under the applicable facilitating practices. Dike (356) is the main facilitating practice and shall not be cost share for the same sytem as it is included in the component cost for this practice. Associated and facilitating practices like Structure for Water Control, (587), Pumping plant, (533), Critical Area Planting (342), Land Clearing (460) and other related practices will be planned or cost shared under other practice codes as applicable.	Includes the cost of all materials, equipment use and labor to install earthfill, compaction.	Embankment Volume
578 Stream Crossing	Rock armored low water crossing	Stabilize the bottom and slope of a stream channel using rock riprap or cast in place concrete. Stream flow is not impeded and a stable base exists for equipment, people and/or animals to cross.	Stream flow is not impeded and a stable base exists for equipment, people and/or animals to cross. Associated practices could be Critical Area Planting (342), Access Road, (560), Animal Trails and Walkways, (575), Recreational Trails and Walkways, (566), Obstruction Removal, (500), Channel Stabilization (584), Fence (382).	Includes the cost of all materials, equipment use and labor to install dewatering, earthfill, geotextile, rock riprap, excavation. Final travel surface shall be the rocks or concrete.	Crossing Demissions
578 Stream Crossing	Concrete low water crossing	Stabilize the bottom and slope of a stream channel using cast in place concrete. Final travel surface shall be concrete. Stream flow is not impeded and a stable base exists for equipment, people and/or animals to cross.	Stream flow is not impeded and a stable base exists for equipment, people and/or animals to cross. Associated practices could be (342) Critical Area Planting, (560) Access Road, (575) Animal Trails and Walkways, (566) Recreational Trails and Walkways, (500) Obstruction Removal, or (584) Channel Stabilization, (382) Fence.	Includes the cost of all materials, equipment use and labor to install dewatering, earthfill, geotextile, concrete, rock riprap, excavation.	Crossing Demissions

578 Stream Crossing	Culvert installation	Install culvert so that crossing and waterflow are able to cross each other in a stable manner. Stream flow is not impeded and a stable base exists for equipment, people and/or animals to cross.	Use Structure for Water Control (587) instead, for ditch cross culverts and other intermittent flows. Access road and waterflow are able to cross each other in a stable manner. Stream flow is not impeded and a stable base exists for equipment, people and/or animals to cross. Associated practices could be (342) Critical Area Planting, (560) Access Road, (575) Animal Trails and Walkways, (566) Recreational Trails and Walkways, (500) Obstruction Removal, or (584) Channel Stabilization, (382) Fence.	Includes the cost of all materials, equipment use and labor to install dewatering, earthfill, geotextile, rock riprap, excavation and HDPE pipe.	Crossing Demissions
580 Streambank and Shoreline Protection	Shaping	Protection of streambanks consisting of shaping to stabilize and protect against scour and erosion. Improve, or restore physical, chemical, and biological functions of a stream to provide diverse aquatic communities to improve habitat for desired aquatic species.	Access Road (560), Critical Area Planting (342), Fence (382), Riparian Forest Buffer, (391), Riparian Herbaceous Cover, (390), Stream Habitat Improvement and Management (393), Watering Facility (614)	Includes the cost of all materials, equipment use and labor to install excavation and shaping.	
580 Streambank and Shoreline Protection	Structural	Protection of streambanks using structural measures such as riprap, concrete block, gabions, etc. to stabilize and protect banks of streams or excavated channels against scour and erosion. Additional structural measures may also include tree revetments; log, rootwad and boulder revetments; dormant post plantings; piling revetments with wire or geotextile fencing; piling revetments with slotted fencing; jacks or jack fields; rock riprap; stream jetties; stream barbs; and gabions.	Access Road (560), Critical Area Planting (342), Fence (382), Riparian Forest Buffer, (391), Riparian Herbaceous Cover, (390), Stream Habitat Improvement and Management (393), Watering Facility (614)	Includes the cost of all materials, equipment use and labor to install excavation, erosion control blanket, rock rip rap.	
587 Structure for Water Control	Flashboard Riser, Metal	A flashboard riser fabricated of metal and used in a water management system that maintains a desired water surface elevation, controls the direction or rate of flow, or conveys water. The water surface elevation is controlled by addition or removal of slats or "stoplogs". This scenario is applicable to variable crest weir structures where the elevation is controlled at the inlet (Half-Rounds). They are often fabricated from half pipes (i.e. half-rounds) or sheet steel in a box shape.	Any disturbed areas use Critical Area Planting (342). Other associated practices include Irrigation Water Management (449), Irrigation Land Leveling (464), Irrigation Canal or Lateral (320), Irrigation System, Tailwater Recovery (447), Dike (356), and Grade Stabilization Structure (410).	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, compaction, non-reinforced concrete, pipe, flashboard riser.	Unit of payment is based upon the flashboard weir length in inches multiplied by the outlet length in feet (inch-foot).
587 Structure for Water Control	Culvert	Install a new HDPE culvert under 30 inches in diameter to convey water under roads or other barriers.	Use Stream Crossing (578) for culverts \geq 30 inches or perennial flow. Associated practices include Access Road (560), Animal Trails and Walkways (575), Critical Area Planting (342), Drainage Water Management (554), Irrigation Canal or Lateral (320), Irrigation Pipeline (430), Irrigation Reservoir (436), Irrigation System, Surface and Subsurface (443), Irrigation System, Tailwater Recovery (447), Irrigation Water Management (449), Lined Waterway or Outlet (468), Obstruction Removal (500), Pond (378), Stormwater Runoff Control (570), Surface Drain, Field Ditch (607), Surface Drain, Main or Lateral (608), and Trails and Walkways (568).	Includes cost of all materials, equipment use and labor required to install excavation, earthfill, compaction, HDPE pipe, rock rip rap.	
587 Structure for Water Control	Pipe Drop Structure	Install a new PVC pipe culvert under 12 inches in diameter to convey water under roads or other barriers.	Access Road (560), Animal Trails and Walkways (575), Critical Area Planting (342), Drainage Water Management (554), Irrigation Canal or Lateral (320), Irrigation Pipeline (430), Irrigation Reservoir (436), Irrigation System, Surface and Subsurface (443), Irrigation System, Tailwater Recovery (447), Irrigation Water Management (449), Lined Waterway or Outlet (468), Obstruction Removal (500), Pond (378), Stormwater Runoff Control (570), Surface Drain, Field Ditch (607), Surface Drain, Main or Lateral (608), and Trails and Walkways (568).	Includes cost of all materials, equipment use and labor required to install PVC pipe, excavation, earthfill, compaction.	
587 Structure for Water Control	Slide Gate	This scenario is the installation of a permanent slide gate structure to control the conveyance of water. The slide gate may be installed on an open channel or pipeline. The slide gate is made of steel and has a hand operated mechanical lifting system, i.e. screw.	Constructed Wetland (656), Drainage Water Management (554), Irrigation Canal or Lateral (320), Irrigation Field Ditch (388), Irrigation System, Surface and Subsurface (443), Irrigation Water Management (449), Salinity and Sodic Soil Management (610), Subsurface Drain (606), Surface Drain, Field Ditch (607), Surface Drain, Main or Lateral (608), Wetland Creation (658), Wetland Enhancement (659), Wetland Restoration (657), and Wetland Wildlife Habitat Management (644)	Includes cost of all materials, equipment use and labor required to install cast iron screw gate.	
