



A/S SYSTEM PRELIMINARY HYDRAULIC CALCULATIONS:

GENERAL INFORMATION:
NEW 4 STORY MEDICAL OFFICE BUILDING
FLOOR 1 THRU 4 MEDICAL OFFICES.

BUILDING CONSTRUCTION TYPE:
TYPE II - B SPRINKLED
SEE ARCHITECTURAL SHEET AO-1 FOR MORE DETAIL
ON CODE ANALYSIS

BUILDING HAZARD CLASSIFICATION:
LIGHT HAZARD OCCUPANCY EXCEPT
ORDINARY HAZARD, GROUP 1 MECH ROOM, AND ELECTRICAL ROOMS

TYPE OF A/S SYSTEM:
WET PIPE SPRINKLER SYSTEM

TOTAL BUILDING AREA TO BE SPRINKLED:
26,853 SF FIRST FLOOR
26,853 SF SECOND FLOOR
26,853 SF THIRD FLOOR
26,853 SF FOURTH FLOOR
107,412 SF - TOTAL

NUMBER OF SPRINKLER RISERS/ENTRANCES REQUIRED:
ONE

ESTIMATED WATER DEMAND REQUIRED: (MOST DEMANDING AREA)
STANDPIPES - THREE PROVIDED (ONE IN EACH STAIR)
500 GPM FOR THE FIRST STANDPIPE, 250 GPM FOR EACH REMAINING S.P.
500 + 250 + 250 = 1,000 GPM REQUIRED
500 GPM @ 100 PSI AT TOP OF MOST DEMANDING STANDPIPE

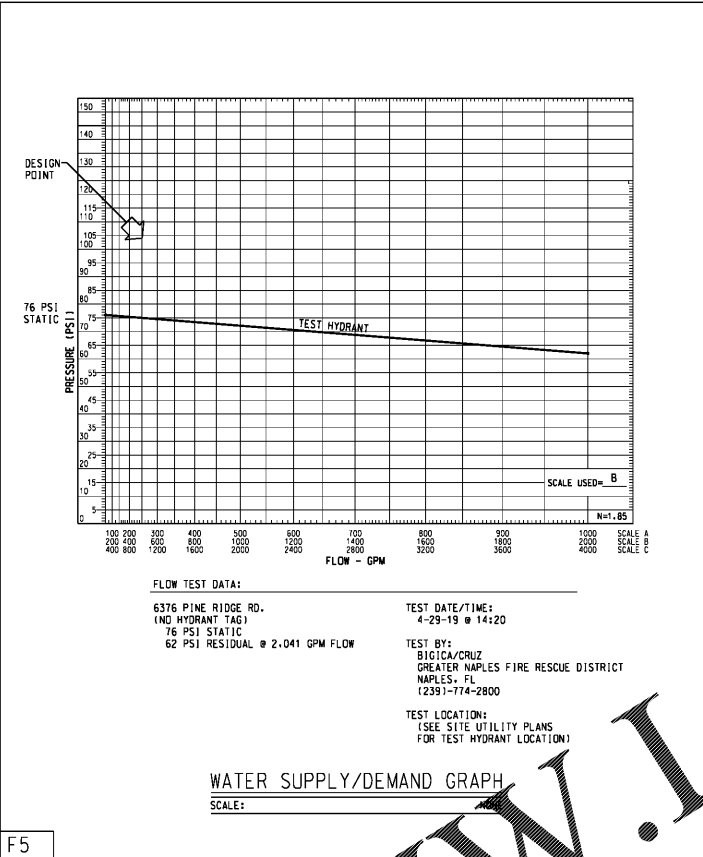
ELEVATION LOSSES:
ELEVATION DIFFERENCE BETWEEN TOP OF STANDPIPE SYSTEM
AND BASE OF RISER = 60 FT.
60 FT x .433 = 26 PSI
ELEVATION OF TEST HYDRANT IS 3.3 FT BELOW F.F.E.
3.3 x .433 = 1.4 PSI
26 PSI + 1.4 PSI = 27.4 PSI TOTAL ELEVATION LOSS

FLOW LOSSES:
1 PSI/100 FT IN PIPING (INSIDE BUILDING)
150 FT x 1.15 (PIPE FITTING FACTOR) x 1 PSI/100 = 1.7 PSI LOSS
0.25 PSI/100 F IN PIPING 18" PIPING OUTSIDE BUILDING
350 FT x 1.15 x 0.25/100 = 1 PSI LOSS
(350' FROM BASE OF RISER TO FIRE HYD. FLOW TEST)
(SEE CIVIL ENG. SITE UTILITY PLAN SHT. FOR TEST HYD. LOCATION)

