

CALIFORNIA TAHOE CONSERVANCY

Proposition 1 Grant Guidelines



2015

Grants funded by the *Water Quality, Supply, and Infrastructure Improvement Act of 2014*
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Link to http://bondaccountability.resources.ca.gov/PDF/Prop1/PROPOSITION_1_text.pdf

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1. BACKGROUND AND GRANT PROGRAM OVERVIEW

The California Tahoe Conservancy

The California Tahoe Conservancy (Conservancy) is a State agency that leads California's efforts to restore and enhance the extraordinary natural and recreational resources of the Lake Tahoe Basin. Since its inception in 1984, the Conservancy has invested more than \$450 million in conservation and recreation projects on the California side of the Lake Tahoe Basin.

As the only state agency focused entirely on the Tahoe Basin, the Conservancy works collaboratively with its federal, state, local, and private partners at Lake Tahoe to achieve its mission. For more information on the Conservancy and its priorities, see the Conservancy's *Strategic Plan* and visit its website at www.tahoe.ca.gov.

The Conservancy's Proposition 1 Grant Program

California voters approved Proposition 1, the Water Quality, Supply, and Infrastructure Improvement Bond Act of 2014, on the November 2014 ballot. The water bond allocates \$15 million directly to the Conservancy (California Water Code [CWC] section 79731[b]) for multi-benefit ecosystem and watershed protection and restoration projects consistent with the *California Water Action Plan* and other State priorities (**Appendix A**). The *California Water Action Plan* emphasizes, among other priorities, multi-benefit projects, restoration of mountain meadow habitat areas, implementation of Integrated Regional Water Management Plans (IRWMPs), the State's land use planning guidelines, and assistance to disadvantaged communities. The *Action Plan* also highlights the importance of continuing restoration efforts in the Lake Tahoe Basin, including implementation of the Lake Tahoe Environmental Improvement Program (EIP).

Launched in 1997, the Lake Tahoe EIP is a partnership of federal, state, and local agencies, private interests, and the Washoe Tribe to jointly identify, invest in, and coordinate the implementation of high priority conservation and recreation projects in the Tahoe Basin. The EIP partner agencies have adopted guiding documents that set goals and priorities for several interagency programs, established workgroups to coordinate implementation, and developed a comprehensive set of performance measures to track and evaluate progress. For more information about the EIP, visit: www.trpa.org.

The principal goal of the Conservancy Proposition 1 grant program is to support implementation of the EIP by providing funding for multi-benefit stormwater, watershed and ecosystem restoration, aquatic invasive species, forest health, and sustainable communities projects, as described in Section 2 below. These Grant Guidelines further describe project eligibility and criteria, the application submittal and review process, and other administrative requirements.

The Conservancy will seek to align and coordinate its Proposition 1 grants with other sources of Conservancy and public agency funding, including funds from other state agencies administering Proposition 1 grants for related objectives. For example, the Department of Fish and Wildlife will administer grants for watershed restoration projects, the Department of Water Resources will administer grants for implementation of Integrated Regional Water Management Plans, and the State Water Resources Control Board will administer grants for stormwater projects. The Conservancy expects and encourages applicants to apply for funding from multiple sources and will work with its federal, state, and local partners to coordinate and

leverage funding for high priority projects.

This grant program also furthers the goals of Executive Order B-30-15, issued by Governor Brown on April 29, 2015, which establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030, and directs state agencies to factor climate change into planning and investment decisions. Accordingly, these guidelines are based, in part, on the following principles from the Executive Order:

- Priority should be given to actions that both build climate preparedness and reduce greenhouse gas emissions;
- Where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts;
- Actions should protect the state's most vulnerable populations; and
- Natural infrastructure solutions should be prioritized.

Grant Categories

The Conservancy awards Proposition 1 grants in four categories:

Planning Grants. Planning grants provide funding for planning efforts that will lead to the successful design, selection and implementation of projects. These efforts may include program development and guidance, scientific studies and workshops, implementation strategies, and project specific activities such as preliminary design and environmental review. Planning grants are intended to support the development of EIP projects that are likely to qualify for future implementation funding.