587 Structure for Water Control	Flap Gate	This scenario is the installation of a permanent flap (tide) gate structure to control the direction of flow resulting from tides or high water or back-flow from flooding. The gate may be installed on an open channel or pipeline. It is made of steel and operates automatically.	Constructed Wetland (656), Drainage Water Management (554), Irrigation Canal or Lateral (320), Irrigation Field Ditch (388), Irrigation System, Surface and Subsurface (443), Irrigation Water Management (449), Salinity and Sodic Soil Management (610), Subsurface Drain (606), Surface Drain, Field Ditch (607), Surface Drain, Main or Lateral (608), Wetland Creation (658), Wetland Enhancement (659), Wetland Restoration (657), and Wetland Wildlife Habitat Management (644)	Includes cost of all materials, equipment use and labor required to install cast iron flap gate.	

587 Structure for Water Control	Flap Gate w/ Concrete Wall	Install a concrete cut off wall with tide gate at the outlet of a channel. Tide or flood inundation is controlled.	Constructed Wetland (656), Drainage Water Management (554), Irrigation Canal or Lateral (320), Irrigation Field Ditch (388), Irrigation System, Surface and Subsurface (443), Irrigation Water Management (449), Salinity and Sodic Soil Management (610), Subsurface Drain (606), Surface Drain, Field Ditch (607), Surface Drain, Main or Lateral (608), Wetland Creation (658), Wetland Enhancement (659), Wetland Restoration (657), and Wetland Wildlife Habitat Management (644)	Includes cost of all materials, equipment use and labor required to install cast iron flap gate, excavation, earthfill, compaction, reinforced concrete.
590 Nutrient Management	Basic NM System	This scenario describes the implementation of a basic nutrient management system on cropland or where there is no manure application. The planned NM system will meet the current 590 standard. Implementation will result in the proper rate, source, method of placement, and timing of nutrients. Records demonstrating implementation of the 4 R's of the NM criteria will be required. Nutrient applications are completed in a manner that minimizes nutrient runoff and leaching or build up of excess nutrient concentrations.	Conservation Cover (327), Conservation Crop Rotation (327), Contour Buffer Strips (332), Cover Crop (340), Field Border (386), Filter Strip (393), Grassed Waterway (412), Herbaceous Wind Barriers (603), Mulching (484), Irrigation Water Management (449), Residue Management, No Till/Strip Till (329), Residue Management, Mulch Till (329), Riparian Forest Buffer (391), Riparian Herbaceous Cover (390), Windbreak/Shelterbelt Establishment (380).	Includes the cost of all materials, equipment use and labor to install soil testing, analysis, services that provide nutrient recommendations based on UF/IFAS recommendations or crop removal rates and an associated nutrient budget, recordkeeping and proper implementation.
590 Nutrient Management	Basic Organic NM System	The planned NM system for organic production will meet the current 590 standard. Implementation will result in the proper rate, source, method of placement, and timing of nutrients. Records demonstrating implementation of the 4 R's of NM standard will be required. This Scenario is designed to encourage organic producers to effectively utilize organic fertilizers, manure, and/or compost appropriately improving soil quality and minimizing runoff of nutrients from fields to surface waters. The basis for nutrient applications will be recommendations based on soil and manure analyses.	Conservation Cover (327), Conservation Crop Rotation (327), Contour Buffer Strips (332), Cover Crop (340), Field Border (386), Filter Strip (393), Grassed Waterway (412), Herbaceous Wind Barriers (603), Mulching (484), Irrigation Water Management (449), Residue Management, No Till/Strip Till (329), Residue Management, Mulch Till (329), Riparian Forest Buffer (391), Riparian Herbaceous Cover (390), Windbreak/Shelterbelt Establishment (380).	Includes the cost of all materials, equipment use and labor to install soil testing, manure and/or compost analysis and services that provide nutrient recommendations, recordkeeping and proper implementation.
590 Nutrient Management	Basic NM system with manure	This scenario describes the implementation of a basic nutrient management system on planning units of cropland where there is manure or compost application in addition to commercial fertilizer applications. The planned NM system will meet the current 590 standard. Implementation will result in the proper rate, source, method of placement, and timing of nutrients while minimizing off-site degradation or the excessive built up of N and P. Risk assessments including PI (phosphorus index) and NI (nitrogen index) will be completed with applications of manure completed based on risk results. Records demonstrating implementation of the 4 R's of the NM plan will be required along with copies of risk assessments.	Conservation Cover (327), Conservation Crop Rotation (327), Contour Buffer Strips (332), Cover Crop (340), Field Border (386), Filter Strip (393), Grassed Waterway (412), Herbaceous Wind Barriers (603), Mulching (484), Irrigation Water Management (449), Residue Management, No Till/Strip Till (329), Residue Management, Mulch Till (329), Riparian Forest Buffer (391), Riparian Herbaceous Cover (390), Windbreak/Shelterbelt Establishment (380).	Includes the cost of all materials, equipment use and labor to install soil testing, manure testing, analysis, proper implementation, services that provide nutrient recommendations based on UF/IFAS recommendations or crop removal rates and an associated nutrient budget, recordkeeping and proper implementation.
590 Nutrient Management	Precision NM System	This scenario describes the implementation of a basic precision nutrient management system on cropland. The planned NM system will meet the current 590 standard. Records demonstrating implementation of the 4 R's of at the NM plan will be required. This scenario goes beyond the basic NM system by using technologies that improve efficiency and effectiveness of nutrient management by utilizing precision techniques and tools. Precision nutrient mgmt techniques ensure that the right rate, proper timing, and proper placement of nutrients minimize non-point source pollution and provide proper amounts of nutrients to the crop where it is needed and not applying where it is not needed. Soil testing is completed in a fashion that provides a representative assessment of nutrient concentrations in each field or management zone. Soil sampling consists of methods that allow for various zones to be established. Zone maps are created and a nutrient budget developed for each zone. An application rate (prescription) is developed for each zone based on representative soil analysis and zone nutrient budget. Nutrient applications are based on UF/IFAS recommendations. Soil testing is completed at least once every three years for N-P-K. A nutrient budget is developed for each field annually. Application of nutrients is completed so that non-point source pollution is minimized. Nutrients are applied based on realistic yield expectations. Records are maintained for all nutrient applications and soil testing. Record keeping will include all soil tests, analysis, zone maps, nutrient prescriptions and budgets, and as-applied applications.	Conservation Cover (327), Conservation Crop Rotation (327), Contour Buffer Strips (332), Cover Crop (340), Field Border (386), Filter Strip (393), Grassed Waterway (412), Herbaceous Wind Barriers (603), Mulching (484), Irrigation Water Management (449), Residue Management, No Till/Strip Till (329), Residue Management, Mulch Till (329), Riparian Forest Buffer (391), Riparian Herbaceous Cover (390), Windbreak/Shelterbelt Establishment (380).	Includes the cost of all materials, equipment use and labor to install soil testing based on grid or zone sampling, analysis, services that provide nutrient recommendations based on UF/IFAS recommendations or crop removal rates and an associated nutrient budget, recordkeeping, and monitoring on a precision level.

