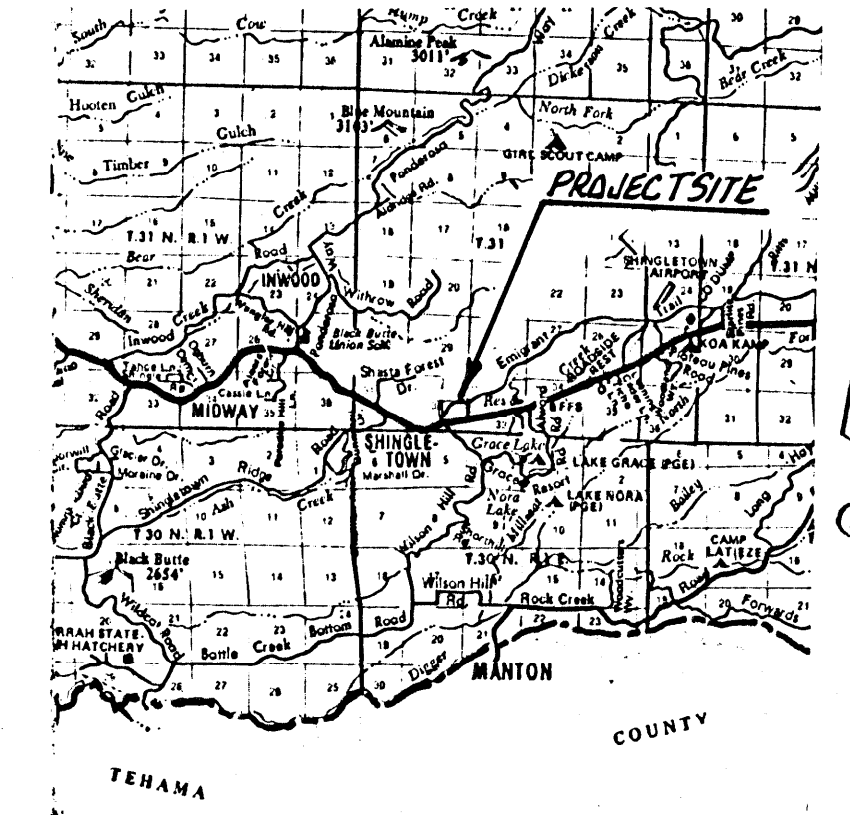
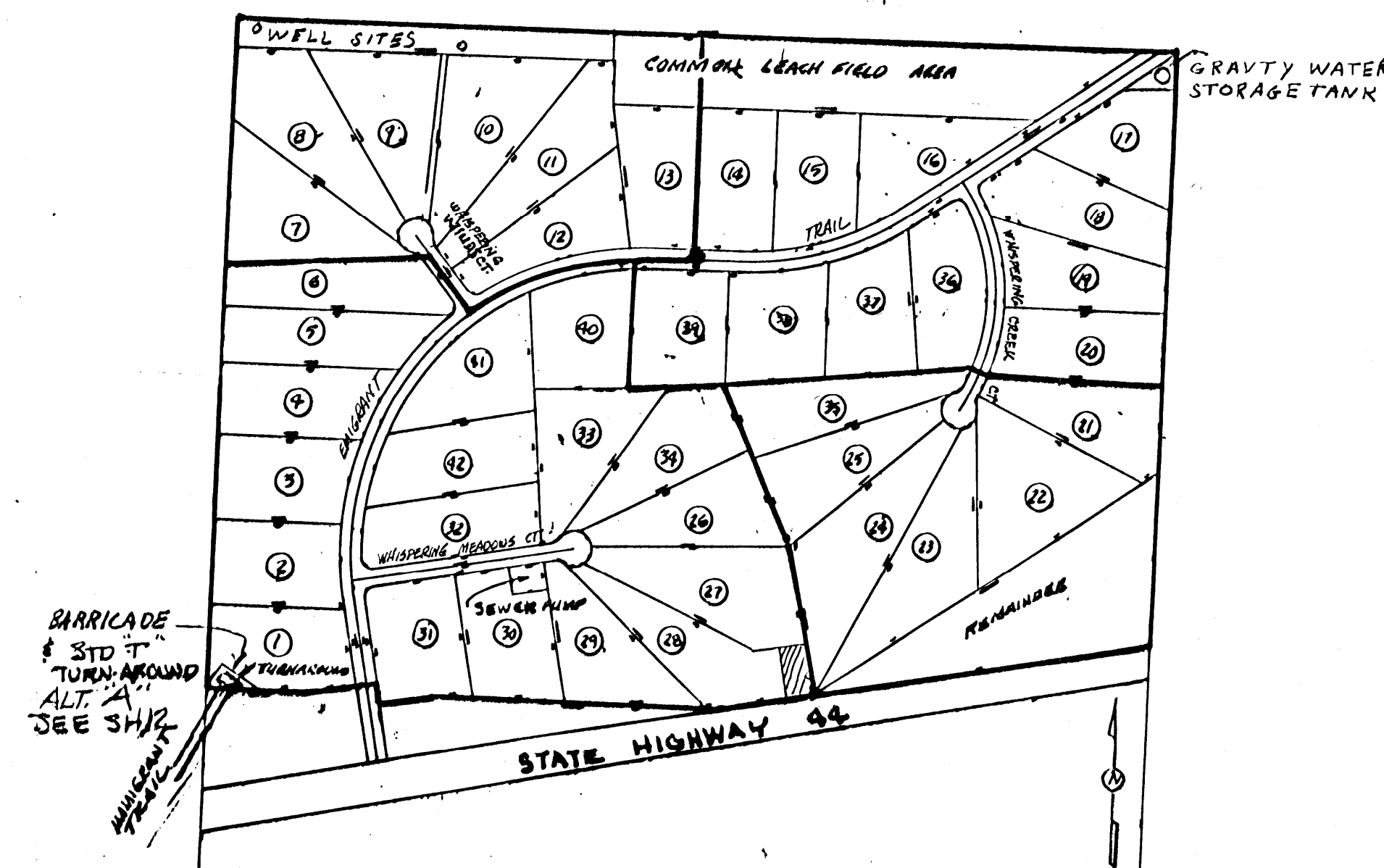


WHISPERING WOODS ESTATES SUBDIVISION

SHINGLETOWN, CALIFORNIA

TRACT # 1738

VICINITY MAP
N.T.S.

NOTES:

- ALL CONSTRUCTION AND INSTALLATION OF IMPROVEMENTS SHALL CONFORM TO THESE PLANS, ATTACHED SPECIFICATIONS, SHASTA COUNTY SPECIFICATIONS AND STANDARD DETAILS AND SHASTA COUNTY COMMUNITY SERVICES SEWER & WATER LINE SPECIFICATIONS.
- ANY CHANGES IN THESE PLANS ARE TO RECEIVE PRIOR APPROVAL FROM THE SHASTA COUNTY DEPARTMENT OF PUBLIC WORKS.
- NO CONSTRUCTION SHALL BEGIN UNTIL CONTRACTOR HAS GRADE SHEETS, AND SUFFICIENT CONTROL STAKES ARE SET BY SUBDIVIDER'S ENGINEER TO ENABLE WORK TO BE CONSTRUCTED AND CHECKED IN THE FIELD.
- THE DEVELOPER AND/OR CONTRACTOR SHALL, THROUGH AN APPROVED PRIVATE MATERIALS TESTING LABORATORY AND AT THEIR EXPENSE, PROVIDE FOR ALL MATERIAL AND COMPACTION TESTS REQUIRED BY THE COUNTY DEVELOPMENT STANDARDS. TYPE AND FREQUENCY TO BE DETERMINED BY THE COUNTY INSPECTOR.
- ALL UTILITY AND DRAINAGE CONDUITS SHALL BE INSTALLED PRIOR TO A.C. AND CONCRETE PLACEMENT.
- THE CONTRACTOR SHALL PROVIDE BARRICADES, SIGNS, SAFETY DEVICES AND TRAFFIC CONTROL AS NECESSARY WITHIN THE CONSTRUCTION AREA.
- ALL EXISTING DRIVEWAYS, AND DRIVEWAYS CREATED DURING CONSTRUCTION, SHALL BE PAVED TO COUNTY STANDARDS AS PART OF THIS PROJECT.
- ALL BRUSH AND DEBRIS CLEARED FOR CONSTRUCTION SHALL BE DISPOSED OF BEFORE FINAL ACCEPTANCE.
- REGULATORY SIGNS, IF NEEDED, WILL BE FURNISHED AND INSTALLED BY THE COUNTY. THE COSTS OF SIGNS AND INSTALLATION SHALL BE PAID FOR BY THE SUBDIVIDER.
- THE ENGINEER OF WORK, WHOSE STAMP AND SIGNATURE APPEARS BELOW, HEREBY CERTIFIES THAT THESE PLANS COMPLY WITH THE SHASTA COUNTY GRADING AND EROSION CONTROL ORDINANCE.
- STRUCTURAL SECTION DEPTHS SHOWN ON TYPICAL SECTIONS ARE APPROXIMATE ONLY. FINAL DEPTHS WILL BE DETERMINED BY "R" VALUE TESTS TAKEN AT ROUGH SUBGRADE. SUBGRADE IN FILLS IS TO BE CONSTRUCTED TO 6 INCHES BELOW THEORETICAL SUBGRADE UNTIL FINAL DEPTHS ARE DETERMINED.
- THE DEVELOPER IS TO REPAIR ANY DAMAGE DONE TO EXISTING COUNTY AND STATE ROADS AS A RESULT OF CONSTRUCTION ACTIVITIES. (THIS WILL INCLUDE MAINTENANCE AS WELL AS THE POSSIBLE RESURFACING OF THE ROAD.)
- DISTURBED ROADWAY AREAS SHALL BE HYDRO-SEEDED.
- WATER SYSTEM WILL HAVE 2 SOURCE WELLS: < 37 GPM PER ONE SOURCE.
- THE WELLS SHALL BE DISINFECTED IN ACCORDANCE WITH APPENDIX "C" OF THE CALIFORNIA WATER WELL STANDARDS, AFTER WELL CONSTRUCTION AND PUMP INSTALLATION.
- THE WATER SYSTEM WILL HAVE A 98,000 GALLON GRAVITY STORAGE TANK; AND SHALL COMPLY WITH SECTION 84600 OF THE CALIFORNIA WATERWORKS STANDARDS.

- WATER MAINS (C-900, CLASS 150) SHALL BE DISINFECTED ACCORDING TO THE AWWA WATERWORKS STANDARD FOR DISINFECTING WATER MAINS BEFORE BEING PLACED IN SERVICE.
 - THE WATER MAIN GATE VALVES SHALL CONFORM TO THE AWWA WATERWORKS STANDARDS.
 - THE WATER MAINS SHALL BE PRESSURE AND LEAKAGE TESTED BEFORE BEING PLACED IN SERVICE.
 - PRIOR TO ANY CONNECTIONS TO UTILITIES, NOTIFY THE SHASTA COUNTY COMMUNITY SERVICES DISTRICTS AND THE SHASTA COUNTY PUBLIC WORKS DEPARTMENT'S ENGINEERING DIVISION AND FIELD OPERATIONS 48 HOURS IN ADVANCE.
 - POT HOLE AND VERIFY LOCATION OF ALL GRAVITY PIPE CROSSINGS. PRIOR TO START OF CONSTRUCTION ENCROACHMENT PERMIT SHALL BE OBTAINED FROM CALTRANS AND THE SHASTA COUNTY PUBLIC WORKS DEPARTMENT FOR ALL WORK IN EXISTING RIGHTS OF WAY.
 - PRIOR TO ACCEPTANCE, SEWERS MUST BE FLUSHED, MANDRELLED, AIR TESTED AND BALLED. LATERALS TO BE AIR TESTED.
 - ALL EXCAVATIONS AND EMBANKMENT SLOPES SHALL BE AS PER EROSION CONTROL PLAN.
 - ALL STATIONING REFERS TO CENTERLINE.
 - CONTRACTOR SHALL VERIFY ALL STATIONS, LOCATIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION. ANY DISCREPANCIES SHALL BE CALLED TO THE ENGINEER'S ATTENTION PRIOR TO PROCEEDING WITH CONSTRUCTION.
 - DUST CONTROL SHALL BE STRICTLY ADHERED TO. DUST CONTROL SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
 - IF, IN THE COURSE OF DEVELOPMENT, ANY ARCHAEOLOGICAL, HISTORICAL, OR PALEONTOLOGICAL RESOURCES ARE UNCOVERED, DISCOVERED, OR OTHERWISE DETECTED OR OBSERVED, CONSTRUCTION ACTIVITIES IN THE AFFECTED AREA SHALL CEASE AND A QUALIFIED ARCHAEOLOGIST SHALL BE CONTACTED TO REVIEW THE SITE AND ADVISE THE COUNTY OF THE SITE'S SIGNIFICANCE. IF THE FINDINGS ARE DEEMED SIGNIFICANT BY THE ENVIRONMENTAL REVIEW OFFICER, APPROPRIATE MITIGATIONS SHALL BE REQUIRED PRIOR TO ANY RESUMPTION OF WORK ON THE PROJECT.
 - THE TAPERS TO STATE HIGHWAY 44 INTERSECTION AND ENCROACHMENTS TO SUBDIVISION ROAD AND WILSON HILL ROAD; AND THE THREE (3) SHASTA COUNTY STANDARD CUL-DE-SACS PROVIDES SAFE SCHOOL BUS STOP AREAS AS REQUIRED BY THE SHASTA COUNTY HIGH SCHOOL DISTRICT.
 - NO LOT GRADING TO OCCUR
- NOTICE:**
NOT LESS THAN 48 HOUR NOTICE IS REQUIRED PRIOR TO STARTING ANY EXCAVATION WORK FOR UNDERGROUND UTILITIES. PLEASE CALL TOLL FREE, ONE CALL UNDERGROUND SERVICE ALERT USA 1-800-644-2444.
- ALL CULVERTS SHALL BE PLACED ON 3 INCHES OF SAND BEDDING PER CALTRANS STANDARD SPECIFICATIONS SECTION 19-3.026B.

LEGEND

MONUMENT (CENTERLINE)	R/W RIGHT OF WAY LINE
MANHOLE (NEW)	C.B. CATCH BASIN
FIRE HYDRANT (NEW)	D.I. DROP INLET
SEWER SERVICE	SH SIDEWALK
WATER LINE	CSB CURB & GUTTER
SEWER LINE	B.C. BEGINNING OF CURVE
GAS LINE	E.C. END OF CURVE
WATER METER/SERVICE (NEW)	P.V.C. BEGIN VERTICAL CURVE
DRAINAGE DIRECTION	P.V.T. END VERTICAL CURVE
GATE VALVE (NEW)	P.V.I. POINT OF CURVE DEFLEC.
DRIVEWAY W/STATION CL	E.P. EDGE OF PAVEMENT
TEE-WATER	EL. ELEVATION
MANHOLE	C.R. CURB RETURN
FIRE HYDRANT (EXISTING)	B.C.R. BEGIN CURB RETURN
WATER METER/SERVICE (EXIST.)	E.C.R. END CURB RETURN
TELEPHONE LINE (BURIED)	40' R RADIUS OF CURVE
ELECTRIC LINE (BURIED)	CONST. CONSTRUCTION
POWER POLE	B.M. BENCH MARK
FLOW LINE	
SEWER FORCE LINE	
100' HOLE	

APPROVED: *William E. Lyman* For *5-30-91*
DIRECTOR OF SHASTA CO. PUBLIC WORKS
DATE
John B. Lyman For *5-21-91*
SHASTA CO. COMMUNITY DEVELOPMENT DEPT.
DATE
John B. Lyman For *5-22-91*
SHASTA CO. DEPT. OF ENVIRONMENTAL HEALTH
DATE
John B. Lyman For *5-20-91*
SHASTA CO. COMMUNITY SERVICES DEPT.
DATE

SHEET INDEX

SHASTA CO. FIRE DEPARTMENT	5-30-91	DATE
SURSD R. Lyman Dir. of Eng.	3/19/91	DATE
SHASTA UNION HIGH SCHOOL DIST.		
PLAN AND PROFILE-EMIGRANT TRAIL	3-10-91	DATE
PLAN AND PROFILE-WHISPERING CREEK CT.		
IMV 44 INTERSECTION DETAIL		
SEPTIC TANK & LEACH FIELD DETAILS		
WATER & SEWER SYSTEMS PLAN		
MELL. TRENCH & TELEMETRY DETAILS		
SEWER & WATER DETAILS		
EROSION CONTROL PLAN		
SHASTA COUNTY D.P.W. ROAD DETAILS		
98,000 GALLON WATER TANK DETAILS		
HIGHWAY 44 STRIDE AND LEFT TURN LAYOUT DETAILS		
SEPTIC TANK AND HOLDING TANK DESIGN DETAILS		

TRACT NO. 1738

AS BUILT PLANS

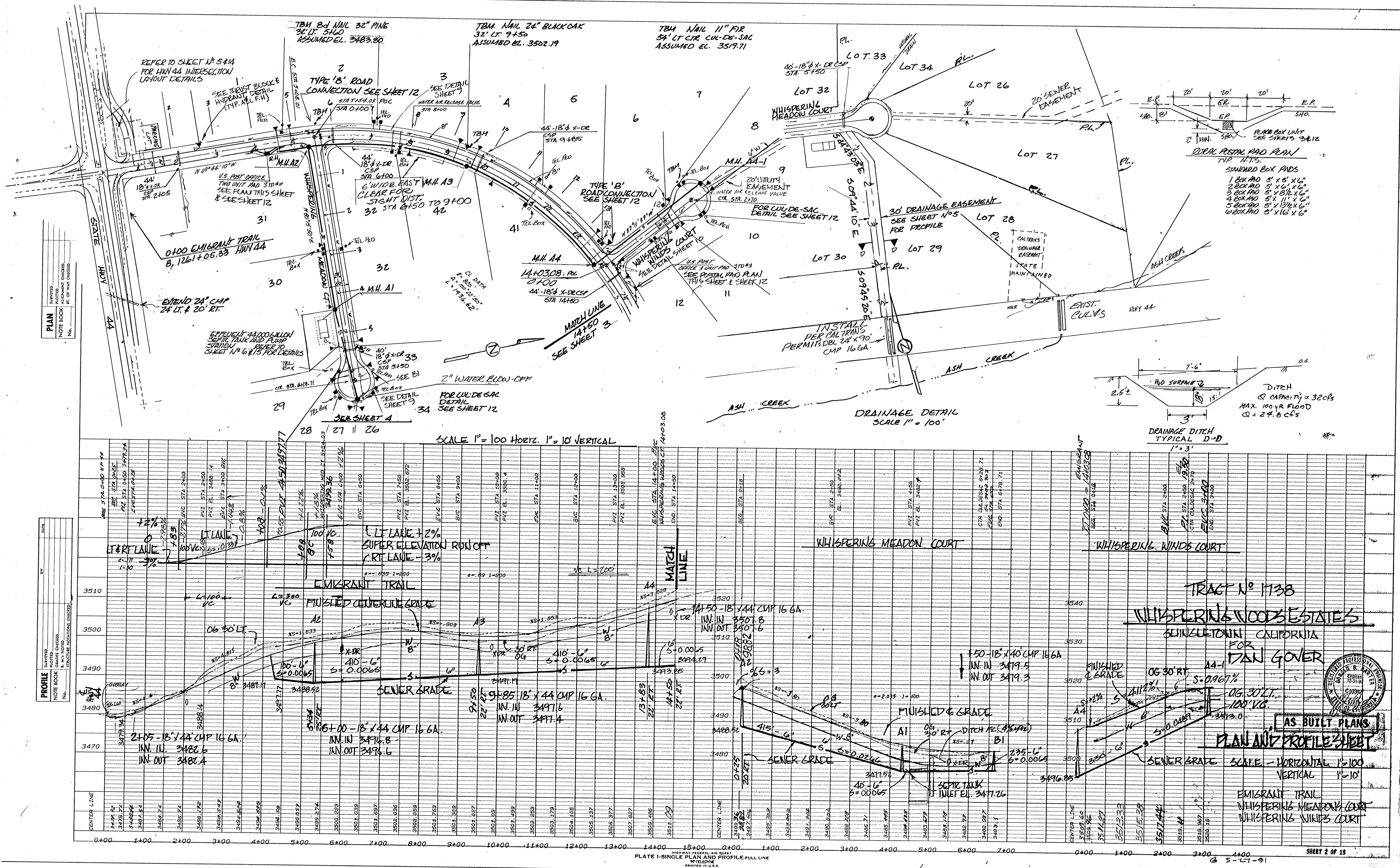
TITLE SHEET

DONALD B. CARTER ENGINEERING
P.O. BOX 346
ANDERSON, CALIFORNIA 97007

NOVEMBER 1990 SHEET 1 OF 15

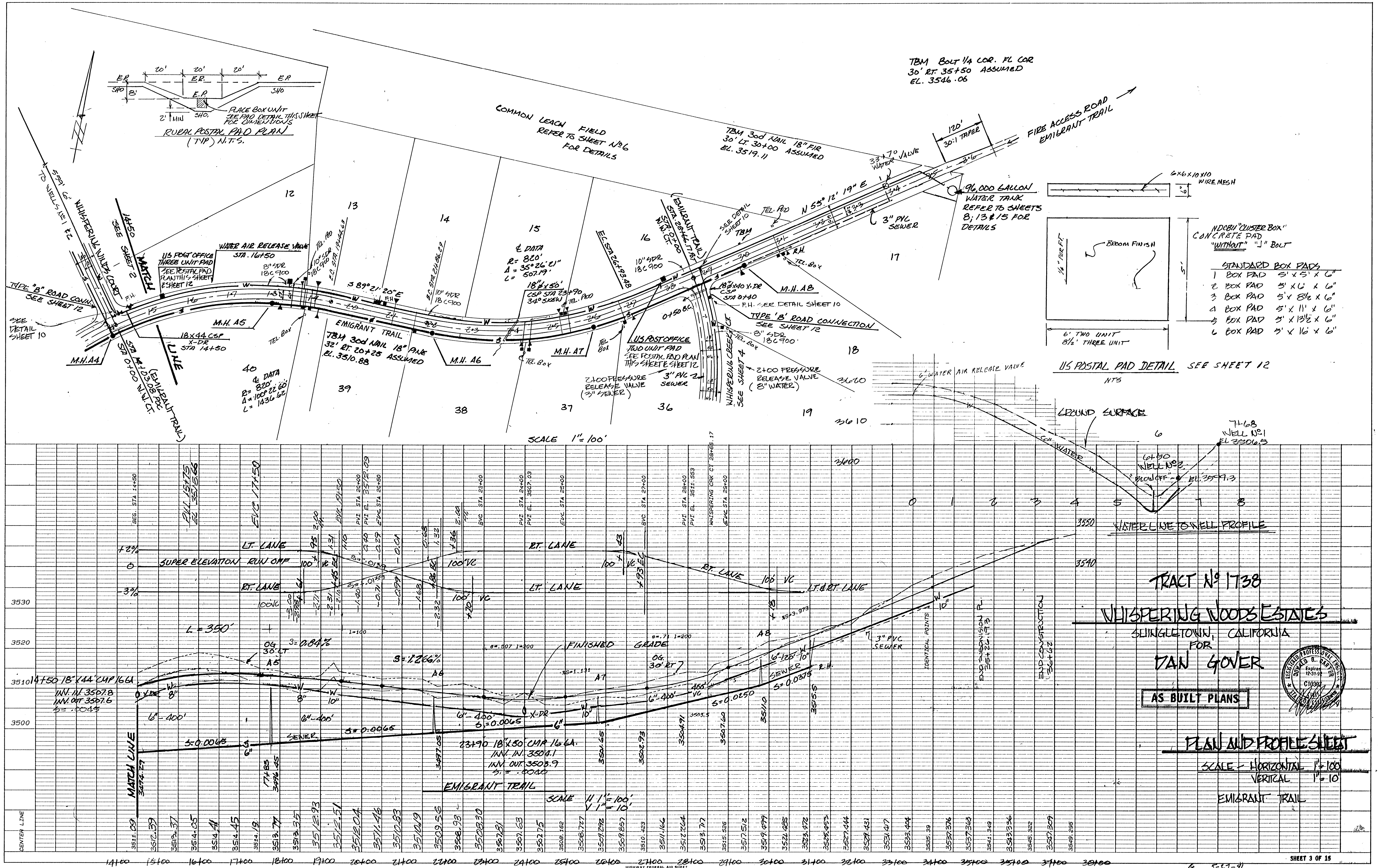
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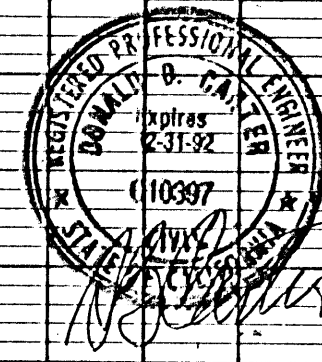
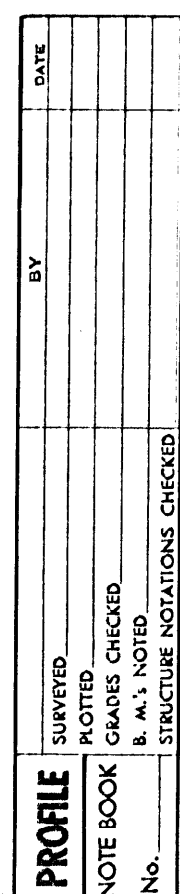
- FINAL STRUCTURAL SECTIONS TO BE DETERMINED BY "R" VALUE TESTING
- NO CHOKER SECTION
- CUNDERS USED FOR BASE MATERIAL SHALL MEET THE REQUIREMENTS SHOWN ON PAGE 2-49 OF SHASTA COUNTY STANDARDS.



DATE	BY	REVIEWED	DATE
PLAN	DATE	BY	REVIEWED
NOTE BOOK	DATE	BY	REVIEWED

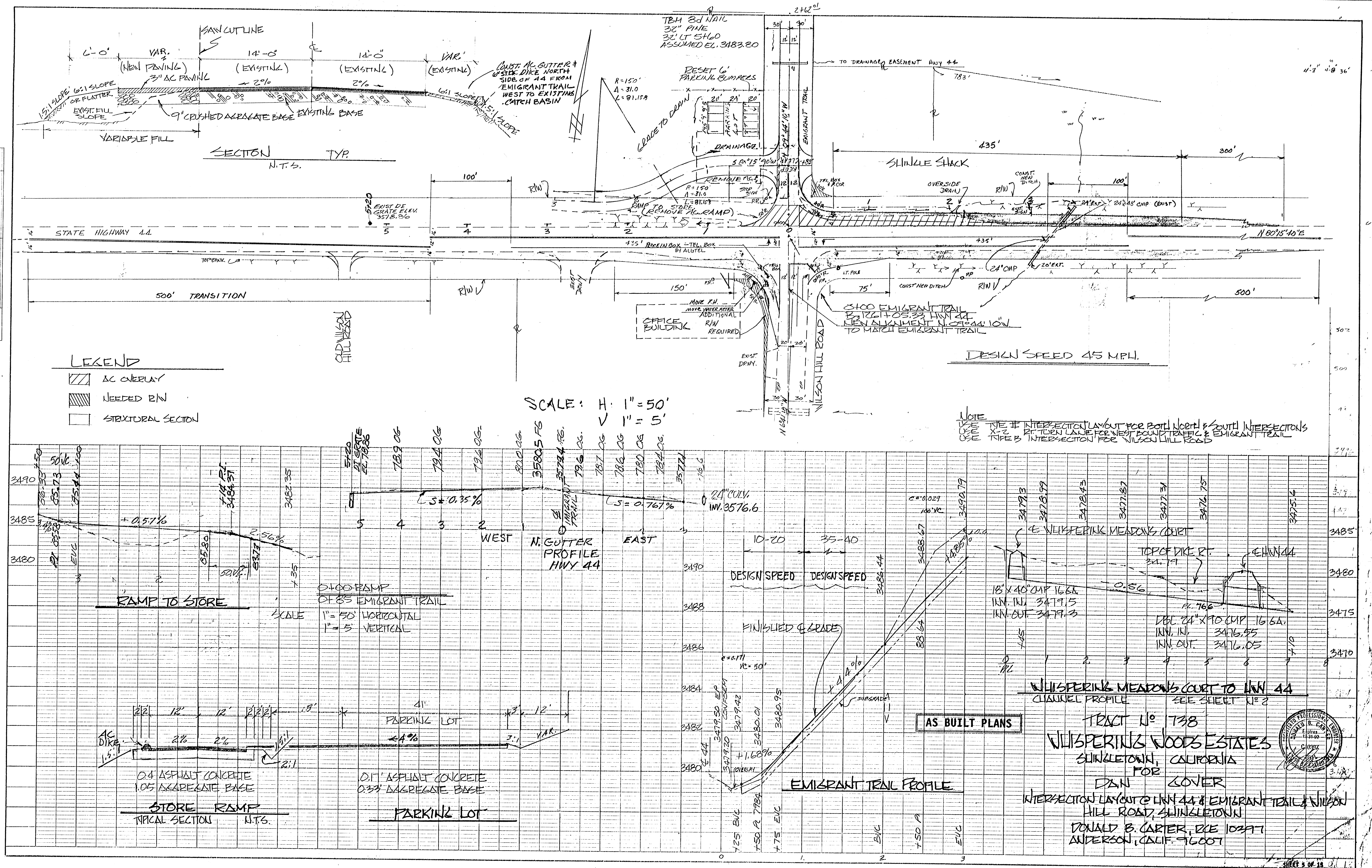
DATE	BY	REVIEWED	DATE
PROFILE	DATE	BY	REVIEWED
NOTE BOOK	DATE	BY	REVIEWED





PLAN	SURVEYED	DATE
	NOTED	BY
	ALIGNED	CHECKED
	NO	NO

PROFILE	SURVEYED	DATE
	NOTED	BY
	GRADES	CHECKED
	NO	NO



- (1) Single family homes to be served = 42 Lots
- (2) Percolation rate (t) = 16.7 minutes/inch as determined by tests in the northeast corner of the subdivision (the 200' x 1350' area being set aside for the Common Leach Field)
- (3) Waste water per lot = 350 gallons per day (Shasta County figure).
- (4) Absorptive area per linear foot of standard Leach Field = 2 square feet (from Manual of Septic-Tank Practices).

