

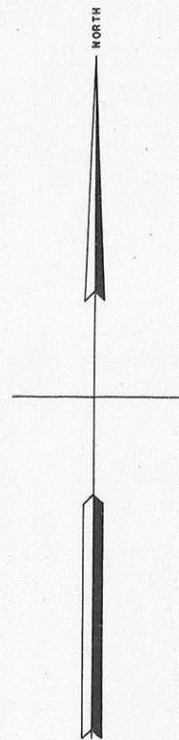
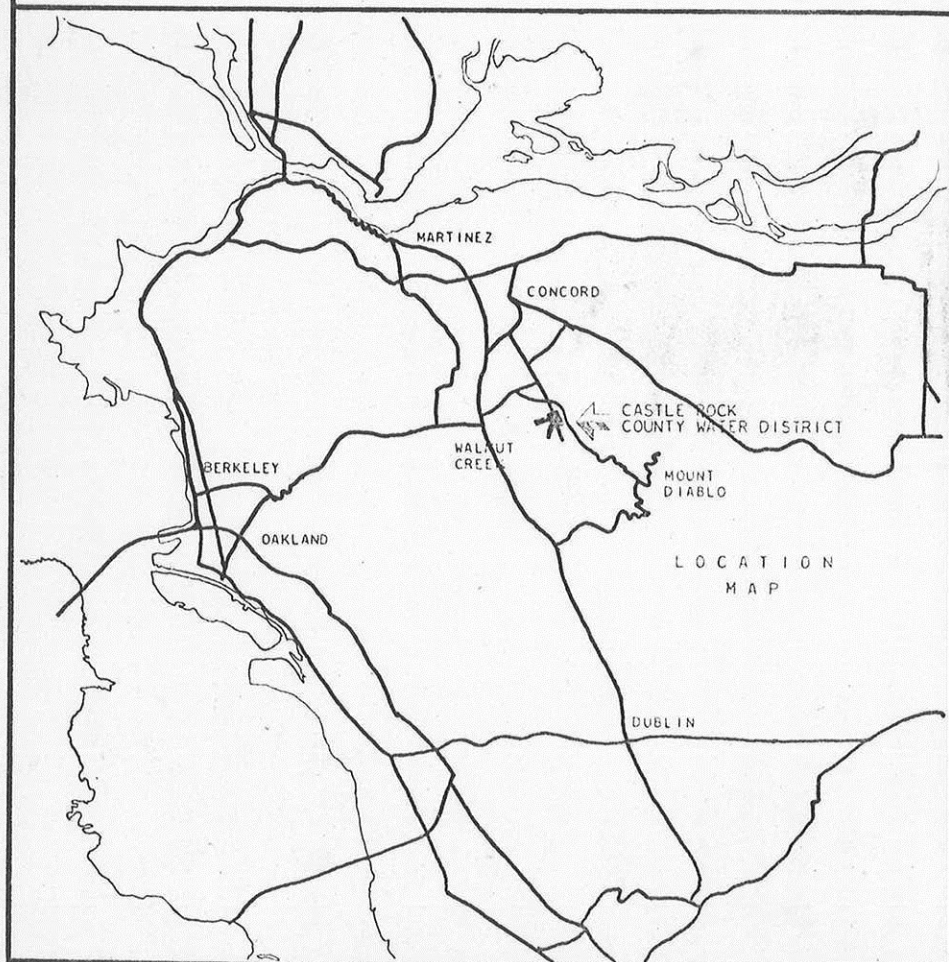
CASTLE ROCK COUNTY WATER DISTRICT

WATER SYSTEM

CONTRA COSTA COUNTY, CALIFORNIA

ROY EDWIN RAMSEIER
SANITARY & HYDRAULIC ENGINEER

REGISTERED CIVIL ENGINEER NO. 5518



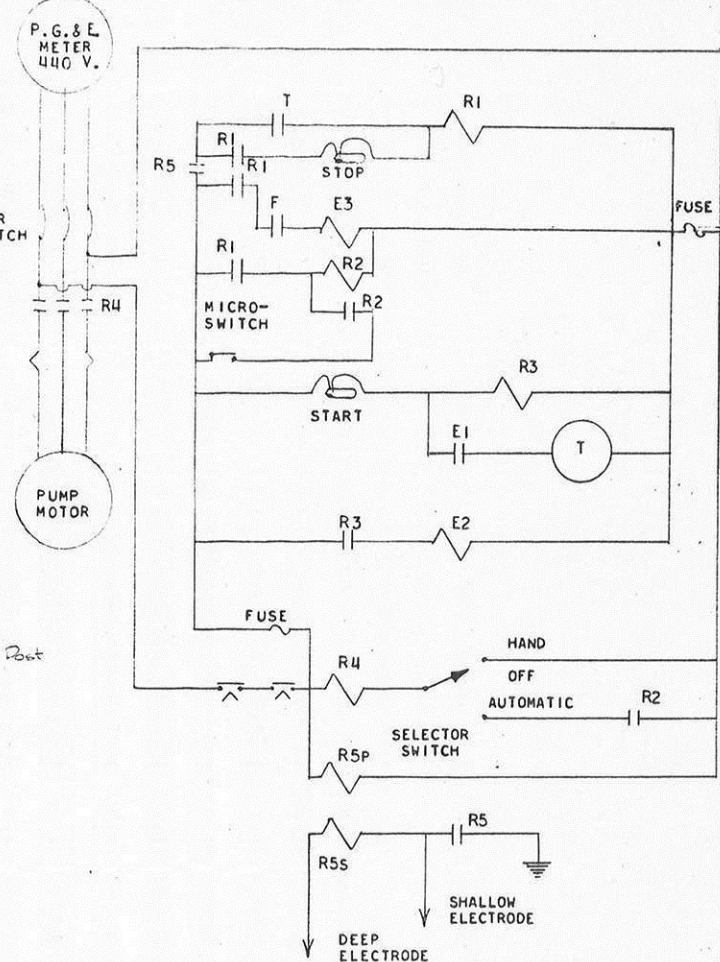
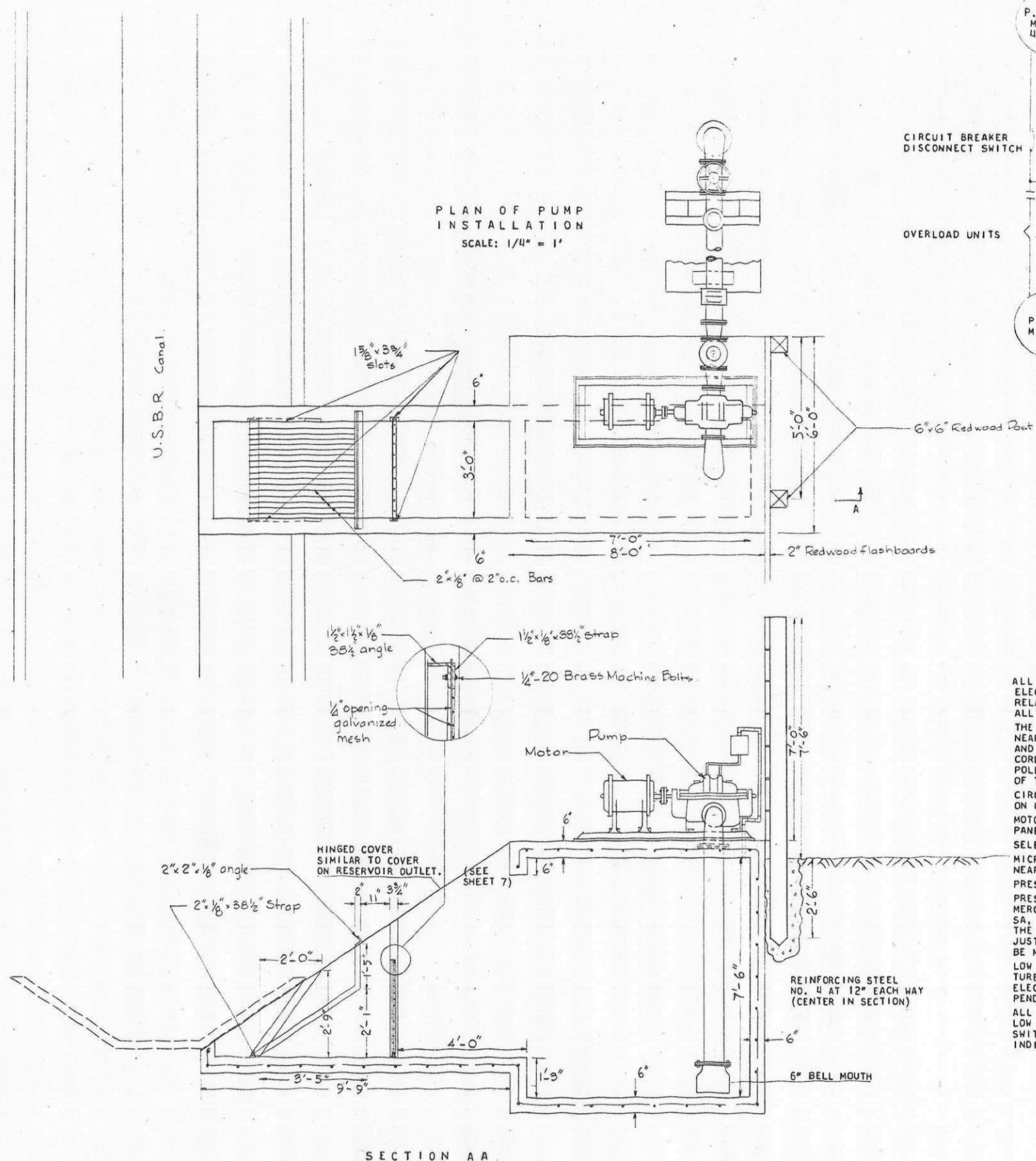
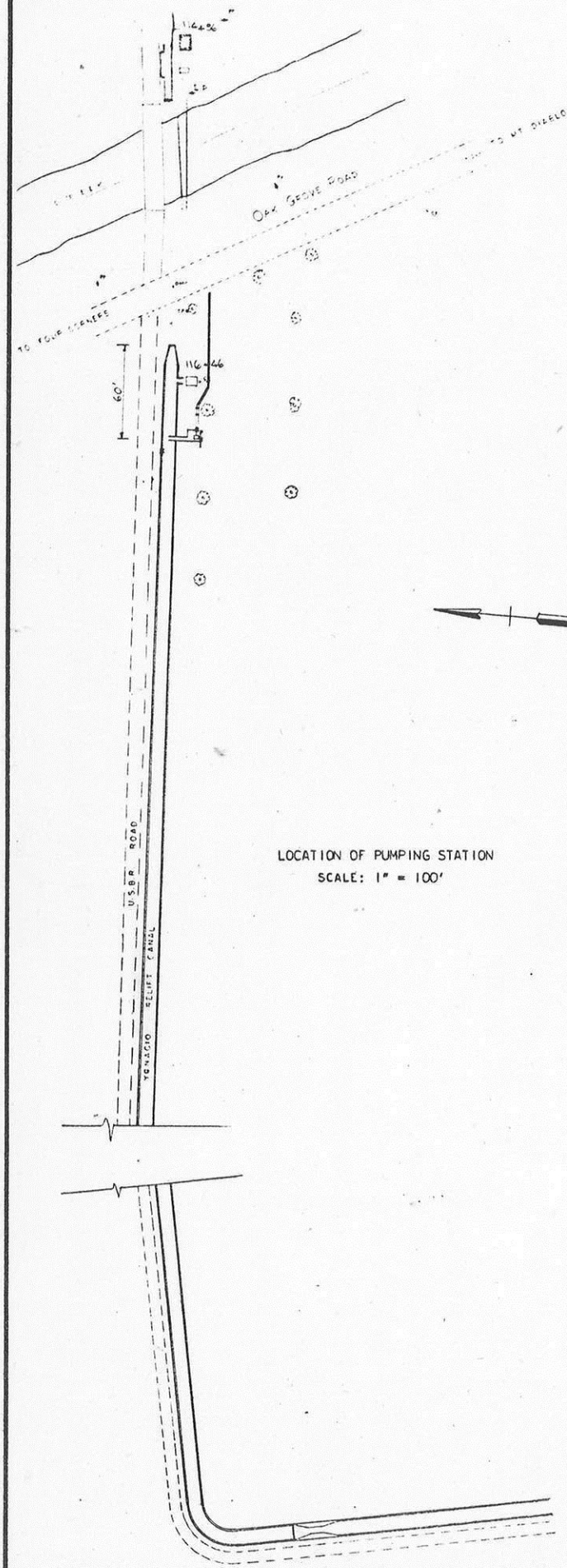
GENERAL PLAN