590 Nutrient Management	Advanced NM Precision System	This scenario describes the implementation of an advanced precision nutrient management system on cropland. The planned NM system will meet the current 590 standard. Records demonstrating implementation of the 4 R's of the NM plan will be required. This scenario goes beyond the basic precision system by using technologies that improve efficiency and effectiveness of nutrient management by utilizing specialized precision techniques and tools (variable rate applicators, NDVI, aerial photography, yield monitoring). Precision nutrient mgmt techniques ensure that the right rate, proper timing, and proper placement of nutrients minimize non-point source pollution and provide proper amounts of nutrients to the crop where it is needed and not applying where it is not needed. Soil testing is completed in a fashion that provides a representative assessment of nutrient concentrations in each field or planning unit including zone directed sampling, real time NDVI (normalized differenced vegetative index) sensing, EC Index type sampling, or via high definition aerial photography that allows for the identification of numerous variations (zones) in a planning unit. Zone maps are created and a nutrient budget developed for each zone. An application rate (prescription) is developed for each zone based on representative soil analysis and a zone nutrient budget. Soil testing is completed at least once every three years for N-P-K. A nutrient budget is developed for each field annually. Application of nutrients is completed so that non-point source pollution is minimized. Nutrients are applied based on realistic yield expectations. Applications of nutrients are completed using a GPS guided variable rate fertilizer applicator. Applications of nutrients will be completed in split applications where a majority of the N needs are applied based on the needs of the crop based on growing season requirements. Acquisition of technical knowledge may be needed to effectively implement the practice. Producer may want to attend training courses and use specialized labor where needed in the annual maintenance of the NM plan. Record keeping will include all soil tests, analysis, zone maps, nutrient prescriptions and budgets, and as-applied applications. Yield monitoring maps will be collected and utilized (where technology allows) to develop the following year nutrient applications.	Conservation Cover (327), Conservation Crop Rotation (327), Contour Buffer Strips (332), Cover Crop (340), Field Border (386), Filter Strip (393), Grassed Waterway (412), Herbaceous Wind Barriers (603), Mulching (484), Irrigation Water Management (449), Residue Management, No Till/Strip Till (329), Residue Management, Mulch Till (329), Riparian Forest Buffer (391), Riparian Herbaceous Cover (390), Windbreak/Shelterbelt Establishment (380).	Includes the cost of all materials, equipment use and labor to install soil testing based on grid or zone sampling, analysis, services that provide nutrient recommendations, specialized nutrient application that provide nutrient proper recommendations based on UF/IFAS recommendations or crop removal rates and an associated nutrient budget, recordkeeping, and monitoring on a precision level that includes split applications, NDVI sensing, satellite/infrared/aerial imagery.
591 Amendment to Treatment of Agricultural Waste	Litter Amendments applied on a %w/w basis for Water Quality Impacts	This practice scenario includes the application of a litter treatment amendment that is approved by NRCS to the entire poultry house to reduce water-soluble phosphorous in the poultry litter by a specified percentage. The amendment used is proven to reduce the concentration of water-soluble phosphorous in the litter and reduces ammonia levels in the house.	Nutrient Management (590)	Includes cost of all materials, equipment use and labor required to install aluminum sulfate, alum or poultry litter amendment.
591 Amendment to Treatment of Agricultural Waste	Liquid Animal Waste Amendment	This practice scenario includes the treatment of liquid animal waste for odor control.	Nutrient Management (590), Waste Storage Facility (313)	Includes cost of all materials, equipment use and labor required to install digestive enzymes.
595 Integrated Pest Management	Basic IPM Field 1 Resource Concern	A basic IPM plan with UF/IFAS-approved pest monitoring techniques and pest thresholds (where available) is applied in large scale field crops to address one identified resource concern (e.g. Water Quality - Impacts to Human Drinking Water) with either risk prevention (e.g. planned pesticides have no risk to the identified resource concern) or risk mitigation (e.g. planned pesticides have appropriate mitigation planned from Agronomy Technical Note 5 for "Intermediate", "High" or "Extra High" WIN-PST Final Hazard Ratings).	Agrichemical Handling Facility (309), Brush Management (314), Conservation Crop Rotation (328), Field Border (386), Filter Strip (393), Forage Harvest Management, (511), Herbaceous Wind Barriers (603), Tree Shrub Site Preparation (612), Forest Stand Improvement (666), Mulching (484), Prescribed Burning (338), Prescribed Grazing (528), Residue Management, Mulch Till (345), Upland Wildlife Habitat Management (645), Wetland Wildlife Habitat Management (644)	Includes the cost of scouting and recordkeeping of scouting and type and amount of chemicals applied reflecting decisions based upon scouting/monitoring results.
595 Integrated Pest Management	Basic IPM Field >1 Resource Concern	A basic IPM plan with UF/IFAS-approved pest monitoring techniques and pest thresholds (where available) is applied in large scale field/forage crops to address multiple identified resource concerns (e.g. Water Quality – Impacts to Human Drinking Water and Pollinator Impacts) with either risk prevention (e.g. planned pesticides have no risks to the identified resource concerns) or risk mitigation (e.g. planned pesticides have appropriate mitigation planned from Agronomy Technical Note 5 for "Intermediate", "High" or "Extra High" WIN-PST Final Hazard Ratings).	Agrichemical Handling Facility (309), Brush Management (314), Conservation Crop Rotation (328), Field Border (386), Filter Strip (393), Forage Harvest Management, (511), Herbaceous Wind Barriers (603), Tree Shrub Site Preparation (612), Forest Stand Improvement (666), Mulching (484), Prescribed Burning (338), Prescribed Grazing (528), Residue Management, Mulch Till (345), Upland Wildlife Habitat Management (645), Wetland Wildlife Habitat Management (644)	Includes the cost of scouting and recordkeeping of scouting and type and amount of chemicals applied reflecting decisions based upon scouting/monitoring results.
600 Terrace	Broadbased	An earthen embankment with channel constructed across the field slope as part of a system to shorten slope lengths and reduce sheet, rill, and gully erosion in a cropped field.	Associated practices are Critical Area Planting (342), Grassed Waterway (412), and Underground Outlet (620). A stable outlet is provided in the form of a Grassed Waterway or Underground Outlet.	Includes cost of all materials, equipment use and labor required Length of Terrace to install excavation, shaping and compaction.
600 Terrace	Storage/Flat Channel	An earthen embankment with channel constructed across the field slope as part of a system to shorten slope lengths, and reduce sheet, rill, and gully erosion in a cropped field.	Associated practices are Critical Area Planting (342), Grassed Waterway (412), and Underground Outlet (620).	Includes cost of all materials, equipment use and labor required Length of Terrace to install excavation, shaping and compaction.
600 Terrace	Narrow Base	An earthen embankment with channel constructed across the field slope as part of a system to shorten slope lengths and reduce sheet, rill, and gully erosion in a cropped field.	Associated practices are Critical Area Planting (342), Grassed Waterway (412), and Underground Outlet (620). A stable outlet is provided in the form of a Grassed Waterway or Underground Outlet.	Includes cost of all materials, equipment use and labor required Length of Terrace to install excavation, shaping and compaction.

603 Herbaceous Wind Barriers	Annual Species	This scenario describes the implementation of herbaceous barriers to reduce wind velocities and wind-borne particulate matter. Plant materials shall be selected for local adaptation and climatic conditions and are resistant to lodging and are non-spreading in their habit. Barriers will be designed as close to perpendicular to prevailing winds as practical. Barrier direction, spacing, and composition needed to achieve the desired purpose shall be designed using the currently approved wind erosion technology.	Forage and Biomass Planting (512), Nutrient Management (590), Pest Management (595), Upland Wildlife Habitat Management (645)	Includes cost of all materials, equipment use and labor required to install adequate seedbed, small grass or legumes, no till/grass drill.
606 Subsurface Drain	Corrugated Plastic Pipe (CPP), Single-Wall, ≤ 6"	Below ground installation of perforated HDPE (Corrugated Plastic Pipe) pipeline, using a drainage plow. HDPE (CPP) Single-Wall is manufactured in sizes (nominal diameter) from 3-inch to 24-inch; typical practice sizes range from 3-inch to 12-inch; and typical scenario size is 5-inch.	Surface Drainage, Main or Lateral (608), Structure for Water Control (587), Pumping Plant (533), Drainage Water Management (554)	Includes cost of all materials, equipment use and labor required to install trenching and backfill, HDPE pipe, drainage lateral connections.
