

Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Template

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Action #	Description	Performance Target(s)	Responsible Party(ies) and Partnerships	Geographic Location	Expected Timeline	Potential Implementation Challenges or Recommendations	Resources Available				Resources Needed		
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Stormwater Action Team

Priority Initiative 1: Update Act 167 Integrated Water Resources County Plan

1.1	Prioritize Act 167 planning in the County (develop new Act 167 plan that includes updated plan information and modeling for every County watershed. A new plan will provide updated ordinances to support regional runoff and flood management)		County Planning, Municipal., Lancaster County Clean Water Consortium	Countywide	FY2020-2021 (if funding is made available)	Act 167 work is not currently funded adequately in the general budget at the state level. This could be remedied by funding that line item or dedicating other grant funds. Because the funding went away, we do not have the necessary data.					Lead org. (Consulting engineer/planner)		\$3 million for Lancaster County	
1.2	Have 167 plan that has pollutants/modeling parameters consistent with CAST (dependent on 1.1)		County planning, Municipalities	Countywide	FY2020-2021	Modeling is not consistent with the CAST model and more accurate baselines are required. New legislation at the state level to provide consistency between Act 167 and CAST model	Local consultants							

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1.3	Update model ordinance(s) for countywide and/or watershed goals		County Planning, Municipalities, Solicitors, Community Stakeholders	Countywide	FY2020-2021	Develop a robust model municipal stormwater ordinance(s) for Lancaster County that explicitly defines water quality goals, implementation requirements, buffer extents, and supports other initiatives in the County WIP, including green infrastructure, conservation overlays, riparian corridor standards, and restricting development and construction within floodplains and advocate for municipal adoption. Time constraints, no funding, and municipal adoption	Local agencies, local consultants							\$200,000 per model ordinance	
1.4	Establish greater regionalization of runoff and flood management		County Planning, Municipalities	Countywide	FY2020-2021	Updated Act 167 and model ordinance(s) would establish basis for watershed-wide implementation of practices to cost-effectively achieve pollutant reduction goals.	Local agencies, local consultants				Flexibility in regional management of water quality under Act 167			Funding for development of ordinance(s), hazard mitigation, and GIS tools: \$180,000 total to do	

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Priority Initiative 2: Update MS4 Performance Criteria, Oversight, and Implementation

2.1	Clarify and broadly publicize flexibility criteria allowing focus on watersheds rather than municipally regulated MS4-UAs (process for watershed-based permits established, understood, and implemented by permittees to allow for greater documentation, recording, verification, and reporting of BMP beyond those located in MS4-UAs)		Lancaster County, municipalities	Countywide Priority Watersheds: Pequea Creek, Cocalico Creek Chiques Creek Others	CY2019-2021	As presented to permittees over the last ten years, DEP and EPA requirements and programs complicate this process and serve as a disincentive. However, recent guidance distributed to municipalities outlines a different methodology. Consistent training and regulation is vital.	Technical expertise is present; DEP clarification memo/letter watershed groups						12 plans (1 per watershed) at \$50,000 = \$600,000 minimum needed to do the plans
2.2	Create goal line that is both definitive and does not stop at the end of a permit cycle (Establish quantifiable milestones that are consistent with CAST/Bay models, verifiable via consistent reporting templates that are consistent, accessible, and widely accepted)		Lancaster County, municipalities, Lancaster County Clean Water Consortium	Countywide	CY2019-2021	Milestones need to be consistent beyond those under current MS4 permits Action is required by DEP/EPA to make this process less complicated DEP/EPA must provide clear direction with regard to pollutant reduction calculation methodologies, verification protocols, and reporting requirements.	Technical expertise is present						\$20,000 per year is necessary to create and maintain a local report. \$80,000 – \$100,000 per year is necessary to host a point person for stormwater for the county