ROY EDWIN RAMSEIER
SANITARY & HYDRAULIC ENGINEER

CASTLE ROCK COUNTY WATER DISTRICT
WATER SYSTEM

Drawn by J.M.M. Scale: 1" = 1000'

R. Ramseyer 6-27-
CON 09



ALL ELECTRIC WIRING SHALL BE INSTALLED IN ACCORDANCE WITH THE RULES OF 1 ELECTRICAL SAFETY ORDERS OF THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIA RELATIONS, THE INSTALLATION RULES OF THE PACIFIC GAS AND ELECTRIC COMPANY, ALL LOCAL ORDINANCES.

THE 6" X 6" REDWOOD POST SUPPORTING THE CONTROL EQUIPMENT PANEL AND LOCATED NEAREST TO THE ELECTRICAL SWITCHBOARD SHALL EXTEND FOUR FEET INTO CONCRETE, AND SHALL EXTEND 20 FEET ABOVE THE GROUND. THIS POLE SHALL BE FITTED IN AC CORDANCE WITH THE "APPROVED MINIMUM REQUIREMENTS FOR CUSTOMER OWNED SERVICE POLES" AS APPROVED BY RESOLUTION NO. E-651 OF THE PUBLIC UTILITIES COMMISSI OF THE STATE OF CALIFORNIA.

CIRCUIT BREAKER SHALL BE MULTIPOLE SO THAT ALL LINES WILL OPEN SIMULTANEOUS ON OVERLOAD ON ANY ONE LINE AND SHALL CLEARLY INDICATE "ON", "OFF", "TRIPPE MOTOR STARTER SHALL PROVIDE OVERLOAD AND LOW VOLTAGE PROTECTION AND SHALL E PANEL RESET.

SELECTOR SWITCH SHALL BE SINGLE POLE DOUBLE THROW H AND H SWITCH NO. 4361.

MICRO SWITCH SHALL BE SPLASH PROOF, TYPE "OP-AR" AS MANUFACTURED BY THE MIN NEAPOLIS - HONEYWELL REGULATOR COMPANY.

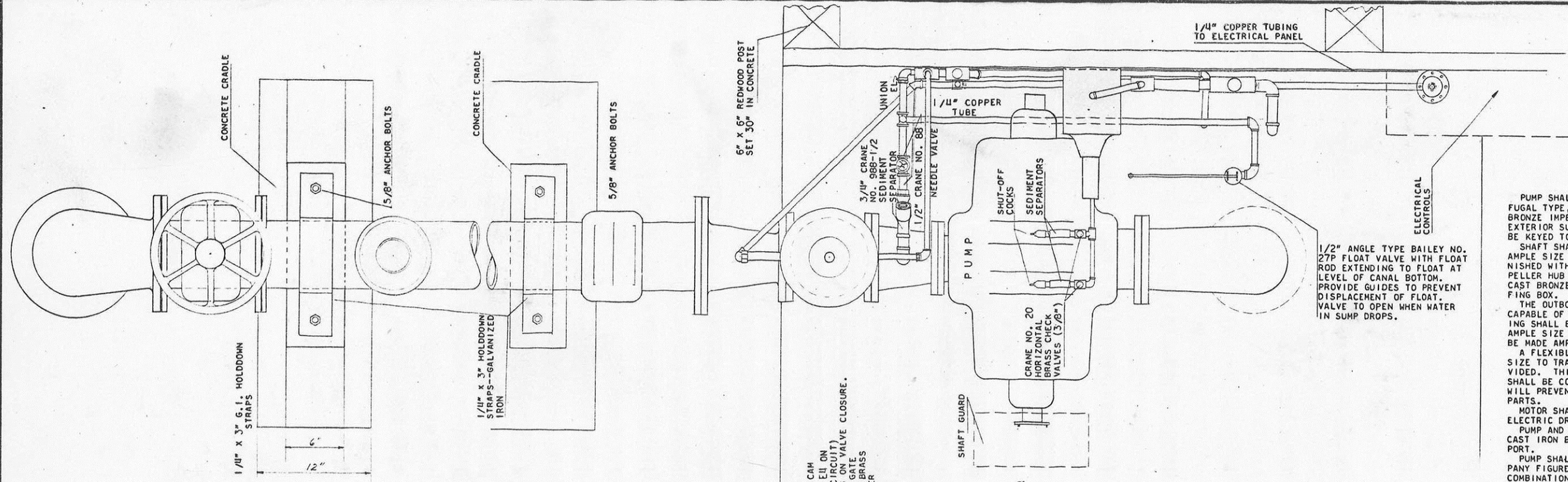
PRESSURE SWITCH (F) SHALL BE SIMILAR TO SQUARE D TYPE ASG-8.

PRESSURE CONTROL UNIT SHALL BE SINGLE BELLOWS, WEIGHT LOADED, WITH TILTING MERCURY SWITCHES, AND MOTOR DRIVEN RESET TIMER EQUAL IN ALL RESPECTS TO "TY SA, FORM 2, ROTOTROL, WITH SYNCHRONOUS MOTOR TIME DELAY" AS MANUFACTURED BY THE HEALY-RUFF COMPANY, ST. PAUL, MINN. A 4-1/2" DIAMETER HIGH QUALITY ADJUSTABLE PRESSURE GAUGE READING FROM ZERO TO 150 POUNDS PER SQUARE INCH SHA BE MOUNTED IN THE PANEL.

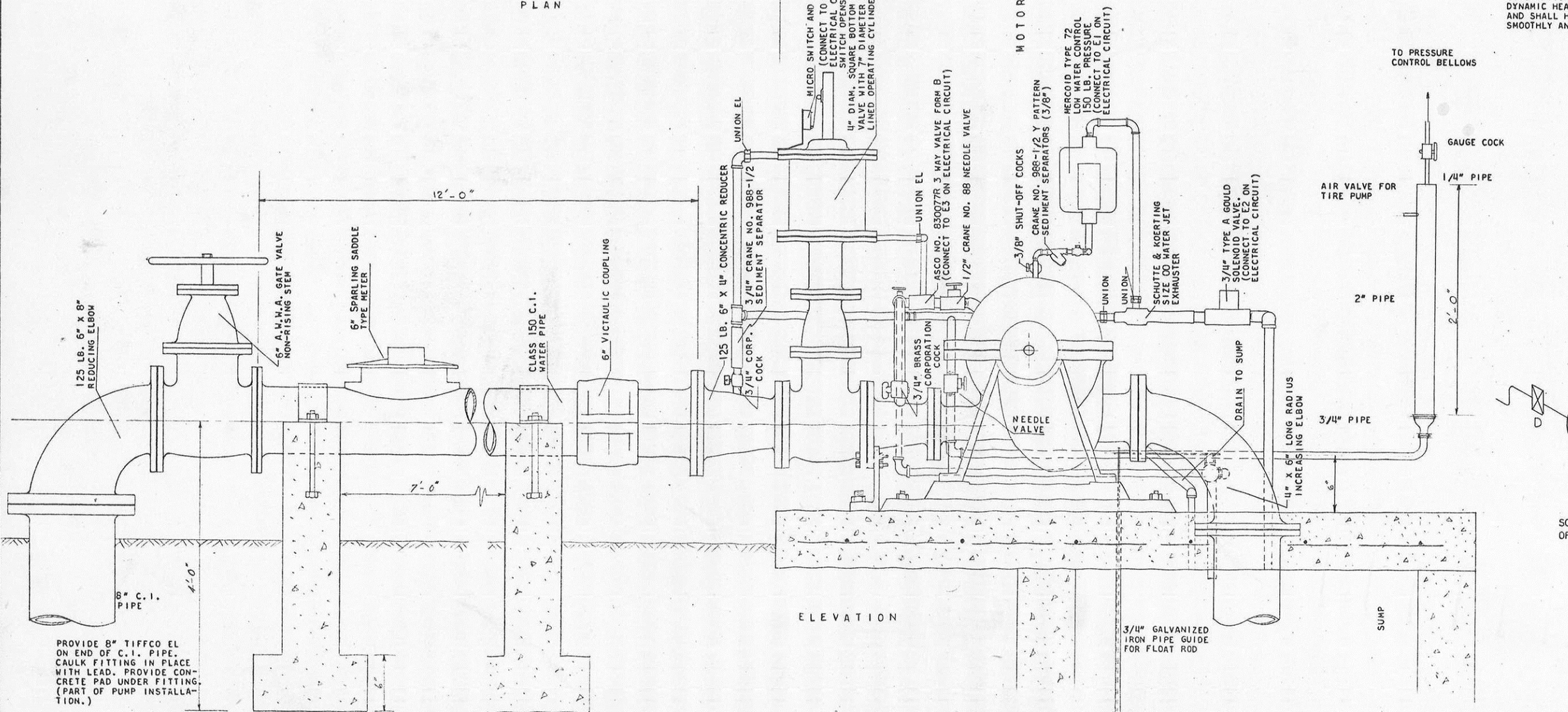
LOW WATER CUTOUT RELAY SHALL BE EQUAL TO TYPE LH INDUCTION RELAY AS MANUFAC TURED BY THE B/W CONTROLLER CORPORATION, BIRMINGHAM, MICH., WITH TYPE E2 ELECTRODE HOLDERS AND TWO TYPE EIP SHIELDED STAINLESS STEEL ELECTRODES SUS PENDED ON SW ELECTRODE WIRES.

