

**Sunoco Pipeline Penalty Grant
Recommended Potential Projects by Township
With Cost Estimates**

South Londonderry/South Annville

Killinger Creek

Project ID	Location	Length (feet)	Existing Problems	Proposed Solution	Design & Permitting	Design & Permitting Cost	Construction	Construction Cost	Total Cost
2	UPS of Rte 322 and DS of Rte 117 South Annville/South Londonderry	620	Livestock grazing impacts; lack of buffer; unstable C4 channel with high eroding banks	Grade and stabilize banks; Install fencing a minimum of 15 feet either side of stream and install 1 livestock crossing	GIS Topo Grading Plan Prep, Permitting, Standard livestock crossing G-3, GP-6	\$10,000	Bank grading and stabilization 827 yd ³ Cost of 1240 LF of 3 strand, high tensile wire, wooden posts, 4 corners, 2 gates, solar Panel and accessories; plus 1 livestock crossing	\$6,616 \$4,650 \$600 \$400 \$350 \$150 <u>\$4,500</u> \$17,266	\$27,266
W-1	UPS of Brandt Road South Annville/South Londonderry	1200	Agricultural Runoff, wastewater discharge, low baseflow	Acquire property or easement Create 2.75 acre wetland to treat agricultural runoff and wastewater discharges from S. Londonderry WWTP and augment baseflow to Killinger	GIS Topo Design Plans Prep for Wetland Permitting NW-27	\$25,000	Excavation and grading of wetland system 19,835 yd ³ Wetland seeding 2.75 acres and 412 Trees and shrubs for wetland	\$158,680 \$9,625 <u>\$12,360</u> \$180,665	\$205,665 plus land acquisition
3	MacDonald Farm South Annville/South Londonderry/North Londonderry	2640	Livestock grazing impacts; lack of buffer; unstable C4 channel with moderately high eroding banks	Grade and stabilize banks; Install fencing a minimum of 15 feet and install two (2) livestock crossings. Create 2.75 acre wetland to treat agricultural runoff and wastewater discharges from Palm City WWTP	GIS Topo Grading Plan, Prep Permitting, Standard livestock crossing G-3, GP-6 Design Plans Prep for wetland Permitting NW-27	\$10,000 \$28,000	Bank grading and stabilization 3,522 yd ³ Cost of 5280 LF of 3 strand, high tensile wire with wooden posts, 4 corners, 2 gates, solar panel and accessories; plus 2 livestock crossing Excavation and grading of wetland system 19,835 yd ³ Wetland seeding 2.75 acres and 412 Trees and shrubs for wetland	\$28,176 \$19,800 \$600 \$400 \$350 \$150 <u>\$9,000</u> \$58,476 \$158,680 \$9,625 <u>\$12,360</u> \$180,665	\$68,476 \$208,665 plus land acquisition
4	Buck Farm South Annville/North Londonderry	2310	Livestock grazing impacts; lack of buffer; unstable C4 channel with moderately high eroding banks	Grade and stabilize banks; Install fencing a minimum of 15 feet either side of stream and install two (2) livestock crossings	GIS Topo Grading Plan, Prep Permitting, Standard livestock crossing G-3, GP-6	\$10,000	Bank grading and stabilization 3,078 yd ³ Cost of 4,620 LF of 3 strand, high tensile wire with wooden posts, 4 corners, 2 gates, solar panel and accessories; plus 2 livestock crossing	\$24,624 \$17,325 \$600 \$400 \$350 \$150 <u>\$9,000</u> \$52,449	\$62,449
5	Musser Farm South Annville/North Londonderry	990	Livestock grazing impacts; lack of buffer; unstable C4 channel with moderately high eroding banks	Grade and stabilize banks; Install fencing a minimum of 15 feet either side of stream and install 1 livestock crossing	GIS Topo Grading Plan, Prep Permitting, Standard livestock crossing G-3, GP-6	\$8,500	Bank grading and stabilization 1,320 yd ³ Cost of 1,980 LF of 3 strand, high tensile wire with wooden posts, 4 corners, 2 gates, solar panel and accessories; plus 1 livestock crossing	\$10,560 \$7,425 \$600 \$400 \$350 \$150 <u>\$4,500</u> \$23,985	\$32,485