606 Subsurface Drain	Enveloped Corrugated Plastic Pipe (CPP), Single-Wall, ≤ 6"	Below ground installation of perforated HDPE (Corrugated Plastic Pipe) pipeline with Sand-Gravel envelope, using a drainage trencher. HDPE (CPP) Single-Wall is manufactured in sizes (nominal diameter) from 3-inch to 24-inch; typical practice sizes range from 3-inch to 12-inch; and typical scenario size is 5-inch.	Surface Drain, Main or Lateral (608), Structure for Water Control (587), Pumping Plant (533), Drainage Water Management (554)	Includes cost of all materials, equipment use and labor required to install trenching and backfill, earthfill, HDPE pipe, drainage lateral connections.
606 Subsurface Drain	Corrugated Plastic Pipe (CPP), Single-Wall, ≥ 8"	Below ground installation of HDPE (Corrugated Plastic Pipe) pipeline, using a drainage plow. HDPE (CPP) Single-Wall is manufactured in sizes (nominal diameter) from 3-inch to 24-inch; typical practice sizes range from 3-inch to 12-inch; and typical scenario size is 10-inch.	Surface Drain, Main or Lateral (608), Structure for Water Control (587), Pumping Plant (533), Drainage Water Management (554)	Includes cost of all materials, equipment use and labor required to install trenching and backfill, HDPE pipe, drainage lateral connections.
612 Tree and Shrub Establishment	Medium Density-Hand Plant Conifer	This practice involves planting of tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle a medium density planting rate. Terrain is moderately to steeply sloping, too steep to be planted with a mechanical tree planter so the area is hand planted.	Tree Shrub Site Preparation (490), Prescribed Grazing (528), Prescribed Burning (338), Bedding, (310) Forest Stand Improvement (666)	Includes the cost of pines (bareroot, tublings) and all materials, equipment use and labor required to hand plant pines at a rate of less than 500 stems per acre.
612 Tree and Shrub Establishment	Medium Density-Mech Plant Conifer	This practice involves planting of tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle a medium density planting rate. Terrain is moderately sloping and will be planted with a mechanical tree planter.	Tree Shrub Site Preparation (490), Prescribed Grazing (528), Prescribed Burning (338), Bedding, (310) Forest Stand Improvement (666)	Includes the cost of pines (bareroot, tublings) and all materials, equipment use and labor required to machine plant pines at a rate of less than 500 stems per acre.
612 Tree and Shrub Establishment	Low Density-hand plant Containerized	This practice involves planting of tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle a low density planting rate. Terrain is moderately to steeply sloping, too steep to be planted with a mechanical tree planter so the area is hand planted.	Tree Shrub Site Preparation (490), Prescribed Grazing (528), Prescribed Burning (338), Bedding, (310) Forest Stand Improvement (666)	Includes the cost of pines (bareroot, tublings) and all materials, equipment use and labor required to machine plant pines at a rate of less than 400 stems per acre.
612 Tree and Shrub Establishment	High Density-Mech Plant Conifer	This practice applies to forestlands that are being actively managed. Tree seedlings are planted after the site has been prepared for seedling establishment and growth. Forest site productivity is high or very high and dense planting is planned. Terrain conditions allow for mechanical tree planting	Tree Shrub Site Preparation (490), Prescribed Grazing (528), Prescribed Burning (338), Bedding, (310) Forest Stand Improvement (666)	Includes the cost of pines (bareroot, tublings) and all materials, equipment use and labor required to machine plant pines more than 500 stems per acre.
612 Tree and Shrub Establishment	High Density-Hand Plant Conifer	This practice involves planting of tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle a medium density planting rate. Terrain is moderately to steeply sloping, too steep to be planted with a mechanical tree planter so the area is hand planted.	Tree Shrub Site Preparation (490), Prescribed Grazing (528), Prescribed Burning (338), Bedding, (310) Forest Stand Improvement (666)	Includes the cost of pines (bareroot, tublings) and all materials, equipment use and labor required to hand plant pines more than 500 stems per acre.
612 Tree and Shrub Establishment	Hardwood-Hand Plant	Improving the hardwood forest setting by hand planting hardwood tree seedlings. The number of trees to plant is lower than establishing a new forest.	Tree Shrub Site Preparation (490), Prescribed Grazing (528), Prescribed Burning (338), Bedding, (310) Forest Stand Improvement (666)	Includes the cost of hardwoods and all materials, equipment use and labor required to plant (drilled and hand planting).
612 Tree and Shrub Establishment	Shrub Planting	Shrubs are planted to provide a more diverse habitat. Plantings are in either uplands or bottomlands. The site lacks ground level habitat structure and diversity for wildlife.	Tree Shrub Site Preparation (490), Prescribed Grazing (528), Prescribed Burning (338), Bedding, (310) Forest Stand Improvement (666)	Includes the cost of shrubs and all materials, equipment use and labor required to plant.
614 Watering Facility	Less than 100 gal	A permanent watering facility for livestock and or wildlife constructed of approved materials with less than 100 gallons of capacity that stores adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation.	All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). Any needed water source installation will use Water Well (642), Pumping Plant (533), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.	Includes cost of all materials, equipment use and labor required to install galvanized metal tank, float control valve, and guard post.
614 Watering Facility	Less than 100-200 gal	A permanent watering facility for livestock and or wildlife constructed of approved materials for 100- 200 gallons of capacity that stores adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation.	All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). Any needed water source installation will use Water Well (642), Pumping Plant (533), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.	Includes cost of all materials, equipment use and labor required to install galvanized metal tank, float control valve, and guard post.

614 Watering Facility	Less than 201-400 gal	A permanent watering facility for livestock and or wildlife constructed of approved materials for 201-400 gallons of capacity that stores adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation.	All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.	Includes cost of all materials, equipment use and labor required to install galvanized metal tank, float control valve, and guard post.
614 Watering Facility	Less than 401-600 gal	A permanent watering facility for livestock and or wildlife constructed of approved materials for 401-600 gallons of capacity that stores adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation.	All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.	Includes cost of all materials, equipment use and labor required to install galvanized metal tank, float control valve, and guard post.
614 Watering Facility	Greater Than 600 gal	A permanent watering facility for livestock and or wildlife constructed of approved materials for greater than 600 gallons of capacity that stores adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation.	All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.	Includes cost of all materials, equipment use and labor required to install galvanized metal tank, float control valve, and guard post.
614 Watering Facility	Concrete Less than 500 gal	A permanent watering facility for livestock and or wildlife constructed of approved materials for a less than 500 gallons of capacity concrete tank that stores adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation.	All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.	Includes cost of all materials, equipment use and labor required to install concrete tank.
614 Watering Facility	Concrete 500 plus gal	A permanent watering facility for livestock and or wildlife constructed of approved materials for greater than 500 gallons of capacity concrete tank that stores adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation.	All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.	Includes cost of all materials, equipment use and labor required to install concrete tank.
614 Watering Facility	Permanent Drinking/Storage	A permanent watering facility for livestock and or wildlife constructed of approved materials with 500 to 1,000 gallons of capacity that stores adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation.	All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.	Includes cost of all materials, equipment use and labor required to install poly-enclosed, storage tank, with foundation smooth and graded for drainage, excavation, earthfill.
620 Underground Outlet	Less than or equal to 6"	Install approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Field system meets "T" or "clean" storm water runoff is diverted to minimize the volume of runoff to be stored or treated.	Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606), Roof Runoff (558)	Includes cost of all materials, equipment use and labor required to install HDPE pipe, perforated PVC riser inlet, rock rip rap, geotextile, excavation, compaction.