ALL ELECTRICAL UNITS EXCEPT THE METER, THE TWO SOLENOID OPERATED VALVES, TH LOW WATER CONTROL, THE PUMP MOTOR, THE LOW WATER CONTROL PROBES AND THE MIC SWITCH SHALL BE HOUSED IN ONE WEATHERPROOF CABINET TO BE SURFACE MOUNTED AS INDICATED. CABINET SHALL HAVE LOCKABLE DOORS.

PUMPING STATION
ROY EDWIN RAMSEIER
SANITARY & HYDRAULIC ENGINEER
CASTLE ROCK COUNTY WATER DISTRICT
WATER SYSTEM
Drawn by J.M.M., K.H.A. Scale: as shown
6-27-5



PLAN



ELEVATION

PUMP SPECIFICATIONS

PUMP SHALL BE A TWO-STAGE, HORIZONTAL SHAFT, SPLIT CASE CENTRIFUGAL TYPE, WITH SINGLE SUCTION, ENCLOSED TYPE, BACK TO BACK BRONZE IMPELLERS. INTERIOR WATER PASSAGES SHALL BE HAND FINISHED. EXTERIOR SURFACES OF IMPELLER SHALL BE MACHINED. IMPELLER SHALL BE KEYS TO THE SHAFT AND HELD IN POSITION BY BRONZE SHAFT SLEEVES. SHAFT SHALL BE HEAT TREATED STEEL, TURNED AND GROUND, AND OF AMPLIFIED SIZE TO TRANSMIT THE POWER REQUIRED. THE SHAFT SHALL BE FINISHED WITH CAST BRONZE PROTECTING SLEEVES EXTENDING FROM THE IMPELLER HUB THROUGH THE STUFFING BOXES. STUFFING BOXES SHALL BE CAST BRONZE, IN 2 PIECES, EASILY REMOVABLE FOR REPACKING THE STUFFING BOX.

THE OUTBOARD END OF THE SHAFT SHALL HAVE DOUBLE ROW BALL BEARING CAPABLE OF TAKING THRUST IN EITHER DIRECTION. A RADIAL BALL BEARING SHALL BE USED ON THE COUPLING END. ALL BEARINGS SHALL BE OF AMPLIFIED SIZE TO PREVENT OVERHEATING. THE INTERMEDIATE BEARING SHALL BE MADE AMPLY LONG TO PREVENT LEAKAGE BETWEEN STAGES.

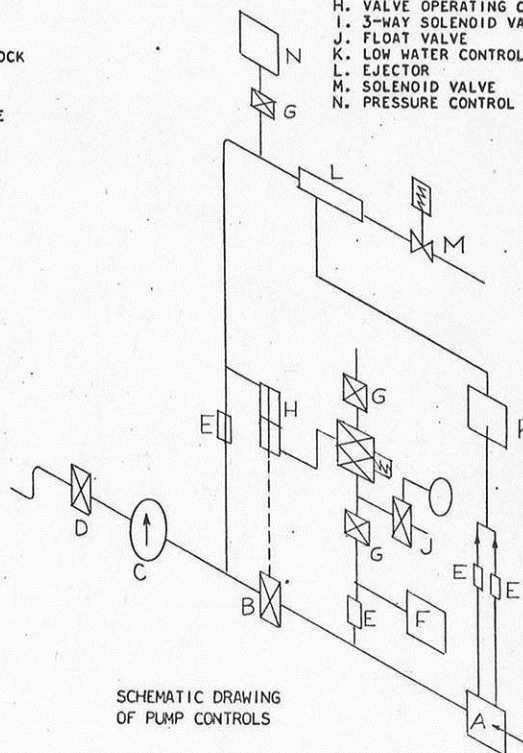
A FLEXIBLE COUPLING, OF THE PIN AND BUSHING TYPE, OF SUFFICIENT SIZE TO TRANSMIT THE POWER REQUIREMENTS OF THE PUMP SHALL BE PROVIDED. THIS COUPLING, AND ALL ROTATING PARTS OF THE INSTALLATION SHALL BE COMPLETELY ENCASED IN A 16 GAUGE SHEET STEEL GUARD THAT WILL PREVENT ACCIDENTAL OR INTENTIONAL TOUCHING OF THE ROTATING PARTS.

MOTOR SHALL BE 50 HORSEPOWER, 1750 RPM, FOR 3 PHASE 220/440 VOLTS ELECTRIC DRIVE. MOTOR SHALL HAVE NON-REVERSING PROTECTION.

PUMP AND MOTOR SHALL BE MOUNTED ON A STANDARD BED PLATE OF HEAVY CAST IRON BOX CONSTRUCTION HEAVILY RIBBED TO PROVIDE ADEQUATE SUPPORT.

PUMP SHALL BE EQUAL IN ALL RESPECTS TO AMERICAN WELL WORKS COMPANY FIGURE 440H 4\"/>

- A. PUMP
- B. CYLINDER OPERATED VALVE
- C. METER
- D. HAND OPERATED VALVE
- E. STRAINERS
- F. PRESSURE SWITCH
- G. NEEDLE VALVES
- H. VALVE OPERATING CYLINDER
- I. 3-WAY SOLENOID VALVE
- J. FLOAT VALVE
- K. LOW WATER CONTROL
- L. EJECTOR
- M. SOLENOID VALVE
- N. PRESSURE CONTROL



PUMPING STATION

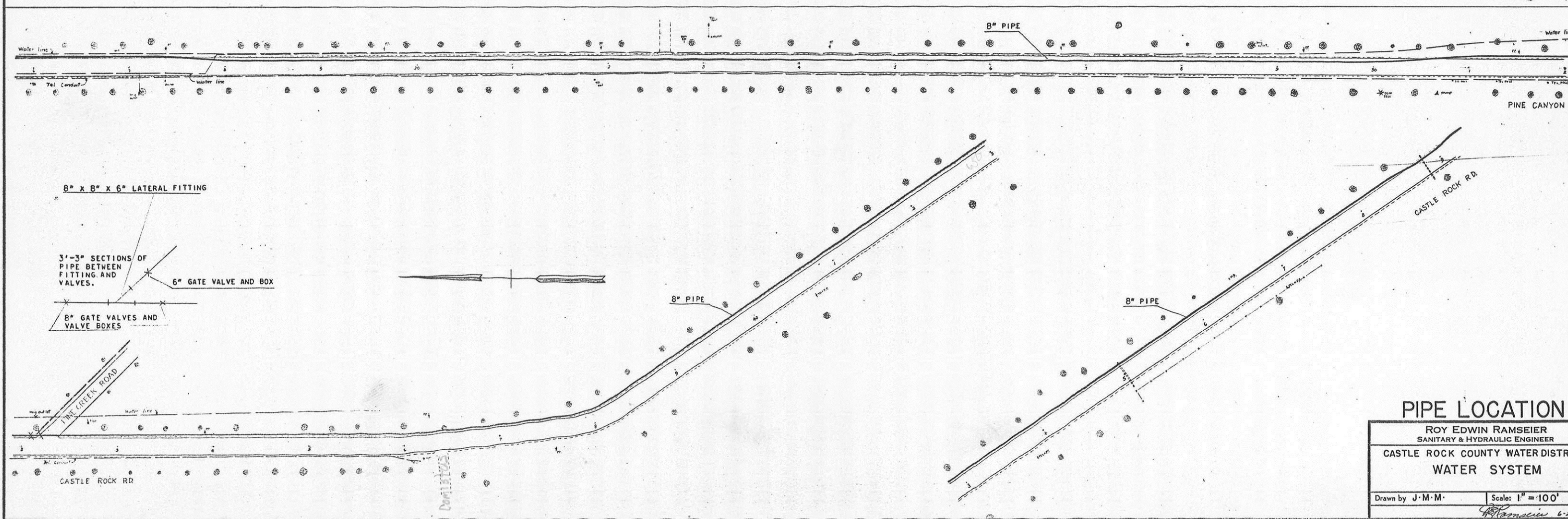
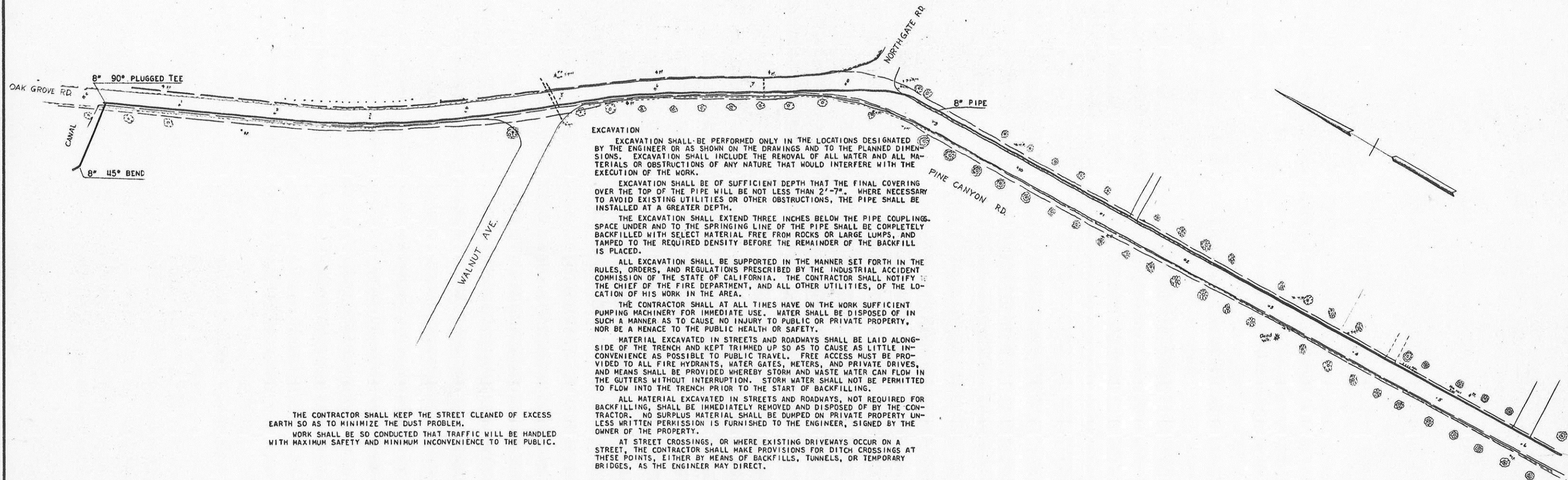
ROY EDWIN RAMSEIER
SANITARY & HYDRAULIC ENGINEER

