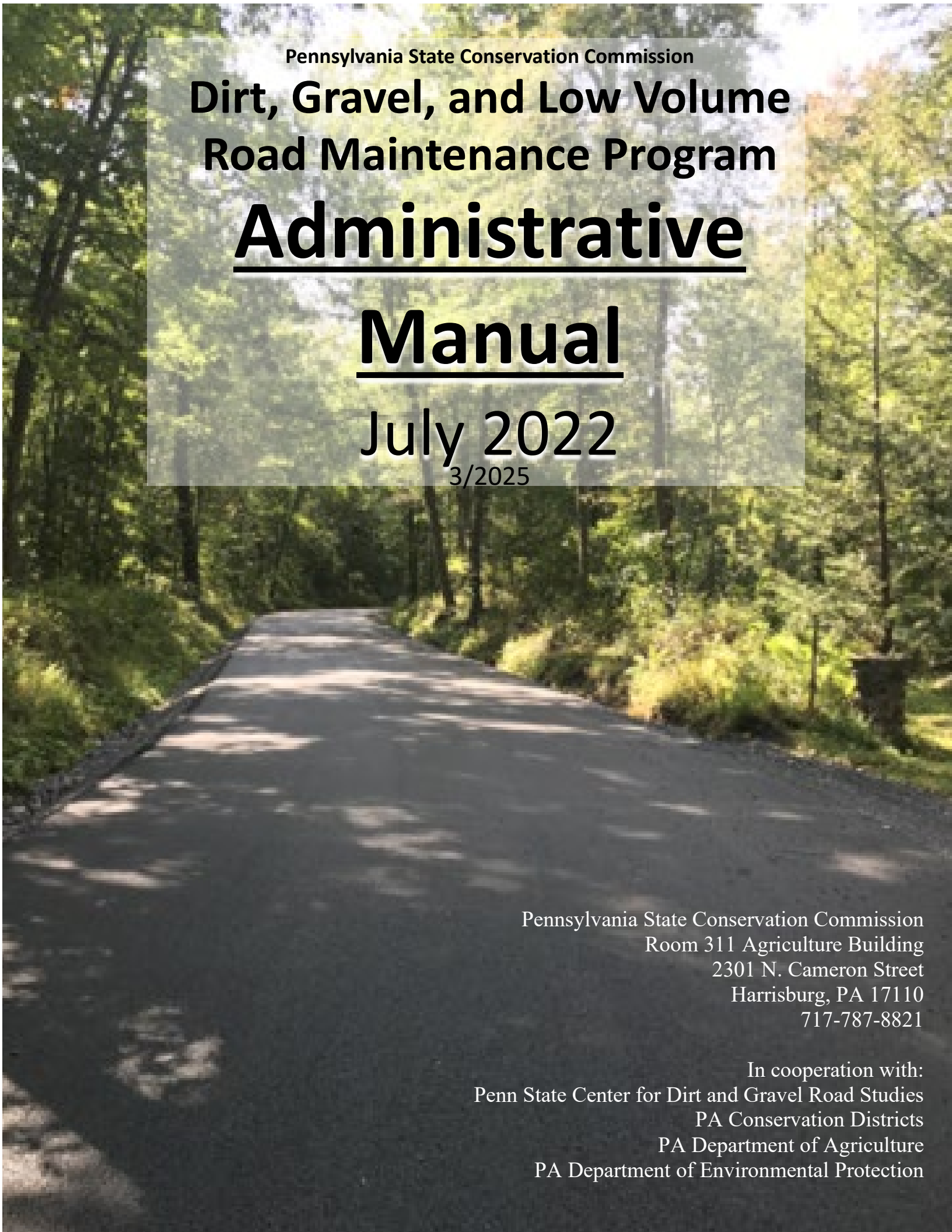

Pennsylvania State Conservation Commission

Dirt, Gravel, and Low Volume Road Maintenance Program

Administrative Manual

July 2022

3/2025

Pennsylvania State Conservation Commission
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Harrisburg, PA 17110
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In cooperation with:
Penn State Center for Dirt and Gravel Road Studies
PA Conservation Districts
PA Department of Agriculture
PA Department of Environmental Protection

Pennsylvania Dirt, Gravel, and Low-Volume Road Maintenance Program

Before picture of cover photo project. 800 feet of underdrain and a 500 foot French Mattress served to dry out this saturated roadbed. Paving was done in-kind.

Photo Credits:
Cumberland County Conservation District

Administrative Manual

July 01, 2022

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Questions or Comments:

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ADDITIONAL REFERENCES

This Administrative Manual is intended to help Conservation Districts administer the Dirt, Gravel, and Low-Volume Road Program in their county. In addition to this Manual, several other more technical resources are available through the Center's website at www.dirtandgravelroads.org

DSA Handbook: Comprehensive guide to Driving Surface Aggregate, the only approved surface aggregate for use on Dirt and Gravel Road Projects

Stream Crossing Technical Manual: Comprehensive guide for the planning, design, and installation of stream crossing structural replacements.

Product and Process Approval Guide: The Program uses an approval process for products such as dust suppressants and soil stabilizers before they can be paid for with Program funds. Both the product approval instructions and list of approved products are available on the Center's website

Environmentally Sensitive Maintenance References:

- Technical Bulletins: A collection of technical documentation for many of the ESM practices used by the Program is available on the Center's website.
- ESM Field Guide: "Glove-box guide" developed in association with the US Forest Service based largely on Program ESM Practices.
- ESM training book: The training book given out at the ESM training.

Chapter 1

Introduction

1. INTRODUCTION

This manual is intended to outline policy and provide guidance to participants of the Dirt, Gravel, and Low-Volume Road Maintenance Program (Program). The primary audience of this manual is county conservation district (district) personnel who work with the administration of the Dirt, Gravel, and Low-Volume Road Maintenance Program. This includes not only district managers and staff but Quality Assurance Board (QAB) members and district directors as well. Grant applicants may find sections of the manual, Chapter 5 in particular, useful when developing projects and preparing grant applications.

1.1 Program Purpose

The purpose of the Program is to create a better public road system with a reduced environmental impact. The Program focuses on "Environmentally Sensitive Road Maintenance Practices" that reduce the impact of road runoff and sediment to local streams, while reducing long term road maintenance costs.

It is the intent and purpose of this Program:

(1) to fund safe, efficient and environmentally sound maintenance of sections of dirt and gravel roads which have been identified as sources of dust and sediment pollution.

(3) to fund safe, efficient and environmentally sound maintenance of sections of low-volume roads that are sealed or paved with an average daily traffic count of 500 vehicles or less.

-9106 (A) (1),(3)

1.2 Program Structure

Statewide funding and guidance come from the State Conservation Commission (Commission). Local districts, and their associated Quality Assurance Boards, develop local policies and award grants to public road-owning entities. Public entities such as townships and boroughs apply to the districts for funding and complete the project work.

1.2.1 State Conservation Commission

The Commission, a departmental administrative commission under the concurrent authority of the PA Department of Environmental Protection (DEP) and the PA Department of Agriculture (PDA), administers the Dirt, Gravel, and Low-Volume Road Program. The Commission determines statewide Program policies, allocates funds to districts, and implements a quality assurance / quality control effort. The role of the Commission is detailed in Chapter 2 of this manual.

1.2.2 Conservation Districts and Quality Assurance Boards (QABs)

Conservation districts administer and implement the Program at the county level. Districts accept applications for funding from potential applicants, and award grants to local road owning entities. District staff is responsible for working with grant applicants to develop projects, project oversight, financial tracking and reporting, and general administration of the Program at the county level. District staff should work closely with the QAB described below. The role of districts is detailed in Chapter 3 of this manual.

Each district is required to form a Quality Assurance Board (QAB) made up of four members including district staff, PA Fish and Boat Commission, and Natural Resource Conservation Service. The QAB acts in an advisory capacity to the district board. The QAB, working closely with district staff, is responsible for recommending local Program policies, developing application ranking criteria, and recommending projects for funding. All policies and funding recommendations by the QAB must be adopted by the district board. The role of the QAB is detailed in Chapter 4 of this manual.

1.2.3 Grant Applicants

Any state or local public entity that owns and maintains public roads is eligible to apply for Program funding. The majority of applicants are townships, but other entities such as boroughs, cities, counties, PA Game Commission, PennDOT, PA Fish and Boat Commission, and others are eligible to apply. Applicants are encouraged to work closely with districts, starting with a pre application meeting. Successful applicants will enter into contracts with county districts to complete project work. Applicants can complete project work themselves, or by hiring contractors. The role of grant applicants is detailed in Chapter 5 of this manual.

1.2.4 Penn State Center for Dirt and Gravel Road Studies (Center)

The Center was formally created in 2001 to address the education, training, and technical assistance needs of the Dirt, and Gravel Road Maintenance Program. The duties of the Center include development and delivery of a two-day training course for Program eligibility, holding annual maintenance workshops, providing technical and administrative assistance to Program stakeholders, approval of new products, maintenance of GIS project tracking system, development of technical reference material, and supplying general support to the Commission and districts. The role of the Center is detailed in Chapter 6 of this manual.

1.3 Program History

1.3.1 Unpaved Roads and Sediment

Sediment is the largest pollutant by volume to the waters of the commonwealth. Pennsylvania's 20,000 miles of publicly owned unpaved roads are a prime example of non-point source pollution. Unpaved roads not only generate sediment, but also act as collectors for runoff and sediment from adjacent land uses. Traditional practice in road maintenance has been to convey water along roads and deposit it into streams by the quickest means possible. This practice results in increased flood flows in streams and transports sediment and a host of other pollutant into local waterways.

1.3.2 Unpaved Road Inventory

The Pennsylvania Chapter of Trout Unlimited (TU) first brought the problem of unpaved road runoff into the spotlight in 1991. TU sportsmen in Centre and Potter County State Forests were the driving force behind the developing grassroots effort to reduce sediment pollution from dirt and gravel roads.

A Task Force on Dirt and Gravel Roads was created in 1993 to investigate, research and document the significance of sediment and dust, as well as other forms of water pollution resulting from dirt and gravel road maintenance practices. This private-public partnership enlisted members representing nonprofit organizations, businesses and local, state, and federal government agencies.

In the summers of 1996-1998, volunteers from TU went out at their own expense and drove thousands of miles of roads in an effort to identify pollution sites on Pennsylvania's dirt and gravel roads. TU inventory volunteers recorded locations where roads were adversely impacting a stream, concentrating on Pennsylvania's High Quality and Exceptional Value watersheds. The efforts put forth by the volunteers resulted in the identification and assessment of over 900 sites in protected watersheds statewide. These sites became the basis for creating the Dirt and Gravel Road Maintenance Program.

1.3.3 Section 9106 of the PA Vehicle Code

The Task Force achieved its goal in 1997 when a law (Section 9106 of the PA Vehicle Code) was enacted establishing the Pennsylvania Dirt and Gravel Road Maintenance Program. The law provided

a non-lapsing annual allocation of $5Million, with $4Million going to the State Conservation Commission and $1M going to the Department of Conservation and Natural Resources. The Program follows a few key concepts including local control over projects and decision making; education and training to local stakeholders; simplified grant applications; and implementing long-term road and environmental improvements

1.3.4 Program Timeline

1998: First funding available. Projects begin on 900 pollution sites, or worksites, identified in protected watersheds statewide.
2000: Conservation districts complete assessment of all watersheds, identifying over 12,000 pollution sites statewide.
2001: Center for Dirt and Gravel Road Studies formally created at Penn State University to handle the training, outreach, and technical assistance aspects of the Program.
2003: Conservation districts complete the 1,000th funded worksite through the Program.
2008: A second statewide assessment of unpaved roads in all watersheds increases the inventory to over 16,500 pollution sites statewide.
2009: Conservation districts complete the 2,000th funded worksite through the Program.
2013: Act 89 of 2013 is enacted, effectively increasing the funding for the Program from $5Million to $35Million annually in 2014-15. The Act dedicates $28Million of this to the Commission, and also mandates that $8M of that money be used for the maintenance of low-volume paved roads with less than 500 vehicles per day.
2015: The Program completes its first 74 paved LVR contracts with new funding, Dirt and Gravel completed contracts hit the 3,000 mark.
2018: The first 5-year contract under increased funding is completed, with over 4,300 Dirt and Gravel and 500 LVR contracts completed since the Program began.
2021: The Program completed its 6,000th project.
2022: Spending by conservation districts passed a quarter of a billion dollars (includes project spending on completed and active contracts, administrative, and education).

1.3.5 Low-Volume Roads

Act 89 of 2013 specifies that "A minimum of $8,000,000 of the total appropriated annually shall be for maintenance and improvement of (paved) low-volume roads." The act further defined low-volume roads as "sealed or paved with an average daily traffic count of 500 vehicles or less." The low-volume road portion of the Program focuses on the same environmental improvements as the Dirt and Gravel Road portion, not just paving and re-paving roads. For more information on the low-volume road specific issues, see Section 7.4.

1.4 Environmentally Sensitive Maintenance Overview

1.4.1 Worksites

***Worksite**: A worksite is an identified portion of road that impacts water quality. The Program uses worksites to focus funding to improve water quality.*

A worksite is an identified portion of a road that impacts water quality. The Program has both paved Low-Volume Road (LVR) worksites and Dirt and Gravel (DGR) worksites. A worksite has an identified beginning and end that demarks the limits of the section of road impacting the stream and other water bodies. The Program uses worksites to ensure project funding is focused only on those sections of road that impact water quality. The areas outside

of worksites may be in need of repair or be generating sediment, but do not have a direct connection to a stream or water body (typically on higher ground away from water).

Districts have identified over 17,000 DGR worksites statewide on unpaved roads. The majority of these DGR worksites were identified in statewide "assessments" completed in 2000 and 2008. These assessments also evaluated each worksite according to the "pollution potential" on the site and provided it with a score. Districts may use this assessment score in their application rankings. Worksites have also been added over time as needed. Districts may add worksites to their inventory at any time. Worksites range in size from a single stream crossing to over a mile in length. The average DGR worksite size funded in the first 17 years of the Program is 0.45 miles in length.

There is no established database of potential LVR worksites. LVR worksites should be identified by applicants and confirmed by the districts using similar principles as the DGR worksites (identifying limits of water quality impact).

1.4.2 Environmentally Sensitive Maintenance (ESM)

Because this is an "administrative" manual, only a brief overview of ESM practices is given here. For complete information and documentation of ESM practices, attend the Program's ESM training or see the technical documentation on the Program's website at www.dirtandgravelroads.org.

***ESM**: **Environmentally Sensitive Maintenance** promotes permanent road improvements that reduce concentrated drainage, prevent erosion, and reduce long-term road maintenance costs.*

ESM is a term used to describe a suite of principles and practices that are designed to create a more environmentally and financially sustainable public road system. They are long term practices designed to reduce erosion and maintenance within the road area.

Long-term environmental benefits are achieved by attempting to "restore natural drainage" to a state similar to how it was before the road existed. In contrast to traditional "stormwater systems" that are designed to collect and convey large volumes of runoff, ESM practices focus on diffusing flow at the source, encouraging infiltration and reducing concentrated flow volumes. Environmental benefits of this approach to waterways include reduced sediment and other pollutant delivery, and reduced flood flows by "disconnecting" the road drainage system.

Long-term financial benefits are achieved because the same forces of erosion that cause environmental damage translate into increased maintenance costs as well. Every time a road, ditch, or bank washes out, it requires a large time and money investment by the local road owning entity. Some ESM practices may have higher than average up-front costs, but they save money over their lifetime by reducing future maintenance needs and costs.

1.4.2.1 ESM Principles

- Avoid concentrating drainage where possible
- Minimize Flow Volumes
- Reduce effects of concentrated drainage
- Reduce surface erosion
- Reduce cost and frequency of road maintenance

1.4.2.2 Example ESM Practices

The following is a **very brief** summary of some of the Program's most common ESM practices taught in the two-day ESM training course:

- **Road/Stream Interactions:** ESM practices for stream crossings focus on reducing the sediment delivery to the stream, stream stability issues, and the stream crossing itself. Practices such as highwater bypasses, French mattresses, proper stream crossing sizing, better bridge and pipe design, and in-stream flow control structures can be effectively used to stabilize the road/stream interface.
- **Road Surface:** ESM practices for the road surface include drainage control and improved aggregate. Drainage control starts with proper crown and cross-slope, but also includes practices such as grade breaks, berm removal, and broad-based dips. Improved surface aggregate focuses on the Program's Driving Surface Aggregate and includes maintenance concerns such as grading and pothole repair.
- **Road Base:** Practices that improve the base of a road include mechanical base improvements, underdrains, French mattresses, and in some cases full-depth reclamation.
- **Vegetation management practices:** Practices that manage vegetation in a sustainable manner will reduce erosion from the road area and save on future maintenance costs associated with tree trimming and cleanup. Practices include selective thinning, proper pruning, seeding and mulching, and managing vegetation for long term stability.
- **Road Bank management practices:** Practices that stabilize the upslope or downslope road bank include slope reinforcement, filling the road profile, naturalizing bank shape, and natural or mechanical slope reinforcement.
- **Road Ditch and Outlet Stabilization:** ESM practices for ditches include anything that reduces the flow in the ditch. The simplest of these practices is to provide more drainage outlets in the form of new turnouts and crosspipes. Selecting locations to outlet water and choosing the proper outlet stabilization methods is also important. Other practices such as berm removal and filling the road profile attempt to eliminate ditches completely and promote sheet flow. Practices to reduce the effect of subsurface flow such as underdrains are also important.
- **Off right-of way practices:** Practices that start outside the road area in an effort to reduce the amount of water coming to the public road. Interceptor swales and bank benches reduce the amount of overland flow coming to the road. Driveways and access lanes are often large contributors of water to the public road and can be addressed by re-profiling or with surface control features such as grade breaks, water bars, or conveyor belt diverters.
- **Paved Low-Volume Road Specific Practices:** Low-volume roads may require an added set of ESM practices, especially those located in urban areas where traditional drainage dispersal and infiltration practices may not be practical. LVR-specific practices will evolve over time, but should focus on making improvements to both the environment and the road.

Chapter 2

State Conservation Commission Role

2. STATE CONSERVATION COMMISSION ROLE

2.1 Commission Structure

The Pennsylvania State Conservation Commission (Commission) is a 14-member commission that has a primary mission to ensure the wise use of Pennsylvania's natural resources and to protect and restore the natural environment through the conservation of its soil, water, and related resources. The Commission provides support and oversight to the state's 66 conservation districts for the implementation of conservation programs in an efficient and responsible manner.

The Commission administers several state conservation programs including the Dirt, Gravel, and Low-Volume Road Maintenance Program, the Nutrient Management and Odor Management Program, Resource Enhancement and Protection (REAP Tax Credit) Program, Conservation Excellence Grant (CEG), Agri-Link, and the Leadership Development Program. Staff also provides oversight and professional certification for nutrient management specialists, odor management specialists and manure hauler and brokers.

The Commission is a departmental administrative commission under the concurrent authority of the PA Department of Environmental Protection (DEP) and the PA Department of Agriculture (PDA). The Commission is administratively housed with PDA. The Commission accomplishes its mission by working cooperatively with local, state and federal government agencies, numerous industry and professional associations and nonprofit organizations.

2.2 Program Administration

The Commission approves all policies affecting the districts regarding the Dirt, Gravel, and Low-Volume Road Maintenance Program. The state-level staff consists of a program coordinator and support staff that provides oversight to the program.

2.2.1 Program Coordinator

The Commission, through the program coordinator, is responsible for the administration of the program. Districts and Center staff are encouraged to contact the program coordinator for answers to administrative questions on topics such as: program policy interpretation; funding advances; replenishment requests; questions on state policies; questions on two-year spending requirements; questions about setting local policies; administrative issues regarding local projects; ombudsman issues – conflict resolution; and other general administrative issues.

2.2.2 Coordination with Other Agencies

The Commission works closely with local districts to implement the Program through a five-year agreement. The Commission allocates funds to the districts, answers administrative and policy questions, and acts as an ombudsman to resolve any disputes that arise. The Commission will periodically visit each district to perform a quality assurance/quality control (QAQC) evaluation to assure that the Program is administered properly in each individual county.

In addition to QAQC evaluations, the Commission requires an annual audit of all district funds including Dirt, Gravel, and Low-Volume Road Maintenance Program Funds. The Commission may require other reporting to assure that the Program is properly administered.

The Commission also works closely with the Center for Dirt and Gravel Road Studies (Center) through a multi–year agreement, primarily for education, outreach, and technical assistance to Program participants. The Center's role is detailed in Chapter 6 of this manual.

The Commission works with the Department of Environmental Protection (DEP), mainly through DEP's conservation district field representatives (field reps). Field reps attend district board meetings and answer programmatic questions on a local level. Field reps also assist with programmatic

activities such as the Annual Workshops. The Commission, DEP, Districts, and the Center work together on other programmatic issues such as permitting, erosion and sediment controls, etc.

The Commission also partners with other state and local agencies and organizations such as: PA Fish and Boat Commission; Department of Conservation and Natural Resources (DCNR), Natural Resource Conservation Service (NRCS), PA Game Commission; PA State Association of Township Supervisors (PSATS), PA State Association of Boroughs (PSAB), PA Department of Transportation (PennDOT), Trout Unlimited, and others.

2.2.3 Apportionment of Funds to Conservation Districts

2.2.3.1 Agreements with Conservation Districts

Funding is apportioned by the Commission to conservation districts through a five-year contract that allows the funding transfer without initiating annual contracts or contract amendments. For more information on this arrangement, please contact the DGLVR Program Coordinator at the PA State Conservation Commission.

2.2.3.2 Dirt and Gravel Allocations

Dirt and Gravel road funding is allocated based on a formula developed by staff with input from advisory work groups and approved by the Commission. The formula considers miles of dirt and gravel roads, length of identified pollution sites (worksites), local cost of limestone, and the miles of dirt and gravel roads in HQ/EV watersheds. The Commission approves district allocations for dirt and gravel roads maintenance annually. A copy of the formula and an explanation of how the formula works can be found at www.dirtandgravelroads.org. The Commission publishes the allocation of funds to the individual counties in the Pennsylvania Bulletin.

2.2.4 Low-Volume Road Allocations

Like the Dirt and Gravel Road allocations, Low-volume Road allocations are allocated based on a formula developed by staff with input from advisory workgroups and approved by the Commission. The formula currently considers the actual miles of low-volume state roads, the potential miles of low-volume local roads, the distance of roads to a stream, and whether a road is located in an urban or rural environment. The Commission approves district allocations for low-volume roads maintenance annually. A copy of the LVR formula and an explanation of how the formula works can be found at www.dirtandgravelroads.org. The Commission publishes the allocation of funds to the individual counties in the Pennsylvania Bulletin.

2.2.4.1 Apportionment Process to Conservation Districts

The Commission advances 50 percent of a district's allocation as advanced working capital. Districts have two years from State budget approval to spend funds (details in 3.3.4). Details on the apportionment of funds from the Commission to districts are detailed at www.dirtandgravelroads.org.

2.3 Quality Assurance / Quality Control

2.3.1 QAQC Structure

The Commission will periodically review districts' Dirt, Gravel, and Low-Volume Road Maintenance Program to ensure that they are in compliance with the enabling legislation, regulations and policies. The purpose of the evaluation is to assess the district's finances, administration/functionality, and project work within the Dirt, Gravel, and Low-Volume Road Maintenance Program. The Commission will select districts for QAQC visits and notify them accordingly. The visit typically consists of one or two days at the conservation district to review

program administration and visit field sites. The QAQC team may vary in member composition depending on the district being evaluated. The team is typically composed of personnel from the Commission, the Center for Dirt and Gravel Roads Studies and DEP. DEP field representatives may assist the district in preparing for the QAQC visit, if the district would like. Field representatives also may also share successful strategies with other districts and help with recommendations for improvement. The evaluations are conducted based on three components of the Program: Financial Review, Administration/Functionality, and Project(s). The outcome of the QAQC process will be written a written report detailing commendations, recommendations, and if needed, required actions.

2.3.2 QAQC Visit

Prior to the QAQC visit, the SCC will send out a pre-visit letter detailing the overall QAQC process as well as any pre-visit information the district is required to submit. As part of the QAQC visit, the team may interview the district manager, the QAB members, financial staff, and any district staff that is involved in running the Program. The SCC also asks the district to invite their district board to participate in the QAQC visit and interviews. Members of the team may also conduct interviews with grant recipients in the county under QAQC review. Program finances will also be reviewed as part of the QAQC process. Holding interviews prior to the in person visit often allows for more time reviewing projects in the field. The QAQC team will discuss interview times when preparing for the visit. The QAQC team will visit as many field sites as practical during the in person visit. The QAQC team will work with the district to determine a final list of projects to review. After the conclusion of the interviews and site visits, the QAQC team will prepare a preliminary report that will describe the results of the team's visit. The team will discuss the preliminary report with the district manager and any district staff, board members, and/or QAB members who may wish to be present. This can be completed in person or via conference call, depending on the district's preference.

2.3.3 QAQC Follow-up

The district will have two weeks to submit written comments on the preliminary report to SCC Staff. SCC Staff will collate and consider comments from those interviewed and prepare and distribute the final QAQC report to the district.

The final report of the evaluation may include a written list of recommendations or requirements that need improvement. In order for a district to remain compliant with Program guidelines and to remain eligible for future allocations, required actions, if any, must be addressed to the satisfaction of the Commission in a timely fashion.

Either the Commission or a district may request a re-evaluation of a District's Dirt, Gravel, and Low-Volume Road Maintenance Program. Commission staff will communicate with districts regarding any required actions needed as a result of a QAQC visit to ensure they are implemented.

Chapter 3

Conservation District Role

3. CONSERVATION DISTRICTS ROLE

3.1 District Structure

In 1945, Pennsylvania General Assembly recognized the need to support grassroots conservation efforts. As a result, the Conservation District Law was passed, and districts were created. Today there is a district established in every Pennsylvania County except Philadelphia.

Conservation districts implement a variety of programs, and provide assistance for a range of issues unique to their county, such as: Dirt, Gravel, and Low-Volume Roads Program; Abandoned Mines; Agricultural Land Preservation; Chesapeake Bay Program; Environmental Education; Erosion & Sedimentation Pollution Control; Floodplain Management; Forest Management; Nutrient Management Program; Storm Water Management; Waterway Protection; West Nile Virus Surveillance Program; Wildlife Management; and more.

Each district is led by a board of directors made up of local people from all walks of life. These volunteers study county natural resource issues and make decisions which enhance and protect the local community.

3.2 Overview

Section 9106 of the PA Motor Vehicle Code created a dedicated, non-lapsing fund to provide money and training to local communities for local road maintenance. Annually, $28 million is distributed by the Commission to districts in Pennsylvania through a five-year agreement.

The districts are the entities that administer the Dirt, Gravel, and Low-Volume Road Maintenance Program. Each county utilizes a Quality Assurance Board (QAB) that advises the District on local program policies and recommends projects for funding. The role of the QAB is detailed in Chapter 4 of this manual.

District staff plays a very important role in the administration of the Program by performing a wide variety of tasks including education and outreach, project evaluation, technical assistance, project oversight, accounting, and auditing.

3.3 Receiving Funds from Commission

3.3.1 Five-year Agreement

Funding is apportioned by the Commission to districts through a five-year agreement that allows the funding transfer without initiating annual contracts or contract amendments. The PA Treasury is requiring all vendors, including conservation districts, to receive funds via direct deposit. Districts may find it easier to keep “Dirt and Gravel” and “Low-Volume Road” funds in separate accounts. However, it is not required to have a separate account for dirt, gravel, and low-volume road funds, as long as they can provide for separate accounting of the funds.

3.3.2 Advance Working Capital

Districts will receive 50 percent of their annual allocation as advanced working capital. The Commission may withhold advance payments at their discretion. Advanced working capital is typically distributed to districts in October for each fiscal year. No district action is required to receive advanced working capital other than to have an active five-year agreement with the Commission and to be in compliance with the Commission spending requirements outlined below.

When the working capital advance is disbursed to the district, it will be accompanied by a detailed statement approved and signed by the Commission showing the total amount advanced, the maximum amount that may be used for administration, the maximum amount that may be used for education, the minimum amount that must be used for projects, in addition to identifying the amount available for replenishment in that year's allocation. This form must be retained in the district's files for audit and QAQC purposes. The Commission may require periodic reporting of funds remaining in district accounts.

3.3.3 Replenishment of Working Capital

As districts spend advanced working capital on administration, education, and project work, they are eligible to receive a replenishment of funds from the remaining 50 percent of their allocation remaining in Harrisburg. Only funds that have been spent by the district or advanced to grant recipients, not simply committed to a contract, are claimed as replenishments. Replenishment of advanced working capital is done through the Program's DGLVR Mapper during quarterly reports detailed in Section 3.10 and 3.11. Actual expenditures are reported each quarter, and replenishments will be automatically generated. Two separate replenishments are generated each quarter, one for Dirt and Gravel, and one for Low Volume, until the district's funds remaining in Harrisburg have all been disbursed.

3.3.4 Spending Requirements

Districts are required to spend their entire allocation within two years of state budget approval in order to be eligible for future allocations. If a district does not spend sufficient funding, the funds will revert back to the control of the Commission. The Commission may also determine that the district is ineligible for future allocations or reduced future allocations. When that occurs, that district's future allocation(s) may be distributed to other districts using existing allocation formulas. Districts that miss one or more year's allocation will be eligible for future allocations once again after the two-year spending requirement is met. The Commission may, at its discretion, extend the two-year spending requirement if circumstances warrant.

Dirt and Gravel Road allocation spending must be tracked separately from Low-Volume Road allocation spending. Ineligibility for Dirt and Gravel Road allocations does not necessitate ineligibility for Low-Volume Road allocation, or vice-versa.

Administrative and education/training expenses must be utilized in the fiscal year they are allotted. DGLVR funds cannot be used for administrative or education/training expenses after the end of the allotted fiscal year without written permission from the State Conservation Commission. At the end of the first fiscal year, all remaining DGR and LVR funds from the allocation must be spent on projects as outlined in Section 3.3.4.

Each conservation district's spending requirements are tracked in the GIS (see sections 3.9 – 3.11). The funds available to be spent on administrative and education/training costs are tracked in the "Claimable Admin/Edu" tool within the quarterly report tool.

The 2-year spending requirement is tracked in the Annual Summary Report tool in the GIS. DGR and LVR spending requirements are tracked separately. The total spent is calculated as the sum total of what has been spent on projects under contract, completed projects, administration, and education since the beginning of the Program. The spending requirement is the amount the conservation district must spend to receive the next year's allocation. The spending requirement is equal to the sum total of all allocations the district has received except for the last 2 complete allocation cycles. The difference is calculated by subtracting the total spent from the spending requirement and must be zero or greater for the district to receive the next year's allocation. In order to be eligible for an allocation, a Conservation District can have no more than two years of allocation unspent.

3.3.5 Program Reduction or Termination

The Dirt, Gravel, and Low Volume Road Program is a voluntary program for districts. Districts may choose to receive a reduced allocation, or temporarily suspend their entire allocation for various reasons. Districts may also choose to withdraw from the Program (either DGR, LVR, or both) and return funding to the Commission. Districts who elect one of these options may return to full Program participation in future years with Commission approval. To discuss any of the options mentioned above, contact the program coordinator at the Commission.

Pursuant to the five-year agreement between the Commission and districts, when the Commission determines that the terms and conditions of the agreement are not materially being met, the Commission may, after 30 day written notice, suspend the District's authority to proceed with work under this agreement. The suspension will remain in effect until corrective action has been taken to the satisfaction of the Commission, or until the agreement is terminated and all unspent funds are returned to the Commission. The Commission may also require the return of funds, or reduce future allocations, if funds have been spent outside of Commission policy.

3.4 Accounting of Funds at District

3.4.1 Separate Accounting

Districts must place all funds received from the Commission in an interest-bearing Federal Deposit Insurance Corporation or equivalent insured account. Districts must work with their banking institutions to assure that account balances in excess of $250,000 are also insured or otherwise collateralized. The Commission may approve other lending, borrowing and savings institutions for districts to utilize for the Dirt, Gravel, and Low-Volume Road Maintenance Program funds on a case-by-case basis. District records relating to the Dirt, Gravel, and Low-Volume Road Maintenance Program projects must be kept for a minimum of seven years from the date of final payment on a project. Administrative and education expense records must be kept for a minimum of seven years from the end of the fiscal year in which the expenses were utilized. Records of interest earned must be kept for a minimum of seven years from the end of the fiscal year in which the interest was earned. The PA state fiscal year runs from July 1st through June 30th.

While it is not required to have separate accounts for Program funds, separate accounting is required for administrative, education, project work, and interest for both the Dirt and Gravel and Low-Volume Road allocations.

Dirt and Gravel Roads funds, which include funds for projects, education, and administration, are to be used solely for Dirt and Gravel Road Program expenses, and these funds must be accounted for separate from the Low-Volume Roads funds.

Low-Volume Roads funds, which include funds for projects, education, and administration, are to be used solely for Low-Volume Road Program expenses, and these funds must be accounted for separate from the Dirt and Gravel Road funds.

3.4.2 Cost allocation Method for Shared Expenses

Some conservation district expenses, such as vehicles, rent, and office expenses, are shared between the DGLVR Program and other programs or funding sources. A portion of shared expenses may be eligible DGLVR administrative and/or education expenses, as detailed below:

- The percent of shared expenses that are eligible DGR expenses are equal to the percent of staff time spent on DGR activities. The percent of staff time spent on DGR activities must

be calculated compared to the total staff time spent on all programs/activities sharing the expense.

- The percent of shared expenses that are eligible LVR expenses are equal to the percent of staff time spent on LVR activities. The percent of staff time spent on LVR activities must be calculated compared to the total staff time spent on all programs/activities sharing the expense.
- Salaries and associated benefits can only be paid for with DGLVR funds for time spent working directly on the DGLVR Program. Tracking can be done on an hourly basis, a percent effort basis, or some other method that allocates salary in accordance with time spent on the DGLVR Program.
    - Salary and benefits for time spent on DGR activities are to be paid for with DGR funds. Salary and benefits for time spent on LVR activities are to be paid for with LVR funds. If a conservation district chooses to divide salaries on a percent basis, then the percent of a staff member's salaries and benefits paid for with DGR funds must be proportionate to the amount of time that staff member spends on DGR activities out of the staff member's total hours in a given time period. The percent of a staff member's salaries and benefits paid for with LVR funds must be proportionate to the amount of time that staff member spends on LVR activities out of the staff member's total hours in a given time period.
    - The conservation district must keep and be able to provide documentation to the SCC of time spent on DGR and LVR activities as part of the administration and education funding record-keeping.

