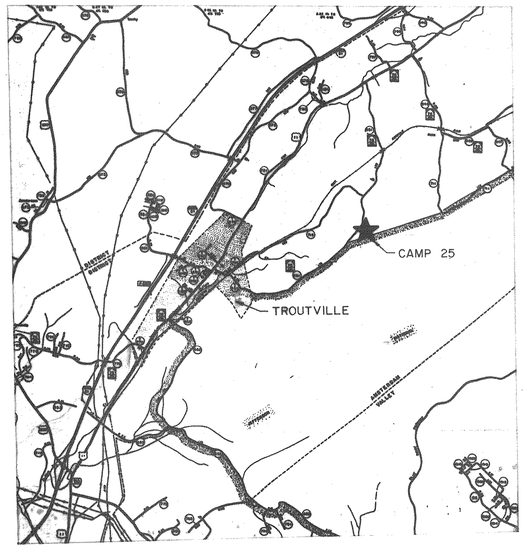
PROJECT NAME: Camp 25 Water Sewer
DATE: Nov 1989
TYPE: Water & sewer
LOCATION: Bote Co.
TOTAL # SHEETS: 21
A/E FIRM: DRAPER ADEN
OF SETS:

WATER AND SEWER FACILITIES TO SERVE CAMP 25

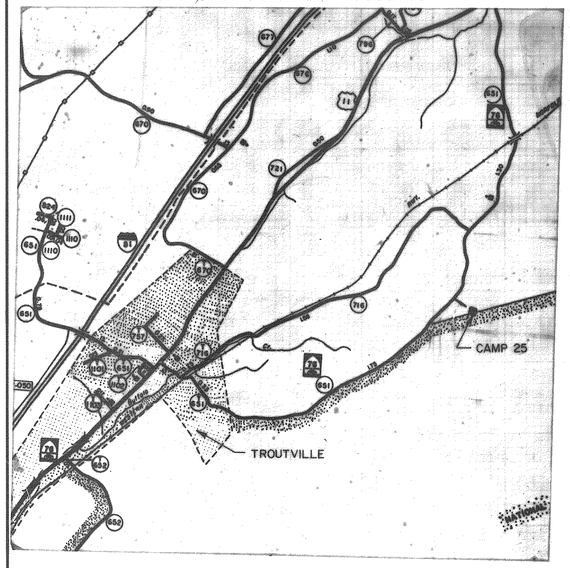
BOTETOURT COUNTY , VIRGINIA

LOCATION MAP



SHEET INDEX

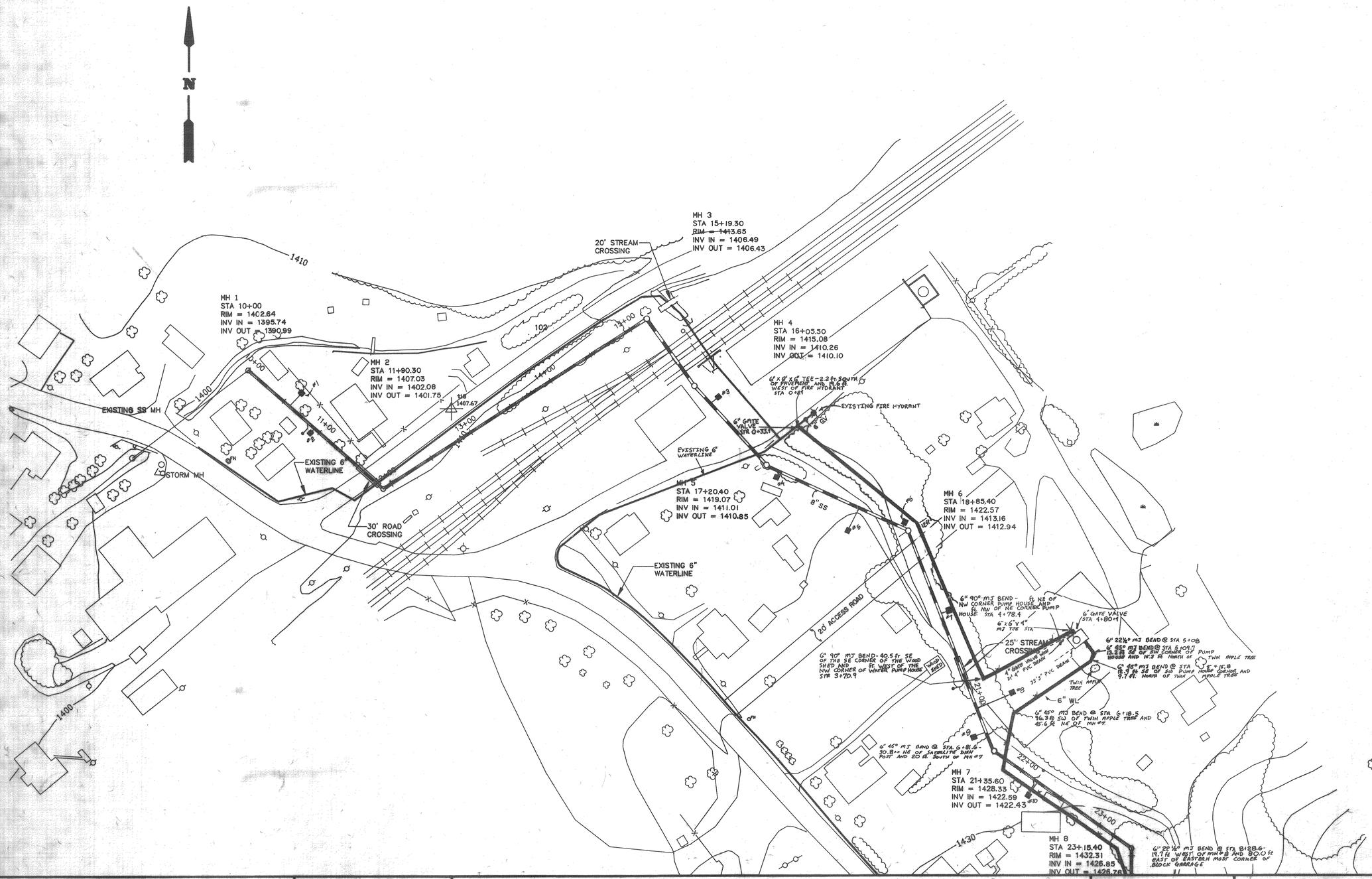
VICINITY MAP



Draper Aden Associates
CONSULTING ENGINEERS
Blacksburg, Virginia – Richmond, Virginia

DRAPER ADEN JOB NO. 5549

"As-Builts"



DRAPER – ADEN ASSOCIATES, INC. CONSULTING ENGINEERS BLACKSBURG, VIRGINIA	DESIGNED RMH DRAWN HP – 7580B CHECKED RMH DATE	SANITARY SEWER PLAN CAMP 25 WATER & SEWER EXTENSION	REVISIONS : 11-16-89	SCALE : 1"=50' PLAN Nº T-5549	SHEET 1 OF 21

MH 8
STA 23+15.40
RIM = 1432.31
INV IN = 1426.85
INV OUT = 1426.76

6" 22½° MJ BEND @ STA 23+01.1 - 19.2 ft SW OF MH#8 AND 76.2 ft EAST OF EASTERN MOST CORNER OF A. DUNN GARAGE.

BLACK GARAGE

MH9
STA 24+17.7(10+00)
RIM = 1446.36
INV IN = 1427.85
INV OUT = 1427.72

6" 90° MJ BEND @ STA 9+36.3 - 85.5 ft NORTH OF 8" MAPLE IN YARD AND 15.2 ft SW OF MH#9.

8" MAPLE

MH 9A
STA 11+35.1
RIM 1441.82
INV. IN 1436.44
INV. OUT 1436.23

MH 9B
STA 12+83.60
RIM 1446.27
INV OUT 1440.68

VALVE

8" STUB

#1
1449.80

30' STREAM CROSSING

6" SERVICE CONNECTION

MH 10
STA 25+91.10
RIM = 1439.75
INV IN = 1434.03
INV OUT = 1433.93

6" WL

MH 11
STA 27+64.60
RIM = 1443.88
INV IN = 1438.79
INV OUT = 1438.63

6" 90° MJ BEND @ STA 15+34.1 - 18.2 ft NORTH OF ℄ OF CREEK AND 15.0 ft WEST OF MH#15.

WELL 1450

8" STUB

MH 12
STA 30+21.60
RIM = 1452.38
INV IN = 1446.99
INV OUT = 1446.75

STA 16+24.5
6" GV

6" 90° BEND @ STA 16+44.7

STA 16+60.0
6" TEES
STA 16+70.3

6" GV
STA 16+66.2

6"x6"x6" TEE @ STA 16+54.3

PROPOSED PRV VAULT
SEE DETAIL BELOW
SEE SKETCH #3

MH 13
STA 32+08.0
RIM = 1460.84
INV IN = 1455.97
INV OUT = 1455.79

EXISTING 6" WATERLINE

35' STREAM CROSSING

#16

#13

MH 14
STA 35+ 70.80
RIM = 1475.11
INV IN = 1469.07
INV OUT = 1468.98

MH 15
STA 37+31.60
RIM = 1477.98
INV IN = 1471.19
INV OUT = 1471.13

#14

#15

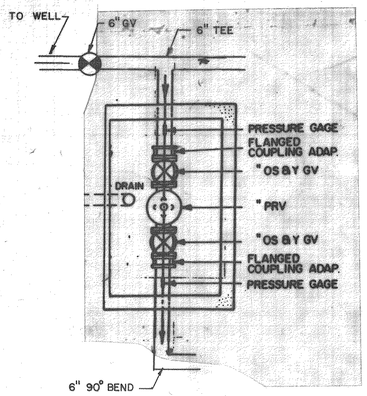
FIRE HYDRANT #1

1470

1480

1490

1500



PRV VAULT

COMMONWEALTH OF VIRGINIA
RANDALL M. HANCOCK
Revised 10-17-89
No. 014541
PROFESSIONAL ENGINEER

DRAPER – ADEN ASSOCIATES, INC.
CONSULTING ENGINEERS
BLACKSBURG, VIRGINIA

DESIGNED RMH
DRAWN HP-7580B
CHECKED RMH
DATE

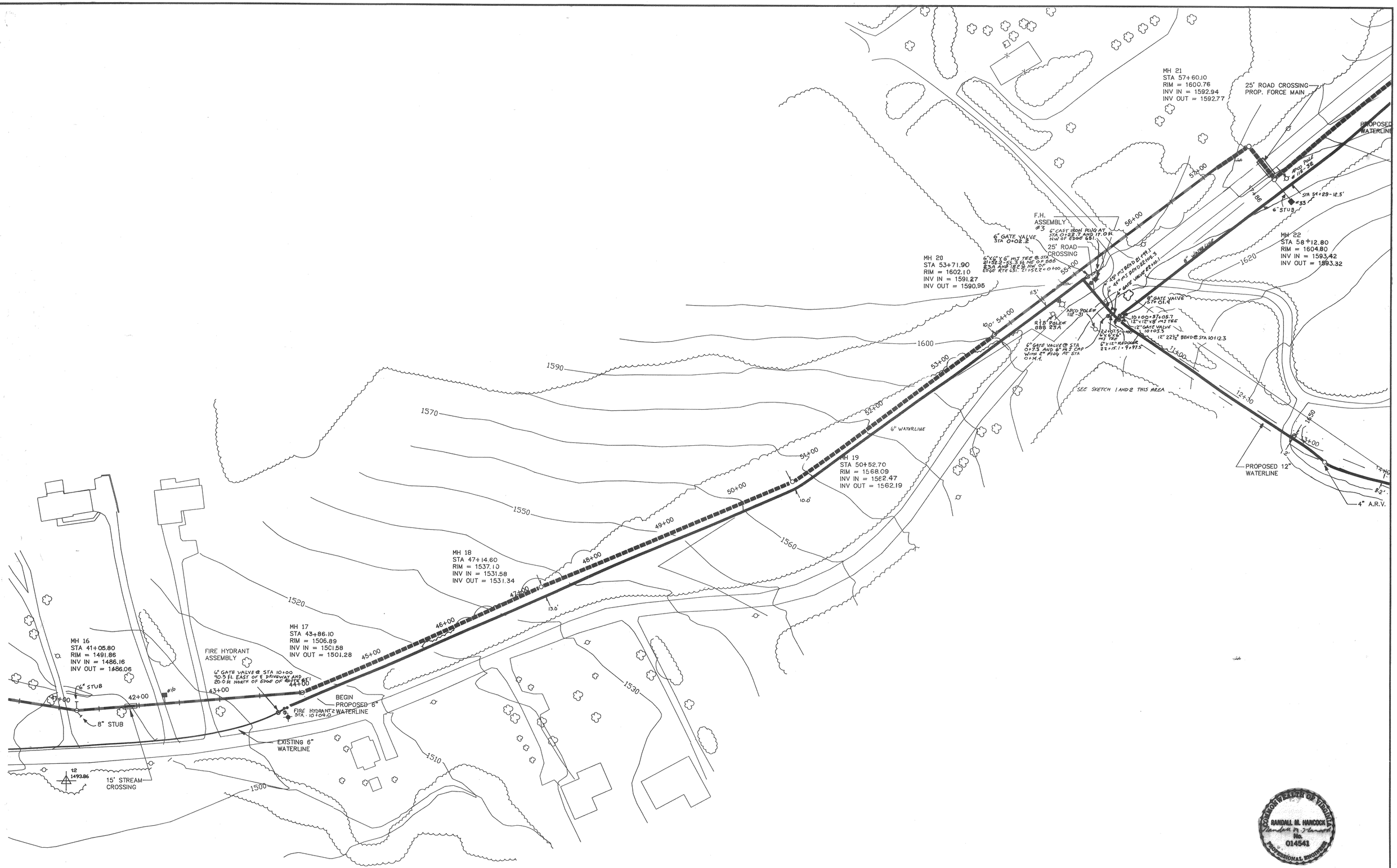
SANITARY SEWER PLAN
CAMP 25 WATER & SEWER EXTENSION

REVISIONS: 8-23-89

SCALE: 1"=50'

PLAN Nº T-5549

SHEET 2 OF 21



COMMONWEALTH OF VIRGINIA
RANDALL M. HANCOCK
No. 014541
PROFESSIONAL ENGINEER

DRAPER – ADEN ASSOCIATES, INC. CONSULTING ENGINEERS BLACKSBURG, VIRGINIA	DESIGNED RMH DRAWN HP-7580 B CHECKED RMH DATE	SANITARY SEWER AND WATER PLAN CAMP 25 WATER & SEWER EXTENSION	REVISIONS: 8 JUNE 1989	SCALE: 1" = 50' PLAN Nº T-5549	SHEET 3 OF 21

HEAVY TREE COVER

HEAVY TREE COVER

R & B POLE # 32 S

POLE #7-25

GUY POLE NO ⌀

APCO POLE # 88-138

APCO POLE # 88-137

APCO POLE # 88-136

APCO POLE # 88-135

APCO POLE # 88-134

APCO POLE # 112-32

8" GATE VALVE @ STA 47+14.3 95.7FT. EAST OF POLE # 88-136 AND 41.8FT SOUTH OF EDGE OF ROUTE 651.

8" X 8" X 8" MJ TEE AT STA 51+19.0 = 04+00 AND 8" GATE VALVE AT 042.5 WITH BLIND FLANGE.

MATCH LINE

SHEET 3 & 7

STA 58+18.80 BK = STA 59+35.00 AHD.

MH 21

MH 22

1560 1570 1580 1590 1600 1610

35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00

1579.1 1583.0 1578.62 1578.7

COMMONWEALTH OF VIRGINIA
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ORCHARD

ORCHARD

FIRE HYDRANT ASSEMBLY

7.0 ft SOUTH OF SOUTH EDGE OF ASPHALT AND 143.2 FL NORTHEAST OF R↑B POLE # 32 S

2" AIR RELEASE VALVE

8" GATE VALVE @ 35+72.2 - 19.2 ft WEST OF FIRE HYD. AND 11.6 ft SOUTH OF ROAD

FIRE HYDRANT # 35+53.6

8" G.V.

R↑B POLE #32 S

2" AIR RELEASE VALVE STA 35+45.1 - 9.3 ft EAST OF FIRE HYDRANT AND 14.8 ft SOUTH OF EDGE OF ROUTE 651

11.0 STA 34+41.0

6"x6"x4" TEE WITH A 6" GATE VALVE 11+88.0 @ 11+90.2' #5 FIRE HYDRANT

6"x6"x4" TEE WITH A 6" GATE VALVE 11+88.0 @ 11+80.0 STA 11+85.5

#20 1584.83

8"x8"x6" MJ TEE @ 28+59.0 - 10.0 ft OFF EDGE Route 651 AND 136.0 ft EAST OF CORNER FENCE POST.

6" GATE VALVE @ 20+03 - 136.0 ft EAST OF A CORNER FENCE POST AND 22.4 ft OFF EDGE PVMT

11.0 STA 29+19.0

R↑B POLE # BBB 39

8" G.V. STA 19+22.5 - 11.5 ft South OF EDGE OF Route 651, 21.0 ft SE OF THE ℄ OF THE DRIVEWAY AND 51.1 ft SW OF POLE # BBB 39.