LEACH FIELD:

- (1) Change percolation rate from minutes/inch to Gallons/Square Feet/Day.
 $Q = 5 / 16.7 = 0.44 \text{ gal./Sq. Ft./Day}$
- (2) Total daily discharge of Waste Water from subdivision.
Total = 42 units x 350 Gal./unit = 14,700 Gal. per day.
- (3) Length of standard (2' wide) Leach Line required.
Length = $14,700 / 0.44 \times 1/2 \times 0.8 = 4819.6 \text{ LF} \sim \text{Call } 4900 \text{ LF}$
- (4) The 4900 foot system should be split and provided with an "A" Box or alternate flow to each half.

(1) Number of lines = $4300/100 = 43$ lines.

(2) Area Requirement = $48 \text{ (ft)} \cdot \text{line} \times 100 = 48,000 \text{ SF}$
 $48,000/43660 = 1.12$ Acres.

(3) Terrain contours and other factors may dictate a spacing wider than 10 feet which would increase this acreage figure. However, the 6 plus acre being set aside should be more than adequate for the initial construction and a 100% expansion of the system when and if needed.

NOTE: Calculations are in accordance with Manual of Septic-Tank Practice.

NOTE: Calculations are in accordance with Manual of Septic-Tank Practice.



TRACT N° 1738
SHINGLETON, CALIFORNIA
DAN FOR LOVER

DONALD B. CARTER, PCE 10397
CIVIL ENGINEER, ANDERSON, CALIF

NOVEMBER 1990 SHEET 6 OF 15

WATER PUMP ELECTRIC PANEL
WELL NO. 1
WELL NO. 2
WATER WELL SITES
60' - 12' DIA

COMMON LEACH FIELD
EXPANSION AREA

COMMON LEACH FIELD AREA

SEE SHEETS 13 & 15
96,000 GALLON GRAVITY WATER STORAGE TANK
 $Q = 32 (2.5 - 1.5 (96,000 / 96,000)) = 32 \text{ GPM}$

SEISMIC DESIGN OF FLAT-BOTTOM WATER STORAGE TANK

$M = 2X(0.14(0.85 + 0.001X) + 0.0001X^2) + 0.0001X^3$

WHERE:
M = THE OVERTURNING MOMENT APPLIED TO THE BOTTOM OF TANK SHELL, IN FOOT-POUNDS
Z = THE SEISMIC ZONE COEFFICIENT OF .375 FOR SHERMANTON, CALIFORNIA
K = THE STRUCTURE COEFFICIENT OF 2.00 FOR AN ANCHORED TANK
W = THE TOTAL WEIGHT OF TANK SHELL IS 20,400 POUNDS
X_s = THE HEIGHT FROM BOTTOM OF THE TANK SHELL TO CENTER OF GRAVITY IS 24 FEET
W_n = THE TOTAL WEIGHT OF TANK ROOF PLUS SNOW LOAD IS 2000 POUNDS
H_t = THE TOTAL HEIGHT OF TANK SHELL IS 48.25 FEET
X₁ = THE WEIGHT OF EFFECTIVE MASS OF TANK CONTENTS
X₂ = THE WEIGHT FROM THE BOTTOM OF TANK SHELL TO THE CENTROID
S = THE SLIT AMPLIFICATION FACTOR IS 1.2
M₂ = THE WEIGHT OF EFFECTIVE MASS OF THE FIRST MODE SLOSHING CONTENTS
X₂ = THE HEIGHT FROM THE BOTTOM OF THE TANK SHELL TO THE CENTROID
C₁ = ACCELERATION OF THE SLOSHING CONTENTS

18-FT DIAMETER BY 48-FT SHELL-HEIGHT TANK USING A 0.127" THICK BOTTOM SHELL

WHERE:

H_t = 48
D_s = 18
G_s = 1
X_s = 0.127
X₂ = 24
W_n = 2000
W_s = 1000
D/H = 0.375

SOLUTION:

W_t = 762.87, 35 lb
W_n = 7088.34, 23 lb
W_s = 7088.73 lb
X₁ = 21.60
X₂ = 43.20
D_s = 2.42
C₁ = 0.07
M₂ = 1868299.61 FT-LB

SHELL COMPRESSIVE STRESS FOR ANCHORED TANK:

W_t = 361 FT-LB
C_s = 5053 PSI

EARTHQUAKE ALLOWABLE COMPRESSIVE STRESS:

F_s = 2200 PSI
D_s = 6020 PSI
E_s = 7550 PSI

CONCLUSION:
SINCE THE EARTHQUAKE COMPRESSIVE STRESS OF 7550 PSI IS GREATER THAN THE SHELL COMPRESSIVE STRESS OF 5053 PSI, THE SHELL THICKNESS OF 0.127 IN. IS ACCEPTABLE.

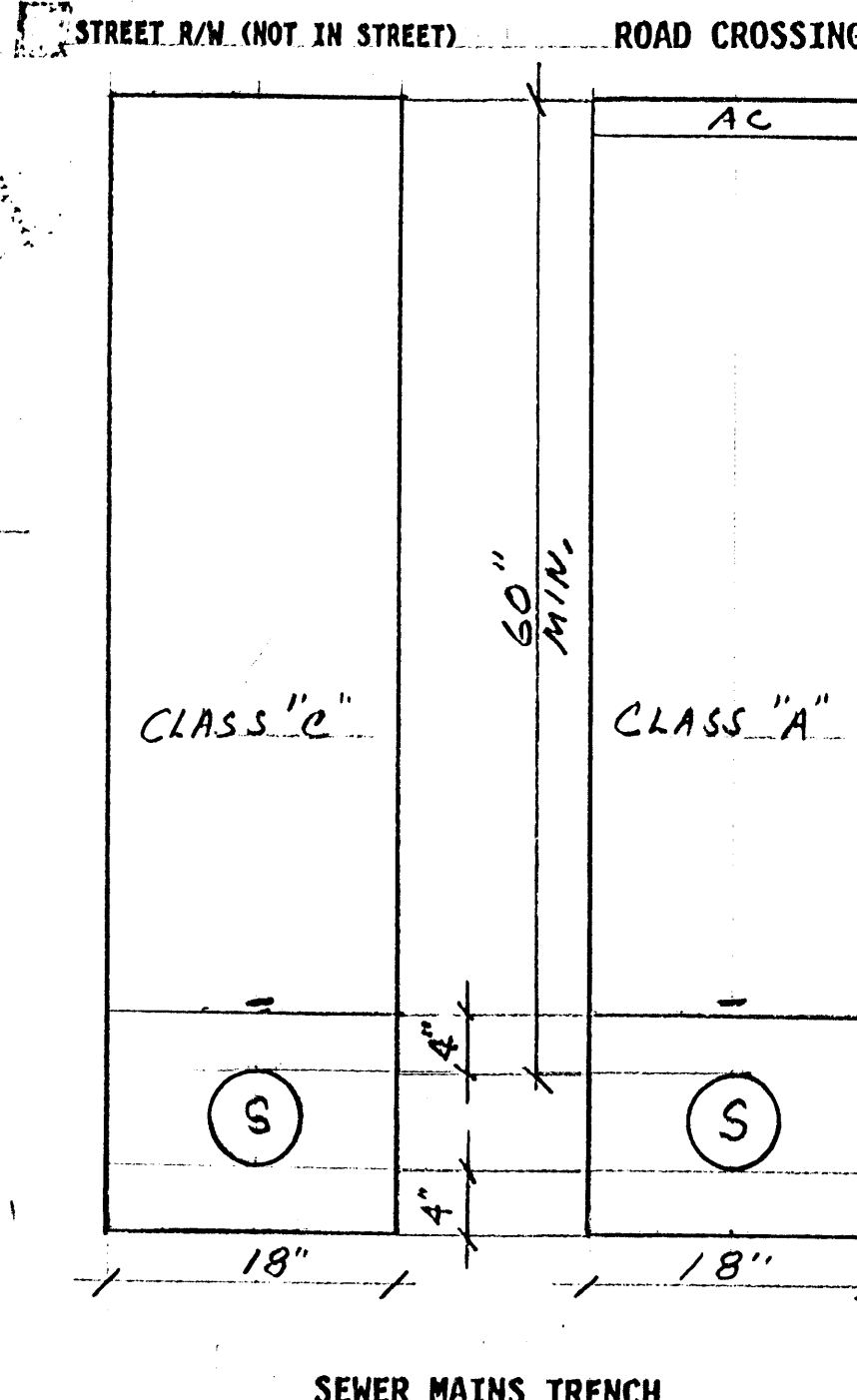
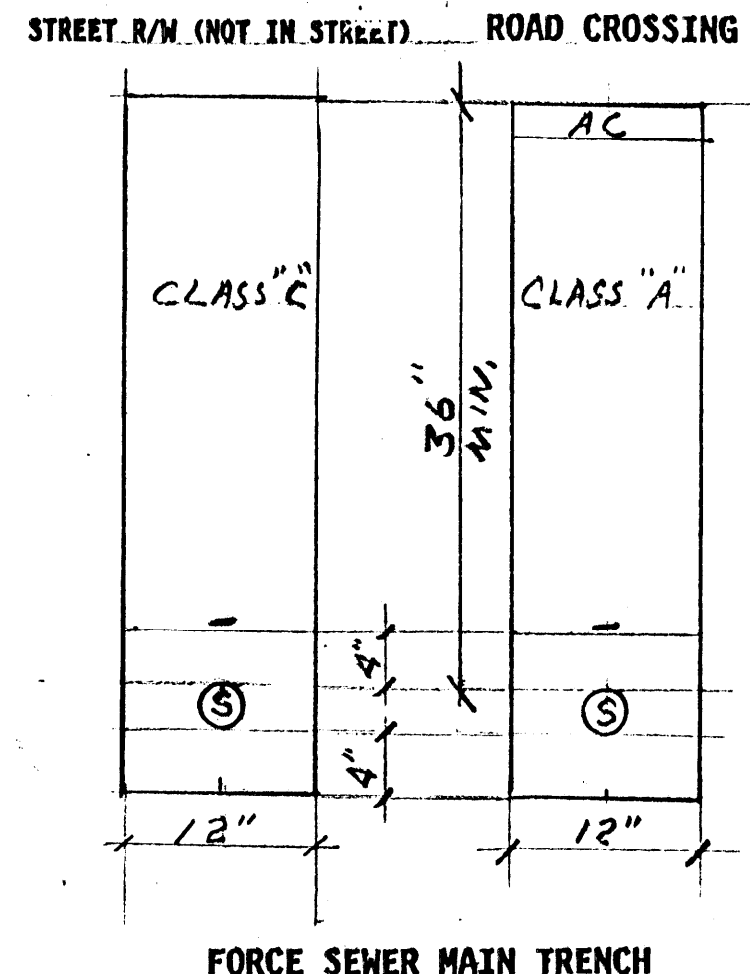
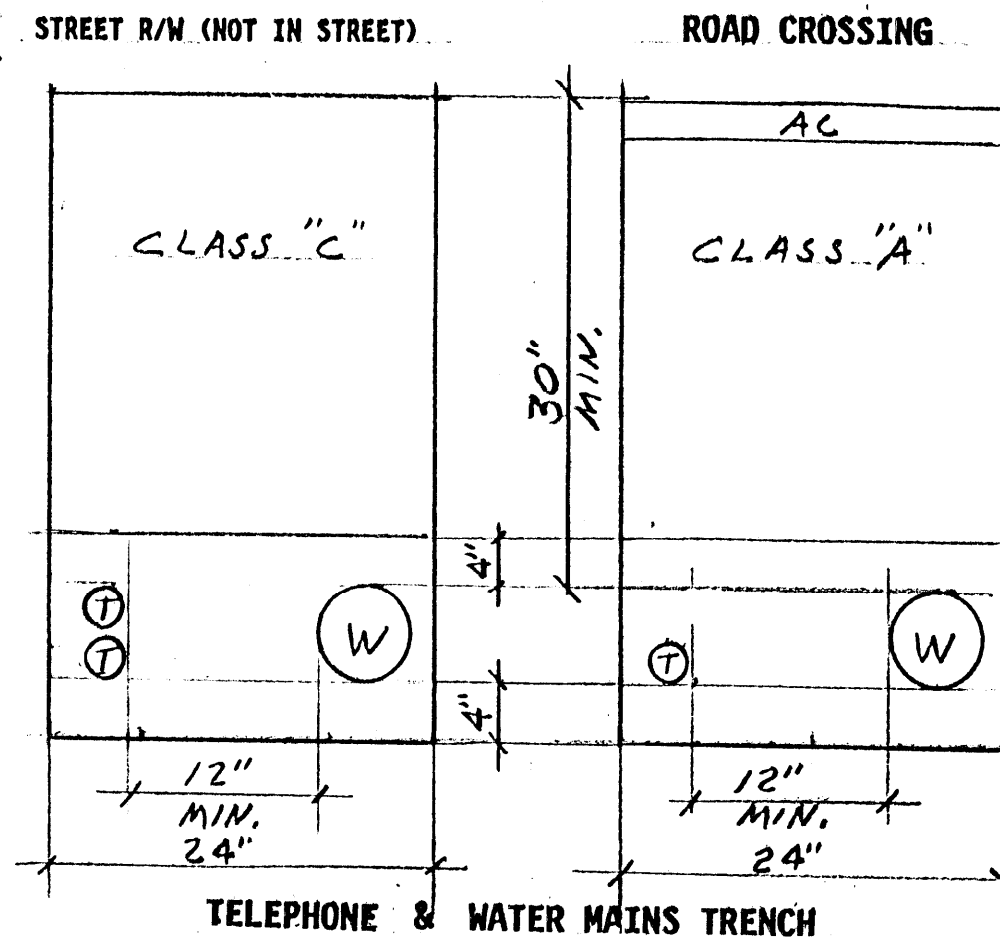
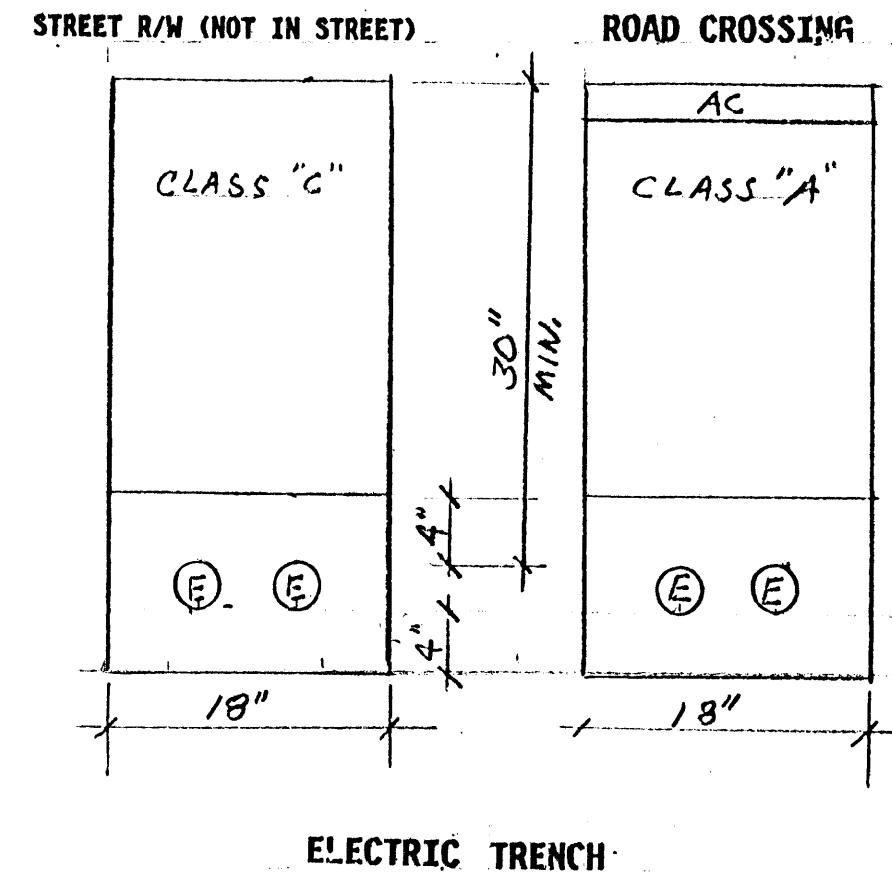
WATER-STORAGE TANK SEISMIC DESIGN ANALYSIS

18-FOOT DIAMETER BY 48-FOOT SHELL-HEIGHT TANK USING A 0.127" THICK BOTTOM SHELL
WATER TANK: BASE EL. 3546 HIGH EL. 3594 LOW LOT EL. 3589 LOW FH EL. 3564 GAL. / FT. 2000

LOT NO.	HIGH TANK	LOW TANK	LOT ELEV.	LOT FEET	GPM	FIRE + DOM. 10" PIPE C-130			FIRE + DOM. 8" PIPE C-130			FIRE + DOM. 6" PIPE C-130			HEAD	HIGH TANK HEAD	LOW TANK	PSI HIGH	PSI LOW
						LOSSES	LOSSES	LOSSES	LOSSES	LOSSES	LOSSES	LOSSES							
1	3594	3589	3495	3015	800	0.002923	0.002923	0.034815	0.002923	0.002923	0.034815	0.002923	0.002923	0.034815	82.92	77.02	35.31	33.34	
2	3594	3589	3495	3015	800	0.002923	0.002923	0.034815	0.002923	0.002923	0.034815	0.002923	0.002923	0.034815	82.92	77.02	35.31	33.34	
3	3594	3589	3498	2975	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	83.32	78.32	36.07	33.90	
4	3594	3589	3498	2975	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	83.32	78.32	36.07	33.90	
5	3594	3589	3505	2175	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	79.70	74.70	34.50	32.34	
6	3594	3589	3505	2175	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	79.70	74.70	34.50	32.34	
7	3594	3589	3516	2160	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	80.34	75.34	35.04	32.66	
8	3594	3589	3516	2160	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	80.34	75.34	35.04	32.66	
9	3594	3589	3516	2160	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	80.34	75.34	35.04	32.66	
10	3594	3589	3516	2160	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	80.34	75.34	35.04	32.66	
11	3594	3589	3516	2160	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	80.34	75.34	35.04	32.66	
12	3594	3589	3510	1665	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	79.85	74.85	34.70	32.04	
13	3594	3589	3507	1450	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	79.85	74.85	34.70	32.04	
14	3594	3589	3507	1450	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	79.85	74.85	34.70	32.04	
15	3594	3589	3506	1000	800	0.002632	0.002632	0.034815	0.002632	0.002632	0.034815	0.002632	0.002632	0.034815	88.31	83.31	37.10	34.93	
16	3594	3589	3506	1000	800	0.002632	0.002632	0.034815	0.002632	0.002632	0.034815	0.002632	0.002632	0.034815	88.31	83.31	37.10	34.93	
17	3594	3589	3527	410	525	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	86.05	81.05	36.99	34.83	
18	3594	3589	3527	410	525	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	86.05	81.05	36.99	34.83	
19	3594	3589	3527	410	525	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	86.05	81.05	36.99	34.83	
20	3594	3589	3509	1235	550	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	81.21	76.21	35.46	33.30	
21	3594	3589	3506	1350	550	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	84.62	79.62	36.23	34.07	
22	3594	3589	3501	1390	550	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	84.62	79.62	36.23	34.07	
23	3594	3589	3500	1390	550	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	84.62	79.62	36.23	34.07	
24	3594	3589	3501	1440	550	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	80.40	75.40	35.70	33.54	
25	3594	3589	3480	3215	635	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	81.40	76.40	36.27	34.10	
26	3594	3589	3480	3215	635	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	81.40	76.40	36.27	34.10	
27	3594	3589	3480	3215	635	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	81.40	76.40	36.27	34.10	
28	3594	3589	3480	3215	635	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	81.40	76.40	36.27	34.10	
29	3594	3589	3485	3200	635	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	89.31	84.31	38.66	36.50	
30	3594	3589	3485	3200	635	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	89.31	84.31	38.66	36.50	
31	3594	3589	3485	3200	635	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	89.31	84.31	38.66	36.50	
32	3594	3589	3480	3160	635	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	81.40	76.40	36.27	34.10	
33	3594	3589	3480	3160	635	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	81.40	76.40	36.27	34.10	
34	3594	3589	3506	1350	525	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	85.02	80.02	36.20	34.44	
35	3594	3589	3507	860	525	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	85.02	80.02	36.20	34.44	
36	3594	3589	3507	860	525	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	85.02	80.02	36.20	34.44	
37	3594	3589	3506	1350	500	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	84.62	79.62	36.23	34.07	
38	3594	3589	3506	1350	500	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	84.62	79.62	36.23	34.07	
39	3594	3589	3509	1640	500	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	80.90	75.90	35.02	32.86	
40	3594	3589	3509	1640	500	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	80.90	75.90	35.02	32.86	
41	3594	3589	3509	1640	500	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	80.90	75.90	35.02	32.86	
42	3594	3589	3499	2710	560	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	81.18	76.18	35.24	32.98	
FH-1	3594	3584	3486	3140	800	0.002923	0.002923	0.034815	0.002923	0.002923	0.034815	0.002923	0.002923	0.034815	89.94	83.32	38.33	36.36	
FH-2	3594	3584	3498	2975	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	83.32	78.32	36.07	33.90	
FH-3	3594	3584	3509	2050	800	0.002923	0.002923	0.034815	0.002923	0.002923	0.034815	0.002923	0.002923	0.034815	29.33	24.33	33.07	30.90	
FH-4	3594	3584	3507	1860	800	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	0.002769	0.002769	0.034815	29.33	24.33	33.07	30.90	
FH-5	3594	3584	3507	860	525	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	0.002308	0.002308	0.027692	85.02	80.02	36.20	34.44	
FH-6	3594	3584	3508	625	500	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	0.002500	0.002500	0.030769	79.76	74.76	34.43	32.26	
FH-7	3594	3584	3480	3450	635	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	0.003077	0.003077	0.036923	92.00	87.00	39.83	37.66	

MATERIALS:

- TRENCH STABILIZATION MATERIAL:** CLEAN IMPORTED GRAVEL, FREE FROM CLAY BALL AND ORGANIC MATTER. REASONABLY UNIFORM GRADATION FROM FINE SAND TO 2 1/2 INCH MAXIMUM. GRADATION SHALL BE SUCH AS TO FILL ALL LARGE VOIDS WITH FINES TO PREVENT PIPING OF NATIVE SOILS.
- PIPING BEDDING:** CLEAN IMPORTED SAND OR WELL GRADED SAND GRAVEL MIX, MAXIMUM SIZE OF 3/4 INCH, FREE FROM ALL ORGANIC MATTER AND DEBRIS. MINIMUM SAND EQUIVALENT OF 30.
- IMPORTED GRAVEL BACKFILL:** A REASONABLY WELL GRADED SILTY SAND OR A WELL GRADED SILT, SAND, AND GRAVEL MIXTURE WITHIN A MAXIMUM PARTICLE SIZE OF 3 INCHES AND A MINIMUM SAND EQUIVALENT OF 30. AT THE CONTRACTOR'S OPTION AGGREGATE BASE MATERIAL MAY BE SUBSTITUTED.
- NATIVE BACKFILL:** MATERIAL EXCAVATED FROM THE TRENCH, FREE OF ROOTS AND DEBRIS. REMOVE ANY ROCKS LARGER THAN 6 INCHES IN GREATEST DIMENSION WITHIN 2 FEET OF TOP OF PIPE.
- SELECT NATIVE BACKFILL:** MATERIAL EXCAVATED FROM THE TRENCH, FREE OF ROOTS AND DEBRIS. REMOVE ANY ROCKS LARGER THAN 4 INCHES IN GREATEST DIMENSION.
- AGGREGATE BASE:** AGGREGATE BASE SHALL CONFORM TO REQUIREMENTS OF THE STATE STANDARD SPECIFICATIONS FOR CLASS 2 AGGREGATE BASE, 3/4 INCH MAXIMUM SIZE (CAL TRANS).



NOTE
95% MIN. COMPACTION

ALL TRENCHES WITHIN THE ROADWAY PRISM (SHOULDER HINGE POINT TO SHOULDER HINGE POINT) REQUIRE CLASS "A" BACKFILL & 95% RELATIVE COMPACTION

TYPICAL TRENCH DETAILS

SCALE: 1" = 1'-0"

- VALVE BOXES PLACED UNDERGROUND SHALL BE COOK NO. 6C12 BOX & C275 LID OR EQUAL. BOXES SHALL BE FURNISHED WITH 8 INCH PVC PIPE EXTENSION SLEEVES. THE LID SHALL BE MARKED "WATER".
- GATE VALVES UNDER 4 INCHES SHALL BE 125 POUND, WEDGE DISK TYPE, WITH NON RISING STEM, SCREWED CONNECTIONS, FURNISHED WITH HANDWHEEL OPERATORS. VALVES SHALL BE BRONZE AND SHALL OPEN LEFT. POWELL NO. 207, CRANE NO. 438 OR EQUAL.
- AIR RELEASE AND VACUUM VALVES SHALL BE CAST IRON BODIES AND COVERS AND STAINLESS STEEL FLOATS. FLOAT GUIDES, BUSHINGS, AND LEVER PINS SHALL BE STAINLESS STEEL OR BRONZE. VALVES SHALL BE DESIGNED FOR OPERATION SERVICE TO 3000 PSI AND SHALL BE APCO NO. 143C, CRISPIN U-10 OR EQUAL.

