



Pima Natural Resource Conservation District

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Mr. Chuck Huckelberry, County Manager
Pima County
130 West Congress Street, 10th Floor
Tucson, Arizona 85701

Dear Mr. Huckelberry:

The Pima Natural Resource Conservation District is sending you a copy of a letter that was drafted by Mary Ann Black who is a supervisor for the Herford Natural Resource Conservation District. We support any effort that Pima County would undertake to promote water harvesting.

Arizona has a long history of fighting over water and the only thing that has changed is the technology for acquiring water resources. The Natural Resource Conservation Districts (NRCD's) have been implementing on-the-ground soil and water projects since they were organized in the 1930's to overcome the "Dustbowl Disaster". The typical sediment and erosion control practices commonly known as "Best Management Practices" are proven to enhance storm water recharge as an added benefit. This proposal is based on projects that are being implemented all over the country and one in particular that has shown dramatic results in Los Angeles, California. This project is called Trans- Agency Resources for Environmental and Economic Sustainability (T.R.E.E.S).

- Urban areas that are paved over with concrete, asphalt and roofs form "heat islands" that cannot dissipate the carbon dioxide. Greenbelts that are full of trees and shrubs will sequester the carbon dioxide and can double as recharge areas using cisterns, detention basins and infiltration trenches while cooling the area and reducing the energy needed to cool homes and businesses.

- These practices can be included in the "Growing Smarter" legislation requiring all cities and counties to adopt a "Storm Water Pollution Prevention Plan" or (SWPPP). If every City with a population of over 40,000 and every County is required to adopt a SWPPP with a minimum package of Storm Water Management Practices, the State will be able to withstand extended drought and reduce flood disasters. Because each government entity can adopt separate standards, they can be tailored to the climate and rainfall patterns of the area.

- NRCD's are poised to step up and implement these projects where cities and counties may need the technical assistance and an intermediary to expedite contracting and permitting. NRCD'S have a track record for implementing projects and cutting through the "red tape". The "Best Management Practices" that are proven most effective for our purposes are all approved by The Environmental Protection Agency, Arizona Department of Environmental Quality and, Arizona Department of Water Resources.

- A complete menu of "Urban Best Management Practices is attached". The core list should be the very minimum adopted by each entity across the State and is as follows: guttered roofs with cisterns or infiltration trenches in all new construction, infiltration trenches with or without cisterns on all commercial parking areas, greenbelts with native trees, shrubs, rock check dams and detention basins in all drainages, rain sensors on all automatic irrigation systems and, recharge or reuse all treated effluent.

Using just these "core practices" Los Angeles expects to see large reductions in their water use. We can do the same Statewide and the best part of this plan is that the practices are inexpensive and proven effective. Great examples of greenbelts in Arizona (if you left out the lakes) are Indian Bend Wash and Rio Salado.

Sincerely,



Andrew McGibbon
Chairman

Encl.

The removal of sediment is costly and never-ending unless erosion is reduced or controlled. Sediment damages lawns, roads, recreations areas, and buildings. It reduces the capacity of ditches, drains, and culverts. It pollutes streams, rivers, and lakes and causes increased flooding, higher costs for purifying drinking water, and the death of fish and other aquatic life. It can also carry attached pesticides and degrade the esthetic appearance of an area.

1.1.4 Increased Runoff

Increased runoff is caused by altering the existing conditions at the construction site. As more and more impervious structures are installed at the site, the ability of the ground to absorb stormwater is reduced. Soils have the ability to take in large amounts of rainfall before they become saturated. When they are covered over, obviously, they can no longer absorb any rainfall. Impervious structures can be buildings, parking lots, streets, sidewalks, etc.

This increase in stormwater runoff can have many detrimental effects both on and off the construction site. Increased flows can cause more erosion and cause more localized flooding. It also effects channels and rivers downstream of the site. More runoff means more flooding and more sediment being deposited downstream.

Key Point { Increased runoff also means less percolation into the underground aquifer. This speeds up drought conditions within the upper soil layers. It also means lower water levels in local wells in the area.

1.1.5 Erosion and Sediment Hazards Associated with Developing Areas

The development process is such that many people may be adversely affected even by development of areas of land of only limited size. Uncontrolled erosion and sediment from these areas often cause considerable economic damage to individuals and to society in general. Surface water pollution (streams, rivers and lakes), channel and reservoir siltation and damage to public facilities, as well as to private property, are some of many examples of problems caused by uncontrolled erosion and sedimentation.

Hazards associated with development include:

1. A large increase in areas exposed to storm runoff and soil erosion.
2. Increased volumes of storm runoff, accelerated soil erosion and sediment yield and higher peak flows caused by:
 - a. Removal of existing protective vegetative cover.
 - b. Exposure of underlying soil or geologic formations less pervious and/or more erodible than original soil surface.
 - c. Reduced storage capacity of exposed soils due to compaction caused by heavy equipment.

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- d. Enlarged drainage areas caused by operations, diversions and streets.
 - c. Prolonged exposure of unprotected soil due to scheduling problems and/or construction.
 - f. Shortened times of concentration of surface runoff caused by altering steepness, distance and surface roughness and through installation of "improved" storm drainage facilities.
 - g. Increased impervious surfaces associated with the construction of streets, buildings, sidewalks and paved driveways and parking lots.
3. Alteration of the groundwater regime that may adversely affect drainage systems, slope stability and survival of existing and/or newly established vegetation.
 4. Creations of exposures facing south and west that may hinder plant growth due to adverse temperature and moisture conditions.
 5. Exposure of subsurface materials that are rocky, acid, drought or otherwise unfavorable to the establishment of vegetation.
 6. Adverse alteration of surface runoff patterns by construction and development.