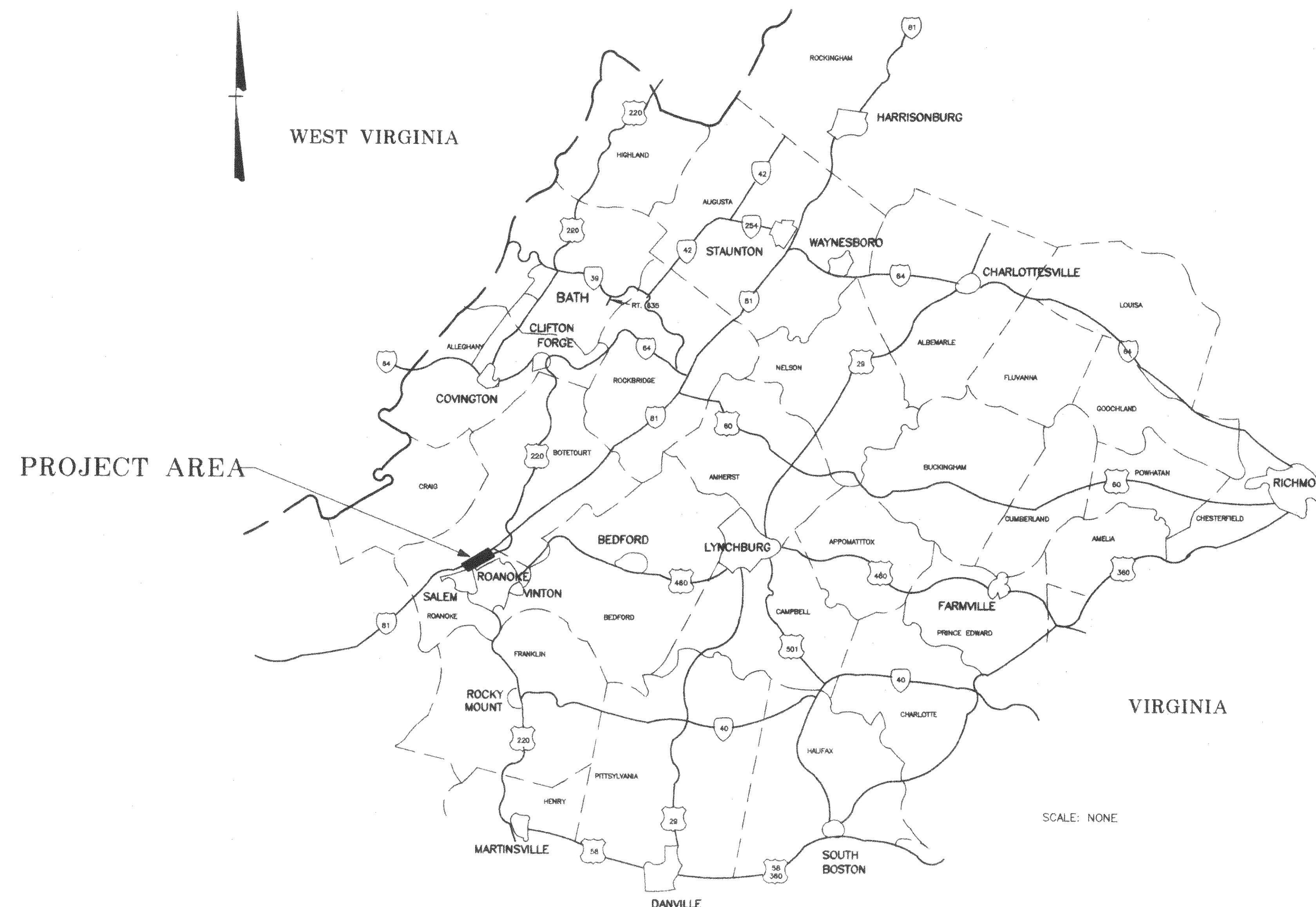


HOLLINS WATER STORAGE TANK

BOTETOURT COUNTY, VIRGINIA

PROJECT NAME: Hollins Water Storage Tank
 DATE: 4-95
 TYPE: _____
 LOCATION: _____
 TOTAL # SHEETS: 6
 A/E FIRM: Mattern & Craig
 # OF SETS: 1



SHEET LIST

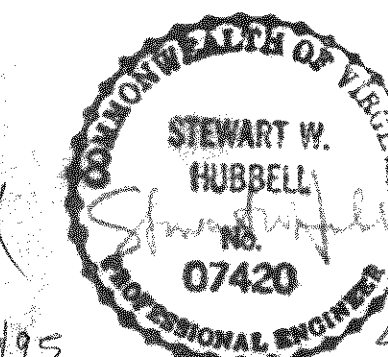
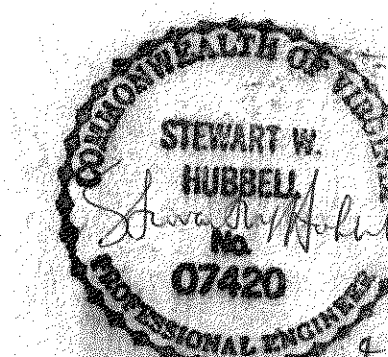
- 1 TITLE SHEET
- 2 ABBREVIATIONS AND LEGEND
- 3 SHEET INDEX AND GENERAL NOTES
- 4 TANK SITE PLAN AND EROSION CONTROL PLAN
- 5 WATER TANK DETAILS
- 6 DETAILS

VICINITY MAP FOR
BOTETOURT COUNTY, VIRGINIA

VIRGINIA DEPARTMENT OF HEALTH
 Division of Water Supply Engineering
 Approved by [Signature] Director
 Date 5/2/95

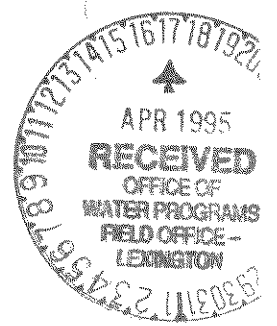
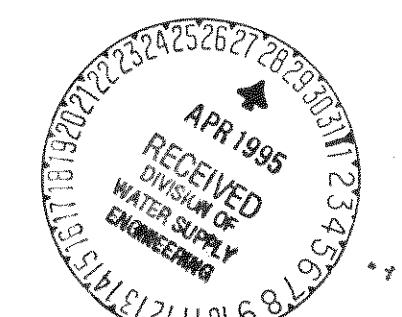


Mattern & Craig
 CONSULTING ENGINEERS - SURVEYORS
 ROANOKE, VIRGINIA



SET NO.

THREE



AB	ANCHOR BOLT
ABAN	ABANDON OR ABANDONED
ABUT	ABUTMENT
ABV	ABOVE
ACT	ACOUSTICAL
ADD	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
ALUM	ALUMINUM
ALT	ALTERNATE
ANC	ANCHOR
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
AWWA	AMERICAN WATER WORKS ASSOCIATION
AVG	AVERAGE
BIT	BITUMINOUS
BJ	BELL JOINT
BL	BASE LINE
BEG	BEGIN OR BEGINNING
BLDG	BUILDING
BLKG	BLOCKING
BM	BENCH MARK, BEAM
BOTT	BOTTOM
BP	BYPASS
BRG	BEARING
BSMT	BASEMENT
BV	BUTTERFLY VALVE
C	CHANNEL, COLD
C/C, C TO C	CENTER TO CENTER
CAB	CABINET
CAP	CAPACITY
CF	CUBIC FEET
CG	CHANGE OF GRADE
C & G	CURB AND GUTTER
CI	CAST IRON
CIRC	CIRCULAR
CKT	CIRCUIT
CL	CENTER LINE
CLR	CLEAR
CONST	CONSTRUCTION
COR	CORNER
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNITS
CND	CONDUIT
CO	CLEAN OUT
COMB	COMBINATION
CONC	CONCRETE
CONN	CONNECT, CONNECTION
CONT	CONTINUOUS, CONTROL
CONTR	CONTRACTOR
CONV	CONVEYOR
CP	COORDINATE POINT
CR STONE	CRUSHED STONE
CTR	CENTER
CULV	CULVERT
CY	CUBIC YARD
D	DEPTH OR DEGREE OF CURVE
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DISC	DISCONNECT
DMH	DROP MANHOLE
DN	DOWN
DR	DRIVE
DS	DOWN SPOUT
DTL	DETAIL
DW,D/W	DRIVEWAY
DWL	DWELLING
DWG	DRAWING
E	EAST
EA	EACH
E.B.L.	EASTBOUND LANE
EF	EACH FACE
EJ	EXPANSION JOINT
EL, ELEV	ELEVATION
ELEC	ELECTRICAL
ENGR	ENGINEER
ENTR	ENTRANCE
EOL	END OF LINE
EP	EDGE OF PAVEMENT
EQ	EQUAL
EQPT	EQUIPMENT
EW	EACH WAY, ENDWALL
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FR	FRAME
FD	FLOOR DRAIN
FDN	FOUNDATION
FES	FLARED END SECTION
FF	FINISH FLOOR
FFE	FINISHED FLOOR ELEVATION

FH	FIRE HYDRANT
FIG	FIGURE
FIN	FINISH
FIXT	FIXTURE
FL	FLOOR
FLEX	FLEXIBLE
FLG	FLANGE
FT	FOOT
FTG	FOOTING
FUT	FUTURE
GAL	GALLON
GALV	GALVANIZED
GAR	GARAGE
GND	GROUND
GR	GRAVEL
GOVT	GOVERNMENT
GPM	GALLONS PER MINUTE
GRTG	GRATING
GV	GAS VALVE
GW	GRAY WATER
H	HOT
HB	HOSE BIBB
HK	HOOK
HM	HOLLOW METAL
HORZ, HORIZ	HORIZONTAL
HP	HORSE POWER
HPT	HIGH POINT
HYD	HYDRANT
ID	INSIDE DIAMETER
IN	INCH
INSUL	INSULATION
INV	INVERT
IP	IRON PIN
JT	JOINT
JB	JUNCTION BOX
L	LENGTH, LONG
LF	LINEAL FOOT
LG	LONG
LP	LIGHT POLE
LR	LONG RADIUS
LT	LEFT
LTG	LIGHTING
MACH	MACHINERY
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MAILBOX
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE, MOUNTING HEIGHT
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MO	MASONRY OPENING
MON	MONUMENT
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MV	MUD VALVE
N & C	NAIL AND CAP
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTERS
OD	OUTSIDE DIAMETER
OPER	OPERATOR
OPNG	OPENING
OPP	OPPOSITE
PB	PAPER BOX
PC	POINT OF CURVE
PCC	POINT OF COMPOUND
PER	PERIMETER
PERF	PERFORATED
PERP	PERPENDICULAR
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PL	PLATE, PROPERTY LINE
PLYWD	PLYWOOD
POL	POINT ON LINE
PP	POWER POLE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	PRIVATE
R	RADIUS, RISER
RAS	RETURN ACTIVATED SLUDGE
RR	RAIL ROAD
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN, ROAD
RDCR	REDUCER

RECPT	RECEPTACLE
RECT	RECTANGULAR
REINF	REINFORCE, REINFORCEMENT
REF	REFERENCE
REL	RELOCATED
REQD	REQUIRED
REV	REVISION
RTE	ROUTE
RT	RIGHT
R/W	RIGHT OF WAY
S	SANITARY SEWER, SOUTH, SWITCH
SAN	SANITARY
SCH	SCHEDULE
SD	STORM DRAIN
SECT	SECTION
SER	SERVICE
SH	SHEET
SHTG	SHEETING
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
STY	STORY
SUR	SURVEY
SURF	SURFACE
S/W	SIDEWALK
SYMM	SYMMETRICAL
T	TREAD, TOP
T & B	TOP AND BOTTOM
TDC	TURNED DOWN CURB
TELE	TELEPHONE
TEMP	TEMPORARY
THK	THICK
TP	TELEPHONE POLE
TRTD	TREATED
TS	TOP OF SLAB
TV	TELEVISION
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
U.S.C.&G.S.	UNITED STATES COAST AND GEODETIC SURVEY
USGS	UNITED STATES GEOLOGICAL SURVEY
V, VAL	VALVE
VAP BAR	VAPOR BARRIER
VC	VERTICAL CURVE
VERT	VERTICAL
VOL	VOLUME
VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
V.S.D.	VERTICAL SIGHT DISTANCE
W.B.L.	WEST BOUND LANE
W	WIDE FLANGE, WIDE
W/	WITH
WD	WOOD
WL	WATER LINE
W/O	WITHOUT
WS	WATER SURFACE
WT	WATERTIGHT, WEIGHT
WVDH	WEST VIRGINIA DEPARTMENT OF HIGHWAYS
WWF	WELDED WIRE FABRIC

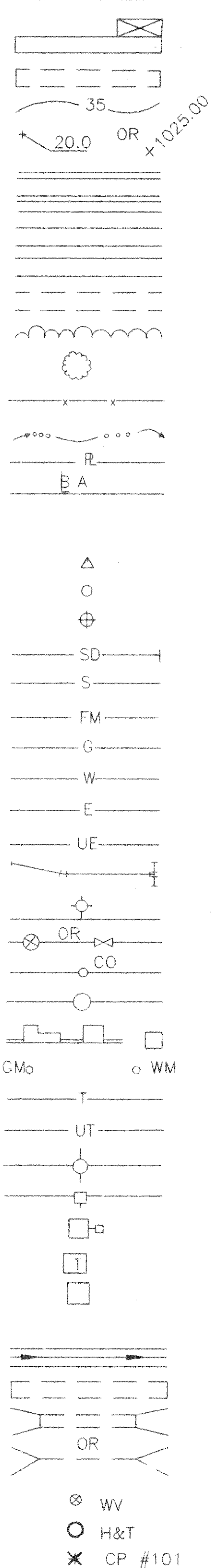
EROSION AND SEDIMENT CONTROL SYMBOLS

EC1		EROSION CONTROL STONE
STB		STRAW BALE BARRIER
IP		STORM DRAIN INLET PROTECTION
DV		DIVERSION
ST		TEMPORARY SEDIMENT TRAP
CE		TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
RR		RIPRAP
SF		SILT FENCE

