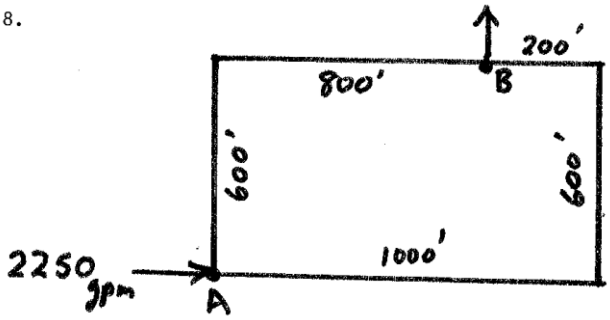
FPST 2483 Lab #09 Name:_____

OBJECTIVES:

This laboratory unit is designed to practice Hardy-Cross method with problems of single and multiple loops. All problems are supposed to be solved with Hardy-Cross Method using attached spreadsheets. Determine the pressure lost in psi between Point A and Point B in the complex loop system shown below.

1. Use the Hardy Cross method to solve for friction loss is PSI.

8.

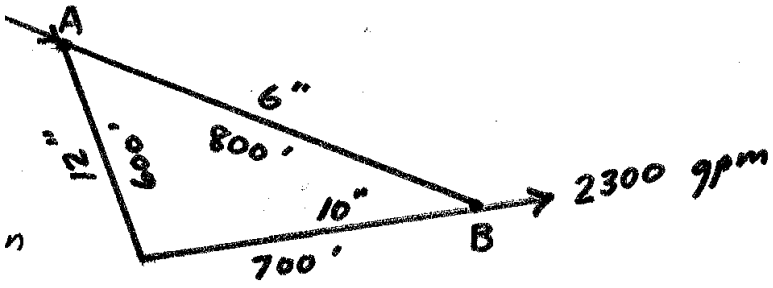


ALL PIPE
8", C=100
Unlined Cast iron

Loop No.	Line No.	Size	C-Factor	Length	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion

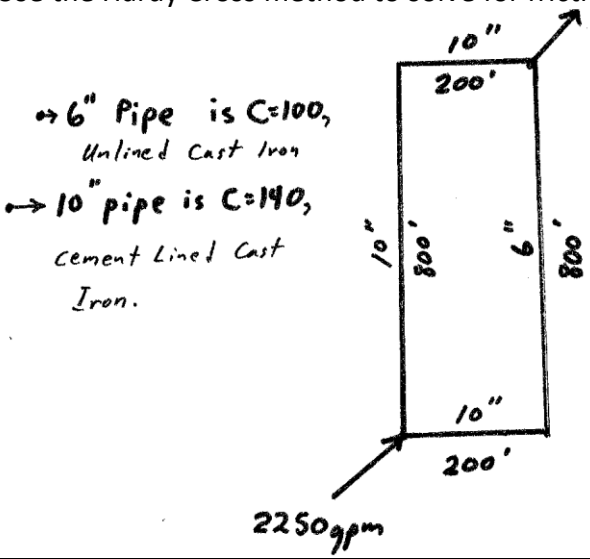
2. Use the Hardy Cross method to solve for friction loss is PSI.

ALL C=100,
Unlined Cast Iron



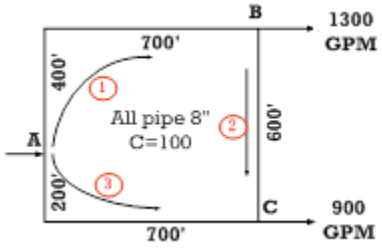
Loop No.	Line No.	Size	C-Factor	Length	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion

3. Use the Hardy Cross method to solve for friction loss is PSI.



Loop No.	Line No.	Size	C-Factor	Length	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion

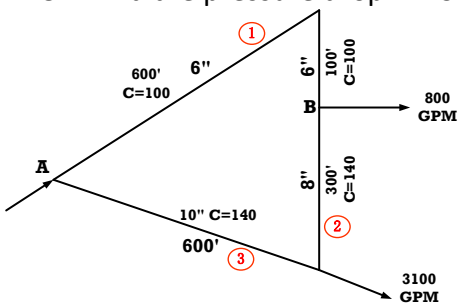
4. Find the pressure drop in PSI from A to B using Hardy-Cross method.



Initial guess: path 1= 1200gpm

Loop No.	Line No.	Size	C-Factor	Length	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion

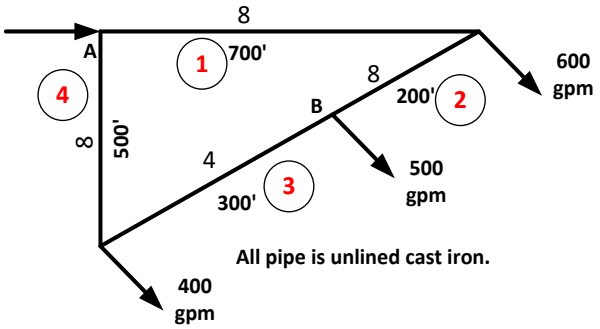
5. Find the pressure drop in PSI from A to B using Hardy-Cross method.



Initial guess: path 1= 400gpm

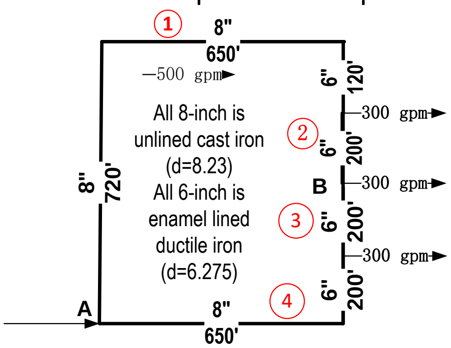
Loop No.	Line No.	Size	C-Factor	Length	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion

6. Find the pressure drop in PSI from A to B using Hardy-Cross method.



Loop No.	Line No.	Size	C-Factor	Length	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correc-tion

7. Find the pressure drop in PSI from A to B using Hardy-Cross method.



Loop No.	Line No.	Size	C-Factor	Length	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correction	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correction	Q (gpm)	P_f (psi)	$\frac{1.85P_f}{Q}$	Correction