Examples of cost allocation methods that meet the policy outlined above are available in Appendix E. These are not the only acceptable cost allocation methods. For assistance in developing a cost allocation method, contact the SCC.

3.4.3 Administrative Funds

A district may use up to 10 percent of their total allocation for administering the Dirt, Gravel, and Low-Volume Road Maintenance Program. Administrative funds must be tracked separately for the Dirt and Gravel Road allocation and Low-Volume Road allocation. The primary purpose of administrative funds is to assure adequate funding for technical staff who work on the Program. Administrative funds can also be used to cover regular expenses occurred in administering the Program such as travel costs, equipment, and supplies. Administrative funds must be spent on eligible expenses as they are incurred; funds cannot be transferred in advance to a separate account. Administrative expenses must be incurred within the allotted fiscal year. The "banking" of administrative funds for multiple years is only allowed with written permission from the Commission. Administrative expenses are outlined in the Commission Statement of Policy Section 11 (Appendix B). The district is responsible for keeping accurate and detailed records of what was paid for with administrative funds for a minimum of seven years from the end of the fiscal year in which the expenses were incurred. This documentation must be available to the SCC upon request. The district is responsible for properly reporting these expenditures in the GIS Program as described in sections 3.9 – 3.11. A district is not required to spend any or all of their 10 percent allocation limit on administration. Funds not spent on administration each fiscal year must be spent on projects. Administrative expense records must be kept for a minimum of seven years from the end of the fiscal year in which the expenses were incurred

Guidelines for Administrative Expenditures

For questions about eligible DGLVR Administrative Expenditures, please contact the Commission.

- **Salary** is an eligible administrative expense.
    - This includes technical staff, support staff, and management salaries related to administering the Program. Example administration activities include:
        - site inspections, meetings, completing paperwork, communications, etc. related to DGLVR Projects.
        - QAB meetings and Conservation District Board of Director meetings
        - Reviewing DGLVR applications
    - Benefits associated with those salaries are also an eligible expense.
    - Salaries can only be claimed for time spent working directly on the DGLVR Program. Tracking can be done on an hourly basis, a percent effort basis, or some other method that allocates salary in accordance with time spent on the Program. See Section 3.4.3 above for more information about using DGLVR Administrative funds to pay part of a staff member's salary and benefits. Conservation districts must be able to document that staff time claimed as administrative time is spent on eligible administrative activities. This should be a time sheet and/or report that includes details of the activity, including the date, activity description, staff member(s), amount of time, road name, road owner, and how the activity qualifies as a DGLVR administrative activity, or some other method that documents that administrative time is spent on eligible administrative activities.
- **Travel** is an eligible administrative expense
    - Includes all expenses directly related to Program administration such as: travel to field sites, meetings, and trainings, vehicle costs, per-diems, parking, etc.
- **Office expenses** are eligible administrative expenses
    - Includes all expenses directly related to Program administration such as: computers, printers, communication services, expendable office supplies, etc.
- **Field equipment** is an eligible administrative expense
    - Funds can be used to purchase equipment for CD use such as: levels, tapes, survey equipment, safety equipment, etc.
    - Funds can be used to purchase equipment for loan/rent to applicants such as: traffic counters, grader blades, leaf blowers, etc.
    - Funds can NOT be used to purchase equipment for townships or other applicants, including cost-sharing on equipment.
- **Demonstration projects** can be funded by the Conservation District with either administrative or education funds. Refer to section 3.4.7 of his administrative manual for details.
- **Miscellaneous**
    - Other potential administrative expenses include but are not limited to:
        - Aggregate testing
        - Consultant services
        - Overhead costs such as insurance, utilities, rent, etc.
        - **Questions:** Please contact the State Conservation Commission with questions about eligible administrative expenses.
- **Allocation Method:** A portion of administrative costs that are shared between programs, such as vehicles, rent, or office expenses, are eligible DGLVR administrative expenses as determined by a cost allocation method. See section 3.4.2 for details on acceptable cost allocation methods and how to determine what portion of shared expenses are eligible DGLVR expenses.

3.4.4 Education Funds

A district may use up to 10 percent of their total allocation for education expenses in the Dirt, Gravel, and Low-Volume Road Maintenance Program. Education funds must be tracked separately for the Dirt and Gravel Road allocation and Low-Volume Road allocation. The primary purpose of education funds is to allow the district to attend trainings and events for their own education, and to provide training and events for potential program participants. Education funds must be spent as expenses are incurred; funds cannot be transferred in advance to a separate account. Education expenses must be incurred within the allotted fiscal year. The "banking" of education funds for multiple years is only allowed with written permission from the State Conservation Commission. Education expenses are outlined in the Commission Statement of Policy, Section 11. Eligible Expenses (Appendix B). The district is responsible for keeping accurate and detailed records of what was paid for with education funds for a minimum of seven years from the end of the fiscal year in which the expenses were incurred. This documentation must be available to the SCC upon request. The district is responsible for properly reporting these expenditures in the GIS Program as described in section 3.9–3.11. A district is not required to spend any or all of their 10 percent allocation limit on education. Funds not spent on education each fiscal year must be spent on projects.

Some districts may choose to use drones to take project pictures, video, and create educational materials. Note that districts using drones for any program are subject to the SCC's "Conservation District Drone Utilization Policy".

Guidelines for Education Expenditures

For questions about eligible DGLVR Education Expenditures, please contact the Commission.

- **Salary** is an eligible education expense.
    - This includes technical staff, support staff, and management salaries related to DGLVR educational activities.
        - DGLVR educational activities include:
            - attending or hosting trainings, conferences, field days, workshops, technical assistance, or other outreach activities.
            - Teaching individuals or small groups about the DGLVR Program in regard to potential DGLVR Project sites without a current contract for DGLVR funds. This includes working with potential grant applicants to develop an application for DGLVR funds, such as pre-application meetings.
        - DGLVR educational activities do NOT include:
            - Administering DGLVR Projects with a current DGLVR Contract
            - Administering the DGLVR Program, including QAB meetings, Conservation District Board of Director meetings, and reviewing DGLVR applications
    - Benefits associated with those salaries are also an eligible expense.
    - Salaries can only be claimed for time spent working directly on educational efforts for the DGLVR Program. Tracking can be done on an hourly basis, a percent effort basis, or some other method that allocates salary in accordance with time spent on the Program. See Section 3.4.2 above for more information about using DGLVR funds to pay part of a staff member's salary and benefits. Conservation districts must be able to document that staff time claimed as educational time is spent on eligible educational activities. This should be a time sheet and/or report that includes details of the activity, including the date, activity description, staff member(s), amount of

time, road name, road owner, and how the activity qualifies as a DGLVR educational activity, or some other method that documents that educational time is spent on eligible educational activities.

- **Travel** is an eligible education expense
  - Includes all expenses directly related to education activities for the Program such as: travel to training and workshops, and travel to set up trainings, workshops, and demonstrations for local stakeholders.
- **Field equipment** for applicant use is an eligible education expense
  - Funds can be used to purchase equipment for loan/rent to applicants such as: traffic counters, grader blades, leaf blowers, etc.
  - Funds can NOT be used to purchase equipment for townships or other applicants, including cost-sharing.
  - Funds can NOT be used to purchase field equipment for CD use.
- **Training costs** are an eligible education expense
  - Direct costs of providing training or education could include: facility rental, food, educational materials, providing transportation, etc.
- **Promotional materials** are an eligible education expense
  - Promotional materials may include advertisements, reports, websites, project signage, and promotional items.
  - Spending on promotional items (pens, hats, door prizes, etc.) is limited to $1,000 annually unless otherwise approved by the Commission.
- **Participation incentives** are eligible education expenses
  - Participation incentives could include paying travel expenses related to education activities for potential applicants or QAB members
- **Demonstration projects** can be funded by the Conservation District with either administrative or education funds. Refer to section 3.4.7 of his administrative manual for details.
- **Allocation Method:** A portion of education costs that are shared between programs, such as vehicles, are eligible DGLVR education expenses as determined by a cost allocation method. See section 3.4.2 for details on acceptable cost allocation methods and how to determine what portion of shared expenses are eligible DGLVR expenses.

3.4.5 Project Funds

A minimum of 80 percent of a district's allocation must be dedicated for project work for both Dirt and Gravel and Low-Volume Roads. Project funds must be tracked separately for the Dirt and Gravel and Low-Volume Road allocations. Project funds must be spent within two years of State budget approval. The details of project funding, including eligible projects and expenses, are detailed in Section 3.7.

3.4.6 Interest Funds

All interest accrued from Program funds (administrative, education, and projects) must be used only for project work. Interest accrued from low-volume roads funds must go to low-volume road projects and interest accrued from dirt and gravel funds must go to dirt and gravel projects. Interest must be reported in the DGLVR Mapper during each quarterly report. Records of interest earned must be kept for a minimum of seven years from the end of the fiscal year in which the interest was earned and must be available to the SCC upon request.

3.4.7 Demonstration Projects

Only administration and education funds can be used to fund "Demonstration Projects" that do not follow the typical application submittal and ranking process.

A typical Program project is one that is submitted by an applicant, reviewed and ranked by a Quality Assurance Board (QAB), and approved for funding by the district board. Typical projects can be used for educational purposes. Education events on typical projects usually entail inviting other potential applicants out to the site for an educational session before, during, or after project implementation. They are especially effective to highlight practices that are new to a particular county or region. These "typical projects" are funded with project funds, while education/administrative funds can be used to cover the costs of the training or educational event.

A "demonstration project" is a project that is funded by the districts that does not follow the lifecycle of the "typical project" above. Demonstration projects can be implemented by the district to showcase a particular practice or project without the typical application submittal and ranking process. Certain conditions must be met before a demonstration project can be funded without the typical application submittal and ranking process:

- Only education or administrative funds can be used.
- Must follow existing Program policies: be on an eligible public road; focus on environmental improvements; meet LVR traffic counts; etc.
- Must have QAB and district board approval.
- Must have a contract, MOU, or other agreement with the road-owning entity.

Demonstration projects are not intended to be used to circumvent training requirements or typical project agreements with eligible applicants. If project funds are to be used, the project becomes a "typical project" and must go through the standard application submittal and ranking process. When a district funds a demonstration project, the district can either contract with the road-owning entity, or purchase material and contract directly with the contractors performing the work. If the district enters into a contract with the road owning entity to complete a demonstration project, standard Program contracts and procedures apply. The district must assure that all permits are obtained prior to construction, and must comply with all federal, state, and local requirements including prevailing wage. A district may fund a demonstration project by paying for materials and subcontractors directly. A separate agreement must be made with the road-owning entity that identifies the following:

- The size and scope of the project (including location map, a project sketch, and an itemized cost estimate).
- The district's responsibilities for the project
- The road owning entity's responsibilities for the project.
- The responsible entity for any future maintenance that may be required.

These additional requirements are needed since a standard Program contract between the district and the applicant may not be used.

3.5 Dispersing Funds to Grant Recipients

It is acceptable to advance some funds at the beginning of the project, pay for portions of the project as work is completed after bills and receipts are submitted, or wait until the project is entirely completed to pay the entire amount at one time. Districts should develop their own individual policies regarding payment to project grantees (Statement of Policy section 14.c(1)). A

written schedule of payments in conformance with local policies and the Commission Statement of Policy must be included in the contract.

3.5.1 Advancing Funds to Grant Recipients

Up to 50 percent of the contract amount may be advanced to grant recipients once a contract is signed. More restrictive policies can be set by the local QAB.

In addition to advancing up to 50 percent of funds in advance of project work, it is also acceptable to provide additional funding (up to 70 percent of the project funds) after the project is underway. Subsequent payments are only to be made on a cash expended basis.

3.5.2 Remainder of Funding to Grant Recipients

In accordance with the Commission Statement of Policy (section 14.c(3)), the district shall withhold payment of at least 30 percent of the approved project expenses (contract amount plus any amendments) until the satisfactory completion of the project. Final payment for the project expenses shall be made only after a final on-site inspection by the district determines that the work was performed consistent with the project application and the work plan, and to the satisfaction of the district.

3.5.3 Contract Amendments

In some cases, the grant recipient may request additional time or addition funding above the contracted amount to complete a project. The approval of additional time or funding to a contract is at the discretion of the district board, based either on a case-by-case basis or by county policy. Districts may develop their own policies for handling cost overruns and time extensions, provided they are consistent with Commission policy. It is the discretion of the conservation district board how to handle amendments to existing contracts. Options include but are not limited to: requiring district board approval; requiring QAB and district board approval; empowering CD staff to approve amendments, etc. There is no additional funding from the Commission to pay for cost overruns.

For cost overruns totaling 40 percent or less of the initial contract amount, the Contract Amendment must be completed and signed by both entities (available at www.dirtandgravelroads.org). Multiple amendments may be granted, provided the total of all amendments is not more than 40 percent of the initial contract amount. For contract amendments over 40 percent of the initial contract amount, written approval is required from the State Conservation Commission. For extensions of the completion date of the project, the same "Amendment form" described above can be used. Keep in mind that an amendment may increase the total value of the project so that prevailing wage would apply to contractor costs. More on prevailing wage in sections 3.7.4.4 and 3.7.4.5.

3.6 District Educational Opportunities

There are many opportunities for education and training for districts in various aspects of Program administration and project implementation outlined below. Also outlined below are ideas for districts to implement education and outreach efforts to municipalities and other entities within their county.

3.6.1 Education and Training FOR Districts

3.6.1.1 Environmentally Sensitive Maintenance (ESM) Training

The ESM training is a two-day course that covers the road maintenance practices employed by the Program. ESM training is made available to all district board members, QAB members, and district staff. It is highly recommended that all persons representing the district who have a significant role in the Program attend an ESM training.

ESM training is **mandatory** for at least one district representative on the QAB, and for the district staff person(s) most involved with the Program. ESM training must be taken once every five years to maintain certification. For more information on the ESM principles covered in the training, see Section 1.4.

3.6.1.2 Stream Crossing Replacement Training

This multi-day training covers the details of completing a stream crossing replacement through the DGLVR Program. It includes both remote and in-person sessions, and includes topics ranging from conducting a longitudinal profile, reviewing project plans, construction oversight, and final inspection.

Effective July 1, 2023, at least one conservation district staff member must have completed the DGLVR Program's "Stream Crossing Replacement Certification Training" and received a certificate of completion before the QAB can recommend or the conservation district can approve a contract for a project involving a stream crossing. A Stream Crossing Replacement Re-Certification Training must be taken once every three years to maintain staff certification. This training requirement does not apply to crossings that qualify for an automatic exemption from the DGLVR Stream Crossing Standard (see section 7.1.3.1).

3.6.1.3 Annual Maintenance Workshop

ESM training provides training on the fundamentals of environmentally sensitive road maintenance. The annual workshops give the opportunity for more in-depth training on a wide variety of subjects such as diagnostics, stream crossings, low-volume roads, demonstration projects. The workshop is held at a different location in Pennsylvania each year. Many workshop sessions include bus trips to actual project locations. Individuals that have a current ESM training certification may attend an annual workshop once every five years in lieu of re-taking ESM training. Individuals whose five-year ESM certification has expired may not use the workshop as recertification but must re-attend an ESM training.

3.6.1.4 Administrative Training

Administrative training is available for district staff, QAB members, and others. This training will cover the administrative policies and guidance provided in this manual. Administrative training is required for staff person(s) most directly responsible for administering the Program. Identified district personnel responsible for administering the Program must attend the administrative training at least once every three years.

3.6.1.5 Quality Assurance/Quality Control (QAQC)

QAQC visits are described in Section 2.3. The focus of the QAQC visits is to ensure Program policies and standards are being met, and to provide an education and training opportunity to district personnel.

3.6.1.6 Technical Assistance Visits

Technical assistance visits are conducted primarily by Center staff, but Commission staff may attend as well. Technical assistance visits are usually initiated by district staff to request help with a difficult worksite. Technical assistance visits provide excellent training opportunities not only for district staff, but for municipalities as well.

3.6.1.7 Remote Learning Center

The Center has established a "Remote Learning Center" on its website at: https://www.dirtandgravel.psu.edu/education-and-training/remote-learning-center. The Remote

Learning Center contains a wide variety of recorded webinars and remote trainings that are available free of charge to anyone. The website contains not only recording of trainings, but also the PowerPoint files that were used for each training. Conservation Districts may find the PowerPoint slides useful in their own educational efforts within their county.

3.6.1.8 Other Trainings

Other optional trainings and educational events intended for conservation district staff administering the DGLVR Program. They include but are not limited to:

- Boot Camps: 3-day field focused trainings with active field sites
- Webinars: Short topic-specific presentations with question and answer typically held in the winter and early spring. Recordings and presentations form past webinars are available online and make a good starting point for new district staff.
- New-hire trainings: Two or three-day sessions focused on new hires at Conservation Districts
- Assessment Trainings: One-day sessions intended to show Conservation Districts how to conduct assessments on unpaved roads to identify and assess pollution prevention sites.

For a complete list and schedule of trainings, visit the "education training" section at www.dirtandgravelroads.org

3.6.2 Education and Training BY Conservation Districts

Education and outreach to municipalities, other potential grant applicants, and other local entities is required of each district. Below are some ideas for districts to improve the local education and outreach effort. Please contact the Center if you have questions or would like assistance setting up any of the potential outreach activities below.

3.6.2.1 Participate in Existing Outreach Events

Many counties have local or regional events that provide the opportunity to reach many potential grant applicants and other public entities. Consider becoming a member of local and/or statewide municipal associations, such as a local Council of Governments or PA State Association of Township Supervisors, to participate and promote the DGLVR Program through their events and media. Providing outreach and education at these events, such as developing a traveling display, can be an excellent use of educational funds. Some potential opportunities for such outreach include:

- **Municipal Conventions:** The Center and Commission participates in Township and Borough annual conventions each year. Many counties host their own municipal conventions every year that provide an excellent opportunity to meet with or even present to a large number of local government entities.
- **Contractor Workshops:** Many regions around the state hold "contract workshops" or other such educational days. These events are typically one-day "mini-conferences" relating to a variety of programs. They can provide a great opportunity to interact with municipalities as well as some of the sub-contractors they frequently use.
- **Elected Official Breakfasts:** Many counties have various events for their elected officials. Municipalities are often invited to these brief sessions that highlight some local projects going on in the county and can provide an excellent showcase for completed DGLVR projects.
- **Municipal Visits:** Consider visiting municipalities during slower times of the year to discuss the program, potential projects, and to establish a better working relationship with them.

3.6.2.2 Host outreach events

In addition to participating in some of the existing events described above, many districts host their own events for education and outreach. Consider involving other entities in the presentation of

these events such as product suppliers, contractors, equipment companies, and the townships involved in the projects.

- **DGLVR Demonstration Days:** "Demo Day" is a term used to describe half-day educational sessions held on a project site, typically aimed at municipalities. It is recommended that demo days be kept to a maximum of 2-3 hours and include breakfast or snacks to encourage attendance. Demo days typically include some type of presentation or talk at a certain time (either in the field, or indoor with a presentation), followed by a walk-through of the field site being used for the demo. Attendee can then stay as long as they like to ask questions and interact with the district. Active project sites, especially when new or innovative practices are being implemented, often make the best demo days. Another option is to hold dual "before and after" demo days, where the first day is spent going over the plan before the project begins, followed a month or so later by a day spent walking through the completed site.
- **Program Update Sessions:** Districts are encouraged to host presentation and discussion sessions to provide Program updates for municipalities and other applicants. These sessions can focus on policy updates, or simply showcase completed projects from the previous year. Update sessions can be general, or focused on a particular subject, such as "Administering the DGLVR Program for municipal secretaries". They can also be combined with other programs run by the District.
- **Project Tours:** Many districts hold annual project tours where attendees board a bus and visit a wide variety on field sites. These tours can be customized for a range of audiences, and can be DGLVR focused, or include projects from other district programs as well.
- **Pre-Application Site Visits:** Pre-application site walk-through is highly recommended and provide an excellent opportunity for one-on-one education and outreach with the applicant.

3.6.3 Program and Project Promotion

Districts are encouraged to use their education funds to promote the Program and completed projects however they can within their county. Some ideas for such promotion include:

- **Press Releases:** After a particularly successful project, consider drafting a brief press release and making it available to local media outlets. Often such simple efforts can be picked up by a variety of media outlets and provide an effective and nearly free source of promotion.
- **Newsletters:** Many districts have monthly newsletters where they include short write-ups of successfully DGLVR projects. A few larger districts even have "DGLVR only" newsletters they periodically send out to their municipalities.
- **Project Signage:** A simple but underutilized form of project promotion is to place signs on completed projects such as "Road improvements sponsored by…..", or "Another successful project from……". Signs do not have to be permanent. Many sign shops can produce simple signs on corrugated plastic that are relatively inexpensive and will last 1-3 years. Check with the municipality to make sure signs are in compliance with any sign ordinances.

3.7 Program Eligibility

3.7.1 Eligible Applicants

Public entities that own public roads in Pennsylvania that are open to public vehicle travel are eligible to apply to districts for Program funding. Municipalities and other eligible and ineligible entities are described below.

The person in charge of work plan development and project implementation from the entity that has applied for funds from the Program must have attended environmentally sensitive maintenance (ESM) training within the past five (5) calendar years to become "ESM Certified" to apply for funding.

In determining applicant eligibility, it is important to focus on the entity that owns the road itself, not necessarily the land the road traverses. Often one entity owns the road through the property of another entity, for example a township-owned road through state forest land. The entity that owns the road corridor is the entity that is eligible to apply for funding.

The "ESM certified" person for the applicant must be an employee or elected official of the entity. The ESM certified individual must be the person in charge of work plan development and project implementation for the applying entity. Attendance by individuals not directly involved with the project design and implementation (interns, secretaries, etc.) do not qualify an applicant to be eligible for funding. Engineers on retainer or others who serve multiple municipalities are welcome to attend the ESM training, but their attendance does not count as ESM Certification for the municipalities they represent. Alternatively, if an engineer is on the payroll at a particular eligible entity, it would count as ESM certification for that municipality. Empowering and educating local municipalities is one of the primary benefits of the Program. In the case of other entities, the person who has direct oversight responsibilities for the project must be the one to attend the ESM training. Individuals that have a current ESM training certification may attend an annual maintenance workshop once every five years in lieu of re-taking ESM training. Individuals whose five-year ESM certification has expired may not use the annual maintenance workshop as recertification but must re-attend an ESM training.

3.7.1.1 Municipalities

Eligible municipalities in Pennsylvania include 1,500+ townships, 900+ boroughs, and 50+ cities. Districts should become acquainted with the various municipal officials and employees in their counties. Boroughs and cities will likely play a larger role in the low-volume road portion of the Program.

To date, townships are the most frequent Program applicant, accounting for over 90 percent of the projects completed statewide. Township size, composition, and structure vary widely across the state. The two township positions most likely to be involved in Program projects are the "Supervisor" and the "Roadmaster". Supervisors are elected officials who handle a great variety of tasks for a township. Roadmasters can be elected supervisors or hired employees and are the person(s) in charge of road maintenance for the township. Depending on size, population, and funding, a township may have multiple roadmasters and supervisors, or may have one person serving in both capacities. Pennsylvania's 1,500+ townships are governed by the Township Code. A complete copy of the 2nd Class Township Code may be found at: https://www.legis.state.pa.us/cfdocs/Legis/LI/uconsCheck.cfm?txtType=HTM&yr=1933&sessInd=0&smthLwInd=0&act=0069.

Boroughs are small to large towns that have incorporated boundaries. Borough involvement in the Program has been limited in the past since they own fewer unpaved roads than townships, but their involvement has increased with the addition of paved low-volume roads to the Program in

2014. Boroughs, like townships, vary widely in their size and structure. Borough staff under the Borough Code requires a borough secretary and allows for a borough manager including engineers as well. It is not mandated, but it is not unusual for there to be a public works department to provide road maintenance services. Pennsylvania's 900+ boroughs are governed by the Borough Code. A complete copy of the Borough Code may be found at:
https://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2014&sessInd=0&act=37

Cities, like boroughs, will likely play a larger role in the low-volume road portion of the Program. Their size and structure vary considerably across the state.

3.7.1.2 Other Potential Applicants

Other local, county, or state public entities that own and maintain public roads that are open to public vehicle travel are eligible to apply to the district for project funding. The most common of these entities are listed below, although the list is not all-inclusive:

PA Department of Transportation (PennDOT): PennDOT owns ~500 miles of unpaved roads and thousands of miles of paved low-volume roads. PennDOT projects are typically designed at the regional level by regional engineers. Project oversight, however, is typically done at the county level by county maintenance managers. Both the project designer and the person in charge of project oversight must be ESM certified. Signatory authority for applications resides in the PennDOT District Offices.

PA Game Commission (PGC): The PGC owns approximately 1,000 miles of public use roads and 400+ miles of seasonal roads Statewide. The regional land manager will identify the personnel to attend ESM training in order for the PGC to be eligible to receive funds. Signatory authority for applications resides in the PGC Regional or Central offices.

PA Fish and Boat Commission (PFBC): PFBC ownership of roads is minor except for access roads and boat launch ramps. Boat launch ramps that are open to public use are eligible for funding. The PFBC personnel responsible for the project area must attend ESM training. Signatory authority for projects resides in the PAFBC Regional or Central offices.

County and other Government Entities: In many cases other local government agencies such as parks departments or municipal authorities own land and roads that are open to public travel. As long as the roads meet the requirements for worksite eligibility and the person in charge of maintaining those roads has ESM certification, they are eligible for funding. **Department of Conservation and Natural Resources (DCNR):** DCNR (through State Parks and the Bureau of Forestry) administers more than 3,000 miles of dirt, gravel, and paved low-volume roads. DCNR directly receives $7,000,000 per year under the Program, separate from the Commission allocation. DCNR officials are also required to be ESM certified in order to participate in the Program. The DCNR portion of the Program is administered separately from the Commission portion.

3.7.1.3 Determining Road Ownership

For Program eligibility, the entity that owns the road "right of way" is the determining factor, not who owns the land adjacent to the road. For example, a township may own a road that is surrounded by state or national forest on both sides.

Contracts and payments can only be made with the entity that owns the road. In some cases, the ownership of a road may be in question or unknown. Some considerations in determining road ownership of "orphaned" roads:

- If a municipality receives "Liquid Fuels" funding for the road, then it is eligible.
- Most public roads will have courthouse records of ownership.
- It is the responsibility of the potential applicant to prove road ownership to the satisfaction of the district.

- County solicitors may be able to help with road ownership determinations.

3.7.1.4 Ineligible Entities

Federal Government: The Federal Government owns and maintains roads in various capacities from national parks and monuments, U.S. Army Corps of Engineers lands, and the Allegheny National Forest. The Commonwealth of Pennsylvania cannot pay or provide funding to maintain roads owned by the federal government.

Private Road Owners (individuals and entities): Privately owned roads, even those open to public use, are not eligible to apply for funds. This applies to roads owned by private individuals, but also includes roads owned by associations, private conservancies, non-profit companies, and other non-public entities.

3.7.2 Eligible Roads

"Eligible Sites"
- *Stream Impact*
- *Publicly owned*
- *Open to public travel*
- *ESM certified*
- *<500ADT (if paved)*

Only public roads owned by one of the eligible applicants described above may be considered for funding. A road must also be open to public motor vehicle travel for a minimum of two consecutive weeks annually in order to be eligible for funding. Using separate allocations, it is the intent of the Program to use Dirt and Gravel funds on dirt and gravel roads, and Low-Volume funds on low-volume roads, as defined below. The source of project funding (DGR vs LVR) is determined based on the existing surface of the road. The only exception is that either funding source may be used for projects that involve the transition of a road from paved to unpaved.

3.7.2.1 Dirt and Gravel Roads

The "Dirt and Gravel" portion of the Program is designed to fund work on public roads with unbound road surfaces. These are surfaces of natural material or crushed aggregate that have not been incorporated into a bound layer using asphalt, oil, or other such binder. Generally, "unpaved" roads are roads that are graded and rolled as part of routine maintenance.

3.7.2.2 Paved Low-Volume Roads

The "Paved Low-Volume Road" portion of the Program is designed to fund work on public roads where the surface has been bound with asphalt, oil, or other such binder. "Tar and Chip", or "chip-sealed" roads are considered paved and fall under the Low-Volume Roads portion of the Program for funding. Only paved roads with 500 vehicles per day or less are eligible for Low-Volume Road funding. See Section 7.5 for traffic count guidance.

3.7.2.3 Surface Conversions

While eligible entities may choose to seal or pave a DGR project on their own at some future point in time, no Program funds should be utilized for the specific purpose of converting unpaved roads to paved or "tar and chip". If a grant recipient plans to convert a gravel road to pavement in the future, a Dirt and Gravel project can still be completed to implement drainage and base improvements, but Program funds shall not include pavement preparation. Paving or "tar and chip" application to an unpaved road is not an eligible expense in either part of the Program (DGR or LVR), unless otherwise approved by the Commission.

The Program recognizes the value of converting a poorly constructed or poorly maintained low-volume road into a high-quality dirt and gravel road through full depth reclamation or other similar processes. Districts may utilize either low-volume or dirt and gravel program component funds for these purposes.

3.7.3 Eligible Projects

Both low-volume and dirt and gravel projects must focus on both environmental and road improvements. Projects should focus on worksites (identified pollution sites) and Environmentally Sensitive Maintenance (ESM) practices to reduce pollution while providing a more stable road. Only projects that provide some form of environmental benefit, typically by reducing sediment and concentrated drainage to waterways, should be considered for funding. Worksites and ESM practices are described in detail in Section 1.4. The focus of the DGLVR Program is on long-term environmental and road improvements. The Program does not fund "routine maintenance" that is part of the regular duties of the road owner such as simply grading roads, crack-sealing asphalt, or bridge repair.

3.7.4 Eligible Project Expenses

There are no special Program-specific purchasing procedures for paying for material, equipment, or labor costs for Program projects. Municipalities should use their municipal code as guidance. Other grant recipients should follow normal purchasing procedures and normal contract procedures using advertising and bidding as warranted. Those expenditures must be tracked following normal bookkeeping and audit procedures, and records must be retained for a minimum of seven years from project completion. Applicants may apply for the full costs of all materials, equipment, and labor required for implementation of the project (there is no statewide in-kind requirement). It is up to individual districts to determine which project costs will be reimbursed by Program grant funds.

3.7.4.1 Materials

Typical material expenses on a project that can be reimbursed with Program funds include but are not limited to items such as pipe, stone, fill, fabric, aggregate, etc. Products with the potential ability to leach off the road (such as dust suppressants or road stabilizers) must meet Commission requirements for non-pollution. The Center maintains a list of approved products that are eligible for use on Program projects. For more information on approved products see Section 6.2.12. Inlets and outlets of all cross pipes must have erosion protection, such as headwalls, endwalls, drop inlet boxes, and/or rip rap. All stream crossing structures must have a headwall and endwall.

3.7.4.2 Equipment

Program projects are often completed with applicant-owned equipment. Reimbursement of applicant-owned equipment costs is an eligible expense under the Program. Applicant-owned equipment can be reimbursed up to accepted Federal Emergency Management Agency (FEMA) rates. FEMA rates should also be used to calculate in-kind contributions on applicant-owned equipment. FEMA rates do not include operator costs. FEMA equipment rate website: https://www.fema.gov/assistance/public/tools-resources/schedule-equipment-rates Contact Commission or Center staff for questions about equipment without listed FEMA rates. Where FEMA rates do not accurately reflect local equipment costs, applicants may request approval to use other rates, if written documentation can be provided.

Some Program projects may require equipment that the applicant does not own. It is an eligible expense for an applicant to rent or lease equipment necessary to complete a project with Program funds. Equipment rented or leased with Program funds can only be used on the project for which it was rented.

DGLVR funds, including project, administrative, or education, cannot be used to purchase, cost share, or maintain equipment for an applicant. It is acceptable for a district to purchase equipment for loan/rent to applicants. A district may purchase such equipment with administrative and educational funding as outlined in Sections 3.4.3 and 3.4.4.

3.7.4.3 Labor

Program projects are often completed using applicant labor and equipment operators. Reimbursement of applicant labor and equipment operators is an eligible expense under the Program. Labor rates may include benefits. Because DGLVR grant recipients are always public entities, prevailing wage is not required to be paid for labor provided by the grant recipient.

3.7.4.4 Contractor Costs

Projects may be completed entirely or partially by contractors hired by the grant recipients. Grant recipients should follow their standard procedures regarding project bidding and working with sub-contractors. Districts must make payments directly to the grant recipient, not to the grant recipient's contractors.

Projects funded by Program funds that are bid out to contractors, including owner-operators and/or sole proprietors, in which the estimated cost of the total project, exceeds prevailing wage limits (currently $25,000) are subject to provisions of Pennsylvania's Prevailing Wage Act (1961, August 15, P. L. 987, No. 442), 43 P. S. Section 165-1 et seq.

3.7.4.5 Prevailing Wage Documentation

Conservation Districts need to notify grant recipients of prevailing wage requirements and to verify the requirements of prevailing wage were followed by the grant recipient prior to final payment.

Where prevailing wage applies, it is the responsibility of the grant recipient to register the project with the PA Department of Labor and Industry, and include prevailing wage notification in any proposal to solicit bids for the contract. Prevailing wage scale can be obtained from the Prevailing Wage Division of the Pennsylvania Department of Labor and Industry. Contact your county solicitor or the Pennsylvania Department of Labor and Industry for additional guidance and questions. A "Frequently Asked Questions" document concerning prevailing wage can be found on the Center's website at www.dirtandgravelroads.org Additional information available from the PA Department of Labor and Industry at https://www.pa.gov/agencies/dli/resources/forms-and-documents/labor-law/prevailing-wage-projects.html

It is the responsibility of the grant recipient to assure prevailing wage has been paid and to obtain copies of certified payrolls from any contractors where prevailing wage applies. Conservation Districts need to notify grant recipients of prevailing wage requirements and to verify the requirements of prevailing wage were followed by the grant recipient prior to final payment.

A prevailing wage "Notification letter", attachment F to the DGLVR Contract, must be completed and kept in the project file. This letter ensures that applicants have verified that they are aware of prevailing wage requirements.

If federal funds are involved in a project, federal prevailing wage requirements (Davis Bacon Act) often supersedes PA prevailing wage. Davis Bacon requirements are acceptable to the DGLVR program in this case, and Certified Payroll forms accepted by the US Department of Labor must be completed and kept in the project file.

