

CITY OF SANTA CLARA

AGNEW NEIGHBORHOOD STORM DRAIN PUMPING STATIONS

SCHEDULE OF DRAWINGS

I. PROJECT TITLE SHEET

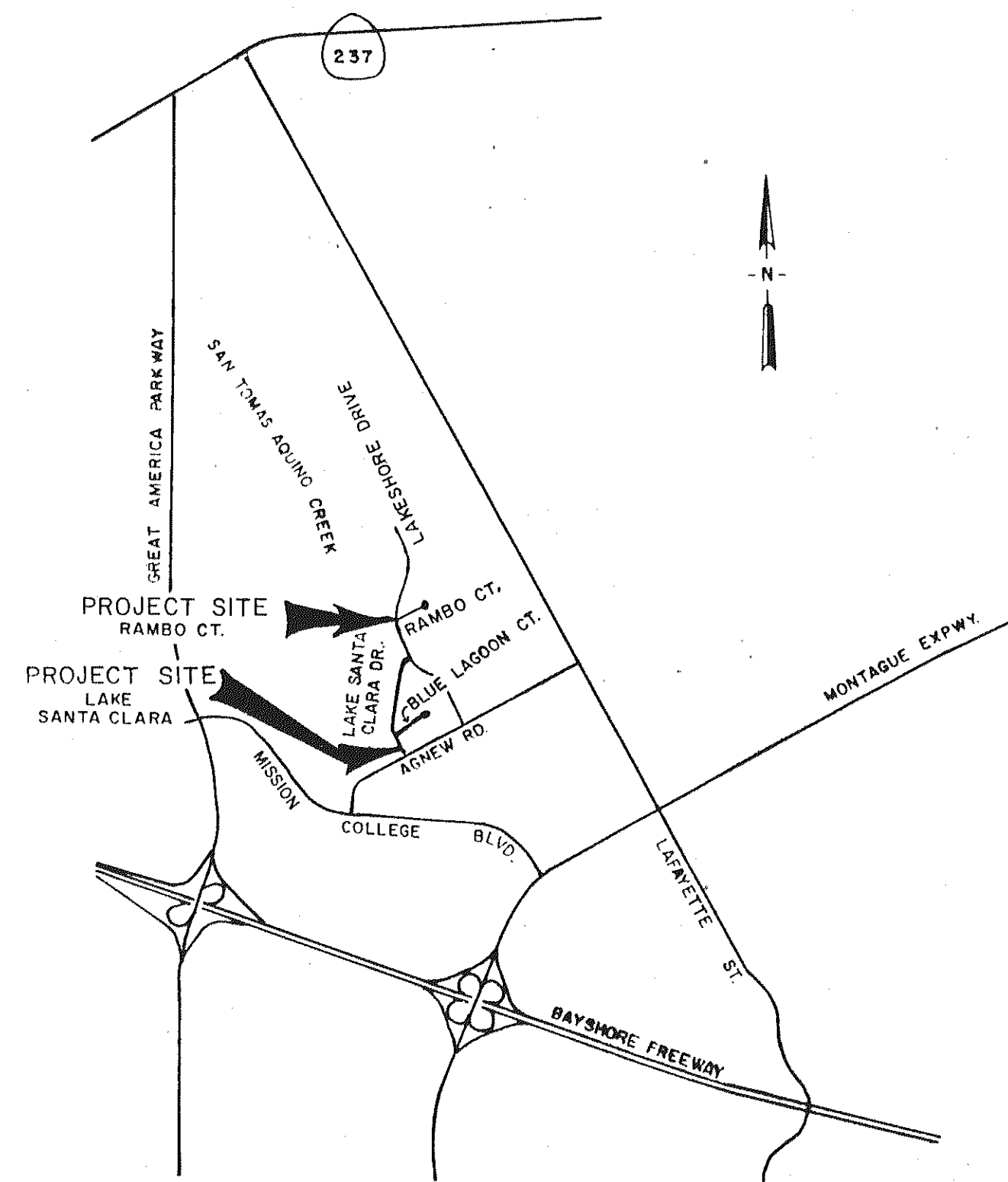
LAKE SANTA CLARA PUMP STATION

1. TITLE SHEET
2. BORING, LEGEND & ABBREVIATIONS
3. SITE PLAN
4. STRUCTURAL PLAN & SECTIONS
5. DISCHARGE PIPES, OUTFALL & MISCELLANEOUS DETAILS
6. STATION CONTROLS

RAMBO PUMP STATION

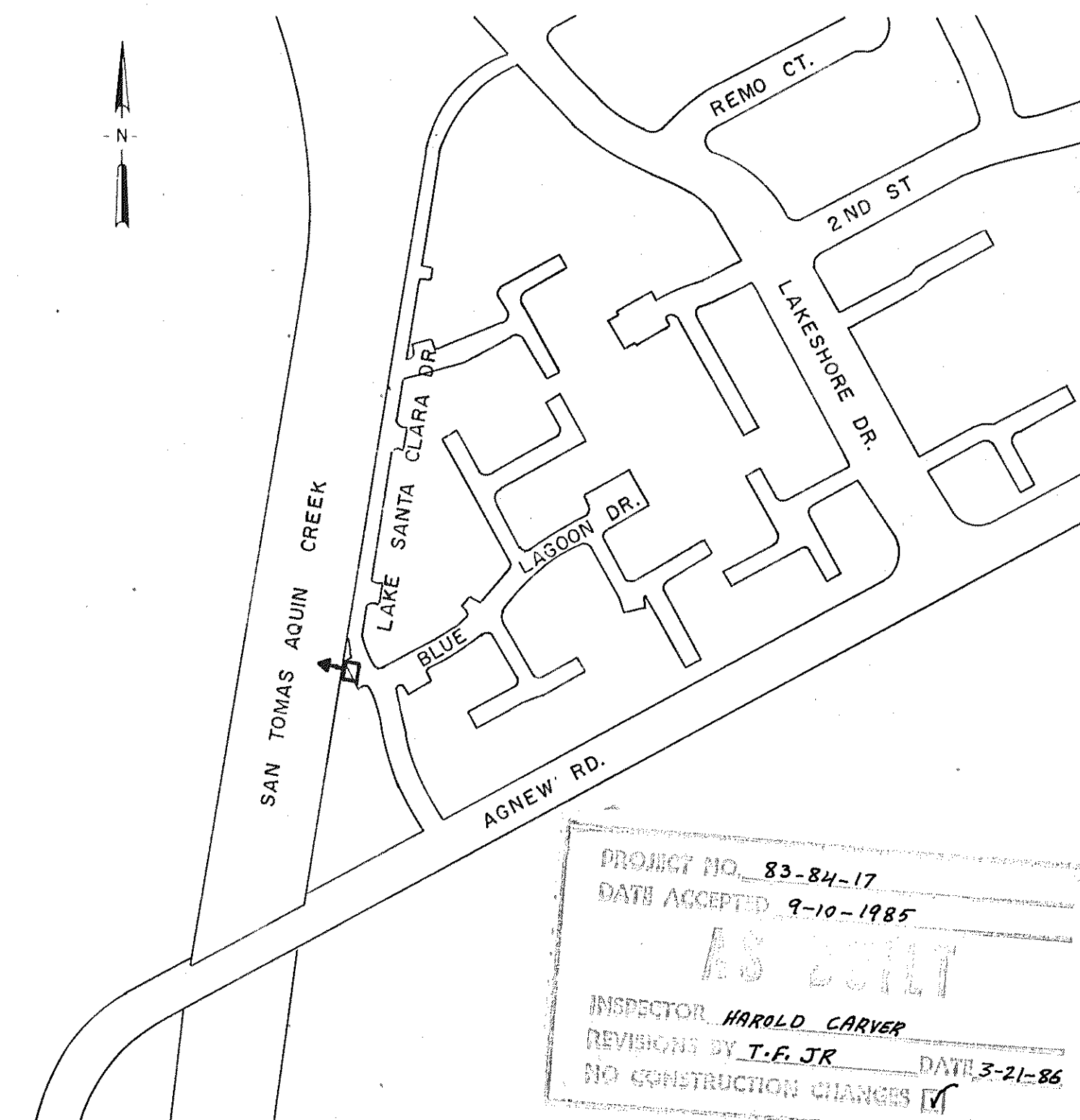
1. TITLE SHEET
2. BORING, LEGEND & ABBREVIATIONS
3. SITE PLAN
4. INLET & SUMP STRUCTURE PLAN
5. INLET & SUMP STRUCTURE SECTION
6. INLET & SUMP STRUCTURE SECTIONS
7. INLET & SUMP STRUCTURE SECTIONS
8. DELETED
9. SLIDE GATE STRUCTURE
10. MISCELLANEOUS METALS
11. BUILDING PLAN & ELEVATIONS
12. ROOF PLAN & SECTION
13. ARCHITECTURAL DETAILS - 1
14. ARCHITECTURAL DETAILS - 2
15. MISCELLANEOUS DETAILS
16. DISCHARGE PIPE DETAILS
17. ELECTRICAL PLAN
18. ELECTRICAL CONTROLS
19. STATION CONTROLS
20. ELECTRICAL DETAILS

INVITATION TO BID N° CE 83-84-17



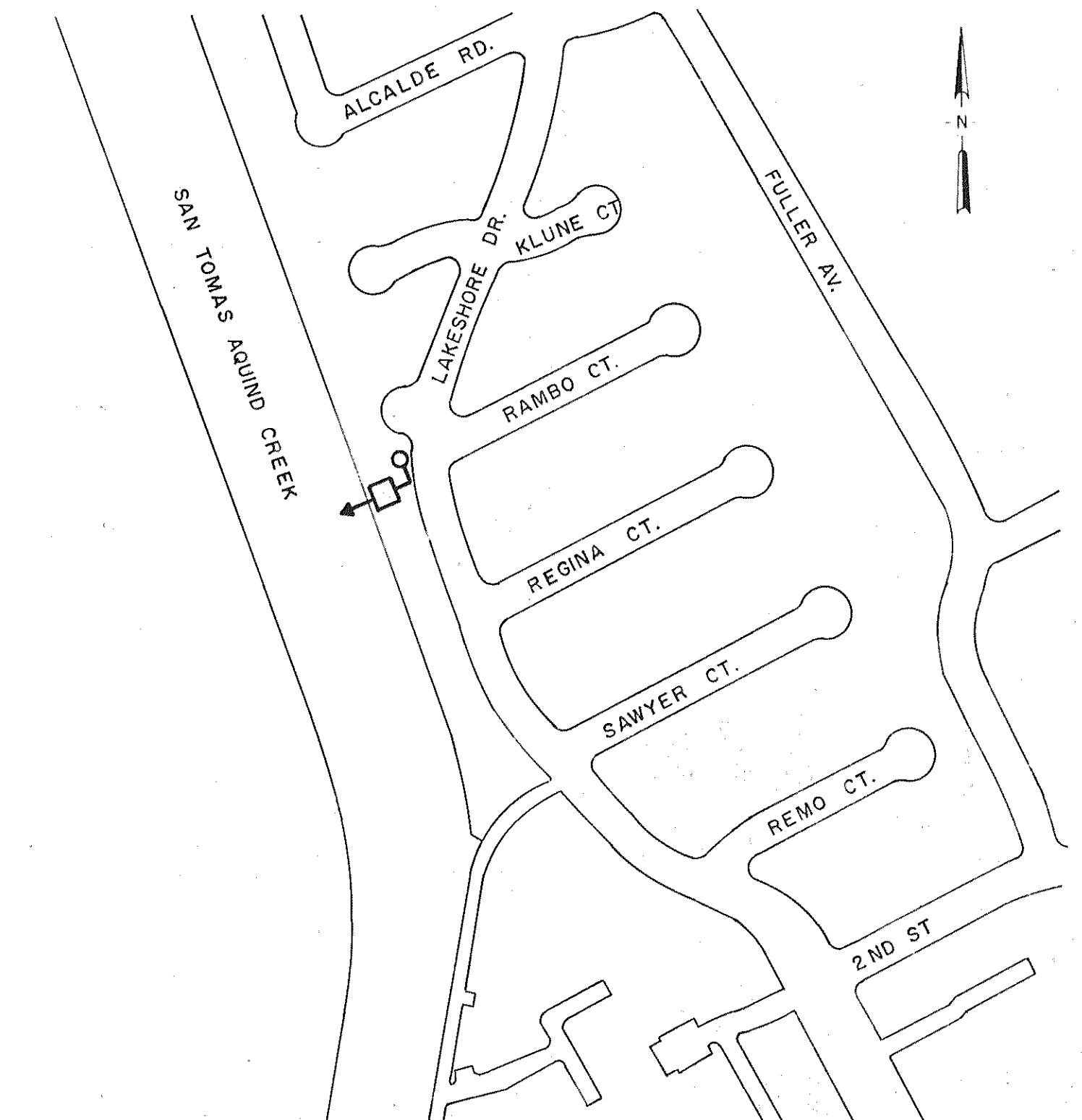
PROJECT VICINITY MAP

SCALE: 1" = 2000'



KEY MAP
LAKE SANTA CLARA
PUMP STATION

N.T.S.