620 Underground Outlet	Greater than 6" to 12"	Install approved double walled plastic pipe to convey stormwater from one location to a suitable and stable outlet. Field system meets "T" or "clean" storm water runoff is diverted to minimize the volume of runoff to be stored or treated.	Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606), Roof Runoff (558)	Includes cost of all materials, equipment use and labor required to install HDPE pipe, perforated PVC riser inlet, rock rip rap, geotextile, excavation, compaction.
620 Underground Outlet	Greater than 12" to 18"	Install approved double walled plastic pipe to convey stormwater from one location to a suitable and stable outlet. Field system meets "T" or "clean" storm water runoff is diverted to minimize the volume of runoff to be stored or treated.	Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606), Roof Runoff (558)	Includes cost of all materials, equipment use and labor required to install HDPE pipe, rock rip rap, geotextile, concrete catch basin, excavation, compaction.

620 Underground Outlet	Greater than 18" to 30"	Install approved double walled plastic pipe to convey stormwater from one location to a suitable and stable outlet. Field system meets "T" or "clean" storm water runoff is diverted to minimize the volume of runoff to be stored or treated.	Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606), Roof Runoff (558)	Includes cost of all materials, equipment use and labor required to install HDPE pipe, rock rip rap, geotextile, concrete catch basin, excavation, compaction.	
620 Underground Outlet	6" to 12" single wall	Install approved single walled plastic pipe to convey stormwater from one location to a suitable and stable outlet. Field system meets "T" or "clean" storm water runoff is diverted to minimize the volume of runoff to be stored or treated.	Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606), Roof Runoff (558)	Includes cost of all materials, equipment use and labor required to install HDPE pipe, perforated PVC riser inlet, rock rip rap, geotextile, excavation, compaction.	
632 Solid/Liquid Waste Separator	Mechanical Separation Facility	A small mechanical separation facility to partition solids, liquids, and/or associated nutrients from animal waste streams. Mechanical separators may include, but are not limited to: static inclined screens, vibratory screens, rotating screens, centrifuges, screw or roller presses, or other systems.	Nutrient Management (590), Composting Facility (317), Anaerobic Digester (366), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Amendments for the Treatment of Agricultural Waste (591), Pumping Plant (533), Vegetated Treatment Area (635), Pond Lining or Sealing (521A-D), and Waste Treatment (629).	Includes cost of all materials, equipment use and labor required to install vibratory or rotating screen, excavation, reinforced concrete.	
632 Solid/Liquid Waste Separator	Concrete Separator	A concrete structure, such as a basin with concrete walls and floor, used to capture and separate a portion of the solids from a liquid stream from a feedlot or confinement facility. Removes as portion of the solids to facilitate waste handling.	Nutrient Management (590), Composting Facility (317), Anaerobic Digester (366), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Pumping Plant (533), Vegetated Treatment Area (635), Pond Lining or Sealing (521A-D), and Waste Treatment (629).	Includes cost of all materials, equipment use and labor required to install earthfill, aggregate, weeping wall, reinforced concrete, geotextile, excavation, compaction.	
632 Solid/Liquid Waste Separator	Concrete Sand Settling Lane	A concrete structure, a concrete lane with curbs, used to capture and separate a portion of the solids, mainly sand, from a liquid stream from a confinement facility. Removes as portion of the solids to facilitate waste handling and to address water quality concerns.	Nutrient Management (590), Composting Facility (317), Anaerobic Digester (366), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Pumping Plant (533), Vegetated Treatment Area (635), Pond Lining or Sealing (521A-D), and Waste Treatment (629).	Includes cost of all materials, equipment use and labor required to install earthfill, reinforced concrete, geotextile, excavation, compaction.	
634 Waste Transfer	Wastewater reception pit	Installation for a wastewater collection system that includes materials and structures to collect liquids such as silage leachate, lot runoff and other contaminated liquid effluent. The wastewater will typically be transferred from the collection basin to a waste storage facility through a gravity or low pressure flow conduit that would be contract in a separate scenario (wastewater transfer pipe).	Waste Storage Facility (313), Pumping Plant (533), Irrigation Pipeline (430), Solid/Liquid Waste Separation Facility (632), Lined Waterway or Outlet (468), Nutrient Management (590), Waste Recycling (633). Transfer pump if needed must be contracted under Pumping Plant, (533).	Includes costs of all materials, equipment use and labor required to install safety chain (tractor barrier) or solid/grated cover, earthfill, reinforced concrete.	
634 Waste Transfer	Medium sized wastewater reception pit with conduit transfer pipe to waste storage pond	Installation for a wastewater collection system that includes materials and structures to collect liquids such as silage leachate, lot runoff and other contaminated liquid effluent which is then transferred through a 6" low pressure conduit to the waste storage structure. This scenario includes a reinforced concrete manure reception pit and a 6" PVC SDR 41 conduit to transfer the manure and wastewater to a waste storage pond. Reception Pit includes safety fence w/gate or solid/grated cover.	Waste Storage Facility (313), Pumping Plant (533), Irrigation Pipeline (430), Solid/Liquid Waste Separation Facility (632), Lined Waterway or Outlet (468), Nutrient Management (590), Waste Recycling (633). Transfer pump if needed must be contracted under Pumping Plant, (533).	Includes costs of all materials, equipment use and labor required to install aggregate, safety chain (tractor barrier) or solid/grated cover, pipe, earthfill, reinforced concrete.	
634 Waste Transfer	Large reception pit, pipe to storage, plus pipe to treatment.	Installation for a wastewater collection system that includes materials and structures to collect liquids such as lot runoff, manure slurry and other contaminated liquid effluent. The wastewater collected in this pit is intended to be transferred to final storage within a 48 hour period. The waste is transferred through a conduit to a waste treatment location. After treatment the remaining liquids are transferred to the waste storage pond in a pipeline. After treatment the remaining liquids are transferred to the waste storage pond in a pipeline. This typical scenario includes a reinforced concrete manure reception pit an 8" conduit to transfer the manure and wastewater to a treatment location and a secondary 6" transfer pipeline. Reception Pit includes safety fence w/gate or solid/grated cover.	Waste Storage Facility (313), Pumping Plant (533), Irrigation Pipeline (430), Solid/Liquid Waste Separation Facility (632), Lined Waterway or Outlet (468), Nutrient Management (590), Waste Recycling (633). Transfer pump if needed must be contracted under Pumping Plant, (533).	Includes costs of all materials, equipment use and labor required to install earthfill, safety chain (tractor barrier) or solid/grated cover, pipe, earthfill, reinforced concrete.	
634 Waste Transfer	Concrete Channel	Installation of a concrete channel that consists of a slab with curb and footing on each side of the slab for the entire length of the channel to enable the facility manager to direct liquid waste to an existing collection basin and/or waste storage facility.	Waste Storage Facility (313), Pumping Plant (533), Irrigation Pipeline (430), Solid/Liquid Waste Separation Facility (632), Lined Waterway or Outlet (468), Nutrient Management (590), Waste Recycling (633)	Includes costs of all materials, equipment use and labor required to install earthfill, safety chain, manure channel or chute, span manure transfer channel or chute, reinforced concrete.	Bottom surface area of concrete channel
634 Waste Transfer	Concrete Channel with push-off wall at pond and safety gate	Installation of a concrete channel that consists of a slab with curb and footing on each side of the slab for the entire length of the channel to enable the facility manager to direct liquid waste to a collection basin and/or waste storage facility at the end of a push-off ramp. A safety gate is installed at the end of the push-off ramp.	Waste Storage Facility (313), Pumping Plant (533), Irrigation Pipeline (430), Solid/Liquid Waste Separation Facility (632), Lined Waterway or Outlet (468), Nutrient Management (590), Waste Recycling (633)	Includes costs of all materials, equipment use and labor required to install earthfill, safety chain, manure channel or chute, span manure transfer channel or chute, reinforced concrete.	