Implementation Grants. Implementation grants fund final design and implementation of EIP projects. They support high priority projects that have advanced to the stage where planning, land tenure, and engineering are largely completed.

Acquisition Grants. Acquisition grants fund the purchase of land and interests in land in support of Conservancy and EIP goals. Acquisitions must be from willing sellers and at fair market value, typically as confirmed by a Conservancy-approved appraisal. Acquisition grants to eligible nonprofit organizations are also subject to the Conservancy's statutory definition of eligible nonprofit charitable purposes (contained in Government Code section 66905.9).

Monitoring Grants. Monitoring grants fund projects to assess the condition or usage of the Basin's natural resources, or the effectiveness of EIP projects and programs. Monitoring proposals should be consistent with ongoing regional programs or monitoring efforts, such as the *Regional Stormwater Monitoring Program* (RSWMP) or the *Lake Tahoe Interagency Monitoring Program* (LTIMP).

Eligible Applicants

Eligible Applicants include:

- Public agencies, including cities, counties, special districts, joint powers authorities, state agencies or departments, or other political subdivisions of the State of California;
- Federally recognized Indian tribes; and
- Eligible nonprofit organizations, as defined in Government Code section 66905.9: "any private, nonprofit organization which qualifies for exempt status under section 501(c)(3) of the United States Internal Revenue Code of 1986, and has among its principal charitable purposes the preservation of land for scientific, historic, educational, recreational, scenic, or open-space opportunities, or protection of the natural environment or preservation or enhancement of wildlife."

Federal agencies, public agencies of the State of Nevada, and the Tahoe Regional Planning Agency are not eligible applicants. However, eligible applicants in California may partner with these organizations in submitting proposals, and in limited circumstances, seek funding for the California share of basin-wide programs or projects.

Environmental Documents and CEQA Compliance

Grantees are responsible for complying with all laws and regulations applicable to their projects, including the California Environmental Quality Act (CEQA). In addition, the Conservancy Board is required to certify that projects comply with CEQA when authorizing funding. Since CEQA compliance will vary significantly depending upon proposed project activities and potential impacts, applicants should consult with Conservancy staff as early as possible in the development of the project. For more information on CEQA, visit <http://ceres.ca.gov/ceqa>.

Reporting/Performance Measures

All applications must provide project-specific performance measures that describe the goals of the project and expected outcomes that are consistent with or supplement the EIP performance measures (**Appendix B**). Grantees will be required to provide semi-annual progress reports and a final report when the project is completed, as described in the Application Package. Applicants should also consult with the Tahoe Regional Planning Agency (TRPA) on EIP reporting, tracking, and performance requirements.

2. FOCUS AREAS

The Conservancy will award grants for high-priority projects in the Focus Areas described in this section. Grant applicants are encouraged to demonstrate that their proposed projects are consistent with the appropriate guiding documents, and are coordinated through the relevant EIP workgroup, if applicable. Grants are available only for projects that provide multiple benefits within or across Focus Areas and provide benefits greater than those required under applicable environmental mitigation measures or compliance obligations.

Stormwater Quality

Purpose: Stormwater Quality projects are essential to capture and treat pollutants in stormwater runoff that impair Lake Tahoe's clarity. Conservancy stormwater quality grants are largely intended to help state and local agencies fund multi-benefit, watershed-based projects to assist in meeting Lake Tahoe Total Maximum Daily Load (TMDL) reduction targets in all source categories and other watershed health goals.

Example projects include, but are not limited to:

- Reducing or treating stormwater runoff from roads or other facilities;
- Capturing runoff in infiltration basins, rock-lined channels, or the like;
- Dispersing and returning runoff to historical flow patterns; and
- Other projects consistent with the EIP Stormwater Management Program.

