

THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT
Lucas Building, 181 East 56th Avenue, Denver, Colorado 80216. Telephone: (303) 534-0151

CURB ON LAND DEVELOPMENT PROPOSED IN PLATTE FLOOD AREA

CHATFIELD-TO-DENVER MORATORIUM ASKED
(Reprinted from the Denver Post, May 22, 1971)

By CHARLES ROOS
Denver Post Staff Writer

Regional officials are recommending a near-freeze in land development for the next five years in the flood plain of the South Platte River between Chatfield Dam and Denver.

Formal recommendations will be made soon by the Urban Drainage and Flood Control District (UDFCD) to Arapahoe County and city officials of Englewood, Littleton, Sheridan and Columbine Valley.

James R. Quinn, executive director of UDFCD, said he has already talked informally with some of the officials.

The district is recommending a moratorium on development in the part of the Platte Valley inundated in the 1965 flood.

When Chatfield dam is completed, in about five years, the potential flood situation will be vastly different than it is now, Quinn said. But until then, UDFCD officials believe development in the flood plain ought to be carefully controlled.

The district proposal to local governments is to allow no residential building in the 1965 flood area and to review other proposed developments to avoid impeding the runoff if there's another flood in the next five years.

UDFCD is recommending a moratorium until Dec. 31, 1975.

SEVERAL PURPOSES

Quinn told members of the UDFCD board at a meeting Thursday the moratorium would serve several purposes:

—It would avoid much of the conflict over proposed land development that is now arising in local zoning boards.

—It would dampen land speculation now going on in the valley below Chatfield.

—It would give everyone time to decide the best way to use the flood-plain area—and specifically whether to go ahead with a controversial federal proposal to "channelize" the Platte at a cost of \$4.2 million.

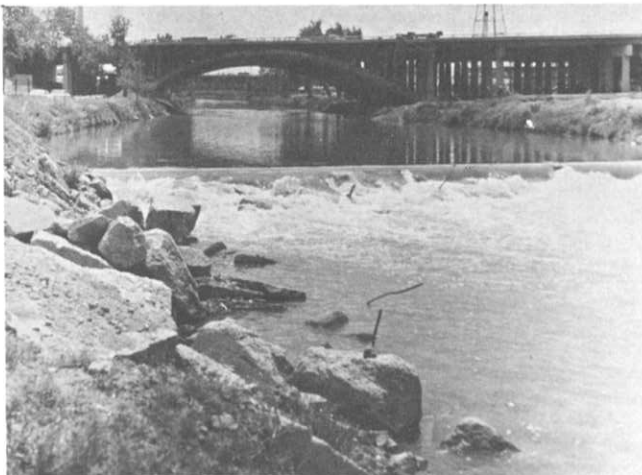
Quinn emphasized that the proposed freeze on development is only temporary—that it's meant to serve as an interim expedient.

When Chatfield Dam is finished and operating, he said, the flow of water downstream will be controlled to a maximum of about 5,000 cubic feet per second.

In a flood like the 1965 tragedy, the flow may exceed 100,000 cubic feet.

(Continued on Page 4)

WHERE HIGHWAY I-25 CROSSES THE PLATTE



CHERRY CREEK JOINS THE PLATTE RIVER



The
 URBAN **UD** DRAINAGE
 &
 FLOOD CONTROL DISTRICT

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 Henry W. Hough, Editor

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 181 East 56th Avenue

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TIMELY AND AVAILABLE

Some Current Publications

FLOOD PLAIN REGULATION (Policy Series) \$2.00 per Copy, from UDFCD office.

"... Not so much a zoning regulation as a guide to wise development of flood plains... a flood plain management tool... tailor-made to fit in with the present extensive work by the Corps of Engineers in their flood plain study program..."

The District's Flood Plain Regulation is used by other governmental units as a model, and has been praised as a major contribution.

DENVER REGION URBAN HYDROLOGY REPORT (Technical Series) \$2.00 per copy, from UDFCD Office.