1505.0

1530

1590

1610

WATER SERVICE

SEWER SERVICE

COMMONWEALTH OF VIRGINIA
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CONSULTING ENGINEERS
BLACKSBURG, VIRGINIA

DESIGNED RMH
DRAWN HP-7580B
CHECKED RMH
DATE

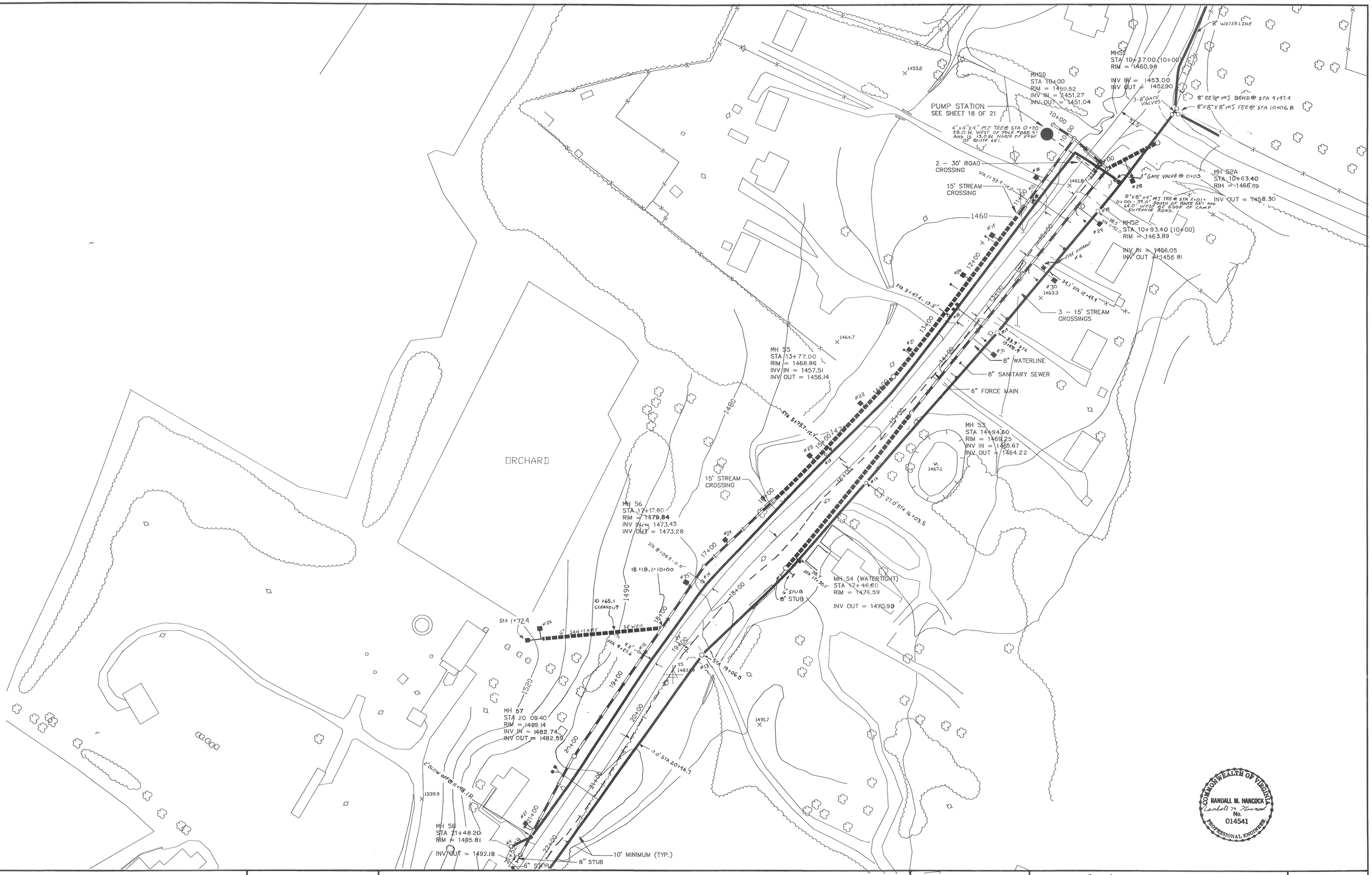
SANITARY SEWER PROFILE
CAMP 25 WATER & SEWER EXTENSION

REVISIONS :

SCALE : HORIZ. 1"= 50'
VERT. 1"= 10'

PLAN № T-5549

SHEET 5 OF 21



COMMONWEALTH OF VIRGINIA
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PROFESSIONAL ENGINEER

DRAPER – ADEN ASSOCIATES, INC. CONSULTING ENGINEERS BLACKSBURG, VIRGINIA	DESIGNED RMH DRAWN HP-7580B CHECKED RMH DATE	SANITARY SEWER AND WATER CAMP 25 WATER & SEWER EXTENSION	REVISIONS :	SCALE : 1" = 50' PLAN Nº T-5549	SHEET 6 OF 21

DRAPER – ADEN ASSOCIATES, INC.
CONSULTING ENGINEERS
BLACKSBURG, VIRGINIA

DESIGNED RMH
DRAWN HP-7580 B
CHECKED RMH
DATE

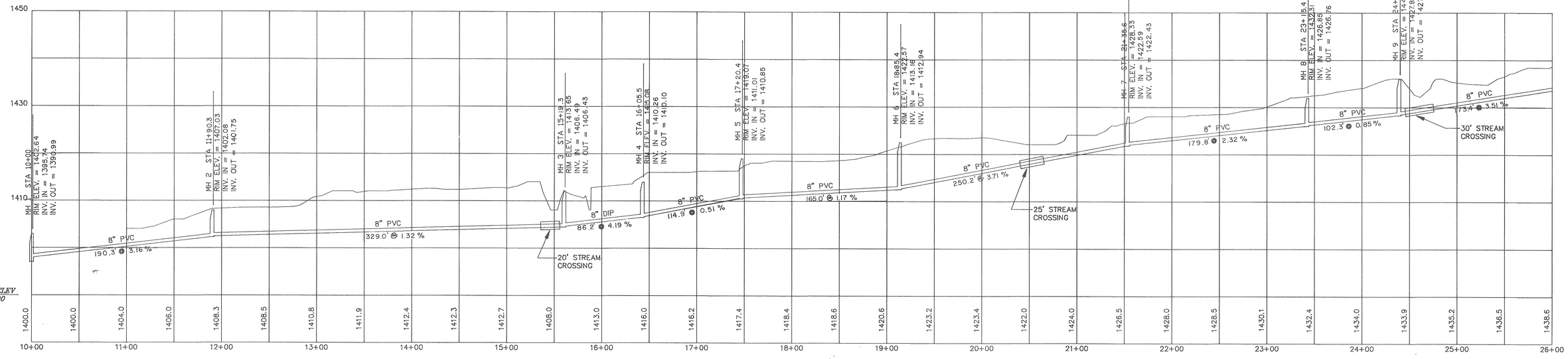
CAMP 25 WATER & SEWER EXTENSION
SANITARY SEWER AND WATER PLAN

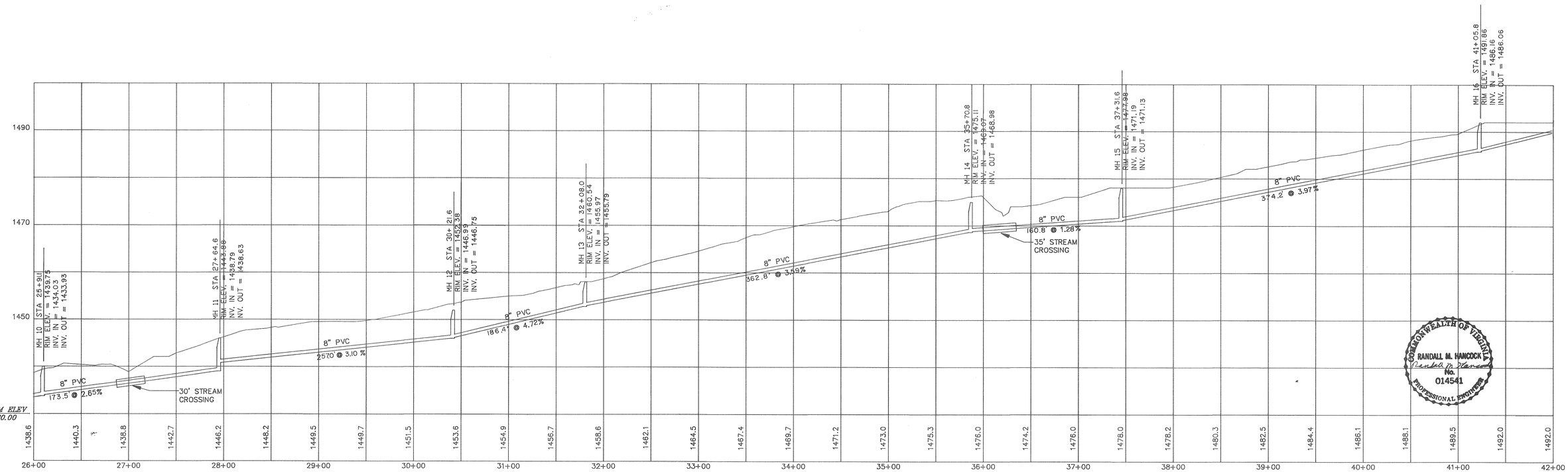
REVISIONS: 8 JUNE 1989

SCALE: 1"=50'

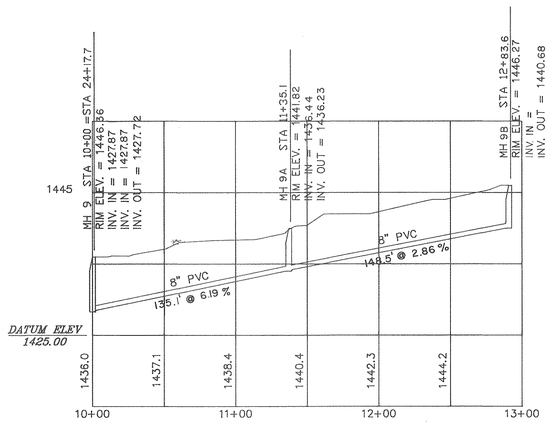
PLAN No T-5549

SHEET 7 OF 21





DRAPER – ADEN ASSOCIATES, INC. CONSULTING ENGINEERS BLACKSBURG, VIRGINIA	DESIGNED RMH DRAWN HP-7580B CHECKED RMH DATE	SANITARY SEWER PROFILE CAMP 25 WATER & SEWER EXTENSION	REVISIONS :	SCALE : HORIZ. 1"=50' VERT. 1"=10' PLAN Nº T-5549	SHEET 8 OF 21



COMMONWEALTH OF VIRGINIA
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PROFESSIONAL ENGINEER

DRAPER – ADEN ASSOCIATES, INC.
CONSULTING ENGINEERS
BLACKSBURG, VIRGINIA

DESIGNED RMH
DRAWN HP-7580B
CHECKED RMH
DATE

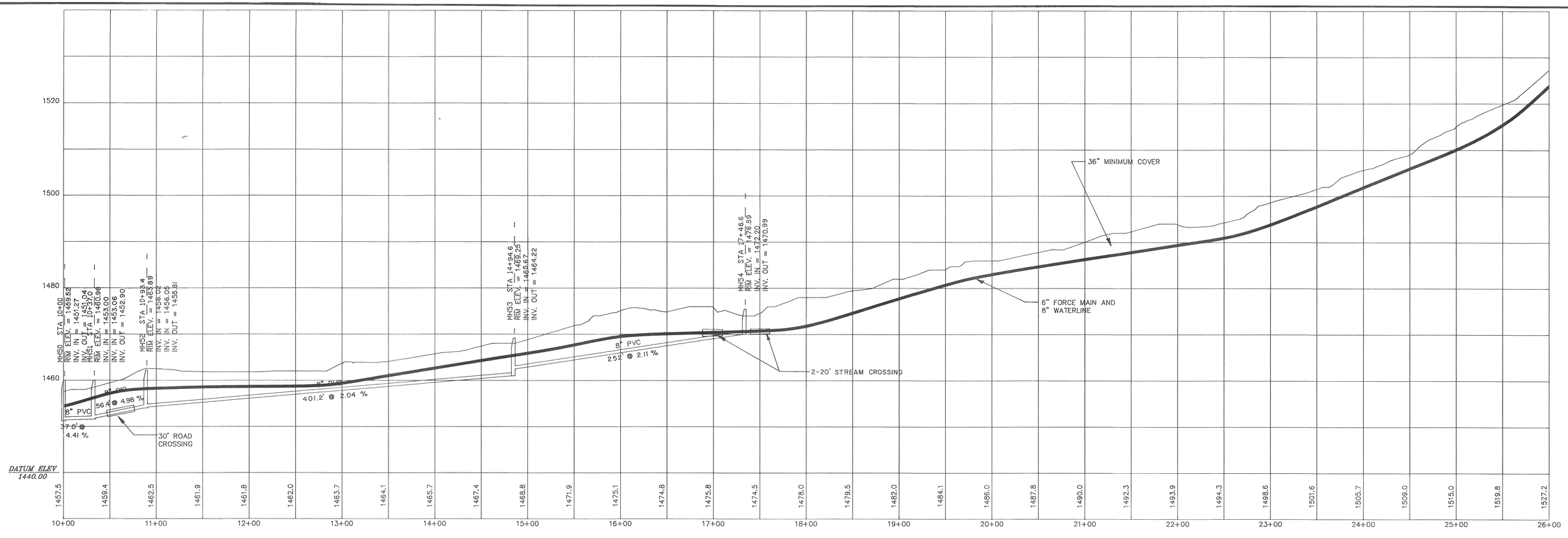
SANITARY SEWER PROFILE
CAMP 25 WATER & SEWER EXTENSION

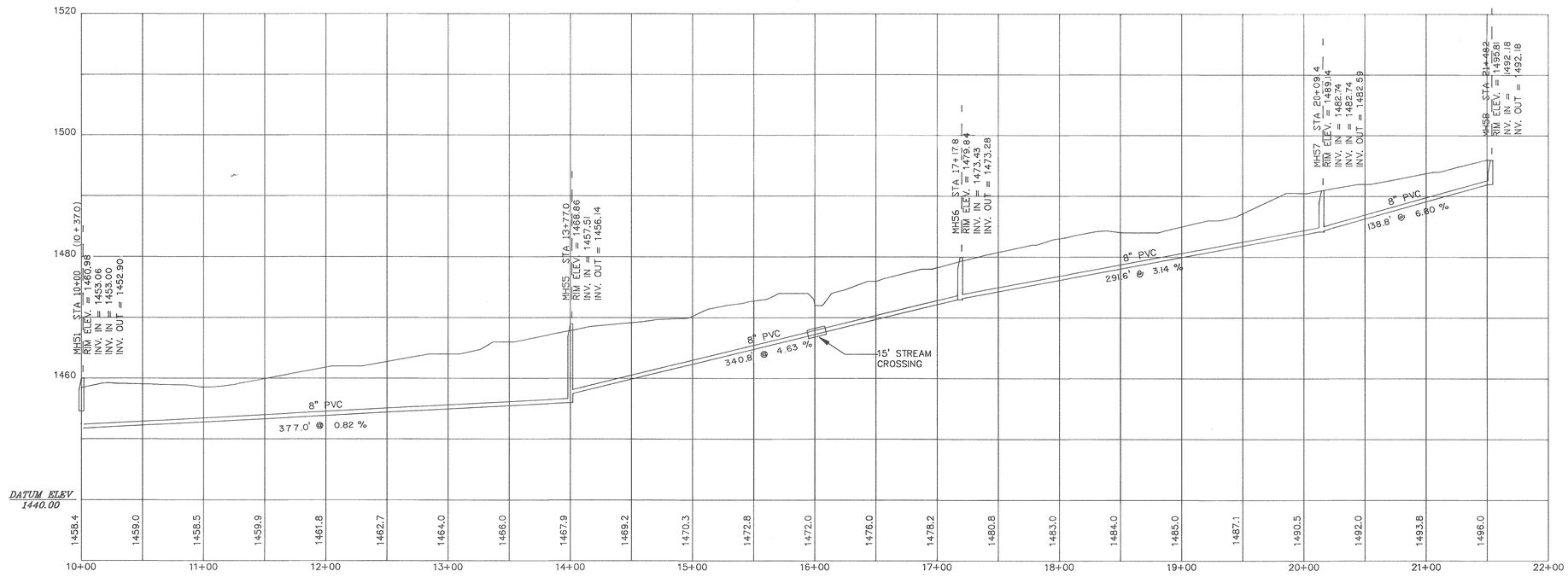
REVISIONS: 9 JUNE 1989

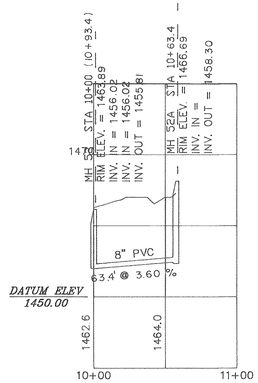
SCALE: HORIZ. 1"=50'
VERT. 1"=10'

PLAN Nº T-5549

SHEET 9 OF 21







COMMONWEALTH OF VIRGINIA
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DRAPER – ADEN ASSOCIATES, INC.
CONSULTING ENGINEERS
BLACKSBURG, VIRGINIA

DESIGNED RMH
DRAWN HP-7580B
CHECKED RMH
DATE

SANITARY SEWER AND WATER PROFILE

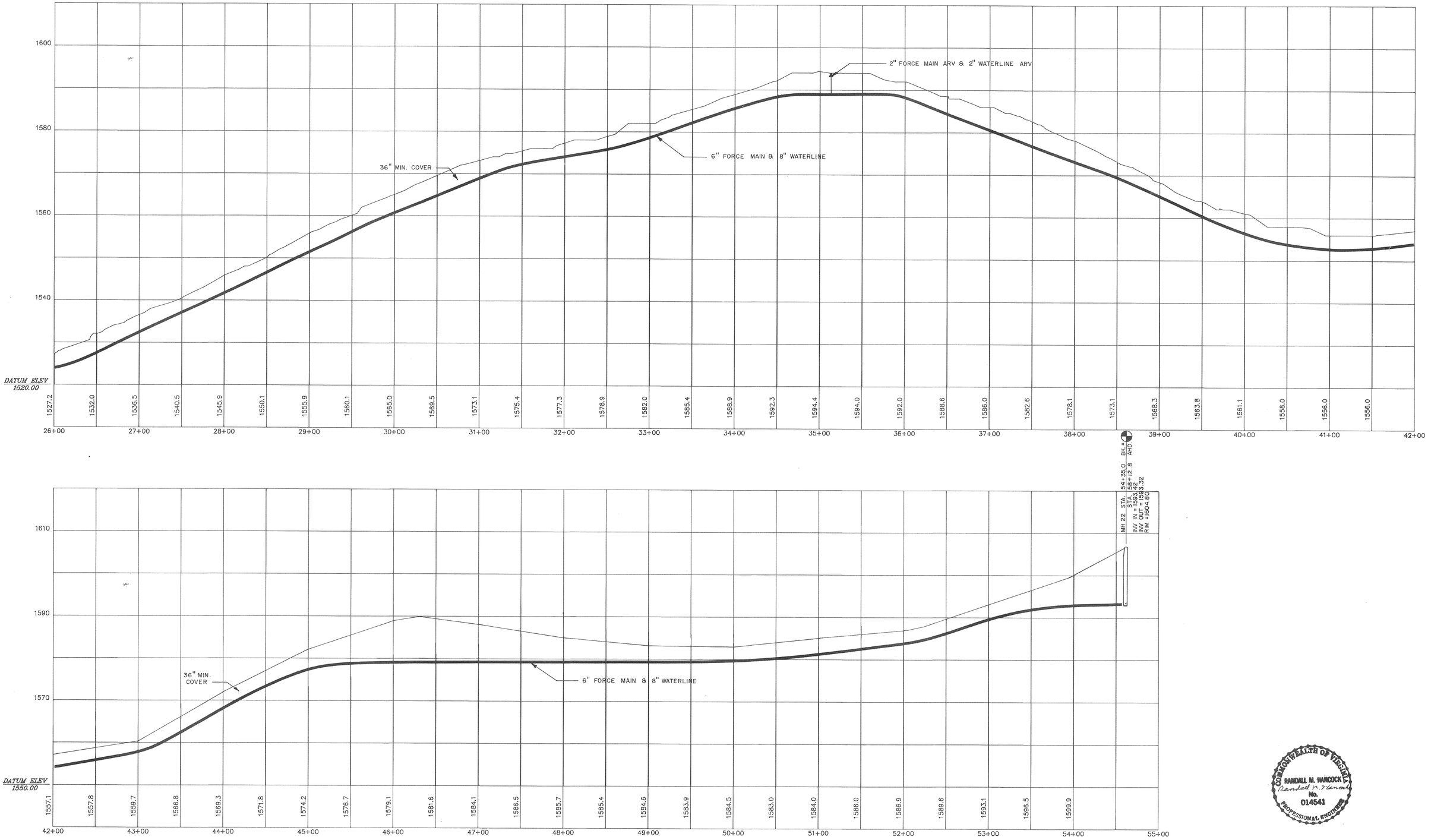
CAMP 25 WATER & SEWER EXTENSION

REVISIONS :