Guiding Documents: Applicants should describe how the proposal is consistent with the TMDL, the Conservancy's *Preferred Design Approach (Appendix C)*, and other guiding documents. Projects in the TMDL Urban Source category should be included in a current *Pollutant Load Reduction Plan (PLRP)* and developed in coordination with the Lake Tahoe Stormwater Quality Improvement Committee (SWQIC). Projects in other TMDL source categories must be included in an inventory or watershed assessment document. Stormwater quality monitoring proposals should be consistent with the goals and objectives of the *Tahoe Regional Stormwater Monitoring Program (RSWMP)*. Applicants should also describe how the project will be incorporated into a watershed-based approach to meet the goals of the TMDL, the Human Right to Water (CWC section 106.3), and other restoration priorities.

Senate Bill 985, enacted in 2014, requires public agencies to have a stormwater resources plan or a functionally equivalent plan (e.g., an existing watershed management plan, integrated resource plan, urban water management plan, etc.) in place to be eligible for stormwater and dry weather runoff capture projects from any bond acts approved after January 1, 2014. The Conservancy will seek to help fund the development of this plan in coordination with its partner agencies. Until this plan is completed, however, the Conservancy will not consider applications for stormwater projects unless they are submitted as an element of a project under another focus area.

Ecosystem and Watershed Management

Purpose: The Lake Tahoe Basin's watersheds and stream environment zones (SEZs) have been significantly impacted by growth and development. Conservancy ecosystem and watershed grants are intended to help restore the ecological health of the Basin's most significant watersheds and restore natural processes and functions of other key watersheds and habitats.

Example projects include, but are not limited to:

- Protection and restoration of key watersheds, wetlands, and floodplains;
- Restoration of habitat to support the recovery of endangered, threatened, or migratory species or species at risk to climate change;
- Improvements to wildlife corridor processes and instream flow;
- Acquisition of environmentally sensitive land; and
- Other projects consistent with the EIP Watershed Management Program.

Guiding Documents: Applicants should describe how their project is consistent with restoration plans or assessments for the applicable watershed, such as the *Upper Truckee River Restoration Strategy*, and/or restoration plans for rare, endangered, or sensitive species, such as the *Tahoe Yellow Cress Conservation Strategy* and the *Lahontan Cutthroat Trout Recovery Plan*. Projects should also apply relevant watershed restoration planning, implementation, monitoring, and quantification tools, such as the *Stream Load Reduction Tool* and the *Riparian Ecosystem Restoration Effectiveness Framework* (2nd Nature, 2010). Lastly, where possible, projects should further the goals of the Human Right to Water (CWC section 106.3).

Aquatic Invasive Species

Purpose: Aquatic invasive species (AIS) pose a serious threat to the ecological health of the Tahoe Basin and its outdoor recreation-based economy. Conservancy AIS grants are intended to control, eradicate, and limit the spread of invasive species and protect and restore a broad range of native species and their habitats.

Example projects include, but are not limited to:

- Removal of aquatic invasive species, such as Eurasian water milfoil, curly-leaf pondweed, and Asian clams;
- Removal of warm water fishes, such as largemouth bass, black crappie, and bluegill;
- Development and implementation of AIS removal strategies; and
- Other projects consistent with the EIP Invasive Species Program.

Guiding Documents: Applicants should describe how their proposal is consistent with the *Lake Tahoe AIS Management Plan* and the *AIS Implementation Plan*. Develop proposals in coordination with the Lake Tahoe AIS Coordination Committee and its working groups.

Forest Health

Purpose: After decades of fire suppression, the Tahoe Basin's overstocked forests are vulnerable to insects, disease, and catastrophic wildfire. Tahoe's forests lack the diversity and age structure to support healthy forest ecosystems. Conservancy forest health grants are intended to improve forest health and water quality, enhance wildlife habitat, protect public and private property, sequester carbon, and help make Tahoe's forests more resilient to climate change.

Example projects include, but are not limited to:

- Thinning of overstocked forest stands to improve forest health;
- Treatment and prevention of forest pests or invasive species;
- Restoration of riparian areas and hardwood communities;
- Reforestation of native species;
- Vegetation treatments to increase carbon sequestration and forest resiliency to climate

- change; and
- other projects consistent with the EIP Forest Ecosystem Health Program.