Rainfall-runoff basic data for the urban basins has been collected systematically since May 1967, a joint endeavor of the City and County of Denver, the Urban Drainage and Flood Control District, and the Denver Regional Council of Governments. The program is being expanded greatly in 1971. The data have been tabulated by Wright-McLaughlin Engineers. Included is a graphic presentation of basic data on the Harvard Gulch storm of June 8, 1969.

MAGNITUDE AND FREQUENCY OF FLOODS IN THE DENVER REGION (Technical Series \$2.00 per copy, from UDFCD Office.

In addition to the technical data in this report, there is a statistical summary of record floods and computed frequencies based on data taken at sixteen stations. Items included are drainage area, length of record (years), flood of record in cfs and cfs/sq. mi, 100 year flood by Pearson Log-III Analysis in cfs and cfs/sq. mi., with remarks concerning characteristics at each station.

CONFERENCE PROCEEDINGS: URBAN DRAINAGE IN A REGIONAL CONTEXT, January 1971. \$3.00 while they last, from UDFCD Office.

This is the complete report on an important conference including papers by several authorities and discussion from the floor by participating engineers, public officials, planners and others. Many of the topics discussed have wide application and significance outside the Denver area. Requests for copies of this report have been received from as far away as Atlanta, Georgia.

QUINN-TESSENCE

BY JIM QUINN



Plain Talk from the District's Executive Director

YOUTH CORPS IMPROVING STREAMS IN DENVER AREA

The methods used for the development of programs in drainage and flood control pose significant problems. In trying to develop programs covering the entire spectrum there is validity in trying new approaches in an attempt to avoid rehashing the traditional.

The Board of Directors has approved a pilot program which will involve the District with the Neighborhood Youth Corps (NYC), of the U.S. Department of Labor. The NYC is aimed at providing work experiences for unemployed youth and teenagers generally considered to be at the poverty level. The NYC program is allocated throughout the Nation, with summer employment a major emphasis.

Whether or not teenagers can be involved in a meaningful experience that will result in benefits to the drainage and flood control element will be the subject of this pilot program.

There is always the tendency to utilize untrained and inexperienced youth in a "cleanup program" which does little for the teenager and only temporizes the action in the watercourse. Basis for the pilot project is a contention that *teenagers can be used to modify and reshape banks, to transplant materials to assist in bank stabilization, to modify or develop check dams in watercourses, and to also develop the watercourse to illustrate good usage of flood plains.*

Up to 100 NYC personnel will be involved in this program for an 8-week period ending September 1.

The challenge to the District comes after September 1 with an evaluation of what actually took place. A critical look at what was planned and what was actually accomplished should give some basis for either expansion or retraction for similar activities next year.

One benefit can be the identification of potential characteristics for the training of young people to move into the field of recreation and open space maintenance. This represents just one area which will be considered following the project.

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SOUND POLICIES FOR USE OF FLOOD PLAINS EMERGING

The single most effective result of the flood insurance program of HUD is the commitment by local governments to land use controls.

With the advent of a strong position to protect the

environment, State Governments appear to be concerned with land use controls.

Many areas in Colorado have no planning departments. Allowing property owners to make the sole decision about the best use of property disregards the total process of intelligent development.

In the 1971 Legislative session, Colorado moved toward establishing some land use policies.

It appears that the most common denominator for good land use planning involves the protection of flood plains. Making a good case for flood plain management appears to be the foundation for all other land use controls.

Misuse of the flood plain results in the greatest annual damage, even in arid regions like Colorado. The fact that, until recently, most of this was uninsured has placed a heavy burden on the general public.

The Urban Drainage District is looking toward a continual program of implementation of zoning watercourses. At this point in the equation, it is felt that the greatest results can be obtained.

Once protected from misuse, flood plains can be developed to avoid being part of the problem and made to be a part of the solution. Only after the flood plains are managed properly can we expect to develop facilities to protect the existing developments in our urban area.