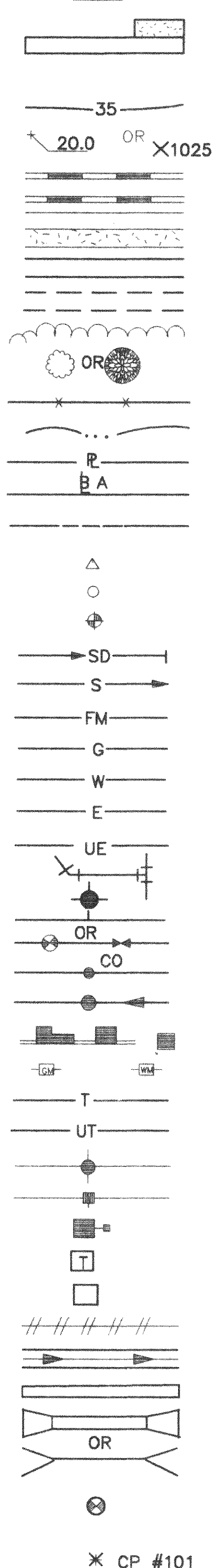
MATERIALS SYMBOLS

	METAL
	BRICK
	CONCRETE MASONRY
	CONCRETE
	GROUT OR FINISHED CONCRETE
	INSULATION (RIGID)
	WOOD BLOCKING
	FINISHED WOOD OR PLYWOOD
	GRAVEL OR STONE
	EARTH

EXISTING

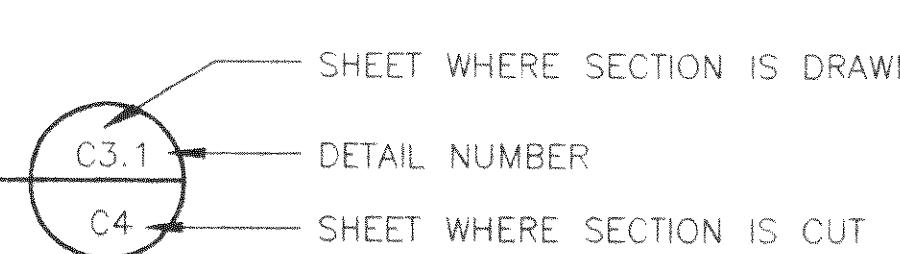
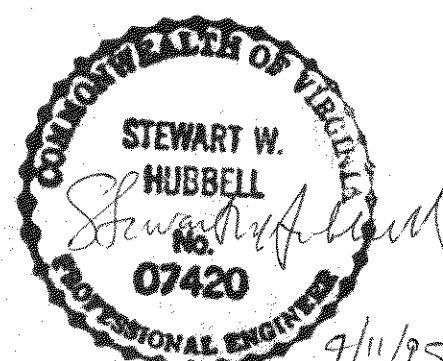


NEW

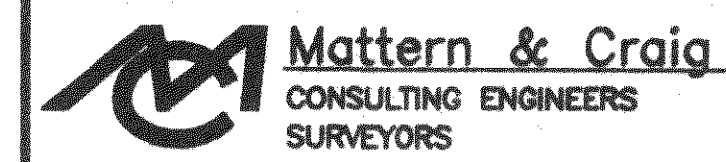


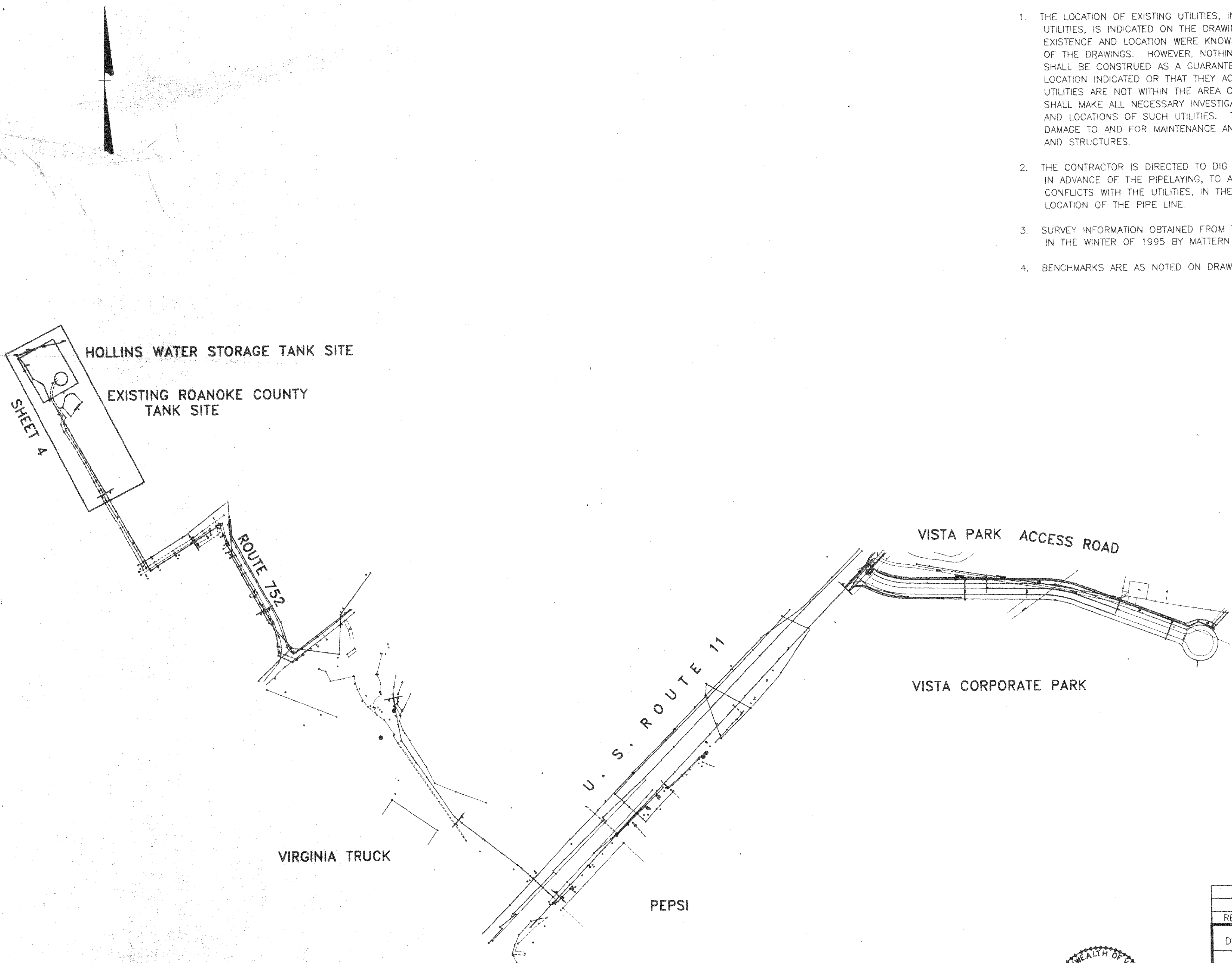
DESCRIPTION

BUILDING WITH PORCH OR STOOP
FOUNDATION ONLY
CONTOUR, CONTOUR WITH ELEVATION
SPOT ELEVATION
CONCRETE CURB
CONCRETE CURB & GUTTER
CONCRETE WALK OR SLAB
PAVEMENT
UNPAVED OR GRAVEL ROAD
TREE LINE
TREE OR SHRUB
FENCE
CENTERLINE CREEK, SWALE OR DITCH
PROPERTY LINE
BASELINE
LIMIT OF WORK LINE
FIELD SURVEY TRAVERSE POINT
P.C. OR P.T.
GEOLOGIC BORE HOLE
STORM DRAIN AND ENDWALL
SANITARY SEWER
FORCE MAIN
GAS MAIN OR SERVICE LINE
WATER MAIN OR SERVICE LINE
ELECTRICAL LINE
UNDERGROUND ELECTRICAL LINE
PIPE FITTINGS
FIRE HYDRANT
GATE VALVE
CLEANOUT
MANHOLE
DROP INLET (CURB AND GRATING TYPES)
G.M. - GAS METER, W.M. - WATER SERVICE CONN.
TELEPHONE LINE
UNDERGROUND TELEPHONE LINE
TELEPHONE POLE, GUY AND ANCHOR
POWER POLE, GUY AND ANCHOR
LIGHT POLE
TELEPHONE PEDESTAL
BURIED TELEPHONE VAULT
ABANDON OR REMOVE
PAVED DITCH
DRIVEWAY CULVERT
CULVERT WITH FLARED END SECTION
WATER VALVE
HUB AND TACK
COORDINATE POINT



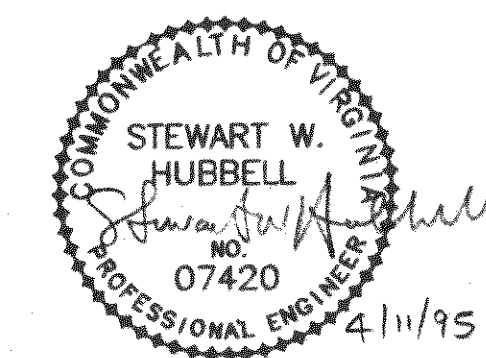
REV	DATE	DESCRIPTION	BY	APP
DSGN	SWH	HOLLINS WATER STORAGE TANK		
DRAWN	DSG	ABBREVIATIONS AND LEGEND		
CHKD	SWH	BOTETOURT COUNTY, VIRGINIA		
		SCALE: NONE	COMM. NO. 1297D	
		DATE: MARCH, 1995	SHEET 2	
DRAWING # 2TANK				



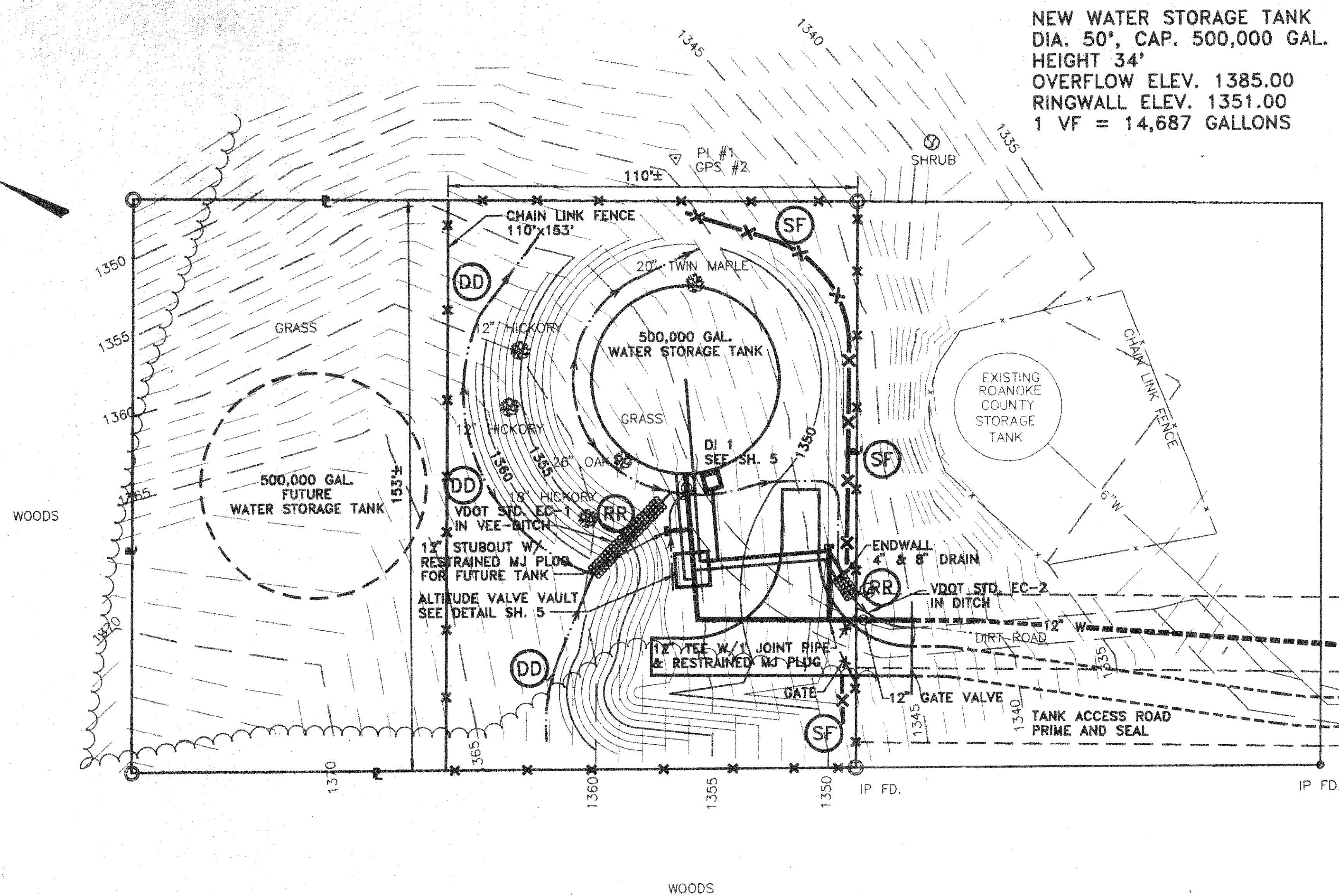


GENERAL NOTES:

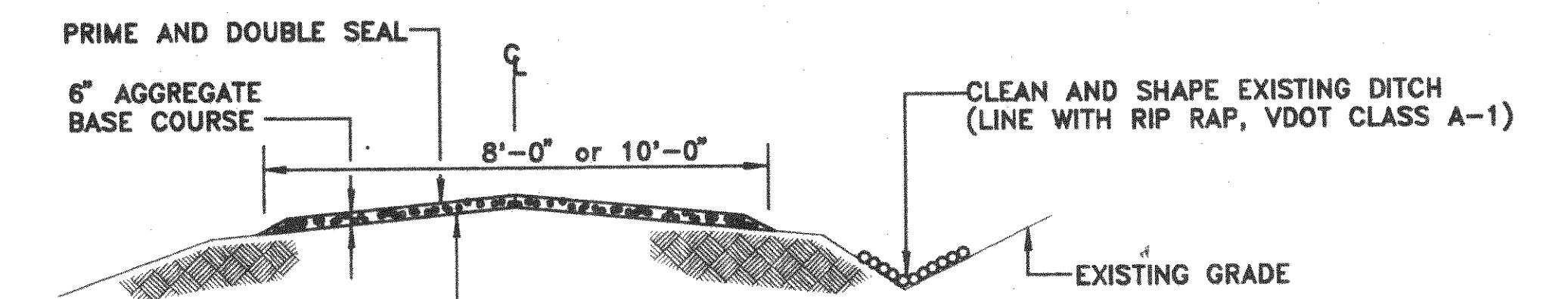
1. THE LOCATION OF EXISTING UTILITIES, INCLUDING UNDERGROUND UTILITIES, IS INDICATED ON THE DRAWINGS INsofar AS THEIR EXISTENCE AND LOCATION WERE KNOWN AT THE TIME OF PREPARATION OF THE DRAWINGS. HOWEVER, NOTHING IN THESE CONTRACT DOCUMENTS SHALL BE CONSTRUED AS A GUARANTEE THAT SUCH UTILITIES ARE IN THE LOCATION INDICATED OR THAT THEY ACTUALLY EXIST, OR THAT OTHER UTILITIES ARE NOT WITHIN THE AREA OF OPERATIONS. THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO DETERMINE THE EXISTENCE AND LOCATIONS OF SUCH UTILITIES. THE CONTRACTOR SHALL PAY FOR ANY DAMAGE TO AND FOR MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.
2. THE CONTRACTOR IS DIRECTED TO DIG AND LOCATE ALL UTILITIES, IN ADVANCE OF THE PIPELAYING, TO ALLOW FOR ADJUSTMENTS, DUE TO CONFLICTS WITH THE UTILITIES, IN THE HORIZONTAL AND VERTICAL LOCATION OF THE PIPE LINE.
3. SURVEY INFORMATION OBTAINED FROM TOPOGRAPHIC SURVEY COMPLETED IN THE WINTER OF 1995 BY MATTERN AND CRAIG INC., ROANOKE, VA.
4. BENCHMARKS ARE AS NOTED ON DRAWINGS AND THEY ARE OF USGS DATUM.



REV	DATE	DESCRIPTION	BY	APP
DSGN	SWH	HOLLINS WATER STORAGE TANK SHEET INDEX AND GENERAL NOTES		
DRAWN	DSG			
CHKD	SWH			
		BOTETOURT COUNTY,	VIRGINIA	
		Mattern & Craig CONSULTING ENGINEERS SURVEYORS		COMM. NO. 1297D
		SCALE: 1" = 200'		DATE: MARCH, 1995
		DRAWING # 3TANK		SHEET 3

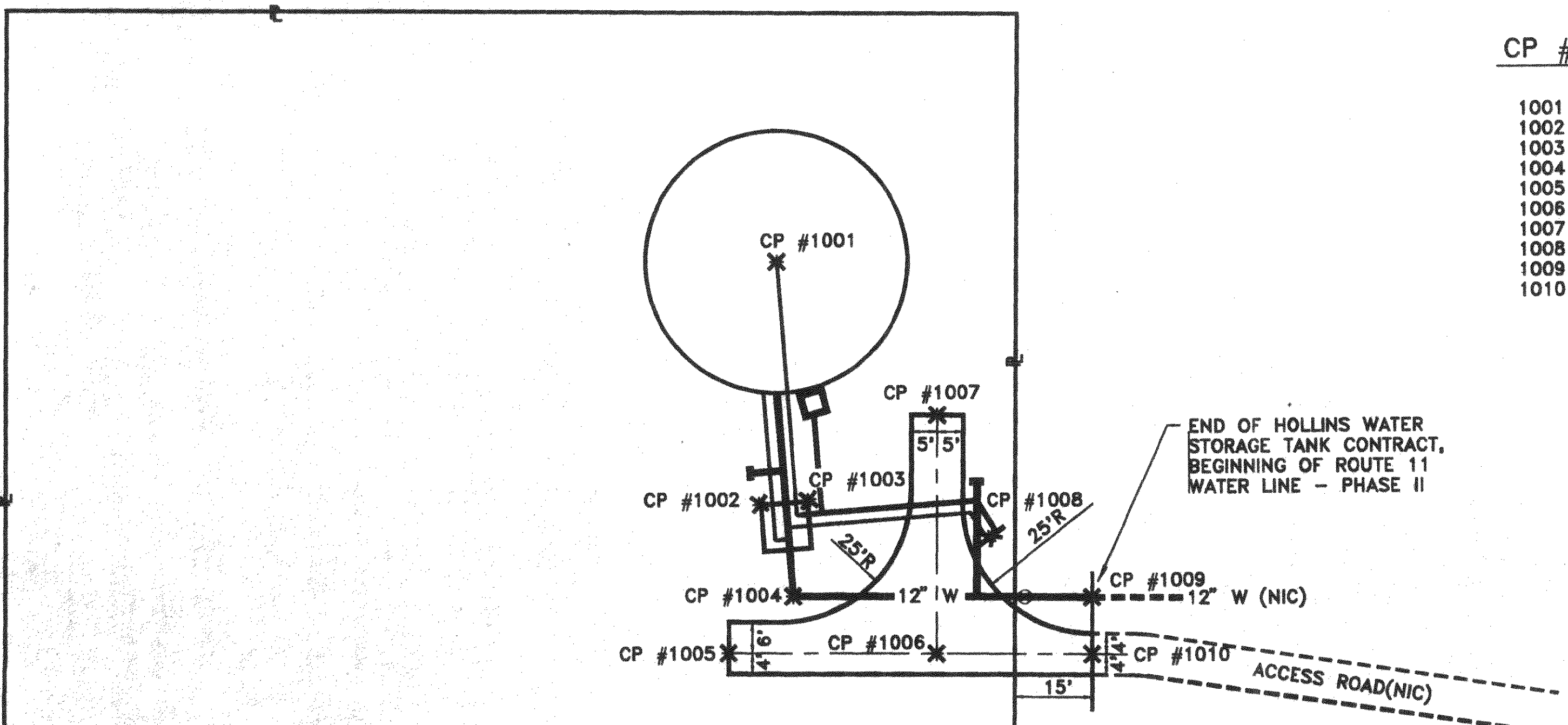


NEW WATER STORAGE TANK
 DIA. 50', CAP. 500,000 GAL.
 HEIGHT 34'
 OVERFLOW ELEV. 1385.00
 RINGWALL ELEV. 1351.00
 1 VF = 14,687 GALLONS

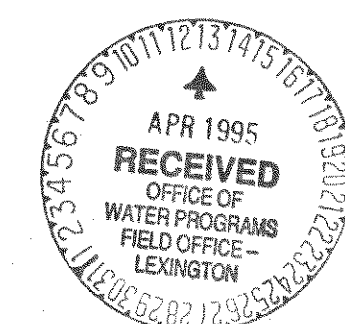
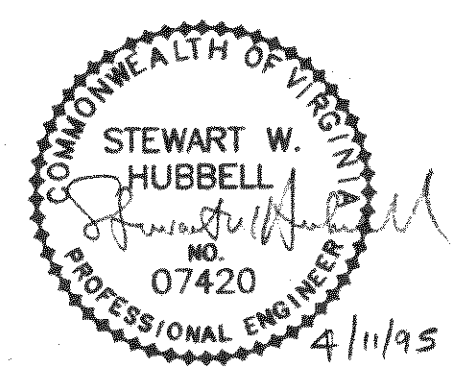


TYPICAL ROAD IMPROVEMENT SECTION
 N.T.S.

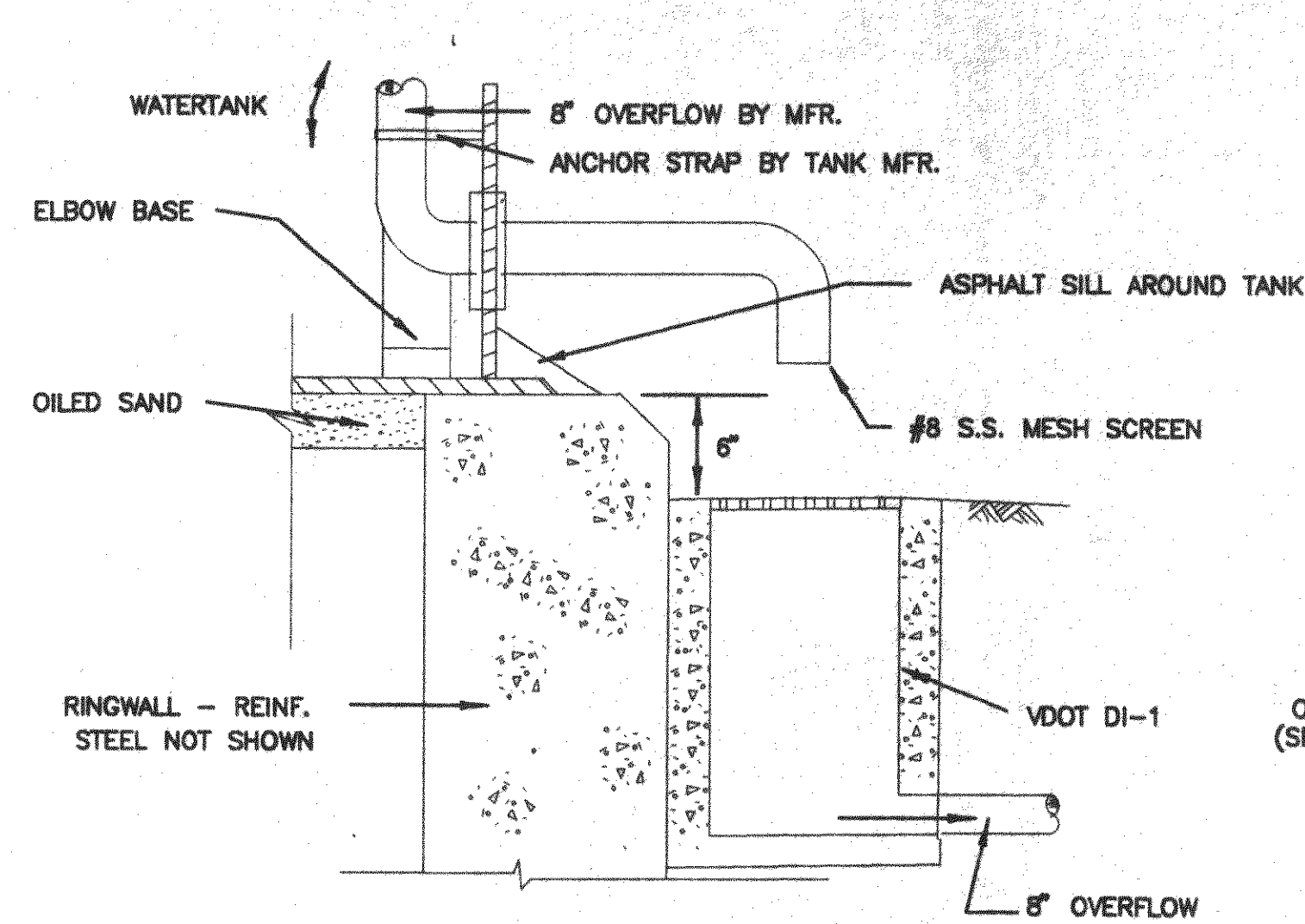
- NOTES:
1. NEW DITCH LINE SHALL BE ONE FOOT DEEP AND SHALL HAVE 3 TO 1 FRONT SLOPE AND 2 TO 1 MAXIMUM BACK SLOPE AND SHALL BE LINED WITH RIP RAP VDOT CLASS 1-A. SHOULDER WIDTH SHALL BE A MINIMUM OF 2 FEET.