Guiding Documents: Applicants should describe how their proposal is consistent with the EIP, the *Lake Tahoe Basin Multi-Jurisdiction Fuels Reduction and Wildfire Prevention Strategy* and should be developed in coordination with the Tahoe Fire and Fuels Team (TFFT) and the Multi-Agency Coordination Committee (MAC). In addition, because all Proposition 1 projects must have a water focus, applicants must demonstrate the link between their forest health project and water quality, wetlands, or watershed protection or restoration.

Sustainable Communities

Purpose: Proposition 1 requires the Conservancy and other agencies to support projects that promote state planning priorities and the implementation of Sustainable Communities Strategies (**Appendix A**). These strategies promote more efficient and integrated development patterns that preserve and enhance stream environment zones and other natural resources in urban areas; treat stormwater runoff; remove land coverage; and reduce vehicle miles travelled and other sources of greenhouse gas emissions.

Example projects include, but are not limited to:

- Acquisition and/or restoration of aging developed properties on or adjacent to environmentally sensitive lands;
- Partnerships to utilize Conservancy land to accomplish Sustainable Community Strategy and area plan goals;
- Acquisition of the remaining private properties in Lake Tahoe's roadless subdivisions to remove the threat of development; and
- Other projects consistent with the *Lake Tahoe Region's Sustainable Communities Strategy*.

Guiding Documents: Applicants should describe how the project is consistent with state planning priorities, and regional and local land use planning priorities described in the *Lake Tahoe Regional Plan*, the *Lake Tahoe Region's Sustainable Communities Strategy*, the Conservancy's Tahoe Livable Communities (TLC) Program, and/or local area plans. In addition, because all Proposition 1 projects must have a water focus, applicants must demonstrate the link between their sustainable communities project and water quality, wetlands, or watershed protection or restoration.

3. APPLICATION AND EVALUATION PROCESS

The Conservancy's Proposition 1 grants program will maintain and build upon the collaborative interagency process developed as part of the EIP. As described below, the Conservancy will issue a solicitation for proposals, recommend an initial allocation of funds among the Focus Areas after the proposals are submitted, and establish a Proposition 1 Review Team to evaluate and rank the proposals before making funding recommendations to the Conservancy Board. Applicants may be asked to provide supplementary information at any step in the process.

Submittal and Review Process

Step 1: *Project Solicitation Notice.* The Conservancy will issue a solicitation for applications, which will also be posted on the Conservancy's website at www.tahoe.ca.gov with the Grant Guidelines and the Grant Application Package. The first solicitation is anticipated for release on or about July 1, 2015. Acquisition grant applications may be solicited up to quarterly, if funding is available.

Step 2: *CCC Consultation.* Before submitting their applications, applicants must consult with the California Conservations Corps (CCC) regarding the services the CCC can provide, as described in the Grant Application Package. Applicants must use the CCCs to implement projects where feasible.

Step 3: *Application Submittal.* Applicants must submit a complete Grant Application Package during the solicitation period established by the Conservancy.

Step 4: *Initial Conservancy Staff Review.* Conservancy staff will review the applications for eligibility and completeness, and develop an initial recommendation to the Proposition 1 Review Team on an allocation of funds among the Focus Areas based on the number, quality, and geographic distribution of applications, and the availability of funds from other sources.

Step 5: *Proposition 1 Review Team.* The Review Team, which will be composed of key agency, basin-wide stakeholder, and science organization representatives, will review and score the applications and develop funding recommendations based on the review scores and the distribution of funding within and among Focus Areas and geographic areas of the Basin. The Review Team may recommend partial awards or other adjustments to the submitted applications.

Step 7: *Conservancy Staff Recommendation.* Conservancy staff will prepare a recommendation to the Board based on its review of Proposition 1 requirements, the Conservancy's enabling legislation and Strategic Plan, the Review Team recommendations, and the availability of funding from Proposition 1 and other sources.

