FIFTH PLANNING GUIDE PUBLISHED

The Southeastern Wisconsin Regional Planning Commission has completed and will shortly publish a new planning guide entitled Floodland and Shoreland Development Guide. This guide, the fifth in a series of planning guides, is intended to explain the need for floodland and shoreland protection; to explain the methods and devices available to prevent flood damage and protect water quality; and to present model regulations and suggested devices to accomplish the purposes of, and meet the requirements of, the State Water Resources Act of 1965, as well as to implement the adopted regional, watershed, and district land Previous SEWRPC planning guides, use plans. distributed to all cities, villages, towns, and counties in the Region during 1963 and 1964, dealt with the subjects of land subdivision, official mapping, zoning, and planning agency organization.

The preparation of the <u>Floodland and Shoreland</u> <u>Development Guide</u> was prompted not only by the need to further assist local units of government in the Region in the enactment of local regulations designed to implement adopted regional, watershed, district, and local plans but also by the enactment in 1965 of the State Water Resources Act. This Act, contained in Chapter 614, Laws of 1965, in effect required that all local units of government—counties, cities, villages, and towns adopt a reasonable and effective floodplain zoning ordinance within their respective jurisdictions



where appreciable damage may occur. The Act further requires counties to enact regulations designed to protect all shorelands in unincorporated areas. Cities and villages are given specific authority to enact similar shoreland regulations.

SEWRPC Planning Guide No. 5 is currently being printed and is expected to be available for distribution early in January 1969. All local units of government in the Region will receive copies pursuant to regular Commission report distribution policy. Interested individuals may place their names on the report distribution list by contacting the Commission Offices. The cost of the report will be \$3 to those residing within the Region and \$8 to those outside the Region. The preparation of the new guide was financed in part through an urban planning grant from the U. S. Department of Housing and Urban Development. SEWRPC Planning Guide No. 6, dealing with the application of soils data in local planning and engineering practice, is also being prepared under the urban planning grant and will be published next year.

Floodland and Shoreland Problems

Included in Planning Guide No. 5 are discussions of various floodland and shoreland development problems. Floodland problems discussed include the disruption of utility and transportation services; various health and safety hazards to occupants of floodlands; and damage and economic loss to industries, businesses, residences, and agricultural operations. These floodland problems can be caused indirectly by seep-

COMBINED ISSUE

Please note that this issue combines SEWRPC Newsletters Nos. 5 and 6, Vol. 8. The next Newsletter will be Vol. 9, No. 1, to be issued in early February 1969.

FIFTH PLANNING GUIDE-continued

age, sanitary sewer or septic tank system backup, erosion, siltation, and water pollution, as well as by direct floodwater inundation and by the force of the moving floodwaters. The dollar value of flood damages caused by certain floods has been established by the Commission in its several comprehensive watershed studies. For instance, the reported monetary losses resulting from the 1960 flood on the Fox River totaled approximately \$490,000 and from the 1960 flood on the Root River, \$370,000.

Shoreland problems are generally caused by man's activities that upset the delicate and complex biotic relationship which exists in shoreland areas between the natural conditions of the shoreland, the adjacent stream or lake waters, and the wildlife supported by such lands and waters. The quality of the total environment around streams and lakes depends, to a considerable extent, upon maintaining this biotic relationship in a healthy state. Man's activities that can destroy the delicate relationships that exist in shoreland areas include dredging, draining, filling, and clearing; certain agricultural operations; intensive development; private and public sewage treatment; water withdrawal; and waste disposal. Failure to use properly the shoreland areas of the streams and lakes will inevitably lead to a deterioration of the total environment for life within the Region and to the destruction of the recreational and aesthetic assets sought and treasured by a large segment of the population.

