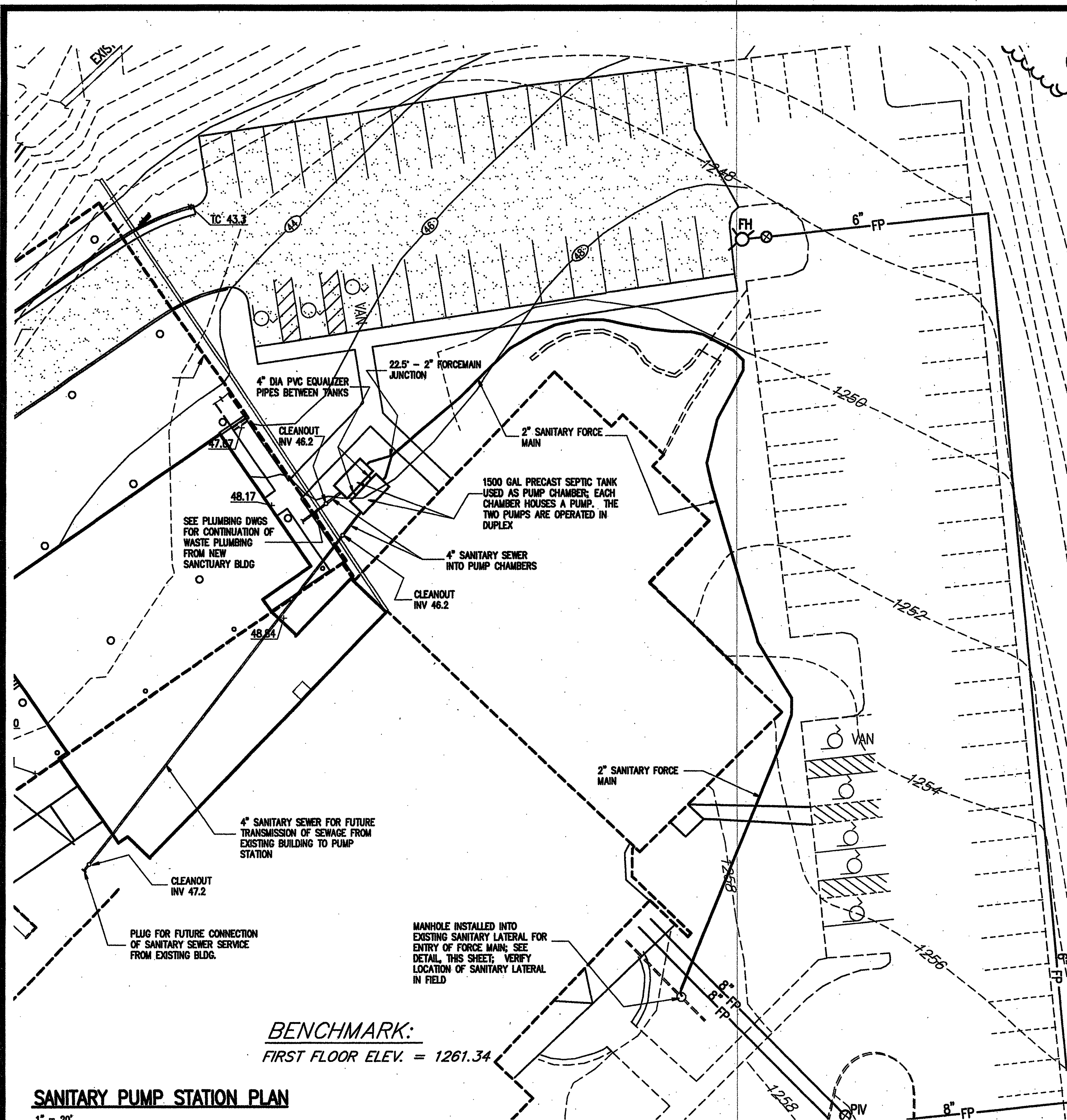
