

Oklahoma

Water
News

MONTHLY NEWSLETTER OF THE OKLAHOMA WATER RESOURCES BOARD



DSM Director Stan Williams reviews plans on the drawing board of Roland MacCallum, chief of the Design Section.

They watch it with the doting affection of parents of a 2-year-old—rejoicing in its growth and strength; frustrated at its shortcomings; urging it toward ever bigger steps. They are the people of Tulsa's two-year-old Department of Stormwater Management—creators and innovators of a program that has been enormously successful in working toward a storm-safe city. And, along the way, DSM has captured the support of Tulsans and claimed the attention of the nation.

Four times in 12 years Tulsans had agonized in floodwaters. The city led the nation in the number of federal flood disaster declarations—nine since 1970. The Memorial Day flood of 1984 was the cruelest of all, its inky pre-dawn waters extinguishing 14 lives and injuring 233 people. The cloudburst between 2 and 6 a.m. drove 14 inches of rain through light-

Innovative Tulsa Utility Sets Storm-Safe City as Its Goal

An urbanized riverbank city with a watery history takes giant steps in attacking drainage problems

ning-sliced blackness. Flash flooding began only minutes after the storm's onset, and by daybreak, 7000 homes and businesses had been invaded by floodwaters. The storm had stung most savagely the 60-square-mile drainage area of Mingo Creek (roughly one-third of the city), but all sections sustained flooding.

Tulsa and Bixby have the only stormwater utilities in the state.

The costs of the Memorial Day flood were counted at \$183 million—\$500 for every man, woman and child. Tulsa's losses to flood since 1970 soared to a shocking \$300 million and 17 lives. But from the dreadful storm was born the resolve to work together toward a storm-safe city.

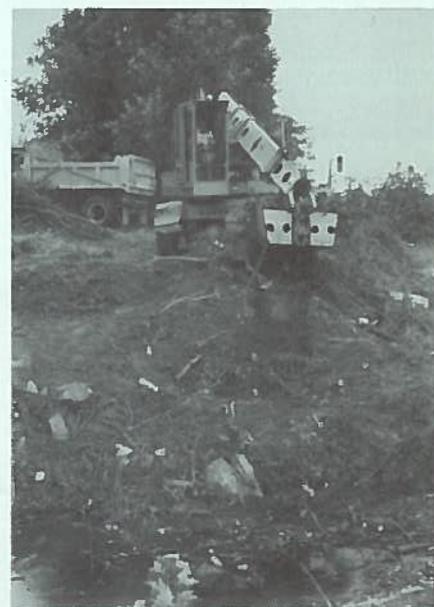
Scarcely nine months later, Tulsa created a separate utility, the Department of Stormwater Management, to centralize and focus all flood control and drainage activities. The department was put on a firm financial footing and supported by a 6-member Advisory Board chaired by Street Commissioner J.D. Metcalfe. Stan Williams, with a law degree and a master's in planning and a background with the Federal Emergency Management Agency and the Oklahoma Corpora-

tion Commission, was named executive director.

"It was clear that Tulsa could not adopt or transfer a drainage management approach from another city," Williams points out. "Management and financing concepts had to be tailored to local conditions."

Some problems were typical of most aging cities—outmoded and undersized drainage systems; neglected

Continued on page 2



Grade-all operator clears away the debris that would impede the flow of stormwater in this creek.

Washita Rivers and their tributaries. The permit applications submitted so far for review by year's end will include permits in Stream Systems 2-1, 2-2, and 2-4 in the Arkansas River Basin. Each stream water permit is re-

viewed on a continuous 7-year cycle or in accordance with a schedule of use approved by the Board. If a permit holder uses only a portion of the water authorized by his permit, the total authorized amount is reduced to the maximum amount of water used dur-

ing any continuous 7-year period.

If none of the water allocated by the permit was used during the period, the water right is cancelled. Stream water freed by reduction or cancellation of a water right is made available for reappropriation.

**ACTIVE CONSERVATION STORAGE IN SELECTED OKLAHOMA LAKES AND RESERVOIRS
AS OF AUGUST 26, 1987**

PLANNING REGION LAKE/RESERVOIR	CONSERVATION STORAGE (AF)	PERCENT OF CAPACITY	PLANNING REGION LAKE/RESERVOIR	CONSERVATION STORAGE (AF)	PERCENT OF CAPACITY
SOUTHEAST			NORTHEAST		
Atoka	116,533	93.9	Eucha	77,000	96.8
Broken Bow	840,207	91.5	Grand	1,359,880	91.2
Pine Creek	73,875	95.1	Oologah	541,940	99.6
Hugo	157,465	99.9	Hulah	30,594	100.0
CENTRAL			FORT GIBSON		
Thunderbird	115,133	100.0	Fort Gibson	359,403	98.4
Hefner	72,545	96.3	Heyburn	6,188	93.8
Overholser	15,169	95.2	Birch	19,200	100.0
Draper	70,690	70.7	Hudson	200,300	100.0
SOUTH CENTRAL			SPAVINAW		
Arbuckle	62,502	99.9	Spavinaw	27,000	90.0
Texoma	2,540,800	96.3	Copan	42,930	98.9
Waurika	199,772	98.4	Skiatook	316,982	99.2
SOUTHWEST			NORTH CENTRAL		
Altus	108,802	81.9	Kaw	428,600	100.0
Fort Cobb	80,157	100.0	Keystone	616,000	100.0
Foss	177,254	72.7 ²	NORTHWEST		
Tom Steed	85,111	95.7	Canton	93,561	96.0
EAST CENTRAL			OPTIMA		
Eufaula	2,275,727	97.7	Optima	3,000	100.0 ¹
Tenkiller	610,833	97.3	Fort Supply	13,900	100.0
Wister	23,250	85.8	Great Salt Plains	31,400	100.0
Sardis	296,073	97.9	STATE TOTALS		
			12,089,776.00		92.5³

- 1. In initial filling stage
- 2. Temporarily lowered for maintenance
- 3. Conservation storage for Lake Optima not included in state total

Data courtesy of U.S. Army Corps of Engineers, Bureau of Reclamation, Oklahoma City Water Resources Department, and City of Tulsa Water Superintendent's Office.

This monthly newsletter, printed by the Central Printing Division of the Office of Public Affairs, Oklahoma City, Oklahoma, is published by the Oklahoma Water Resources Board as authorized by James R. Barnett, executive director. Ten thousand copies are printed and distributed monthly at an approximate cost of 20 cents each.

E. WHITLOW, Editor **BRIAN VANCE, Writer** **BARRY FOGERTY, Photographer** **MARIE WELTZHEIMER, Design**

OKLAHOMA WATER NEWS
Monthly Newsletter of the
Oklahoma Water Resources Board
100 N.E. Tenth, P.O. Box 53585
Oklahoma City, Okla. 73152

Ed E. Borelli, Chairman
Walker
Mitchell
McCreest
G. McPherson
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S. Kerr, Jr.
Johnson

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