CASTLE ROCK COUNTY WATER DISTRICT

WATER SYSTEM

Drawn by J.M.M., K.H.A. Scale: 1" = 1'

6-27



1395
1200
2595

133

CASTLE ROCK RD

8" X 8" X 6" TEE
6" GATE VALVE ASSEMBLY
FIRE HYDRANT

PIPE INSTALLATION

PIPE SHALL BE ASBESTOS CEMENT PRESSURE PIPE, CLASS 150, CONFORMING IN ALL RESPECTS WITH AMERICAN WATER WORKS SPECIFICATIONS AWWA C400-53T OF THE SIZE INDICATED ON THE DRAWINGS.

COUPLINGS SHALL BE EITHER THE "SIMPLEX" TYPE OF RUBBER RING COUPLING OR THE "RING-TIGHT" TYPE AS MANUFACTURED BY THE JOHNS-MANVILLE CORPORATION. VALVES AND HYDRANTS WILL BE FITTED FOR "RING-TIGHT" COUPLINGS, AND IN THOSE PLACES, THE PIPE SHALL BE MACHINED TO FIT THESE COUPLINGS.

PIPE SHALL BE HANDLED AND JOINED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS DESCRIBED ON SHEET 6/10.

WHERE FIRE HYDRANTS ARE INSTALLED IN ACCORDANCE WITH THE DRAWINGS, THE INSTALLATION SHALL INCLUDE THE FIRE HYDRANT AS SPECIFIED AND ALL CONNECTIONS AND FITTINGS THERETO, INCLUDING A SIX INCH DIAMETER GATE VALVE AND VALVE BOX ASSEMBLY INSTALLED BETWEEN THE FIRE HYDRANT AND THE MAIN LINE, BUT NOT MORE THAN FIVE FEET FROM THE HYDRANT.

PAYMENT UNDER THE ITEM FOR FURNISHING AND INSTALLING FIRE HYDRANTS SHALL BE FOR THE HYDRANT ASSEMBLY ALONE. THE PIPE CONNECTION, THE GATE VALVE, AND ALL FITTINGS SHALL BE PAID FOR AT THE PRICE BID FOR THOSE ITEMS.

MEASUREMENT OF PIPE FOR PAYMENT SHALL BE FROM CENTER TO CENTER OF FITTINGS AND SHALL INCLUDE THE LENGTH OF VALVES OR OTHER FITTINGS INSTALLED IN THE LINES.

WHERE PLUGS ARE REQUIRED IN ANY FITTING, THEY SHALL BE CONSIDERED AS A PART OF THE FITTING AND THEIR COST SHALL BE INCLUDED IN THE PRICE BID FOR THE FITTING.

BACKFILL

BACKFILL AROUND AND UNDER THE PIPE SHALL BE TAMPED INTO PLACE SUFFICIENTLY TO ASSURE FULL COMPACTION OF THE SOIL. A FINAL RELATIVE COMPACTION OF NOT LESS THAN 90% AS REQUIRED BY THE COUNTY ROAD COMMISSIONER SHALL BE OBTAINED. THIS DEGREE OF COMPACTION WILL BE REQUIRED REGARDLESS OF THE METHODS USED TO COMPACT THE BACKFILL. CARE MUST BE TAKEN THAT THE PIPE IS NOT DAMAGED BY EXCESSIVE IMPACT DURING BACKFILL CONSOLIDATION.

AFTER COMPACTION OF THE BACKFILL THE CONTRACTOR SHALL REMOVE THE UPPER 9-1/2" OF BACKFILL MATERIAL FROM PAVED AREAS, AND 8" FROM UNSURFACED AREAS, AND REFILL WITH 8" OF COMPACTED CRUSHER RUN BASE, AS SPECIFIED IN STATE HIGHWAY SPECIFICATIONS OF 1949, MAXIMUM SIZE OF WHICH SHALL BE 1-1/2". IN PAVED AREAS 1-1/2" OF PLANT MIXED SURFACING SHALL BE APPLIED OVER THE CRUSHER RUN BASE. THE PLANT MIXED SURFACING SHALL COMPLY WITH THE SPECIFICATIONS SET FORTH IN THE ABOVE REFERENCED STATE HIGHWAY SPECIFICATIONS.

6" X 6" X 6" TEE
6" GATE VALVE ASSEMBLY
FIRE HYDRANT

8" GATE VALVE ASSEMBLY

8" X 6" REDUCER

8" X 8" X 6" TEE

6" GATE VALVE ASSEMBLIES

CONNECT GATE VALVES AND FITTINGS
WITH 3'-3" LONG SECTIONS OF PIPE

6" X 6" X 6" PLUGGED TEE
6" GATE VALVE ASSEMBLY
FIRE HYDRANT

6" PIPE

PIKE CANYON RD

CASTLE ROCK RD

INSTALL 40' LENGTH OF 6" SCHEDULE 40 STEEL PIPE
DIPPED AND WRAPPED. BEND PIPE TO RISE OVER
EXISTING CULVERT.
PROVIDE 1" BLOWOFF WITH CORPORATION COCK OVER
CULVERT.
CONNECT TO ASBESTOS CEMENT PIPE WITH 6" SMITH
BLAIR NO. 775X720 FITTINGS WITH DURONZE BOLTS.

6" X 6" X 6" TEE
6" GATE VALVE ASSEMBLY
FIRE HYDRANT

6" PIPE

6" CAP AND 2" PLUG

6" PIPE

PIPE LOCATION

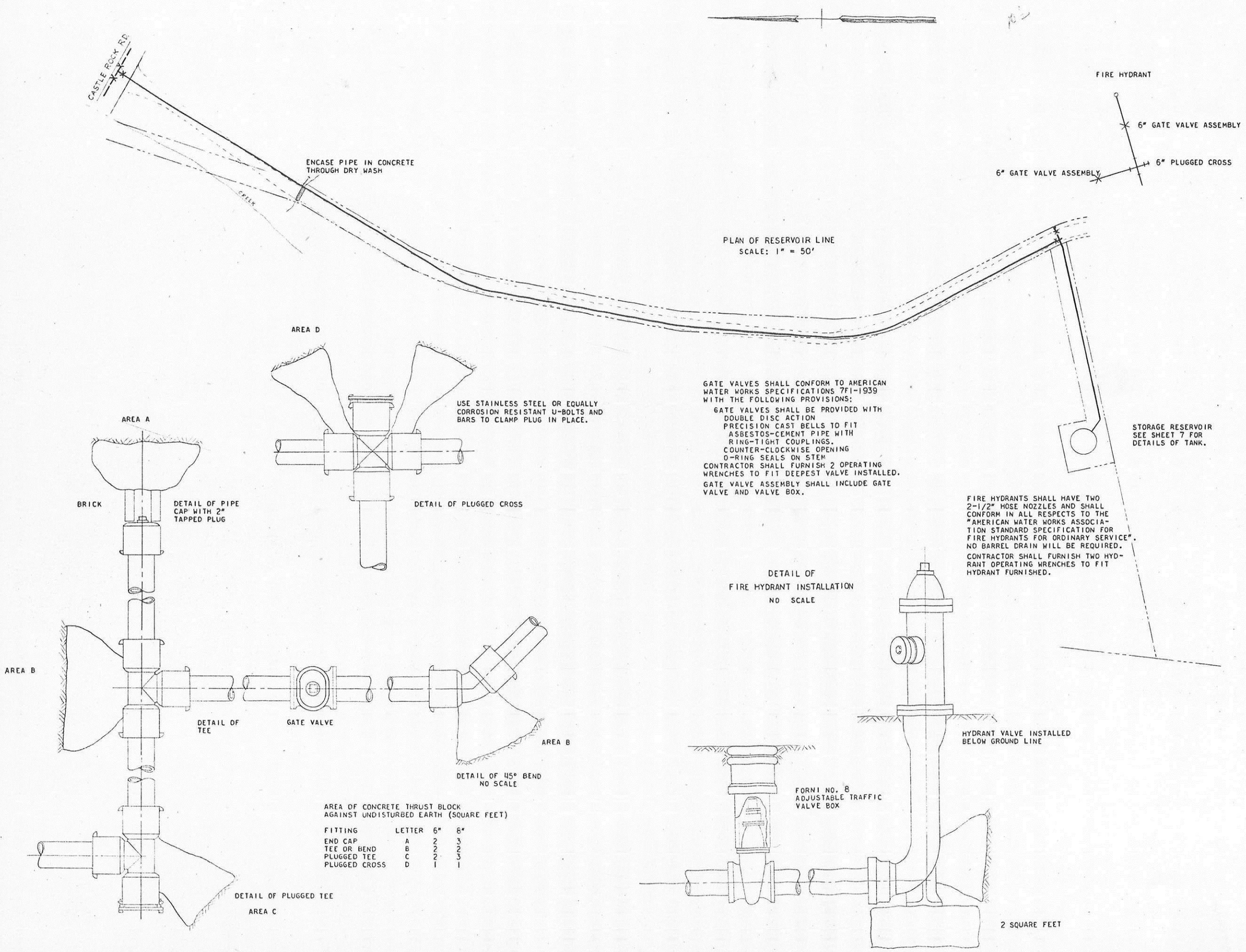
ROY EDWIN RAMSEIER
SANITARY & HYDRAULIC ENGINEER

CASTLE ROCK COUNTY WATER DISTRICT
WATER SYSTEM

Drawn by J.M.M.