Project ID	Location	Length (feet)	Existing Problems	Proposed Solution	Design & Permitting	Design & Permitting Cost	Construction	Construction Cost	Total Cost
6	Kreider Farm UPS of Killinger Rd. South Annville/North Londonderry	1650	Livestock grazing impacts; lack of buffer; unstable C4 channel with moderately high eroding banks	Grade and stabilize banks; Install fencing a minimum of 15 feet either side of stream and install two (2) livestock crossings	GIS Topo Grading Plan, Prep Permitting, Standard livestock crossing G-3, GP-6	\$10,000	Bank grading and stabilization 2,202 yd ³ Cost of 3300 LF of 3 strand, high tensile wire, wooden posts, 4 corners, 2 gates, solar panel and accessories; plus 2 livestock crossing	\$17,616 \$12,375 \$600 \$400 \$350 \$150 <u>\$9,000</u> \$40,491	\$50,491
7	Kreider Farm DS of Killinger Rd. South Annville/North Londonderry	330	Livestock grazing impacts; lack of buffer; unstable E4 channel with low eroding banks	Install fencing a minimum of 15 feet to either side of stream and install livestock crossing.	GIS Topo Plan Prep Permitting for Standard livestock crossing GP-6	\$6,000	Cost of 660 LF of 3 strand, high tensile wire with wooden posts, 4 corners, 2 gates, solar panel and accessories; plus 1 livestock crossing	\$2,475 \$600 \$400 \$350 \$150 <u>\$4,500</u> \$8,475	\$14,475

South Annville

Gingrich Run

Project ID	Location	Length (feet)	Existing Problems	Proposed Solution	Design & Permitting	Design & Permitting Cost	Construction	Construction Cost	Total Cost
1	Gingrich Run Funck Farm UPS of Rte 322 South Annville	660	Channel ditched; incised with high eroding banks, unstable G4; no buffer	Grade and stabilize banks; Install fencing a minimum of 15 feet either side of stream and install 1 livestock crossing	GIS Topo Grading Plan, Prep Permitting, Standard livestock crossing G-3, GP-6	\$8,500	Bank grading and stabilization 882 yd ³ Cost of 1320 LF of 3 strand, high tensile wire with wooden posts, 4 corners, 2 gates, solar panel and accessories; plus 2 livestock crossing	\$7,056 \$4,950 \$600 \$400 \$350 \$150 <u>\$4,500</u> \$18,006	\$26,506
2	Gingrich Run UPS of Rte 322 Brough Property DS of Rte 322 and UPS of Meadow Lane South Annville	1485	Junk cars, trucks and buses stacked along top of banks and along floodplain; unstable C4 channel with high eroding banks, debris jams, mid channel bars	Restore as a stable C4 stream channel Acquire property; Remove junk vehicles; Create 2.75 acre wetland in adjacent floodplain to treat agricultural runoff and wastewater discharges from Thousand Trails Campground.	Field Run Topo Survey and Base Maps, H&H, Concept and Final Design Plans Prep, Permitting NW-27 Design Plans Prep for Wetland Permitting NW-27	\$138,750 \$25,000	Restoration as stable C4 stream channel with toe wood and/or imbricated rock walls, log-boulder j-hooks. Streambank seeding 0.5 acres and 100 trees and shrubs along streambanks Excavation and grading of wetland system 19,835 yd ³ Wetland seeding 2.75 acres and 412 Trees and shrubs for wetland	\$371,250 \$1,750 <u>\$3,000</u> \$376,000 \$158,680 \$9,625 <u>\$12,360</u> \$180,665	\$514,750 \$205,665 Plus land acquisition and disposal of junk vehicles
3	Gingrich Run Smith Property DS of Meadow Lane South Annville	2310	Unstable C6 channel with moderately high eroding banks, debris jams, lateral and mid channel bars, heavy sedimentation	Restore as stable C6 stream; Create 2.75 acre wetland in adjacent floodplain.	Field Run Topo Survey and Base Maps, H&H, Concept and Final Design Plans Prep, Permitting NW-27 Design Plans Prep for Wetland Permitting NW-27	\$145,350 \$25,000	Restoration as stable C4 stream channel with toe wood and soil lifts. Streambank seeding 0.8 acres and 150 trees and shrubs along streambanks Excavation and grading of wetland system 19,835 yd ³ Wetland seeding 2.75 acres and 412 Trees and shrubs for wetland	\$577,500 \$86,625 \$2,800 <u>\$4,500</u> \$671,425 \$158,680 \$9,625 <u>\$12,360</u> \$180,665	\$816,775 \$205,665
4	Gingrich Run Oberholtzer Farm South Annville	1650	Livestock grazing impacts; lack of buffer; unstable E6 and E4 channels with moderately high eroding banks	Grade and stabilize banks; Install fencing a minimum of 15 feet either side of stream and install two (2) livestock crossing	GIS Topo Grading Plan, Prep Permitting, Standard livestock crossing G-3, GP-6	\$10,000	Bank grading and stabilization 2,202 yd ³ Cost of 3300 LF of 3 strand, high tensile wire, wooden posts, 4 corners, 2 gates, solar panel and accessories; plus 2 livestock crossing	\$17,616 \$12,375 \$600 \$400 \$350 \$150 <u>\$9,000</u> \$40,491	\$50,491
5	Gingrich Run MacDonald Farm DS of Long Meadow Rd and UPS of Killinger Creek South Annville	2400	Stream fenced but fencing ineffective; livestock grazing impacts; lack of buffer; unstable B4/B4c channels with moderately high eroding banks	Grade and stabilize banks; remove existing fencing and install higher quality fencing same location as old fencing and install two (2) livestock crossings	GIS Topo Grading Plan, Prep Permitting, Standard livestock crossing G-3, GP-6	\$10,000	Bank grading and stabilization 3,198 yd ³ Cost of 4800 LF of 3 strand, high tensile wire, wooden posts, 4 corners, 2 gates, solar panel and accessories; plus 2 livestock crossing	\$25,584 \$18,000 \$600 \$400 \$350 \$150 <u>\$9,000</u> \$54,084	\$64,084

