Irrigated agriculture is a most significant and vital part of the economy of Colorado. To a very great degree, the importance of irrigated agriculture has resulted from the foresight of the early pioneer farmers, who recognized that only a small area of land, immediately adjacent to the streams, could be irrigated unless the farmers cooperated with each other in the storage and distribution of water. To this end, beginning more than a century ago, Colorado farmers joined together in the formation of mutual ditch and irrigation companies, formed and operated in accordance with Colorado law. Now there are literally hundreds of mutual ditch and irrigation companies in Colorado, all functioning in substantially the same way as such companies have operated for the past century.

Congress has recognized the significant role that such companies play in the economic life of the arid West and of the many farmers served by such companies. This recognition is shown by the fact that Congress has specifically provided that mutual ditch and irrigation companies are exempt from the payment of federal income tax, provided only that 85 percent or more of the company's income is collected from members for the sole purpose of meeting the company's losses and expenses. This law is on the books today (501(c)(12) of the Internal Revenue Code), and has been a part of the income tax laws of the country since the early 1900's.

Notwithstanding the explicit provision of the law exempting such companies from income taxes, the Internal Revenue Service, in view of an apparent inability to distinguish between mutual ditch and irrigation companies and other cooperatives that have historically functioned in an entirely different manner, has taken the position that two mutual ditch and irrigation companies in northern Colorado (the Jackson Ditch Company and the Pleasant Valley & Lake Canal Company) are not organizations entitled to exemption from income tax. The Internal Revenue Service's confusion has led to the determination that if a stockholder's rights and interests in the company are forfeited upon termination of his membership, the company is therefore not operated on a mutual or cooperative basis and is therefore not entitled to tax exemption.

Since whenever a stockholder in a mutual company sells his shares of stock he of course sells all of his interest in the company represented by the shares of stock sold, mutual ditch and irrigation companies do not meet this requirement. In addition, the IRS takes the position that unless former members of the organization have the right to share in any distribution of the company's assets upon dissolution, the company is not entitled to tax exempt status. Again, the Service has failed to understand and take into consideration the fact that interests in mutual ditch and irrigation companies, unlike other cooperatives, is represented by shares of stock, and when the shares of stock are sold, all interests in the company pass with the shares; and consequently only those owning shares at the time of dissolution are, and properly should be, entitled to share in the distribution of the company's assets.

The by-laws of most mutual ditch and irrigation companies, in accordance with longstanding Colorado law, provide that should a shareholder not pay his assessments, the board of directors of the company can cause his shares to be forfeited or sold, with the money received from the sale to be applied toward payment of the delinquent assessments. If and when this happens, of course the delinquent shareholder has no more interest in the company, since whatever interest he had passed when his shares were forfeited or sold. Although this is exactly the way mutual companies were operating when Congress passed the law exempting them from income tax, nonetheless the IRS believes that unless the shareholder whose stock is forfeited or sold retains his interest in the assets of the company, the company is not entitled to tax exemption.
In short, the IRS is trying to re-write the law. Congress made it clear that mutual ditch and irrigation companies are exempt from income tax provided that at least 85 percent of the company's income comes from shareholders for the purpose of paying losses and expenses. Mutual ditch companies were of course in existence when Congress first passed this law, and they operated like they operate now. Congress did not require that former shareholders had to retain an interest in the assets of the company in order for the company to be tax exempt, and the Internal Revenue Service should not be attempting to do so now. It can of course be anticipated that should the IRS deny the tax exempt entitlement of the Jackson Ditch Company and the Pleasant Valley & Lake Canal Company, the IRS will take the same position as to other mutual ditch and irrigation companies operating in the same manner. Loss of such tax exempt status can be anticipated to pose significant tax complications and problems to both the companies and their stockholders.

