

GEOLOGY FOR LAND-USE PLANNING IN THE CRAIG AREA

by James N. Price

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MAP SERIES 7
SHEET 2 — SURFACE DRAINAGE
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GENERAL DISCUSSION

Urbanization of a drainage basin can drastically increase the amount and rate of surface runoff, which, in turn, can increase the potential for flooding and its adverse effects on life and property. In some cases, natural floodways are ignored by urban planners and developers. In other cases, natural floodways are modified by rerouting channels and/or constricting flows with bridges and culverts. Unfortunately, many such man-made structures are not designed to carry the anticipated peak discharges resulting from the current and future urbanization in upstream areas. Consequently, man's use and misuse of land have resulted in an increased awareness by land-use planners of the need to properly manage natural stream channels and their flood plains. As an aid to proper management of these areas, this map shows many of the natural and man-modified stream channels in the Craig area, principal and secondary drainage basins, and flood- and sheetflood-susceptible areas that should be avoided, controlled, or used in a manner that will minimize their impacts upon man and the natural environment. This map is to be used ONLY as a guide for general land-use planning purposes and NOT as a substitute for detailed hydrologic investigations in areas of proposed residential or commercial development.

EXPLANATION

FLOOD- AND SHEETFLOOD-SUSCEPTIBLE AREAS

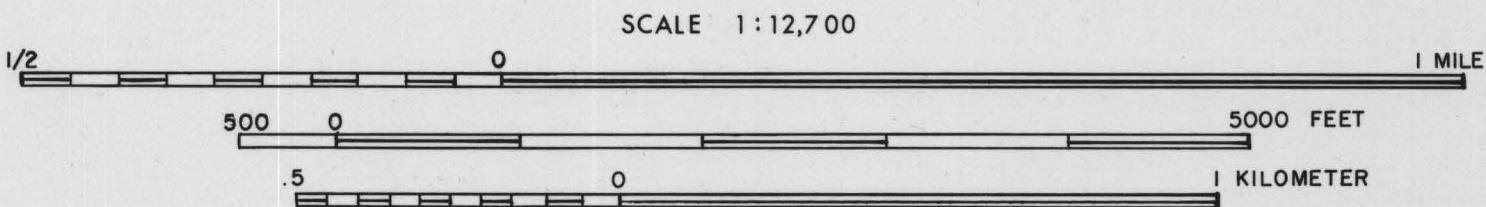
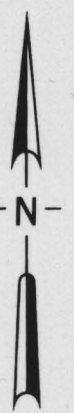
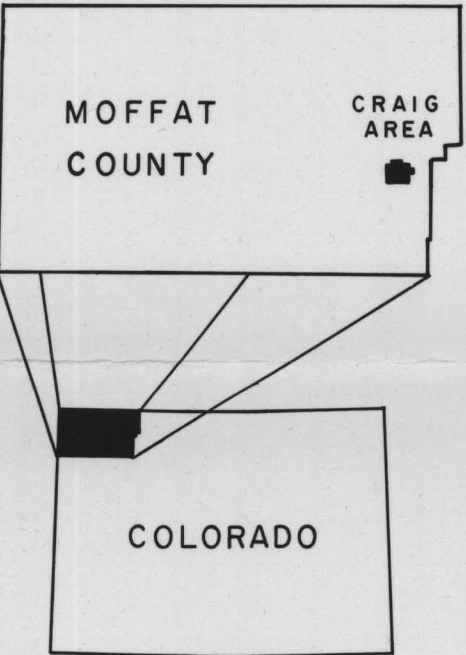
These areas include alluvial fans and the physiographic flood plains of significant streams. Although man has removed much of the evidence of modern flooding, it is likely that most of these areas either have been inundated by mainstream flood waters or have experienced extensive sheetflooding during the last 500 years, and in many cases, the last 100 years.

Many areas adjacent to major stream channels will be inundated by flood waters during future flood events. These areas will generally experience higher velocities and greater flow depths than areas farther from the main channel. Consequently, buildings, utilities, and roads near major streams will probably experience more severe and extensive damage than structures farther from the main channel where velocities and flood depths are less. It should be noted that structures such as bridges, culverts, and borrow ditches along highways often create a false sense of security with regard to a potential flood hazard. Although these structures can usually contain moderate amounts of runoff, they are generally incapable of handling flows generated by a major flood event.

Many alluvial fans and overbank areas will experience only sheetflooding during periods of heavy runoff. Although major destruction probably will not occur, sheetflooding can result in extensive property damage from basement flooding and deposition of sediment and debris. It is also common for irrigation ditches to overflow or breach during periods of heavy runoff, thus creating a sheetflood hazard to areas below them. The Craig Ditch, which extends from Fortification Creek to Cedar Mountain Gulch across the northern part of the city, may create such a hazard to property below it.

Therefore, if residential or commercial development is planned in any flood- and sheetflood-susceptible areas, hydrologic investigations should be conducted to determine the severity of the hazard, and determine what measures, if any, are necessary to prevent damage from flooding.

- Perennial stream
- Intermittent stream
- Incised or generally confined intermittent stream channel that enters an alluvial fan, colluvial slope, or other more gently sloping surface where the direction of flow is poorly defined
- Canal, ditch, or other significant man-made channel
- Earth dam and reservoir
- Principal drainage divide
- Secondary drainage divide
- General direction of flow of major stream



CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