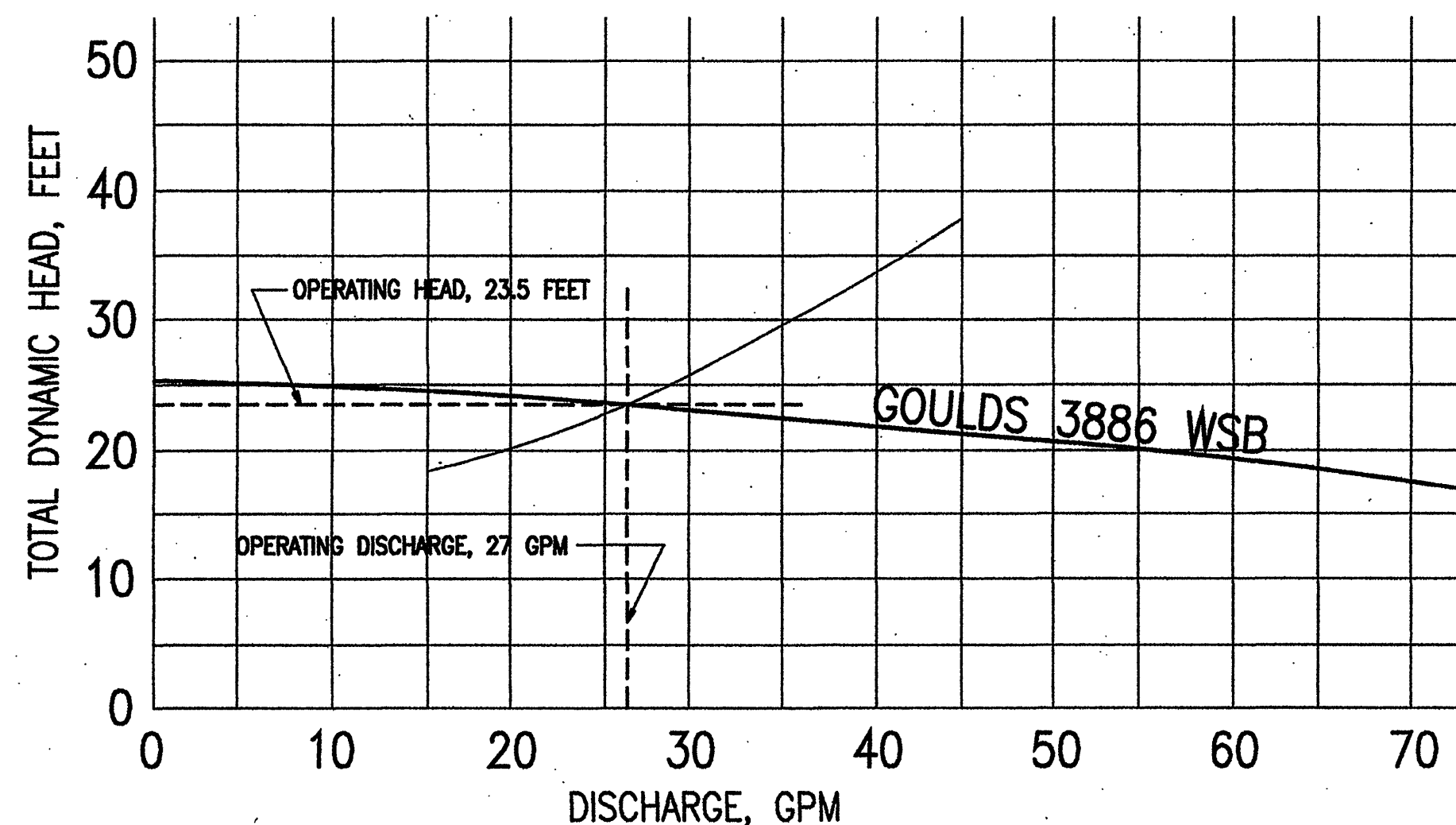




