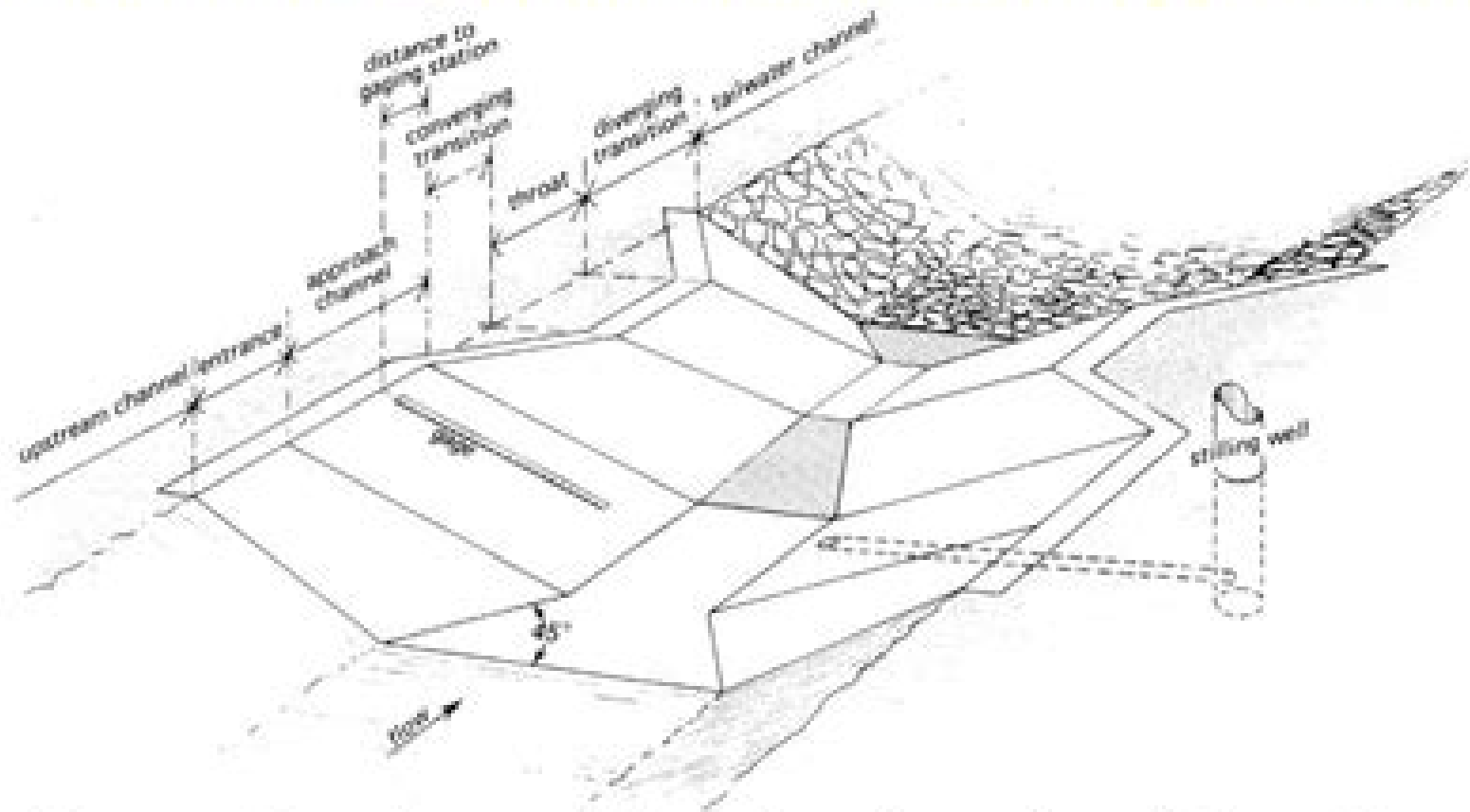


Introduction to Long-Throated Flumes and Broad-Crested Weirs



The term *long-throated flume* describes a broad class of critical-flow flumes and broad-crested weir devices used to measure flow in open channels.