Scale: 1"=100'

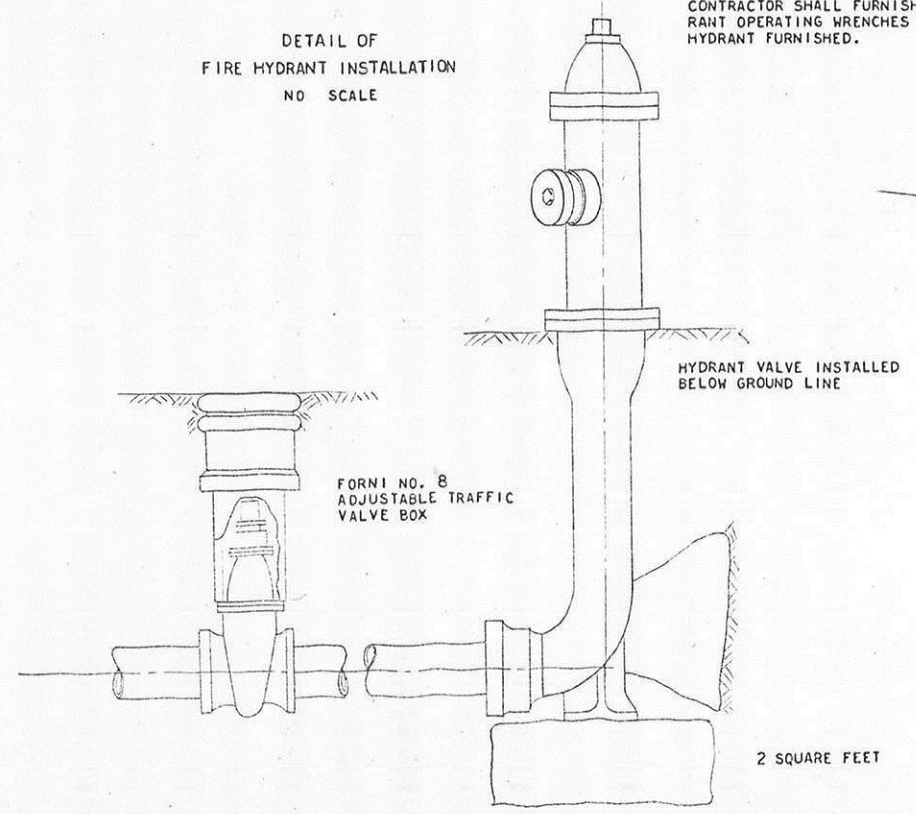
CON 09



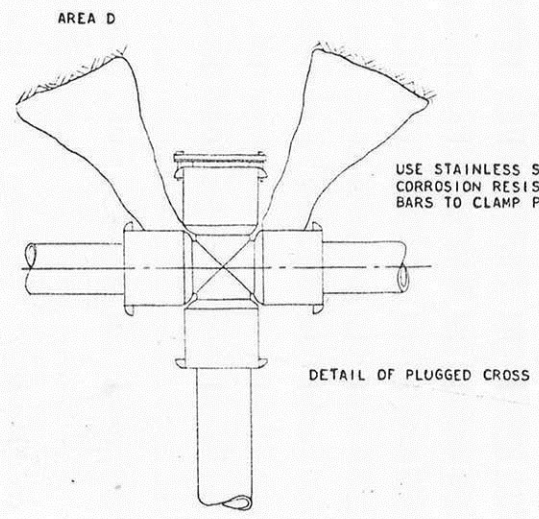
GATE VALVES SHALL CONFORM TO AMERICAN WATER WORKS SPECIFICATIONS 7F1-1939 WITH THE FOLLOWING PROVISIONS:
GATE VALVES SHALL BE PROVIDED WITH DOUBLE DISC ACTION
PRECISION CAST BELLS TO FIT ASBESTOS-CEMENT PIPE WITH RING-TIGHT COUPLINGS.
COUNTER-CLOCKWISE OPENING O-RING SEALS ON STEM
CONTRACTOR SHALL FURNISH 2 OPERATING WRENCHES TO FIT DEEPEST VALVE INSTALLED.
GATE VALVE ASSEMBLY SHALL INCLUDE GATE VALVE AND VALVE BOX.

FIRE HYDRANTS SHALL HAVE TWO 2-1/2" HOSE NOZZLES AND SHALL CONFORM IN ALL RESPECTS TO THE "AMERICAN WATER WORKS ASSOCIATION STANDARD SPECIFICATION FOR FIRE HYDRANTS FOR ORDINARY SERVICE". NO BARREL DRAIN WILL BE REQUIRED.
CONTRACTOR SHALL FURNISH TWO HYDRANT OPERATING WRENCHES TO FIT HYDRANT FURNISHED.

DETAIL OF FIRE HYDRANT INSTALLATION
NO SCALE



USE STAINLESS STEEL OR EQUALLY CORROSION RESISTANT U-BOLTS AND BARS TO CLAMP PLUG IN PLACE.



DETAIL OF 45° BEND
NO SCALE

AREA OF CONCRETE THRUST BLOCK AGAINST UNDISTURBED EARTH (SQUARE FEET)

FITTING	LETTER	6"	8"
END CAP	A	2	3
TEE OR BEND	B	2	2
PLUGGED TEE	C	2	3
PLUGGED CROSS	D	1	1

DETAIL OF PLUGGED TEE
AREA C

DETAIL OF PIPE CAP WITH 2" TAPPED PLUG
BRICK

AREA A

DETAIL OF TEE

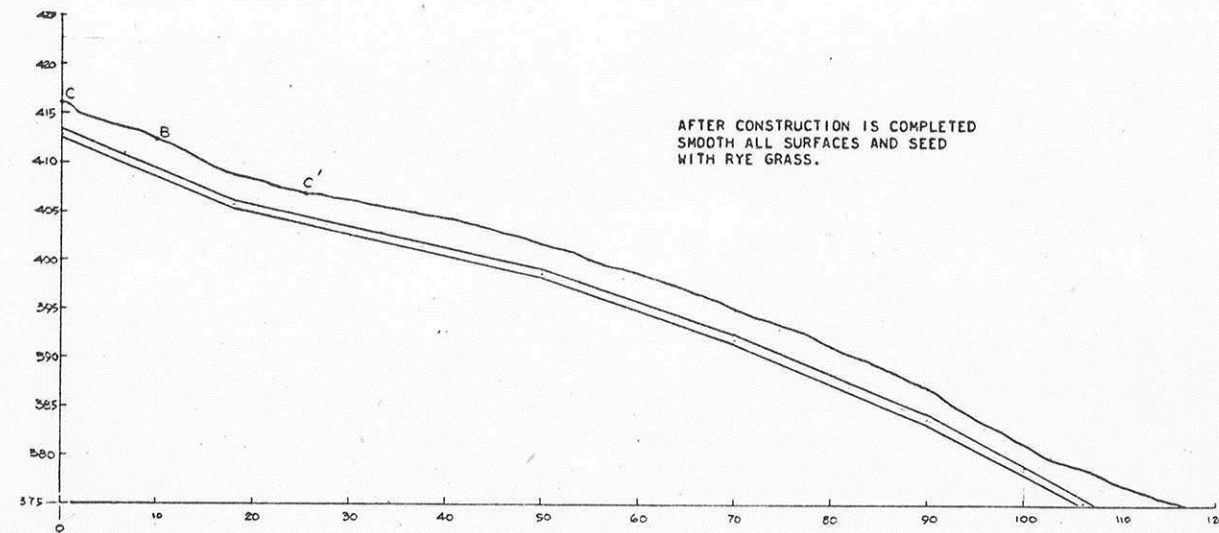
GATE VALVE

AREA B

AREA B

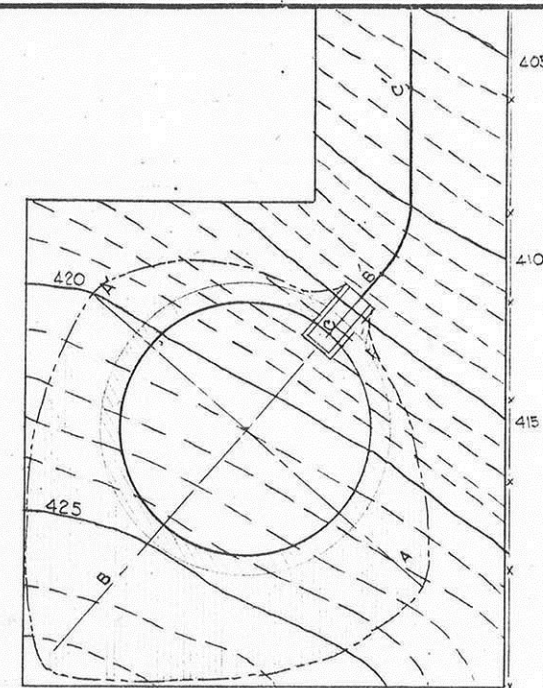
PIPE LOCATION FITTINGS DETAIL

ROY EDWIN RAMSEIER SANITARY & HYDRAULIC ENGINEER	
CASTLE ROCK COUNTY WATER DISTRICT WATER SYSTEM	
Drawn by J.M.M.	Scale: as shown
6-21 CON 09 02 6	