634 Waste Transfer	Concrete channel, to wastewater reception pit	Installation of a concrete channel that consists of a slab with curb and footing on each side of the slab for the entire length of the channel to enable the facility manager to direct liquid waste to a 4300 gallon wastewater collection basin and/or waste storage facility.	Waste Storage Facility (313), Pumping Plant (533), Irrigation Pipeline (430), Solid/Liquid Waste Separation Facility (632), Lined Waterway or Outlet (468), Nutrient Management (590), Waste Recycling (633)	Includes costs of all materials, equipment use and labor required to install earthfill, safety chain (tractor barrier), pipe, reinforced concrete.	

634 Waste Transfer	Wastewater Flush Transfer System - Pipes only	Installation of the pipe for a manure and wastewater flush system that provides the structures to utilize recycled wastewater to flush waste from a concrete surface into a waste storage pond. This may include pipe and valves, concrete flush lane, concrete curbs or gutter. The animal waste will be transferred by recycled flush water through the pipe system to rinse the concrete production surface and carry the waste to a waste storage pond.	Waste Storage Facility (313), Pumping Plant (533), Irrigation Pipeline (430), Solid/Liquid Waste Separation Facility (632), Lined Waterway or Outlet (468), Nutrient Management (590), Waste Recycling (633). Transfer pump if needed must be contracted under Pumping Plant, (533).	Includes costs of all materials, equipment use and labor required to install PVC pipe, earthfill, compaction, reinforced concrete.
634 Waste Transfer	HDPE conduit, gravity flow, from an existing inlet structure to site of treatment or storage.	Gravity flow conduit is typically a large diameter water tight HDPE sanitary sewer pipe used to transfer manure by gravity from one location to another. The gravity transfer system typically consists of an existing inlet structure or hopper with attachment to a smooth interior large diameter pipe. The pipe conveys the slurry waste liquid between the waste collection point and a manure storage or waste treatment structure.	Waste Storage Facility (313), Pumping Plant (533), Irrigation Pipeline (430), Solid/Liquid Waste Separation Facility (632), Lined Waterway or Outlet (468), Nutrient Management (590), Waste Recycling (633). Transfer pump if needed must be contracted under Pumping Plant, (533).	Includes costs of all materials, equipment use and labor required to install HDPE pipe, excavation, earthfill, compaction, reinforced concrete.
634 Waste Transfer	Large diameter, Low pressure flow, PVC conduit	Low pressure flow conduit is typically a PVC pipeline used to transfer wastewater or manure slurry by pumping from one production location to a storage or treatment location. Low pressure flow PVC transfer pipelines can be between 3" and 30" diameter and are designed for a pumping pressure of no more than 100 psi. The low pressure transfer system typically consists of an inlet structure or hopper connected to a smooth interior PVC pipe sized to deliver the design flow.	Waste Storage Facility (313), Pumping Plant (533), Irrigation Pipeline (430), Solid/Liquid Waste Separation Facility (632), Lined Waterway or Outlet (468), Nutrient Management (590), Waste Recycling (633)	Includes costs of all materials, equipment use and labor required to install excavation, earthfill, compaction, reinforced concrete, PVC pipe.
634 Waste Transfer	Medium, Low pressure flow PVC pipeline, from waste storage pond to land application site	Low pressure flow pipeline used to transfer manure wastewater by a low pressure pump from the waste storage pond to the field where it is applied according to the CNMP. The pipeline moves the water from the pond through a buried mainline with low pressure outlets that spread the water on a vegetated treatment area or to a site where the water is applied through an existing field application system. Low pressure flow PVC transfer pipelines can be between 3" and 30" diameter and are designed for a pumping pressure of 100 psi or less.	Waste Storage Facility (313), Pumping Plant (533), Irrigation Pipeline (430), Solid/Liquid Waste Separation Facility (632), Lined Waterway or Outlet (468), Nutrient Management (590), Waste Recycling (633)	Includes costs of all materials, equipment use and labor required to install excavation, earthfill, compaction, reinforced concrete, PVC pipe.
634 Waste Transfer	Pressure flow PVC pipeline, from waste storage pond to land application site.	Pressure flow pipeline used to transfer manure wastewater by pumping from the waste storage pond to the field where it is to be applied according to the CNMP. Pressure flow transfer pipelines can be between 3" and 12" diameter but 6" diameter is a commonly used pipe size. Pressure pipe will handle an internal pumping pressure between 130 and 200 psi depending on the designed pumping system and must have gasketed joints to seal for the wastewater transfer.	Waste Storage Facility (313), Pumping Plant (533), Irrigation Pipeline (430), Solid/Liquid Waste Separation Facility (632), Lined Waterway or Outlet (468), Nutrient Management (590), Waste Recycling (633)	Includes costs of all materials, equipment use and labor required to install excavation, earthfill, compaction, non-reinforced concrete, PVC pipe.
636 Water Harvesting Catchment	Specialty Catchment	A water catchment and retention system for collecting roof runoff on nurseries utilizing tanks to store the water. Catch water from the roof is collected in gutters and is transported it by downspout and pipe to storage tanks. Water will be stored and subsequently used on-farm. Tanks will have overflow protection. Overflow will be routed to a suitable outlet.	Critical Area Planting (342), Pipeline (516), Underground Outlet (620), Heavy Use Area Protection (561)	Includes costs of all materials, equipment use and labor required to install water storage tank, gutter, PVC pipe, excavation, earthfill, compaction, reinforced concrete.
638 Water and Sediment Control	WASCOB base	Typical scenario is for the construction of an earthen embankment. Outlet is typically an underground outlet. An earthen embankment or combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin.	If riser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.	Includes costs of all materials, equipment use and labor required to install excavation, shaping and grading.
638 Water and Sediment Control	WASCOB topsoil	Typical scenarios for the construction of an earthen embankment. Prior to building the embankment, topsoil is removed and stockpiled. Outlet is typically an underground outlet. An earthen embankment or combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin. Topsoil is replaced following construction of the embankment.	If riser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.	Includes costs of all materials, equipment use and labor required to install stripping and stockpiling topsoil, excavation, shaping and grading.
642 Water Well	Shallow Well	Typical construction is for the installation of a well, in areas where sufficient water is known to occur within 100 feet of the ground surface. The well shall be drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer for water supply.	Utilize Pumping Plant (533) and Pipeline (516) as associated practices. Use Critical Area Seeding (342) where necessary to prevent erosion following construction activities.	Includes the cost of all materials, equipment use and labor required to install drilling, casing, screen, sealant for shallow well.
642 Water Well	Typical Well	Typical construction is for the installation of a well, in areas where sufficient water is known to occur 100 - 600 feet of the ground surface. The well shall be drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer for water supply.	Utilize Pumping Plant (533) and Pipeline (516) as associated practices. Use Critical Area Seeding (342) where necessary to prevent erosion following construction activities.	Includes the cost of all materials, equipment use and labor required to install drilling, casing, screen, sealant for typical well.
643 Restoration and Management of Rare and Declining Habitats	Wildlife Structures, Low Intensity & Complexity	This scenario is for the installation of wildlife structures on all land uses where the targeted species has been identified as Rare and Declining. Structures are of low intensity and low complexity, when habitat assessment indicates Inadequate Habitat for Fish or Wildlife-habitat degradation. This scenario include structures such as: habitat boxes, perch poles, fence markers, down logs and hand built brush piles. The typical size range for this scenario is 1 to 200 acres. This scenario would be applied on any land use where habitats are utilized by species identified as rare & declining. Intensity is the number of structures to be installed per acre. For this scenario the intensity is <0.5 structure per acre.		Includes the cost of all materials, equipment use and labor required to install wildlife escape ramps, habitat boxes and brushhog or chainsaw for creation of brush piles.