SCALE : HORIZ. 1"=50'
VERT. 1"=10'

PLAN Nº T-5549

SHEET 10 OF 21



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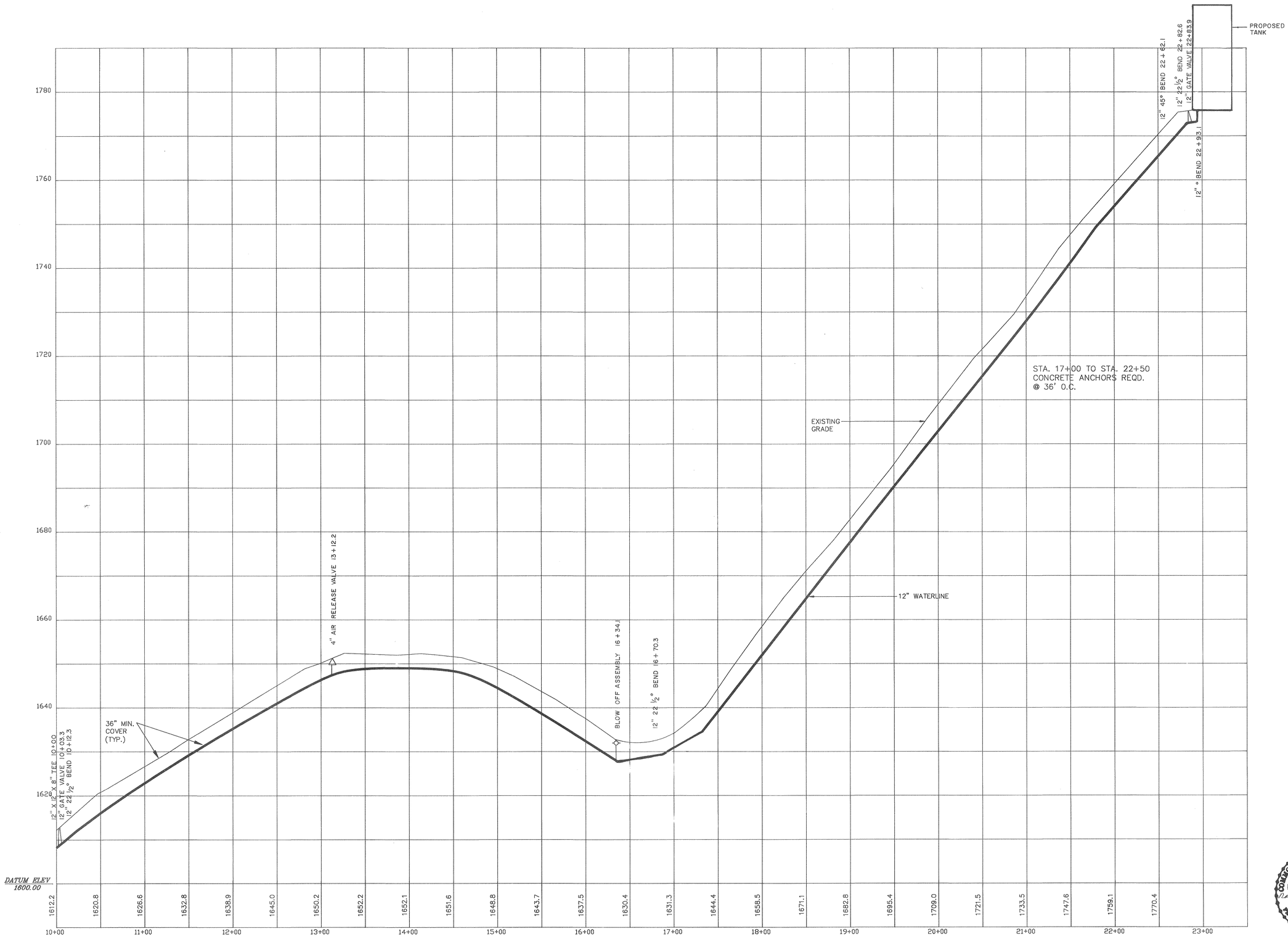
DRAPER – ADEN ASSOCIATES, INC. CONSULTING ENGINEERS BLACKSBURG, VIRGINIA	DESIGNED RMH DRAWN HP-7580B CHECKED RMH DATE	SANITARY SEWER AND WATER PROFILE CAMP 25 WATER & SEWER EXTENSION	REVISIONS :	SCALE : HORIZ. 1" = 50' VERT. 1" = 10' PLAN Nº T-5549	SHEET 11 OF 21



COMMONWEALTH OF VIRGINIA
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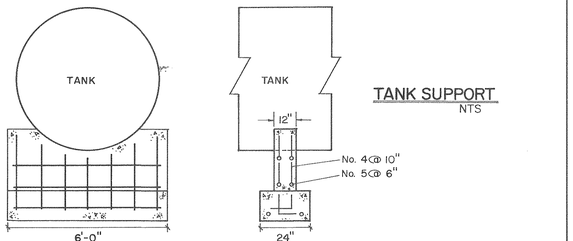
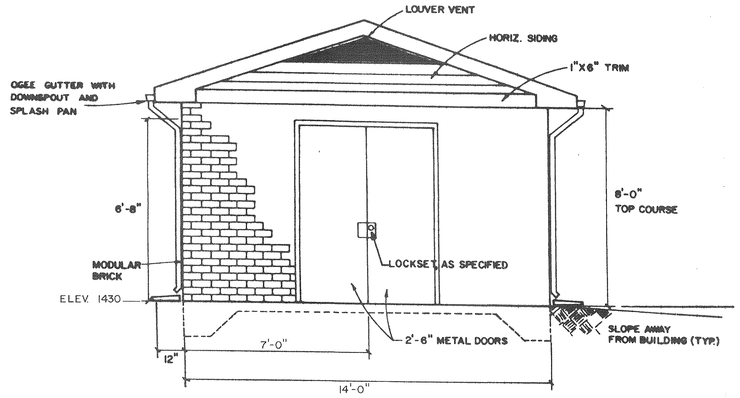
PROFESSIONAL ENGINEER

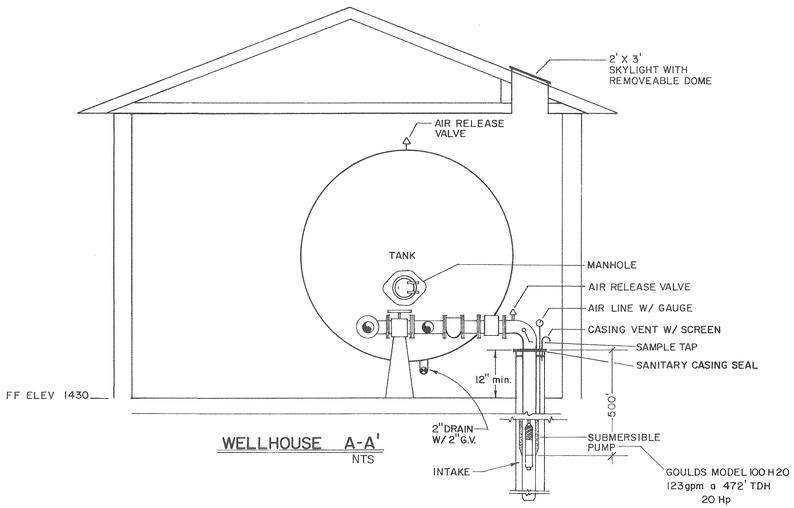
DRAPER – ADEN ASSOCIATES, INC. CONSULTING ENGINEERS BLACKSBURG, VIRGINIA	DESIGNED RMH DRAWN HP-7580 B CHECKED RMH DATE	WATERLINE PROFILE AND TANK LINE CAMP 25 WATER & SEWER EXTENSION	REVISIONS: 8 JUNE 1989	SCALE: VERT. 1" = 10' HORIZ. 1" = 50' PLAN Nº T-5549	SHEET 12 OF 21



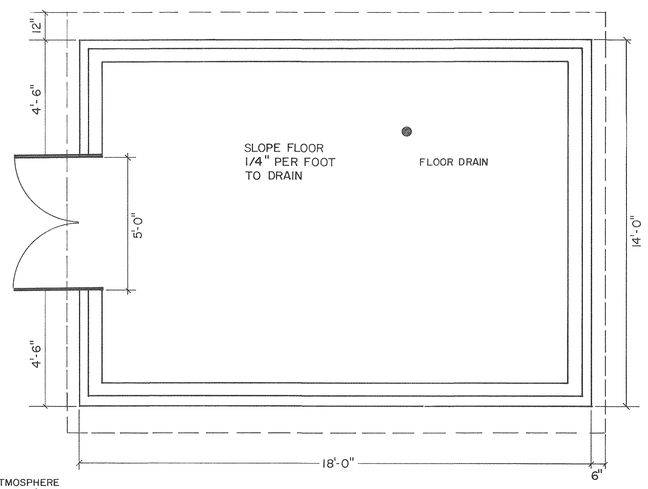
TANK SUPPORT
NTS

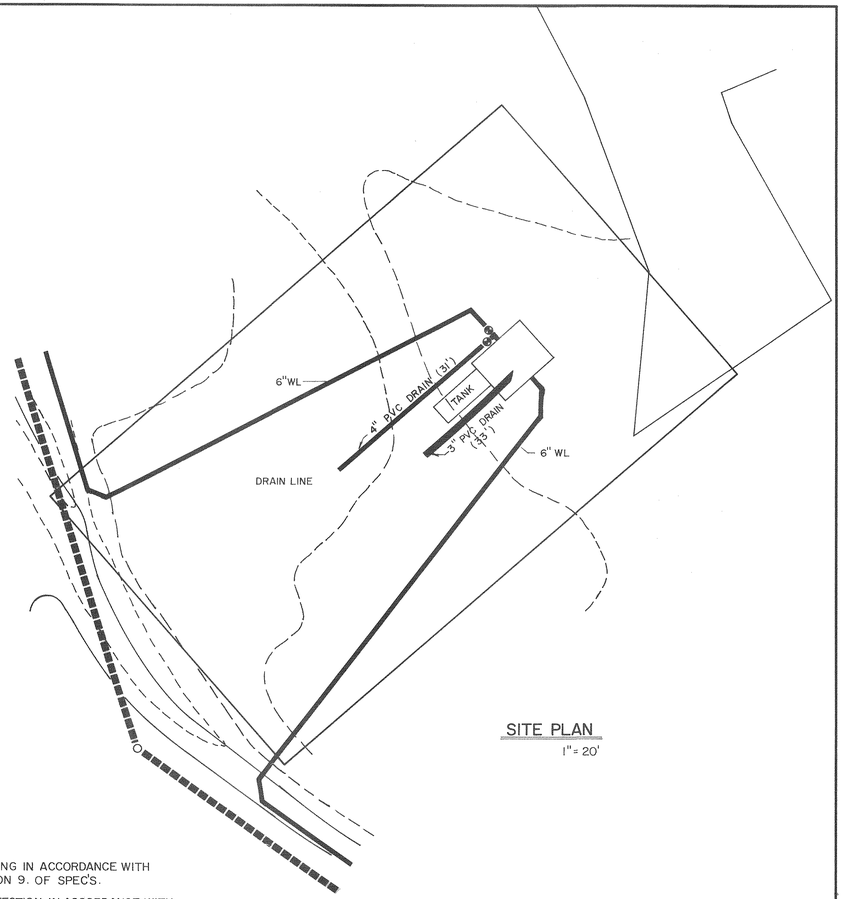


FRONT ELEVATION
NTS



WELLHOUSE A-A'
NTS

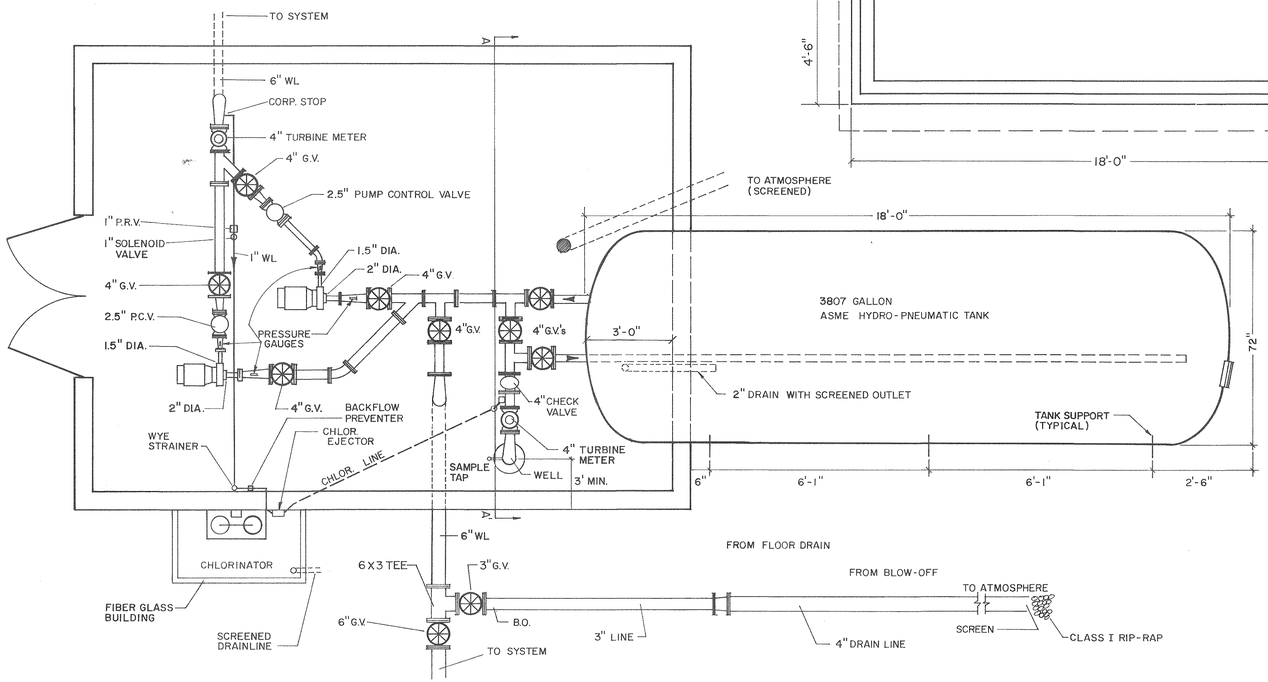




SITE PLAN
1" = 20'

NOTES:

1. PAINTING IN ACCORDANCE WITH DIVISION 9. OF SPEC'S.
2. DISINFECTION IN ACCORDANCE WITH SECTION - 02760.



WELLHOUSE LAYOUT
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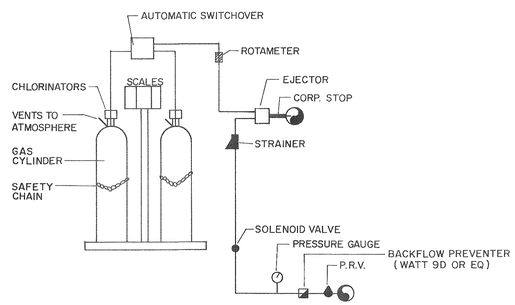
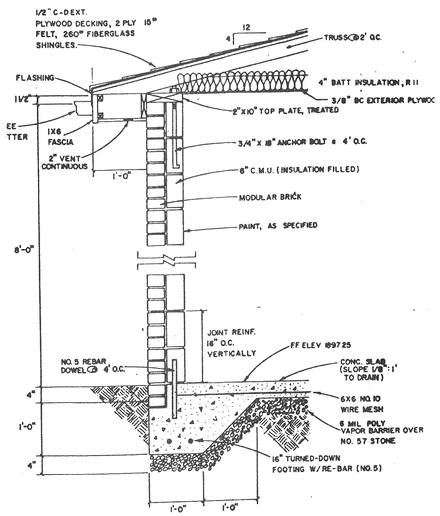