The Jackson Ditch Company and the Pleasant Valley & Lake Canal Company has appealed the adverse determination of the Internal Revenue Service, and the matter is presently being considered at the national level by the IRS. Senator Floyd Haskell and Congressman James Johnson have both been alerted as to the situation, and have responded with letters to the Internal Revenue Service urging reconsideration of its ruling. All interested water users are urged to contact the Internal Revenue Service directly and/or their representatives in Washington urging that they do what they can to set the IRS straight. Letters to the IRS may be addressed to:

The Honorable Jerome Kurtz, Commissioner
Internal Revenue Service
1111 Constitution Avenue, N.W.
Washington, D.C. 20224

Those desiring additional information may contact Bill Brown of Fischer, Brown, Huddleson & Gunn, P.O. Drawer "J", Fort Collins, Colorado 80522, (303) 482-1056.

C.S.U. AWARDED $2.7 MILLION FOR FOREIGN IRRIGATION RESEARCH PROJECT

Fort Collins--Colorado State University has been awarded a $2.7 million contract from the U.S. Agency for International Development (USAID) to continue an on-farm water management research project in Pakistan.

The project includes a field program to increase irrigated agricultural crop production, campus support activities and technical assistance to other countries, according to Doral Kemper, agricultural engineer and soil scientist who heads the CSU field party in Pakistan.

In a recent review of the Pakistan Project, USAID called the pioneering accomplishments of the interdisciplinary research "one of the most substantial and far-reaching" of its technical programs. In a report to USAID missions around the world, the agency noted that, "the impact on Pakistan is impressive. There is significant potential for transferring the process around the world."

The contract for CSU will provide initial funding of $1.75 million over the next two years with an additional $950,000 committed for the third year. The contract primarily is to continue the research program in Pakistan, but will also involve preparing training materials, training water management advisors and developing a technology transfer process to improve on-farm irrigation water management throughout the world.

A $44.7 million project has been initiated in Pakistan by using results from the CSU interdisciplinary team research. The United Nations Development Program and the World Bank have funded an extension of the CSU work in Pakistan to develop a master plan for water resource development over the entire 30 million acres of Pakistan's irrigated land. Total cost of all the programs in the master plan is expected to be $1.5 billion to $3 billion.
September 25, 1978

To all Larimer County Ditch Companies and Interested Individuals:

Dear Sirs;

Larimer County is conducting a review of its policies and regulations for storm water management. To assist in this effort, the County has retained the services of Resource Consultants Inc., a local water resources consulting firm.

Attached you will please find a draft of proposed storm water management policies. This draft was written jointly by myself and Mr. Dave Frick of Resource Consultants. We anticipate that these policies will provide a basis for later adoption of engineering criteria for new development as well as master plans for individual basins.

We would appreciate your review and comments on these proposed statements of policy. We have scheduled a meeting with the Larimer County Commissioners for November 1, at 1:30 P.M. in the Commissioners' Hearing Room of the Larimer County Courthouse. The purpose of the meeting is to acquaint the Commissioners with the proposed statements of policy. The meeting will be informational and no decisions will be made at this time.

If you have any questions or wish to meet with us concerning this matter, please don't hesitate to call me at 221-2100, extension 492. Thank you.

Sincerely,

REX A. BURNS
Flood Plain Administrator
LARIMER COUNTY STORM WATER
MANAGEMENT POLICIES

The purpose of these statements of policy is to act as guidelines for storm water management in Larimer County. They are intended to be utilized in the design and evaluation of facilities for storm water drainage for new developments within the County and to provide a basis for storm water management within the County.

The policy statements address five areas of concern, the first being the area of general drainage planning and management. The second area addressed is that of the interface between new development and irrigation facilities such as dams, reservoirs, and canals. The third policy statement deals with the treatment of historic drainageways and natural channels in developing areas. The fourth policy guideline relates to requirements and specifications for engineering design of drainage facilities for new development. Finally, the fifth guideline relates to the quality of urban storm water runoff.

In addition to these policies the County will develop a detailed drainage basin master plan for each major basin in developing areas. The master plans will
be based upon the policies set forth herein, and will serve to indicate specific requirements for new development, as well as any public facilities which are needed to handle increased runoff from new development. Also being developed is a drainage design manual which will set forth criteria and standards for hydrologic studies and drainage design.