643 Restoration and Management of Rare and Declining Habitats	Wildlife Structures, Medium Intensity and Complexity	This scenario is for the installation of wildlife structures on all land uses where the targeted species has been identified as Rare and Declining. Structures are of medium intensity with medium complexity (also included are sites needing low to medium intensity but high complexity or high intensity but low to medium complexity structures), when habitat assessment indicates Inadequate Habitat for Fish or Wildlife-habitat degradation. This scenario includes all the structures in the Wildlife Structures Low and other structures whose installation may require the use of light (< 70 horse power) to medium (70-150 horse power) sized equipment. This scenario would be applied on any land use where habitats are utilized by species identified as rare & declining. Intensity is the number of structures to be installed per acre. For this scenario, the intensity can range from <1 structure per acre to >1 structure per acre depending on complexity.		Includes the cost of all materials, equipment use and labor required to install wildlife escape ramps, habitat boxes and bushhog, chainsaw, rock rip rap for creation of brush piles.
643 Restoration and Management of Rare and Declining Habitats	Wildlife Structures, High Intensity & Complexity	This scenario is for the installation of wildlife structures on all land uses where the targeted species has been identified as Rare and Declining. Structures are of medium to high intensity and high complexity, when habitat assessment indicates Inadequate Habitat for Fish or Wildlife-habitat degradation. This scenario includes all the structures in the Wildlife Structures-low and medium scenarios but whose installation may require medium to high intensity with high complexity. This scenario may include the installation structures that require the use of heavy (150+ horse power) equipment. This scenario would be applied on any land use where habitats are utilized by species identified as rare & declining. Intensity is the number of structures to be installed per acre and for this scenario it can range from <1 structure per acre to >1 structure per acre depending on complexity.		Includes the cost of all materials, equipment use and labor required to install wildlife escape ramps, habitat boxes and bushhog, chainsaw, rock rip rap for creation of brush piles.
643 Restoration and Management of Rare and Declining Habitats	Topographic Feature Creation, Low Complexity & Intensity	The State-approved habitat evaluation found that a limiting factor for species of plants and animals identified as rare and declining is the absence of sufficient variability in microtopographic relief in the area. The construction of low intensity and low complexity topographic features will provide for diverse soil hydrologic conditions needed to treat the degraded plant condition and/or inadequate habitat for rare and declining species.		Includes the cost of all materials, equipment use and labor required to install micro-topographic changes with the use of low horsepower equipment, such as, rubber tired tractor and farm implements (i.e. – box blade, scraper blade, grader blade, front end-loader, etc).
643 Restoration and Management of Rare and Declining Habitats	Topographic Feature Creation, Medium Complexity & Intensity	The State-approved habitat evaluation found that a limiting factor for species of plants and animals identified as rare and declining is the absence of sufficient variability in microtopographic relief in the area. The construction of medium intensity and medium complexity topographic features will provide for diverse soil hydrologic conditions needed to treat the degraded plant condition and/or inadequate habitat for rare and declining species.		Includes the cost of all materials, equipment use and labor required to install micro and macro topographic changes with the use of moderate horsepower equipment, such as, rubber tired equipment (i.e. – Skidsteer, Farm Tractor, Small Dozer, etc).
643 Restoration and Management of Rare and Declining Habitats	Topographic Feature Creation, High Complexity & Intensity	The State-approved habitat evaluation found that a limiting factor for species of plants and animals identified as rare and declining is the absence of sufficient variability in microtopographic relief in the area. The construction of construction of high intensity and high complexity topographic features will provide for diverse soil hydrologic conditions needed to treat the degraded plant condition and/or inadequate habitat for rare and declining species.		Includes the cost of all materials, equipment use and labor required to install micro and macro topographic changes with the use of high horsepower equipment including a dozer and excavator.
644 Wetland Wildlife Management	Wildlife Nesting Structures	This scenario covers all wetland habitats, that are not covered under 643, that need installation of wildlife structures, which are of low intensity and low complexity, when habitat assessment indicates Inadequate Habitat for Fish or Wildlife-habitat degradation. This scenario include structures such as: habitat boxes.	Riparian Forest Buffer (391), Early Successional Habitat Development and Management (647), Tree Shrub Pruning (660), Forest Stand Improvement (666)	Includes costs of all materials, equipment use and labor required to install habitat boxes.
645 Upland Wildlife Habitat Management	Wildlife Structures	This scenario covers all uplands habitats, that are not covered under 643, that need installation of wildlife structures. This scenario include structures such as: habitat boxes, perch poles, fence markers, down logs and hand built brush piles. Intensity is the number of structures to be installed per acre. For this scenario the intensity is 1 structure per 5 acres.	Riparian Forest Buffer (391), Early Successional Habitat Development and Management (647), Tree Shrub Pruning (660), Forest Stand Improvement (666)	Includes costs of all materials, equipment use and labor required to install habitat boxes.
645 Upland Wildlife Habitat Management	Perennial Legume	This scenario covers all upland habitats, that are not covered under 643 for the establishment of annual (non-persistent) vegetation on all land uses. This scenario would be applied on any land use where habitats are utilized by targeted species.	Riparian Forest Buffer (391), Early Successional Habitat Development and Management (647), Tree Shrub Pruning (660), Forest Stand Improvement (666)	Includes costs of all materials, equipment use and labor required to install adequate seedbed, legumes, no-till/grass drill, fertilizer for establishment.
647 Early Successional Habitat Development and Management	Mowing	This scenario address inadequate habitat for fish and wildlife where setting back succession by mowing incoming woody species will improve habitat for the target species. Mowing can be used to increase structural diversity by creating areas of shorter vegetation preferred by some species or certain life stages of species. The typical setting for this scenario is at the edge of crop fields, in the edge of pastures, at the edge of woodlands or brushy areas, and in odd areas such as pivot corners.	Where the management of woody plants is require to create or maintain early successional habitat conservation practice Brush Management (314) Forest Stand Improvement (666) should be used. Where chemical control of weeds, including invasives, is required to reduce competition for the desired plant community conservation practice Herbaceous Weed Control (315) should be used. Where the seedbank is inadequate for natural regeneration and seeding is required use conservation practice Range Seeding (550) or Conservation Cover (327). Where the need is to create early successional habitat within or at the edge of woodland or forest use conservation practice Forest Stand Improvement (666) to remove trees.	Includes costs of all materials, equipment use and labor required to install mowing, bush hog.

647 Early Successional Habitat Development and Management	Disking	This scenario address inadequate habitat for fish and wildlife where setting back succession by mowing incoming woody species will improve habitat for the target species. Mowing can be used to increase structural diversity by creating areas of shorter vegetation preferred by some species or certain life stages of species. The typical setting for this scenario is at the edge of crop fields, in the edge of pastures, at the edge of woodlands or brushy areas, and in odd areas such as pivot corners.	Where the management of woody plants is require to create or maintain early successional habitat conservation practice Brush Management (314) Forest Stand Improvement (666) should be used. Where chemical control of weeds, including invasives, is required to reduce competition for the desired plant community conservation practice Herbaceous Weed Control (315) should be used. Where the seedbank is inadequate for natural regeneration and seeding is required use conservation practice Range Seeding (550) or Conservation Cover (327). Where the need is to create early successional habitat within or at the edge of woodland or forest use conservation practice Forest Stand Improvement (666) to remove trees.	Includes costs of all materials, equipment use and labor required to install disking.