For projects where prevailing wage is required, a Weekly Payroll form and notarized "Certified Statement of Compliance", attachment G to the DGLVR contract, must be completed and kept in the project file. This form is completed by each contractor and ensures they have met the requirement of the prevailing wage act.

3.7.4.6 In-Kind Contributions

In-kind contributions refer to costs incurred by the grant recipients for a project that are not reimbursed as part of the grant. In-kind or matching contributions from grant recipients are not required statewide. Districts, however, may establish matching requirements or give additional consideration to projects with in-kind funding.

While matching contributions are not required, the Program does track in-kind contributions from grant recipients as part of project reporting. In general, in-kind is limited to un-reimbursed materials, equipment, and labor from the grant recipients that is part of the Program project. Only costs that are directly part of a Program project, and that meet all current Program policies for eligible expenses, shall be considered as in-kind. Some examples of ineligible expenses that will not be considered as in-kind contributions include, but are not limited to: Stream crossing replacements that do not meet Program policy; Surface aggregates that do not meet the Program's DSA policy; Full Depth Reclamation projects that do not meet the Program's policy."

3.7.4.7 Consultants, Engineering, and Permitting Costs

Some Program projects will require permits and/or engineering or consultant work to design and complete. Program funds can be used to cover engineering, permitting, or similar consultant costs, but such costs are limited to a maximum of 20 percent of the total contract amount between the district and the grant recipient, with a maximum of $25,000 total for engineering, permitting, or similar consultant costs. Note this limit is defined as up to 20 percent of the contract amount (Program contracted funds), not 20 percent of the total project value (which could include in-kind or other funds). For example, a $30,000 contract on a project totaling $50,000 is limited to 20 percent of the contract, or $6,000, for engineering and permitting. Another example, a $140,000 contract, 20 percent of the contract would be $28,000, but the program will only fund up to the maximum of $25,000. Preparation or design costs such as engineering or surveying that are incurred before the contract is signed are not eligible for grant reimbursement but can be counted as in-kind.

3.7.4.8 Working off the Right-of-way

Public roads have a right-of-way that extends out from the centerline of the road. The size of the right-of-way varies based on road owner and road classification.

Often significant drainage and sediment that negatively affects the public road comes from outside of the right-of-way. Sources include, but are not limited to, farm fields, access lanes, and driveways. Working outside the road right-of-way is an allowable Program expense, but only when the off right-of-way impact is having a direct negative effect on a public road AND addressing the off right-of-way impact is directly necessary to the successful completion of the project on the public road. Off right-of-way work can be completed either upslope or downslope from the road but must be limited in scope to cost-effective practices that directly reduce road impacts.

Before working outside the right-of-way, the grant recipient must obtain written permission from the landowner. Landowner permission should be sought as early as possible in the funding process, ideally before contracting, to ensure the project can be implemented as planned. A sample landowner agreement is provided at www.dirtandgravelroads.org. Districts and grant recipients can use their own landowner agreements as long as they are in a form and manner similar to the sample provided. Districts must keep a copy of the signed landowner consent form with the project file for any work performed off the right of way.

In certain situations, off-right-of-way work requires the prior written approval from the State Conservation Commission. Where off right of way work is more than 35 percent of the total project costs (including Program funds and in-kind contributions), or where work extends more than 500 feet off of the right-of-way districts must first obtain written approval from the Commission before a

contract can be signed. The district must keep a copy of the written Commission approval for off right-of-way work with the project file.

Funds can be spent on activities outside the right-of-way only when:

- It is part of a larger project on a public road.
- The issue on the public road cannot be effectively resolved within the right-of-way with traditional ESM practices.
- The district determines it is directly necessary as part of the successful completion of the project on the public road.
- It is limited in scope to cost-effective ESM practices that directly reduce impacts to the public road.
- It is limited in size to only address the area necessary to reduce impacts to the public road.
- Prior written approval of the Commission is obtained, if required (see above).
- The grant recipient has obtained written permission from the landowner.

If project work is confined to the road right-of way, landowner permission is recommended when downslope property will be impacted by road practices. This is particularly true where new drainage outlets from pipes, turnouts, etc. may impact the downslope landowner.

In some cases, landowner permission may be instrumental to implementing a successful DGLVR project (additional culvert outlets for example). In some cases, a viable alternative may exist to implement a successful plan without landowner permission, but in other cases sufficient water quality improvements cannot be made due to landowner constraints. In such cases, DGLVR funding may be better spent on a different project location. Contact the SCC in questionable circumstances where a lack of landowner permission may hinder successful project implementation.

3.7.4.9 Combined Funds

Program funds may be combined with other funds to pay for a road maintenance project. If Program funds are combined with other funding sources, detailed accounting of which funds were spent on which portions of the project must be maintained. The other funding sources may be used as matching funds for Program projects, provided the Program funds are used on identified pollution worksites. Projects funded with combined funding sources must still adhere to the Program's non-pollution standards and ESM practices. Should other funding sources have requirements in conflict with the Program's non-pollution standards, funds cannot be combined. It may be possible to complete a project in stages where the Program funds are used on a phase of a project (i.e.- drainage and base improvements) and another funding source is used on a different phase (i.e.- improving the road surface).

3.8 Administering Projects

3.8.1 Notification to Applicants

The district is responsible for informing all potential applicants of funding availability, application deadlines, and other information necessary to Program participation. District staff should work with the Quality Assurance Board (QAB) in development of strategies for insuring equal access and notification to potential Program applicants. More details are available in the QAB Section 4.4.1.1.

Conservation Districts are strongly encouraged to meet with potential applicants on site to discuss the potential project before an application is submitted for funding.

3.8.2 Pre-Application Site Visit

Districts are strongly encouraged to meet with potential applicants on site to discuss the potential project before an application is submitted for funding. Note that a pre-application meeting is required for stream crossing replacements (see section 7.1 for details). The purpose of a pre-application meeting is to work jointly with the applicant to ensure that the plan they submit is in the best interest of both entities. Some applicants, especially those new to the Program, may focus on road improvement concerns over environmental concerns. The pre-application meeting allows districts to provide input on the potential project at an early stage before the applicant has invested a large amount of time and resources in developing a plan. Program Quality Assurance / Quality Control visits have repeatedly shown that districts that conduct pre-application site visits have a better relationship with their municipalities and end up putting better projects on the ground.

This visit also allows an early discussion of potential topics relating to permitting, funding availability, and other issues that could affect the scope or design of the project. Potential landowner issues, discussed in Section 3.7.4.8, should be a part of the initial site visit. Often the type of practices used on a road will depend a great deal on the cooperation of local landowners, especially where off right-of-way work or additional drainage outlets are required for successful project completion. District may develop local polices requiring pre-application meetings.

3.8.3 Pre-Design Site Visit

Many Program projects, such as most stream crossing replacements, will require a design and/or seal from an engineer. If the services of an engineer are required, it is strongly suggested that the district holds a pre-design meeting on site with the applicant and their engineer either before or after an application is submitted. Note that a pre-design meeting is required for stream crossing replacements (see section 7.1 for details). This meeting ensures that the engineer designs a project or structure that best meets the needs of the county, applicant, and program. Districts may develop local polices requiring pre-application or pre-design meetings. Costs incurred before a contract is signed are not eligible for reimbursement under the grant.

3.8.4 Receiving Grant Applications

3.8.4.1 Application process

All applications for Program funding must be received on the "Dirt, Gravel, and Low-Volume Road Maintenance Program Grant Application" one-page form that has been approved by the Commission. The form must be signed by the applicant. The form, and instructions for completing the form, can be found in Appendix C.

District staff should review applications for administrative completeness and to ensure they comply with established Program policies and guidance. A project sketch, location map, and itemized costs are a required part of the grant application. District staff is encouraged to work with applicants to revise the scope of their applications that do not meet Program standards. Districts may make minor changes to the application and have the applicant show concurrence by initialing and dating the change. In cases where significant changes are needed to the application work plan, the district should work with the township to create a new application that represents an acceptable project. Examples of "significant changes" may include: changes in project scope, recommended design changes, considerations for engineering and permitting costs, resizing of stream crossing structures, etc. The district may, at their discretion, refuse to accept incomplete applications or applications that do not properly address environmental issues.

Applications that district staff deem complete and potentially acceptable to the Program should be forwarded to the local Quality Assurance Board (QAB) for review and prioritization. The QAB will review and prioritize applications based on established written criteria and make funding

recommendations to the conservation district board. Details of the QAB review process can be found in Section 4.3. The QAB operates in an advisory capacity only. All applications for funding must be acted on by the district board at a sunshined meeting. All applicants should be notified in writing of the funding decisions of the district board.

3.8.4.2 Unfunded Applications

Districts may develop their own county policies on the retention of unfunded applications. Applications may be retained for consideration in the next grant round, or the district may request the re-submittal of applications for each grant round. If unfunded grant applications are retained, the district should check with the applicant before the next grant cycle to ensure the scope or costs of the application have not changed.

3.8.4.3 Grant Funding Cycles

Districts may have an open application period, or they may establish application deadlines. Many districts have established application deadlines in order to encourage timely submittal by applicants. Some districts have also moved to a fall submission deadline, giving them all winter to revise applications, rank projects, obtain permits, meet with sub-contractors, and perform other logistics so that the project can begin the following spring. All eligible applicants should be informed of any application deadlines in accordance with the notification requirements outlined in Section 3.8.1.

3.8.5 Contracting

When an application has been accepted and approved by a district board, the district will enter into a contract agreement with the successful applicant. The contract, when signed by both parties, is a legally binding document between the applicant and the district that describes in detail the responsibilities of both parties. No funding transfers can take place with grant applicants, and no project work can begin, without a signed contract. Preparation or design costs such as engineering or surveying that are incurred before the contract is signed are not eligible for grant reimbursement but can be counted as in-kind. The contract states the terms and conditions for the project.

Districts may add additional provisions to their contract, as long as they do not negate or conflict with the standard contract provisions or any Program policies. Districts must receive written clearance from their solicitor stating that the proposed provisions are compliant with this section prior to adding additional provisions and provide written notification to the Commission.

All contracts must be made using the "Dirt, Gravel, and Low-Volume Road Maintenance Program Contract Agreement" form that has been approved by the Commission. Contracts must be generated using the GIS at https://www.dirtandgravel.psu.edu/general-resources/cdgrs-mapper-geographic-information-system-gis. Districts may add provisions to the standard contract agreement described above. If a contract cannot be completed in a reasonable timeframe, the district should consider closing out or canceling the contract. Districts who maintain open contracts for multiple years may see reduced allocations in future years at the discretion of the Commission.

3.8.5.1 Contract Attachments

When a contract is signed, the attachments listed on the contract and described below become a legally binding part of that contract. The contract and project-specific attachments must be retained with project files. The attachments to each Dirt, Gravel, and Low-Volume Road Maintenance Program Contract include:

- **Grant Application and Workplan:** (attachment A to contract) The approved grant application submitted by the applicant, including cost estimate breakdowns. The grant application must include a workplan, which consists of a hand-drawn or digitally produced sketch of the proposed project. A workplan is a plan view of the road with all planned

features such as pipes, aggregate, underdrain, surface features, etc. Applicants may use the space provided on the back of the grant application for the work plan. The grant application must also include a map that identifies where the project is located. When the scope of project work is changed, it is recommended to document this on an updated grant application that is signed or initialed by the conservation district and grant recipient. At a minimum, districts must keep records of changes such as in a project narrative, via letters, in a saved or printed email, or other documented communication.

- **General Contract Provisions:** (attachment B to contract) Standard contracting provisions required on all Program contracts.
- **Statement of Policy:** (attachment C to contract) incorporated into Contract by reference only and included in Appendix B of this manual.
- **QAB/District Standards and policies:** (attachment D to contract) Any policies adopted by district board. Note that these policies are county specific.
- **Schedule of Payments:** (attachment E to contract) One page form that outlines how funding will be distributed by the district to the grant recipient
- **Prevailing Wage Notification Letter:** (attachment F to contract) Letter signed by grant recipient indicating they are aware of prevailing wage requirements.
- **Prevailing Wage Certified Statement of Compliance:** (Attachment G to contract) Two-page form from PA Department of Labor and Industry completed by contractors to verify prevailing wage was paid.

3.8.6 Pre-Construction Logistics

3.8.6.1 Permits, PA One-Call

It is the responsibility of the grant recipient to ensure that all necessary permits are obtained and any other pre-project requirements such as PA One-Call are met. For more details on permits and other requirements, refer to Chapter 8.

3.8.6.2 Pre-Construction Meeting

The district should meet with the successful grant recipients, preferably on site, prior to the start of any project work. Note that a pre-construction meeting is required for stream crossing replacements (see Section 7.1 for details). If the grant recipient is utilizing a subcontractor, the subcontractor should be involved in the pre-project meeting. During the meeting, each contract item or element of the approved plan should be discussed to avoid any misunderstanding about how the plan is to be implemented and how payment will be made to the grant recipient. In cases where Driving Surface Aggregate (DSA) is involved, the pre-construction meeting should be held as far in advance as possible, prior to the start of the project, to allow for DSA sampling. Other more complex project elements such as stream crossing replacements, may require additional lead time as well.

3.8.6.3 Notification of Project Work

Grant recipients MUST notify the district before beginning work on a project. The amount of notice needed must be spelled out in the contract with the district. This will allow the district to meet in person with the grant recipient and any contractors or sub-contractors who will be implementing the plan to determine the phase and sequence of the project and discuss other project elements. The district must also be notified before beginning a new phase of the project (for example, drainage work is completed, and aggregate placement will begin). The district may withhold payments and/or request reimbursement of advanced funds and cancelation of the contract if a grant recipient fails to comply with notification requirements.

3.8.7 Project Oversight

When it comes to project oversight, remember, "You get what you inspect, not what you expect."

It is the responsibility of the district to ensure that the work being performed on the project is in accordance with the contract and attachments as well as Program policy and standards. The level of direct district oversight will depend on a variety of factors including complexity of the project, past history, and knowledge of grant recipient. District personnel should visit the project regularly during its implementation to determine whether or not the plan is being followed or if changes need to be made. District oversight is critical at the beginning of a project, and anytime that a new phase or element of a project begins. Expensive or complex items, such as Driving Surface Aggregate (DSA) placement or stream crossing replacement, will require more extensive district oversight. Districts can request assistance from Commission or Center staff on project oversight and implementation. Program Quality Assurance / Quality control county visits have repeatedly shown that district who spend more time on-site during project implementation end up with more successful projects.

3.8.8 Contract Amendments

Contract amendment up to 40 percent of the initial contract amount are allowed at the discretion of the conservation district, and larger amendments requires SCC approval. See section 3.5.3 for details on contract amendments.

3.8.9 Project Completion

In order for final payment to be made to a grant recipient, the following are required: a final on-site inspection, a project completion report, and receipts for all grant expenses. Other documentation may also be required such as DSA certifications, Off ROW consent, or Prevailing Wage documentation. An optional "Hard File Checklist" that outlines documentation required and recommended to be kept in project hard files is available at: https://www.dirtandgravel.psu.edu/pa-program-resources/program-specific-resources/blank-forms.

3.8.9.1 Final Inspection

Upon project completion, a final inspection must be scheduled on-site involving the district and the grant recipient. Final inspections should be scheduled immediately after work is complete, so any remediation can be done while equipment is still on site if needed. Other entities such as the QAB and sub-contractors to the grant recipient should be encouraged to participate. The purpose of the final inspection is to:

- Verify the project is completed in accordance with Program standards and to the satisfaction of the district.
- Verify that all work elements classified as "in-kind services" are also completed in accordance with Program standards and to the satisfaction of the district.
- Verify that work elements proposed in the work plan have been properly installed.
- Allow the district to summarize the project work elements and costs on the project completion report.
- Document any changes made from the grant application that have not already been documented.

3.8.9.2 Project Remediation (if necessary)

During the final inspection, the district may find elements of the project that were not installed or were not installed to Program or district standards. If so, remediation work may be required of the grant recipient before the project can be considered "complete". The district should verify any remediation work meets Program standards before making final payment.

3.8.9.3 Project Completion Report

A project completion report is required to formally report the status of projects as complete and close contracts. This report summarizes the costs and project work done on the site and includes a section for additional notes, where changes to the original project scope can be listed. The completion report must be signed by both the district and the grant recipient.

3.8.9.4 Receipts for Grant Expenses

Receipts are required for all eligible expenses, including materials, equipment, labor, and engineering, covered by the DGLVR contract before final payments can be made. Receipts, or copies of these receipts, should be retained with project files. Receipts are encouraged, but not required for grant recipient in-kind expenses.

3.8.10 Project File Retention

All records relating to the Program must be kept for a minimum of seven years from the date of final payment on a project. An optional "Hard File Checklist" that outlines documentation required and recommended to be kept in project hard files is available at: https://www.dirtandgravel.psu.edu/pa-program-resources/program-specific-resources/blank-forms.

3.9 GIS reporting System

The Program uses a customized online Geographic Information System (GIS) called "DGLVR Mapper" to track potential and completed project location, work done, and expenditures. A GIS is a system of maps and databases where data may be sorted, selected and displayed in a spatial format. The DGLVR Mapper GIS software is designed to facilitate the entry of project and financial data by districts. The GIS software is used to identify sites, assess sites, add or delete sites to the existing database and track project information from application submittal to completion and beyond. Districts keep track of all potential and completed worksites in the DGLVR Mapper GIS software. A public version of the DGLVR Mapper is also available that allows the public to view basic project data for the entire state.

Access to the DGLVR Mapper GIS system is through a secure login on the Center's website www.dirtandgravelroads.org. This login system will allow users in each district to access the GIS software for their county. In order to obtain a user ID and password to login, district staff must attend a GIS training. Please contact the Center to schedule GIS trainings for new staff and as needed.

Districts are encouraged to keep up with GIS data entry for funded projects on a real-time basis. At a minimum, districts must enter information on funded projects and program expenditures into the GIS system on a quarterly basis. All contracts, amendments (if applicable), and completion reports must be generated using the GIS. All funded projects are required to be filled out in the GIS as much as possible. This includes the assessment (if applicable), the grant application, contract, amendments (if applicable), payment(s), completion report, photos (if applicable), and any additional supporting files. Districts are required to update the GIS database for the Quarterly and Annual Reports (as described below), and immediately before Quality Assurance / Quality Control visits. The Commission may withhold funds to counties that do not keep GIS data current. In addition to the district login described above, the GIS system also has a "public viewer" option. The public viewer

allows anyone to access a statewide project map with access to limited project information without logging in.

For more information on the GIS system, or to login, go to https://www.dirtandgravel.psu.edu/general-resources/cdgrs-mapper-geographic-information-system-gis

3.10 Quarterly Reports

Districts are required to submit quarterly reports to the Commission using the DGLVR Mapper. Reports are due 15 days after each quarter ends, beginning April 15 for the January to March quarter. All administrative, education, and project expenses must be reported in the quarter in which they are paid out of the Program account. Districts must keep documentation of all Program expenses and income according to section 3.4. Financial staff involved in the DGLVR Program must complete a quarterly report GIS training to gain access to the quarterly report system.

In order to submit quarterly reports, the following must be completed:

- All income (advances, replenishments, interest) and expenses (project, administrative, and educational) for the quarter must be entered into the GIS system.
- Local and GIS account balances must match before the quarterly report is submitted each quarter.
- Information on funded projects is also required, including checking that all currently open contracts are in good standing and are not expired. The GIS includes a contract verifier tool that can be used during this process.
- Complete the summary of Program activities from district staff for the quarter.
- The Conservation District Manager, or its approved designee, is required to submit the report.

3.11 Annual Summary Reports

Districts are required to submit a report annually to the Commission on all project work and spending activity. The information on the annual summary report is used by the Commission to report to the Transportation Committees in the Pennsylvania House and Senate annually.

> *The State Conservation Commission shall annually assess the program and annually report to the Transportation Committee of the Senate and the Transportation Committee of the House of Representatives on its acceptance and effectiveness.*
>
> *-§ 9106, (D), (3)*

Since quarterly reporting is required for all Program expenditures, submitting the annual report is nearly automatic. Once the quarterly report due January 15th has been submitted and accepted, the Annual Report can be submitted in the DGLVR Mapper system. Completing the Annual Summary Report includes ensuring all quarterly reports are submitted and accepted, entering average limestone DSA cost, and managing project errors. The average cost of **limestone** aggregate (DSA) delivered (not placed) is a small factor in District Allocations (in accordance with section 9106, the law that created the Dirt and Gravel Road Program).

Chapter 4

Quality Assurance Board Role

4. QUALITY ASSURANCE BOARD (QAB) ROLE

The Program is designed around the concept of "local control". Consistent with this philosophy, the Commission establishes statewide requirements and guidelines, but allows individual districts to establish local policies and procedures to customize the Program for the needs within their county. Each district is required to establish a four-member Quality Assurance Board (QAB) that becomes the primary "steering committee" that makes recommendations to the district board on local policies and project funding.

The QAB's purpose is to assist the district with the establishment of local controls and program requirements including but not limited to fiscal, environmental, written priorities, training incentives and site inspection. **The QAB serves in an advisory capacity only to the conservation district board.** The QAB makes recommendations to the board but the authority for project approval and spending is with the district directors. Only the district board may approve spending of Program Funds.

Within the conservation district a Quality Assurance Board shall be impaneled to establish and administer the grant program. The four-member Quality Assurance Board is to be comprised of a nonvoting chairman appointed by the conservation district directors and one local representative appointed by each of the following entities:

(1) The Federal Natural Resource Conservation Service

(2) The Pennsylvania Fish and Boat Commission

(3) The county conservation district

If circumstances require, the chairman may vote to decide a tie vote.

-§ 9106, (E)

4.1 QAB Composition

A four member QAB is required by law for each district administering the Program. The QAB must consist of the four members described above in 9106 (E), or their designee. The chairman of the QAB may not participate in a vote, other than to decide a tie vote. No one other than the four QAB members may vote. To broaden citizen involvement, the QAB may enlist any individual or organization to be advisors (non-voting) to the four-member QAB.

The district should select the district's voting and non-voting members for the QAB, verify their willingness to serve and ascertain that no conflict of interest exists by adopting and enforcing a conflict-of-interest policy statement.

The district should contact the PA Fish and Boat Commission (PFBC) and the Natural Resource Conservation Service (NRCS) to identify the proper representatives from each agency for the QAB. Individuals possessing an awareness of local environmental issues, familiarity with project administration, road maintenance, or natural habitats could be valuable QAB members. If any appointee cannot meaningfully participate, or chooses not to participate, a suitable replacement should be found.

The PFBC or NRCS may appoint a person who is not necessarily a PFBC or NRCS employee to the QAB to serve as that agency's representative. Local conservation agencies such as Trout Unlimited or conservancies may be a potential source of QAB volunteers should PFBC or NRCS wish to appoint a designee. The appointment must be agreed upon by both the district and the agency. PFBC, NRCS, or the district can also designate alternates to their spot on the QAB who can attend and vote if the primary member cannot attend. Such designations must be in writing from each agency

with respect to their spot on the QAB. A sample QAB designee letter can be found at www.dirtandgravelroads.org. This letter is a sample only. It can be modified as needed.

The individual members of the QAB are expected to become familiar with the Program and they are encouraged to attend the Environmentally Sensitive Maintenance (ESM) training. At least one of the two district members of the QAB must attend ESM training every five years. There is no requirement for the QAB members representing the PFBC and the NRCS to attend training, but it is strongly encouraged.

4.2 QAB Meetings

4.2.1 Scheduling QAB Meetings

QAB meetings may be held on a regular schedule, or on an as-needed basis. All QAB meetings are subject to the public notification requirements outlined below. The most common action items that occur at QAB meetings are:

- Visit to potential application sites
- Review and/or ranking of grant application(s)
- Recommendations of project for funding to district board
- Review of completed projects
- Recommendation of local policies to district board

4.2.2 Public Meeting Notifications

QAB meetings must be scheduled and are subject to the requirements of Pennsylvania's Sunshine law.

PA Sunshine law requires that notice of regularly scheduled QAB meetings must be given once a year by advertising in a newspaper of general circulation at least three days prior to the first meeting of the year. The notice must give the place, date, and time of the first meeting and a schedule of the QAB's remaining regular meetings. Notice of the QAB meeting also must be prominently posted at the principal office of the agency or at the public building where the meeting is to be held.

If QAB meetings are not held on a regular schedule, procedures in the Sunshine law for "special meetings" should be followed. For rescheduled or special meetings, notice of the meeting must be published in a newspaper of general circulation at least 24 hours in advance of the meeting. The notice must give the place, date, and time of the meeting.

> *"The Pennsylvania Sunshine Act requires all public agencies to take all official actions and conduct all deliberations leading up to official actions at public meetings. The Act covers all such actions by municipal governing bodies, committees of these governing bodies and municipal boards and commissions."*
>
> *-Open Meetings, the Sunshine Act*

QAB meetings may be held using a conference call. These meetings must still be sunshined and the public must be able to participate. The public should be invited to come to the district office to participate in the call and have the committee members call in to participate. Details on the PA Sunshine Act can be found at: https://www.openrecords.pa.gov/SunshineAct.cfm.

4.2.3 QAB Meeting Procedures

The QAB must establish rules of order and procedures to govern their meetings. **There must be a quorum (the Chairman plus at least two of the three voting QAB members), to vote on any recommendations to the district board.** The QAB chairman may only vote to decide a tie. Meeting

minutes must be kept and made available to the district board and general public. QAB meetings may be held via conference call as long as they meet the public notice requirements described above.

4.3 QAB Role in Projects

While much of the administrative and project oversight work is the responsibility of the district staff, QAB members are encouraged to be active participants in the Program to the greatest extent possible. An active QAB is typically the first sign of a successful Program in a county.

4.3.1 Project Ranking

Some of the major functions of the QAB are to determine project eligibility, rank projects for funding, and make funding recommendations to the district board. Each county should have a written local ranking sheet for projects, as described in Section 4.4.1.3.

QAB members are encouraged to visit application sites before regular QAB meetings in order to be able to better discuss the projects and applications. Many counties will have QAB site tours to look at application sites together. This has the advantage of allowing discussion between the QAB members and district staff. Some counties will provide QAB members with a list of applications, and QAB members will perform site visits on their own prior to QAB meetings. In some counties, the district staff will visit potential application sites, and take pictures to present to the QAB at their regular meeting. While not as effective as visiting the potential projects, the presentation approach is still more beneficial than simply looking at a list of applications on paper.

Field visits by the QAB are not subject to Sunshine Act requirements as long as no deliberations of QAB business occurs and no official actions or recommendations are made during the visit.

4.3.2 Project Funding Recommendation

The QAB makes recommendations to the district board based on established district ranking criteria and Program policies. QAB funding recommendations must be made at a public meeting subject to PA's Sunshine law described above. District staff should then take QAB recommendations to the district board for approval at a regular meeting. Once the district board acts to approve an application for funding, district staff can pursue any final measures necessary to secure a contract with the grant recipient.

4.3.3 Project Implementation and Completion

Once the district board acts on the QAB's recommendation and enters into a contract with a grant recipient, district staff will be responsible for the general administration, oversight, and inspection of the project. Future decisions on funded projects can be made between the district staff and district board with minimal QAB involvement. For example, the district board may approve a contract amendment to a project without QAB involvement. QAB members are encouraged to stay involved with the project through site visits, but no further QAB action is required. Many districts also hold "completed site tours" with their QAB that allows them to visit and discuss completed projects.

4.4 QAB Role in Policy

In addition to project funding recommendations, the development of local policies is the second major function of the QAB. As with funding recommendations, any QAB policy recommendations must be approved by the district board. Some of the policies described below are "required" by either the Commission Statement of Policy (Section 8. QAB Responsibilities) or the law that created the Program. The "optional" polices below are given only as examples of other policies that have been adopted by QABs around the state. QABs may create policies that are equally or more restrictive than

statewide policies. For example, requiring all DSA to be paver placed (Statewide policy requires paver placement over 500 tons). Local policies can also impose additional requirements. For example, a policy requiring pre-application site visits, which are highly recommended but not required statewide, could be adopted by the local QAB.

In order to assist districts and QABs in developing policies, a collection of policies from each county is available on the Center's website at http://www.dirtandgravel.psu.edu/pa-program-resources/conservation-districts.

4.4.1 Required Policies

4.4.1.1 Equal Access

The Commission Statement of Policy (Section 7.f) requires districts to develop a "fair and open selection process" pertaining to notifying potential applicants and accepting potential applications. All potential applicants must receive equal notification on topics such as: funding availability, application deadlines, availability of district-owned equipment (such as grader blades or traffic counters), training, etc. See Section 3.7.1 for a listing and description of eligible applicants.

4.4.1.2 Conflict of Interest

The Commission Statement of Policy (Section 8.d(3)) requires districts to develop "rules of conduct, including "…to avoid conflicts of interest by members of the QAB". These include provisions for QAB, conservation district staff, and district board members to abstain from voting on the recommendations of policies or projects where they have a vested interest.

4.4.1.3 Project Ranking

The Commission Statement of Policy (Section 8.b(3)) requires districts to develop "written criteria to specify priorities" when it comes to ranking projects for funding. This is typically in the form of a grant application ranking sheet developed by the QAB and approved by the district board. These evaluation sheets rank applications using a numerical score and provide a basis for comparing numerous applications before making funding recommendations. A sample grant application ranking sheet is available at www.dirtandgravelroads.org.

4.4.1.4 Incentive for Training

The Commission Statement of Policy (Section 8.b(5)) requires districts to develop "incentives for training road managers and equipment operators". Commission policy is that the person in charge of project implementation for the applicant must be ESM certified, but districts may institute additional training incentives.

Some examples of additional training incentives include: reimbursing applicants travel expenses for attending ESM training or annual workshops; hosting ESM trainings in their county to reduce travel time and expenses for potential applicants; and encouraging district staff to put on other workshops, field days, tours, etc.

The cost of implementing the incentives may be paid for with either education or administrative funds. The district may establish a written policy to specify what incentives may be used.

4.4.1.5 Non-pollution Standards

The Commission Statement of Policy (Section 8.b(6)) requires districts to develop "standards that prohibit use of materials or practices which are environmentally harmful". The district must adopt the Commission's non-pollution standards or a more stringent policy.

4.4.2 Optional Local Policies and Procedures

QABs may recommend, and district board may adopt, a range of local policies that govern how the Program is administered within the county. Any local policies must be equally or more stringent than any statewide Program policies, and must ensure equal access to all potential Program participants. Please contact Commission staff if you have questions on a particular policy. A few examples of the potentially limitless array of local policies include:

- Establishing deadlines for grant application submittal.
- Only advancing X percent (must be $\leq$50 percent) of funds, or none at all, to grant recipients before work begins.
- Limiting the amount or percentage of project funding that can be used of Driving Surface Aggregate or asphalt paving.
- Establishing a policy that grant recipients must maintain previous projects to be eligible for future funding.
- Requiring a certain percentage in-kind match.

Chapter 5

Applicant Role

5. APPLICANT ROLE

This section of the manual is intended to serve as a primer for potential applicants. While this section should serve as a guide for potential applicants, communication with the local district is vital to becoming a successful applicant.

5.1 Before Applying for Funds

5.1.1 Local Procedures and Policies

There are currently 66 counties participating in the Program. As much as is practical, control of the Program is driven down to individual County Conservation Districts (Districts). Each district is governed by a district board and is advised by a local Quality Assurance Board (QAB) that develops county specific policies and procedures. These local policies can address many county specific issues such as the following:

- Application periods
- Training requirements and training incentives
- Types of projects accepted
- Maximum amount of funds allocated to a specific project
- Maximum number of applications accepted from an applicant
- Ranking criteria
- Maintenance requirements

It is imperative that any potential applicant contact their local district early in the process. This initial contact should occur well in advance of submitting an application.

5.1.2 Eligibility

Potential applicants must meet certain eligibility requirements as follows:

- The person in charge of work plan development and project implementation for the applying entity must have attended environmentally sensitive maintenance (ESM) training within the past five calendar years to become "ESM Certified". Individuals not directly involved with the project design and implementation (interns, secretaries, etc.) do not qualify an applicant to be eligible for funding. Engineers on retainer or others who serve multiple municipalities are welcome to attend the ESM training, but their attendance does not count as "ESM Certification" for the municipalities they represent.
- The road must be publicly owned, not simply open to the public. For Program eligibility, the entity that owns the road "right of way" is the determining factor, not who owns the land adjacent to the road. For example, a township may own a road that is surrounded by state or national forest on both sides. Contracts and payments can only be made with the entity that owns the road. In some cases, the ownership of a road may be in question or unknown. Some considerations in determining road ownership of "orphaned" roads:
    - If a municipality receives "Liquid Fuels" funding for the road, then it is eligible.

Typical project timeline:

1. *Identify potential project.*
2. *Site visit with District.*
3. *Submit application to District.*
4. *If funded, enter into contract.*
5. *Acquire any necessary permits and permission.*
6. *Perform, or have contractor perform work.*
7. *Final site inspection with District.*

- Most public roads will have courthouse records of ownership.
- It is the responsibility of the potential applicant to prove road ownership to the satisfaction of the district.
- Local solicitors may be able to help with road ownership determinations.

- In addition to being publicly owned, the road must be open to public vehicle travel a minimum of two consecutive weeks out of the year.
- The project in the application must adequately address any environmental concern.

Refer to Section 3.7.3 of this manual for more detailed information on eligible projects.

5.1.3 Pre-application Site Visit

A pre-application site visit with the district is strongly encouraged, and in some counties is required. Note that a pre-application meeting is required for stream crossing replacements (see section 7.1 for details). Districts are encouraged to rank projects higher if a pre-application site visit has occurred. The purpose of the visit is to provide a potential applicant the opportunity to discuss the size and scope of a potential project with the district. District input at this time can save time, and it can avoid the frustration of taking time to prepare an application only to find out the project may be considered ineligible or low priority. District staff may provide input during the visit that could make the application more likely to be approved. Districts may also be knowledgeable on other aspects of the project, such as permit requirements, one call notifications, erosion and sedimentation control planning, etc. Potential landowner issues, discussed in Section 3.7.4.8, should be a part of the initial site visit.