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2.3	Seek creative solutions to focus on the problem (pollution), not the geography (MS4 and urban areas) – Prioritize projects that include multiple benefits	Bioretention and rain garden – 202 acres treated	Lancaster County, Municipalities	Countywide, Priority watersheds: Pequea Creek Cocalico Creek Chiques Creek, etc	FY2021	Current DEP and EPA requirements make it more difficult for municipalities to focus on water quality rather than specific, inefficient program requirements. MS4 permits shifting from TSS to TN reductions. –this will take new dollars and expertise from the municipalities and engineers. Process established for meeting water quality goals outside of regulated geography and in a cost-efficient manner PennDOT/turnpike coordination and collaboration (including legislator support to help facilitate the process)	Technical expertise is present		Dollars for PRP projects are listed in the PRP report but need to be updated based on final, approved PRP's	Currently, Lancaster County MS4s will collectively spend appx. \$1M to achieve a 100,000-lb N reduction in the current MS4 permit cycle. This funding could be leveraged against future permit cycle compliance if it could be spent on watershed-based solutions that includes projects outside of the traditional MS4 area.	\$45,000 per watershed plan: - Dollars would be mostly for BMP's that will be listed in other Priority Initiatives but can receive credit in stormwater work	
		Erosion and sediment controls - 500 acres										
		Filter strip runoff – 10 acres										
		Urban buffers – 211.31 acres										
		Impervious surface reduction – 50 acres										
		Wet ponds and wetlands – 290 acres treated										
		Stormdrain cleanout – 29,610 lbs. of sediment removed										
		Grey infrastructure – 23,772 acres										
		Street sweeping – 155 acres treated										
		Dry ponds – 312 acres treated										
		Infiltration practices – 70 acres treated										
Extended dry basins – 301.79 acres treated												
Vegetated open channel – 384 acres treated												

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Priority Initiative 3: Create Programmatic Consistency

3.1	Align permit parameters to water quality goals		Lancaster County, municipalities, DEP	Countywide		<p>If a municipality is asked to submit the same information for each plan (102, 537, etc), they should not need to duplicate efforts like hiring engineers twice or reformulate the data each time.</p> <p>Various DEP and EPA strategies are presently not aligned and improvements are not accounted for across programs (102, 105, 537, NPDES, MS4, etc.)</p>	Technical expertise is present				Staff time at DEP			
3.2	Create greater consistency and accountability for review, inspections, and documentation of operation and maintenance of permit sites		Lancaster County, municipalities	Countywide		<p>County and municipalities should clarify and implement protocols to ensure consistent reporting for Bay TMDL compliance.</p> <p>Tied to long-term verification processes inventory efforts</p>	<p>Technical expertise is present</p> <p>PennDOT Connect</p>				Consistent inspection requires staff time from LCCD E&S staff and DEP; documentation and reporting protocols for operation and maintenance.		More funding for staff and staff training	

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Priority Initiative 4: Project Funding

4.1	Seek and acquire creative legislation and funding for implementation, operation, and maintenance of water quality projects (obtain sufficient funding for implementation and ongoing maintenance of all BMPs necessary to achieve Bay TMDL compliance)	Nutrient management planning – 10,577 acres	Lancaster County, municipalities, private companies related to fertilizer legislation	Countywide		Current state legislation that complicates and/or prohibits various public-private initiatives should be addressed to facilitate P3 initiatives and allow for private and public funds to be used collaboratively. The goal for this BMP is taken from the state recommendation, which relies on a change in the fertilizer legislation. Without that legislative change, we can only strive to treat 100 acres.	Technical expertise is present						Funding or legislation to support larger goal
4.2	Employ market-driven solutions for project funding (e.g. stormwater offset, credit trading, environmental impact bonds, etc.)		Lancaster County, municipalities	Countywide	On-going	Practices such as stormwater offsets and wetlands banking transfers need to be enabled and established by DEP. EIB, green-crowd funding, and other private investments programs must be permitted via legislative change.	Technical expertise is present						Funding

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4.3	Revise funding criteria to ensure alignment with adopted policy and planning goals		Lancaster County MPO/TIP, Smart Growth Funds, Lancaster County Ag Preserve Board, LGH Lighten Up Lancaster	Countywide	On-going	Increase funding for Green Infrastructure and water quality BMPs for preserved farms, transportation and bridge projects, and complete streets	Technical expertise is present							Funding	
4.4	Build water quality improvement measures into capital and maintenance projects	Dirt and Gravel Roads E&S – 158,000 new linear feet by 2025	Municipalities, Municipal Authorities, Lancaster County Conservation District Watershed team for Dirt and Gravel Roads program	Countywide	2025	Increase # of green infrastructure projects and water quality BMPs installed with municipal capital and maintenance projects									

Priority Initiative 5: Identify alternative sources of project identification

5.1	Identify projects from hazard mitigation planning initiatives		Municipalities, Lancaster County	Countywide	On-going	Regular review of hazard mitigation plans Limited staffing to review materials			Dirt and Gravel Roads program and dollars						
									DCNR buffer grants						
5.2	Identify projects from municipal capital improvement plans		Municipalities, Municipal Authorities, Lancaster County	Countywide	On-going	Regular review of municipal capital improvement plans Limited staffing to review materials			Dirt and Gravel Roads program and dollars						
									DCNR buffer grants						