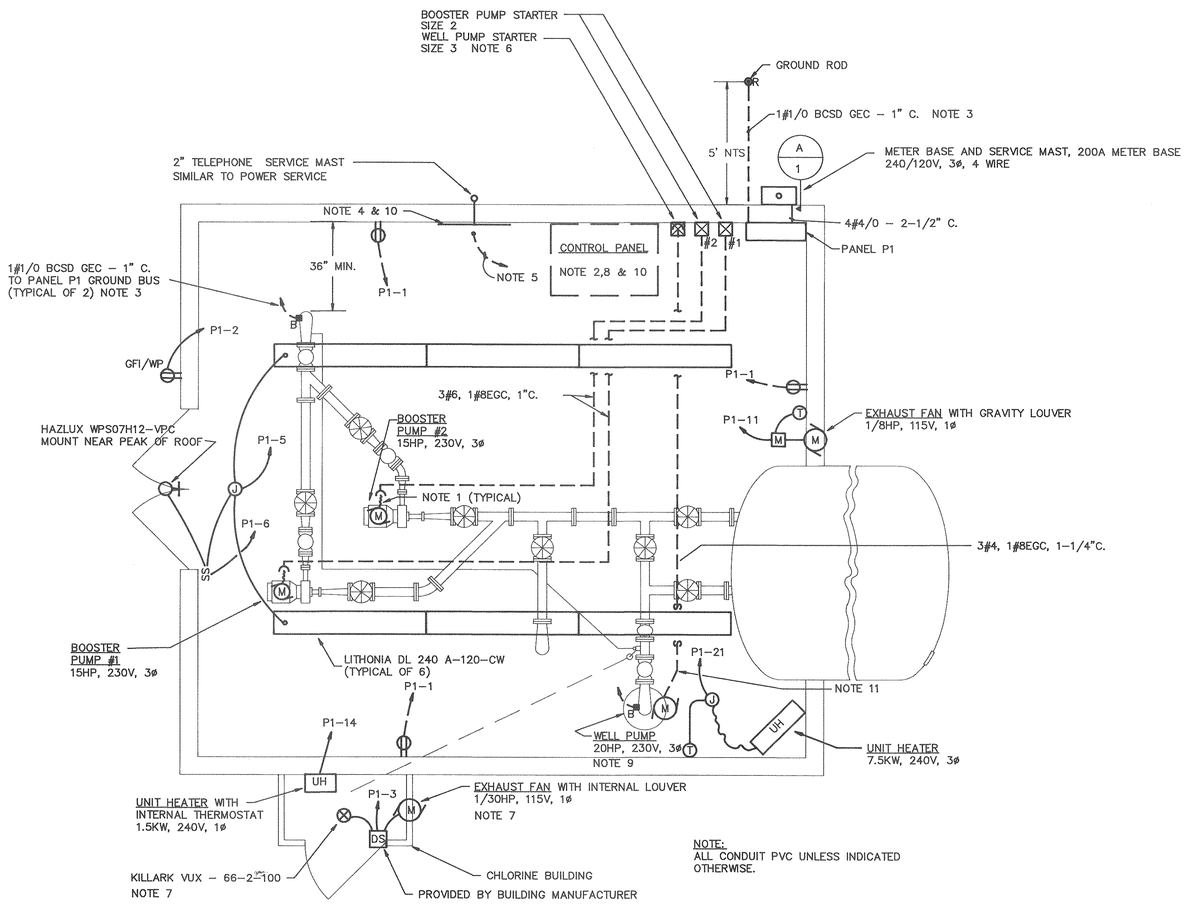
CHLORINATION SYSTEM
NTS



TYPICAL WALL SECTION
NO SCALE

COMMONWEALTH OF VIRGINIA
RANDALL M. HANCOCK
No. 014541
PROFESSIONAL ENGINEER

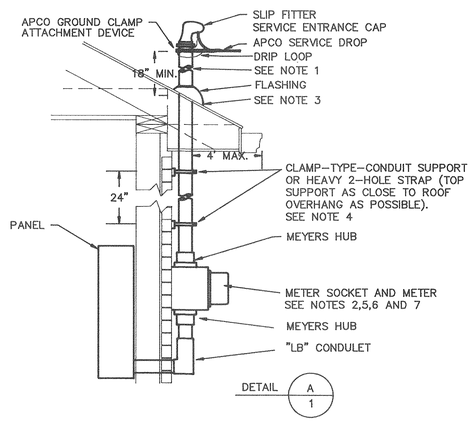
Draper Aden Associates CONSULTING ENGINEERS Blacksburg · Richmond, Virginia	DESIGNED RMH DRAWN CBK CHECKED WAA DATE JULY 1989	PUMP STATION BUILDING DETAILS (WATER) WELL No. 4 CAMP 25 WATER & SEWER EXTENSION	BOTETOURT COUNTY VIRGINIA	REVISIONS: 8-23-89 11-16-89	SCALE: AS SHOWN PLAN Nº T-5549	SHEET 13 OF 21



WELL #4 POWER & LIGHTING PLAN

SCALE: NONE

(BUILDING APPROX. OUTSIDE DIMENSIONS 16' X 18')



SERVICE MAST INSTALLATION

SCALE: NONE

PLAN NOTES:

1. COORDINATE CONDUIT TURN UPS WITH MOTOR SPLICE BOX LOCATION
2. LEAVE SUFFICIENT CABLE FOR CONNECTIONS TO BE MADE BY OTHERS.
3. STUB UP CONDUITS 3" ABOVE FINISHED FLOOR BENEATH PANEL P BUT DO NOT CONNECT TO PANEL. BOND CONDUCTORS TOGETHER AND EXTEND 1#1/0 UP INTO PANEL. MAKE BONDS USING EXOTHERMIC WELD PROCESS OR SQUEEZE ON TYPE COMPRESSION CONNECTORS.
4. 24" X 24" X 3/4" PLYWOOD PANEL FOR TELEPHONE COMPANY POINT OF DEMARCATION EQUIPMENT.
5. 1#6 BCSD EGC – 3/4" C. TO PANEL P1. SEE NOTE 3. (FOR USE BY TELEPHONE COMPANY).
6. PUMP STARTER SHALL BE PROVIDED BY OWNER.
7. WHEN THE DOOR IS OPEN BOTH FAN AND LIGHT SHALL BE ON.
8. RUN 4" X 4" WIREWAY ABOVE CONTROL PANEL, STARTERS AND PANEL P1. INTERCONNECT WITH PVC CONDUIT OR RIGID GALVANIZED STEEL CONDUIT NIPPLES FOR POWER WIRING. IN ADDITION INSTALL 3/4" EMPTY PVC CONDUIT OR NIPPLES TO STARTERS FOR CONTROL CABLING BY DIV 17 CONTRACTOR. INTERCONNECT WIREWAY AND CONTROL PANEL WITH 2" PVC OR NIPPLE.
9. WELL PUMP MAY BE UPSIZED TO 25HP. EXISTING WIRE SIZE AND STARTER ARE SATISFACTORY.
10. BY DIV 17 CONTRACTOR.
11. TURN CONDUIT UP 12" ABOVE FINISHED FLOOR TO RECEIVE WELL MOTOR CABLE FROM WELL HEAD. PROVIDE END CAP (OBTAIN FROM PLUMBING SUPPLY HOUSE) AND MACHINE OPENING IN CAP TO MATCH SHAPE OF WELL MOTOR CABLE. SLIP CAP OVER WELL CABLE BEFORE PULLING CABLE TO STARTER. AFTER PULLING CABLE, POSITION CAP ON STUBUP TO PREVENT ENTRY OF DEBRIS. DO NOT GLUE.

SERVICE MAST INSTALLATION NOTES:

1. 4#4/0 – 2–1/2" RIGID GALVANIZED STEEL CONDUIT.
2. METER SOCKET SHALL BE FURNISHED BY APCO AND INSTALLED BY CONTRACTOR.
3. IF ROOF MOUNTING PLATE IS NOT USED, MAST MUST BE SECURLY LOCKED IN PLACE BY A SUITABLE BRIDGING BETWEEN ROOF RAFTERS.
4. ON CINDER BLOCK, VENEER OR SIMILAR WALLS, CONDUIT HANGER OR STRAP MUST BE BOLTED THROUGH WALL.
5. A 3' MINIMUM CLEARANCE MUST BE MAINTAINED IN FRONT OF THE METER EXTENDING TO THE GROUND.
6. A 6" SPACE MUST BE MAINTAINED FROM OBSTRUCTIONS ABOVE, BELOW AND TO EITHER SIDE OF THE METER BASE.
7. THE CENTER OF THE MAST SHOULD BE AT A PREFERRED HEIGHT OF 5' WITH 4' AS A MINIMUM AND 6' AS A MAXIMUM.

PANEL "P1" SCHEDULE FOR WELL #4

PANELBOARD CHARACTERISTICS:

VOLTS: 240/120 — MAIN BREAKER: 400 AF, 300 AT — SERVICE ENTRANCED RATED
PHASES: 3 — MINIMUM SHORT CIRCUIT RATING: 22,000 RMS SYM AMPS — INCOMING LINE:BOTTOM
WIRES: 4 (DELTA)
SOLID NEUTRAL, GROUND BAR

CKT. NO.	POLE NO.	DESCRIPTION	KVA	AMPS A	AMPS B	AMPS C	BREAKER P	BREAKER AF	BREAKER AT	NO. & WIRE SIZE PHASE	NO. & WIRE SIZE NEUT.	NO. & WIRE SIZE EGC	CONDUIT SIZE
1	1	RECEPTACLES: INTERIOR	1.20	10.0	—	—	1	100	20	12	12	12	3/4
3	3	CHLOR. BLDG. LIGHTS & FAN	0.32	2.65	—	—	1	100	20	12	12	12	3/4
5	5	LIGHTS: INTERIOR	0.40	—	—	3.3	1	100	20	12	12	12	3/4
7	7	SPARE	–		—	—	1	100	20	–	–	–	–
9	9	SPARE	–		—	—	1	100	20	–	–	–	–
11	11	EXHAUST FAN	0.50	4.2	—	—	1	100	20	12	12	12	3/4
15	13	BOOSTER PUMP #1 STARTER	16.7	42	—	—	3	100	100	6	–	8	1
	15			—	42	—				6			
	17			—	—	42				6			
21	19	UNIT HEATER	7.50	31.3	—	—	3	100	50	6	–	10	1
	21			—	31.3	—				6			
	23			—	—	31.3				6			
27	25	BOOSTER PUMP #2 STARTER	16.7	42	—	—	3	100	100	6	–	8	1
	27			—	42	—				6			
	29			—	—	42				6			
	31	SPACE & BUS ONLY	–	–	—	—	–	–	–	–	–	–	–
33	33	SPACE & BUS ONLY	–	—	–	—	–	–	–	–	–	–	–
	35	SPACE & BUS ONLY	–	—	—	–	–	–	–	–	–	–	–
39	37	PHASE MONITORING RELAY	0.1	0.1	—	—	3	100	15	BY DIV 17 CONTRACTOR			
	39			—	0.1	—							
	41			—	—	0.1							
2	2	RECEPTACLE: EXTERIOR	1.20	10.0	—	—	1	100	20	12	12	12	3/4
–	4	SPARE	–	—	—	—	1	100	20	–	–	–	–
6	6	LIGHT: EXTERIOR	0.10	—	—	0.8	1	100	20	12	12	12	3/4
10	8	SPARE	1.20	—	10.0	—	2	100	20				
	10			—	—	–							
14	12	CHLORINE BUILDING HEATER	1.5	6.2	—	—	2	100	20	12	–	12	3/4
	14			—	6.2	—				12			
18	16	WELL PUMP STARTER	21.5	54	—	—	3	100	100	BY DIV 15 CONTRACTOR			2–1/2
	18			—	54	—							
	20			—	—	54							
	22	SPARE	–	—	–	—	3	100	100	–	–	–	–
	24			—	—	–				–			
	26			–	—	—				–			
	28	SPACE & BUS ONLY	–	—	–	—	–	–	–	–	–	–	–
	30	SPACE & BUS ONLY	–	—	—	–	–	–	–	–	–	–	–
	32	SPACE & BUS ONLY	–	–	—	—	–	–	–	–	–	–	–
	34	SPACE & BUS ONLY	–	—	–	—	–	–	–	–	–	–	–
	36	SPACE & BUS ONLY	–	—	—	–	–	–	–	–	–	–	–
	38	SPACE & BUS ONLY	–	–	—	—	–	–	–	–	–	–	–
40	40	CONTROL PANEL	1.2	—	5.0	—	2	100	15	BY DIV 17 CONTRACTOR			
	42			—	—	5.0							
		TOTALS	70.12	202.45	190.6	178.5							

DO NOT MAKE ANY 120 VOLT CONNECTIONS TO PHASE B

COMMONWEALTH OF VA. WALTER G. MOTT No. 674 PROFESSIONAL ENGR.

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Lynchburg, Virginia

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DRAWN	J.H.R.
CHECKED	WGM
DATE	8/16/89

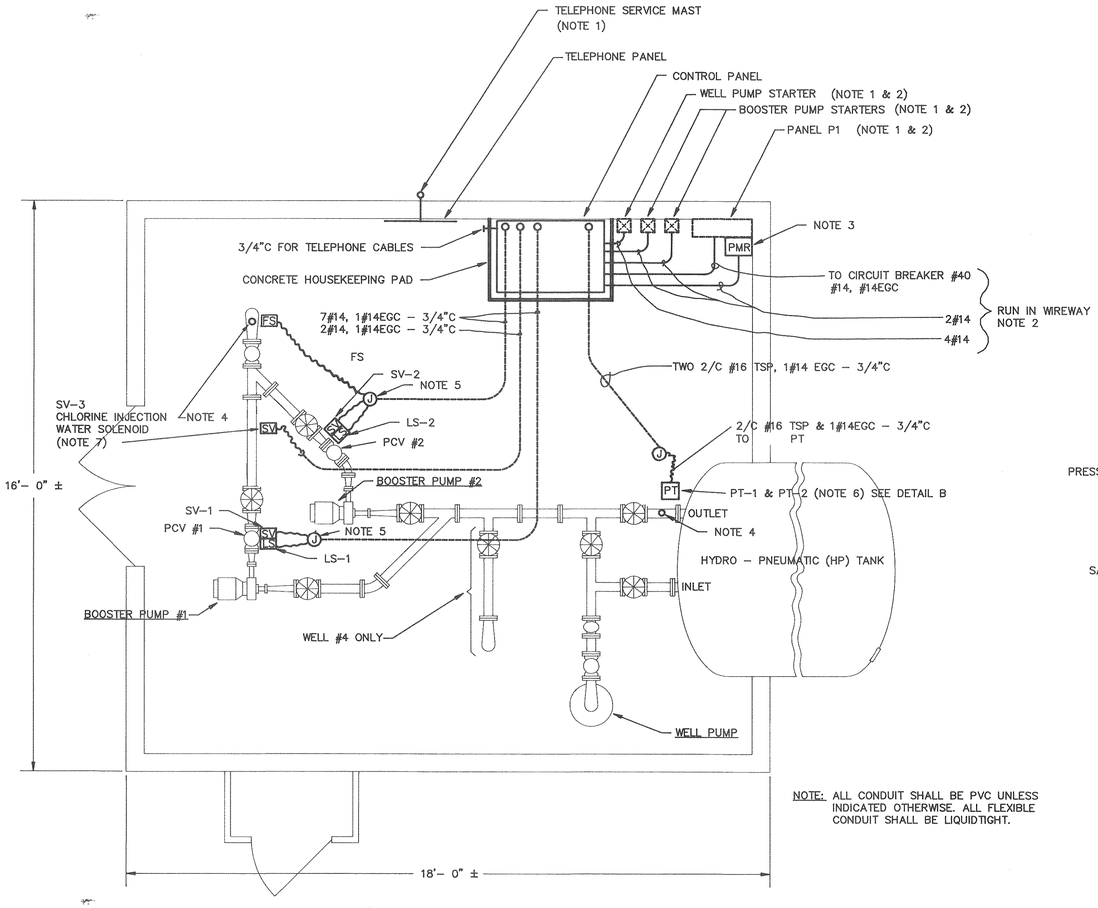
PUMP STATION ELECTRICAL (WELL #4)
CAMP 25 WATER & SEWER EXTENSION
BOTETOURT COUNTY, VIRGINIA

REVISIONS:

SCALE: AS SHOWN

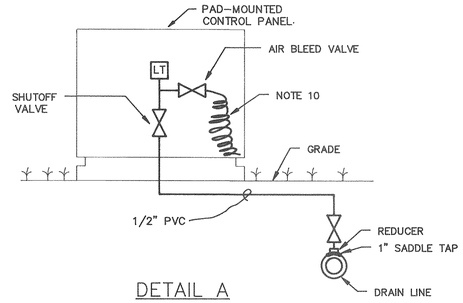
PLAN Nº T–5549

SHEET 14 OF 21

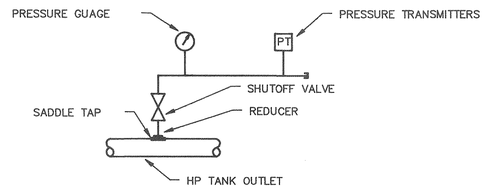


NOTE: ALL CONDUIT SHALL BE PVC UNLESS INDICATED OTHERWISE. ALL FLEXIBLE CONDUIT SHALL BE LIQUIDTIGHT.

INSTRUMENTATION AND CONTROL PLAN
TYPICAL FOR WELLS #3 & #4
SCALE: NONE



DETAIL A
NOT TO SCALE



DETAIL B
NOT TO SCALE

NOTES:

1. BY DIVISION 16 CONTRACTOR
2. DIVISION 16 CONTRACTOR WILL INSTALL A 4" X 4" WIREWAY ABOVE CONTROL PANEL, STARTERS AND PANEL P1 AND INTERCONNECT WITH CONDUIT FOR CONTROL CABLING.
3. CLOSE NIPPLE PMR TO PANEL P1. CONNECT TO CIRCUIT BREAKER #39 USING 3#14 – 3/4" NIPPLE.
4. INSTALL 1" NPT FEMALE SADDLE TAP FOR FLOW SWITCH OR PRESSURE TAP, AS APPLICABLE.
5. INSTALL JUNCTION BOX ON CONDUIT STUB UP APPROXIMATELY 18" ABOVE FLOOR. COORDINATE STUB UP LOCATION WITH VALVE LOCATION. RUN 2#16–3/8" FLEX TO EACH LS AND SV. RUN 3#16 – 3/8" FLEX TO FS. STRAP FLEX TO FS TO PIPING USING TY–WRAPS.
6. INSTALL JUNCTION BOX ON CONDUIT STUB UP APROX. 18" ABOVE FLOOR. INSTALL PT'S ON A COMMON HEADER WITH PRESSURE GAGE VALVED OFF OF HP TANK OUTLET PIPE. TRANSMITTER SPAN AND GAGE SCALE SHALL BE 0 TO 200 PSI.
7. BY DIVISION 15 CONTRACTOR.
8. PROVIDE 3" RAISED AREA DIRECTLY BENEATH CONTROL PANEL TO PREVENT RAIN FROM RUNNING BENEATH CONTROL PANEL. DIMENSION OF RAISED AREA SHALL BE 1" LESS THAN OUTSIDE DIMENSIONS OF PANEL FOOTPRINT.
9. COORDINATE STUB UPS THROUGH PAD WITH DIVISION 16 CONTRACTOR.
10. FLEXIBLE TUBING COILED WITHIN CABINET. PROVIDE SUFFICIENT LENGTH (6'±) TO ALLOW WATER TO DRAIN OUT ON LAWN DURING AIR PURGING.