5.1.4 Combined Funds

Program funds may be combined with other funds to pay for a road improvement project. If Program funds are combined with other funding sources, detailed accounting of which funds were spent on which portions of the project must be maintained. The other funding sources may be used as matching funds for Program projects, provided the Program funds are used on identified pollution worksites. Projects funded with combined funding sources must still adhere to the Program's non-pollution standards and Environmentally Sensitive Maintenance Practices. Should other funding sources have requirements in conflict with the Program's non-pollution standards, funds cannot be combined. It may be possible to complete a project in stages where the Program funds one phase of a project (i.e. drainage and base improvements) and another funding source funds a different phase (i.e. improving the road surface).

5.2 Applying for Funds

Districts develop their own procedures for accepting applications. Some districts may establish application deadlines while others may continually accept applications. The following are general Program requirements, but districts may add additional requirements:

- One grant application should be received for each project site. Multiple project sites will require multiple applications. Districts may suggest funding larger projects in multiple phases using a single or multiple contracts. The grant application is provided in Appendix C.
- Applicants shall submit applications to the district who will forward it to the local Quality Assurance Board (QAB) for review and prioritization.
- The QAB will review the applications and make funding recommendations to the district board.
- The district board will act on the QAB recommendations and award funding based upon

previously defined local priorities and available funding.

- The district shall keep a copy of the completed application, project sketch, and location map on file.
- Applicants should keep a copy of the completed application on file.

Projects funded by Dirt, Gravel, and Low-Volume Road funds that are bid out to contractors in which the estimated cost of the total project (materials, equipment and labor), exceeds prevailing wage limits (currently $25,000) are subject to provisions of Pennsylvania's Prevailing Wage Act (1961, August 15, P. L. 987, No. 442), 43 P. S. Section 165-1 et seq. Where prevailing wage applies, it is the responsibility of the grant recipient to register the project with the PA Department of Labor and Industry and include prevailing wage notification in any proposal to solicit bids for the contract. Prevailing wage scale can be obtained from the Prevailing Wage Division of the Pennsylvania Department of Labor and Industry. Note that owner-operators / sole-proprietors are not exempt from prevailing wage requirements. Contact your county solicitor or the Pennsylvania Department of Labor and Industry for additional guidance and questions. A "Frequently Asked Questions" document concerning prevailing wage can be found on the Center's website at www.dirtandgravelroads.org Additional information available from the PA Department of Labor and Industry at https://www.dli.pa.gov/Individuals/Labor-Management-Relations/llc/prevailing-wage/Pages/default.aspx.

If federal funds are involved in a project, federal prevailing wage requirements (Davis Bacon Act) often supersedes PA prevailing wage. Davis Bacon requirements are acceptable to the DGLVR program in this case, and Certified Payroll forms accepted by the US Department of Labor must be completed and kept in the project file.

A prevailing wage "Notification letter", attachment F to the DGLVR Contract, must be completed and returned to the Conservation District.

For projects where prevailing wage is required, a Weekly Payroll form and notarized "Certified Statement of Compliance", attachment G to the DGLVR contract, must be completed before final payment can be made.

Districts may make minor changes to the application and have the applicant show concurrence by initialing and dating the correction. Unfunded grant applications may be retained for future grant rounds or may need to be resubmitted. Check with your district for their policies and procedures regarding unfunded grant applications.

5.3 Pre-contract Documentation

It is not necessary for an applicant to have all required permits, traffic counts, and other requirements in hand prior to submitting an application, but many of these requirements must be met before funding is advanced to the grant recipient or before project work can begin. While districts may develop more stringent requirements, the following is a list of general pre-contract requirements:

- PA One Call must be notified at various stages of the project, including the design phase and also prior to construction. One Call assigns a serial number to each call they receive. These serial numbers must be recorded and kept in the project file.
- Many projects will require some type of environmental permit. Applicants are encouraged to work with the district to determine what environmental permits, if any, may be required. Any required permits must be obtained by the grant recipient before work can begin on the portion of the project related to the permit. See Chapter 8 for more permit guidance.
- Some projects may require an Erosion and Sediment Control (E&S) plan. Your district can help you to determine if an E&S plan is necessary. A sample E&S plan is available on the Center's website.

- Low-volume road projects require that a traffic count be conducted. This traffic count must show that the worksite has a traffic count of 500 vehicles a day or less, and the count must be provided to the district for review prior to entering into a contract. See Section 7.5 for traffic count guidance.

5.4 Entering Into a Contract

Before project work can start, the district must enter into a contract with the successful applicant. The contract will specify the location, a description of the work to be performed, and the time frame within which the work will be performed. Documents such as the grant application, project sketch, location map, and project estimates become attachments to the contract. The contract will also specify the amount of funding available for the project upon completion, as well as any provisions for advance payments, payments during construction, and provisions for final payment after the work has been completed. The contract must be signed by the district chairman (or appointed designee) and a person authorized to sign for the successful applicant.

5.5 Project Work

5.5.1 Notification of Project Work

Grant recipients MUST notify the district before beginning work on a project. The amount of notice needed must be spelled out in the contract with the district. This will allow the district to meet in person with the grant recipient and any contractors or sub-contractors who will be implementing the plan to determine the phase and sequence of the project and discuss other project elements. The district must also be notified before beginning a new phase of the project (for example, drainage work is completed, and aggregate placement will begin). The district may withhold payments and/or request reimbursement of advanced funds and cancelation of the contract if a grant recipient fails to comply with notification requirements.

5.5.2 Performing Project Work

Grant recipients should follow their standard operating procedures when performing project work such as: bidding procedures for contractors and materials, standard safety requirements, traffic control, road closure, etc. Municipalities should use their municipal codes and other appropriate standards as guidance. Other grant recipients should follow normal purchasing procedures and normal contract procedures using advertising and bidding as warranted. Project expenditures should be tracked following normal bookkeeping and audit procedures and retained for seven years from project completion. Copies of all receipts for project expenditures to be reimbursed by grant funds must be submitted to the district.

Work must be performed in accordance with the accepted application and work plan unless both parties agree to project changes in writing. The grant recipient is responsible for oversight of any contractors or subcontractors working on the project. Work must be performed within the contracted scope, budget, and timeframe.

If an increase in costs or extension of time is required, the district must be contacted as soon as possible. At the district's discretion based on existing policies and funding availability, contracts may be amended for cost overruns up to 40 percent of the original contract amount, or to extend the timeframe for completion. Cost overruns over 40% of the initial contract amount require SCC approval. Keep in mind that if a contract is barely under the prevailing wage threshold for contracted work an amendment may increase the total value of the project so that prevailing wage would apply to contractor costs. More on prevailing wage in sections 3.7.4.4 and 3.7.4.5.

5.5.3 Project Completion and Reporting

When a project is completed, the district and the grant recipient will meet on site to perform a final inspection. This is documented on a project completion report. The purpose of the final inspection is to assure that all contracted items have been satisfactorily completed. Grant recipients are encouraged to schedule a final inspection immediately after work is complete, so any remediation can be done while equipment is still on site if needed. Upon completion, the grant recipient may submit detailed financial records documenting project costs. The district will then issue a final payment. The project completion report and instructions can be found in Appendix G. Note that other documentation may also be required to be submitted to the conservation district before final payment is made. Such documentation may include, but is not limited to, DSA certifications, Off ROW consent, or Prevailing Wage documentation. A "Hard File Checklist" that outlines documentation that conservation districts must have on file and may request from grant recipients is available at: https://www.dirtandgravel.psu.edu/pa-program-resources/program-specific-resources/blank-forms

5.5.4 Future Maintenance

There are no statewide requirements for maintenance after projects have been completed. Local Districts, however, may set policy on maintenance requirements for completed projects in their county. Maintenance of past projects may be considerations in a district's application ranking criteria.

Chapter 6

Center for Dirt and Gravel Road Studies

6. CENTER FOR DIRT AND GRAVEL ROAD STUDIES

6.1 Center Structure

The Center is an independently funded non-profit entity at Penn State University. The Commission contracts with the Center to provide education, outreach, and technical assistance to entities involved with the Program. The services provided by the Center are outlined in the next section. In addition to supporting the Commission part of the Program, the Center also contracts with various other entities such as the PA Department of Conservation and Natural Resources and the PA Game Commission to provide similar training and research services.

6.2 Center Services

6.2.1 Education and Training

The primary education tool of the Program is the two-day ESM course developed, maintained, and presented by the Center. The Center also hosts an annual maintenance workshop for Program participants that include multiple classroom sessions and field demonstration projects. The Center is also involved in various other trainings and educational efforts such as district administrative training, GIS trainings, and topic-specific trainings and webinars. Details of these educational services can be found in Section 3.6.

6.2.2 Outreach

The Center performs various activities in an effort to promote the Program and environmentally sensitive road maintenance principles. Such activities include participating in various professional meetings and trade shows, representing Program interests on various nationwide panels and committees, and creating and distributing promotional materials for the Program.

6.2.3 Project Technical Assistance

Center staff is available to help district staff with project planning, design, implementation and inspection. This technical assistance can be in the form of phone, e-mail, or site visits. The Center typically provides on-site assistance with projects that involve new District staff, new or innovative techniques, or especially complicated projects. Some typical services performed on technical assistance on-site visits include: on-site training of new district staff, project evaluation and planning, grant application review, interactions with applicants; conflict resolution, project stationing and site-plan development, driving surface aggregate preparation and placement assistance, project implementation and oversight assistance, and review of completed projects. It is important to note that the focus of providing this technical assistance is to build capacity at the district. Center staff will work through the district for all interactions with Program applicants.

6.2.4 Program Technical Assistance

In addition to project-related technical assistance, the Center is also available to discuss any Program-related questions or issues the district and applicants may have on a wide variety of topics. This technical assistance can be done via phone, e-mail, or even by in-office visits when large issues or new district staff is involved. If a policy interpretation or administrative assistance is needed, the Center will forward questions and concerns to staff at the Commission.

6.2.5 Written and Digital Reference Material

The Center creates and distributes a wide variety of reference material that is available both in print and online including:

- ESM training guidebook.
- Technical Bulletins on specific ESM practices.
- Write-ups about innovative projects.
- Quarterly newsletters containing Program updates.
- Annual summary reports for the Program.
- Cooperation with Commission on Program policy and guidance documents.

6.2.6 Website

The Center maintains a comprehensive website including reference material for the Program as well as other Center activities. The website can be found at www.dirtandgravelroads.org.

6.2.7 GIS and Reporting

The Program uses a customized GIS system, detailed in Sections 3.9 – 3.11, to track the locations, deliverables, and expenditures for all road project work. The Center is responsible for the development, maintenance, and training of this GIS system; as well as the collection of the quarterly and annual summary report from districts. The Center also works with the Commission to develop reports to provide to the state legislature and others based on county data.

6.2.8 Workgroups

The Center, in conjunction with the Commission, maintains several advisory workgroups to the Program. District staff makes up the majority of the workgroups. The workgroups act in an advisory capacity only, making recommendations to the Commission for approval. There are four active workgroups that meet on an as-needed basis. The education and outreach workgroup deals with the ESM Course content and format, the annual maintenance workshop planning, and various other outreach and education efforts such as GIS trainings, roundtables, and more. The policy and planning workgroup deals with allocation and policy recommendations to the Commission. The low-volume road workgroup was created in 2014 specifically to handle issues related to the new low-volume road program. The product and process workgroup deals with technical issues such as Driving Surface Aggregate and approving products for use with Program funds.

6.2.9 DSA Clearinghouse

The Center maintains a "DSA Clearinghouse" that is designed to facilitate DSA purchasing and placements around the state by creating a central point of contact and information for aggregate suppliers and districts. This "DSA Clearinghouse" is described in Section 7.2.

6.2.10 Research

The Center performs a limited amount of research on practices and policies that directly affect the Program. Research topics vary widely from road sediment quantification, to cost-benefit analyses, to development of new and innovative practices.

6.2.11 QAQC

While the Quality Assurance/Quality Control process, described in Section 2.3, is led by Commission staff, the Center still plays a significant role in the process. The Center has worked with the Commission to develop the QAQC process. Center staff is part of the QAQC visit team and typically assume a role related to the evaluation of completed project sites.

6.2.12 Product and Process Approvals

All products and materials purchased with Program funds must adhere to the Program's non pollution standards. The product and process workgroup develops product testing protocols. These protocols are then reviewed by the Commission. When a product is submitted for approval, the workgroup reviews the product according to Commission approved protocols. A list of approved products is maintained on the Center's website at www.dirtandgravelroads.org

Chapter 7

Additional Program Policies

7. ADDITIONAL PROGRAM POLICIES

The purpose of this chapter is to address more complex Program policies that are not necessarily applicable to every project. This chapter contains policies and guidance on:

- 7.1: Stream Crossing Replacement
- 7.2: Driving Surface Aggregate
- 7.3: Full Depth Reclamation
- 7.4: Low-Volume Road Specific Guidance
- 7.5: Low-Volume Road Traffic Counts

7.1 Stream Crossing Structural Replacements

This section applies to stream crossing replacements (not road drainage "cross pipes") funded by the Dirt, Gravel, and Low-Volume Road (DGLVR) Program on both Low-Volume and Dirt and Gravel roads. Refer to Chapter 1 of the *DGLVR Stream Crossing Replacement Technical Manual* for additional discussion of the background, purpose, and intended benefits of the policies detailed here.

7.1.1 Background

Replacement Structures: One of the DGLVR Program's major goals of stream crossing replacements is to ensure that structures that are funded by the DGLVR Program are designed and implemented properly to achieve stream continuity through the roadway. Stream continuity refers to the connectivity and continuation of typical streambed features (profile, slope, width, composition, grade controls, pools) along its length upstream, downstream, and through a road crossing structure. DGLVR projects often reconnect segments of stream that have been disconnected and vertically offset by an undersized road crossing. New structures funded by the DGLVR Program must be wide enough to allow for construction of a functional stream channel through the crossing. This includes bank margins, low flow channel, grade controls, and other stream features. Construction of a bankfull-width stream channel through wider-than-bankfull-width structures will not only accommodate the hydraulic capacity of the stream but will also allow for better stream function through the road regarding flood resiliency, sediment and debris transport, and aquatic organism passage.

Existing Structure Eligibility for Replacement: Another major goal of the DGLVR stream crossing replacements is to limit paying for replacement of stream crossing structures to locations that are negatively impacting streams and the aquatic environment. The best overall approximation of environmental impact from a crossing is the width of the existing structure opening related to the bankfull width of the channel. A channel's bankfull width is the width of flow at a "dominant channel forming flow stage" where sediment and bed material is moved most effectively through the stream system, typically associated with a one-to-two-year recurrence interval for Pennsylvania. Stream crossing structures that are significantly less than the channel's bankfull width are typically associated with many problems, including gravel deposition upstream of the road, excessive stream scour and erosion downstream of the road, flooding, and washouts. DGLVR site eligibility policy (detailed in section 7.1.2.2) limits paying for structural replacement on existing pipes over 4' in diameter to only those locations where the existing structure is less than 75 percent of the bankfull channel width. These structures are most likely to be causing negative stream impacts and are most

likely to be sources of perpetual maintenance and road impacts to road owners (gravel bar removal, erosion, etc.).

7.1.2 DGLVR Stream Crossing Replacement Policy

This section details the DGLVR Stream Crossing replacement policy for eligibility, new structures, and additional responsibilities of the conservation district.

7.1.2.1 Policy for Structure Installation

All stream crossing replacements funded in whole or in part with DGLVR funds, or listed as in-kind on a DGLVR Project, must follow the DGLVR Stream Crossing Design & Installation Standard, unless an "Exemption from DGLVR Stream Crossing Standard" (see section 7.1.3) is applicable. The Standard and its attachments are available online at https://www.dirtandgravel.psu.edu/ For projects receiving an Exemption from DGLVR Stream Crossing Standard, other site-specific requirements apply (see section 7.1.3).

7.1.2.2 Policy for Stream Crossing Eligibility for Replacement

Eligibility criteria for replacing stream crossings, in whole or in part, with DGLVR funds:

- **Small Pipes:** Existing stream crossing structures with an opening width less than or equal to 48" are automatically eligible for replacement regardless of their relationship to the bankfull channel width, as long as they are replaced according to DGLVR Policy.
- **Multiple Pipes:** Existing stream crossings consisting of multiple (side-by-side) pipes are automatically eligible for replacement regardless of their relationship to the bankfull channel width, as long as they are replaced according to DGLVR Policy. This automatic eligibility applies to multiple pipes only, not multi-cell or multi-opening bridges.
- **All Other Structures:** For existing single-opening structures with an opening width over 48", only structures with a "structure opening width to bankfull channel width" ratio of 75% or less are eligible for replacement with DGLVR Program funds.
- **SCC Notification:** Conservation districts are required to notify the State Conservation Commission (SCC) of proposed stream crossing replacements as soon as practical before a contract is signed. An online notification system is available by logging in to the Center for Dirt and Gravel Road Studies website (same log-in as accessing the GIS system) at www.dirtandgravelroads.org.

Note: When measuring the width of an existing structure, measure the most limiting width (for example: the narrowest pipe in a series of "necked-down" pipes, or the narrowest point perpendicular to the flow between abutments of a skewed bridge).

7.1.2.3 Where the DGLVR Stream Crossing Policy Applies

All stream crossing replacements funded in whole or in part with DGLVR funds, or listed as in-kind on a DGLVR Project, must follow the DGLVR Stream Crossing Design & Installation Standard, unless an "Exemption from DGLVR Stream Crossing Standard" (see section 7.1.3) is applicable. The Standard and its attachments are available online at https://www.dirtandgravel.psu.edu/. For projects receiving an Exemption from DGLVR Stream Crossing Standard, other site-specific requirements apply (see section 7.1.3).

For DGLVR Program purposes, the stream crossing policy outlined here applies to situations where streams, including intermittent channels, with identified bed and banks are flowing into the road or the uphill ditch. See section 7.1.3 for more information on Automatic and SCC-requested exemptions from the DGLVR Stream Crossing Standard. Contact the State Conservation Commission in questionable circumstances.

Routine maintenance of stream crossing structures is not eligible for DGLVR funding. This applies both to stream crossing structures that are ineligible to be replaced with DGLVR funds or are eligible for replacement with DGLVR funds but are not being replaced. For these structures, no work may be performed directly on the stream crossing structure or its components unless the structure is replaced according to DGLVR Program Policy. "Work" includes, but is not limited to, culvert lining, extending undersized stream crossings, bridge deck repairs, and adding or replacing headwalls and endwalls to an existing stream crossing structure. The policies and qualifications for replacement with DGLVR Program funds outlined here and in the DGLVR Stream Crossing Design & Installation Standard **do not exempt projects from any permitting or engineering requirements**.

7.1.2.4 Policy Limiting Engineering and Consulting Costs

As outlined in section 3.7.4.7, Program funds can be used to cover engineering, permitting, or similar consultant costs, but such costs are limited to a combined maximum of 20 percent of the total contract amount between the district and the grant recipient, not to exceed $25,000. A Request for Proposals (RFP) is available on the Center for Dirt and Gravel Road Studies website. This document is highly recommended for use in hiring an engineer/consultant for stream crossing projects.

7.1.2.5 Conservation District Education Requirements

Education Requirements for Conservation Districts: Effective July 1, 2023, at least one conservation district staff member must have completed the DGLVR Program's "Stream Crossing Replacement Certification Training" and received a certificate of completion before the QAB can recommend or the conservation district Board can approve a contract for a project involving a stream crossing replacement. A Stream Crossing Replacement Re-Certification Training must be taken once every three years to maintain staff certification. This training requirement does not apply to crossings that qualify for an automatic exemption from the DGLVR Stream Crossing Standard (see section 7.1.3.1).

7.1.2.6 Conservation District Requirements

- **Conservation Districts are required to hold meetings including:**
  - **Pre-application:** Meeting, typically held with grant applicant before application submittal.
  - **Pre-design:** If an engineer is required by permitting or DGLVR standard, then a pre-design meeting must be held. On-site meeting, typically held with grant applicant and project engineer, occurs after the grant applicant signs a contract with the conservation district for DGLVR funding and hires an engineer, and before design and permitting.
  - **Pre-construction:** On-site meeting, typically held with grant recipient, project engineer, and sub-contractor (if applicable), prior to starting construction.

- **Conservation Districts are required to attend a bid site showing (if held):** On-site meeting, typically held with the grant recipient, project engineer, and potential bidders/contractors, for structure installation before bids are due. These meetings are highly recommended but at the discretion of the grant recipient.

- A "Stream Crossing Eligibility Determination" (Appendix H) must be completed by the conservation district and kept in the project file for all stream crossing replacements, even those with an exemption from the DGLVR Stream Crossing Standard. This form requires measurement of the bankfull channel and existing structure to determine DGLVR Program eligibility.

- Stream crossing replacements nearly always extend outside the road right-of-way. Applicants are strongly encouraged to get verbal permission from landowners for off right-of-way work before contracting. Before working outside the right-of-way, the grant recipient must obtain written permission from the landowner. Landowner permission should be sought as early as possible in the funding process, ideally before contracting, to ensure the project can be implemented as planned. A sample landowner agreement is provided at www.dirtandgravelroads.org. Districts and grant recipients can use their own landowner agreements as long as they are in a form and manner similar to the sample provided. Districts must keep a copy of the signed landowner consent form with the project file for any work performed off the right of way. If landowner permission is required to achieve stream continuity and meet the DGLVR Stream Crossing Standard, but cannot be obtained, the project cannot be completed. Contact the SCC in questionable circumstances. This off-ROW policy is detailed in section 3.7.4.8.

- A site assessment must be completed for each stream crossing prior to the QAB recommending the project for funding. This site assessment must be completed by the conservation district or their designee and must be used to support development of cost estimates and the grant application. A site assessment includes obtaining a longitudinal profile and a minimum of two cross-sections of the existing stream channel. The longitudinal profile and cross sections can be used by the conservation district to review future surveys and project plans to ensure they meet DGLVR Program policies and the DGLVR Stream Crossing Standard. The longitudinal profile and cross sections must be completed in accordance with section IV. K of the DGLVR Stream Crossing Design and Installation Standard (Appendix G). Additional details for completing longitudinal profiles and cross sections are available in Chapter 4 of the Stream Crossing Technical Manual and in the technical bulletins attached to the Stream Crossing Technical Manual. If, later in the design process, the design engineer completes their own site assessment to support their project design, the conservation district staff is required to be on-site while the site assessment is being performed by the engineer and/or surveyor. The conservation district's role during the engineer's site assessment is to observe and assist with the longitudinal profile and cross sections and ensure that all important data points are obtained. The site assessment requirement does not apply to sites that are eligible for an automatic Exemption from the DGLVR Stream Crossing Standard but does apply to sites that may later receive an Exemption from the DGLVR Stream Crossing Standard through the SCC (see section 7.1.3.2).

- If a project is required to be designed by an engineer, the grant recipient or engineer must provide all permit applications, Site Assessment, and design plans and specifications (per DGLVR stream crossing replacement standard) to the conservation district. The conservation district must review the documents and provide written confirmation to the grant recipient or engineer that these submitted documents comply with DGLVR policy and the Stream Crossing Standard before they are submitted (or resubmitted) for permit review. The purpose of this review is to verify consistency with DGLVR policies and the Stream Crossing Standard, not to review engineering calculations or permit completeness. "Consistency" and "deficiency" form letters for conservation district use can be found on the Center's website.

- If a project is required to be bid out for construction, the grant recipient or engineer must provide all draft bid packages to the conservation district. The conservation district must review the draft documents and provide written confirmation to the grant recipient or engineer that

those draft bid documents comply with DGLVR policy and the Stream Crossing Standard before they are provided to potential bidders. The purpose of this review is to verify consistency with DGLVR policies and the Stream Crossing Standard, not to review engineering calculations or bidding requirements. It is up to the grant recipient to comply with applicable bidding requirements. "Consistency" and "deficiency" form letters for conservation district use can be found on the Center's website.

- Conservation districts must be on-site regularly during construction to ensure that DGLVR Program policies and the Stream Crossing Standard are being met. At a minimum, the conservation district must be onsite during the installation of "Critical Stages of Construction" as defined in the DGLVR Stream Crossing Standard.

- In situations where no current stream crossing exists and a new crossing is to be installed, DGLVR Program policy must still be followed. The conservation district must contact the SCC for eligibility guidance. This requirement does not apply to sites that receive an exemption from the DGLVR Stream Crossing Standard (see section 7.1.3).

- Conservation districts must complete the "Project Lifecycle Checklist" (Appendix J) during the planning and implementation of stream crossing replacements, and the form must be kept in the project file. This requirement does not apply to sites that receive an exemption from the DGLVR Stream Crossing Standard (see section 7.1.3).

7.1.3 Exemptions from the DGLVR Stream Crossing Standard: Site-specific Exemptions to Following the Standard

The State Conservation Commission (SCC) recognizes that it is not always practical, cost effective, or biologically beneficial to complete a comprehensive stream continuity project in certain situations. Stream crossing replacements vary drastically around the state, and this section on exemptions from the DGLVR Stream Crossing Standard is designed to provide maximum leeway for the conservation district and SCC to adapt to unique situations. The exemptions from the DGLVR Stream Crossing Standard discussed in this section only exempt projects from DGLVR requirements and do not exempt projects from any applicable permit requirements from DEP or other entities.

7.1.3.1 Automatic Exemptions from the DGLVR Stream Crossing Standard

The following existing conditions may be, at the discretion of the conservation district, considered "Exempt from the DGLVR Stream Crossing Standard" without SCC approval for channels with a bankfull width of 4' or less and:

- The defined bed and bank coming to the road does not extend more than 500' upslope of the road ditch, or
- The drainage area of the bed and bank coming to the road is 20 acres or less.

Complete the "Automatic Exemption from the DGLVR Stream Crossing Standard" form (Appendix I) and keep it in the project file. Automatic exemptions still need to be reported in the SCC notification system.

7.1.3.2 SCC Approval for Exemptions from the DGLVR Stream Crossing Standard

Occasionally, circumstances may exist where a conservation district would like to request an exemption from the DGLVR Stream Crossing Standard from the SCC on a larger stream that does not qualify for an automatic exemption as outlined in 7.1.3.1. These situations must be handled individually, and a signed "SCC Exemption from the DGLVR Stream Crossing Standard" form must be obtained from the SCC and kept in the project file. Examples of some conditions where an exemption from the DGLVR Stream Crossing Standard may be requested:

- Small channels that fall outside the automatic exemptions above.
- Crossings with extensive outlet drops that would make establishing connectivity impossible or prohibitively expensive for the amount of habitat improvement it would provide.
- Other stream crossings with special circumstances.

A signed "SCC Approval for Exemption from the DGLVR Stream Crossing Standard Request" form (Appendix I) must be kept in the project file.

7.1.3.3 Details for Exemptions from the DGLVR Stream Crossing Standard

What is waived with an Exemption from DGLVR Stream Crossing Standard (either automatic or SCC):

- The need to follow the DGLVR Stream Crossing Design and Installation Standard,
- The need to achieve stream continuity as it relates to slope, streambed material depth, and establishing grade control within the structure, and
- The need to establish a low-flow channel and bank margins through the structure.

Requirements for projects covered by an Exemption from DGLVR Stream Crossing Standard (either automatic or SCC).

If continuity cannot be achieved, the following steps must be taken to ensure stream crossings that receive an exemption from the DGLVR Stream Crossing Standard will still result in a stable crossing that will not lead to accelerated erosion or other issues:

- Any requirements from local, state, and federal laws and all applicable permits are **not** waived as part of this exemption and must be followed.
- New structures must still be a single span at a minimum of 1.25 times or 125% of the bankfull channel width unless otherwise approved by the SCC.
- Ensure the stability of the channel upstream and downstream. Grade controls must be shown on plan drawings if drawings are required.
  - Upstream: Grade control(s) are required immediately (between one and two bankfull widths) upstream of the inlet of the new structure to prevent headcutting (headward erosion lowering channel elevation that moves upstream over time). These grade controls are typically installed at the existing streambed elevation. If a larger structure is installed in a channel with road height limitations, installing a larger structure below the existing streambed elevation without grade control(s) will likely cause a headcut.
  - Downstream: Outlet stabilization is required in the form of grade controls, bank armoring, and/or filling in scour holes. Any grade controls are typically installed at the existing streambed elevation. Pipes may need to be extended further off the road, and the erosion potential caused by any elevation drops must be considered.

- New structures must be properly aligned with the channel, unless this is not feasible due to permitting restrictions or other constructability restraints.
- Consider floodplain connectivity when necessary (e.g., high water by-pass, overflow pipes, etc.).
- If permits and engineered plans are required, conservation districts are required to review all plans and specifications to ensure the project complies with DGLVR policy and requirements before they are submitted for permit review.
- Divert surface runoff and road drainage away from the stream and structure in a manner that prevents erosion and prevents discharges to the stream.
- For projects receiving an exemption from the DGLVR Stream Crossing Standard, other site-specific requirements may apply. If applicable, these will be identified by the SCC on a project-specific basis.

7.2 Driving Surface Aggregate (DSA)

This section applies **primarily to Dirt and Gravel funds**, but DSA may have limited use under Low-Volume funds, such as the conversion of a paved road back to gravel. All DSA must meet the SCC's DSA Standard and Specification (Appendix F). Technical details for DSA including placement and purchasing specifications are not included in this administrative manual. See the Center's Aggregate Handbook for technical documentation.

For DGR projects, surface aggregate is not a required part of a project. However, if surface aggregate is purchased with Program funds, Driving Surface Aggregate (DSA) must be used.

7.2.1 DSA Overview

DSA is a crushed stone mixture developed by the Center in 2001 to be used as a wearing course for unpaved roads. DSA is designed to achieve maximum density compared to other aggregates in order to resist erosion and support traffic. DSA has a few key differences compared to traditional aggregates such as PennDOT 2A or 2RC:

- Well graded to include a range of rock sizes from 1.5" to "stone dust".
- 11-15 percent of the material is composed of "rock fines" that bind the material together (up to 17% fines if Plasticity Index is less than 2).
- Placement by motor paver is highly encouraged and required for placements over 500 tons.
- Several other requirements including a maximum plasticity limit, a pH range, a minimum hardness specification, and optimum moisture requirements.

7.2.2 Use of DSA

The Program goal is to improve water quality. DSA is designed to resist erosion and stand up to the forces of traffic. DSA has been proven to reduce sediment loads compared to traditional aggregates by as much as 90 percent and reduce dust by as much as 75 percent. Since DSA was designed to resist erosion, it was originally intended to be placed on sections of road adjacent to streams where draining road runoff to the waterway is unavoidable. Over the years, DSA has evolved into a "standard practice" on projects in many districts and is being overused. DSA is NOT a required component of every Program project. The extent to which DSA is used on projects is at the discretion of individual Districts and QABs. When DSA is used as part of a project, it should be the very last phase of the project. DSA alone does not constitute a comprehensive Program project. All possible

base and drainage improvements (new pipes, underdrain, road fill, French mattresses, etc.) must be completed first to reduce environmental impacts of the road and extend the longevity of the DSA. Avoid placing DSA on entrenched roads, or on roads where surface drainage issues are not resolved.

7.2.3 Exception to using DSA on Fill Projects

Driving surface aggregate meeting the Commission's Standard and Specification is the only approved road surface material that may be purchased (for DGR projects) with Program funds. The only exception to this is on road fill projects. Road fill projects are defined as projects which install an average compacted thickness of 12-inches or more of fill material, not including the driving surface, to allow for proper drainage and/or strengthen the existing road base. Road fill projects must be capped with DSA or an alternative aggregate at a minimum depth of 6-inches. Shale or bank-run gravel may not be used as the final driving surface. This exception is not meant to replace DSA with fill.

7.2.4 DSA Certification

DSA must be placed in accordance with the DSA specification and certification found in the DSA Handbook at www.dirtandgravelroads.org. A DSA certification is required for every project where DSA is used. The DSA certification does not apply to an entire quarry. The DSA certification applies only to a particular source or pile of DSA that is being purchased. Additional certifications are required if the quarry changes the DSA production process (for example switching to a different seam of stone). The DSA certification must be obtained by the grant recipient before aggregate is placed and must be kept with project files.

7.2.5 DSA Quality Control

DSA must be sampled and tested by an independent lab before it is delivered to a project site. Sampling can be done by district representatives following the guidelines in the Aggregate handbook. **DSA sampling, testing, and approval is "pile-specific", not "quarry-specific".** Testing must be done on the aggregate pile that is directly supplying the job. The costs of testing can be incorporated into project costs, or paid out of a district's admin/education funds. Sampling can also be done by the Center's "DSA Clearinghouse".

The Center will act as a "DSA Clearinghouse" for DSA projects. The purpose of this DSA Clearinghouse is to ensure quality DSA purchase and placements for districts statewide by:

- Visiting and talking with quarries to ensure they understand the DSA requirements.
- Collecting samples and performing testing to ensure DSA meets all material requirements before delivery and placement.
- Keeping records of aggregate testing to avoid duplicating efforts.
- Establishing a central point of contact for quarries on DSA issues.
- Assistance with contractor coordination.
- On-site assistance during DSA placement.

If districts plan to use the DSA Clearinghouse, it is recommended that they contact the Center when a potential DSA supplier is chosen, at least 30 days before placement. Notification can be made utilizing the DSA Purchase Notification Form, provided in the Aggregate Handbook, or on the Center's website. **If districts choose to sample their own DSA, they should share testing results with the Center** in order to provide a more comprehensive statewide database and avoid duplicate testing.

7.3 Full-Depth Reclamation (FDR)

7.3.1 Program Eligibility:

FDR is an eligible expense in the Program, at the discretion of individual districts, for use on paved Low-Volume Road (LVR) projects. FDR is <u>not</u> an eligible expense on unpaved roads. FDR shall not be funded on paved LVR roads with DGLVR Program funds unless all applicable drainage improvements and Environmentally Sensitive Maintenance practices have been employed, as road owners are hesitant to install drainage practices at a later point when it would disturb the new road base. Shallow surface grinds for the purpose of road resurfacing are not considered FDR projects. FDR is a major rehabilitation technique in which the full depth (minimum 6") of the surface and predetermined portion of the underlying base is uniformly pulverized and blended to provide a stronger, homogeneous road base.

7.3.2 Alternatives to FDR

FDR is an expensive process that may not be necessary everywhere it is proposed. When considering funding FDR projects, consider alternative base improvement techniques such as:

- **Imported fill:** Importing fill to raise the elevation of a road can be less expensive than FDR in some cases. Entrenched roads in particular will benefit from road fill to eliminate drainage issues while providing a sound road base.
- **French Mattress:** In some cases, road base instabilities are a direct result of spring and seeps coming up near or under the road. French mattresses provide excellent road base while insuring that wet areas around and under the road will not affect the road above.
- **Geo-synthetics:** The use of geo-synthetics such as geogrid can increase the structural strength and stability of the road base. Geogrid is an excellent solution to fix base problems and is cost effective on small projects.