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5.3	Identify projects from local, county, and state infrastructure improvement plans		Municipalities, Municipal Authorities, Lancaster County	Countywide	On-going	Regular review of local, county, and state infrastructure improvement plans Limited staffing to review materials			Dirt and Gravel Roads program and dollars				
									DCNR buffer grants				
5.4	Identify projects from watershed plans		Municipalities, Conservation District, Watershed groups, Lancaster County	Countywide	On-going	Regular review of watershed plans Limited staffing to review materials			Dirt and Gravel Roads program and dollars				
									DCNR buffer grants				

Priority Initiative SR1: Stream Restoration

SR1.1	50 projects plus basic, cost effective monitoring (field inspections) of before and after water quality results that are shared (include sourcewater protection work)	<i>In-stream restoration - Urban (29,146 linear ft)</i>	Municipalities, LCCD, WSI, watershed groups, DTU, USFWS, LandStudies, USACE, DEP, Lancaster County Clean Water Consortium, DEP, PAFBC, EPA	Contiguous projects in priority watersheds TBD	2019 – 2025 (and beyond)	As site specific details become available, we will use the alternative BMP template for floodplain and stream restoration projects with legacy sediment. Lack of funding available to achieve the projects at the pace we need	Practice Keeper as data hub for permits and projects		319 funding for Mill Creek, Conowingo, and Conewago		Outreach staff to make initial contact with landowners	Funding	Growing Greener, Exelon, Private, NFWF, DCNR, Dept Ag, NRCS, US Army Corps, EPA, PennVest
		<i>In-stream restoration – Non-urban (63,900 linear ft)</i>		Specific sites TBD based on opportunity, permit cycles, and compliance needs The intention is to address source water issues as well									

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						landowners when that may not be the case, especially in the short term	Conservancy, PSU, and more					restoration type projects) per linear foot (this includes staff time)	
		<i>Wetland restoration/creation in floodplain – 52 acres</i>				Develop an acceptable monitoring protocol that includes a publically viewable format			Exelon funding		Excavators		\$75,000 per acre of wetland restoration
						Greater state/federal permit process speed (especially for commercial projects)			Private funding		Technical assistants to install projects (contractors) and project managers		Add 20% on top of all costs for pre- and post-project work (finding willing land owners, identifying the best project locations, followed by monitoring, maintenance, etc)
						Current MS4 set up limits municipal interest/availability to participate							
						In general, current municipal ordinances do not make these projects an easy “yes” for a developer.			NFWF funding		Monitoring equipment and data analysis experts		

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SR1.2	Dam removal notification system so that appropriate restoration accompanies any removals (programmatic recommendation)		County, PAFBC, Water Science Institute	Priority watersheds TBD	2025	A necessary comprehensive approach with connection between dam removal and restoration work; current situation allows a dam to be removed and the permittee to walk away, which results in much more sediment pollution	County, PSU, watershed specialists, PAFBC							
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Priority Initiative LP1: Growth Management

LP1.1	Direct growth to UGA's and VGA's (DGA's). Prioritize redevelopment and infill in DGAs. Build more compactly and efficiently		Municipalities, Lancaster Co Planning Commission (LCPC), and developers.	Countywide (Focus: Designated Growth Areas)	LCPC Growth tracking - 2 year increments	Municipal participation Increase % of new dwellings in UGAs to accommodate projected pop and increase % of new non-residential SF. Increase residential net density to target density for each UGA; 9.0+ DU/Ac, 6.5 DU/Ac or 5.5 DU/Ac depending on the UGA.	Municipalities (Regs & Impl.). LCPC staff for growth tracking						Grants and resources needed by municipalities	
LP1.2	Utilize low impact development (LID) practices		Municipalities, LC Clean Water Consortium, Developers, and LCPC	Countywide (Focus: Designated Growth Areas)	2019-2025	Increase use of LID practices. Municipal participation Developer resistance	Staff of various partners						Grants and funding for education & outreach	