KEY MAP
RAMBO PUMP STATION

N.T.S.

REVIEWED: Richard M. Munk DATE: 6/5/84
SUPERINTENDENT, STREET DEPARTMENT
Edo DATE: 6/7/84
DIRECTOR OF ELECTRIC UTILITY
De Yehida DATE: 6/5/84
DESIGN DIVISION

APPROVED: S.M. CRISTOFANO
DIRECTOR OF PUBLIC WORKS, CITY ENGINEER, RCE 10827
By: Philip R. Tranel DATE: 6-7-84
for ASSISTANT DIRECTOR OF PUBLIC WORKS, RCE 18294

THIS APPROVAL DOES NOT MEAN THE DIRECTOR OF PUBLIC WORKS/CITY ENGINEER OR THE CITY CAN ACCEPT ANY OR PART OF THE WORK DONE UNDER OR IN CONJUNCTION WITH THESE PLANS THAT HAVE NOT BEEN PROPERLY INDICATED. ALL SUPERVISION SHALL BE UNDER THE RESPONSIBLE DIRECTION OF THE ENGINEER OF WORK.

ENGINEER-OF WORK
Anderson Nichols RCE 12498
661 Harbour Way South - P.O. Box 2049
Richmond, California 94804
Engineers • Environmental Consultants • Planners

PROJECT NO. CE 83-84-17		
DATE	REVISION	BY
3-21-86	AS BUILT	T.F.J.R.

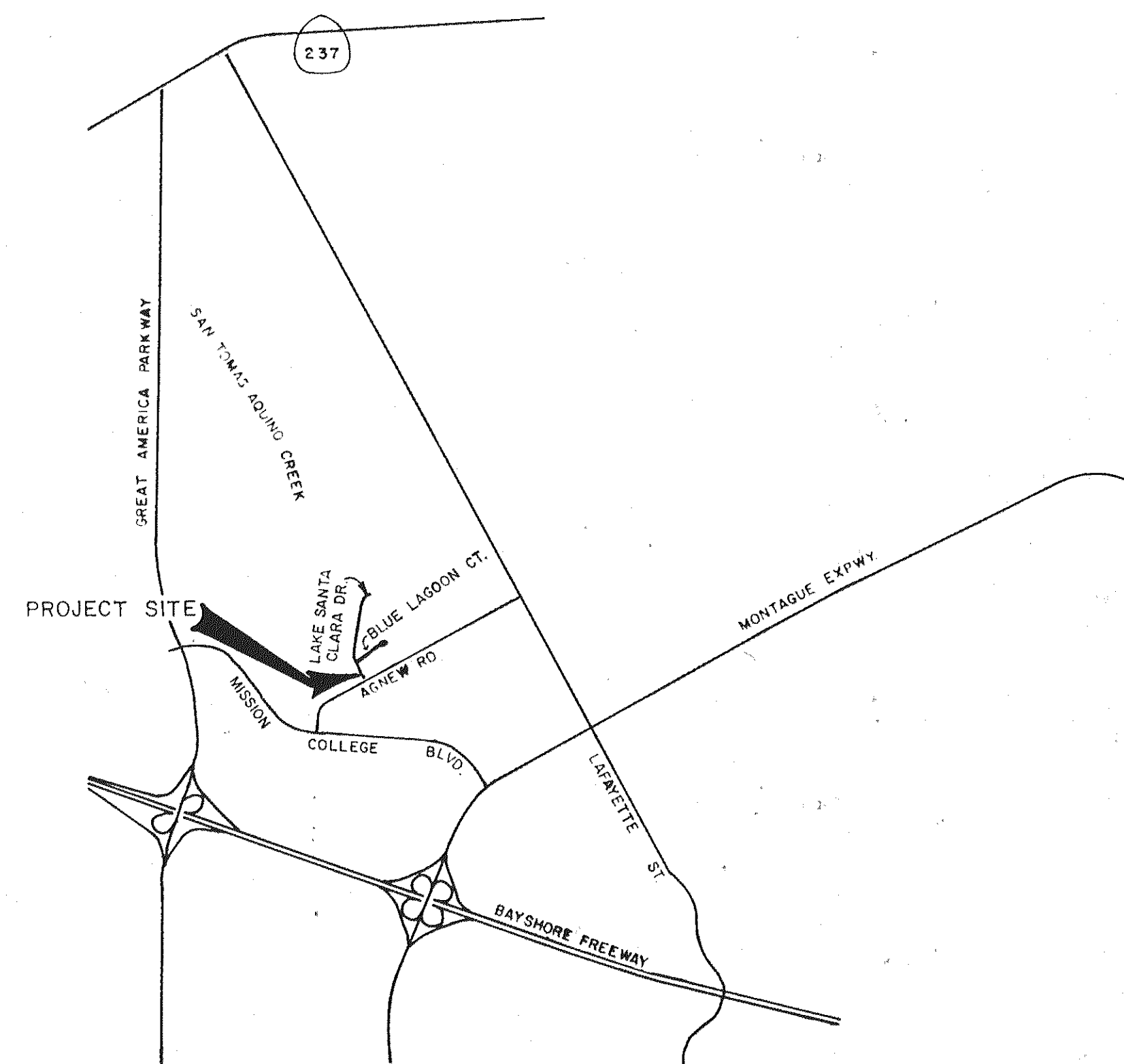
CITY OF SANTA CLARA	
ENGINEERING DEPARTMENT	
TITLE SHEET	
APPROVED	DATE
	DIR. PUB. WKS./CITY ENGR.

DESIGN DIVISION APPROVAL		REFERENCES	
DATE	INITIAL	DATE	F.B. NO.
	NHW	5/84	
	NHW	5/84	
	LL	5/84	
			OTHER
AS-BUILT BY		TRACING NO.	
		8730-D/8731-D	
SCALE		SHT 1 OF 27	
H: NOTED	V:		

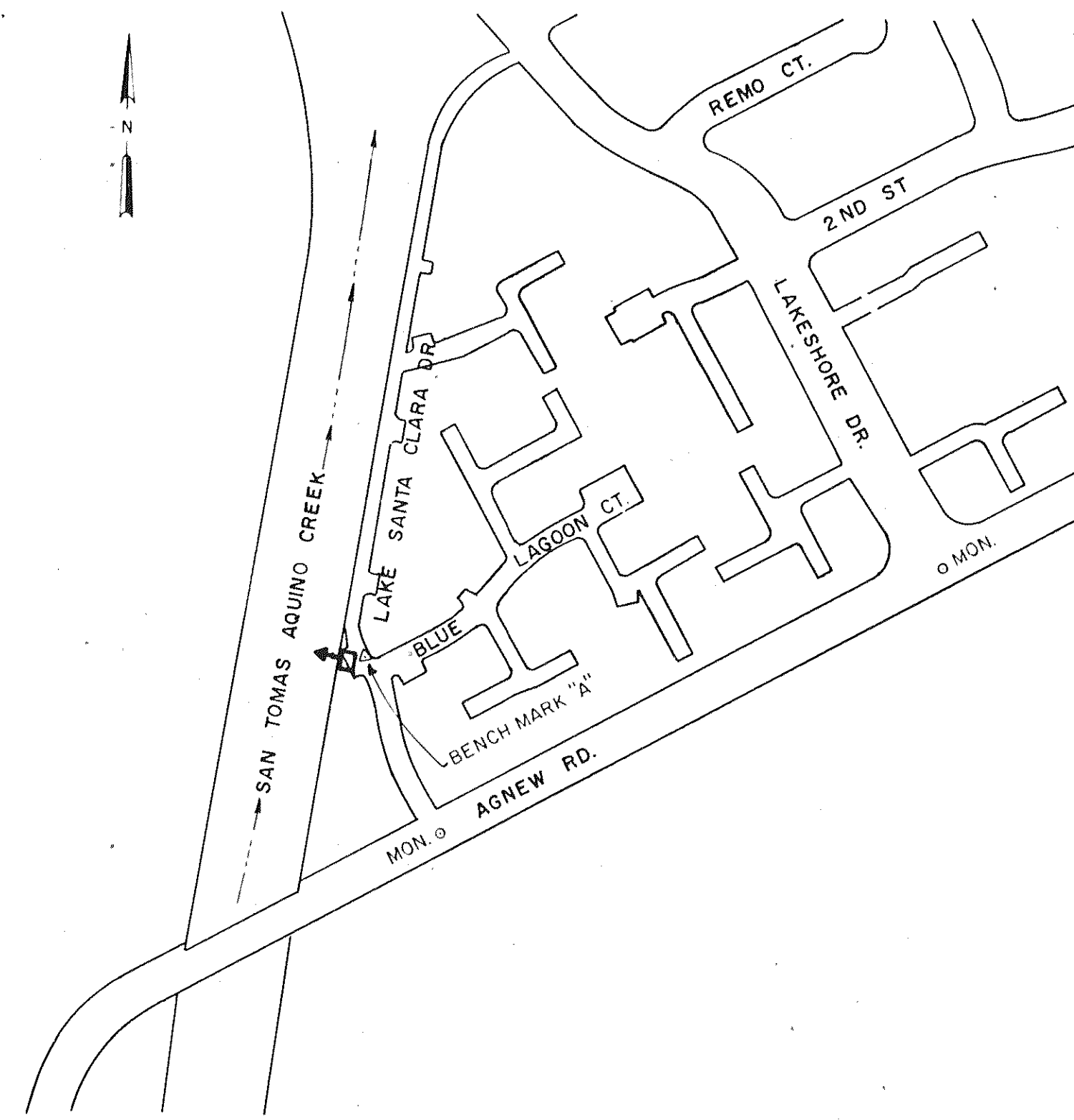
CITY OF SANTA CLARA

LAKE SANTA CLARA

PUMP STATION



VICINITY MAP
SCALE: 1"=2000'



KEY MAP
N.T.S.