Flood Damage Prevention and Shoreland Protection

Various methods available to prevent flood damages and to protect shoreland quality are also discussed in the new planning guide. The key to such prevention and protection is comprehensive land and water use planning at both the regional and local levels. Once a comprehensive land use plan has been prepared and adopted, various methods and devices can be used in a flood damage prevention program (see Figure 1). These include flood control works; floodproofing of structures;



Figure 1 ELEMENTS OF A FLOOD DAMAGE PREVENTION PROGRAM

public acquisition of floodlands; public education programs; public development policies; flood insurance; and such regulatory devices as zoning, land subdivision, sanitary, and building ordinances. Water management programs designed to protect the natural quality of shorelands must be based on a comprehensive water use plan properly related to a land use plan (see Figure 2). Specific methods and devices which may be used in any sound water management program include the exportation of liquid wastes; public acquisition of shorelands; rehabilitation and redevelopment of shorelands; restocking and replanting of shoreland cover; improved or altered waste treatment methods; streamflow augmentation; and such regulatory devices as zoning, land subdivision, sanitary, and aquatic recreation ordinances.

Source: Adapted by SEWRPC from materials published by the Tennessee Valley Authority and the U.S. Army Corps of Engineers.



Figure 2 ELEMENTS OF A SHORELAND AND WATER QUALITY PROTECTION PROGRAM

Source: SEWRPC.

Model Ordinances and Regulations

Contained in the Floodland and Shoreland Development Guide are several appendices, which set forth suggested zoning district regulations; model ordinances; and special floodland, shoreland, and water use regulations. The zoning district regulations have been designed to be added to those districts listed in the Model Zoning Ordinance set forth in Appendix A of SEWRPC Planning Guide No. 3, Zoning Guide, 1964. The special floodland and shoreland regulations have also been designed to be added to those regulations found in the SEWRPC Model Zoning Ordinance. Other special floodland and shoreland regulations have been designed to be added to those regulations found in the SEWRPC Model Zoning Ordinance. Other special floodland and shoreland regulations have been designed to be added to those regulations found in the Model Land Division Ordinance set forth in Appendix A of SEWRPC Planning Guide No. 1, Land Development Guide, 1963. Other appendices to Planning Guide No. 5 contain a Model Sanitary Ordinance, a Model Aquatic Recreation Ordinance, and special floodland and shoreland regulations designed to be incorporated into local building ordinances.

FIFTH PLANNING GUIDE—continued

It is important to note that the suggested ordinances and regulations contained in the report are intended only as guides to be used by local units of government in the formulation of their floodland and shoreland regulations. Local enactment of such regulations, along with sanitary codes and additional land subdivision regulations, will not only fulfill the purpose of the State Water Resources Act of 1965 and the State Floodplain and Shoreland Management Programs formulated pursuant to that Act but will also greatly assist in implementing and in achieving many of the objectives contained in the adopted, regional, watershed, and district plan elements.

Flood Hazard Mapping

Of great importance to the sound administration of floodland zoning, land subdivision, and building regulations are accurate flood hazard maps. Sound planning and engineering practices dictate that the flood used to delineate floodlands for land use regulation have a specified recurrence interval so that a sound economic analysis of the benefits and costs of alternative plan designs can be made and the advantages and disadvantages of various levels and combinations of police power regulations, public acquisition, and public construction for flood damage abatement and prevention can be fully analyzed.

In its comprehensive watershed studies, the Commission utilizes 100and 10-year recurrence interval floods to delineate the floodplain and floodway areas, respectively. These 100- and 10-year recurrence interval design floods are analytically derived, using the best engineering procedures applicable to the particular watershed under study. Map 1 shows the current status of such flood hazard mapping in the Region. Also shown is the status of similar mapping completed by the U.S. Army Corps of Engineers. Several counties and communities in the Region have supplemented this flood hazard mapping through the use of historic flood information and soil interpretation techniques.

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STATUS OF REGIONAL FLOOD HAZARD MAPPING IN THE SOUTHEASTERN WISCONSIN REGION: 1968

LEGEND

DENOTES SMALL SCALE (I"=2000', IO' CONTOUR INTERVAL) IO AND IOO YEAR RECURRENCE INTERVAL FLOOD HAZARD MAPPING COMPLETED BY SEWRPC

DENOTES SMALL SCALE IO AND IOO YEAR RECURRENCE INTERVAL FLOOD HAZARD MAPPING IN PROGRESS BY SEWRPC

DENOTES SMALL SCALE IO AND IOO YEAR RECURRENCE INTERVAL FLOOD HAZARD MAPPING COMPLETED BY THE U.S. ARMY CORPS OF ENGINEERS AT THE REQUEST OF SEWRPC