Longthroated Flumes And Broadcrested Weirs

**United States, Department of the
Interior Bureau of Reclamati**



Longthroated Flumes And Broadcrested Weirs:

Long-Throated Flumes and Broad-Crested Weirs M.G. Bos, 2012-12-06 In the context of water management structures that measure the flow rate in open channels are used for a variety of purposes i In hydrology they measure the discharge from catchments ii In irrigation they measure and control the distribution of water at canal bifurcations and at off take structures iii In sanitary engineering they measure the flow from urban areas and industries into the drainage system iv In both irrigation and drainage they can control the upstream water at a desired level This thesis represents an attempt to place such flow measurements on a solid foundation by explaining the theory of water flow through long throated flumes and their hydraulically related broad crested weirs On the basis of this theory and on practical experience these structures are recommended for use whenever the water surface in the channel at the measuring site can remain free The thesis concludes with a design procedure that will facilitate the application of these structures The idea to undertake research on discharge measurement structures was born upon my appointment as the first civil engineer with the International Institute for Land Reclamation and Improvement ILRI Because my recruiter Ir J M van Staveren then Director of ILRI had left the Institute before my arrival and because I was the first of my kind in an agricultural environment I looked for contact and found vii support from the late Prof Ir J Nugteren Prof Ir

Long-Throated Flumes and Broad-Crested Weirs Marinus G. Bos, 2014-01-15 Water Measurement with Flumes and Weirs Albert J. Clemmens, 2001 Water Measurement Manual, 2001 **Handbook of Irrigation Hydrology and Management** Saeid Eslamian, Faezeh Eslamian, 2023-05-31

Ever increasing population growth has caused a proportional increased demand for water and existing water sources are depleting day by day Moreover with the impact of climate change the rates of rainfall in many regions have experienced a higher degree of variability In many cities government utilities have been struggling to maintain sufficient water for the residents and other users The Handbook of Irrigation Hydrology and Management examines and analyzes irrigated ecosystems in which water storage applications or drainage volumes are artificially controlled in the landscape and the spatial domain of processes varies from micrometers to tens of kilometers while the temporal domain spans from seconds to centuries The continuum science of irrigation hydrology includes the surface subsurface unsaturated and groundwater systems atmospheric and plant subsystems Further the book includes coverage of environmental and economic impacts water quality issues water harvesting satellite measurements for irrigation and more Features Offers water saving strategies to increase the judicious use of scarce water resources Presents strategies to maximize agricultural yield per unit of water used for different regions Compares irrigation methods to offset changing weather patterns and impacts of climate change

Hydrometry W. Boiten, 2020-10-29 Hydrometry presents a thorough introduction to the science of hydrometry the measurement of flow in open channels Dealing with both traditional techniques and innovative new methods and instruments in line with the latest ISO standards this book deals with the main themes of hydrometry the measurement of water levels

and bed levels of discharge and of sediment transport it considers the use of flow measuring structures hydrological networks and the organization of surveys Dr Boiten has extensive experience of teaching students from many countries and backgrounds and has distilled this experience into a clear and comprehensive account of hydrology and water resource management Hydrometry will appeal to graduate students and to professionals engaged in hydrology and the management of water resources *Water Measurement Manual* Bureau of Reclamation (U.S.), Department of Agriculture (U.S.), Agriculture Research Service (U.S.), Natural Resources Conservation Service (U.S.), 2016-07-07 This revised manual has three principal purposes The first is to provide water users and districts guidance in selecting managing inspecting and maintaining their water measurement devices The second is to describe the standard methods and devices commonly used to measure irrigation water The third is to acquaint irrigation system operators with a variety of other established but less common methods and with new or special techniques **Irrigation Theory And Practice - 2Nd Edn** A M Michael, 2009-11 It is a comprehensive treatise on Water Resources Development and Irrigation Management For the last 30 years the book has enjoyed the status of an definitive textbook on the subject It has now been thoroughly revised and updated and thus substantially enlarged In addition to the wholesale revision of the existing chapters three new chapters have been added to the book namely Lift Irrigation Systems and their Design Water Requirement of Crops and Irrigation Management and Economic Evaluation of Irrigation Projects and Water Pricing Policy Water Measurement Manual United States, Department of the Interior Bureau of Reclamation, **ARS** ,1987

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