4 PSI LOSS AT FIRE LINE D.D.C.V.A.
1.7 + 1 + 4 = 6.7 PSI FLOW LOSSES

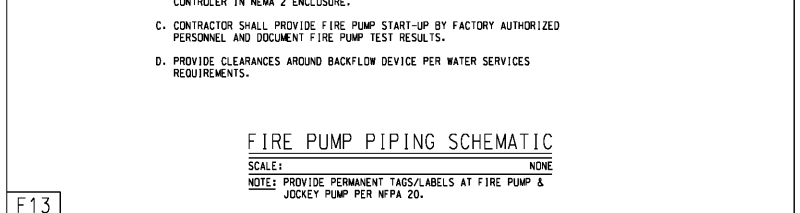
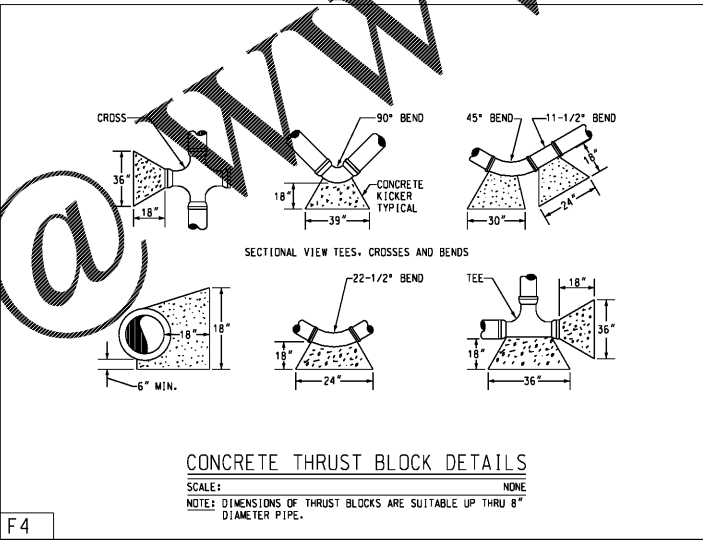
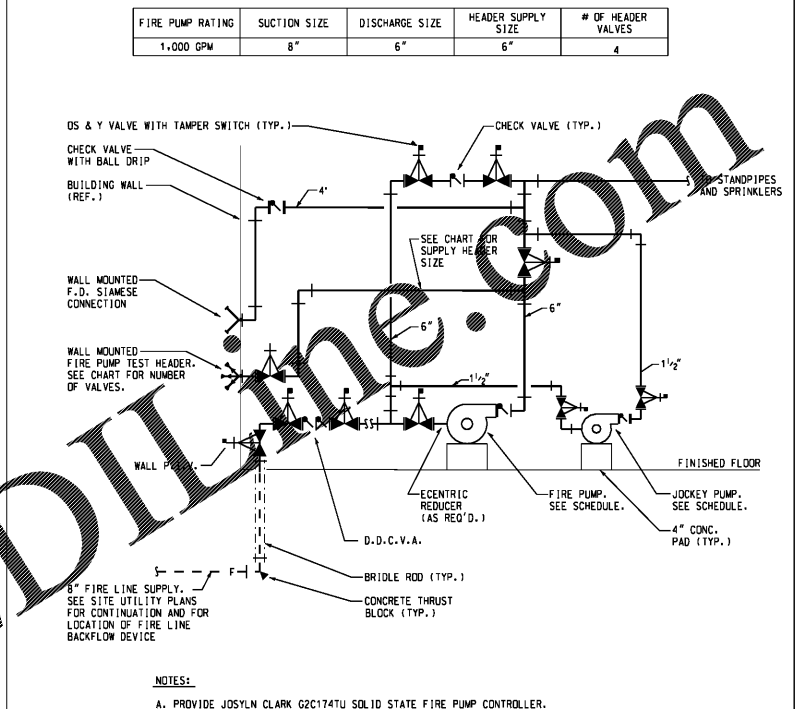
TOTAL LOSSES:
27.4 PSI (ELEVATION LOSS) + 6.7 PSI (FLOW LOSS) =
34.1 PSI TOTAL LOSS
(SEE WATER SUPPLY/DEMAND GRAPH - THIS SHEET)
76 PSI AVAILABLE AT 500 GPM
76 - 34.1 = 41.9 PSI AVAILABLE
100 PSI REQUIRED AT TOP - 41.9 = 58.1 PSI

SUMMARY: 60 PSI BOOST REQUIRED



FIRE PUMP SCHEDULE

DES.	TYPE	G.P.M.	T.D.H.	H.P.	VOLTAGE	JOCKEY PUMP			MANUFACTURER	MODEL NUMBER
						G.P.M.	T.D.H.	H.P.		
FP-1	HORIZ SPLIT-CASE	1,000	140	50	480/3/60	7.5	194	1.0	PENTAIR	5-481-15
						AURORA PVM1-8			480/3/60	



Order Plans

WWW.LDILINE.COM

PRH
MEDICAL OFFICE BUILDING
NAPLES, FLORIDA

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION TO DAVIS STORES ARCHITECTS AND ITS CONTENTS MAY NOT BE REPRODUCED, COPIED, OR OTHERWISE TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE PRIOR WRITTEN PERMISSION OF DAVIS STORES ARCHITECTS. ALL RIGHTS RESERVED.

7121 CROSSROADS BVD
888-HYWOOD, IN 47027
TEL: (615) 726-6310
FAX: (615) 726-6310
WWW.DSCA.COM

DAVIS STORES COLLABORATIVE P.C.
DSC ARCHITECTS

REVISIONS

NO.	DATE	DESCRIPTION

P0.02
ISSUE DATE: 11.12.19
JOB NUMBER: 19020