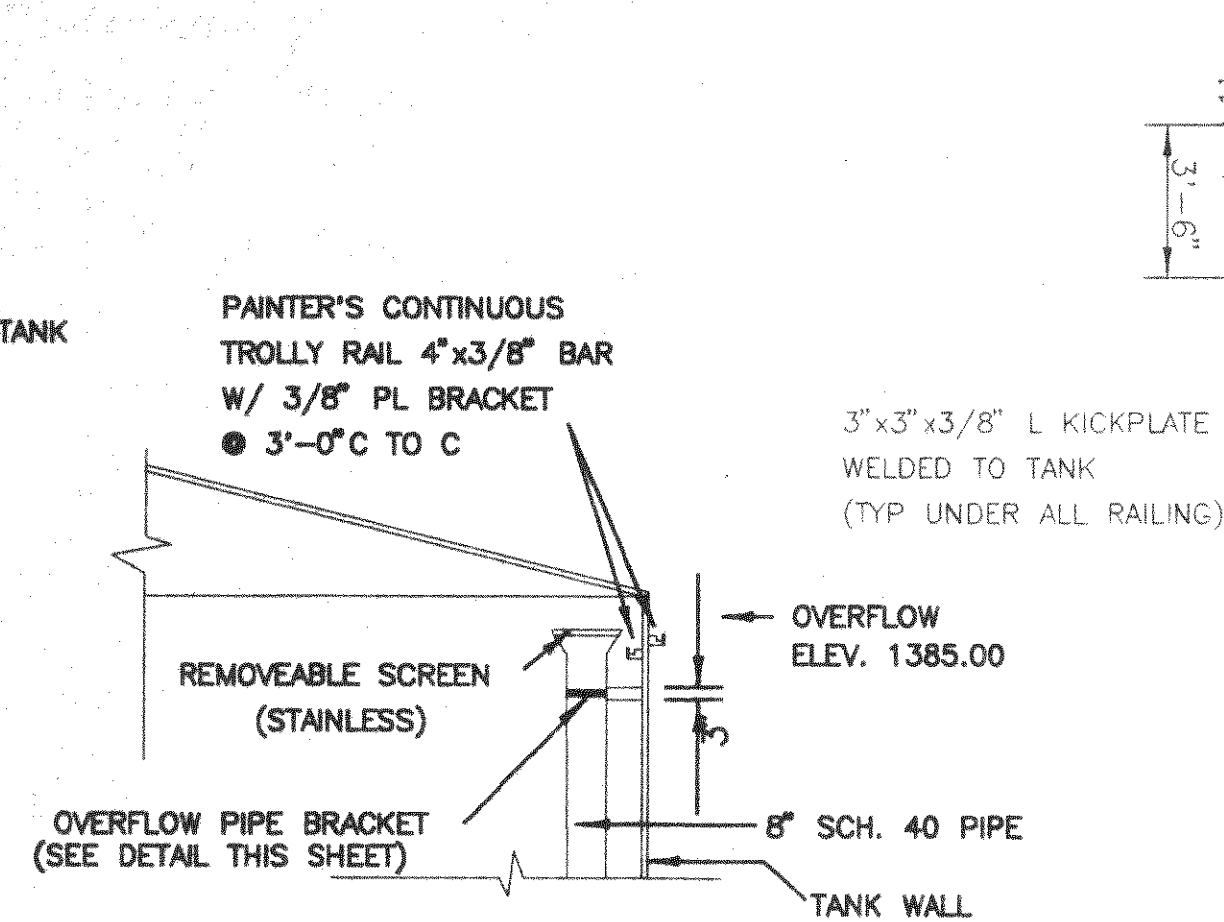
CP #	NORTH	EAST
1001	58972.8112	66262.4859
1002	58952.7009	66220.2821
1003	58944.8332	66225.6066
1004	58938.3171	66207.9576
1005	58943.7262	66192.3118
1006	58908.8386	66211.8788
1007	58931.3409	66251.9994
1008	58910.7539	66236.8490
1009	58888.0891	66236.1285
1010	58882.7082	66226.5345



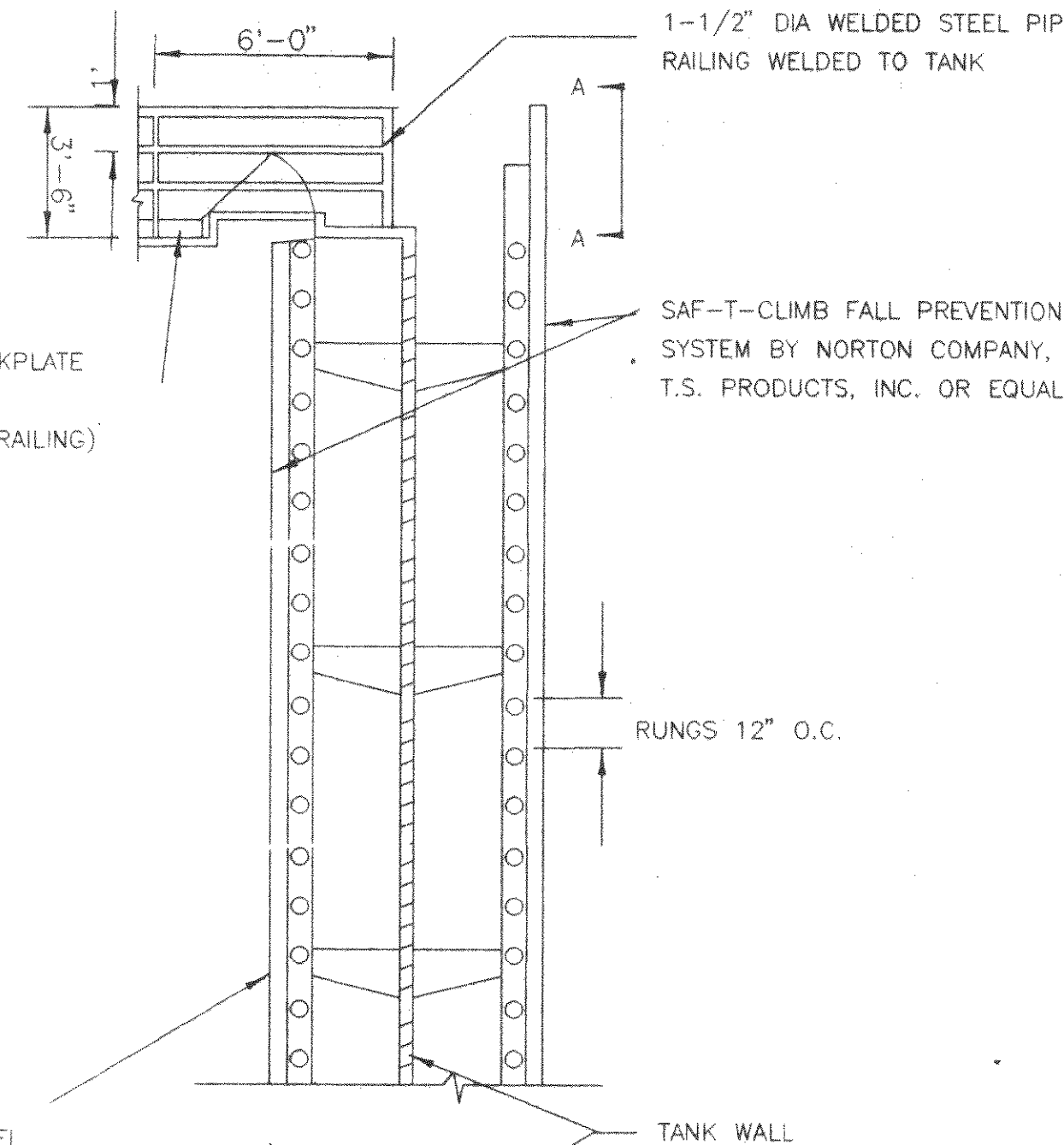
REV	DATE	DESCRIPTION	BY	APP
DSGN	SWH	HOLLINS WATER STORAGE TANK TANK SITE PLAN AND EROSION CONTROL PLAN BOTETOURT COUNTY, VIRGINIA		
DRAWN	DSG			
CHKD	SWH			
		SCALE: 1"=20'	COMM. NO. 1297D	
		DATE: MARCH, 1995	SHEET 4	
		DRAWING # 4TANK		