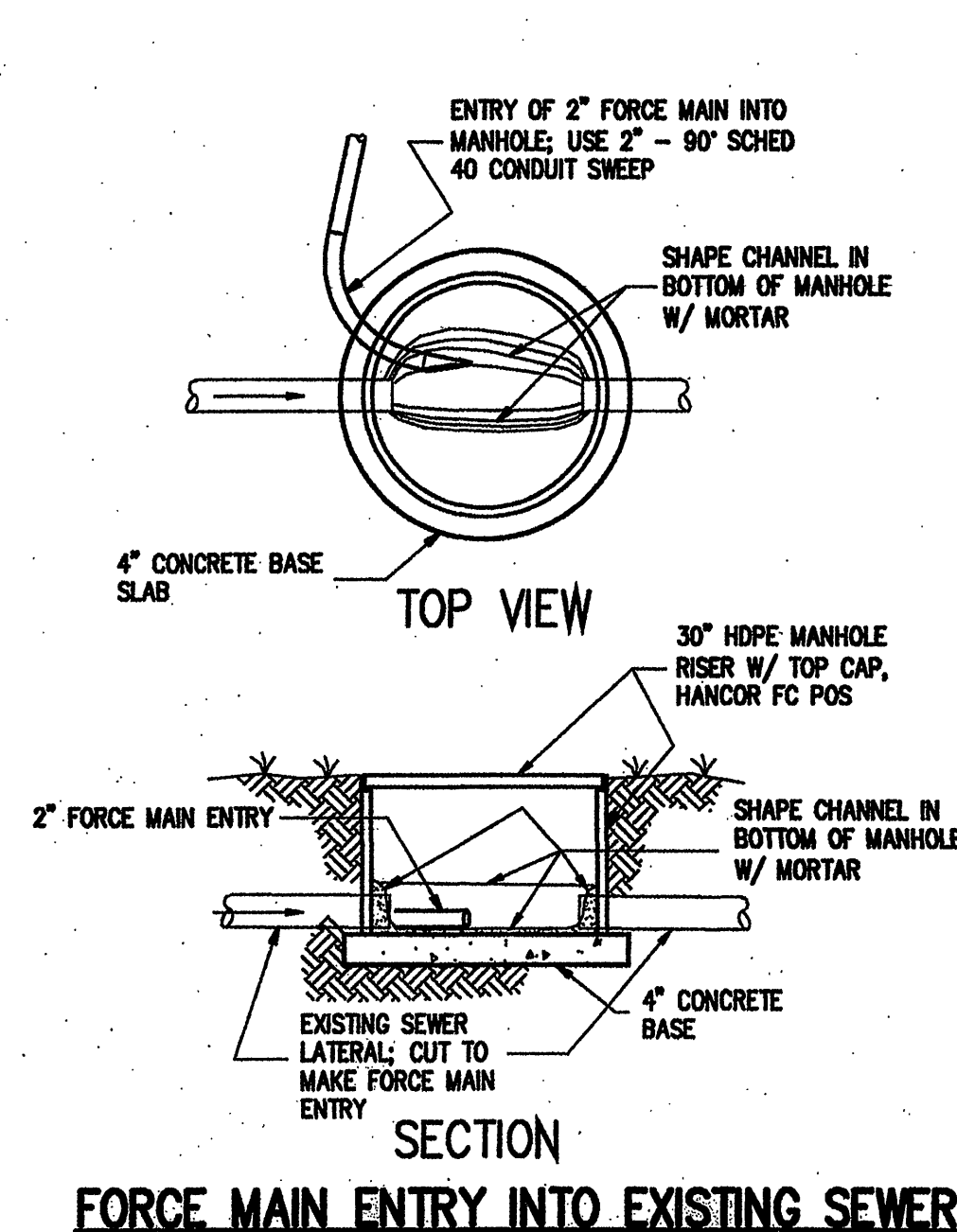
BENCHMARK:
FIRST FLOOR ELEV. = 1261.34

SANITARY PUMP STATION PLAN

1" = 20'