Implementation of these policies will require cooperation of cities and ditch companies as well as developers. The institution of governmental agreements and cooperative studies will be encouraged as a means of bringing about a coordinated approach to storm water management.

General Planning and Management Policy

It is recognized that storm water management problems are strongly interrelated and geographically dependent. It will therefore be the policy of Larimer County to initiate detailed drainage management studies for individual basins. Such studies will be based upon hydrologic routing of flood flows within a basin to determine the effects of various basin development and improvement alternatives. Analysis of alternatives for basic improvements will consider major drainage system improvements and site requirements for new developments. The following policy relates to the basin master planning process:
POLICY: Larimer County will undertake the development of detailed master plans for individual basins which will, at a minimum, indicate site requirements for new developments as well as what public improvements if any, are needed. Evaluation of alternatives for such master plans shall be based upon cost-benefit analysis.

In cases where public improvements are justified, development of mechanisms to fund improvements will be of concern. Of particular concern is the problem of identifying a mechanism which distributes the cost in an equitable manner and provides for the maintenance of facilities once built. The following policy relates to this problem.

POLICY: In cases where public improvements are justified and identified as the favorable alternative in a basin master plan, mechanisms for funding will be developed in a manner consistent with the policy of the County which states that development should pay its own way (Larimer County Policy Plan, Larimer County Commissioners, 1977). The possibility of agreements with municipalities and ditch companies will also be explored.

Urban Development Encroachment Near Canals and Reservoirs

In many cases, irrigation facilities are strongly encroached upon by new urban development. The policy of the County in such cases shall be to minimize the adverse effect of new development and to seek to limit the liability of irrigation facility owners.

Irrigation canals often capture storm water runoff from areas above them. Urban development tends to increase both the volume and flow rate of storm water runoff, while decreasing the time required for runoff flow to reach a peak rate. In addition to these effects, concentration patterns of runoff may be changed. The net effect of urbanization is usually an increase in peak flow rate received downstream.
The use of irrigation canals for storm water conveyance is generally not acceptable since the capacity of canals decreases downstream. In addition, the canal slopes tend to be small which lessens the storm water transport capabilities.

Due to the liability of ditch owners in the case of failure of their ditches during intense rainfall events, acceptance of increased runoff may create problems for ditch systems. In some cases, where runoff must be placed in ditches for lack of an alternative, the following policy shall apply:

POLICY: Larimer County shall require written approval of canal owners as a condition of approval of new development seeking to discharge storm water into existing canals. The discharge of runoff into irrigation ditches shall be approved by the County only if such discharge is consistent with the appropriate basin master plan.

In some cases, problems with canals can be avoided by placing urban storm water runoff into natural and historic drainageways, thus avoiding use of irrigation canals.

POLICY: It will be the policy of Larimer County to direct runoff from new urban development into historic and natural drainageways, and to avoid discharge into canals, except as required by water rights, or where no reasonable alternative exists.

Canals often cross natural drainageways which are part of the major drainage system of the County. In these cases, canals may have water rights to allow the canal to capture daily flows. Irrigation facilities may however, suffer considerable damage in the event of a major storm, and conceivably cause flood damage due to failure of the canal at some undetermined point downstream. The following policy relates to such situations:
POLICY: Wherever irrigation canals cross major drainage channels in developing areas, it shall be the policy of the County to bring about separation of peak storm water runoff flows from normal canal flows, wherever such separation is economically justified and is feasible with good engineering practice.

When development is being considered near ditches or around reservoirs, careful attention must be paid to the potential high water levels within ditches and reservoirs so as not to create flooding of new development. Attention must be given not only to the potential for surface flooding, but also to the potential for high ground water conditions such as might cause flooding of basements. The following policy statement relates to this concern:

POLICY: It will be the policy of Larimer County to restrict all development to levels above ditch embankments on upstream sides of ditches and above the top of the dam of reservoirs. Encroachment below these levels will be allowed only if written approval by the owners of the ditches or reservoirs is obtained and in no event shall any development be allowed below the level of the 100 year flood water surface elevation.

