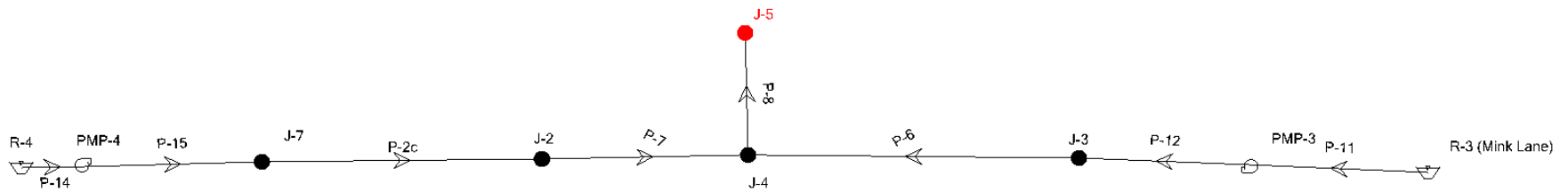


	ID	Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen-Williams C	Has Check Valve?	Minor Loss Coefficient (Local)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Has User Defined Length?	Length (User Defined) (ft)
43: P-6	43	P-6	121	J-3	J-4	12.0	Ductile Iron	130.0	<input type="checkbox"/>	0.000	1,136	3.22	0.003	<input checked="" type="checkbox"/>	700
44: P-7	44	P-7	76	J-4	J-2	12.0	Ductile Iron	130.0	<input type="checkbox"/>	0.000	-764	2.17	0.002	<input checked="" type="checkbox"/>	287
46: P-8	46	P-8	46	J-4	J-5	12.0	Ductile Iron	130.0	<input type="checkbox"/>	0.000	1,900	5.39	0.008	<input checked="" type="checkbox"/>	37
52: P-2c	52	P-2c	103	J-7	J-2	12.0	Ductile Iron	130.0	<input type="checkbox"/>	0.000	764	2.17	0.002	<input checked="" type="checkbox"/>	255
60: P-11	60	P-11	65	R-3 (Mink Lane)	PMP-3	60.0	Ductile Iron	130.0	<input type="checkbox"/>	0.000	1,136	0.13	0.000	<input checked="" type="checkbox"/>	1
61: P-12	61	P-12	63	PMP-3	J-3	12.0	Ductile Iron	130.0	<input type="checkbox"/>	0.000	1,136	3.22	0.003	<input checked="" type="checkbox"/>	54
66: P-14	66	P-14	23	R-4	PMP-4	60.0	Ductile Iron	130.0	<input type="checkbox"/>	0.000	764	0.09	0.000	<input checked="" type="checkbox"/>	1
67: P-15	67	P-15	66	PMP-4	J-7	12.0	Ductile Iron	130.0	<input type="checkbox"/>	0.000	764	2.17	0.002	<input checked="" type="checkbox"/>	931



In the model above, I am expanding an existing water system to a new building. Per the results of hydrant flow tests, the available flow rate at R-4/PMP-4 is 1,060 gpm and at R-3/PMP-3 is 840 gpm (per a prior question, I am using an approximation method to model the hydrant flow tests from an article that was provided Bentley). My question: why would the flow in pipe P-7 go negative and why would the system try to pull more water from R-3/PMP-3.