

DESIGN and CONSTRUCTION MANUAL for MUPB UTILITIES

# **APPENDIX J**

## SANITARY SEWER FACILITIES HYDRAULIC MODEL

MOREHEAD UTILITY PLANT BOARD APPENDIX



Project Name:	Date:		
MUPB Project ID#: Model Preparer Name:			
or Preliminary Plan #	Preparer Email:		
Software used: Model Iteration/Submission #			
Hydraulic modeling method used:	(e.g. Rational (default) or Probability, etc.)		
Description of Project:			
Approx LF of force mains:	Pump Make & Model:		
<= 2"	Total number of individual grinder pumps		
3"	Number of grinder pumps operating simultaneously		
4"			
6"			
>= 8"			
Force Main Connection Point: (Plac	e "X" which applies and explain in text box)		
Existing manhole & gravity sewer li	ne.		
Existing Wet Well. Name lift station (			
Connection to existing force main. pumps and force main diameters.	This option requires the hydraulic model to include all connected lift stations, grinder		
Explanation / Detail of selection made abo	ve:		



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#### Scenario Description:

Describe each Scenario below and the purpose of each scenario in the model. Lift Stations that discharge to existing manhole or wet well will generally have a basic model with one Scenario and "Run(s)" to provide velocities for pump #1, pump #2 and both pumps operating with water level of wet well at off elevation and at alarm elevation. Lift Stations that will discharge to existing force main will have multiple parent scenarios corresponding to the complexity of pressurized portion of the collection system. Very complex or complicated models should have separate attachments with details as appropriate.

Scenario Name:	Description / Purpose / Phasing / Interim Condition				
Scenario 1					
Scenario 2					
Scenario 3					
Scenario 4					
Scenario 5					
Scenario 6					



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#### Scenario Pipe Results:

Each Scenario generally will have critical pipe(s) (i.e. pipe(s) downstream of diameter changes, pipe(s) downstream of branch lines, etc.) Expand the table for model as required. Pipe name(s), pipe diameter(s) and force main velocity to be entered based upon hydraulic analysis results, provide pipe network with pipe & node labels.

Pipe Name	Pipe Size	Force Main Velocity				
		Scenario #1A	Scenario #1B	Scenario #1C	Scenario #1D	Maximum Velocity
	(inches)	(fps)	(fps)	(fps)	(fps)	
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00



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#### **Scenario Pump Results:**

Each Scenario generally will have critical pipe(s) (i.e. pipe(s) downstream of diameter changes, pipe(s) downstream of branch lines, etc.) Expand the table for model as required. Pipe name(s), pipe diameter(s) and force main velocity to be entered based upon hydraulic analysis results, provide pipe network with pipe & node labels.

Lift Station Name	Pump Elevation		Pump Flow Rate (gpm)				
			Scenario	Scenario	Scenario	Scenario	
	GR. Elev.	LWL EL.	Alarm EL.	#1A	#1B	#1C	#1D

### **Closing Statement:**

Submitter should provide any appropriate closing statement here, such as opinion of adequate velocity, force main diameter(s) and grinder pump selections.