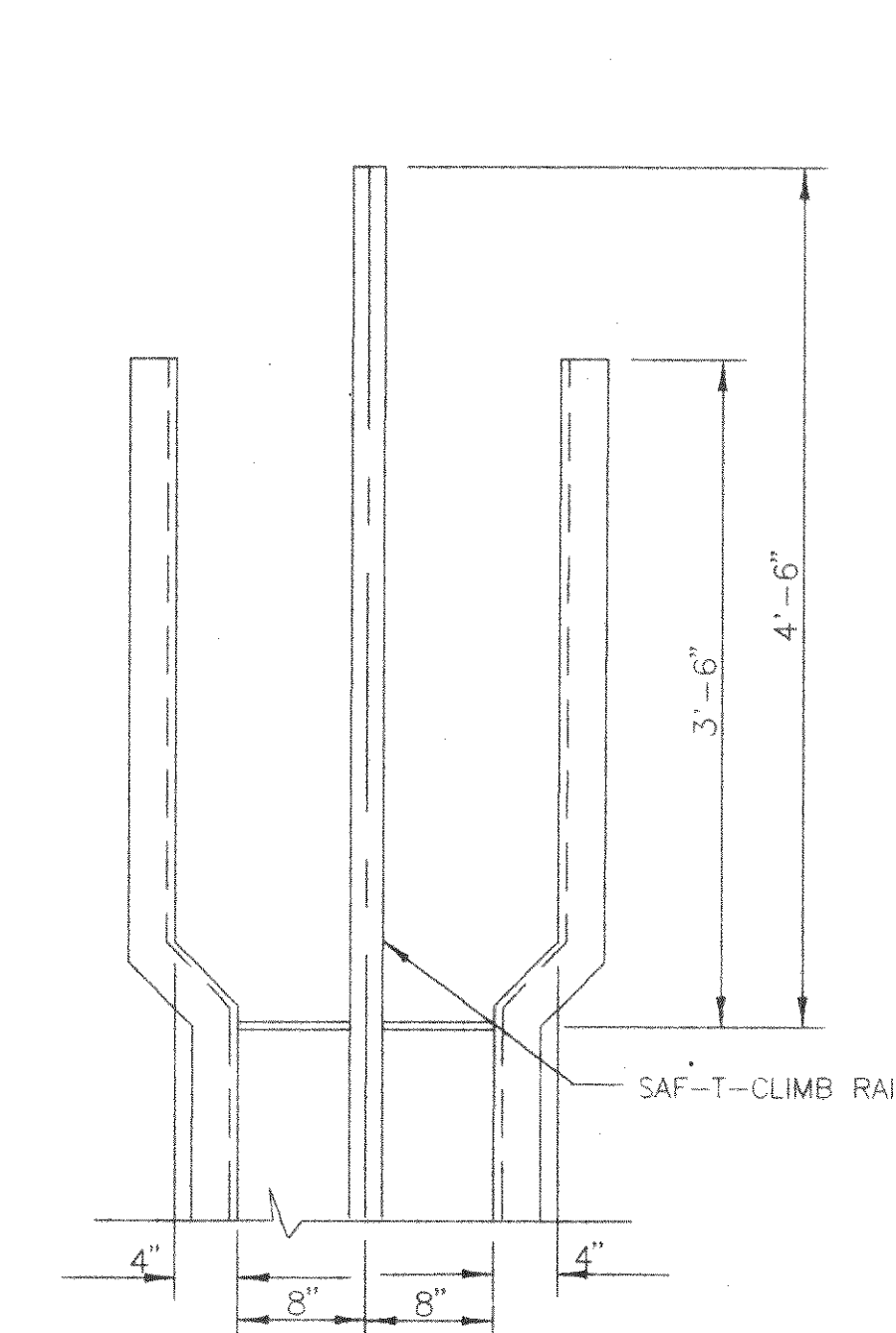
TANK OVERFLOW DETAIL
NO SCALE



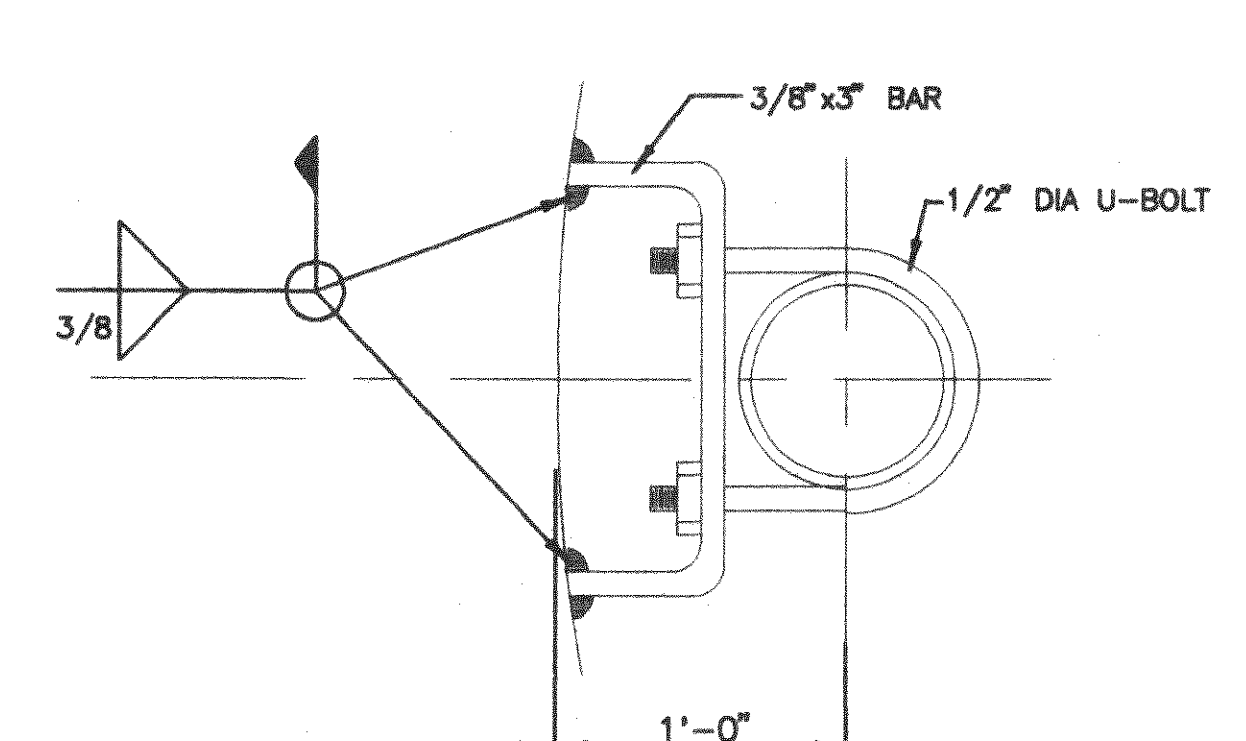
OVERFLOW DETAIL
NO SCALE



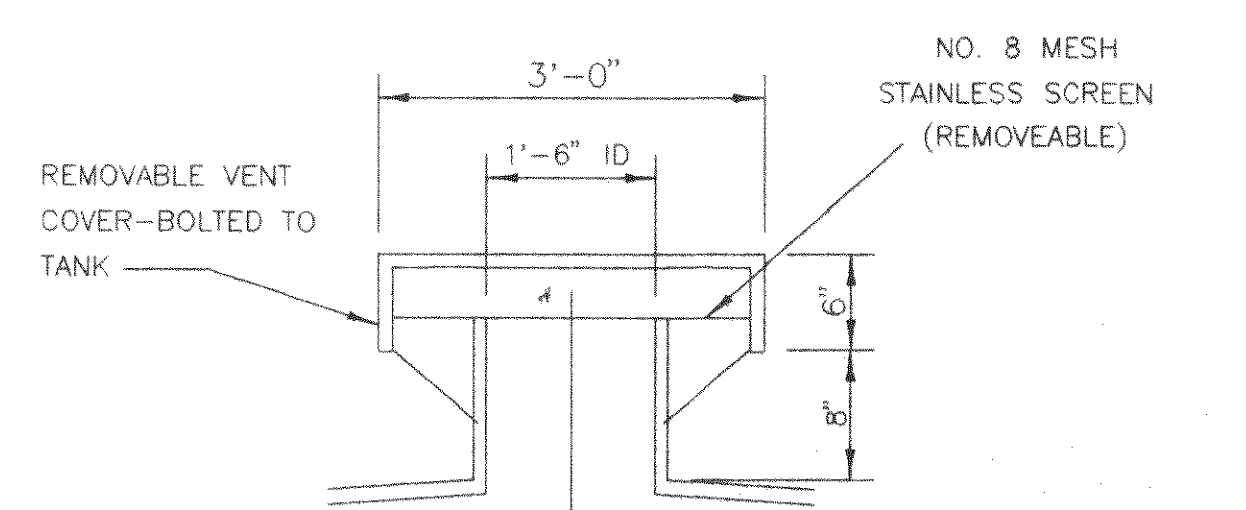
ACCESS LADDER DETAIL
NO SCALE



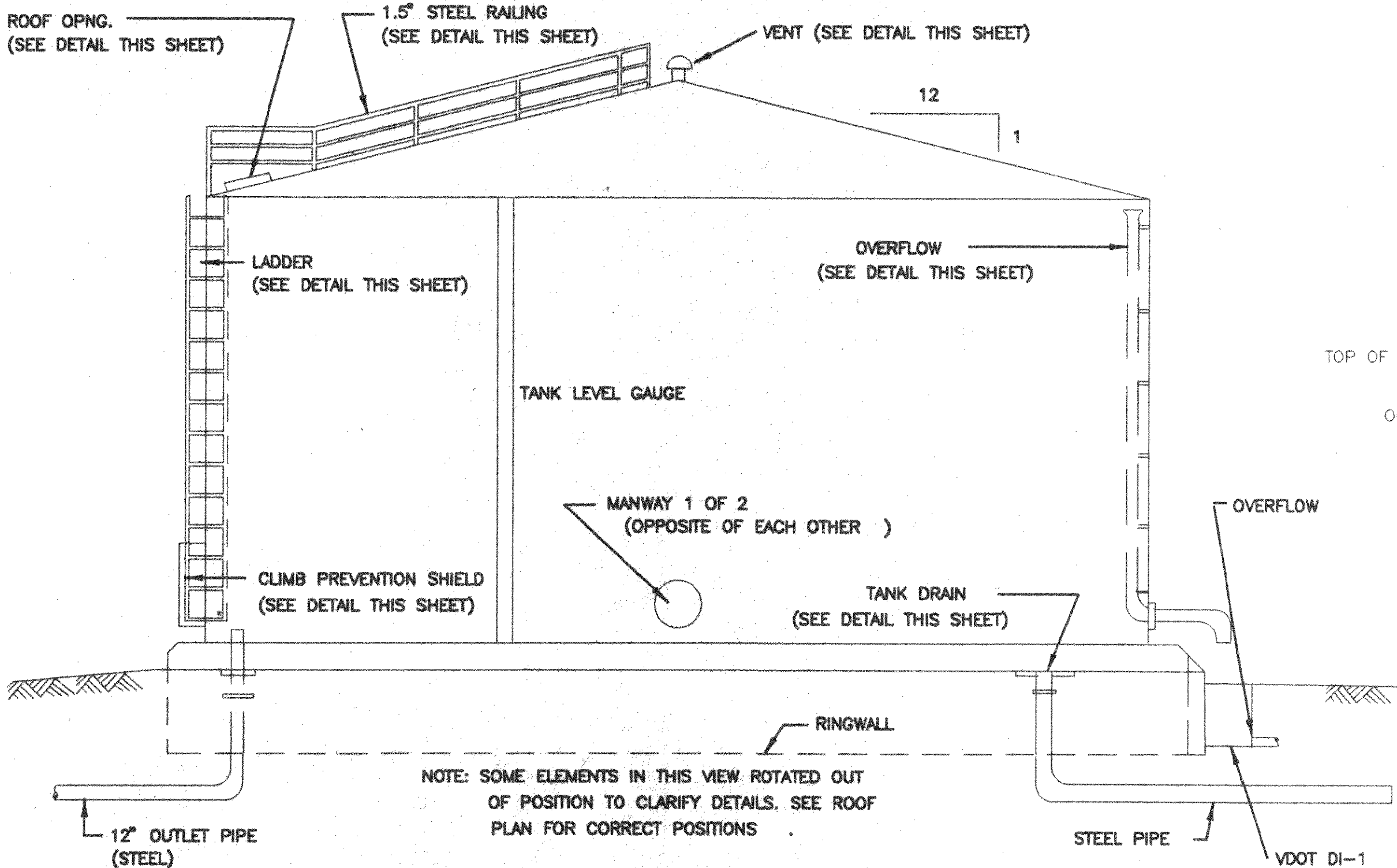
SECTION A-A
NO SCALE



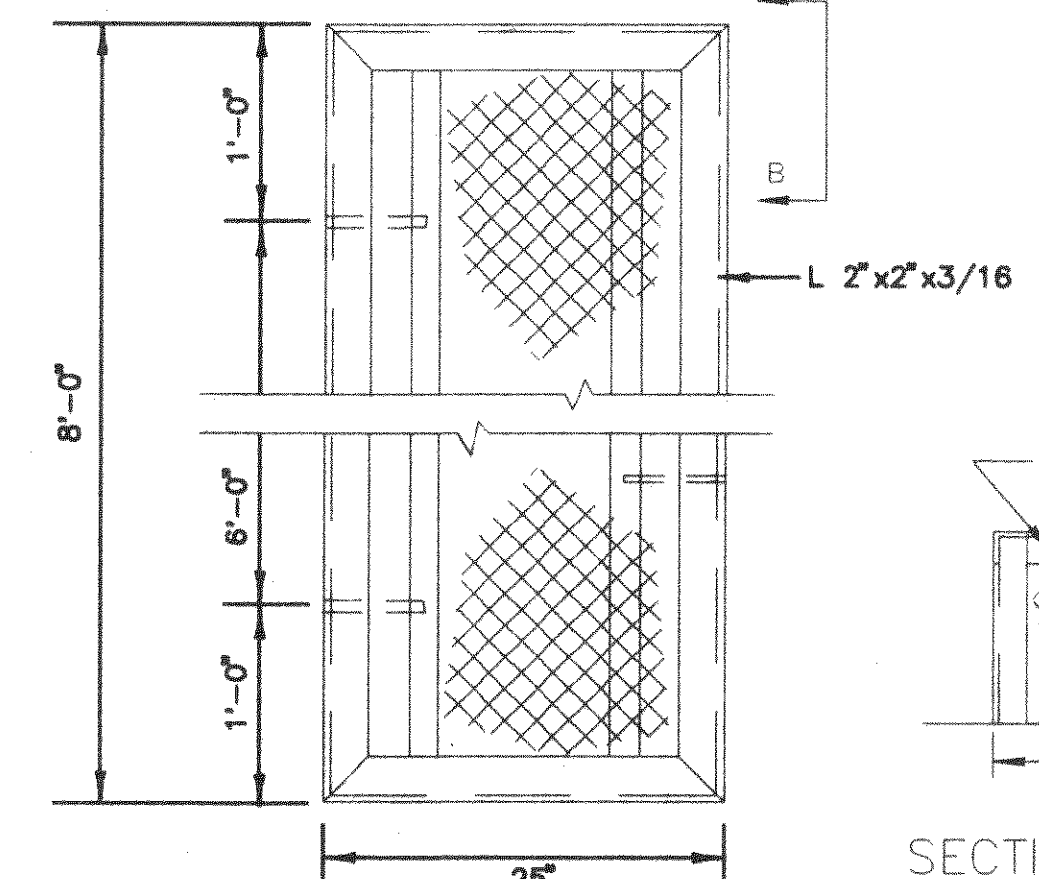
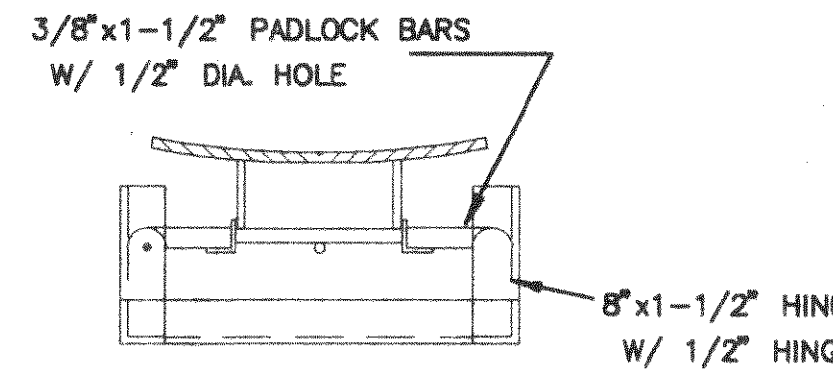
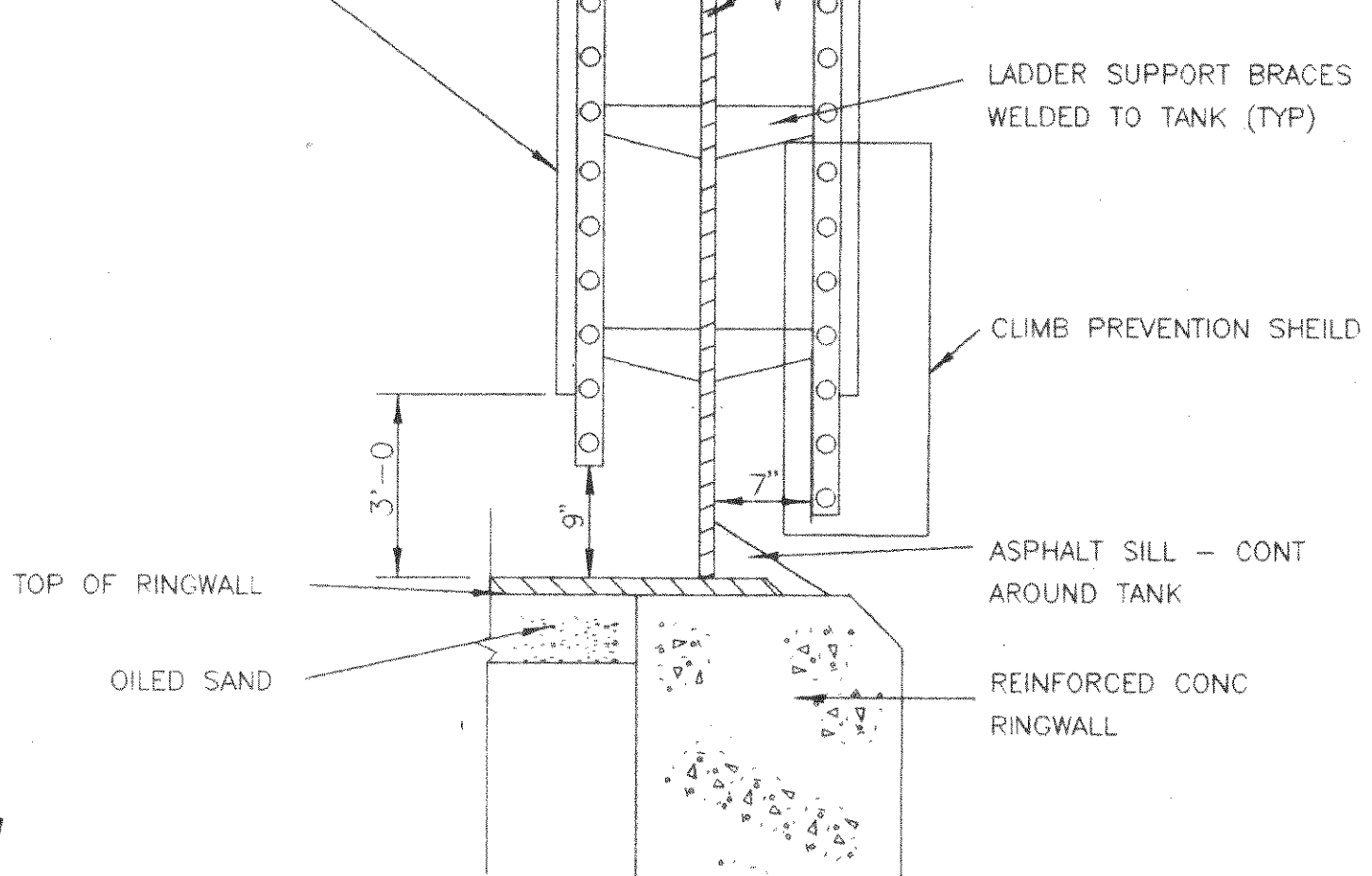
OVERFLOW PIPE BRACKET
NO SCALE