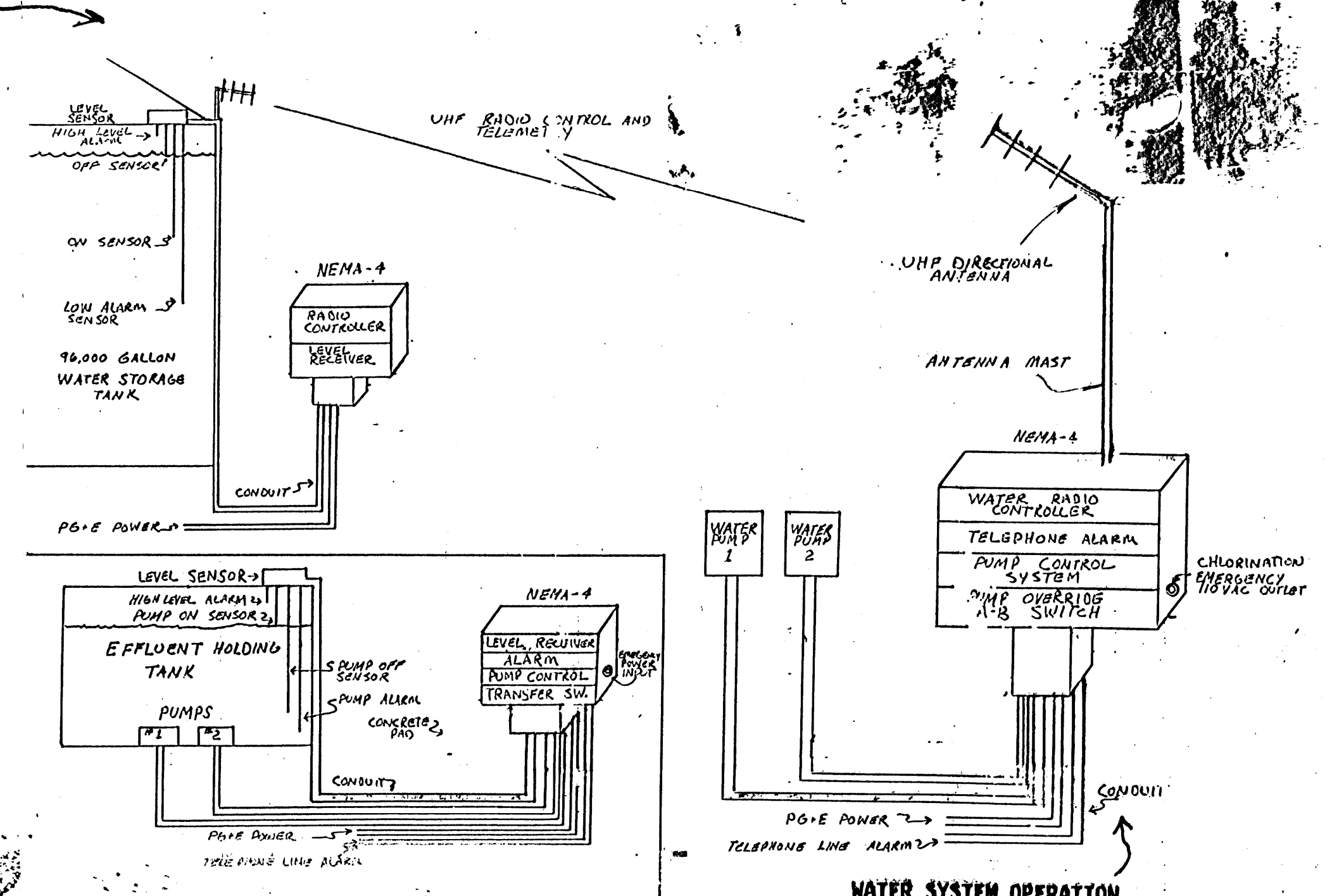
NOTES:

- SEWER MAIN & SEWER FORCE MAIN FINDER WIRE SHALL BE INSTALLED OVER SAID MAINS.
- FORCE MAIN MARKERS SHALL BE CONSTRUCTED OF A FLEXIBLE COMPOSITION OF FIBERGLASS, MARBLE AND THERMOSETTING POLYMERS THAT WILL NOT RUST, BECOME BRITTLE IN WINTER, OR SOFTEN IN SUMMER. MARKERS SHALL BE A MINIMUM OF 3-3/4 INCHES WIDE AND 66 INCHES LONG AND YELLOW WITH WHITE/ GREEN DECALS WITH THE FOLLOWING WORDING, "CAUTION: SEWER PIPELINE, BEFORE DIGGING OR OPENING OR IN CASE OF EMERGENCY, CALL SHASTA COUNTY OFFICE OF SPECIAL DISTRICTS, (916)225-5571."
- WATER MAIN TRACER WIRE SHALL BE INSTALLED WHEN NO TELEPHONE IS IN TRENCH WITH WATER MAIN.
- PRELIMINANTS SHALL BE PLACED A MAXIMUM OF 12" FROM EDGE OF PAVEMENT, BUT NOT CLOSER THAN 8" TO EDGE OF PAVEMENT.
- A COMMERCIAL BUILDING PERMIT WILL BE REQUIRED FOR SEPTIC TANK AND WATER TANK FOUNDATION.
- IN ACCORDANCE WITH THE CALIFORNIA WATERWORKS STANDARDS, WATER MAINS MUST CROSS OVER SEWER LINES, BUT AT LEAST ONE FOOT.
- CALIFORNIA WATERWORKS STANDARDS REQUIRES WATER MAINS TO BE 10 FEET AND PREPARED 1/2" FEET HORIZONTALLY FROM SEWER FEEDS, CATCHPOOLS, SEEPAGE PITS AND SEPTIC TANKS.
- EACH SECTION OF WATER MAIN SHALL BE TESTED SEPARATELY BY CLOSING THE ADJACENT VALVES AND PRESSURING THE ISOLATED SECTION UP TO A TEST PRESSURE OF 150 PSI. THE TEST PRESSURE SHALL BE AT THE LOWEST POINT IN THE ISOLATED SECTION TO BE AT LEAST 150 PSI OR 150 PSI ABOVE THE MAXIMUM WORKING PRESSURE, WHICHEVER IS GREATER. AT THE END OF A ONE HOUR TEST PERIOD, THE TEST PRESSURE SHALL BE AT LEAST EQUAL TO THE STRONG TEST PRESSURE IN ORDER TO PROPERLY DETERMINE LEAKAGE.

- ELECTRIC BACKFILL SAND: 1/8 INCH MINIMUM SAND BACKFILL MATERIAL SHALL CONFORM TO PG&E REQUIREMENTS.
- MAIN SEWER POLYVINYL CHLORIDE PIPE, SDR 35 AND FITTINGS SHALL CONFORM TO ASTM D3034.
- LATERAL PIPING SHALL BE SCHEDULE 40 PVC CONFORMING TO ASTM D1785 OR SCHEDULE 40 ABS CONFORMING TO ASTM D1527. FITTINGS TO CONFORM ASTM D2466 FOR PVC AND TO ASTM D4268 FOR ABS. ALL JOINTS SHALL BE SOLVENT WELD EXCEPT THE TRANSITION AT THE D3034 PVC MAIN TO LATERAL SHALL BE MADE WITH THE GASKET BY SOLVENT WELD ADAPTER AT THE MAIN. SOLVENTS SHALL BE APPROVED FOR USE WITH THE TYPE OF PIPE BEING USED.
- FORCE MAIN PIPING SHALL BE POLYVINYL CHLORIDE PIPE OF TYPE 1, GRADE 1, 2,000 PSI DESIGN STRESS MATERIAL (TYPE 1120) CONFORMING TO ASTM 1784, AND SHALL BE 200 PSI, SDR 21 CONFORMING TO ASTM. PIPE JOINTS SHALL BE RUBBER RING. ALL FITTINGS FOR PVC FORCE MAIN PIPE SHALL BE EITHER CAST IRON OR DUCTILE IRON CONFORMING TO SS.207-9.2.3 AND SHALL BE LINED AND COATED WITH THERMOSETTING FUSION BONDED EPOXY RESIN SUCH AS SCOTCH KOTE NO. 2 OR 3, MIVON 650, OR EQUAL. THE THICKNESS OF THE LINING AND COATING SHALL NOT BE LESS THAN 12 MILS. FITTINGS SHALL BE PUSH-ON TYPE FITTINGS SPECIFICALLY MADE FOR IP SIZE PVC PRESSURE PIPE SUCH AS MANUFACTURED BY TYLER, IFICO, OR EQUAL.
- WATER MAIN PIPE SHALL BE POLYVINYL CHLORIDE PIPE (PVC), MANUFACTURED OF TYPE 1, GRADE 1, 2000 PSI DESIGN STRESS MATERIAL (TYPE 1120) CONFORMING TO ASTM 1784. PIPE SHALL BE SDR 18 C 900, CLASS 150, CONFORMING TO ANMA C900 WITH CAST IRON PIPE OUTSIDE DIAMETER. PIPE SHALL BE PROVIDED IN STANDARD 20 FOOT LENGTHS CONTINUOUSLY MARKED IN ACCORDANCE WITH ASTM D1785. PIPE JOINTS SHALL BE RUBBER RING.
- SERVICE SADDLES SHALL BE DUCTILE IRON BODIES 360 DEGREES SUPPORT AROUND THE PIPE. SERVICE SADDLES FOR BLOW-OFF ASSEMBLIES SHALL HAVE DUCTILE IRON BODIES WITH TWO TYPE 304 STAINLESS STEEL STRAPS. ALL SERVICE SADDLES SHALL BE DESIGNED FOR USE ON PVC PIPE AND BE FURNISHED WITH STAINLESS STEEL BOLTS, NUTS, WASHERS AND BUNA-N GASKETS. ALL SADDLE ASSEMBLIES SHALL BE ROMAC 2025 OR EQUAL.
- FLANGED COUPLING ADAPTERS (FCA) SHALL BE OF THE ELASTOMERIC COMPRESSION TYPE AND STYLE AS APPROVED BY THE ENGINEER. FLANGED COUPLING ADAPTERS SHALL BE FURNISHED AND INSTALLED WITH ADEQUATELY SIZED THRUST PROTECTION, ANCHOR BOLTS, AND ANCHOR STUDS WHERE SHOWN ON THE PLANS. THE PIPE SHALL BE DRILLED FOR INSTALLATION OF THE STUDS. FLANGED COUPLING ADAPTERS SHALL BE SIZED TO BE COMPATIBLE WITH THE PIPE ON WHICH THEY ARE TO BE INSTALLED AND SHALL BE AS MANUFACTURED BY SMITH-BLAIR, BAKER, OR EQUAL.
- FLEXIBLE COUPLINGS (FC) SHALL BE OF THE STYLE AND TYPE RECOMMENDED BY THE ENGINEER AND APPROVED BY THE SHASTA COUNTY COMMUNITY SERVICES DEPARTMENT. FLEXIBLE COUPLINGS SHALL BE SIZED TO ACCOMMODATE THE TYPE AND SIZE OF PIPES TO BE CONNECTED. FLEXIBLE COUPLINGS SHALL BE THE MANUFACTURER STANDARD LENGTH, UNLESS OTHERWISE NOTED. FLEXIBLE COUPLINGS SHALL BE AS MANUFACTURED ROCKWELL, BAKER OR EQUAL.
- SERVICE LINE MATERIALS SHALL BE 3/4 INCH DIAMETER TYPE "K" SOFT ROLL COPPER.
- GATE VALVES 4 INCHES AND LARGER SHALL BE IRON BODY, RESILIENT SEAT, SOLID WEDGE, NRS VALVES WITH O RING SEALS. EXPOSED VALVES SHALL HAVE HANDWHEEL OPERATORS. BURIED VALVES SHALL HAVE 2 INCH SQUARE WRENCH NUTS. VALVE ENDS AS SHOWN ON THE PLANS. VALVES SHALL CONFORM TO ANMA C509.

RADIO CONTROL SYSTEM

THE RADIO SYSTEM IS DESIGNED TO PROVIDE A RELIABLE, POINT TO POINT CONTROL LINK. THE RADIO SYSTEM INCORPORATES CTCSS PROTECTED RECEIVERS AT EACH END TO ELIMINATE RECEIVER INTERFERENCE. THE SYSTEM UTILIZES DTMF SIGNALING AND SIGNALING TRANSPONDER TO VALIDATE EACH COMMAND PACKET. THIS FORMAT PROVIDES FOR POSITIVE VERIFICATION AND VALIDATION OF TELEMETRY SIGNALING. EACH END OF THE SYSTEM UTILIZES A DIRECTIONAL ANTENNA TO ENSURE STRONG POINT TO POINT SIGNALS AND COCHANNEL PROTECTION.



THE EFFLUENT PUMPING STATION SYSTEM OPERATES IN MUCH THE SAME MANNER AS THE WATER SYSTEM BUT LESS THE RADIO CONTROL EQUIPMENT. THERE ARE FOUR LEVEL SENSORS: THE PUMP ON, PUMP OFF SENSORS OPERATE THE PUMPS FOR NORMAL OPERATION. THE HIGH LEVEL AND PUMP ALARM SENSORS WILL SIGNAL THE ALARM PANEL WHICH INTERN WILL CALL THE ALARM CENTER AS TO THE LOCATION AND TYPE OF FAULT THAT THE SYSTEM IS EXPERIENCING. LOCATED ON THE SIDE OF THE NEMA ENCLOSURE IS AN EMERGENCY POWER INPUT CONNECTOR. THIS WILL ALLOW FOR AN AUXILIARY GENERATOR TO BE CONNECTED. A TRANSFER SWITCH WILL BE PROVIDED FOR DURING GENERATOR CONNECTION.

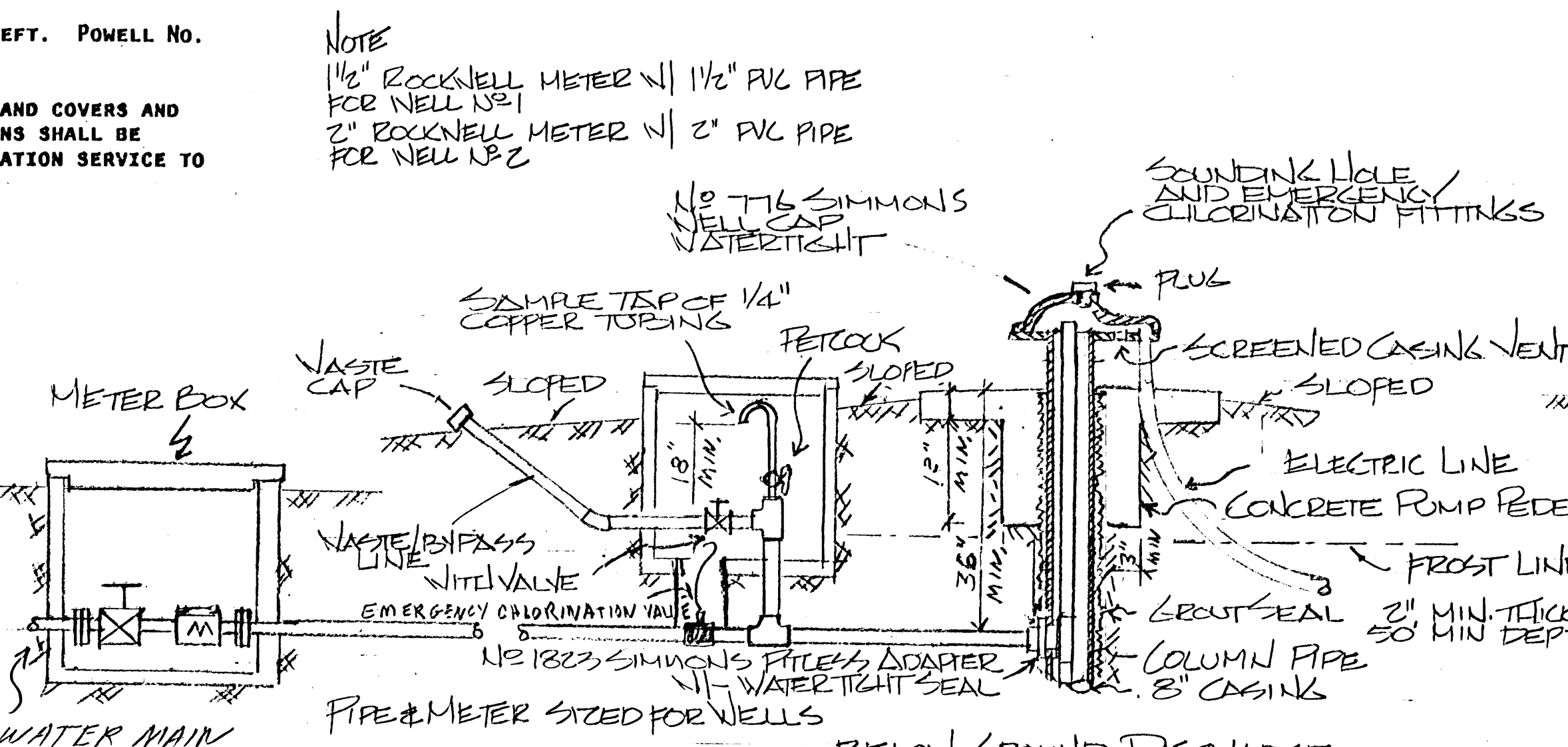
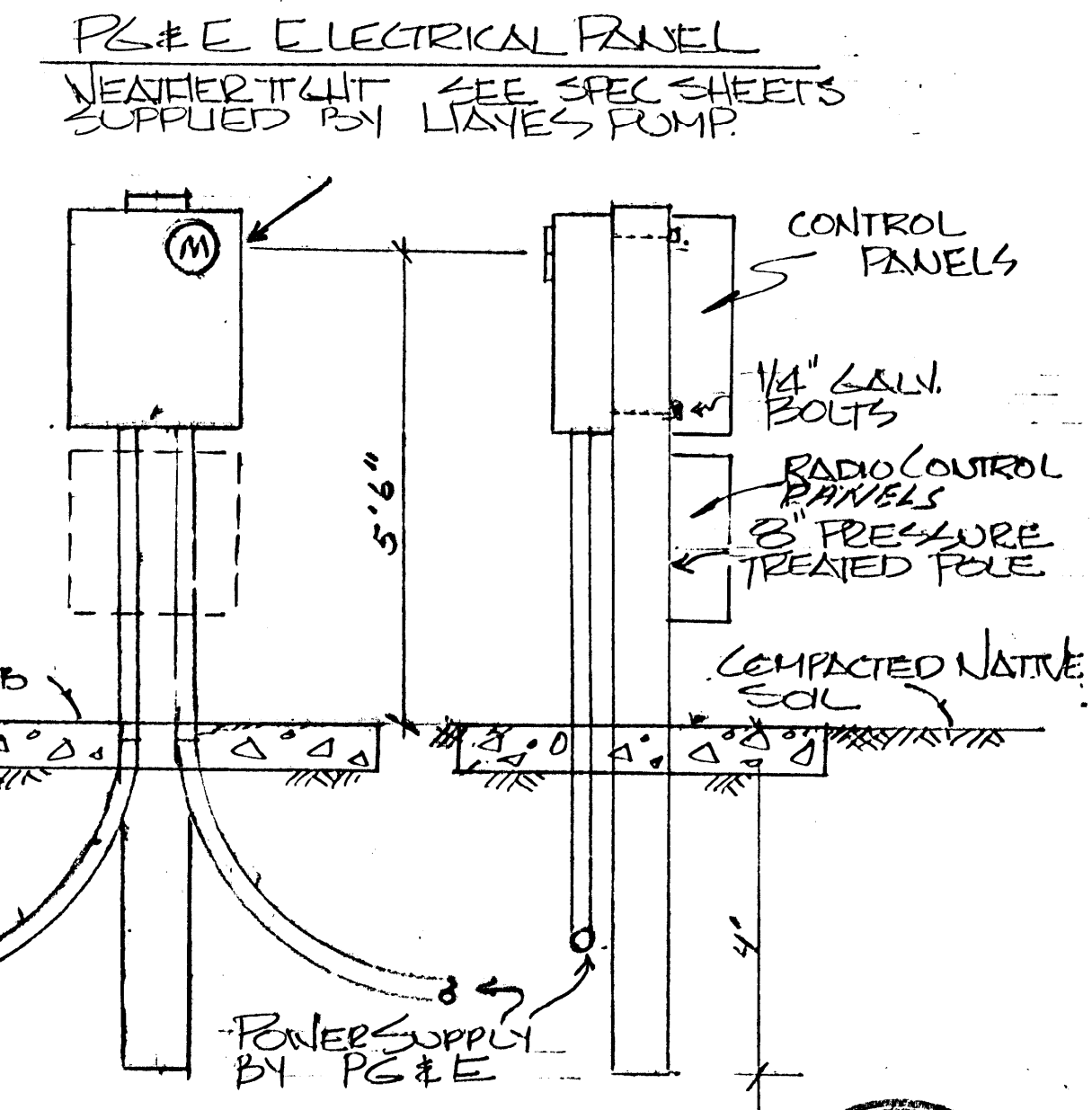
THE WATER SYSTEM IS DESIGNED TO OPERATE AS A CONTINUOUS SYSTEM WHICH WILL MAINTAIN THE WATER LEVEL IN THE STORAGE TANK TO THE DESIGNED HIGH AND LOW LEVELS. THE SYSTEM CONSISTS OF A LEVEL SENSOR, RADIO CONTROL LINK, PUMPS, AND TELEPHONE ALARM. THE OPERATION SEQUENCE IS AS FOLLOWS:

WHEN THE WATER LEVEL IN THE STORAGE TANK REACHES THE DETERMINED LOW LEVEL, THE LOW LEVEL SENSOR RESPONDS BY SIGNALING THE LEVEL RECEIVER WHICH WILL PROVIDES A RELAY CLOSER, THE CLOSER IS RECEIVED BY THE RADIO CONTROLLER. THE RADIO CONTROLLER, LOCATED AT THE WATER TANK RESPONDS BY SENDING THE PROPER TELEMETRY COMMAND TO THE PUMP STATION. AT THE PUMP STATION, A RADIO CONTROLLER IN TURN PROVIDES A RELAY CLOSER WHICH TURNS ON THE WATER PUMPS AND STARTS THE FILLING PROCESS. WHEN THE HIGH WATER LEVEL IS REACHED IN THE STORAGE TANK THE OFF LEVEL SENSOR ACTIVATES AND THE RADIO CONTROLLER RESPONDS WITH TELEMETRY WHICH IS RECEIVED AT THE PUMP STATION AND THE PUMPS ARE TURNED OFF.

IF THE TANK SHOULD REACH OVER FLOW CONDITIONS THE ALARM LEVEL INDICATOR WILL ACTIVATE AND TELEMETRY IS TRANSMITTED TO THE PUMP STATION WHERE THE ALARM RECEIVER IS ACTIVATED WHICH TURNS ON THE TELEPHONE LINE OPERATE ALARM MODEM. THIS MODEM WILL CALL THE ALARM CENTER AND TRANSMIT IDENTIFICATION TELEMETRY, IN THE ALARM CENTER WILL CONTACT THE PROPER AUTHORITIES.