PLAN AT OFFSITE TANK
SCALE: 1" = 5' ±

INSTRUMENT PLAN LEGEND

LT	LEVEL TRANSMITTER
PT	PRESSURE TRANSMITTER
FS	FLOW SWITCH
SV	SOLENOID VALVE (NOTE 7)
LS	LIMIT SWITCH (NOTE 7)
-----	CONDUIT RUN BELOW SLAB OR GRADE
J	JUNCTION BOX
PCV	PUMP CONTROL VALVE
PMR	PHASE MONITORING RELAY

ABBREVIATIONS

C	CONDUIT
EGC	EQUIPMENT GROUNDING CONDUCTOR
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINAL CHLORIDE
TP	TWISTED PAIR
TSP	TWISTED, SHIELDED PAIR
WC	WATER COLUMN

COMMONWEALTH OF VIRGINIA
WALTER G. MILES
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DRAWN	J.H.R.
CHECKED	WGM
DATE	8/16/89

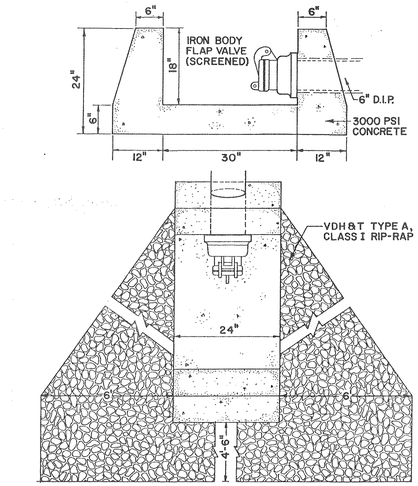
PUMP STATION INSTRUMENTATION AND CONTROL
CAMP 25 WATER & SEWER EXTENSION
BOTETOURT COUNTY, VIRGINIA

REVISIONS:

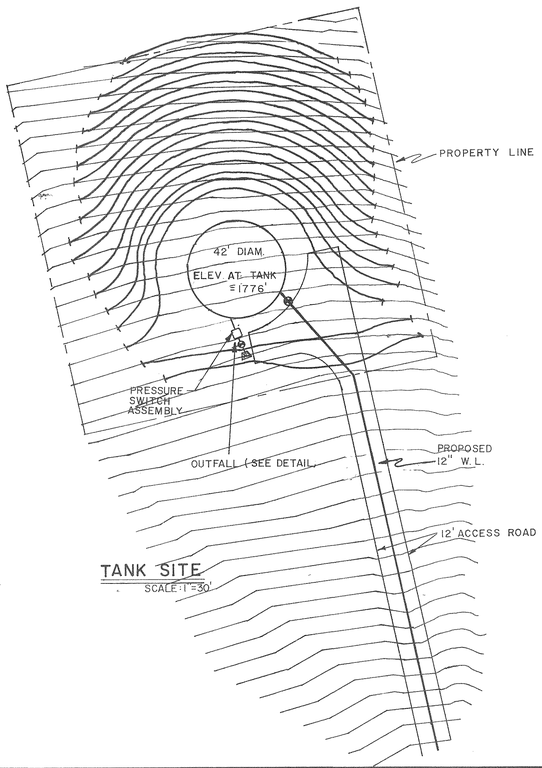
SCALE: AS NOTED

PLAN Nº T-5549

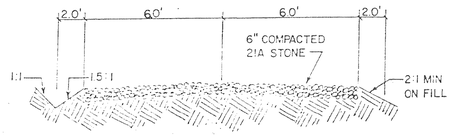
SHEET 14A OF 21



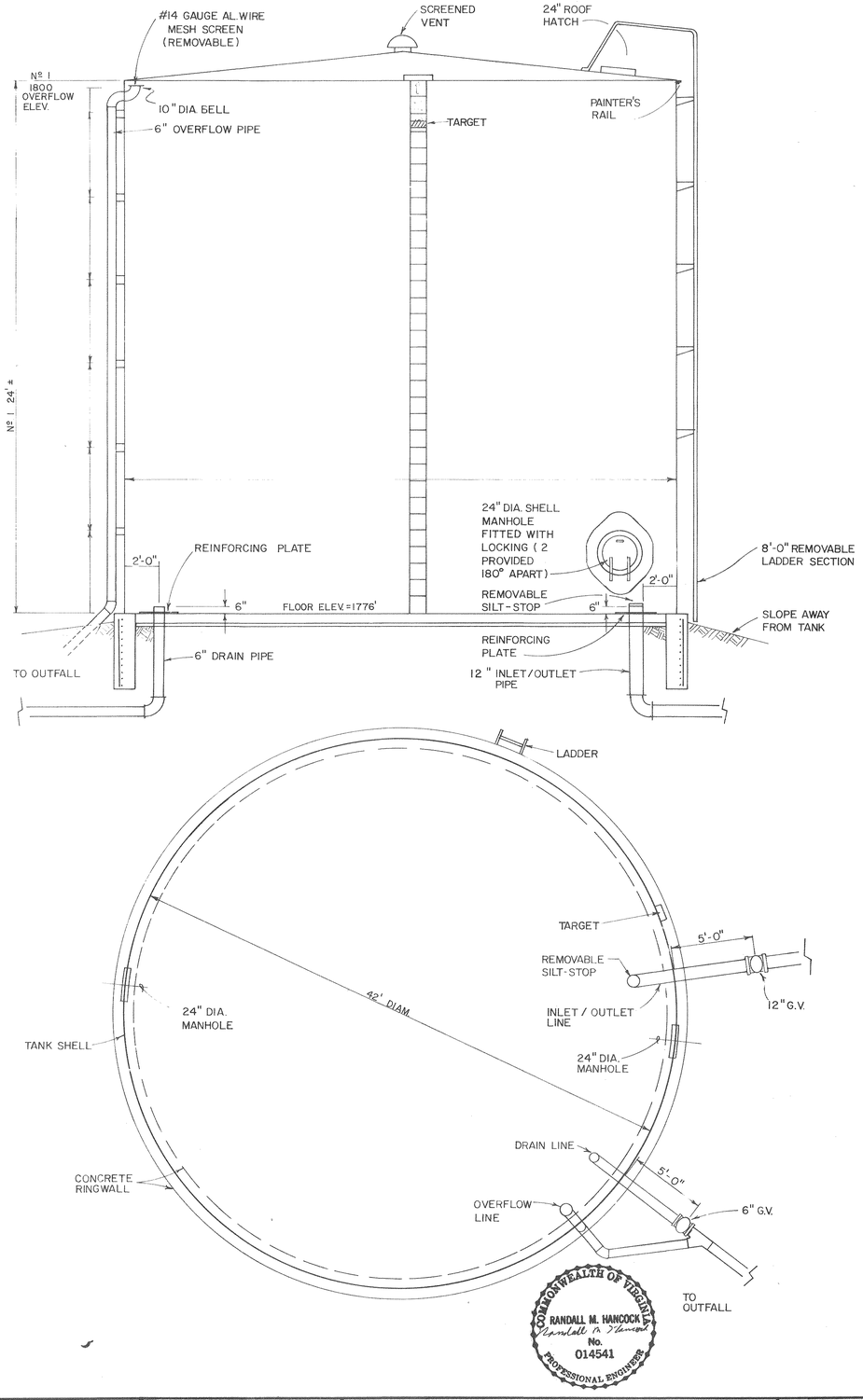
TANK DRAIN OUTFALL DETAIL
NO SCALE



TANK SITE
SCALE: 1"=30'



TYPICAL SECTION
ACCESS ROAD
NO SCALE



COMMONWEALTH OF VIRGINIA
RANDALL M. HANCOCK
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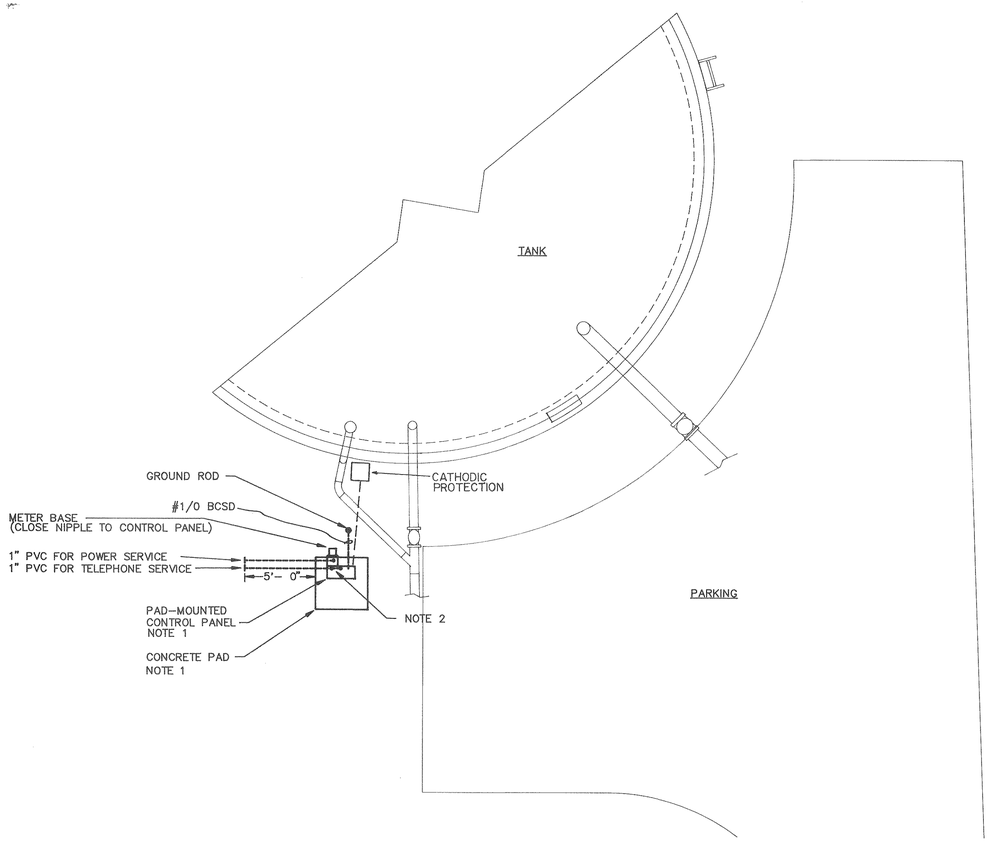
DRAPER – ADEN ASSOCIATES, INC. CONSULTING ENGINEERS BLACKSBURG, VIRGINIA	DESIGNED RMH DRAWN LLD CHECKED RMH DATE	WATER STORAGE TANK CAMP 25 WATER & SEWER EXTENSION	REVISIONS: 8 JUNE 1989	SCALE: AS SHOWN PLAN № T-5549	SHEET 15 OF 21



PLAN AT OFFSITE TANK

SCALE: 1" = 5' ±

NOTES:

1. BY DIVISION 17 CONTRACTOR
2. COORDINATE STUB UPS THROUGH PAD WITH DIVISION 17 CONTRACTOR.

ABBREVIATIONS

AF	AMPERE FRAME
AT	AMPERE TRIP
BCSD	BARE COPPER SOFT DRAWN
C	CONDUIT
EGC	EQUIPMENT GROUNDING CONDUCTOR
GEC	GROUNDING ELECTRODE CONDUCTOR
GFI	GROUND FAULT INTERRUPTER
PVC	POLYVINYL CHLORIDE CONDUIT
WP	WEATHERPROOF
NTS	NOT TO SCALE
PH OR ø	PHASE
S	ONE WAY SWITCH

SYMBOLS

- CONDUIT RUN EXPOSED OR ABOVE CEILING
- CONDUIT RUN BENEATH FLOOR SLAB OR BELOW GRADE
- DUPLEX RECEPTACLE
- FLUORESCENT LIGHT FIXTURE, CEILING MOUNTED
- HID LIGHT FIXTURE, WALL MOUNTED
- MECHANICAL BOND
- (T) THERMOSTAT
- (J) JUNCTION BOX
- [M] MOTOR STARTER, MANUAL
- ⊠ MOTOR STARTER, MECHANICAL
- [DS] DOOR SWITCH CLOSED WHEN DOOR IS OPEN.

COMMONWEALTH OF VIRGINIA
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DESIGNED	J.R.
DRAWN	J.H.R.
CHECKED	WGM
DATE	8/16/89

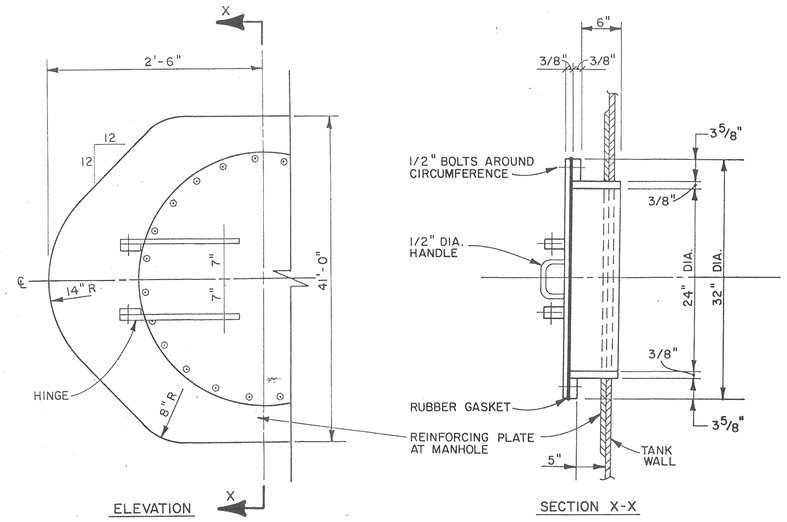
PUMP STATION ELECTRICAL
CAMP 25 WATER & SEWER EXTENSION
BOTETOURT COUNTY, VIRGINIA

REVISIONS:

SCALE: AS NOTED

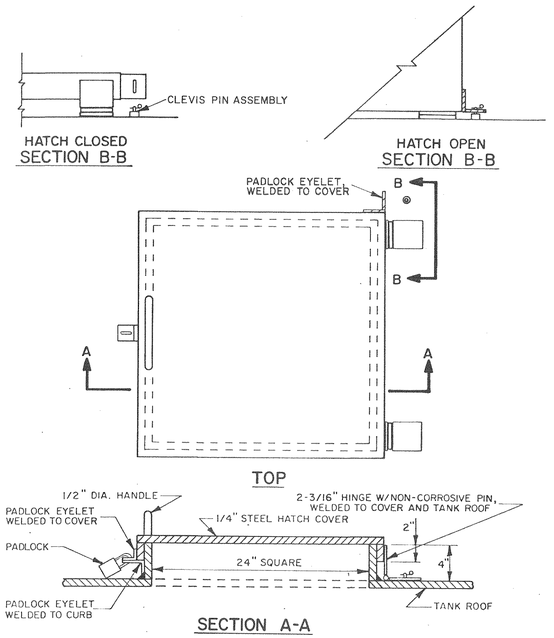
PLAN Nº T-5549

SHEET 15A OF 21



MANHOLE DETAIL

NO SCALE



ROOF HATCH DETAIL

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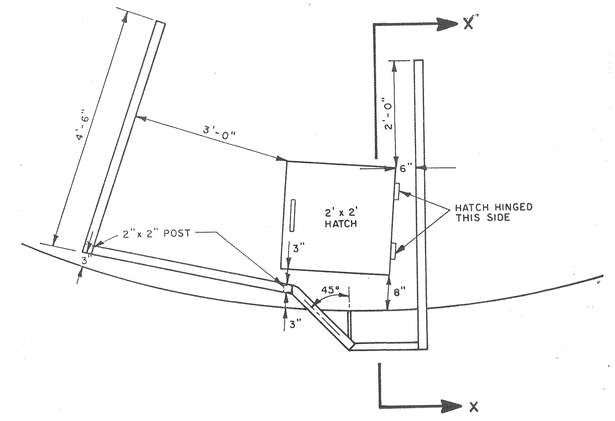

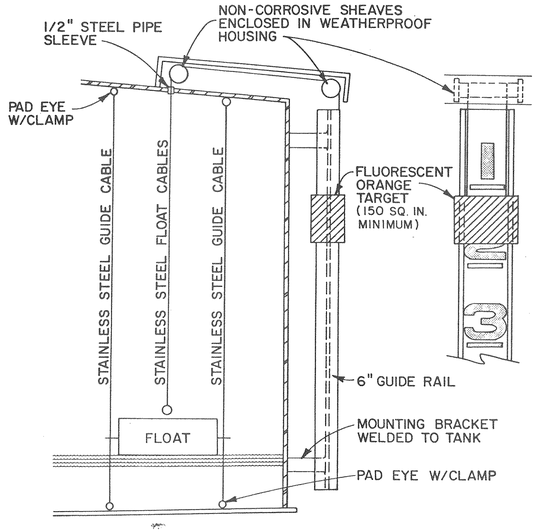

WATER LEVEL GAUGE DETAIL

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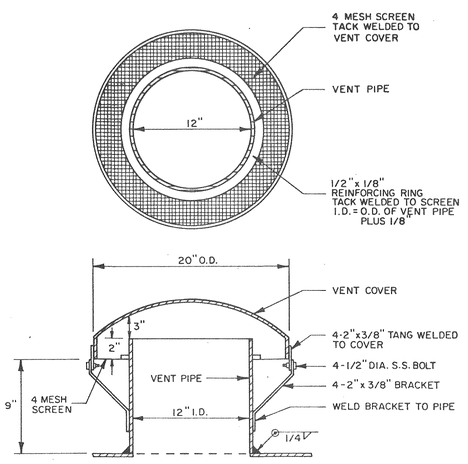