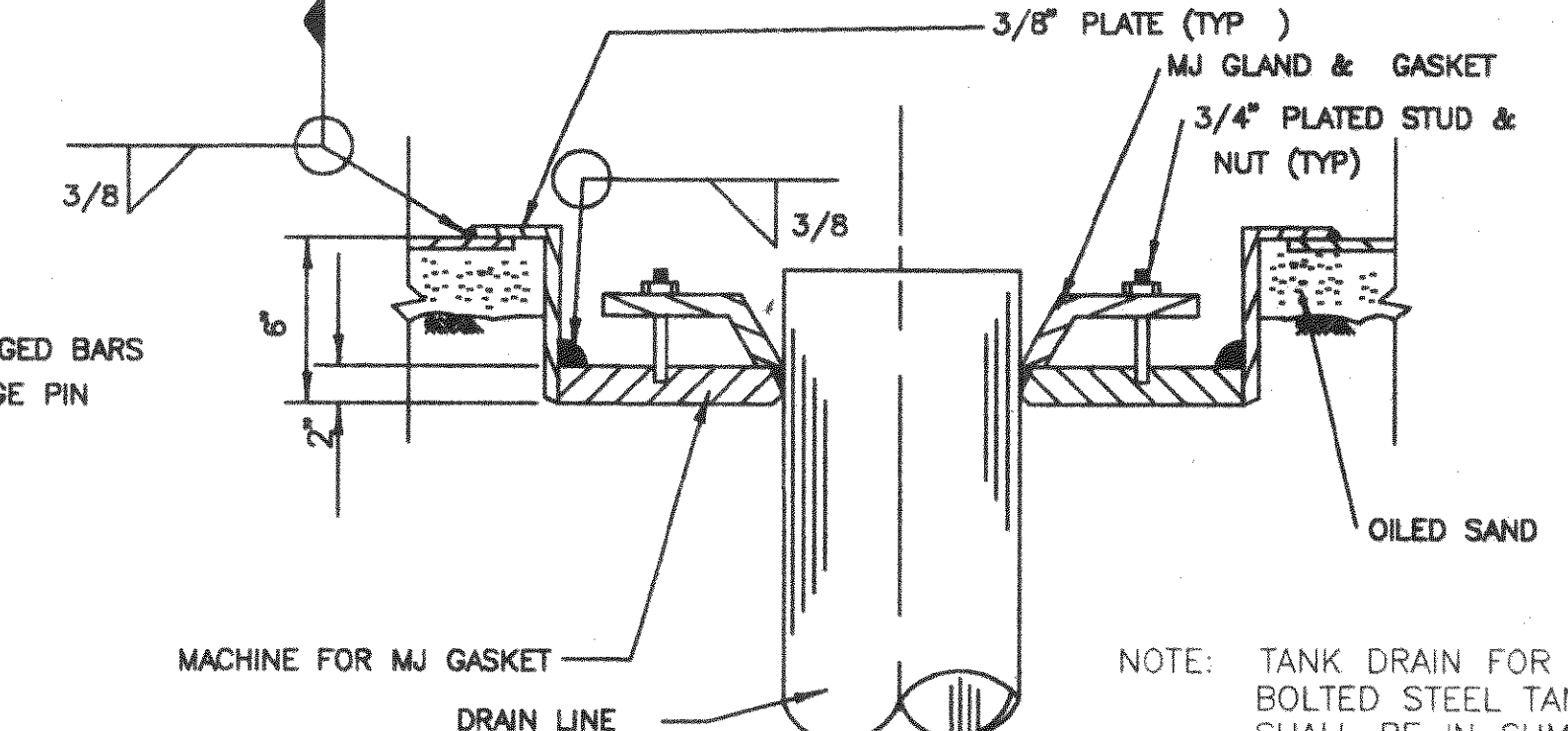
VENT DETAIL
NO SCALE



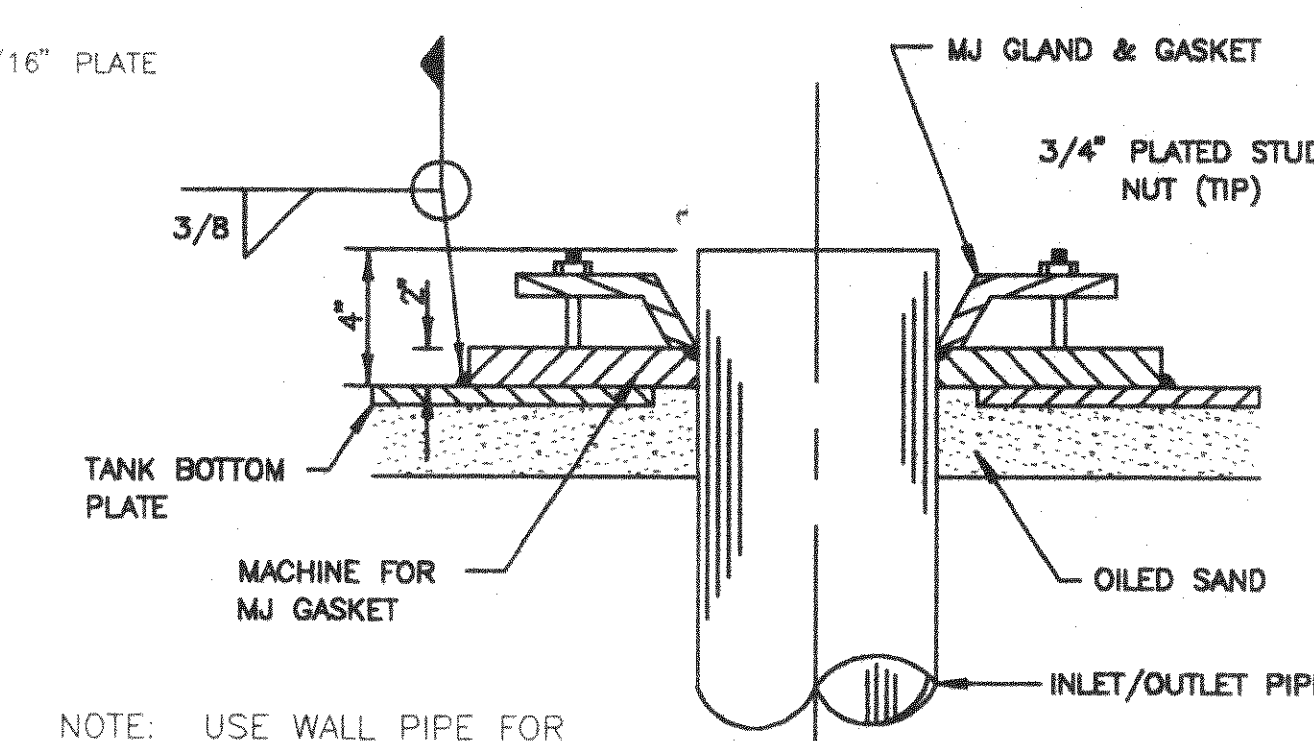
TANK ELEVATION
NO SCALE



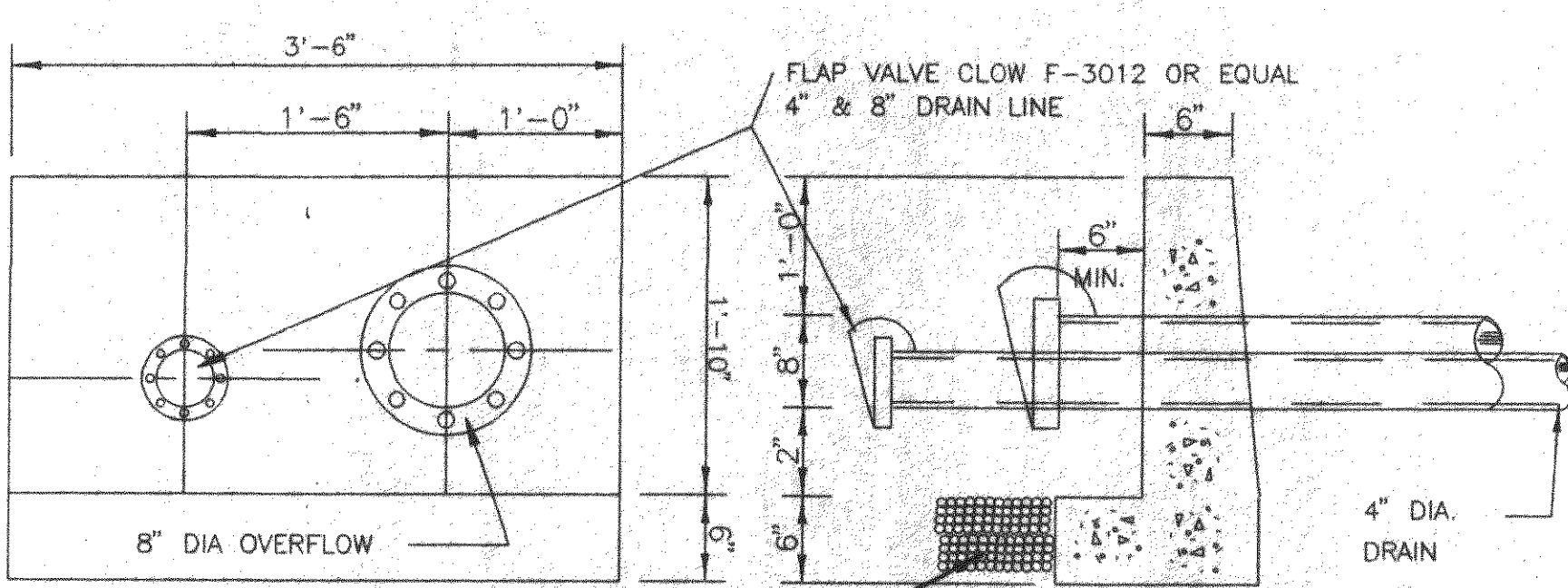
CLIMB PREVENTION SHIELD DETAIL
NO SCALE



TANK DRAIN DETAIL
NO SCALE

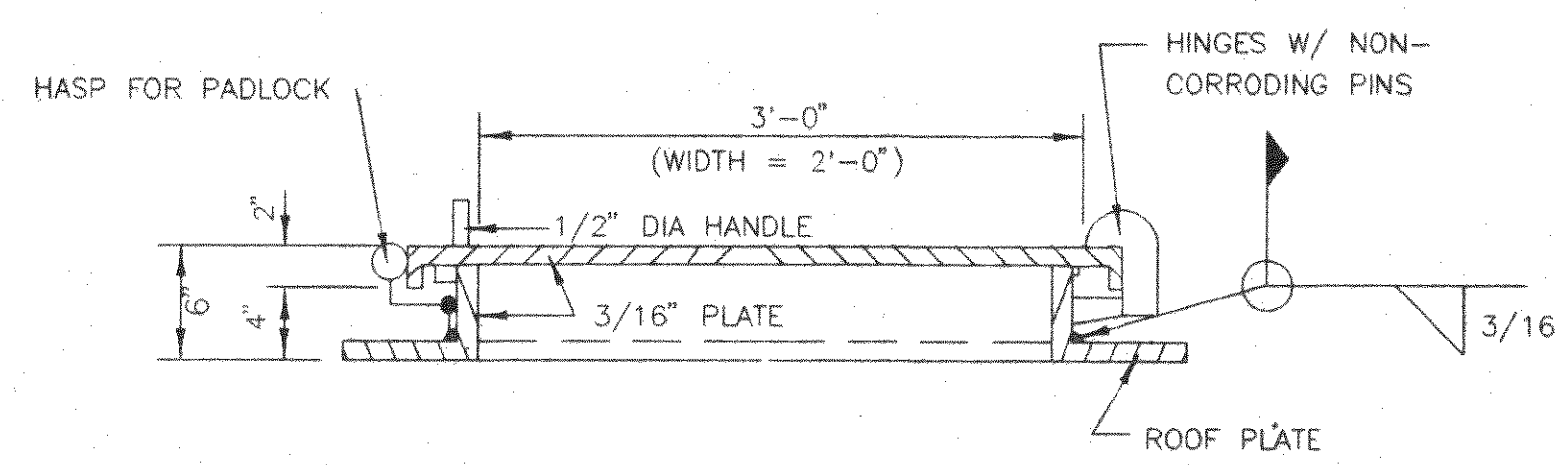


TANK INLET/OUTLET DETAIL
NO SCALE

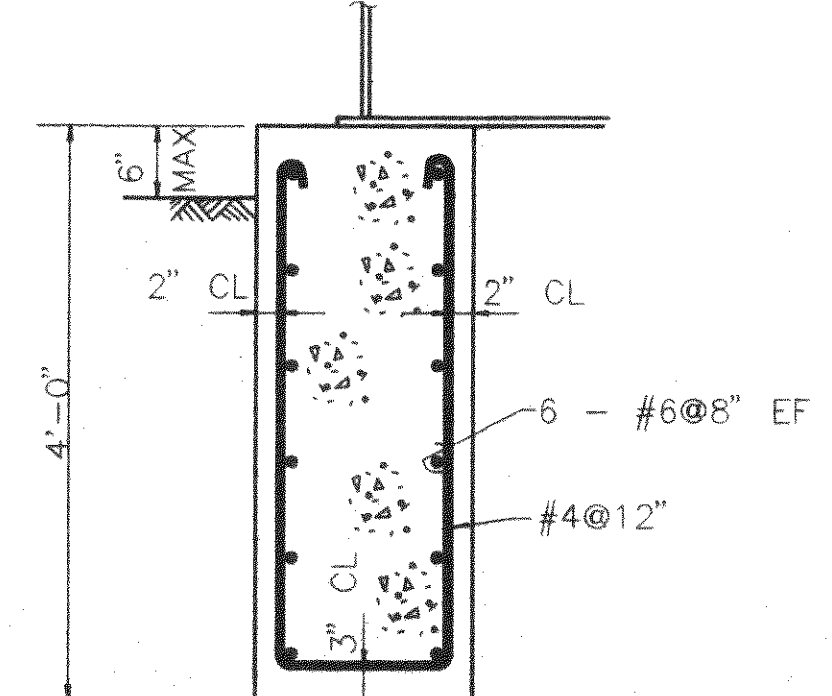


FRONT ELEVATION
NO SCALE

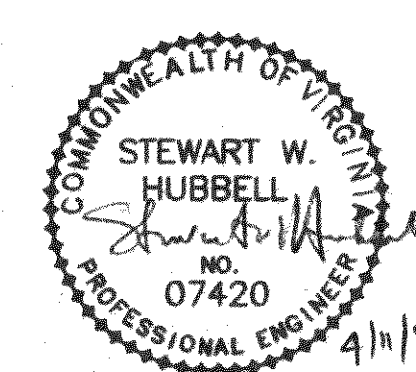
END ELEVATION
NO SCALE



