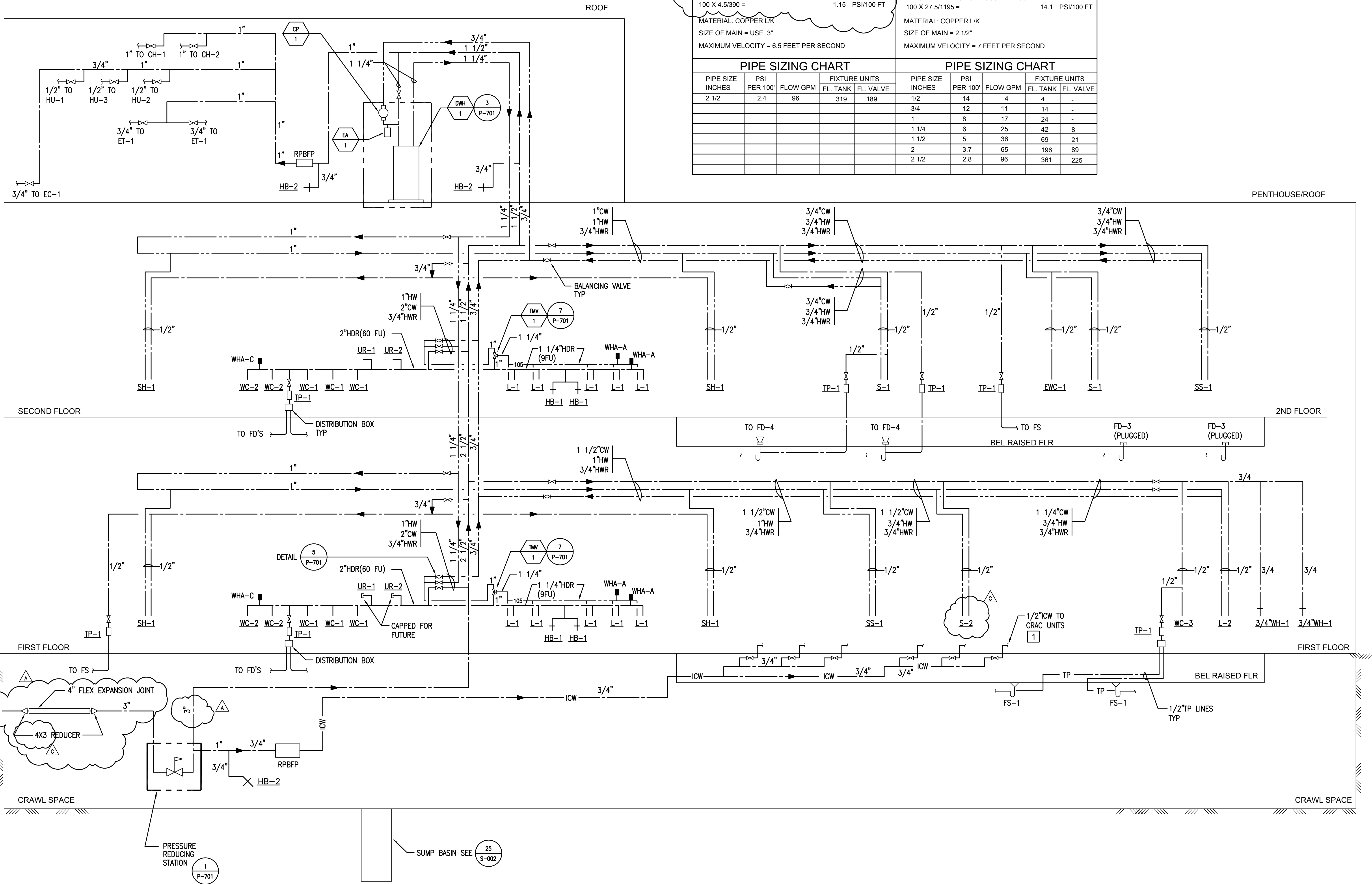


DWG: Q:\Colltrans\IETMC\500 CAD\W\Sheet\P-602.dwg User: leejer  
DATE: Oct 28, 2008 - 9:24:44 am Images:  
Xrefs: "XBDR

E  
D  
C  
B  
A



## WATER PLUMBING CALCULATIONS

### DOMESTIC CW MAIN

FIXTURE UNIT DEMAND 186 FU (86 GPM)  
TOTAL MAXIMUM WATER DEMAND:  
86 GPM + 10 GPM (FOR HB'S & MECH. EQPT.) 96 GPM  
MAIN PRESSURE: 90 PSI MAX- 65 PSI MIN  
HEIGHT OF GOVERNING FIXTURE 29 FT  
PRESSURE LOSSES:  
STATIC (29 X 0.43) 12.5 PSI  
2 1/2" PRESSURE REGULATOR 7.0 PSI  
2 1/2" RED. PRES. BACKFLOW PREVENTER 5.0 PSI  
2 1/2" METER 11.0 PSI  
FIRE WATER MAIN 0  
RESIDUAL PRES. @ GOVERNING FIXT. 25.00 PSI  
TOTAL = 60.5 PSI  
PRESSURE AVAILABLE FOR FRICTION:  
65 - 60.5 = 4.5 PSI  
DEVELOPED LENGTH FROM MAIN WATER SUPPLY(STREET)  
TO GOVERNING FIXTURE:  
300 FT (LENGTH) X 1.3 (FITTINGS) = 390 FT  
FRICTION LOSS PER 100 FT:  
100 X 4.5/390 = 1.15 PSI/100 FT  
MATERIAL: COPPER L/K  
SIZE OF MAIN = USE 3"  
MAXIMUM VELOCITY = 6.5 FEET PER SECOND