DENOTES LARGE SCALE (1"=100' AND 1"=200', 2'-4' CONTOUR INTERVAL) 10 AND 100 YEAR RECURRENCE INTERVAL FLOOD HAZARD MAPPING COMPLETED BY SEWRPC UTILIZING MAPS PRE-PARED TO NATIONAL MAP ACCURACY STANDARDS WITH MONUMENTED SURVEY CONTROL

HAZARD MAPPING IN PROGRESS BY SEWRPC UTILIZING MAPS PREPARED TO NATIONAL MAP ACCURACY STAN-DARDS WITH MONUMENTED SURVEY CONTROL



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FOX RIVER WATERSHED STUDY PROGRESS REPORT

The first 11 chapters of Volume I of SEWRPC Planning Report No. 12, <u>A Comprehensive Plan for the Fox River Watershed</u>, were reviewed and approved recently by the Fox River Watershed Steering Committee and the Commission Technical Advisory Committee on Natural Resources and Environmental Design. With the completion of three additional chapters pertaining to resource problems, recreation demand, and water law, Volume I of the report will be completed. This volume will include all inventories, analyses, and forecasts necessary for the preparation of alternative watershed plan elements. Actual consideration of certain alternative plan elements by the Steering Committee has already begun.

MENOMONEE RIVER WATERSHED COMMITTEE APPOINTED

Pursuant to requests by the City of Brookfield, the City of Wauwatosa, and Milwaukee County, a watershed committee has been formed to study and analyze the land and water-related problems of the Menomonee River watershed. As in previous Commission planning programs for the Root, Fox, and Milwaukee River watersheds, the Menomonee River Watershed Committee will begin its work by preparing a prospectus, which will explore and document the need for a comprehensive planning program for the watershed; specify the major work elements necessary to complete such a program; and recommend the most effective means for establishing, organizing, and accomplishing the planning program, if the need for such a program is found to exist.

Members of the Menomonee River Watershed Committee are:

James F.	Egan.	•	•	•	•	Mayor, City of Mequon; SEWRPC Commissioner
Louis W.	Falk .	•	•	•	•	Executive Vice-President and Secretary, The Falk Corporation

Herbert A. Goetsch	Commissioner of Public Works, City of Milwaukee
Frederick Gottlieb	Village Commissioner, Village of Menomonee Falls
Howard Gregg	General Manager, Milwaukee County Park Commission
Robert E. Hasselkus	Executive Director, Waukesha County Park and Planning Commission
George C. Keller	Citizen Member; President, Wauwatosa State Bank
Maurice L. Kimbrough .	City Engineer, City of West Allis
Thomas Kroehn	Director, Region 2, Wisconsin Department of Natural Resources, Division of Environmental Protection
F. D. Kuckuck	City Engineer, City of Wauwatosa
Raymond D. Leary	General Manager and Chief Engi- neer, Milwaukee-Metropolitan Sewerage Commissions
J. C. Zimmerman	Village Engineer, Village of Germantown

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SEWRPC NOTES—continued

REGIONAL AIRPORT PLANNING

Upon requests by Milwaukee County and the Wisconsin Department of Transportation, the Commission has agreed to undertake a comprehensive airport planning program for the Region. As a first step, the Commission, in accordance with its established practice, has formed a Technical Coordinating and Advisory Committee on Regional Airport Planning. The function of this Committee will be to prepare a prospectus for a comprehensive regional airport planning program through which the growing air transportation problems of the Region can be cooperatively resolved. The prospectus is intended to establish and document the need for a regional airport planning program; outline the scope, content, and timing of such a program; and recommend the means for establishing, organizing, and accomplishing the program.

Members of the Technical Coordinating and Advisory Committee on Regional Airport Planning are:

Douglas F. Haist Chairman	Director of Policy Planning, Division of Planning, Wisconsin Department of Transportation
Robert S. Michael Vice-Chairman	Airport Director, Milwaukee County
K. W. Bauer Secretary	Executive Director, SEWRPC
Enoch W. Anderson	Chief, Airports Branch, Federal Aviation Administration, U. S. Department of Transportation, Minneapolis