7.3.3 Program FDR Requirements:

If a district chooses to fund an FDR project, the following requirements apply:

- The Center must be made aware of the proposed FDR project before a contract is signed. A site visit from Commission or Center staff may be requested.
- FDR must follow specifications in PennDOT Publication 447 (Approved Products for Lower Volume Local Roads)
- The mix design for FDR projects must be determined by an independent third-party.
- FDR is a base stabilization technique and does not provide a final running surface. Consideration for asphalt, "tar and chip", or some other final running surface must be part of the planning for FDR projects.
- Any additives or binding agents used in chemical stabilization must be on the Program's "Approved Products" list, detailed on the Center's website.

7.4 Low-Volume Road Specific Guidance

This section applies **<u>only</u> to Low-Volume funds**, not Dirt and Gravel funds. The previous guidance and policy in this manual also applies to LVR projects and funds. For the purposes of the LVR Program, a "paved" road is defined to include any road surfaced with asphalt, "tar and chip", "chip seal", bitumen, concrete, or other asphalt-like coating.

7.4.1 LVR Guiding Principals

7.4.1.1 Project Focus

The focus of road projects in the LVR portion of the Program should be on similar ESM principles that have been used in the Program since its inception. Projects in the LVR Program must contain benefits to both the road systems (improved drainage, reduced surface, ditch and bank erosion, smoother surface, more durable surface, reduced maintenance costs, etc.) and the environmental systems (water quality, stream quality, reduced storm water flows, improved air quality, increased infiltration). The balance between road improvements and environment benefits should be considered in the local QAB/district project ranking criteria and funding decisions.

7.4.1.2 Long Term Benefits

Similar to Dirt and Gravel Projects, the focus of LVR projects should be on long-term road and environmental improvement projects.

- Routine maintenance of LVR or storm water systems such as cleaning inlets, street sweeping, crack sealing, etc. is not eligible for funding under this Program.
- Program funds should not be used to pay for deferred or neglected maintenance on drainage/storm water systems without road improvements.
- Program funds should not be used to fund any LVR issues that do not provide a long term benefit to the road and to the environment.

7.4.1.3 Mistakes/design Errors

Program funds should not be used to correct recent mistakes and or design errors on LVRs that are the responsibility of the original project engineer or construction firm. If recent (within its reasonable design lifespan) LVR construction projects contain design or construction flaws, correction of these problems should be the duty of the project's engineer or contractor of record, and LVR funds should not be allocated for these purposes.

7.4.1.4 Project Eligibility

In order to be eligible for LVR funding, a road must have an existing paved (including chip sealed) surface, and it must have a verified average daily traffic count of less than 500 vehicles per day (according to Commission guidance). For more information on traffic count guidance, see Section 7.5.

All projects must apply ESM principles and practices to address an environmental concern directly related to the road, make improvements to the road system, or to meet all other Program requirements (ie. permits or approvals). The project eligibility requirements in section 3.7 of this manual apply to Low-Volume Roads.

7.4.2 LVR Project Guidelines

7.4.2.1 Paying for Asphalt or Other Surfacing

Resurfacing paved roads (sealing or paving) is not a primary focus of the LVR Program component. Resurfacing costs can be considered by a district as a component part of a larger ESM project. It is at the discretion of individual districts and QABs whether resurfacing costs (sealing or paving) will be funded through the Program, either on individual projects or as countywide policy. Before funding any resurfacing work on projects, the following ESM principles must be addressed:

- Drainage issues
- Base instability issues
- Other necessary and appropriate issues such as bank stability, road entrenchment, vegetation, etc.

The use of petroleum solvent based "cutback asphalts" such as MC-30 and MC-70 are NOT allowed for use in the Program.

7.4.2.2 Surfacing Unpaved Roads

It is not the intent of the Program to encourage the sealing or paving of existing dirt or gravel roads and converting them to sealed or paved low-volume roads. While eligible entities may choose to seal or pave a DGR project on their own at some future point in time, no Program funds should be utilized for the specific purpose of converting unpaved roads to paved or "tar and chip", unless otherwise approved by the Commission.

7.4.2.3 Reclaiming Paved or Sealed Roads to Gravel

The Program recognizes the value of converting a poorly constructed or poorly maintained paved low-volume road into a high-quality gravel road through full depth reclamation or other similar processes. Districts may utilize either dirt and gravel, or low-volume road program component funds for these purposes.

7.4.3 LVRs in Urban Areas

Many ESM principles and practices in use by the Program can be readily adapted to paved LVRs in rural environments. LVR funding, however, is not limited to rural roads or rural environments. LVR projects in urban areas will require a new set of best management practices (BMPs) that will take some time to develop and disseminate through the Program. The level of focus in rural and urban environments will be at the discretion of districts and QABs.

The LVR portion of the Program is not JUST a storm water program. Projects, especially in urban areas, need to strike a balance between environmental improvements and road improvements. It will be up to districts and QABs to determine the proper balance for projects in their counties.

7.4.4 Safety Considerations

The Commission recognizes the fact that many LVR component projects will have higher levels of daily traffic and higher levels of posted speed than projects on unpaved roads. Grant recipients are required to follow the same safety protocols as with all other road work (flaggers, signs, etc). The funding of any traffic control and safety components of a Program project is at the discretion of the district.

7.5 Traffic Counts for Low-Volume Roads

Before a contract can be signed for a low-volume road project, the applicant is responsible for validating that the road has 500 vehicles per day or less consistent with Commission and any local QAB policy. The Program's "Traffic Count Validation form and Instructions" can be found in Appendix D.

- Applicant is responsible for providing traffic counts before a contract can be signed.
- A traffic count is not required in order to submit an application, unless required by local QAB policy.
- The district is responsible for verifying that a count exists, and that the count meets the criteria established in state and local policy.
- Traffic counts are considered valid for a period of five years, provided there are no new significant changes in traffic flow volumes or patterns.
- Documentation of traffic counts using a signed "Traffic Count Validation Form" must be retained with project files according to the Commission's record retention policy. Districts may opt to include the completed traffic count validation form as an attachment to the project

contract.

- Districts may, at their discretion, use administrative and education funding to facilitate or support traffic counts for applicants. Districts should ensure that all potential applicants have equal access to any traffic count facilitation measures they may employ.
- Traffic counts only apply to a segment of road between intersections, not to an entire length of road. Application sites that include intersections may require multiple counts.
- Traffic counts should be done on the proposed project location, or on a road that ensures that traffic on the project location can be determined.

7.5.1 OPTION A: Validate with Existing Traffic Count Data or Extrapolation

7.5.1.1 Use of Existing Data

Existing traffic counts can be used to verify road eligibility for LVR funding. Existing data must have been collected within the previous five years and conform to the Program's Level 2 count protocol at a minimum. "Estimated" traffic counts that exist for many municipal roads cannot be used.

7.5.1.2 Extrapolation of Existing Data

It is permissible to use existing data for roads with 500 vehicles per day or less to logically extrapolate to subsidiary roads. (For example, a spur road between two state roads where both state roads have less than 500 vehicles per day must also have less than 500.) This extrapolation of data can be used to verify that a road has 500 vehicles per day or less without performing a count. This extrapolation of traffic counts must prove the ADT on the road is 500 or less to be eligible for LVR funding. Potential sources of existing traffic count data include:

- State Roads: http://www.penndot.gov/ProjectAndPrograms/Planning/Maps/Pages/Traffic-Volume.aspx
- Local Roads: PennDOT regional offices or County Planning Commissions.

7.5.2 OPTION B: Validate with Level 1 Count: 2 Hour Count

An applicant may do a Level 1 count to determine the traffic count on a potential project site. This involves counting traffic for a two hour period, either by hand tally, video recording, or an automated traffic counter. A Level 1 count of 500 vehicles per day or less will qualify the road for LVR funding. A Level 1 count must meet the following criteria:

- It must be conducted between March 1 and the week before Thanksgiving.
- It cannot be conducted on a holiday, or the day before or after a holiday.
- It must be conducted on a Tuesday, Wednesday, or Thursday
- It must be conducted for a minimum of two consecutive hours between 3:00 pm and 6:00 pm.
- Only the number of vehicle passes is counted, regardless of direction of travel or type of vehicle.
- The traffic count for the time period will be adjusted to a 24 hour period by simply multiplying the 2 hour count volume times twelve (12)
- Applicants may skip the Level 1 count and go straight to a Level 2 count if desired
- Only licensed motor vehicles should be counted.

If a Level 1 count produces a count of 500 vehicles per day or less, the project on the road is considered eligible without a Level 2 count. If a Level 1 count produces a count of more than 500 vehicles per day, it does not disqualify the road, but necessitates a Level 2 count because of its

increased accuracy. The purpose of a Level 1 count is to provide a reasonably accurate traffic count with minimal time investment.

7.5.2.1 Level 1 Count Examples

Example 1: A traffic count for two consecutive hours between 4:00 pm and 6:00 pm produces a count of 25 vehicles. 24hours (per day) / 2hours (per study) = 12

12 x 25 =300 average daily count.

This worksite would be eligible (no Level 2 count needed).

Example 2: A traffic count for two consecutive hours between 3:30 pm and 5:30 pm produces a count of 53 vehicles. 24hours (per day) / 2hours (per study) = 12

12 x 53 = 636 average daily count.

This does not disqualify the road. It simply means that a more accurate Level 2 count is required if the applicant wants to continue to pursue Program funding.

7.5.3 OPTION C: Validate with Level 2 Count: 24 hour Automated Count

A Level 2 count involves the placement of an automated traffic counter on the road for a minimum period of 24 hours. Note that these are the minimum criteria for a count. More comprehensive or longer counts can be substituted as long as they meet the minimum requirements below for a "Level 2 count". A Level 2 count of 500 vehicles per day or less will qualify the road for LVR funding. Level 2 counts supersede Level 1 counts if there is a discrepancy. A level 2 count must meet the following criteria:

- It must be conducted between March 1 and the week before Thanksgiving.
- It cannot be conducted on a holiday, or the day before or after a holiday.
- It must be conducted between 12 AM Tuesday and 12 AM Friday.
- It must be conducted for a minimum of 24 consecutive hours.
- Only the number of vehicle passes is counted, regardless of direction of travel or type of vehicle.

If a Level 2 count produces a count of 500 vehicles per day or less, the project on the road is considered eligible. If a Level 2 count produces a count of more than 500 vehicles per day, a project on that road is not eligible for LVR funding. 24-hour counts do not have be broken up by hour or any smaller time unit.

The criteria described in the Level 2 count represent a "minimum acceptable criteria". Counties may use or adopt more stringent traffic count requirements as long as it meets or exceeds the requirements here. (A more stringent requirement is a count that provides more statistically accurate data. For example: requiring Level 2 counts for all roads, requiring 48-hour counts, or requiring hourly totals on counts to provide information to PennDOT.)

7.5.4 Seasonal Activities and Special Circumstances

A traffic count survey cannot be conducted in a timeframe or manner that intentionally causes artificially low average daily traffic counts on a particular road segment. This includes conducting a traffic count during summer recess for a school access road, or conducting a traffic count when access to a road segment is temporarily or partially restricted or reduced (i.e. detoured, weight, or size restricted, etc.) or conducting a traffic count in any other timeframe or manner that intentionally causes low average daily traffic counts.

Chapter 8

Permits and Other Requirements

8. PERMITS AND OTHER REQUIREMENTS

Program projects must comply with all federal state and local permit requirements. The Program has no specialized permits and projects are not exempt from any permit requirements. For specific questions regarding permitting, contact your local DEP regional staff or district.

> Any required project permits must be obtained by the grant recipient before work can begin on the portion of the project related to the permit.

Permits are not required in order for an application to be submitted to the district. Any required permits must be obtained by the grant recipient before work can begin on the portion of the project related to the permit. The grant recipient is responsible for obtaining all necessary permits. The district is responsible for verifying all necessary permits have been obtained and retaining documentation with project files. Permit costs, and any engineering required cost for permits, is an allowable project expense at the discretion of the district as long as such costs are less than 20percent of the total contract. The list below represents the most common permits required in road maintenance work but is not all-inclusive.

8.1.1 National Pollutant Discharge Elimination System (NPDES)

The National Pollutant Discharge Elimination System (NPDES) is a program established under the Federal Clean Water Act (CWA) to control discharges from point sources. The program was originally established to focus on discharges from pipes but since 1990 has included requirements for storm water runoff. The specific statute is found in Section 402 of the CWA.

If a project is going outside the cross-section of the road and more than 1 acre of construction occurs, an NPDES permit is required.

Contact the local district for more information.

8.1.2 State Permits

A wide variety of permits may be required from multiple state agencies for various aspects of the Program. District staff are knowledgeable about which permits are necessary and are willing to help project grant recipients obtain those permits.

8.1.2.1 Erosion and Sediment Control - 25 Pa Code Chapter 102.

An Erosion and Sediment Control plan (E&S plan) is a document that outlines erosion control measures to be employed during project implementation. An E&S plan is required for projects where more than 5,000 square feet of earth is disturbed, or in all cases in special protection watersheds.

An E&S control permit is required if a project will disturb more than 25 acres (inside and outside the road footprint combined).

For more details on Erosion and Sediment control, see: the Erosion and Sediment Pollution Control Manual (DEP Document 363-2134-008).

8.1.2.2 Water Obstruction and Encroachments- 25 Pa Code Chapter 105

Chapter 105 deals with watercourses and wetlands. A watercourse is a channel for the conveyance of surface water with a defined bed and banks.

Chapter 105 permits are waived for water obstructions (culverts, fills, etc.) if the drainage area to watercourse is less than 100 acres. However, the U.S. Army Corps of Engineers may be required to review and approve the project.

8.1.2.3 General Permits

8.1.2.3.1 GP-7

General Permit-7 may be used for culverts and bridge replacement if the drainage area is less than 1 sq. mi.

For bridges and culverts that were constructed prior to 1979 and have a drainage area of less than 5 sq. mi the permit requirements are waived, as the bridge exists. If work has to be done to the structure a waiver of permit can be obtained from the regional DEP office.

All other projects will require a submittal of a joint permit to the regional DEP office. Township officials are encouraged to work with district staff so that all regulatory requirements are met.

8.1.2.3.2 General Permit 11

A (GP-11) is issued by the DEP and is for maintenance, testing, repair or replacement of water obstructions and encroachments. The GP-11 is not a replacement for an emergency permit and should be used for culverts bridges and other water obstructions but not dams. The grant recipient should contact the regional DEP office for the latest information and instructions. Other restrictions including Bog Turtles and PNDI may have to be considered.

8.1.2.4 Pennsylvania Natural Diversity Inventory (PNDI)

The Pennsylvania Natural Diversity Inventory (PNDI) identifies and describes the Commonwealth's rarest and most significant ecological resources. Data is collected and maintained using the format of the Nature Conservancy's Natural Heritage Program (NHP). The NHP is an international network for biological information. PNDI is Pennsylvania's NHP and the consistency of data and record keeping provides an opportunity to assess the status of an organism or ecosystem over a broad geographic area. The PNDI's geographic areas are not constrained by political boundaries or subdivisions. PNDI represents the most comprehensive and consistent baseline information available to analyze cause and effect for this indicator.

For more information on PNDI, go to: the Department of Conservation and Natural Resources at http://www.naturalheritage.state.pa.us/

8.1.3 Pennsylvania One Call System, Inc.

The One Call System is a single nonprofit communication clearinghouse established within the Commonwealth to provide a single toll free telephone number for contractors or designers or any other person planning to perform excavation work. The One Call System notifies the facility owner of the contractors' intent to perform excavation. After PA One Call is made, utility companies will visit the project site to mark any underground utilities such as power or gas lines to prevent damage. PA One Call will provide serial numbers to callers as proof they have met the requirement of the law. Districts should remind grant recipients, engineers, and contractors involved with Program projects of their notification requirements under the PA One Call law. PA One Call serial numbers must be retained with project files. For more information, see: https://www.pa1call.org/ PA One Call: Call Before You Dig! 800-242-1776.

8.1.4 Local Ordinances

Counties and local municipalities are responsible for most planning and zoning ordinances. Municipal roadmasters should be aware of any ordinances or local limiting factors that may inhibit Program projects. The municipality should ensure that any projects are not in conflict with local ordinances.

Appendices

Appendix A. Dirt, Gravel, And Low-Volume Road Program Law 9106

Section 9106 of PA motor vehicle code that establishes the Dirt, Gravel, and Low-Volume Road Program. Originally passed in 1997 and amended by PA act 89 of 2013.

Original bill from 1997. Underlined sections added in 2013 as part of Act 89

§ 9106. Dirt, gravel and low volume road maintenance.

(A)**statement of purpose**. It is the intent and purpose of this section:
(1) to fund safe, efficient and environmentally sound maintenance of sections of dirt and gravel roads which have been identified as sources of dust and sediment pollution.
(2) to establish a dedicated and earmarked funding mechanism that provides streamlined appropriation to the county level and enables local officials to establish fiscal and environmental controls.
(3) to fund safe, efficient and environmentally sound maintenance of sections of low volume roads that are sealed or paved with an average daily traffic count of 500 vehicles or less.

(B)**general rule**.--Of the funds available under section 9502(a)(1) (relating to imposition of tax), $7,000,000 shall be annually distributed to the department of conservation and natural resources for the maintenance and mitigation of dust and sediment pollution from parks and forestry roads. Funds in the amount of $28,000,000 shall be appropriated annually to the state conservation commission and administered in a non-lapsing, nontransferable account restricted to maintenance and improvement of dirt, gravel and low volume state and municipal roads. The state conservation commission shall apportion the funds based on written criteria it develops to establish priorities based on preventing dust and sediment pollution. In the first fiscal year, top priority shall be given to specific trouble spot locations already mapped by the task force on dirt and gravel roads and available from the department. A minimum of $8,000,000 of the total appropriated annually shall be for maintenance and improvement of low volume roads." *(NOTE: remainder of § 9106 remains unchanged)*

(C)Apportionment Criteria. The apportionment criteria shall:
(1) Be based on verified need to correct pollution problems related to the road.
(2) Consider the total miles of dirt and gravel roads maintained by local municipalities or state agencies that are open to the public during any period of the year.
(3) Consider total miles of dirt and gravel roads within watersheds protected as of November 1996 as exceptional value or high quality waters of this Commonwealth.
(4) Consider allowances for the local cost of limestone aggregate.
(5) Consider the commitments of grant applicants to comply with the non-pollution requirements established.

(D) State Conservation Commission. The State Conservation Commission shall:
(1) Adopt performance standards
(2) Provide for a system of audit.
(3) Annually assess the program and annually report to the Transportation Committee of the Senate and the Transportation Committee of the House of Representatives on its acceptance and effectiveness. The State Conservation Commission shall be entitled to withhold and expend the costs of the audit and report preparation up to the maximum limit of 2% of the funds administered.

(E) Quality Assurance Boards.

Apportioned funds are to be dispersed to the county conservation districts which apply for then and are to be used by State agencies and local municipalities that maintain roads within the county and fulfill certain requirements specified under subsection (g). Within the conservation district a Quality Assurance Board shall be impaneled to establish and administer the grant program. The four member Quality Assurance Board is to be comprised of a nonvoting chairman appointed by the conservation district directors and one local representative appointed by each of the following entities:

(1) The Federal Natural Resource Conservation Service

(2) The Pennsylvania Fish and Boat Commission

(3) The county conservation district

If circumstances require, the chairman may vote to decide a tie vote.

(F) Administration. The Quality Assurance Board's administration of funding shall include:

(1) Adoption of written criteria to assure equal access for all eligible applicants within specified funding categories.

(2) Provision of documentation that application has been made for all required permits.

(3) Adoption of procedures that assure a minimal amount of procedural paperwork.

(4) Adoption of written criteria to specify priorities:

(5) Adoption of funding categories to provide separate budgeting for:

(i) Department of Conservation and Natural Resources, Bureau of Forestry roads.

(ii) Municipal government roads.

(iii) Road demonstration projects.

(iv) Training grants restricted to 15% of funding.

(v) Administrative costs, limited to actual documented costs and restricted to a maximum of 10%.

(6) Adoption of incentives for training road managers and equipment operators.

(7) Adoption of standards that prohibit use of materials or practices which are environmentally harmful.

(8) Adoption of site inspection requirements to verify completion of work.

(G) Grant Application. Each grant application shall:

(1) Be specific to one work site or one type of work except that all State Forest roads within one county and within one Forest District may be authorized on a single grant.

(2) Expedite the approval process by allowing the Quality Assurance Board to insert additional requirements that complete and qualify the grant for approval and which when accepted by the applicant become a binding obligation on the applicant.

(3) Require minimal handwritten information such as location, problem being solved, basis of cost estimate, project work schedule, basis of successful completion, and type and amount of pollution reduced. The grant application shall not exceed one page with reference to published standards being acceptable.

Appendix B. Commission Statement of Policy

Statement of Policy for Dirt, Gravel, and Low-Volume Road Maintenance Program. This document also becomes "Attachment C" (by reference) to the contract between the Conservation District and the grant recipient.

DIRT, GRAVEL, AND LOW VOLUME ROAD MAINTENANCE PROGRAM - STATEMENT OF POLICY

Approved as final by action of the State Conservation Commission on January 17, 2018.

Section 1. Purpose. It is the intention of the Commission to provide local governments and other eligible entities with funds to:

(a) Fund safe, efficient and environmentally sound maintenance of sections of dirt and gravel roads which have been identified as sources of dust and sediment pollution.

(b) Establish a dedicated and earmarked funding mechanism that provides streamlined apportionment to the county level and enables local officials to establish fiscal and environmental controls.

(c) Fund safe, efficient and environmentally sound maintenance of sections of low volume roads that are sealed or paved and have an average daily traffic count of 500 vehicles or less. Provide training to road crews on techniques of dirt, gravel, and low volume road maintenance which minimize negative environmental impact.

(d) Conduct demonstrations of new and innovative techniques of dirt, gravel, and low volume road maintenance to assist in training of road crews and educate the public on this matter.

Section 2. Definitions. The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise:

Act - The act of November 25, 2013, P. L. 974, No.89 (75 Pa.C.S. § 9106).

Advisory Workgroup - Advisory workgroups established by the Commission to assist and advise the Commission on the implementation and administration of the program.

Center - Center for Dirt and Gravel Road Studies at Penn State University

Commission - The State Conservation Commission created by the Conservation District Law (Act of May 15, 1945, P.L. 547, No. 217, as amended July 7, 2006 (P.L. 1059, No. 110) and subsequently amended July 9, 2008 (P.L. 986, No. 75) (3 P.S. §849 et seq.)).

Cooperating organization - An organization approved by the Commission to assist in implementing the act.

District - A conservation district as defined in the Conservation District Law.

Exceptional value - A stream or watershed which is designated as an exceptional value water under Chapter 93 (relating to water quality standards).

High quality - A stream or watershed which is designated as a high-quality water under 25 Pa. Code Chapter 93 (relating to water quality standards).

Low volume road - A road that is sealed or paved and has an average daily traffic count of 500 vehicles or less

Performance standards - The administrative policies or technical requirements, or both, adopted by the Commission for the implementation of the Program, including standards that prohibit the use of materials or practices which are environmentally harmful.

Program - The Dirt, Gravel, and Low Volume Road Maintenance Program.

Project area - A designated area where critical sediment or dust, or both, pollution problems have been identified.

Project participant - A municipality or State agency eligible to participate in a Program project under the act.

QAB - Quality Assurance Board-The administrative board impaneled by a district to administer the Program locally, under 75 Pa.C.S. § 9106(e).

Section 3. Cooperation.

(a) The Commission will encourage cooperation between Commonwealth and Federal agencies, the Center for Dirt and Gravel Road Studies and other organizations which have either direct or indirect involvement in the program to achieve the objectives to reduce pollution originating from dirt, gravel, and low volume roads.

(b) Agencies other than conservation districts will be encouraged to work closely with the appropriate conservation districts to promote local awareness of the projects and to effectuate the purposes of the Program.

Section 4. Apportionment Criteria.

(a) The Commission will apportion the amount of funds for each participating district under the program, based on the act and the criteria in subsection (c).

(b) The Commission may reallocate funds if an agreement cannot be fulfilled by the district, local government, contractor, and agency or cooperating organization.

(c) Apportionment criteria shall be based on the verified need to correct pollution problems related to the road and shall include consideration of the following:

(1) The total number of miles of dirt and gravel roads maintained by local municipalities or State agencies that are open to the public during any period of the year.

(2) The total miles of dirt and gravel roads within watersheds protected as of November 1996 as exceptional value or high quality waters of this Commonwealth.

(3) Allowances for the local costs of limestone aggregate.

(4) The commitments of grant applicants to comply with the nonpollution requirements established.

(5) Other factors determined by the Commission to be appropriate.

(d) The Commission may allocate funds for training or road demonstration project, or both, to an aggregated budget managed by the Commission and may establish spending limits, consistent with the act, which includes the portion of the aggregated funds administered by the Commission.

Section 5. Payments by the Commission to Districts.

(a) State funds apportioned to districts under this Program will be utilized solely for implementing a county level Program.

(b) The Commission will provide apportioned funds to a participating district through an agreement between the Commission and each participating district.

(c) The Commission may withhold funds until the Commission has received any overdue Program reports and audit statements as required by the Commission.

(d) For purposes of disbursing funds to participating conservation districts, the Commission may process an advanced working capital payment as follows:

(1) Upon the full execution of the grant agreement, the Commission may process up to 50% of the approved grant amount. Subsequent payments to the districts will be made on an "actual cash expended" basis to replenish the working capital advance.

(2) Advance payments by a conservation district to an eligible project participant under a project agreement shall be considered "actual cash expended" when the advance is paid by the conservation district.

(3) The district shall request the payments to replenish working capital to the Commission in a format and time frame as prescribed by the Commission. The Commission may set a minimum payment level or time frequency, or both, for each request for payment.

Section 6. Advisory Workgroups. Advisory workgroups shall advise the Commission on the following:

(a) Allocation of funds from the State level to conservation districts.

(b) Development of Program and administrative procedures for QABs.

(c) Review of administrative and technical guidance for the Program.

(d) Other matters relating to the administration of the Program.

Section 7. District Responsibilities.

(a) A district participating in the Program shall enter into an agreement with the Commission establishing the duties and responsibilities of each entity.

(b) The district shall receive and manage funds for the Program that have been apportioned by the Commission to the district.

(c) The district is responsible for all aspects of the management and administration of the Program within that county.

(d) A participating district shall conduct its Program consistent with the act, this subchapter and all other policies and regulations established by the Commission.

(e) The district shall appoint and impanel a four-member QAB to administer the Grant Program within the county, under the supervision and direction of the district board of directors. The QAB is to be comprised of a non-voting chairperson appointed by the district and one local representative appointed by each of the following entities:

(1) The Federal Natural Resource Conservation Service.

(2) The Fish and Boat Commission.

(3) The district.

(f) The district shall develop a fair and open project selection process, consistent with Commission policy, that provides general program information to all eligible project participants and includes sign-up periods necessary to receive requests for road maintenance and repair work

from eligible project participants. Special efforts will be made to enlist the cooperation of project participants with identified critical erosion or dust problems.

(g) Work completion by project participants will be subject to approval by the district under the performance standards adopted by the QAB.

(h) The district shall conduct an annual audit of Program expenditures in accordance with guidance provided by the Commission.

(i) The district shall submit the results of its annual audit to the Commission in a manner and time frame established by the Commission. The Commission reserves the right to audit all Program-related accounts and records to determine if funds were expended in accordance with Commission policies and the act.

(j) The district shall report Program accomplishments to the Commission on prescribed forms at times as specified by the Commission.

(k) The district shall maintain a separate accounting of funds received under the Program. The district shall maintain an itemized accounting of administrative costs claimed. Districts shall deposit funds in a Federally insured interest bearing account. Interest earnings from the account shall be applied only to the Program. The percent of apportioned funds utilized by the district for administration or training grants may not exceed those limits established by the Commission or the act, or both.

(l) Records shall be retained by districts for 3 years after completion of the work.

(m) The Commission reserves the right to examine all records and files maintained by the district related to the administration of the district's Program.

Section 8. QAB Responsibilities.

(a) The QAB impaneled by a district shall establish and administer the Program for the district under the direction of the board of directors of the district and consistent with the policies adopted by the Commission.

(b) The QAB shall consider and adopt the following:

(1) Written criteria to assure equal access for all eligible applicants within each funding category.

(2) Procedures that assure a minimum amount of procedural paperwork.

(3) Written criteria to specify priorities.

(4) Funding categories to provide separate budgeting for road maintenance projects, road demonstration projects, training grants and administrative costs:

(A) QAB training grants may not exceed limits established by the Commission.

(B) Administrative costs may not exceed 10%.

(5) Incentives for training road managers and equipment operators.

(6) Standards that prohibit use of materials or practices which are environmentally harmful.

(7) Site inspection requirements to verify completion of work.

(c) The QAB shall review applications and recommend project participants to be funded through the Program.

(d) The QAB shall consider and adopt procedures for the conduct of business by the Board, including the following:

(1) Meeting schedules and procedures for public notice of meetings.

(2) Recordkeeping and provisions to make minutes and records available to the public.

(3) Rules of conduct, including rules necessary to avoid conflicts of interest by members of the QAB.

Section 9. Application by Project Participants.

(a) Applications will be on a form approved by the Commission. Applications should be submitted to the local conservation district at the times designated by the local district. Handwritten applications will be acceptable.

(b) An application shall be specific to one work location and shall include the following:

(1) A short description of the problem being solved.

(2) The basis of the cost estimate.

(3) The proposed project work schedule.

(4) The basis for successful completion.

(5) The type of pollution to be reduced.

(6) Other items specified by the Commission.

(c) The QAB may expedite the approval process by inserting additional requirements which become binding when accepted by the applicant.

Section 10. Agreements.

(a) An agreement is required between a district and project participants.

(b) The form of agreements between the district and project participants shall be approved by the Commission.

(c) Each agreement shall provide that the parties agree to comply with the conditions in this subchapter, the general contract conditions adopted by the Commission and the performance criteria adopted by the QAB of the district.

(d) The term of the agreement shall be sufficient to cover the duration of work implemented under the agreement.

Section 11. Eligible Expenses.

(a) Eligible expenses include all Program and project costs associated with the administration and implementation of the Program, and the design, review, approval, implementation and maintenance of any project approved and funded by the Program. Eligible costs payable to project participants for Program projects and eligible costs payable to conservation districts for the overall administration and implementation of the Program will be determined by the Commission.

(b) Eligible expenses for project participants include the materials, services and labor required to design and implement a project, including, but not limited to, construction and maintenance supplies and materials, equipment rental and transportation charges, demurrage, reimbursement for use of participant owned equipment, salaries and benefits, automotive and hauling travel including room and board expenses, contracted specialized services, miscellaneous expenses, certain engineering and technical fees as determined by the Commission and other expenses necessary for the satisfactory completion of a project as determined by the Commission.

(c) Eligible expenses for participating conservation districts shall include eligible costs defined in subsections (a) and (b) for project participants, plus materials, services, labor, insurance/liability coverage and all other expenses necessary for the overall administration and implementation of the Program, the development and delivery of training/education programs, demonstration projects, resource assessment, site inspections and other expenses determined by the Commission to be necessary to administer and implement the Program.

Section 12. Project Participant Responsibilities.

(a) Project participants shall conduct the dirt, gravel, and low volume road maintenance project in accordance with the project agreement with the district, the work plan for the project, the standards established by the QAB for the district, and the policies adopted by the Commission.

(b) Project participants may not use materials or practices that are environmentally harmful.

(c) Project participants shall apply for necessary local, State and Federal permits required for the project and provide the district with suitable documentation of permit issuance and requirements.

(d) Project participants shall report Program accomplishments to the district in a manner prescribed in the agreement.

(e) Claims for payment shall be submitted to the district in accordance with the schedule contained in the agreement. The claims shall be itemized and show that the utilization of funds are in accordance with the budget outlined in the agreement. The claims shall also include receipts, weigh slips or other appropriate supporting information, as determined by the Commission, to document actual expenditures by the project participant.

(f) The district and the Commission reserve the right to audit project related accounts and records to determine if funds were expended in conformance with the agreement.

(g) A project participant shall maintain a separate accounting of the funds received under the Program.

(h) Records shall be retained for 3 years following the last payment for the project.

(i) Upon the request of the district or the Commission, or both, project participants shall provide access to all records, files and documents related to Program projects.

Section 13. Performance Standards.

(a) The Commission will establish, as it deems appropriate, performance standards for the implementation of the Program. These standards may include specific administrative policies or technical requirements, or both, adopted by the Commission for the implementation and administration of the Program, including standards which prohibit the use of materials or practices which are environmentally harmful.

(b) Standards which prohibit the use of materials or practices which are environmentally harmful shall include the following minimum requirements:

(1) The commercial products used by project participants within a project area shall be used or installed, or both, according to manufacturer's recommendations and label requirements.

(2) Materials toxic to aquatic life, as defined by The Clean Streams Law (35 P. S. §§ 691.1--691.1001), may not be used where surface runoff may enter surface or ground waters.

(3) Compliance with applicable Federal, State and local laws, regulations and permit requirements.

Section 14. Payment of Eligible Expenses to Project Participants.

(a) Payments made by a district pursuant to a project agreement shall be solely for eligible expenses.

(b) Claims for payment shall be submitted by a project participant to the district in accordance with the schedule and terms contained in the approved project agreement. The claims shall be itemized and show that the utilization of funds are in accordance with the project cost summary contained in the approved project application and work plan. Claims may include receipts, weigh slips, equipment use time sheets, employee time sheets or other appropriate supporting information to document actual expenditures by the project participants.

(c) For the purpose of dispersing funds to a project participant under a project agreement, the district may process an advanced working capital payment as follows:

(1) Upon the full execution of the project agreement, the district may process an advanced payment to a project participant of up to 50% of the approved project expenses.

(2) Subsequent payments to the project participant will be made on an actual cash expended basis.

(3) In all cases, the district shall withhold payment of at least 30% of the approved project expenses until the satisfactory completion of the project. Final payment for the project expenses shall be made only after a final inspection by the district determines that the work was performed consistent with the project application and the work plan, and to the satisfaction of the district.