ROOF VENT DETAIL

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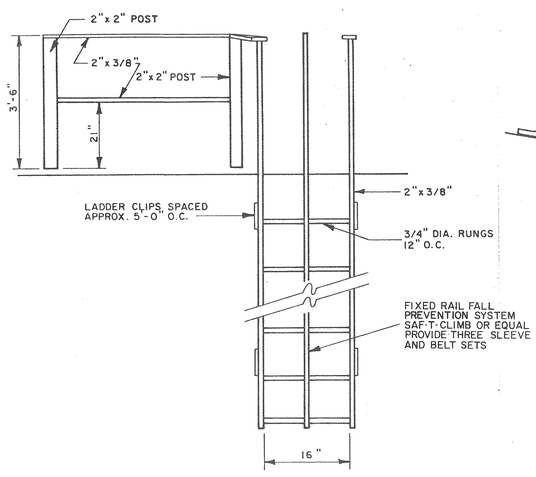
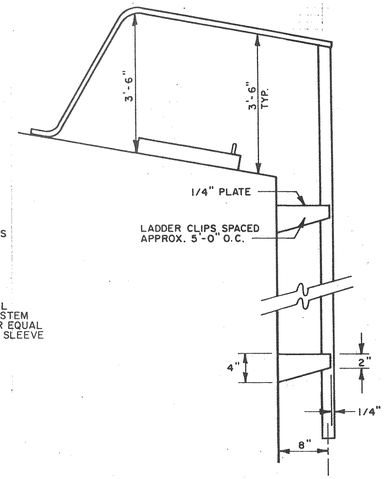


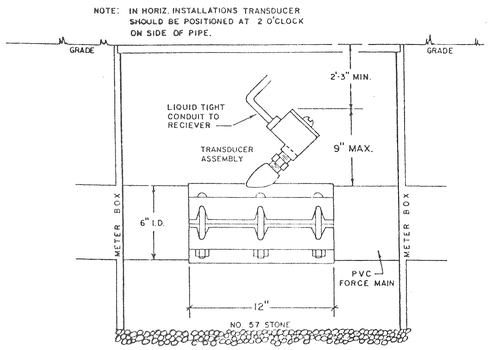


LADDER AND RAILING DETAIL

NO SCALE

COMMONWEALTH OF VIRGINIA
RANDALL M. HANCOCK
No. 014541
PROFESSIONAL ENGINEER

DRAPER – ADEN ASSOCIATES, INC. CONSULTING ENGINEERS BLACKSBURG, VIRGINIA	DESIGNED RMH DRAWN STAFF CHECKED RMH DATE	CAMP 25 WATER & SEWER EXTENSION	WATER STORAGE TANK DETAILS	REVISIONS :	SCALE : NO SCALE PLAN Nº T-5549	SHEET 16 OF 21



TRANSDUCER
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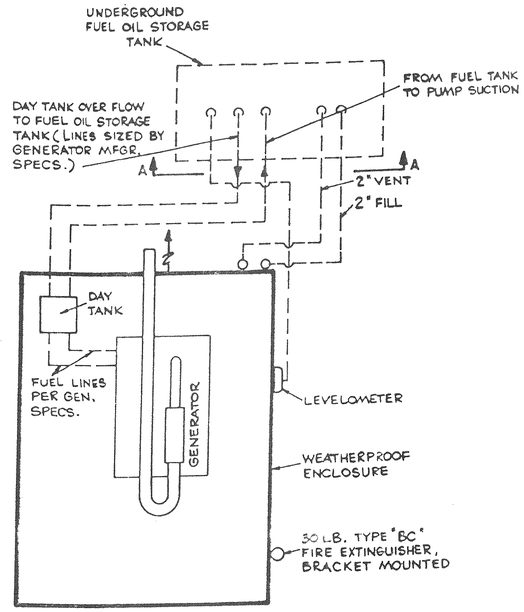
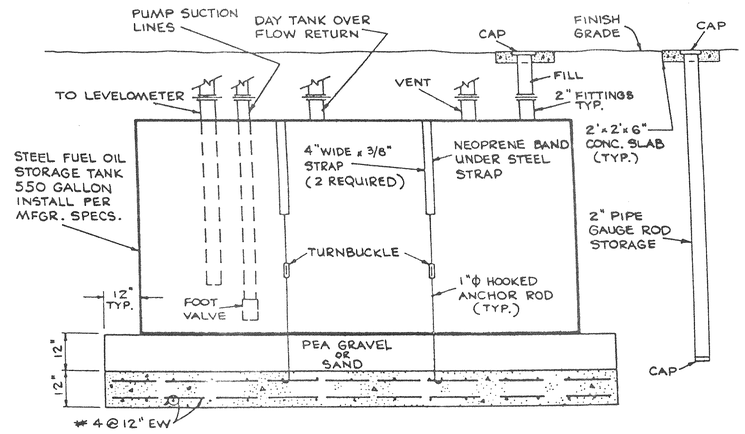
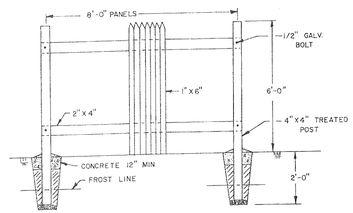


FUEL OIL PIPING DIAGRAM
NO SCALE



SECTION A-A FUEL OIL STORAGE TANK
NO SCALE



STOCKADE FENCE DETAIL
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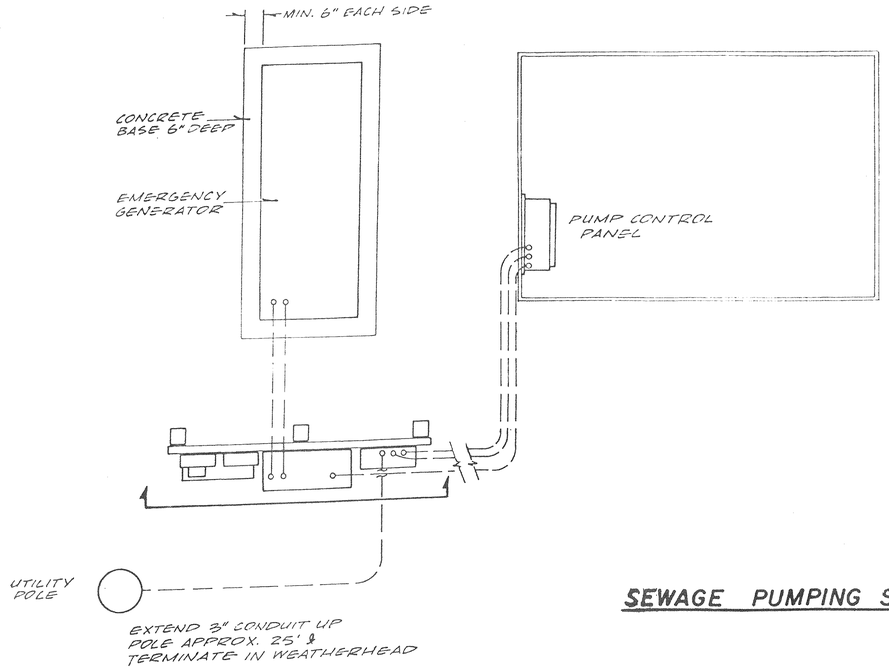
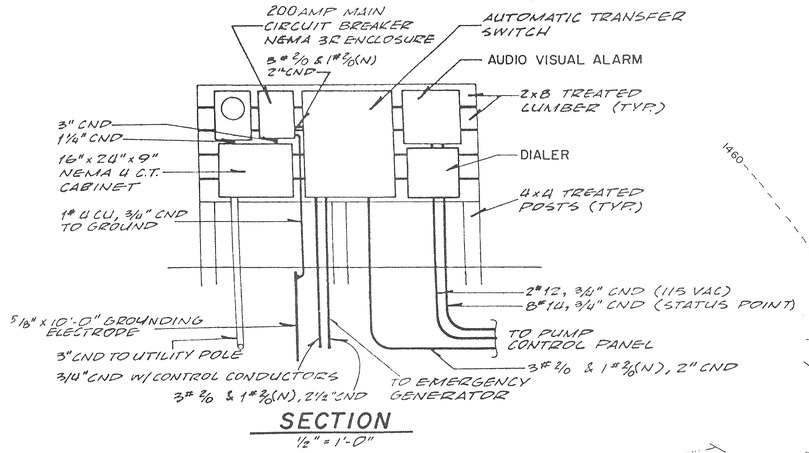
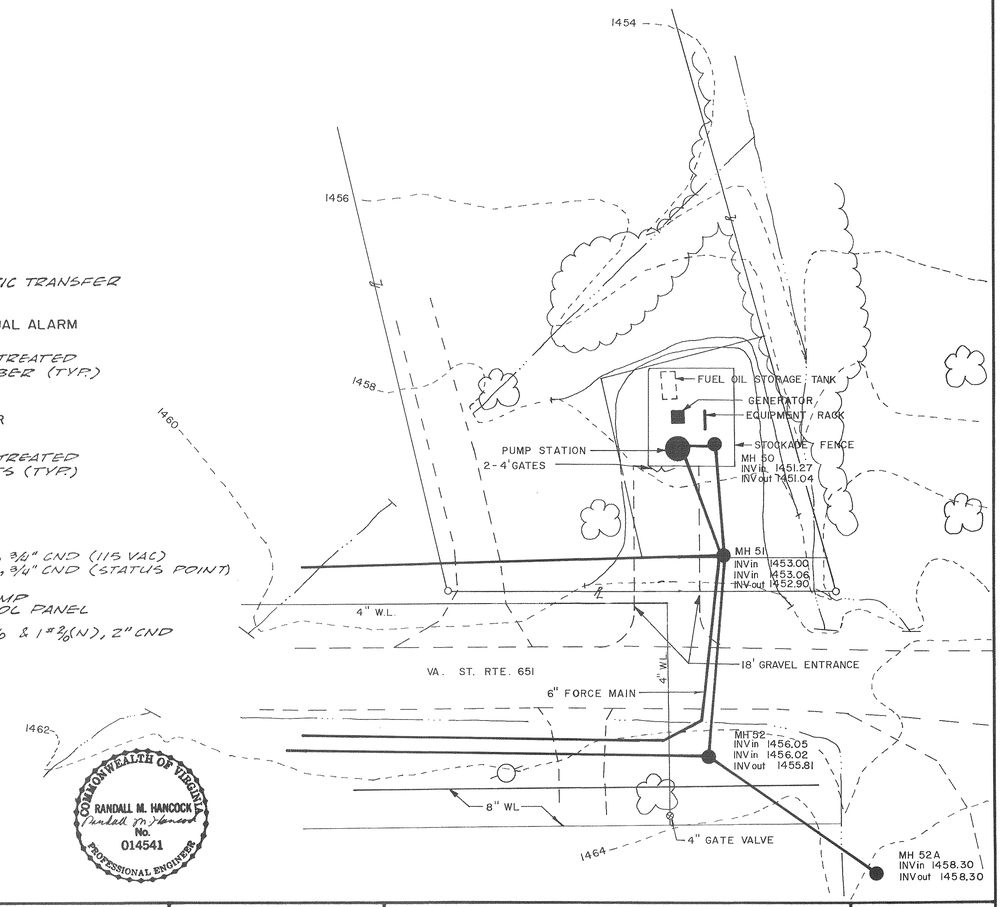


PLAN
1/2" = 1'-0"



SECTION
1/2" = 1'-0"

SEWAGE PUMPING STATION ELECTRICAL PLAN



COMMONWEALTH OF VIRGINIA
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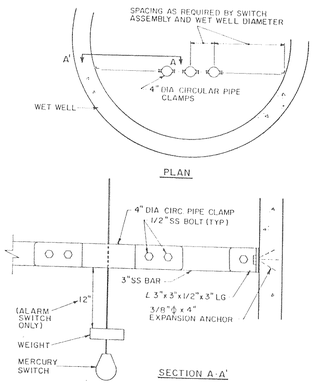
DRAPER – ADEN ASSOCIATES, INC. CONSULTING ENGINEERS BLACKSBURG, VIRGINIA	DESIGNED RMH DRAWN DAH CHECKED RMH DATE	PUMP STATION BUILDING DETAIL (SEWER) CAMP 25 WATER & SEWER EXTENSION	BOTETOURT COUNTY VIRGINIA	REVISIONS :	SCALE : AS SHOWN PLAN Nº T-5549	SHEET 17 OF 21

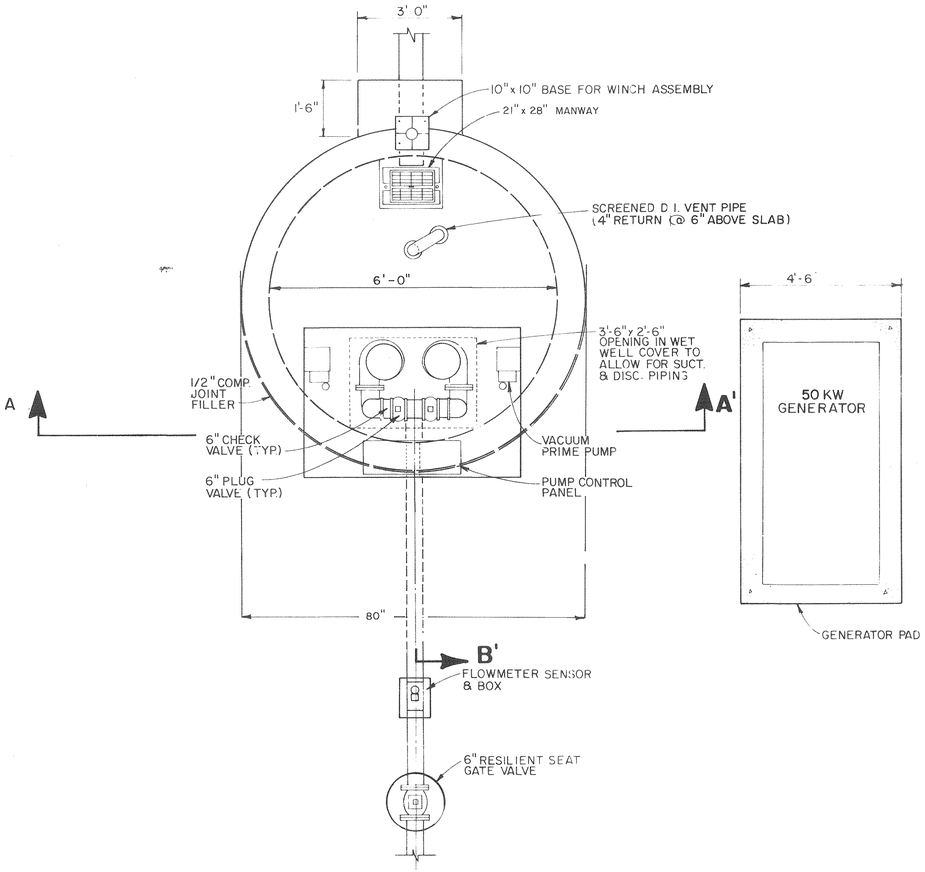
NOTES:

1. PACKAGE WET WELL MOUNTED SMITH AND LOVELESS ABOVE GROUND PUMPING STATION TO BE ADAPTED FOR THIS INSTALLATION.
2. PUMPS TO BE ECODYNE MODEL 4C3B, 1760 RPM, 25 HORSEPOWER, S4M32-12" IMPELLER. MINIMUM OPERATING CONDITIONS 175 GALLONS PER MINUTE AGAINST 159 FEET TOTAL DYNAMIC HEAD.
3. STRAINER BASKET AND ASSEMBLY SHALL BE AS MANUFACTURED BY HYDROMATIC PUMPS. BASKET SHALL BE MODEL 4928-000-5, HOLDING BRACKET AND LOWER RAIL GUIDES SHALL BE 6808-000-5, DOOR AND FRAME TO BE MODEL 5207-000-5, AND WINCH ASSEMBLY TO BE MODEL 6817-000-5.
4. LIFTING HOIST FOR PUMPS SHALL BE SUITABLE FOR 1/2 TON CAPACITY. TROLLY SHALL BE COFFING MODEL TG-10-P, AND HOIST SHALL BE COFFING MODEL CA, OR EQUAL. HOIST SHALL REMAIN ON-SITE AT ALL TIMES.
5. BACKFLOW PREVENTER ON WATER LINE TO BE WATTS 3/4 INCH MODEL 900.
6. WET WELL VENT TO BE 4 INCH DIAMETER DUCTILE IRON PIPE, WITH A SCREENED OUTLET.
7. BOTH SUCTION AND DISCHARGE PRESSURE GAUGES TO BE PROVIDED FOR EACH PUMP (4 GAUGES TOTAL). GAUGES TO BE 30" x 100 P.S.I., 2 1/2" FACE, GLYCERINE FILLED, COMPOUND, WITH STAINLESS STEEL CASE, AS MANUFACTURED BY ASHCRAFT MODEL 100 8AL, OR EQUAL, EACH GAUGE TO BE PROVIDED WITH 1/2" CUT-OFF VALVE.