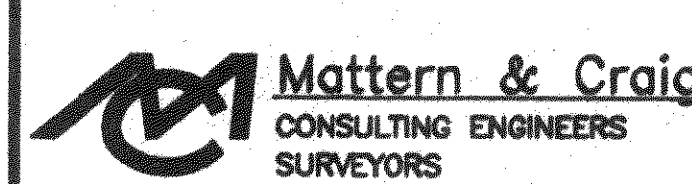
ROOF OPENING DETAIL
NO SCALE

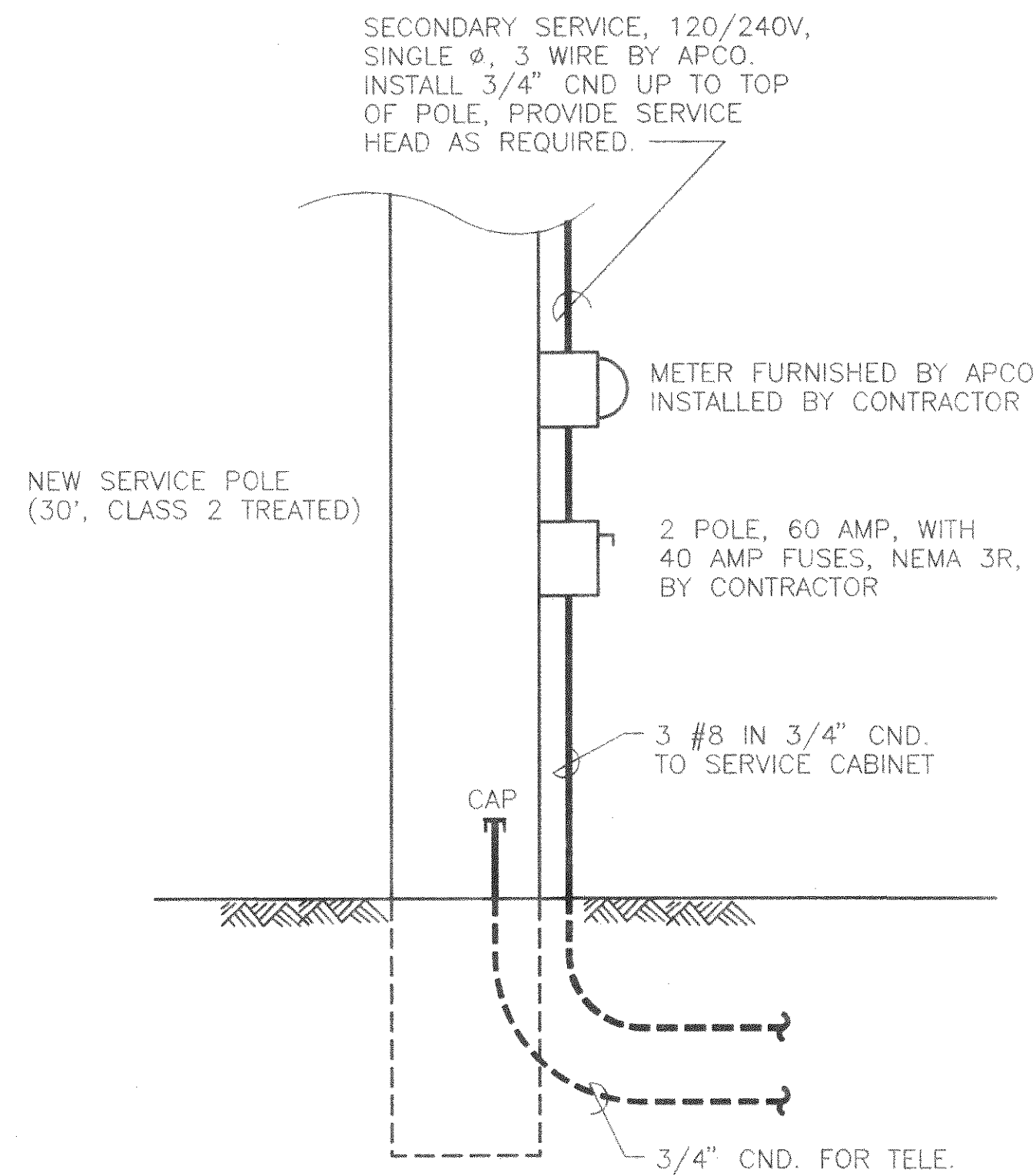


FOOTING DETAIL
NO SCALE

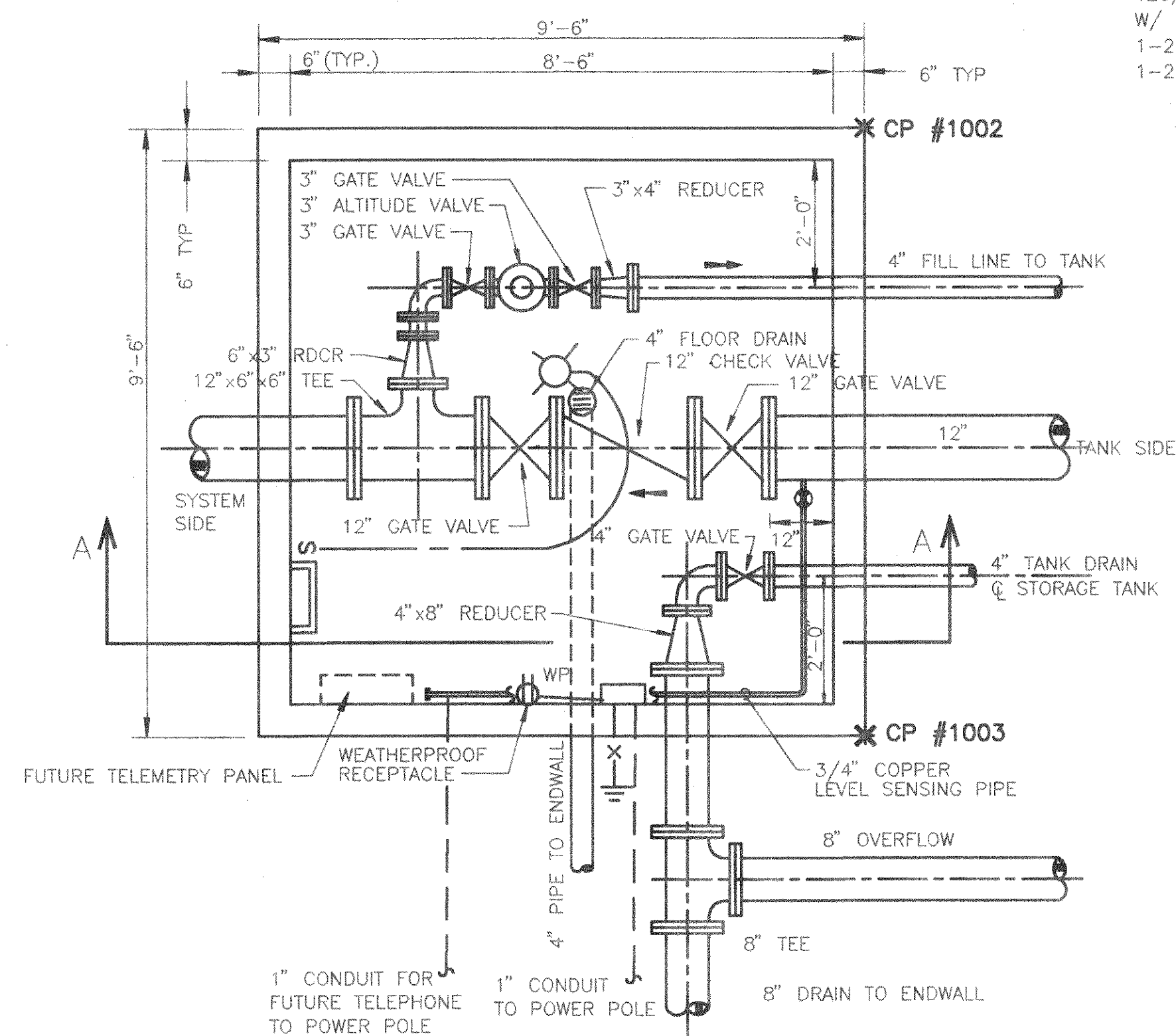


REV	DATE	DESCRIPTION	BY	APP
DSGN	SWH	HOLLINS WATER STORAGE TANK WATER TANK DETAILS BOTETOURT COUNTY, VIRGINIA		
DRAWN	DSG			
CHKD	SWH			
 Mattern & Craig CONSULTING ENGINEERS SURVEYORS		SCALE:	AS NOTED	COMM. NO. 1297D
		DATE:	MARCH, 1995	SHEET 5
		DRAWING # STANK		