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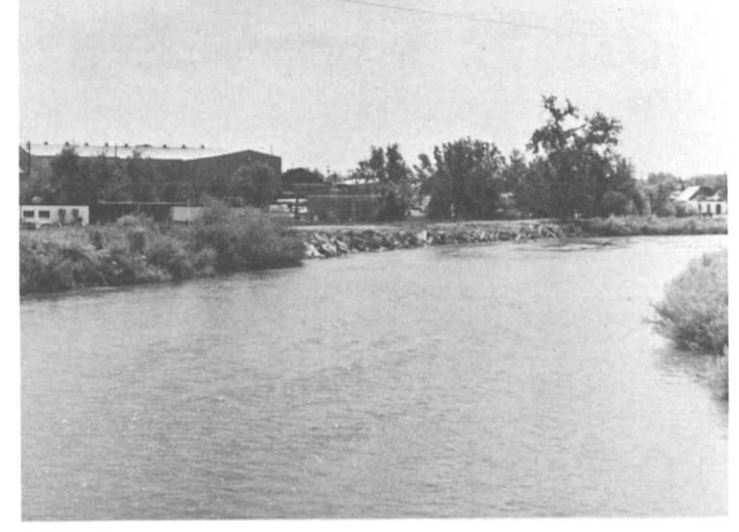
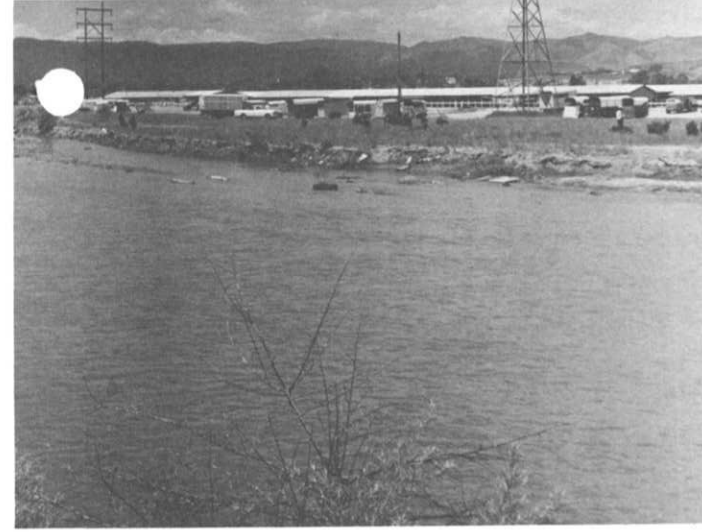
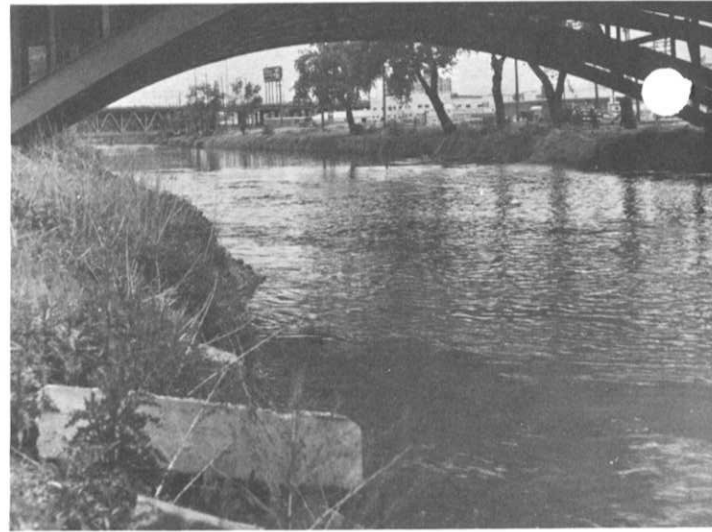
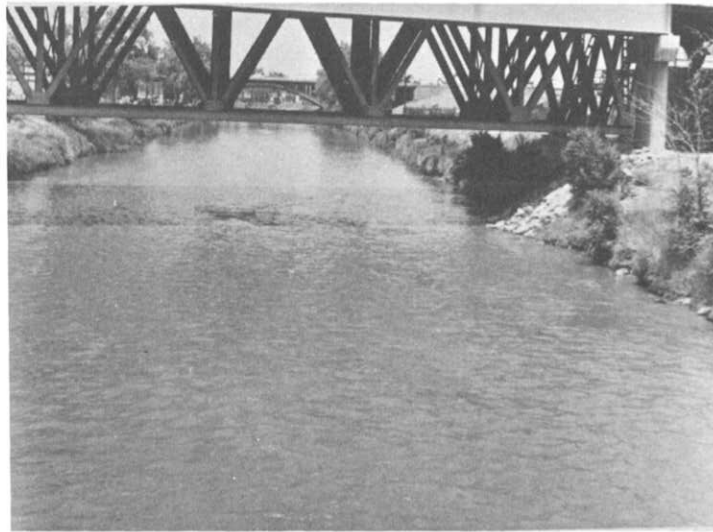
SOME THOUGHTS ON REGIONAL SERVICE AUTHORITIES