Appendix C. GRANT APPLICATION

This grant application is used by local road owning entities to apply to conservation districts for funding. It includes a required site sketch / workplan, and optional cost summary sheets. The final approved grant application becomes an attachment to the contract between the conservation district and the grant recipient. **The contract and all "standard attachments" are automatically generated by conservation districts in the DGLVR GIS system.**

Attachment A
To Contract

SECTION 9106 OF THE PENNSYLVANIA VEHICLE CODE

DIRT, GRAVEL AND LOW VOLUME ROAD MAINTENANCE GRANT APPLICATION

Project Location: County	Project Location: Municipality			**District Use Only** Application Type: ☐ DGR ☐ LVR Work Site ID:
ESM Certified Person	Position	Certification Date		Date Received:
Official Name of Applying Agency				
Mailing Address				
Contact Person	Phone	Fax	E-Mail	

Road Name / ID Number	Affected Stream or Tributary	
Proposed Project Start Date	Proposed Project Completion Date	Existing Road Surface Type: ☐ Unpaved ☐ Paved Is project considered an emergency? ☐ Yes ☐ No

1.The applicant is required to identify and obtain all necessary permits before starting the project.

2. Identify the proposed work elements: ☐ Ditches Improved ☐ Ditch Outlets Added ☐ Off Right-of-Way Improvements
☐ Road Banks Improved ☐ Road Base Improved ☐ Road Surface Stabilized
☐ Stream Crossings Improved ☐ Storm Water Improvements ☐ Vegetative Management ☐ Other _____

3. The applicant is required to obtain the DSA Specification and Certification form prior to DSA placement.

4. Complete Attachment B "Project Work Plan" including a sketch of proposed project. Attach a locational map with the project highlighted.

5. Project cost estimate: (summarize costs here and attach detailed documentation if needed)

Grant Requested Funds			In-Kind Contributions		
Materials	Equipment	Labor	Materials	Equipment	Labor
See Attachment A1			See Attachment A2		

Grant Requested……. $_____

In-Kind Contributions….. $_____

Total Project Value…….. $_____

Applicant Signature

Date

Attachment B
To Contract

SECTION 9106 OF THE PENNSYLVANIA VEHICLE CODE

DIRT, GRAVEL AND LOW VOLUME ROAD MAINTENANCE PROJECT WORK PLAN

Applicant	Road Name / ID Numb	Date

Instructions:

- Draw a sketch of the proposed project that includes:
  - All Proposed Work (i.e., Cross Pipes, Stream Crossings, Other ESM Practices)
  - Project Road Length in Feet or Miles
  - Nearest Intersection and/or Reference Landmarks
  - Known Utilities
  - North Arrow
- Attach a copy of a locational map with the project highlighted
- Attach additional project details as necessary

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Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.

Project Length = _____ feet / miles (circle one)

North Arrow

Attachment A1
to Contract
(optional)

SECTION 9106 OF THE PENNSYLVANIA VEHICLE CODE

DIRT, GRAVEL AND LOW VOLUME ROAD MAINTENANCE
DETAILED ESTIMATED PROJECT EXPENDITURES
GRANT REQUESTED FUNDS

Use best estimates and complete as much info as possible.

Materials			
Type	Unit Cost	Qty	Cost $
Total Materials $			

Equipment			
Type	Hours	FEMA* Rate/Hr	Cost $
Total Equipment $			

Labor			
Type	Rate/Hr	Hours	Cost $
Total Labor $			

* FEMA rates are only applicable where municipality-owned equipment is used otherwise use contracted rates.

*Prevailing wage may apply to projects over $25,000 when a contractor is involved.

Total Grant Requested: $_____ (materials + equipment + labor)

Applicant	County	Road Name / ID Number	Date

Attachment A1
to Contract
(optional)

SECTION 9106 OF THE PENNSYLVANIA VEHICLE CODE

DIRT, GRAVEL AND LOW VOLUME ROAD MAINTENANCE
DETAILED ESTIMATED PROJECT EXPENDITURES
IN-KIND FUNDS

Use best estimates and complete as much info as possible.

Materials			
Type	Unit Cost	Qty	Cost $
Total Materials $			

Equipment			
Type	Hours	FEMA* Rate/Hr	Cost $
Total Equipment $			

Labor			
Type	Rate/Hr	Hours	Cost $
Total Labor $			

* FEMA rates are only applicable where municipality-owned equipment is used otherwise use contracted rates.

*Prevailing wage may apply to projects over $25,000 when a contractor is involved.

Total In-Kind Contributions: $_____ (materials + equipment + labor)

Applicant	County	Road Name / ID Number	Date

SECTION 9106 OF THE PENNSYLVANIA VEHICLE CODE

DIRT, GRAVEL AND LOW VOLUME ROAD MAINTENANCE
Grant Application/Project Work Plan Instructions

The following instructions pertain to the Dirt, Gravel and Low Volume Maintenance Program **Grant Application** and **Project Work Plan** forms. These instructions are to act as a guide only. Note that all fields are required unless indicated otherwise.

It is strongly recommended grant applicant and Conservation District representatives hold an on-site meeting to discuss a potential project plan before an application is submitted.

Grant Application Instructions

"District Use Only":

- Applicant DOES NOT fill out any of the information within this box.

General Information:

- **County** – The County the road project in question is within.
- **Municipality** – The Municipality (township, borough, or city) the road project in question is within.
- **ESM Certified Person** – List the person who will oversee the project who is currently ESM certified.
- **Position** – The current position of the ESM Certified Person.
- **Certification Date** – The date the ESM Certified Person completed their ESM training. Applicant may need to contact their Conservation District if the date is unknown. The person responsible for project design and oversight for applying entity must be ESM certified within last 5 years to be eligible for funding.
- **Official Name of Applying Agency** – The name of the agency who is applying for Dirt, Gravel and Low Volume Maintenance funding.
- **Mailing Address** – The mailing address of the applying agency. Include street address, state, and zip code.
- **Contact Person** – The official contact person of the applying agency.
- **Phone** – The phone number of the official contact person or the applying agency.
- **Fax** – The fax number of the official contact person or the applying agency. *Optional*
- **E-Mail** – The e-mail address of the official contact person or the applying agency. *Optional*

Affected Road Information:

- **Road Name / ID Number** – The name and identification number of the road in question. List both if available.
- **Affected Stream or Tributary** – The name of the stream or tributary that the road project in question is currently affecting. If project affects a small unnamed tributary (UNT), list the first named stream downstream of the tributary, such as “UNT to Trout Run”..
- **Proposed Project Start Date** – The proposed date that applicant expects the project to begin.
- **Proposed Project Completion Date** – The proposed date that applicant expects the project to be finished.
- **Existing Road Surface Type** – Check the appropriate CURRENT surface type of the road project in question. “tar & chip” or “chip sealed” roads are considered paved.
- **Is project considered an emergency** – Check if the project would be considered an emergency. For example, a road that is washed out and is unpassable due to a storm would be considered an emergency.

Additional Questions, Proposed Work Elements, and Cost Estimates:

1) **Applicant is required to identify and obtain all necessary permits before starting the project:**
   - By signing the application, the applicant acknowledges they understand that they will be required to identify and obtain all required permits before starting the project. Applicant is not required to identify and obtain these permits prior to submitting the grant application.
2) **Identify the proposed work elements:** Check all that apply
   - **Ditches Improved** – Stabilizing ditches through elimination, vegetation, armoring, flow reduction, etc.
   - **Ditch Outlets Added** – Addition of drainage outlets such as pipes, turnouts, etc.
   - **Off Right-of-Way Improvements** – Improvements to access roads, lanes, etc. that affect the public roadway.
   - **Road Banks Improved** – Stabilizing of banks through reprofiling, armoring, vegetation, etc.

- **Road Base Improved** – Improvements to road base through material addition, milling, geo-synthetics, etc.
- **Road Surface Stabilized** – Improvements to the road surface through new material, stabilizers, etc.
- **Stream Crossings Improved** – Replacement or stabilization of road/stream crossings.
- **Storm Water Improvements** – Improvements to or disconnection of traditional storm water collection systems.
- **Vegetative Management** – Vegetation work such as tree thinning, selective thinning, seeding, etc.
- **Other** – List any other proposed work elements not covered by the above choices.

3) **Applicant is required to obtain the DSA Specification and Certification form Prior to DSA placement.**
   - Applies to any projects using Driving Surface Aggregate (DSA).
   - By signing the application, applicant acknowledges that they understand that they will be required to obtain the Specification and Certification from the aggregate supplier prior to aggregate placement.

4) **Complete Attachment B by drawing a sketch of the proposed project. Attach a copy of a locational map with the project highlighted:**
   - This project sketch is part of the Project Work Plan that is addressed at the end of the Grant Application help.

5) **Project cost estimate:**
   - **Applicant must provide estimates for both grant requested funds and in-kind services.**
     - **"Grant Requested Funds":** summarizes the project costs that the applicant is requesting from the Program through the Conservation District.
     - **"In-Kind Contributions":** summarizes the costs incurred by the applicant in project implementation where no reimbursement will be requested or made through the Program.
   - **Cost estimates** - Cost estimates for simple projects may fit in the space provided on the Grant Application. Many projects, however, may require a separate worksheet. The optional "Detailed Estimated Project Expenditures" and "Detailed Estimated In-Kind Contributions" worksheets (Attachments A1 and A2) can be used to summarize cost details.
   - **Grant Requested** – The project costs that the applicant is requesting from the Program through the Conservation District.
   - **In-Kind Contributions** – The costs that will be borne by the applicant where no reimbursement will be requested or made through the Program.
   - **Total Project Value** – Grant Requested + In-Kind Contributions. This is the total estimated cost of the project.

Finalizing the Application:
- **Applicant Signature** – The signature of the applicant.
- **Date** – The date the Grant Application was completed.

Project Work Plan Instructions

General Information:
- **Applicant** – The entity applying for the grant.
- **Road Name / ID Number** – The name and identification number of the road in question. List both if available.
- **Date** – The date the project work plan was completed.
- **North Arrow** – Draw a locational north arrow that identifies where north is as related to the sketch.
- **Project Length** – Enter the length of the proposed work area (not necessarily entire road length). Then circle the appropriate unit of "feet" or "miles". If the total proposed work length is less than 1 mile, then it is recommended to enter the work length in feet.

Attach a copy of a locational map with the project highlighted:
- Highlight or circle the project location on a map such as township map, topographic map, photocopied atlas map, GIS map, PennDOT map, etc. Do not include any project work items on the location map (they go on the workplan). The purpose of this map is to allow the project site to be easily found.

DETAILED ESTIMATED PROJECT EXPENDITURES WORKSHEETS
INSTRUCTIONS

OPTIONAL - (attachments A1 and A2) - OPTIONAL

Included with the Grant Application packet are two additional project expenditure worksheets. These two worksheets, Grant Requested Funds and In-Kind Contributions, are referred to in the Grant Application as Attachment A1 and Attachment A2, respectively. These are not required but are recommended if the applicant needs more space than what is provided in the Grant Application. Since they are nearly identical, general help is provided below.

- **Grant Requested Funds/In-Kind Contributions Worksheets:**
- **Materials** – List the type, unit cost, quantity, and total cost for each proposed material.
- **Equipment** – List the type, hours, FEMA Rate/Hour if applicable, and cost for each piece of equipment proposed. Note that FEMA rates are only applicable where township-owned equipment if used otherwise applicant should use contracted rates.
- **Labor** – List the rate, hours, and cost per type of laborer.
- **Total** – The total cost of materials, equipment, and labor.
- **Applicant** – The Grant Application applicant.
- **County** – The County the road project in question is within.
- **Municipality** – The Municipality (township, borough, or city) the road project in question is within.
- **Road Name / ID Number** – The name and identification number of the road in question. List both if available.
- **Date** – The date the project expenditures form was completed.

Appendix D. Traffic Count Validation and Instructions

Form for recording traffic counts to ensure that paved low-volume roads have traffic counts of ≤500 vehicles per day in order to be eligible for funding. Applies to paved Low Volume Roads only; Dirt and Gravel Roads do not require traffic counts.

Dirt, Gravel, and Low Volume Road Maintenance Program (DGLVRP)
Traffic Count Validation Form

TRAFFIC COUNT LOCATION

Road Name and #:_____ Road Owner:_____

County: _____ Township: _____

GPS Location (if available):_____W, _____N

If GPS location not available, describe count location here: _____

_____

(for example: Traffic count on Smith road, ½ mile north of intersection with SR180, Maple road.)

Traffic Counts can be validated by use of existing data, a level 1 two-hour count, or a level 2 twenty-four-hour counts. Select the method used below and complete that section of the form.

Select method used

☐ **Existing Data or Extrapolation:** For existing traffic data, or extrapolation of existing data, describe the data used and extrapolation method on the back of this page. If necessary, attach a description of the data and extrapolation methodology, source and date of traffic counts used, and maps.

☐ **LEVEL 1 TRAFFIC COUNT DETAILS** (2 hour count)

Count Performed From __/__/____, _____ to _____
Date *Time* *Time*

Describe Count Method: (hand/camera/counter/etc.)_____

Count Performed by: _____ of _____
(name) (organization)

Total Count = _____ vehicles x 12 = _____ ADT

☐ **LEVEL 2 TRAFFIC COUNT DETAILS** (24 hour (minimum) automatic count)

Count Length: **24hr** 48hr 72 hour other: _____

Count Performed From __/__/____, _____ to __/__/____, _____
Date *Time* *Date* *Time*

Counter Used: air tube other:_____ Counter Make/Model:_____

Count Performed by: _____ of _____
(name) (organization)

Total Count = _____ 24 hour count = _____ ADT

Applicant Validation: I hereby swear that this count is accurate as reported here and done in accordance with State Conservation Commission specifications.

_____,_____ _____, _____
print name *position* *signature* *date*

Conservation District Validation: The traffic count data supplied by the applicant is acceptable to the Conservation District in accordance with SCC and county policy.

_____,_____ _____, _____
print name *position* *signature* *date*

This form verifies eligibility of a sealed road for LVR funding as having a traffic count of 500 vehicles per day or less. It must be signed and retained in the project files.

Details for use of existing data or extrapolation from existing data:

Existing Data must have been collected within the previous 5 years and conform to the Program's Level 2 count protocol at a minimum. "Estimated" traffic counts that exist for many municipal roads cannot be used.

It is possible to use existing data for roads with 500 vehicles per day or less to extrapolate logically to subsidiary roads. For example, a spur road between two State Roads where both state roads have less than 500 vehicles per day must also have less than 500. This extrapolation of data can be used to verify that a road has 500 vehicles per day or less without performing a count. This extrapolation of traffic counts must prove the ADT on the road is 500 or less to the satisfaction of the Conservation District.

Describe existing data used and extrapolation methodology below. Attach additional material and maps if needed.

_____

_____

_____

_____

_____

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_____

Dirt, Gravel, and Low Volume Road Maintenance Program (DGLVRP)

Traffic Count Instructions for Applicants

10/20/14

This document is intended to provide instructions to applicants for performing traffic counts. For details of the Program's Traffic Count Policy, see the Program's administrative manual chapter 7.4.

Traffic Count Location – This section is to enter basic information about the location of the traffic count such as the name and location of the road, county and township, and the name of the road owning entity. GIS coordinates are helpful to locate the project on a map, but if this is not known, please describe the location so that it can be easily found (i.e. Intersection of Elk Lane and Beaver Creek Road).

Choose one of the 3 methods below to determining traffic count:

- Existing Data or Extrapolation - Indicate whether this traffic count is taken from existing data, or extrapolated from existing data. See Chapter 7.4 of the administrative manual for more details on data extrapolation. Page two of the form can be used to describe the methodology used to extrapolate from existing traffic data.

- Level 1 Traffic count details – Record the date and time the count was performed, describe what method was used to take the count (i.e. camcorder). Indicate the name of the person taking the count, and who they work for. For a 2 hour count, multiply the number of cars counted by 12 to determine the average daily traffic (ADT).

- Level2 traffic count details – Record the length of the count, the dates and times of the count, and the type of counter used, including the make and model of the counter. Indicate the name of the person taking the count, and who they work for. Record the total count, then adjust to a 24 hour count if needed (i.e. 800 cars counted in 48 hours = 400 ADT).

Applicant Validation – Applicant must print and sign and date the validation form. Indicate the position held by the person signing the validation.

Conservation District Validation - Conservation District must print and sign and date the validation form. Indicate the position held by the person signing the validation.

Appendix E. Cost Allocation Method Examples

Cost allocations methods must be used by conservation districts to determine administrative and education spending, especially as related to shared expenses within the district. More information in section 3.4.2 of this manual.

Cost Allocation Method Examples 7/2022

PA County Conservation District use of Dirt, Gravel, and Low-Volume Road Funding

This appendix provides examples to support section 3.4.2 of the DGLVR Administrative Manual that discusses cost allocation methods for Administrative and Education expenses by a Conservation District.

Example 1: Full-Time Equivalents (FTE)

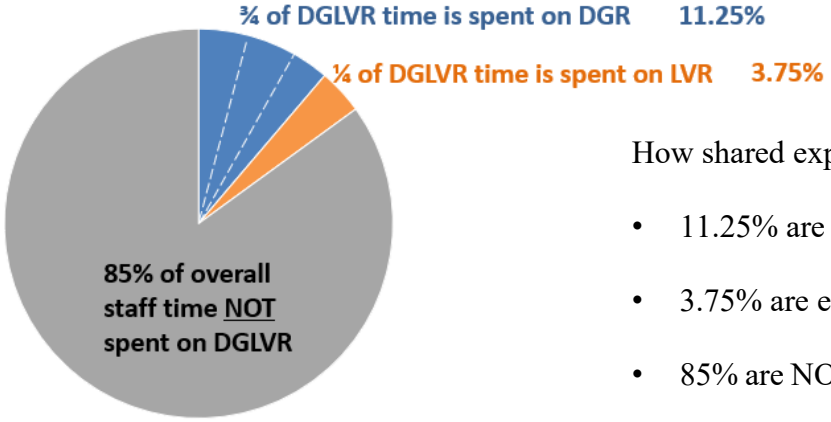
- A full-time equivalent (FTE) is a unit of measurement that represents the amount of time worked by one full time employee.
- If a district has 10 FTE staff, and 1.5 of those FTE staff are funded by the DGLVR Program, then 15% of general overhead expenses (utilities, rent, and other shared expenses) are eligible DGLVR administrative expenses.
- DGR and LVR funds must be tracked separately (section 3.4.1), so this 15% is subdivided into DGR and LVR categories. Out of all DGLVR staff time (1.5 FTEs), 75% is DGR and 25% is LVR. This means that:
  - 11.25% of the shared expenses are an eligible DGR expense because 75% of 15% is 11.25%
  - 3.75% of the shared expenses are an eligible LVR expense because 25% of 15% is 3.75%

Example 1: 1.5 FTEs out of 10 FTEs are spent on DGLVR Activities. 75% of the 1.5 FTEs is spent on DGR activities, and 25% is spent on LVR activities.

Two ways to calculate percentages: 15% ÷ 4 = 3.75%	Example Expense: $1,000.00
¾ of DGLVR time is DGR 3.75% x 3 = 11.25% is DGR	$1,000 x 11.25% = **$112.50 is an eligible DGR expense**
¼ of DGLVR time is LVR 3.75% x 1 = 3.75% is LVR	$1,000 x 3.75% = **$37.50 is an eligible LVR expense**
OR	$1,000 – $112.50 – $37.50 = **$850 is not an eligible DGR or LVR expense**
75% of 15% = 0.75 x 0.15 = 0.1125	
25% of 15% = 0.25 x 0.15 = 0.0375	

Cost Allocation Method Example 1:

1.5 out of 10 FTEs spent on DGLVR



How shared expenses are paid:

- 11.25% are eligible DGR expenses
- 3.75% are eligible LVR expenses
- 85% are NOT eligible DGLVR expenses

Cost Allocation Method Examples 7/2022

PA County Conservation District use of Dirt, Gravel, and Low-Volume Road Funding

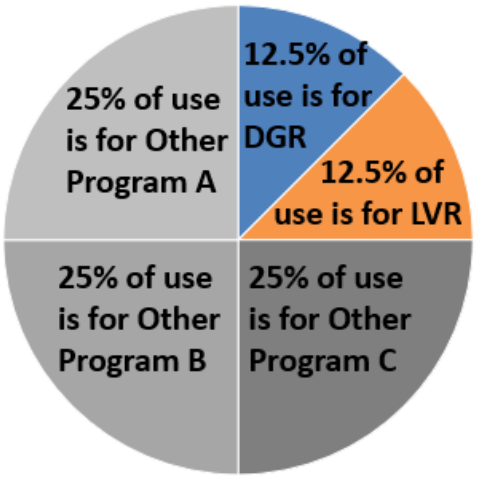
Example 2: If a district has a vehicle that is shared equally by 4 programs, vehicle expenses could be divided equally among the 4 Programs. DGLVR is one of the 4 programs, and the vehicle is used for equal amounts on DGR and LVR activities. 1/8 or 12.5% of the vehicle expenses are eligible DGR expenses, and 1/8 or 12.5% of the vehicle expenses are eligible LVR expenses. *Note: In this scenario, vehicle logs would document the equal usage of the vehicle for different programs, and the logs must be retained and provided upon request per section 3.4.1.*

Example 2:

100% / 8 = 12.5%	Example Expense: $1,000.00
1/8 (12.5%) of vehicle use is DGR	$1,000 x 12.5% = **$125.00 is an eligible DGR expense**
1/8 (12.5%) of vehicle use is LVR	$1,000 x 12.5% = **$125.00 is an eligible LVR expense**
	$1,000 – $125 – $125 = **$750 is not an eligible DGR or LVR expense**

Cost Allocation Method Example 2:

Vehicle shared equally by 4 Programs



How shared expenses are paid:

- 12.5% of each expense is an eligible DGR expense
- 12.5% of each expense is an eligible DGR expense
- 75% of each expense is NOT an eligible DGR expense
-

Cost Allocation Method Examples 7/2022

PA County Conservation District use of Dirt, Gravel, and Low-Volume Road Funding

Example 3: If a district has a vehicle that is shared unequally by several programs, vehicle expenses or charges must be based on actual usage for each Program.

Example 3:

Vehicle is used for 500 miles in a quarter. 52 of those miles were for DGR activities, and 110 were for LVR activities.

Eligible DGR mileage expense = 52 x $0.58 (or other acceptable mileage rate) = $30.16
Eligible LVR mileage expense = 110 x $0.58 (or other acceptable mileage rate) = $63.80

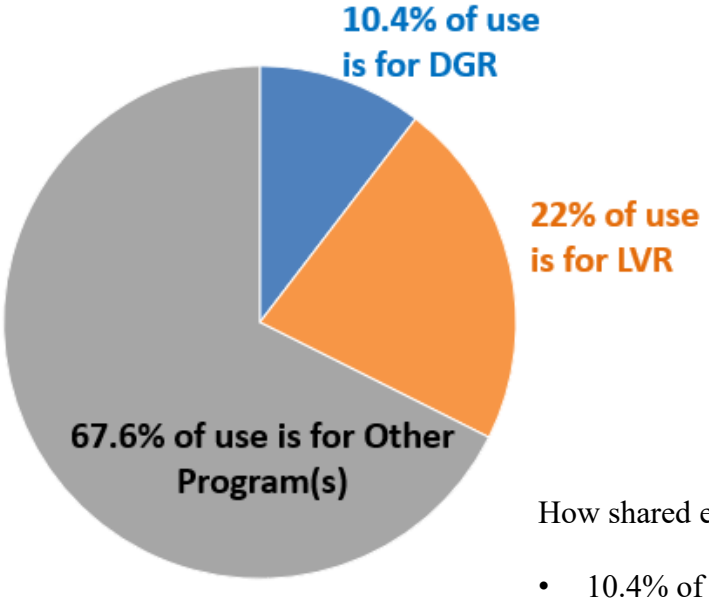
How much of a $50 oil change is eligible for reimbursement with DGR and LVR funds?

DGR: $\frac{52}{500} = 0.104$ $50 x 0.104 = $5.20 of the oil change is an eligible DGR expense

LVR: $\frac{110}{500} = 0.22$ $50 x 0.22 = $11.00 of the oil change is an eligible LVR expense

Cost Allocation Method Example 3:

Vehicle shared unequally by multiple programs



How shared expenses are paid:

- 10.4% of each expense is an eligible DGR expense
- 22% of each expense is an eligible LVR expense
- 67.6% of each expense NOT an eligible DGLVR expense

Appendix F. Driving Surface Aggregate Standard and Specification

Driving Surface Aggregate (DSA) standard and specification for use with DGLVR funded aggregate placements. See section 7.2 of this manual for additional information.

3/18/2025

PA State Conservation Commission
Driving Surface Aggregate Standard and Specification

I. **Definition -** This document is for the purchase and placement of Driving Surface Aggregate (DSA) for the Pennsylvania State Conservation Commission's Dirt, Gravel, and Low Volume Road Maintenance Program (DGLVRMP). DSA is an aggregate mixture of crushed stone designed specifically as a surface-wearing course for unpaved roads. DSA provides a durable road surface with longer maintenance cycles than conventional road surface aggregates.

II. **Use -** For the purposes of funding under the DGLVRMP, DSA must be used in areas where it will have an environmental benefit (reduced erosion, reduced runoff). DSA shall only be placed after drainage and subgrade issues have been addressed by utilizing practices that promote Environmentally Sensitive Maintenance. DSA was originally designed to reduce erosion and runoff on road segments close to streams where drainage improvements were limited. Surface aggregate is not required on every project.

III. **Material -** DSA to be used on DGLVRMP projects shall be tested prior to delivery by an independent lab that has no affiliation with the source quarry. Samples tested using DGLVR funds must be performed by a lab that is certified by AASHTO, USACE, or PennDOT. Samples shall be obtained by Conservation District (CD) staff, Center for Dirt and Gravel Road Studies (CDGRS) staff, or otherwise approved by the SCC. Material must meet the following requirements:

Gradation: The required sieve sizes and allowed ranges, determined by weight, for DSA components are shown in Table 1. Submit actual sieve passing values to one decimal. Values will not be rounded to whole numbers.

Sieve Size	Percent Passing
1.5”	100
0.75”	65 – 97
#4	30 – 65
#16	15 – 32
#200*	11 – 15

*If the Plasticity Index for the material is 2 or below, then the #200 sieve is permitted to be 11-17% passing.

Table 1 – DSA Gradations

A. **Abrasion Resistance**: The loss of mass (LA Abrasion) shall be less than 45%**.** Determine the resistance to abrasion using the Los Angeles Abrasion test, ASTM C131.

B. **pH**: Aggregate shall be in the range of pH 6 to pH 12.45 as measured by ASTM D4972.

C. **Moisture**: Upon delivery to the site, material shall be well mixed and placed at optimum moisture content or up to 2% below that value as determined for that particular source. The optimum percentage moisture is to be determined using Proctor Test ASTM D698, Procedure C, Standard. Aggregate provider is encouraged to perform moisture testing prior to loading

material for delivery.

D. **Plasticity**: Material shall not exceed a Plasticity Index (PI) of 4. The laboratory test required for these results is ASTM D4318 – Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils. If Plasticity Index for material is 2 or below, the #200 sieve is permitted to be 11-17% passing.

E. **Soundness**: Determine the percentage of mass (weight) loss of each fraction of the coarse aggregate after five cycles of immersion and drying using a sodium sulfate solution according to PTM No. 510. The maximum weighted percent loss allowed is 20%.

F. **Aggregate**: All DSA shall be derived from natural rock formations that meet program specification for abrasion resistance, pH and freedom from contaminants.

G. **Fines**: If fines need to be added to the aggregate to meet DSA gradation requirements, the added material passing the #200 sieve must be derived from rock material that conforms to program specifications. No mineral clay or silt soil may be added. The amount of particles passing the #200 sieve shall be determined using the washing procedures specified in PTM No. 100.

H. **Mixing**: DSA shall be properly mixed and at the proper moisture content before it is loaded onto the transport vehicles.

IV. Delivery and Placement

A. **Preparation of Subgrade**: Unsatisfactory drainage and subgrade conditions shall be corrected prior to placement by scarifying, reshaping, and re-compacting, or by replacing or importing subgrade/sub-base. The subgrade/subbase shall be crowned or side-sloped to ½ to ¾ inch per foot (4%-6% slope). Beginning and ending of DSA placements shall include a paving notch across the width of the subgrade. The paving notch shall have a minimum depth equal to the compacted DSA placement, and a sufficient length to facilitate transition into existing road surface, or a minimum of 4’ in length.

B. **Transport**: Tarps shall be used to cover 100% of the load’s exposed surface from the time of loading until immediately before placement.

C. **Certification**: A properly executed SCC DSA Certification Form shall be provided at the time of initial delivery and subsequent certification forms shall be provided if quarry conditions change. This Certification Form is to apply to the specific stockpile of DSA material being delivered from the source. The form certifies that the DSA material meets all of the specifications and requirements.

D. **Placement**: The use of a motorized paver is highly recommended for all DSA placements. For projects and/or contracts including over 500 tons of DSA, a motorized paver is required. Paver must be in good working order and be of sufficient horsepower to be capable of pushing loaded trucks uphill while placing material in a full width pass at the required minimum depth stipulated in the contract. If the total tonnage is less than 500 tons, the DSA must be paver placed or placed by tailgating and groomed with a road grader equipped with a carbide-tipped grader blade. A track mounted paver is preferred. DSA shall be placed in a single pass across

the width of the road. The crown or cross slope must range from ½ to ¾ inch per foot (4-6%). Material shall be placed in a single 6-8 inch loose lift or layer. This lift is to be compacted with a vibratory roller as specified in Section V - Compaction. If freezing temperatures or precipitation are forecast that may cause the material to freeze, or prevent the material from drying out, placement shall be postponed at the discretion of the road owner, Conservation District, or aggregate supplier. DSA shall not be placed before April 1st or after September 30th unless otherwise approved by the SCC.

V. Compaction

A. **Vibratory Roller:** After placement, the material shall be compacted using a minimum ten-ton vibratory roller. DSA shall be compacted to a minimum of 95% of the dry-mass (dry-weight) density according to ASTM D698, Procedure C, Standard as determined by pre-sampling (refer to Materials, Section III.D). The road owner, or its designated representative, reserves the right to determine the in-place moisture and density according to ASTM D6938.

VI. Maintenance -

Properly placed and compacted DSA provides a durable road surface with longer maintenance cycles than traditional aggregates, but it is not maintenance free. Refer to the Center for Dirt and Gravel Roads "Driving Surface Aggregate Handbook" for additional guidance on DSA maintenance.

VII. References:

A. State Conservation Commission Driving Surface Aggregate Certification Form.
B. Penn State Center for Dirt and Gravel Road Studies "Driving Surface Aggregate Handbook"
C. ASTM C131 [AASHTO T96] - Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
ASTM D4972 - Standard Test Method for pH of Soils.
D. ASTM D698, Procedure C, Standard [AASHTO T99] – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3).
E. ASTM D4318 [AASHTO T89/90] – Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
Pennsylvania Test Method No. 100. - Method of Test for amount of material finer than 75 µm (no. 200) sieve in aggregate.
H. Pennsylvania Test Method No. 510 – Method of Test for soundness of aggregate by use of sodium sulfate.
I. ASTM D6938 [AASHTO T310] – Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

Appendix G. Stream Crossing Design and Installation Standard

Standard required to be used on all DGLVR stream crossing replacements, unless an Exemption from DGLVR Stream Crossing Standard applies. See section 7.1 of this manual for additional information.

PA STATE CONSERVATION COMMISSION
DIRT, GRAVEL AND LOW VOLUME ROAD PROGRAM

STREAM CROSSING DESIGN & INSTALLATION STANDARD

I. DEFINITIONS

Aggradation: Deposition of sediment and corresponding increase in streambed elevation, often due to inability of the stream to adequately convey its sediment load during flood.

Anticipated Scour Depth: Depth of expected scour used to determine structure bury depth based on observed maximum reference reach pool depth and a factor of safety.

Aquatic Organism Passage: Unimpeded movement of aquatic organisms through the road/stream crossing.

Bankfull Elevation: In non-confined channels, the elevation point at which the stream typically accesses the floodplain. Channel dimensions at the bankfull elevation convey the channel-forming or dominant discharge.

Bankfull Width: A site-specific, field-derived measurement of channel width at the bankfull elevation.

Bank Margins: Large rock placed along the outside edges of the reconstructed bankfull channel within the stream crossing structure. Placement of the bank margins define bankfull channel width and bank margin (bankfull) elevation/height through the structure.

Bedform: Typical sequence of streambed features through the project reference reach (riffles/pools, step/pool, etc.).

Channel Continuity: Relative consistency and connectivity of a stream channel upstream, through, and downstream of a road/stream crossing, in regard to physical characteristics of the channel such as slope, planform, dimensions, profile, and bedforms.

Continuity Slope: Slope of the reconstructed section of streambed necessary to re-establish a relatively continuous slope, profile, and bedforms (channel continuity) along the entire length of stream extending upstream, through, and downstream of the new crossing.

Crossing: Refers to the location of a road/stream crossing structure.

Cross-Section Survey: A survey conducted across the channel (perpendicular to the thalweg) to produce a graphical representation of channel dimensions including shape, depth, and width.

Degradation: Accelerated erosion and transport of sediment from the streambed and banks, and corresponding lowering of the streambed elevation. Often associated with increased scour potential due to channel constriction or abrupt increase in channel slope.

Finished Opening Area: The unobstructed area within the structure after accommodating for stream bed material, low flow channel, and bank margins.

Finished Opening Height: Vertical distance measured from the thalweg elevation at the crest of a constructed grade control feature inside the replacement structure, upward to the top of the culvert opening or bottom of bridge beam.

Flood Resiliency: Reducing the risk of flood damages to people and infrastructure by planning and implementing measures that improve floodwater conveyance and provide for long-term stability of a self-maintaining stream corridor.

Grade Control: Natural or manmade structures that control channel elevation, dictate channel slope, and maintain bedforms. Common types include riffles, cascades, steps, rock clusters, and large wood features.

Intermittent Watercourse: A stream or waterway with surface flow during various times of the year when groundwater inputs are sufficient to provide streamflow. At other times of the year, when there is insufficient groundwater input, the stream channel may be dry.

Invert: Interior bottom elevation of stream crossing structure.

Key Pieces: Largest rocks in the reconstructed streambed substrate. Often these can be clustered to provide areas of minor, frequent grade control along the length of the channel bed in-between more robust constructed grade control features.