SCHEDULE OF DRAWINGS

1. TITLE SHEET
2. BORING, LEGEND & ABBREVIATIONS
3. SITE PLAN
4. STRUCTURAL PLAN & SECTIONS
5. DISCHARGE PIPES, OUTFALL & MISCELLANEOUS DETAILS
6. STATION CONTROLS

PROJECT NO. <u>83-84-17</u>	
DATE ACCEPTED <u>9-10-1985</u>	
AS BUILT	
INSPECTOR <u>HAROLD CARVER</u>	
REVISION BY <u>T. F. JR.</u> DATE <u>3-21-86</u>	
NO CONSTRUCTION CHANGES <input checked="" type="checkbox"/>	

BENCH MARK

BENCH MARK "A" IS A NAIL AND SHINER LOCATED IN LAKE SANTA CLARA DRIVE 354.70' ON A BEARING OF N 24°08'20"W FROM THE CITY MONUMENT AT AGNEW RD. AND LAKE SANTA CLARA DRIVE. ELEVATION: +16.19 (JAN.83)

PROJECT NO. CE <u>83-84-17</u>			CITY OF SANTA CLARA		DESIGN DIVISION APPROVAL	
DATE	REVISION	BY	ENGINEERING DEPARTMENT		DATE	INITIAL DATE
			TITLE SHEET		DESIGNED BY	REFERENCES
					DRAWN BY	F.B. NO.
					CHECKED BY	OTHER
					AS BUILT BY	TRACING NO.
					APPROVED	SCALE
					DATE	H: NOTED V:
3-21-86	AS BUILT	T.F.JR.	DIR. PUB. WKS./CITY ENGR.			SHT 1 OF 6

BORING LOG

DRILL RIG Continuous Flight Auger		SURFACE ELEVATION ±18 Feet		LOGGED BY MMc				
DEPTH TO GROUNDWATER 11.5' (See Note 3)		BORING DIAMETER 6 Inches		DATE DRILLED 1/13/84				
DESCRIPTION AND CLASSIFICATION								
DEPTH (FEET)	DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	WATER CONTENT (%)	REL. DENSITY	UNSATURATED SWELLING POTENTIAL (%)
0 - 6	CLAY, silty with sand (fine-grained)	dark brown	firm	CL	19*	19		
6 - 19	CLAY, silty	black	stiff	CL-CH	19*	22	103	
19 - 26	(grading with sand lenses)	mottled dark grey-brown						
26 - 30	CLAY, silty, sandy (fine-to medium-grained)	mottled grey-brown	stiff	CL-ML	11			
30 - 33	(grading very sandy)							
33 - 35	(grading with fine-grained sand lenses)		firm				93	
35 - 39	(grading with sand)	dark grey mottled grey-brown	very stiff hard	CL-CH	14*	30	94	2.0
39 - 41	(grading very silty)	dark grey mottled grey-brown	stiff	CL-ML	60*	18	114	
41 - 43	SAND (fine-grained), clayey, silty	brown	medium dense	SC	13	28		
Bottom of Boring = 30 Feet								

Notes:
 1. The stratification lines represent the approximate boundaries between soil types and the transitions may be gradual.
 2. For an explanation of penetration resistance values marked with an asterisk (*), see first page, Appendix A.
 3. Groundwater level encountered at a depth of 10 feet at the time of drilling. Boring converted to observation well and the groundwater level was measured at 11.5 feet on January 26, 1984.

PRIMARY DIVISIONS		GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	GW	Well graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	SW	Well graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands or gravelly sands, little or no fines
FINE GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50%	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS LIQUID LIMIT IS GREATER THAN 50%	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, plastic silts
		CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silts	
HIGHLY ORGANIC SOILS		Pt	Peat and other highly organic soils

DEFINITION OF TERMS					
U.S. STANDARD SERIES SIEVE		CLEAR SQUARE SIEVE OPENINGS			
200	40	10	4	3/4"	3"
SILTS AND CLAYS		SAND		GRAVEL	COBBLES BOULDERS
		FINE	MEDIUM	COARSE	FINE COARSE

GRAIN SIZES			
SANDS AND GRAVELS	BLOWS/FOOT ¹	SILTS AND CLAYS	STRENGTH ² BLOWS/FOOT ¹
VERY LOOSE	0 - 4	VERY SOFT	0 - 1/4
LOOSE	4 - 10	SOFT	1/4 - 1/2
MEDIUM DENSE	10 - 30	FIRM	1/2 - 1
DENSE	30 - 50	STIFF	1 - 2
VERY DENSE	OVER 50	VERY STIFF	2 - 4
		HARD	OVER 4

RELATIVE DENSITY		CONSISTENCY	
¹ Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1-3/8 inch I.D.) split spoon (ASTM D-1586).			
² Unconfined compressive strength in tons/sq. ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586) pocket penetrometer, torvaue, or visual observation.			

SURFACE IMPROVEMENT

CURB, GUTTER AND WALK

DRIVEWAY

FENCE (TYPE)

CITY SURVEY MONUMENT

SANITARY MANHOLE

STORM MANHOLE

CATCH BASIN

UTILITY POLE (TYPE)