Of concern also, is the problem of dam safety and the related matter of emergency spillways. Jurisdictional dams are classified by the state engineer as either low, moderate, or high hazard structures depending on conditions downstream. Dams are classified as high hazard structures where there is a potential loss of life or property downstream in the event of failure. Dams presently rated as low or moderate hazard structures may be changed to high hazard rating if development occurs within the potential path of flooding due to dam breach.
In this case, the reservoir owners will be liable for the cost of upgrading the structure to meet the higher hazard classification. The following policy is related to the dam breach concern:

**POLICY:** Future urban developments will be limited to areas outside the high water line created by dam failure unless the dam has a high hazard classification and has passed inspection for that classification.

Of concern also to the problem of dam safety is the related matter of emergency spillways. The purpose of an emergency spillway is to provide protection to the dam itself in the event of inflows which would cause overtopping of the dam. The following policy relates to the matter of emergency spillway requirements for dams:

**POLICY:** New urban development will be disallowed within the path of flow of any emergency spillway for a dam. If no emergency spillway exists, written authorization from reservoir owners will be required for development of areas which may act as future spillways for the dam.

**Urban Development Encroachment Along Natural Channels**

Natural channels are an important part of the urban storm water runoff system. Natural channels have desirable flood storage characteristics, and tend to have some natural stability. The use of natural channels to accommodate urban runoff is encouraged. It is important to recognize that increases in peak flow, volume, and frequency of runoff caused by upstream development may cause accelerated erosion with a consequent decrease in water quality. It is important, therefore, that attention be given to channel stability, especially in reaches downstream of developing
areas. The following policy relates to this matter:

POLICY: It shall be the policy of Larimer County to seek to maintain stability in major runoff channels in and near developing areas. Developments in and near major runoff channels shall be required to adopt measures to assure that erosion does not occur under conditions of peak flood flow. Realignment of thalwegs of natural channels in urban areas shall not occur unless properly engineered to control erosion under conditions of peak flood flow.

Of concern also are flood flow hazards associated with major runoff channels.

POLICY: It will be the policy of Larimer County to limit urban development to areas outside the area inundated by the 100 year recurrence interval peak flow, based upon maximum planned and existing development in upstream areas. In some cases, shallow depths and low velocities of floodwater will allow limited encroachment upon the existing flood plain. Such encroachment will be allowed only to the extent that water surface elevations upstream or downstream of the encroachment do not increase or adverse changes in velocity do not occur.

Since development upstream of existing irrigation canals may be required to discharge waters past the canals into natural drainageways below the canals, and because of liability in the event of ditch failure, consideration must be given to natural and historic drainageways below canals.

POLICY: Development in and near natural and historic drainageways below canals will not be allowed to encroach upon the area inundated by the 100 year recurrence interval flood determined by assuming failure of the canal.

Finally, as stated earlier, it is the intention of Larimer County to develop individual basin master plans for drainage. The following policies relate to such master plans:

POLICY: New urban development within individual basin will be required to meet the requirements of the basin master plans for a given area.

POLICY: Basin master plans will be developed in cooperation with appropriate irrigation companies and municipalities.
within a given basin, and will be adopted only after review and approval by irrigation companies and municipalities.

Policy With Regard to Drainage Standards For New Development

It is recognized that uniformity and technical veracity of hydrologic data is very important to establishing drainage requirements that are equitable and consistent. It is the intention of Larimer County to develop hydrologic design standards that are current and are reflective of local hydrologic regimes. Toward this end the County will establish a manual for drainage design which is reflective of policies stated herein.

It is recognized that hydrologic boundaries do not follow jurisdictional boundaries, and that design standards for development in the County will in many cases affect planning and design for drainage in area cities. The following policy statement is addressed to this concern:

POLICY: Drainage design standards adopted for Larimer County will, to the extent allowed by various regulations, reflect similar minimum standards for a given density and type of development as standards adopted by area cities.