Step 8: *Conservancy Board Approval.* The Conservancy Board will consider the Review Team and Staff Recommendations, and authorize funding for the approved projects.

Conflict of Interest

All individuals who participate in the review of submitted proposals are subject to State and federal conflict of interest laws. Any individual who has participated in planning or setting priorities for a specific solicitation or who will participate in any part of the grant development and negotiation process on behalf of the public is ineligible to receive funds or personally benefit

from funds awarded through that solicitation. Applicants should also be aware that certain State agencies may submit proposals that will compete for funding.

Failure to comply with the conflict of interest laws, including business and financial disclosure provisions, will result in the proposal being rejected and any subsequent grant agreement being declared void. Other legal actions may also be taken. Applicable statutes include, but are not limited to, California Government Code section 1090 and Public Contract Code sections 10365.5, 10410, and 10411.

Evaluation Criteria and Scoring

Grant applications will be scored by the Proposition 1 Review Team based on the following evaluation criteria (up to 100 possible points):

Project Benefits/State Priorities. (up to 35 points)

- What are the tangible results of the project that further the purposes of the EIP and statewide priorities including the Water Action Plan?

Readiness/Feasibility. (up to 20 points)

- How ready and feasible is the project and is the project schedule realistic and consistent with funding availability?

Leveraged funding. (up to 15 points)

- To what extent does the project leverage funding from private, federal, or local sources, including in-kind services to maximize public benefits and outcomes?

Innovation and Science. (up to 10 points)

- To what extent does the project employ new or innovative technology or practices, and/or apply best available science or provide opportunities for enhanced scientific understanding?

Organizational Capacity: (up to 10 points)

- Does the organization have the experience and capacity to deliver the project on time, on budget, and in accordance with grant requirements?

Public and Stakeholder Support. (up to 10 points)

- Does the project have strong interagency, community, and/or stakeholder support?

4. GRANT FUNDING, LEGAL AND ADMINISTRATIVE REQUIREMENTS

Following Board authorization of Proposition 1 grant funding, Conservancy staff will prepare a detailed grant agreement, including a project schedule, work plan and budget describing the specific tasks to be performed and deliverables. The Conservancy's Grant Application Package includes a comprehensive set of application, funding, legal and administrative requirements associated with each type of grant.

The Conservancy Board may impose additional requirements when a grant is awarded. All grant activities shall be implemented in accordance with the requirements of the Board authorization and staff recommendation, the terms and conditions of the grant agreement, the Grant Guidelines and the Grant Application Package.

Funding provided through Conservancy grants is typically available for 2-5 years; however, the term of a grant agreement may be longer because the Conservancy requires an operations and maintenance commitment (plan) for the useful life of the improvements. Accordingly, the term of an Implementation Grant may extend from the date of completion of construction through the useful life of the improvements.

(end)

APPENDIX A

STATE PRIORITIES

The following table summarizes the major state environmental and land use planning priorities and key documents related to implementation of the Tahoe EIP. It is not all-inclusive. Conservancy staff will work with applicants to cite other state planning documents that are relevant to their projects, if necessary.