STREET SIGN

GAS VALVE

GAS METER

WATER METER

UNDERGROUND IMPROVEMENT

ELECTRIC CONDUIT

SANITARY SEWER

STORM SEWER

GAS LINE

WATER LINE

TELEPHONE FACILITIES

CABLE TELEVISION

OTHERS

SOIL BORING

PROPERTY LINE

CENTER LINE

MATCH LINE

EXISTING TREE

TREE TO BE REMOVED

LIMIT OF WORK LINE

BORING LOG

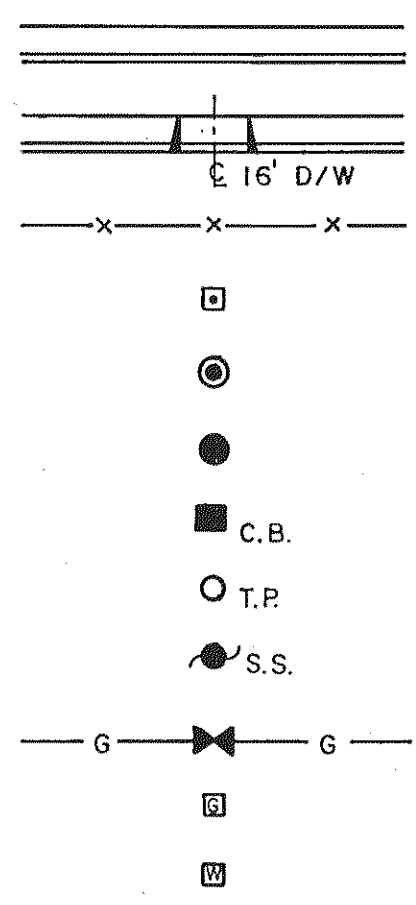
□ SPLIT SPOON SAMPLER

⊗ MODIFIED CALIFORNIA SAMPLER

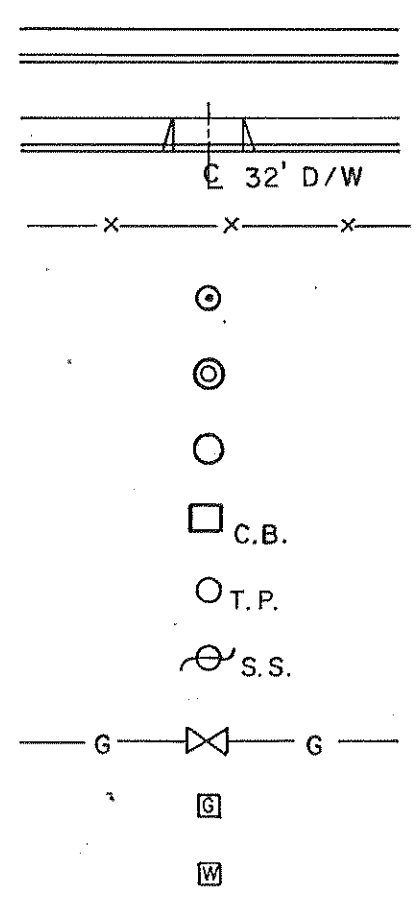
∇ GROUND WATER LEVEL

LEGEND

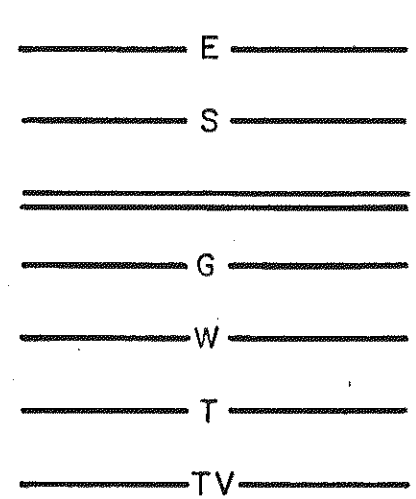
PROPOSED



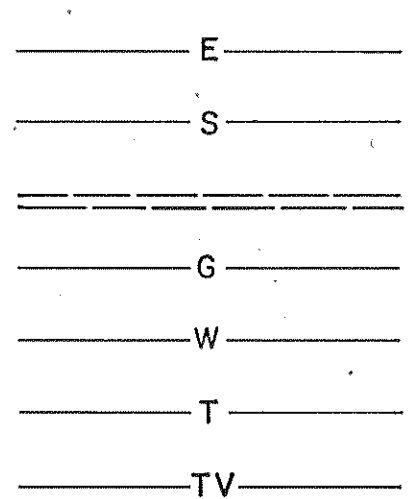
EXISTING



PROPOSED



EXISTING

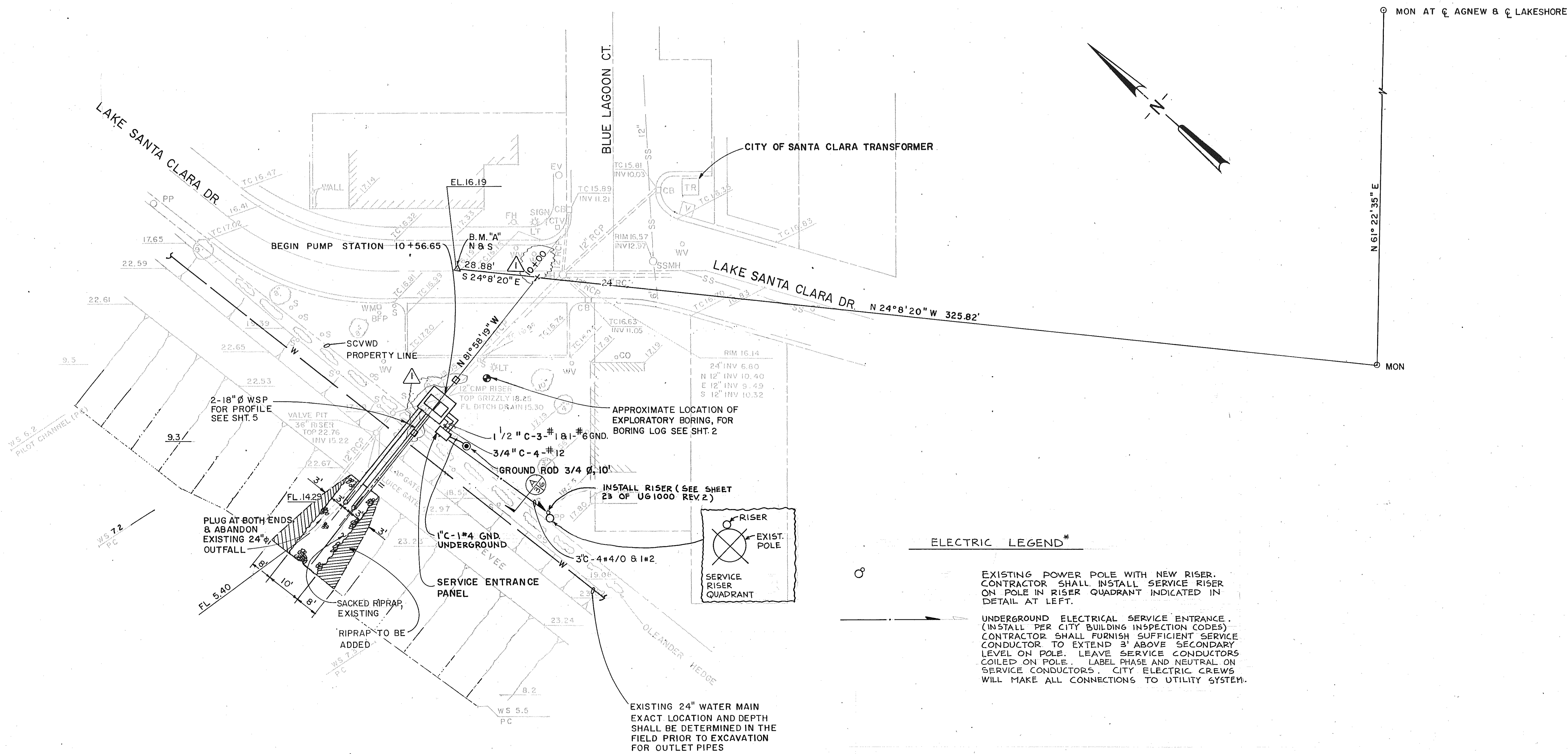


ABBREVIATIONS

A.B.	AGGREGATE BASE	S.	SLOPE OR SOUTH
A.C.	ANCHOR BOLT	S.D.	STORM DRAIN
A.C.	ASPHALT CONCRETE	STD. DET.	STANDARD DETAIL
ABAND.	ABANDONED	SHT.	SHEET
ALT.	ALTERNATE	SHTG.	SHEATHING
A.S.B.	AGGREGATE SUBBASE	S.S.	SANITARY SEWER
AVE.	AVENUE	S.W. or S/W	SIDEWALK SECTION
B.C.	BEGIN CURVE	SO.	SQUARE
BEG.	BEGIN	ST.	STREET
BLDG.	BUILDING	STA.	STATION
BLKG.	BLOCKING	STD.	STANDARD
BLVD.	BOULEVARD	SYM.	SYMMETRICAL
C.C.	CENTER TO CENTER	T.C.	TOP OF CURB
C.J.	CONSTRUCTION JOINT	T.O.	TOP OF
CL.	CLASS	TYP.	TYPICAL
C.L.	CENTER LINE	VERT.	VERTICAL
C.O.	CLEAN OUT	V.C.P.	VITRIFIED CLAY PIPE
CONC.	CONCRETE	W.	WEST
CONST.	CONSTRUCT OR CONSTRUCTION	W/W.	WITH
CONT.	CONTINUOUS	W.S.L.	WATER SERVICE LATERAL
COR.	CORNER	W.S.P.	WELDED STEEL PIPE
CT.	COURT	W/F.	WELDED WIRE FABRIC
d	PENNY DETAIL	#	NUMBER
DET.	DIAMETER		
DIA. OR Ø	DUCTILE IRON PIPE		
D.I.P.	DIMENSION		
DIMN.	DRIVEWAY		
D/W	DRAWING		
DWG.			
E.	EAST		
E.C.	END CURVE		
E.F.	EACH FACE		
E.N.P.	EDGE OF NEW PAVEMENT		
E.P.	EDGE OF PAVEMENT		
EL.	ELEVATION		
ENGR.	ENGINEER		
E.W.	EACH WAY		
EX. or EXIST.	EXISTING		
F.B.	FLAT BAR		
FIN.	FINISH		
FND.	FOUNDATION		
F.O.C.	FACE OF CURB		
FRMG.	FRAMING		
F.S.	FAR SIDE		
GA.	GAUGE		
G.V.	GAS VALVE		
GLU-LAM OR GL.	GLUED-LAMINATED TIMBER		
GRD.	GRADE		
GRT.	GRATE		
GTR.	GUTTER		
HGR.	HANGER		
HORIZ.	HORIZONTAL		
I.E.	INVERT ELEVATION		
IMP.	IMPROVEMENT		
INV.	INVERT		
JST.	JOIST		
L.	LENGTH		
Lt.	LEFT		
LOCN.	LOCATION		
MAX.	MAXIMUM		
MFD.	MANUFACTURED		
M.H.	MANHOLE		
MIN.	MINIMUM		
MISC.	MISCELLANEOUS		
MFR.	MANUFACTURER		
MON.	MONUMENT		
N.	NORTH		
NLG.	NAILING		
NTS.	NOT TO SCALE		
O.C.	ON CENTER		
OPNG.	OPENING		
OPP.	OPPOSITE		
PARA.	PARALLEL		
P.C.C.	PORTLAND CEMENT CONCRETE		
PERP.	PERPENDICULAR		
PL.	PLATE		
P.L. OR Ø	PROPERTY LINE		
PLYWD.	PLYWOOD		
PRES. TRTD.	PRESSURE-TREATED		
P.V.C.	POLYVINYL CHLORIDE		
R.	RADIUS		
R.C.P.	REINFORCED CONCRETE PIPE		
REINF.	REINFORCEMENT		
REQ'D.	REQUIRED		
RD.	ROAD		
R.O.W.	RIGHT-OF-WAY		
RT.	RIGHT		

PROJECT NO. CE 83-84-17		CITY OF SANTA CLARA		DESIGN DIVISION APPROVAL	
DATE	REVISION	BY	DATE	INITIAL	R.C.E.
ENGINEERING DEPARTMENT			DESIGNED BY	AJ	5/84
LAKE SANTA CLARA PUMP STATION			DRAWN BY	AK	5/84
BORING, LEGEND & ABBREVIATIONS			CHECKED BY	LL	5/84
APPROVED			DATE	SCALE	TRACING NO.
3-21-86 AS BUILT			DATE	SCALE	8730-D
DIR. PUB. WKS./CITY ENGR.			H:	V:	SHT 2 OF 6

PETER KALDVEER AND ASSOCIATES, INC. Geotechnical Consultants
 Anderson-Nichols 661 Harbour Way South - P.O. Box 2049 Richmond, California 94804
 Engineers - Environmental Consultants - Planners