655 Forest Trails and Landings	Trail Erosion Control w/o Vegetation	Rehabilitation of existing forest access trail segments by addressing legacy resource issues for long-term use. Typically the trail is a single lane (including cut and fill), seasonal prism requiring sustained erosion control measures installed by using heavy equipment such as dozers, graders, backhoes, and/or excavators. The purpose is to hydrologically disconnect the existing trail/landing system from streams and natural drainages.	Other practices such as Stream Crossing (578), and Critical Area Planting (342), Access Road (560) and Structure for Water Control (587) can be adjacent/appurtenant but not part of this practice scenario.	Includes costs of all materials, equipment use and labor required to install trail water deflectors, constructed of the length of a conveyor belt, or belting bolted between pressure treated planks.
655 Forest Trails and Landings	Water Bars	Rehabilitation of existing forest access trails and landings by addressing legacy resource issues such as sedimentation, for long-term use. Typically the trail is a existing single lane, including cut and fill seasonal road prism on a moderately steep slope on forestland requiring sustained erosion control measures. The purpose is to hydrologically disconnect existing trail/landing system from the streams and natural drainages. This includes the design and installation of cross drains, rock drains, relief drains, out sloping (or changing road surface drainage), rolling dips and water bars and ditch outs as needed This scenario applies to only those segments of the trail system that have resource concerns requiring rehabilitation.	Other practices such as Stream Crossing (578), and Critical Area Planting (342), Access Road (560) and Structure for Water Control (587) can be adjacent/appurtenant but not part of this practice scenario.	Includes costs of all materials, equipment use and labor required to install graded trail water controlling structures (e.g. water bars, broad based dips), for erosion control.
657 Wetland Restoration	Ditch Plug	A depressional HGM class wetland is to be restored. The site is a recharge depression, fed only from surface runoff.	Range Planting (550), Tree Shrub Establishment (612), Wetland Wildlife Habitat Management (644), Conservation Cover (327)	Includes cost of all materials, equipment use and labor required to install earthfill, shaping and compaction.
666 Forest Stand Improvement	Pre-commercial Thinning - Hand tools	Adjusting the stocking of a young, non-merchantable stand of trees.	Early Successional Habitat Development and Management (647), Upland Wildlife Habitat Management (645), Prescribed Burning (338)	Includes cost of all materials, equipment use and labor required to install felled selected trees through use of chainsaw or other hand tools.
666 Forest Stand Improvement	Timber Stand Improvement - Single Stem Treatment	Altering the composition and stocking of a stand of trees by means of individual stem treatment.	Early Successional Habitat Development and Management (647), Upland Wildlife Habitat Management (645), Prescribed Burning (338)	Includes cost of all materials, equipment use and labor required to install application of low cost chemicals in low volumes through spot treatment using backpack sprayer.
666 Forest Stand Improvement	Timber Stand Improvement - Chemical, Ground	Using ground applied chemicals to release young desirable trees from competing and/or overtopping vegetation.	Early Successional Habitat Development and Management (647), Upland Wildlife Habitat Management (645), Prescribed Burning (338)	Includes cost of all materials, equipment use and labor required to install application of low cost chemicals in low volumes through ground application.
666 Forest Stand Improvement	Band Spray	Using ground applied chemicals to release young desirable trees from competing and/or overtopping vegetation.	Early Successional Habitat Development and Management (647), Upland Wildlife Habitat Management (645), Prescribed Burning (338)	Includes cost of all materials, equipment use and labor required to install application of low cost chemicals in low volumes through band spraying.
666 Forest Stand Improvement	Timber Stand Improvement - Chemical, Aerial	Using aerially applied chemicals to release desirable trees from competing and/or overtopping vegetation.	Early Successional Habitat Development and Management (647), Upland Wildlife Habitat Management (645), Prescribed Burning (338)	Includes cost of all materials, equipment use and labor required to install application of low cost chemicals in low volumes through aerial application.
666 Forest Stand Improvement	Competition Control - Mechanical, Light Equipment	Using light equipment such as a tractor with bush hog to control vegetation that is competing with desirable trees and species or to reduce the stocking level of a stand of desirable trees.	Early Successional Habitat Development and Management (647), Upland Wildlife Habitat Management (645), Prescribed Burning (338)	Includes cost of all materials, equipment use and labor required to install application of bush hog.
666 Forest Stand Improvement	Competition Control - Mechanical, Heavy Equipment	Using equipment such as a masticator or mulcher to control vegetation that is competing with desirable trees and species or to reduce the stocking level of a stand of desirable trees.	Early Successional Habitat Development and Management (647), Upland Wildlife Habitat Management (645), Prescribed Burning (338)	Includes cost of all materials, equipment use and labor required to install application of masticator, mulcher.
666 Forest Stand Improvement	Creating Patch Clearcuts	Creating 2 acre patches in over-mature and/or degraded stands using hand tools such as chainsaws.	Early Successional Habitat Development and Management (647), Upland Wildlife Habitat Management (645), Prescribed Burning (338)	Includes cost of all materials, equipment use and labor required to install clearings through use of chainsaw.
666 Forest Stand Improvement	Thinning for Wildlife and Forest Health at 60BA	Used to open the canopy of a stand to improve the wildlife habitat and tree health.	Early Successional Habitat Development and Management (647), Upland Wildlife Habitat Management (645), Prescribed Burning (338)	Includes cost of all materials, equipment use and labor required to install tree marking paint. Costs involved in any commercial harvesting including marking, access, and transportation are not included in this scenario.
666 Forest Stand Improvement	Thinning for Wildlife and Forest Health at 50BA	Used to open the canopy of a stand to improve the wildlife habitat and tree health.	Early Successional Habitat Development and Management (647), Upland Wildlife Habitat Management (645), Prescribed Burning (338)	Includes cost of all materials, equipment use and labor required to install tree marking paint. Costs involved in any commercial harvesting including marking, access, and transportation are not included in this scenario.
666 Forest Stand Improvement	Thinning for Wildlife and Forest Health at 80BA	Used to open the canopy of a stand to improve the wildlife habitat and tree health.	Early Successional Habitat Development and Management (647), Upland Wildlife Habitat Management (645), Prescribed Burning (338)	Includes cost of all materials, equipment use and labor required to install clearings through use of chainsaw. Costs involved in any commercial harvesting including marking, access, and transportation are not included in this scenario.

717 Livestock Shade Structure	Portable Shade Structure	A flexible membrane or fabric-like roof placed on a steel or wood portable frame used to promote animal health where prescribed grazing practices have limited livestock access to shade.	Fence (382), Prescribed Grazing (528), Watering Facility (614)	Includes the cost of all materials, equipment use and labor required to install prefabricated or welded galvanized pipe, shade fabric, grommets and fasteners.
755 Well Plugging	Artesian Well Capping	The sealing of a water well in a specified manner to cap a free flowing well.	Water Well (642), Irrigation Pipeline (430), Watering Facility (614)	Includes cost of all materials, equipment use and labor required to valve, concrete, water test.
755 Well Plugging	Well Plug	The sealing of a water well in a specified manner to a specific depth in order to prevent contamination from ground water contaminants.	Water Well (642), Irrigation Pipeline (430), Watering Facility (614)	Includes cost of all materials, equipment use and labor required to install cement and/or bentonite grout, water test.
798 Seasonal High Tunnel for Crops	Seasonal High Tunnel for Crops	Used for contiguous US states in areas. A quonset-style (round) manufactured frame of tubular steel covered with 4-year 6mil plastic.	Conservation Crop Rotation (328), Nutrient Management (590), Pest Management (595),	Includes cost of all materials, equipment use and labor required to install a hoop house, quonset style.