State Priority	Summary Description	Source
Water Resources	<p>The California Water Action Plan includes the following priorities related to the Tahoe Basin:</p> <ul style="list-style-type: none"> • Continue Restoration Efforts in the Tahoe Basin California, in partnership with state of Nevada and the federal government, will continue its efforts to protect the beautiful and unique waters of Lake Tahoe. California’s restoration efforts include, among other things, support of the Tahoe Regional Planning Agency’s Regional Plan Update and support for projects contained in the Region’s Environmental Improvement Program. • Restore Key Mountain Meadow Habitat The Department of Fish and Wildlife, in coordination with other state resource agencies, will restore 10,000 acres of mountain meadow habitat in strategic locations in the Sierra Nevada and Cascade mountain ranges, which can increase groundwater storage and provide habitat for more than 100 native species, many of which are at risk as threatened or endangered. <p>Additionally, the Plan directs that, in order to reduce the significant risks posed to the water resources flowing from the Sierra, there is a critical need to:</p> <ul style="list-style-type: none"> • Restore forest health through ecologically sound forest management. Overgrown forests not only pose a risk of catastrophic fire, but can significantly reduce water yield. • Protect and restore degraded stream and meadow ecosystems to assist in natural water management and improved habitat. • Support and expand funding for protecting strategically important lands within watersheds to ensure that conversion of these lands does not have a negative impact on our water resources. 	2014 California Water Action Plan
Conservation	<p>The CA Department of Fish and Wildlife’s State Wildlife Action Plan (SWAP) is the conservation blueprint for the State of California. The SWAP examines the health of wildlife and prescribes actions to conserve wildlife and vital habitat before they become rarer and more costly to protect. The plan also promotes wildlife conservation while furthering responsible development and addressing the needs of a growing human population. DFW is now preparing a SWAP 2015 Update.</p>	State Wildlife Action Plan

<p>Land Use Planning</p>	<p>The state planning priorities are:</p> <ul style="list-style-type: none"> • To promote infill development and equity by rehabilitating, maintaining, and improving existing infrastructure that supports infill development and appropriate reuse and redevelopment of previously developed, underutilized land that is presently served by transit, streets, water, sewer, and other essential services, particularly in underserved areas, and preserving cultural and historic resources. • To protect environmental and agricultural resources by protecting, preserving, and enhancing the state's most valuable natural resources, including working landscapes such as farm, range, and forest lands, natural lands such as wetlands, watersheds, wildlife habitats, and other wildlands, recreation lands such as parks, trails, greenbelts, and other open space, and landscapes with locally unique features and areas identified by the state as deserving special protection. 	<p>California Government Code 65041.1</p>
<p>Land Use Planning (continued)</p>	<ul style="list-style-type: none"> • To encourage efficient development patterns by ensuring that any infrastructure associated with development, other than infill development, supports new development that does all of the following: <ul style="list-style-type: none"> ❖ Uses land efficiently. ❖ Is built adjacent to existing developed areas to protect, preserve, and enhance the state's most valuable natural resources as described above. ❖ Is located in an area appropriately planned for growth. ❖ Is served by adequate transportation and other essential utilities and services. ❖ Minimizes ongoing costs to taxpayers 	
<p>Sustainable Communities</p>	<p>Under SB 375, California's Regional Planning Agencies are required to develop and adopt Sustainable Communities Strategies to integrate land use, transportation, and housing, and to reduce greenhouse gas emissions. The Tahoe Region's Sustainable Communities Strategy (SCS) is a key element of the Regional Transportation Plan and Regional Plan.</p>	<p>California Government Code 65080(b)(2) and 65080(b)(2)(C)(ii) Tahoe SCS</p>
<p>Climate Change</p>	<ul style="list-style-type: none"> • AB 32 Scoping Plan Assembly Bill 32 (AB32) required the California Air Resources Board (Board) to develop a Scoping Plan that describes the approach California will take to reduce greenhouse gases to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first considered by the Board in 2008 and is updated every five years. The Board approved the First Update to the Climate Change Scoping Plan on May 22, 2014. • Safeguarding California Plan The 2014 update of the Safeguarding California Plan summarizes climate change impacts and recommends adaptation strategies across seven sectors: Public Health; Biodiversity and Habitat; Oceans and Coastal Resources; Water; Agriculture; Forestry; and Transportation and Energy. 	<p>AB 32 Scoping Plan; Safeguarding California Plan</p>

APPENDIX B

PERFORMANCE MEASURES BY FOCUS AREA

Stormwater Quality Focus Area:

- Fine sediment load reduction achieved
- Nitrogen load reduction achieved
- Phosphorous load reduction achieved
- Parcels with stormwater retrofits
- Miles of roads treated

Ecosystem and Watershed Management Focus Area:

