Project:

River:

Project Purpose:

Project File Name:

Additional Information:

Reviewer:

Date:

Modeler:

***** Blank comment entries below indicate that the item was not reviewed.***

Item	Comment	Action Needed (blank=none)	Response to Comment/ Resolution	Screen Shot	Link
Model Background Data					
Version of SMS/SRH-2D documented?				❑	
Project vertical datum?				❑	
Project horizontal datum?				❑	
Documentation of techniques and procedures?				❑	
Meta data included in model files?				❑	
Topography					
Source/Date				❑	
If Lidar data, has it been filtered to removed vegetation and structures?				❑	
Stated Accuracy				❑	
Datums verified				❑	
Data type (Scatter set or 3D Raster image)				❑	
Number of points / average spacing				❑	
Bathymetry					
Source/Date				❑	
Datums verified				❑	
Additional Survey					
Source/Date				❑	
Datums verified				❑	
Bridge/Culvert/Structure Data					
Source/Date				❑	
Datums verified				❑	
Topographic Data review					
Were multiple data sources merged to create a terrain map? If so, which sources?				❑	
Data consistency - Are the transitions between data sets smooth?				❑	
Does final surface accurately represent site (are hydraulic controls represented)?				❑	
Confirm breaklines used where necessary				❑	
2D Mesh					
How many mesh elements?				❑	
Are the number and size of mesh elements appropriate?				❑	
What is the range of element sizes and is it appropriate for this project application?				❑	

What is the length of the modeled reach?				❑	
What are the approximate floodplain widths (upstream/downstream)?				❑	
Is the upstream mesh limit sufficient?				❑	
Is the downstream mesh limit sufficient?				❑	
Are the lateral extents sufficient?				❑	
Are key project features correctly represented?				❑	
Are all slope features (channel banks, embankments, etc.) represented by at least 2 or more elements?				❑	
Is mesh quality acceptable?				❑	

Boundary Conditions					
Are unsteady or steady simulations performed?				❑	
Do boundary conditions have descriptive names?				❑	
What is the source for the inflow data?				❑	
Upstream Boundary - Verify correct inflow(s) amount, type, and location				❑	
How were downstream tailwater boundaries computed (normal depth, critical depth, known water surface, other?)				❑	
Downstream Boundary - Verify correct stage, type, and location				❑	
Are boundary conditions applied (mapped) to mesh correctly?				❑	
Are monitoring lines used?				❑	
Material Roughness					
How many materials types are used?				❑	
What is the source of material coverage and values?				❑	
Do the materials definiition extend to the limits (or beyond) the mesh domain limits?				❑	
Are material types correctly assigned?				❑	
Are the appropriate Manning's n-values used?				❑	
Hydraulic Structures					
How many structures are represented? What types?				❑	
Bridge					
Is the geometry beneath the bridge represented correctly?				❑	
For detailed hydraulics, piers should be represented as holes in the mesh. The dimensions of the hole should represent the average dimensions that are				❑	
Pressure BC arcs should be parallel and form rectangular zone betweeen them.				❑	
The ceiling elevation should represent the average low chord elevation of the bridge, or the span represented.				❑	
If the upstream WSEL exceeds the deck elevation, the overtopping option should be selected and parameters defined.				❑	
If the deck is overtopping, the Internal#.dat file should be reviewed for stable WSEL and flow				❑	
Culvert					
The mesh elements should generally align with the culvert and have element faces that are located close to the culvert inverts				❑	
Culvert BC arcs should be placed at the culvert invert locations and should generally represent the width of the culvert(s)				❑	
Is the culvert modeled in the 2D mesh or as a HY-8 culvert?				❑	
HY-8 Culvert BC arcs should be located at the culvert invert locations and the HY-8 elevations should be consistent with the mesh elevations at the invert locations.				❑	
Is culvert correctly represented				❑	
Obstructions					
Are obstructions used in the model?				❑	
The elevation of the obstruction arc should be set to the bottom elevatoin of the obstruction.				❑	
The obstruction arc should align with the centerline of the obstruction, with the appropriate dimentions and coefficients enterred in the obstructions dialog.				❑	
Other Structures					
What other structures are represented?				❑	
Is structure correctly represented?				❑	

Model Controls and Simulations					
How many simulations are included?				❑	
Are they labeled appropriately and do they include the correct components.				❑	
Review time step used for each simulation				❑	
Review simulation times				❑	
Turbulence model should be set to the Parabolic Method with a coefficient of 0.7				❑	
Initial Condition used				❑	

Model Results					
Are monitoring points used?				❑	
Confirm model stability at monitoring points				❑	
Confirm continuity at monitoring lines				❑	
Confirm stable results through the domain				❑	
Froude Number - Are results reasonable?				❑	
Shear Stress				❑	
Water Elevations				❑	
Velocity				❑	
Water Depth				❑	
Additional Notes:					
Model Calibration					
Was calibration performed? If so, does the model data match the calibration data?				❑	
If no calibration, were any sensitivity analyses performed?				❑	
General Comments					