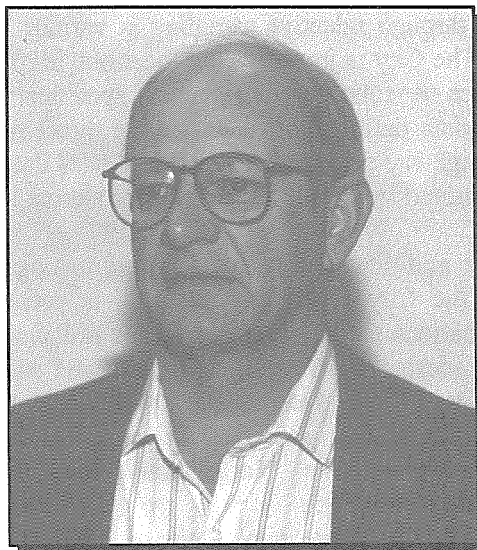


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ALBUQUERQUE NPDES STORMWATER PROGRAM AND MENAUL DETENTION BASIN RECONSTRUCTION

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The City of Albuquerque Public Works Department currently is involved in acquiring the municipal separate storm sewer system permit for stormwater discharge. Draft permits for municipal systems have been published by the U.S. Environmental Protection Agency (EPA), although the City of Albuquerque has not received a draft permit for the City system itself. The City anticipates that draft permits will be issued sometime in early to mid-1995. The Albuquerque Metropolitan Arroyo Flood Control Authority and the New Mexico State Highway Department will be co-permittees with the City of Albuquerque.

The City also is presently involved in several activities related to implementing the NPDES

Stormwater Program. The Public Works Hydrology Division is monitoring and testing in accordance with the original monitoring plan submitted to EPA as part of the Part II Application. Monitoring and testing is being done at five primary discharge points to the Rio Grande, and testing is being done for a full range of parameters including metals (total and dissolved), bacteria, nutrients, and organic materials. The program is being conducted by the City in cooperation with the U.S. Geological Survey (USGS). In addition to the five primary sampling stations, the City is periodically sampling two additional background stations that receive water from undeveloped upstream areas in an effort to identify background levels for comparison with the

actual urban runoff. Additional efforts are being made to characterize the quality of stormwater runoff through selective sampling at various locations. The City is investigating locations in the urban area to isolate highway runoff specifically, to accumulate data and characterize the direct runoff from highway pavements. All stormwater data are being stored by the USGS in an informational data base.

In addition to the sampling and testing program, the City Hydrology Division is preparing modifications to the current drainage ordinance to better address water quality issues, and also is preparing a design manual for structural improvements that address water quality and a manual for construction activities. Target date for completed manuals is July 1995.

The City Hydrology Division also is busy preparing educational handout materials as well as informational materials for industries. To date, the focus of the stormwater quality program has been to educate the public to improve awareness of the problems associated with nonpoint source pollution. Educational materials utilized to date include advertising panels to discourage illicit discharge and information on Best Management Practices, bumper stickers, magnetic decals, and miscellaneous items such as flying discs and pencils that provide an informational message. The City also has utilized public transit bus panel advertising for information on Best Management Practices. The City is involved in marking inlets to advise the public that drainage entering inlets drains directly "into the river." This is an attempt to discourage the dumping of liquids and solid wastes into inlet facilities on roadways. All these programs and efforts have started the educational process to improve stormwater pollution awareness. Through the use of Best Management Practices, stormwater pollution can be reduced.

The Public Works Department has recently completed a construction project that involved improving an existing large detention basin in central Albuquerque. The drainage basin contributing to the detention basin is primarily industrial and therefore water quality was of particular concern. The detention basin, known as the Menaul Detention Basin, was reconstructed utilizing a two-cell design where the upstream cell portion is primarily for

sedimentation, and the downstream portion is a sediment basin equipped with an underdrain system with a sand filter. The filter portion of the basin provides a filtering media to provide some additional contact surface and to provide additional sediment removal of waters passing through the filter. The basin is sized so that for the two-year storm, all waters must pass through the sand filter in order to proceed downstream to the outlet system. Total volume contained prior to discharge in the primary spillway is approximately 12 acre-feet, and the total basin will handle approximately 66 acre-feet. The City will be monitoring inflow and outflow quality on this basin over a two-year period to identify improvements in water quality.

In addition to the sand filter, the primary spillway is equipped with a hooded overflow structure that prevents discharge of floating material and floatable solid waste material. This is the first detention basin the City has constructed with this type of primary spillway, and depending upon results, it may become a standard retrofit for existing detention basins.

For City construction projects in excess of five acres of site disturbance, the City has been processing pollution prevention plans to address stormwater sediment and erosion during construction. The pollution prevention plans include provisions for revegetation after project completion. Projects in the City typically have used various methods of revegetation and erosion protection including rock facings on steeper slopes, rock mulch cover for seeding operations, general seeding and applications of crimped straw for flatter areas, erosion control fencing, and rip rap. Larger construction projects typically are required to utilize on-site detention basins for sediment removal prior to discharge of stormwaters. Experience on construction projects has been varied. The City Hydrology Division has found that small detention basins placed in critical locations and used in combination with diversion berms, appear to be the most successful in this area to reduce erosion during construction.