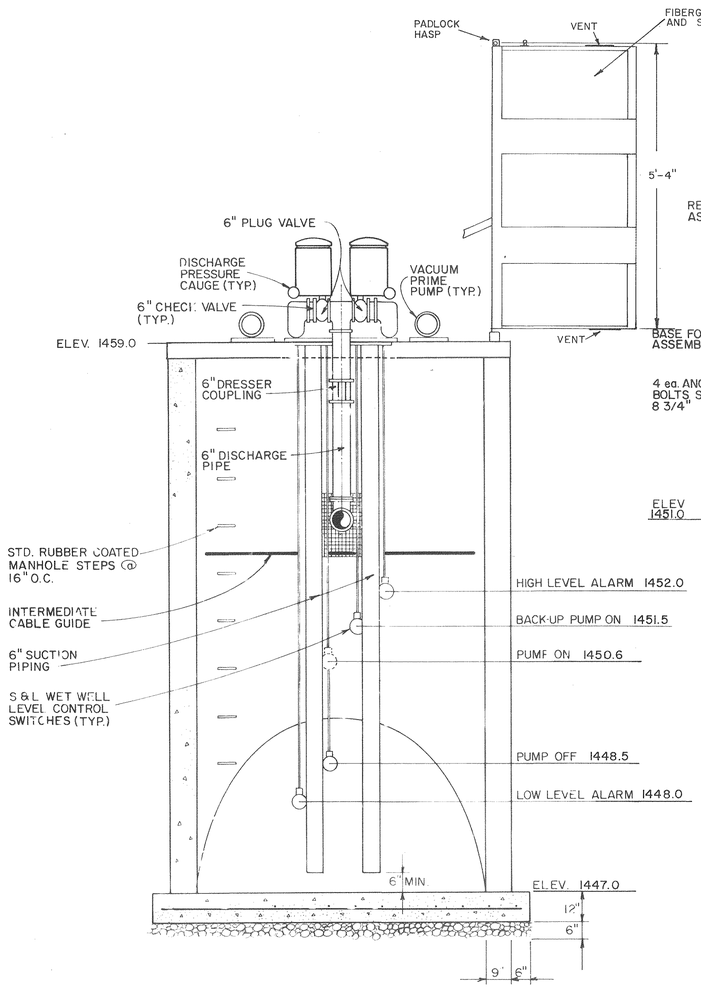


INTERMEDIATE CABLE GUIDE DETAIL

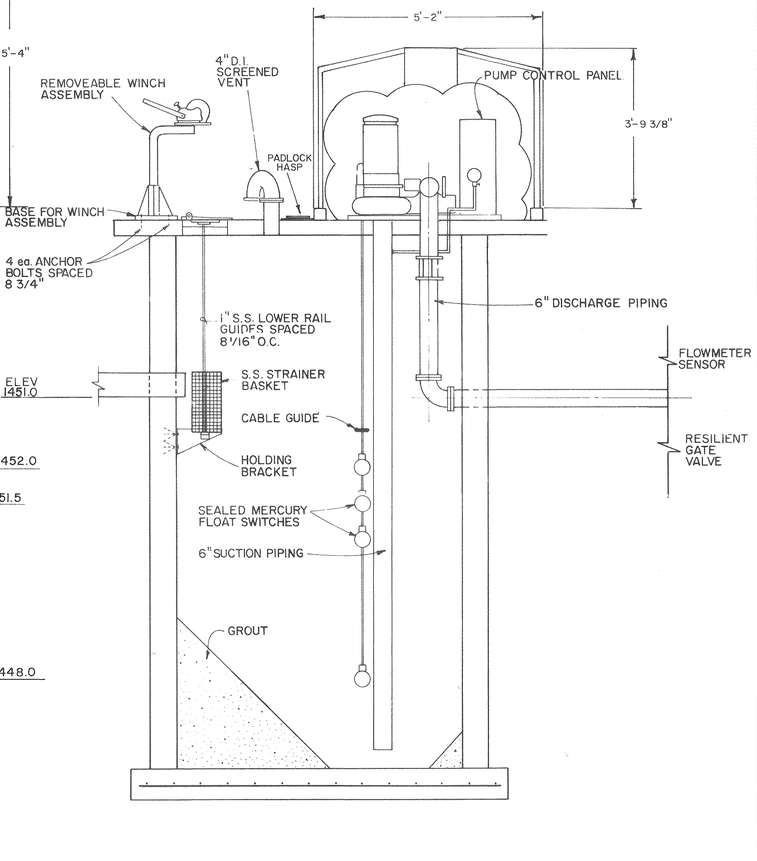
NO SCALE



PLAN VIEW



SECTION A-A'



SECTION B-B'

COMMONWEALTH OF VIRGINIA
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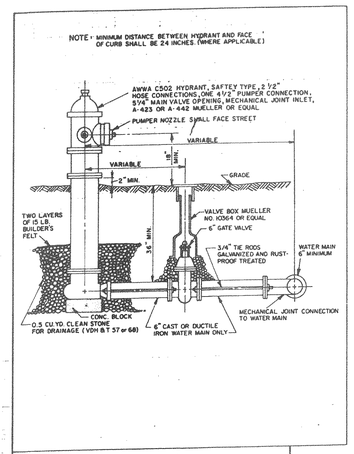
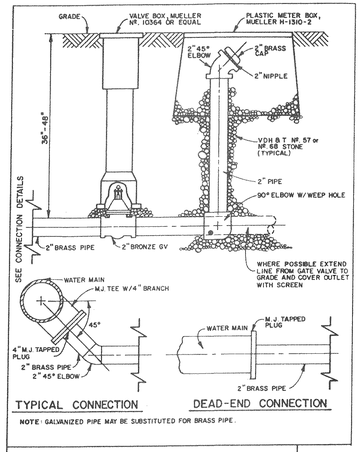
DRAPER – ADEN ASSOCIATES, INC. CONSULTING ENGINEERS BLACKSBURG, VIRGINIA	DESIGNED RMH DRAWN STAFF CHECKED RMH DATE	PUMP STATION WET WELL DETAILS **CAMP 25 WATER & SEWER EXTENSION** SEWAGE COLLECTION LINES AND PUMPING STATION	BOTETOURT COUNTY, VIRGINIA	REVISIONS:	SCALE: NO SCALE PLAN Nº T- 5549	SHEET 18 OF 21

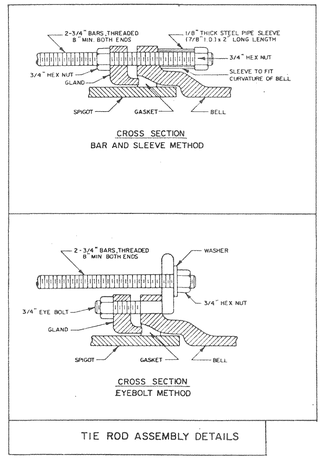


FIRE HYDRANT ASSEMBLY

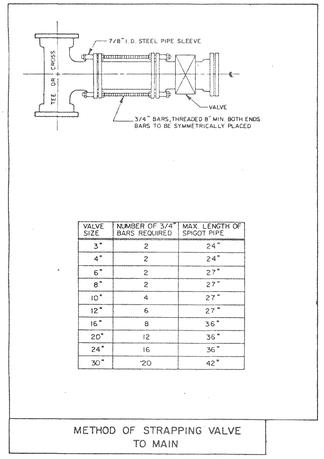


NOTE: GALVANIZED PIPE MAY BE SUBSTITUTED FOR BRASS PIPE.

BLOWOFF ASSEMBLY

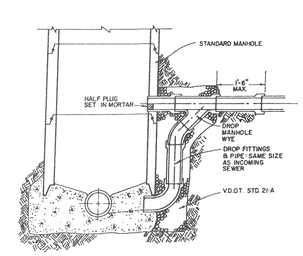


TIE ROD ASSEMBLY DETAILS

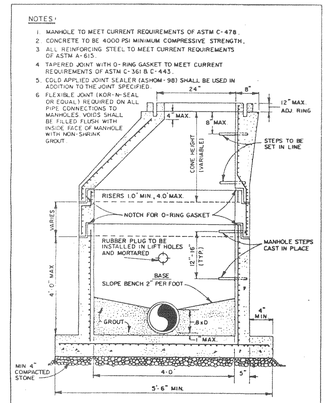


VALVE SIZE	NUMBER OF 3/4" BARS REQUIRED	MAX. LENGTH OF SPIGOT PIPE
3"	2	24"
4"	2	24"
6"	2	27"
8"	2	27"
10"	4	27"
12"	6	27"
16"	8	36"
20"	12	36"
24"	16	36"
30"	20	42"

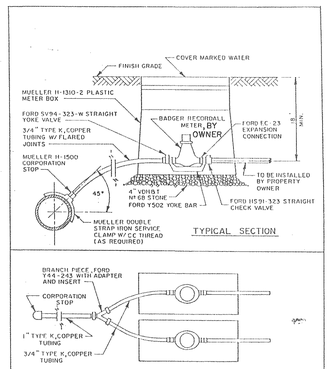
METHOD OF STRAPPING VALVE TO MAIN



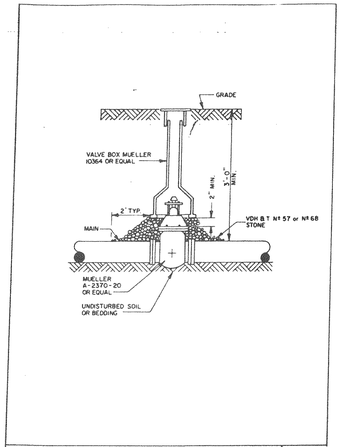
DROP CONSTRUCTION AT STANDARD MANHOLE
NO SCALE



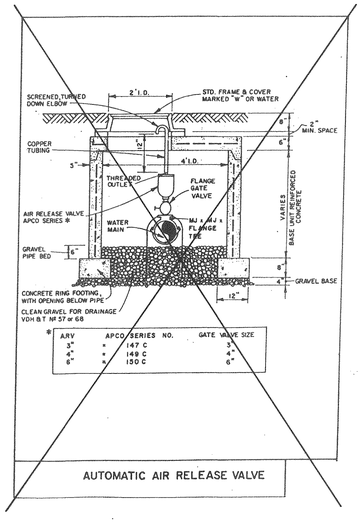
TYPICAL PRECAST CONCRETE MANHOLE
(4" DIAMETER)



RESIDENTIAL SERVICE CONNECTION

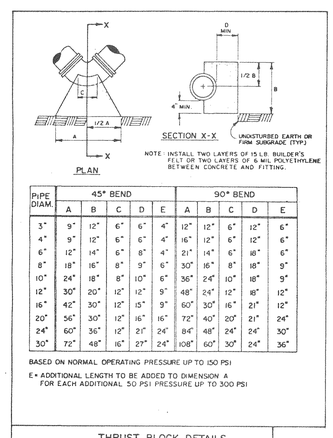


TYPICAL GATE VALVE INSTALLATION



ARV	APCO SERIES NO.	GATE VALVE SIZE
3"	187 C	3"
4"	149 C	4"
6"	150 C	6"

AUTOMATIC AIR RELEASE VALVE

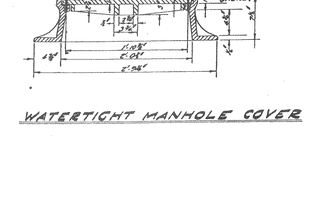


NOTE: INSTALL TWO LAYERS OF 15 LB. BUILDER'S FELT OR TWO LAYERS OF 6 MIL POLYETHYLENE BETWEEN CONCRETE AND FITTING.

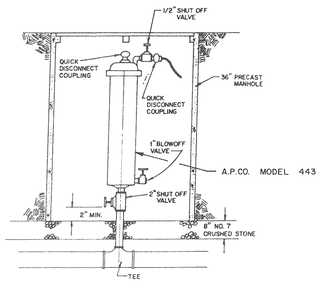
PIPE DIAM.	45° BEND					90° BEND				
	A	B	C	D	E	A	B	C	D	E
3"	9"	12"	6"	6"	4"	12"	12"	6"	12"	6"
4"	9"	12"	6"	6"	4"	16"	12"	6"	12"	6"
6"	12"	14"	6"	8"	4"	21"	14"	6"	18"	6"
8"	18"	16"	8"	9"	6"	30"	16"	8"	18"	9"
10"	24"	18"	8"	10"	6"	36"	24"	10"	18"	9"
12"	30"	20"	12"	12"	9"	48"	24"	12"	18"	12"
16"	42"	30"	12"	15"	9"	60"	30"	16"	21"	12"
20"	56"	30"	12"	16"	16"	72"	40"	20"	21"	24"
24"	60"	36"	12"	21"	24"	84"	48"	24"	24"	30"
30"	72"	48"	16"	27"	24"	108"	60"	30"	24"	36"

BASED ON NORMAL OPERATING PRESSURE UP TO 150 PSI
E = ADDITIONAL LENGTH TO BE ADDED TO DIMENSION A FOR EACH ADDITIONAL 50 PSI PRESSURE UP TO 300 PSI

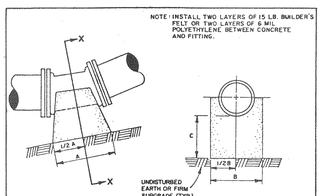
THRUST BLOCK DETAILS
45°-90° BENDS



WATERTIGHT MANHOLE COVER



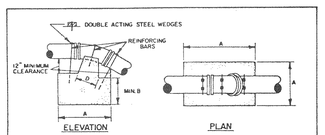
SEWAGE AIR RELEASE VALVE
NO SCALE



BEND		PIPE DIAMETER								
		3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
11 1/4°	A	6"	6"	6"	8"	8"	8"	13"	15"	22"	32"
	B	12"	12"	14"	16"	18"	24"	28"	32"	36"	40"
	C	8"	8"	8"	8"	8"	8"	9"	10"	12"	14"
22 1/2°	A	6"	6"	10"	11"	15"	16"	25"	33"	39"	43"
	B	12"	12"	14"	16"	18"	24"	28"	32"	36"	40"
	C	8"	8"	8"	8"	9"	9"	12"	14"	16"	18"
45°	A	10"	12"	14"	21"	29"	32"	48"	66"	72"	98"
	B	12"	12"	14"	16"	18"	24"	28"	32"	42"	48"
	C	8"	8"	8"	8"	12"	14"	18"	24"	30"	36"

BASED ON NORMAL OPERATING PRESSURE UP TO 150 PSI

THRUST BLOCK DETAILS
LOWER VERTICAL BENDS



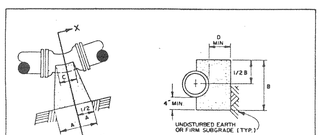
NOTES: 1. EMBED REINFORCING BARS MINIMUM OF 36" DIAMETERS INCLUDING HOOK.
2. PAINT EXPOSED BARS WITH TWO COATS OF BITUMINOUS PAINT.
3. WHERE 4 BARS ARE REQUIRED, PLACE 2 BARS SYMMETRICALLY AROUND FITTING.
4. INSTALL TWO LAYERS OF 15 LB. BUILDER'S FELT OR TWO LAYERS OF 6 MIL POLYETHYLENE.

C = NUMBER AND SIZE OF REINFORCING BARS
D = DIMENSION OF PIPE DIAMETER

BEND		PIPE DIAMETER								
		3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
11 1/4°	A	18"	18"	24"	27"	30"	39"	48"	54"	60"	
	B	18"	18"	18"	24"	24"	27"	30"	30"	36"	36"
	C	3#5	3#5	3#5	3#6	3#6	3#6	3#6	3#8	3#8	3#8
22 1/2°	A	18"	24"	30"	33"	42"	48"	54"	66"	72"	84"
	B	18"	18"	24"	27"	27"	30"	36"	42"	48"	54"
	C	3#5	3#5	3#5	3#6	3#6	4#6	4#6	3#8	4#8	4#8
45°	A	24"	30"	36"	42"	48"	54"	60"	90"	98"	120"
	B	18"	24"	24"	30"	33"	36"	42"	48"	54"	60"
	C	3#5	3#5	3#5	3#5	3#6	4#6	4#6	4#8	4#8	4#9

BASED ON NORMAL OPERATING PRESSURE UP TO 150 PSI

THRUST BLOCK DETAILS
UPPER VERTICAL BENDS

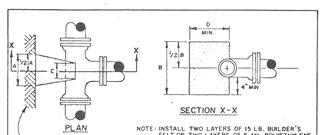


NOTE: INSTALL TWO LAYERS OF 15 LB. BUILDER'S FELT OR TWO LAYERS OF 6 MIL POLYETHYLENE BETWEEN CONCRETE AND FITTING.

PIPE DIAM.	11 1/4° BEND					22 1/2° BEND				
	A	B	C	D	E	A	B	C	D	E
3"	4"	12"	4"	6"	2"	6"	12"	6"	7"	2"
4"	4"	12"	4"	6"	2"	6"	12"	6"	7"	2"
6"	6"	14"	6"	7"	2"	8"	14"	6"	8"	2"
8"	8"	16"	8"	7"	2"	12"	16"	8"	8"	4"
10"	9"	18"	8"	8"	4"	15"	18"	8"	10"	4"
12"	12"	20"	12"	9"	4"	18"	20"	12"	12"	6"
16"	15"	24"	12"	9"	6"	24"	24"	12"	15"	6"
20"	30"	12"	10"	10"	6"	30"	30"	12"	18"	9"
24"	18"	36"	12"	12"	6"	36"	36"	12"	18"	9"
30"	24"	42"	16"	14"	9"	48"	42"	16"	21"	12"

BASED ON NORMAL OPERATING PRESSURE UP TO 150 PSI
E = ADDITIONAL LENGTH TO BE ADDED TO DIMENSION "A" FOR EACH ADDITIONAL 50 PSI PRESSURE UP TO 300 PSI

THRUST BLOCK DETAILS
11 1/4° - 22 1/2° BENDS



NOTE: INSTALL TWO LAYERS OF 15 LB. BUILDER'S FELT OR TWO LAYERS OF 6 MIL POLYETHYLENE BETWEEN CONCRETE AND FITTING.

TEE	BRANCH - DIAMETER								
	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
A	12"	12"	16"	18"	26"	30"	40"	48"	60"	80"
B	12"	16"	20"	30"	32"	42"	56"	72"	80"	96"
C	8"	8"	12"	12"	12"	16"	24"	24"	24"	
D	6"	6"	8"	9"	10"	12"	14"	18"	20"	24"

BASED ON NORMAL OPERATING PRESSURE UP TO 150 PSI

PLUG	PIPE DIAMETER								
	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
E	14"	16"	21"	29"	36"	41"	54"	64"	75"	88"
F	8"	8"	10"	10"	12"	14"	16"	18"	20"	24"

BASED ON NORMAL OPERATING PRESSURE UP TO 150 PSI

THRUST BLOCK DETAILS
TEES, TAPPING SLEEVES, PLUGS, CAPS

COMMONWEALTH OF VIRGINIA
RANDALL M. HANCOCK
No. 014541
PROFESSIONAL ENGINEER

DRAPER - ADEN ASSOCIATES, INC.
CONSULTING ENGINEERS
BLACKSBURG, VIRGINIA

DESIGNED RMH
DRAWN STAFF
CHECKED RMH
DATE

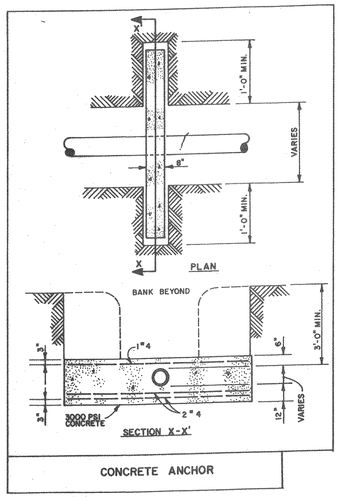
MISCELLANEOUS DETAILS
CAMP 25 WATER & SEWER EXTENSION

REVISIONS:

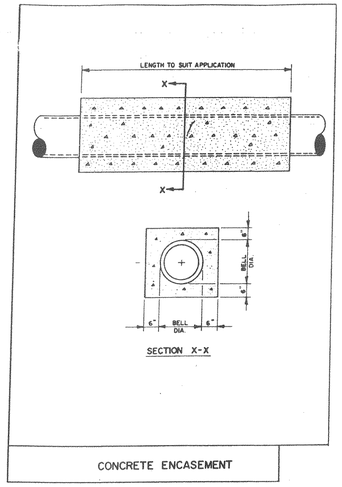
SCALE: NO SCALE

PLAN Nº T-5549

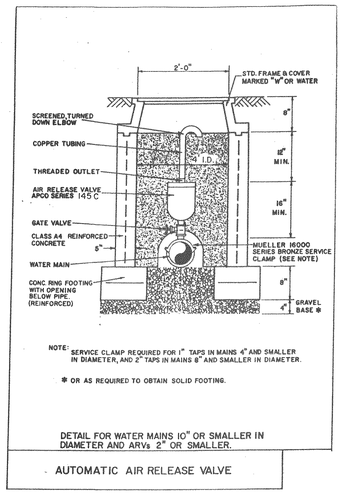
SHEET 19 OF 21



CONCRETE ANCHOR

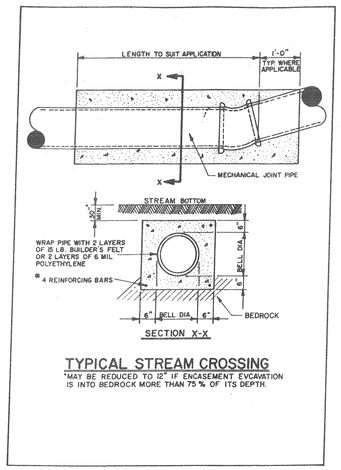


CONCRETE ENCASEMENT



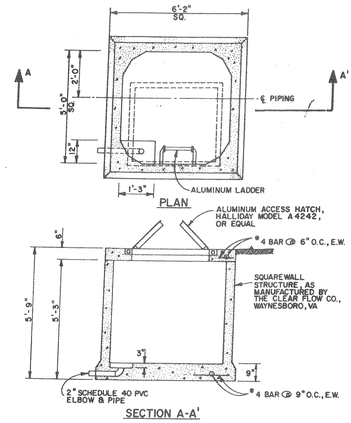
DETAIL FOR WATER MAINS 10" OR SMALLER IN DIAMETER AND ARVs 2" OR SMALLER.