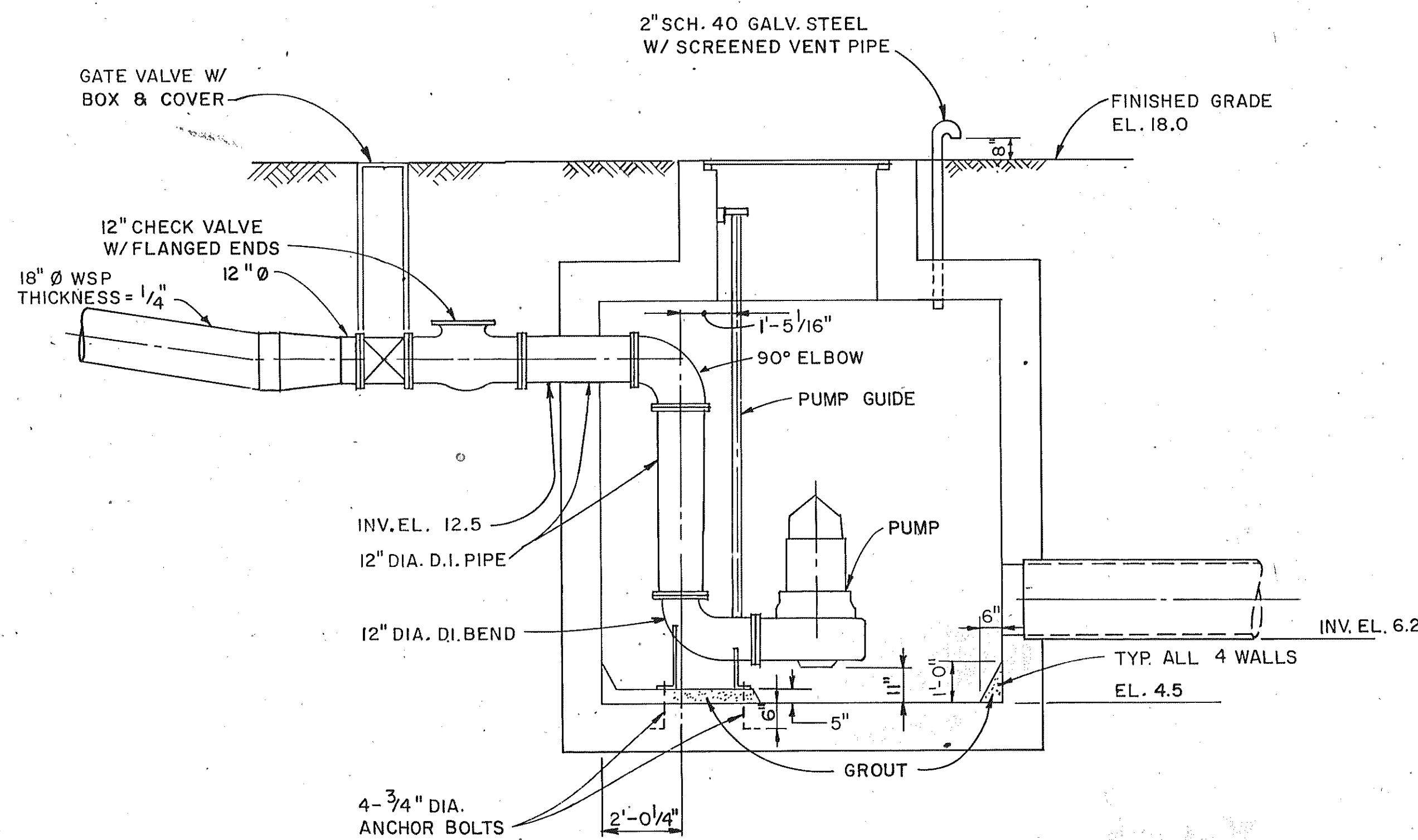
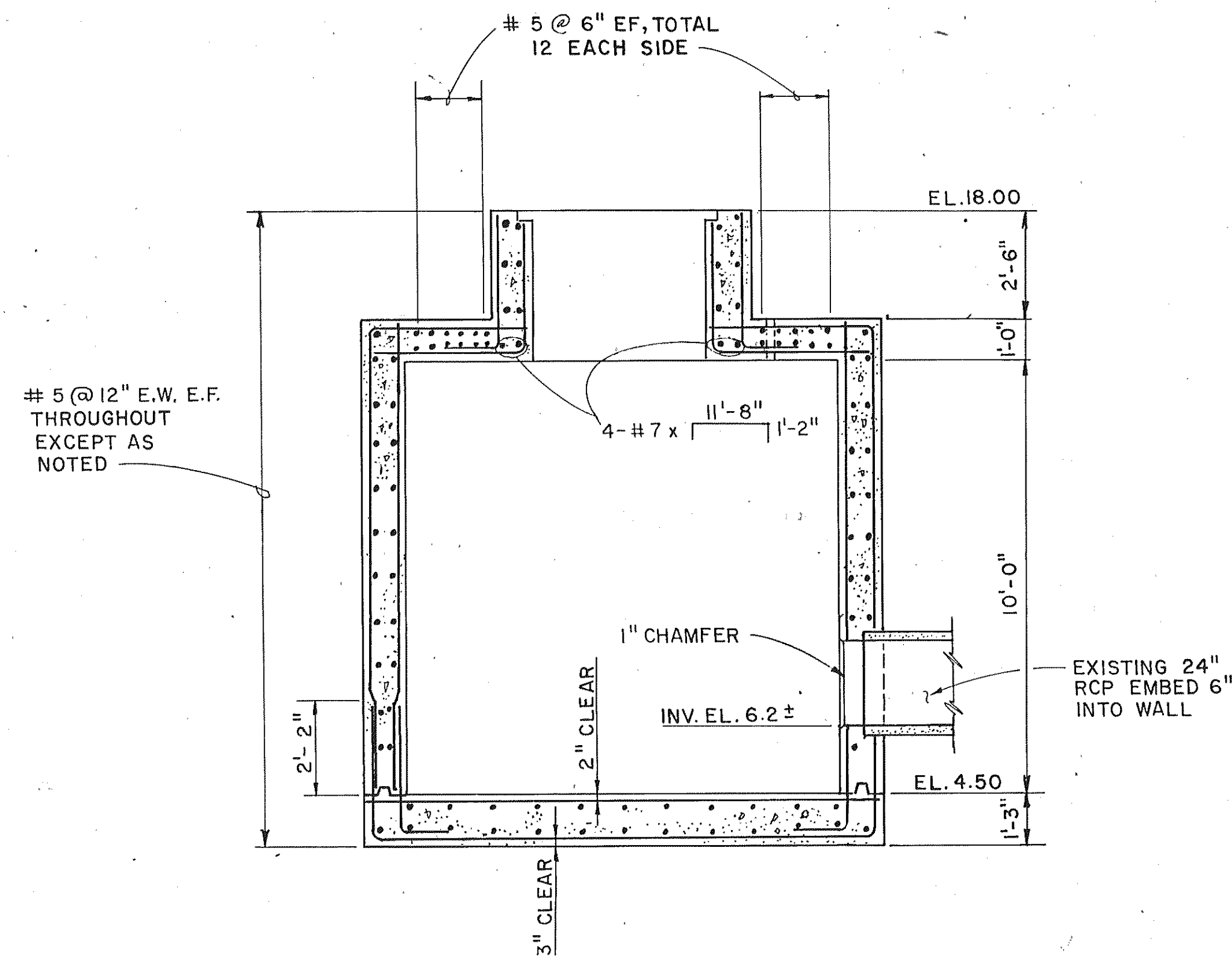
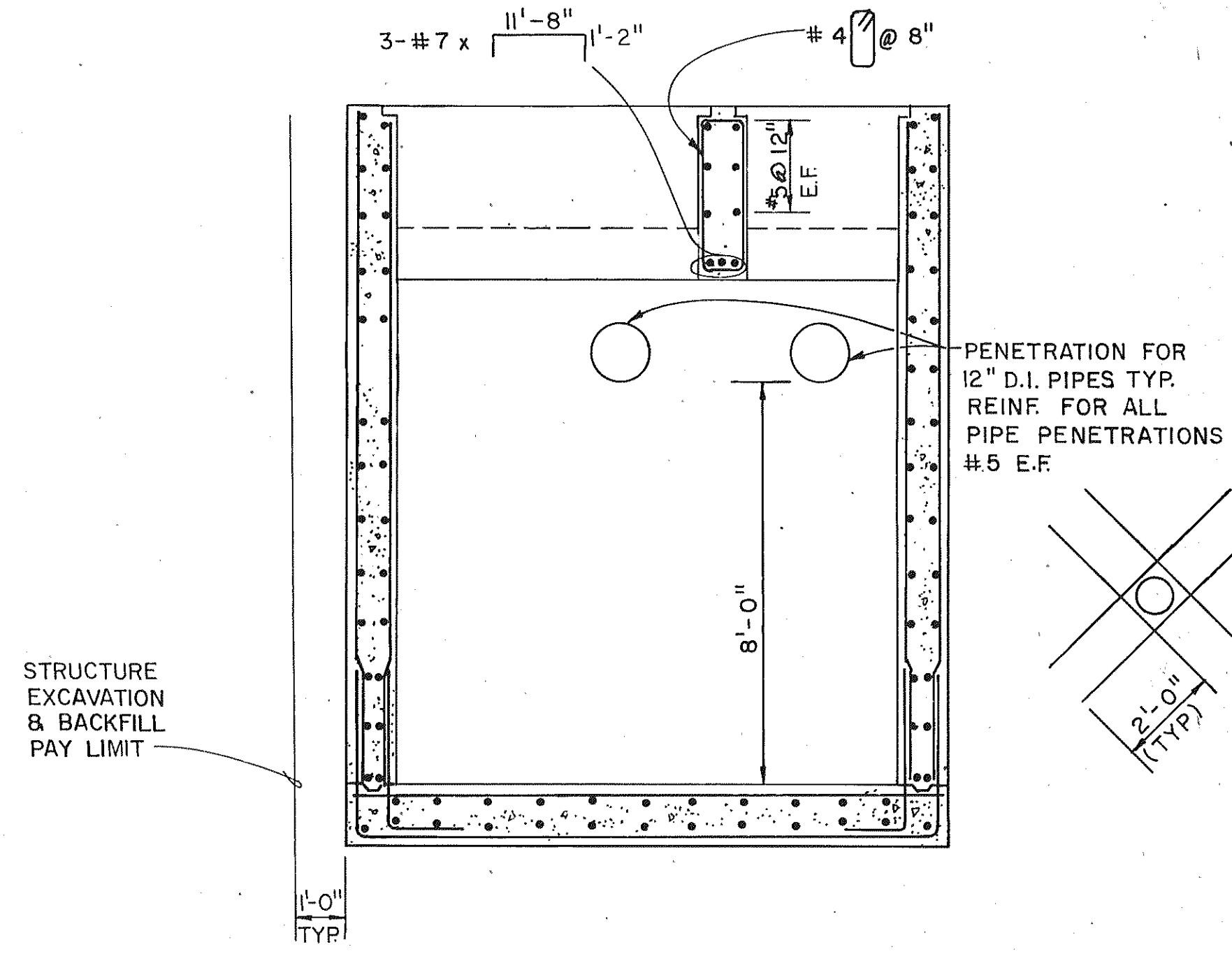
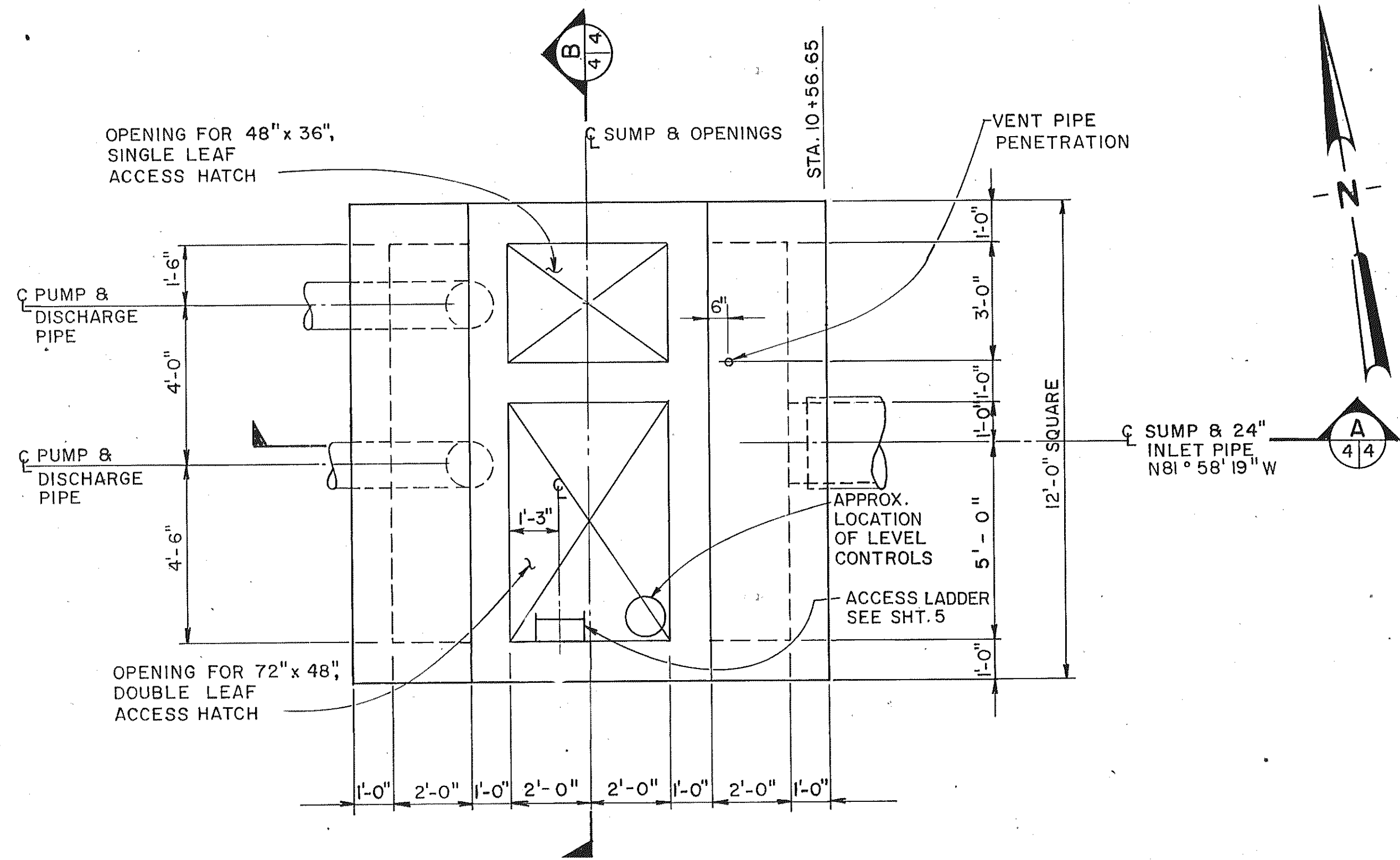


ELECTRICAL NOTE

1. Service voltage will be 120/208V, 4W-3 ϕ underground.
2. Available short circuit current is 11,550 amps symmetrical.
3. Contractor shall submit switchboard drawings, in triplicate for review prior to manufacture to the City of Santa Clara Electric Department, 1500 Marburton Avenue, Santa Clara, CA 95050.
4. Prior to any excavation, call U.S.A. Underground Service Alert (800) 642-2444.