Longitudinal Profile Survey: Survey of the stream channel, typically measured from upstream to downstream along the channel thalweg, to capture prominent features such as channel elevations, depths, and slopes at bedform features such as riffles, pools, runs, glides, and step/pools.

Low Flow Channel: Portion of the channel commonly wetted during stream base flow.

Outlet Scour Pool: An overly widened and deepened pool bedform feature often (but not always) located immediately downstream of an undersized crossing.

Perennial Watercourse: A stream or waterway with surface flow throughout the entire calendar year.

Q100: The 100-year recurrence interval of stream flow. In any given year, there is a 1% probability that a flow of that magnitude or greater would occur.

Reconstructed Reach: Section of stream to be constructed upstream, through, and downstream of the new structure to re-establish channel continuity between the tie-in points.

Reference Reach: Section of stream channel that best reflects the “typical” natural, minimally impacted physical characteristics (profile, dimension, planform, and dominant bedform) of the channel. For stream crossing projects, the reference reach is located beyond the extent that the channel impacts are associated with the existing structure. Site Assessment (survey) of the reference reach is used as a blueprint for design of the reconstructed reach.

Site Assessment: Survey of longitudinal profile and cross-sections through, and adjoining to, the project site used to inform project design.

Structure: A road/stream crossing structure, such as a culvert or bridge, constructed across a stream to provide controlled access for vehicles.

Substrate: Mixture of rock that composes the streambed.

Thalweg: The line of lowest elevation along the flowpath of a stream channel. Dimensionally, this is reflected as the lowest point of elevation in the channel cross-section.

Tie-in Points: Locations of existing or constructed grade control features where the upstream and downstream limits of the reconstructed reach transition to the existing stream channel. Tie-in points define the limits of the reconstructed reach necessary to achieve channel continuity upstream, through, and downstream of the crossing**.**

II. PURPOSE

This standard is applied for the purposes of:

A. Providing greater flood resiliency at road stream crossings and reducing maintenance of undersized crossings.
B. Improving water quality by reducing sediment and erosion occurring at the road and stream interface.
C. Reducing streambed and streambank degradation.
D. Constructing and maintaining stream channel continuity through the road profile.
E. Accommodating aquatic organism passage upstream, downstream, and through the road crossing.
F. Repairing and stabilizing stream channels damaged by undersized stream crossings.

III. CONDITIONS WHERE PRACTICE APPLIES

This practice applies to stream crossing structure replacements and installations on state or local publicly owned roads where:

A. DGLVR funding is used, in whole or in part, to fund a stream crossing replacement.

B. An intermittent or perennial watercourse exists.

C. A defined bed and bank convey water to a roadway.

IV. GENERAL CRITERIA APPLICABLE TO ALL STREAM CROSSING INSTALLATIONS

A. Refer to the Dirt, Gravel, and Low Volume Roads (DGLVR) Program *Stream Crossing Replacement Technical Manual* for additional design and construction guidance and details regarding implementation of the standards and requirements listed below.

B. All stream crossing projects shall be authorized in accordance with local, state, and federal laws. All applicable permits must be obtained prior to construction.

C. All stream crossing structures shall be comprised of one single-opening structure installed at each crossing. Projects shall not utilize multi-opening structures or the placement of multiple single-opening structures at any one crossing location. Additional floodplain conveyance structures may be installed a minimum of one bankfull-width distance outside of the bankfull channel.

D. New stream crossing structures shall be designed to pass, at a minimum, the 100-year discharge (Q100) at a water surface elevation not to exceed 80% of the finished opening height.

   A Hydrologic and Hydraulic (H&H) Study is required that includes:

   1. finished thalweg elevations, and
   2. clearly labeled discharge values and water surface elevations at the proposed crossing inlet for Q2, Q10, Q25, Q50, and Q100.

E. Grade controls, bank margins, and key pieces shall, at a minimum, be designed to be stable at Q100.

F. Structures must be of adequate width to accommodate the bankfull width of the stream at the final bankfull elevation with stable bank margins. Once these design criteria are met, the structure width shall not be less than 1.25x the bankfull width of the stream at the bankfull elevation.

G. In project design and construction, bankfull channel dimensions must be based upon project site-specific field measurements. Channel dimensions derived from other methods, such as modeling of estimated bankfull discharge, shall not be utilized.

H. New structures must be properly aligned with the channel, unless not feasible due to permitting restrictions or other constructability restraints. See Attachment A and the SCC GP-11 Permit Memo (Appendix E of the *DGLVR Stream Crossing Replacement Technical Manual*) for additional clarification of permitting, including minor channel realignments that might be authorized with a GP-11 for stream crossings designed to this Standard.

I. Consider floodplain connectivity when necessary (e.g., high water by-pass, overflow pipes, etc.). Floodplain or overflow pipes must be placed a minimum of one bankfull-width distance outside of the bankfull channel.

J. Structures must be designed and constructed to accommodate the passage of aquatic organisms through the structure.

K. Round pipes over 36” in diameter may not be utilized for stream crossings.

L. Low flow channels with well-defined bank margins must be built through the structure.

M. Site Assessment:

1. A longitudinal profile survey is required for each site prior to project design and/or permitting. The surveyed stream segments must extend far enough to capture existing channel slopes upstream and downstream of the crossing and must include an appropriate reference reach to support project design. To determine applicability, the reference reach slope must be +/- 25% of the proposed continuity slope of the reconstructed streambed, unless otherwise approved by the SCC. If an appropriate reference reach is not located near the crossing, a separate survey may be conducted on an appropriate reference reach further upstream or downstream of the crossing. The reference reach must begin and end at existing grade control features and must, at minimum, include two consecutive sequences of repeating bed features (eg., riffle/pool/riffle/pool/riffle). A longer reference reach, including additional bedform sequences, is encouraged in order to provide more reliable design criteria.
    i. The longitudinal profile survey must extend both upstream and downstream of the crossing and include data points associated with the existing structure and roadway surface.
    ii. A sufficient number and locations of data points must be collected to determine the stream channel features that are critical to a successful structure replacement. These include:
        1. channel and structure slope,
        2. grade control types, lengths, and spacing,
        3. pool scour depth,
        4. potential tie-in points,
        5. aggradation wedges,
        6. plunge pools,
        7. vertical offset of the streambed adjacent to the structure, and
        8. available roadway cover.
    iii. The longitudinal profile survey must extend a minimum of 150’ upstream and 150’ downstream of the existing crossing. Additional length of survey may be necessary to capture a suitable reference reach to support the project design. Actual length of the longitudinal profile survey is dependent upon the site conditions, availability of a suitable reference reach, channel size, and distance necessary to accurately capture existing channel slopes both upstream and downstream of the crossing. The longitudinal profile survey must extend from an existing grade control upstream of the crossing feature to an existing grade control feature downstream of the crossing.
2. Cross-section surveys are required at a minimum of two locations. At minimum, surveys must be completed at a grade control crest within the reference reach and at the deepest point in the outlet scour pool (if present). If no outlet scour pool exists, this survey should capture the maximum depth of a pool feature from the reference reach. At minimum, each surveyed cross section must include data points on both streambanks capturing top-of-bank, bankfull, and right/left edge of water. Instream data points must include a minimum of three streambed points, including the thalweg (low-flow channel).
3. Refer to the *DGLVR Stream Crossing Replacement Technical Manual* for more guidance on Site Assessment requirements.

N. The engineer is responsible for the Site Assessment data they use. If conservation districts provide Site Assessment data, the engineer has discretion to use the provided data or conduct their own surveys. If a Site Assessment is completed by the design engineer to support their project design, the conservation district technician is required to be on-site while the surveys are being performed by the engineer and/or surveyor. The engineer shall provide the completed survey and Site Assessment data to the conservation district technician. The Site Assessment data provided to the conservation district shall include stationing, elevations, and notations of key stream features as outlined in (M.) above.

O. The Site Assessment data (from longitudinal profile and cross section surveys) described above shall be used to inform project design considerations, including the following:

1. Minimum stream substrate depth (measured below the low flow channel at a grade control crest, to the structure invert or bottom of the footings) is to be based on the maximum pool depth in the reference reach with a minimum safety factor multiplier as listed in Table 1. Alternatively, minimum bury depth can be determined using industry-accepted scour analysis and modeling tools for stream system analysis and/or bridges (storm sewer models are not acceptable for stream crossing scour analysis).

Table 1: Pool Depth Safety Factor Multiplier to Establish Anticipated Scour Depth

Continuity Slope	Pool Depth Multiplier
0% - 2.0%	1.5
2.1% - 4.0%	2.0
> 4.0%*	2.5

* Structures installed on reconstructed reach stream slopes >4.0% must be bottomless. The 2.5 safety factor multiplier is to establish the recommended minimum bottom of footing buried depth. The final footing buried depth is to be determined by the Engineer in the project design.

2. Minimum substrate depth (measured below the low flow channel at a grade control crest, to the structure invert or bottom of the footings) shall be 24 inches, or the depth determined with scour analysis models or the Anticipated Scour Depth, whichever is greater.
3. The design shall identify stable tie-in points at grade control features (either existing or to be constructed). The distance between the upstream and downstream tie-in points must extend far enough in both directions to restore channel continuity upstream, through, and downstream of the structure.
4. In-stream channel grade control(s) are required for re-constructing the stream channel and/or stabilizing the stream bed and channel through the reconstructed stream reach. Types of grade control features utilized must be the same type as those within the appropriate reference reach. Design of grade control feature length and spacing shall be based upon the Site Assessment data.
5. Design of the cross-sectional shape of the reconstructed reach must be based on Site Assessment data.

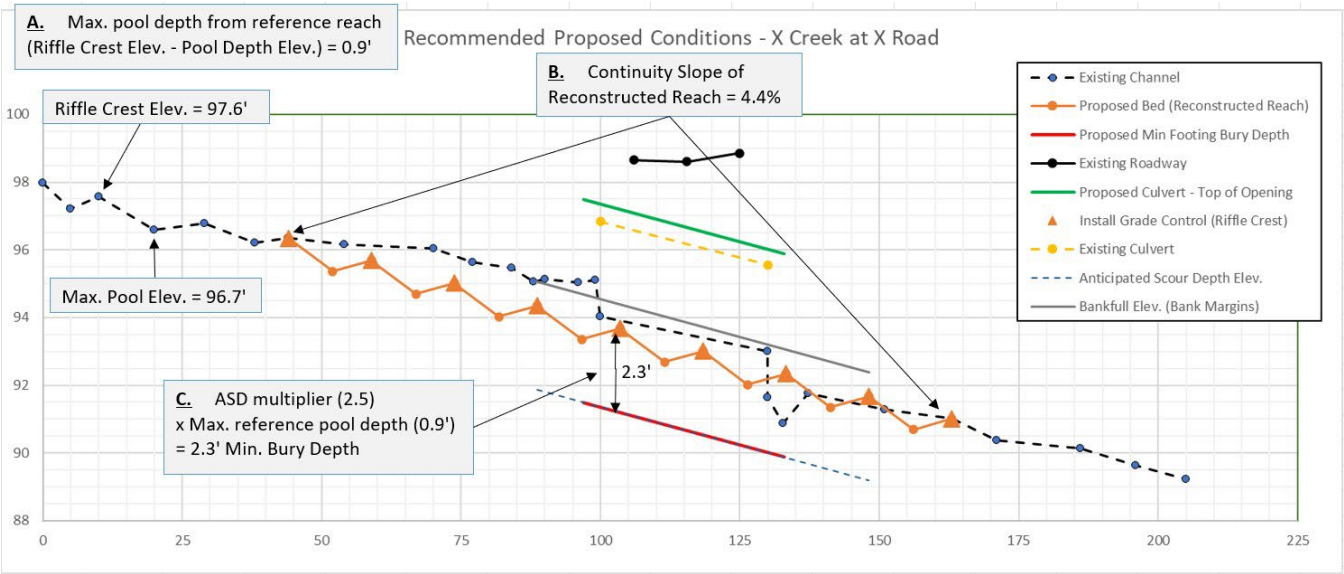


Figure 1. Determining Minimum Bury Depth through the Anticipated Scour Depth / Pool Depth Multiplier Method. **A.** Maximum reference reach pool depth is defined as the greatest vertical difference between each pool bottom elevation and the elevation of the corresponding grade control crest immediately upstream (in this example, 0.9'). **B.** The slope of the stream segment to be reconstructed in order to reestablish channel continuity upstream, through, and downstream of the replacement crossing ("continuity slope") determines the multiplier value to be applied. In this example, a continuity slope of 4.4% corresponds to a pool depth multiplier value of 2.5 (see Table 1, above). **C.** Minimum bury depth is the product of the maximum reference pool depth x pool depth multiplier. In this example, 0.9' x 2.5 = 2.3' minimum bury depth. The minimum bury depth defines the minimum depth to which the bottom of footings (or structure invert) must be installed. This depth is measured downward from the thalweg elevation at the crest of a constructed grade control feature within the replacement structure.

P. Stream crossing projects will likely require work outside of the right-of-way to reconstruct the stream channel, install grade controls, and/or allow for construction access to the stream and structure. Before working outside the right-of-way, the grant recipient must obtain written permission from the landowner(s). In instances where written off right-of-way permission cannot be obtained to do work necessary to achieve channel continuity, the project cannot be completed with DGLVR funds.

Q. The grant recipient or engineer must provide all plans and specifications to the conservation district. The conservation district must review the documents and provide written confirmation to the grant recipient or engineer that those plans and specifications comply with DGLVR policy and the Stream Crossing Standard before they are submitted (or resubmitted) for permit review.

R. Side Slopes: Make all finished cut and fill road slopes stable for the materials involved. Make the side slopes in soil materials no steeper than 2 horizontal to 1 vertical (2:1) in cut slopes or 3 horizontal to 1 vertical (3:1) for fill slopes. Make rock cuts or fills no steeper than 2 horizontal to 1 vertical (2:1).

S. All stream crossing replacement structures must include a headwall and an endwall.

T. Quarried aggregate rip-rap for use as grade control, bank margins, or bank stabilization: Use only rock that is sound, durable, and able to withstand exposure to air, water, and freezing and thawing. Aggregate must be obtained from a Pennsylvania Department of Transportation approved source, or must be tested and meet the following criteria:

   1. Abrasion Resistance: The loss of mass (LA Abrasion) shall be less than 45%: Determine the resistance to abrasion using the Los Angeles Abrasion test, ASTM C131.
   2. Soundness: Determine the percentage of mass (weight) loss of each fraction of the coarse aggregate after five cycles of immersion and drying using a sodium sulfate solution according to PTM No. 510. The maximum weighted percent loss allowed is 20%.

U. Vegetation: Revegetate and permanently stabilize all disturbed areas as soon as practical after construction activities are complete. Revegetation and site stabilization shall comply with the PA Chapter 102 Erosion Control requirements (see the *PA Erosion and Sediment Pollution Control Program Manual* for additional guidance).

V. Road Approaches to Stream Crossings: Ensure that the roadway approaches are stable and road drainage systems have been addressed and are adequate to divert road drainage (e.g., ditches, turnouts, etc.) away from the stream and structure in a manner that prevents erosion.

W. Project work cannot start until all federal, state, and local permits are obtained, if needed. In particular, any required DEP 102/105 permits must be obtained before construction may begin. See the SCC GP-11 Permit Memo (Appendix E of the *DGLVR Stream Crossing Replacement Technical Manual*) for additional clarification.

V. STRUCTURE SELECTION

A. Bottomless structures shall be used for all structure replacements where the continuity slope of the channel to be reconstructed through the project area will be greater than 4.0% or the bankfull width is over 20', as determined by the longitudinal survey.

B. Structures with inverts/bottoms may be used for structure replacements where the continuity slope of the channel to be reconstructed will be 4.0% or less (as determined by the longitudinal survey) or on sites over 4.0% where it is determined by a geotechnical investigation report that soil bearing pressure cannot support structure abutments or footings.

VI. CONSTRUCTION PLANS AND SPECIFICATIONS

A. The grant recipient must provide all permit applications, Site Assessment data, design plans and specifications (per the *DGLVR Stream Crossing Design and Installation Standard*) to the conservation district for review. The conservation district must review the documents and provide written confirmation to the grant recipient that these submitted documents comply with DGLVR policy and the Stream Crossing Standard before they are submitted (or resubmitted) for permit review.

B. Construction plans and specifications shall be designed and prepared in accordance with this Stream Crossing Standard. Construction plans and specifications shall be prepared for all stream crossing projects, regardless of who the contractor or installer may be (applies to projects installed by the grant recipient, such as a municipality). Clearly describe the requirements for applying the practice to achieve its intended purpose in the plan and specifications. At a minimum, the plan and specifications must include the following:

1. Existing conditions of the project site, including but not limited to the full longitudinal profile survey and cross sections of the stream, existing stream crossing, stream crossing and channel slope, road approaches, and delineated wetlands (if applicable).
2. Geographic location and bankfull width of stream.
3. Proposed stream crossing structure width, length, and height with profile and typical cross sections.
4. Elevations and locations of abutments, footings, wingwalls, and other associated appurtenances.
5. Details for stream bed reconstruction (e.g., channel width, proposed channel alignment, channel side slopes, stream bed slope, and location of tie-in points). See Attachment A and the SCC GP-11 Permit Memo (Appendix E of the *DGLVR Stream Crossing Replacement Technical Manual*) for additional clarification of permitting, including minor channel realignments that might be authorized with a GP-11 for stream crossings designed to this Standard.
6. Location and details for low flow channel width, depth, and material size and types.

7. Locations and construction details, including rock sizing, in-stream structures, grade controls, and/or bank stabilization structures (if applicable).
8. Depth, gradation, and composition of material for streambed restoration. Refer to the *DGLVR Stream Crossing Replacement Technical Manual* for more guidance on determining substrate gradation and composition.
9. Specification for compaction of placed streambed material.
10. Details for scour hole restoration and reestablishing channel cross section.
11. Structure manufacturer's details, specifications, and installation instructions.
12. Thickness, compressive strength, reinforcement, testing, and other special requirements for concrete according to the manufacturer specifications, if applicable.
13. Load limits for bridges and/or culverts, including signage and guide rail per state or local codes.
14. Location of all utilities and notification requirements (PA One Call).
15. Location and elevation of survey benchmarks.
16. Method of surface water diversion and dewatering during construction.
17. Erosion and Sedimentation Control Plan, if applicable.
18. Vegetative requirements that include seed and plant materials to be used, establishment rates, and season of planting.
19. Cross section view of the proposed structure that clearly notes proposed streambed thalweg elevation (at the crest of a constructed grade control feature), Q100 water surface elevation, and top of structure opening elevation.
20. Additional site-specific requirements.

VII. CONSTRUCTION

A. The grant recipient or engineer must provide all draft bid packages (if applicable) to the conservation district. The conservation district must review the draft bid documents and provide written confirmation to the grant recipient or engineer that those draft bid documents comply with DGLVR policy and the *Stream Crossing Design and Installation Standard* before they are provided to potential bidders. All bid documents and practices must conform with municipal codes and other standard procurement requirements of the grant recipient.

B. Final construction documents shall include, at a minimum, the following items:
   1. Bidding Documents (if applicable).
   2. Construction Plan.
   3. Erosion and Sedimentation Control Plan.
   4. Construction Specifications.

C. At a minimum, two benchmarks must be set by the engineer or surveyor in an area outside of the zone of construction and disturbance.

D. Critical Stages of Construction to be inspected by the engineer (and/or engineer's designee) at the time of installation is required. Critical Stages include, but are not limited to, the following:
   1. Installation of structure subgrade and bedding materials and establishing inverts/elevations.
   2. Installation of footings, abutments and structure appurtenances.
   3. Installation of grade control features, bank margins, and streambed substrate.
   4. Installation or placement of stream crossing structure.
   5. Compaction and backfill of stream crossing structure.

E. Conservation districts must be on-site regularly during construction to ensure that the *DGLVR Program Policy and Stream Crossing Standard* are being met. Conservation districts must be onsite during installation of the Critical Stages of Construction defined in VII. D, above.

F. Certification and Documentation of Critical Stages of Construction: The engineer shall provide the project owner a signed and sealed certification form (Attachment B) indicating that the critical stages of construction outlined in Section VII.D were inspected and installed in accordance with the construction documents and DGLVR Stream Crossing Standard. The engineer must also provide the project owner with red-lined construction documents that indicate any changes in the as-built conditions of the project compared to the design plans.

References:

1. *Dirt, Gravel, and Low Volume Road Maintenance Program Administrative Manual.* May 2022.
2. *Dirt, Gravel, and Low Volume Road Stream Crossing Technical Manual*. May 2022.
3. *U.S.D.A. Forest Service Stream Simulation Manual: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings*. May 2008.
4. *Pennsylvania Department of Environmental Protection Erosion and Sediment Pollution Control Program Manual.* Technical Guidance Number 363-2134-008. March 2012.

Attachments:

Attachment A: Chapter 105 General Permit Types Most Applicable to Stream Crossing Replacements

Attachment B: Inspection and Documentation of Critical Stages of Construction Certification Form

Attachment C: Typical Detail Drawings

Attachment A:

Chapter 105 Permits that are Most Applicable to Stream Crossing Replacements

Attachment A:

Chapter 105 Permits that are Most Applicable to Stream Crossing Replacements

- GP-1 Fish Habitat Enhancement Structures, 3150-PM-BWEW0501
- GP-3 Bank Rehabilitation, Bank Protection, and Gravel Bar Removal, 3150-PM-BWEW0503
- GP-7 Minor Road Crossings, 3150-PM-BWEW0507
- GP-11 Maintenance, Testing, Repair, Rehabilitation or Replacement of Water Obstructions and Encroachments, 3150-PM-BWEW0511

Additional information on PA Chapter 105 permitting can be found at
https://www.dep.pa.gov/Business/Water/Waterways/Pages/ePermitting.aspx

See the SCC GP-11 Permit Memo (Appendix E of the *DGLVR Stream Crossing Replacement Technical Manual*) for additional clarification on potential stream realignments and increasing road elevations.

Consult with DEP as needed on permitting questions, as well as with other entities involved in any required federal, state, or local permits that may be needed.

Attachment B:

Inspection and Documentation of Critical Stages of Construction Certification Form

Attachment B:

DGLVR Stream Crossing Replacement

Inspection and Documentation of Critical Stages of Construction Certification Form

Project Title: _____

Road Name: _____

Municipality, County: _____

Professional Engineer Certification

I hereby certify that the Critical Stages of Construction were inspected and installed in accordance with the Construction Documents and DGLVR Stream Crossing Standard:

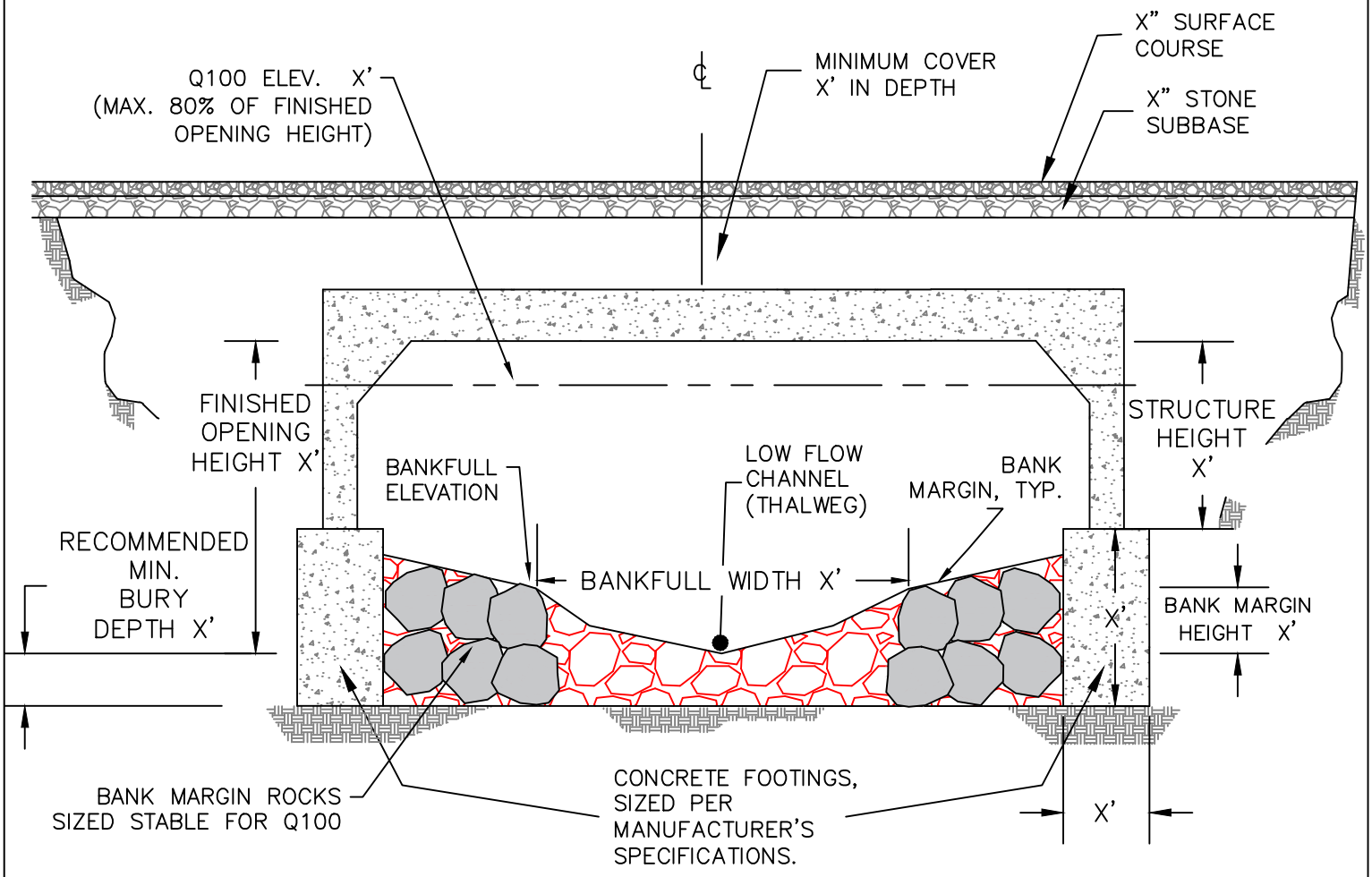
_____, _____
Signature of Professional Engineer *Date*

Professional Engineer Seal

Notes:_____
_____
_____
_____
_____
_____
_____

Attachment C:

Typical Detail Drawings

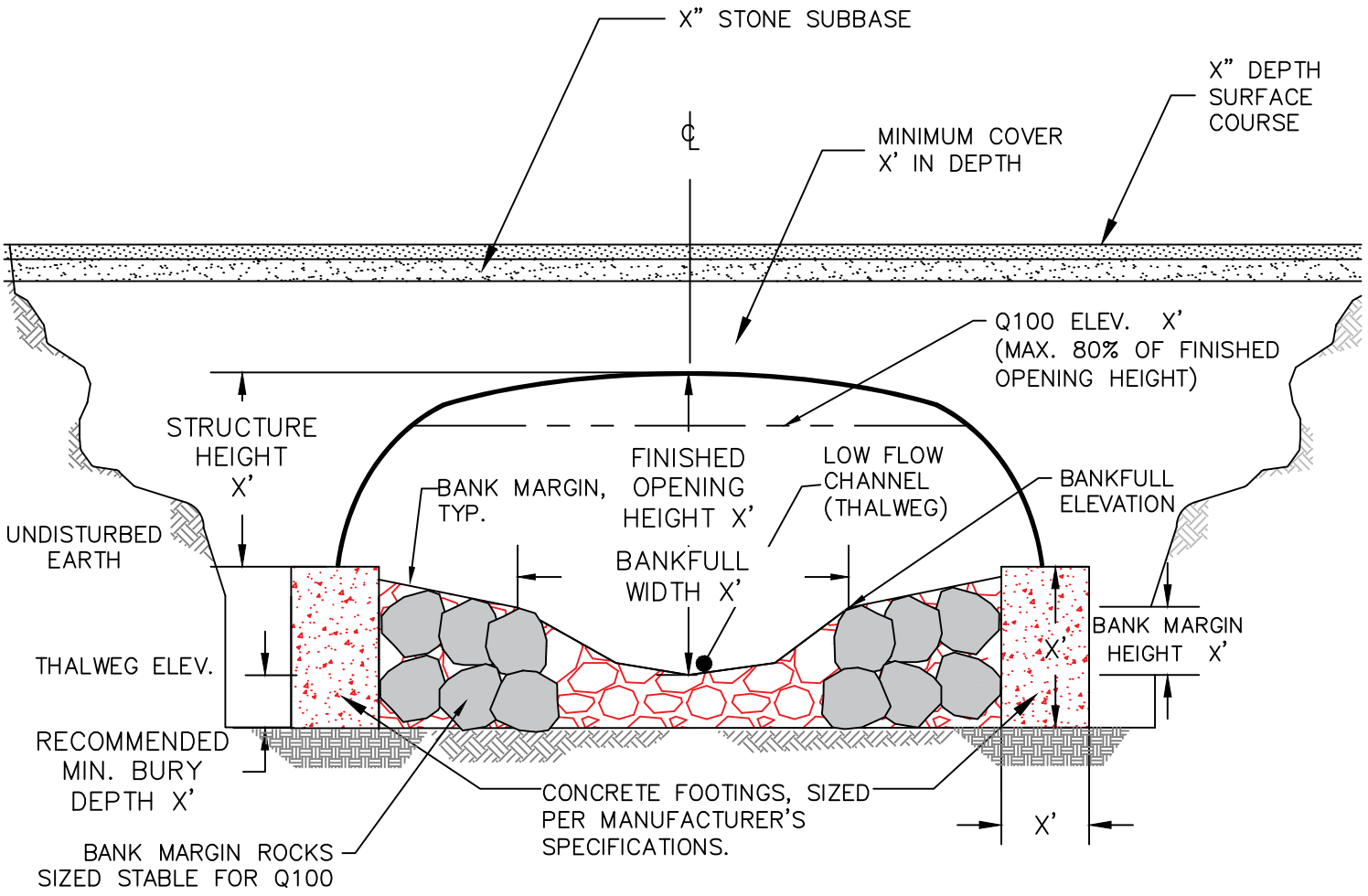


GENERAL NOTES

1. REPLACEMENT STRUCTURE MUST BE SIZED CONSIDERING THE FOLLOWING CRITERIA, PER DGLVR DESIGN & INSTALLATION STANDARD:
   - 1.1. CONSTRUCTION OF A PARABOLIC–SHAPED, BANKFULL–WIDTH CHANNEL WITHIN THE STRUCTURE THAT INCLUDES A DEFINED LOW–FLOW CHANNEL (THALWEG)
   - 1.2. INSTALLATION OF ROBUST BANK MARGINS, COMPRISED OF ROCK SUFFICIENTLY–SIZED TO BE STABLE AT THE Q100
   - 1.3. BURIAL DEPTH OF THE STRUCTURE INVERT OR BOTTOM OF FOOTINGS BENEATH THE RECONSTRUCTED STREAMBED (WITHIN THE STRUCTURE) MUST MEET OR EXCEED THE MINIMUM BURY DEPTH REQUIRED BY THE DGLVR PROGRAM
     - 1.3.1. MINIMUM REQUIRED BURIAL DEPTH IS MEASURED DOWNWARD FROM THE THALWEG ELEVATION AT THE CREST OF A CONSTRUCTED GRADE CONTROL FEATURE WITHIN THE STRUCTURE (NOT SHOWN IN TYPICAL DRAWING)
   - 1.4. CONVEYANCE OF THE Q100 AT AN ELEVATION NOT TO EXCEED 80% OF THE FINISHED OPENING HEIGHT (CLEAR RISE BETWEEN THALWEG ELEVATION AT THE CREST OF A CONSTRUCTED GRADE CONTROL FEATURE WITHIN THE STRUCTURE AND THE TOP OF THE STRUCTURE OPENING).
2. REPLACEMENT STRUCTURES MUST MEET ALL SIZING CRITERIA LISTED IN (1.) ABOVE, AS WELL AS ALL OTHER REQUIREMENTS OF THE DGLVR DESIGN & INSTALLATION STANDARD, IN ORDER TO BE ELIGIBLE FOR DGLVR PROGRAM FUNDING.
3. UPON FIRST MEETING THE CRITERIA LISTED IN (1.) ABOVE, AND OTHER REQUIREMENTS OF THE DGLVR DESIGN & INSTALLATION STANDARD, THE REPLACEMENT STRUCTURE SHALL NOT MEASURE LESS THAN 125% (1.25X) THE PROJECT BANKFULL WIDTH, MEASURED AT THE CONSTRUCTED BANKFULL ELEVATION WITHIN THE STRUCTURE.