The success of a regional service authority depends upon the commitment to the job to be done rather than adherence to provincialism. Inherent in this concept is the recognition that most of our urban centers lie on flood plains at the confluence of various streams. Any protective measures upstream contribute to the safety of those downstream. The cleaning out of obstructions to allow smooth passage of water through the low lands also protects those upstream.

This is a crude way of explaining that whether your property is upstream or downstream your effort at control of water aids the other fellow. In other words, any decision results in some effect on others along the same watercourse.

The ability of residents in an urban area to recognize their interdependence is far more valuable than their identification as specific entities.

Any regional organization should stress the philosophy of interdependence in order to achieve its goals.



Curb Proposed (CONTINUED FROM PAGE 1)

The Army Corps of Engineers has already sketched a revised flood-plain map based on post-Chatfield conditions, Quinn said. Until the dam is operating, however, the revised map may mislead developers and buyers.

During the interim period, said Quinn, Arapahoe County and the Municipalities ought to emphasize open-space uses of the endangered area—for recreation, agriculture and such industrial purposes as sand and gravel extraction.

The long-planned channelization of the river below

Chatfield has come under fire from environmentalists and some public officials who prefer to keep the stream in its natural state.

The recommended delay in further Platte development will give time to consider all ramifications of the channel project, Quinn said.

The UDFCD board, in a meeting Thursday at the Regency Rodeway Inn, heard a report by Quinn on new legislation which removes the northern tip of the district—areas drained by Left Hand and St. Vrain Creeks.

This change in the 1969 UDFCD act reduces the district's tax base by about 2.5 per cent and its land area by 5 to 10 per cent, Quinn said.

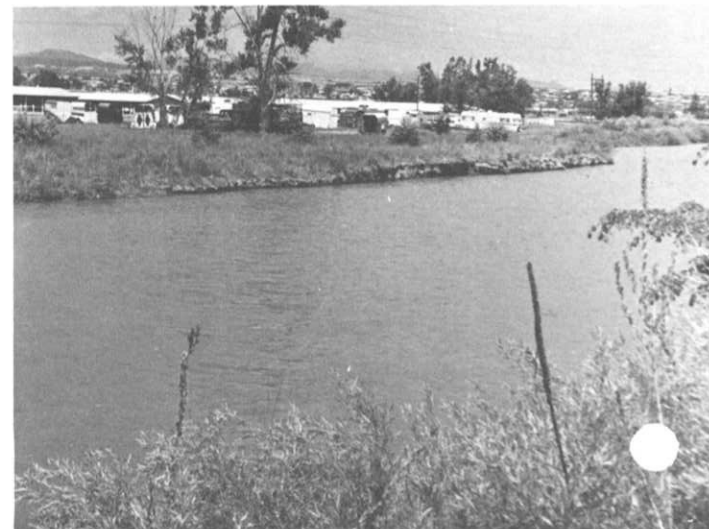
The District was created by law to bring together into one agency all of the surface drainage and flood-control activities of metropolitan Denver and nearby foothills.