WATER & SEWER TELEMETRY DETAIL

NOT TO SCALE



PUMP WATER METER BOX DETAIL

NOT TO SCALE

DOMESTIC WATER WELL & PG&E ELECTRICAL PANEL DETAIL

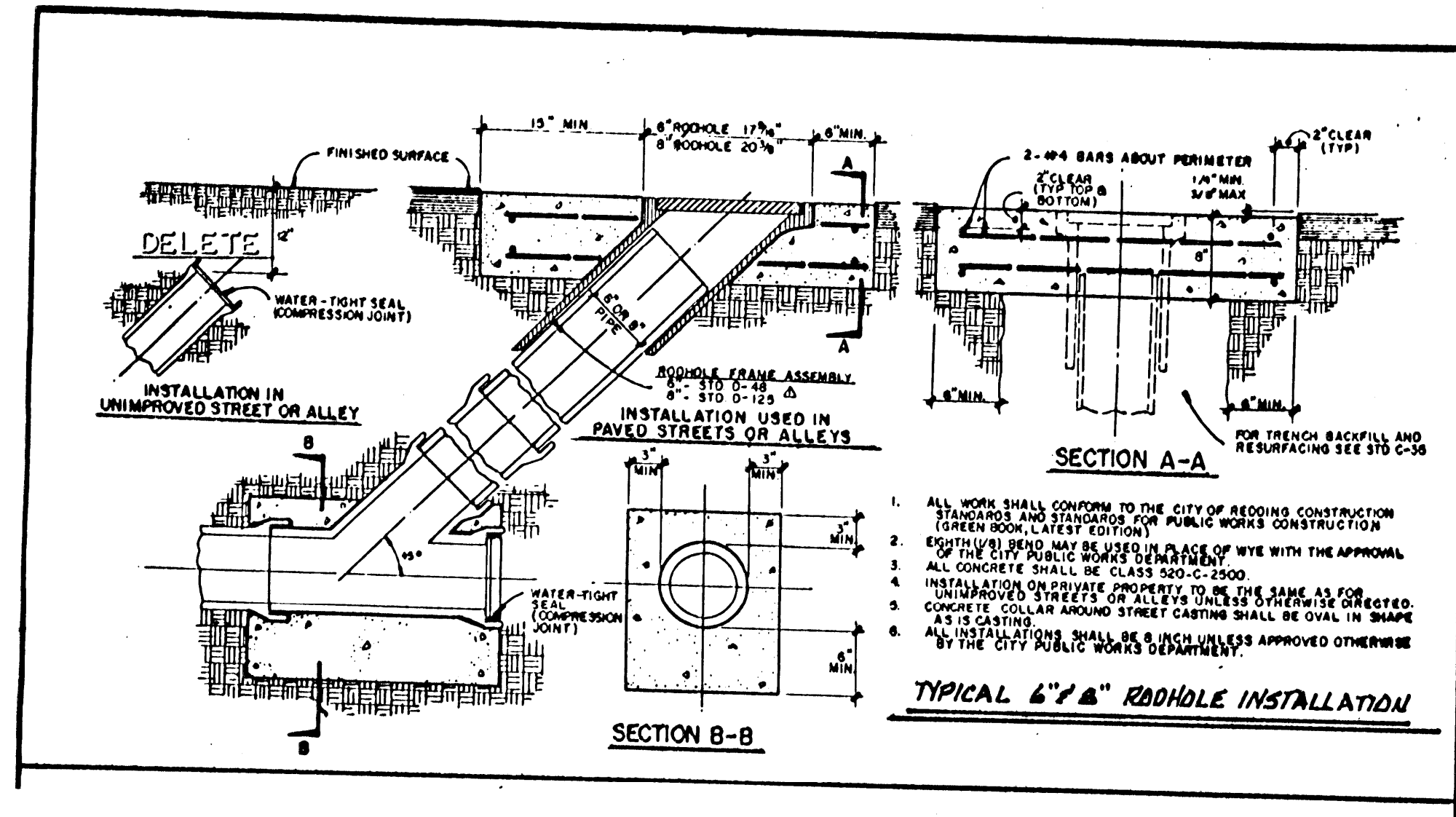
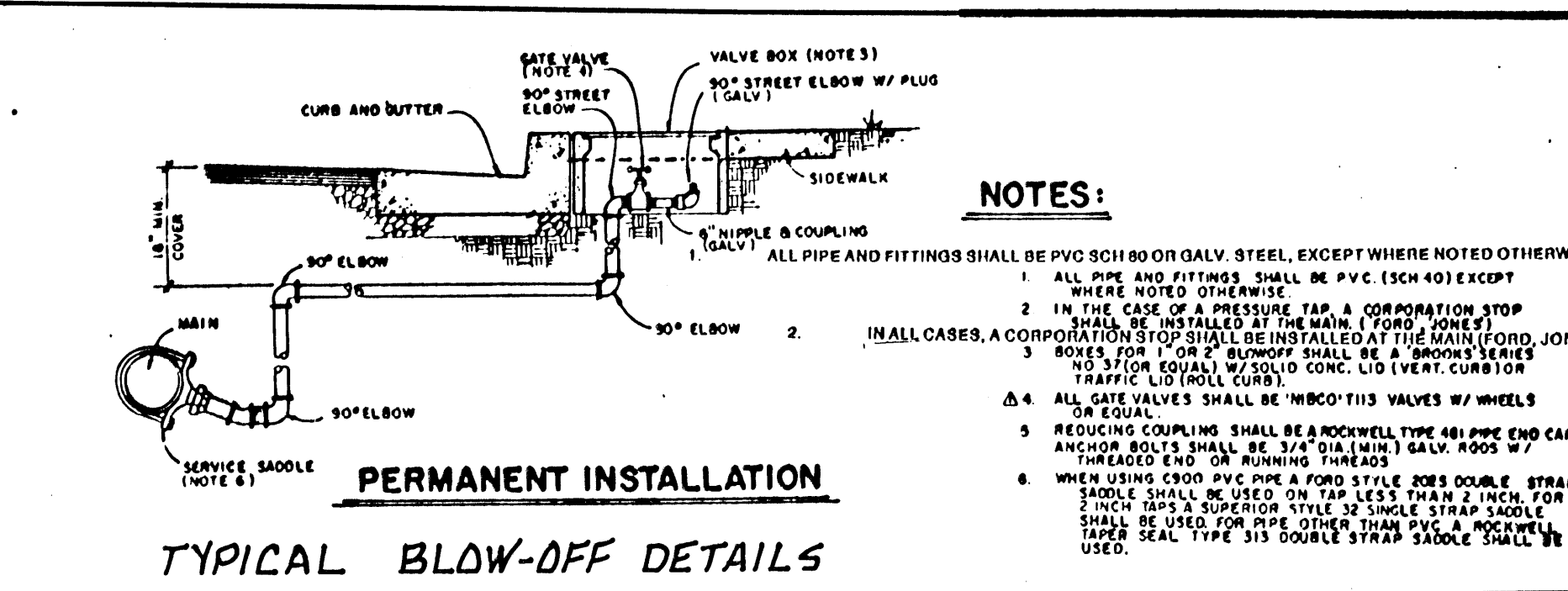
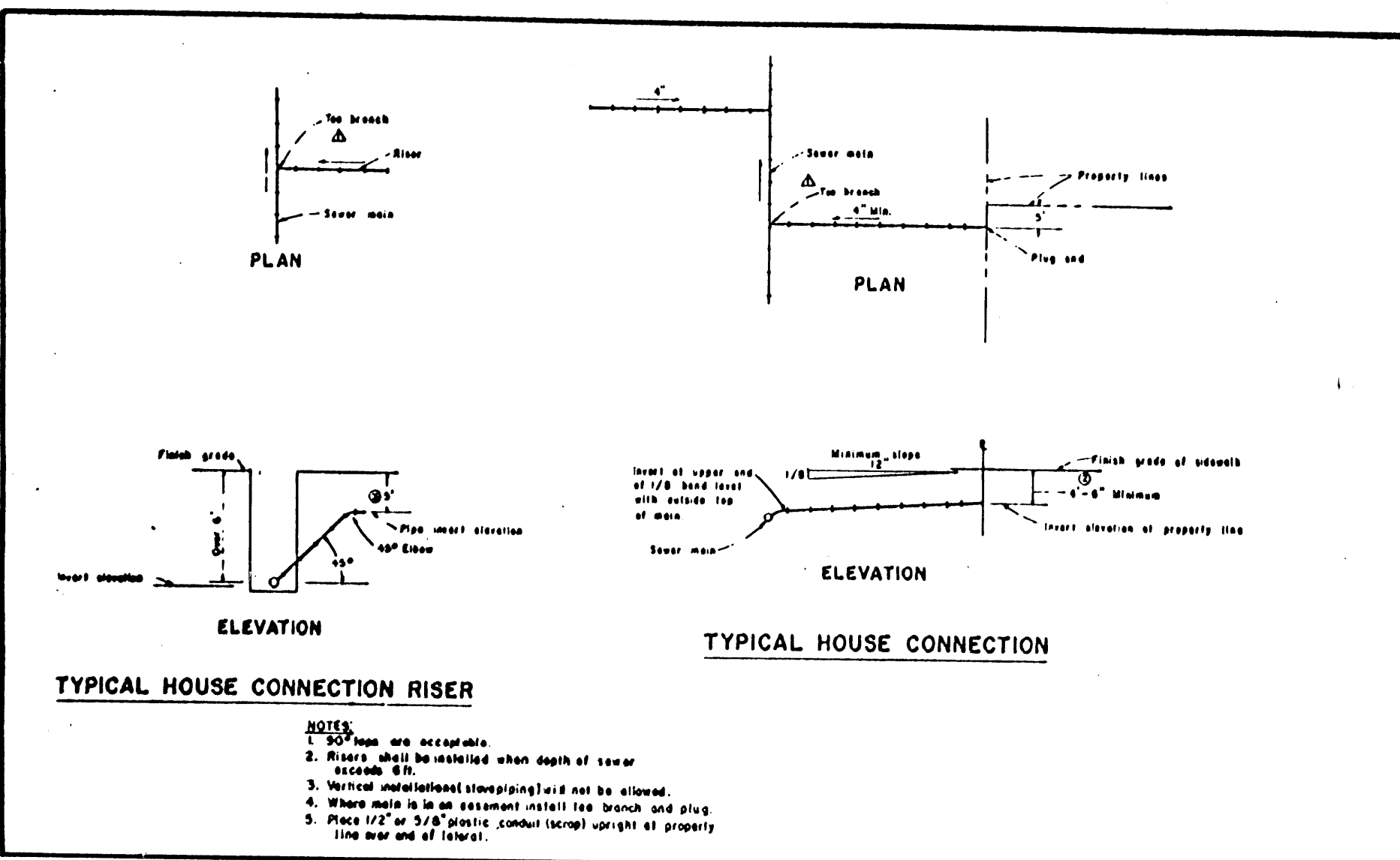
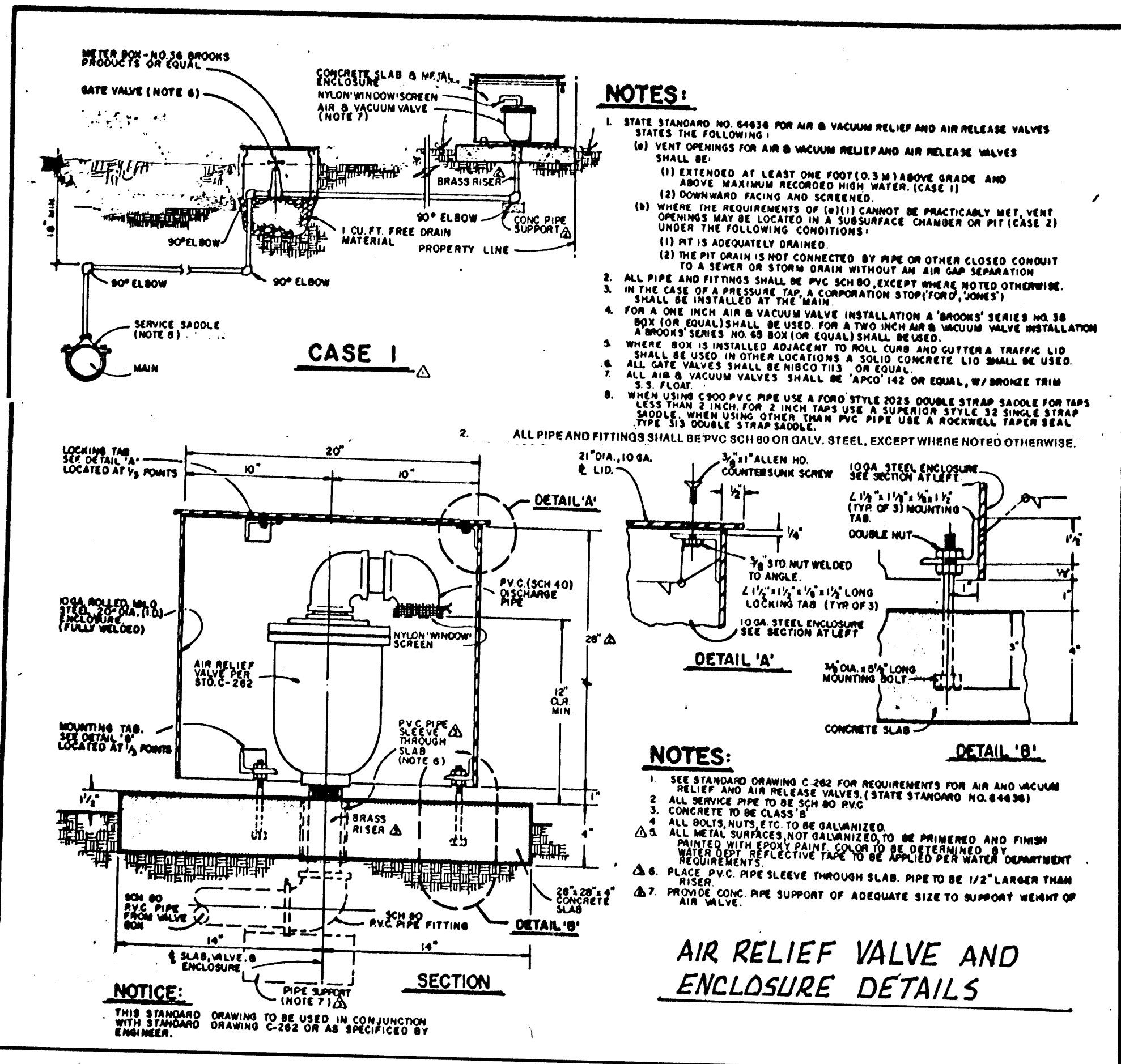
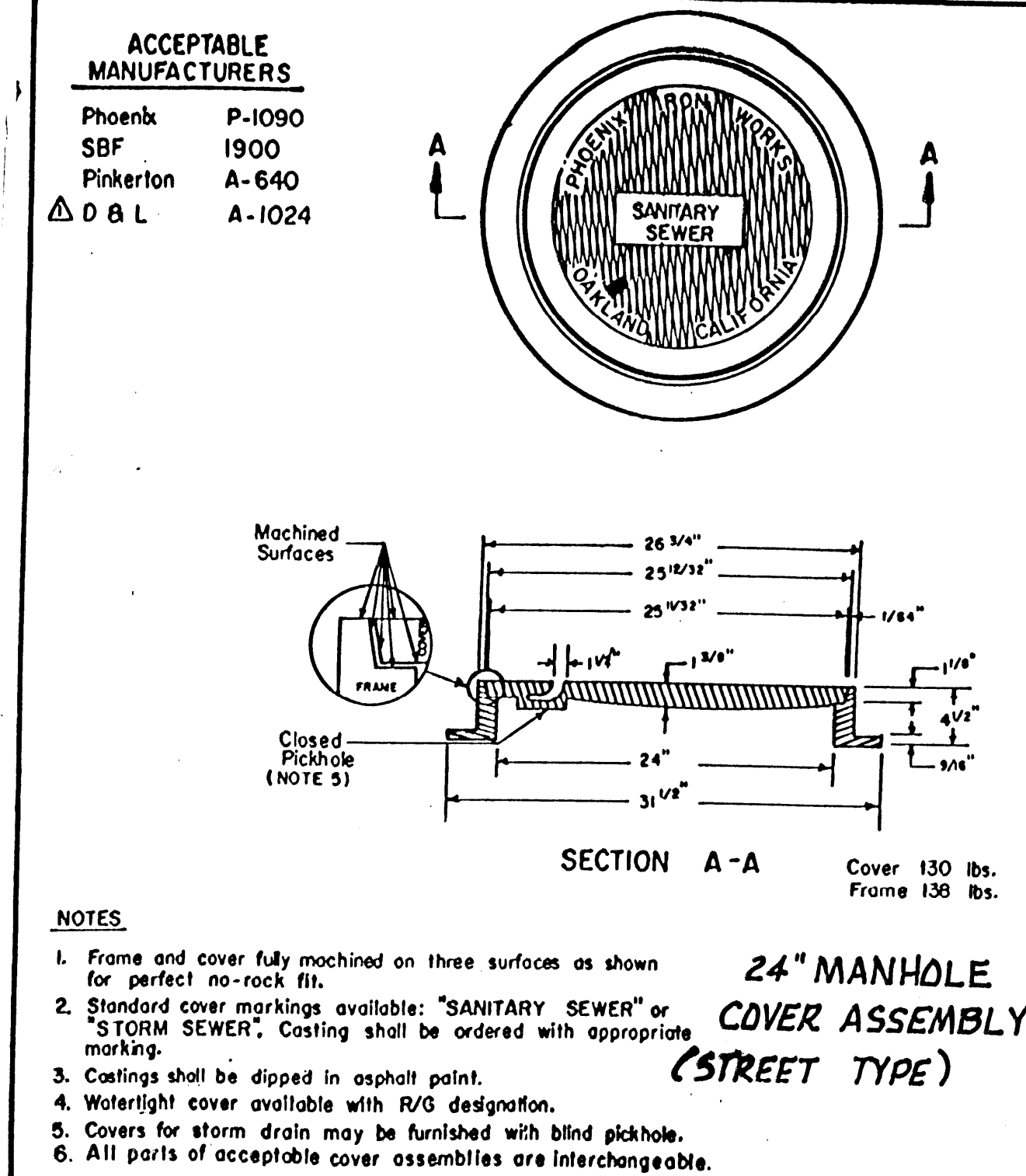
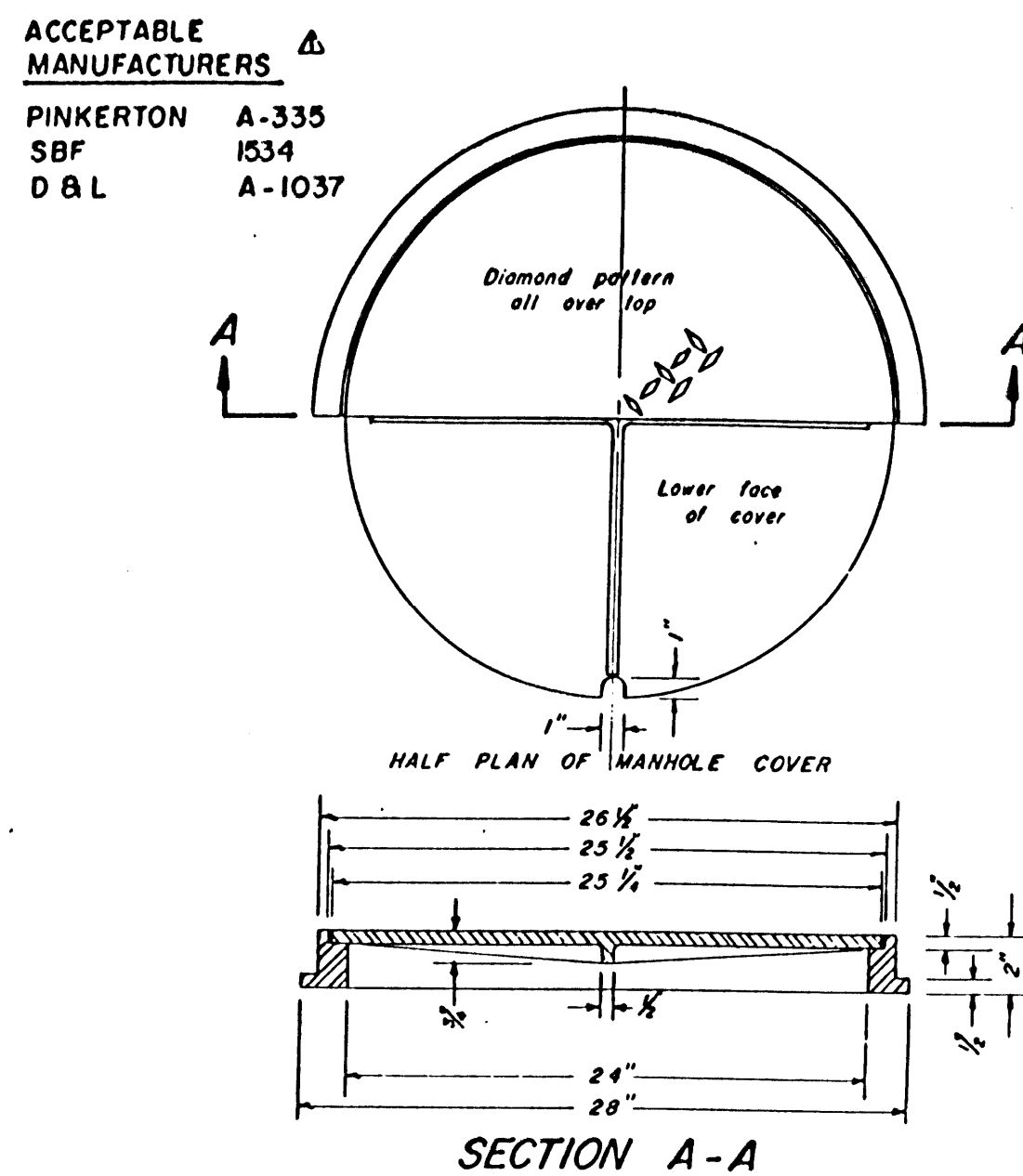
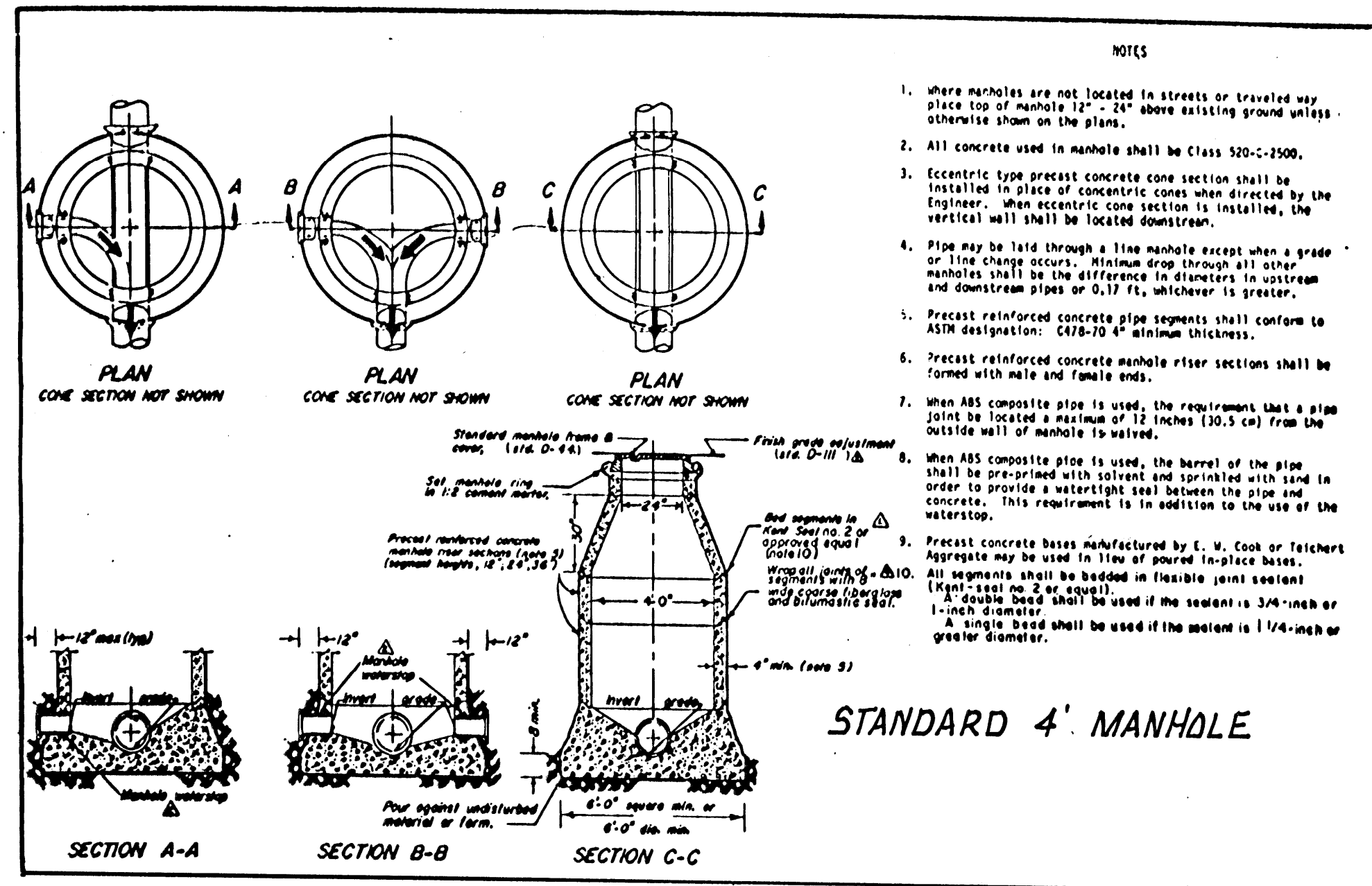
SCALE: 1/2" = 1'-0"

- LOT OWNERS WILL BE NOTIFIED IN THE CASE OF THE AVAILABLE LOT PRESSURES, SO THAT IF DESIRED, A BOOSTER PUMP CAN BE INSTALLED.
- AN ELECTRICAL OUTLET BOX AND INJECTION FITTING FOR EMERGENCY CHLORINATION OF THE WATER SHOULD BE PROVIDED AT THE WELL. THE ELECTRICAL BOX SHOULD BE NIPED TO THE WELL PUMP MOTOR CIRCUIT TO ALLOW A METERING PUMP TO OPERATE WITH THE WELL PUMP. THE INJECTION FITTING SHOULD BE LOCATED ON THE WELL DISCHARGE LINE FOR THE SAMPLE TAP WATER INTERPRETING DISINFECTION.

AS BUILT PLANS

TRACT # 1738

WELL, TRENCH, ELECTRIC & TELEMETRY DETAILS			
SCALE:	APPROVED BY:		DRAWN BY
DATE:			REVISED
WHISPERING WOODS ESTATES SUBDIVISION SHINGLETOWN, CALIFORNIA			
			DRAWING NUMBER
			SHEET 8 OF 19



AS BUILT PLANS

WHISPERING WOODS ESTATES SUBDIVISION
EROSION CONTROL PLAN

This Erosion Control Plan has been prepared in response to Conditions 15 and 16 of Resolution 8162 for the tentative land division map identified as Tract Map 1738. Resolution No. 3162 was signed by the Shasta County Planning Commission on August 9, 1990, thereby conditionally approving the tentative land division map. Conditions 15 requires "Final design for the project shall include an erosion control plan for review by the Regional Water Quality Control Board and other appropriate agencies..."

Whispering Woods Estates Subdivision is a single-family residential project. The project is located adjacent to and both sides of Eminent Trail and adjacent to and on the north side of State Highway 44 in central Shingletown. It includes approximately 106.8 acres of wooded gentle terrain in a portion of Section 37, T.31N., R.1E., N.00W.

The Erosion Control Plan describes the methods and applications for both temporary and permanent erosion control measures on the project prior to and during winter construction.

SCOPE This Erosion Control Plan covers erosion control and prevention of water pollution.

APPLICABLE STANDARDS The regulations of all agencies, together with applicable federal, state and local laws, shall apply to the work in this Erosion Control Plan.

SUBMITTALS This Erosion Control Plan showing typical drawings and specific areas of application is submitted for approval by the Regional Water Quality Control Board as per Condition 15.

GENERAL WORK PLAN The Developer wants to log, clear and grub the road right-of-ways and common leach area; and install erosion control measures by 10/15/90. Small construction areas such as well, water pumping station, septic pumping station and common leach lines if construction occurs beyond 10/15/90, sedimentation basins will be located and sized for said areas where wet weather construction will be conducted. Major construction projects such as roads, utility mains and drainage channels will occur between May 1, 1991 and October 15, 1991.

SOIL EROSION CONTROL

GENERAL

The Developer will utilize the measures described in this Plan to minimize accelerated erosion and sedimentation as appropriate. If unacceptable erosion occurs, the Developer will stop those parts of the work contributing to the erosion, and will take steps to stop the further damage before continuing with the work.

STANDARDS

1. The Developer shall exercise care to preserve the natural landscape and shall conduct all his operations so as to prevent any unnecessary disturbance, scarring or defacing of the natural vegetation and surroundings throughout the project area.
2. Mechanized equipment shall not be operated in flowing water except as approved.
3. Either temporary or permanent erosion control measures applicable to the disturbed areas shall be in place by October 15 each year.
4. Between October 15 and April 1 of each year, construction activities will be confined to dry, rainless periods where soils are not saturated. Effective erosion control measures will be installed prior to the end of work if the U.S. Weather Service predicts a chance of rain equal to or greater than 30 percent prior to the next work day, weekend, or shutdown periods.
5. The Developer shall conduct all operations in a manner which will cause the least disturbance to native soils and vegetation located out side areas of permanent excavation. Indiscriminate bulldozing, scraping, movement of equipment, and other operations which will result in unmitigated erosion and damage to the natural vegetation will be avoided.
6. Material from construction work shall not be deposited where it could be eroded and carried into streams by surface runoff. The Developer will make efforts to maintain natural buffer strip within 50 feet of stream environment zones.
7. Whenever possible, cut and fill slopes shall be constructed to minimize hazards from slope instability and rock falls.
8. If new excavation occurs between October 15 and April 1 which could cause erosion of the cut and fill slopes and contaminate water ways, the Project Engineer will select, install, and maintain appropriate temporary erosion control measures.
9. For permanent erosion control at the end of the work, the exposed soil areas will be seeded or reseeded as required.
10. Runoff from temporary and permanent works will be diverted and discharged to protected or stable areas.
11. Culverts will be installed to prevent washouts. Outlets, pipes, paved channels and other water conveyance structures will discharge only to stable and adequately sized receiving channels or points.
12. Culvert outlets will be constructed to prevent accelerated channel incision and scour hole development through proper placement and the use of energy dissipaters.

EROSION AND SEDIMENT CONTROL MEASURES

The following measures will be applied alone or in combination to control off-site erosion and sediment as determined to be appropriate by the Project Engineer.

STRAW BALE SEDIMENT BARRIERS

1. Straw bale barriers are temporary, sediment barriers used to control sheet-flowing runoff from small areas. Straw bale barriers may be installed alone or in combination with other materials to capture sediment.
2. Straw bale barriers are used to intercept and filter small volumes of run-off from an area of 1 acre or less, a maximum slope gradient above the barrier is 1:1.5, and the maximum slope length above the barrier is 100 feet.
3. Straw bale barriers should be staked in place, as shown upon Figures 2 & 3. Loose hay should be scattered up from the bales to increase barrier efficiency and to seal holes in the barrier.
4. Straw bale barriers can be used along slope contours, along the toe of a slope (dike), as check dams and as inlet protectors. Placement will be parallel to slope contours and diverted flow will always be directed to stable points of discharge.
5. Straw bale barriers have a useful life of 3 to 6 months. The service life of straw bales can be extended if wire or nylon-tied bales are used.

DISCHARGE APRON

1. A discharge apron is a permanent concrete and rock-grouted apron which is located at the discharge outlet of drainage structure to reduce the velocity of runoff and protect the ground surface (Figure 4).
2. The discharge apron can be used at the discharge outlet of selected drainage facilities to reduce erosion.
3. Typically the apron is roughly rectangular with the minimum dimensions of all sides to be equal to four times the inlet pipe diameter.
4. Fifty percent of the rock should be larger than .5 times the culvert diameter.
5. Native rock may be strategically grouted in place at the outlet portion of the culvert to serve as an energy dissipater.

FILTER BEAM

1. A filter beam is a temporary ridge of gravel or crushed rock.
2. Filter beams may be used to retain sediment on-site by retarding and filtering runoff while allowing water to be discharge from the site.
3. Filter beams may be used as outlets for sediment barriers around construction sites, where graded areas meet paved roadways, in uncompleted drainage facilities, or any other location requiring detention and filtration of runoff water.
4. Continuous filter beams may be used around construction sites or individual beams may be located at discharge points in impermeable barriers such as shown in Figure 5.
5. If continuous filter beams are used, discharge through shall be to a stable area such that no erosion occurs.

SILT FENCE BARRIERS

1. Silty Fence Fabric Barriers may be used for the control and filtration of silt from the water runoff on disturbed soil surrounding construction sites such as shown in Figure 6.

TEMPORARY AND PERMANENT PLANTING OF EXPOSED SOILS

BEFORE SEEDING, NECESSARY DRAINAGE CONTROLS SUCH AS Dikes AT TOPS OF SLOPES AND SHALES ON SLOPE BENCHES SHALL BE INSTALLED TO PREVENT RUNOFF FROM ERODING SLOPES BEFORE GRASS IS ESTABLISHED. TEMPORARY DRAINAGE CONTROLS SHALL REMAIN IN PLACE UNTIL PERMANENT DRAINAGE FACILITIES ARE IN PLACE. TEMPORARY SLOPES ARE STABILIZED AND TEMPORARY CONTROLS ARE NO LONGER NECESSARY FOR CONTINUED SLOPE STABILITY.

1. THE SOIL ON THE SITE SHALL MEET FOLLOWING CRITERIA:
 - (a) THE SOIL SHALL CONTAIN NO MORE THAN 70% SAND (AS DEFINED BY USDA, SOIL CONSERVATION SERVICE). THIS IS TO PROVIDE ENOUGH AVAILABLE WATER HOLDING CAPACITY TO SUPPORT PLANT GROWTH.
 - (b) THE SOIL SHALL HAVE SUFFICIENT POROUS BASE GREATER THAN 30% TO PERMIT ADEQUATE ROOT PENETRATION AND PROVIDE FOR EXCHANGE OF GASES AND WATER.
 - (c) THE SOIL SHALL BE FREE FROM ANY MATERIAL HARMFUL TO PLANT GROWTH.
2. THE AREA TO BE SEEDING SHALL HAVE A FIRM SEEDBED THAT HAS PREVIOUSLY BEEN ROUGHENED BY SCARPING, DISKING, HARROWING, CHISELING OR ROCK WALKING, OR OTHERWISE WORKED TO A DEPTH OF 2 INCHES. A MINIMUM OF 10% OF THE SEEDBED SHALL BE COVERED WITH MULCH OR COVERED WITH OTHER MATERIALS. THE SEEDBEDS MAY BE PREPARED AT THE TIME OF COMPLETION OF EARTH MOVING WORK.
3. SEEDING, FERTILIZING AND MULCHING SHALL BE DONE BY OCTOBER 1 OF ANY YEAR.

4. SLOPES ABOVE CRITICAL AREAS SUCH AS A WATER SUPPLY RESERVOIR OR AN EXISTING RESIDENCE, INSUFFICIENT TO ESTABLISH PROTECTION BY THIS DATE.

5. THE FOLLOWING SEED MIX SHALL BE APPLIED AT OR ABOVE THE MINIMUM RATE SPECIFIED BELOW:

SEED TYPE	MINIMUM APPLICATION RATE (POUNDS PER ACRE)
2000 ANNUAL FESCUE	30
ANNUAL RYE GRASS	10
ROSE CLOVER	10

ALL SEED SHALL BE DELIVERED TO THE SITE TAGGED AND LABELED IN ACCORDANCE WITH THE CALIFORNIA AGRICULTURAL COMMISSIONER. SEED SHALL BE DISTRIBUTED UNIFORMITY OVER THE SEEDBED. THE SEED SHALL BE INCORPORATED INTO THE SOIL BY A METHOD OF SEEDING THAT SHALL BE COVERED TO A DEPTH OF ONE QUARTER TO ONE HALF INCH EXCEPT WHEN SEED IS HYDRAULICALLY APPLIED WITH A MULCH. SEED SHALL NOT HAVE A SOIL COVER GREATER THAN 1 INCH.

