General

- Metric and US Customary units
- Data saved to a file automatically
- Use any timestep
- ”Hover help” available for text entry
- Help screens linked to current activity
- Robust error detection and recovery - crash free operation
- Automatic prompts for next step
- Test designs under different storms in Automatic mode
- Design proceeds in logical interactive manner
- Hydrograph details visible during design process
- Drainage network can be of any size (ie. unlimited nodes)

Hydrology

Storm Generation:
- Chicago hyetograph
- 4 Huff quartile design storms
- Mass rainfall distribution curve
- Canada Atmospheric Environment Service storms
- User defined Historic storm Storms hyetographs can also be saved and imported

Infiltration models:
- SCS CN
- Horton
- Green & Ampt
- Runoff coefficient can also be used

Overland flow models:
- Triangular SCS
- Rectagular
- SWMM method
- Linear reservoir

Lag & Route:
- Very large catchments can be modelled as single area
- Lag times for hypothetical reservoir and channel used

Base flow:
- Add any constant base-flow rate to a hydrograph

File input / output:
- All design data saved to output file
- Output file can be used for Automatic input
- Junction and diversion hydrographs saved to file
- Runoff and rainfall files can be saved and imported

Hyetograph / Hydrograph display:
- Quick graphic displays are automatic
- Grids and cross hairs under user control
- Graph colours and styles can be changed.
- Customized graph can include rainfall and runoff and annotations
- Customized graph can be printed, imported or saved as BMP file

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Design

The drainage network is designed as a tree network proceeding from the sources to the downstream point of discharge.

Flows from multiple tributaries can be accumulated at confluence points from which the total flow can be recovered for design. Multiple confluence junctions can exist simultaneously and independently.

Diversion structures can define flows extracted from the main network and which can be subsequently recovered for separate treatment.
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Pipes:
- Partial flow analysis for peak hydrograph flow
- Design for a specified flow rate also possible
- Feasible diameter grade values automatically displayed
- Hydraulic gradient reported for surcharged flow
- Pipe roughness defined by Mannings 'n'

Channels:
- General trapezoidal shape defined by a base width and left and right sideslopes.
- Arbitrary shape defined by up to 50 pairs of coordinates.
- Table of depth, gradient, velocity values is displayed
- Complex shapes can be drawn and refined by editing
- Channel roughness defined by Mannings 'n'

Route:
- Kinematic routing uses modified Muskingham-Cunge method
- Timestep and reach length automatically adjusted
- Numerical stability ensured for nonlinear cases

Ponds:
- Automatic storage requirements computed
- Stage-storage computed for standard shapes
- Outflow control device can use multiple orifices and weirs
- Timestep adjusted for numerical stability
- Includes parking lot, superpipe and rooftop storage
- Up to 50 stages

Exfiltration trench:
- Separates inflow into outflow and ground water recharge
- Cross section can include multiple pipes
- User defined media and soil characteristics

Diversion:
- Separates inflow into outflow and diverted hydrographs
- Diverted fraction can be explicit or implied by peak outflow
- Diverted hydrograph saved as file
- Diverted flows can be imported for later design

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