By 1972 the District expects to be working on plans and financing for specific projects. Under present law its financing capability is limited to a tax levy of .1 mill, which raises about \$250,000 a year.

One of UDFCD's early projects—a highly successful one, Quinn said, is the preparation and promotion of a model ordinance committing local governments to long-range land use and flood-control programs.

When a local government adopts this model plan, its residents are eligible to buy emergency flood insurance subsidized by the U.S. government. By mid-summer, Quinn said, more than 90 per cent of the population off UDFCD will be qualified under the insurance program.

PLATTE RIVER SCENES PHOTOGRAPHED BY JAMES R. QUINN



MAPS OF FLOOD PLAINS CAN HELP PREVENT LOSS

BY HENRY W. HOUGH

(Reprinted from *The Denver Post*, June 1, 1971)

Year after year the cloudbursts come, sending torrents down usually dry gulches and causing damage in the millions of dollars.

Nature is trying to tell us something. The message is plain: Don't build your houses or shopping centers on flood plains. Use the flood plains for parks, golf courses and other recreational uses, not for homes and valuable business property.

But the warning is ignored by many investors who have to learn the hard way.

Many people in Denver and its suburbs think the problem has been taken care of by the Cherry Creek Dam, built several years ago, and the Chatfield Dam on the South Platte river, under construction near Littleton. But much more needs to be done to afford flood protection along the main stream of the South Platte. And dangers exist in the flood plains of two dozen insignificant-looking gulches and streams in the South Platte drainage basin.

Urban Drainage District

In 1969, the Colorado General Assembly created the Urban Drainage and Flood Control District, largely because of the disastrous flood on the South Platte in 1965, which caused \$545 million damage, but partly because of a long series of costly though less spectacular floods along minor streams. One job of the urban drainage agency is to alert the public to the folly of building homes or other valuable structures in the flood plains.

Gullible or careless people who continue to invest money in property situated on known flood plains get little help from real estate operators and builders. A glance at flood plain maps shows that subdivisions have been built recently in areas obviously exposed to flood hazards. Some of the largest and most costly shopping centers have been built in known flood plains.

James R. Quinn, drainage district executive director, is trying to alert the public to the fact that floods cause \$3 million to \$5 million damage every year in the Denver area. He urges prospective home owners and other investors to study the flood plain maps now available to avoid mis-use of flood plain property.

The maps, prepared by the U.S. Army Corps of Engineers in a series of studies of the South Platte River and its tributaries have been published in several vol-

umes containing detailed reports of past floods and current hazards. The maps show previously flooded areas, profiles, and cross-sections of the individual streams.

Open for Inspection

The studies were conducted at the request of the Denver Regional Council of Governments (DRCOG), and are being continued through the cooperation of the drainage district. All of these reports are open for inspection at the district office, and except for those now out of print may be obtained by writing the agency at its office, 181 E. 56th Ave., Denver, 80216.

Quinn and other officials of the drainage district spread the warnings about flood hazards by making talks to community groups. Displays and educational materials are supplied to any interested group, including a bi-monthly news bulletin containing information on progress of flood control programs and naming localities eligible for government-subsidized flood insurance which is proving to be highly beneficial, Quinn said.

Included in the series of reports on the South Platte River Basin issued to date by the Corps of Engineers are these titles:

Vol. 1—Denver Metropolitan Region: South Platte River, Waterton to Brighton (out of print, available for inspection at the drainage district office).

Vol. 2—Denver Metropolitan Region: Sand Creek, Toll Gate Creek, and Lower Cherry Creek (out of print, available for inspection at the office).

Vol. 1—Boulder Metropolitan Region: Left Hand Creek (Boulder County).

Vol. 2—Boulder Metropolitan Region: Boulder Creek and South Boulder Creek (Boulder County).