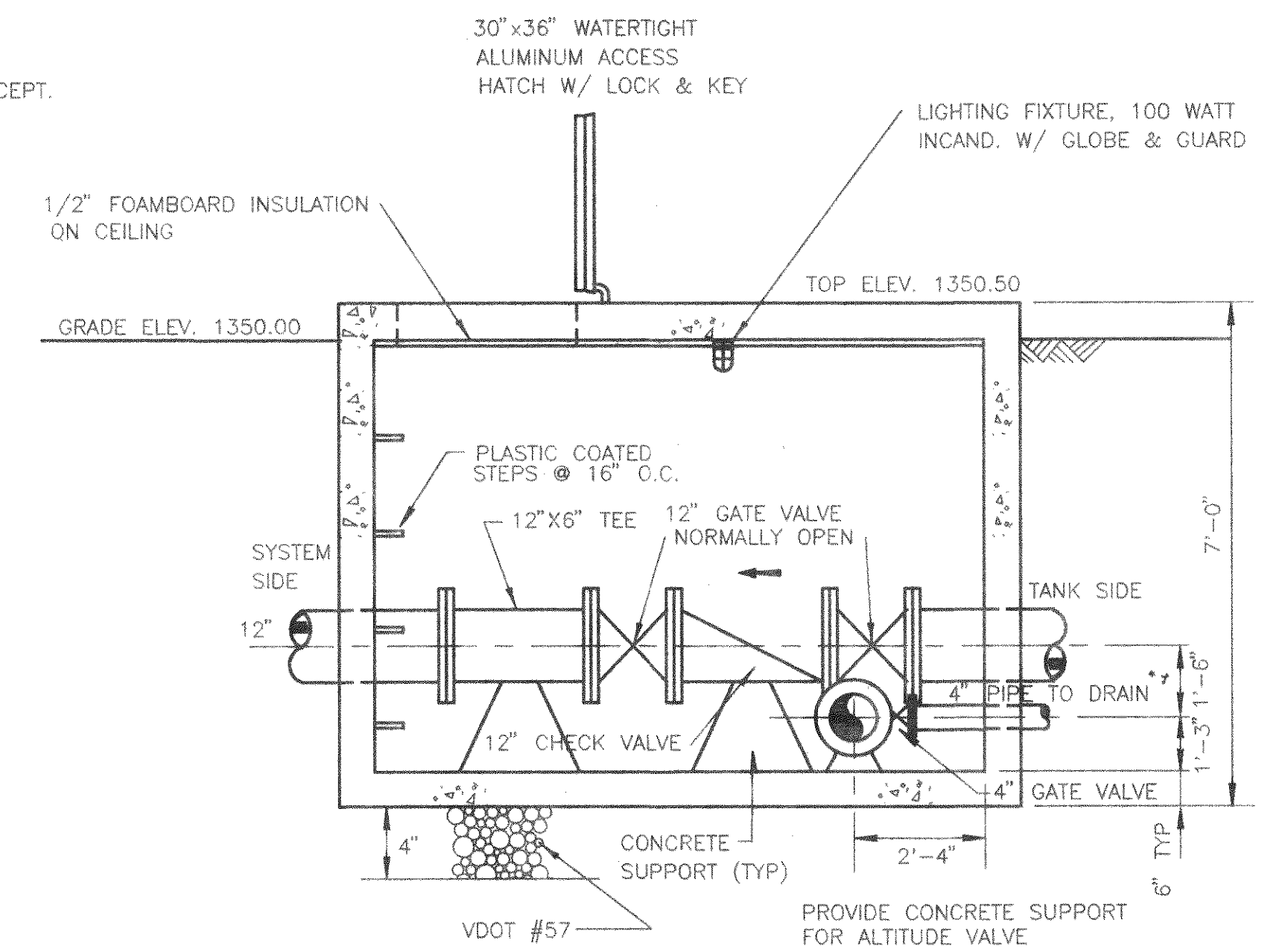


SERVICE POLE DETAIL
NO SCALE



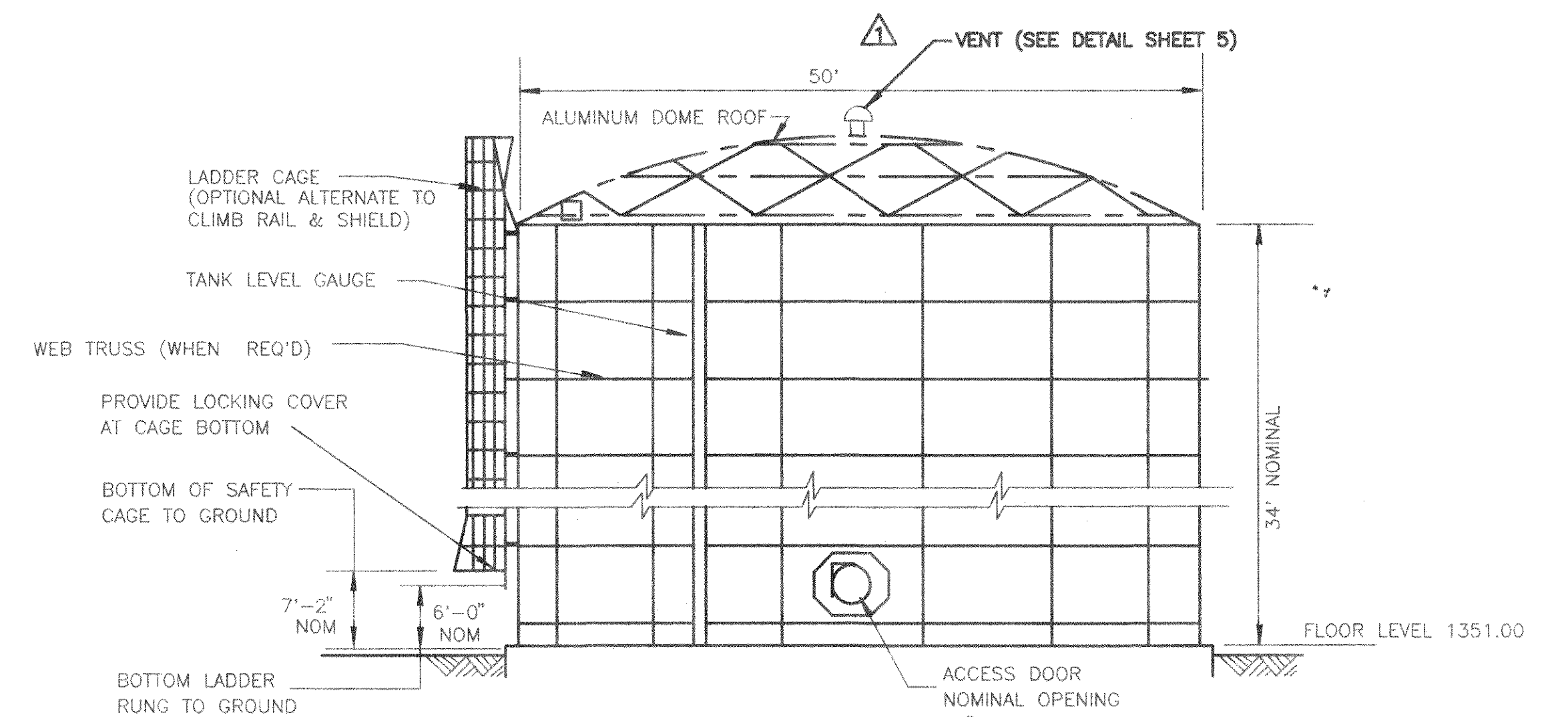
PRECAST ALTITUDE VALVE VAULT DETAIL
NO SCALE

MAIN ELECTRICAL PANEL
120/240 VOLT, SINGLE PHASE, NEMA 3R
W/ 60 AMP MAIN BREAKER AND;
1-20 AMP BRANCH BREAKER - SPARE
1-20 AMP BRANCH BREAKER - LIGHTING & RECEPT.



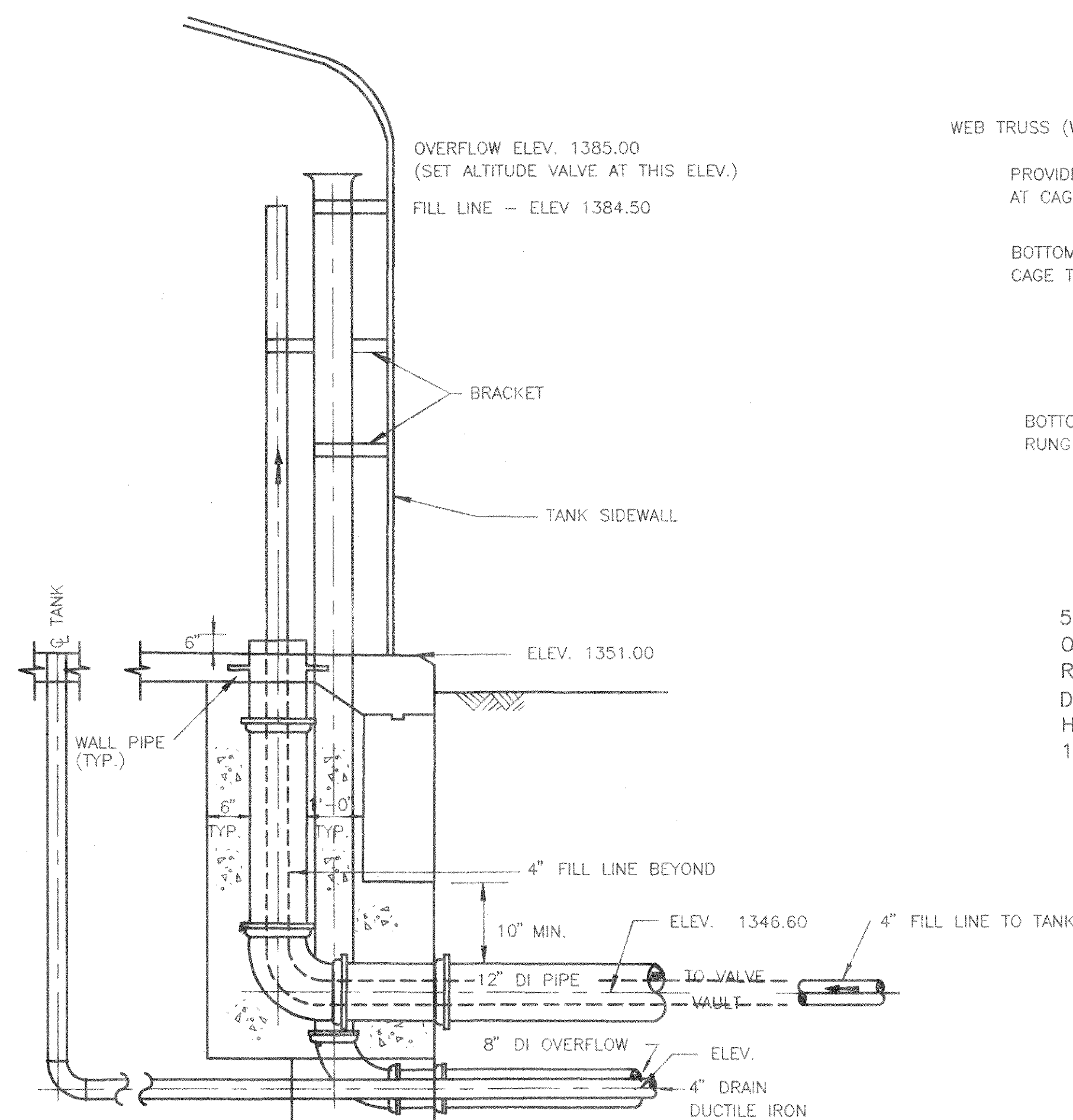
SECTION A-A
NO SCALE

- NOTE:
1. PRECAST VAULT SHALL CONFORM TO SPECS.
 2. SLOPE FLOOR TO FLOOR DRAIN.



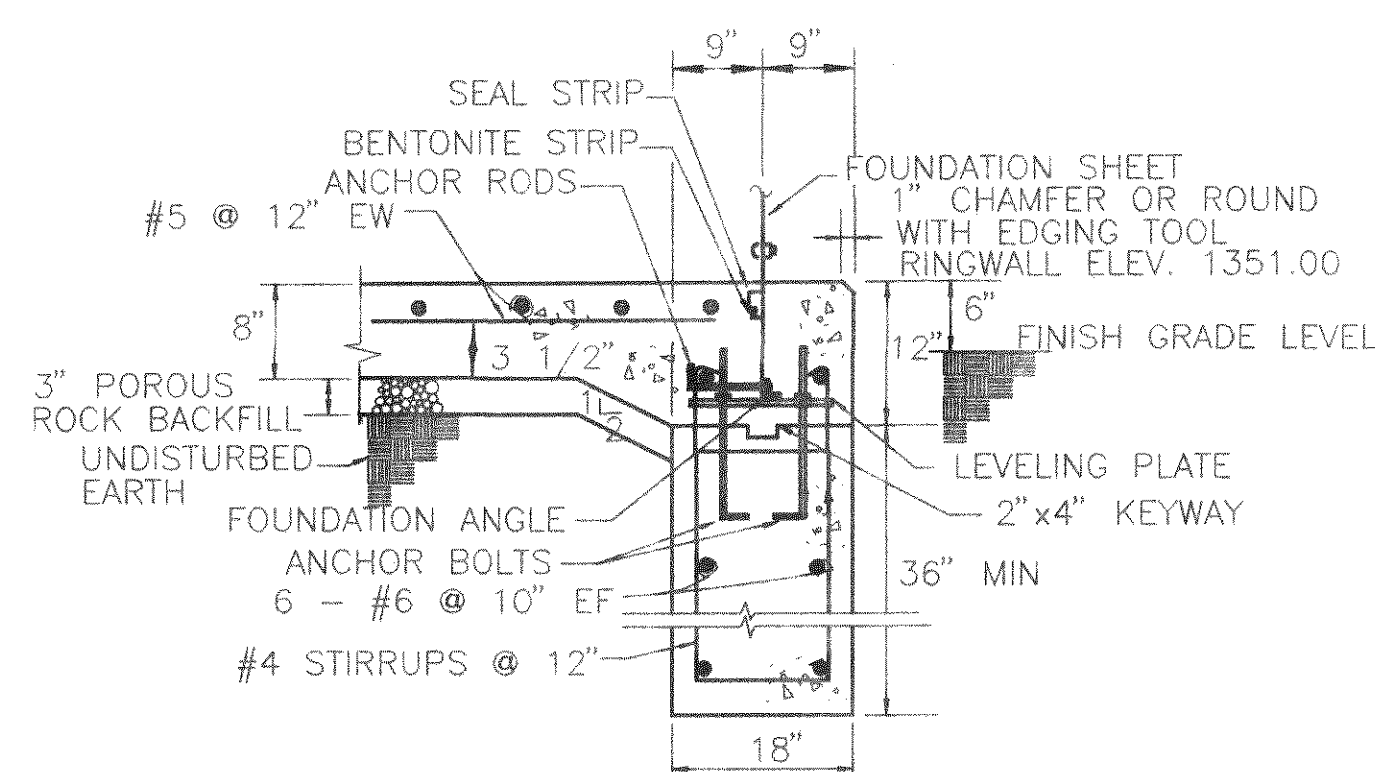
TANK ELEVATION - BOLTED STEEL TANK
NO SCALE

500,000 GAL. WATER TANK
OVERFLOW ELEV. 1385.00
RINGWALL ELEV. 1351.00
DIA. 50'
HEIGHT TO EAVE 34'
1 VF = 14,687 GALLONS

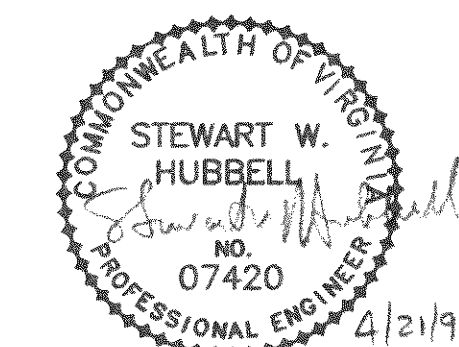


STORAGE TANK DISTRIBUTION LINE
NO SCALE

NOTE: PIPE PENETRATIONS THRU CONC. BOTTOM SHALL BE WITH WALL PIPES WITH FLANGE CAST IN CONC.



FOOTING DETAIL - BOLTED STEEL TANK
NO SCALE



	4-21-95	AS PER VDH COMMENTS		DSG	SWH
REV	DATE	DESCRIPTION			BY APP
DSGN	SWH	HOLLINS WATER STORAGE TANK DETAILS			
DRAWN	DSG				
CHKD	SWH				
		BOTETOURT COUNTY,		VIRGINIA	
 Mattern & Craig CONSULTING ENGINEERS SURVEYORS		SCALE: AS NOTED		COMM. NO. 1297D	
		DATE: MARCH, 1995		SHEET 6	
		DRAWING # ETANK			