AUTOMATIC AIR RELEASE VALVE



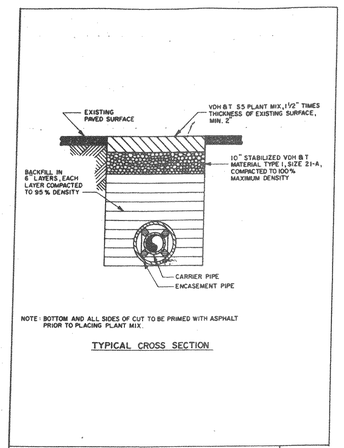
TYPICAL STREAM CROSSING

MAY BE REDUCED TO 12" IF ENCASEMENT EVCAVATION IS INTO BEDROCK MORE THAN 75 % OF ITS DEPTH.



TYPICAL VAULT DETAIL

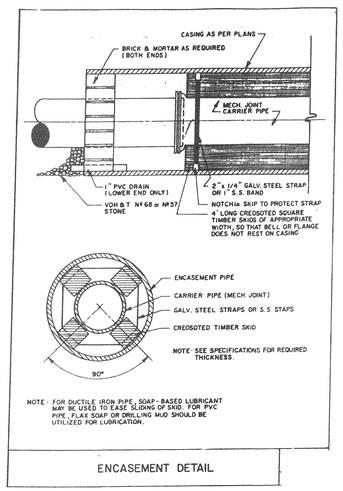
NO SCALE



NOTE: BOTTOM AND ALL SIDES OF CUT TO BE PRIMED WITH ASPHALT PRIOR TO PLACING PLANT MIX.

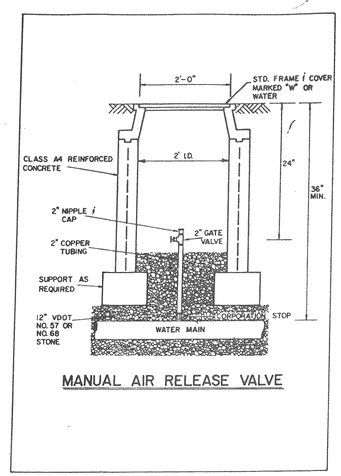
TYPICAL CROSS SECTION

OPEN CUT ROAD CROSSING

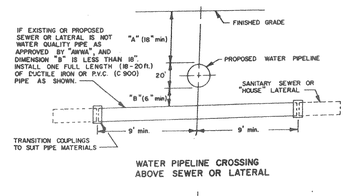


NOTE: FOR DUCTILE IRON PIPE, SOAP-BASED LUBRICANT MAY BE USED TO EASE SLIDING OF SKID. FOR PVC PIPE, FLAX SOAP OR DRILLING MUD SHOULD BE UTILIZED FOR LUBRICATION.

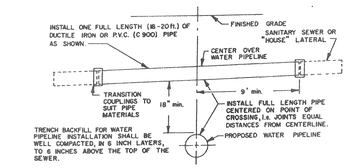
ENCASEMENT DETAIL



MANUAL AIR RELEASE VALVE

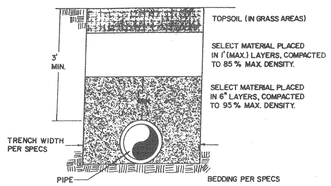


WATER PIPELINE CROSSING ABOVE SEWER OR LATERAL



WATER PIPELINE CROSSING BELOW SEWER OR LATERAL

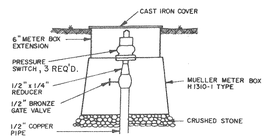
WATER PIPELINE CROSSING
SANITARY SEWER OR "HOUSE" LATERAL



TYPICAL TRENCH & BACKFILL

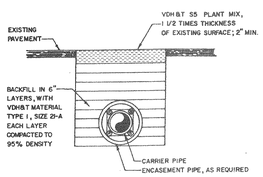
DUCTILE IRON WATER PIPE

SEE SECTION 02220 OF SPECIFICATIONS



PRESSURE SWITCH ASSEMBLY

NO SCALE

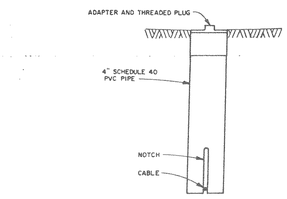


NOTE: BOTTOM AND ALL SIDES OF CUT TO BE PRIMED WITH ASPHALT PRIOR TO PLANT MIX.

TYPICAL CROSS SECTION

OPEN CUT ROAD CROSSING

NO SCALE



NOTE: LENGTH OF CABLE TO BE INSTALLED SHALL BE LONG ENOUGH TO PROVIDE 18" OF EXCESS CABLE ABOVE TOP OF JUNCTION BOX.

TELEPHONE CABLE JUNCTION BOX DETAIL

NO SCALE

COMMONWEALTH OF VIRGINIA
RANDALL M. HANCOCK
No. 014541
PROFESSIONAL ENGINEER

DRAPER – ADEN ASSOCIATES, INC.
CONSULTING ENGINEERS
BLACKSBURG, VIRGINIA

DESIGNED RMH
DRAWN STAFF
CHECKED RMH
DATE

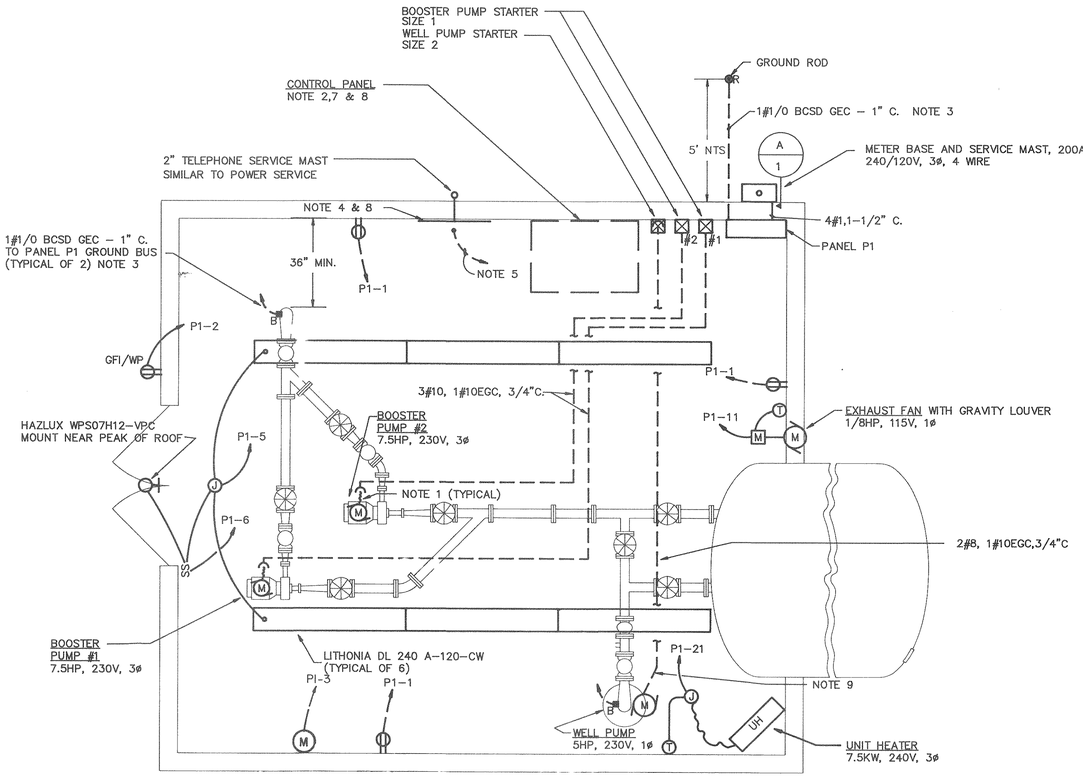
MISCELLANEOUS DETAILS
CAMP 25 WATER & SEWER EXTENSION

REVISIONS:

SCALE: NO SCALE

PLAN Nº T-5549

SHEET 20 OF 20

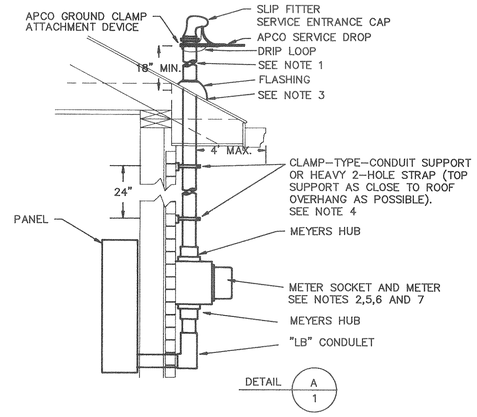


NOTE:
ALL CONDUIT PVC UNLESS INDICATED OTHERWISE.

WELL #3 POWER & LIGHTING PLAN

SCALE: NONE

(BUILDING APPROX. OUTSIDE DIMENSIONS 16' X 18')



SERVICE MAST INSTALLATION

SCALE: NONE

PLAN NOTES:

1. COORDINATE CONDUIT TURN UPS WITH MOTOR SPLICE BOX LOCATION
2. LEAVE SUFFICIENT CABLE FOR CONNECTIONS TO BE MADE BY OTHERS.
3. STUB UP CONDUITS 3" ABOVE FINISHED FLOOR BENEATH PANEL P BUT DO NOT CONNECT TO PANEL. BOND CONDUCTORS TOGETHER AND EXTEND 1#1/0 UP INTO PANEL. MAKE BONDS USING EXOTHERMIC WELD PROCESS OR SQUEEZE ON TYPE COMPRESSION CONNECTORS.
4. 24" X 24" X 3/4" PLYWOOD PANEL FOR TELEPHONE COMPANY POINT OF DEMARCATION EQUIPMENT.
5. 1#6 BCSD EGC – 3/4" C. TO PANEL P1. SEE NOTE 3. (FOR USE BY TELEPHONE COMPANY).
6. WHEN THE DOOR IS OPEN BOTH FAN AND LIGHT WILL BE ON.
7. RUN 4" X 4" WIREWAY ABOVE CONTROL PANEL, STARTERS AND PANEL P1. INTERCONNECT WITH PVC CONDUIT OR RIGID GALVANIZED STEEL CONDUIT NIPPLES FOR POWER WIRING. IN ADDITION INSTALL 3/4" EMPTY PVC CONDUIT OR NIPPLES TO STARTERS FOR CONTROL CABLING BY DIV 17 CONTRACTOR. INTERCONNECT WIREWAY AND CONTROL PANEL WITH 2" PVC OR NIPPLE.
8. BY DIV 17 CONTRACTOR.
9. TURN CONDUIT UP 12" ABOVE FINISHED FLOOR TO RECEIVE WELL MOTOR CABLE FROM WELL HEAD. PROVIDE END CAP (OBTAIN FROM PLUMBING SUPPLY HOUSE) AND MACHINE OPENING IN CAP TO MATCH SHAPE OF WELL MOTOR CABLE. SLIP CAP OVER WELL CABLE BEFORE PULLING CABLE TO STARTER. AFTER PULLING CABLE, POSITION CAP ON STUBUP TO PREVENT ENTRY OF DEBRIS. DO NOT GLUE.

SERVICE MAST INSTALLATION NOTES:

1. 4#1 – 1–1/2" RIGID GALVANIZED STEEL CONDUIT.
2. METER SOCKET SHALL BE FURNISHED BY APCO AND INSTALLED BY CONTRACTOR.
3. IF ROOF MOUNTING PLATE IS NOT USED, MAST MUST BE SECURLY LOCKED IN PLACE BY A SUITABLE BRIDGING BETWEEN ROOF RAFTERS.
4. ON CINDER BLOCK, VENEER OR SIMILAR WALLS, CONDUIT HANGER OR STRAP MUST BE BOLTED THROUGH WALL.
5. A 3' MINIMUM CLEARANCE MUST BE MAINTAINED IN FRONT OF THE METER EXTENDING TO THE GROUND.
6. A 6" SPACE MUST BE MAINTAINED FROM OBSTRUCTIONS ABOVE, BELOW AND TO EITHER SIDE OF THE METER BASE.
7. THE CENTER OF THE MAST SHOULD BE AT A PREFERRED HEIGHT OF 5' WITH 4' AS A MINIMUM AND 6' AS A MAXIMUM.

PANEL "P1" SCHEDULE FOR WELL #3

PANELBOARD CHARACTERISTICS:

VOLTS: 240/120
PHASES: 3
WIRES: 4 (DELTA)
SOLID NEUTRAL, GROUND BAR

MAIN BREAKER: 225 AF, 200 AT
MINIMUM SHORT CIRCUIT RATING: 22,000 RMS SYM AMPS

SERVICE ENTRANCED RATED
INCOMING LINE:BOTTOM

CKT. NO.	POLE NO.	DESCRIPTION	KVA	AMPS A	AMPS B	AMPS C	BREAKER P	BREAKER AF	BREAKER AT	NO. & WIRE SIZE PHASE	NO. & WIRE SIZE NEUT.	NO. & WIRE SIZE EGC	CONDUIT SIZE
1	1	RECEPTACLES: INTERIOR	1.20	10.0			1	100	20	12	12	12	3/4
		PUMP	0.32	2.65			1	100	20	12	12	12	3/4
5	5	LIGHTS: INTERIOR	0.40			3.3	1	100	20	12	12	12	3/4
7	7	SPARE	–	–			1	100	20	–	–	–	–
9	9	SPARE	–	–			1	100	20	–	–	–	–
11	11	EXHAUST FAN	0.50	4.2			1	100	20	12	12	12	3/4
15	13	BOOSTER PUMP #1 STARTER	8.8	22			3	100	50	10	10	10	3/4
	15				22					10			
	17					22				10			
21	19	UNIT HEATER	7.50	31.3			3	100	50	6	–	10	1
	21				31.3					6			
	23					31.3				6			
27	25	BOOSTER PUMP #2 STARTER	8.8	22			3	100	50	10	10	10	3/4
	27				22					10			
	29					22				10			
	31	SPACE AND BUS ONLY	–	–			–	–	–	–	–	–	–
	33	SPACE AND BUS ONLY	–		–		–	–	–	–	–	–	–
	35	SPACE AND BUS ONLY	–			–	–	–	–	–	–	–	–
39	37	PHASE MONITORING RELAY	0.1	0.1			3	100	15	BY DIV 17 CONTRACTOR			
	39				0.1								
	41					0.1							
2	2	RECEPTACLE: EXTERIOR	1.20	10.0			1	100	20	12	12	12	3/4
–	4	SPARE	–		–		1	100	20	–	–	–	–
6	6	LIGHT: EXTERIOR	0.10			0.8	1	100	20	12	12	12	3/4
10	8	WELL PUMP STARTER	6.4		28		2	100	50	8	–	10	3/4
	10					28				8			
	12		1.5	6.2			2	100	20	BY DIV 15 CONTRACTOR			2
					6.2								
	16	SPACE AND BUS ONLY	–	–			–	–	–	–	–	–	–
	18	SPACE AND BUS ONLY	–		–		–	–	–	–	–	–	–
	20	SPACE AND BUS ONLY	–			–	–	–	–	–	–	–	–
	22												
	24	SPARE	–			–	3	100	50	–	–	–	–
	26												
	28	SPACE AND BUS ONLY	–		–		–	–	–	–	–	–	–
	30	SPACE AND BUS ONLY	–			–	–	–	–	–	–	–	–
	32	SPACE AND BUS ONLY	–	–			–	–	–	–	–	–	–
	34	SPACE AND BUS ONLY	–		–		–	–	–	–	–	–	–
	36	SPACE AND BUS ONLY	–			–	–	–	–	–	–	–	–
	38	SPACE AND BUS ONLY	–	–			–	–	–	–	–	–	–
40	40	CONTROL PANEL	1.2		5.0		2	100	15	BY DIV 17 CONTRACTOR			
	42					5.0							
		TOTALS	38.02	108.45	114.6	112.5							

DO NOT MAKE ANY 120 VOLT CONNECTIONS TO PHASE B

BOT802.DWG
89081

The Greenwood Partnership
Engineers • Architects
Lynchburg, Virginia

DESIGNED	J.R.
DRAWN	J.H.R.
CHECKED	WGM
DATE	8/16/89

PUMP STATION ELECTRICAL (WELL #3)
CAMP 25 WATER & SEWER EXTENSION
BOTETOURT COUNTY, VIRGINIA

REVISIONS:

SCALE: AS SHOWN

PLAN Nº T–5549

SHEET 21 OF 21