*ELECTRIC DEPT. EST. 10,339

PROJECT NO. CE 83-84-17			CITY OF SANTA CLARA ENGINEERING DEPARTMENT LAKE SANTA CLARA PUMP STATION SITE PLAN		DESIGN DIVISION APPROVAL	
DATE	REVISION	BY			DATE	INITIALS
			DESIGNED BY	AJ 5/84	REFERENCES	
			DRAWN BY	DC 5/84	F.B. NO.	
			CHECKED BY	AJ 5/84	OTHER	
			AS BUILT BY		TRACING NO.	
			APPROVED	DATE	SCALE	
3-21-86	AS BUILT	TFJR			H: 1" = 20' V:	
			DIR. PUB. WKS./CITY ENGR.		SHT 3 OF 6	



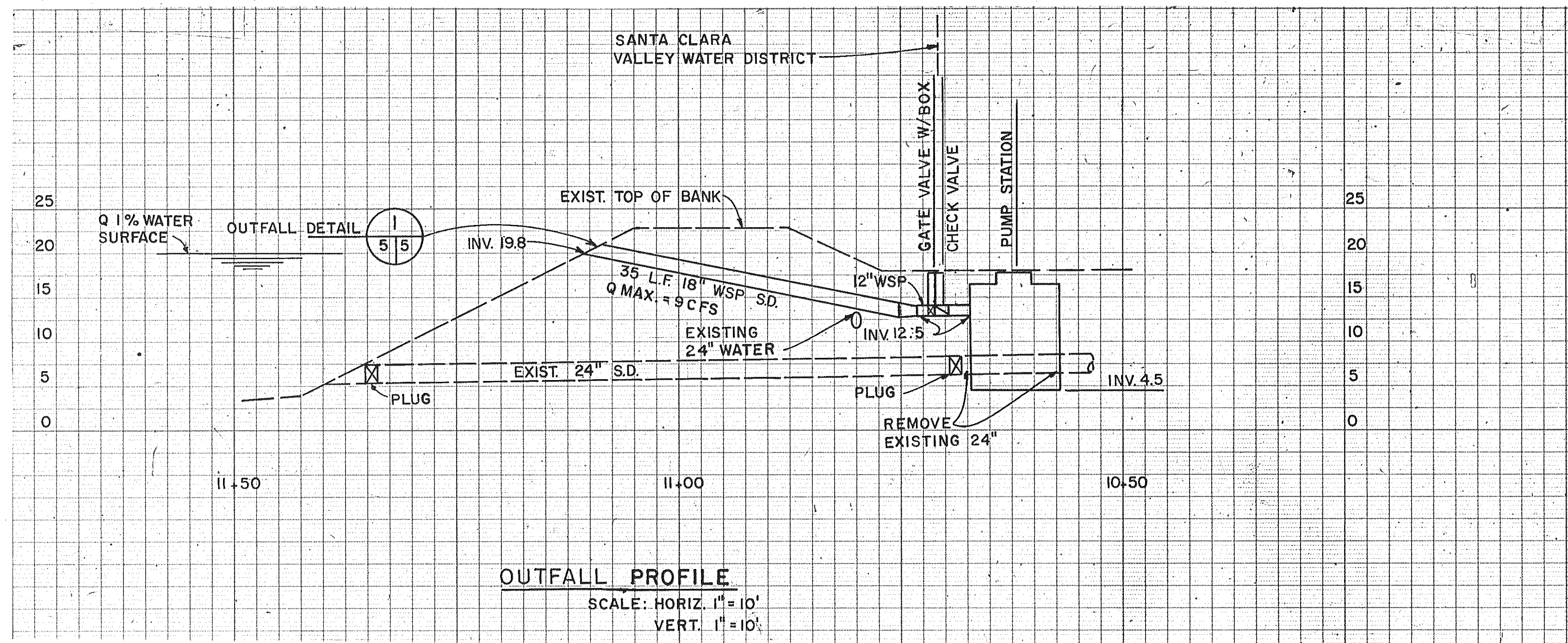
STRUCTURAL DESIGN NOTES

- STRUCTURAL DESIGN BASED ON 1982 UBC.
- SOIL LOADS BASED ON REPORT "FOUNDATION INVESTIGATION STORMWATER PUMPING STATIONS SANTA CLARA, CALIFORNIA", PETER KALDVEER AND ASSOCIATES, INC. JOB NO. K766-2,05008 DATED FEBRUARY 8, 1984.
- FLOOR LIVE LOAD 100 PSF.
- CONCRETE: $f'_c = 4,000$ PSI @ 28 DAYS.
REBAR: ASTM A615 GR. 60.
STEEL BARS, PLATES, AND SHAPES: ASTM A36 OR ASTM A575 OR A576 GRADES 1016-1030 EXCEPT 1017.
BOLTS AND NUTS: ASTM A307
CONCRETE MASONRY UNITS: GRADE N, $f'_m = 1,500$ PSI, SPECIAL INSPECTION NOT REQUIRED.
- WOOD: AS SHOWN ON DRAWINGS.
- REBAR SPLICES NOT DIMENSIONED SHALL BE CLASS B.
- NO STRUCTURE BACKFILL SHALL BE PLACED UNTIL THREE WEEKS AFTER PLACEMENT OF ALL TOP SLAB CONCRETE.

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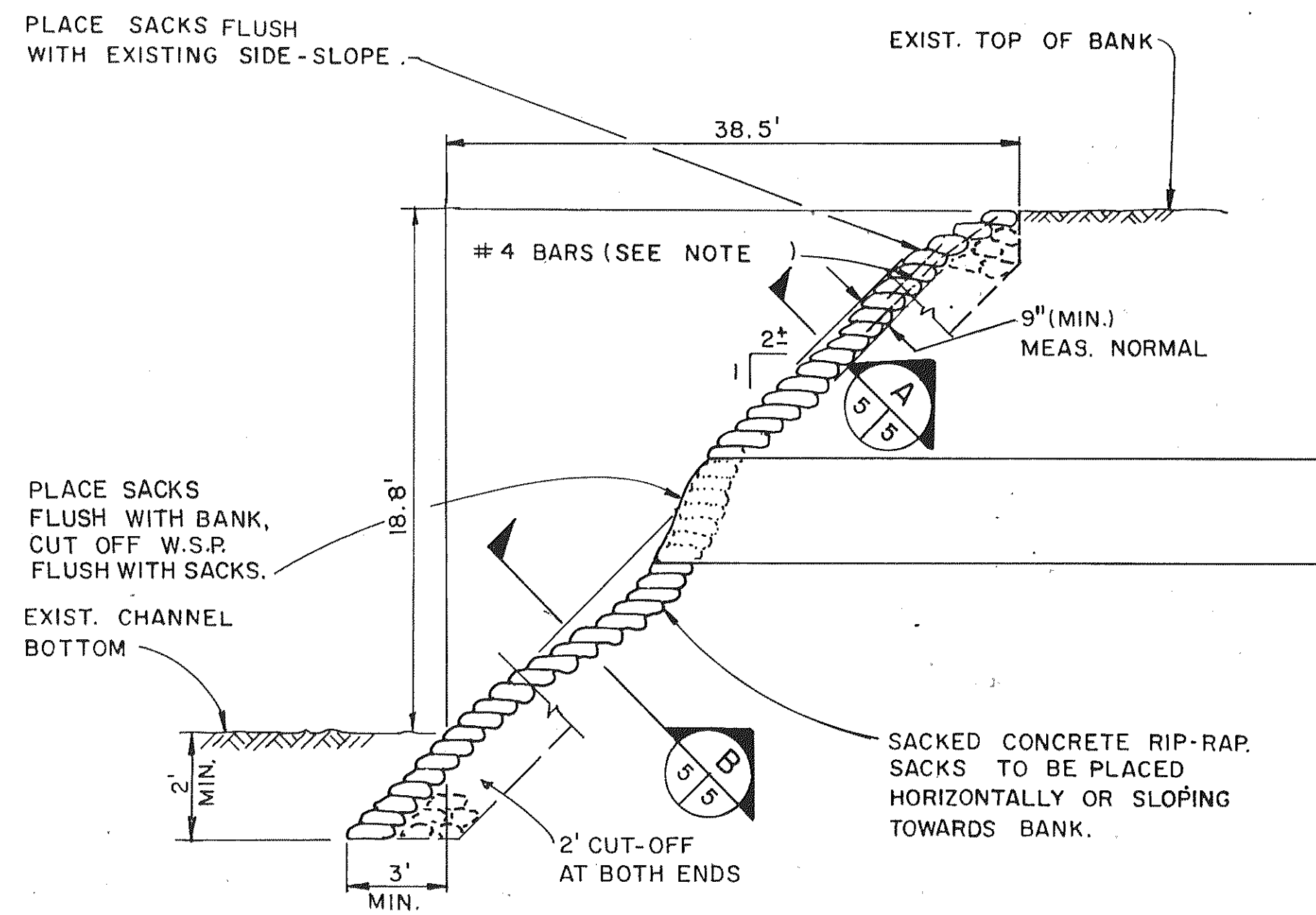
PROJECT NO. CE 83-84-17		
DATE	REVISION	BY

CITY OF SANTA CLARA		DESIGN DIVISION APPROVAL	
ENGINEERING DEPARTMENT		DATE	P.C.E.
LAKE SANTA CLARA PUMP STATION		DESIGNED BY	REFERENCES
STRUCTURAL PLAN & SECTIONS		DRAWN BY	F.B. NO.
		CHECKED BY	OTHER
		AS BUILT BY	TRACING NO.
APPROVED	DATE	SCALE	8730 - D
3-21-86 AS BUILT	T.F.J.R.	H:	V:AS NOTED SHT 4 OF 6