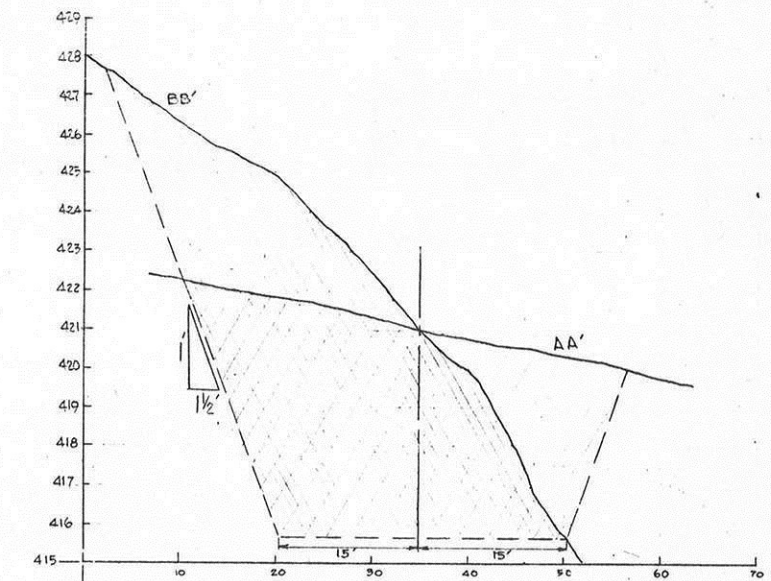


PROFILE OF DISCHARGE AND FILLING LINE

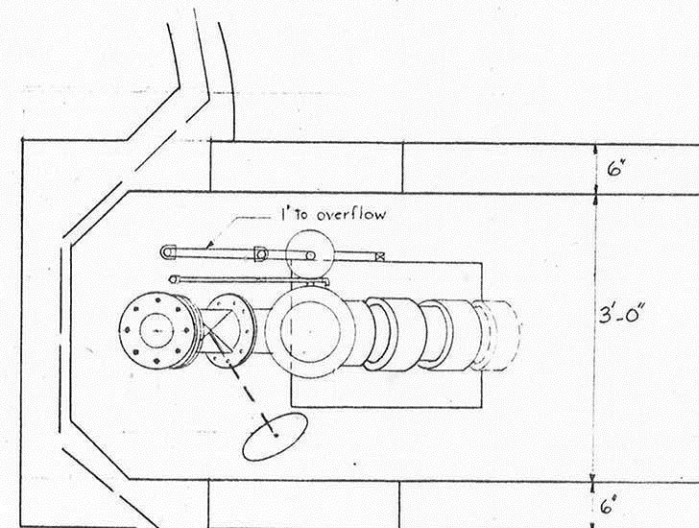
AFTER CONSTRUCTION IS COMPLETED
SMOOTH ALL SURFACES AND SEED
WITH RYE GRASS.



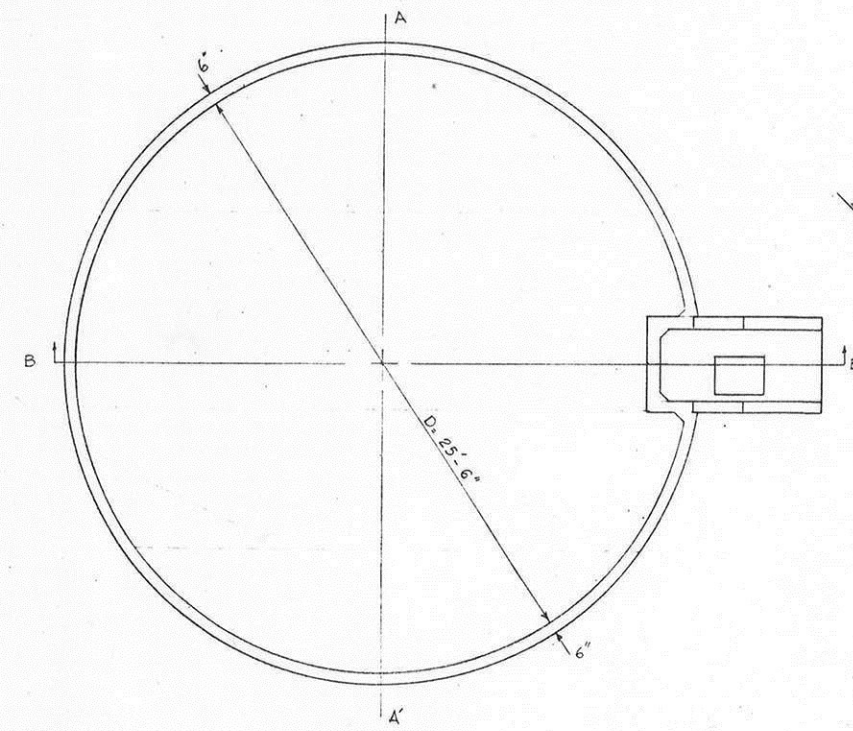
PLOT PLAN
SCALE: 1" = 20'



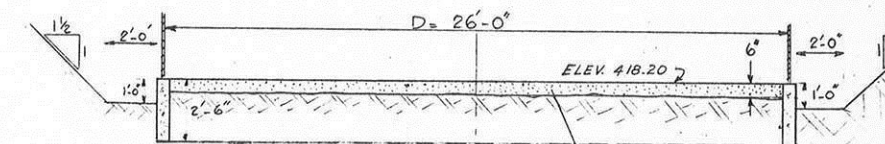
PROFILE OF EXCAVATION ALONG B B' AND A A'



PLAN
SCALE: 1/2" = 1'

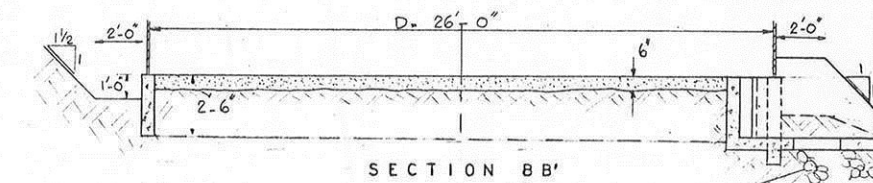


PLAN
SCALE: 1/8" = 1'



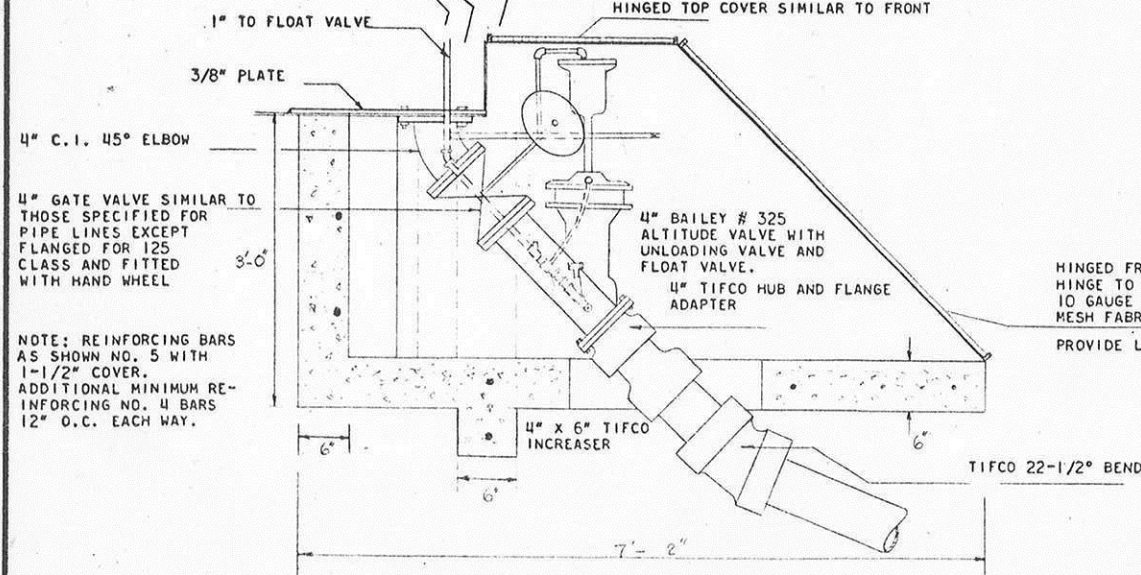
SECTION A A'
SCALE: 1/8" = 1'

NOTE: A 6" LAYER OF CLEAN
(THOROUGHLY WASHED) SAND
MIXED WITH OIL AND TAMPED
TO COMPACT. MASS SHALL BE
GRADED TO A PLANE SURFACE
EVEN WITH THE TOP OF THE
CONCRETE RING, AS SHOWN.



SECTION B B'

GRAVEL AROUND



SECTION THROUGH VALVE ASSEMBLY

SCALE: 1/2" = 1'

HINGED FRAME OF 1" X 1/2" X 1/8" CHANNEL IRON.
HINGE TO CONCRETE SIDE WALL AND FILL FRAME WITH
10 GAUGE CRIMPED WIRE 1-1/2" GALVANIZED DIAMOND
MESH FABRIC.
PROVIDE LOCKING DEVICE SUITABLE FOR PADLOCK.

RESERVOIR DETAIL

ROY EDWIN RAMSEIER
SANITARY & HYDRAULIC ENGINEER
CASTLE ROCK COUNTY WATER DISTRICT
WATER SYSTEM

Drawn by K. H. A.

Scale: as shown

Technical drawing of a dome structure. The drawing includes the following labels and dimensions:

- ROOF SEGMENTS TO BE ROLLED ONLY. DO NOT DISH.** (Text pointing to the upper curved section)
- 3/16"** (Dimension for the thickness of the roof segments)
- DISH DOLLAR PLATE** (Text pointing to the upper curved section)
- 3/16"** (Dimension for the thickness of the dish dollar plate)
- 4" X 4" X 3/8" ANGLE IRON RING** (Text pointing to the horizontal base ring)
- 4" X 4" X 3/8"** (Text pointing to the corner joint detail)
- 3/16"** (Dimension for the corner joint detail)

Diagram illustrating the assembly of a circular mold. The assembly consists of a central circular component (labeled "ROLL TO RADIUS 13-3/4\"") surrounded by a "RUBBER GASKET 3\" WIDE" and a "1/4\" PLATE". The overall diameter of the assembly is indicated as "2'-6\"". A dimension of "10\" is shown at the bottom, likely indicating the height of the central roll.

6"

DIUS 13-3/4"

0"

26'X26'

ROOF VENTILATOR
SEE DETAIL ON
NEXT SHEET.