South Annville

Bachman Run

Project ID	Location	Length (feet)	Existing Problems	Proposed Solution	Design & Permitting	Design & Permitting Cost	Construction	Construction Cost	Total Cost
1	East Fork Farm adjacent to Philhaven Hospital DS of Butler Rd West Cornwall	1320	Livestock grazing impacts; lack of buffer; unstable E4 channel with low eroding banks	Relocate existing fence a minimum of 15 feet to either side of stream and install two (2) livestock crossings.	GIS Topo Plan Prep Permitting for Standard livestock crossing GP-6	\$8,500	Cost of 1,320 LF of 3 strand, high tensile wire with wooden posts, 4 corners, 2 gates, solar panel and accessories; plus 1 livestock crossing	\$4,950 \$600 \$400 \$350 \$150 <u>\$9,000</u> \$15,450	\$23,950
4	West Fork UPS of Rte 241 and McCurdy Rd South Annville	500	Incised G4 channel with high eroding banks	Restore G4 reach as stable B4 stream.	Field Run Topo Survey and Base Maps, H&H, Concept and Final Design Plans Prep, Permitting NW-27	\$79,400	Restoration as stable B4 stream channel with boulder outcrops and boulder cobble riffles. Streambank seeding 0.35 acres and 75 trees and shrubs along streambanks	\$125,000 \$1,225 <u>\$2,250</u> \$128,475	\$207,875
5	West Fork UPS of Rte 241 and DS of McCurdy Rd South Annville	1810	Unstable B4 and C4 channels with high to moderately high eroding banks, aggraded sections with chute cutoff channels	Restore as stable B4 and C4 streams.	Field Run Topo Survey and Base Maps, H&H, Concept and Final Design Plans Prep, Permitting NW-27	\$165,500	Restoration as stable B4 and C4 stream channel with toe wood and/or boulder outcrops and boulder cobble riffles. Streambank seeding 1.24 acres and 186 trees and shrubs along streambanks	\$452,500 \$4,340 <u>\$5,580</u> \$462,420	\$627,920
7	West Fork DS of Graystone Stables South Annville	1650	Unstable B4 and C4 channels with high to moderately high eroding banks, aggraded sections	Restore as stable B4 and C4 streams. Construct a wetland along this reach to treat agricultural runoff.	Field Run Topo Survey and Base Maps, H&H, Concept and Final Design Plans Prep, Permitting NW-27	\$160,000	Restoration as stable B4 and C4 stream channel with toe wood and/or boulder outcrops and boulder cobble riffles. Streambank seeding 1.14 acres and 170 trees and shrubs along streambanks	\$412,500 \$3,990 <u>\$5,100</u> \$421,590	\$581,590
8	Main Stem Risser Farm South Annville	1320	Unstable B4/G4 channels with high to moderately high eroding banks, lacking buffer	Restore G4 reach as stable B4 stream. Plant a minimum 35 riparian buffer.	Field Run Topo Survey and Base Maps, H&H, Concept and Final Design Plans Prep, Permitting NW-27	\$118,000	Restoration as stable B4 stream channel with toe wood and or boulder outcrops and boulder cobble riffles. Streambank seeding 0.9 acres and 135 trees and shrubs along streambanks	\$330,000 \$3,150 <u>\$4,050</u> \$337,200	\$455,200