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LP1.3	Limit large-lot suburban development in rural areas		Municipalities and LCPC	Countywide (Focus: Designated Growth Areas)	LCPC Growth tracking - 2 year increments	Reduce total acres developed per year in rural areas, and reduce % of new dwellings outside UGAs Municipal participation Developer resistance	LCPC staff for growth tracking								
LP1.4	Plan to fully serve Urban Growth Areas (UGAs) and align water and sewer service with UGA's	Septic connection of 3,000 systems (to municipal service)	Municipalities, Municipal Authorities and LCPC (education & advocacy)	Countywide (Focus: Designated Growth Areas)	LCPC Growth tracking - 2 year increments	Increase % parcels in UGA with water and sewer service Costs, Municipal participation, Authority participation	LCPC staff for growth tracking						Matching funds to municipalities for Act 537 plans (of approx. \$100,00 per muni)		
LP1.5	Plan for appropriate wastewater management in rural areas	Septic pumping of 10,000 systems	Municipalities, Municipal Authorities, PA DEP and LCPC	Countywide (Focus: Rural Areas)	2019-2025	Reduce number of failing on-lot disposal systems (OLDS) Costs, Stricter regulations required from state, municipal participation							Funding		
LP1.6	Adopt and/or Update Act 537 Plans		Municipalities, PA DEP, and LCPC	Countywide	2019-2025	Increase number of municipalities that adopt or update their Act 537 Plans Costs, Stricter regulations required from state, municipal participation							Matching funds to municipalities for Act 537 plans (approx. \$100,000 per muni) (programmatic recomm.)		

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LP1.7	Utilize TDRs for Ag land, woodlots and other natural areas as a tool to promote greater density in UGAs/VGAs		Municipalities, LCPC (guidance)	Countywide	2019-2025	Increase # of muni using TDRs. Explore possibility of a pilot TDR ordinance between multiple municipalities Logistical hurdles, municipal participation							Funding/grants to revise or draft ordinances	
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Priority Initiative LP2: Improve Planning and Design

LP2.1	Improve Planning & Design and Utilize Integrated Water Resource Planning and Management (IWRP & IWRM)		Municipalities, with LCPC	Countywide	2019-2025	Increase number of Comprehensive watershed management, water/sewer infrastructure, rural wastewater management, stormwater management and green infrastructure plans Funding. Municipal participation							Grants and funding (\$50,000 - \$100,000 per plan/ordinance)	
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LP2.2	Amend or adopt local ordinances that minimize stormwater runoff and regulate development that protects water resources (tied to Act 167 focus areas and goals)		Municipalities, with LCPC	Countywide	2019-2025	Increase number of ordinances municipalities adopt that minimize stormwater runoff and regulate development that protects water resources; including Zoning, SALDO, stormwater and floodplain management, well head protection ordinances, conservation zoning district and natural resource protection standards) Municipal part.								Funding/grants to revise or draft ordinances (\$50,000 - \$100,000 per plan/ordinance)	
LP2.3	Revise Project Funding Criteria		Municipalities, LCPC, Lancaster Co MPO (TTAC), DEP and DCNR	Countywide	2019-205 (i.e. 2019-2022 MPO/TIP)	Funding criteria should be revised to ensure alignment with adopted policy and planning goals. Current PennDOT, DEP, and DCNR regs do not require consistency. Consistency between Central office and districts.	Various stakeholders. (i.e. PennDot Connects Program and County LRTP)							Need to leverage existing funding	

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						Coordination between MPO and municipalities								
LP2.4	Water quality improvement measures should be built into capital and maintenance projects		Municipalities, Municipal Authorities, LCPC, Lancaster MPO (TTAC)	Countywide	2019-205 (i.e. 2019-2022 MPO/TIP)	Increase # of green infrastructure projects installed with municipal capital and maintenance projects Municipal participation, funding	Various stakeholders. (i.e. PennDot Connects Program, and County LRTP)						Need to leverage existing funding	
LP2.5	Practice regional and place-based planning and analysis		Municipalities, LCPC	Countywide	2019-2025	Increase # of municipalities with regional comprehensive plans and natural resource and water resource plans Municipal participation, resistance to regionalization	LCPC and municipal staffs							
LP2.6	Utilize official maps for regional stormwater management and protection of natural resources		Municipalities, LCPC	Countywide	2019-2025	Increase number of municipalities participating in regional official maps Municipal participation, lack of municipal familiarity with official maps under MPC	LCPC and municipal staffs						Funds to municipalities for utilizing official maps for regional swm	

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Priority Initiative LP4: Tree Canopy

