PROPOSED MASTER STORM DRAINAGE PLAN

City of Sweet Home

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CIVIL, MUNICIPAL, STRUCTURAL, LAND SURVEYING

APR 1980
CITY OF
SWEET HOME

Honorable Mayor and City Council
City Hall
Sweet Home, Oregon 97386

Gentlemen:

We have completed our study of the City's major storm drainage system and the Proposed Master Storm Drainage Plan. Authorization for this engineering investigation of the City of Sweet Home watershed drainage was given by City Manager, Mr. Robert Richardson at the direction of the City Council in accordance with an agreement between the City of Sweet Home and Devco Engineering, Inc. dated December 22, 1978. The primary objective of this study is to provide the framework for a city-wide drainage management plan to which individual sites can relate specific plans. Based on this study the City shall be able to prioritize and cost estimate a drainage capital improvement plan that satisfies Goal #11 of the Land Conservation and Development Commission which reads

> "To plan and develop a timely, orderly, and efficient, arranagement of public facilities and services to serve as a framework for urban and rural development."

The prinicipal products of the report are summarized below:

1. Seventeen (17) square miles in or draining through the City have been computer modeled.

2. Soils within the proposed urban growth boundary have been categorized with respect to their runoff potential.

3. Storm design frequencies have been recommended at:

   100 years for Ames Creek
   25 years for major channels carrying 100 cfs or more
   10 years for all other drainage

4. Rainfall Intensity - frequency - duration curves for the 2, 5, 10, 25, 50 and 100 year rainfall have been prepared specifically for the City of Sweet Home.

5. Detention storage criteria is recommended when new development involving greater than four (4) acres creates runoff problems for downstream properties.

6. The existing watershed is broken down into 84 sections of creek, open drainage or pipe. Runoffs are calculated for each section for both today's land uses and for full development of the City's Proposed Comprehensive Plan. Existing culverts on the watershed drainages have been surveyed and their capacities calculated and compared with flows today and with flows resulting from full development of the Proposed Comprehensive Plan.

7. 1120 acres (the balance of the area within the proposed urban growth boundary previously unmapped) have been photogrammetically surveyed and 1" = 100' topographic maps prepared.

The composite findings of the study are:

1. Within the proposed urban growth boundary approximately 8 miles of creek, open drainage or pipe improvements are required to meet today's runoff at the recommended design frequencies. Approximately 10 miles of improvements are required to meet the projected runoff resulting from full development of the Proposed Comprehensive Plan.

2. 27 of the 49 culverts surveyed must be improved to meet today's runoff at the recommended design frequencies. 28 culverts must be improved to meet runoff projected from full development of the Proposed Comprehensive Plan.

Our recommendations developed from this study are included in Chapter V of this report.

We wish to express our sincere appreciation for the opportunity to furnish this engineering service and to assist in the planning for Sweet Home's future. Forwarded in separate bound workbooks are hydrographs for each drainage section, Field Notes, Data and our Calculations.

Very truly yours,

Roland P. Lavoie

Roland P. Lavoie, P.E.
Devco Engineering, Inc.

RPL/dp

ACKNOWLEDGEMENTS

The courtesy and assistance received from the many individuals who contributed valuable information and support throughout our work on this project was most helpful and is greatly appreciated. Particular recognition and sincere thanks are directed to Mr. Ozzie Shaw, Professional Land Surveyor; Mr. Ralph H. Frederick, Metorologist, National Oceanic and Atmospheric Administration; and Mr. Alan Johnson, Boeing Computer Service.

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