PUMP & SYSTEM PERFORMANCE CURVES



HYDRAULIC CALCULATIONS

SYSTEM TDH:	15 GPM	20 GPM	25 GPM	30 GPM	35 GPM	40 GPM	45 GPM
ELEVATION HEAD:	15'	15'	15'	15'	15'	15'	15'
FRICITION HEAD:							
LENGTH 2" FM		315'					
EQUIV LENGTH GATE VALVE	(2)	1.5=3.0					
EQUIV LENGTH CHECK VALVE		17.0					
EQUIV LENGTH 2" - 90° ELL		6.0					
TOTAL EQUIV LENGTH		341'					
FRICITION HEAD LOSS	3.0'	5.1	7.6'	10.7	14.2	18.2	22.7
TOTAL TDH:	18.0'	20.1'	22.6'	25.7'	29.2'	33.2'	37.7'
OPERATING DISCHARGE:	27 GPM						
OPERATING VELOCITY:	2.9 ft/s						

TOTAL DAILY WASTEWATER VOLUME: 1100 PERSONS X 5 GPD/PERSON = 5500 GPD = 735 CF/DAY

RESERVE STORAGE CAPACITY (VOLUME ABOVE HIGH WATER ALARM IN 1500 GAL TANK, 5.0'W X 4.7'H X 9.5'L):

VOLUME REQUIRED : 735 CF/DAY X 0.25 day = 184 CF

INSIDE PLAN AREA OF (1)-1500 GAL TANK = 47.5 SF

USING (2) - 1500 GAL TANKS: HEIGHT REQUIRED FOR RESERVE STORAGE = 184 CF / (2 X 47.5) = 1.94' - USE 2'

DOSING VOLUME AND HEIGHT (1 HOUR PEAK INFLOW) :

VOLUME REQUIRED : (1 HR/24 HR) X 2.5 X 5500 GPD = 573 GAL = 77 CF

DOSING HEIGHT : 77 CF / (2 X 47.5 SF) = 0.8'

HEIGHT AVAILABLE FOR PUMP CYCLE:

TANK HEIGHT : 4'-7" (INSIDE)

WATER DEPTH AT PUMP OFF : 0'-8"

RESERVE STORAGE : 2'-0"

DOSING HEIGHT (PUMP OFF - PUMP ON) : 0'-10"

1' FREEBOARD : 1'-0"

TOTAL HEIGHT USED: 4'-6" (LESS THAN 4'-7" -> OK)

EQUIPMENT & MATERIALS

EQUIPMENT:

