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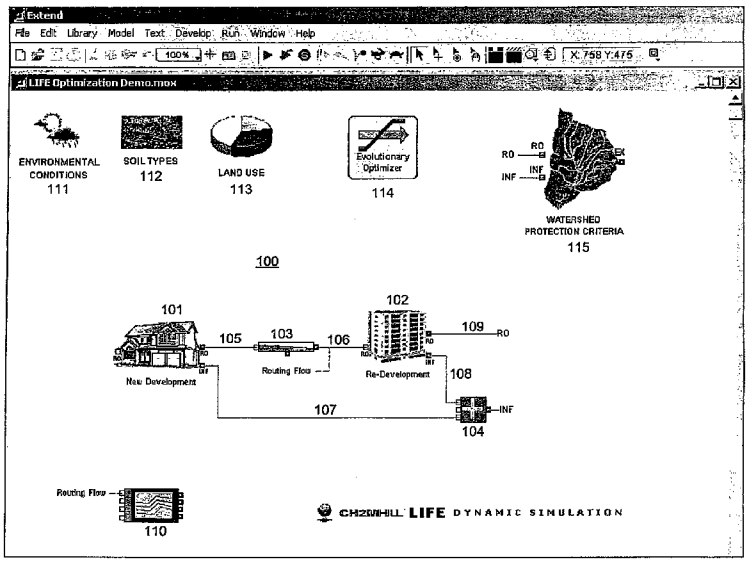
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[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR WATER FLOW ANALYSIS



(57) Abstract: The development design (100) includes a new development icon (101) and a redevelopment icon (102). The new development icon represents a new residential development that may include many lots and open spaces. The redevelopment icon represents a commercial redevelopment. The lines between the icons represent flow of water and thus dependencies. For example, line (105) between the new development icon (101) and the routing flow icon (103) represents the runoff flowing from the new development to a channel or overland flow plane. Similarly, line (106) between the redevelopment icon (102) and the routing flow icon (103) represents the runoff flowing from the redevelopment to the channel or overland flow plane. The aggregation icon (104) represents combining the soil infiltration of the new development represented by line (107) and the soil infiltration of the redevelopment represented by line (108) resulting in the aggregate infiltration for the development design. Line 109 represents the runoff from the redevelopment that is not routed. Icon (110) represents various graphs of the simulated water flow. Icons (111), (112), and (113) allow a user to specify and view various attributes of the development design. For example, the environmental condition icon (111) is used to set the rainfall and evapotranspiration attributes. The soil types icon (112) is used to specify the types of soil found in the development. The land use icon (113) is used to summarize the various land uses within the development. The evolutionary optimizer icon (114) is used to specify constraints and the objective function for the optimization process. ':he watershed protection criteria (115) is used to establish various levels for watershed protection such as peak flow, flow volume, or water quality. The user specifies the level or combinations of levels, and the modeling system highlights any excedences based on the simulation results.

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