West Cornwall

Beck Creek

Project ID	Location	Length (feet)	Existing Problems	Proposed Solution	Design & Permitting	Design & Permitting Cost	Construction	Construction Cost	Total Cost
1	UPS of Mine Rd West Cornwall	330	Incised G4 channel with high eroding banks migrating upstream through old breached dam	Remove dam Restore G4 reach as stable B2 stream channel.	Field Run Topo Survey and Base Maps, H&H, Concept and Final Design Plans Prep, Permitting NW-27	\$75,400	Remove dam and construct stable floodplain/terraces Restoration as stable B2 step-pool channel with boulder outcrops and log-boulder steps and boulder/cobble pools. Streambank seeding 0.23 acres and 35 trees and shrubs along streambanks	\$122,500 \$805 <u>\$1,050</u> \$124,355	\$199,755
2	Gretna Glen Camp UPS of lake West Cornwall	5000	Unstable B4, C4, F4, G4, F4 and C4 channel sections with high eroding banks along upper and middle sections, aggradation and bank erosion along lower section	Restore as stable B4 and C4 streams.	Field Run Topo Survey and Base Maps, H&H, Concept and Final Design Plans Prep, Permitting NW-27	\$247,800	Restoration as stable B4 and C4 stream channel with toe wood and or boulder outcrops and boulder cobble riffles. Streambank seeding 3.44 acres and 517 trees and shrubs along streambanks	\$1,250,000 \$12,040 <u>\$15,510</u> \$1,277,550	\$1,525,350
3	Gretna Glen Camp DS of lake West Cornwall	1980	Unstable G1 and C4 channel sections with very high eroding banks along upper section, aggradation, avulsions, and cut-off channels along middle and lower sections	Restore as stable B1/B2 and C4 streams.	Field Run Topo Survey and Base Maps, H&H, Concept and Final Design Plans Prep, Permitting NW-27	\$168,731	Remove dam and construct stable floodplain/terraces Restoration as stable B1/B2 step-pool channel with boulder outcrops and log-boulder steps and boulder/cobble pools along G reaches. Restoration as stable C4 stream channel with toe wood and or boulder outcrops and boulder cobble riffles along C reaches. Streambank seeding 1.36 acres and 205 trees and shrubs along streambanks	\$495,000 \$4,760 <u>\$6,150</u> \$505,910	\$674,641

West Cornwall

Snitz Creek

Project ID	Location	Length (feet)	Existing Problems	Proposed Solution	Design & Permitting	Design & Permitting Cost	Construction	Construction Cost	Total Cost
16	Main Stem Snitz DS of Rte 72 West Cornwall	1320	Unstable F4 channel with high to very high eroding banks and heavy sedimentation.	Restore as stable B4c stream.	Field Run Topo Survey and Base Maps, H&H, Concept and Final Design Plans Prep, Permitting NW-27	\$118,800	Restoration as stable B4c stream channel with toe wood and soil lifts or boulder outcrops and soil lifts; and boulder cobble riffles. Streambank seeding 0.9 acres and 136 trees and shrubs along streambanks	\$330,000 \$49,500 \$3,150 <u>\$4,080</u> \$386,730	\$504,730

South Lebanon

Upper Quittapahilla Creek Subwatershed

Project ID	Location	Length (feet)	Existing Problems	Proposed Solution	Design & Permitting	Design & Permitting Cost	Construction	Construction Cost	Total Cost
1	Harold Wise Farm UPS of Birch Rd	1150	Livestock grazing impacts; unstable C4 channel with banks completely trampled, heavy sedimentation and aggradation throughout. No buffer.	Install fencing a minimum of 15 feet to either side of stream and install two (2) livestock crossings.	GIS Topo Plan Prep Permitting for Standard livestock crossing GP-6	\$8,500	Cost of 2300 LF of 3 strand, high tensile wire with wooden posts, 4 corners, 2 gates, solar panel and accessories; plus 2 livestock crossing	\$8,625 \$600 \$400 \$350 \$150 <u>\$9,000</u> \$19,125	\$27,625
2	Quest, Inc UPS of Metro Drive	300	Minimal to no buffer.	Plant a minimum 15 riparian buffer along lawn area.	0	0	Plant a 300 x 15 foot riparian buffer along lawn area including 25 trees and shrubs.	\$750	\$750
4	Burger King and Yingst Exterminating UPS of Rte 422	300	Unstable F4 channel – moderately high eroding banks and aggradation throughout; No buffer.	Stabilize channel and establish 10 foot filter strip along top of both banks.	Field Run Topo Survey and Base Maps, H&H, Concept and Final Design Plans Prep, Permitting NW-27	\$65,400	Grade & stabilize streambanks; Streambank seeding 0.14 acres and 20 trees and shrubs along streambanks	\$75,000 \$490 <u>\$600</u> \$76,090	\$141,490