6. FERTILIZER SHALL BE DISTRIBUTED UNIFORMITY OVER THE SEEDBED AT A RATE OF NO LESS THAN 500 POUNDS PER ACRE. FERTILIZER SHALL BE INCORPORATED INTO THE SOIL IF POSSIBLE. INCORPORATION MAYBE AS PART OF THE SEEDBED PREPARATION OR AS PART OF THE SEEDING OPERATION.

THE FERTILIZER SHALL CONTAIN A MINIMUM OF 16% NITROGEN, 16% PHOSPHORIC ACID, 0% WATER SOLUBLE POTASH AND 15% SULFUR SHALL BE UNIFORM IN COMPOSITION, DRY AND FREE FLOWING, PELLETS OR GRANULAR.

ALL FERTILIZER SHALL BE DELIVERED UNBROKEN OR UNBROKEN CONTAINERS, LABELED IN ACCORDANCE WITH THE APPLICABLE STATE REGULATIONS, AND BEARING THE WARRANTY OF THE PRODUCER FOR THE GRADE FURNISHED. FERTILIZER MAY ALSO BE APPLIED AS A MIX WITH SEED AND FIBER IN A SLURRY (SEE NO. 8 BELOW).

7. A MULCH COVERING SHALL BE DISTRIBUTED UNIFORMITY OVER THE SURFACE OF THE SEEDBED AREA.

(a) FOR SLOPES FLATTER THAN 2:1 AND WITHIN A 50 FOOT ACCESS OF A STRAW BLOWER, THE FOLLOWING PROCEDURE SHALL BE USED:

STRAW MULCH SHALL BE OF UNROTTED SMALL GRAIN STRAW AND SHALL BE APPLIED AT THE RATE OF 3,000 POUNDS PER ACRE. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL MOISTURE. THE MULCH SHALL BE APPLIED BY HAND, BLOWER OR OTHER SUITABLE EQUIPMENT. IF THE STRAW IS APPLIED WITH A BLOWER, IT SHALL BE CHOPPED IN LENGTHS NOT SHORTER THAN 6 INCHES.

THE MULCH SHALL BE ANCHORED IN PLACE USING HAND TOOLS, MULCHING ROLLERS, DISKS, NETS, CHEMICAL TRACKERS OR OTHER SUITABLE MEANS.

8. (b) FOR SLOPES STEEPER THAN 2:1, MULCH SHALL BE APPLIED HYDRAULICALLY AS SPECIFIED IN A SLURRY.

"HYDROSEEDING" IS DEFINED AS THE SIMULTANEOUS APPLICATION OF SEED, FERTILIZER AND MULCH IN A SLURRY.

THE HYDROSEEDER SHALL BE EQUIPPED WITH A BUILT IN CONTINUOUS AGITATION SYSTEM OF SUFFICIENT OPERATING CAPACITY TO PROVIDE A HOMOGENEOUS SLURRY. THE SLURRY SHALL BE APPLIED TO THE SLOPES AT A CONTINUOUS AND UNIFORM RATE. SEED SHALL NOT BE PAID IN THE SLURRY. THE SLURRY SHALL ALSO CONTAIN WOOD FIBER TO INCREASE THE RATE OF SEEDING. FERTILIZER (SEE NO. 6 ABOVE) AND THE WATER USED SHALL BE POTABLE WATER OF CLASS 1 OR 2. FERTILIZER AND WOOD FIBER SHALL BE ADDED BEFORE APPLICATION STARTS. THE SLURRY SHALL BE APPLIED AT A RATE THAT IS NON-EROSIVE AND MINIMIZES RUNOFF.

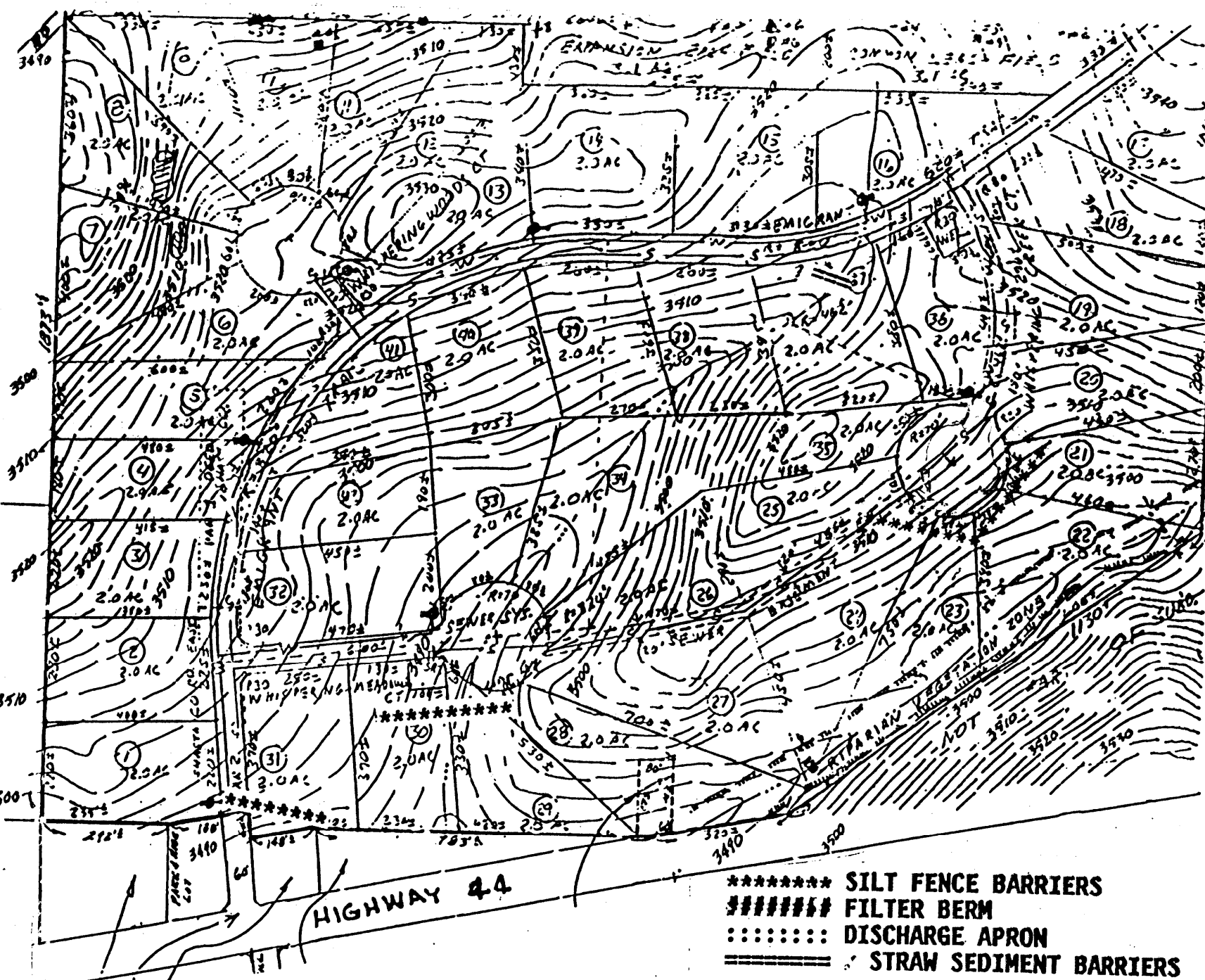


FIGURE 1 SPECIFIC MEASURES INSTALLATION MAP

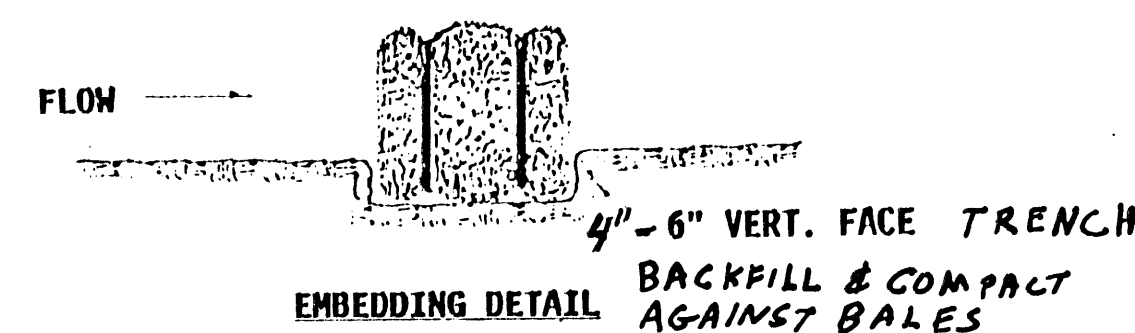


FIGURE 2 STRAW SEDIMENT BARRIERS

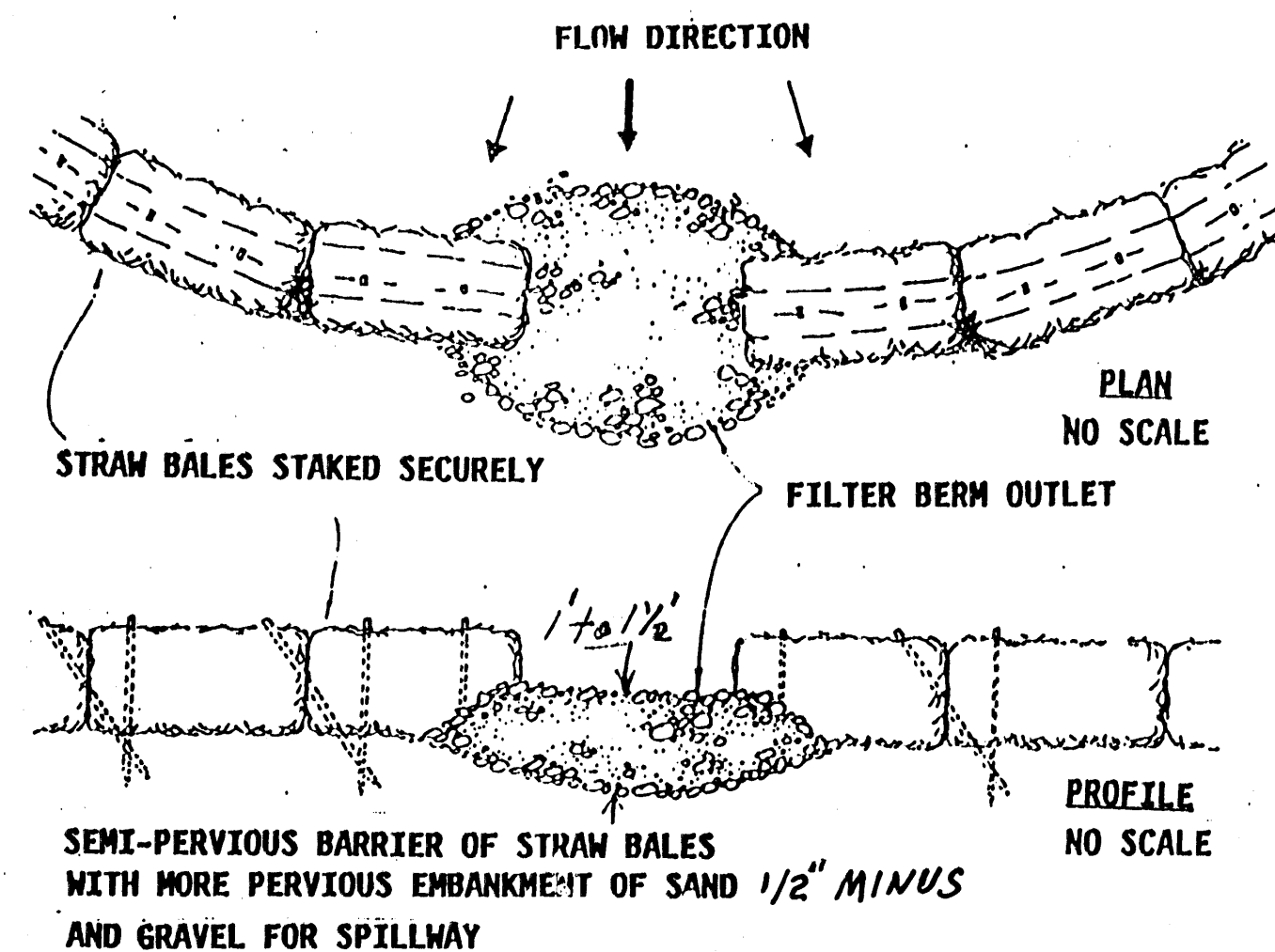


FIGURE 3 STRAW BALE BARRIERS

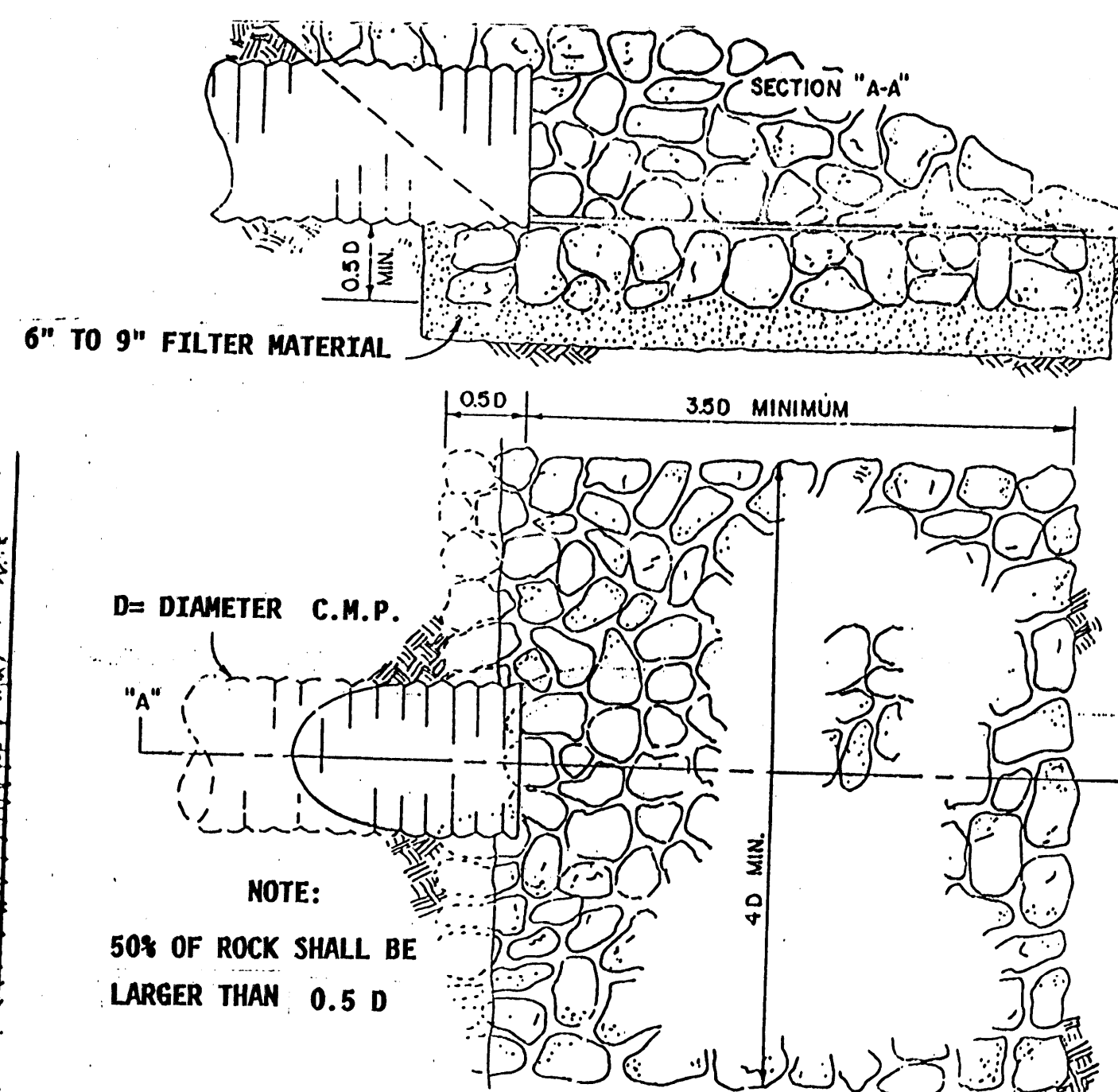


FIGURE 4 DISCHARGE APRON

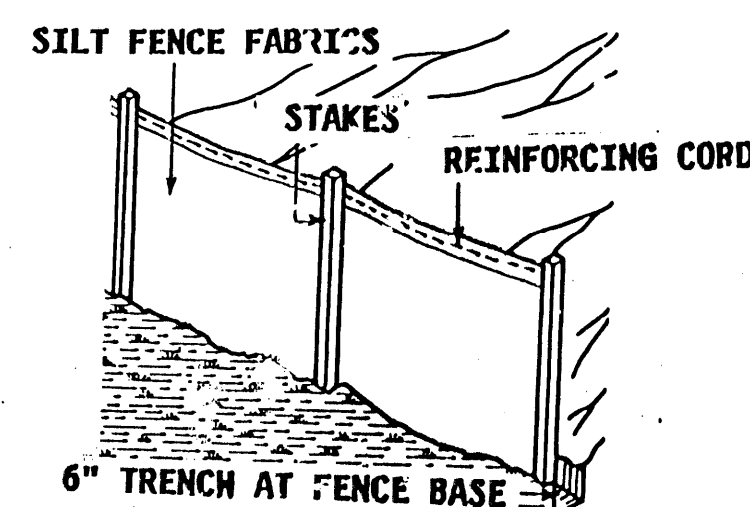


FIGURE 6 SILT FENCE BARRIERS

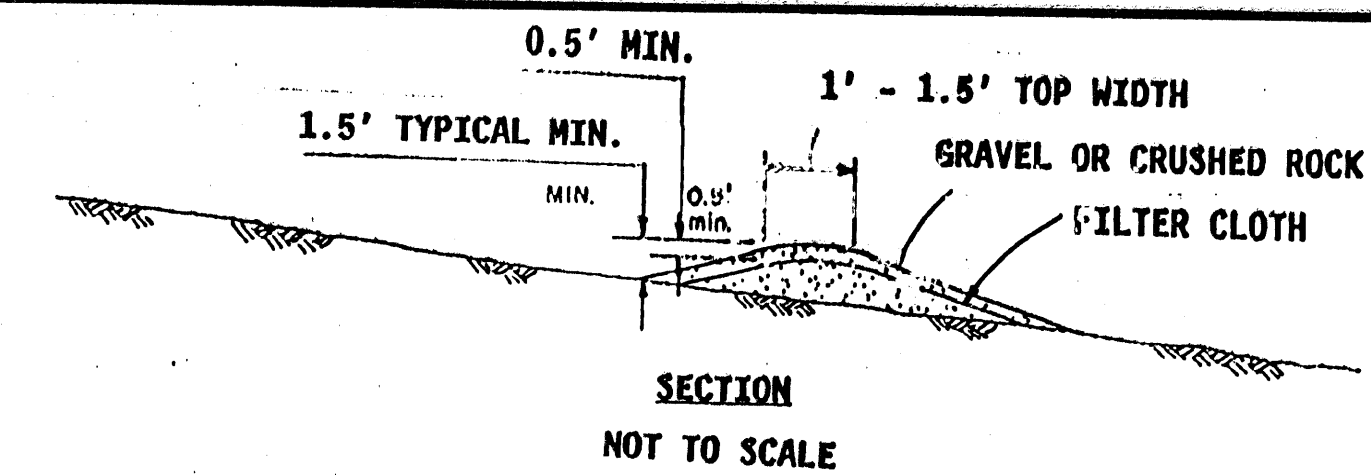


FIGURE 5 TYPICAL FILTER BEAM

NOTES:

1. GRADING SHALL BE LIMITED TO ROADWAY AREAS, LEACH FIELD AREAS AND EASEMENTS.
2. ALL DISTURBED AREAS SHALL SEED AND MULCH.
3. THE SHASTA COUNTY EROSION CONTROL STUDY, DATED APRIL, 1990, SHALL BE ADHERED TO.
4. WHISPERING WOODS ESTATES SUBDIVISION WORK SCHEDULE

WORK FEATURE	CONSTRUCTION PERIOD
SURVEY	08/10/90 to 10/15/91
LOG TREES (NO)	09/01/90 to 11/15/90
LOG TREES (LF)	09/01/90 to 11/15/90
CLEAR AND GRUB (NO)	09/01/90 to 06/15/91
CLEAR AND GRUB (LF)	09/01/90 to 06/15/91
TREE BRANCH TRIM	09/01/90 to 04/01/91
BURN WOOD PILES	11/01/91 to 03/01/91
DRILL WELL	01/01/91 to 02/15/91
WATER STORAGE TANK	05/01/91 to 10/15/91
SEWER PUMPING STA.	06/15/91 to 09/01/91
COMMON LEACH LINES	06/15/91 to 07/01/91
ROAD GRADING	05/01/91 to 06/15/91
ROAD PAVING	09/01/91 to 09/15/91
COMPLETE UTIL. MAINS	05/01/91 to 07/15/91
COMPLETE DRAINAGE	05/01/91 to 09/15/91
SEED AND MULCH	08/01/91 to 10/15/91

5. SEED TYPE: 2000 ANNUAL FESCUE, ANNUAL RYE GRASS, ROSE CLOVER. FERTILIZER (16-20-0 & 15% SULFUR). STRAW MULCH (CHEMICAL TRACKER). WOOD FIBER (HYDROSEEDER). MINIMUM APPLICATION RATE (POUNDS PER ACRE): 30, 10, 10, 3,000, 3,000.
6. NO CONSTRUCTION SHALL OCCUR UNTIL EROSION CONTROL MEASURES ARE IN PLACE.
7. MAINTENANCE AND MONITORING

The Developer shall maintain and monitor the effectiveness of erosion control measures through project completion. Inspections shall be made on a regular basis of all erosion and sediment control installation. They shall also be inspected following major storm events, particularly in areas under active construction between November 15 and April 1 of each year. Repairs and modifications shall be made as required to control erosion and minimize sedimentation.