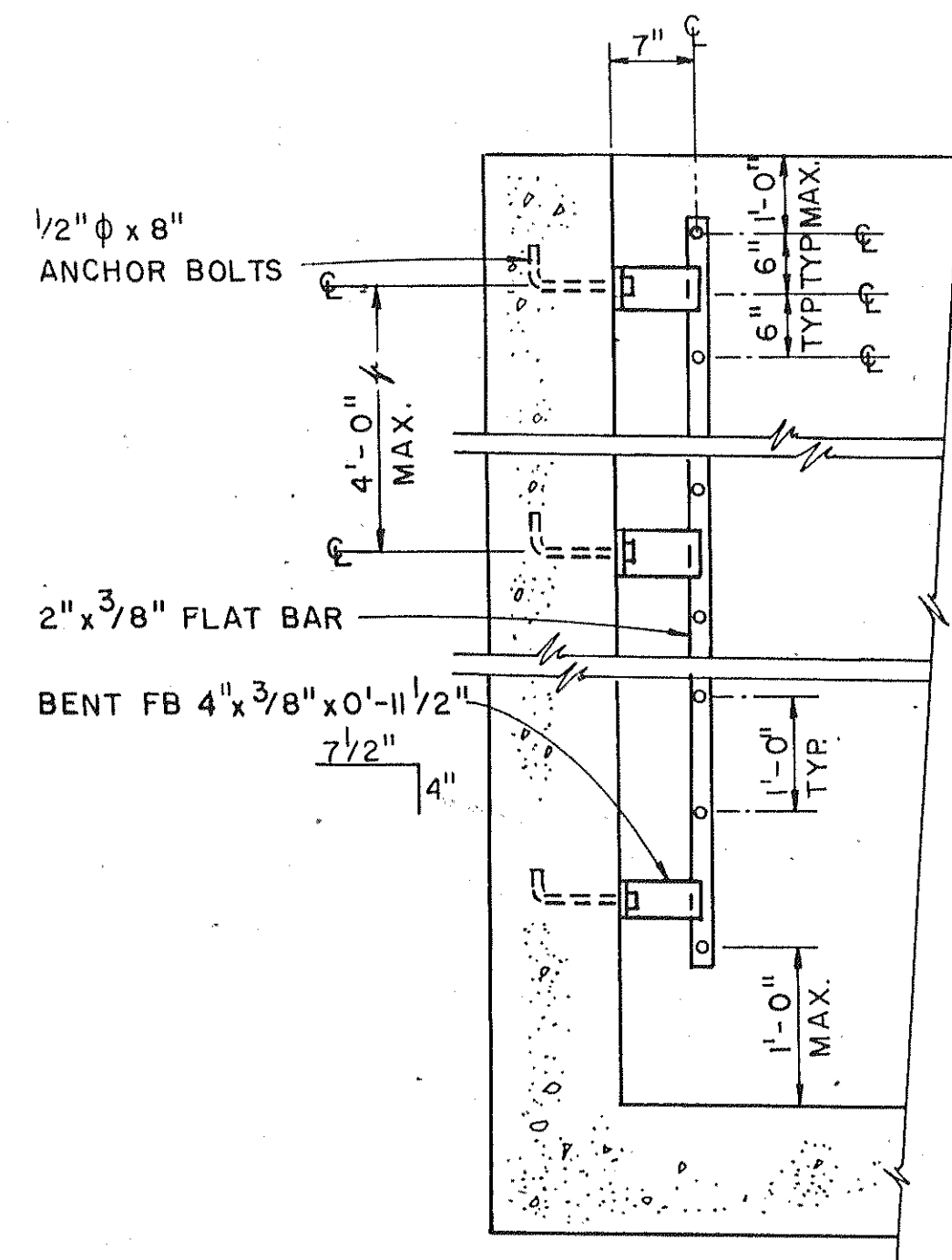


OUTFALL PROFILE

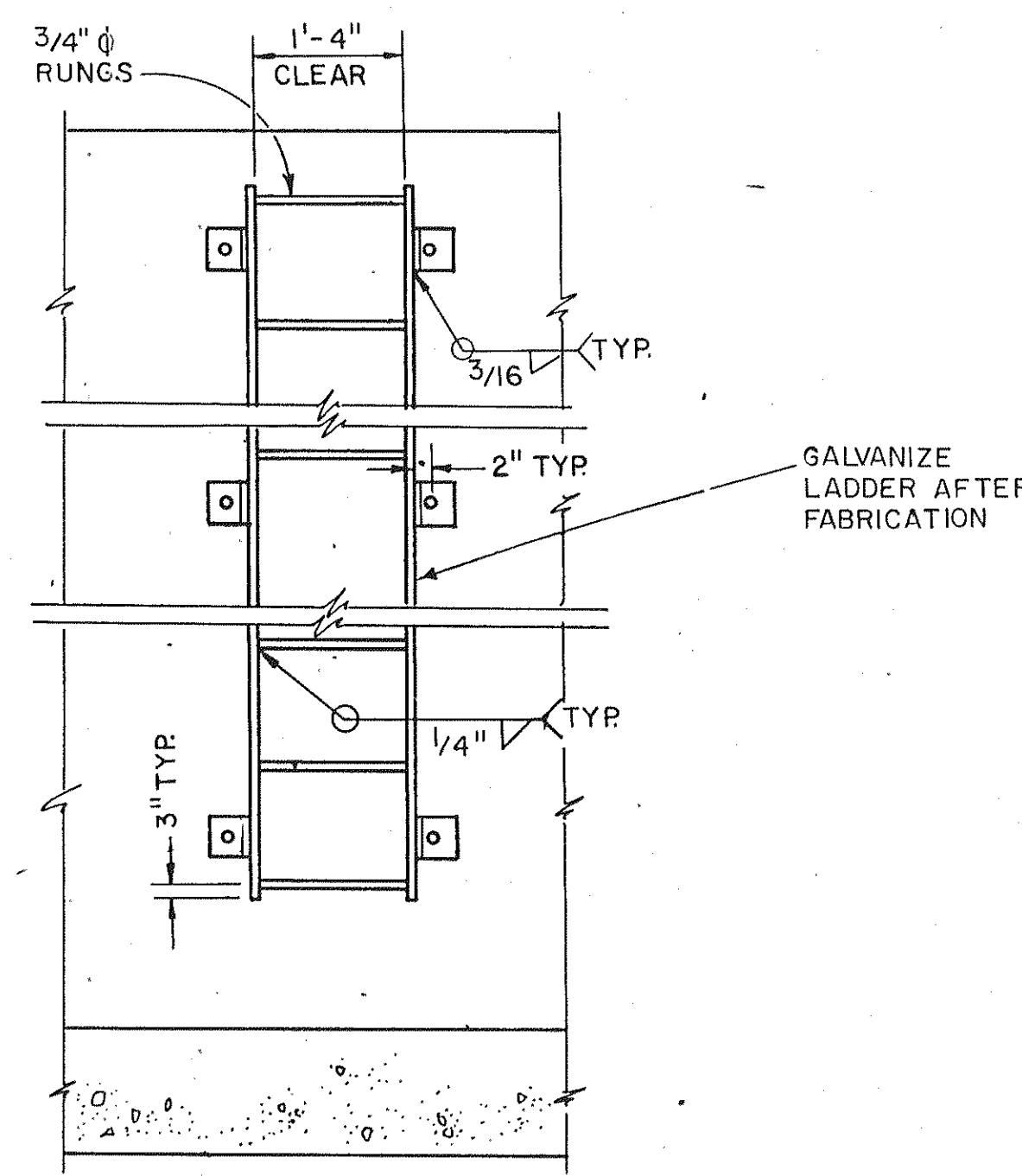
SCALE: HORIZ. 1" = 10'
VERT. 1" = 10'



OUTFALL DETAIL
N.T.S.

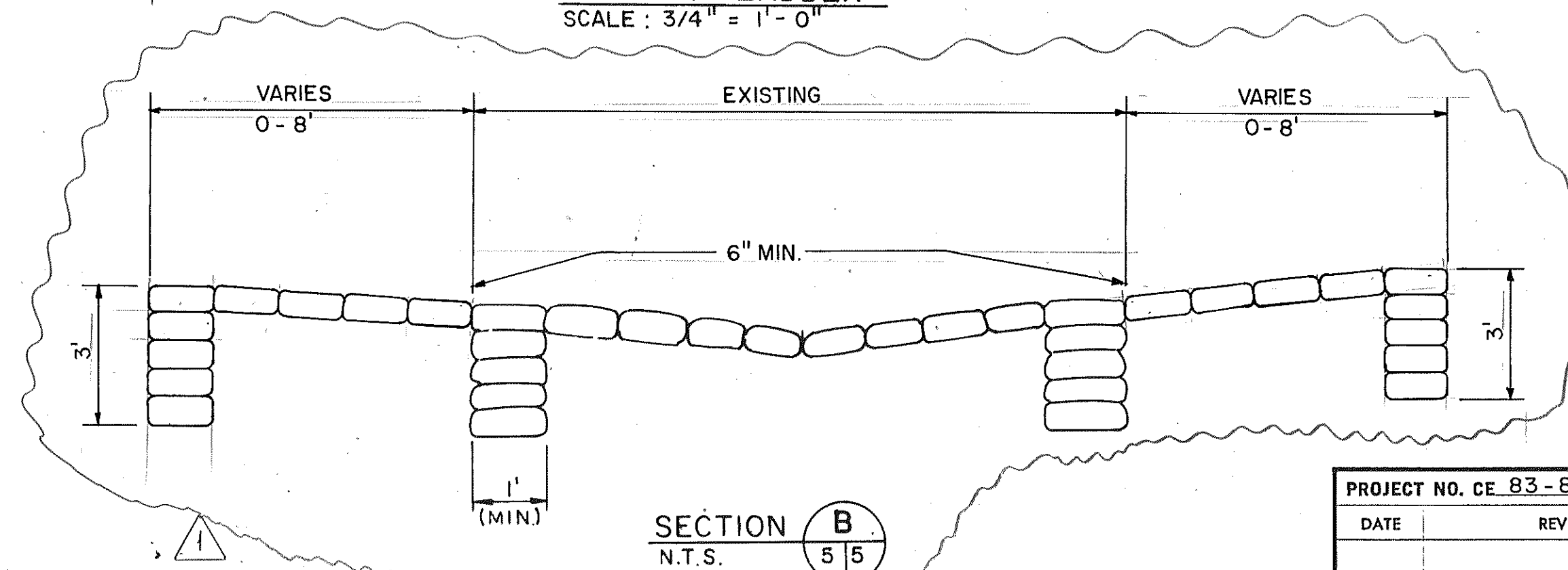


SIDE VIEW

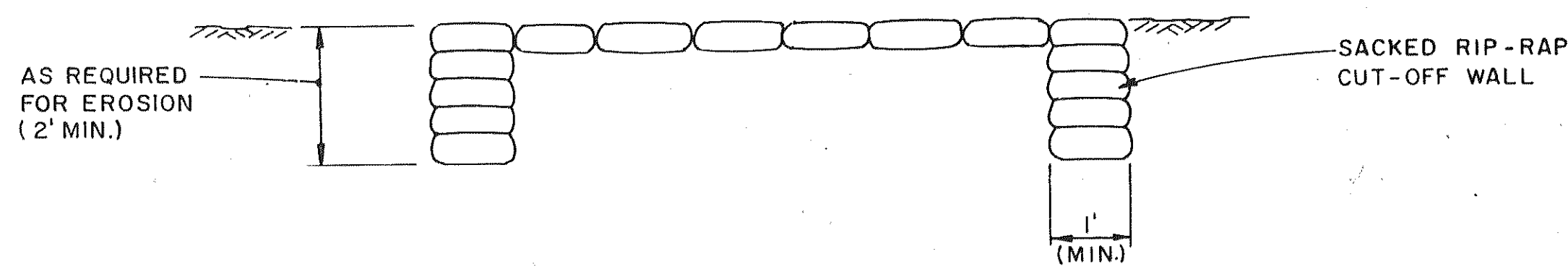


FRONT VIEW

ACCESS LADDER
SCALE: 3/4" = 1'-0"



SECTION B
N.T.S.



SECTION A
N.T.S.

NOTES

1. ALL WORK TO BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, EXCEPT FOR SACK SIZE AND CAPACITY, AND AS MODIFIED HEREON. THE VOLUME OF CONCRETE PLACED IN EACH SACK IS TO BE CONTROLLED BY A CHUTE MEASURING DEVICE.
2. FACE OF RIPRAP TO BE COINCIDENT WITH EXISTING SIDE SLOPE OF CHANNEL. DO NOT PACK UNTIL SMOOTH; LEAVE AS ROUGH AS POSSIBLE.
3. CARRY RIPRAP TO TOP OF BANK, UNLESS OTHERWISE SPECIFIED.
4. INSTALL CUTOFF WALL (2-FOOT MINIMUM DEPTH) AT UPSTREAM AND DOWNSTREAM ENDS.
5. DRIVE ONE #4 REINFORCING BAR THROUGH EACH SACK. MINIMUM LENGTH OF BARS TO BE 18 INCHES. DO NOT LEAVE ENDS OF BARS EXPOSED, NOR DRIVE INTO DIRT OR JOINT BETWEEN ENDS OF SACKS.
6. ALL BACKFILL WITHIN DISTRICT RIGHT OF WAY SHALL BE WITH SUITABLE MATERIAL FROM EXCAVATION AND SHALL BE COMPACTED TO 90 PERCENT RELATIVE COMPACTION IN ACCORDANCE WITH CALIFORNIA TEST METHOD #216.
7. SACKS SHALL BE PLACED SO THAT THEY ARE HORIZONTAL OR SLOPING TOWARDS BANK. SACKS SLOPING AWAY FROM BANK WILL NOT BE ACCEPTED.
8. IT IS MANDATORY THAT SCVWD INSPECTOR BE NOTIFIED AT LEAST 48 HOURS BEFORE CONSTRUCTION BEGINS. COMPLETE REMOVAL MAY RESULT IF THIS REQUIREMENT IS NOT MET.