Vol. 3—Bear Creek and Clear Creek (Jefferson County).

Vol. 4—Big Dry Creek, Little Dry Creek, Greenwood Gulch (Arapahoe County); Weir Gulch, Lakewood Gulch, South Lakewood Gulch, McIntyre Gulch (Jefferson County); Little Dry Creek, Grange Hall Creek (Adam County).

Vol. 5—Ralston Creek, Leyden Creek, Van Bibber Creek, Lena Gulch, Sanderson Gulch and North Sanderson Gulch (Jefferson County).

Checked Floods

In a few instances, well-engineered development programs have checked or minimized floods along creeks and gulches.

Several communities in the district are shaping their zoning and land-use regulations with the aid of a model zoning ordinance drafted by the drainage district, following a nationwide study of such measures. Wheat Ridge was the first to set up such a flood plain zoning plan.

These safeguards not only protect investors but also make it easier for public authorities to acquire needed land for recreational purposes in flood-prone areas.

Public clamor for proper use of flood plains is benefitting those who follow sound policy, and penalizing those who persist in flouting warnings. For example, the federal government's Small Business Administration won't support business enterprises located in flood plains, although it has helped many companies hurt by floods to get back on their feet in safer locations.

Residents of early-day Denver paid dearly for locating the community on the flood plains of Cherry Creek and the South Platte River. After the fledgling city had been all but wiped out by floods, prudent investors took to the hills while safeguards were built to protect low-lying portions of the city.

Outskirts of City

Unfortunately, little has been done to provide safeguards in the score or more of drainage basins on the outskirts of the city and in suburban communities. Fast runoff of rain water is accelerated by every new subdivision with its paved streets, alleys and driveways.

Shopping centers contribute mightily to flood dangers. Examples of shopping centers built in recent years on flood plains are Englewood's Cinderella City and the Dry Creek Shopping Center.

Presumably the Cherry Creek Dam now protects Cherry Creek Shopping Center, along with other sections of Denver ravaged many times by that rampaging creek.

Any day, there may be new floods and extensive damage to residential and business property in metropolitan-area communities, along with threats to the safety of residents. These losses usually are described as "acts of God."

It would be more appropriate to place the blame on people who were careless in choosing the site for their homes and business properties.

Area Welcomes Flood Insurance

Cities and towns in the Denver metropolitan area wasted no time, with few exceptions, in getting qualified for the new federally-subsidized flood insurance.

The insurance is made available by private firms through the National Flood Insurance Association, a large group of the nation's leading insurance companies cooperating with the U.S. Department of Housing and Urban Development (HUD).

It is estimated that some 90 per cent of all residents with property in flood-prone areas now are eligible to obtain the insurance, according to James Quinn, executive director of the Urban Drainage and Flood Control District. Among the communities that have qualified for the insurance are Denver, Englewood, Boulder, Wheat Ridge and Lakewood. Applications for others are pending and may have been granted by the time this is published.

A major gain accomplished by the new flood insurance program, Quinn pointed out, is that in order to qualify a community must have adopted sound control measures for its flood plains, to prevent further misuse of such lands. Proper use of flood plains includes utilizing the lands for public recreation facilities such as parks, golf courses, bicycle and bridle paths.

The cost for flood insurance has become modest, for the first time. For about \$100 a year the average resident can insure his home to an amount of \$17,500, and his furnishings to \$5,000. This is possible, Quinn stated, "only because the federal government picks up part of the tab, to help the property owner."

Measures adopted in preparation for the flood insurance program make it easier for communities and other governmental agencies to acquire and develop flood plain tracts for recreational purposes and other uses not likely to involve serious loss in the event of flood conditions.

PUEBLO RESIDENTS AIDED

Assistance has been supplied by the UDFCD office of the Denver area to authorities in Pueblo, who have now qualified for the flood insurance program. Pueblo officials took the necessary steps to institute appropriate land use and control measures, in order to qualify for the insurance. The City of Pueblo has had tragic experience with floods in former years.