MANHOLE--SEE DETAIL ON
NEXT SHEET

LADDER--SEE DETAIL
SHEET.

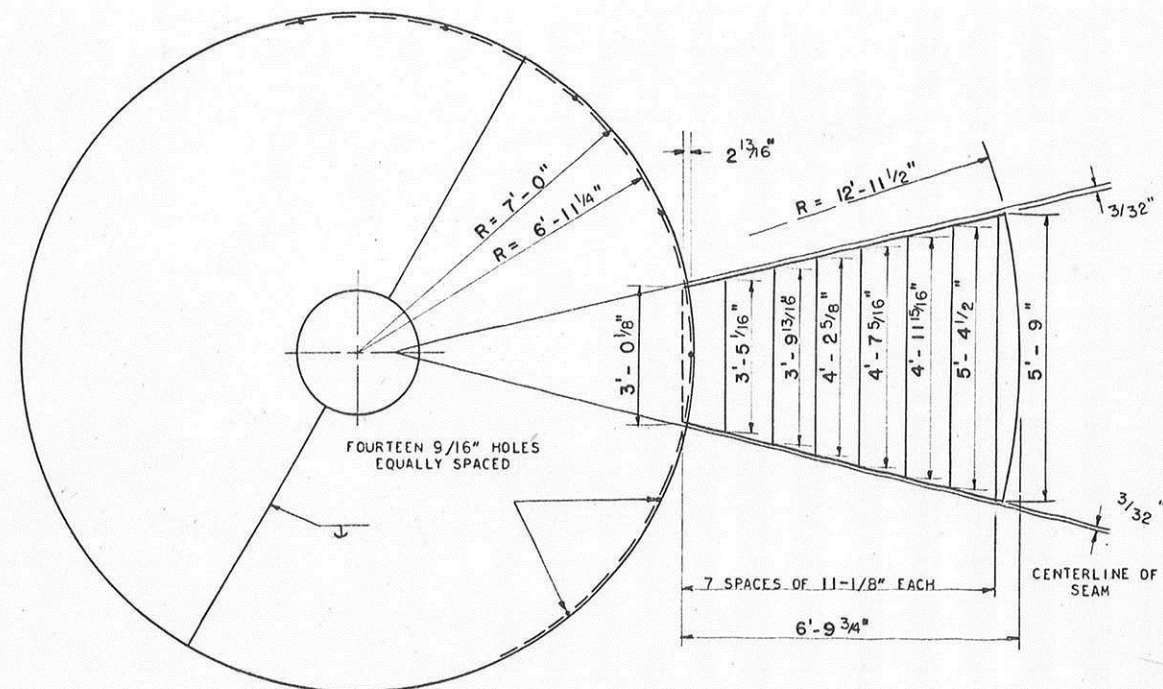
B
B
SEE NEXT SHEET

26'X26' RESERVOIR
ROY EDWIN RAMSEIER
SANITARY & HYDRAULIC ENGINEER
CASTLE ROCK COUNTY WATER DISTRICT
WATER SYSTEM

Drawn by K · H · A ·

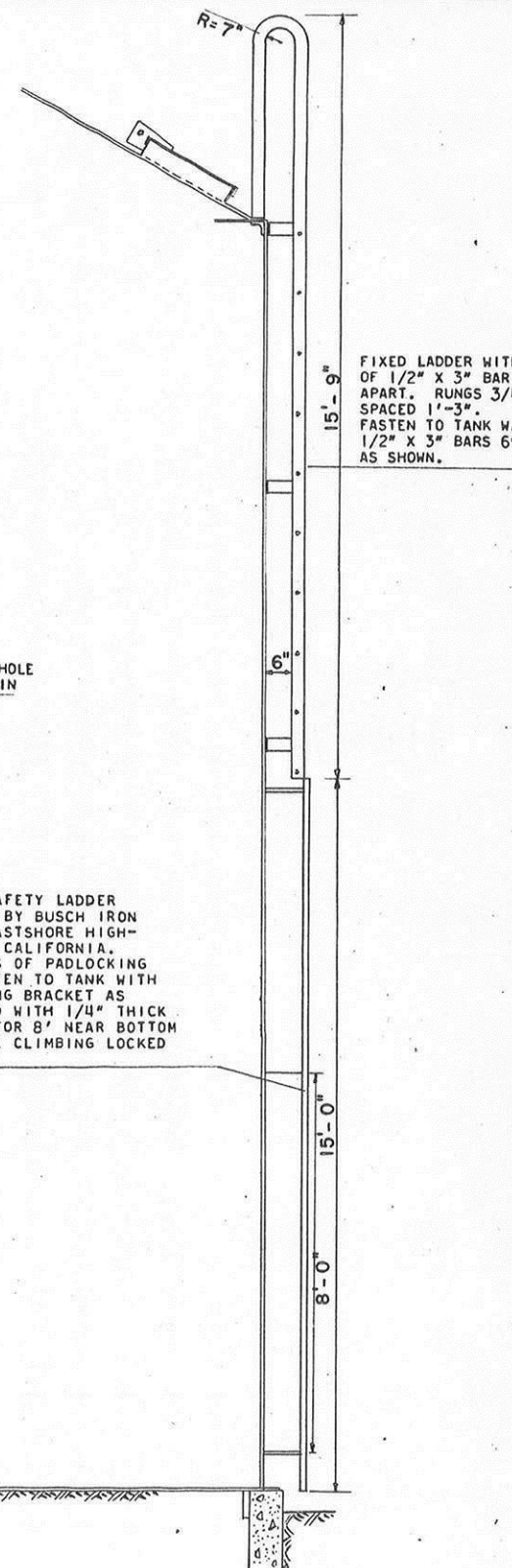
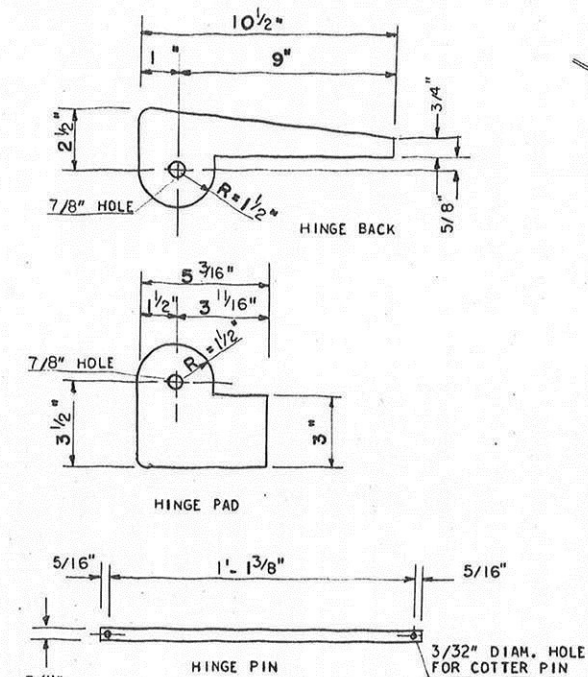
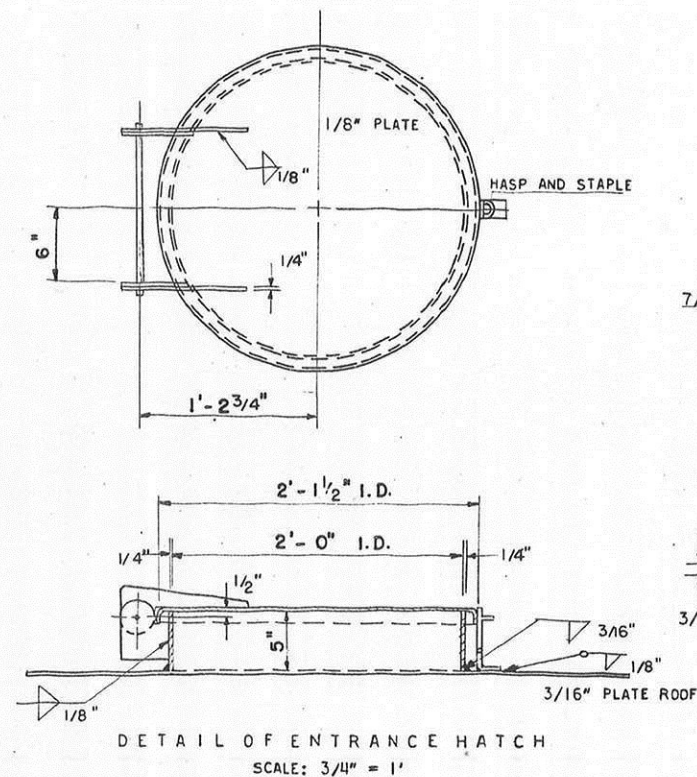
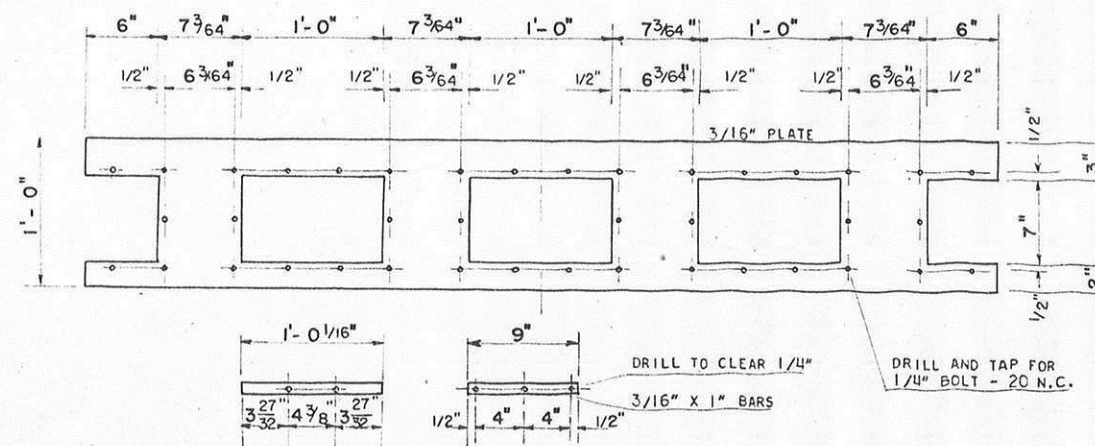
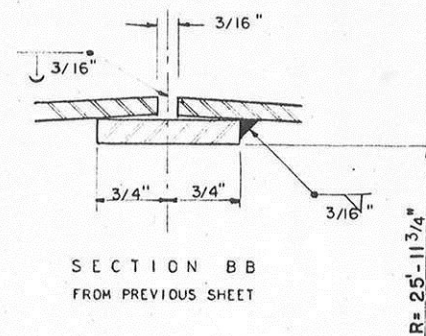
Scale: 1" = 4'