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Engineers - Environmental Consultants - Planners

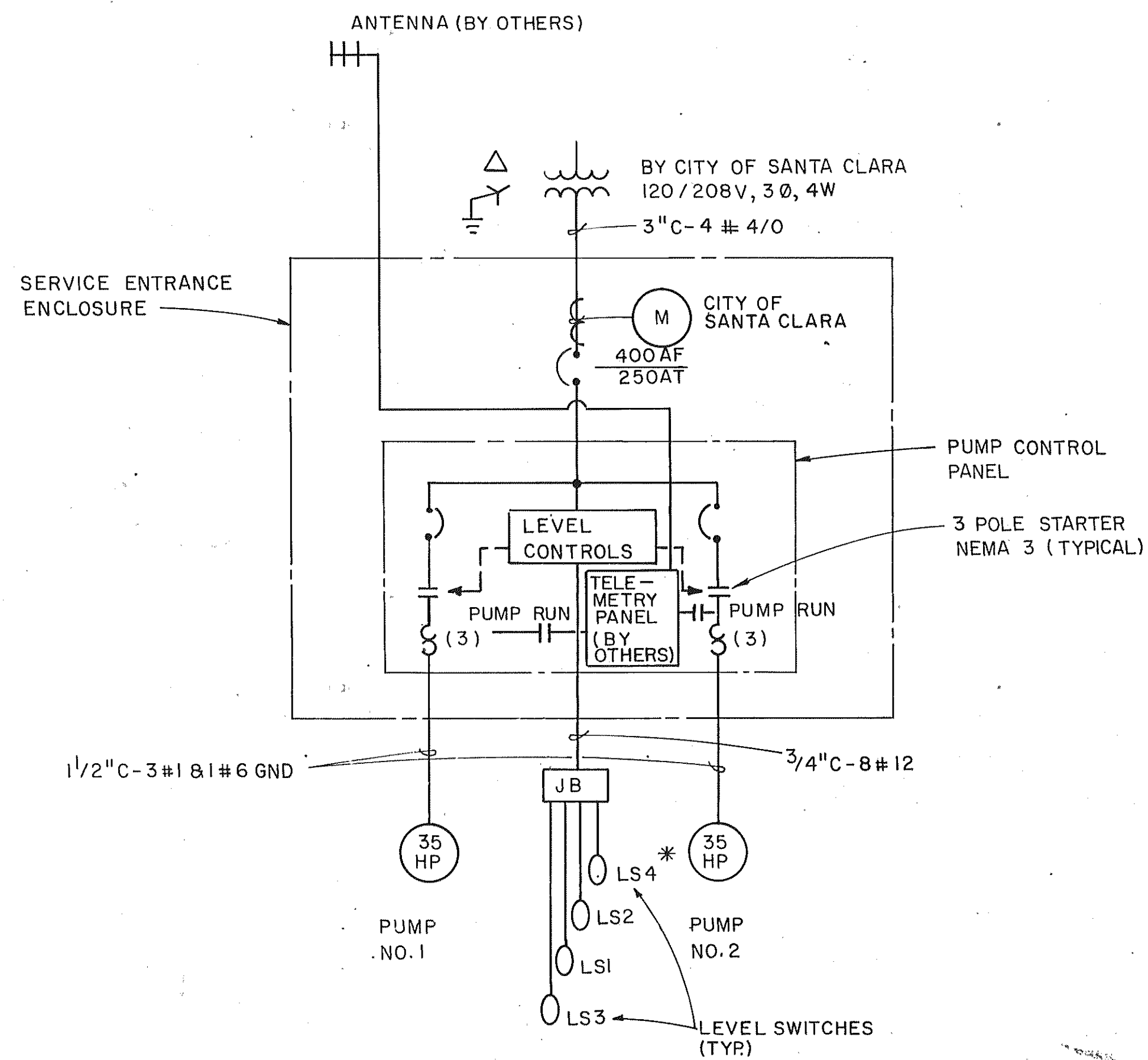
PROJECT NO. CE 83-84-17		
DATE	REVISION	BY

CITY OF SANTA CLARA
ENGINEERING DEPARTMENT
LAKE SANTA CLARA PUMP STATION
DISCHARGE PIPES, OUTFALL
& MISCELLANEOUS DETAILS

DESIGN DIVISION APPROVAL		R.C.E.	
DATE	INITIALS	DATE	INITIALS
DESIGNED BY	AJ 5/84	REFERENCES	
DRAWN BY	IH 5/84	F.B. NO.	
CHECKED BY	AJ 5/84	OTHER	
AS BUILT BY		TRACING NO.	
APPROVED		SCALE	87 30 - D
DATE		H:	V:AS NOTED SHT 5 OF 6

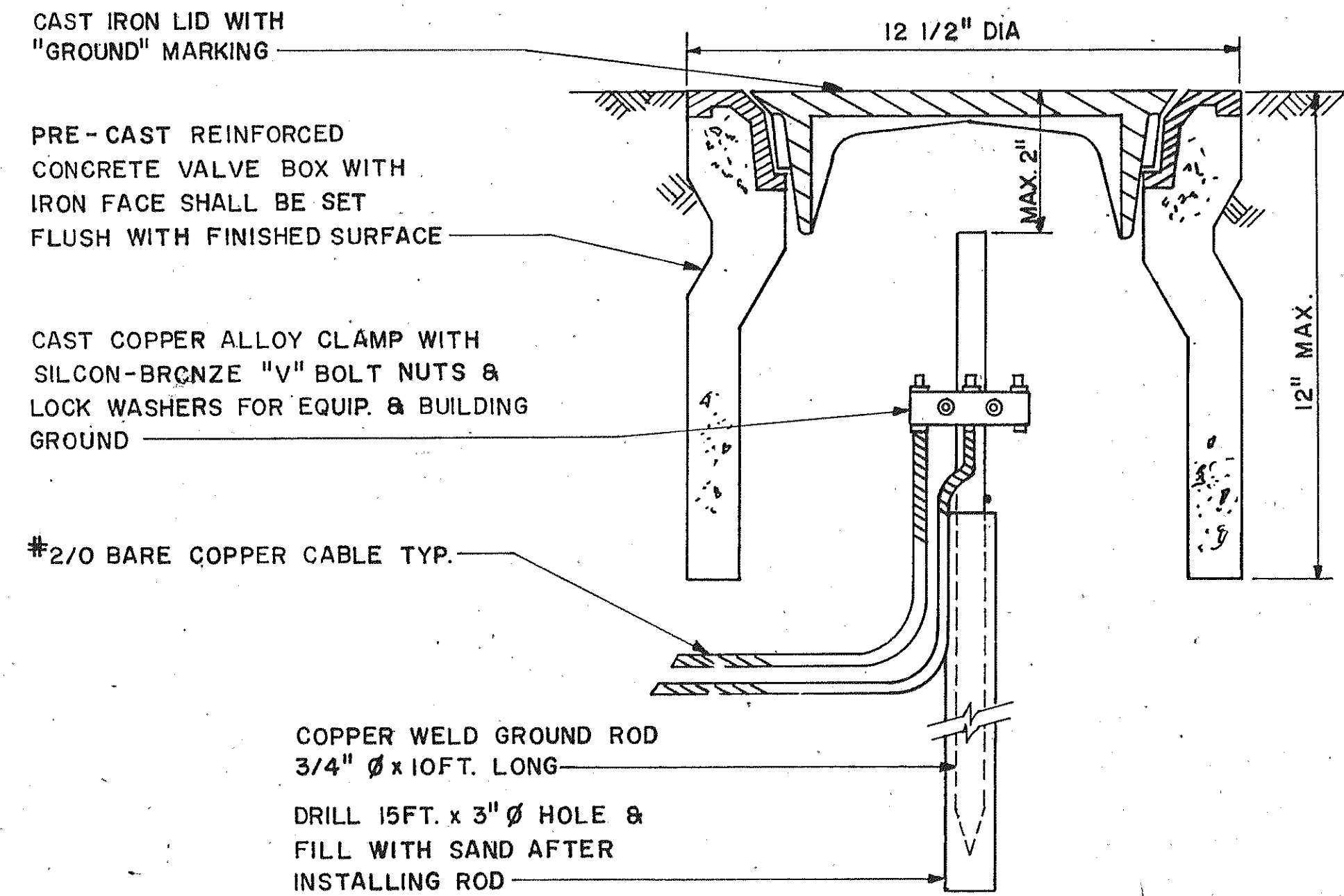
3-21-86 AS BUILT T.F.J.R.

DIR. PUB. WKS./CITY ENGR.



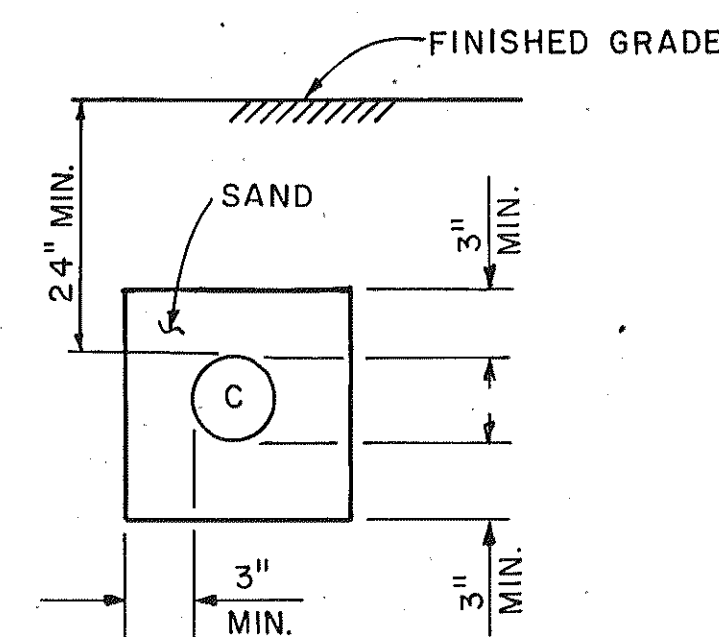
LS1 - START LEAD PUMP ELEV. = 9.0
 LS2 - START LAG PUMP ELEV. = 10.0
 LS3 - SHUTOFF PUMPS ELEV. = 6.2, ALTERNATE START ORDER
 LS4 - HIGH LEVEL ALARM ELEV. = 11.5
 * TO TELEMETRY

ELECTRICAL & CONTROL DIAGRAM



TYPICAL GROUND WELL TEST POINT ROD INSTALLATION

NO SCALE



SECTION A
NTS

SEE UG 1000 REV. 2, SHT. 25

MARTIN, HAYES & NETH, INC. Electrical Engineering Design Services 4757 ALLEGRO L.A. SAN JOSE, CA. 95111 (408) 629-0183	PROJECT NO. CE. 83-84-17		CITY OF SANTA CLARA ENGINEERING DEPARTMENT LAKE SANTA CLARA PUMP STATION STATION CONTROLS		DESIGN DIVISION APPROVAL DATE: _____ INITIAL: _____ DATE: _____ R.C.E.	
	DATE	REVISION	BY	DESIGNED BY	JM	5/84
			DRAWN BY	ED	5/84	F.B. NO.
			CHECKED BY	JM	5/84	OTHER
			AS BUILT BY			TRACING NO.
Anderson-Nichols 661 Harbour Way South - P.O. Box 2049 Richmond, California 94804 Engineers - Environmental Consultants - Planners	APPROVED	DATE	SCALE	8730 - D	SHT 6 OF 6	
3-21-86 AS BUILT	T.FJR		DIR. PUB. WKS./CITY ENGR.	H:AS NOTED V:		