SIGNING FOR FLOOD INSURANCE. First application for flood insurance in the new program was submitted by a Denver firm Gould & Presiner, electrical contractors, whose building is situated just west of the South Platte River at 2325 S. Jason St. The firm was hard hit by the 1965 flood. Photo shows signing by Larry Jansen, president of the firm; others are (seated, left to right) Bruce Chittenden of Moore Insurance Co., and John K. Munn of Continental National American Insurance. (Standing) James Quinn of UDFCD, Don Cornwall of Gould & Presiner, and Ed O'Brien, Jr., of the Denver Insurers Association.

Like Denver, the city is threatened not only by floods on a river but also by a number of seemingly minor small streams and gulches subject to hazardous flash floods.

Any Colorado community seeking guidance and information with regard to qualifying for the federally-subsidized flood insurance is invited to get in touch with the Urban Drainage and Flood Control District office, Quinn said.

Field Trip To Outline Flood Control Measures

The first annual *Field Trip and Critique* of the Urban Drainage District is scheduled for July 12-13, 1971.

The activity will consist of two days of inspection and discussion of the variety of drainage and flood control facilities within the 1,363 square miles of the District.

The first day will feature an on-site inspection of the \$80 million Chatfield Dam and Reservoir now being constructed southwest of Littleton, Colorado. The present facilities include a massive multi-million yard contract for building the earth dam and the con-

struction of the outlet works. The operation is scheduled for operational completion approximately 1974.

From there, the participants will visit the Cherry Creek Dam, a comparable structure in the southeastern metropolitan area. The Cherry Creek Dam successfully averted more than \$100 million in damages in the 1965 Flood in the Denver area.

Other projects slated for the trip include the Harvard Gulch Project and an inspection of the Skyline Urban Renewal Project in downtown Denver.

The second day will feature a trip to the Boulder, Colorado area where participants will see the drainage solutions in a total development context.

Boulder has been involved in many "landmark" activities which incorporate drainage and flood control as a common element in planning and development for future growth.

A running dialogue will feature the engineers and public works directors responsible for these projects with the participants.

The Field Trip approach is expected to become a regular evaluation of facilities in the expanding Metropolitan development.

MEET THE MEMBERS

Working to Protect You and Your Property from Floods

PAUL C. BECK
Representing City of Aurora



Mayor Paul C. Beck of Aurora is an Aurora native who attended the University of Denver after graduating from Aurora High School. He served in the Air Force during World War II and during the Korean conflict he was an instructor in Radar and Navigation.

Paul Beck is serving his eighth term as an elected official in Aurora—three terms as Councilman, three terms as Mayor Pro-tem, and two terms as Mayor. For five years he has served on the Urban Mayors board of directors, and two years on the board of the Colorado Municipal League.

When not performing his duties as Mayor of Aurora, Mr. Beck manages a Watch Repair Shop in the Base Exchange Branch No. 2 at Lowry Air Force Base.

**REGULAR BOARD MEETINGS OF UDFCD ARE HELD
THE THIRD THURSDAY AFTERNOON OF EACH MONTH**

ROBERT W. KNECHT
Representing City of Boulder



Mayor Robert W. Knecht is now serving his third term in that office. He is employed as Deputy Director of the Environmental Research Laboratories of the National Oceanic and Atmospheric Administration.

Born in Ogdensburg, New York in 1928, he served in the Navy in World War II. He was graduated in 1949 from Union College with a B.S. degree. He has had a wide range of responsibilities as a physicist and an administrator in scientific undertakings.

Mr. Knecht has served on the Boulder City Council for ten years, and that includes his six years as Mayor. He has served two terms as chairman of the Denver Regional Council of Governments, and has been active in the Colorado Municipal League. Since 1968 he has been Chairman of the National League of Cities Committee on Environmental Quality. This committee develops policy on a wide range of environmental matters for the 15,000 member cities.

*“Dedicated to reducing the danger to property
and to the health and safety of persons living in the urban area”*

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