- Linear feet of stream habitat restored or enhanced
- Impervious coverage retired
- Acres of SEZ restored or enhanced
- Acres of environmentally sensitive land acquired
- Acres of habitat protected
- Acres of habitat restored or enhanced
- Special status species sites protected or re-established
- Fish planted

Aquatic Invasive Species Focus Area:

- Acres of invasive species inventoried
- Acres treated for invasive species
- New invasive species location detected

Forest Improvement Focus Area:

- Acres treated for fuels reduction hazard
- Acres treated for forest health

Sustainable Communities Focus Area:

- Miles of Pedestrian and Bicycle Routes Improved or Constructed
- Pounds of Air Pollutants Removed or Avoided by Project
- Tons of Greenhouse Gases Reduced

APPENDIX C

STORMWATER QUALITY FOCUS AREA: Preferred Design Approach (PDA)

The Preferred Design Approach emphasizes project elements that prevent the mobilization of fine sediment and nutrients by erosion (source control), and that reduce the volume of runoff reaching natural surface waters (hydrologic design considerations). Source control measures and hydrologic design considerations, primarily infiltration, are the most cost-effective and efficient means to improve water quality. These two elements should be considered together, not separately, when looking for opportunities. Water quality treatment measures to remove pollutants from runoff are to be considered only after source control and hydrologic design.

In cases where applicants find it difficult to apply a specific portion of the PDA to a project or element of a project, the applicant should consult with Conservancy and other agency staff on specific barriers to implementation of the PDA. If project designs are not based on the PDA, grantees will be required to explain the specific barriers to the application of the PDA and provide documentation to support how the proposed alternative approach meets program objectives (e.g., maximizes water quality benefit).

The Conservancy recognizes that this approach must be applied within the context of professional engineering practices to avoid impacts on public health and safety and damage to public and private property. It also recognizes that there are legal and regulatory limitations to the application of these principles, such as applicable drainage law.

Specific elements of the Preferred Design Approach are:

Source Control

1. Place higher priority on source controls than on treatment. Source controls are measures that prevent the mobilization of Fine Sediment Particles (FSP). Treatment facilities remove pollutants from stormwater runoff.
2. Emphasize reduction in bare, erodible surfaces (e.g., steep cut slopes, dirt roads) and impervious area.
3. Emphasize stabilization of gullies, unstable channels, and other sources that contribute especially high sediment loads.
4. Maximize self-sustaining source control methods, such as revegetation with native plants, pine needle mulching, and adding soil amendments such as mycorrhizal inoculum to soils when appropriate.

Hydrologic Design

1. Maintain or create distributed flow patterns (e.g., flows which discharge from the right-of-way frequently, or from shoulders by unconcentrated "sheet flow") and avoid concentration or increases of flows where feasible.
2. Maximize infiltration of runoff from impervious surfaces. In some cases this can be accomplished by techniques described in number 5 above or also by the construction of leach fields, dry wells, or detention basins, for example.
3. Keep runoff from non-urban areas separate from urban runoff until urban runoff is treated. Treatment efficiency is much greater when flow volumes are smaller.
4. Keep treated urban runoff separate from untreated urban runoff to avoid resuspension of sediments and decreased treatment efficiency in downstream facilities.

5. Apply geomorphologic principles to natural channel design and mimic natural processes when stabilizing, restoring, or recreating natural drainage channels. For example, channels with floodplains tend to be more stable than those without. Channels with steps and pools are a frequent natural stream form and have better habitat values than those with continuous slopes. Avoid adding to or decreasing natural stream flows or changing watershed boundaries.

Treatment

1. Emphasize removal of fine sediments and phosphorous. For the purposes of the PDA, fine sediment is considered to be those particles less than 16 microns. Examples of improvements that are likely to achieve this objective are properly-sized, flat or gently-sloping, well-vegetated, detention areas (meadow-like areas).
2. Use natural treatment systems, such as meadows, where feasible. Because of the critical importance of wetland plants in removing pollutants from runoff, projects located in Stream Environment Zones (SEZ) should generally preserve the existing vegetation and function of the SEZs to the maximum extent practicable.