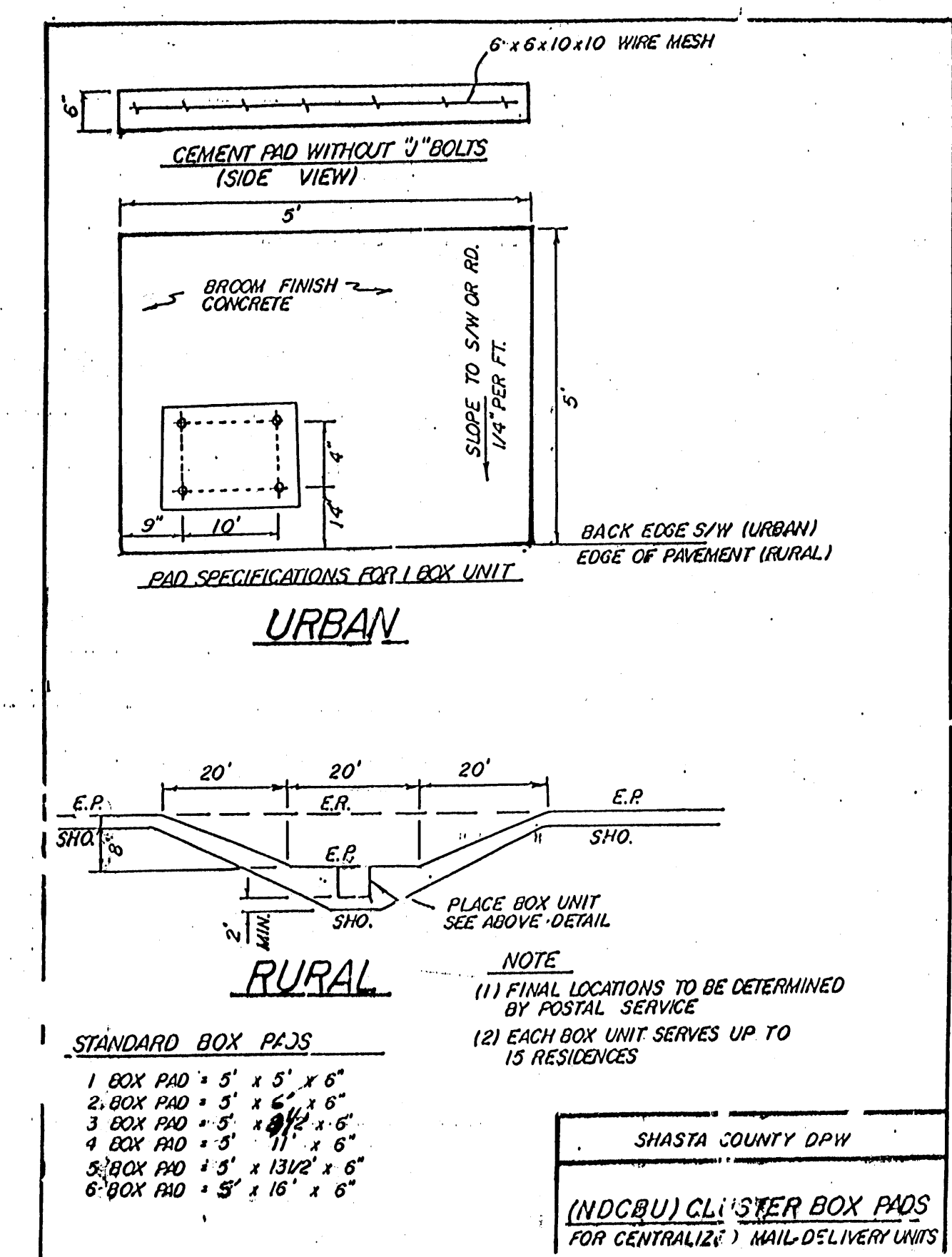
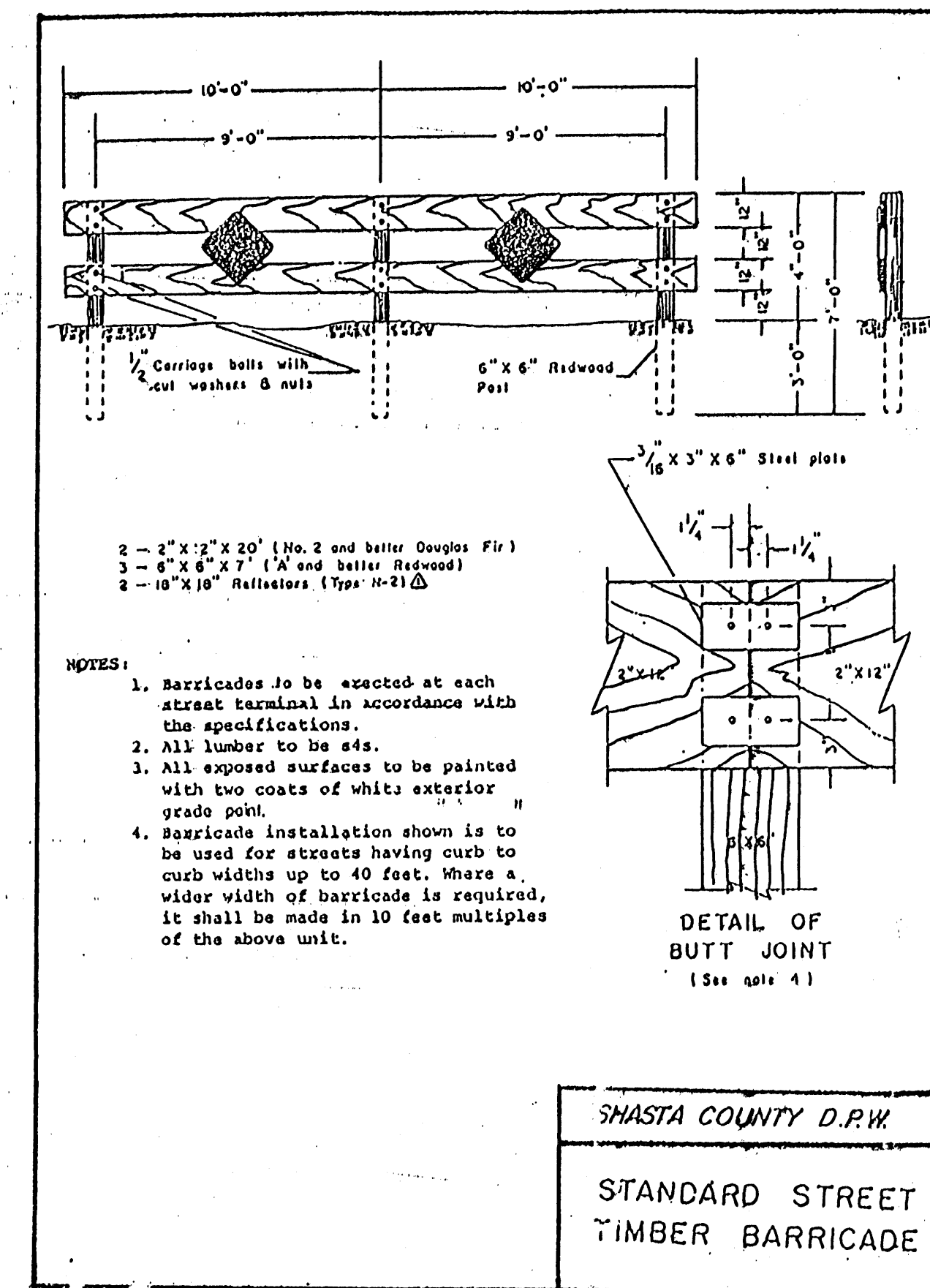
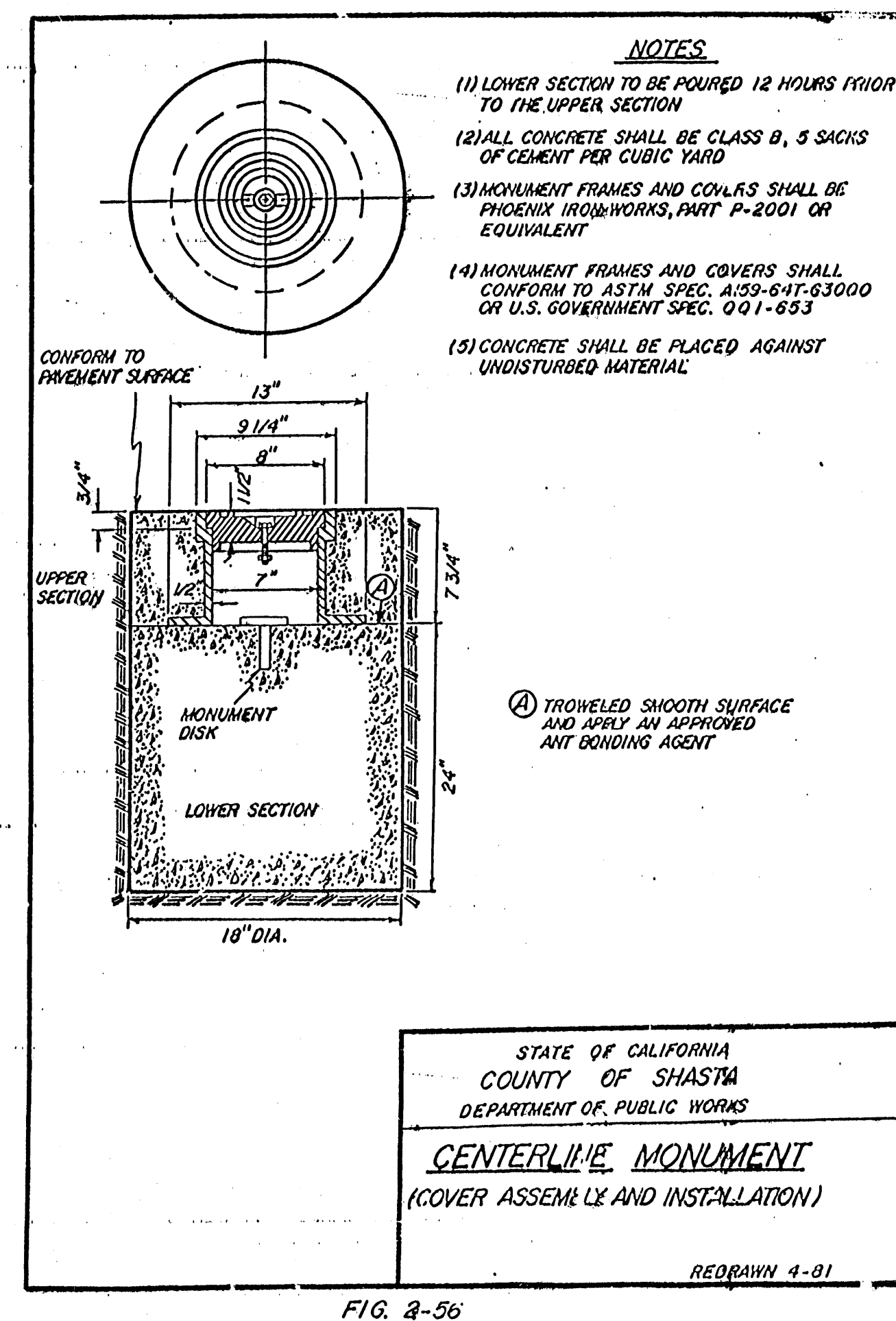
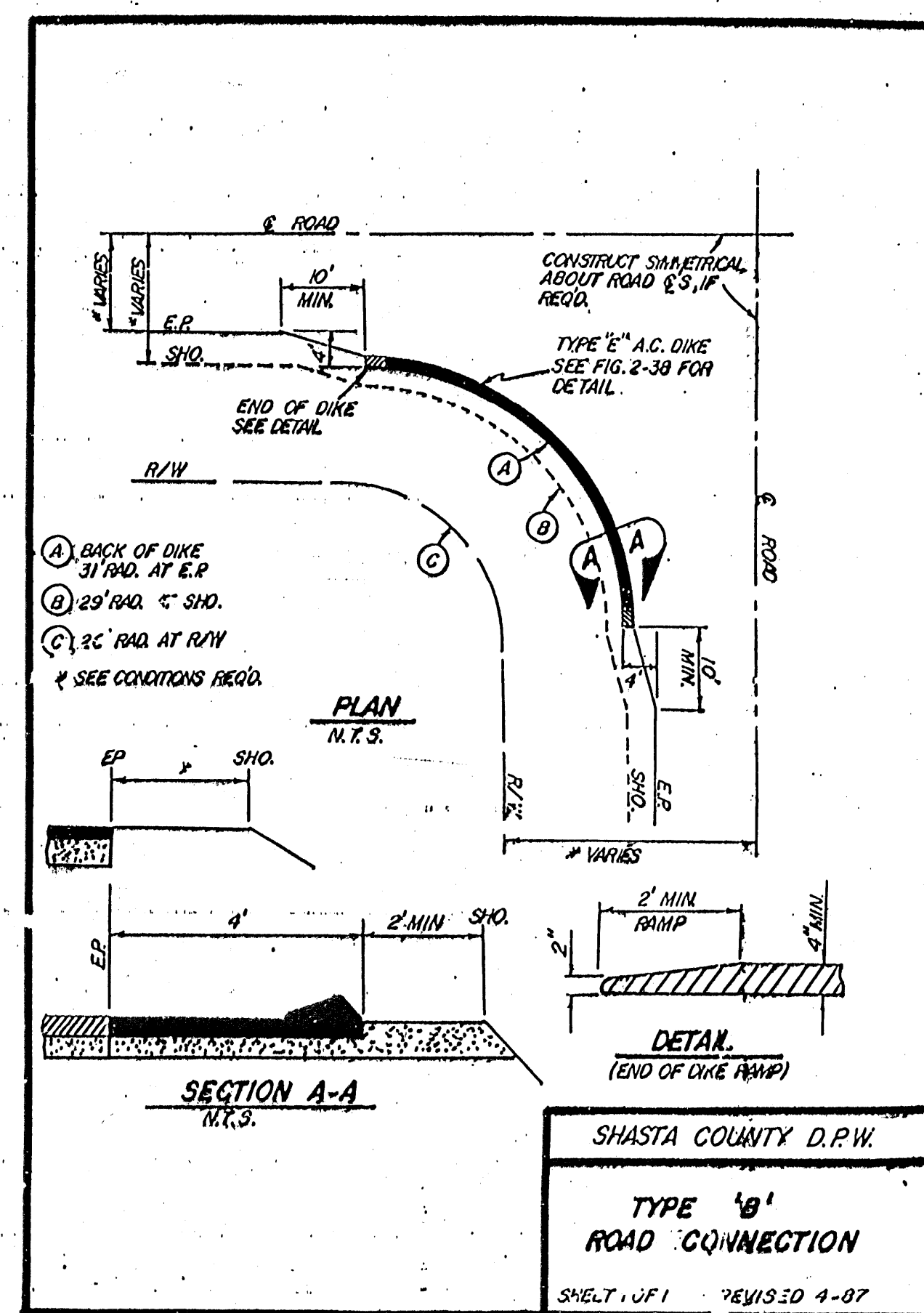
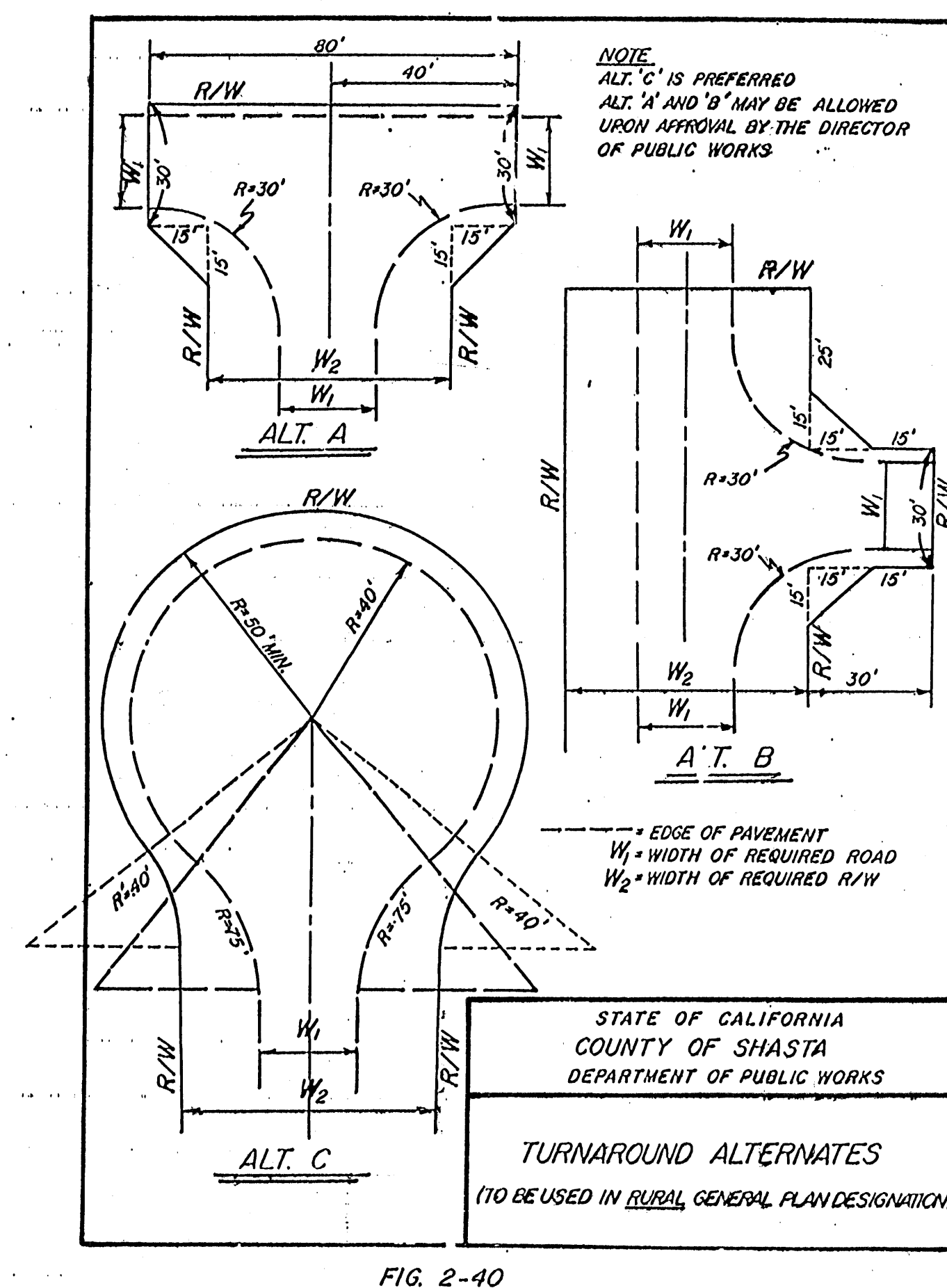
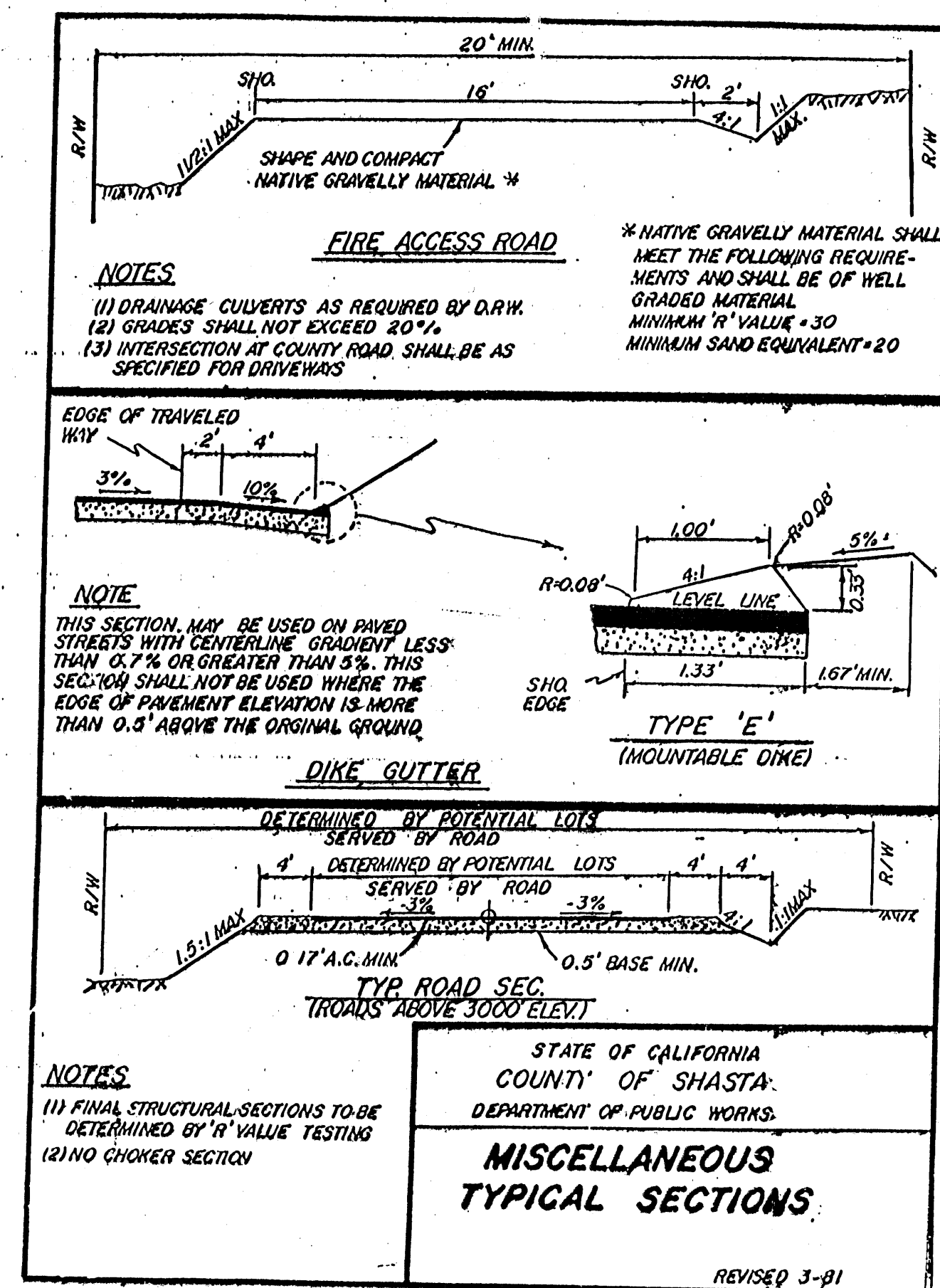
Seeded areas shall be inspected no more than 30 days after planting and no more than 30 days after the first rain. Follow up inspections shall be done between 60 and 90 days after the first inspection and once again in the spring. The spring inspection shall establish any correctable measures necessary before the next rainy season. If at the 90 day inspection the vegetation is not established and severe erosion is expected to continue, slopes shall be reseeded with the gullies or hills repaired. The reseeding operation shall follow the specifications given above.