### PIPE SIZING CHART

PIPE SIZE INCHES	PSI PER 100'	FLOW GPM	FIXTURE UNITS FL. TANK FL. VALVE
2 1/2	2.4	96	319 189
2			
1 1/2			
1 1/4			
1			
3/4			
1/2			
1/4			

### DOMESTIC HW AND CW

FIXTURE UNIT DEMAND 186 FU (86 GPM)  
TOTAL MAXIMUM WATER DEMAND:  
86 GPM + 10 GPM (FOR HB'S & MECH. EQPT.) 96 GPM  
SYSTEM DESIGN MIN. PRESSURE (SET @ PRV) 65 PSI  
HEIGHT OF GOVERNING FIXTURE 29 FT  
SYSTEM DESIGN-PRESSURE LOSSES:  
STATIC (29 X 0.43) 12.5 PSI  
2 1/2" PRESSURE REGULATOR N.A.  
BACKFLOW PREVENTER N.A.  
2 1/2" WATER METER (BY CIVIL) N.A.  
FIRE WATER MAIN 0  
RESIDUAL PRES. @ GOVERNING FIXT. 25.00 PSI  
TOTAL = 37.5 PSI  
SYSTEM DESIGN-PRESSURE AVAILABLE  
FOR FRICTION LOSS: 65 - 37.5 = 27.5 PSI  
DEVELOPED LENGTH TO GOVERNING FIXTURE:  
130 FT (LENGTH) X 1.3 (FITTINGS) = 195 FT  
ALLOWABLE FRICTION LOSS PER 100 FT:  
100 X 27.5/195 = 14.1 PSI/100 FT  
MATERIAL: COPPER L/K  
SIZE OF MAIN = 2 1/2"  
MAXIMUM VELOCITY = 7 FEET PER SECOND

### PIPE SIZING CHART

PIPE SIZE INCHES	PSI PER 100'	FLOW GPM	FIXTURE UNITS FL. TANK FL. VALVE
1/2	14	4	4 -
3/4	12	11	14 -
1	8	17	24 -
1 1/4	6	25	42 8
1 1/2	5	36	69 21
2	3.7	65	196 89
2 1/2	2.8	96	361 225

### NOTES:

- FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE P-101

### PLAN NOTES:

- PROVIDE REDUCED PRESSURE BACKFLOW PREVENTER AT EACH EQUIPMENT CONNECTION OR APPROVED INTEGRAL TYPE BACKFLOW PREVENTER DEVICE WITHIN THE UNIT.

### PROJECT



### CLIENT



STATE OF CALIFORNIA  
DEPARTMENT OF GENERAL SERVICES  
REAL ESTATE SERVICES DIVISION  
PROJECT MANAGEMENT BRANCH  
400 R STREET, SUITE 5100  
SACRAMENTO, CA 95814  
PROJECT DIRECTOR : RAJAT ALAPRANJI  
TELEPHONE : (916) 376-1738

### DESIGNER

DMJM H&N | AECOM

999 TOWN & COUNTRY ROAD, ORANGE, CALIFORNIA 92668  
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### CONSULTANT

### DSA STAMP

IDENTIFICATION STAMP  
DIVISION OF THE STATE ARCHITECT  
OFFICE OF REGULATION SERVICE  
APPL. #: 04-109200-2  
AC \_\_\_\_\_ FLS \_\_\_\_\_ SS \_\_\_\_\_  
DATE \_\_\_\_\_  
FILE NUMBER: RESD

### STATUS

JULY 30, 2008

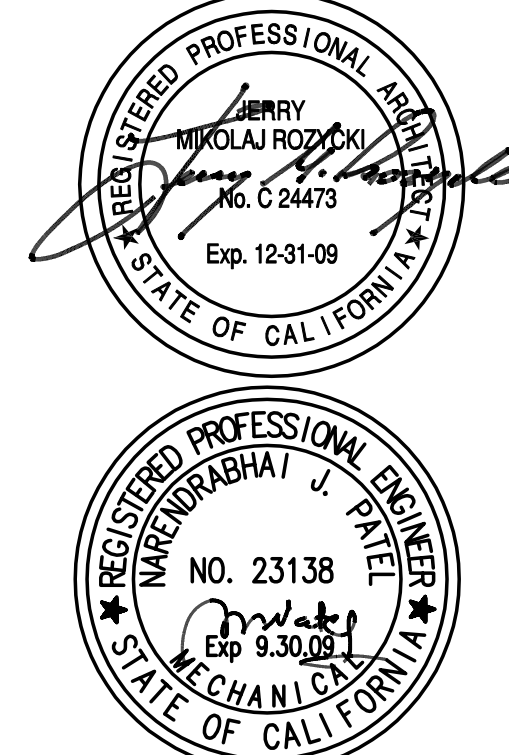
### ISSUE

MARK	DATE	DESCRIPTION
10/27/2008		BID PERIOD ADDENDUM #5
09/26/2008		BID PERIOD ADDENDUM

PROJECT NO: 60004333.4000

DRAWN BY: E. DELROSARIO  
CHECKED BY: N. PATEL

### STAMP



### SHEET TITLE

DOMESTIC WATER  
DIAGRAM

P-602