In some areas, particularly where storm water runoff must be discharged into irrigation canals, detention storage of runoff is necessary for the purpose of attenuating peak runoff flow rates from a local area. It is recognized however, that uniform use of detention storage within a basin can cause an increase in peak runoff flow rates under some conditions. The following policy will apply to requirements for detention storage of storm water runoff:

POLICY: Detention storage of storm water runoff will be required as directed by individual basin master plans. Requirements for detention storage within a basin will be
based on location within the basin as determined by hydrologic routing analysis. In basins where a master plan has not been written or is not complete, detention storage may be required by the Larimer County Engineer in situations where such storage is necessary to protect irrigation structures, highway embankments or downstream development. All detention basins shall include emergency spillways constructed as open channels or weirs.

General practice in urban drainage design is to divide the urban system into two systems of flow; the initial drainage system consisting of the upstream portions of the watershed, and the major drainage system which consists of the downstream portions of the watershed. The initial drainage system involves those areas where intensive rainfall would cause minor flooding and little property damage. The major drainage system is that part of the system, usually defined on the basis of area in the watershed above a given point of concern, for which the cost of damage in the event of flooding would be substantial.

POLICY: It will be the policy of the County to define the major drainage system of the County and to require drainage design for the major and initial drainage systems based on the level of property damage expected. Design of facilities within the major drainage system shall be based upon runoff expected from the 100 year recurrence interval design rainfall.

Storm Water Runoff Quality

Water quality is a matter that is of increasing concern to all users of water. Urban runoff quality is an area about which little is known, since very little data exists on the
quality of urban runoff. Pollutants from urban areas appear
to involve mostly concentrations of trace metals, organic
materials, nutrients, salts and sediment, although sediment
production from developed urban areas is not a major problem.
The greatest sources of sediment from urban areas include
erosion from new construction and erosion of unstable channel
reaches. Sediment production due to unstable channel reaches
can be expected to increase in areas where urban development
causes an increase in frequency and peak flow rates of runoff
from storm events. Detention storage ponds which act as still-
ing basins are the means of decreasing the sediment and par-
ticle matter load of storm runoff water. The following policy
statement relates to the quality of urban runoff:

POLICY: It will be the policy of Larimer County to include
water quality considerations in planning for storm
drainage from new development. Water quality con-
siderations will be incorporated in requirements
for design of detention storage and requirements
for stabilization of natural channels, to the extent
such requirements are economically justified and
are feasible. As data on storm water quality become
available, the County will update its policies and
management practices to be consistent with new tech-
ology.
APPENDIX C

REQUIREMENTS OF LARIMER COUNTY REGARDING CHANGES IN OR ENCROACHMENTS ON DITCH OR RESERVOIR RIGHTS-OF-WAY

With the growth of real estate development in the County, increasing numbers of applications are coming to the companies requesting changes or revisions in the rights-of-way of their ditches or for rights to cross over such ditches with bridges or to cross under them with sewer, water, or other utility lines.

Since such matters are entirely for the benefit of the applicant, any and all expense involved must be borne by the applicant. All such changes involve both engineering and legal services as well as the time and attention of ditch company superintendents and/or directors. Accordingly, no such application will be accepted or considered except upon the following terms and conditions:

(1) Application for the requested change or permission must be made to the ditch company involved, and describing the intended project. A copy of the application shall be submitted to the County Planning Office and notice of the Company's action on the application shall be forwarded to the Planning Office.

(2) Each application must be accompanied by a payment of _____ to the Ditch Company involved. This shall be deemed a minimum initial payment to cover preliminary expenses, such as legal work, time and car use of superintendents and/or Directors; review of the application, etc. Such initial payment will not be refunded even though the request made is denied. If the request presented is substantial in nature and so involved as to necessitate the company involved incurring expense in excess of the initial deposit, the matter will not be cleared until an additional deposit is made in such amount as is reasonably calculated to cover the actual costs to the concerned ditch company in investigating the matter fully.

Requests by individuals, utility companies and similar entities shall be considered on respective individual merit, and deposits will be commensurate with project complexities.