AS BUILT PLANS

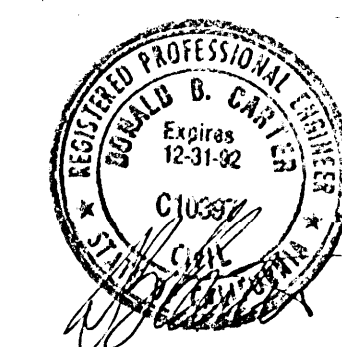
TRACT 1738

EROSION CONTROL PLAN

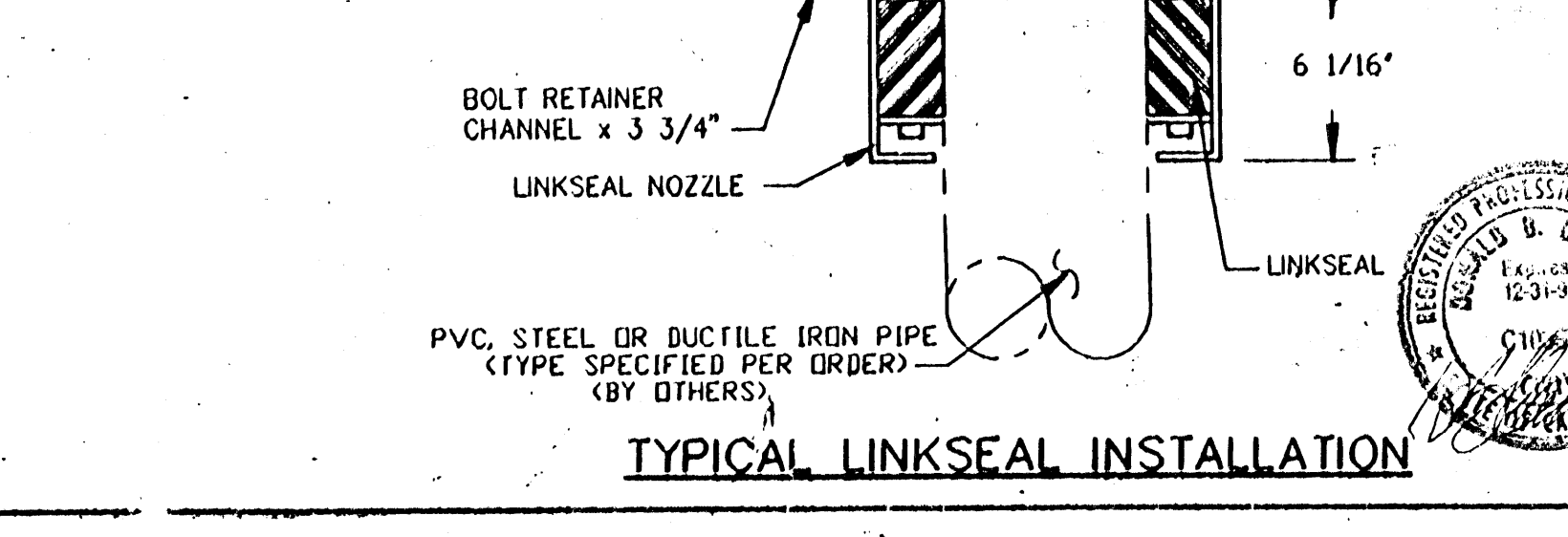
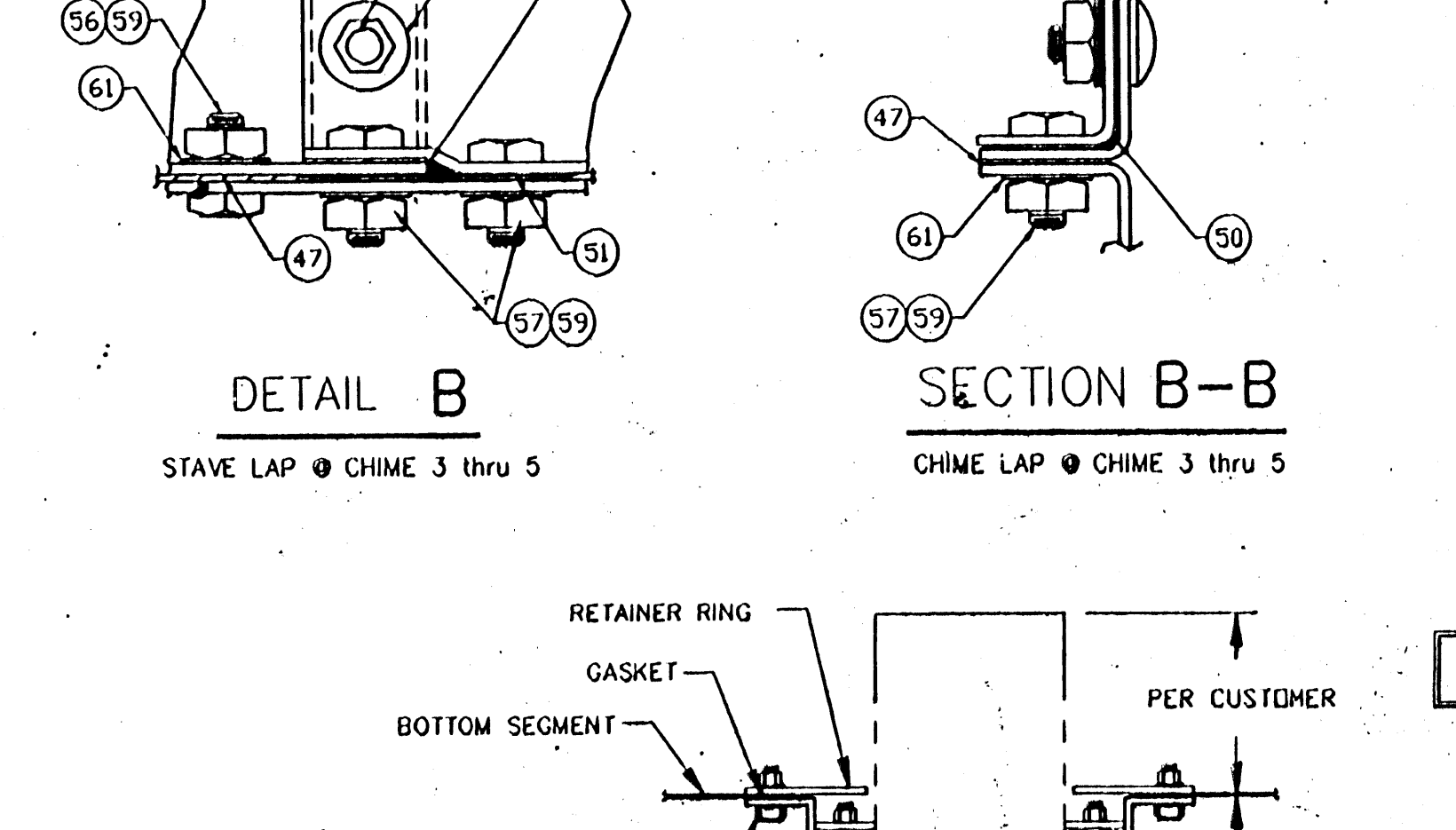
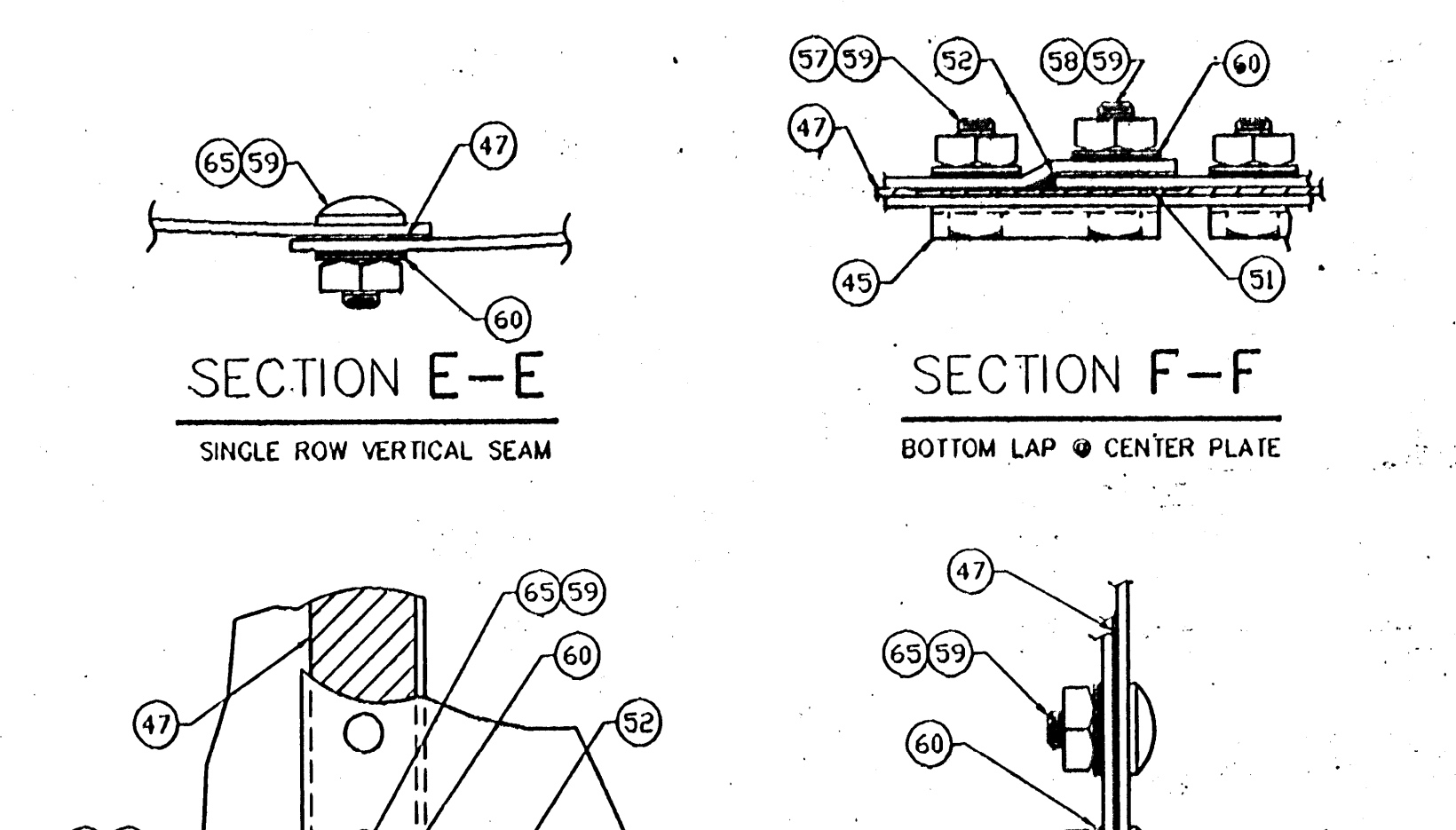
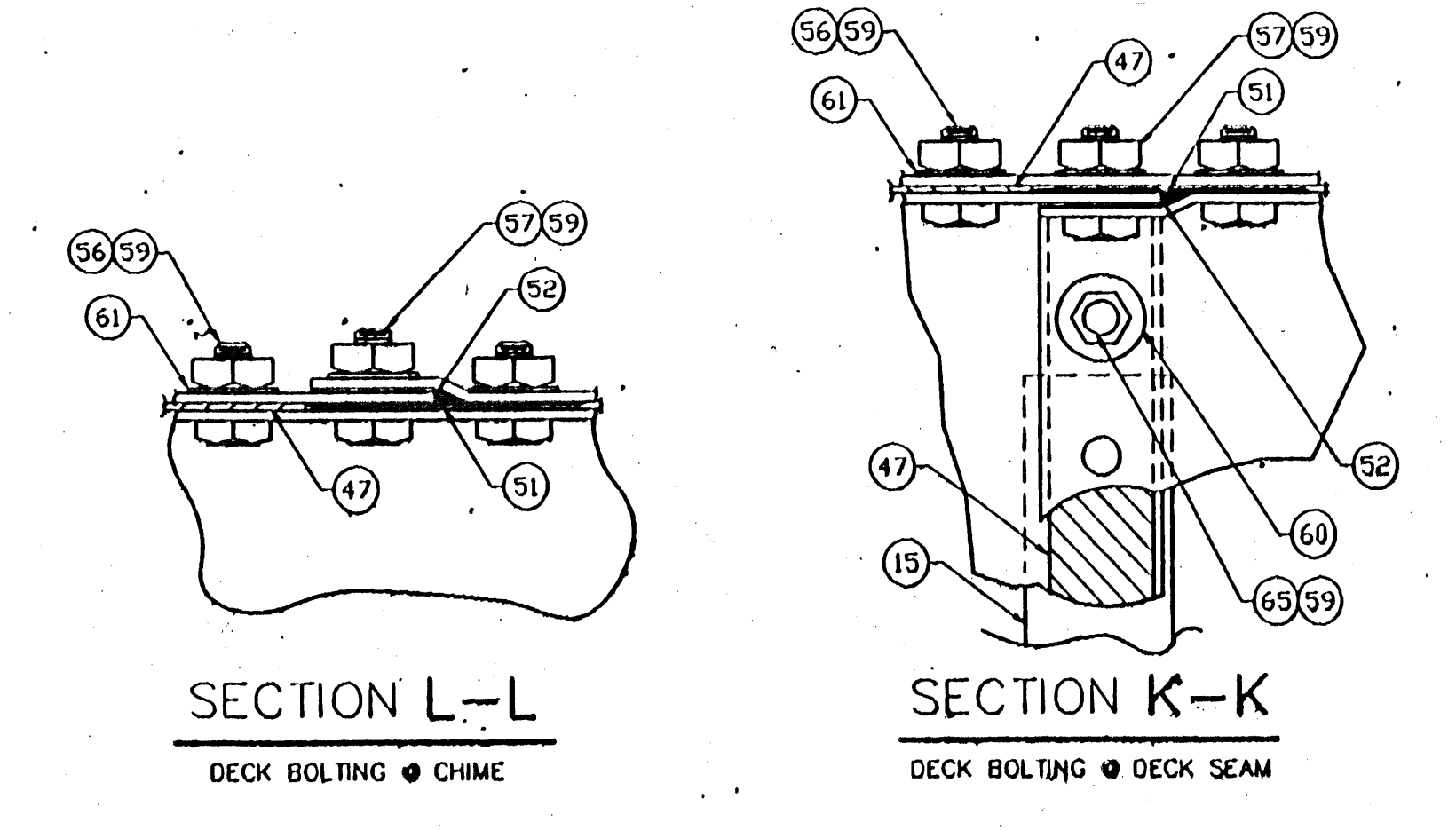
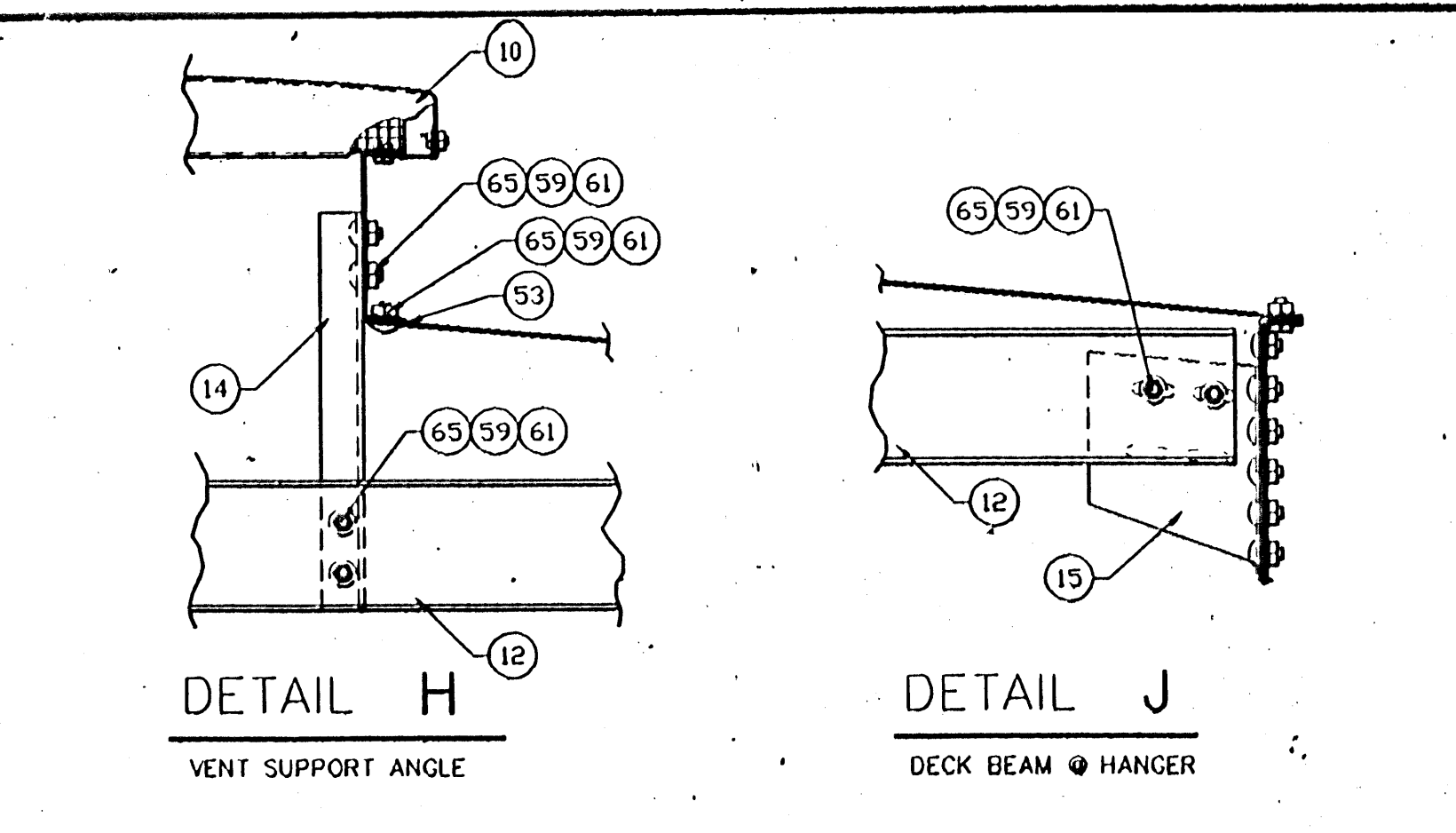
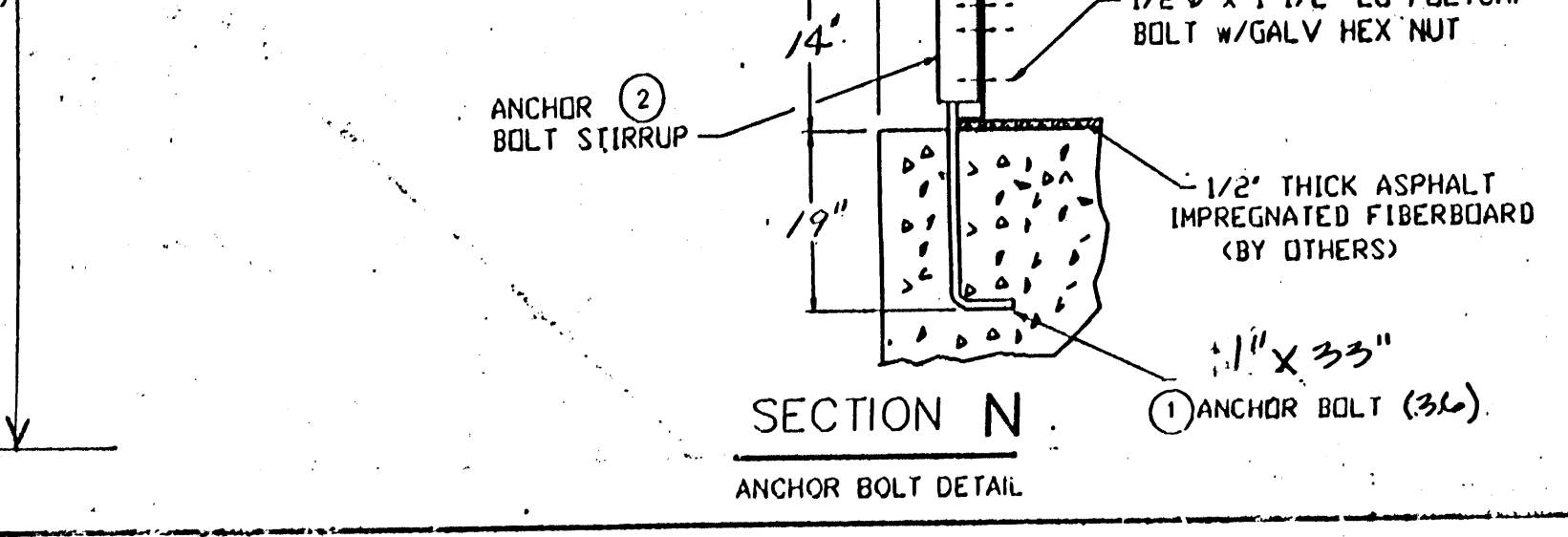
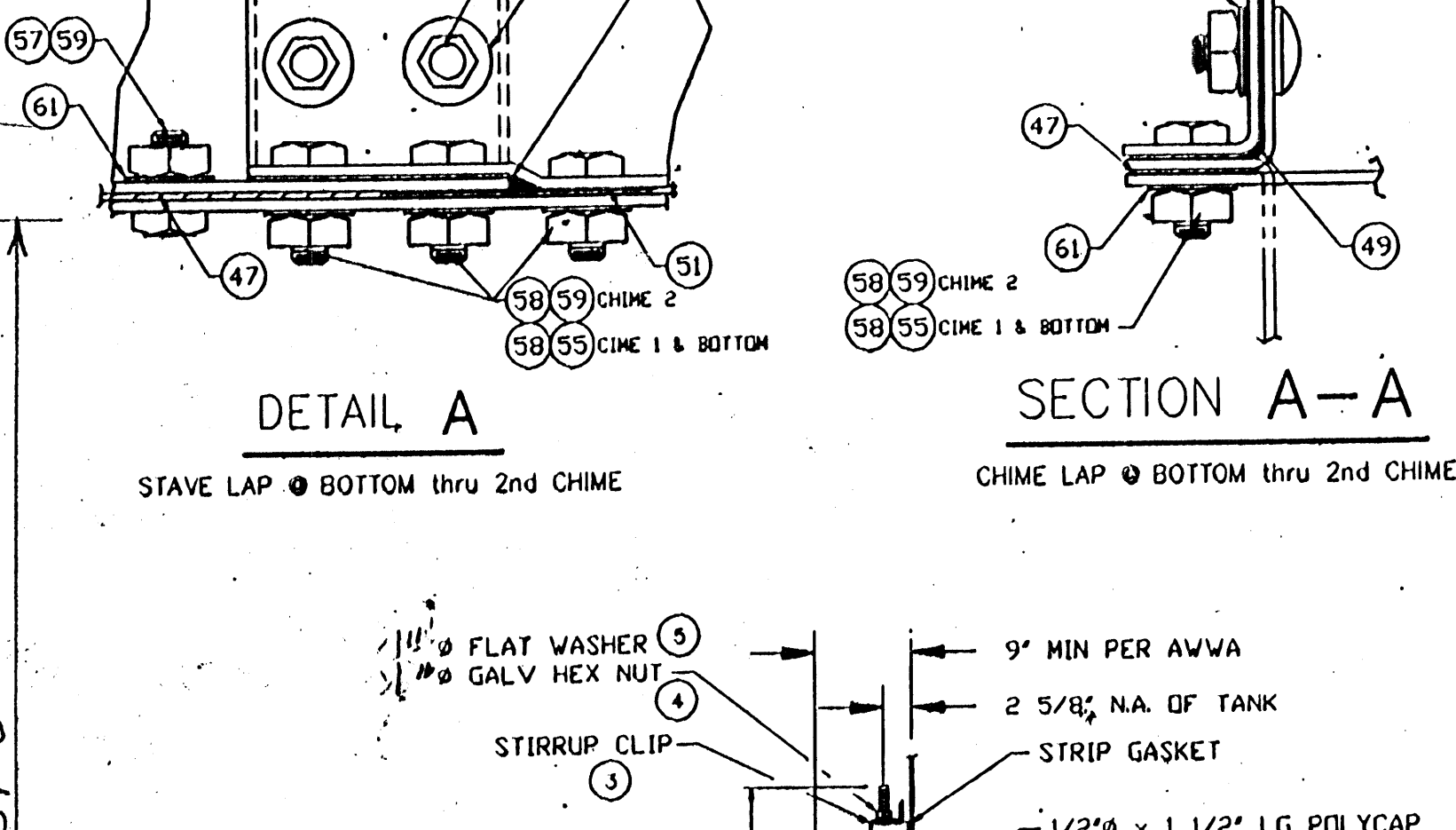
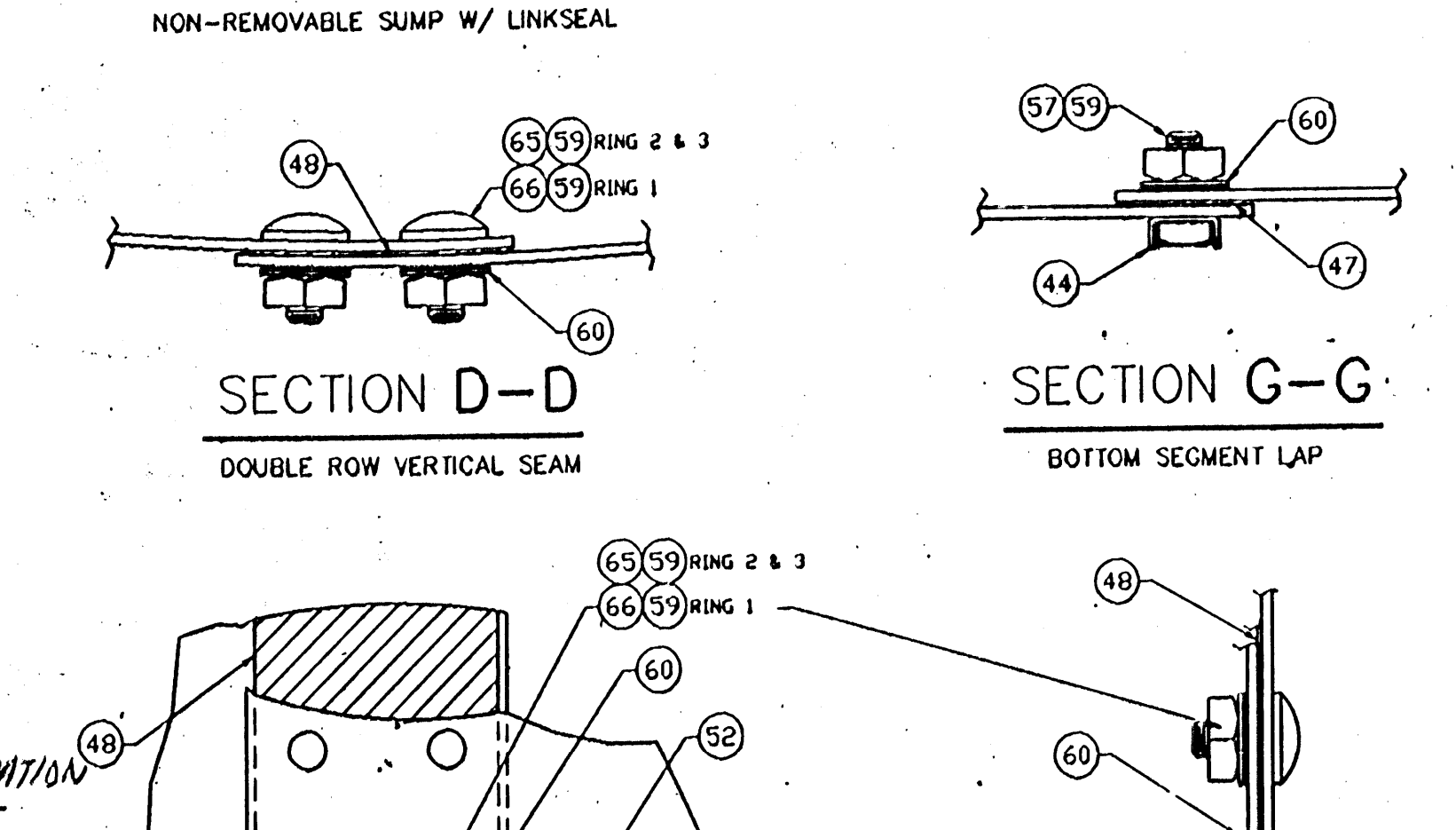
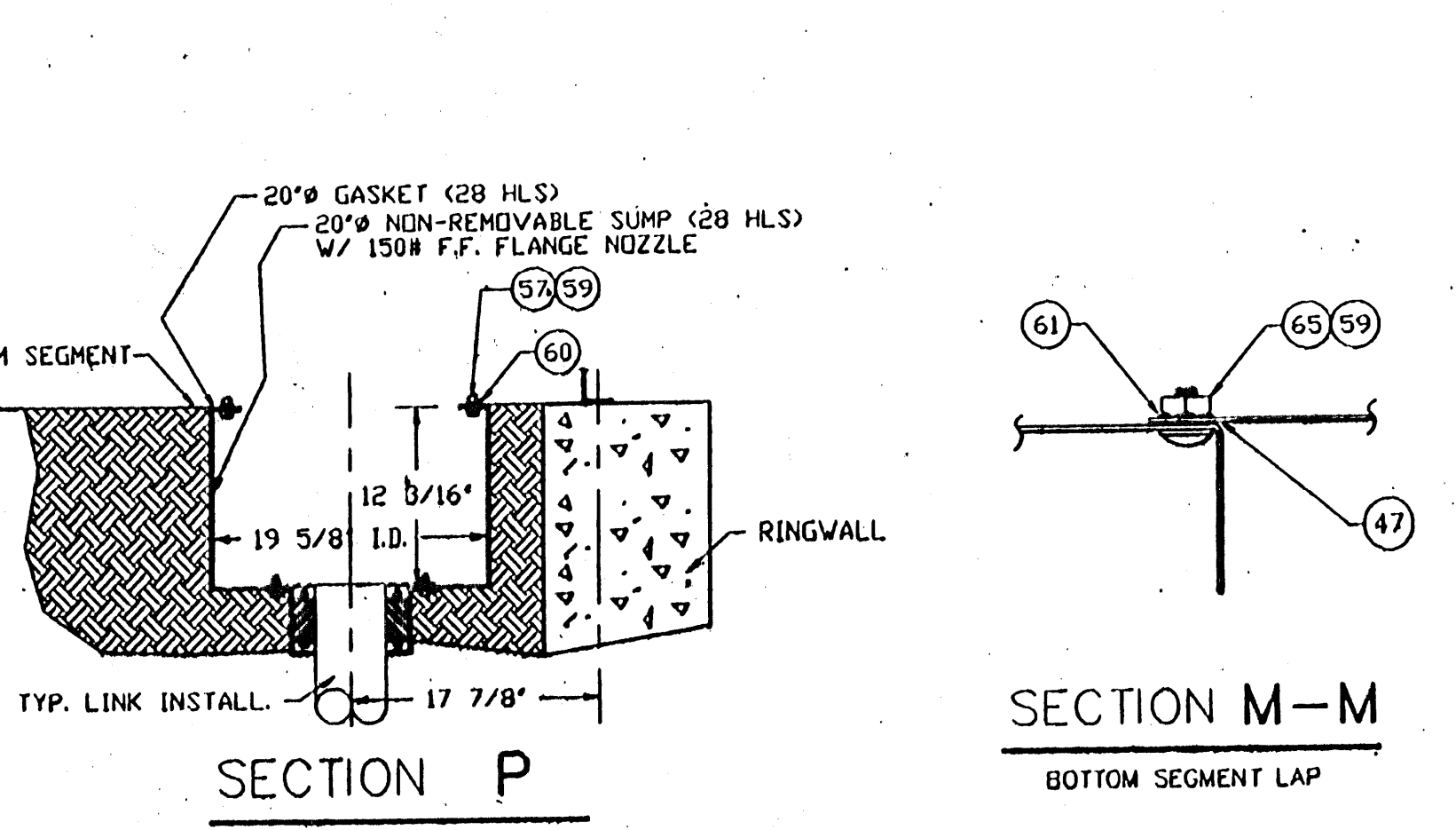
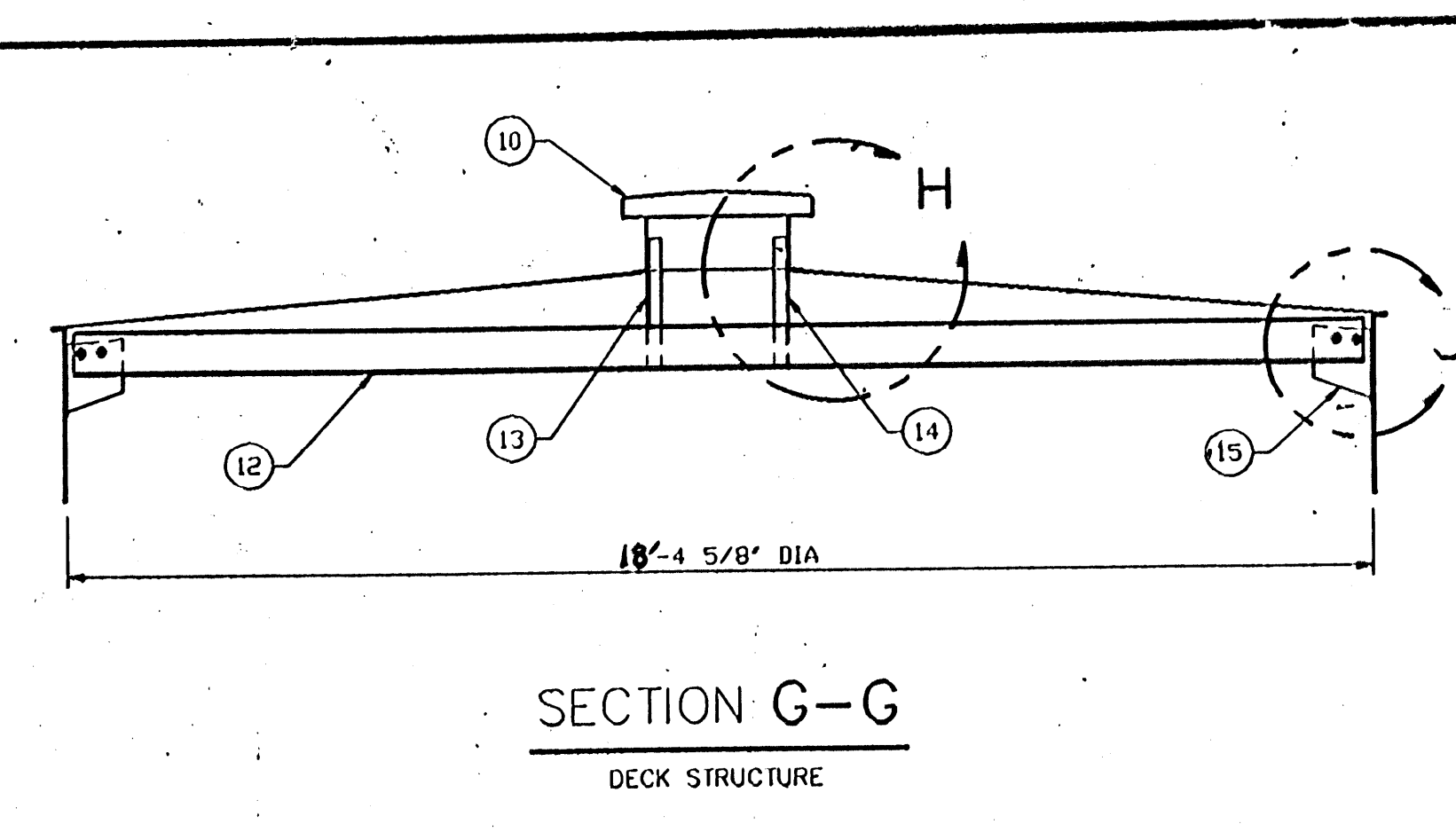
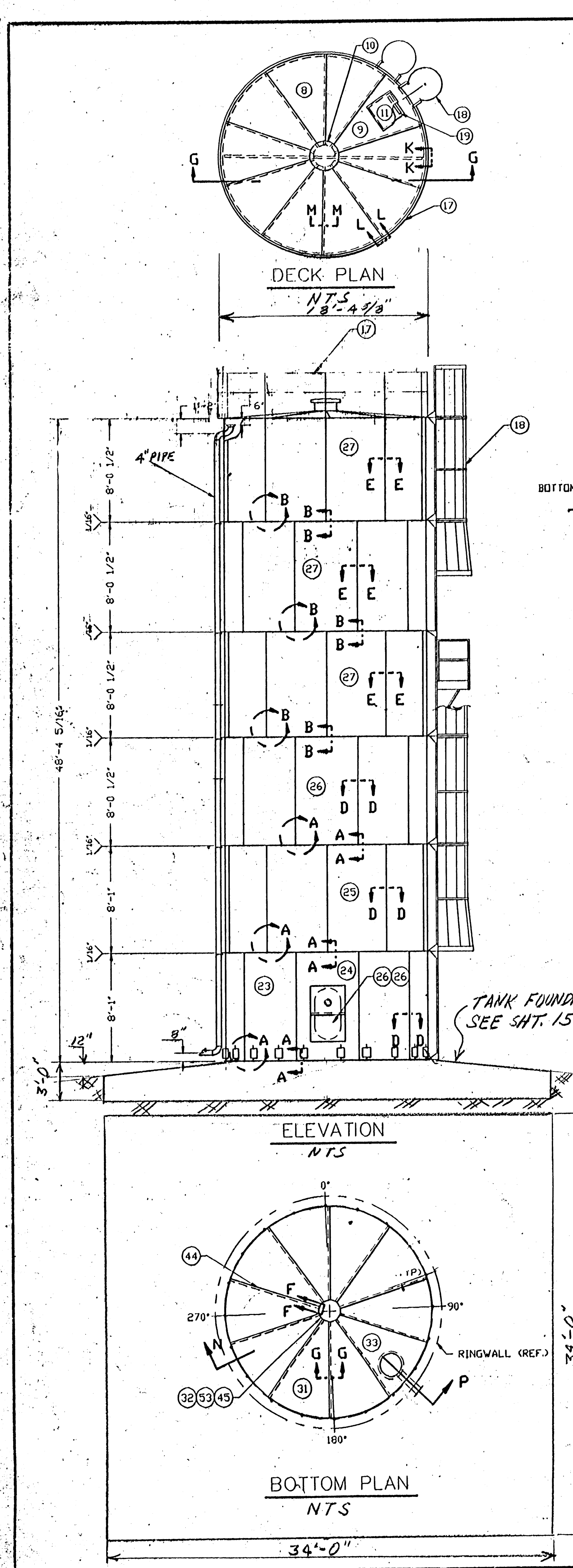
SCALE:	APPROVED BY:	DRAWN BY:
DATE:		REVISED:
WHISPERING WOODS ESTATES SUBDIVISION SHINGLETOWN, CALIFORNIA		
DRAWING NUMBER		SHEET 11 OF 19



AS BUILT PLANS



SHASTA COUNTY D.P.W. ROAD DETAILS		
SCALE:	APPROVED BY:	DRAWN BY:
DATE:	REVISOR:	REVISION:
WHISPERING WOODS ESTATES SUBDIVISION SHINGLETOWN, CALIFORNIA		
TRACT 1738		DRAWING NUMBER SHEET 12 OF 15



ITEM	PART NUMBER	DESCRIPTION	QUANTITY
MATERIAL LIST FOR TANK			
1	10104-03	ANCHOR BOLT, 1" x 33" Lg	ELEC. GALV. 36
2	30115-318-1	ANCHOR BOLT STIRRUP	36
3	30115-318-2	ANCHOR BOLT STIRRUP ANGLE	36
4	782E06000	NUT, 1/2" HEX	ELEC. GALV. 36
5	791E06000	WASHER, 1/2" FLAT STEEL	ELEC. GALV. 36
6			
7			
8	201T12015	STD. 12 GA. DECK SHEET	9
9	201T12615	DECK SHT.- 12 GA. w/24" SQ. MANHOLE OPNG	1
10	353T00002	MANHOLE COLLAR w/20" DIA. SCREENED VENT	1
11	356T10124	24" SQ. MANHOLE w/HINGED COVER & HASP	1
12	400T06182	DECK SUPPORT BEAM (6"x 8.25"x 15'-2")	1
13	510T04016	MANHOLE SUPPORT ANGLE (2"x2"x1/4"x17 3/16")	1
14	510T04017	MANHOLE SUPPORT ANGLE (2"x2"x3/16"x 19 3/4")	1
15	78T050004	RAFTER HANGER 3/16" PL. 4-SLOT	2
16			
17	40115-220	DECK PERIMETER HANDRAIL ASSY. H.D. GALV.	1
18	48T337-7	48" NOM. HGT. O.S. LADDER w/CAGE H.D. GALV.	1
19	48T339-27	48" NOM. HGT. I.S. LADDER TRICO BOND COATED	1
20	91548TW	GENERAL ASSEMBLY DRAWING	1
21	BLTE-481	BOLTED LIQUID TANK ERECTION MANUAL	1
22			
23	102T0421502	7/32" DBL PNCH 97" STAVE w/ (2) STIRRUP PNCH	9
24	162T0421502	7/32" DBL PNCH 97" STV w/24"x46" C.Q. OPNG	1
25	102T09215	STD. 9 GA DBL PNCH 97" STAVE	10
26	102T10215	STD. 10 GA DBL PNCH 96 1/2" STAVE	10
27	101T12115	STD. 12 GA SGL PNCH 96 1/2" STV	30
28	371T02415	FLUSH C.Q. DQDR-DBL PCH 1/4" w/HANDHOLE	1
29	365T02415	FLUSH C.Q. DQDR-DBL PCH 1/4"	1
30			
31	226T12015	STD. 12 GA. FLAT BOTTOM SEGMENT	9
32	351T10002	BOTTOM CENTER PLATE- 10 GA.	1
33	-	STD. 12 GA. FLAT BOTTOM SEGMENT w/ SUMP OPENING	1
34			
35			
36			
37			
38			
39			
40			
41			
42			
43	375G14095	BOLT RETAINER CHANNEL x 95" [GALV]	10
44	375G14079	BOLT RETAINER CHANNEL x 79" [GALV]	10
45	375G14003	BOLT RETAINER, CHANNEL x 3 3/4" [GALV]	26
46			
47	751W00002	STRIP GASKET- 1 HOLE [LINEAR FEET]	879
48	751W00003	STRIP GASKET- 2 HOLE [LINEAR FEET]	164
49	752W00014	RADIUS GASKET- 3 3/4" Lg	36
50	752W00012	RADIUS GASKET- 1 3/4" Lg	36
51	753W00003	CHIME LAP GASKET	170
52	753S00000	CAULK- TUBE	9
53	754W00030	GASKET, MANHOLE. (30 HOLE)	2
54			
55	782MH4000	NUT, 1/2"Ø HEAVY HEX	7258
56	776M04010	BOLT, 1/2"Øx 1" Lg	MECH GALV A.P.I. 4652
57	776M04012	BOLT, 1/2"Øx 1 1/4" Lg	MECH GALV A.P.I. 4652
58	776M04014	BOLT, 1/2"Øx 1 1/2" Lg	MECH GALV A.P.I. 4652
59	782M04000	NUT, 1/2"Ø HEX.	HOT DIPPED GALV. 258
60	790Z04000	WASHER, 1/2"Ø NEOPRENE BACKED STEEL	3984
61	791M04125	WASHER, 1/2"Ø STEEL FLAT	2844
62			
63			
64			
65	777MR4012	BOLT, 1/2"Øx 1 1/4" Lg	POLYCAPPED RD. HD. 4378
66	777MR4014	BOLT, 1/2"Øx 1 1/2" Lg	POLYCAPPED RD. HD. 50
67	777MR4020	BOLT, 1/2"Øx 2" Lg	POLYCAPPED RD. HD. 167
68			
69			
70	730T52500	INTERIOR EPOXY CURING AGENT	COMP. B (2)1/2 PT
71	731T92001	INTERIOR GOLD TOUCH-UP PAINT	COMP. A 2 QT.
72	732T25201	EXTERIOR TAN TOUCH-UP PAINT	2 QT.