PUMPS: GOULDS 3886 WSB SEWAGE PUMP, 2" SOLIDS CAPACITY

CONTROL PANEL WITH ALARM: DUPLEX NEMA1 INDOOR, SINGLE PHASE; GOULDS D10020N1 DUPLEX

MERCURY SWITCHES: (3) GOULDS A2-3

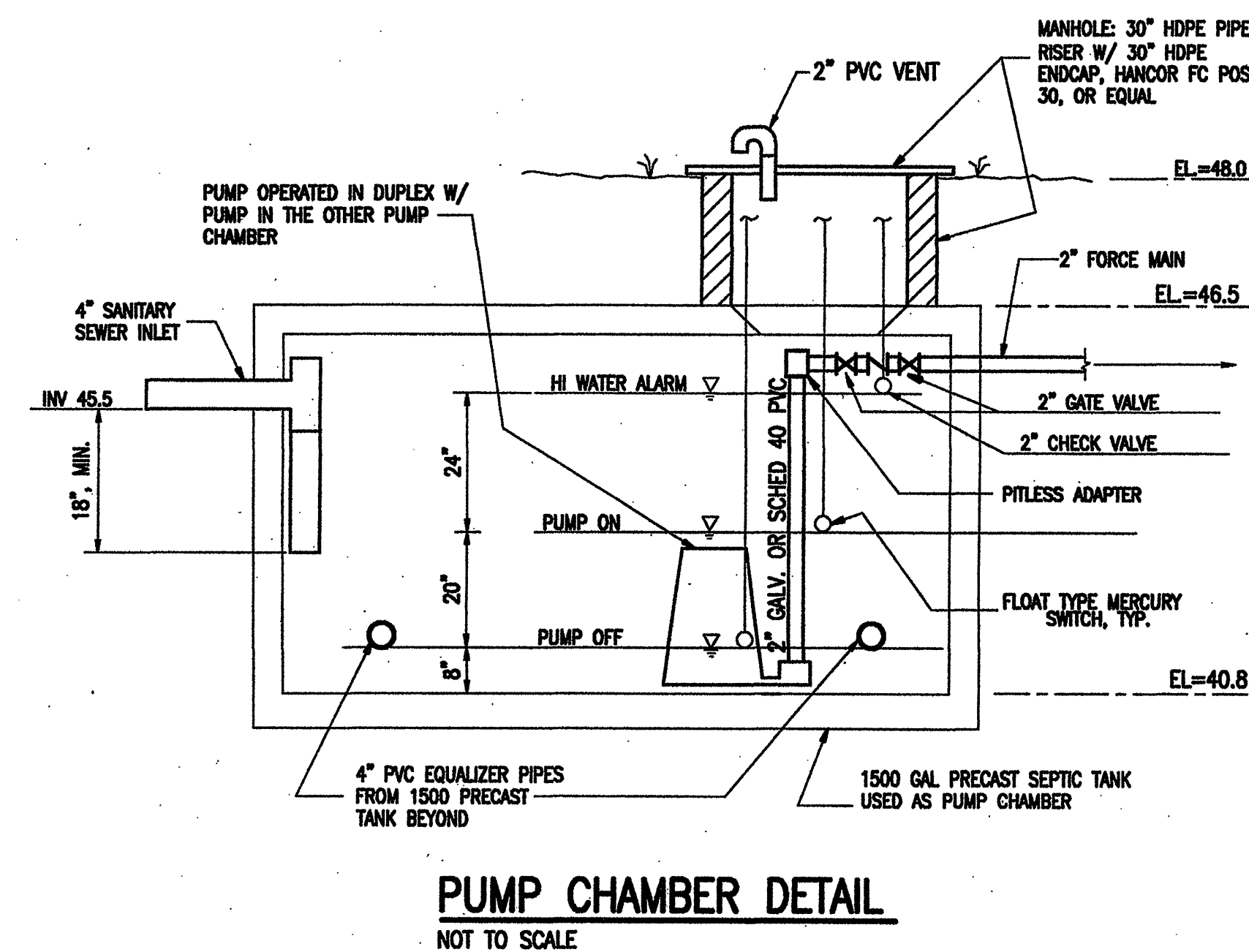
PUMP CHAMBER: 1500 GAL PRECAST CONCRETE SEPTIC TANK AS MFR'D BY C. T. JAMISON, CALLAWAY, VA OR EQUAL

MATERIALS:

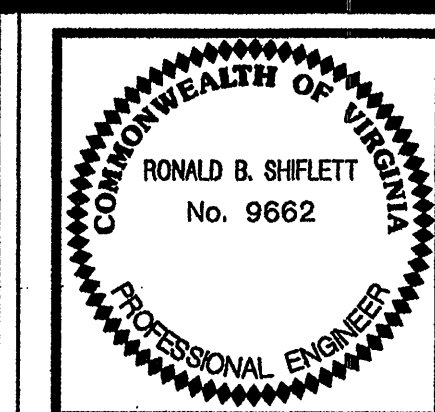
FORCEMAIN: POLYBUTYLENE, 160PSI, OR PVC, SCHEDULE 40

GRAVITY SEWER: PVC, SCHEDULE 40 DWV, ASTM D2685, PIPE & SOLVENT WELD FITTINGS

APPROVED



PUMP CHAMBER DETAIL
NOT TO SCALE



Revisions By	Date

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SANITARY PUMP CHAMBER & FORCE MAIN

SANCTUARY ADDITION AREA

CHURCH OF THE HOLY SPIRIT

ROANOKE, VIRGINIA

Scale: **AS SHOWN**
Date: **2/25/08**
Design By: **RBS**
C/D By: **MRS**
Checked By:
Comm. No.: **06104**

Sheet No.

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