LP4.1a	Conduct a tree canopy assessment (Conduct a new tree canopy assessment in 2020, to compare to 2010 baseline)		County, Municipalities, Lancaster County Conservancy, Chesapeake Bay Conservancy	Countywide	2020	Funding, staffing	DCNR		CBF K10 Campaign, DCNR		GIS technology and staff			
LP4.1b	Set tree canopy targets, and implement tree canopy action plans at county and municipal level		LCPC, Municipalities, Lancaster County Conservancy, and Lancaster Clean Water Consortium.	Countywide	2019-2025	Increase number of municipalities setting targets Funding, staffing Possibly select 3 priority large watersheds for initial imp.	DCNR		CBF K10 Campaign, DCNR		GIS technology and staff			
LP4.1c	Increase tree canopy cover	Tree planting of 50 acres (urban tree canopy)		Priority watersheds	2030	Increase % tree canopy cover in priority watersheds by 2030 Municipal buy-in	Tree Canopy Report Releaf Report (DCNR)							
LP4.2a	Create a model tree preservation ordinance or "Planning Guide"		LCPC, municipalities, developers	Countywide	2019-2025	Adopt a model tree preservation ordinance or "Planning Guide"	PA Land Trust Assoc. (PALTA). DCNR							

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LP4.2b	Adopt (or amend) tree preservation ordinances at municipal level		Municipalities, developers, LCPC	Countywide	2019-2025	Increase number of tree preservation ordinances adopted Municipal capacity	PALTA							
LP4.2c	Enforce existing landscape ordinances and existing or new tree preservation ordinances		Municipalities, developers	Countywide	2019-2025	Preserve existing landscaping and trees Municipal Capacity, Developer/land owner cooperation					Municipal staffing			
LP4.3	Education and Outreach		Lancaster County Conservancy, Tree Tenders, LCPC, DCNR	Countywide	2019-2025	Conduct trainings								

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Each county-based local area will use this template to identify:

1. Inputs – These are both existing and needed resources, public and private, to implement the identified priority initiative. These include both technical and financial resources, such as personnel, supplies, equipment and funding.
2. Process – what is each partner able to do where and by when. These are the action items listed under each priority initiative.
3. Outputs and outcomes – both short and long-term. These are the priority initiatives identified by each county. The performance targets are the intermediate indicators that will measure progress.
4. Implementation challenges – any potential issues or roadblocks to implementation that could impede outputs and outcomes.

Asterisk: Place an asterisk next to the action number(s) for action items that appear in both the County Planning and Progress Template and the Programmatic Recommendations Template.

For each Priority Initiative or Program Element: Use the fields, as defined below, to identify the inputs and the process that will be followed to achieve each priority initiative. This is the “who, what, where, when and how” of the plan:

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Description = What. This may include programs that address prevention, education, or as specific as planned BMP installations that will address the Priority Initiative. A programmatic or policy effort will require some ability to quantify the anticipated benefits which will allow calculation of the associated nutrient reductions.

Performance Target = How. This is an extension of the Description above. The Performance Target details the unique BMPs that will result from implementation of the Priority Initiative and serves as a benchmark to track progress in addressing the Priority Initiative. Performance Targets may be spread across multiple Responsible Parties, Geographies, and Timelines based on the specifics of the Initiative.

Responsible Party(ies) = Who. This is/are the key partner(s) who will implement the action items through outreach, assistance or funding, and who will be responsible for delivering the identified programs or practices.

Geographic Location = Where. This field identifies the geographic range of the planned implementation. This could extend to the entire county or down to a small watershed, based on the scale of the Priority Initiative, range of the Responsible Party, or planned funding/resources. *NOTE: Resource limitations alone should not limit potential implementation as additional funding may become available in the future.*

Expected Timeline = When. Provide the expected completion date for the planned activity. This should be a reasonable expectation, based on knowledge and experience, that will aid in tracking progress toward addressing the Priority Initiative.

Resources Available: Technical & Funding = This field will note technical and financial resources secured/available to implement the program (Description). This is the total of the resources identified in the County Resources Inventory Template below allocated to the priority initiative as a whole; or, if available, to each action.

Resources Needed: Technical & Funding = This field will note technical and financial resources needed/outstanding to implement the program (Description). This is the total of the additional resources projected and identified as needed in the County Resources Inventory Template below allocated to the priority initiative as a whole; or, if possible, to each action.

Potential Implementation Challenges/Issues = This field will note challenges and issues that may delay program implementation (Description).