John H. Batten	President, Twin Disc, Inc., Racine; Member, National Business Aircraft Association
Robert R. Brackett	Manager, Kenosha Municipal Airport; Member, Wisconsin Aviation Trades Association
Donald M. Cammack	Planning Supervisor, Division of Aeronautics, Wisconsin Department of Transportation
Paul Leonard	Manager, Central Operations Regional Office, Air Transport Association, Rosemount, Illinois
William D. Rogan	County Agri-Business Agent, Waukesha County
Earl Stier	Manager, West Bend Airport
Henry B. Wildshut	County Highway Commissioner and Director of Public Works, Milwaukee County

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6th REGIONAL PLANNING CONFERENCE

The Commission has scheduled a regional planning conference for next spring. It will be held on May 6, 1969, at the Pfister Hotel and Tower, Milwaukee. The general theme of the conference will be "The Regional Plan— Implementation." Tentatively scheduled are workshopdiscussion sessions on the subjects of jurisdictional highway planning, sanitary codes, exclusive agricultural zoning, community and neighborhood planning, and floodland and shoreland regulations. Complete details will be made available early next year. Please plan to attend and mark your calendar now!



AROUND THE REGION

CITY OF NEW BERLIN

The Common Council of the City of New Berlin recently enacted an amendment to the City <u>Plumbing Code</u> designed to prohibit or regulate the installation of on-site soil absorption sewage disposal systems, commonly called septic tank systems, on those soils where such systems would not function properly due to such limitations as high or fluctuating water table, slow permeability, steep slopes, or proximity to bedrock. In its amendment, the Common Council utilized the soil mapping data made available by the Commission and the U. S. Department of Agriculture, Soil Conservation Service.

UNIFORM BUILDING CODE

The Southeastern Wisconsin Building Inspectors Association has announced that a reprinted edition of its uniform building code is available. The specifications and performance standards contained in the uniform code have been adopted by 13 communities in southeastern Wisconsin. Copies of the code are available for \$3, plus 50 cents for postage and handling, from Charles F. Rupp, Secretary, Southeastern Wisconsin Building Inspectors Association, P. O. Box 100, Menomonee Falls, Wisconsin 53051.

HOW ARE THE TERMS "FLOODLANDS" AND "SHORELANDS" DEFINED?

The definition of the terms "floodlands" and "shorelands" is very important to both the legality of special floodland and shoreland regulations, as discussed in the lead article of this Newsletter issue, and to the determination of those lands which are to be the subject of local or state floodland or shoreland regulations.

There is no precise definition of floodlands in the Wisconsin Statutes. Rather, Section 87.30(1) of the Statutes speaks of floodplains as those areas within a stream valley within which "serious (flood) damage may occur" or "appreciable (flood) damage is likely to occur." In urbanizing areas, such as southeastern Wisconsin, this statutory description of floodlands is not adequate per se for floodland determination and the precise delineation so necessary for effective and sound administration of floodland regulations. As watersheds become urbanized and the hydraulic characteristics of the stream are altered, additional areas of the stream valley become subject to flooding. Hence, it becomes necessary to regulate the entire potential, as well as existing, floodland areas.

The Commission has, therefore, in the <u>Floodland and Shoreland Devel-opment Guide</u>, recommended that the floodland area of a stream valley be identified and divided into three regulatory areas, which are defined as follows:

<u>Channel</u>—That portion of the floodlands normally occupied by a stream of water under average annual high-water-flow conditions.

<u>Floodway</u>—That portion of the floodlands, including the channel, required to carry and discharge the 100-year recurrence interval flood. If development and fill are to be prohibited in the floodplain, the floodway may be delineated as that area subject to inundation by the 10-year recurrence interval flood. <u>Floodplain</u>—That portion of the floodlands, excluding the floodway, subject to inundation by the 100-year recurrence interval flood or, where such data is not available, by the maximum flood of record.

Unlike floodlands, which must be determined on the basis of careful hydrologic and hydraulic engineering studies, shorelands have been given a statutory definition by the Wisconsin Legislature. Sections 144.26(2)(g) and 59.971(1) of the Wisconsin Statutes define shorelands as all that area lying within the following distances from the normal highwater elevation of all natural lakes and of all streams, ponds, sloughs, flowages, and other waters which are navigable under the laws of the State of Wisconsin: 1,000 feet from the shoreline of a lake, pond, flowage, or glacial pot hole lake and 300 feet from the shoreline of a stream or to the landward side of the floodplain, whichever is greater.

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