PR. Parnacien 6-

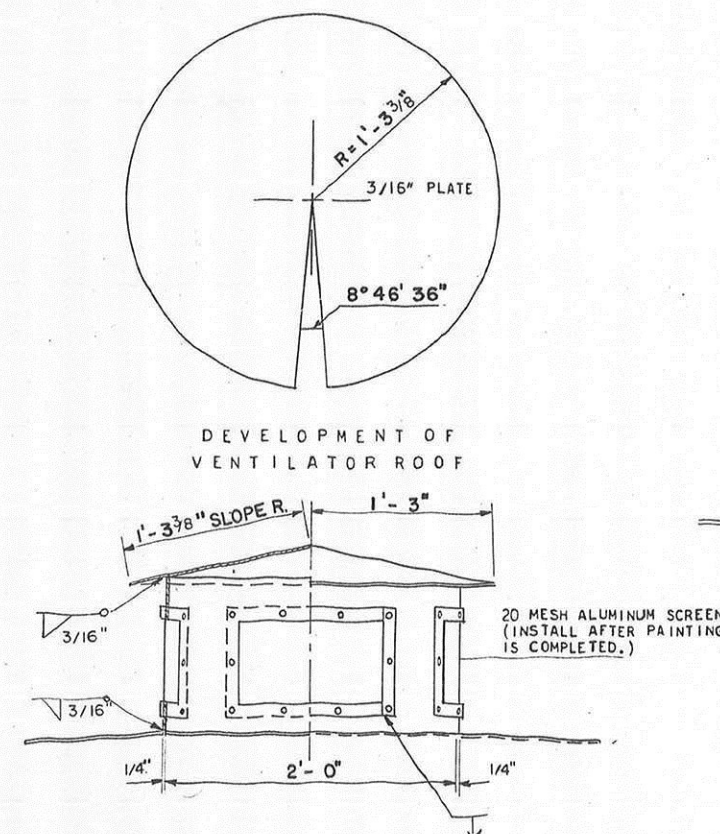


DEVELOPMENT OF DOLLAR PLATE AND ROOF SEGMENT

SCALE: 1/4" = 1'



15" SUNGAR SAFETY LADDER
MANUFACTURED BY BUSCH IRON
WORKS, 542 EASTSHORE HIGH-
WAY, ALBANY, CALIFORNIA.
PROVIDE MEANS OF PADLOCKING
LADDER. FASTEN TO TANK WITH
UPPER MOUNTING BRACKET AS
REQUIRED, AND WITH 1/4" THICK
PLATE SOLID FOR 8' NEAR BOTTOM
TO DISCOURAGE CLIMBING LOCKED
LADDER.



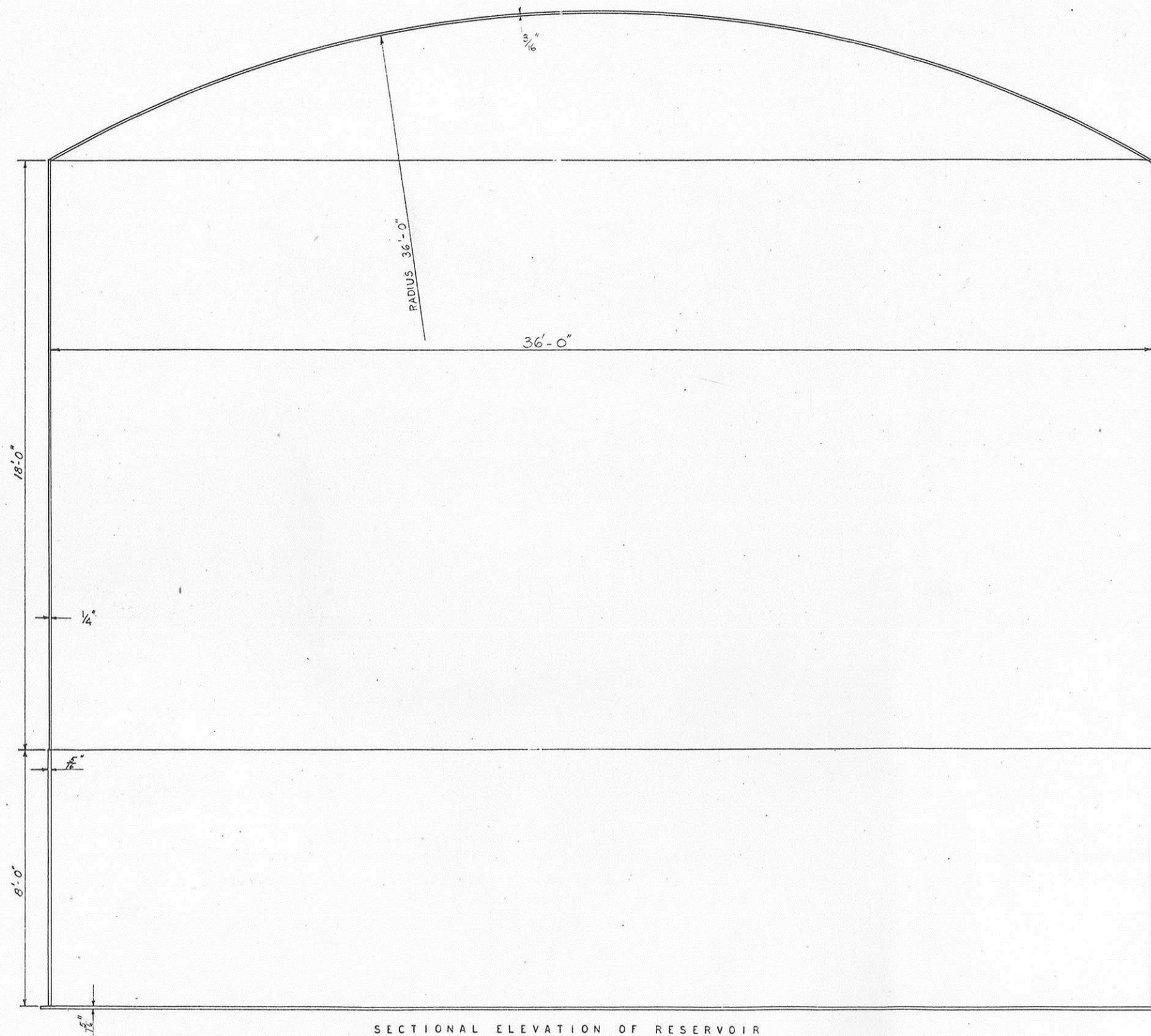
RESERVOIR DETAI

ROY EDWIN RAMSEIER
SANITARY & HYDRAULIC ENGINEER
CASTLE ROCK COUNTY WATER DISTRICT
WATER SYSTEM

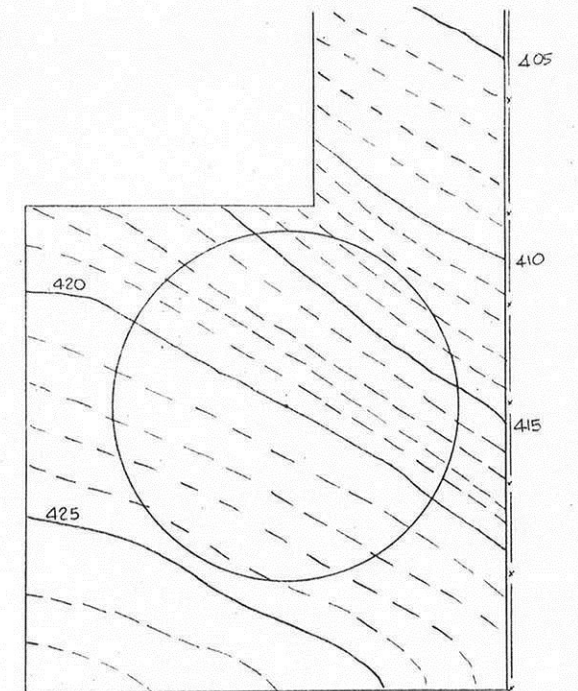
Drawn by K. H. A. , Scale: as shown

DePascio 6-2

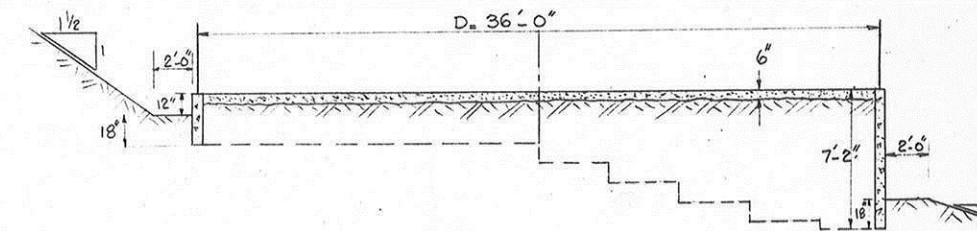
CON 09 C



SECTIONAL ELEVATION OF RESERVOIR
SCALE: 1" = 4'



PLOT PLAN
SCALE: 1" = 20'



SECTION THROUGH FOUNDATION
SCALE: 1" = 10'

ALTERNATE RESERVOIR DESIGN

CONTRACTOR SHALL PRESENT AN ALTERNATE BID FOR RESERVOIR 36'-0" DIAMETER X 26'-0" DEPTH. ALL DETAILS OF VENTILATORS, HATCH, LADDER, INLET AND OUTLET PIPES, AND ALL SPECIFICATIONS NOT SPECIFICALLY SHOWN ON THIS DRAWING SHALL BE THE SAME AS SPECIFIED FOR THE 26'-0" DIAMETER X 26'-0" DEPTH TANK.

ALTERNATE 36'X26' RESERVOIR

ROY EDWIN RAMSEIER
SANITARY & HYDRAULIC ENGINEER
CASTLE ROCK COUNTY WATER DISTRICT
WATER SYSTEM

Drawn by J.M.M. Scale: AS SHOWN

6-2-20
CON 09 02