NOTES:

- THIS BILL OF MATERIAL IS FOR ONE COMPLETE TANK.
- TANK DESIGNED IN ACCORDANCE WITH AWWA D103-87, 100 M.P.H. WIND LOAD, 25 PSF DECK LOAD & SEISMIC ZONE 4.
- DRAWINGS REQUIRED FOR FIELD USE.
- TOTAL QUANTITY OF 10 PCS OF MK 375G14095 (95' Lg) BOLT RETAINER CHANNEL, INCLUDES PCS FOR THESE PARTS TO BE FIELD CUT FROM.
- FINISH: TRICO BOND/TAN

AS BUILT PLANS

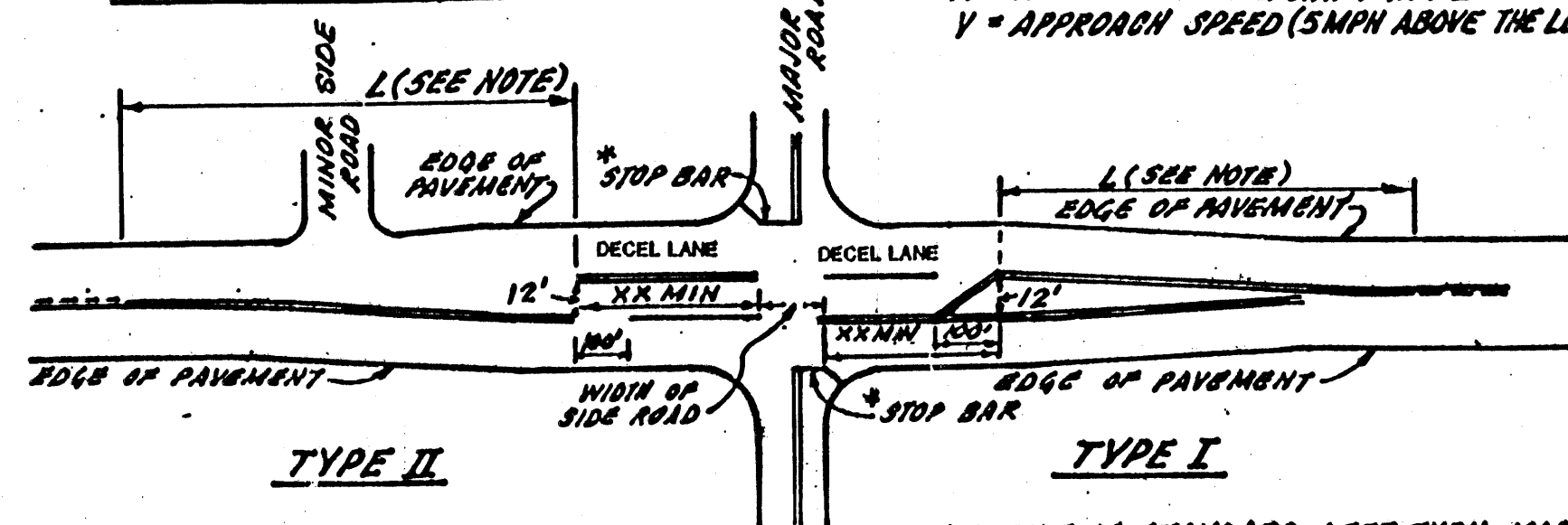
ERECTOR DRAWING - TRICO BOND COATED WATER TANK - 18'-4 5/8\"/>

COLUMBIAN 5400 Kansas Ave. P.O. BOX 2907 STEEL TANK COMPANY Kansas City, Ks 66110

91548TW

DECELERATION LANE LENGTH	
OPERATING SPEED (MPH)	LANE LENGTH
30	235
40	315
50	435
60	530

NOTE:
 L = TRANSITION LENGTH SHOULD NEVER BE LESS THAN $\frac{WV^2}{60}$
 W = WIDTH OF HORIZ. SHIFT IN FEET
 V = APPROACH SPEED (5 MPH ABOVE THE LEGAL SPEED)



USE TYPE II TURN LANE WHEN THERE IS SIDE ROAD OR DRIVEWAY CONFLICTS WITHIN THE ISLAND AREA.

* STOP BAR: 15' FROM THE NEAREST LANE LINE IS A STARTING POINT & SHOULD BE FIELD ADJUSTED.

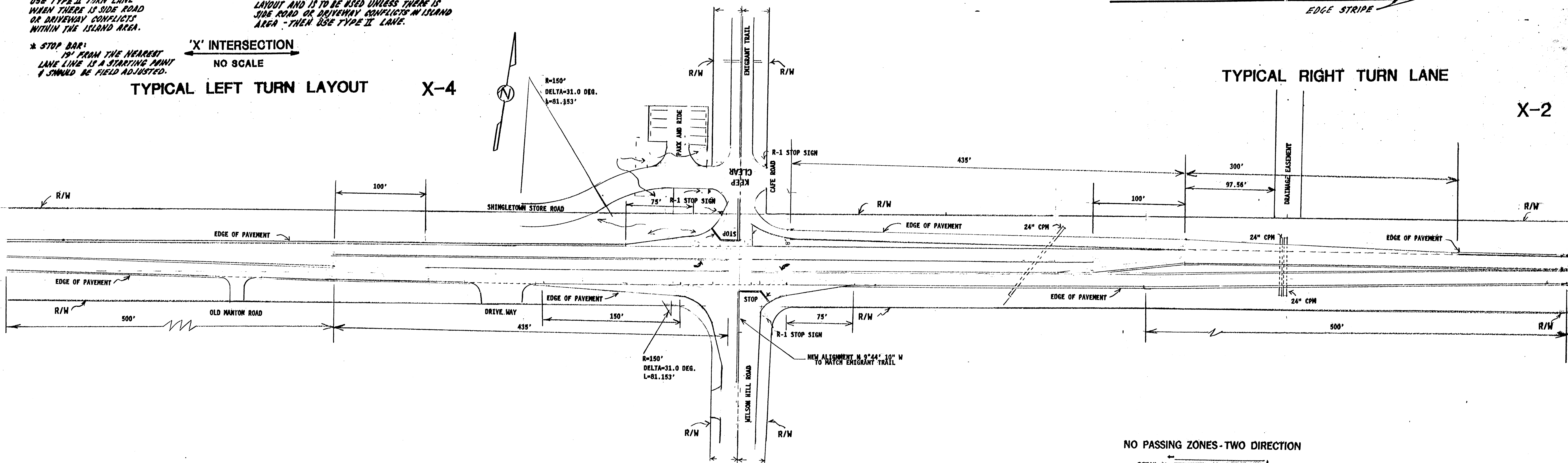
'X' INTERSECTION
 NO SCALE

TYPICAL LEFT TURN LAYOUT

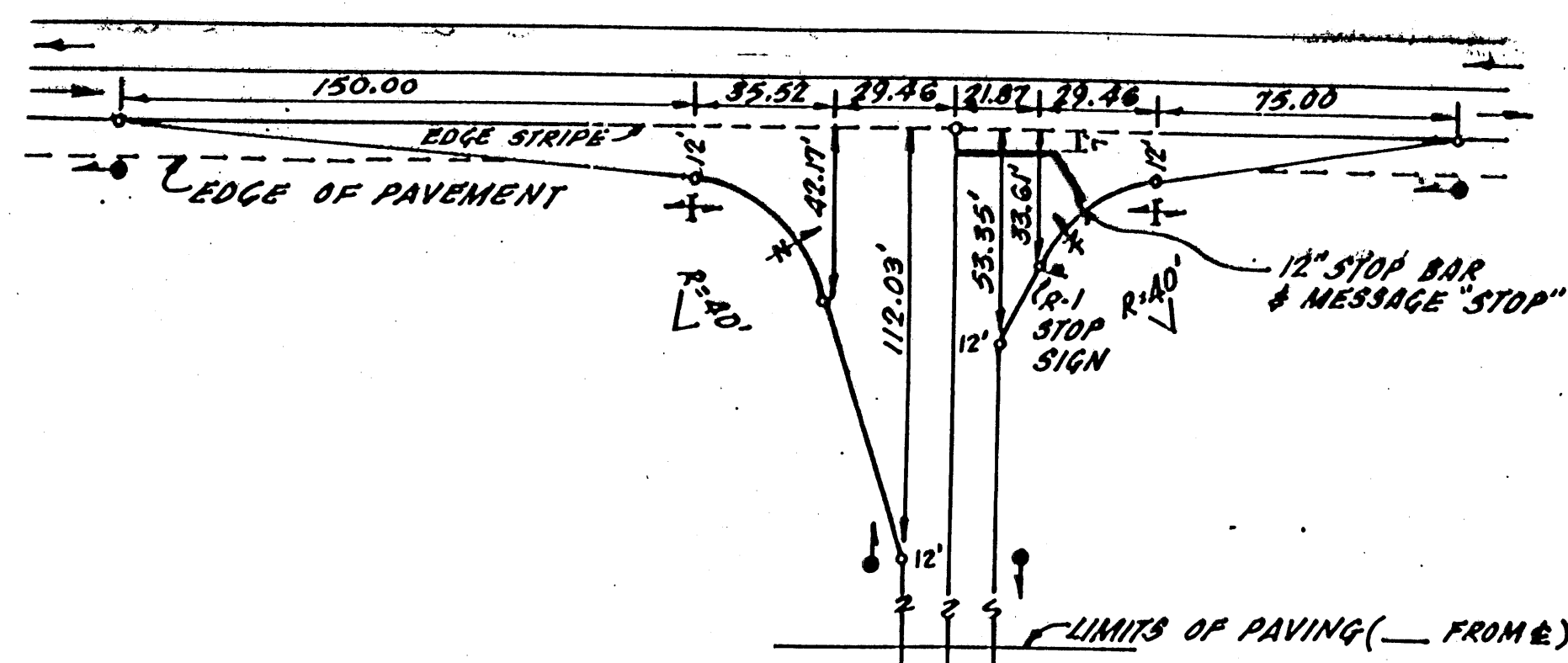
X-4

THIS SIDE IS STANDARD LEFT TURN ISLAND LAYOUT AND IS TO BE USED UNLESS THERE IS SIDE ROAD OR DRIVEWAY CONFLICTS WITHIN ISLAND AREA - THEN USE TYPE II LANE.

DESIGN SPEED 45 MPH



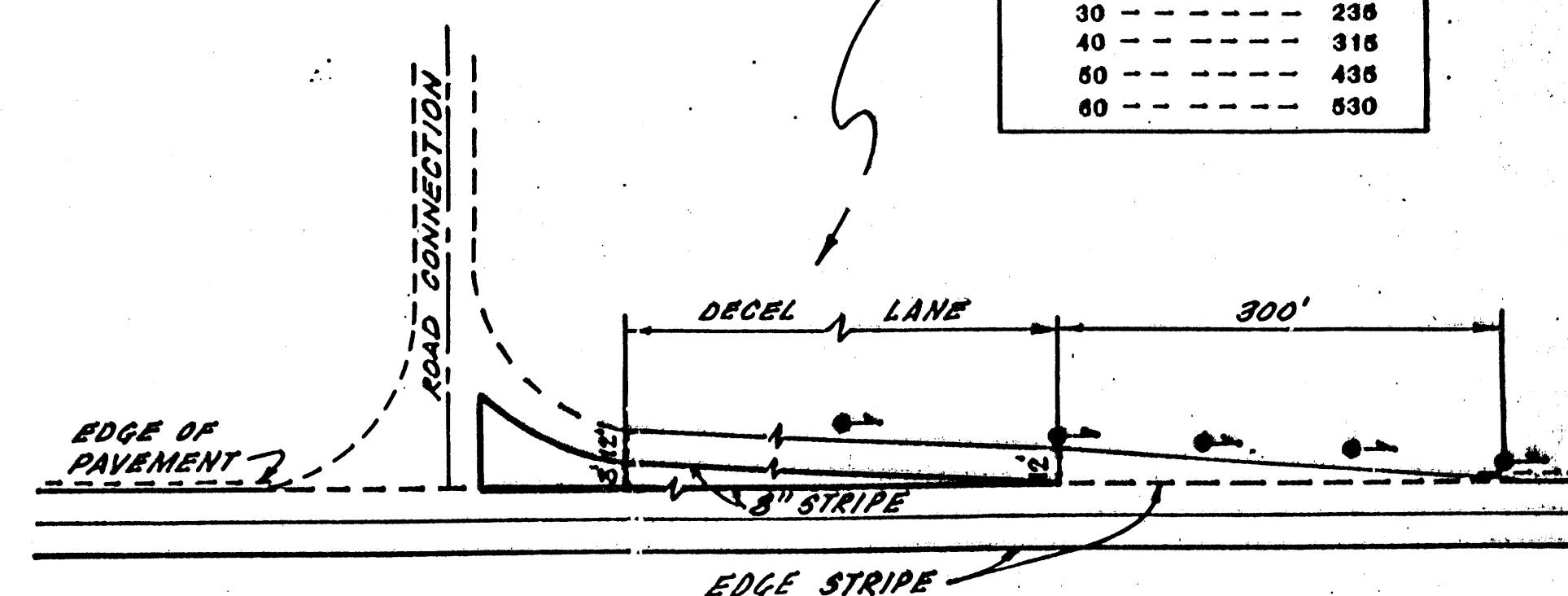
HIGHWAY 44 STRIPE AND LEFT TURN LAYOUT
 SCALE: 1"=50'



TYPE B

NOTE: SEE DELINEATOR TYPICAL SHEET
 DELINEATORS 100 FEET MAXIMUM SPACING

DECELERATION LANE LENGTH	
OPERATING SPEED (MPH)	LANE LENGTH
30	235
40	315
50	435
60	530



TYPICAL RIGHT TURN LANE

X-2

NO PASSING ZONES - TWO DIRECTION

DETAIL 21

RIGHT EDGELINES

DETAIL 27A

LANE LINE EXTENSIONS THROUGH INTERSECTIONS

DETAIL 40

12' 4" White Line

DETAIL 39

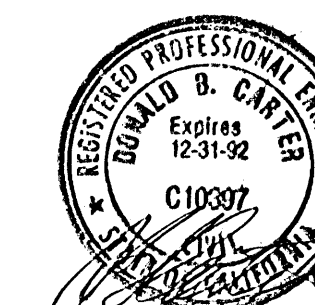
LINES

4" White

4" Yellow

PAVEMENT MARKERS AND TRAFFIC LINES
 TYPICAL DETAILS

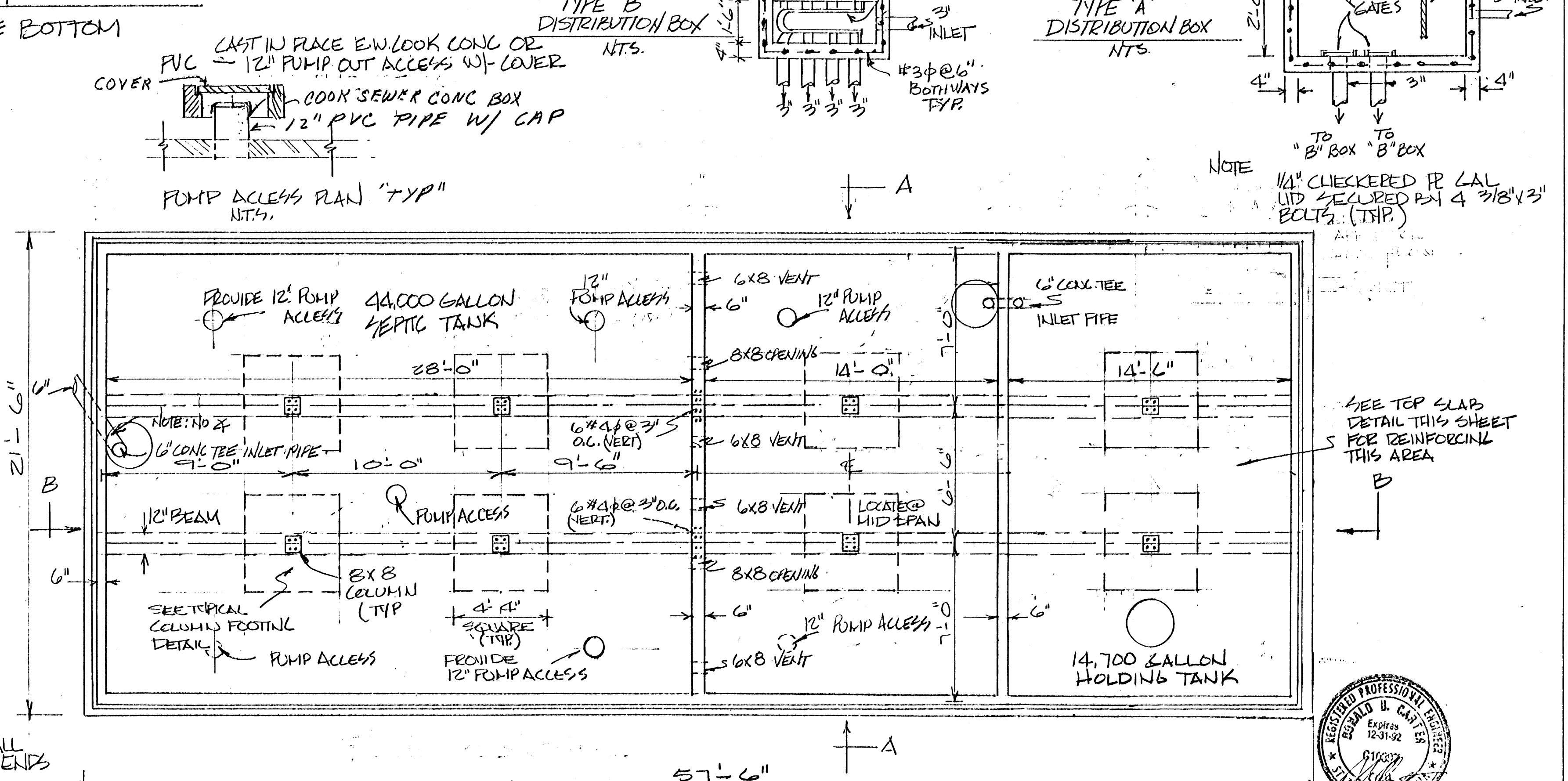
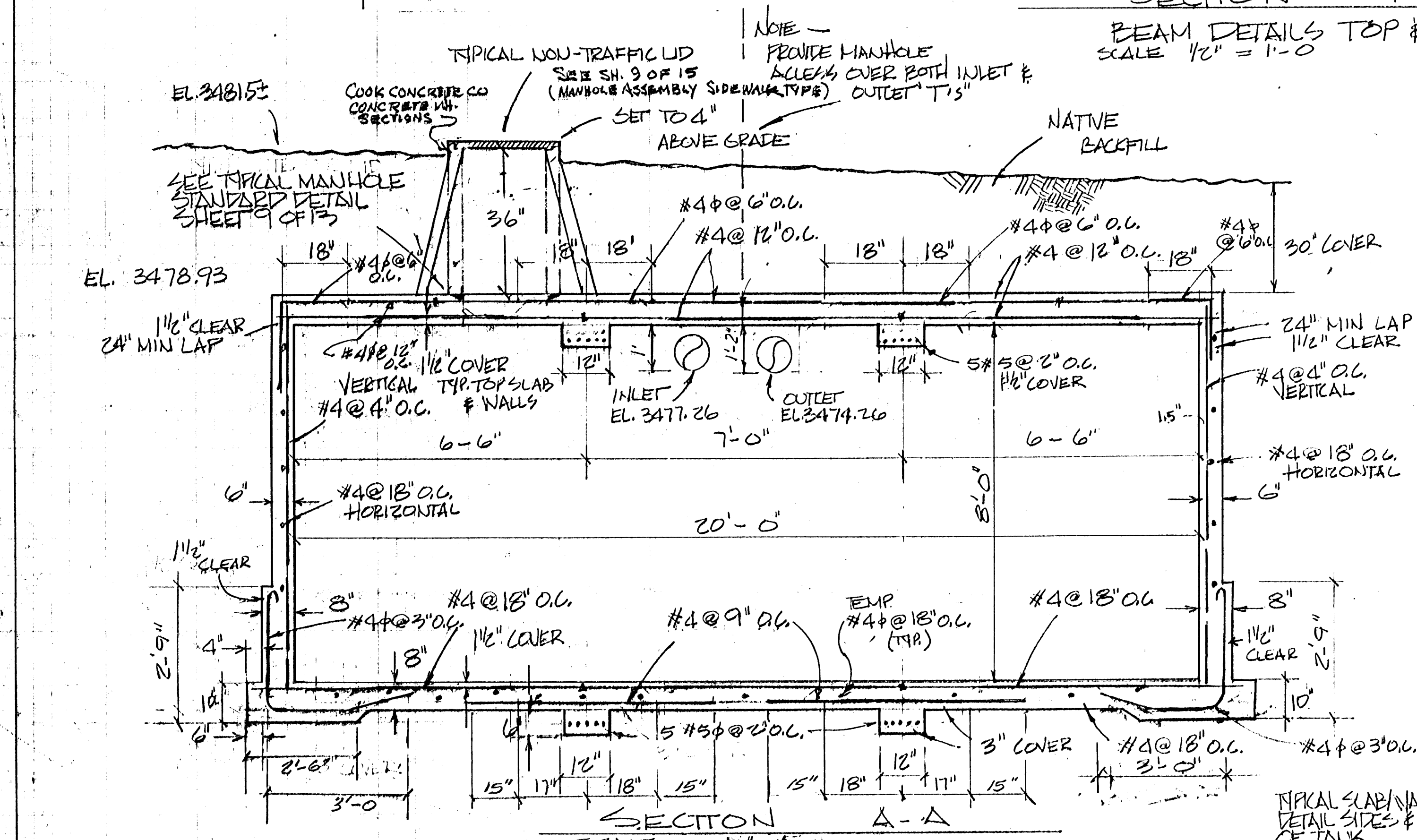
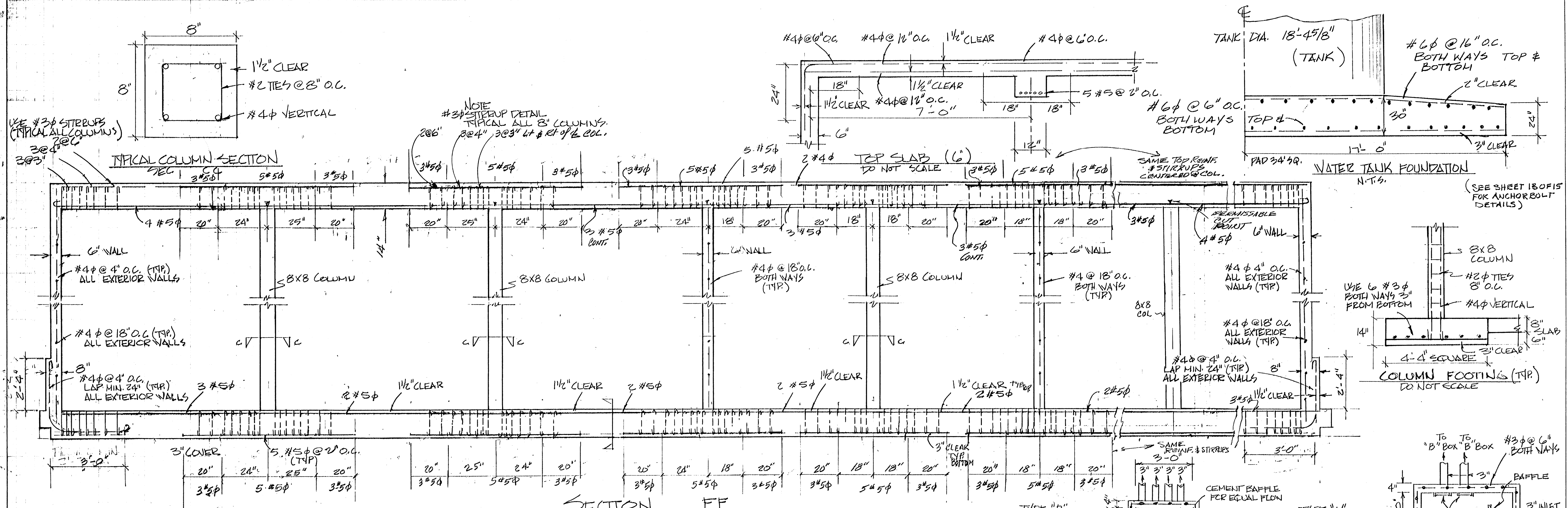
AS BUILT PLANS



TRACT 1738

HIGHWAY 44 STRIPE AND LEFT TURN LAYOUT DETAILS

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DATE:	REVISOR:	
WHISPERING WOODS ESTATES SUBDIVISION SHINGLETOWN, CALIFORNIA		
DRAWING NUMBER		SHEET 10 OF 10



NOTES: ALL WORK SHALL CONFORM TO LATEST EDITION OF UFG.

CONC: 2000 PSI @ 28 DAYS 5.5 SACK PORTLAND CEMENT PER C.Y. REINF: GRADE 40

REVISION: 7-5-11: Change bent reinforcing to straight bar reinforcing.

TRACT NO 1738
SEPTIC TANK AND HOLDING TANK
DESIGN DETAILS

WHISPERING ROCK ESTATES SUPERVISION
SINGLETON CALIFORNIA
MARCH 1991 SCALE AS NOTED SHEET 15 OF 15