(3) Each company expressly reserves the right to disapprove any request made of it if, in its judgment, approval might interfere with the flow of water in the ditch, impede maintenance work, cause additional expense in maintenance or operation, or in any other way be adverse to the interests of the company. In addition, where no defined easement exists, the company reserves the right of ingress and egress for maintenance purposes for a reasonable distance on either side of the ditch. An easement of twenty (20) feet as measured from the top of the ditchbank shall be provided along one side of ditches having less than eight (8) feet bottom width, and an easement of twenty (20) feet as measured from the top of the ditchbank shall be provided on both sides of those ditches greater than eight (8) feet bottom width. Also, easements of greater width shall be provided for a reasonable distance on either or both sides of the ditch right-of-way as deemed necessary by the ditch company.

(4) The company will make arrangements with a reputable engineering firm to act as its engineering consultant on all such requests where surveying or engineering services are involved and the applicant must arrange with the ditch company involved for the payment of engineer and/or legal charges in the matter.

(5) Where the construction or installation of structures upon or crossing over the ditch rights-of-way are involved, ownership thereof will be in the applicant and it is, therefore, the obligation of the applicant to maintain them. A required form of agreement covering the performance of the work and the construction and maintenance of any structures involved must be entered into by the applicant and the company before such work or construction is commenced. Such agreement will be placed of record. Such agreement will provide for perpetual maintenance of any such structure and will guarantee due protection of the ditch company concerned against obstruction or damage and will embody an indemnification and "hold harmless"
clause, protecting the company against any and all loss, damage and expense occasioned by, or arising out of any such work or structure or the failure of the applicant or his successors in interest to keep the required agreements. It will also provide for termination of the permission or rights granted in the event of default in the keeping of the agreements made by the applicant.

(6) If an adjustment of actual right-of-way is requested whereby a portion of right-of-way is relocated upon land not owned by, or under easement to the Company, the applicant must, at the applicant's expense, either provide the company with a proper abstract of title showing good title to the relocated segment of right-of-way or tender a proper commitment for title insurance in form and in amount and in an Insurance Company acceptable to the Ditch Company. Conveyance of any such relocated segment or right-of-way to the Company shall be by regular warranty deed. The Company shall be held forever harmless from any and all damages or claims which might arise from such relocation(s).

(7) If any of the land involved is subject to a mortgage or deed of trust, the mortgagee or holder of the deed of trust must either agree to subordinate the same to the required agreement mentioned in Paragraph (5) above, or execute a proper release clearing the matter.

(8) Requests for enclosure of the ditch for a distance of over 50 feet will be approved only in a concrete conduit of the size to be determined in each particular case. It must be constructed with concrete headwalls and a trash gate at a 45° angle with proper clean-out metal covers every 60 feet, the metal covers to be 8 feet in length. See Item #4 above.

(9) When an application is approved for a structure or change which might be construed to be an "attractive nuisance," the cost of any and all damages to/or claims by individuals which allegedly may be involved with said "attractive nuisance," will be borne by the applicant, and the Ditch Company concerned shall be held forever harmless.

(10) All applications shall include provision for either burying the ditch in a minimum 24 inch diameter pipe, or fencing of ditch right-of-way. The choice of burying or fencing will be left with the applicant, however all work must be made in accordance with company specifications. Where a ditch is buried the line shall be marked in an acceptable manner (stakes, signs, tracer wire, confetti just above the pipe, etc.).

(11) The applicant shall, at the time the application is approved, provide an insurance policy or bond, naming the involved Ditch Company as beneficiary, in the amount of $ . This insurance bond shall protect the Ditch Company from:

(a) Loss or undue expense due to failure by the applicant to adequately construct or to properly maintain new structures or appurtenances as described in Item #5.

(b) Damages claimed against the Ditch Company because of relocation by the applicant of segments of the canal or ditch as explained in Item #6.

(c) Death, personal injury or property damage claims brought against the Ditch Company -- allegedly involved with "attractive nuisances" created by the applicant -- as in Item #9.
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