BOTTOMLESS CONCRETE BOX CULVERT

NOT TO SCALE



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BOTTOMLESS ARCH CULVERT

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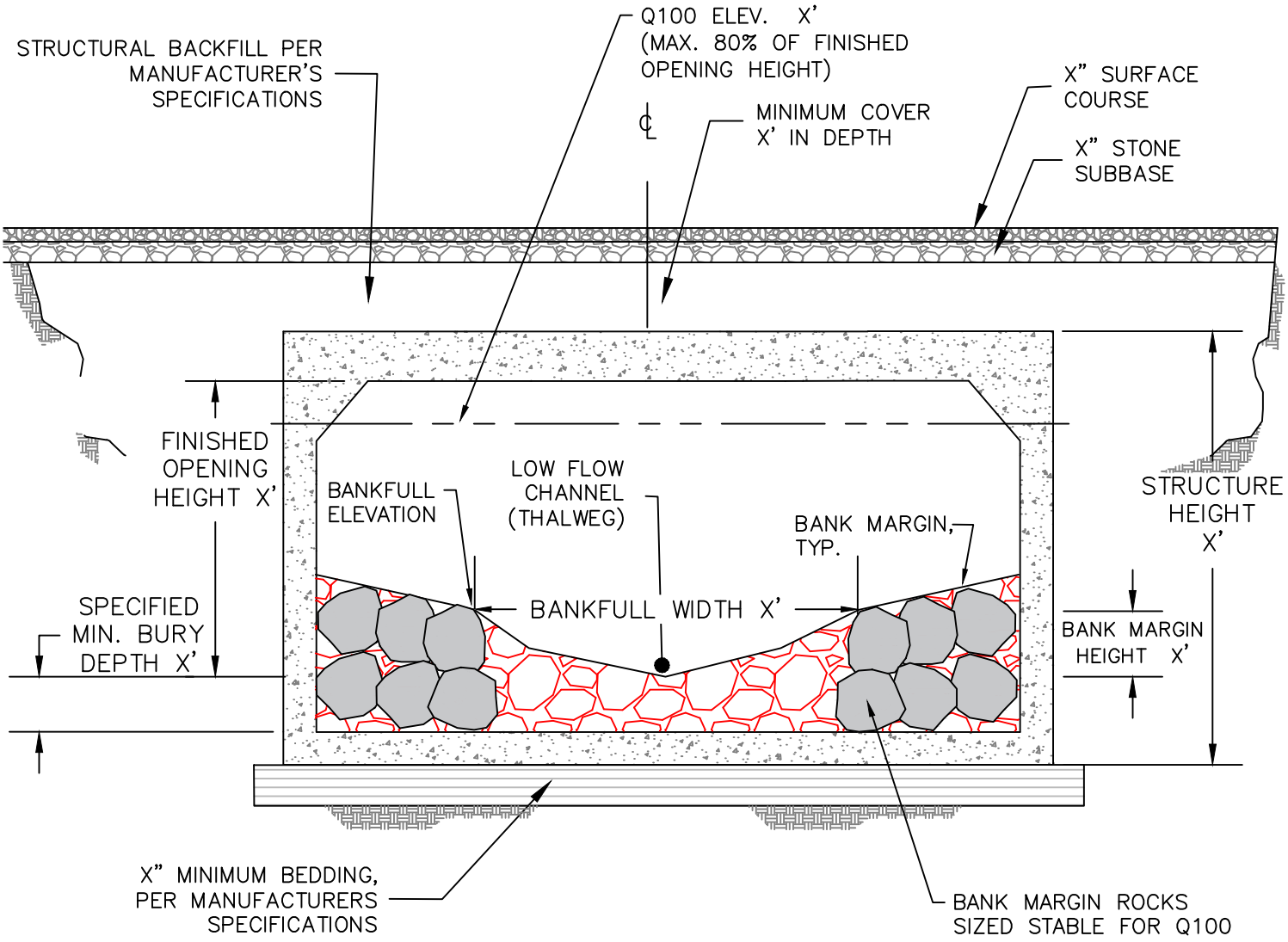

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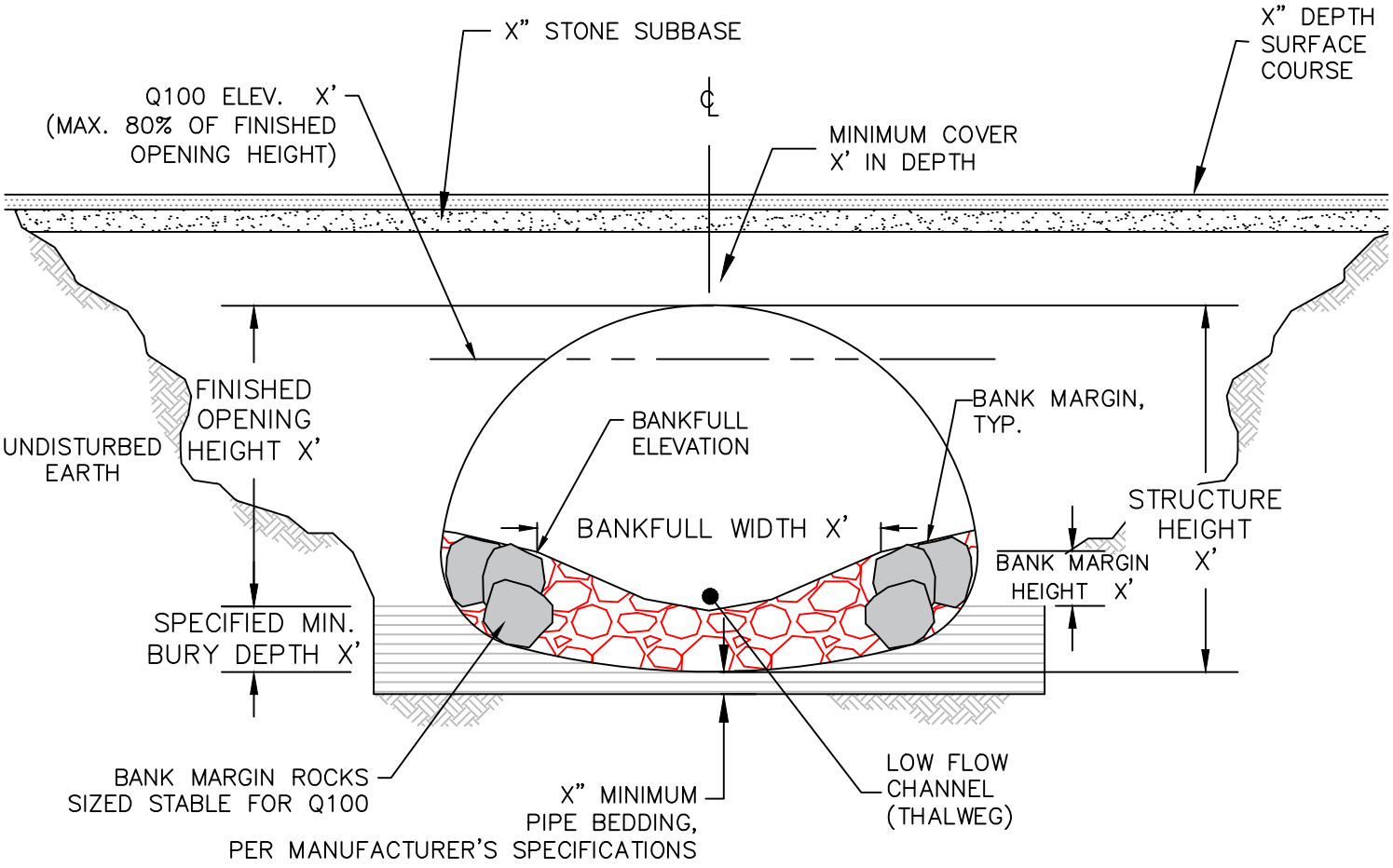
CONCRETE BOX CULVERT

NOT TO SCALE



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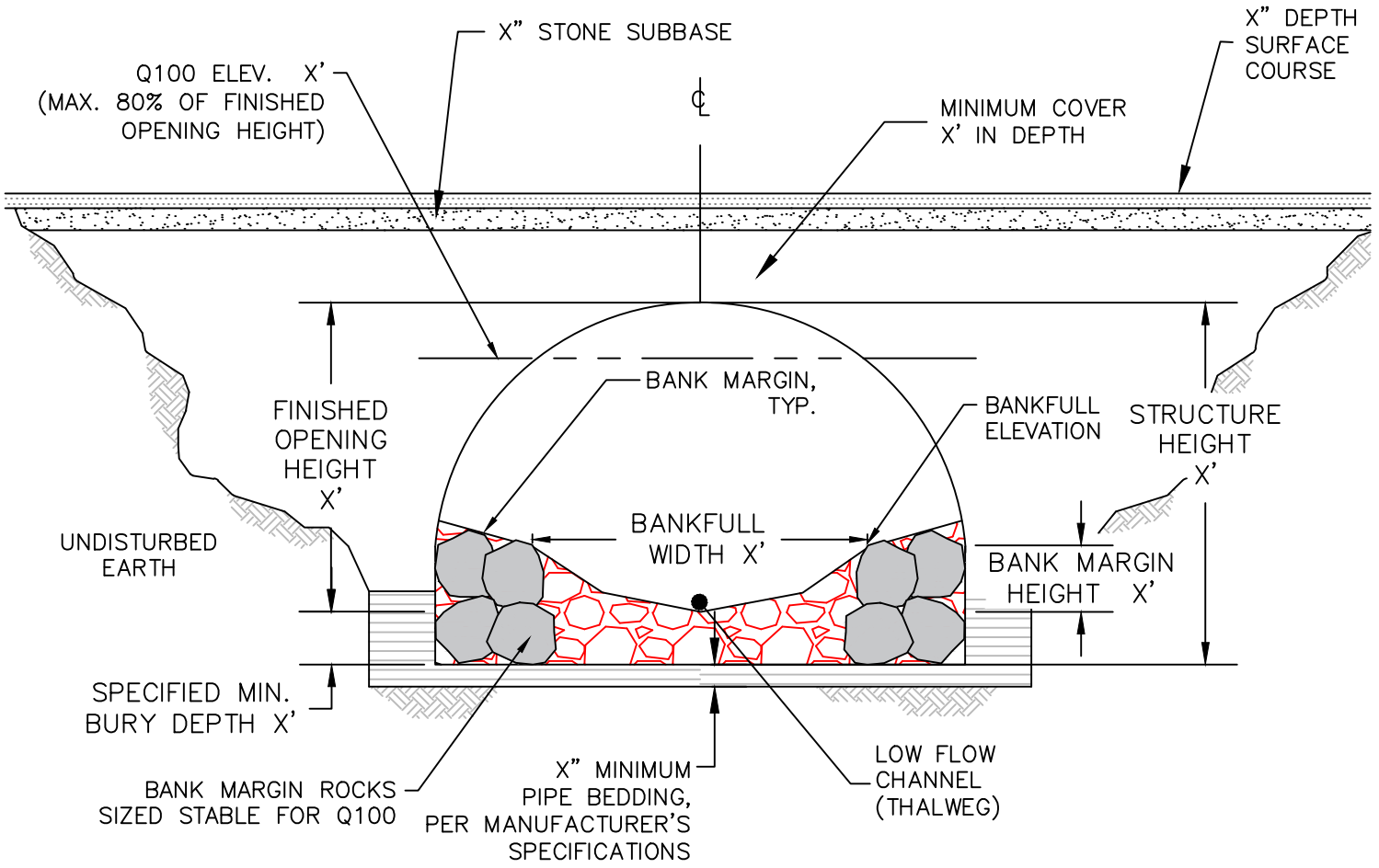
ELLIPTICAL CULVERT

NOT TO SCALE



GENERAL NOTES

1. REPLACEMENT STRUCTURE MUST BE SIZED CONSIDERING THE FOLLOWING CRITERIA, PER DGLVR DESIGN & INSTALLATION STANDARD:
   - 1.1. CONSTRUCTION OF A PARABOLIC–SHAPED, BANKFULL–WIDTH CHANNEL WITHIN THE STRUCTURE THAT INCLUDES A DEFINED LOW–FLOW CHANNEL (THALWEG)
   - 1.2. INSTALLATION OF ROBUST BANK MARGINS, COMPRISED OF ROCK SUFFICIENTLY–SIZED TO BE STABLE AT THE Q100
   - 1.3. BURIAL DEPTH OF THE STRUCTURE INVERT OR BOTTOM OF FOOTINGS BENEATH THE RECONSTRUCTED STREAMBED (WITHIN THE STRUCTURE) MUST MEET OR EXCEED THE MINIMUM BURY DEPTH REQUIRED BY THE DGLVR PROGRAM
     - 1.3.1. MINIMUM REQUIRED BURIAL DEPTH IS MEASURED DOWNWARD FROM THE THALWEG ELEVATION AT THE CREST OF A CONSTRUCTED GRADE CONTROL FEATURE WITHIN THE STRUCTURE (NOT SHOWN IN TYPICAL DRAWING)
   - 1.4. CONVEYANCE OF THE Q100 AT AN ELEVATION NOT TO EXCEED 80% OF THE FINISHED OPENING HEIGHT (CLEAR RISE BETWEEN THALWEG ELEVATION AT THE CREST OF A CONSTRUCTED GRADE CONTROL FEATURE WITHIN THE STRUCTURE AND THE TOP OF THE STRUCTURE OPENING).
2. REPLACEMENT STRUCTURES MUST MEET ALL SIZING CRITERIA LISTED IN (1.) ABOVE, AS WELL AS ALL OTHER REQUIREMENTS OF THE DGLVR DESIGN & INSTALLATION STANDARD, IN ORDER TO BE ELIGIBLE FOR DGLVR PROGRAM FUNDING.
3. UPON FIRST MEETING THE CRITERIA LISTED IN (1.) ABOVE, AND OTHER REQUIREMENTS OF THE DGLVR DESIGN & INSTALLATION STANDARD, THE REPLACEMENT STRUCTURE SHALL NOT MEASURE LESS THAN 125% (1.25X) THE PROJECT BANKFULL WIDTH, MEASURED AT THE CONSTRUCTED BANKFULL ELEVATION WITHIN THE STRUCTURE.

STRUCTURAL PLATE ARCH CULVERT

NOT TO SCALE

Appendix H. Stream Crossing Eligibility Determination

Form used to determine eligibility of stream crossing sites for funding, including instructions on bankfull measurements. Form must be kept in project file for all funded stream crossing replacements. See section 7.1 of this manual for additional information.

PA Dirt Gravel and Low Volume Road Program—Stream Crossing Eligibility Determination Form 7/2022

Reviewer Information:

Date: _____

Reviewer(s): _____

_____

Existing Structure (circle):

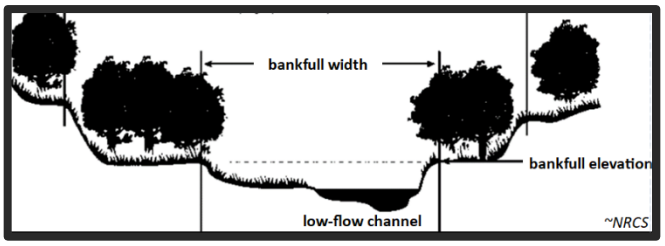
round oval arch Other (Draw)

box bridge multiple

Site Information:

County		Township	
Road Owning Entity			
Structure Owning Entity			
Road Name			
Stream Name			
Latitude	N	Longitude	W
Site Notes			

Measuring Bankfull Channel Width: Since stream conditions vary, these guidelines are flexible, and the goal is to determine bankfull width of an unaltered "reference reach" of the stream.



Where to take Measurements: Look upstream if possible, trying to find an undisturbed stretch of stream free from influences that may impact cross section (such as debris jams, floodplain obstructions, bedrock outcrops, etc.). Look downstream for measurements if prevented from going upstream. In order to get out of the "area of influence" from the structure, roughly estimate the bankfull channel width, then go at least 5 times that distance away from the structure before considering taking bankfull measurements. Additional bankfull widths should be measured so that three to five (more preferred) measurements are collected. Subsequent bankfull width measurement should be collected at least 1/2 bankfull width away from the first measurement. Note that it is important to measure bankfull where the best indicators and these locations may be much greater than ½ bankfull width apart. Avoid taking bankfull measurements at unique, unnatural, or temporary features such as log or debris jams, manmade obstructions, bedrock outcrops, hard meander bends, and braided channels. Bankfull measurements can be taken further from the structure if needed if there are no major splits in the channel. **Be flexible** when choosing where to take measurements in order to capture the most representative reaches of the stream.

Taking Bankfull Measurements: When taking a bankfull measurement, locate bankfull indicators (such as changes in bank slope, depositional features, vegetation changes, and scour features) and stretch a tape across the channel to determine the bankfull width at that elevation. Look for bankfull indicators that line up on both sides of the channel as the bankfull elevation should be level across the channel. Remember that bankfull flows typically occur every 1-2 years, so don't mistake higher benches far outside the channel for bankfull. Additional bankfull determination *guidance is available in the Stream Crossing Technical Manual and the Bankfull Width Determination Technical Bulletin.*

Bankfull Measurements Taken *3 minimum, more is better*			
1	ft	**6**	ft
2	ft	**7**	ft
3	ft	**8**	ft
4	ft	**9**	ft
5	ft	**10**	ft

A) Average Bankfull Channel Width= _____(ft)
average of measurements taken to left

B) Existing Opening Width= _____(ft)
Measure the most limiting width. For example: the narrowest pipe in a series of "necked-down" pipes, or the narrowest point between abutments of a skewed bridge perpendicular to the flow.

C) Opening to Bankfull Width Ratio= _____%
"B" divided by "A"

Structure Eligibility

Is the opening width of the existing structure 48" or less, or does the structure consist of multiple pipes? YES NO

For structures with a single opening over 48", is the opening to bankfull width ratio ("C" above) 75% or less? YES NO

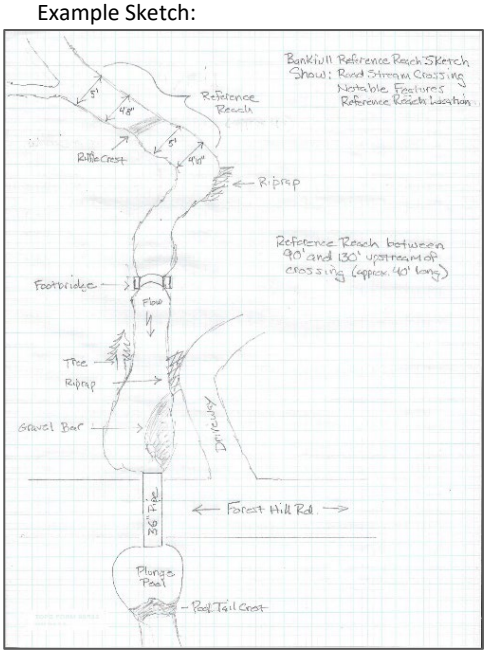
If the answer to either question above is "YES," the structure is eligible for replacement with DGLVR funds. In all cases, new structures must follow the DGLVR Stream Crossing Design & Installation Standard unless it qualifies for an exemption from the DGLVR Stream Crossing Design & Installation Standard. Keep a copy of this form in project files.

Additional Notes: _____

_____

Optional: provide an aerial sketch of the existing conditions and the locations where bankfull measurements were taken.

Example Sketch:



Appendix I. Exemptions from the Stream Crossing Standard

In certain circumstances, stream crossing replacements may be exempt from following the DGLVR Stream Crossing Design and Installation Standard. The exemption process and site requirements when an exemption is received are detailed in section 7.1.3 of this manual.

Automatic Exemptions: Completed by conservation district for very small channels. No SCC approval needed. Form must be kept in project file.

SCC Granted Exemption: Exemption for larger channels provided by the State Conservation Commission. Form must be kept in project file.

PA Dirt Gravel and Low Volume Road Program

Automatic Exemption from the DGLVR Stream Crossing Standard Form 7/2022

Purpose: This form is to be used by a Conservation District to identify and record a stream crossing as meeting SCC criteria for an automatic exemption from using the PA State Conservation Commission Dirt, Gravel and Low Volume Road Program Stream Crossing Design & Installation Standard.

Reviewer Information:

Date: _____

Reviewer(s):_____

_____

_____

_____

Site Information:

County		Township	
Road Owning Entity			
Structure Owning Entity			
Road Name			
Stream Name			
Latitude	N	Longitude	W
Site Notes			
Drainage Area	acres		

Excerpt from "Automatic Exemptions": for full current policy see admin manual chapter 7.1.3.1

The following existing conditions can be, at the discretion of the Conservation District, considered "DGLVR Standard Exempt" without SCC approval for channels with a bankfull width of 4' or less and:

- The defined bed and bank coming to the road does not extend more than 500' upslope of the road ditch, or,
- The drainage area of the bed and bank coming to the road is 20 acres or less

Standard Exemption Justification:

☐ **Bankfull width of the channel coming to the road: _____feet, and**

☐ **The bankfull width is 4' or less and the channel does not extend more than 500' upslope of the road ditch, or**

Length the "bed and banks" channel extends upstream from the road: _____feet

☐ **The bankfull width is 4' or less and the drainage area of the bed and bank coming to the road is 20 acres or less**

Drainage area to road crossing: _____acres – include a map showing drainage area

Method used to determine drainage area: _____

Crossings meeting the above criteria can, at the discretion of the Conservation District, be considered automatically exempt from using the PA State Conservation Commission DGLVR Program Stream Crossing Design & Installation Standard. **However, sites qualifying for an automatic exemption must still follow the requirements in section 7.1.3.3 of the DGLVR Stream Crossing Policy in the Administrative Manual.**

Has someone from the Center/SCC/TU visited the site? YES NO Details: _____

_____

_____

Additional Notes: _____

_____

_____

_____

_____
Signature

_____
Print Name

Keep a copy of this form, and the Stream Crossing Eligibility Determination Form in project files.

PA Dirt Gravel and Low Volume Road Program

SCC Approval for Exemption from the DGLVR Stream Crossing Standard Request Form

7/2022

Purpose: This form is to be used by a Conservation District when requesting an SCC exemption from using the PA State Conservation Commission Dirt, Gravel and Low Volume Road Program Stream Crossing Design & Installation Standard. This is for sites that do not qualify for an "automatic exemption" as outlined in section 7.1.3.1 of the Stream Crossing Manual.

Reviewer Information:

Date: _____

Reviewer(s):_____

_____

_____

_____

Site Information:

County		Township	
Road Owning Entity			
Structure Owning Entity			
Road Name			
Stream Name			
Latitude	N	Longitude	W
Site Notes			
Drainage Area	acres		

Reason for exemption request: _____

_____

_____

_____

Project Status: ☐ Pre-application/planning ☐ Application submitted ☐ Under Contract

Drainage Area: _____ acres **Bankfull Channel Width:** _____feet

Please Also Provide:

- ☐ Location map
- ☐ Photographs (minimum one of existing inlet and outlet)
- ☐ Stream Crossing Evaluation Form (Bankfull measurement form)

A longitudinal profile survey may be required.

Has someone from the Center/SCC/TU visited the site? YES NO Details: _____

_____

_____

SCC USE ONLY

☐ **Not Approved** (must follow DGLVR Standard) Date received: _____

☐ **Conditionally Approved.** See Reverse for Details

☐ **Approved.** This crossing does not need to follow the DGLVR standard. However, sites receiving a SCC exemption must still follow the requirements in section 7.1.3.3 of the DGLVR Stream Crossing Policy in the Administrative Manual.

_____

DGLVR Program Coordinator (Date)

Keep a copy of this form, and the Stream Crossing Eligibility Determination Form in project files.

SCC Approval for Exemption from the DGLVR Stream Crossing Standard Request Form

Conditional Approval Details:

The SCC has granted approval for this site to not follow the DGLVR Stream Crossing Design & Installation Standard as long as the following conditions are met, in addition to the requirements outlined in section 7.1.3.3 of the DGLVR Administrative Manual:

Appendix J. Stream Crossing Project Lifecycle Checklist

Conservation districts must complete the "Project Lifecycle Checklist" during the planning and implementation of stream crossing replacements, and the form must be kept in the project file. This requirement does not apply to sites that receive an exemption from the DGLVR Stream Crossing Standard (see section 7.1.3).

Stream Crossing Replacement Project: Lifecycle Checklist

7/2022 ☐ DGR ☐ LVR

Applicant: _____ Road Name: _____ Crossing Identifier:_____

This checklist is meant to summarize the major events in development and implementation of a stream crossing replacement. This form (but not individual checklists) is required to be completed and kept in project file.

Contact List	Contact Name	Phone Number	E-mail Address
Grant Applicant			
Grant Applicant			
Engineer			
Engineer			
Contractor			
Contractor			
_____			
_____			

☐ **Pre-Application Meeting:** The District is required to hold a preapplication meeting prior to a grant recipient applying for program funds for a stream crossing project. Initial site visit and subsequent follow up visits for project planning. See *Pre-Application Meeting Checklist* for meeting talking points. As a reminder, a longitudinal profile / cross-section survey must be completed prior to QAB recommendation for funding (see below). Submit online notification to SCC if project is likely to be funded.

- **Initial Site Visit Date:_____**
- **Attendees: _____**
- **Notes: _____**

  _____

☐ **Longitudinal Profile Survey:** A longitudinal profile survey must be conducted for each stream crossing prior to the QAB recommending the project for funding. Engineer may utilize the District survey for design or conduct another survey, in concert with the District. Refer to DGLVR Program's Stream Crossing Standard for survey requirements. See *Chapter 4 of Stream Technical Manual* and *Longitudinal Profile Technical Bulletin* for guidance.

- **Initial Survey Date:_____**
- **Participants: _____**
- **Notes: _____**

  _____

Was a second (engineer's) survey completed (in concert with the District)? YES NO

- **Engineer's Survey Date:_____**
- **Participants: _____**
- **Notes: _____**

  _____

☐ **Contract and Attachments:** Grant recipient reviews the contract and attachments. Acknowledge attachments and sign contract. Return to the County Conservation District.

- **Application Submitted Date: _____ Request: $_____**
- **Contract Date:_____ Contract Amount: $_____**
- **Notes: _____**

  _____

☐ **Professional Design Services**: Program funds can be used to cover engineering, permitting, or similar consultant costs, but such costs are limited to a maximum of 20% of the total contract amount between the district and the grant recipient, with a maximum of $25,000 total. The use of the DGLVR Program's *Stream Crossing Replacement Request for Proposal Template* or an alternative which incorporates the required service details is highly recommended. Preparation or design costs such as engineering or surveying that are incurred before the contract is signed are not eligible for grant reimbursement but can be counted as in-kind.

- **Project Engineer: _____**

☐ **Pre-Design Meeting**: The District, Project Participant, and Engineer/Consultant of record for the project are required to meet on site prior to the start of the design. District staff may ask technicians from TU, CDGRS or others to attend and provide assistance. See *Pre-Design Meeting Checklist* for meeting talking points.

- **Pre-Design Meeting Date:_____**
- **Attendees: _____**
- **Notes: _____**

  _____

☐ **Pre-Permit/Design Submittal Review:** The DGLVR Program's Stream Crossing Standard requires that draft final project design package (permit, E&S Plan, construction drawings, etc.) be submitted (or resubmitted) to the conservation district for review prior to permit submittal. The district may ask for assistance in reviewing the plans from outside sources such as the SCC, CDGRS, and TU. This package must include all drawings necessary for construction. See *Design Plan Review Checklist* for review guidance.

- **Date of plan submission:_____ Date of Review:_____**
- **Plan Reviewers:_____**
- **Notes: _____**

  _____

☐ **Bid Package Review**: If any subcontracted work is needed, grant recipients should follow their own bidding requirements. Bid packets or purchase orders and associated shop drawings for made to order products (ex. Stream crossing structures) must be provided to the conservation district for review and approval that they meet program policy and the DGLVR Standard prior to acknowledging an order or advertising the bid. See *Bid Package Review Checklist* for review guidance.

- **Date of bid package submission:_____ Date of Review:_____**
- **Bid package reviewer:_____**
- **Notes: _____**

  _____

☐ **Bid Site Showing:** It is recommended that the Grant Recipient hold a bid site showing and invite the engineer, district, any potential bidders. The district is required to attend if a bid site showing is held. The purpose of the meeting is to walk through the project plan and allow potential bidders to ask questions in order to receive better bids for project work. See *Bid Site Showing Checklist* for meeting talking points.

- **Bid Site Showing date:_____**
- **Attendees:_____**

  _____

- **Notes: _____**

  _____

- **Construction Notification:** The project participant is required to notify the Conservation District ____ days prior to the start of construction.
  - **Date of notification:_____ Proposed Start Date:_____**

- **Pre-Construction Meeting:** The District is required to hold an on-site meeting prior to project work beginning and should include the grant recipient, contractor (if applicable), and the project engineer. The purpose of this meeting is to ensure all parties understand the construction plans and to answer any questions before project work begins. See *Pre-Construction Meeting Checklist* for meeting talking points.
  - **Pre-Con Meeting date:_____ Proposed Start Date:_____**
  - **Attendees:_____**

    _____
  - **Notes: _____**

    _____

- **Project Inspection:** District must be on site regularly to ensure program policies and standard are being met. Ensure any proposed "field changes" to what is on the plan are approved by the design engineer. See *Construction Inspection Checklist* for guidance. Note inspection visits on the log on this form.

- **Project Completion:** District and the grant recipient must meet onsite for a final project walkthrough. It is advantageous to do this immediately following construction with the contractor and engineer, so that minor issues can be addressed while equipment is still on site. See *Project Completion Checklist* for guidance.
  - **Completion date:_____ Inspection Date:_____**
  - **Attendees:_____**
  - **Notes: _____**
  - **_____**

EVENT LOG (Log phone calls, site visits, inspections, etc.)		
DATE	**EVENT**	**NOTES**

Appendix K. Definitions and Acronyms

Definitions and acronyms used in this manual.

Definitions and Acronyms

Act - The Act of April 17, 1997 (P.L. 6, No. 3) amending the Vehicle Code by adding the Dirt and Gravel Road Maintenance Program at 75 P.S. §9106.

Administrative Funds (at the district) – up to 10% of a district's allocation that can be used to administer the Program at the county level.

Advance Working Capital – the portion of a conservation district's allocation that is received up-front from the Commission.

Allocations – Funding distributed from the Commission to conservation district for both Dirt and Gravel, and Low Volume Roads.

Assessment - The process of evaluating a road to determine which sections are having negative environmental impacts.

Average Daily Traffic Count- A traffic count that meets the standards described in section 7.3.6 of this manual.

Bankfull – The stream channel width at the dominant channel forming flow, typically with a recurrence interval between 1 and 2 years.

Center for Dirt and Gravel Road Studies – Non-profit entity at Penn State that provides education, outreach, and technical assistance to entities involved in the Program.

Certification – Relating to Driving Surface Aggregate: A notarized form provided by the quarry detailing specifications of the DSA material being provided.

Cooperating Organization - An organization approved by the Commission to assist in implementing the Act.

Demonstration Project – A "Demonstration Project" is a project that is funded by the Conservation Districts that does not follow the lifecycle of the "typical project" above. Demonstration Projects can be implemented by the Conservation District to showcase a particular practice or project without the typical application submittal and ranking process using the district's educational or administrative funds.

Dirt and Gravel Road – A public road with an unbound surface layer.

District - A conservation district as defined in the Act of December 19, 1984 (P.L.

1125, No. 221, §2) known as the Conservation District Law, 3 P.S. §849-864.

Driving Surface Aggregate (DSA) – A specification of crushed aggregate that is designed to achieve maximum density and resist erosion. DSA is the only approved surface aggregate for unpaved roads in the Program.

Education Funds (at the district) – up to 10% of a district's allocation that can be used to for educational efforts at the county level.

Environmentally Sensitive Maintenance (ESM) - a term used to describe a suite of principles and practices that are designed to create a more environmentally and financially sustainable public road system. They are long term practices designed to reduce erosion and maintenance within the road area.

Environmentally Sensitive Maintenance Training (ESM training) – 2-day training course that potential grant applicants must attend in order to be eligible for to apply to their district for funding.

Exceptional Value - A stream or watershed which is designated as an exceptional value water pursuant to 25 *Pa. Code* Chapter 93.

Geographic Information System (GIS) – A systems of interconnected digital maps and databases use to store large amounts of spatial data.

Grant Applicant / Recipient – A public road-owning entity such as a municipality or state agency who is eligible to apply to the district for Program funding.

High Quality - A stream or watershed which is designated as a high quality water pursuant to 25 *Pa. Code* Chapter 93.

In-kind - Materials or services contributed to a project by the grant recipient.

Low Volume Road - For the purposes of the low volume road, a low volume road is a paved or sealed road with an average daily traffic count of 500 vehicles or less.

Paved or Sealed Road - For the purposes of the low volume road program, a "paved" road is defined to include any road surfaced with asphalt, "tar and chip", "chip seal", bitumen, concrete, or other asphalt-like coating.

Performance Standards – Administrative policies and/or technical requirements adopted by the Commission for the implementation of the Dirt, Gravel, and Low Volume Road Maintenance Program, including standards that prohibit the use of materials or practices which are environmentally harmful.

Project Area – see *also "worksite"*, A worksite that has been designated for funding through the Program.

Project Completion Report – A two page form signed by the district and grant recipient that summarizes the funding and work for a particular project.

Project Participant - A municipality or state agency eligible to participate in a Dirt, and Low Volume Road Maintenance project under the Act.

Quality Assurance Board (QAB) - The 4-member administrative board impaneled by each district to administer the Dirt, Gravel, and Low Volume Road Maintenance Program locally, pursuant to 75 P.S. §9106(e).

Quality Assurance / Quality Control (QAQC) – A visit and review of an individual districts program administration and implementation by Program and Center staff.

Replenishment – Process for districts to claim remaining funding from the Commission after expenditure of advance working capital.

Right-of-way – A publicly owned corridor surrounding the road, in many cases extending 33' form the centerline of the roadway.

State Conservation Commission (Commission) – Administrative home of the Program at the PA Department of Agriculture in Harrisburg.

Sunshine – Public meeting notification requirements that apply to QAB and Conservation District meetings.

Worksite – A section of road that have been identified to be a source of sediment or other pollution to a waterway.

Acronyms

ADT	Average Daily Traffic Count
ASR	Annual Summary Report
BMP	Best Management Practice
CD	Conservation District
CDGRS	Penn State Center for Dirt and Gravel Road Studies
COE	Corps of Engineers
DCNR	Department of Conservation and Natural Resources
DEP	Department of Environmental Protection
DGR	Dirt and or Gravel Road (unbound surface)
DGLVRP	Dirt, Gravel, and Low Volume Roads Program
DSA	Driving Surface Aggregate
DRBC	Delaware River Basin Commission
E&S Plan	Erosion and Sedimentation Pollution Control Plan
EPA	Environmental Protection Agency
EV/HQ	Exceptional Value/High Quality (stream designations)
ESM	Environmentally Sensitive Maintenance
FEMA	Federal Emergency Management Agency
G2	Growing Greener Program
GIS	Geographic Information System
GP	General Permit
GRS-IBS	Geos-synthetically Reinforced Soil – Integrated Bridge system
LVR	Low Volume Road (Under 500 Cars ADT)
MOU	Memorandum of Understanding
MS4	Municipal Storm Sewer System Separate from a Sanitary System
NACD	National Association of Conservation Districts

NICET	National Institute for Certification in Engineering Technologies
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service (USDA)
PACD	PA Association of Conservation Districts
PDA	PA Department of Agriculture
PEC	PA Environmental Council
PEMA	PA Emergency Management Agency
PFA	PA Forestry Association
PFBC	PA Fish and Boat Commission
PGC	Pennsylvania Game Commission
PNDI	Pennsylvania Natural Diversity Inventory
PSATS	PA State Association of Township Supervisors
QAB	Quality Assurance Board (Dirt, Gravel, and Low Volume Roads Program)
QAQC	Quality Assurance / Quality Control Visit
RCSOB	Rachel Carson State Office Building
ROW	Right-of-Way
SCC	State Conservation Commission
SOP	Standard Operating Procedure
SRBC	Susquehanna River Basin Commission
TMDL	Total Maximum Daily Load (Watershed Conservation 303d)
TU	Trout Unlimited
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey