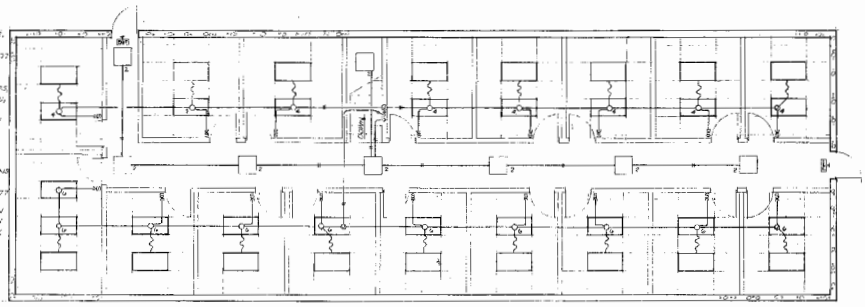
POOR LEGIBILITY

ONE OR MORE PAGES IN THIS DOCUMENT ARE DIFFICULT TO READ
DUE TO THE QUALITY OF THE ORIGINAL

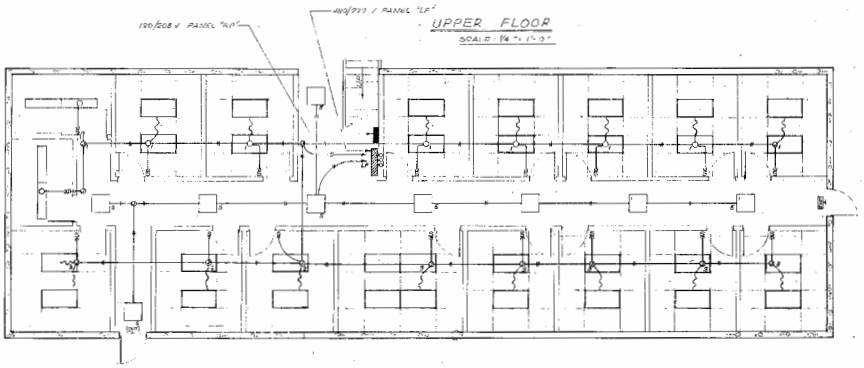
SEMS-RM DOCID # 1164835

NOTES:

1. 2x4 DROP-IN TROFFERS WITH 4-40T12 CW LAMPS, REGRESSED ACRYLIC LENS, 277 VOLT BALLAST, "DAY-BRITE" # 24GR4RA-277
2. 2X2 DROP-IN TROFFER WITH 2-U SHAPE RS LAMPS, REGRESSED ACRYLIC LENS, 277 VOLT BALLAST "DAY-BRITE" # 22GR2UA-277
3. 1X4 SURFACE MOUNT FIXTURE WITH 2-40T12 CW LAMPS, WRAP-AROUND ACRYLIC LENS 277 VOLT BALLAST "DAY-BRITE" # 14WA2RA-277
4. WALL MOUNT "EXIT" SIGN EMERGENCY FIXTURE WITH 2 15 1/2 LAMPS, BATTERY, CHARGER, 120 VAC INPUT "DUAL-LITE" #



UPPER FLOOR
SCALE: 1/4" = 1'-0"

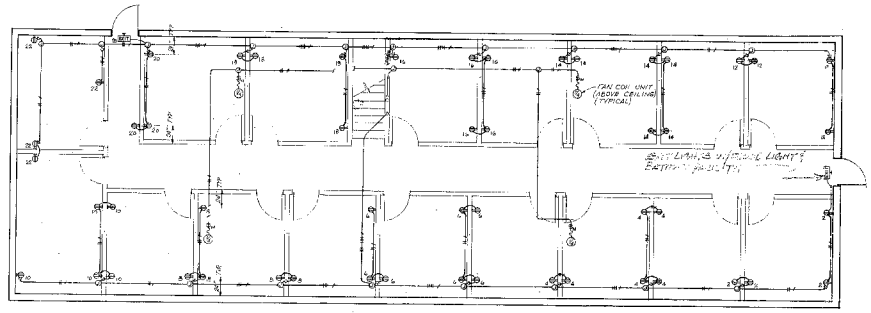


LOWER FLOOR
SCALE: 1/4" = 1'-0"

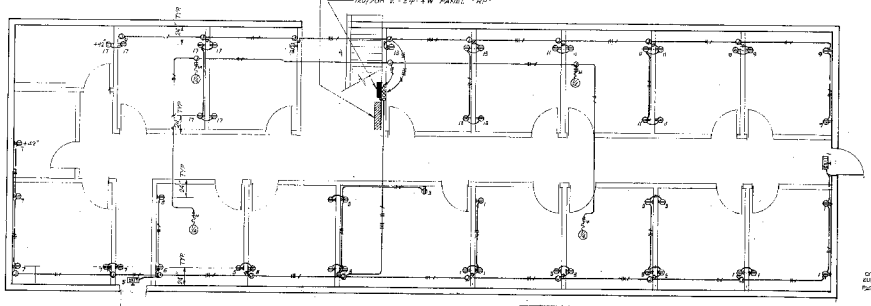
APPROVED FOR CONSTRUCTION
FEB 2 1980
CITY OF MOUNTAIN VIEW
BUILDING FOUNDATION DIV.
MGR.

REVISED 12 JAN 79

PENN ELECTRICAL CORPORATION		
F.R. BOYD E 8548 17 SEPT. 78	LIGHTING PLAN G.T.E. SYLVANIA THIRTY-TWO OFFICE ADDITION	E-2



UPPER FLOOR
SCALE: 1/4" = 1'-0"

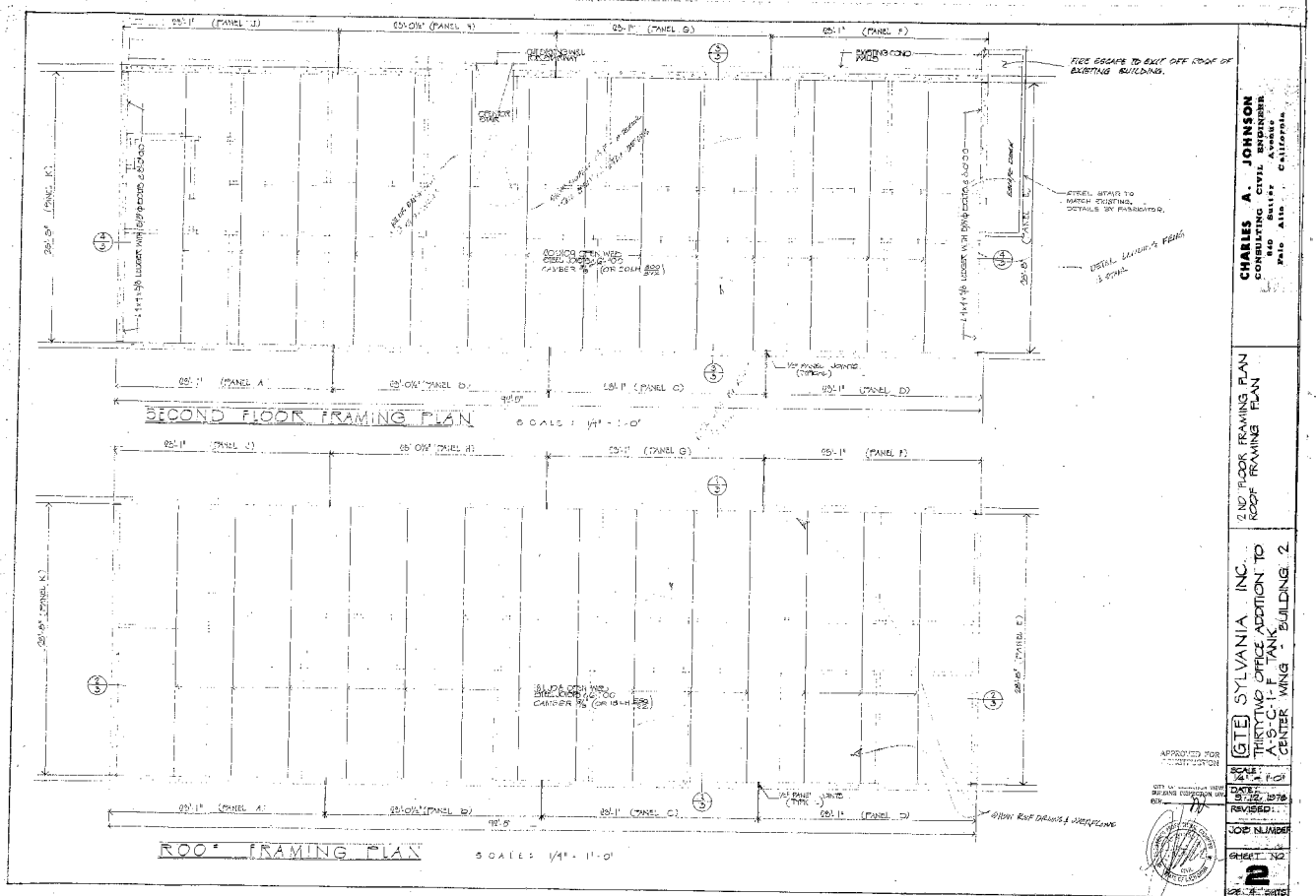


LOWER FLOOR
SCALE: 1/4" = 1'-0"

REVISED 12 JAN 79

APPROVED FOR CONSTRUCTION
FEB 22 1979
CITY OF MINNEAPOLIS
BUILDING INSPECTION DEPT.

PENN ELECTRICAL CORPORATION		
F. R. BOYD E 0548 19 SEPT 78	POWER PLAN G.T.E. SYLVANIA THIRTY-TWO OFFICE ADDITION	E-1



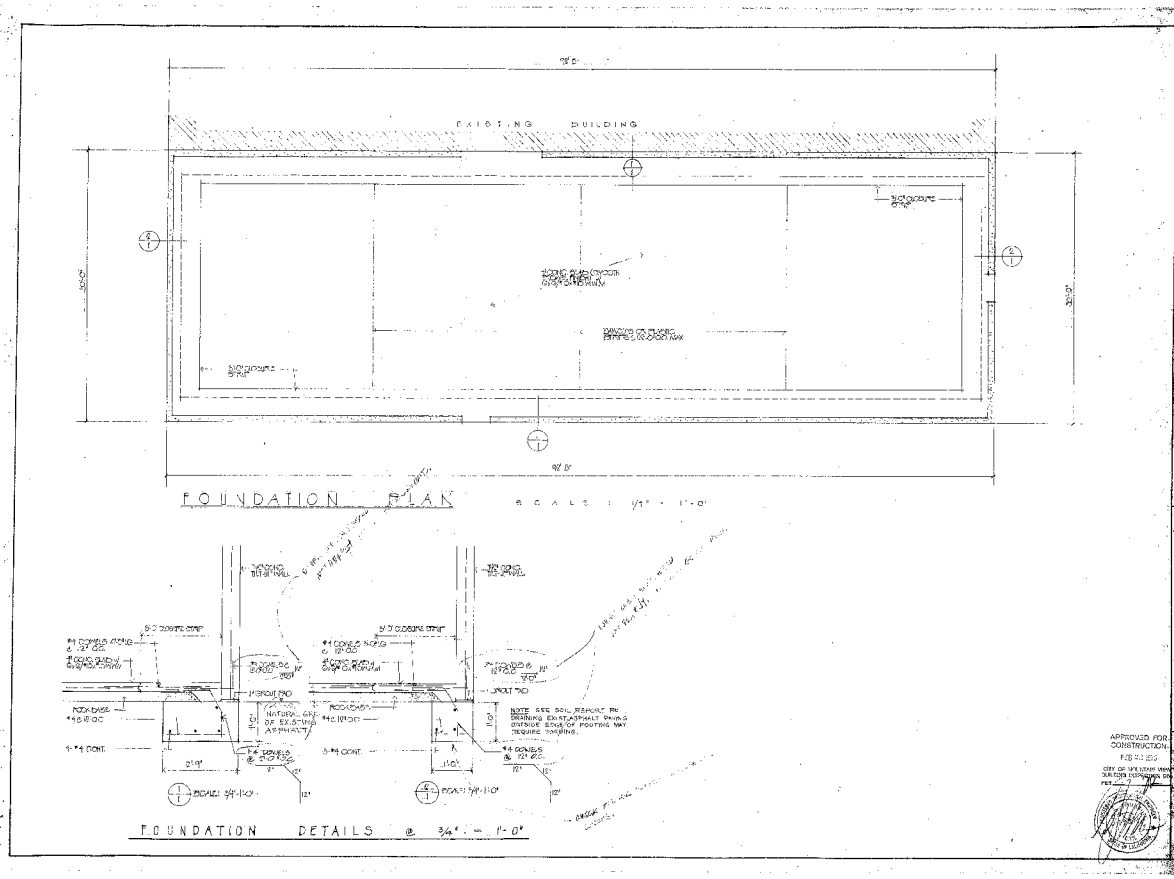
CHARLES A. JOHNSON
CONSULTING CIVIL ENGINEER
840 Alma Street
Palo Alto, California

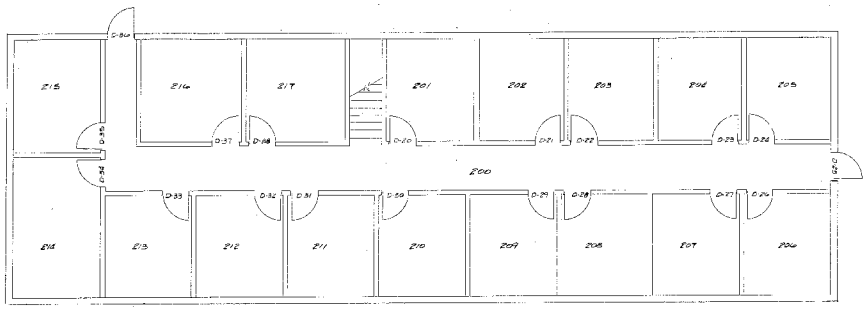
2ND FLOOR FRAMING PLAN
ROOF FRAMING PLAN

(GTE) SYLVANIA INC.
THIRTY TWO OFFICE ADDITION TO
A-3-C-1-F TANK BUILDING 2
CENTER WING BUILDING 2

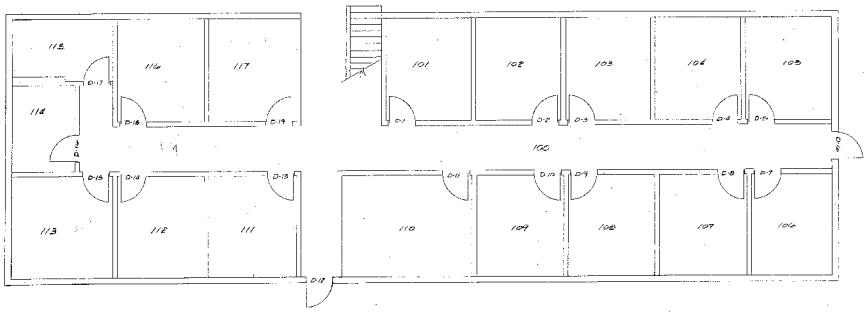
APPROVED FOR CONSTRUCTION

SCALE: 1/4" = 1'-0"
DATE: 3-12-1976
REVISED:
JOB NUMBER
SHEET NO. 2


EXISTING BUILDING
FOUNDATION PLAN
SCALE: 1/4" = 1'-0"
FOUNDATION DETAILS @ 3/4" = 1'-0"
NATURAL GRADE OF EXISTING ASPHALT
NOTE: SEE SOIL REPORT RE DRAINING EXIST. ASPHALT PAVING OUTSIDE EDGE OF FOOTING MAY REQUIRE FORMING.
APPROVED FOR CONSTRUCTION
CHARLES A. JOHNSON
CONSULTING CIVIL ENGINEER
FOUNDATION PLAN
FOUNDATION DETAILS
GTE SYLVANIA INC.
THIRTY-TWO OFFICE ADDITION TO
A.S.C. I-F TANK
CENTER WING - BUILDING 2
SCALE: NOTED
DATE: 9-12-1978
REVISED
JOB NUMBER
SHEET NO.
1



2ND FLOOR PLAN



1ST FLOOR PLAN

ROOM FINISH SCHEDULE

RM. NO.	ROOM NAME	FLOOR	BASE	WALL	CEILING	REL. HT.	REMARKS
100	CORRIDOR	CARPET	TILE	PAINT	GYP.	8'-0"	
101	OFFICE						
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113	OFFICE		SHINT		PAINT		
114	TOILET RM.		SHINT	TILE	PAINT		
115	TOILET RM.		"		"		
116	OFFICE		SHINT		PAINT		
117	"						
200	CORRIDOR						
201	OFFICE						
202							
203							
204							
205							
206							
207							
208							
209							
210							
211							
212							
213							
214							
215							
216							
217	OFFICE		CARPET	8" TILE	PAINT	DROP	8'-0"

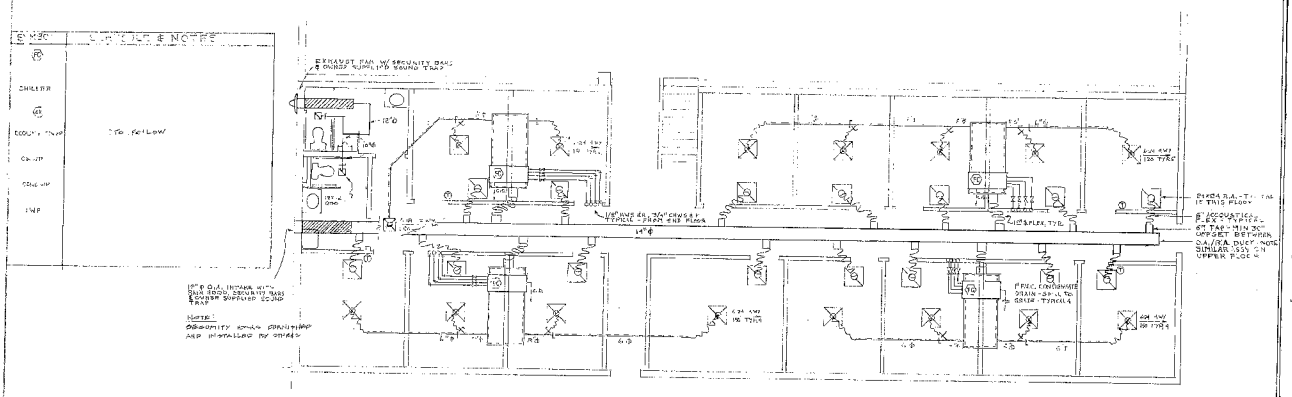
DOOR SCHEDULE

NO.	SIZE	TYPE	HARDWARE	REMARKS
D-1	3'-7"	20 MIN	OFFICE F-105 W/CLOSER	
D-2				
D-3				
D-4				
D-5				
D-6	3'-7"	H.M.	VAN DORN SELF DR. 188	STD 45
D-7	3'-7"	20 MIN	OFFICE F-105 W/CLOSER	
D-8				
D-9				
D-10				
D-11				
D-12	3'-7"	H.M.	VAN DORN SELF DRIVER	STD 45
D-13	3'-7"	20 MIN	OFFICE F-105 W/CLOSER	
D-14				
D-15				
D-16	3'-7"	20 MIN	PUSH/PULL PAD WINDOW W/CLOSER	
D-17	"	"	"	
D-18	3'-7"	20 MIN	OFFICE F-105 W/CLOSER	
D-19				
D-20				
D-21				
D-22				
D-23				
D-24				
D-25	3'-7"	H.M.	VAN DORN SELF DRIVER	STD 45
D-26	3'-7"	20 MIN	OFFICE F-105 W/CLOSER	
D-27				
D-28				
D-29				
D-30				
D-31				
D-32				
D-33				
D-34				
D-35				
D-36	3'-7"	H.M.	VAN DORN SELF DRIVER	STD 45
D-37	3'-7"	20 MIN	OFFICE F-105 W/CLOSER	
D-38	"	"	"	

APPROVED FOR CONSTRUCTION
FEB 23 1981
CITY DEVELOPMENT DEPARTMENT

G.T.E. SYLVANIA
THIRTY-TWO OFFICE ADDITION

SCALE: N.T.S. | DRAWN BY: | CHECKED BY:
DATE: 12-5-78 | REVISED:
FLOOR PLAN & SCHEDULES
Rogers Construction Co. Inc.



NOTE: EXACT LOCATION OF [illegible] GRILLS SHALL BE [illegible] LIGHTS & CEILING GRID - BOTH [illegible] PIPE PLUMBING, IF REQUIRED, ARE NOT A PART OF THIS WORK

LOWER FLOOR

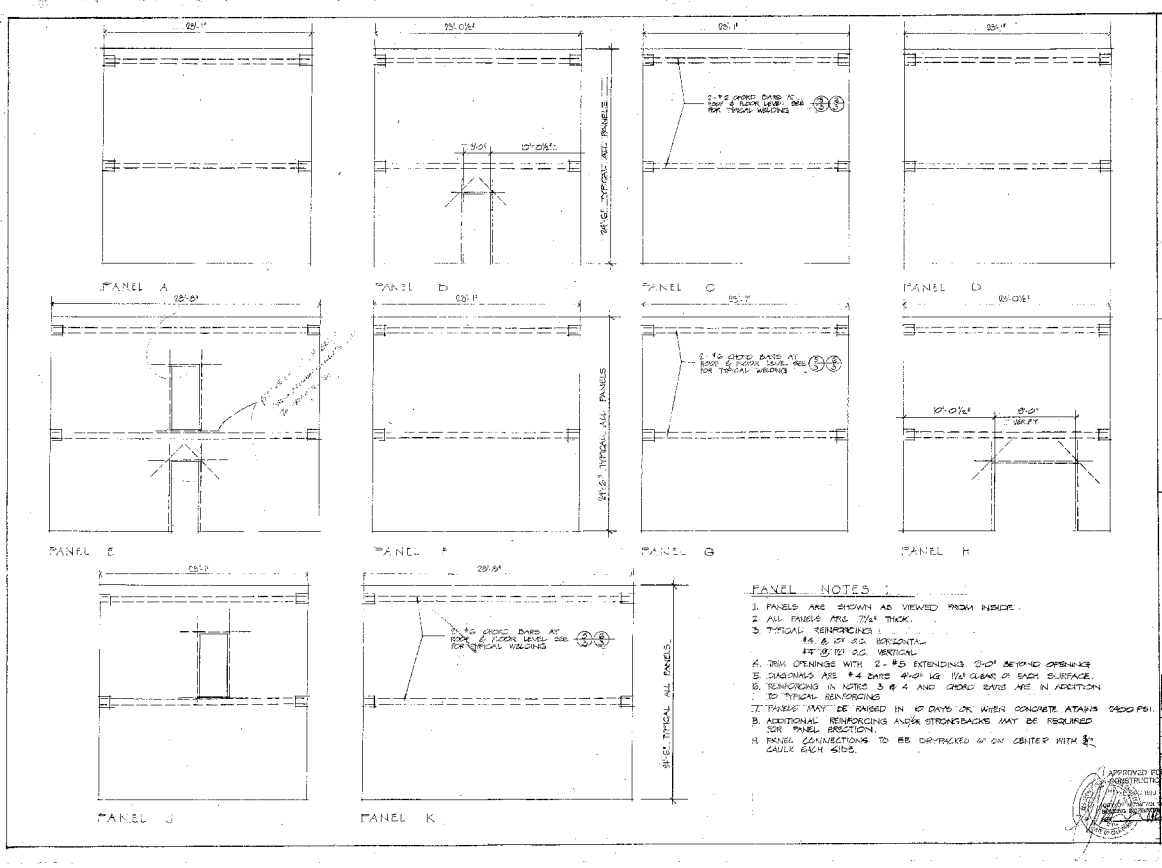
SCALE 1/4" = 1'-0"

APPROVED FOR CONSTRUCTION

FEB 20 1979

CITY OF MOUNTAIN VIEW BUILDING INSPECTION DIV.

16 OCT 78 - REVISE R.A. & EXHAUST & O.A.	AIRE SHEET METAL 1973 E. BAYSHORE BL. REDWOOD CITY, CAL	G.T.E. SYLVANIA
11 OCT 78 - REVISE PIPING	WALLIS ENGINEERING 1964 E. OLD MIDDLEFIELD WAY MOUNTAIN VIEW, CALIFORNIA 94043 (415) 969-7838	SCALE: 1/4" = 1'-0" · APPROVED BY: · DRAWN BY: · DATE: 19 SEPT 78 · REVISED 11 OCT 78 ADDITION TO A.S.C.I.F. TANK LOWER FLOOR H.V. A/C. · DRAWING NUMBER: M-1



PANEL NOTES :

1. PANELS ARE SHOWN AS VIEWED FROM INSIDE.
2. ALL PANELS ARE 7½" THICK.
3. TYPICAL REINFORCING :
   #4 @ 10" O.C. HORIZONTAL
   #4 @ 12" O.C. VERTICAL
4. TRIM OPENINGS WITH 2 - #5 EXTENDING 2'-0" BEYOND OPENINGS
5. DIAGONALS ARE #4 BARS 4'-0" LG 1½" CLEAR OF EACH SURFACE.
6. REINFORCING IN NOTES 3 & 4 AND CHORD BARS ARE IN ADDITION TO TYPICAL REINFORCING
7. PANELS MAY BE RAISED IN 10 DAYS OR WHEN CONCRETE ATAINS 2400 PSI.
8. ADDITIONAL REINFORCING AND/OR STRONGBACKS MAY BE REQUIRED FOR PANEL ERECTION.
9. PANEL CONNECTIONS TO BE DRYPACKED 6" ON CENTER WITH ¾" CAULK EACH SIDE.

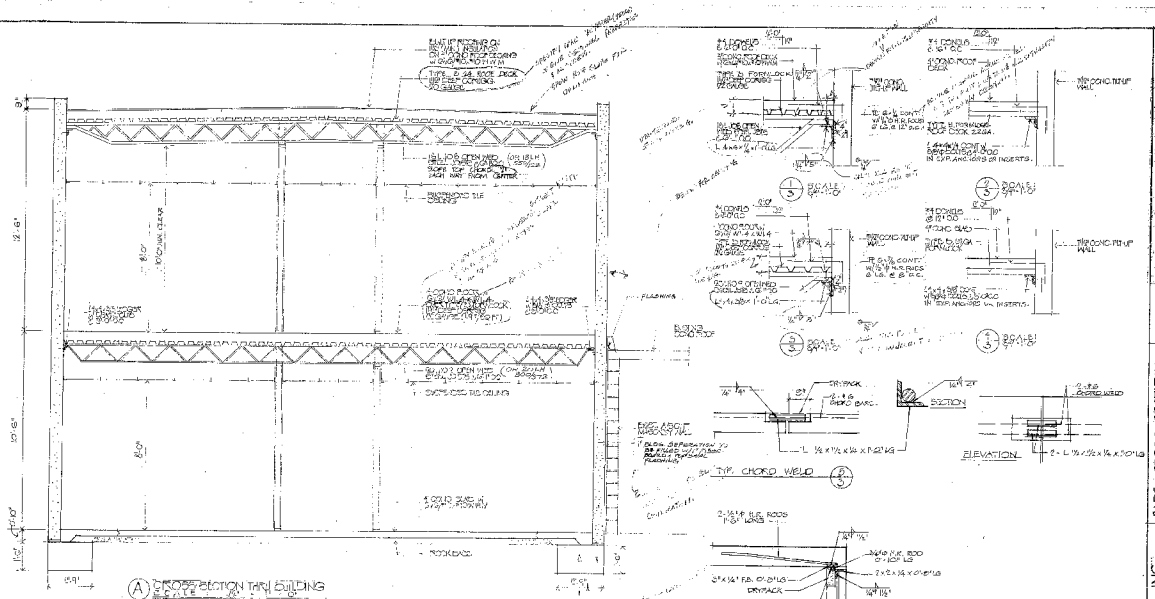
APPROVED FOR CONSTRUCTION

CHARLES A. JOHNSON
CONSULTING CIVIL ENGINEER
810 Sutter Avenue
Palo Alto, California

CONCRETE PANELS

GTE SYLVANIA INC.
THIRTY-TWO OFFICE ADDITION TO
A-S-C-I-F TANK
CENTER WING - BUILDING 2

SCALE: 1/4" = 1'-0"
DATE: 9-12-1978
REVISED:
JOB NUMBER
SHEET NO. 4
OF 4 SHEETS



FOUNDATION NOTES :

1. SEE SOIL REPORT BY J.D. CARPENTER ASSOCIATES DATED SEPT. 12, 1976.
2. FOOTINGS TO REST ON FIRM UNDISTURBED, NATURAL GROUND CAPABLE OF SUPPORTING 2500 PSF.

CONCRETE NOTES :

1. CONCRETE IN WALLS TO ATAIN 3000 PSI IN 28 DAYS
2. CONCRETE IN FOOTINGS TO ATAIN 2500 PSI. IN 28 DAYS
3. SENAITS IN FLOOR & ROOF SLABS TO ATAIN 2000 PSI IN 28 DAYS

REINFORCING NOTES :

1. REINFORCING IS INTERMEDIATE GRADE DEFORMED, ACCORDING TO ASTM A-615 SPECS.
2. COVERAGE : 2" FROM NEAT EXCAVATION ; 2" FROM FORMED SURFACE BEGINNING BACKFILL
3. AT ⊄ OF WALLS & SLAB

STRUCTURAL STEEL :

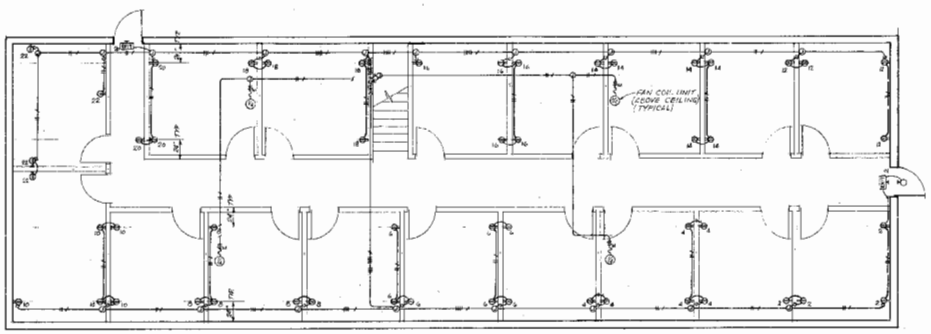
1. STEEL JOISTS ACCORDING TO A.I.S.C. SPECS. SPACING AT MIDSPAN.
2. METAL DECKING TO LAP 2" MINIMUM, CENTERED OVER SUPPORTS
   SIDE WAP FASTENINGS @ 31'-0" O.C. 1/4 MIDWAY BETWEEN SUPPORTS
   3/4" ϕ WELDS THRU 14 GA. WELDING WASHERS TO ALL SUPPORTS.
   - 3 ON O.C. AT ROOF
   - 8 ON O.C. AT FLOOR
3. USE MANUFACTURER'S RECOMMENDATIONS FOR ERECTION OF STEEL JOISTS & METAL DECKING
4. SPLICE LEDGER L'S MIDWAY BETWEEN JOISTS.

CHARLES A. JOHNSON
CONSULTING CIVIL ENGINEER
840 Avenue
Tel. Calif. California

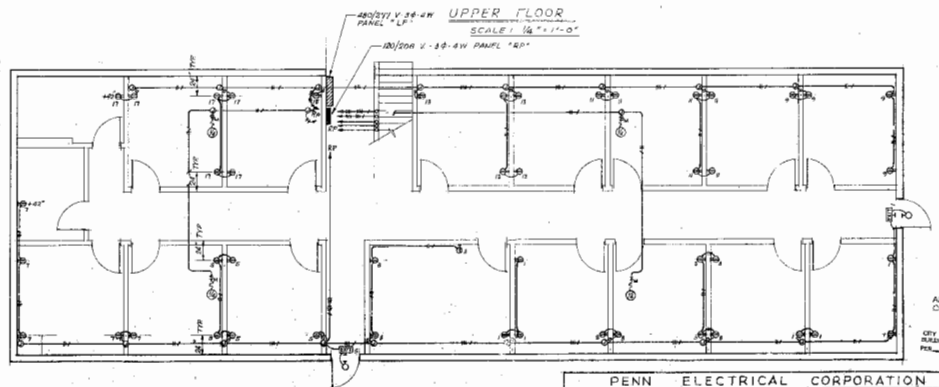
BLDG. CROSS SECTION
STRUCTURAL DETAILS

GTE SYLVANIA INC.
THIRTY TWO OFFICE ADDITION TO
A-5-C-1 TANK
CENTER WINGS BUILDING 2

APPROVED FOR CONSTRUCTION
SCALE: NOTED
DATE: 12-21-1976
REVISED:
JOB NUMBER
SHEET NO. 3
OF 4 SHEETS



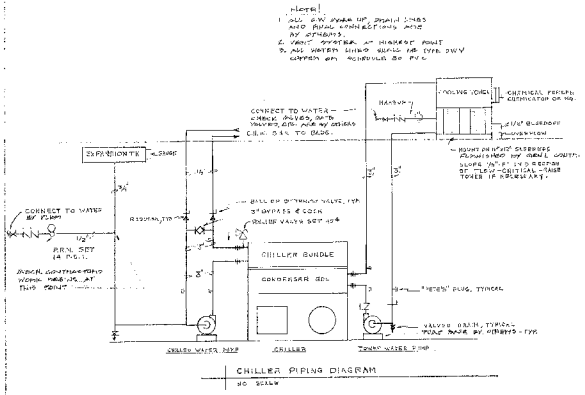
UPPER FLOOR
SCALE: 1/4" = 1'-0"

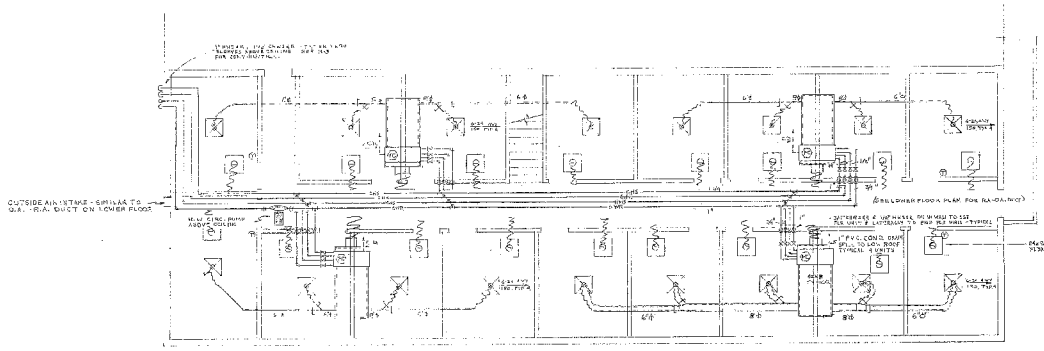


LOWER FLOOR
SCALE: 1/4" = 1'-0"

APPROVED FOR CONSTRUCTION
FEB 22 1979
CITY OF MOUNTAIN VIEW BUILDING INSPECTION DIV.
PER 22

PENN ELECTRICAL CORPORATION		
F. R. BOYD E 5548 18 SEPT 78	POWER PLAN G.T.E. SYLVANIA THIRTY-TWO OFFICE ADDITION	E-1


NOTES:
1. ALL C.W. PIPING UP, DRAIN LINES AND RISER CONNECTIONS MADE AT OPTIONS.
2. VENT SYSTEM AT HIGHEST POINT
3. ALL WATER LINES BUILT FOR TYPE DWV COPPER OR SCHEDULE 80 PVC.
COOLING TOWER
CHEMICAL FEEDER, CONTRACTOR OR MG
HANDLE
CONNECT TO WATER - CHECK VALVES, BOTH VALVES, BOTH ARE BY OTHERS
C.H.W. SUP. TO BLDG.
21/2" BLOWDOWN
TO DRAIN
EXPANSION TK
SNUBR
1/2"
3"
RESERVOIR TK
BALL OR BUTTERFLY VALVE, TYP.
3" BYPASS & COCK
ROLLER VALVE SET AT 45°
CONNECT TO WATER BY OTHERS
1/2"
REDUCER SET 18 P.S.I.
MAIN, CONTRACTOR WORK MAKE-UP AT THIS POINT
CHILLER BUNDLE
CONDENSER SOL
"TEES" PLUG, TYPICAL
VALVES OMITTED, TYPICAL - VALVE MADE BY OTHERS - TYP.
CHILLED WATER PUMP
CHILLER
TOWER WATER PUMP
CHILLER PIPING DIAGRAM
NO SCALE
EXISTING BLDG & CTR LOBBY
NEW BUILDING 2 STORIES
PLANT ENGINEERING AND MAINTENANCE BLDG.
EXISTING COOLING TOWERS
NEW COOLING TOWER & PIPING
11" CHILLED WATER SUP. 11" HOT WATER RET. ENTER ABOVE 2ND FLR CEILING - LOCATE TO CLEAR FAN.
CHW. SUP. CONTRACTOR WORK
MAKE UP WATER
1" DWV SUP. TO NEW SINK
EXIST. PUMPS
EXIST. CHILLER
EXIST. STRAINER
TOWER WATER PUMP
EXIST. COND. SEN. TO BE RELOCATED BY OWNER
CHILLED WATER PUMP
EXPANSION TANK
GRIMER - WATER CLEARANCES.
EXIST. MAKE UP TANK
APPROX. HWR CONNECTION
APPROX. HWS CONNECTION (ABOVE CEILING)
SITE PLAN & EQUIPMENT LOCATION
SCALE: 1/8" = 1'-0"
BUILDING 2 SOUTH
NOTES:
1. WEATHERPROOF INSULATION WHERE EXPOSED.
2. PROVIDE RAMPS TO ROOF OVER EXISTING PLANTS & EQUIPMENT.
3. SET ROOF FOR FUTURE EXPANSION.
CONSTRUCTION
11 FEB 1973
CITY OF MOUNTAIN VIEW BUILDING INSPECTION DIV.
VERIFIED
10 OCT 78 - RELOCATE TOWER & PIPE
AIRE SHEET METAL
1175 W. BAYSHORE BLVD.
REDWOOD CITY, CALIF.
WALLS ENGINEERING
1950 OLD MIDDLEFIELD WAY
MOUNTAIN VIEW, CALIFORNIA 94043
(415) 969-7530
G.T.E. SYLVANIA
DRAWN: McCOY
APPROVED BY
APPROVED: WALLS
DATE: 11 OCT. 78
REVISED
ADDITION TO A.S.C.I.F. TANK
H.V. A/C. SITE & DIAGRAM
M-3



UPPER FLOOR
SCALE - 1/4" = 1'-0"

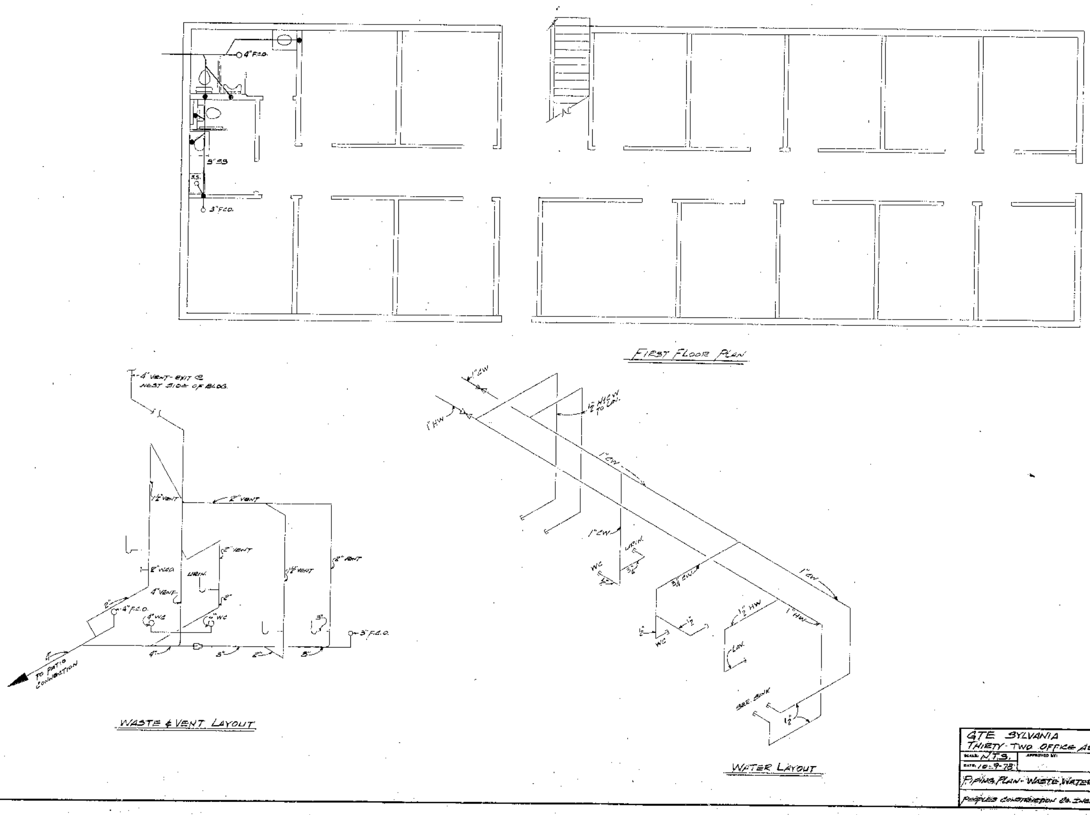
APPROVED FOR
CONSTRUCTION

CITY OF MOUNTAIN VIEW
BUILDING PATROL DIV.
PER

JOB NO: 577

AIRE SHEET METAL 973 E. BAYSHORE RD. REDWOOD CITY, CAL	G.T.E. SYLVANIA	
		DRAWN BY
		DATE 12 SEP 78
		APPROVED BY
		DRAWING DEC 78
WALLIS ENGINEERING 1964 B OLD MIDDLEFIELD WAY MOUNTAIN VIEW, CALIFORNIA 94043 (415) 969-7633	ADDITION TO A·S·C·I·F TANK	
	UPPER FLOOR H.V.C. A/C	M-2

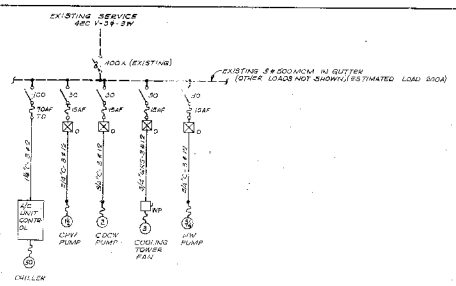
11 OCT 78 - REVISE PIPING, ADD OA/RA DUCT	
11 OCT 78 - REVISE P.P.No., RELOCATE HV DRAIN	

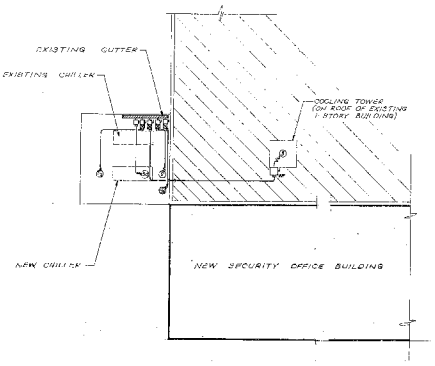


APPROVED FOR
CONSTRUCTION

CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.
PER

GTE SYLVANIA THIRTY-TWO OFFICE ADDITION		
SCALE: N.T.S.	APPROVED BY:	DRAWN BY
DATE: 10-9-78		REVISED
PIPING PLAN - WASTE, WATER & VENT		
PEOPLES CONSTRUCTION Co. INC.		DRAWING NUMBER P-1



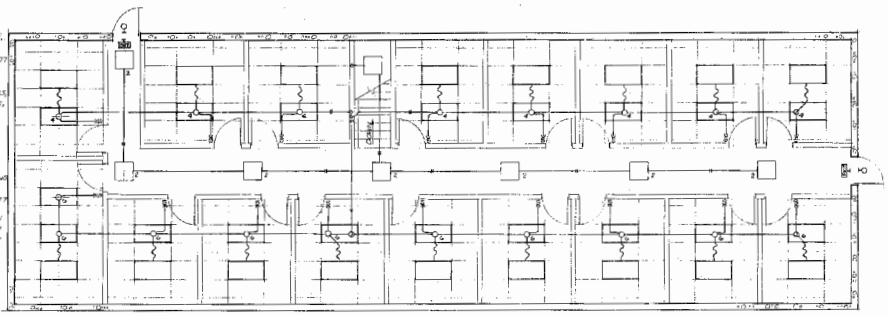


APPROVED FOR CONSTRUCTION
FEB 22 1977
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.
PER

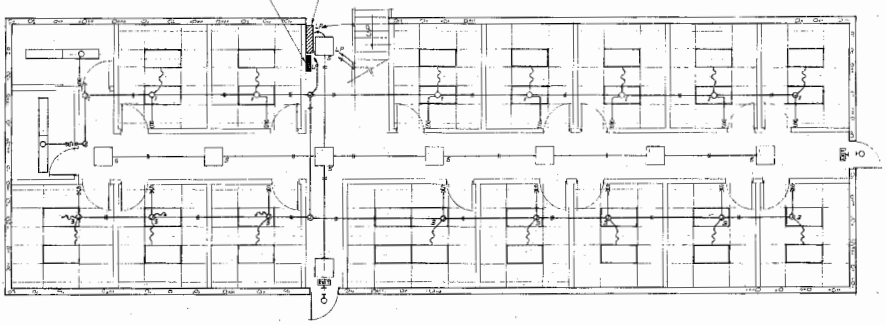
PENN ELECTRICAL CORPORATION		
F.R. BOYD E 5218 30 SEPT 76	GTE SYLVANIA TWENTY TWO STOOB ADDITION	E-3

NOTES:

1. 2x4 DROP-IN TROFFERS WITH 4-40T12 CW LAMPS, REGRESSED ACRYLIC LENS, 277 VOLT BALLAST. "DAY-BRITE" # 24GR4RA-277
2. 2x2 DROP-IN TROFFER WITH 2-U SHAPE 4S LAMPS, REGRESSED ACRYLIC LENS, 277 VOLT BALLAST "DAY-BRITE" # 22GR2UA-277
3. 1x4 SURFACE MOUNT FIXTURE WITH 2-40T12 CW LAMPS, WRAP-AROUND ACRYLIC LENS 277 VOLT BALLAST "DAY-BRITE" # 14WA2RA-277
4. WALL MOUNT "EXIT" SIGN EMERGENCY FIXTURE WITH 2-17TQ LAMPS, BATTERY CHARGER, 120 VAC INPUT "DUAL-LITE" #
5. WALL MOUNT LAMPHEAD EMERGENCY FIXTURE, 1-18W INCAND. LAMP, 3-#6 WIRES FOR CONNECTION TO EXIT SIGN ELECTRONICS. "DUAL-LITE"



UPPER FLOOR
SCALE: 1/4" = 1'-0"



LOWER FLOOR
SCALE: 1/4" = 1'-0"

APPROVED FOR CONSTRUCTION
FEB 9 1979
CITY OF MOUNTAIN VIEW BUILDING INSPECTION DIV.
PUE

PENN ELECTRICAL CORPORATION		
F.R. BOYD E6548 13 SEPT. 78	LIGHTING PLAN G.T.E. SYLVANIA THIRTY-TWO OFFICE ADDITION	E-2

2. PERMITS, FEES, REGULATIONS

A. Owner shall secure and pay for all inspections, permits and connections necessary for the prosecution of the work.

B. The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the work. These authorities include, but are not limited to:

1. The latest revisions of all applicable safety orders of the State of California, Department of Industrial Safety.

2. The applicable Rules and Regulations of the National Fire Protection Association.

3. Factory Mutual.

4. State Fire Marshal.

5. The National Electric Code.

6. The Uniform Plumbing Code.

7. Any other applicable State, County or City Codes or regulations including all applicable CA-OSHA regulations.

8. Part 4, Title 24, C.A.C. Basic Mechanical Regulations.

9. Sections 1453-1542 of Title 23 of the California Administrative Code and Sections 720-742 through 720-1342 of the California Administrative Code.

C. Nothing in these Plans or Specifications shall be construed to permit work not conforming to these regulations and codes.

D. Where larger sizes or better grades of material than required by these Regulations or Codes are specified herein, the Specifications shall have precedence.

3. VISIT TO SITE

A. The Contractor shall visit the site and shall review all drawings prior to the preparation and submission of his bid. He shall be familiar with all conditions with respect to and shall be responsible for the proper coordination of all systems. Allowances for work resulting from lack of proper appraisal of existing conditions.

4. SCHEDULE 80 WASTE AND VENT PIPING

A. All acid waste and vent piping, and fittings shall be PVC Schedule 80 made up with thermal bonded joints, B-Line GSR or approved equal.

B. Acid waste and vent system shall be tested by plugging the outlets of the system and filling with water to the highest working pressure in the system except that in no case shall the test head pressure be less than 10 (10) feet. The test pressure shall be maintained for a minimum period of one (1) hour. Leaks or joints shall be repaired as directed and the system shall then be re-tested. All tests shall be applied before pipe is concealed.

5. DOMESTIC WATER PIPING (SCHEDULE 80 MAKE-UP WATER)

A. All domestic water piping shall be Type "M" hard drawn copper tube, made up with wrought or forged copper fittings and 95-5 tin-antimony solder or Schedule 40 PVC.

B. Hangers and Supports:

Items	Superstrut Number
Pipe Hanger	C-713
Side beam clamp for Wood joist	540
Beam Coupling for Steel Beams	V565-V562
Rod Coupling for Connection to "Sandwich" Inserts in Concrete Decks	Quick-Nuts
Trapeze Hangers	A1200-A1201

Note: Similar items by Unistrut or Powerstrut Will be acceptable.

C. Hanger rods shall be at least 1/8" diameter.

D. At the Contractor's option and subject to the approval of the Owner, trapeze hangers may be used where parallel runs of pipe occur. All rods on trapeze hangers shall be 3/8" minimum size.

E. Hanger spacing shall be per code.

F. A p . support shall be provided at the top of each vertical run and on each branch regardless of length.

6. POLYPROPYLENE DUCTWORK (Service Exhaust System and Stacks)

A. Color shall be opaque white.

B. Material construction shall be in strict accordance with the latest SMACNA "Thermoplastic Duct Construction" Manual.

C. Longitudinal seams are to be beveled and welded with rod as indicated in section 9-F.

D. Collars shall be welded to ductwork.

E. Material thickness of Ductwork:

Material	Duct Size
1/16"	Up to 10"
1/8"	12" to 18"
1/4"	18" to 24"
1/2"	30" and larger

F. Joints and Seams:

Longitudinal Seams: 1/16" x 3/16" Seats or Sheets 3/32" Gauge along Seam. Mitered joints require that gasket be all duct.

Material	Rod Diameter
1/16"	1/8" (3 passes)
1/8"	1/32" (3 passes)
1/16"	1/4" x 3" collar @ 3'o.c.
1/8"	

G. All polypropylene ductwork shall be fabricated by mechanics trained in polypropylene fabrication.

H. All welds shall be leak proof.

I. Hangers to be provided and properly spaced as per SMACNA "Thermoplastic Duct Construction" Manual.

7. POLYPROPYLENE HOODS

A. Color shall be opaque white.

B. Materials and construction shall be in strict accordance with the latest SMACNA "Thermoplastic Duct Construction" Manual, and the latest edition of the American Conference of Government Industrial Hygienists "Industrial Ventilation" Manual.

C. Manufacturers shall weld collars or hoods inside and outside to prevent leakage.

D. All hoods shall be constructed of 1/4" thick material and shall be supported internally one foot on center (1'-0" o.c.) as required for minimum deflection of exterior hood surface near slots to assure tight fit of closed collection blades.

E. Joints and seams shall require 5/32" rod diameter, a minimum of three passes and shall be welded inside and outside where feasible to reduce leakage.

F. All bolts to secure collection blades shall be 3/16" diameter P.V.C. Bolts.

G. All new hoods shall be fabricated by mechanics trained in polypropylene fabrication.

COPY

CITY OF MOUNTAIN VIEW
INTER-OFFICE MEMORANDUM

DATE: December 18, 1984

TO: Building Department

FROM: Ron Lenzi, Deputy Fire Marshal

SUBJECT: 100 TEMPLETON DRIVE, BUILDING 1, PLATING SHOP

These plans have been conditionally approved with the following:

1. An automatic sprinkler system shall be installed in the duct intake, hood, hamper and the ventilation area.

2. Duct work shall be supported in accordance with the Uniform Mechanical Code. In locations where hangers are exposed to mechanical damage, or subject to heavy loads or other supporting mechanics, hanger material and hardware shall be an approved type.

3. Provision to the Hazardous Material Ordinance, wet flow operations shall not be permitted. All tanks including tank water shall be held pumped into a waste treatment system.

4. All sinks used for the purpose of secondary containment shall be designed so as to be inspection of all hazardous materials work.

5. All tanks and piping shall be compartmently labeled as to their specific content. Department of Transportation transfer rules shall be used as guidelines.

6. Place NFPA 704M placards on all entrances to the plating area.

7. All tanks containing toxic materials shall be provided with a low-level and high temperature remote switch.

8. Provide an emergency backup generator which will automatically activate upon failure of the primary power system for the exhaust system servicing the spacific components.

Shut-off switches for these systems shall be readily identified and accessible.

9. The plating shop shall be separate from the remainder of the building by a complete one-hour occupancy separation. Walls, ceilings and assemblies forming this area shall be of one-hour construction. All doors opening into this room shall be listed and labeled one-hour assemblies including frames and be provided with self-closers. Double doors shall be provided with self-closing mechanisms. Door hardware shall be at the free-opening type.

10. Provide emergency exit and path illumination in the plating shop.

11. Provide calculations for the complete secondary containment of the plating shop.

12. All permits pertaining to the construction shall be kept on the job site for Fire Department review.

13. Label all degreasing gas lines. Department of Transportation standards shall be used as guidelines.

14. All tanks containing caustic or acidic components shall be physically separated from all other chemicals that may cause a reaction to produce toxic fumes.

15. Pratney Mutual must conduct a field certification for alternate material and methods of construction for this installation. The proposed design must be satisfactory and comply with the provisions of the Uniform Building Code and Uniform Mechanical Code.

16. Fire life systems shall be provided with secondary containment capable of holding 110 percent of the largest tank or 10 percent of the aggregate on the floor area (acrylic acid and chromic acid).

TS/Oct. 86
1/3-2-1BM

MECHANICAL SPECIFICATIONS

FOR

PLUMBING, HEATING & VENTILATING

1. GENERAL

All the provisions of the General Conditions of the Products Corp., Private Systems Group - Western Divisions and its Corp., Private Systems Group - the Contract Documents shall apply to the work of this Section as fully as if repeated herein.

2. SCOPE OF WORK

A. The work covered by this Specification shall include furnishing all labor, materials, equipment and services to construct, install and place in operation, the complete Plumbing, Heating and Vent Ventilating systems in the areas as indicated and as and vent ventilating systems in the areas as indicated and as shown on the accompanying plans and specified herein, and subject to the General Conditions of the Contract. All work covered under this section of the Specification shall hereinafter be referred to as the "Mechanical System".

B. In general the Mechanical System shall consist of the following items of equipment and materials but shall not necessarily be limited to the items listed:

1. Scrubber (Pre-purchased)
2. Exhaust fans (Pre-purchased)
3. Acrylic Make-up Units
4. Polypropylene exhaust ductwork
5. Polypropylene exhaust hoods
6. Galvanized ductwork
7. Piping and wiring equipment
8. Platforms for fans, pumps and exhaust stacks
9. Flexible, filled, fire resistant and acrylic thermals
10. Clean and repair Owner provided polypropylene hoods
11. Clean and repair scrubbers
12. Air balance and report
13. Seismic bracing for equipment, ducts and piping systems
14. Scrubber acid waste and vent piping
15. Make-up water piping

3. MORE NOW INCLUDED IN THIS SECTION

A. Electrical and control wiring
B. Inertia bases and isolators
C. Painting equipment
D. Material management system
E. Relocation of existing exhaust ductwork and filters/racks
F. Relocation of piping lines in existing piping shop
G. Cutting and patching concrete and stud walls

Hudson, Vic. F11

Goodyear opt **bipo** MICROFILMING INDEX F

#	Engineer	Address			
F-1	7	1341 Franklin			
F-2	5	970 Ferguson			
F-3	7	223 Fairfield			
F-4		155 Ferguson Dr			
F-5					
F-6					
F-7					
F-8					
F-9					
F-10					

GTE, SYLVANIA SYSTEMS - WESTERN DIVISION

BUILDING 2, PLATING SHOP

Page 4 of 7

TANK NO.	CHEMICAL DESCRIPTION	P.L.V. (P.P.M.)	HAZARD POTENTIAL AND RATE OF EVAPORATION	LENGTH OF LIQUID SURFACE	WIDTH OF LIQUID SURFACE	AREA FT²	LATERAL EXHAUST CONTROL VELOCITY FPM	K FACTOR	MINIMUM EXHAUST RATE CFM — D.F.	GOOD EXHAUST CFM
25	NITRIC ACID AND 75% HF @ 70°F	2	B - 1	36.5"	24.5"	5.19	100	.50	175	910
26	WATER RINSE	—	—	32"	20"	5.78	—	—	—	—
27	PASSIVATE EPOXY (NITRIC ACID)	2	A - 2	22.5"	22.5"	3.52	150	1.0	320	1060
28	ALUMINUM CLEANER (SODIUM HYDROXIDE @ 120°F)	2	A - 5	61"	31"	14.11	100	.58	175	2530
29	WATER RINSE	—	—	63"	33"	14.43	—	—	—	—
30	ALUMINUM ETCH (SODIUM HYDROXIDE @ 160°F)	2	A - 2	74"	34"	17.47	150	.46	225	3930
31	ALUMINUM NEUTRALIZER (HYDROFLUORIC ACID @ RT°F)	1	B - 7, A - 2	74"	34"	17.47	100	.46	150	2620
32	D.I. RINSE	—	—	63"	33"	14.44	—	—	—	—

GTE, SYLVANIA SYSTEMS - WESTERN DIVISION

BUILDING 2, PLATING SHOP

JULY 16, 2003

Page 5 of 7

TANK NO.	CHEMICAL DESCRIPTION	P.L.V. (P.P.M.)	HAZARD POTENTIAL AND RATE OF EVAPORATION	LENGTH OF LIQUID SURFACE	WIDTH OF LIQUID SURFACE	AREA FT²	LATERAL EXHAUST CONTROL VELOCITY FPM	K FACTOR	MINIMUM EXHAUST RATE CFM — D.F.	GOOD EXHAUST CFM
33	D.I. WATER RINSE	—	—	74"	34"	12.42	—	—	—	—
34	CHROMIUM CHARGING	5	A - 4	74"	34"	16.13	53	.51	90	1160
35	WATER RINSE	—	—	72"	35"	12.05	—	—	—	—
36	ALUMINUM CLEANER "LUMPHIP 73", MADE @ 160°F	5	A - 2	78"	36"	17.94	550	.35	.095	6040
37	CHROMIUM DC (CHROMIC ACID)	0.1	A - 1.	60"	31"	14.21	150	.47	225	3300
38	D.I. WATER RINSE	—	—	50"	29"	8.02	—	—	—	—
39	ETCHING IN (CHROMIC ACID)	0.1	A - 1	20"	31"	4.41	150	1.01	300	1985
40	D.I. WATER RINSE	—	—	10"	20"	1.39	—	—	—	—

GTE, SYLVANIA SYSTEMS - WESTERN DIVISION

BUILDING 2, PLATING SHOP

July 15, 1983

Page 1 of 7

TANK NO.	CHEMICAL DESCRIPTION	T.L.V. (P.P.M.)	SEWAGE POTENTIAL AND RATE OF EVAPORATION	LENGTH OF LIQUID SURFACE	WIDTH OF LIQUID SURFACE	AREA FT²	LATERAL SEWAGE VELOCITY FPS	M	MINIMUM SEWAGE RATE CFM S.F.	ROOD EXHAUST CFM
1	WASTE DRY SURFACE & ACIDIC SHP	2	A - 1	24"	20"	3.36	352	1.0	302	1070
2	WATER RINSE	--	--	30"	36"	3.61	--	--	--	--
3	HYDROFLUORIC ACID (HYDROFLUORIC ACID)	3	A - 3	25.5"	31.5"	5.53	500	1.0	300	1159
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	NICKEL STRIKE (HYDROCHLORIC ACID)	5	A - 2	24"	30"	3.61	90	.77	245	940
6	NICKEL STRIKE (NOS)	5	A - 2	38.5"	26.5"	7.09	150	.69	210	1050
7	WATER RINSE	--	--	33.5"	26.5"	3.40	--	--	--	--
8	COPPER CYANIDE	5	A - 3	37"	25"	6.42	162	.45	172	1225

GTE, SYLVANIA SYSTEMS - WESTERN DIVISION

BUILDING 2, PLATING SHOP

July 15, 1983

Page 2 of 7

TANK NO.	CHEMICAL DESCRIPTION	T.L.V. (P.P.M.)	SEWAGE POTENTIAL AND RATE OF EVAPORATION	LENGTH OF LIQUID SURFACE	WIDTH OF LIQUID SURFACE	AREA FT²	LATERAL SEWAGE VELOCITY FPS	M	MINIMUM SEWAGE RATE CFM S.F.	ROOD EXHAUST CFM
9	D.I. WATER RINSE	--	--	15"	25"	1.70	--	--	--	--
10	SILVER STRIKE	5	C - 2	26"	26"	4.69	70	1.0	150	703
11	SILVER CYANIDE	5	A - 4	50.5"	26.5"	9.09	50	.39	95	842
12	D.I. WATER RINSE	--	--	30.5"	24.5"	5.13	--	--	--	--
13	PLUMBOUS LEAD (CHROMIC ACID & [illegible])	0.1	A - 1	34"	38"	45.49	130	.42	225	5975
14	D.I. WATER RINSE	--	--	18"	24"	6.61	--	--	--	--
15	ALKALINE ZINC (CAUSTIC ACID & [illegible])	0.1	A - 1	33.5"	26.5"	7.09	150	.52	250	1862
16	D.I. HOT RINSE ([illegible])	--	--	64"	31"	45.11	--	--	--	--

GTE, SYLVANIA SYSTEMS - WESTERN DIVISION

BUILDING 2, PLATING SHOP

July 15, 1983

Page 3 of 7

TANK NO.	CHEMICAL DESCRIPTION	T.L.V. (P.P.M.)	SEWAGE POTENTIAL AND RATE OF EVAPORATION	LENGTH OF LIQUID SURFACE	WIDTH OF LIQUID SURFACE	AREA FT²	LATERAL SEWAGE VELOCITY FPS	M	MINIMUM SEWAGE RATE CFM S.F.	ROOD EXHAUST CFM
17	ELECTROLESS NICKEL (SODIUM PYROPHOSPHATE & [illegible])	1 - 2	A - 2	32"	24"	5.33	150	.85	245	1305
18	WATER RINSE	--	--	15"	20"	1.39	--	--	--	--
19	ACID CHROME (SULFURIC ACID & [illegible])	1	A - 3	24.5"	25.5"	4.48	75	1.0	180	775
20	D.I. WATER RINSE	--	--	16"	20"	1.78	--	--	--	--
21	CHROME CYANIDE & [illegible]	5	A - 3	40"	20"	5.59	100	1.0	200	990
22	D.I. WATER RINSE	--	--	30"	18"	3.23	--	--	--	--
23	CHROMIC & [illegible]	3	C - 2	42.5"	32.5"	7.69	75	1.0	152	408
24	D.I. QUENCH RINSE	--	--	77.5"	27.5"	14.80	--	--	--	--

10. OWNER PROVIDED POLYPROPYLENE HOODS

Hoods provided by Owner shall be completely cleaned of all dirt, grease and chemical buildup. Hoods damaged during cleaning or in need of minor repair shall be the responsibility of the Contractor. All hoods shall appear new and be fully operational prior to installation in new plating shop. All hoods subject to approval by the Owner prior to installation.

11. SAFE AREAS DUCTWORK

A. All exhaust ducts, access doors and dampers shall be fabricated from 16 gauge grade galvanized steel sheet, of here fire quality and shall be constructed in accordance with appropriate tables of the latest SMACNA "Duct Manual and Sheet Metal Construction for Heating and Air Conditioning Systems" handbook.

B. Stacking seams will be permitted in all areas except where duct is exposed in interior occupied space where "S" & drives shall be used.

C. Seals with sealcoat per manufacturers' recommendations.

12. ACCESS PANELS

Access panels shall be located at all points where adjustable mechanical are installed internal to or on the surface of the ductwork. We specifications by "Ruskin", Model type ADM-1 or equal. Access panels on exterior duct to be waterproof.

13. DAMPERS

A. Dampers in make-up air distribution system shall be the opposed blade type, sized to fit duct; key operated as manufactured by Model Air, Ruskin or equal.

B. Dampers in polypropylene ducts shall be as follows:

Size	
8" - 24" diameter	Butterfly damper
25" and larger diameter	Slide gate damper

14. FILTERS

A. Filters shall be Cambridge "Aerapac" filters, model number 4WCT-45-24-2-2 as manufactured by Cambridge, Part of equal. Filters shall have an average efficiency of 45% to 65% by ASHRAE Standard 52-76 test method. The initial pressure drop shall not exceed 0.35 inches water gauge (0.09 in.). When filters are operated at a rated capacity of 2000 cfm, filters to be mounted in factory holding frames, finished in lacquer, sealed with silicone caulking and 12" holding right.

B. Manometer gauge shall be "Dwyer" series 2300, diaphragm actuated direct reading dial type and shall be installed on to read pressure drop across bag filters. 1 gauge is required for each of the bank filter (2 total).

14. SCRUBBER EXHAUST SYSTEMS (Proportioned by OTT. Installed by Contractor)

A. The scrubber exhaust fans shall be "rial" by Barnes Corporation, model numbers 90L-24 and 90L-42.

B. The scrubbers shall be "rial" by Barnes Corporation, 769 series fume scrubber, model numbers 760-20 and 760-40.

16. VIBRATION SPRING ISOLATORS

A. Exhaust fans shall be securely mounted to or supported from the structure. Fans are to be located on raised platforms so as to align with the scrubbers. Furnish and install owner provided isolators.

17. SEISMIC BRACING & SUPPORTS

A. All equipment, ductwork and piping systems shall be adequately supported and braced to resist displacement in all three axis caused by seismic forces.

18. TUNE

A. All air quantities shall be balanced, and all control devices adjusted. The balancing of the system shall be performed by an independent firm specialized in balancing and adjusting heating personnel conditioning system. The name of this firm shall be submitted to the Owner for approval. The Contractor proposes to engage to perform this work for balancing the system shall be submitted to the Owner for approval prior to commencing the work. Upon completion of the balancing and prior to final acceptance of the system, the balancing firm shall submit a report in triplicate certifying to the proper performance of the system.

B. Hood air flows shall be adjusted to balance within 10% of design, all other air system readings shall be within 5%. The paint shop and the plating room are to be balanced so as to maintain a negative pressure.

C. Instruments shall have been calibrated within the last six months and shall be checked for accuracy prior to starting the balancing procedure.

19. AS-BUILT DRAWINGS

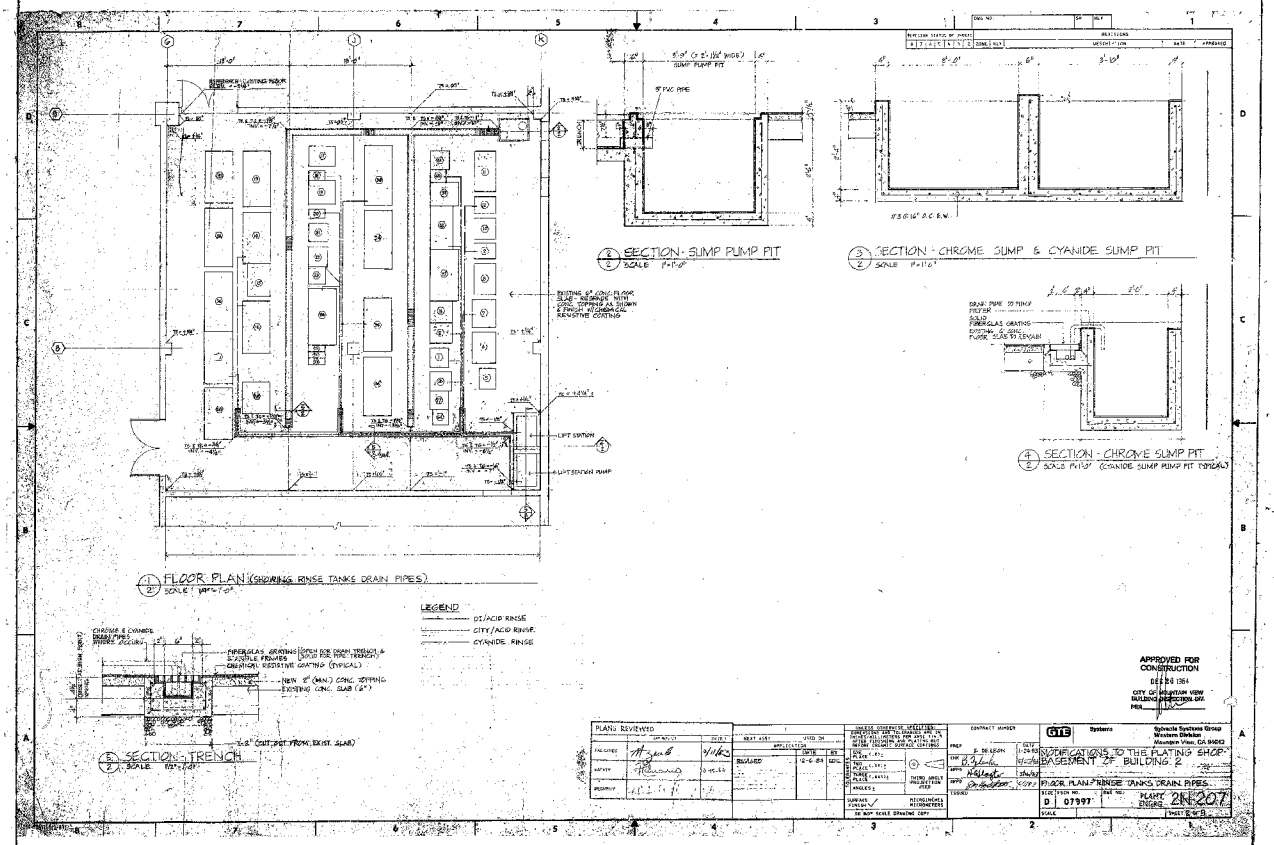
A. The Contractor shall provide and keep up-to-date, a complete record set of mechanical and electrical (marked-up) which shall be corrected daily to reflect all and every change from the original contract drawings. Prints for this purpose may be obtained from the Owner at no cost. This set of prints shall be kept on the job site, and used only as a record set. These prints shall be made available for inspection at any time by all "AS" staff on the site to establish clearances or by an authorized inspector.

B. The preceding paragraph shall not be construed as authorization for the Contractor to make changes in the layout without definite instructions in each case.

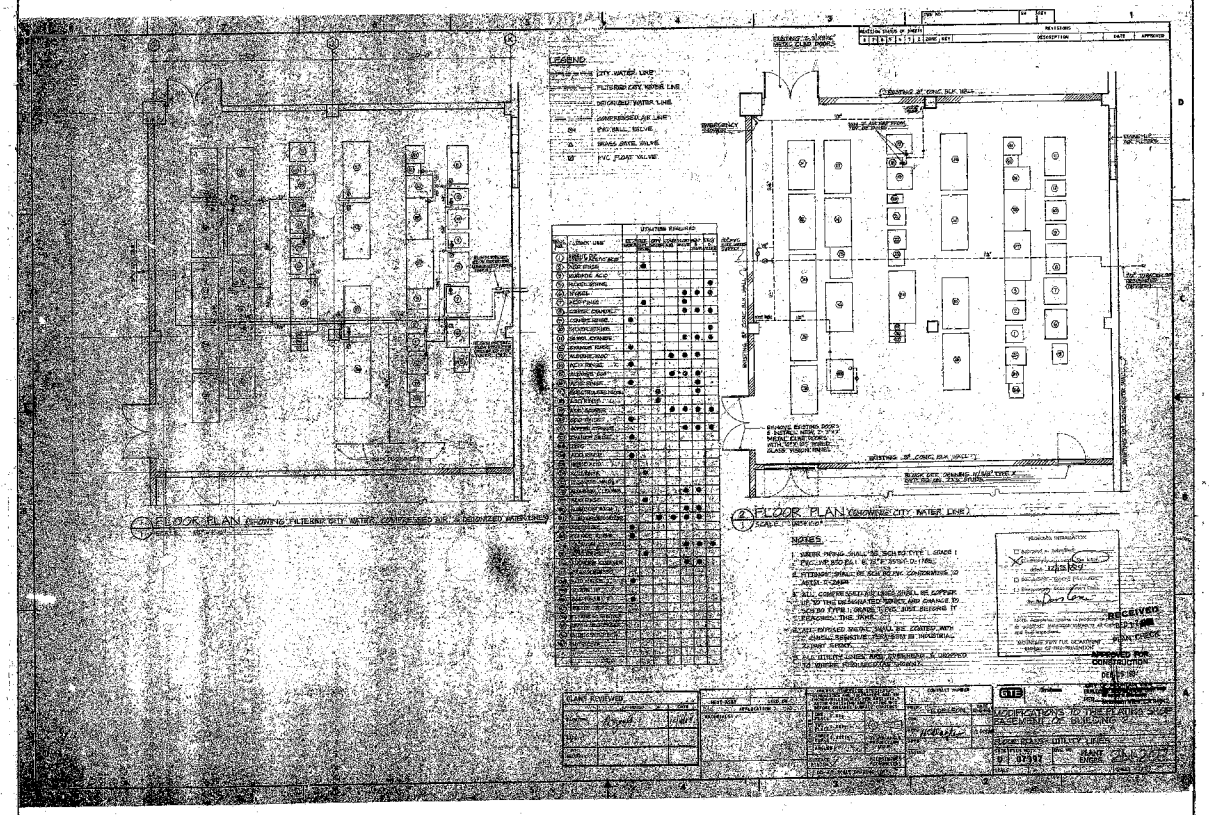
C. Upon completion of the work, the record set shall contain all pertinent information for final AS-BUILT documentation. The owner will provide a depts to order to make the necessary corrections.

20. SCHEDULES

A. The Contractor shall submit to the Owner a schedule within ten (10) days of the initial job meeting for review by the Owner. The schedule shall conform to the Owner's directed phases of work.



FLOOR PLAN (SHOWING RINSE TANKS DRAIN PIPES)
SCALE 1/8"=1'-0"
SECTION - SUMP PUMP PIT
SCALE 1"=1'-0"
SECTION - CHROME SUMP & CYANIDE SUMP PIT
SCALE 1"=1'-0"
SECTION - CHROME SUMP PIT
SCALE 1"=1'-0" (CYANIDE SUMP PUMP PIT TYPICAL)
SECTION - TRENCH
SCALE 1/2"=1'-0"
LEGEND
DI/ACID RINSE
CITY/ACID RINSE
CYANIDE RINSE
LIFT STATION
LIFT STATION PUMP
SUMP PUMP PIT
5" PVC PIPE
DRAIN PIPE TO PUMP PIT
FIBERGLAS GRATING
EXISTING CONC. FLOOR SLAB TO REMAIN
FIBERGLAS GRATING
CHROMIC RESISTIVE COATING (TYPICAL)
NEW 2" (MIN.) CONC. TOPPING
EXISTING CONC. SLAB (6")
1-2" (CUT OUT FROM EXIST. SLAB)
APPROVED FOR CONSTRUCTION
DEC 28 1984
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.
PLANS REVIEWED
ENGINEER
ARCHITECT
DESIGNER
BEST ASSY
USED ON
APPLICATION
DATE
BY
REVISED
12-6-84
CONTRACT NUMBER
PROJ
E. DE LEON
DWN
CHK
APPD
APPD
ISSUED
GTE Systems
Sylvania Systems Group
Western Division
Mountain View, CA 94042
MODIFICATIONS TO THE PLATING SHOP BASEMENT OF BUILDING 2
FLOOR PLAN - RINSE TANKS DRAIN PIPES
SIZE
D
DSN NO.
07997
DWG NO.
PLANT ENGRG
2N207
SCALE
SHEET 2 OF 8


LEGEND
CITY WATER LINE
FILTERED CITY WATER LINE
DEIONIZED WATER LINE
COMPRESSED AIR LINE
PVC BALL VALVE
BRASS GATE VALVE
PVC FLOAT VALVE
FLOOR PLAN (SHOWING FILTERED CITY WATER, COMPRESSED AIR & DEIONIZED WATER LINES)
FLOOR PLAN (SHOWING CITY WATER LINE)
NOTES
RECEIVED
APPROVED FOR CONSTRUCTION
MODIFICATIONS TO THE PLATING SHOP EASEMENT OF BUILDING 2
FLOOR PLANS UTILITY LINES
GTE

GTE, SYLVANIA SYSTEMS - WESTERN DIVISION
BUILDING 2, PLATING SHOP

July 18, 1963
Page 6 of 7

MARK NO.	CHEMICAL DESCRIPTION	C.L.V. (P.P.M.)	MOLDED POTENTIAL AND RATE OF EVOLUTION	LIQUID OR LIQUID SURFACE	WIDTH OF LIQUID SURFACE	AREA FT^2	LATERAL SEGMENT CONTROL VELOCITY FPM	V/C	HEIGHT EXHAUST RATE CFM/S.F.	FOOD EXHAUST CFM
1L	TRIBUTAL (CHROMIC ACID # 70%)	0.1	A - 1	21"	21"	3.04	150	1.0	300	920
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5L	CHAMBER-TRIMMER	100	A - 4	57"	207"	3.75	50	.75	50	942
6L	NITRIC ACID (50%)	2	A - 2	5"	12"	0.75	150	1.33	300	225
5L	SECOND H.F.	8	A - 1	9"	22"	.075	150	1.33	300	225

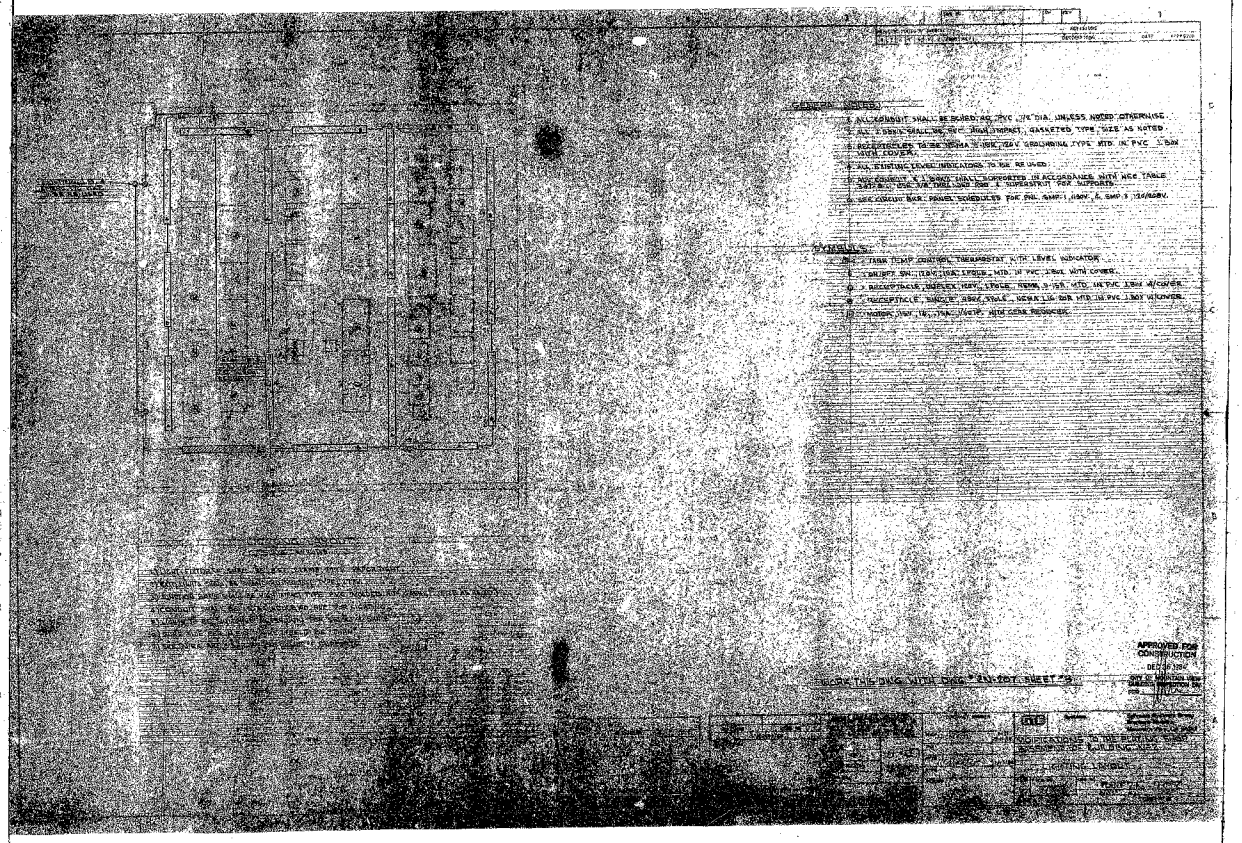
GTE, SYLVANIA SYSTEMS - WESTERN DIVISION
BUILDING 2, PLATING SHOP
SUMMARY

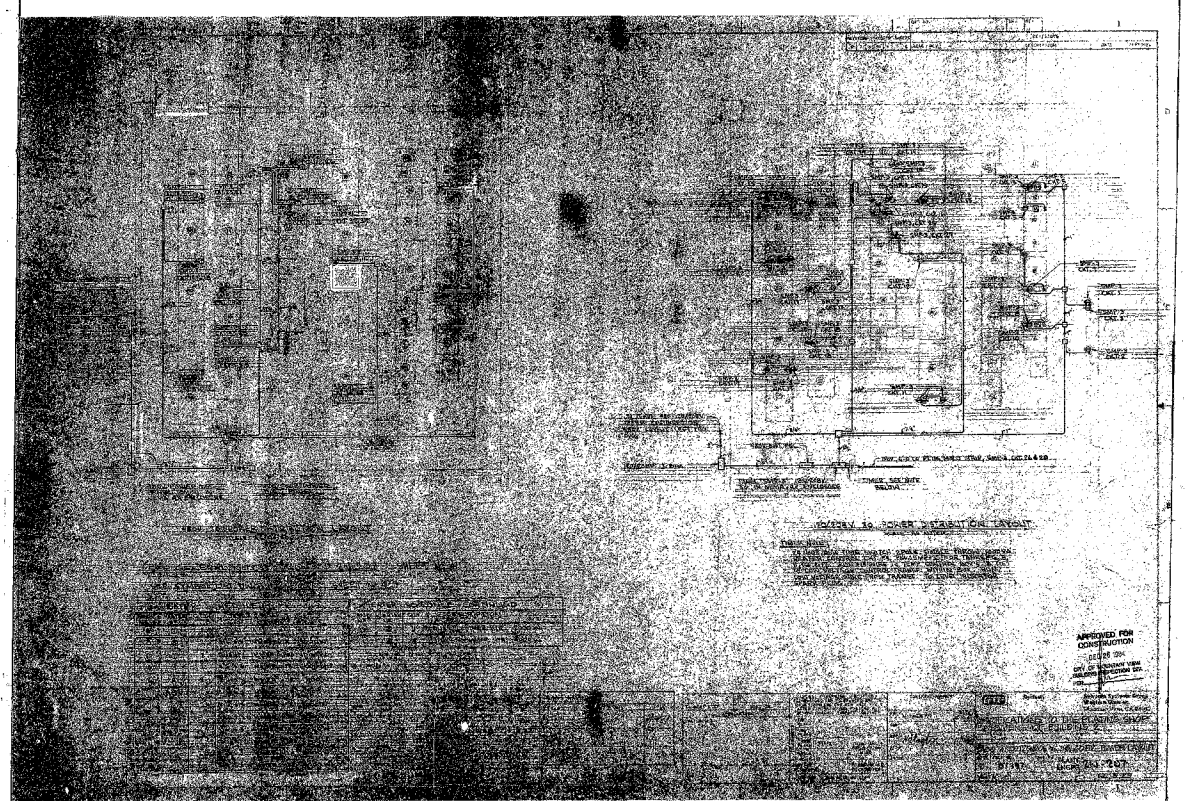
July 18, 1963
Page 7 of 7

PAGE NO.	HOOD EFFECT CFM
1.	6055
2.	7325
3.	3600
4.	1 030
5.	10981
6.	1450
	40,295

Cyanide Scrubber Exhaust (10 K CAF) 5000
General Scrubber Exhaust (40 K CAF) 35,000
40,295

The following data was derived from Federal OSHA Ventilation Standards as related to Open Surface Tanks in conjunction with the ACGIH "Industrial Ventilation Manual", 7th Edition. The air quantities were used to give the exhaust duct between 1000 FPM and 2500 FPM which allows for future expansion.


GENERAL NOTES:
1. ALL CONDUIT SHALL BE SCHED. 40, PVC, 7/8" DIA. UNLESS NOTED OTHERWISE.
2. ALL 2 DRK'S SHALL BE PVC HIGH IMPACT, GASKETED TYPE, SIZE AS NOTED.
3. RECEPTACLES TO BE NEMA 5-15R, 120V GROUNDING TYPE, MTD. IN PVC 1 BOX WITH COVER.
4. ALL EXISTING LEVEL INDICATORS TO BE RE USED.
5. ALL CONDUIT & 1 BOX'S SHALL SUPPORTED IN ACCORDANCE WITH NEC TABLE 347-8 & 1, USE 3/8 THRU AND RAD & SUPERSTRUT FOR SUPPORTS.
6. SEE CIRCUIT BKR. PANEL SCHEDULES FOR PNL SMP-1, 480V, & SMP-3, 120/208V.
SYMBOLS:
TANK TEMP CONTROL THERMOSTAT WITH LEVEL INDICATOR
DN/OFF SW., 120V, 10A, 1 POLE, MTD. IN PVC 1 BOX WITH COVER.
RECEPTACLE, DUPLEX, 120V, 1 POLE, NEMA 5-15R, MTD. IN PVC 1 BOX W/COVER.
RECEPTACLE, SINGLE, 480V, 1 POLE, NEMA 1-15R MTD. IN PVC 1 BOX W/COVER.
MOTOR, 15V, 1Ø, 1.5A, 1/4 HP. WITH GEAR REDUCER.
WORK THIS DWG WITH DWG #2N-207 SHEET #9
APPROVED FOR CONSTRUCTION
DEC 30 1984
MODIFICATIONS TO THE PLANTING SHOP
LIGHTING LAYOUT


POWER DISTRIBUTION LAYOUT
APPROVED FOR CONSTRUCTION

PANEL No. INF 3 LOCATION: PLATING S-OF ELEC. 2

TYPE 120/208 3Ø 70 INF MAIN PHASES

CKT	POLES	BRKR AMPS	USE	A Ø	B Ø	C Ø	CIRCUIT DESCRIPTION
1	1	20	X	900	-	-	RECTIFIERS ANOD & TR
2	1	20	X	-	960	-	RECTIFIERS ANOD & TR
3	1	20	X	-	-	900	TANK 10,11
4	1	20	X	200	-	-	TANK 6
5	1	20	X	-	200	-	TANK 8
6	1	20	X	-	-	200	TANK 14
7	1	20	X	800	-	-	TANK 16
8	1	20	X	-	200	-	TANK 12
9	1	20	X	-	-	500	TANK 15
10	1	20	X	600	-	-	TANK 20
11	1	20	X	-	200	-	GAGE
12	1	20	X	-	-	200	GAGE
13	1	20	X	800	-	-	RECTIFIER TANK 19
14	1	20	X	-	800	-	RECTIFIER TANK 21
15	1	20	X	-	-	500	SPARE
16							
17							
18							
19							
20							
21	1	20	X	800	-	-	ROC FUEL TANK 1
22	1	20	X	-	240	-	TIPS LOCK TOOLS 5,6,11,16,17
23	1	20	X	-	-	240	HOOD 16,17
24	1	20	X	200	-	-	VALVE 1
25	1	20	X	-	200	-	TANK 4
26	1	20	X	-	-	200	TANK 5
27	1	20	X	500	-	-	TANK 17
28	1	20	X	-	200	-	TANK 21
29	1	20	X	-	-	200	TANK 22
30	1	20	X	200	-	-	TANK 23
31	1	20	X	-	200	-	TANK 24
32	1	20	X	-	-	200	TANK CLOCK (SPARE)
33	1	20	X	200	-	-	PLUG MOLD STAMP
34	1	20	X	-	200	-	PLUG MOLD STAMP
35	1	20	X	-	-	200	SPARE
36							
37							
38							
39	2	20					WITH DEMAND DEC FROM INF 2 (5 KVA TRANSD 2083)
40							
41							
42							
A PHASE				3,380			
B PHASE					3,040		
C PHASE						3,040	

TOTAL CONNECTED WATTS

BARBARA TRUMBLA 10-7-84

PANEL No. INF 1 LOCATION: ENGLEFIELD PLATING SHOP ROOM 3025 ELEC. 2

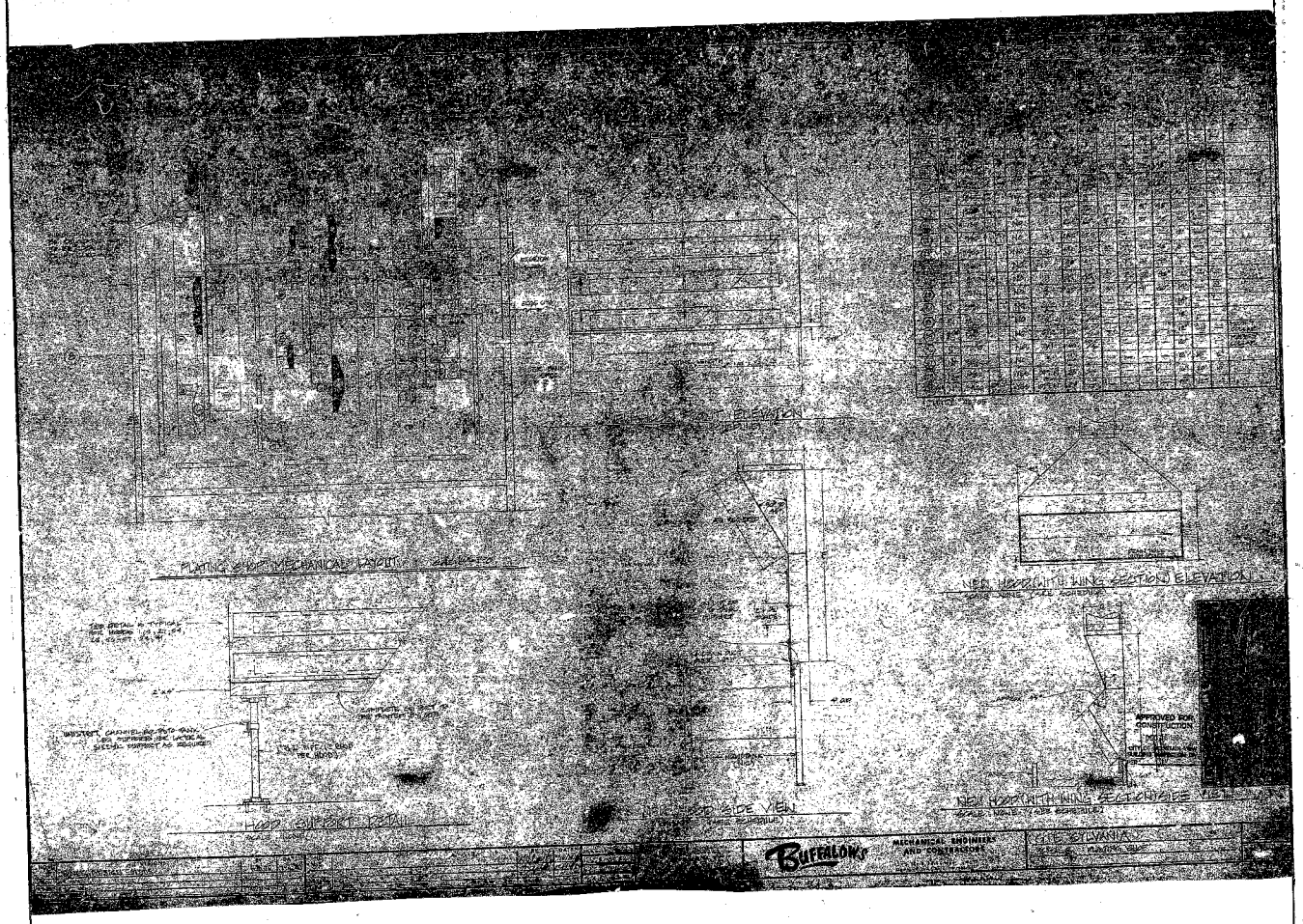
TYPE 120/208 3Ø 70 INF MAIN PHASES

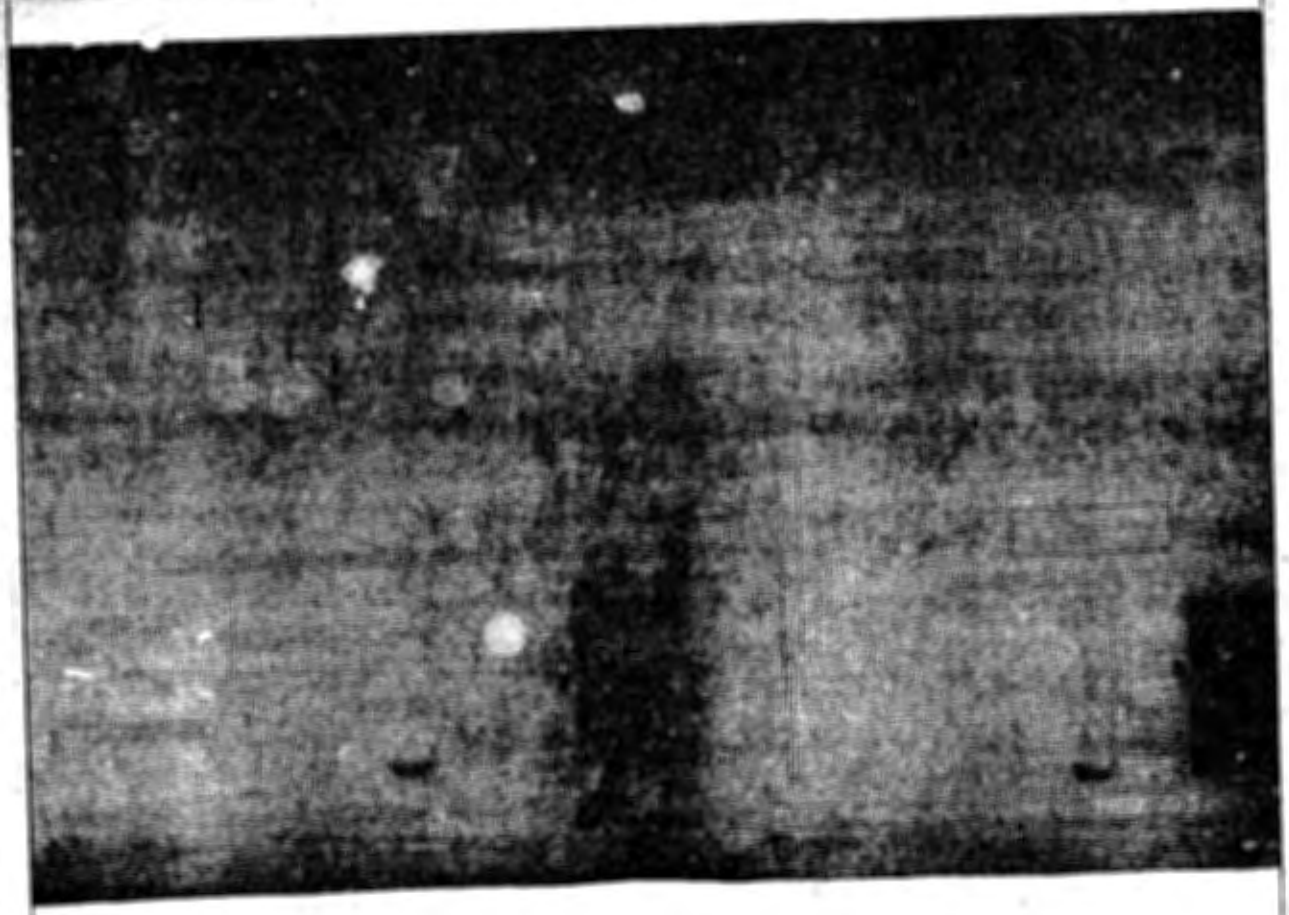
CKT	POLES	BRKR AMPS	USE	A Ø	B Ø	C Ø	CIRCUIT DESCRIPTION
1	1	30	X	2.7k	2.7k	2.8k	Vapor Degreaser #2
2							
3	3	15	X	2.4k	2.4k	2.4k	Rectifier Tank 24
4							
5							
6	1	15	X	1.1k	1.1k	-	Heater Tank 4
7							
8	2	15	X	1.1k	-	1.1k	(2) Heaters Tank 8
9							
10	1	15	X	-	1.1k	-	Heater Tank
11							
12	3	15	X	1.1k	1.1k	1.1k	Heater Tank 13
13							
14	2	15	X	1.1k	-	1.1k	Heater Tank 16
15							
16	2	30	X	-	2.4k	2.4k	(2) Heaters Tank 18
17							
18							
19							
20							
21							
22	1	15	X	1.1k	1.1k	1.1k	(1) Heater Tank 22
23							
24	3	15	X	1.1k	1.1k	1.1k	(3) Heaters Tank 24
25							
26	3	15	X	1.1k	1.1k	1.1k	(3) Heaters Tank 26
27							
28							
29							
30	1	15	X	1.1k	-	-	Tanks Tank 3
31							
32	1	15	X	1.1k	1.1k	-	Heater Tank 31
33							
34	1	30	X	-	-	2.4k	Heater Tank 31
35							
36	2	30	X	2.4k	2.4k	-	(2) Heaters Tank 35
37							
38							
39							
40							
41							
42							
A PHASE				37.1k	37.1k	31.4k	
B PHASE							
C PHASE							

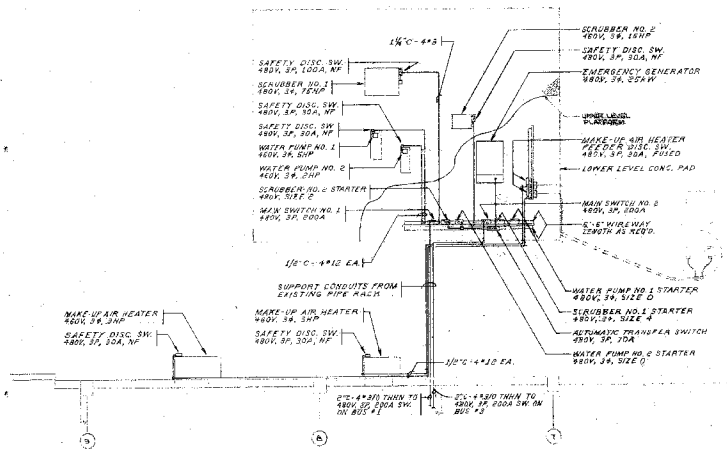
TOTAL CONNECTED WATTS

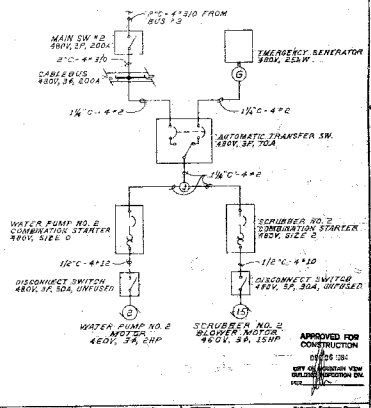
Bernice Tatumka

10-7-84


PLATING SHOP MECHANICAL LAYOUT
NEW HOOD (WITH WING SECTION) ELEVATION
HOOD SUPPORT DETAIL
NEW HOOD (WITH WING SECTION) SIDE VIEW
APPROVED FOR CONSTRUCTION
BUFFALOWS
MECHANICAL ENGINEERS AND CONTRACTORS
PLATING SHOP







SWITCH LOADS

MAIN SW. NO. 1

SCRUBBER NO. 1
WATER PUMP NO. 1
HEATER NO. 1
SUMP PUMP NO. 1 (EXIST.)
SUMP PUMP NO. 2 (EXIST.)
COMPRESSOR (EXIST.)

MAIN SW. NO. 2

SCRUBBER NO. 2
WATER PUMP NO. 2
HEATER NO. 2
D.I. WATER PUMP (EXIST.)
RECIRC. PUMP (EXIST.)
LOAD CENTER. (EXIST.)

APPROVED FOR CONSTRUCTION
DEC 26 1984
GPT OF MOUNTAIN VIEW BUILDING INSPECTION DIV.

PLANS REVIEWED

	APPROVED	DATE
FACILITIES	Azub	2/4/84
SAFETY		
SIGNATURE		

NEXT SHEET | USED ON
APPLICATION
MATERIALS:

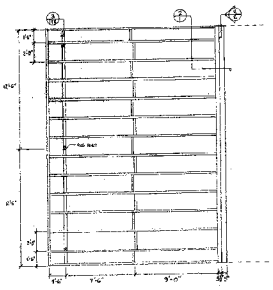
CONTRACT NUMBER
CHECK: MCCLUETT
LINE
APPR: Schaefer

GTE Systems
Sylvania Systems Group
Western Division
Mountain View, CA 94042

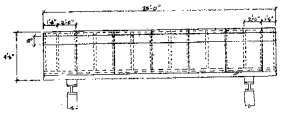
MODIFICATIONS TO THE PLATING SHOP BASEMENT OF BLDG 2

480V, 3P, 60HZ, POWER LAYOUT - OUTSIDE

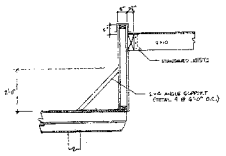
SIZE D | FSCM NO. 07997 | DWG NO. 2N-207
SCALE | SHEET 5 of 7



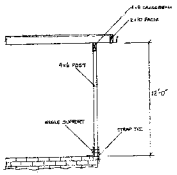
1 ROOF FRAMING DETAIL - PLAN VIEW
SCALE 1/8" = 1'



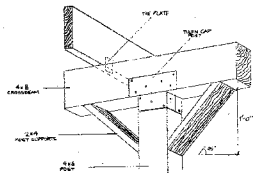
4 WALL DETAIL - ELEVATION VIEW
SCALE 1/8" = 1'



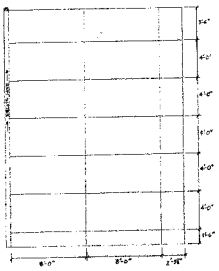
2 WALL DETAIL - SIDE VIEW
SCALE 1/8" = 1'



3 POST SUPPORT DETAIL - SIDE VIEW
SCALE 1/8" = 1'



5 POST SUPPORT DETAIL - PERSPECTIVE



7 FINISHING DETAIL - PLAN VIEW
SCALE 1/8" = 1'

NOTES:

1. WOOD FRAMING SHALL BE DOUGLAS FIR HEART CLEAR GRADE
2. PLYWOOD USED SHALL BE "B" PLYWOOD GRADE - EXTERIOR.
3. FINISHED DECK SHALL BE BUILT UP ROOF AS FOLLOWS:
   - BASE PLY (PERMA PLY # 2)
   - (1) PLIES - PERMA PLY # 1
   - ASPHALT PLYWOOD
   - BUTYL (SHEET) ASPHALT
   - PERMA CAP

APPROVED FOR CONSTRUCTION
DEC 26 1991
CITY OF SUNNYVALE
MOUNTAIN VIEW INSPECTION DIV.
PCD

PLANS REVIEWED	APPROVED	DATE
PUBLICITY	[illegible]	12/4/91
SAFETY		
SECURITY		

MAST ASSY	USED ON
APPLICATION	
MATERIAL:	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON ALL DIMENSIONS ARE ±1/16 UNLESS OTHERWISE SPECIFIED. DO NOT SCALE DRAWING. ALL DIMENSIONS APPLY AFTER COATING.

REVISIONS	
FINISH	
PLATE (.125)	
PLATE (.187)	
PLATE (.250)	
PLATE (.375)	
ANGLES	

THIRD ANGLE PROJECTION (PED)

SURFACE FINISH ✓ NECESSARY REPRODUCTION

DO NOT SCALE DRAWING COPY

CONTRACT NUMBER

DRN	S. ZEUENKA	10-12-91
CHK		
APPD	[illegible]	[illegible]
APPD		
ISSUED		

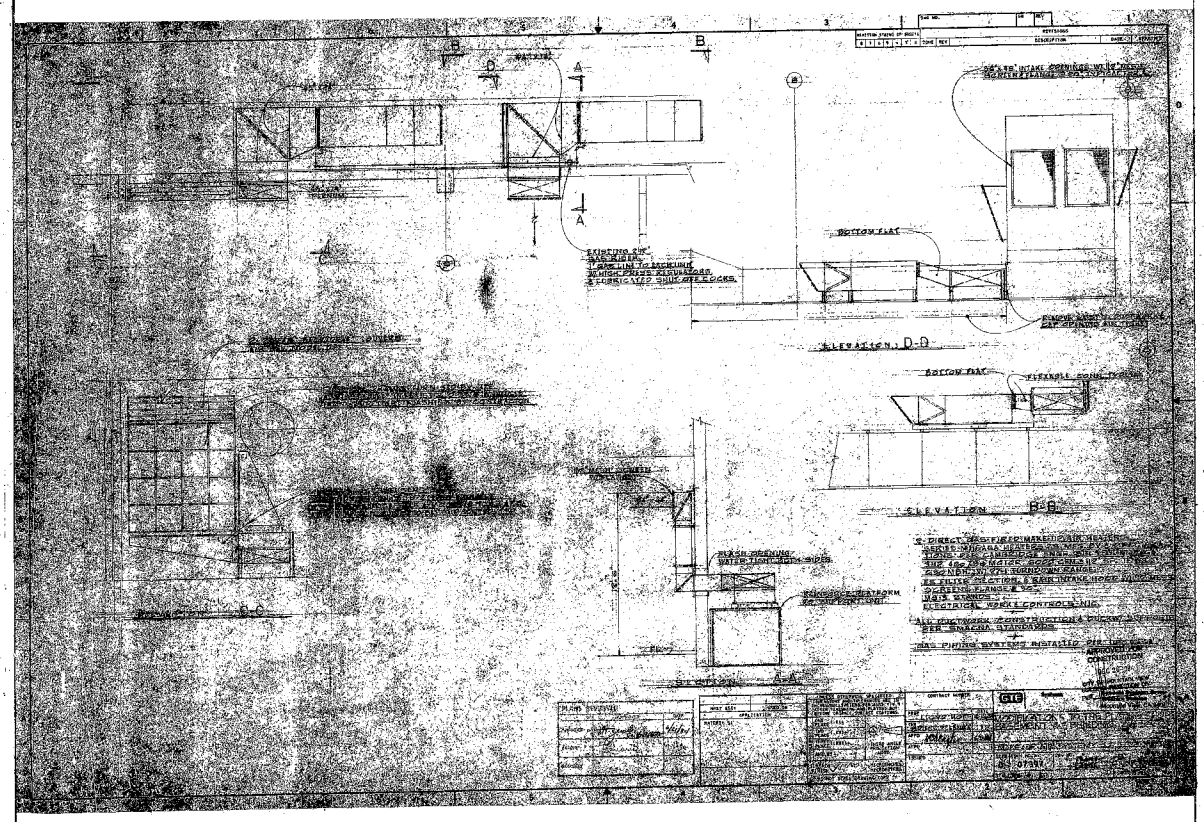
GTE Systems

Systems Systems Group
Western Division
Mountain View, CA 94042

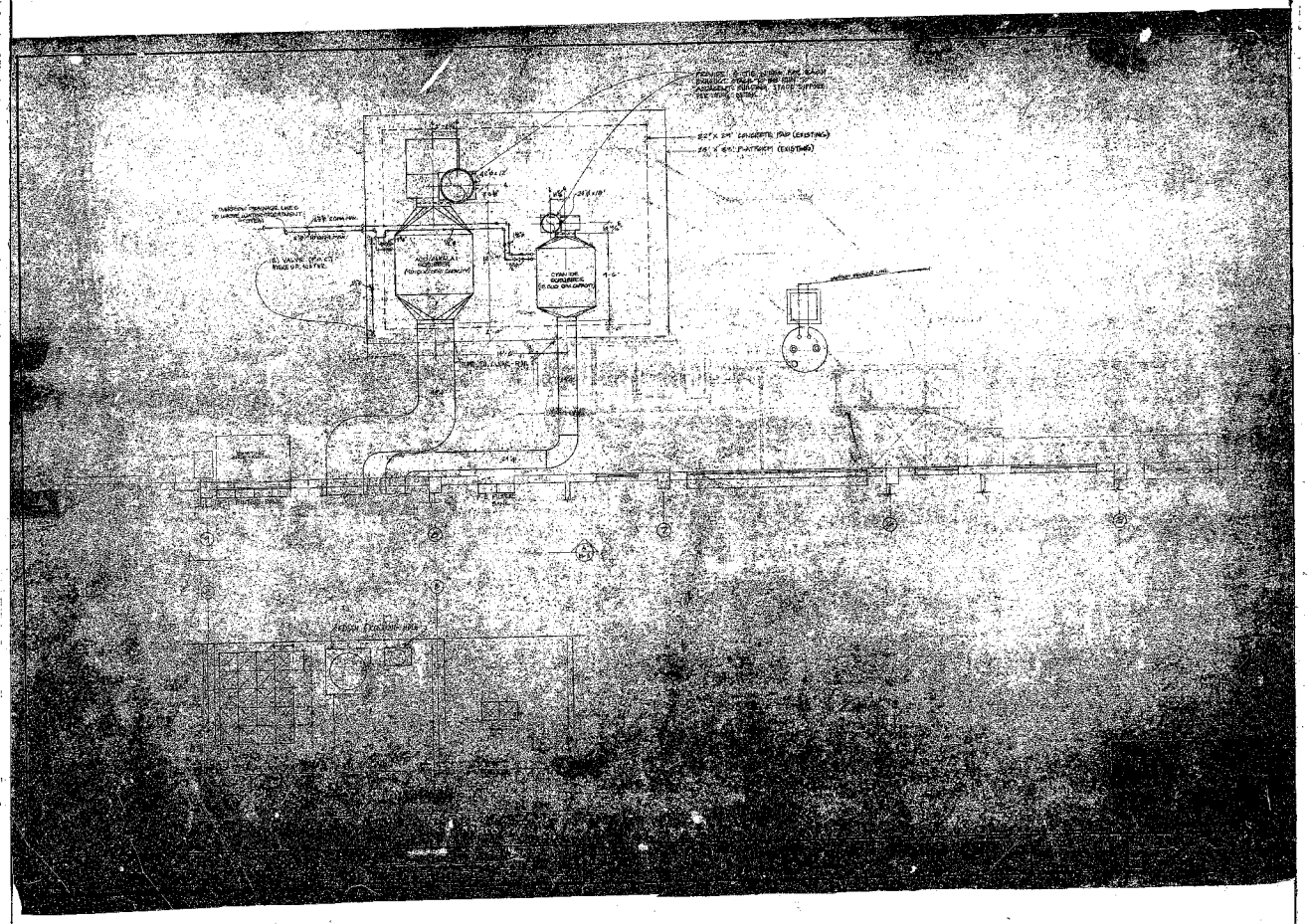
ROOF OVER WASTE WATER TREATMENT SYSTEM - TRUCKWELL AREA BLDG 2.

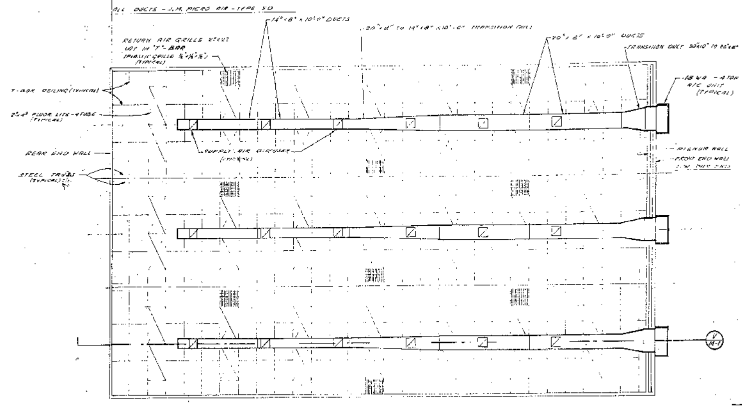
SIZE D | FSCM NO. 07397 | DWG NO. 2N-219

SCALE | SHEET 1 OF 1

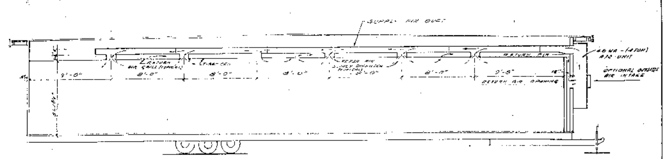


BOTTOM FLAT
ELEVATION D-D
BOTTOM FLAT
ELEVATION B-B
FLASH OPENING
WATER TIGHT WITH SIDES
SECTION A-A



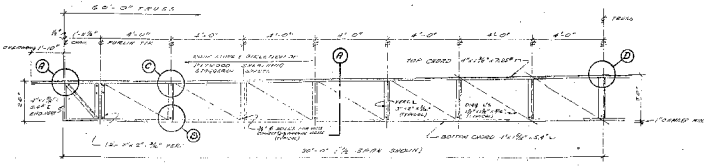


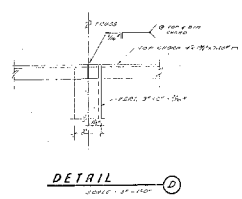
AIR SUPPLY DUCT PLAN

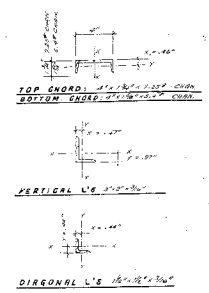


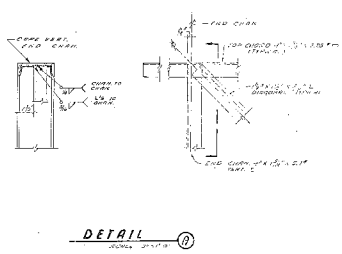
LONGITUDINAL SECTION

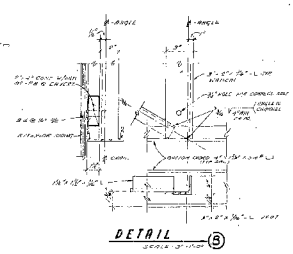
PEPSICO BUILDING SYSTEMS INC.		
SCALE 1/4" = 1'-0" / DATE 6-2-76	GTE SYLVANIA INCORPORATED ELECTRONIC SYSTEMS GROUP	DRAWN BY JHF / REVISED
MECHANICAL SYSTEMS AIR CONDITIONING	M-1	DRAWING NUMBER

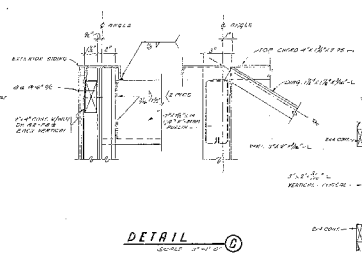


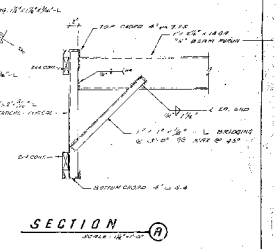










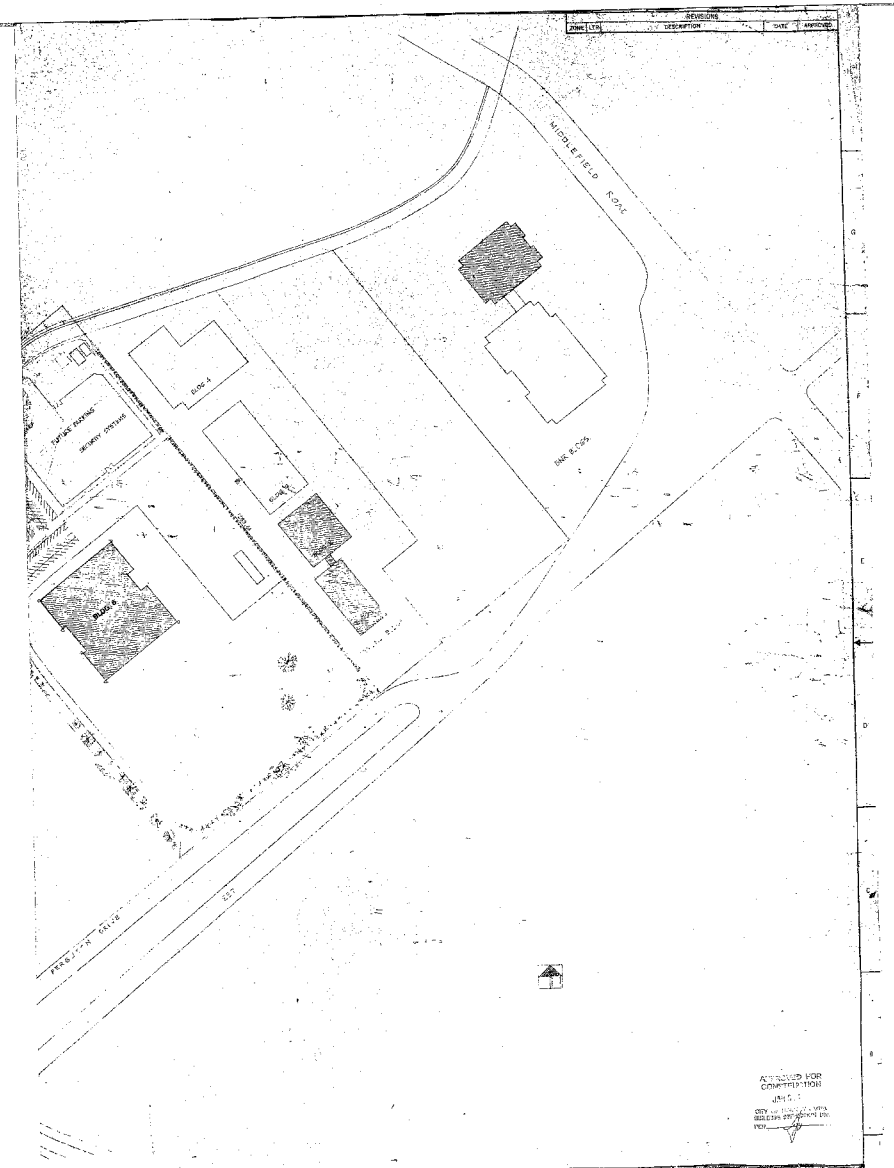


GENERAL NOTES:

1. - STEEL TO BE PER ASTM A36 MIN. FY = 36 K.S.I.
2. - WELDING TO BE PREFORMED IN THE SHOP OF THE FABRICATOR RECEIVING AND THE DETERMINATION OF WELDING TO PLATFORM THESE PROCEDURE.
3. - STEEL DESIGN CONFORMS TO A.I.S.C. SPEC. FOR DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS 1968 EDITION.
4. - FLUX DECK TO SUPPORT TOP CHORD CONTINUOUSLY WITH WELDING OF SHEARING.
5. - ALL STRUCTURAL MEMBERS SHALL RECEIVE ONE SHOP COAT OF PROTECTIVE PAINT OR A TYPE STANDARD WITH THE MANUFACTURER.
6. - WELDING FOR BOTTOM CHORD SHALL NOT EXCEED 8'-0" O.C.

PEPSICO BUILDING SYSTEMS INC.

SCALE: 1/8" = 1'-0"	GTE SYLVANIA ELECTRONIC SYSTEMS GROUP	DRAWN BY: JJT
DATE: 6-7-76		REVISED
STRUCTURAL SYSTEMS OF PRE-STRUT STEEL TRUSS 60'-0"	S-4	APPROVED BY:



REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED

APPROVED FOR CONSTRUCTION

RELEASE APPD BY

UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USASI Y14.5
TOLERANCES: ANGLES ±
DECIMALS: .XX ± .XXX ±
SURFACES: √ MICRO INCHES

LEVEL		PROVISIONS	DATE	BY
	DWG 1 2 3 4			
	CHK 1 2 3 4			
	DSNT 1 2 3 4			
NEXT ASSEMBLY				
MODEL				

GOVERNMENT CONTRACT NO

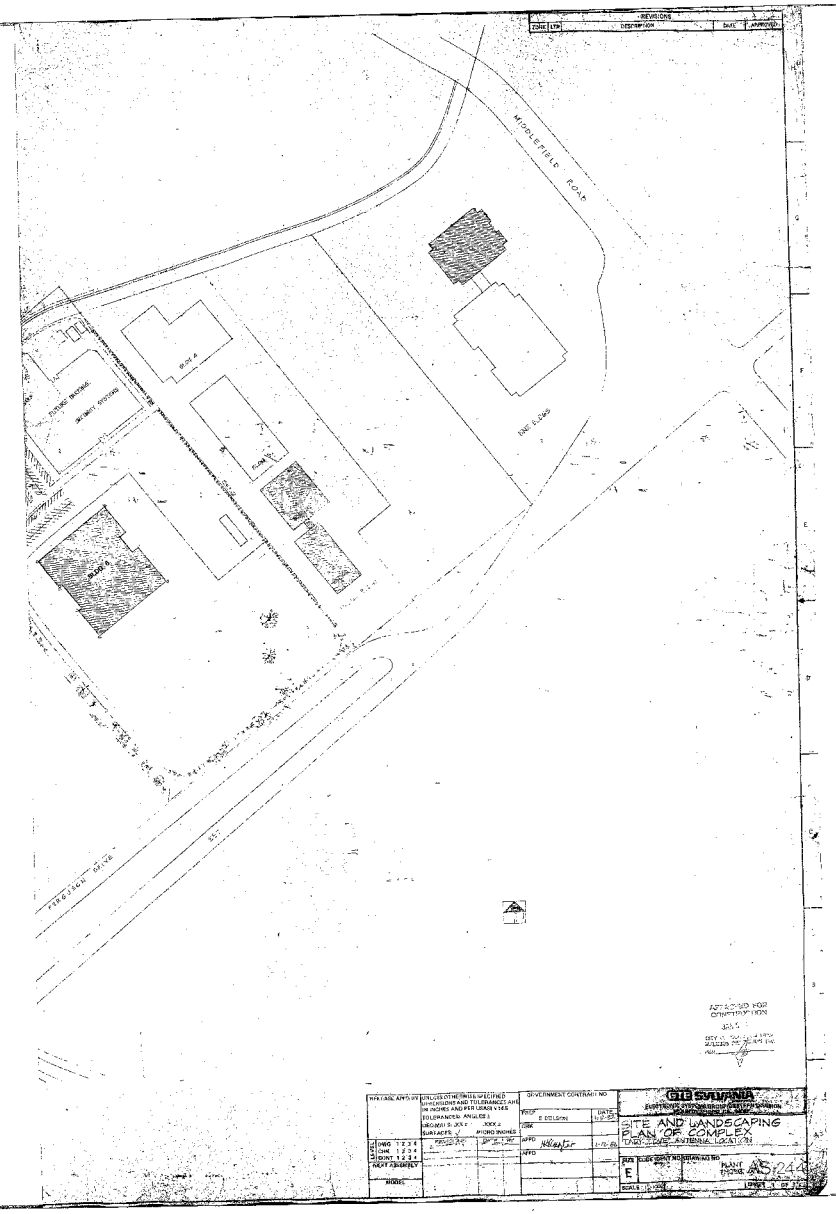
		DATE
PROP	R DELKIN	1-15-82
CHK		
APPD	H Hunter	1-15-82
APPD		

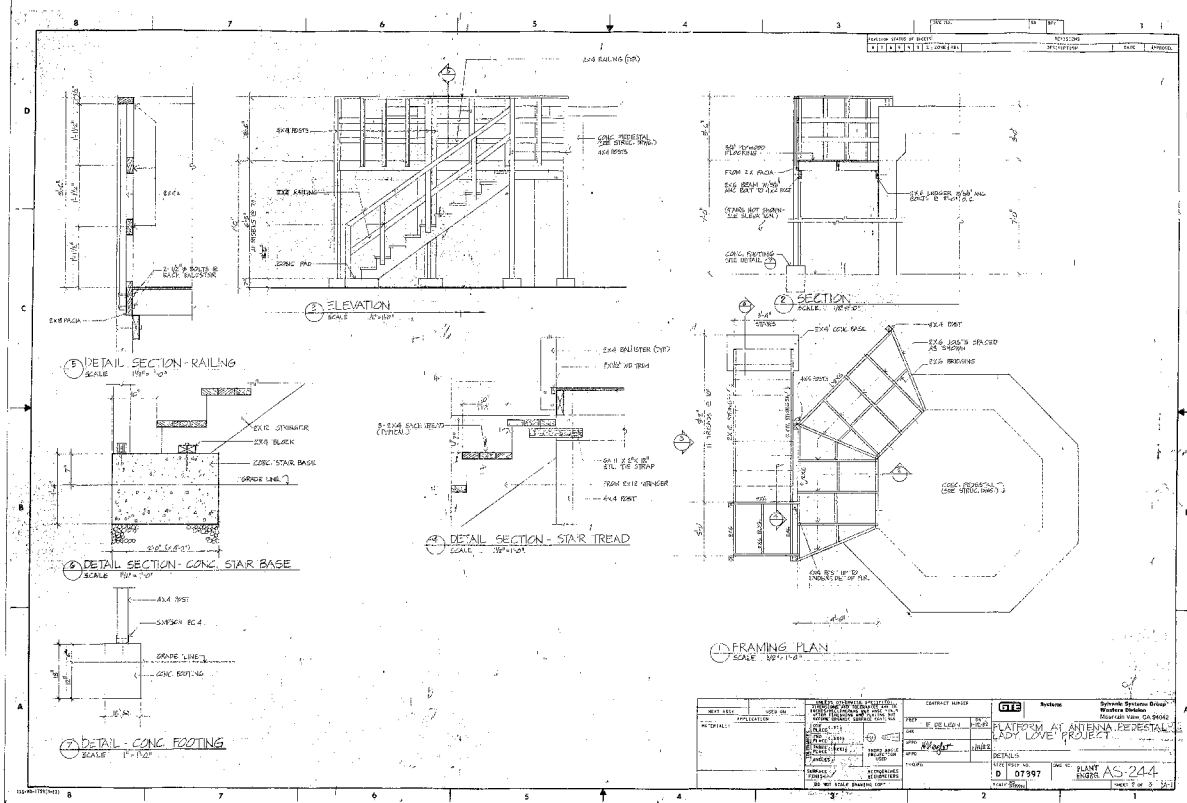
GTE SYLVANIA
ELECTRONIC SYSTEMS GROUP WESTERN DIVISION
SUPERSEDES ON FILE

SITE AND LANDSCAPING PLAN OF COMPLEX
TADY DIVE ANTENNA LOCATION

SIZE	CODE IDENT NO	DRAWING NO
E		PLANT NO 1 HIGHER 2

SCALE 1:1000 SHEET 1 OF 1


MIDDLEFIELD ROAD
BLDG 4
BLDG 5
BLDG 6
FERGUSON DRIVE
EST
APPROVED FOR CONSTRUCTION
GTE SYLVANIA
SITE AND LANDSCAPING PLAN OF COMPLEX
TARTAN ANTENNA LOCATION
E
AS 244



ELEVATION
SECTION
DETAIL SECTION - RAILING
DETAIL SECTION - CONC. STAIR BASE
DETAIL SECTION - STAIR TREAD
FRAMING PLAN
DETAIL - CONC. FOOTING
Systems
Sylvania Systems Group
Western Division
Mountain View, CA 94042
PLATFORM AT ANTENNA PEDESTAL
LADY LOVE PROJECT
DETAILS
D
07397
PLANT ENGINE
AS-244

- ☐ Fire hydrants shall be installed as per Mountain View City Code and standards provided. Hydrants on Plan to match. To be located _____.
- ☐ Minimum street width shall be _____ curb to curb.
- ☐ Cul-de-sac shall have a minimum radius of _____ from center to curb.
- ☐ Driveways or common access roadways site shall be constructed to accommodate emergency vehicles, 13'6" overhead clearance, and 20' clear width to the minimum requirements.
- ☐ Driveways or common access roadways shall be looped or through access ways. Dead-end driveways in excess of _____ are not allowed.
- ☐ Minimum gate width shall be 20'. Clear, free-opening gates may be secured with a lock and non-case hardened chain.
- ☒ During the construction phase, all-weather access roads for emergency vehicles shall be provided with not less than 20' of unobstructed width and a minimum of 13'6" of vertical clearance.
- ☐ "NO PARKING" signs shall be posted along fire lane to meet Mountain View Fire Department requirements.
- ☐ Submit one 8-1/2" x 11" site plan on permit according to Mountain View Fire Department specifications prior to commencing combustible construction.
- ☒ If PG&E gas meters are subject to vehicular or traffic impact protection shall be provided according to Mountain View Fire Department specifications.
- ☐ Fire Department approved fire sprinkler
- ☐ Before areas within 10' of combustible construction or building openings shall be protected with suitable fire particulars. Fire hydrants need are permitted off a domestic water service. An approved, accessible shut-off valve shall be provided.
- ☐ A homeowner's agreement, reviewed by the City Attorney, shall include maintenance of all on-site fire protection equipment.
- ☐ Building shall conform to all requirements of Title 19, California Administrative Code.
- ☐ Hazardous processes shall comply with the requirements of the Uniform Fire and Building Codes. Submit details on the proposed use or storage of any flammable liquids, explosives, corrosives, acids, toxic or other hazardous material to the Fire Prevention Bureau.
- ☐ Other: No repair work except exchange of parts & maintenance requires as open flame welding or use of highly flammable liquids is allowed under B-1 occupancy classification.

CITY OF MOUNTAIN VIEW-ENGINEERING DEPARTMENT

APPLICANT: Patricia Bomber & Daniel Williams DBA GTE Sylvania Inc.

LOCATION: 100 Ferguson Drive — APPLICATION NO. 157-81-AA

PROJECT: [illegible] — Rezoning — COMMENT DATE 7-7-81

A building permit application for this development is subject to the following engineering conditions in addition to those set by the Building, Planning and Fire Departments.

EXCLUSIVE EASEMENTS AND DEDICATIONS

- ___ Dedication of street easement ___ ft. from Centerline of _____
- ___ Dedication of street easement ___ ft. from Centerline of _____
- ___ Dedication of street easement ___ ft. from Centerline of _____
- ___ Dedication of ___ ft. return at _____ & _____
- ___ Dedication of ___ ft. return at _____ & _____
- ___ Agreement to join future Assessment District for improvement of _____
- 1 Installation of standard street improvements on Ferguson Drive
- * signing of an agreement, and execution of bonds and a certification of insurance are required. For information regarding the specific improvements to be installed, please call our Design Engineer, Phil Bhandari's Pro Tem Patrick Fitzsimons at Ferguson Drive.

UTILITIES

- ___ Application for water and sewer services and payment of connection fees.
- ___ Payment of the Existing Water Main front footage charge.
- ___ Payment of the Existing Sewer Main front footage charge.
- ___ Payment of the Existing Sewer Facility area charge.
- ___ Submittal of on-site drainage plans with building plans. A 2 ft. x 2 ft. cleanout box is required for each face of curb drain and cleanout box is required for the curb drain. A direct connection requires direct connection to the curb drain. A direct connection requires (1) a written request, (2) payment of fees not previously paid and (3) written permission from the Director of Public Works.

SIDEWALKS AND DRIVEWAYS

- ___ Application for a sidewalk permit for all work within the street right-of-way.
- 2 Installation of sidewalks on Ferguson Drive, to be shown on building plans.
- ___ Replacement of abandoned driveways with standard curb, gutter and sidewalk, to be shown on building plans.
- ___ The proposed driveway location _____ this conflicts with existing _____ must be resolved at the owner's expense.

FINDINGS & [illegible] REPORT

ZONING ADMINISTRATOR

CITY OF MOUNTAIN VIEW, CALIFORNIA

Page 1 of 2

APPLICATION NO. 157-81-AA

DATE OF FINDINGS July 14, 1981

THIS REPORT IS SUBMITTED IN ACCORDANCE WITH THE PROVISIONS OF THE ZONING ORDINANCE

APPLICANT'S NAME: Patricia Graber & Daniel Williams for GTE Sylvania, Inc. ZONE: ML

STREET ADDRESS OF PROPERTY: 100 Ferguson Drive

REQUEST: Request for Site Plan and Architectural Approval to construct a 2,400 square foot wood frame building and a 4,320 square foot prefab steel building and relocate utility parking spaces. (Continued from June 11, 1981.)

APPROVED ☐ DISAPPROVED ☐ CONDITIONALLY APPROVED ☐ CONTINUED ☐ OTHER ☐

Since the proposed parking and maintenance shed will, as conditioned, be architecturally acceptable and will conform to the Zoning Ordinance, a negative declaration is filed and this portion of the application is approved subject to the following conditions:

1. The front and the rear elevations of the building shall be the same height across the entire structure.

2. Compliance with the City Building Security Ordinance for commercial buildings.

3. Provide outdoor building and parking lot lighting which is to be high-pressure sodium vapor where available or metal halide lighting with an automatic timing device (photocell recommended) designed to provide one footcandle at the surface level, and designed so as not to cause off-site glare and nuisance.

4. Compliance with the six Public Works requirements shown on the attached sheets (to applicant).

5. Compliance with the four Fire Department requirements shown on the attached sheets (to applicant).

6. Building color scheme (color chart attached to elevations) to be shown on building permit drawings.

CITY OF MOUNTAIN VIEW

Public Works
(415) 966-6311

March 4, 1981

Mr. [illegible]
[illegible] Development Company
20730 Valley Green Drive
Cupertino, CA [illegible]

Dear Mr. [illegible]:

[illegible] Ferguson Drive

This is to confirm our discussion at our meeting [illegible] regarding the subject development. [illegible] requirement for the City Council meeting of March [illegible]. The staff's recommendation to the City Council will be not to waive the requirement for undergrounding. City Council approval of the [illegible] for water, storm and sanitary facilities is also being processed for that same City Council meeting.

As discussed with [illegible] at our meeting, we will allow Sylvania to defer the [illegible] of the street improvements [illegible] until [illegible]. However, [illegible] that the [illegible] of the street improvements, [illegible], will [illegible] to the north boundary of the [illegible] property prior to releasing your new building for occupancy. [illegible] street work, such as sidewalk [illegible].

If you [illegible].

Very truly yours,

[illegible]
Deputy [illegible]

[illegible]

cc: [illegible]
Sylvania [illegible]
P.O. Box [illegible]
[illegible]

Sylvania Systems Group
Sylvania Systems
Sylvania Electric Corporation
P.O. Box 205
Mountain View, CA 94040
(415) 966-2347

Systems

Steve Lisenski
Zoning Administrator
City of Mountain View, California

July 28, 1987

Re: Finding of Site Plan and Architectural Review for parking and maintenance sheet.

The conditions stated in the finding report have been met as follows:

1. Flow modified as requested.
2. Flow modified as requested.
3. Flow modified as requested.
4. Street improvements deferred by Larry Jacobs until July 1987.
5. Flow supply with requirements.
6. Other things attached.

Patricia A. Lisenski
Facilities Engineer

APPLICATION NO. _____

7. This approval expires in one year unless all conditions have been met and the building permits have been obtained. To apply for building permits, submit two sets of construction plans modified to reflect the conditions of approval along with an unaffected copy of the finding report noting the conditions and attached conditions has been attached.

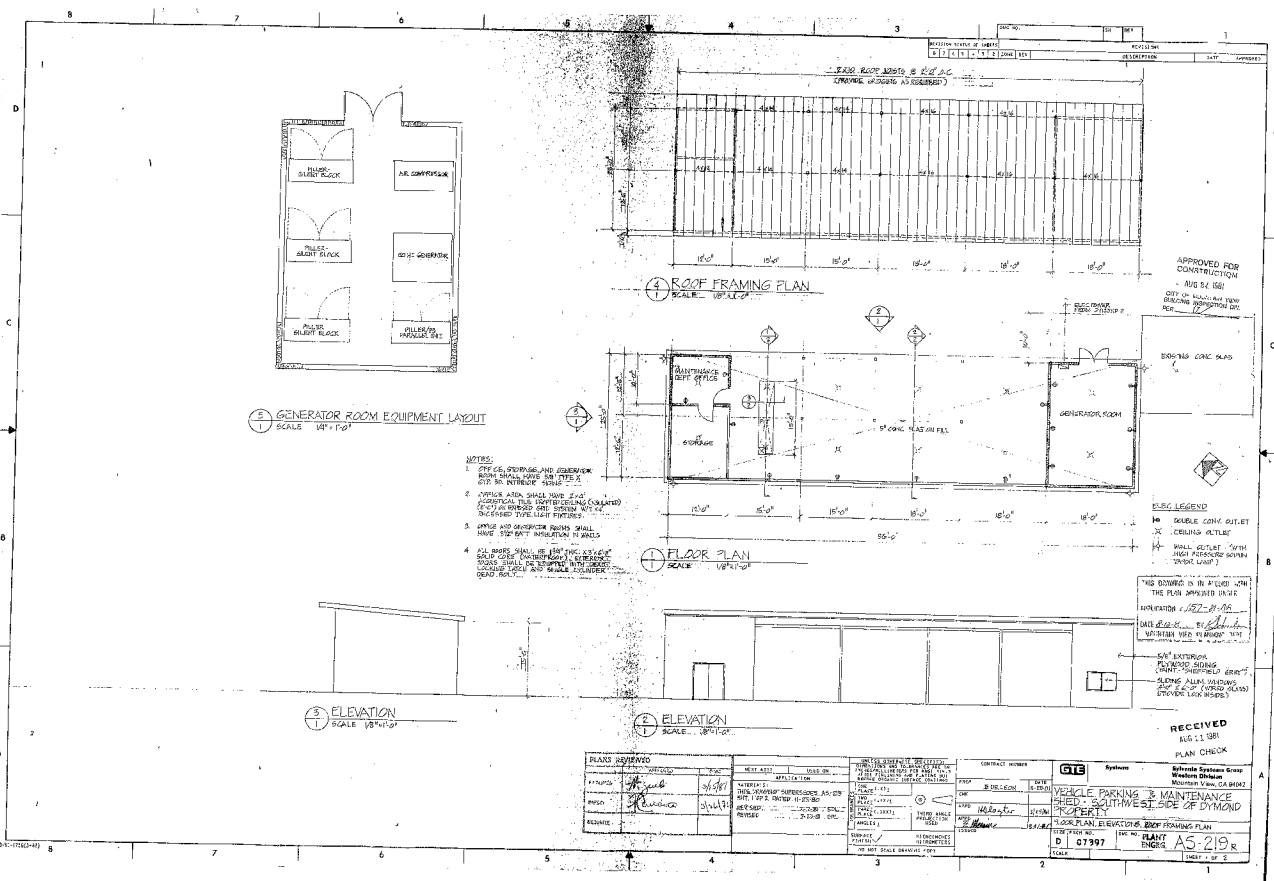
NOTE: Decisions of the DRAC Committee may be appealed to the City Council through the City Clerk within 10 months from the date of the Tentative. No permits may be issued or necessary within the during this appeal period.

The proposed structure is found, of bad dirty, to unobstructurally unacceptable. Therefore, consideration of the stated building and parking relocation is conditioned to the working of Larry. It is under that the applicant can submit revised drawings which reflect a building addition which is more compatible with the existing structure.

STATE ENVIRONMENTAL ZONING ADMINISTRATOR

By: [signature]
Zoning Administrator
Senior Urban Planner

[illegible]



ROOF FRAMING PLAN
SCALE 1/8"=1'-0"
GENERATOR ROOM EQUIPMENT LAYOUT
SCALE 1/4"=1'-0"
FLOOR PLAN
SCALE 1/8"=1'-0"
ELEVATION
SCALE 1/8"=1'-0"
ELEVATION
SCALE 1/8"=1'-0"
MAINTENANCE DEPT OFFICE
STORAGE
GENERATOR ROOM
EXISTING CONC SLAB
APPROVED FOR CONSTRUCTION
AUG 31 1981
NOTES:
ELEC LEGEND
DOUBLE CONC OUTLET
CEILING OUTLET
WALL OUTLET (WITH HIGH PRESSURE SODIUM TAPER LAMP)
5/8" EXTERIOR PLYWOOD SIDING (PAINT - SHEFFIELD GRAY)
SLIDING ALUM. WINDOWS
RECEIVED
AUG 11 1981
PLAN CHECK
PLANS REVIEWED
GTE Systems
Sylvania Systems Group
Western Division
Mountain View, CA 94042
VEHICLE PARKING & MAINTENANCE SHED - SOUTHWEST SIDE OF DYMOND
PROPERTY
FLOOR PLAN, ELEVATIONS, ROOF FRAMING PLAN
D 07397
PLANT ENGRG
AS-219R
SHEET 1 OF 2

LEFT TURNS INTO THE SOUTHERN DRIVE-WAY AT 100 FERGUSON FOR NORTH BOUND TRAFFIC.

6 Submitted of the following data to the Operations Section of the Engineering Department to explain the presentation of documents relating to Conditions 1, ___, and ___ above:

1. Exact name of legal owner or owners of the property as well as the type of ownership, i.e., individual, partnership, or corporation.

2. Legal description of the property involved (Read or Title Report).

IT IS OBVIOUS AS NOTED THAT THE SUBJECTIVE LEGAL ITEMS MAY NOT BE TURNED UNTIL THE ABOVE NUMBERED CONDITIONS HAVE BEEN FURNISHED. IF THIS IS NOT HAPPENED IN ANY CASE BE SUBJECT TO THE FULL AND OF THE ABOVE DESCRIPTION THAT THERE IS THE OPPORTUNITY TO THE EXPIRATION OF THE CONTINUED. THE PROPER ACTUATION TO THESE DESCRIPTIONS IS RECOMMENDED.

ENGINEERING CONDITIONS

Submitted by: Curtis C. Fergus
Operations Director

Approved by: [illegible]
Engineering Director

RECEIVED
JUN 4 1981
PLANNING DIV. FIRE DEPARTMENT REQUIREMENTS
INTER-OFFICE COMMENTARY

ADDRESS: 1070 Ferguson Dr. DATE: 6/3/81

TYPE: IV-N Volume Shell 24001 OCCUPANCY GROUP: B-1

PLANNING ZONE: M-1 FIRE ZONE: — DEVELOPER BY: H. Holden

☐ Provide a fully supervised system or system to be monitored by a central station alarm company. This construction shall include waterflow indicators and valve monitors on all control valves. Fire protection shall be provided during the construction. Plans shall be submitted to the Mountain View Fire Department for review and approval prior to construction. Work shall conform to NFPA standards and Mountain View Fire Department specifications.

☐ Buildings under construction requiring operation protection shall have two 2-1/2" gated outlets installed on each riser, to be in service until such time as the sprinkler system is complete.

☐ Provide approved, single station smoke detectors. At least one detector shall be placed in each bedroom. NFPA 74 shall be used as a guideline. Detectors shall be approved by UL217 and be California State Fire Marshal approved. Detectors shall operate on house power from the building wiring. Wiring shall be permanent and without a disconnecting means other than an overcurrent protection device.

☐ Provide an approved, supervised, central, proprietary system monitored by a central station alarm company. NFPA Standards shall be used as guidelines. Plans shall be submitted to the Fire Prevention Bureau for review and approval prior to installation. Prior to occupancy, the system shall be in service and provisions made for monthly testing and maintenance.

☐ Provide an approved Knox Lockbox to be installed as per the Fire Department directions.

☐ Provide ground level post indicators. Service valve assembly shall be no located as to reach any portion of construction construction area 100' of base. Installation shall be approved and the system shall be tested and approved prior to occupancy. Hydrants required shall be from the public right-of-way. The water systems shall be capable of providing a combined flow of 500 gpm with 20 psi residual pressure. Drawings for these systems shall be submitted to the Fire Prevention Bureau (four sets) for review and approval prior to installation. All work shall conform to NFPA Standards and Mountain View specifications.

☑ Building construction shall comply with 1976 UBC.

☐ The proposed driveway located _____ is in conflict with existing _____ conflicts must be resolved to the owner's satisfaction.

PLANS:

☐ Standard City street trees are required and shall be shown on plans.

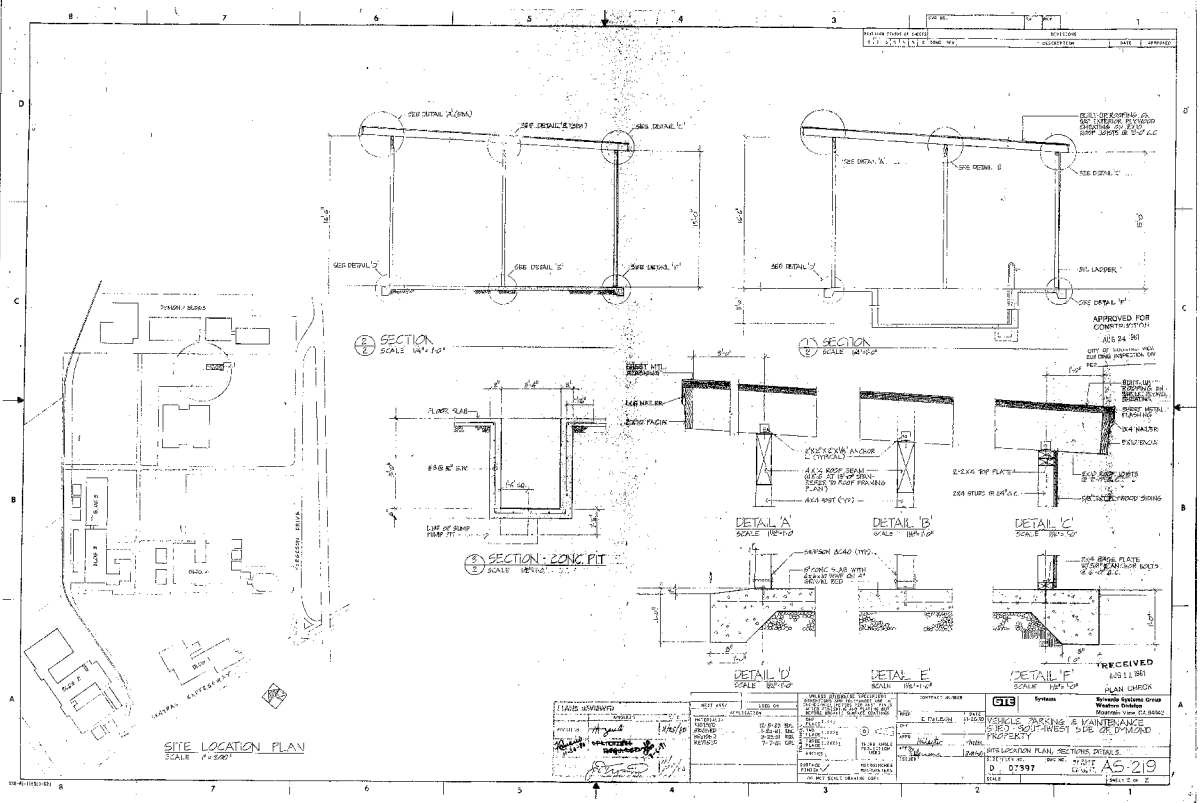
3 Location and size of existing water and sewer services, and size of required water meter(s) to be shown on building plans.

☐ This site plan appears to be a combination/division of land consisting parcel(s). Any combination/division of land for purpose of sale, lease, or financing requires tentative and parcelmap or minor subdivision proceedings.

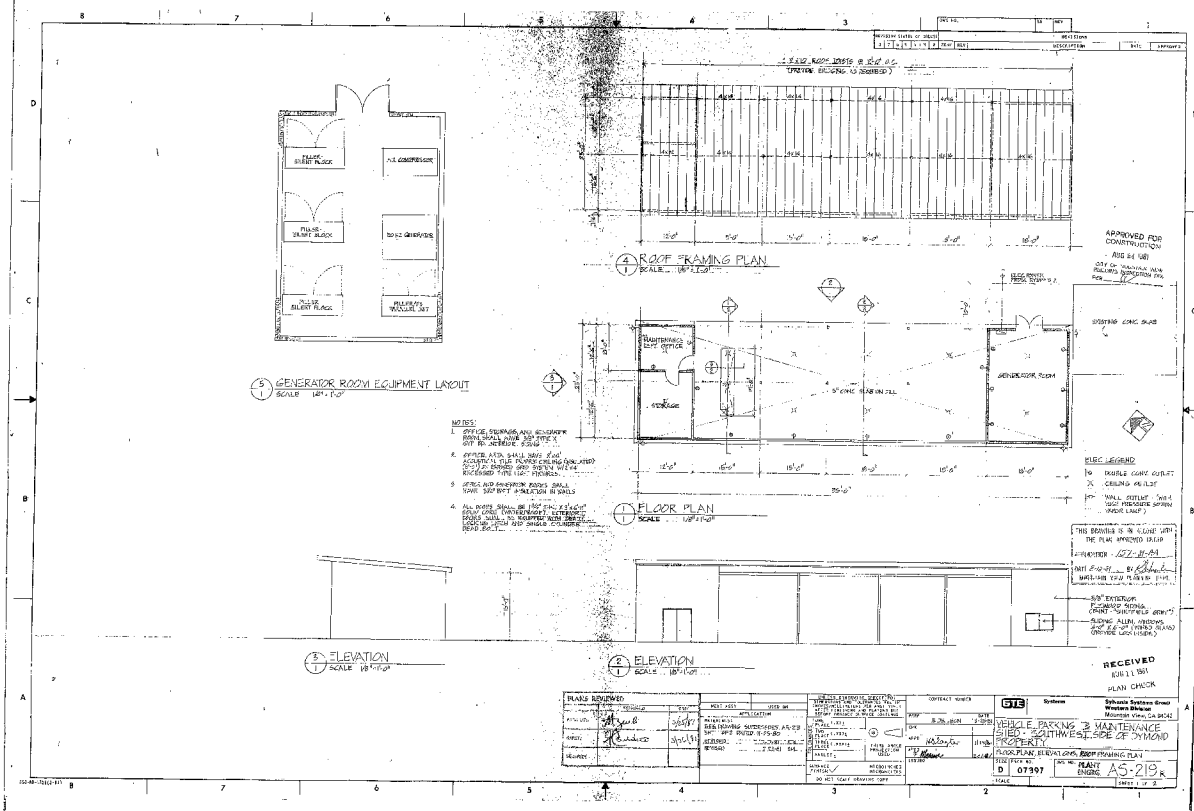
☐ A minimum structure consist to or above the base flood elevation as established by the City's Flood Insurance Rate Map, or elevation 8.1 as referenced to Datum Mean-100, whichever is higher, is required for the lowest habitable floor for residential buildings and the finished floor elevation (including basement) for non-residential buildings. Under certain conditions, and at the discretion of Public Works, variances may be allowed for buildings to be constructed below the required elevation if mitigating measures described under Sec. 8.1-14 of the City Code are taken.

4. WATER & SEWER MAINS MUST BE EXTENDED TO SERVE THIS PROPERTY - THIS INCLUDES IMPROVEMENTS REQUIRED FOR SEW. FERGUSON DRIVE (FRONTING THE SOUTHERLY LOT) CONNECTION FROM FERGUSON DRIVE TO THE ON-SITE PRIVATE WATER SYSTEM MUST BE MADE AT THIS TIME.

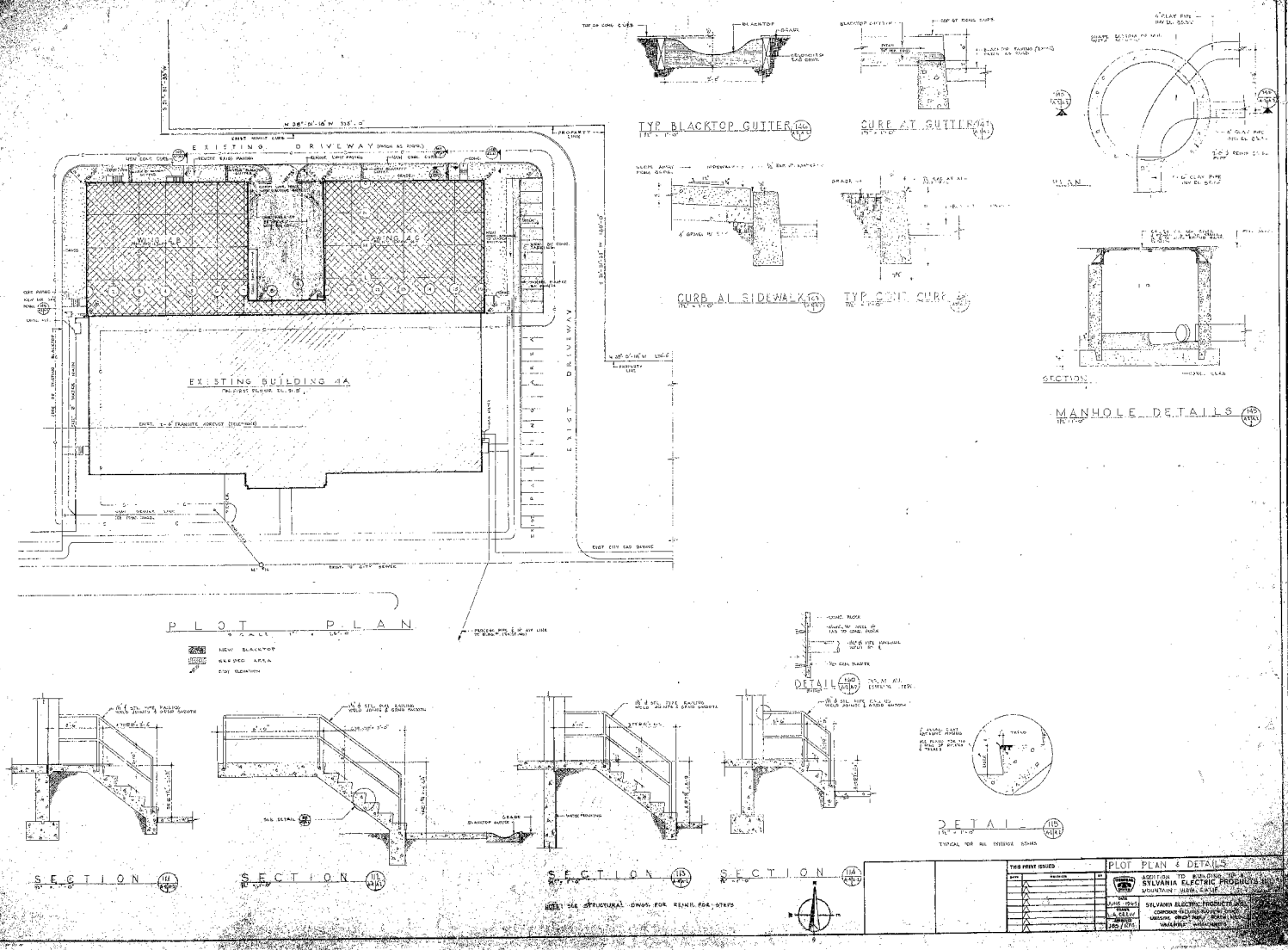
* 5. THE STD. STREET IMPROVEMENTS REQUIRED IN CONDITION #1 SHALL INCLUDE THE INSTALLATION OF A PUBLIC SEWER ALONG THE CENTERLINE OF FERGUSON DRIVE FROM CENTRAL EXPRESSWAY TO THE SOUTHERN DRIVEWAY TO THE DEVELOPMENT AT 300 FERGUSON (AKA BRAD). TO PROHIBIT



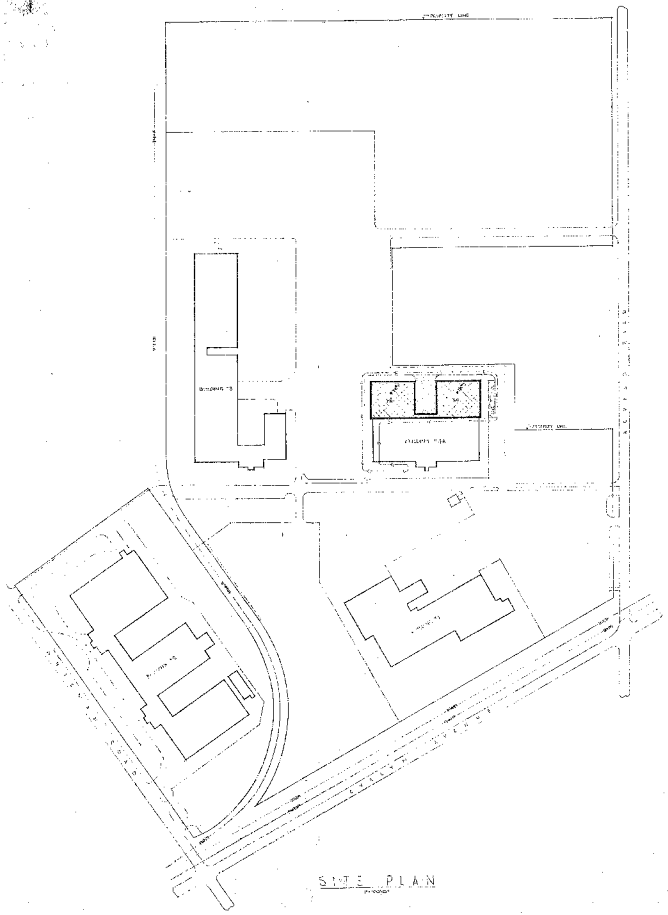
SECTION
SECTION
SECTION - CONC PIT
DETAIL 'A'
DETAIL 'B'
DETAIL 'C'
DETAIL 'D'
DETAIL 'E'
DETAIL 'F'
SITE LOCATION PLAN
APPROVED FOR CONSTRUCTION
RECEIVED
PLAN CHECK
Sylvania Systems Group
Western Division
Mountain View, CA 94042
VEHICLE PARKING & MAINTENANCE
SITE LOCATION PLAN, SECTIONS, DETAILS.
D 07397
AS-219



ROOF FRAMING PLAN
SCALE 1/8" = 1'-0"
GENERATOR ROOM EQUIPMENT LAYOUT
SCALE 1/8" = 1'-0"
FLOOR PLAN
SCALE 1/8" = 1'-0"
ELEVATION
SCALE 1/8" = 1'-0"
ELEVATION
SCALE 1/8" = 1'-0"
NOTES:
1. OFFICE, STORAGE AND GENERATOR ROOM SHALL HAVE 3/8" TYPE X GYP BD INTERIOR SIDING
2. OFFICE AREA SHALL HAVE 2'x4' ACOUSTICAL TILE PLANKS CEILING (ABSORBED) (2'x1') IN SHADED GRID SYSTEM WITH RECESSED TYPE 1 FLOURES.
3. OFFICE AND GENERATOR ROOMS SHALL HAVE 3/8" BOTT ABSORBTION IN WALLS
4. ALL DOORS SHALL BE 1 3/8" THK X 3'-6" SOLID CORE (INTERIOR) EXTERIOR DOORS SHALL BE KEEPPED WITH DRAFT LOCKING ITEM AND SINGLE CYLINDER DEAD BOLT.
APPROVED FOR CONSTRUCTION
AUG 24 1981
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.
ELEC. LEGEND
DOUBLE CONC OUTLET
CEILING OUTLET
WALL OUTLET (WITH SUCH MEASURE SHOWN UNDER LIGHT)
THIS DRAWING IS IN ACCORD WITH THE PLAN APPROVED UNDER
APPROVED
DATE 8-12-81
BY
WATERMAN TRAV PLANNING DIV.
3/8" EXTERIOR PLYWOOD SIDING (PAINT - SHEATHED GRAY)
SLIDING ALUM. WINDOWS 3'-0" X 6'-0" (FIXED GLASS) (PROVIDE LOCK HIDDEN)
RECEIVED
AUG 11 1981
PLAN CHECK
PLANS REVIEWED
NEXT ASSY
USED ON
APPLICATION
DATE
DESIGN
DRAWN
CHECKED
APPROVED
CONTRACT NUMBER
PROJ
DATE
DWN
CHK
APPD
DATE
DESIGN
DRAWN
CHECKED
APPROVED
DO NOT SCALE DRAWING COPY
GTE Systems
Sylvania Systems Group
Western Division
Mountain View, CA 94042
VEHICLE PARKING & MAINTENANCE SHED - SOUTHWEST SIDE OF DYMOND PROPERTY
FLOOR PLAN, ELEVATIONS, ROOF FRAMING PLAN
SIZE D
DWG NO. 07397
DWG NO. PLANT ENGRG. AS-219R
SCALE
SHEET 1 OF 2



EXISTING DRIVEWAY
EXISTING BUILDING 4A
EXIST. DRIVEWAY
PLOT PLAN
NEW BLACKTOP
GRADED AREA
TYP BLACKTOP GUTTER
CURB AT GUTTER
CURB AT SIDEWALK
TYP CONC CURB
PLAN
SECTION
MANHOLE DETAILS
DETAIL
DETAIL
SECTION
SECTION
SECTION
SECTION
NOTE: SEE STRUCTURAL DWGS. FOR REINF. FOR STEPS
THIS PRINT ISSUED
PLOT PLAN & DETAILS
ADDITION TO BUILDING 4A
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.
SYLVANIA ELECTRIC PRODUCTS INC.



TEST BORING LOGS

ELEV.	BORING Nº 1	BORING Nº 2
90.0		
85.0		
80.0		
75.0		
70.0		
65.0		
60.0		

NOTES:

LIST OF DRAWINGS

NO.	DRAWING	NO.	DRAWING
A-1	SITE PLAN		
A-2	PLOT PLAN & DETAILS		
A-3	BASEMENT PLAN		
A-4	FIRST FLOOR PLAN		
A-5	SECOND FLOOR PLAN		
A-6	ELEVATIONS		
A-7	DOOR SCHEDULE AND DETAILS	P-1	PLOT PLANS & DETAILS
A-8	ROOM FINISH SCHEDULE	P-2	
A-9	WALL SECTIONS	P-3	
A-10			
A-11			
A-12	INTERIOR STAIR DETAIL		
A-13	DETAILS		
		V-1	
		V-2	
		V-3	
		V-4	
		E-1	
		E-2	
		E-3	
		E-4	
		E-5	BASEMENT POWER LAYOUT
		E-6	NEW FLOOR POWER LAYOUT
		E-7	SECOND FLOOR POWER LAYOUT
		E-8	PANEL SCHEDULES AND TELEPHONE RISER DIAGRAM
	TYPICAL SECTIONS AND DETAILS		
S-5A	FIRST FLOOR AND FOUNDATION DETAILS		

ABBREVIATIONS

ABBREVIATION	ABBREVIATED	ABBREVIATION	ABBREVIATED	ABBREVIATION	ABBREVIATED
ACCT.	ACCOUNTANT	FACT.	FACTORY	S.M.	SHEET METAL
A/C	AIR CONDITIONING	F.B.	FLAT BAR	SPCG.	SPACING
ADJ.	ADJUSTABLE	F.D.	FLOOR DRAIN	S/S	STRUCTURAL STEEL
ALT.	ALTERNATE	FIN.	FINISH	SS.	STAINLESS STEEL
ALUM.	ALUMINUM	FL.	FLOOR	STD.	STANDARD
ARCH.	ARCHITECTURE	F.L.	FLOW LINE	STL.	STEEL
AUX.	AUXILIARY	F.O.	FLOOR OPENING	STRUCT.	STRUCTURAL
BSMT.	BASEMENT	F.W.	FIELD WELD	SUB.	SUBCONTRACTOR
C.B.	CATCH BASIN	GA.	GLASS	T.	TREADS
CEM. PL.	CEMENT PLASTER	GALV.	GALVANIZED	TEL.	TELEPHONE
C.I.	CAST IRON	GLZD.	GLAZED	TEMP.	TEMPERATURE
CLG.	CEILING	GYP.	GYPSUM	TYP.	TYPICAL
CMP	CORRUGATED METAL PIPE	HD. WD.	HARD WOOD	U.N.O.	UNLESS NOTED OTHERWISE
COL.	COLUMN	HT.	HEIGHT	URL.	URINAL
COMP.	COMPRESSOR	JT.	JOINT	W/	WITH
CONC.	CONCRETE	LAM.	LAMINATED	W/O	WITHOUT
COND.	CONDITIONING	LAV.	LAVATORY	W.C.	WATER CLOSET
CONT.	CONTINUOUS	LOC.	LOCATION	WT.	WEIGHT
CONTR.	CONTRACTOR	MECH.	MECHANICAL	W.W.F.	WELDED WIRE FABRIC
CTRSK.	COUNTERSINK	M.O.	MASONRY OPENING		
D.F.	DRINKING FOUNTAIN	N.I.C.	NOT IN CONTRACT		ACOUSTIC
DIA.	DIAMETER	N.T.S.	NOT TO SCALE		
DIM.	DIMENSION	O.C.	ON CENTER		
DIST.	DISTRIBUTION	OPNG.	OPENING		
D.S.	DOWNSPOUT	PL.	PLATE		
DWG.	DRAWING	PLBG.	PLUMBING		
EA.	EACH	POL.	POLISHED		
ELEV. OR EL.	ELEVATION	PROJ.	PROJECTING		
E.O.	EVERY OTHER	R.	RISERS		
EQUIP.	EQUIPMENT	REINF.	REINFORCEMENT		
E.F.	EACH FACE	REQD.	REQUIRED		
E.W.	EACH WAY	RM.	ROOM		
EWC	ELEC. WATER COOLER	RWC	RAIN WATER CONDUCTOR		
EXIST.	EXISTING	SCHED.	SCHEDULE		
EXP.	EXPANSION	SIM.	SIMILAR		

KEY TO MATERIALS

	EARTH
	GRAVEL OR CRUSHED STONE
	PLASTER - GYPSUM, CEMENT, ETC. AS NOTED OR SPECIFIED
	CONCRETE (ON ARCH. DWGS.)
	CONCRETE (ON STRUCTURAL DWGS.) ... EXISTING CONSTRUCTION (ON ARCH. DWGS.)
	BRICK MASONRY
	CONCRETE BLOCK MASONRY
	STEEL - LARGE SCALE OTHER METALS AS NOTED OR SPECIFIED
	STEEL - SMALL SCALE OTHER METALS AS NOTED
	WOOD - BLOCKING OR FRAMING
	WOOD FINISH
	RIGID INSULATION
	BATT OR BLANKET INSULATION
	TILE - CERAMIC, RESILIENT, ACOUSTICAL, ETC. AS NOTED OR SPECIFIED
	PRECAST STONE

LIMIT OF CONTRACT

SECTION OR DETAIL DESIGNATION

SECTION OR DETAIL IDENTIFYING NUMBER — SECTION OR DETAIL SHOWN ON THIS DWG. — ON DWG. A-3

SECTION OR DETAIL IDENTIFYING NUMBER — REFER TO THIS SHEET FOR LOCATION OF SECTION OR DETAIL ON DRAWINGS — ON DWG. A-10

105

THIS PRINT ISSUED

DATE	REVISION	BY

SITE PLAN

ADDITION TO BUILDING NO. 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.

SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE FACILITIES PLANNING OFFICE
LAKESIDE OFFICE PARK, NORTH AVE.
WAKEFIELD, MASSACHUSETTS

DATE: JUNE 1964
DRAWN: ...
APPROVED: JDS / KFG

A-1

ADDITION TO BUILDING NO. 4

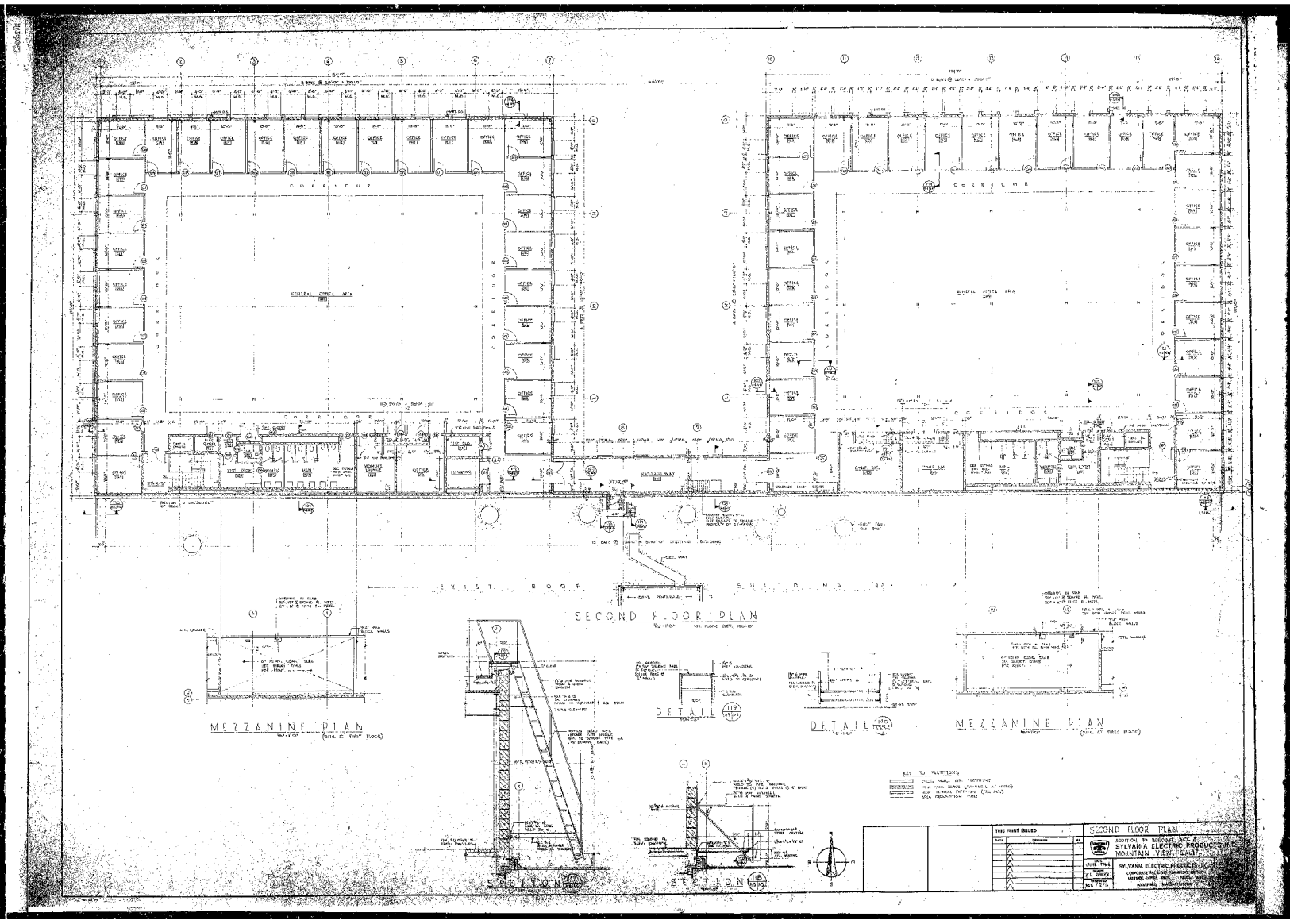
MT. VIEW, CALIF.

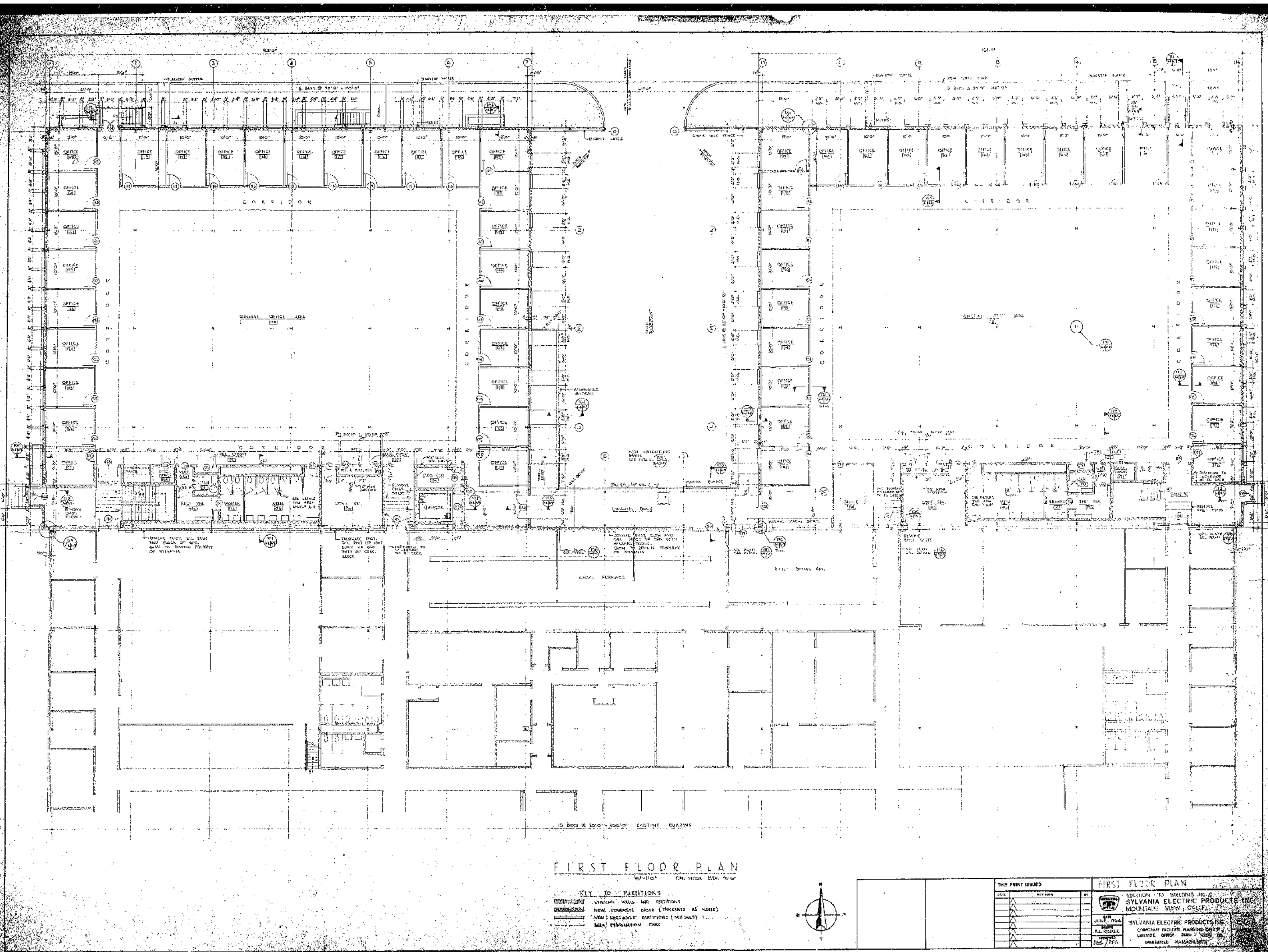
SYLVANIA
SUBSIDIARY OF
GENERAL TELEPHONE & ELECTRONICS GT&E

CHIN AND HENSOLT
SAN FRANCISCO, CALIF.
STRUCTURAL ENGINEERS

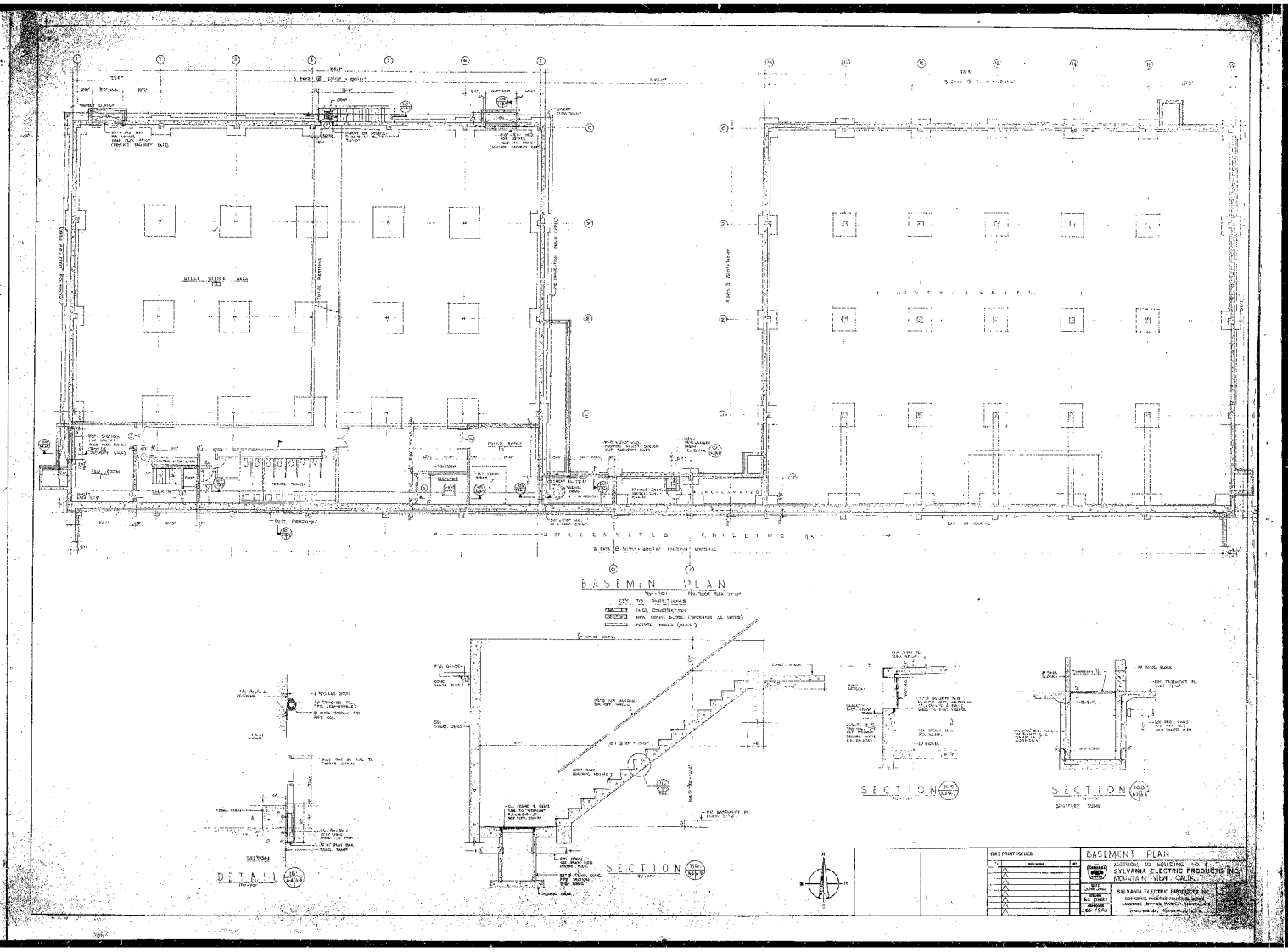
SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE FACILITIES PLANNING OFFICE
LAKESIDE OFFICE PARK NORTH AVE.
WAKEFIELD, MASSACHUSETTS

#28


SECOND FLOOR PLAN
MEZZANINE PLAN
DETAIL
DETAIL
MEZZANINE PLAN
SECTION
SECTION
SECOND FLOOR PLAN
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.



CORRIDOR
GENERAL OFFICE AREA
OFFICE
15 BAYS @ 20'-0" = 300'-0" EXISTING BUILDING
FIRST FLOOR PLAN
FIN. FLOOR ELEV.
KEY TO PARTITIONS
EXISTING WALLS AND PARTITIONS
NEW CONCRETE BLOCK (THICKNESS AS NOTED)
NEW MOVABLE PARTITIONS (SEE SHEET)
DESIGNATION ONLY
THIS PRINT ISSUED
DATE
REVISION
BY
FIRST FLOOR PLAN
ADDITION TO BUILDING NO. 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.
DATE
JUNE 1964
DRAWN
A.L. RINKER
SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE FACILITIES PLANNING
LAKESIDE OFFICE PARK
WAKEFIELD MASSACHUSETTS


BASEMENT PLAN
KEY TO PARTITIONS
SECTION
SECTION
SECTION
DETAIL
THIS PRINT ISSUED
BASEMENT PLAN
ADDITION TO BUILDING NO. 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.
SYLVANIA ELECTRIC PRODUCTS INC.
CONSULTING ENGINEERS HOUSTON, CALIF.
LAWRENCE, DAVIES, PARKER, HAYES, INC.
WALLFIELD, MASSACHUSETTS

ROOM FINISH SCHEDULE

Room No.	Room Designation	Floor Finish	Walls Material	Walls Finish	Ceiling Material	Ceiling Finish	Base	Clg. Hgt.	Remarks
[illegible]	Fan Room	Conc.	Conc. / Conc. Block	—	Exposed	—	—	—	Fl. Sealer - See Specs.
[illegible]	Equip. Room	Conc.	Conc. / Conc. Block	—	Exposed	—	—	—	Fl. Sealer - See Specs.
[illegible]	Gen. Office Area	Conc.	Conc. / Conc. Block	—	Exposed	—	—	—	Fl. Sealer - See Specs.
[illegible]	Stair "6"	Asph. Tile	Conc. Block	Paint		—	Rubber	—	
101	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	See Alternates
102	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
103	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
104	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
105	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
106	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
107	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
108	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
109	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
110	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
111	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
112	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
113	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
114	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
115	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
116	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
117	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
118	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
119	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
120	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
121	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
122	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
123	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
124	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
125	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
126	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
127	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
128	Gen. Office Area	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	11'-0" / 9'-0"	Patch & Paint Existing Cem. Pl.
129	Elec. Closet	Asph. Tile	Conc. Block	Paint		—	Rubber		
130	Vestibule	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
131	Janitor	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
132	Tel. Closet	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
133	Rest Room	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
134	Women	Cer. Tile	Cer. Tile / Movable Partition		Rubbed Conc.	Stippled Paint	Cer. Cove	7'-6"	
135	Men	Cer. Tile	Cer. Tile / Movable Partition		Rubbed Conc.	Stippled Paint	Cer. Cove	7'-6"	
136	Conf. Room	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	Patch & Paint Existing Cem. Pl.
137	Tel. & Elec. Closet	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
138	Elec. Closet	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
	Stair "5"	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	11'-0"	Patch & Paint Existing Cem. Pl.
	Elevator	—	Conc. Block	—	—	—	—	—	
	Loading Dock	Conc.	Conc. Block	Cem. Pl.	Planter	—	—	15'-0"	
151	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	See Alternates
152	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
153	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
154	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
155	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
156	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
157	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
158	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
159	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
160	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
161	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
162	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
163	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
164	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
165	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
166	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
167	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
168	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
169	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
170	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
171	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
172	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
173	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
174	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
175	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
176	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	

Room No.	Room Designation	Floor Finish	Walls Material	Walls Finish	Ceiling Material	Ceiling Finish	Base	Clg. Hgt.	Remarks
177	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	See Alternate
178	Gen. Office Area	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	11'-0" / 9'-0"	See Alt. Patch & Paint Existing Cem. Pl.
179	Elec. Closet	Asph. Tile	Conc. Block	Paint	—	—	Rubber	—	
180	Vestibule	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
181	Janitor	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
182	Tel. Closet	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
183	Rest Room	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
184	Women	Cer. Tile	Cer. Tile / Movable Partition	—	Rubbed Conc.	Stippled Paint	Cer. Cove	7'-6"	
185	Men	Cer. Tile	Cer. Tile / Movable Partition		Rubbed Conc.	Stippled Paint	Cer. Cove	7'-6"	
186	Conf. Room	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	Patch & Paint Existing Cem. Pl.
187	Tel. & Elec. Closet	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
188	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	See Alternate
	Stair "2"	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	11'-6"	Patch & Paint Existing Cem. Pl.
201	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	See Alternates
202	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
203	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
204	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
205	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
206	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
207	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
208	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
209	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
210	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
211	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
212	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
213	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
214	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
215	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
216	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
217	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
218	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
219	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
220	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
221	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
222	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
223	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
224	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
225	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
227	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
228	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
229	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
230	Gen. Office Area	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	11'-0" / 9'-0"	
231	Elec. Closet	Asph. Tile	Conc. Block	Paint	—	—	Rubber	—	
232	Vestibule	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
233	Janitor	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
234	Tel. Closet	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
235	Rest Room	Cer. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
236	Women	Cer. Tile	Cer. Tile / Movable Partition	—	Rubbed Conc.	Stippled Paint	Cer. Cove	7'-6"	
237	Men	Cer. Tile	Cer. Tile / Movable Partition	—	Rubbed Conc.	Stippled Paint	Cer. Cove	7'-6"	
238	Women's Lounge	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
239	Tel. & Elec. Closet	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
240	Office	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
241	Elec. Closet	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
	Stair "6"	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
	Elevator	—	Conc. Block	—	—	—	—	—	
251	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	See Alternates
252	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
253	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
254	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
255	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
256	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
257	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
258	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
259	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
260	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
261	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
262	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
263	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
264	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
265	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
266	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
267	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	

Room No.	Room Designation	Floor Finish	Walls Material	Walls Finish	Ceiling Material	Ceiling Finish	Base	Clg. Hgt.	Remarks
268	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	See Alternate
269	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
270	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
271	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
272	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
273	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
274	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
275	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
276	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
277	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
278	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
279	Office	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	9'-0"	
280	Gen. Office Area	Asph. Tile	Gyp. Wall Board / Conc. Block	Paint / Paint	Ac. Bd.	—	Rubber	11'-0" / 9'-0"	
281	Elec. Closet	Asph. Tile	Conc. Block	Paint	—	—	Rubber	—	
282	Vestibule	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
283	Janitor	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
284	Tel. Closet	Asph. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
285	Rest Room	Cer. Tile	Conc. Block	Paint	Conc.	Paint	Rubber	7'-6"	
286	Women	Cer. Tile	Cer. Tile / Movable Partition	—	Rubbed Conc.	Stippled Paint	Cer. Cove	7'-6"	
287	Men	Cer. Tile	Cer. Tile / Movable Partition	—	Rubbed Conc.	Stippled Paint	Cer. Cove	7'-6"	
288	Conf. Room	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
289	Tel. & Elec. Closet	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
290	Conf. Room	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
291	Passageway	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	
	Stair "C"	Asph. Tile	Conc. Block	Paint	Ac. Bd.	—	Rubber	9'-0"	

THIS PRINT ISSUED		
DATE	REVISION	BY

ROOM FINISH SCHEDULE

ADDITION TO BUILDING NO. 5
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.

DATE: JUNE-1964
DRAWN: L.A. DIZON
APPROVED: JBS / RPG

SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE FACILITIES PLANNING OFFICE
LAKESIDE OFFICE PARK - NORTH AVE.
WAKEFIELD, MASSACHUSETTS

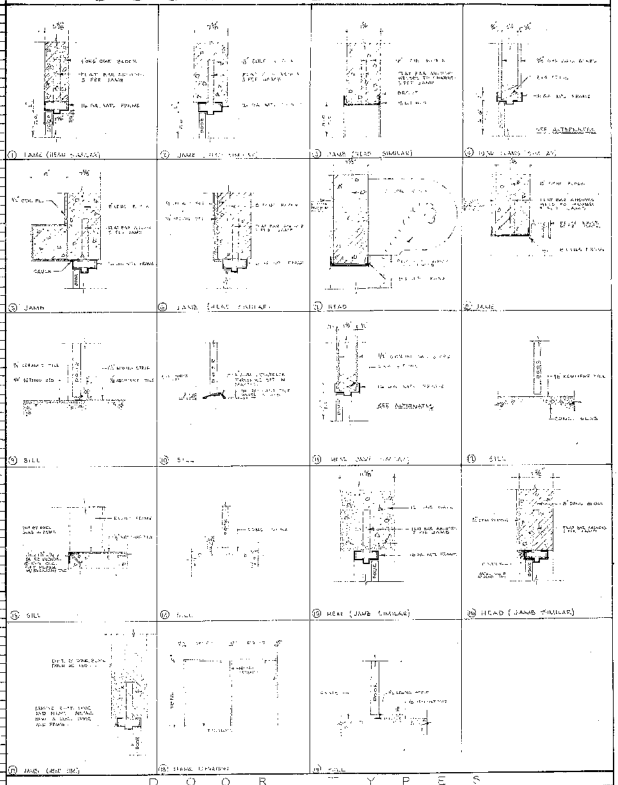
[illegible]

DOOR SCHEDULE

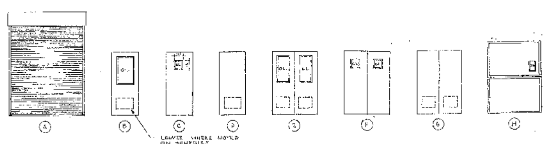
NO.	DESCRIPTION	TYPE	WIDTH	HEIGHT	THK.	HEAD	JAMB	SILL	GLAZED	LOUVER	REMARKS
1	HOLLOW METAL	C	3'-0"	7'-2"	1¾	2	2	9	WIRE GL.	—	B-LABEL
2		D	3'-0"	7'-2"	1¾	2	2	19	—	—	B-LABEL
3		G	5'-0"	7'-2"	1¾	2	2	14	—	—	
4		D	3'-0"	5'-0"	1¾	1	1	19	—	—	
5	BI-PARTING METAL	H	6'-0"	8'-0"	—	3	3	13	WIRE GL.	—	BY ELEV. MANUFACTURER
6	HOLLOW METAL	G	5'-0"	7'-2"	1¾	2	2	14	—	—	
7	HOLLOW METAL	D	3'-0"	7'-2"	1¾	15	15	10	—	—	
101	HOLLOW METAL	D	3'-0"	6'-8"	1¾	4	4	12	—	—	SEE ALTERNATES
102		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
103		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
104		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
105		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
106		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
107		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
108		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
109		D	3'-0"	6'-8"	1¾	11	11	12	—	—	
110		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
111		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
112		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
113		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
114		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
115		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
116		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
117		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
118		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
119		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
120		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
121		D	3'-0"	6'-8"	1¾	4	4	9	—	—	
122		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
123		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
124		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
125		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
126		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
127		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
128		G	5'-0"	7'-2"	1¾	2	2	12	WIRE GL.	—	A-LABEL FUSIBLE LINK
129		D	2'-0"	7'-2"	1¾	1	1	12	—	12x12"	
130	FINISH OPENING	—	3'-0"	7'-4"	—	—	—	—	—	—	
131	HOLLOW METAL	D	2'-0"	7'-2"	1¾	1	1	12	—	18x12"	
132	HOLLOW METAL	B	3'-0"	7'-2"	1¾	1	1	12	—	18x12"	
133	HOLLOW METAL	D	2'-8"	7'-2"	1¾	1	1	9	—	20x12"	
134	FINISH OPENING	—	3'-0"	7'-4"	—	—	—	—	—	—	
135	HOLLOW METAL	D	2'-8"	7'-2"	1¾	6	6	9	—	20x12"	
136		B	3'-0"	7'-2"	1¾	1	1	12	DSB	—	
137		G	5'-0"	7'-2"	1¾	1	1	12	—	18x12"	SEE FRAME ELEVATION #18
138		D	3'-0"	7'-2"	1¾	1	1	12	—	12x12"	
139	BI-PARTING METAL	H	6'-0"	8'-0"	—	3	3	13	WIRE GL.	—	BY ELEV. MANUFACTURER
140	HOLLOW METAL	E	6'-0"	8'-0"	1¾	16	16	10	DSB	—	
141	HOLLOW METAL	B	5'-0"	7'-2"	1¾	17	17			—	A-LABEL FUSIBLE LINK
142	HOLLOW METAL	B	5'-0"	7'-0"	1¾	17	17		—	—	A-LABEL - FUSIBLE LINK
143	HOLLOW METAL	E	4'-4"	7'-2"	1¾	16	5	10	DSB	—	NO EXTERIOR HARDWARE
144	HOLLOW METAL	E	4'-4"	7'-2"	1¾	16	5	10	DSB	—	NO EXTERIOR HARDWARE
151A	HOLLOW METAL	G	5'-0"	7'-2"	1¾	1	1	12	—	18x12"	SEE FRAME ELEVATION #18
151	HOLLOW METAL	D	3'-0"	6'-8"	1¾	4	4	12	—	—	SEE ALTERNATES
152		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
153		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
154		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
155		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
156		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
157		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
158		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
159		D	3'-0"	6'-8"	1¾	11	11	12	—	—	
160		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
161		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
162		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
163		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
164		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
165		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
166		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
167		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
168		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
169		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
170		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
171		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
172		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
173		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
174		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
175		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
176		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
177		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
178		G	5'-0"	7'-2"	1¾	2	2	12	—	—	A-LABEL - FUSIBLE LINK
179		D	2'-0"	7'-2"	1¾	1	1	12	—	12x12"	
180	FINISH OPENING	—	3'-0"	7'-4"	—	—	—	—	—	—	
181	HOLLOW METAL	D	2'-0"	7'-2"	1¾	1	1	12	—	18x12"	
182	HOLLOW METAL	G	5'-0"	7'-2"	1¾	2	2	12	—	18x12"	
183	HOLLOW METAL	D	2'-8"	7'-2"	1¾	1	1	12	—	20x12"	
184	FINISH OPENING	—	3'-0"	7'-4"	—	—	—		—	—	
185	HOLLOW METAL	D	2'-8"	7'-2"	1¾	6	6	9	—	20x12"	
186	HOLLOW METAL	B	3'-0"	7'-2"	1¾	1	1	12	DSB	—	
187	HOLLOW METAL	G	5'-0"	7'-2"	1¾	1	1	12	—	18x12"	SEE FRAME ELEVATION #18
188	HOLLOW METAL	E	6'-0"	8'-0"	1¾	16	16	10	DSB	—	
189	EXISTING DOOR	—	—	—	—	—	—		—	—	
190	STL. ROLL-UP	A	8'-0"	10'-0"	—	1	8		—	—	REUSE EXIST. DOOR
191	HOLLOW METAL	B	5'-0"	7'-2"	1¾	17	17		—	—	A-LABEL FUSIBLE LINK
192		G	5'-0"	7'-0"	1¾	17	17		—	—	A-LABEL FUSIBLE LINK
193		F	4'-4"	7'-2"	1¾	16	5	10	DSB	—	NO EXTERIOR HARDWARE
194		F	4'-4"	7'-2"	1¾	16	5	10	DSB	—	NO EXTERIOR HARDWARE
195		B	3'-0"	6'-8"	1¾	4	4	12	DSB	—	
194A	HOLLOW METAL	G	5'-0"	7'-2"	1¾				—	18x12"	SEE FRAME ELEVATION #18

NO.	DESCRIPTION	TYPE	WIDTH	HEIGHT	THK.	HEAD	JAMB	SILL	GLAZED	LOUVER	REMARKS
201	HOLLOW METAL	D	3'-0"	6'-8"	1¾	4	4	12	—	—	SEE ALTERNATES
202		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
203		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
204		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
205		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
206		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
207		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
208		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
209		D	3'-0"	6'-8"	1¾	11	11	12	—	—	
210		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
211		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
212		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
213		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
214		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
215		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
216		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
217		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
218		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
219		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
220		D	3'-0"	6'-8"	1¾	11	11	12	—	—	
221		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
222		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
223		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
224		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
225		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
226		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
227		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
228		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
229		D	3'-0"	6'-8"	1¾	11	11	12	—	—	
230		F	5'-0"	7'-2"	1¾	2	2	12	WIRE GL.	—	A-LABEL FUSIBLE LINK
231		D	2'-0"	7'-2"	1¾	1	1	12	—	12x12"	
232	FINISH OPENING	—	3'-0"	7'-4"	—	—	—	—	—	—	
233	HOLLOW METAL	D	2'-2"	7'-2"	1¾	1	1	12	—	18x12"	
234	HOLLOW METAL	G	5'-0"	7'-2"	1¾	2	2	12	—	18x12"	
235	HOLLOW METAL	D	2'-8"	7'-2"	1¾	1	1	12	—	20x12"	
236	FINISH OPENING	—	3'-0"	7'-4"					—	—	
237	HOLLOW METAL	D	2'-8"	7'-2"	1¾	2	2	9	—	20x12"	
238		D	3'-0"	7'-2"	1¾	1	1	12	—	—	
239		G	5'-0"	7'-2"	1¾	1	1	12	—	18x12"	SEE FRAME ELEVATION #18
240		B	3'-0"	7'-2"	1¾	1	1	12	DSB	—	
241		D	3'-0"	7'-2"	1¾	2	2	12	—	24x12"	
242	BI-PARTING METAL	H	6'-0"	8'-0"	—	3	3	13	DSB	—	BY ELEV. MANUFACTURER
243	HOLLOW METAL	E	6'-0"	8'-0"	1¾	2	2	12	DSB	—	
244	HOLLOW METAL	C	3'-0"	7'-2"	1¾	16	16	10	—	—	A-LABEL
239A	HOLLOW METAL	G	5'-0"	7'-2"	1¾		1	12	—	18x12"	SEE FRAME ELEVATION #18
251	HOLLOW METAL	D	3'-0"	6'-8"	1¾	4	4	12	—	—	SEE ALTERNATES
252		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
253		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
254		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
255		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
256		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
257		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
258		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
259		D	3'-0"	6'-8"	1¾	11	11	12	—	—	
260		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
261		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
262		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
263		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
264		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
265		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
266		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
267		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
268		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
269		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
270		D	3'-0"	6'-8"	1¾	11	11	12	—	—	
271		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
272		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
273		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
274		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
275		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
276		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
277		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
278		D	3'-0"	6'-8"	1¾	4	4	12	—	—	
279		D	2'-0"	6'-8"	1¾	4	4	12	—	—	
280		F	5'-0"	7'-2"	1¾	2	2	12	WIRE GL.	—	B-LABEL FUSIBLE LINK
281		D	2'-0"	7'-2"	1¾	1	1	12	—	12x12"	
282	FINISH OPENING	—	3'-0"	7'-4"	—	—	—	—	—	—	
283	HOLLOW METAL	D	1'-6"	7'-2"	1¾	1	1	12	—	15x12"	
284	HOLLOW METAL	G	5'-0"	7'-2"	1¾	2	2	12	—	18x12"	
285	HOLLOW METAL	D	2'-8"	7'-2"	1¾	1	1	12	—	20x12"	
286	FINISH OPENING	—	3'-0"	7'-4"	—	—	—	—	—	—	
287	HOLLOW METAL	D	2'-8"	7'-2"	1¾	2	2	9	—	20x12"	
288		B	3'-0"	7'-2"	1¾	1	1	12	DSB	—	
289		G	5'-0"	7'-2"	1¾	1	1	12	—	15x12"	SEE FRAME ELEVATION #18
290		B	3'-0"	7'-2"	1¾	1	1	12	DSB	—	
291		E	6'-0"	8'-0"	1¾	2	2	12	DSB	—	
291A	HOLLOW METAL	G	5'-0"	7'-2"	1¾	1	1	12	—	18x12"	SEE FRAME ELEVATION #18

DOOR DETAILS ¼"=1'-0"



DOOR TYPES



THIS PRINT ISSUED

DATE	REVISION	BY

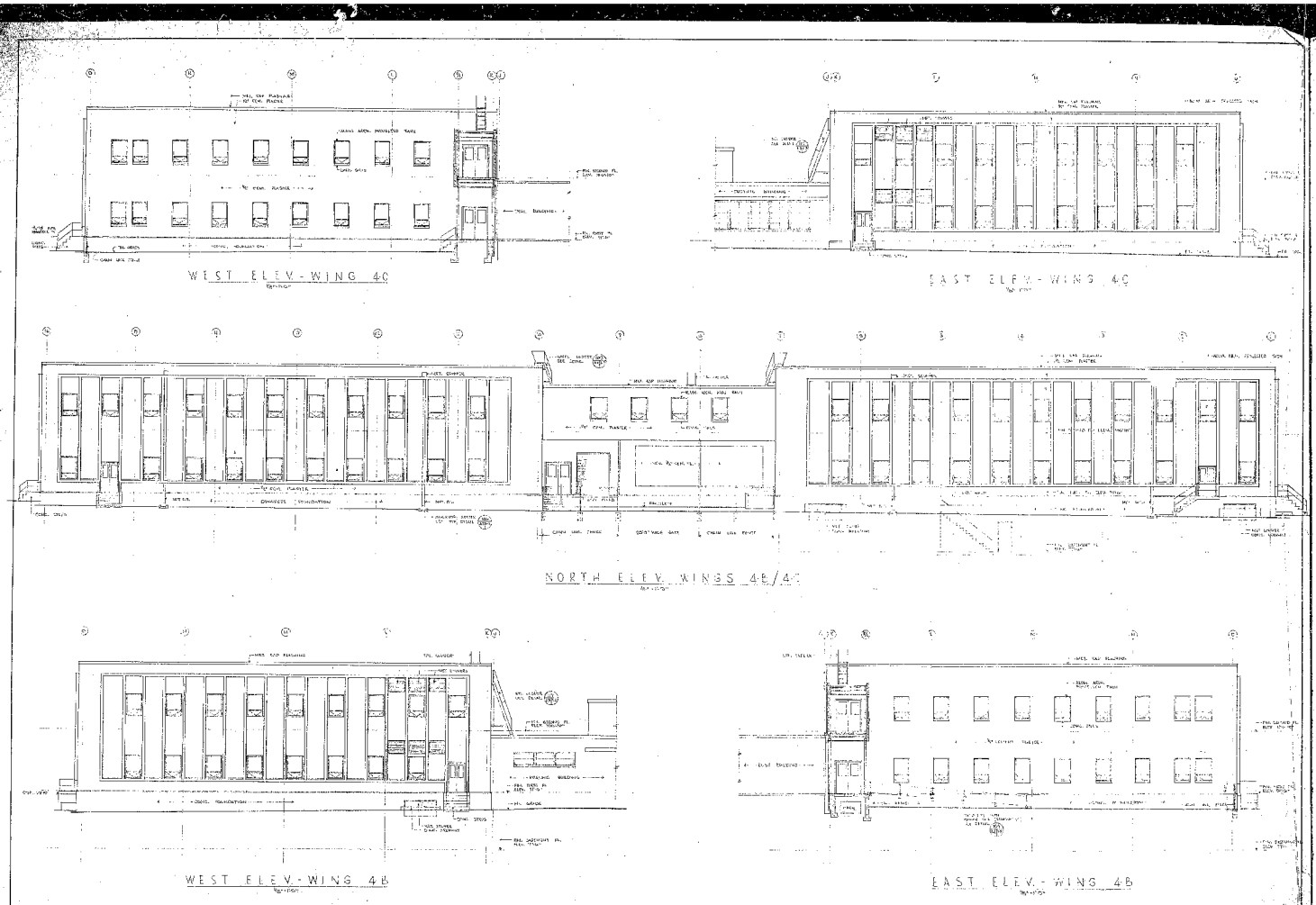
DOOR SCHEDULE & DETAILS

ADDITION TO BUILDING NO. 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.

DATE JUNE 1956
DRAWN L.A. DREW
APPROVED JBS / RFG

SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE FACILITIES PLANNING OFFICE
LAKESIDE OFFICE PARK NORTH AVE.
WAKEFIELD MASSACHUSETTS

864
A-7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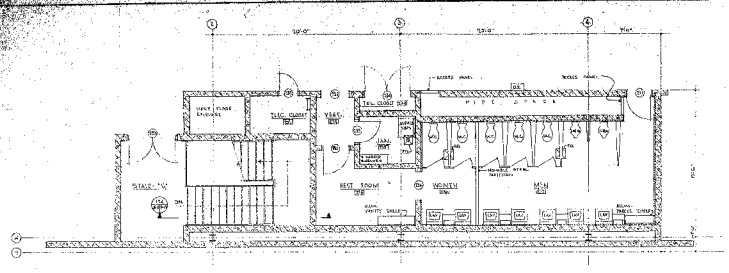
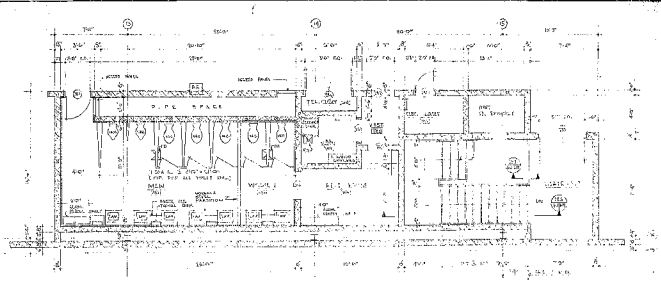
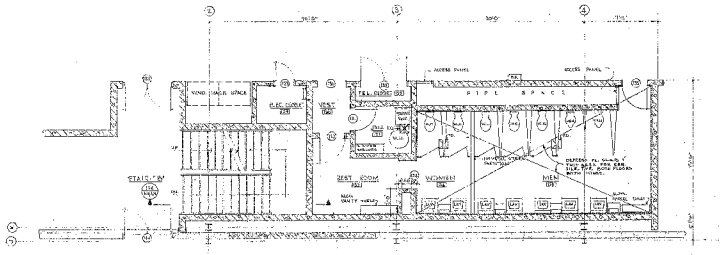
EAST ELEV.-WING 4C
NORTH ELEV. WINGS 4B/4C
WEST ELEV.-WING 4B
EAST ELEV.-WING 4B
THIS PRINT ISSUED
ELEVATIONS
SOLUTION TO DRAWING NO. 2
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.
SYLVANIA ELECTRIC PRODUCTS INC.
CONTINUOUS FACILITIES PLANNING GROUP
LAKESIDE OFFICE PARK
MOUNTAIN VIEW, CALIF.
JAN. 1964
AL. EPALEX
JOB NO.
185/091



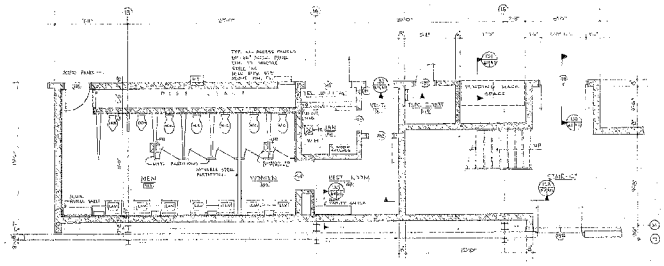
PLAN - SECOND FL. WING 4B



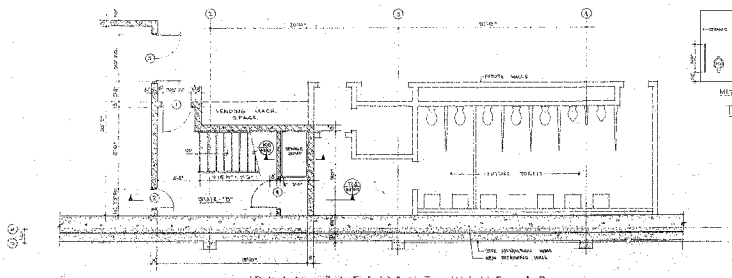
PLAN - SECOND FL. WING 4C



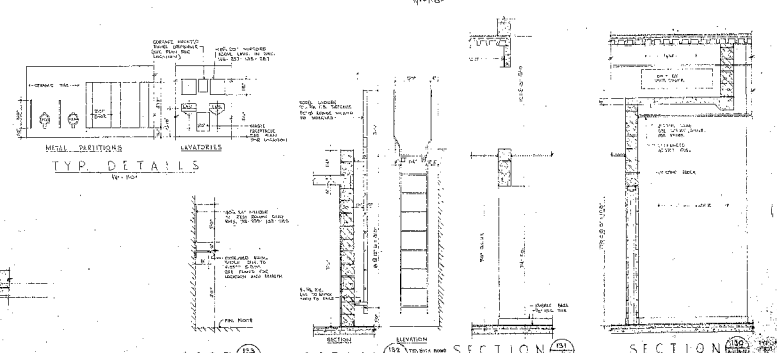
PLAN - FIRST FL. WING 4B



PLAN - FIRST FL. WING 4C



PLAN - BASEMENT WING 4B



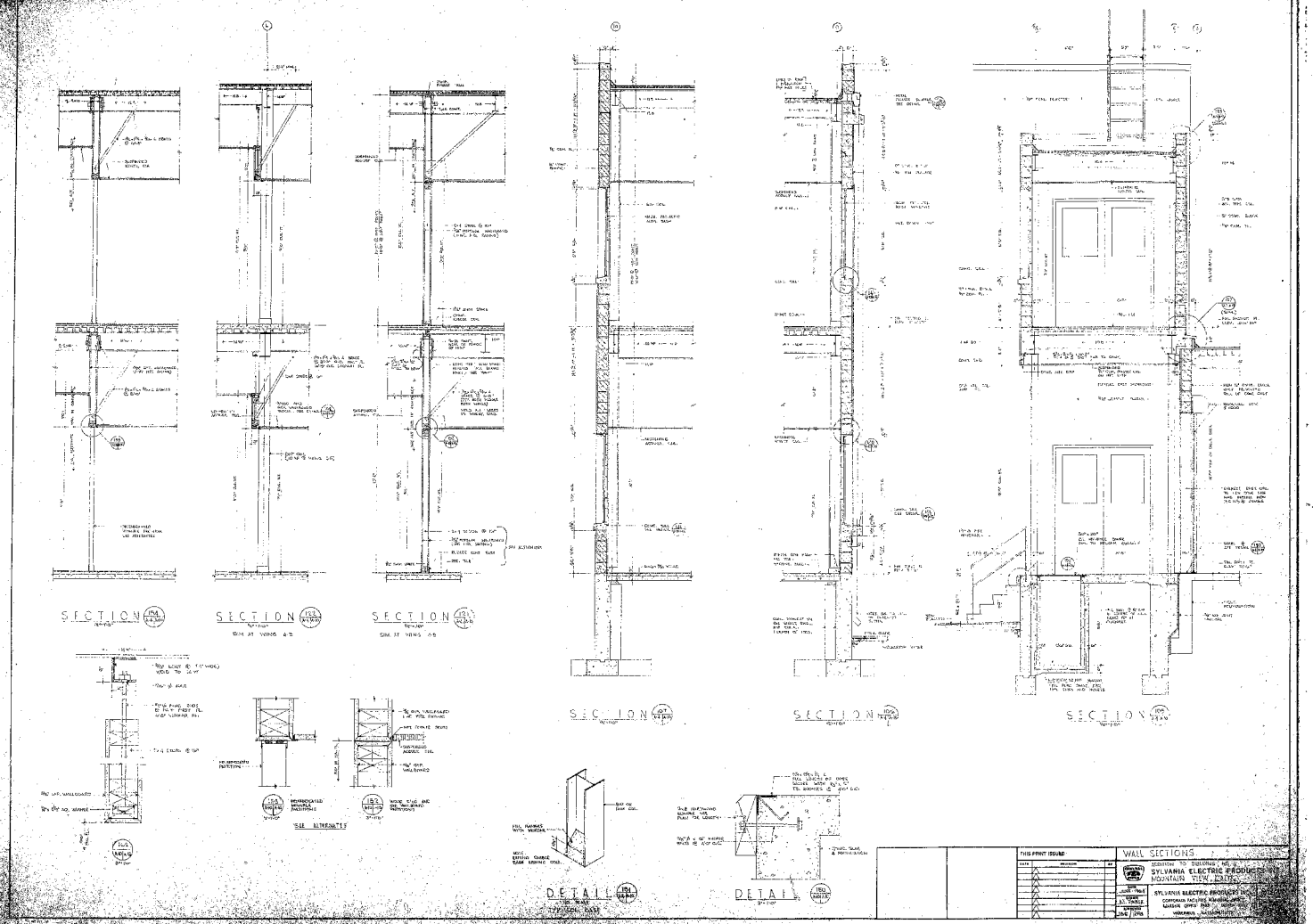
TYP. VANITY AND PARCEL SHELF IN

THIS PRINT ISSUED

TOILET ROOM DETAILS

ADDITIONS TO BUILDING NO. 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN, VIEW, CALIF.

SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE ENGINEERS MANAGING OFFICE
LAKESIDE, OFFICE PARK, WAKEFIELD, MASS.
WAKEFIELD, MASSACHUSETTS


SECTION
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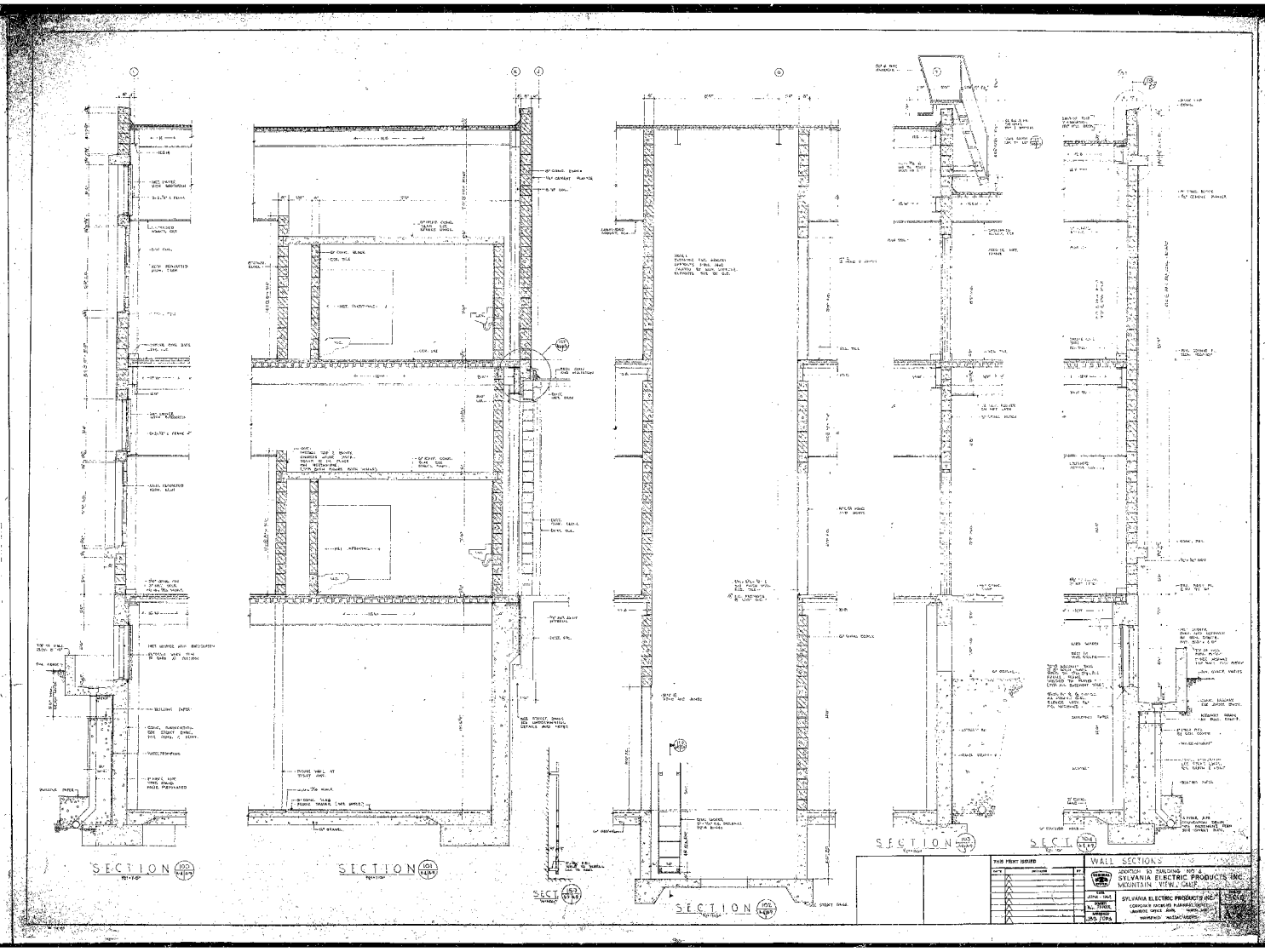
DETAIL
DETAIL
WALL SECTIONS
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIFORNIA
SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE FACILITIES ENGINEERING
WALTHAM, MASSACHUSETTS


SECTION 100
SECTION 101
SECTION 102
SECTION 103
SECTION 104
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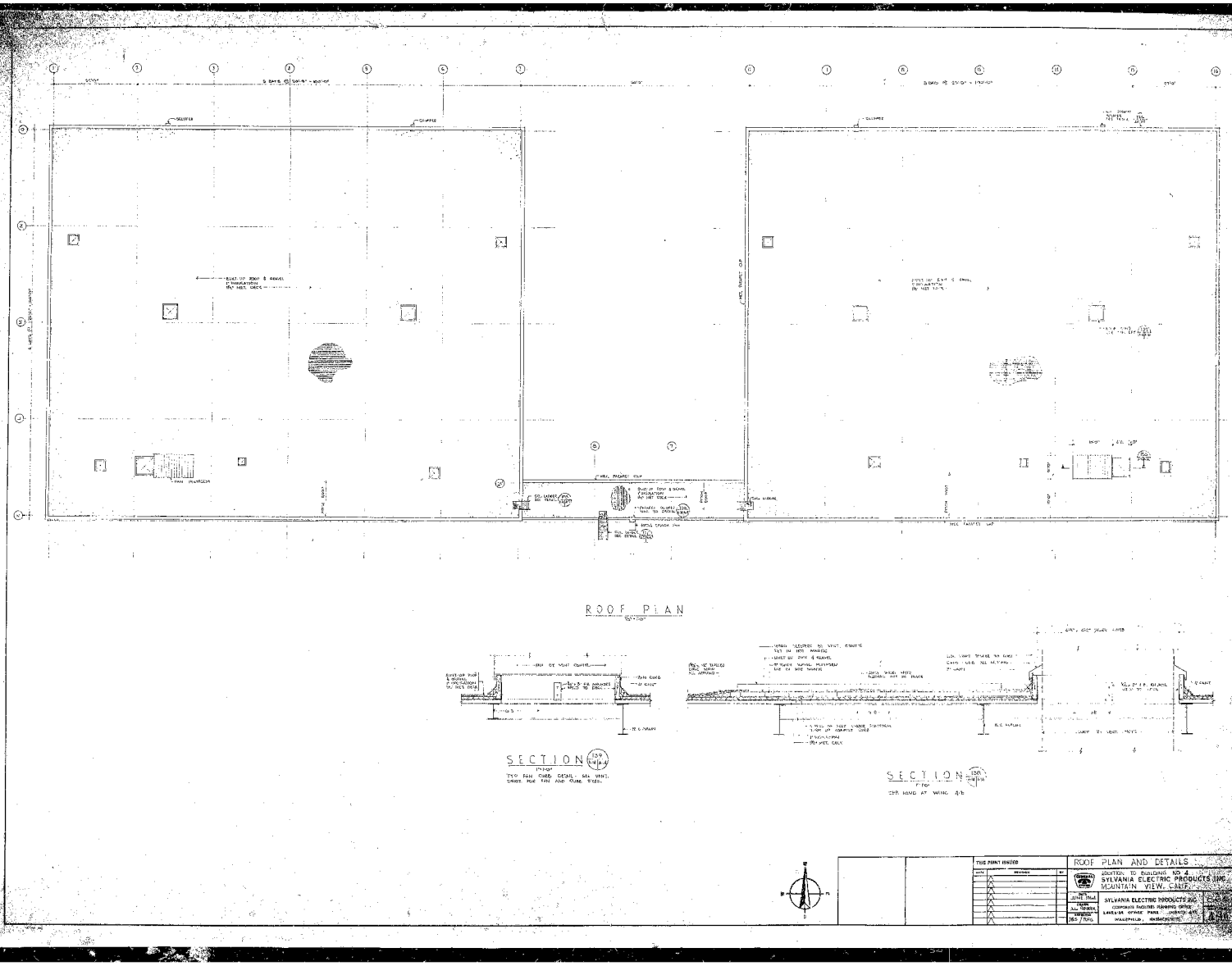
WALL SECTIONS
ADDITION TO BUILDING NO 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.
SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE FACILITIES PLANNING & CONSTRUCTION
LAWRENCE OFFICE PARK
WAKEFIELD, MASSACHUSETTS
JUNE 1964
JBS/ORA


ROOF PLAN
SECTION
SECTION
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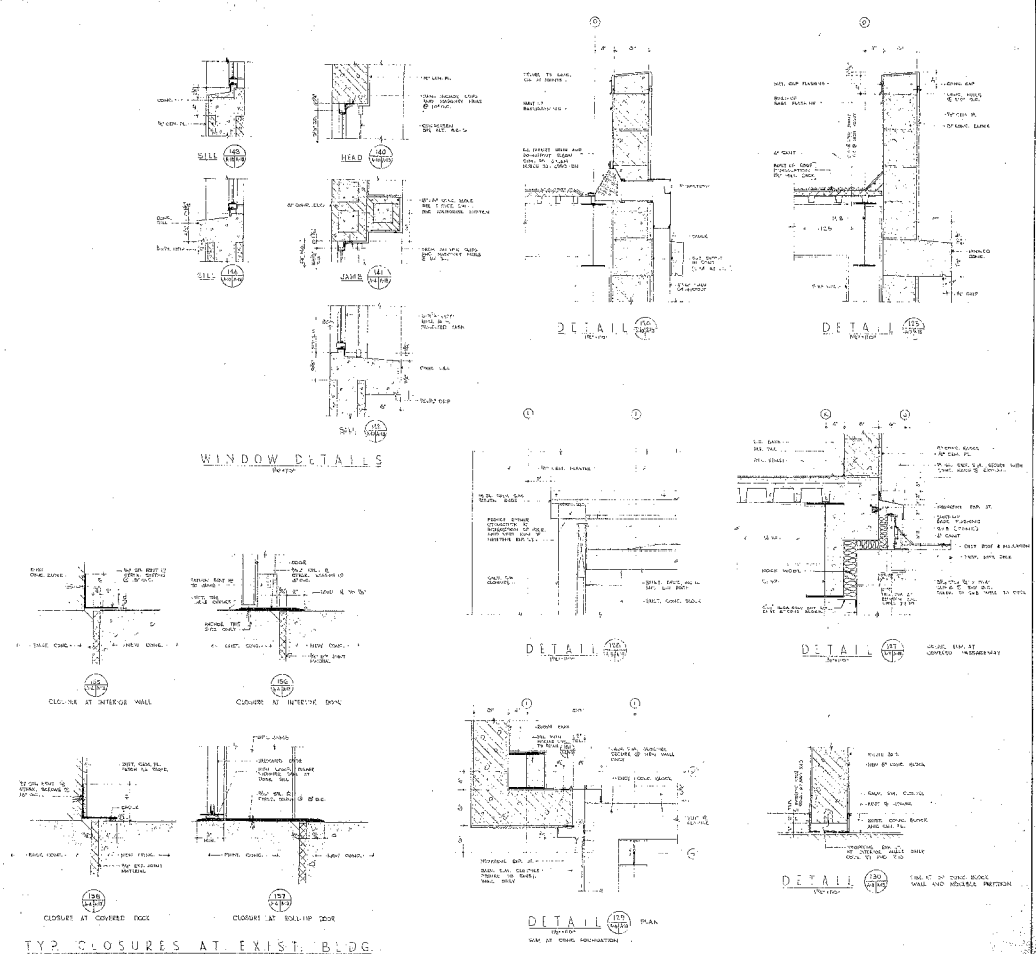
ROOF PLAN AND DETAILS
ADDITION TO BUILDING NO. 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.
SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE FACILITIES PLANNING OFFICE
LAKE-ON OFFICE PARK
WAKEFIELD, MASSACHUSETTS


WINDOW DETAILS
DETAIL
DETAIL
DETAIL
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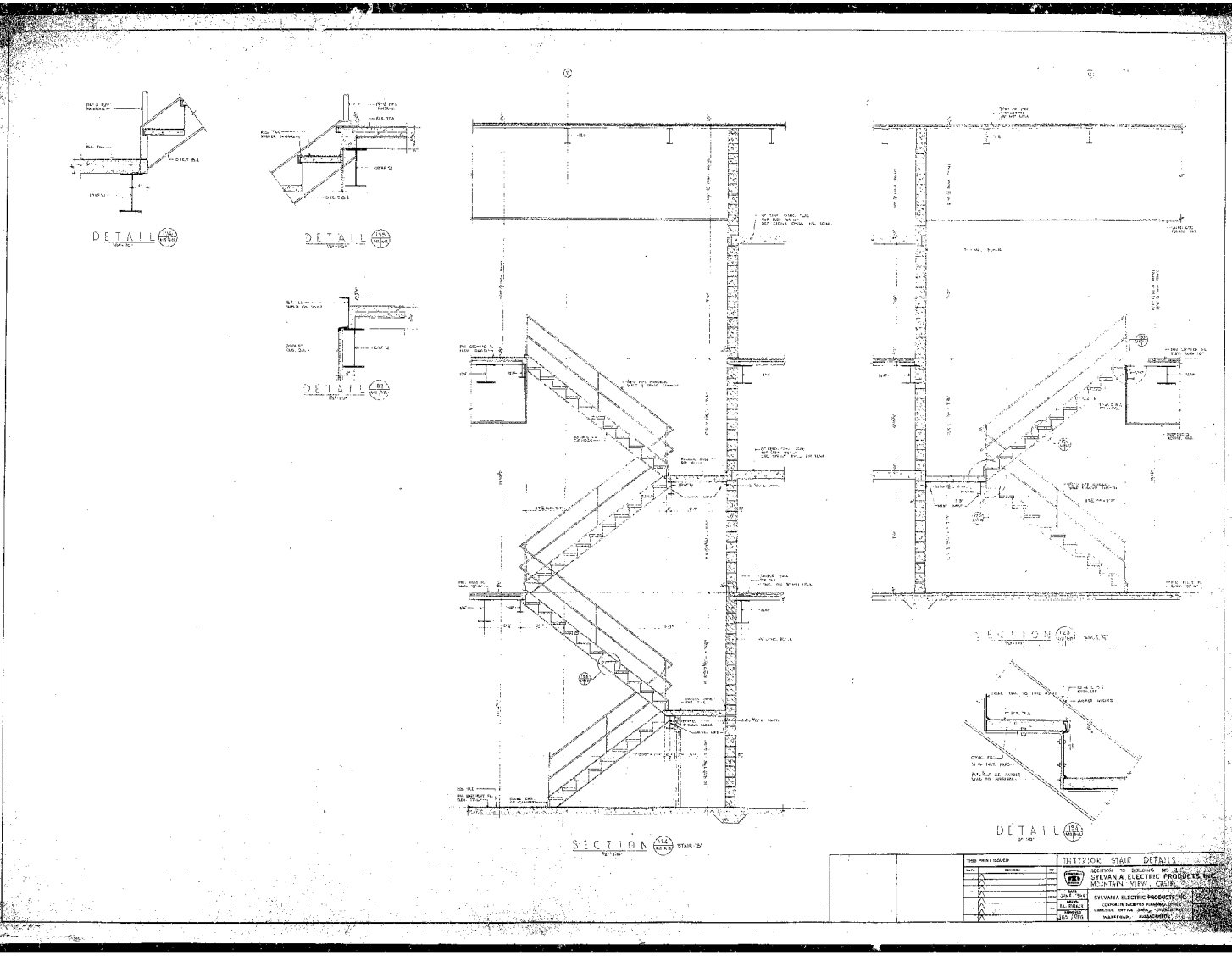
DETAIL
CLOSURE AT INTERIOR WALL
CLOSURE AT INTERIOR DOOR
CLOSURE AT COVERED DOOR
CLOSURE AT ROLL-UP DOOR
TYP. CLOSURES AT EXIST. BLDG.
PLAN
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.
SYLVANIA ELECTRIC PRODUCTS INC.
CONSUMER MEMBRE FINANCIAL CORPORATION
WHITEFIELD, PARKMONTH


DETAIL
DETAIL
DETAIL
SECTION
STAIR "B"
SECTION
STAIR "A"
DETAIL
THIS PRINT ISSUED
INTERIOR STAIR DETAILS
SECTION TO BUILDING NO. 5
SYLVANIA ELECTRIC PRODUCTS, INC.
MOUNTAIN VIEW, CALIF.
SYLVANIA ELECTRIC PRODUCTS, INC.
CONTAINER ENGINEERS PLANNING OFFICE
LIMESTONE OFFICE PARK, INDUSTRIES
WAKEFIELD, MASSACHUSETTS

GENERAL NOTES

1. General notes and typical details apply to all drawings unless otherwise shown or noted.
2. Sections of construction shown are typical and they shall apply generally thruout for similar conditions.
3. Elevations are given with reference to Finish First Floor Line El.100.0' (U.S.G.S. Datum).
4. Elevations of footings are to underside of footings.
5. Elevations of top of beams are given with reference to Finish First Floor Line.
6. Shop details of structural steel, miscellaneous iron and reinforcing bars with erection and placing diagrams shall be submitted to and approved by the Architect and Engineer before fabrication.
7. Dimensions of existing construction shall be verified at the site by the contractor.

FOUNDATION NOTES

1. Soil pressure under footings is not over 3000 #/☐' D.L. plus L.L.
2. Soil pressure under footings is not over 2500 #/☐' D.L. only.
3. Foundation material under footings is silty sand & gravel or silty clay & gravel.
4. All footings shall extend down to firm, undisturbed soil. See foundation details.
5. Where elevation of new footing is higher than existing footing, extend new footing down to same depth as existing footing.
6. No footing shall be poured until excavations are approved by the Architect or Engineer.
7. See soil investigation report dated March 11, 1964 by Woodward-Clyde-Sherard & Associates.
8. All footings shall extend to a minimum depth of 2'-6" below existing grade or 1'-6" below lowest adjacent grade, whichever is lower.

CONCRETE NOTES

1. All concrete for cols, bms, footings, walls & supported slabs shall develop a minimum compressive strength of 3000 p.s.i. at the age of 28 days when tested in accordance with the latest standards of the American Society for Testing Materials hereinafter designated as A.S.T.M. Maximum size aggregate shall be ¾", maximum slump 4". Maximum size aggregate for footings may be increased to 1½".
2. All concrete for slabs on ground shall develop a minimum compressive strength of 2000 p.s.i. at the age of 28 days in accordance with the latest standards of the A.S.T.M. Maximum size aggregate shall be 1½", maximum slump 5".
3. All concrete shall be reinforced.
4. All reinforcing steel shall consist of bars with deformations meeting the requirements of A.S.T.M. Specifications; "Minimum Requirements for the Deformations of Deformed Steel Bars for Concrete Reinforcement" (A.S.T.M. A305-56T).
5. All reinforcing steel shall meet the requirements of the latest A.S.T.M. specifications for intermediate grade deformed bars meeting the cold bend test and elongation requirements of structural grade bars.
6. Lap all bars a minimum of 32 bar diameters but not less than 1'-8" unless otherwise noted.
7. Construction joints shall be located by the Contractor subject to the approval of the Architect and Engineer, and shall be located so that effect of shrinkage shall be kept to a minimum. Provide keys and dowels as directed and thoroughly roughen surfaces of construction joints with 1:2 cement mortar before pouring concrete against concrete already set.
8. Vertical reinforcement in walls, etc. shall be dowelled to supporting footings and walls with bars of same size and spacing as vertical bars. Dowels shall extend 32 bar diameters into supporting members and lap 32 bar diameters with vertical reinforcement.
9. Set accurately and hold firmly in place all bars near the top surface of slab and framing members. See Paragraph 11 below for clearance of bars. Provide approved spacers and chairs as required. Bar spacings, typical details and clearances in concrete members shall conform to the "Manual of Standard Practice for Detailing Reinforced Concrete Structures" of the American Concrete Institute.
10. All details not otherwise shown and noted shall conform to typical details. Modify typical details as directed to meet special conditions.
11. Maintain minimum concrete coverage as follows:
    - 3" where concrete is deposited against earth.
    - 2" where concrete is exposed to earth but placed in forms.
    - 2" for main bars of columns.
    - 1½" for main bars of beams.
    - 1" for wall bars.
    - ¾" for supported slab bars top and bottom.
12. Submit shop drawings for approval before fabricating reinforcing steel.

TABLE OF TYPICAL WALL REINFORCEMENT

Wall thickness	Number of layers	Size and spacing of bars in each layer	Remarks
8"	1	#4 @ 10" oc ea way	
10"	2	#4 @ 16" oc ea way ea face	
12"-14"	2	#4 @ 12" oc " " " "	

NOTE: All walls not otherwise shown shall be reinforced as called for in table of wall reinforcement. All walls not otherwise shown shall be 8" walls.

CONCRETE BLOCK NOTES

1. Blocks shall be Basalite 6x8x16 or 8x8x16 nominal with 2 cells, or equal in quality and ability.
2. Vertical joints in block walls shall be staggered unless otherwise noted.
3. Dowel & lap reinf same as for reinf. concrete. Fill cells with grout at dowels. Reinforce walls as follows:-

Wall thickness	Vert. Reinf.	Horiz. Reinf.
6"	#4 @ 32" o.c.	#5 @ 48" o.c.
8"	#5 @ 24" o.c.	#5 @ 48" o.c.

All 8" walls shall have all cells filled solid with grout.

Provide 1-#5 cont at top of all walls. Provide continuous bond beam units for horizontal steel. Provide 2-#5 vertical bars at sides of openings* and 1-#5 bar at head of openings up to 4'-0" wide, and 1-#6 bar at openings up to 6'-0" wide. Extend bars 2'-0" beyond openings; place in bond beam units.

4. Fill all cells with grout wh... reinforcement occurs. Grout to contain ⅜" max size aggregate and to develop 2000#/☐" ultimate compressive strength at the age of 28 days. 8" walls shall be filled solid w/grout.
5. See details for attachment of block walls to columns, floor slabs, steel framing and roof deck.
6. All cells containing anchor bolts or inserts shall be reinforced with 1-#4 horiz or vert. & shall be filled w/grout.
7. Where noted or shown on arch. drwgs, fill existing wall openings w/c.b. Conc. block closing walls shall be same thickness as existing wall & shall not be reinforced U.O.N.

* For 6" conc. block walls, use 1-#5 vert bar at sides of openings. Vertical bars at sides of openings shall be full height of wall.

STRUCTURAL STEEL NOTES

1. The materials, details, workmanship and erection of structural steel shall conform to the requirements of the latest "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings" of the American Institute of Steel Construction referred to hereafter as A.I.S.C.
2. Flame cutting and welding shall be done in accordance with the latest code for "Fusion Welding and Gas Cutting in Building Construction" of the American Welding Society. Coated rods shall be used thruout the work. All welding shall be done by certified welders.
3. Connections shall be A.I.S.C. Standard 'B' unless otherwise noted.
4. All shop connections shall be made with either welds or rivets. All field connections shall be High Strength Bolts unless otherwise noted. Rivets and bolts shall be ¾"ϕ, open holes 13/16"ϕ. Where welding is used in lieu of rivets or bolts provide 3" lineal inches of ¼" weld per ¾" rivet or ¾" bolt. All fillet welds shall be ¼"x¼".
5. All structural steel shall be ASTM A-36.
6. All structural steel shall be given one coat of red lead and oil paint prior to erection, except that structural steel encased in concrete shall not be painted. There shall be no shop paint at contact surfaces of High Strength Bolt Connections.
7. High Strength Bolts.
   - (a) Construction shall conform to A.I.S.C. Specifications for riveted structures except as modified by the specification for "Assembly for Structural Joints Using High Strength Steel Bolts" by Research Council on Riveted and Bolted Joints.
   - (b) Provide washers under head and nut of bolt.
   - (c) Bolts, nuts, and washers shall conform to the requirements of the A.S.T.M. Spec. A325 for quenched and tempered steel bolts and studs.
   - (d) The Contractor shall submit details of type of wrench and method of calibrating for approval of the Architect and Engineer prior to start of work.
   - (e) All wrenches used on job shall be calibrated at start of shift and at any time as required by the Inspector.
8. Mill end of all columns at base plates.

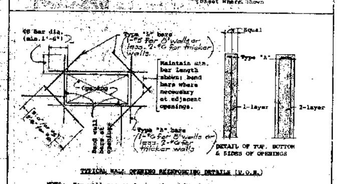
SYMBOLS AND ABBREVIATIONS

[symbol]	Poured Concrete	FOC	Face of Concrete
[symbol]	Precast Concrete	WP	Working Point
[symbol]	Existing Concrete Work	MB	Machine Bolt
99.25	Elevation of Bottom of Footing	HSB	High Strength Bolt
T&B	Top and Bottom	SAD	See Architectural Drawings
FF	Finish Flooring	SMD	See Mechanical Drawings
UON	Unless Otherwise Noted		

DESIGNATIONS FOR SECTIONS AND DETAILS

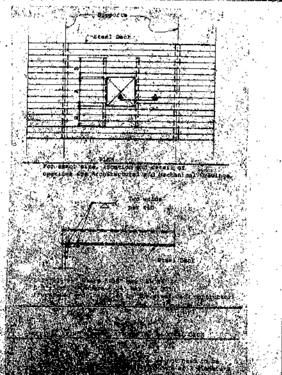
Section or Detail Letter or Number

Sheet Where Shown



TYPICAL WALL OPENING REINFORCING DETAILS (U.O.N.)

NOTE: For wall recess deeper than 1/3 of the wall thickness, provide typical wall opening reinforcement around recess.

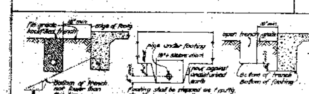


STEEL DECK NOTES

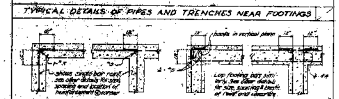
1. Attachment of steel deck to structural steel framework shall be done as follows:

   Robertson Section 3, 1-1/2" deck
   - (a) 1/2" ϕ plug welds at 12" o.c. through rib to transverse support. (3 min. per sheet)
   - (b) Side lap connections, provide button punches at 12" o.c. between units.
   - (c) 1/2" ϕ plug welds at 12" o.c. for members parallel to the span of the deck.

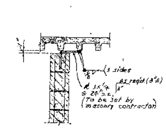
   Robertson Section 2) 3" deck
   - (a) ½" ϕ plug weld at 8" o.c. through rib to transverse support.
   - (b) Side lap connections, provide button punches at 12" o.c. between units.
   - (c) ½" ϕ plug welds at 12" o.c. to members parallel to the span of the deck.
2. Only welders possessing valid certificates for light gage steel welding shall be permitted to weld on the deck.
3. Where concrete fill occurs, provide 6x6 10/10 steel fabric at mid-depth of fill.
4. Provide 16 ga. metal flashing to close between floor units and columns. Close with closure plates the ends of all steel deck units at columns, openings, walls, etc. to prevent leakage of concrete.
5. All closures shall be tack welded at 36" oc. max.
6. Provide system of hanger attachment devices as required for support of suspended ceiling. SAD for extent and details. Penetration through deck for hangers or hanger attachment devices is prohibited.



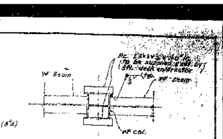
TYPICAL DETAILS OF PIPES AND TRENCHES NEAR FOOTINGS



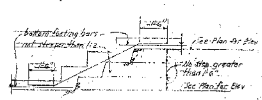
TYPICAL DETAILS OF FOOTING AND WALL REINFORCING



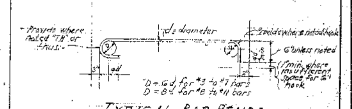
TYPICAL CONN. OF CONCRETE BLOCK WALLS TO FLOOR OR ROOF DECK



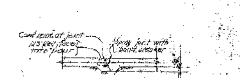
TYPICAL DETAIL AT COLS. WHERE NO N-S BEAMS OCCUR FOR STEEL DECK SUPPORT



TYPICAL STEPPED FOOTING

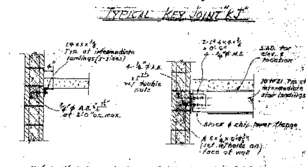


TYPICAL BAR BENDS



Note: This joint shall be used between pours in slabs on ground. Location of pour joints will be subject to the approval of the Engineer. Pour slabs in checker board pattern. Joints not to exceed 25'-0" in any direction.

TYPICAL KEY JOINT "KJ"

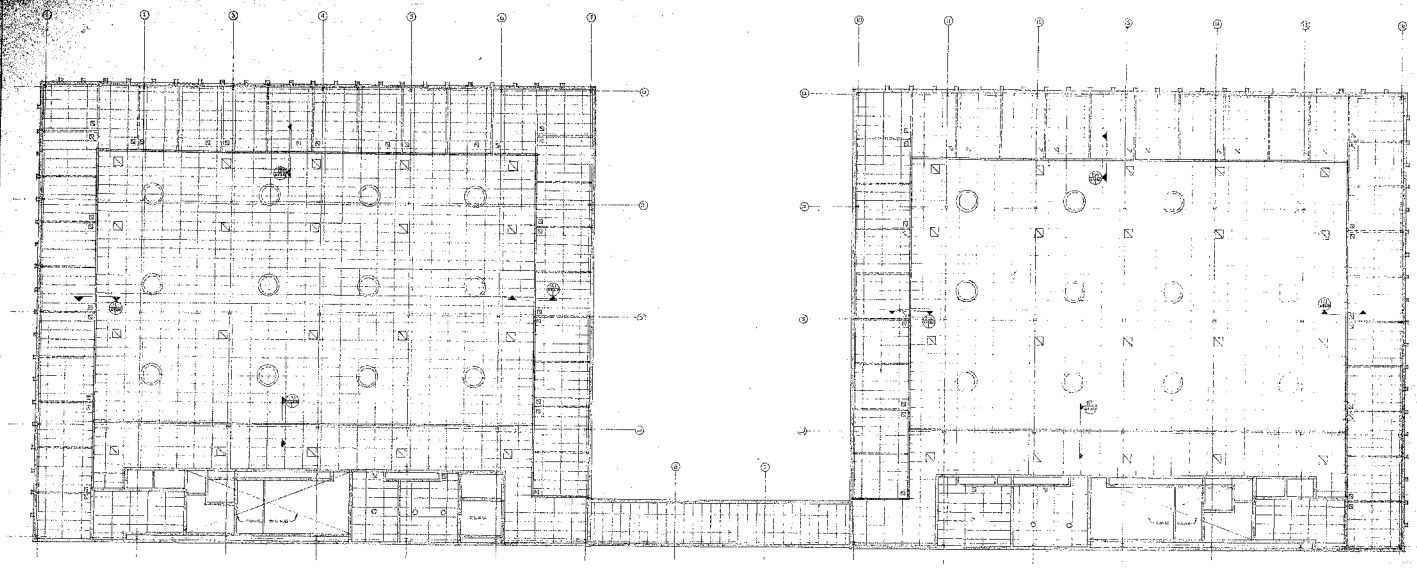


Note: L's & beams to be supplied & set by stair fabricator. Anch. bolts to be supplied & located by stair fabricator & set by masonry contractor.

TYPICAL CONNS. TO CONCRETE BLOCK WALLS AT INTERMEDIATE STAIR LANDINGS

ALL STRUCTURAL STEEL SHOWN OR NOTED ON THIS DRAWING IS N.I.C.

Job nº 6415	THIS PRINT ISSUED — Revision: 1 General revisions	GENERAL NOTES & TYPICAL DETAILS
CHIN & HENSOLT STRUCTURAL ENGINEERS		ADDITION TO BUILDING No 4 SYLVANIA ELECTRIC PRODUCTS INC. MOUNTAIN VIEW, CALIFORNIA
		Date 4-17-64 Drawn C.F. Approved
		SYLVANIA ELECTRIC PRODUCTS INC. CORPORATE FACILITIES PLANNING OFFICE LAKESIDE OFFICE PARK NORTH AVE. WAKEFIELD MASSACHUSETTS
		S-1

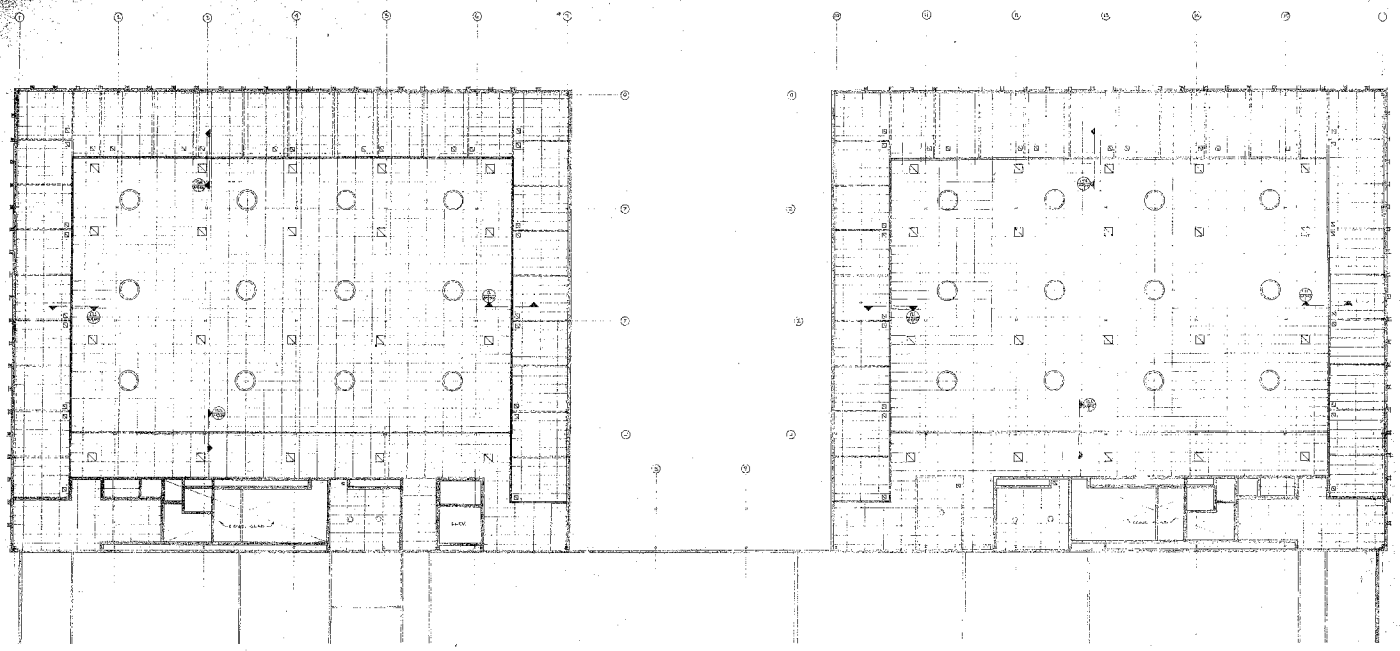


REFLECTED CEILING PLAN - SECOND FLOOR

LEGEND

- PARTITIONS EXTENDING THROUGH SUSPENDED CEILING
- PARTITIONS EXTENDING TO UNDERSIDE OF SUSPENDED CEILING
- AIR RETURN IN CEILING SEE MECH. DWGS FOR SIZES
- DIFFUSION IN CEILING

THIS PRINT ISSUED		REFLECTED CEILING PLAN - SECOND FLOOR
		ADDITION TO BUILDING NO. 4 SYLVANIA ELECTRIC PRODUCTS INC. MOUNTAIN VIEW, CALIF.
		SYLVANIA ELECTRIC PRODUCTS INC. CONCRETE ACOUSTIC BUILDING DIVISION LAKESIDE AVENUE PARK, MOUNTAIN VIEW, CALIF.
		WINSFIELD, MASSACHUSETTS



REFLECTED CEILING PLAN - FIRST FLOOR

SCALE 1/8" = 1'-0"

LEGEND

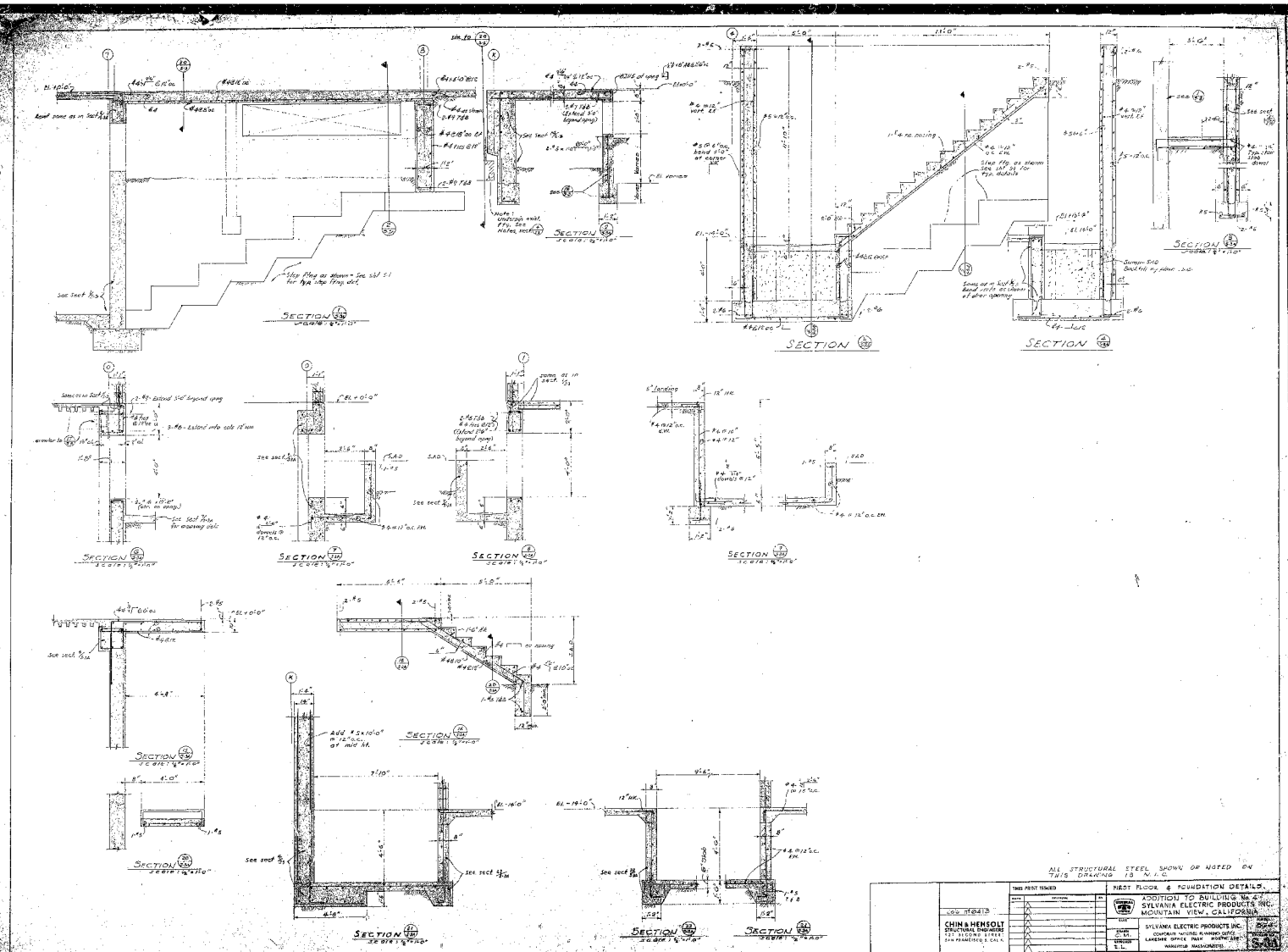
PARTITIONS EXTENDING THROUGH SUSPENDED CEILING

PARTITIONS EXTENDING TO UNDERSIDE OF SUSPENDED CEILING

AIR RETURNS IN CEILING - SEE MECH. DWGS FOR SIZES.

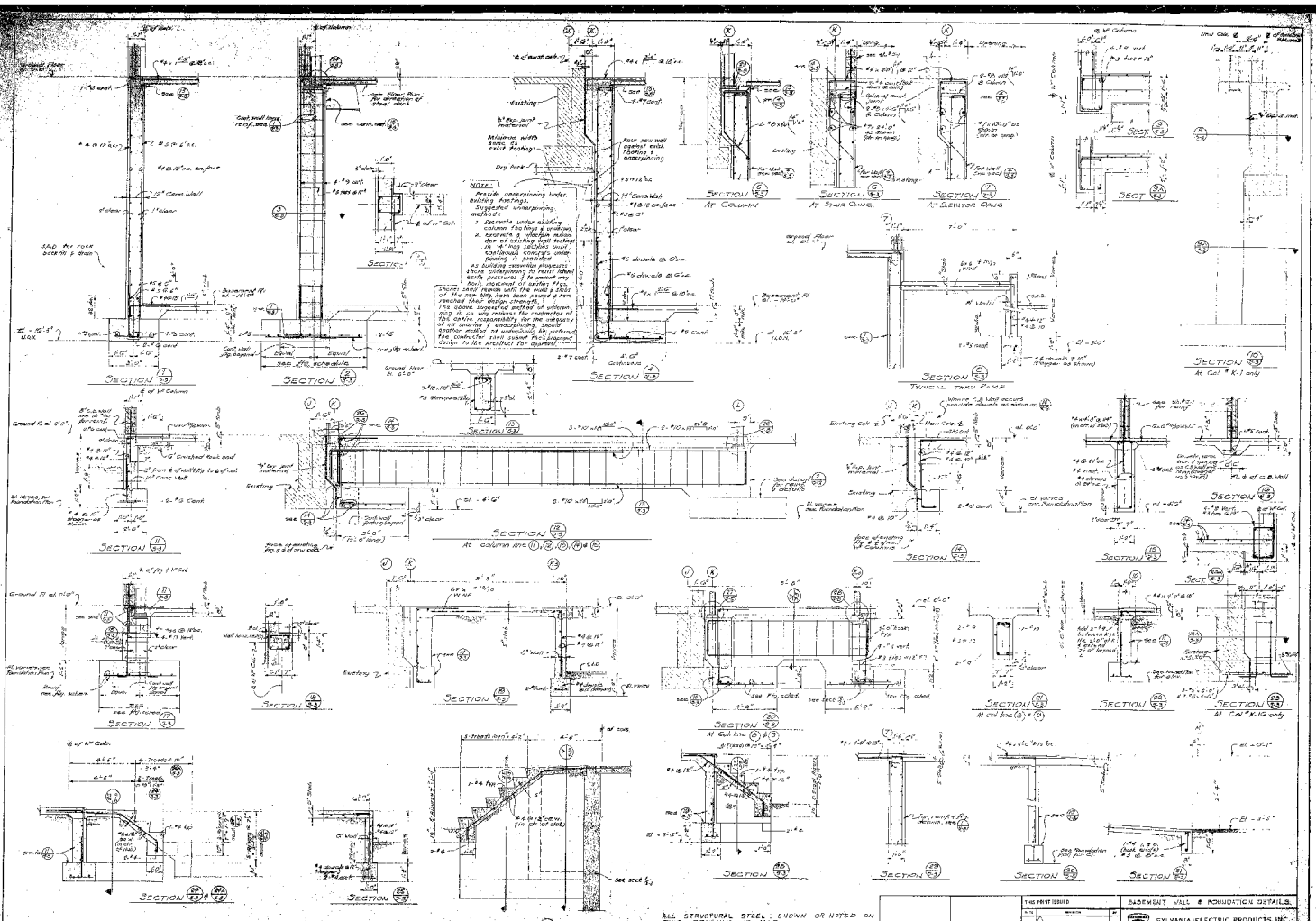
DIFFUSERS IN CEILING

THIS PRINT ISSUED		REFLECTED CEILING PLAN - FIRST FLOOR
DATE	REVISION	BY
		ADDITION TO BUILDING NO. 4 SYLVANIA ELECTRIC PRODUCTS INC. MOUNTAIN VIEW, CALIF.
DATE		SYLVANIA ELECTRIC PRODUCTS INC.
DRAWN		COMPUTER SYSTEMS MARKETING DIVISION
DESIGNED		LAKESIDE OFFICE PARK, STATE RD. WAKEFIELD, MASSACHUSETTS

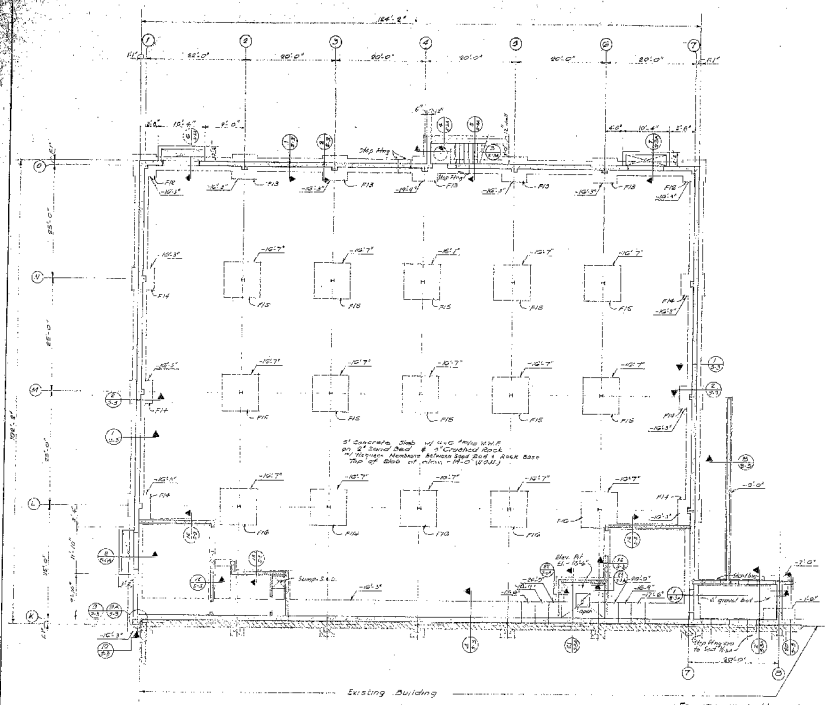


ALL STRUCTURAL STEEL SHOWN OR NOTED ON THIS DRAWING IS N.I.C.

	THIS PRINT ISSUED		FIRST FLOOR & FOUNDATION DETAILS
	DATE	DESCRIPTION	BY
			ADDITION TO BUILDING No. 4 SYLVANIA ELECTRIC PRODUCTS INC. MOUNTAIN VIEW, CALIFORNIA
JOB NO. 8413			DATE
CHIN & HENSOLT STRUCTURAL ENGINEERS 127 SECOND STREET SAN FRANCISCO 5, CALIF.			SYLVANIA ELECTRIC PRODUCTS INC. COMPANY INDUSTRIAL PLANNING OFFICE LANDSMS OFFICE PARK WALTHAM, MASSACHUSETTS
			DRAWN C.M. CHECKED E.L.



SECTION
AT COLUMN
AT STAIR CONC.
AT ELEVATOR CONC.
TYPICAL THRU PUMP
AT COL. K-1 only
AT COL. line (8) & (9)
AT COL. line (8) & (9)
AT COL. K-1G only
ALL STRUCTURAL STEEL SHOWN OR NOTED ON THIS DRAWING IS N.I.C.
THIS PRINT ISSUED
Job of 4415
CHIN & HENSOLT
STRUCTURAL ENGINEERS
SAN FRANCISCO & CALIF.
BASEMENT WALL & FOUNDATION DETAILS.
SYLVANIA ELECTRIC PRODUCTS INC.
SYLVANIA ELECTRIC PRODUCTS INC.
CONSOLIDATE FACTORIES PLANNING OFFICE
LAKESIDE OFFICE PARK WOBURN AVE.
WESTFIELD MASSACHUSETTS

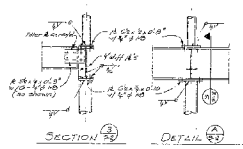


BASEMENT & WEST WING FOUNDATION PLAN — scale: 1/8" = 1'-0"

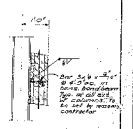
COLUMN SCHEDULE (EAST & WEST WING)

Column Number	K-1, K-2, K-3, K-4, K-5, K-6, K-7	L-1, L-7	L-2, L-3, L-4, L-5, L-6	M-1, M-7	M-2, M-3, M-4, M-5, M-6	N-1, N-7	N-2, N-3, N-4, N-5, N-6	O-1, O-2, O-3, O-4, O-5, O-6, O-7	K-8, K-9	K-10, K-11, K-12, K-13, K-14, K-15, K-16	L-10, L-12	L-11, L-13, L-14, L-15, L-16	M-10, M-16	M-11, M-12, M-13, M-14, M-15	N-10, N-16	N-11, N-12, N-13, N-14, N-15	O-10, O-11, O-12, O-13, O-14, O-15, O-16
Elevation +16'-4"																	
Bed Pl. el. +15'-8"																	
Ground Fl. el. 0'-0"																	
Basement el. -14'-6"																	
Base Detail Type	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3	2/S-3

NOTES: 1. Dimension given in schedule is to bottom of base plate.



SECTION 3/S-3 — DETAIL A/S-3



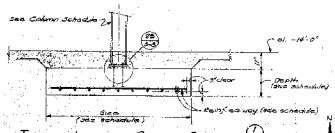
TYPICAL WALL ANCHORS AT ALL EXTERIOR W. COLS. — scale: 1/2" = 1'-0"

FOUNDATION NOTES (EAST & WEST WING)

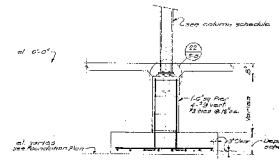
1. Elevations are given with reference to Ground Floor Line of el. 0'-0" (31.50' datum).
2. See General Notes, sheet S1.
3. The contractor shall be responsible for & provide all shoring, underpinning & other protective facilities or measures as required to adequately support the sides of all excavations & to protect all of the adjacent structures. See Notes in sect. 4/S-3.

COLUMN FOOTING SCHEDULE (EAST & WEST WING)

Mark	Size	Depth	Reinforcement: Bars each way	Bars parallel to L-wall	Bars parallel to N-wall	Remarks: See also footing reinforcement schedule	Detail
F1	4'-0" sq.	1'-0"	7-#4				1/S-3
F2	4'-0" sq.	1'-0"		9-#4	7-#4	do.	1/S-3
F3	5'-0" sq.	1'-0"		7-#8	5-#5	do.	1/S-3
F4	6'-0" sq.	1'-0"	8-#6				1/S-3
F5	7'-0" sq.	1'-0"	9-#7				1/S-3
F6	4'-0"x7'-6"	1'-0"		6-#7 (N-S)	4-#7 (E-W)		
F7	5'-0"x10'-0"	1'-0"		8-#9	5-#9	do.	1/S-3
F8							
F9	5'-0"x5'-0"	1'-0"	6-#6			do.	1/S-3
F10	5'-0" sq.	1'-0"		7-#5	5-#5	do.	1/S-3
F11	6'-0"x10'-0"	1'-0"		6-#6	4-#6	do.	1/S-3
F12	4'-0" sq.	1'-0"		4-#5	4-#5	do.	1/S-3
F13	5'-0" sq.	1'-0"		6-#5	4-#5	do.	1/S-3
F14	6'-0" sq.	1'-0"		6-#5	4-#5	do.	1/S-3
F15	8'-0" sq.	1'-8"	8-#6				1/S-3
F16	13'-0" sq.	1'-8"	13-#9				1/S-3



TYPICAL INTERIOR COLUMN FOOTING 2/S-3 — WEST WING ONLY — scale: 1/4" = 1'-0"



TYPICAL INTERIOR COLUMN FOOTING 2/S-3 — EAST WING ONLY — scale: 1/4" = 1'-0"

ALL STRUCTURAL STEEL SHOWN OR NOTED ON THIS DRAWING IS N.I.C.

THIS PRINT ISSUED		
NO.	REVISION	BY
	General Revisions	

JOB NO. 6815

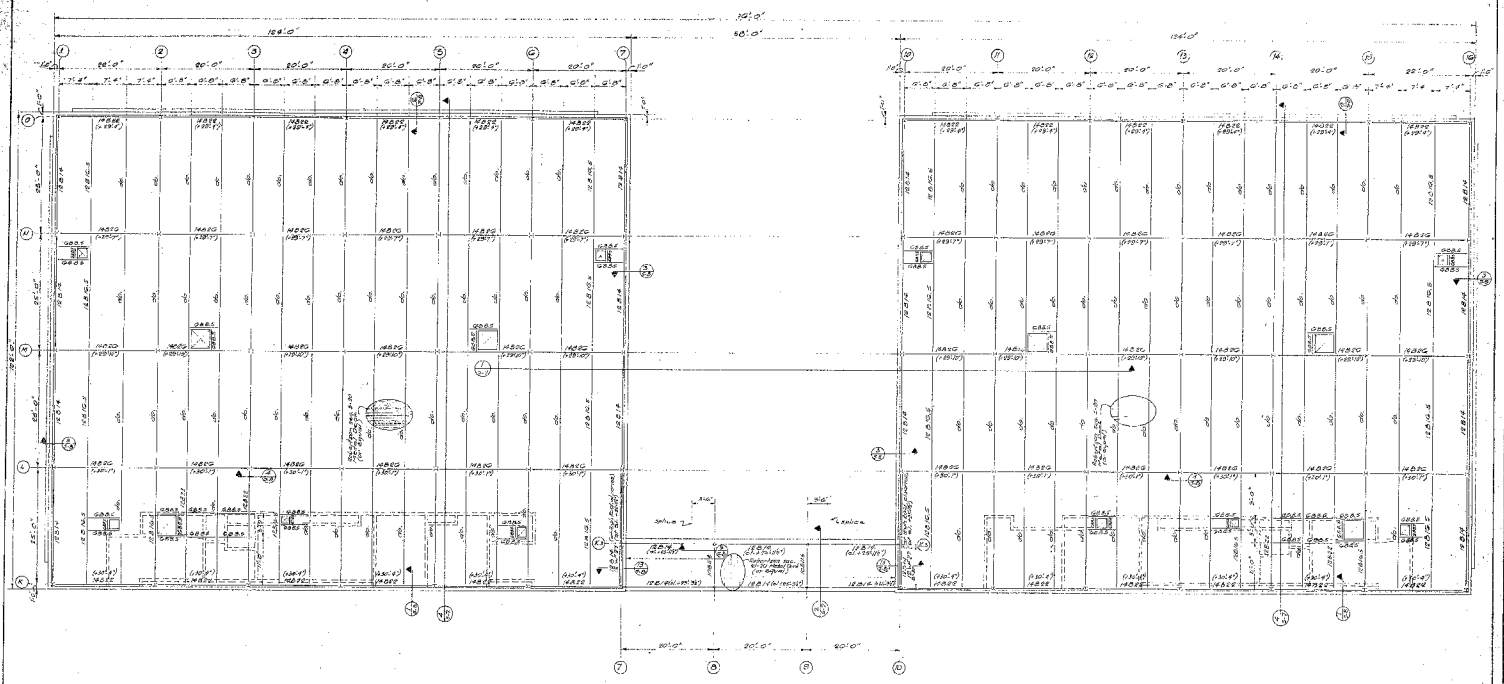
CHIN & HENSOLT
STRUCTURAL ENGINEERS
1250 SECOND STREET
SAN FRANCISCO, CALIF.

BASEMENT & WEST WING FOUNDATION PLAN

ADDITION TO BUILDING 10
SYLVANIA ELECTRIC PRODUCTS, INC.
MOUNTAIN VIEW, CALIFORNIA

DATE 4-17-68
SCALE 1/8"=1'-0"
DRAWN C.L.
CHECKED E.L.

SYLVANIA ELECTRIC PRODUCTS, INC.
CONTROLS INCORP. WARNING SYSTEMS
SANDERS DIV. OF SANDERS ASSOC.
NASHUA, NEW HAMPSHIRE

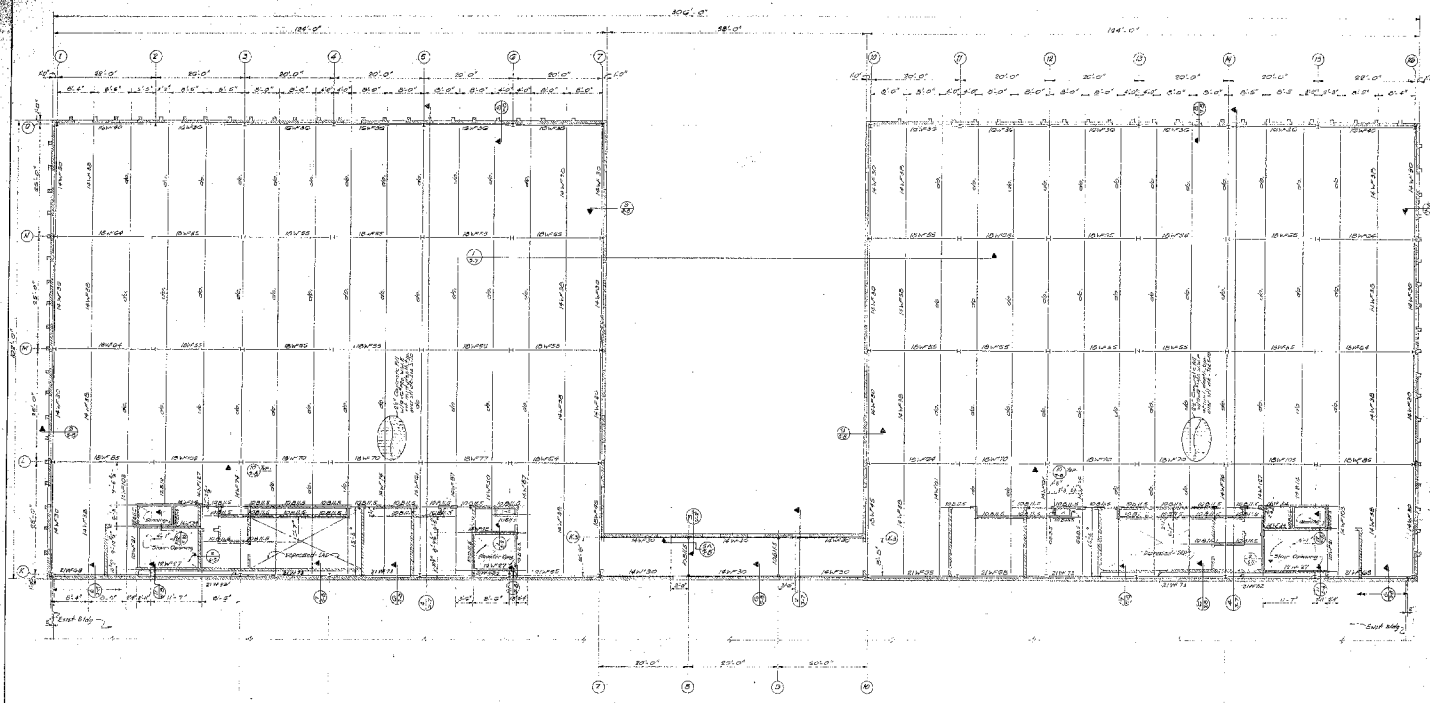


ROOF FRAMING PLAN scale: 1/8" = 1'-0"

NOTES: 1. Sleeves thru steel deck shall not be greater than 6" ø and shall be spaced a minimum of 3 diameters on center.
2. Verify location & size of roof openings w/ mech. contractor

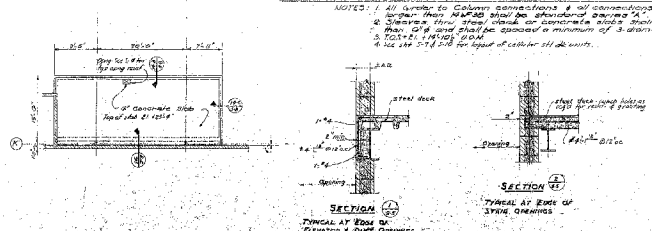
ALL STRUCTURAL STEEL SHOWN OR NOTED ON THIS DRAWING IS N.I.C.

	THIS PRINT ISSUED	ROOF FRAMING PLAN
	DATE / REVISION / BY: P. General Revisions	ADDITION TO BUILDING No. 4 SYLVANIA ELECTRIC PRODUCTS INC. MOUNTAIN VIEW, CALIFORNIA
Job no 6413		DATE 4-7-64
CHIN & HENSOLT STRUCTURAL ENGINEERS 101 SECOND STREET SAN FRANCISCO 5, CALIF.		DRAWN C.M. / CHECKED E.L.
		SYLVANIA ELECTRIC PRODUCTS INC. CORPORATE FACILITIES PLANNING OFFICE EMERSON OFFICE PARK NEWTON, MASS. WASTEFIELD MASSACHUSETTS



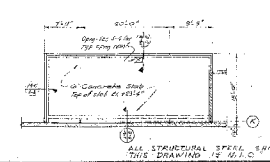
SECOND FLOOR FRAMING PLAN — scale: 8" = 1'-0"

NOTES: 1. All Girder to Column connections & all connections for 14WF beams larger than 14WF38 shall be standard series "A".
2. Sleeves thru steel deck or concrete slabs shall not be greater than 6" ϕ and shall be spaced a minimum of 3 diameters on center.
3. T.O.S.+EL. +14'-10½" U.O.M.
4. See sht S-7 & S-10 for layout of cellular stl dk units.



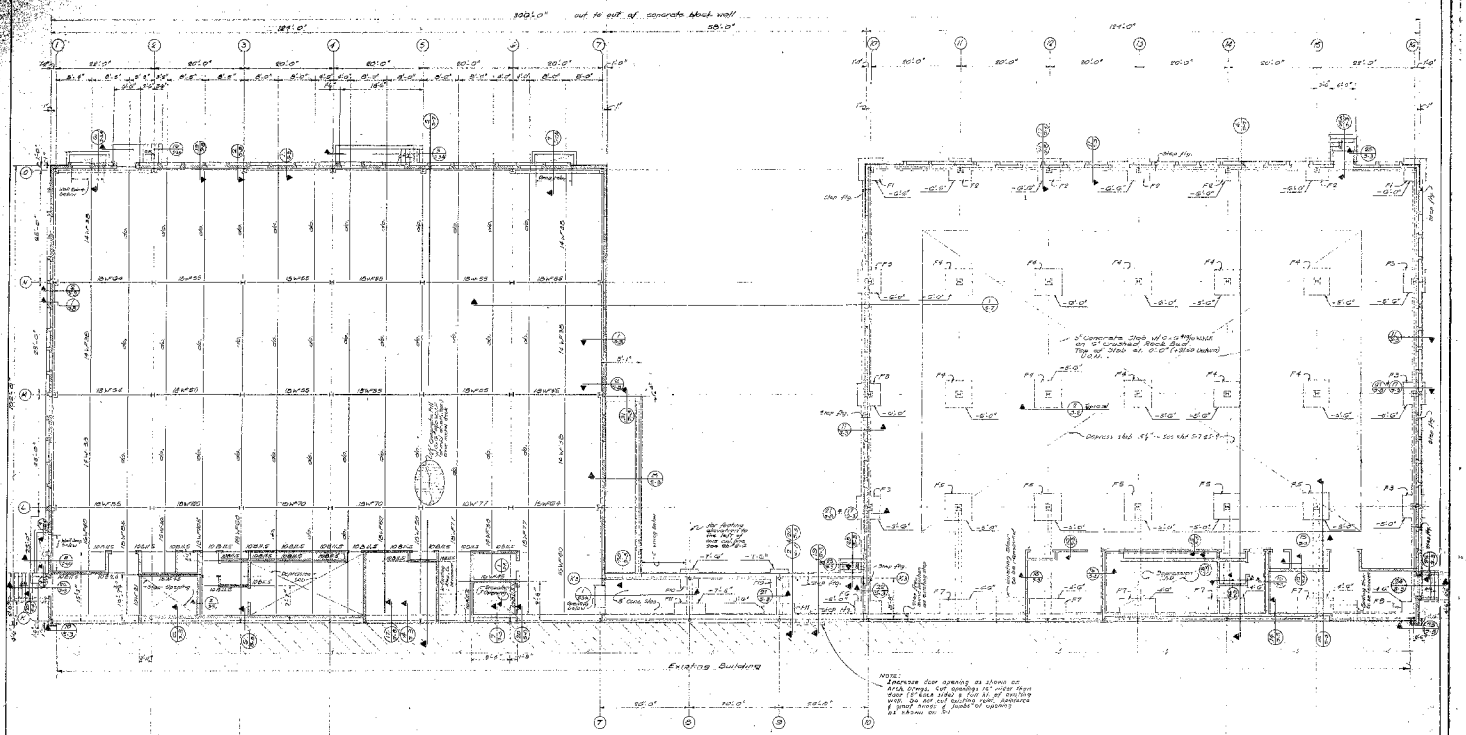
SECTION 1/S-5 — TYPICAL AT EDGE OF ELEVATOR & DUCT OPENINGS

SECTION 2/S-5 — TYPICAL AT EDGE OF STRIP OPENINGS



ALL STRUCTURAL STEEL SHOWN OR NOTED ON THIS DRAWING IS N.I.C.

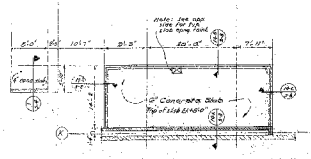
	THIS PRINT ISSUED	SECOND FLOOR FRAMING PLAN
	DATE / REVISION / BY	ADDITION TO BUILDING No. 6 SYLVANIA ELECTRIC PRODUCTS INC. MOUNTAIN VIEW, CALIFORNIA
Job No. 6418	3. General Design	
CHIN & HENSOLT STRUCTURAL ENGINEERS 120 SECOND STREET SAN FRANCISCO 5, CALIF.		SYLVANIA ELECTRIC PRODUCTS INC. CORPORATE HOUSING-MANAGER, CORP. LAKESIDE OFFICE PROJECT SUPERVISOR TAMKEENAS PASSENGER CO.

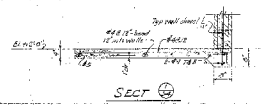


GROUND FLOOR FRAMING & EAST WING FOUNDATION PLAN

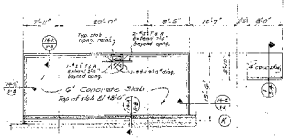
Scale: 1/8" = 1'-0"

Notes: 1. See foundation notes on sheet #S-2 & S-3.
2. All Girder to Column connections shall be standard fittings "A".
3. Sleeve thru steel deck in suspended concrete slab shall not be greater than 6" ø and shall be spaced a minimum of 3 diameters on center.
4. T.O.S = El. -0.25" (Ø.Ø)
5. See sheets S-1 & S-2 for layout of column steel & rock units.



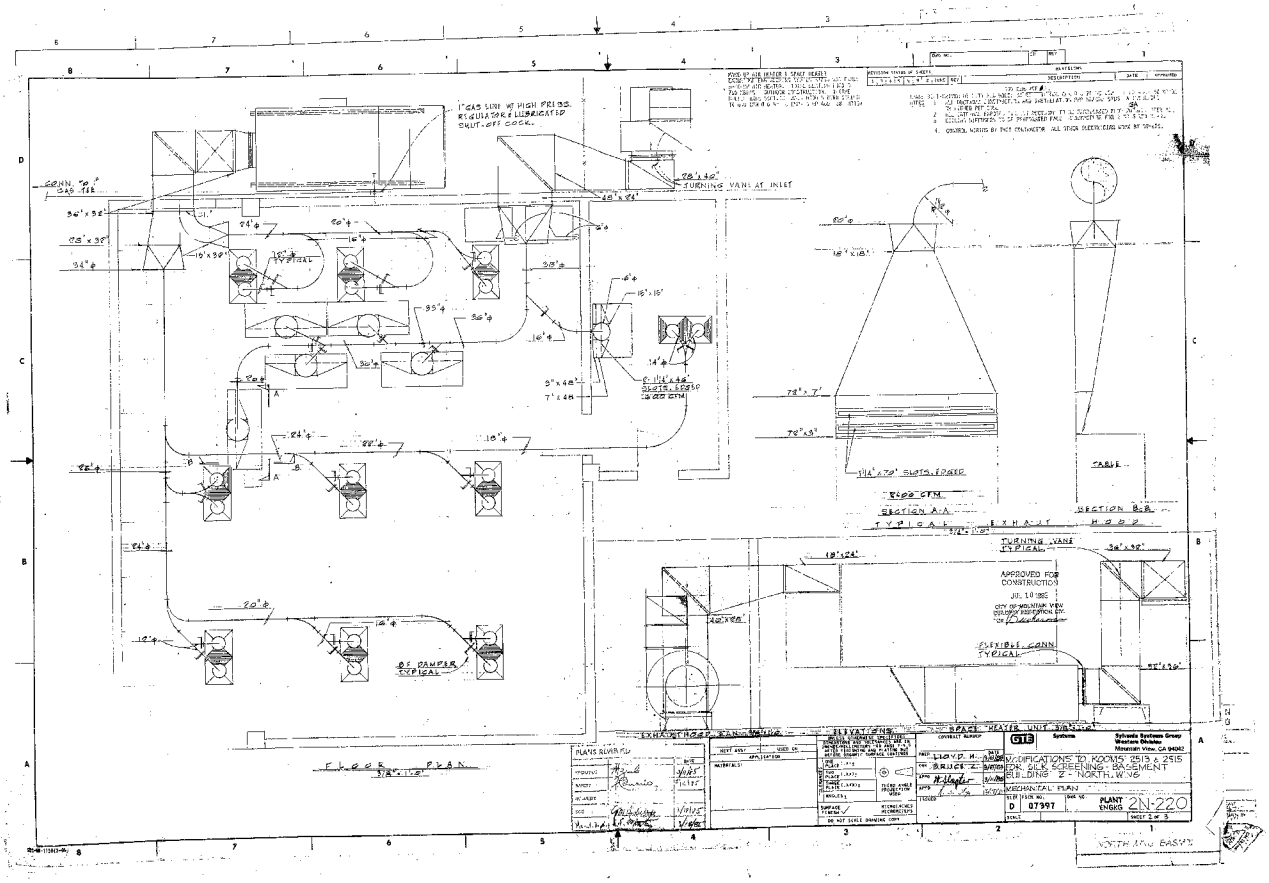


SECT

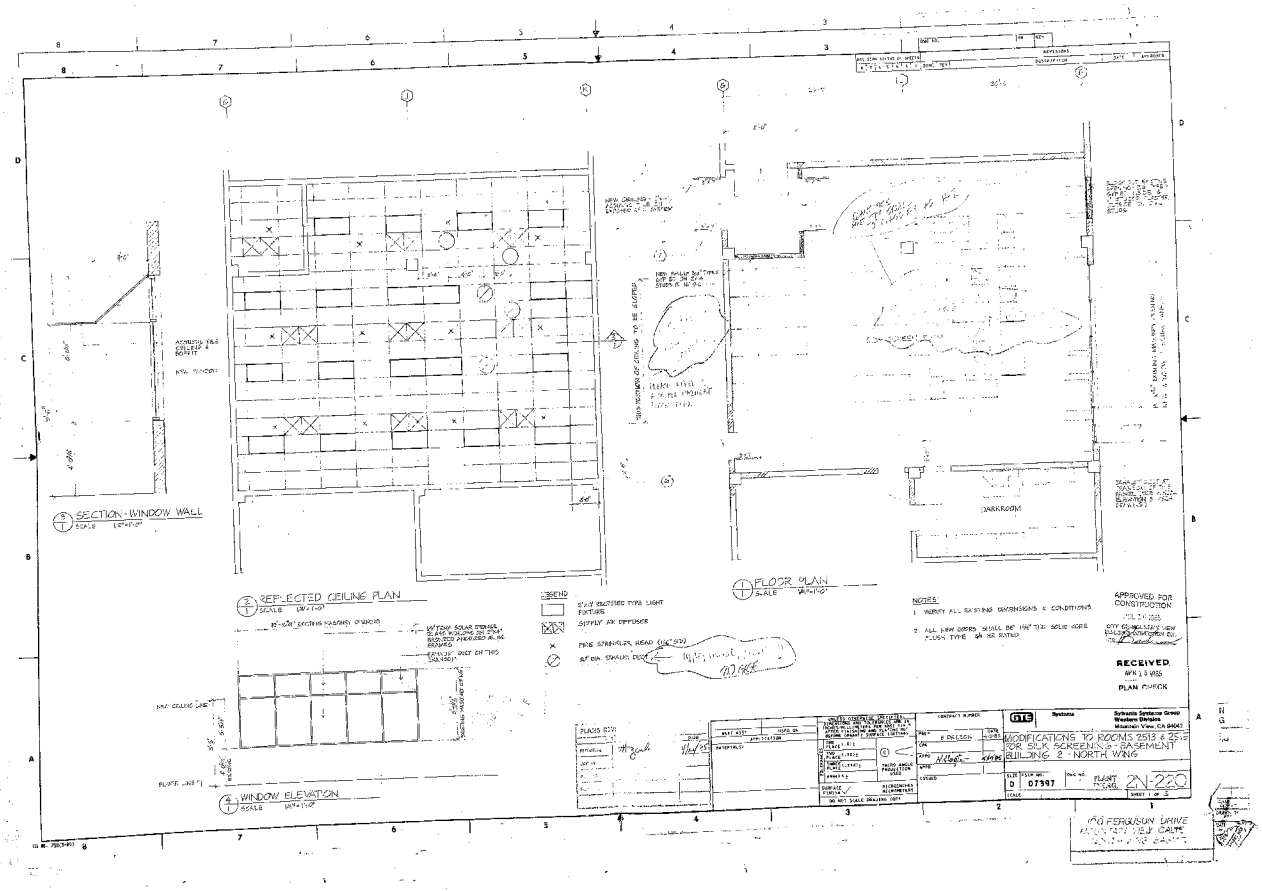


ALL STRUCTURAL STEEL SHOWN OR NOTED ON THIS DRAWING IS A.I.S.C.

THIS PRINT ISSUED	GROUND FLOOR FRAMING & EAST WING FOUNDATION PLAN
DATE / REVISION / BY	ADDITION TO BUILDING NO. 4
Revised Structure	SYLVANIA ELECTRIC PRODUCTS INC.
	MOUNTAIN VIEW, CALIFORNIA
APPROVED	SYLVANIA ELECTRIC PRODUCTS INC.
CHIN & HENSOLT STRUCTURAL ENGINEERS 215 BEACH ST. SAN FRANCISCO 1, CALIF.	CORPORATE FACILITIES PLANNING OFFICE WESTERN OFFICE PARK NEWARK, CALIF. MARYSVILLE, WASHINGTON
DATE 1-7-64	
DRAWN	
CHECKED	
APPROVED	



1" GAS LINE W/ HIGH PRESS. REGULATOR & LUBRICATED SHUT-OFF COCK.
CONN. TO 1" GAS TEE
28"x40" TURNING VANE AT INLET
48"x24"
36"x32"
28"x32"
34"ϕ
24"ϕ
20"ϕ
16"ϕ
18"x18"
72"x7"
72"x3"
1 1/4"x70" SLOTS, EDGED
2400 CFM
SECTION A-A
SECTION B-B
TYPICAL EXHAUST HOOD
TABLE
TURNING VANE TYPICAL
APPROVED FOR CONSTRUCTION
JUL 10 1985
CITY OF MOUNTAIN VIEW
BUILDING PROTECTION DIV.
FLEXIBLE CONN. TYPICAL
B.F. DAMPER TYPICAL
EXHAUST HOOD PLAN
ELEVATIONS
SPACE HEATER UNIT
FLOOR PLAN
PLANS REVIEWED
GTE Systems
Sylvania Systems Group
Western Division
Mountain View, CA 94042
LLOYD H.
BRUCE Z.
MODIFICATIONS TO ROOMS 2513 & 2515 FOR SILK SCREENING - BASEMENT BUILDING Z - NORTH, W.VG
MECHANICAL PLAN
D 07397
PLANT ENGRG 2N-220
SHEET 2 OF 3
NORTH AND BASMT



SECTION - WINDOW WALL
REFLECTED CEILING PLAN
FLOOR PLAN
WINDOW ELEVATION
DARKROOM
NOTES:
1. VERIFY ALL EXISTING DIMENSIONS & CONDITIONS
2. ALL NEW DOORS SHALL BE HAT TIE SOLID CORE FLUSH TYPE 1/4 HR RATED
APPROVED FOR CONSTRUCTION
RECEIVED
PLAN CHECK
GTE Systems
Sylvania Systems Group
Western Division
Mountain View, CA 94042
MODIFICATIONS TO ROOMS 2513 & 2515 FOR SILK SCREENING - BASEMENT BUILDING 2 - NORTH WING
D 07397
PLANT TYPE 2N-220
SHEET 1 OF 3
100 FERGUSON DRIVE
MOUNTAIN VIEW CALIF

CITY OF MOUNTAIN VIEW

Fire Department
Telephone: (415) 966-6380

1000 Villa Street
Mountain View, CA 94041

DATE: 6/26/85

SUBJECT: PLAN REVIEW: [illegible] (2303, 2305)

PLANS ARE APPROVED SUBJECT TO FOLLOWING: [illegible]

1. THE STORAGE [illegible] (UFC 79.802 (a) EXCEPTION)

2. THE USE OF CLASS [illegible] EXHAUST [illegible]

3. STORAGE OF PLANTS SHALL BE IN APPROVED CABINET

4. Post "EXIT" signs [illegible]

5. FIRE EXTINGUISHER 2A RATING [illegible]

6. PROVIDE [illegible]

MKeegan
6/26/85

FD-204

PANEL No. "A" LOCATION SILK SCREEN ROOM
TYPE 480V 3Ø 4 W 120 AMP main (24) CIRCUIT POLES

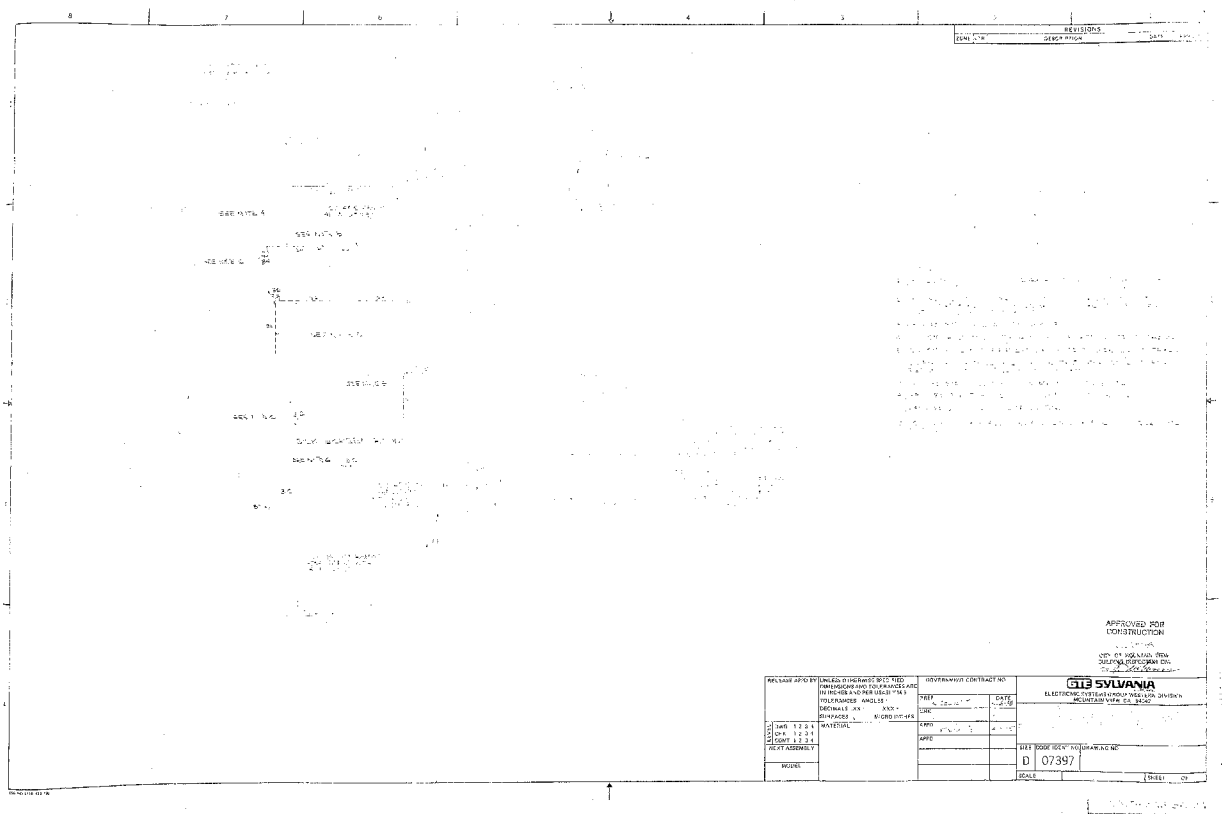
CKT. No	POLES	TRIP AMPS	USE			A Ø	B Ø	C Ø	CIRCUIT DESCRIPTION
LEFT SIDE									
1	3	20			X	6300	6300	6300	MAKE UP AIR BLOWER MOTOR-5 HP
3	3	20							
5	3	20							
7	3	15		X		750	750	750	VACUUM PUMP RECEPTACLE
9	3	15							
11	3	15							
13	3	20			X	16,600	16,600	16,600	OVEN NO. 1
15	3	20							
17	3	20							
19	3	20							SPARE
21	3	20							SPARE
23	3	20							SPARE
25									
27									
29									
31									
33									
35									
37									
39									
41									
RIGHT SIDE									
2	3	25			X	6300	6300	6300	EXHAUST FAN-5 HP
4	3	25			X				"
6	3	25							"
8	3	20			X	16,600	16,600	16,600	OVEN NO. 2
10	3	20							"
12	3	20							"
14	3	20							SPARE
16	3	20							"
18	3	20							"
20									
22									
24									
26									
28									
30									
32									
34									
36									
38									
40									
42									
A PHASE						29.95			
B PHASE							29.95		
C PHASE								29.95	

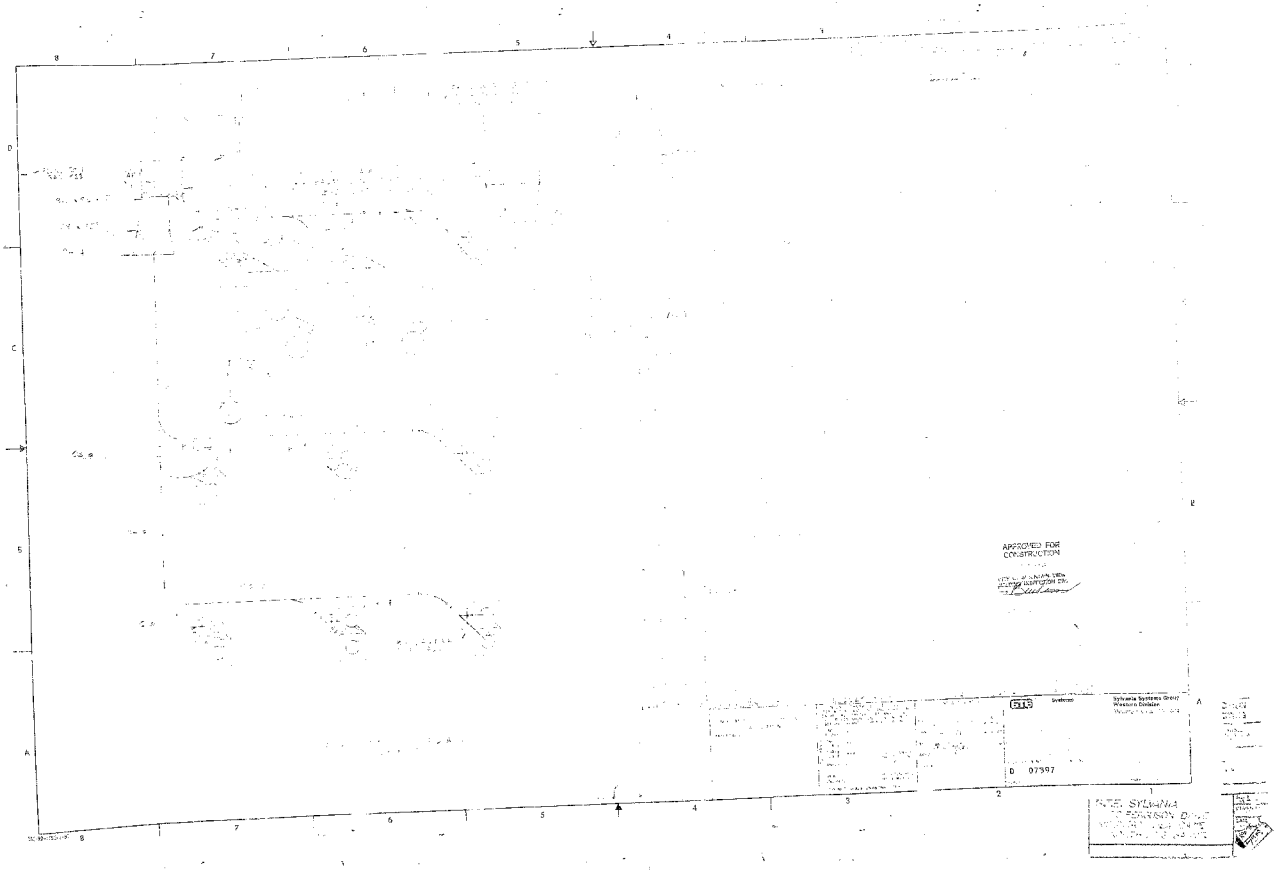
TOTAL CONNECTED WATTS 89.85K

PANEL No. "B" LOCATION SILK SCREEN ROOM
TYPE 120/208V 3Ø 4W 125 Amp Main (24) circuit POLES

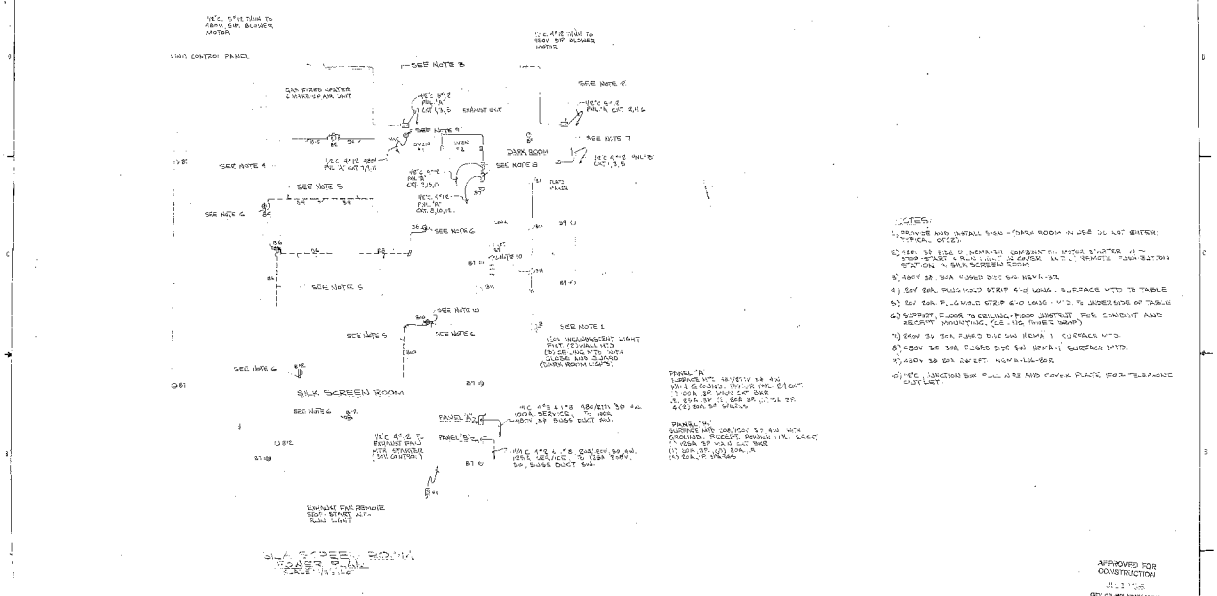
CKT. No	POLES	TRIP AMPS	USE			A Ø	B Ø	C Ø	CIRCUIT DESCRIPTION
LEFT SIDE									
1	3	20			X	5400	5400	5400	
3	3				X				PLATE MAKER-DARK ROOM
5	3				X				
7	1	25		X					
9	1	20		X		1400			
11	1	20					500		WALL RECEPT. SILK SCREEN RM (7)
13	1	20	X					350	WALL RECEPT. DARK ROOM (4)
15	1	20							DARK ROOM CASU. LIGHTS
17									SPARE
19									SPARE
21									
23									
25									
27									
29									
31									
33									
35									
37									
39									
41									
RIGHT SIDE									
2	1	20							
4	1	20	X				200		TABLE POWER NOTE 4 DWG E N-220
6	1	20	X					200	"
8	1	20	X				200		"
10	1	20						250	"
12	1	20	X					250	"
14	1	20	X					200	"
16	1	20							"
18									SPARE
20									SPARE
22									
24									
26									
28									
30									
32									
34									
36									
38									
40									
42									
A PHASE						6500			
B PHASE							6500		
C PHASE								6500	

TOTAL CONNECTED WATTS 19,500


REVISIONS
APPROVED FOR CONSTRUCTION
RELEASE APPD BY
UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USASI Y14.5
TOLERANCES ANGLES
DECIMALS .XX ± .XXX ±
SURFACES MICRO INCHES
MATERIAL
NEXT ASSEMBLY
MODEL
GOVERNMENT CONTRACT NO.
DATE
DWN
APPD
GTE SYLVANIA
ELECTRONIC SYSTEMS GROUP WESTERN DIVISION
MOUNTAIN VIEW, CA 94040
SIZE
CODE IDENT NO
DRAWING NO
D
07397
SCALE
SHEET
OF


APPROVED FOR
CONSTRUCTION
D 07597

REVISIONS			
ZONE LTR	DESCRIPTION	DATE	APPROVED



NOTES:

1) REMOVE AND INSTALL NEW DARK ROOM IN USE DC WET WATER: TYPICAL OFCE.

2) SEE SB 134 D REMAINS COMPONENTS WATER STATION - START & RUN LINES IN CENTER. MOVE REMOTE PUMP START STATION TO SILK SCREEN ROOM.

3) ADD SB. SEE NUMBED DTS FOR NEW FCT.

4) SEE SCH. PLUG HOLD STRIP 6-10 LOAD - SURFACE MTD TO TABLE

5) SEE SCH. PLUG HOLD STRIP 6-10 LOAD - MTD. TO UNDERSIDE OF TABLE

6) SUPPORT FLOOR TO CEILING FROM UNDERNEAT FOR CONDUIT AND BEAM MOUNTING. (SEE THE TWEE DRAW)

7) SHOW SB SCH PLUG DUPLEX RECEP. SURFACE MTD

8) ADD SB SCH PLUGS DUPLEX RECEP. RECESSED MTD

9) ADD SB SCH SWITCH. NOMINAL-LIGHT

10) VTC JUNCTION BOX PULL AND COVER PLATE FOR FUTURE USE LET.

APPROVED FOR CONSTRUCTION

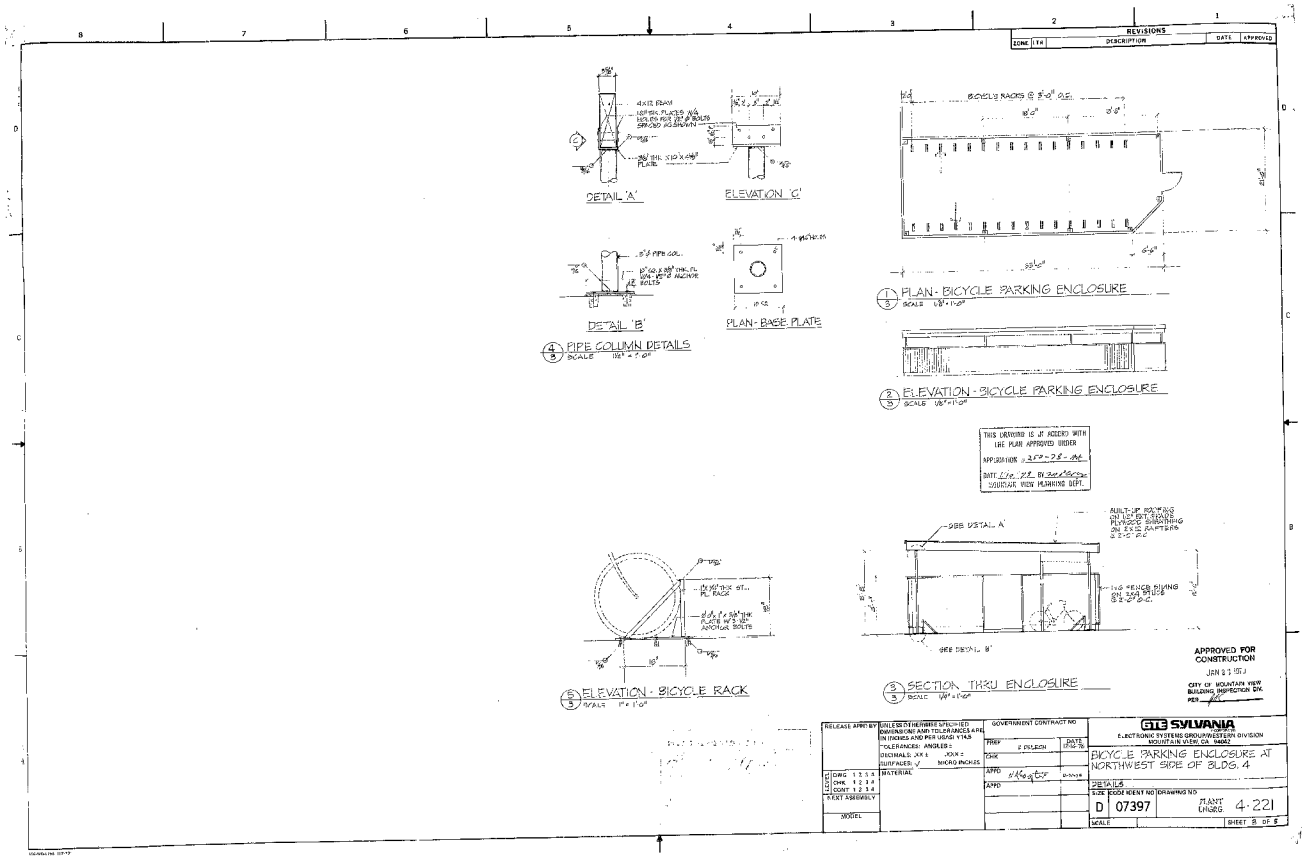
DATE

CITY CONSULTANT VIEW
REQUIRED BY CONTRACT ONLY

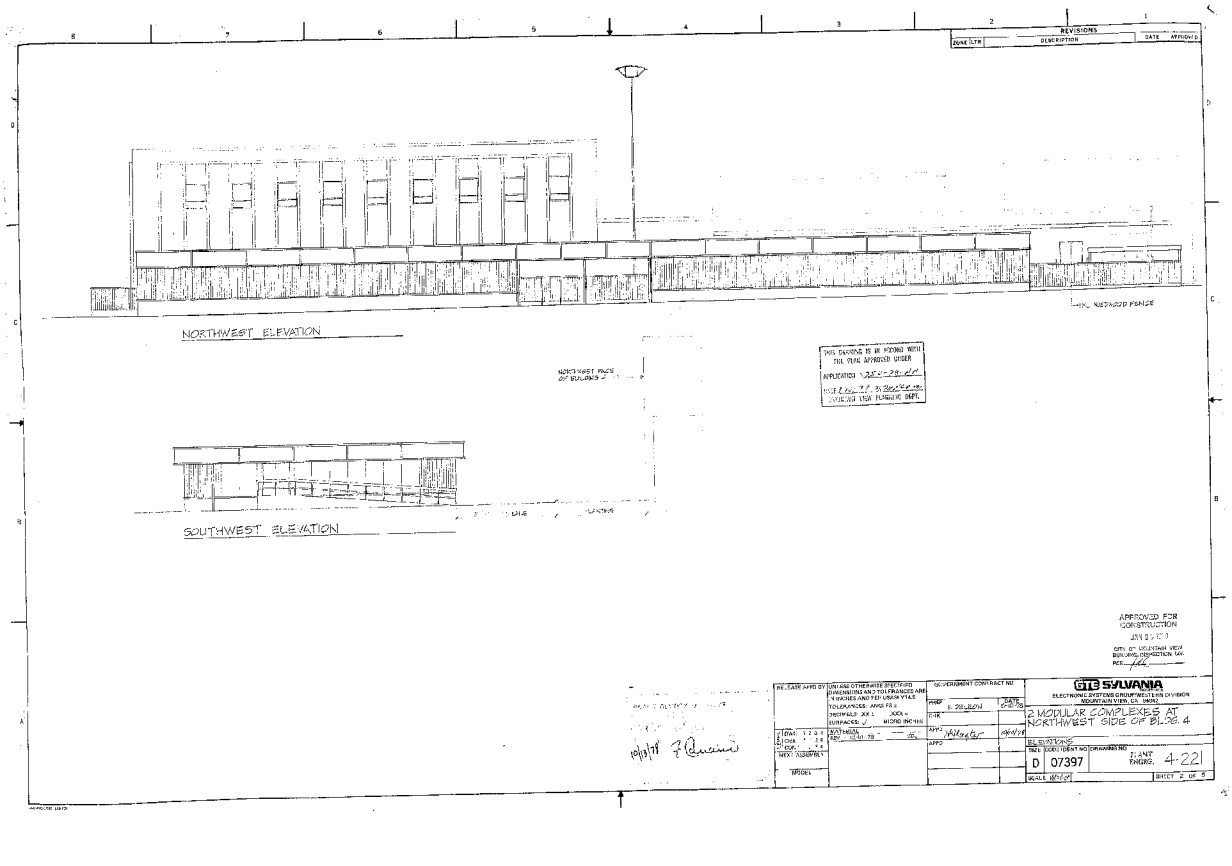
RELEASE APPLIED BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USACI Y14.5 TOLERANCES: ANGLES ± DECIMALS: .XX ± .XXX ± SURFACES: ✓ MICRO INCHES	GOVERNMENT CONTRACT NO	GTE SYLVANIA ELECTRONIC SYSTEMS GROUP-WESTERN DIVISION MOUNTAIN VIEW, CA 94042
		DRN	MODIFICATIONS TO EXTAB 1818 - 1819 FOR SILK SCREENING & PATENT BUILDING 7 - NORTH WING
	MATERIAL	APPD	ELECTRICAL PLAN
		APPD	FILE CODE IDENT NO DRAWING NO D 07397
MODEL			SCALE PLANT ENGRG SHEET 2 OF 4

APPROVED FOR
CONSTRUCTION

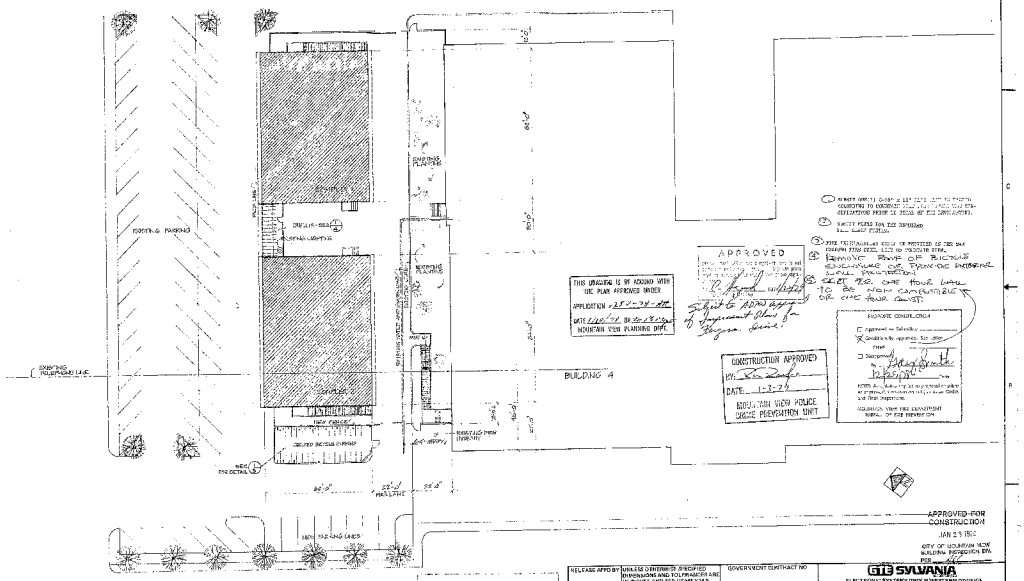
LICENSED FIRE PROTECTION
ENGINEERING & CONSULTING



REVISIONS
ZONE
LTR
DESCRIPTION
DATE
APPROVED
DETAIL 'A'
ELEVATION 'C'
DETAIL 'B'
PLAN - BASE PLATE
4 PIPE COLUMN DETAILS
SCALE 1½" = 1'-0"
BICYCLE RACKS @ 3'-0" O.C.
1 PLAN - BICYCLE PARKING ENCLOSURE
SCALE 1/8" = 1'-0"
2 ELEVATION - BICYCLE PARKING ENCLOSURE
SCALE 1/8" = 1'-0"
THIS DRAWING IS IN ACCORD WITH THE PLAN APPROVED UNDER
APPLICATION
DATE
MOUNTAIN VIEW PLANNING DEPT.
SEE DETAIL 'A'
SEE DETAIL 'B'
3 SECTION THRU ENCLOSURE
SCALE 1/4" = 1'-0"
5 ELEVATION - BICYCLE RACK
SCALE 1" = 1'-0"
APPROVED FOR CONSTRUCTION
CITY OF MOUNTAIN VIEW BUILDING INSPECTION DIV.
RELEASE APPD BY
UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USGS Y14.5
TOLERANCES: ANGLES ±
DECIMALS: .XX ± .XXX ±
SURFACES: √ MICRO INCHES
MATERIAL
GOVERNMENT CONTRACT NO
PREP
CHK
APPD
APPD
GTE SYLVANIA
ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION
MOUNTAIN VIEW, CA 94042
BICYCLE PARKING ENCLOSURE AT NORTHWEST SIDE OF BLDG. 4
DETAILS
SIZE
CODE IDENT NO
DRAWING NO
D
07397
PLANT ENGRG.
4-221
SCALE
SHEET 8 OF 8


REVISIONS
ZONE LTR DESCRIPTION DATE APPROVED
NORTHWEST ELEVATION
NORTHWEST FACE OF BUILDING
SOUTHWEST ELEVATION
THIS DRAWING IS IN ACCORD WITH THE PLAN APPROVED UNDER APPLICATION
APPROVED FOR CONSTRUCTION
CITY OF DULUTHAM VIEW BUILDING DIRECTION
RELEASE APPD BY
UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND REFLEXIVE TYPES
TOLERANCES: ANGS FR ±
DECIMALS .XX ± .XXX ±
SURFACES ✓ MICRO INCHES
MATERIAL
REV. 10-31-79
NEXT ASSEMBLY
MODEL
GOVERNMENT CONTRACT NO
DATE 6-8-78
DRAWN
APPD
GTE SYLVANIA
ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION
MOUNTAIN VIEW, CA. 94042
2 MODULAR COMPLEXES AT NORTHWEST SIDE OF BLDG. 4
ELEVATIONS
SIZE D
CODE IDENT NO 07397
DRAWING NO
PLANT ENGRG. 4-221
SCALE
SHEET 2 OF 5

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE	APPROVED



PEPSICO BUILDING SYSTEMS INC.

A MEMBER OF THE PEPSICO CORPORATE FAMILY
3031 LA JOLLA STREET, ANAHEIM, CALIFORNIA, 92806 - TELEPHONE (714) 630-5900 (213) 624-7742 - TOLL FREE 800-854-3362 (EXCEPT CALIF.)

[redacted]

FOR

GTE SYLVANIA

MOUNTAIN VIEW, CALIF.

APPROVED FOR CONSTRUCTION

CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.

INDEX

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
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[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

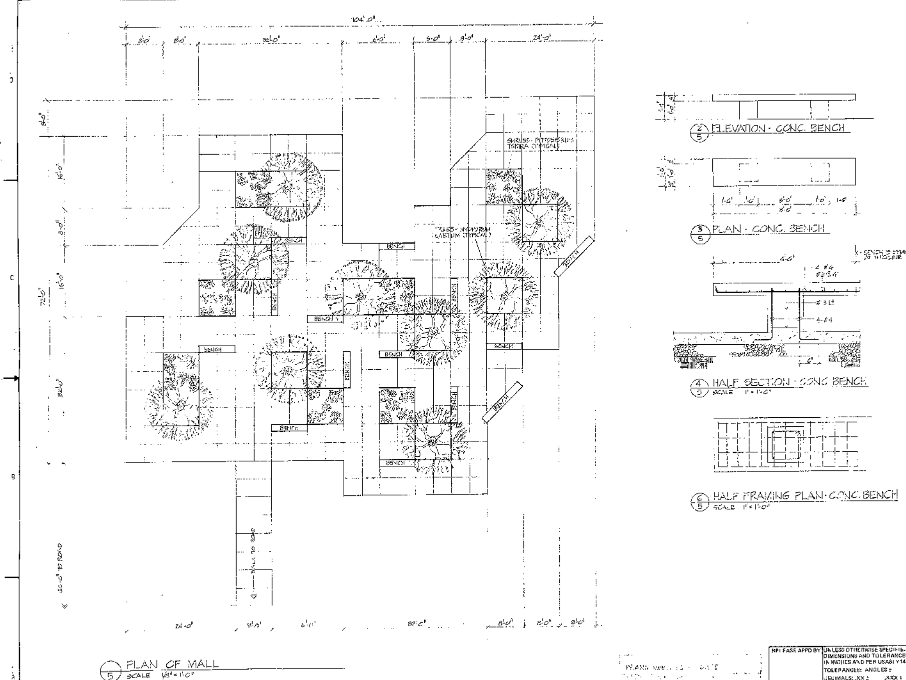
PEPSICO BUILDING SYSTEMS

SET NO.

COMPANY GTE SYLVANIA (108-2) MOUNTAIN VIEW, CALIF.

DATE [illegible]

JOB NO. 9617



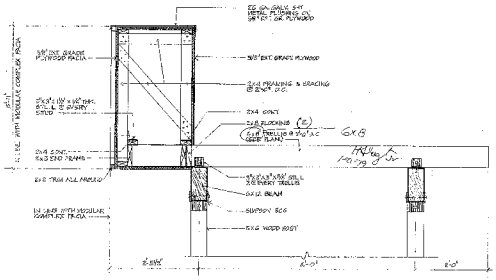
APPROVED
MOUNTAIN VIEW PLANNING DEPT.
DATE 1/10/78 BY [illegible]

Landscape plan
Benches must have backs

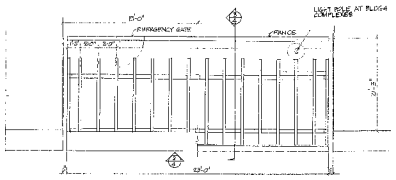
APPROVED FOR CONSTRUCTION
JAN 2 [illegible]
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.
PER [illegible]

RELEASE APPD BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USASI Y14.5 TOLERANCES: ANGLES ± DECIMALS: .XX ± .XXX ± SURFACES: √ MICRO INCHES	GOVERNMENT CONTRACT NO		GTE SYLVANIA INCORPORATED ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION MOUNTAIN VIEW, CA. 94042
LEVEL DWG 1 2 3 4 CHK 1 2 3 4 CONT 1 2 3 4	MATERIAL	PREP E DELEON	DATE 12-14-78	MALL AT NORTHSIDE OF BLDG 5
NEXT ASSEMBLY		CHK		DETAILS
MODEL		APPD [signature]	11-21-78	SIZE D · CODE IDENT NO 07397 · DRAWING NO 4-221
		APPD		SCALE · SHEET 5 OF 5

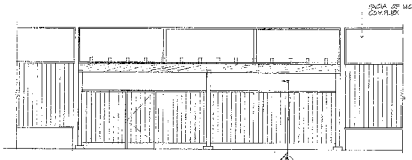
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



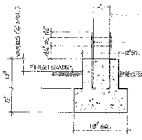
5/4 SECTION - FACIA AND TRELLIS
SCALE 1"=1'-0"



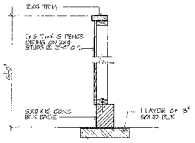
1/4 PLAN - FACIA AND TRELLIS (BETWEEN MODULAR COMPLEXES)
SCALE 1/8"=1'-0"



2/4 ELEVATION - FACIA AND TRELLIS
SCALE 1/8"=1'-0"



3/4 FOOTING DETAIL (TRELLIS POSTS)
SCALE 1"=1'-0"

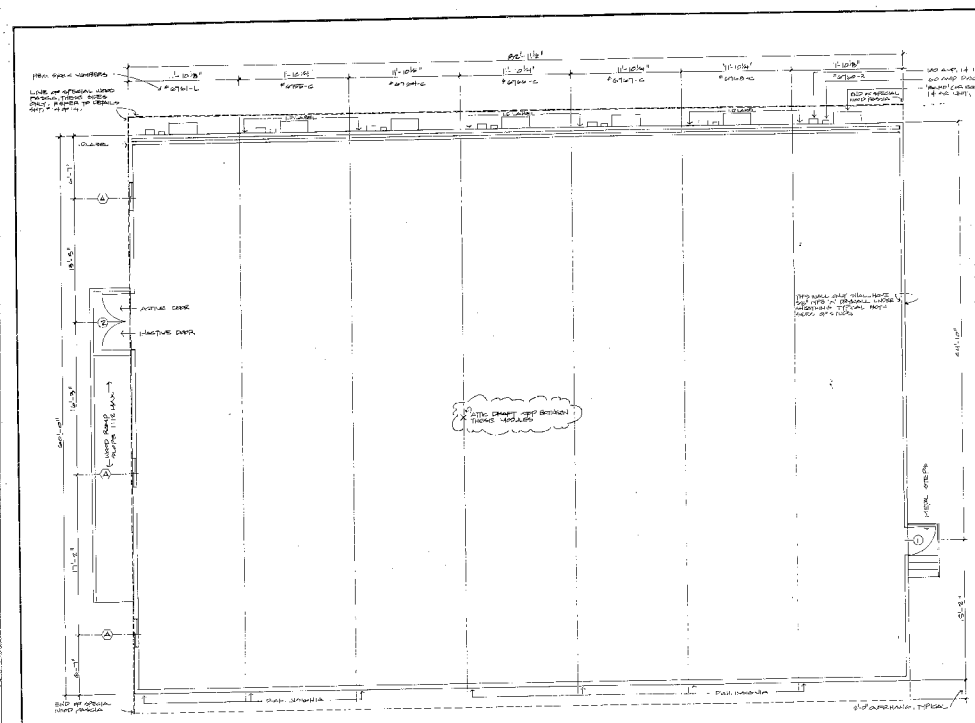


5/4 SECTION WOOD FENCE
SCALE 1"=1'-0"

THIS DRAWING IS IN ACCORD WITH THE PLAN APPROVED BY/REV
APPLICATION: 25-78-142
DATE 6/26/79 BY Bob Kelson
SUPERVISOR VIEW PLANNING DIV.

APPROVED FOR CONSTRUCTION
JUN 27 1979
CITY OF MOUNTAIN VIEW
BUILDING INSPECTOR DIV.
REF. _____

RELEASE APPD BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USASI Y14.5 TOLERANCES: ANGLES ± SIDE DIMENSIONS .XX= .XXX= SURFACES ✓ MICRO INCHES	GOVERNMENT CONTRACT NO	GTE SYLVANIA ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION MOUNTAIN VIEW, CA. 94040
		PREP R. GELSON DATE 3-14-79	FACIA AND TRELLIS BETWEEN MODLLAR COMPLEXES
	MATERIAL	CHK	
DWG 1 2 3 4 / CH 1 2 3 4 / CONT 1 2 3 4		APPD Nowler 6-11-79	DETAILS
NEXT ASSEMBLY		APPD	SIZE D / CODE IDENT NO 07397 / DRAWING NO ANF 4-221
MODEL			SCALE / SHEET 4 OF 9



NOTES

1. R-2 occupancy usable for office and type V-B construction.
2. This structure is approved to be located in Fire Zone 2 F.
3. Plaster plan indicent to excavation, stating "This zone is known to contain During Rainfall Years."
4. This structure is not to be located less than 10 feet from property line.
5. Occupancy load shall be under 50 max. Will have 2 exits as shown.
6. Exit door shall be openable from the inside without use of key or any special knowledge.
7. Landings at exit doorways shall comply with 2303 (B) U.B.C. 1976 Edition.
8. Install a mechanically operated ventilating system providing a minimum of 15 cfm per occupant by 15 cfm exhaust per toilet room.
9. Roof covering system shall be class A, 20 ga. galv. metal.
10. Glazing shall comply with Sec. 4701.
11. Spaces to be used for Elec. E-2, Mec. M-2, Plumbing, see P-2.
12. All load centers shall be 100 amp. 1 P.
13. All constituents and roofing solid shall be same or equal to Sec 38.50, "B" EN alpha check of roof with of the roofer. Each unit shall be separately installed to provide max. compliance to code.

LICENSED PLANT: I.E. PLD-560

O.S. Manual on File:
Mech. M-6 on file
Elec. E-2 on file
Plumbing P-2 on file
Approved as per and phase

Minimum Loads Required:
Roof live load: 20#
Floor live load: 80#
Wind live load: 15#

14. All fire zone to maintain walls, partitions and assembly or varsity maintain a width of at least the first hour as an alternate assignment.

APPROVED FOR CONSTRUCTION
JAN 2 2 '82
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.

U.S. 978

Plans of Subject
Building Permit Application

Sheldon W. Gilbreath

FLOOR PLAN

NOTE:
WALL PLANS AHEAD OF WINDOW WALL PANELS & CEILING PLANS WILL BE SENT.
WINDOW WALLS PROVIDE A FRAME FOR EACH UNIT IN THE CONSTRUCTION. IF ANY EDGE W/ ADDED FRAME OF EACH CORNER OF EACH UNIT WITH ALL ABOVE FROM SYSTEM.

NORTH

COMPLEX #2

PERSICO BUILDING

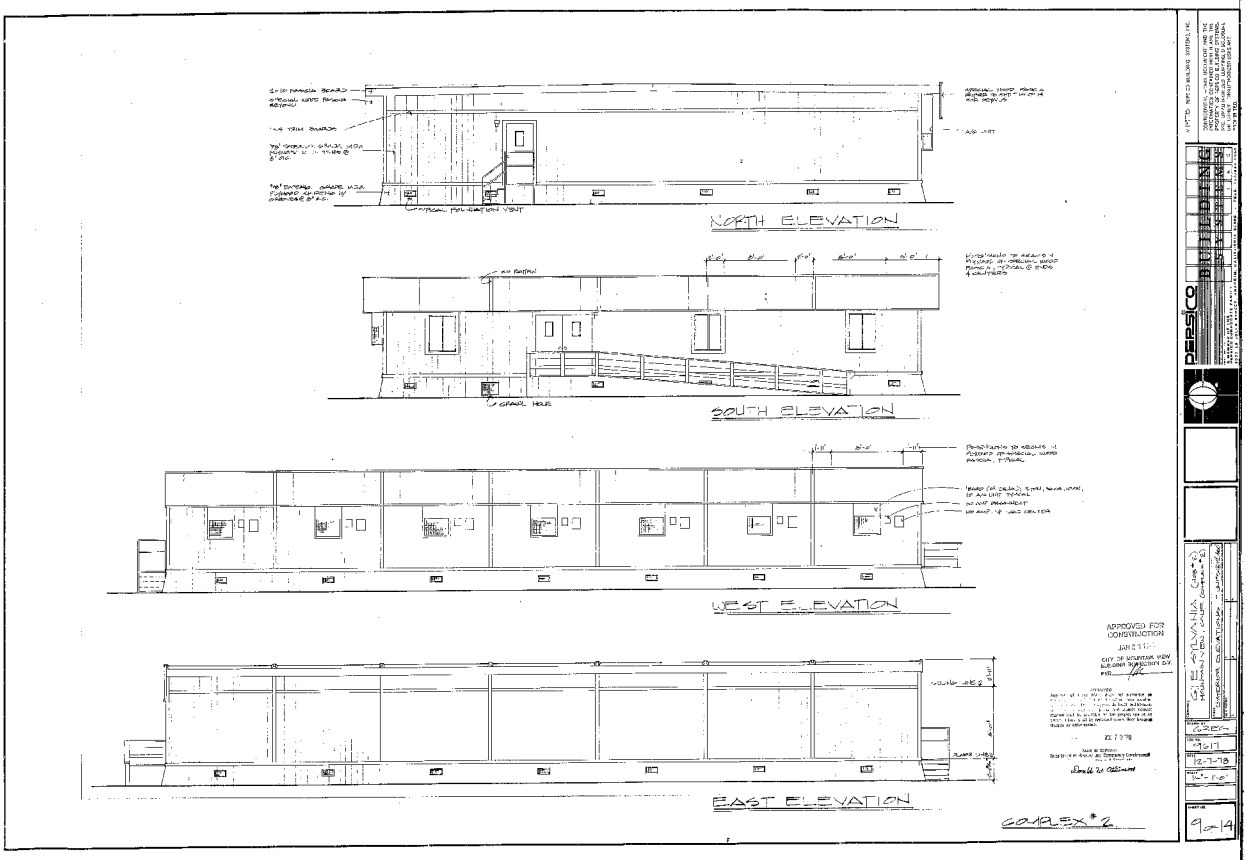
GTE SYLVAN & CHARLESTON
MOUNTAIN VIEW, CALIFORNIA

FLOOR PLAN

DATE 10-7-78

SCALE 1/4" = 1'-0"

DRAWN NO. 10-01-14


NORTH ELEVATION
SOUTH ELEVATION
WEST ELEVATION
EAST ELEVATION
COMPLEX #2
APPROVED FOR CONSTRUCTION
CITY OF MOUNTAIN VIEW
BUILDING
PERSICO
GREG
12-7-78
9 of 14

PANEL "E"

CIRCUIT NO.	CIRCUIT BREAKER		REMARKS	WATTS L1	WATTS L2
1	20/1P		2 WD CEILING LIGHTS	300W	
2	20/1P		2 WD WALL PLUGS	360W	
3	20/1P		2 WD GROUND LIGHTS		300W
4	20/1P		2 WD WALL PLUGS		360W
5	20/1P		2 WD WALL PLUGS & FLOODED	270W	
6	20/1P		2 WD WALL PLUGS & FLOODED		270W
7			SPARE		
8			SPARE		
			TOTAL	930W	930W

TOTAL WATTS LOAD: 1860 WATTS
TO BALANCE CIRCUIT VOLTS: 1 PHASE #20 CYCL. 120 V
AT 60 CYCLES AND 2.25 AMPS
TOTAL CKT. AMPS: 2.25 AMPS
MAIN CKT. BREAKER RATING: 100 AMP

PANEL "F"

CIRCUIT NO.	CIRCUIT BREAKER		REMARKS	WATTS L1	WATTS L2
1	20/1P		2 WD CEILING LIGHTS	300W	
2	20/1P		2 WD WALL PLUGS		360W
3	20/1P		2 WD CEILING LIGHTS	300W	
4	20/1P		2 WD WALL PLUGS		360W
5	20/1P		2 WD WALL PLUGS	270W	
6	20/1P		2 WD WALL PLUGS & FLOODED		270W
7	20/1P		2 WD WALL PLUGS & FLOODED	270W	
8	20/1P		2 WD WALL PLUGS & FLOODED		270W
			TOTAL	1440W	1440W

TOTAL WATTS LOAD: 2880 WATTS
TO BALANCE CIRCUIT VOLTS: 1 PHASE #20 CYCL. 120 V
AT 60 CYCLES AND 3.6 AMPS
TOTAL CKT. AMPS: 3.6 AMPS
MAIN CKT. BREAKER RATING: 100 AMP

PANEL "G"

CIRCUIT NO.	CIRCUIT BREAKER		REMARKS	WATTS L1	WATTS L2
1	20/1P		2 WD FLOODED LIGHTS & EXT. LIGHTS	300W	
2	20/1P		2 WD WALL PLUGS		360W
3	20/1P		2 WD FLOODED LIGHTS	300W	
4	20/1P		2 WD WALL PLUGS		360W
5	20/1P		2 WD WALL PLUGS	270W	
6	20/1P		2 WD WALL PLUGS & FLOODED		270W
7	20/1P		2 WD WALL PLUGS & FLOODED	270W	
8	20/1P		2 WD WALL PLUGS & FLOODED		270W
			TOTAL	1440W	1440W

TOTAL WATTS LOAD: 2880 WATTS
TO BALANCE CIRCUIT VOLTS: 1 PHASE #20 CYCL. 120 V
AT 60 CYCLES AND 3.6 AMPS
TOTAL CKT. AMPS: 3.6 AMPS
MAIN CKT. BREAKER RATING: 100 AMP

LOAD SCHEDULE

PANEL	AMPS
A	18
B	23
C	21
D	23
E	21
F	22
G	18
TOTAL:	50M AMPS

PANEL "A"

CIRCUIT NO.	CIRCUIT BREAKER		REMARKS	WATTS L1	WATTS L2
1	20/1P		2 WD CEILING LIGHTS	300W	
2	20/1P		2 WD WALL PLUGS		360W
3	20/1P		2 WD WALL PLUGS	270W	
4	20/1P		2 WD WALL PLUGS & EXT. LIGHTS		270W
5	20/1P		2 WD WALL PLUGS	270W	
6	20/1P		2 WD WALL PLUGS & FLOODED		270W
7	20/1P		2 WD WALL PLUGS & FLOODED	270W	
8	20/1P		2 WD WALL PLUGS & FLOODED		270W
			TOTAL	1410W	1440W

TOTAL WATTS LOAD: 2850 WATTS
TO BALANCE CIRCUIT VOLTS: 1 PHASE #20 CYCL. 120 V
AT 60 CYCLES AND 3.6 AMPS
TOTAL CKT. AMPS: 3.6 AMPS
MAIN CKT. BREAKER RATING: 100 AMP

PANEL "B"

CIRCUIT NO.	CIRCUIT BREAKER		REMARKS	WATTS L1	WATTS L2
1	20/1P		2 WD CEILING LIGHTS	300W	
2	20/1P		2 WD WALL PLUGS		360W
3	20/1P		2 WD CEILING LIGHTS	300W	
4	20/1P		2 WD WALL PLUGS		360W
5	20/1P		2 WD WALL PLUGS & EXT. LIGHTS	270W	
6	20/1P		2 WD WALL PLUGS & FLOODED		270W
7	20/1P		2 WD WALL PLUGS & FLOODED	270W	
8	20/1P		2 WD WALL PLUGS & FLOODED		270W
			TOTAL	1440W	1440W

TOTAL WATTS LOAD: 2880 WATTS
TO BALANCE CIRCUIT VOLTS: 1 PHASE #20 CYCL. 120 V
AT 60 CYCLES AND 3.6 AMPS
TOTAL CKT. AMPS: 3.6 AMPS
MAIN CKT. BREAKER RATING: 100 AMP

PANEL "C"

CIRCUIT NO.	CIRCUIT BREAKER		REMARKS	WATTS L1	WATTS L2
1	20/1P		2 WD CEILING LIGHTS	300W	
2	20/1P		2 WD WALL PLUGS		360W
3	20/1P		2 WD EXT. & EXT. LIGHTS		300W
4	20/1P		2 WD WALL PLUGS		360W
5	20/1P		2 WD WALL PLUGS	270W	
6	20/1P		2 WD WALL PLUGS & FLOODED		270W
7	20/1P		2 WD WALL PLUGS & FLOODED	270W	
8	20/1P		2 WD WALL PLUGS & FLOODED		270W
			TOTAL	1440W	1440W

TOTAL WATTS LOAD: 2880 WATTS
TO BALANCE CIRCUIT VOLTS: 1 PHASE #20 CYCL. 120 V
AT 60 CYCLES AND 3.6 AMPS
TOTAL CKT. AMPS: 3.6 AMPS
MAIN CKT. BREAKER RATING: 100 AMP

PANEL "D"

CIRCUIT NO.	CIRCUIT BREAKER		REMARKS	WATTS L1	WATTS L2
1	20/1P		2 WD CEILING LIGHTS	300W	
2	20/1P		2 WD WALL PLUGS		360W
3	20/1P		2 WD CEILING LIGHTS	300W	
4	20/1P		2 WD WALL PLUGS		360W
5	20/1P		2 WD EXT. & EXT. LIGHTS	270W	
6	20/1P		2 WD EXT. & EXT. LIGHTS		270W
7	20/1P		2 WD WALL PLUGS & FLOODED	270W	
8	20/1P		2 WD WALL PLUGS & FLOODED		270W
			TOTAL	1440W	1440W

TOTAL WATTS LOAD: 2880 WATTS
TO BALANCE CIRCUIT VOLTS: 1 PHASE #20 CYCL. 120 V
AT 60 CYCLES AND 3.6 AMPS
TOTAL CKT. AMPS: 3.6 AMPS
MAIN CKT. BREAKER RATING: 100 AMP

APPROVED FOR CONSTRUCTION
JAN 2 2 1979
CITY OF MONTEREY PARK
BUILDING & SAFETY DIV.
PER: [illegible]

COMPLEX #1

Date 12 Oct 78

Department of Building and Safety, Los Angeles
Plan Check Division

Plans shall be available for inspection at all times. Face shall be cleaned when and because dirty or deteriorated.

Approved
Department of Building and Safety, Los Angeles
Plan Check Division

PERSICO

SITE SYLVANIA (Lamp)

DATE 12-1-78

SCALE NONE

SHEET NO. 8 OF 14

PANEL "E"

CIRCUIT NO.	POLES	CIRCUIT BREAKER	REMARKS	PHASE A	PHASE B	PHASE C
1	1	20 A	2 NO 120 VOLT LIGHTS	1440		
2	1	20	2 NO WALL PLUGS		360	
3	1	20 A	2 NO 120 VOLT LIGHTS			1440
4	1	20	2 NO WALL PLUGS	360		
5	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT	2160		
6	2					
7	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT		2160	
			TOTAL	4000	2520	1440

TOTAL WATTS 7960 TOTAL KW 7.96

3Φ CONNECTED LOADING VOLTS ____ 1 PHASE ____ AMPERES ____

3Φ LOAD 3 WIRE 240 VOLT CONNECTED ____ 1 PHASE ____ AMPERES ____

MAXIMUM DEMAND ____ KW ____ AMPS

PANEL "A"

CIRCUIT NO.	POLES	CIRCUIT BREAKER	REMARKS	PHASE A	PHASE B	PHASE C
1	1	20 A	2 NO 120 VOLT LIGHTS	1440		
2	1	20	2 NO WALL PLUGS		360	
3	1	20 A	2 NO 120 VOLT LIGHTS			1440
4	1	20	2 NO WALL PLUGS	360		
5	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT	2160		
6	2					
7	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT		2160	
			TOTAL	4000	2520	1440

TOTAL WATTS 7960 TOTAL KW 7.96

3Φ CONNECTED LOADING VOLTS ____ 1 PHASE ____ AMPERES ____

3Φ LOAD 3 WIRE 240 VOLT CONNECTED ____ 1 PHASE ____ AMPERES ____

MAXIMUM DEMAND ____ KW ____ AMPS

PANEL "F"

CIRCUIT NO.	POLES	CIRCUIT BREAKER	REMARKS	PHASE A	PHASE B	PHASE C
1	1	20 A	2 NO 120 VOLT LIGHTS	1440		
2	1	20	2 NO WALL PLUGS		360	
3	1	20 A	2 NO 120 VOLT LIGHTS			1440
4	1	20	2 NO WALL PLUGS	360		
5	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT	2160		
6	2					
7	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT		2160	
			TOTAL	4000	2520	1440

TOTAL WATTS 7960 TOTAL KW 7.96

3Φ CONNECTED LOADING VOLTS ____ 1 PHASE ____ AMPERES ____

3Φ LOAD 3 WIRE 240 VOLT CONNECTED ____ 1 PHASE ____ AMPERES ____

MAXIMUM DEMAND ____ KW ____ AMPS

PANEL "B"

CIRCUIT NO.	POLES	CIRCUIT BREAKER	REMARKS	PHASE A	PHASE B	PHASE C
1	1	20	2 NO 120 VOLT LIGHTS	1440		
2	1	20	2 NO WALL PLUGS		360	
3	1	20	2 NO 120 VOLT LIGHTS			1440
4	1	20	2 NO WALL PLUGS	360		
5	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT	2160		
6	2					
7	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT		2160	
8						
9						
10						
11						
12						
			TOTAL	4000	2520	1440

TOTAL WATTS 7960 TOTAL KW 7.96

3Φ CONNECTED LOADING VOLTS ____ 1 PHASE ____ AMPERES ____

3Φ LOAD 3 WIRE 240 VOLT CONNECTED ____ 1 PHASE ____ AMPERES ____

MAXIMUM DEMAND ____ KW ____ AMPS

PANEL "G"

CIRCUIT NO.	POLES	CIRCUIT BREAKER	REMARKS	PHASE A	PHASE B	PHASE C
1	1	20	2 NO 120 VOLT LIGHTS	1440		
2	1	20	2 NO WALL PLUGS		360	
3	1	20 A	2 NO 120 VOLT LIGHTS			1440
4	1	20	2 NO WALL PLUGS	360		
5	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT	2160		
6	1	20				
7	1	20	A/C 2 NO 120 VOLT		360	
			TOTAL	4000	2520	1440

TOTAL WATTS 7960 TOTAL KW 7.96

3Φ CONNECTED LOADING VOLTS ____ 1 PHASE ____ AMPERES ____

3Φ LOAD 3 WIRE 240 VOLT CONNECTED ____ 1 PHASE ____ AMPERES ____

MAXIMUM DEMAND ____ KW ____ AMPS

PANEL "C"

CIRCUIT NO.	POLES	CIRCUIT BREAKER	REMARKS	PHASE A	PHASE B	PHASE C
1	1	20	2 NO 120 VOLT LIGHTS	1440		
2	1	20	2 NO WALL PLUGS		360	
3	1	20 A	2 NO 120 VOLT LIGHTS			1440
4	1	20	2 NO WALL PLUGS	360		
5	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT	2160		
6						
7	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT		2160	
			TOTAL	4000	2520	1440

TOTAL WATTS 7960 TOTAL KW 7.96

3Φ CONNECTED LOADING VOLTS ____ 1 PHASE ____ AMPERES ____

3Φ LOAD 3 WIRE 240 VOLT CONNECTED ____ 1 PHASE ____ AMPERES ____

MAXIMUM DEMAND ____ KW ____ AMPS

PANEL "D"

CIRCUIT NO.	POLES	CIRCUIT BREAKER	REMARKS	PHASE A	PHASE B	PHASE C
1	1	20	2 NO 120 VOLT LIGHTS	1440		
2	1	20	2 NO WALL PLUGS		360	
3	1	20 A	2 NO 120 VOLT LIGHTS			1440
4	1	20	2 NO WALL PLUGS	360		
5	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT	2160		
6	2					
7	2	20	A/C 2 NO 120 VOLT & 1 NO 240 VOLT		2160	
			TOTAL	4000	2520	1440

TOTAL WATTS 7960 TOTAL KW 7.96

3Φ CONNECTED LOADING VOLTS ____ 1 PHASE ____ AMPERES ____

3Φ LOAD 3 WIRE 240 VOLT CONNECTED ____ 1 PHASE ____ AMPERES ____

MAXIMUM DEMAND ____ KW ____ AMPS

LOAD SCHEDULE

PANEL	AMPS
A	32
B	32
C	32
D	32
E	32
F	32
G	32
TOTAL:	224 AMPS

APPROVED FOR CONSTRUCTION

JAN 1 1978

COMPLEX # 2

PAYTON ENGINEERING SERVICES, INC.

DENVER, COLORADO

DENSCO

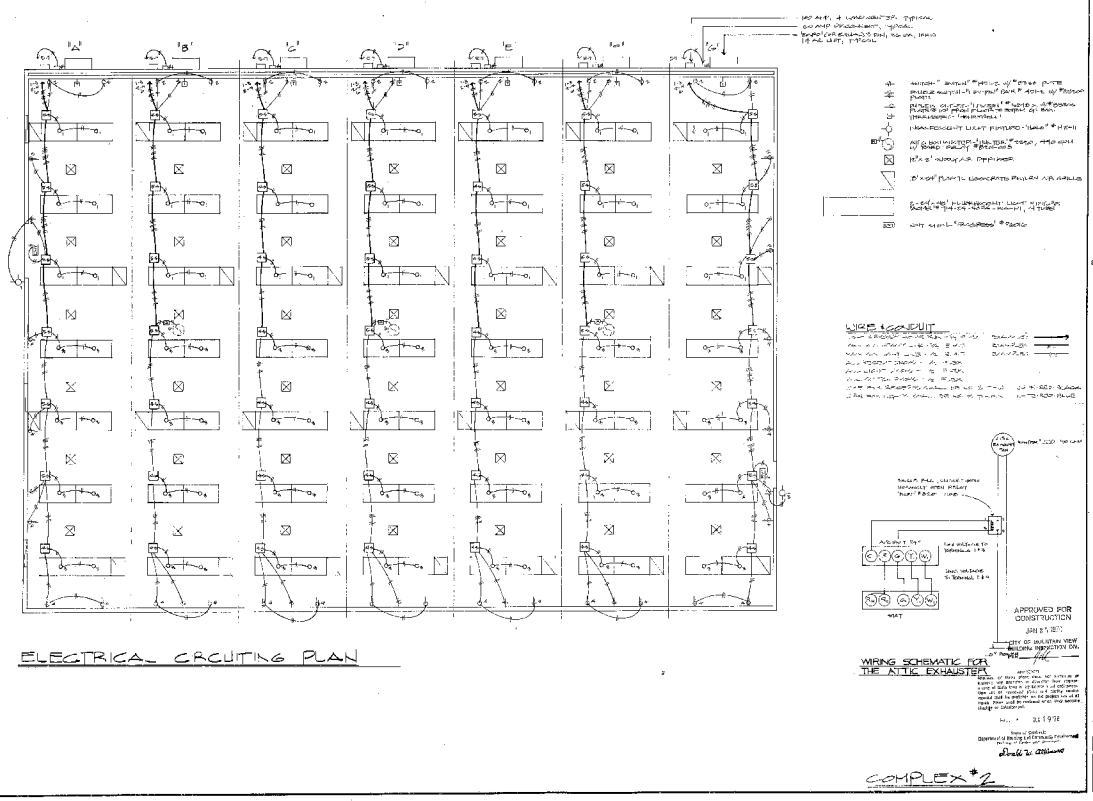
GTE SYLVANIA

ELECTRICAL LOAD SHEET

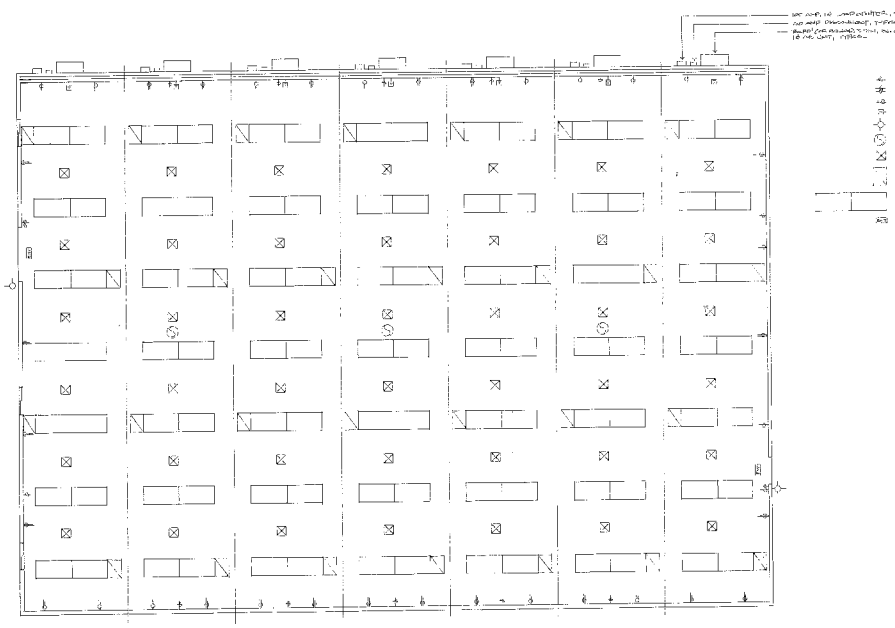
DATE: JAN 1978

SCALE: NONE

SHEET 3 OF 14



ELECTRICAL CIRCUITING PLAN
WIRE & CONDUIT
WIRING SCHEMATIC FOR THE ATTIC EXHAUSTER
APPROVED FOR CONSTRUCTION
COMPLEX #2
PERSICO
BUILDING SYSTEMS
12-7-78
12 of 14



REFLECTED CEILING PLAN

APPROVED FOR CONSTRUCTION

JAN 2 5 '78

CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.

APPROVED

BY 1 9 78

Bureau of Engineering Services

Donald W. Oldham

COMPLEX #2

PERSICO

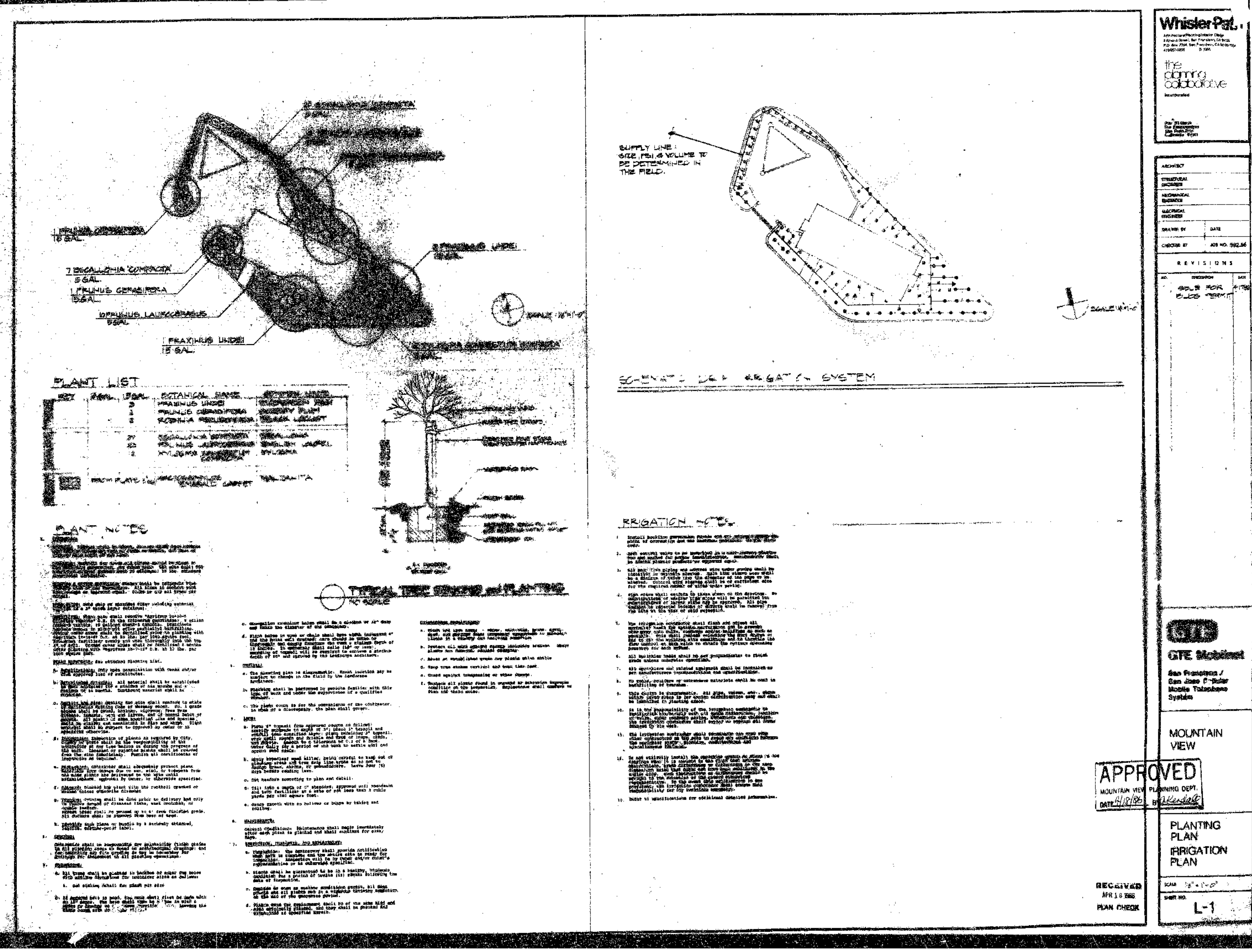
BUILDING

SYSTEMS

GTE SYLVANIA (MAP 2)
HEADQUARTERS, MAIN COMPLEX

REFLECTED CEILING PLAN

11 of 14


1 PRUNUS CERASIFERA
15 GAL.
7 ESCALLONIA 'COMPACTA'
5 GAL.
1 PRUNUS CERASIFERA
15 GAL.
10 PRUNUS LAUROCERASUS
5 GAL.
1 FRAXINUS UHDEI
15 GAL.
FRAXINUS UHDEI
SCALE 1/8"=1'-0"
PLANT LIST
PLANT NOTES
TYPICAL TREE STAKING and PLANTING
NO SCALE
SUPPLY LINE :
SIZE, PSI & VOLUME TO
BE DETERMINED IN
THE FIELD.
SCALE 1/8"=1'-0"
SCHEMATIC DRIP IRRIGATION SYSTEM
IRRIGATION NOTES
Whisler-Patri
the planning collaborative
ARCHITECT
STRUCTURAL ENGINEER
MECHANICAL ENGINEER
ELECTRICAL ENGINEER
DRAWN BY
DATE
CHECKED BY
JOB NO. 592.56
REVISIONS
SETS FOR BLDG PERMIT
GTE Mobilnet
San Francisco / San Jose Cellular Mobile Telephone System
MOUNTAIN VIEW
APPROVED
MOUNTAIN VIEW PLANNING DEPT.
DATE 4/18/86
PLANTING PLAN
IRRIGATION PLAN
SCALE 1/8" = 1'-0"
SHEET NO.
L-1
RECEIVED
APR 1 8 1986
PLAN CHECK

[illegible] (12" with sediment)

[illegible] moment @ center of panel: basic formula (w)(L2)/8 =

[illegible] (WHC) = 2793.2 lb.ft.

[illegible] (2[illegible])(WHC) / (DBS) = 567.6 psi

[illegible]

[illegible]

[illegible]

[illegible] = [illegible]

[illegible] = [illegible]

[illegible] = [illegible]

WALL DESIGN :

Wall panel thickness (WPT) = 4 in.

Inside & outside skin thickness* (IOT) = 3 in.

Section properties: (ignore internal web)

Wall moment of inertia: I = 2bh^2

where:

I = 12M(IOT)^2 / 12 + (IOT)^3

A = 12(IOT)

v = [(WPT)-(IOT)] / 2

then:

2M(IOT)^2 + [illegible] = (WSW) = 27.8

Wall section modulus: 2(WSW)/(WPT) = (WSM) = 18.0 in.^3

Analyze as simple span vertical:

Max. moment @ center of panel: basic formula (w)(L2)/8

therefore:

(WL)(L)/8 = (WM) = 342.5 lb.ft.

Wind bending stress @ center of vertical span:

(WM)/(WSM) = (WSB) = 228.7 psi

Max. vertical load: [illegible] = (VWL) = [illegible] lb.

WALL DESIGN (CONTINUED)

Euler's formula:

Allowable compressive stress = (m)(E)(I)/(L)(L)

where:

m = 3.14159

E = (MOE) = [illegible]

I = (M)

r = [(M2W)/24(IOT)]^1/2

then:

Allowable column stress:

[(3.14159)([illegible])/24(IOT)]^2 = (AC) = 450.5 psi

Actual max. column stress: (WL)/2(24(IOT)) = (MCS) = 62.0 psi

NOTE: UBC does not require maximum wind load to applied coincident with maximum live load.

therefore:

Tot. column stress: [(WL)(W)/2]/[24(IOT)] = (TLC) = 11.8 psi

Combined vert. & horiz. stress:

[(TLC)/(FC)]+[(WSB)/(FB)] = (CVH) = 0.3

FLOOR :

Load for shipping and handling (LSH) = 50 psf

Floor panel thickness (FPT) = 4 in.

Top & bottom skin thickness (FST) = 3 in.

Section properties: (ignore internal web)

Floor moment of inertia: 2[bh^2]

where:

I = 12[(FPT)^3]/12 + (FST)^3

A = 12(FST)

v = [(FPT)-(FST)] / 2

then:

2M[(FST)^2 + [illegible]] / [(FPT)-(FST)] = (WSF) = 37.8

Floor section modulus: 2(WSF)/(WPT) = (FSM) = 18.5 in.^3

Analyze as simple span:

Max. moment @ center of panel: basic formula (w)(L2)/8

therefore:

(WL)(L)/8 = (FM) = 1[illegible] lb.ft.

Max. horizontal moment @ center of panel:

12(WSF)/(FSM) = (FSB) = 567.7 psi

CONNECTIONS :

Total wind on sidewall: (W)(L)(H)/2 = (TWS) = 7520.0 lb.

Wind load to each sidewall at roof line: (TWS)/4 = (WSR) = 1021.3 lb.

Engell connectors required: (WSR)/2000 lbs/each = (ECR) = 0.9

Sidewall connector spacing: (2000)(2)(L3)/(TWS) = (ECS) = 16.8 ft.

(ECS) is greater than 3 therefore (ECC) = 3 ft.

Check top of sidewall for bending stress between connectors:

Section modulus = B(d2)/6 = 8 in.^3 (section 3" wide x 4" deep)

Top of wall bending moment between connectors:

(TWS)/(2M)(4(2M))(2) / 16 = (TBM) = 112.3 lb.ft.

Top of wall bending stress: 12(TWM)/S = (TWS) = 14.1 psi

[illegible]

Page 1 of 2

APPLICATION NO.: [illegible]

DATE OF CONSTRUCTION: April 15, 1994

[illegible] in accordance with the [illegible] of the [illegible]

[illegible] the fire system Group

[illegible] NONE

[illegible] OK

[illegible] Planning Commission approval to install six [illegible] and two terminating entrance on an existing [illegible] a prefabricated building with landscaping at the [illegible]

[illegible] APPROVED X DISAPPROVED CONTINUED TIME

[illegible] CONDITIONS CHANGED

[illegible] this site is necessary to accommodate manufacturing activities [illegible] the area and operation of an industrial district, and [illegible] has been used to offset the aesthetic impacts of the [illegible] is approved subject to the following conditions:

1. The fence around the project shall be an attractive wood fence rather than the chain link fence proposed.

2. [illegible] shall be added flanking the gate into the [illegible] the trees should be evergreen rather than deciduous so as to provide a landscape screen all year round.

3. A landscape [illegible] plan that conforms encompassing planting area out [illegible] to be submitted directly to the Planning Department [illegible] Administrator and [illegible] approved by the Zoning Administrator and [illegible] prior to occupancy. Landscape [illegible] shall: (a) consider [illegible] (b) provide street trees; (c) show lights; [illegible] (d) include adequate irrigation [illegible] (e) include adequate screening [illegible] (f) include [illegible] of parking around planters.

Prior to occupancy, the Landscape/Landscape Designer shall certify in [illegible] to the Building Department, that the [illegible] in accordance with the approved plans and [illegible] shrubs & trees. Submit [illegible] of plants and [illegible] to [illegible] survey.

RECEIVED
APR 15 1994
PLANN [illegible]

[illegible] WILLIAM [illegible] Kim GRESSEL Fire GOLDO Public Works

Page 2 of 2
SP-88-6A

4. Provide one 5-lb-10-BC fire extinguisher in the building.

5. Provide outdoor building and parking lot lighting which is to be high-pressure sodium type (not mercury vapor or metal halide lighting with an acceptable color rendering index). Additional illumination is required to provide one foot-candle at the surface level, and designed so as not to cause adverse impact and nuisance.

6. Final inspection is required by the Police Department prior to occupancy.

7. This project is subject to the zone change all conditions have been met and the site be substantially developed as initially permits have been obtained. In order for building permits, submit three sets of plans showing the [illegible] of the [illegible] and [illegible] NOTE: Decisions of the Site Committee can be appealed to the City Council within ten (10) days after the Site Committee has made the decision. No permits may be issued or occupancy authorized during this appeal period.

STEVE CHANEY, ZONING ADMINISTRATOR

By: Leslie W. Gould
Leslie W. Gould
Senior Urban Planner

PLG/SP-4-1794

FIREBRAND CORPORATION

BUILDING SIZE (METRIC DIMS.)

Width (W): 11.3 ft
Length (L): 24.3 ft
Height (H): 18 ft

DESIGN CRITERIA :

Roof live load (RL) = 150 psf
Roof dead load (RD) = 10 psf
Wind criteria = 0.030 psf
Wind load: windward (Ww) = 20 psf
Wind load: leeward (Wl) = 20 psf
Roof wind load (RW) = 20 psf
Roof snow load (RS) = 20 psf
Roof snow load: drift (RSD) = 20 psf

ALLOWABLE MATERIAL STRESSES :

Bending (Fb) = [illegible] psi
Shear (Fv) = [illegible] psi
Perpendicular shear (Fv') = [illegible] psi
(at bend line between fibreglass and insulation core material)

Modulus of elasticity (E) = [illegible] psi
Compression Angle of elasticity (E') = [illegible] psi
Connections (Fpsi) = [illegible] psi (Fpsi is equivalent to Fbend perpendicular)
Shear = [illegible]
Tension = [illegible]

EXTERNAL LOADING :

Total dead load of building

Roof	[illegible]	=	[illegible] lb.
Walls	[illegible]	=	[illegible] lb.
Walls	[illegible]	=	[illegible] lb.
Floors	[illegible]	=	[illegible] lb.
	(TDL)	=	[illegible] lb.

Overturning: (HH)(L)(W)(Ww/2) = [illegible] = [illegible] lb.ft.

Resisting: (TDL)(W/2) = [illegible] = [illegible] lb.ft.

Safety factor: (RTM)/(OTM) = (SF) = 4.2

NOTE: To insure stability against sliding and overturning, the building should be anchored to foundation at lifting gradients with 5/8"diameter concrete anchors.

ROOF DESIGN :

Overall slab thickness at eave (STE) = 5 in.
Overall slab thickness at ridge (STR) = 8 in.
Top skin thickness (TST) = 3/4 in.
Bottom skin thickness (BST) = 3 in.

Section properties (ignore internal webs)

Neutral Axis of Section: [(A1Y1) + (A2Y2)] / (A1A2) = (NA) = 4.7 in.

where:

A1 = 12(TST)
A2 = 12(BST)
Y1 = STR - (TST / 2)
Y2 = STR - (BST / 2)

Then the moment of inertia of ridge:

Fin = A1(STR-Y1-NA)^2 + I12 + A2(NA-Y2)^2 = [illegible] = 116.9 in.^4

where:

I1 = 12(TST^3)/12 = TST^3
I2 = 12(BST^3)/12 = BST^3

Section modulus at ridge: [illegible] = [illegible] = [illegible] in.^3

Neutral axis at eave: [(A1Y1) + (A2Y2)] / (A1A2) = [illegible] = [illegible] in.

where:

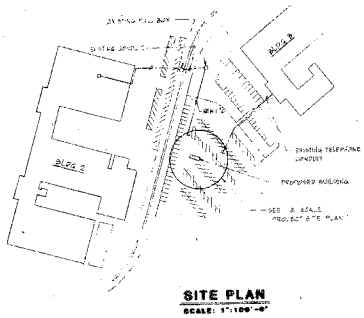
A1 = 12(TST)
A2 = 12(BST)
Y1 = STE - (TST / 2)
Y2 = STE - (BST / 2)

Then the moment of inertia at eave:

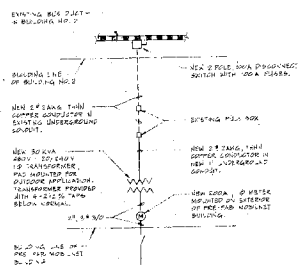
Fin = A1(NA-Y1)^2 + I12 + A2(NA-Y2)^2 = [illegible] = [illegible] in.^4

where:

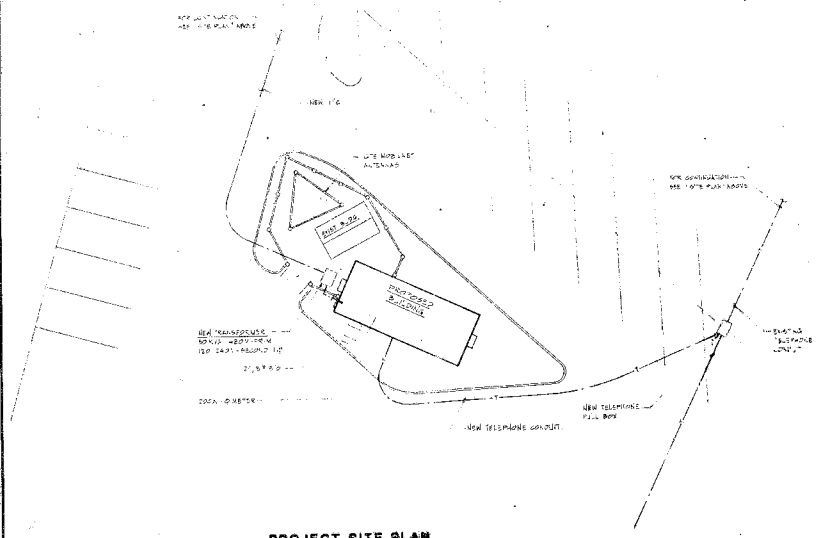
I1 = 12(TST^3)/12 = TST^3
I2 = 12(BST^3)/12 = BST^3



SITE PLAN
SCALE: 1"=100'-0"



SINGLE LINE DIAGRAM
NO SCALE



PROJECT SITE PLAN
SCALE: 1/8"=1'-0"

WhislerPatri

ARCHITECT	
STRUCTURAL ENGINEER	
MECHANICAL ENGINEER	
ELECTRICAL ENGINEER	
DRAWN BY	DATE
CHECKED BY	JOB NO. 192.05

REVISIONS

NO.	DESCRIPTION	DATE
	1/2 SCALE PROJECT SITE PLAN	4-7-86

GTE

GTE Mobilnet

San Francisco / San Jose Cellular Mobile Telephone System

MOUNTAIN VIEW

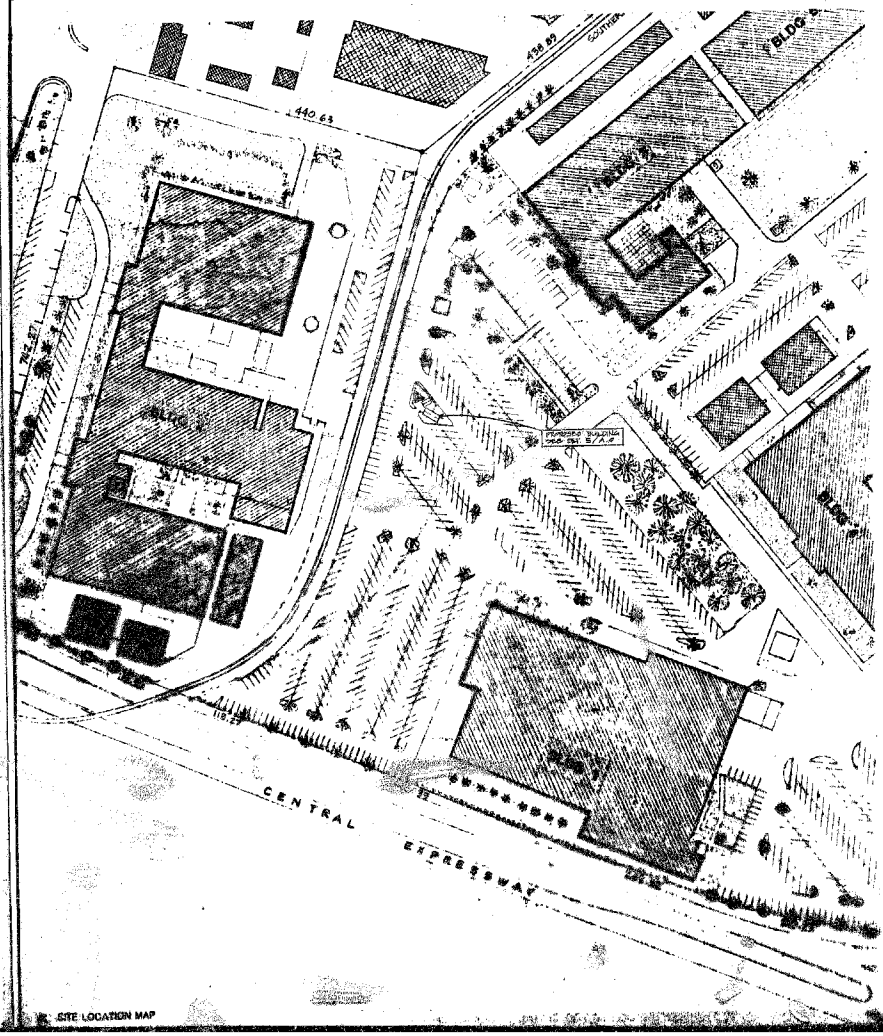
APPROVED FOR CONSTRUCTION
APR 1 8 1986
DIV. OF MOUNTAIN VIEW, CALIF.

TITLE SHEET
SITE PLANS, SINGLE LINE DIAGRAM

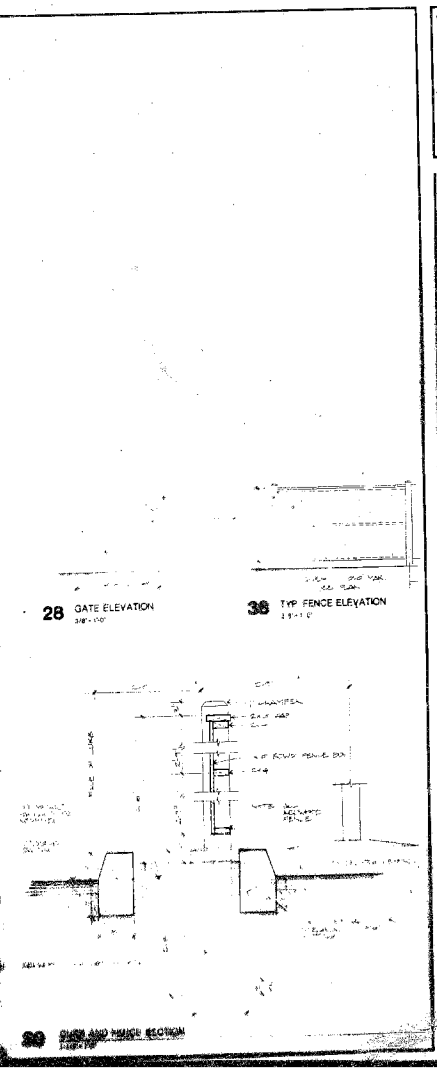
SCALE: AS SHOWN

SHEET NO. E-1

Electrical Engineers



SITE LOCATION MAP



Whisler-Patri

ARCHITECT
STRUCTURAL ENGINEER
MECHANICAL ENGINEER
ELECTRICAL ENGINEER
DRAWN BY
DATE 4/7/92
CHECKED BY
JOB NO. 592.58

REVISIONS

NO.	DESCRIPTION	DATE

GTE

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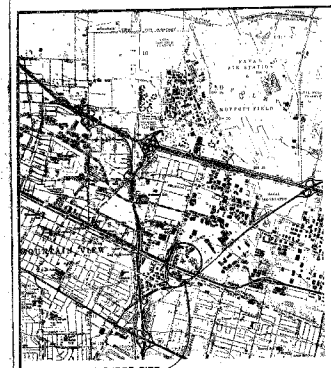
San Francisco / San Jose Cellular Mobile Telephone System

MOUNTAIN VIEW SITE

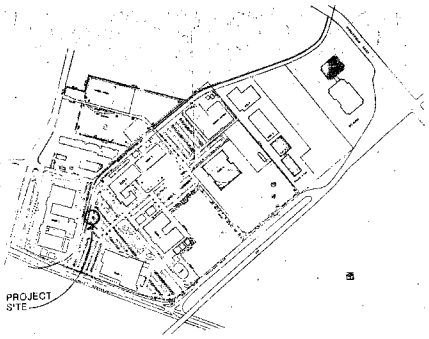
FENCE DETAILS AND SITE LOCATION PLAN

SCALE AS SHOWN

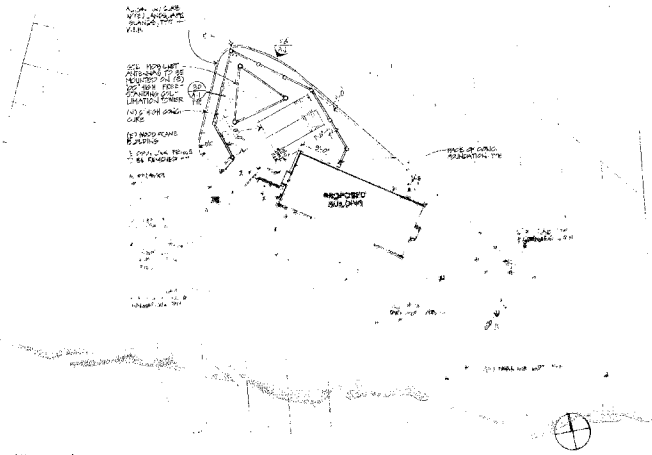
SHEET NO. A-1



2 VICINITY MAP
NO SCALE



12 AREA MAP
NO SCALE



5 SITE PLAN
1/8"=1'-0"

GTE Mobilnet

GTE

SAN FRANCISCO / SAN JOSE
CELLULAR MOBILE TELEPHONE SYSTEM

MATERIALS

ACOUSTIC TILE OR BOARD
CONCRETE CAST IN PLACE OR PRECAST
GLASS
BATT INSULATION IN THIN MATERIAL
SUPERIM GUARD
BATT COUPLE LAYER AT SMALL SCALE
INSULATION, BATT
INSULATION, RIGID
METAL
BATT INSULATION IN THIN MATERIAL
PLYWOOD
WOOD, FINISH
WOOD, FRAMING
WOOD, MASONRY
INTERIOR EXTERIOR

SYMBOLS

A2-3

COLUMN LINE
LETTERS ON ONE DIRECTION
NUMBERS ON THE OTHER DIRECTION

ROOM SYMBOL
ROOM NAME
NUMBERING GROUP

DEVISION
FLOOR FINISHED DEVISION SYSTEM

DETAIL
DETAIL IDENTIFICATION
SHEET WHERE DETAIL IS DRAWN

INTERIOR TELEPHONE/CAT
ELEVATION TRANSITION
VARIOUS LIGHTING
AC AMPS
DRAWER

WALL TYPE

ABBREVIATIONS

&	AND	CIR.	CIRCUIT	ELEC.	ELECTRIC
@	AT	CLG.	CEILING	ELEV.	ELEVATOR
℄	CENTERLINE	CLR.	CLEAR	E.W.C.	ELECTRIC WATER COOLER
		CLR.	CLEAR	EQ.	EQUAL
ACOUS.	ACOUSTICAL	COL.	COLUMN	EQUIP.	EQUIPMENT
ADJ.	ADJACENT	COMP.	COMPLETE	EXC.	EXCAVATE
ALUM.	ALUMINUM			EXP.	EXPANSION
ANOD.	ANODIZE				
		CONC.	CONCRETE	F.	FIRE
BD.	BOARD	CONT.	CONTINUOUS	FAB.	FABRICATE
BLDG.	BUILDING	CORR.	CORRIDOR	FDN.	FOUNDATION
BLK.	BLOCK	CTR.	CENTER	FIN.	FINISH
BLKG.	BLOCKING			FLR.	FLOOR
		DEG.	DEGREE	FLUOR.	FLUORESCENT
CAB.	CABINET	DEMOL.	DEMOLISH	FOUND.	FOUNDATION
CEIL.	CEILING	DET.	DETAIL	FT.	FOOT
CLKG.	CAULKING	DIA.	DIAMETER	FTG.	FOOTING
CLG.	CEILING	DIM.	DIMENSION		
CLR.	CLEAR	DN.	DOWN	GA.	GAUGE
CNTR.	COUNTER	DR.	DRAWER	GALV.	GALVANIZED
COL.	COLUMN			GYP.	GYPSUM
CONC.	CONCRETE				
CONN.	CONNECTION	EAP.	EXPANSION ANCHOR PLATE	H.	HEIGHT
CONT.	CONTINUOUS	EL.	ELEVATION	HDW.	HARDWARE
CTR.	CENTER			HM.	HOLLOW METAL
				HORIZ.	HORIZONTAL
DET.	DETAIL	MAT.	MATERIAL	HTG.	HEATING
DIA.	DIAMETER	MECH.	MECHANICAL	HTR.	HEATER
DIM.	DIMENSION	MET.	METAL	HTRS.	HEATERS
DN.	DOWN	MFR.	MANUFACTURER		
DR.	DRAWER	MIN.	MINIMUM		
		MISC.	MISCELLANEOUS		
E.	EAST	MTD.	MOUNTED		
EA.	EACH	MUL.	MULLION		
EL.	ELEVATION				
ELEC.	ELECTRICAL	NO.	NO.		
ELEV.	ELEVATOR	NOM.	NOMINAL		
EQ.	EQUAL				
EQUIP.	EQUIPMENT	N.T.S.	NOT TO SCALE		
EXT.	EXTERIOR				
		O.C.	ON CENTER		
F.P.	FIRE PROOF	O.D.	OUTSIDE DIAMETER		
FIN.	FINISH	OPNG.	OPENING		
FIXT.	FIXTURE				
F.O.B.	FLOOR				
F.O.F.	FACE OF FINISH				
FT.	FOOT OR FEET				

PNL.	PANEL		
PLAS.	PLASTIC		
PLYWD.	PLYWOOD		
PR.	PAIR		
PT.	POINT		
R.	RISER		
RAD.	RADIUS		
REF.	REFRIGERATOR		
REFR.	REFRIGERATOR		
REINF.	REINFORCE		
REQ.	REQUIRED		
RM.	ROOM		
RO.	ROUGH OPENING		
S.	SOUTH		
SCHED.	SCHEDULE		
SD.	SOAP DISPENSER		
SECT.	SECTION		
SHT.	SHEET		
SIM.	SIMILAR		
SPEC.	SPECIFICATION		
STD.	STANDARD		
STL.	STEEL		
STOR.	STORAGE		
STRUCT.	STRUCTURAL		
SUSP.	SUSPENDED		
SYM.	SYMBOL		
T.	TOP		
TB.	TOWEL BAR		
TEL.	TELEPHONE		
TELEPH.	TELEPHONE		
TERR.	TERRAZZO		
THK.	THICKNESS		
TOL.	TOLERANCE		
TOS.	TOP OF STEEL		
TOW.	TOWEL		
TYP.	TYPICAL		
U.L.	UNDERWRITERS LABORATORY		
UNF.	UNFINISHED		
UNO.	UNLESS OTHERWISE NOTED		
VERT.	VERTICAL		
VERIF.	VERIFY IN FIELD		
W.	WEST		
W/	WITH		
W/O	WITHOUT		
WD.	WOOD		
WP.	WATERPROOF		

LIST OF DRAWINGS

A.0 TITLE SHEET, SITE PLAN
A.1 FENCE DETAILS, SITE LOCATION PLAN
[illegible] ELECTRICAL & SCHEMATIC PLAN
[illegible]
[illegible]

GENERAL NOTES

[illegible]

WhislerPatri

ARCHITECT
STRUCTURAL ENGINEER
MECHANICAL ENGINEER
ELECTRICAL ENGINEER
DRAWN BY DATE
CHECKED BY JOB NO 592.55

REVISIONS

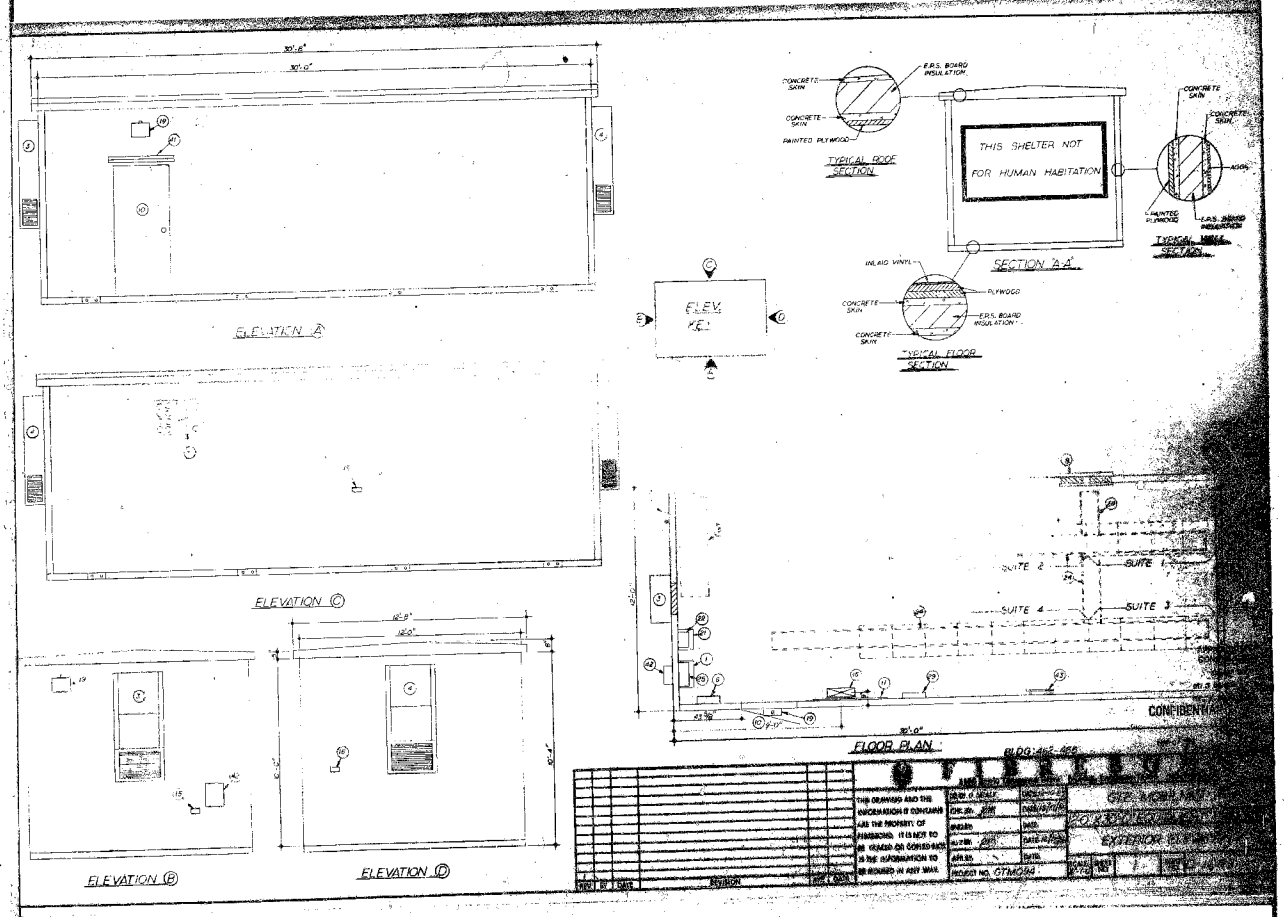
NO	DESCRIPTION	DATE
	[illegible]	[illegible]
	[illegible]	[illegible]
	[illegible]	[illegible]

GTE
GTE Mobilnet
San Francisco / San Jose Cellular Mobile Telephone System

MOUNTAIN VIEW

TITLE SHEET
SITE PLAN

DATE [illegible]
SHEET NO.
A0



ELEVATION A
ELEVATION C
ELEVATION B
ELEVATION D
TYPICAL ROOF SECTION
CONCRETE SKIN
E.P.S. BOARD INSULATION
PAINTED PLYWOOD
THIS SHELTER NOT FOR HUMAN HABITATION
SECTION A-A
TYPICAL WALL SECTION
INLAID VINYL
PLYWOOD
TYPICAL FLOOR SECTION
ELEV. KEY
SUITE 1
SUITE 2
SUITE 3
SUITE 4
FLOOR PLAN
CONFIDENTIAL
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PROJECT NO. GTM094
EXTERIOR ELEVATION

FIBREBOND
12' X 30' X 10'
EQUIPMENT SHELTER

APPROVED FOR CONSTRUCTION
JAN 10 1986
BY [illegible]
RECEIVED
APR 1 8 1986
PLAN CHECK

CONFIDENTIAL

REV.	BY	DATE	REVISION	APP.	DATE

FIBREBOND
1160 Erwin Thompson Drive Minden, Louisiana 71055 [illegible]

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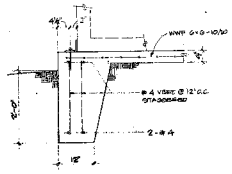
DR. BY W. BONNER	DATE: 1-22-86
CHK. BY	DATE:
ENG. BY	DATE:
APP. BY	DATE:
APP. BY	DATE:
PROJECT NO.	

GTE MOBILNET
12-0 X 30-0 EQUIPMENT SHELTER
COVER SHEET

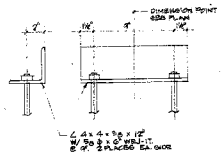
SCALE	SHEET NO.		DWG NO.	D-1058

NOTES

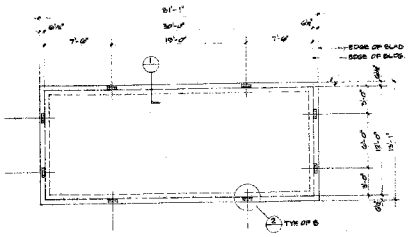
1. ALL WORK PER UBC 82 AND CITY OF MOUNTAIN VIEW.
2. STEEL: ASTM A 36
3. CONCRETE: 2500 p.s.i., 3/4" AGGREGATE, 4" SLUMP
4. REINFORCING: BARS - ASTM A 615-60.
   WIRE - ASTM A 185.
5. BOLTS: ASTM A 307
6. PLACE FOOTINGS ON NEAT UNDISTURBED GROUND.
7. RECOMPACT TOP 6" OF SLAB SUBGRADE TO 90% RELATIVE DENSITY.



1 PERIMETER FOOTING
1"=1'-0"



2 ANGLE
3"=1'-0"



SLAB PLAN
1/4"=1'-0"

Whisler

PRESTON/GOUDE & ASSOCIATES
CONSULTING ENGINEERS
25 NORTH GROVE
BOX 385
FORT PROVIDENCE, CA. 95483

ARCHITECT	
STRUCTURAL ENGINEER	
MECHANICAL ENGINEER	
ELECTRICAL ENGINEER	
DRAWN BY	DATE
CHECKED BY	JOB NO. 692.55

REVISIONS

NO	DESCRIPTION	DATE

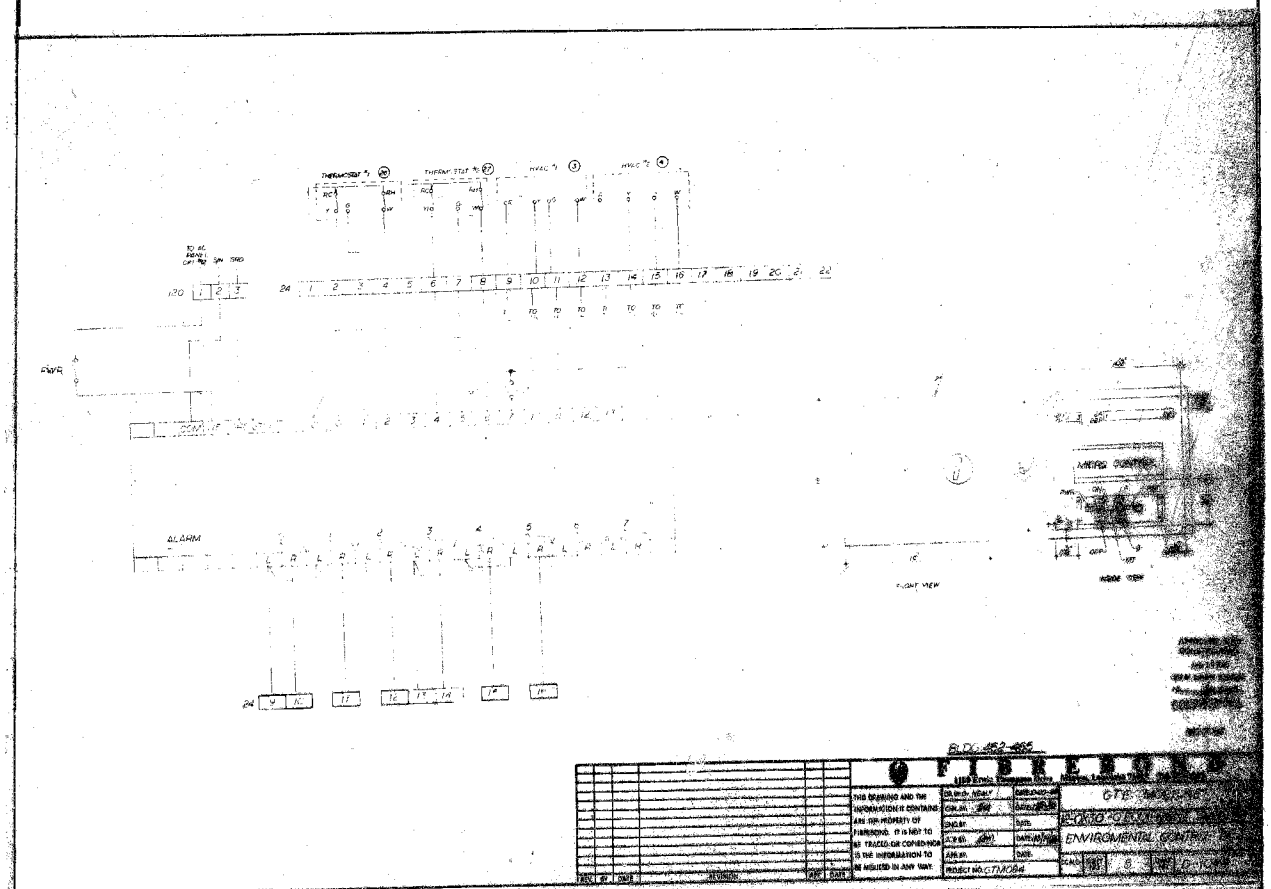
MOUNTAIN VIEW

APPROVED FOR CONSTRUCTION
JUN 12 1985
CITY OF MOUNTAIN VIEW, CALIF.
BY: [illegible]

FOUNDATION PLAN

SCALE AS NOTED

SHEET NO. S-1


THERMOSTAT #1
THERMOSTAT #2
HVAC #1
HVAC #2
ALARM
FRONT VIEW
MICRO CONTROL
BLDG 462-465
FIBREBOND
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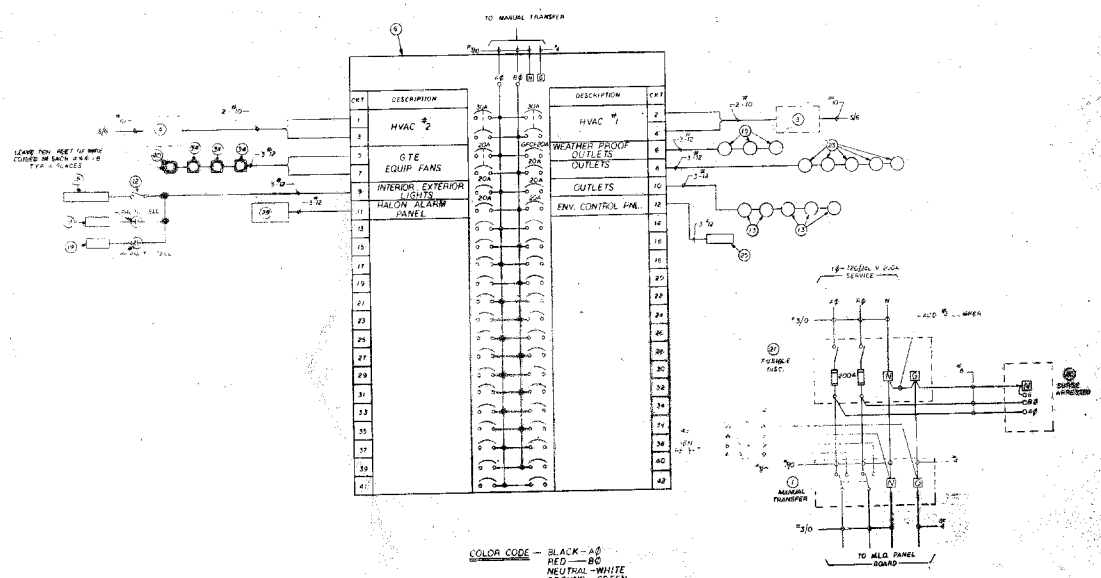
PROJECT NO. GTM084
ENVIROMENTAL CONTROL
REV
BY
DATE
REVISION
APP
DATE



COLOR CODE — BLACK — AØ
RED — BØ
NEUTRAL — WHITE
GROUND — GREEN
SWITCH LEG — Ø COLOR
RUN SEPERATE GROUND & SEPERATE NEUTRAL FOR EACH CIRCUIT.

APPROVED FOR CONSTRUCTION

CONFIDENTIAL

BLDG. 462-465

REV	BY	DATE	REVISION	APP	DATE

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FIBREBOND

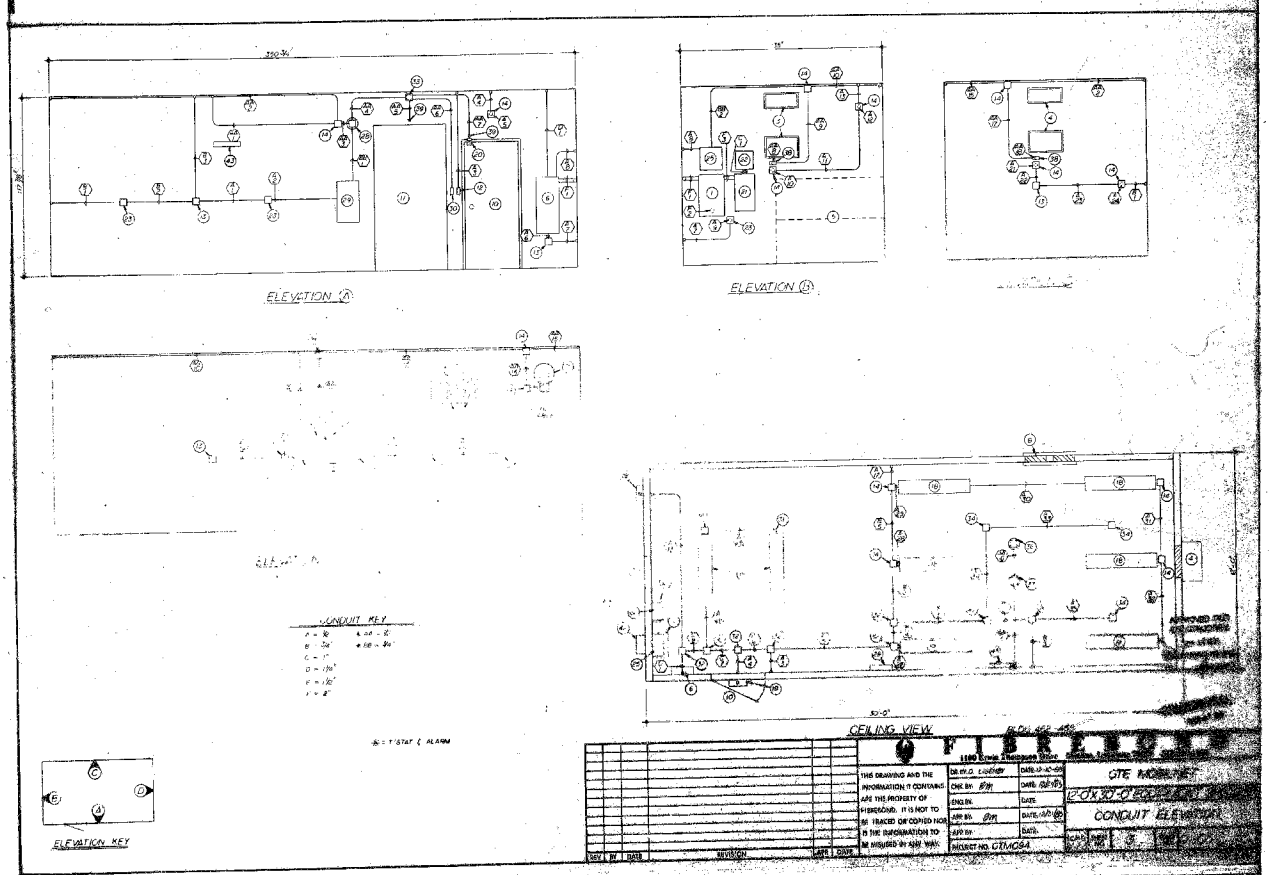
GTE MOBILNET

12'-0" X 30'-0" EQUIPMENT

ELECTRICAL SCHEMATIC

PROJECT NO. GTM0P4

SCALE NONE | SHEET NO. 4


ELEVATION (A)
ELEVATION (B)
CONDUIT KEY
CEILING VIEW
ELEVATION KEY
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REV
BY
DATE
REVISION
APP
DATE
DR. BY D. LUCHEY
CHK BY
ENG BY
APP BY
PROJECT NO. GTMC94
GTE MOBILNET
CONDUIT ELEVATION

MATERIAL LIST

ITEM	DESCRIPTION
1	200 AMP MANUAL TRANSFER SWITCH - CUTLER HAMMER
2	
3	24,000 BTU A/C UNIT 1 - BARD
4	24,000 BTU A/C UNIT 2 - BARD
5	BATTERY SUITE #1 (BY OTHERS)
6	200 AMP MLO 42 CKT A.C. PNL 120/240V/1Ø - CUTLER HAMR
7	HALON FIRE EXTINGUISHER - FENWALL
8	WAVE GUIDE PLATES - MICROFLECT
9	
10	DOOR 3070 - AMWELD
11	3/4" X 4' X 8' PLYWOOD (FOR TELCO)
12	INTERIOR LIGHT SWITCH/2X4" J.E.
13	DUPLEX OUTLET/4 X 4" J.B.
14	4" X 4" J.B.
15	WEATHERPROOF OUTLET
16	TELCO ENTRANCE
17	HALO GROUND
18	FLUORESCENT FIXTURE
19	EXTERIOR LIGHT FIXTURE W/PHOTO CELL
20	DOOR ALARM - ADEMCO
21	FUSIBLE DISC SWITCH 480/240/1Ø
22	JOSLYN - #1265 -05 SURGE ARRESTOR
23	DUPLEX OUTLET / 4 X 4" J.B.
24	18" WIDE CABLE RACK
25	ENVIRONMENTAL PANEL
26	THERMOSTAT #1/4 X 4" J.B. - ACCUSTAT
27	THERMOSTAT #2/4" X 4" J.B. - ACCUSTAT
28	ALARM BELL / 4 X 4" J.B.
29	HALON CONTROL PANEL
30	MANUAL PULL STATION FOR HALON / 2 X 4" J.B.
31	1/2" PULL ELL
32	4 1/16" X 4 1/16" J.B. W/EXTENDER RING
33	ALARM HORN / 4 X 4 J.B.
34	4 X 4 J.B.
35	
36	DETECTOR - PHOTOELECTRIC / 4 X 4" J.B.
37	DETECTOR - IONIZATION / 4 X 4" J.B.
38	4" X 4" J.B.
39	1" PC. BOX CONNECTOR W/BUSHING
40	4 1/16" X 4 1/16" J.B. W/EXTENDER RING
41	DGIP STRIP - 42"
42	200 AMP GENERATOR RECEPTACLE
43	GROUND BAR 4" X 20"

FIBRESONIC

1108 Avis Drive, Ann Arbor, Michigan 48108

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DR. BY D. LEBENDY DATE 25-10-

CHK. BY DATE

CO-DR. DATE

APP. BY DATE

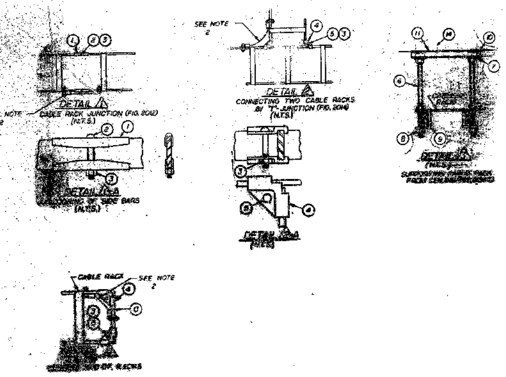
APP. BY DATE

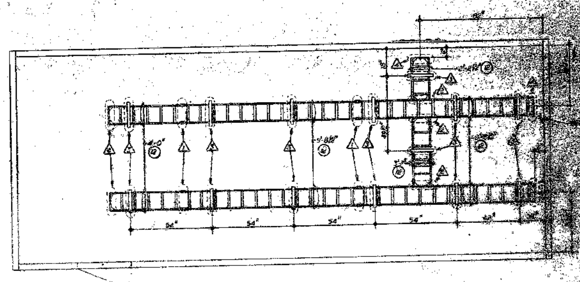
PROJECT NO. GTM094

SCALE SHT. 3

REV. BY DATE REVISION

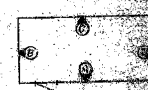
ALL DIMENSIONS





NOTE: 1. BOTTOM OF CABLE RACK TO BE 8'-3" ABOVE FINISHED FLOOR.
2. BOND CABLE RACK AS SHOWN. USE #2 BARE SOLID COPPER AND PINK LUGS. APPLY "NO-OX" TO ALL CONNECTIONS.
3. CONNECT CABLE RACK TO HALO GROUND. USE #6 INSULATED (GREEN) STRANDED COPPER & GREY LUG (TO CABLE RACK) CONNECT TO HALO GROUND PER SHEET 6.

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	20	[illegible]	[illegible]
[illegible]	32	[illegible]	[illegible]
[illegible]	16	[illegible]	[illegible]
6	28	[illegible]	[illegible]
7	24	WASHER	[illegible]
8	64	NUT	[illegible]
9	28	[illegible]	[illegible]
10	28	SQUARE NUT	[illegible]
11	14	[illegible]	[illegible]
12	6	[illegible]	[illegible]
13	5	[illegible]	[illegible]
14	56	TAP CON	


ELEVATION KEY

BLDG. 462-465

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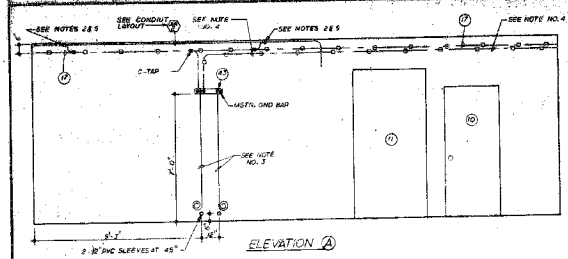
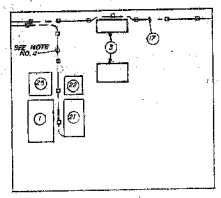
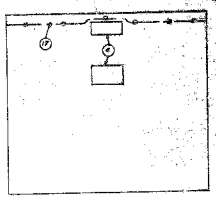
CABLE [illegible]



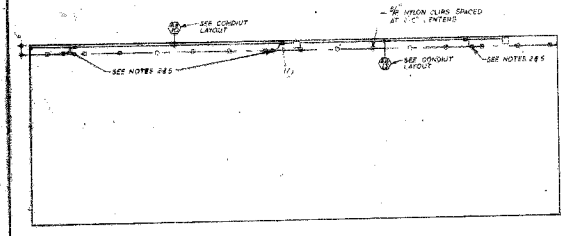
ELEVATION (A)



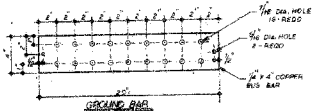
ELEVATION (B)



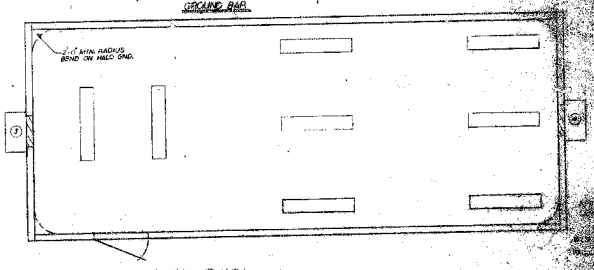
ELEVATION (D)



ELEVATION (C)

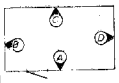


GROUND BAR



NOTES:

1. HALO GROUND-#2 BARE SOLID COPPER MOUNT TO WALL WITH 3/8", 7/16" OR 1/2" NYLON OR PLASTIC CLIPS SPACED EVERY 2'-0". MIN. RADIUS BENDS TO BE 2'-0".
2. GROUND ALL METALLIC ITEMS WITHIN 5" OF HALO GROUND WITH #6 INSULATED (GREEN) STRANDED COPPER.
3. CONNECT #2 INSULATED STRANDED COPPER (GREEN) TO EACH END OF MSTR. GRND. BAR. LEAVE 10' COILED INSIDE BLDG. TOTAL LENGTH APPX. 20'.
4. CONNECT 3/0 INSULATED STRANDED COPPER TO MSTR. GRND. BAR [illegible] TO HALO, DOWN TO FUSIBLE DISC. [illegible] CONNECT WIRE TO THE GROUND LUG [illegible] THE FUSIBLE DISC. "(2)" ATTACH TO WALLS WITH 3/8" OR 7/16" PLASTIC OR NYLON CLIPS. APPLY GREEN TAPE TO BOTH ENDS AND AT EVERY 5'-0" (5" BAND MINIMUM).
5. ALL CONNECTIONS TO HALO GROUND WILL BE BOLTED CLAMPS OR SPLIT BOLT CONNECTORS.



ELEV. KEY

BLDG: 462-465

REV	BY	DATE	REVISION	APP.	DATE

FIBERLITE

1100 Circle Drive, Fairfield, Illinois

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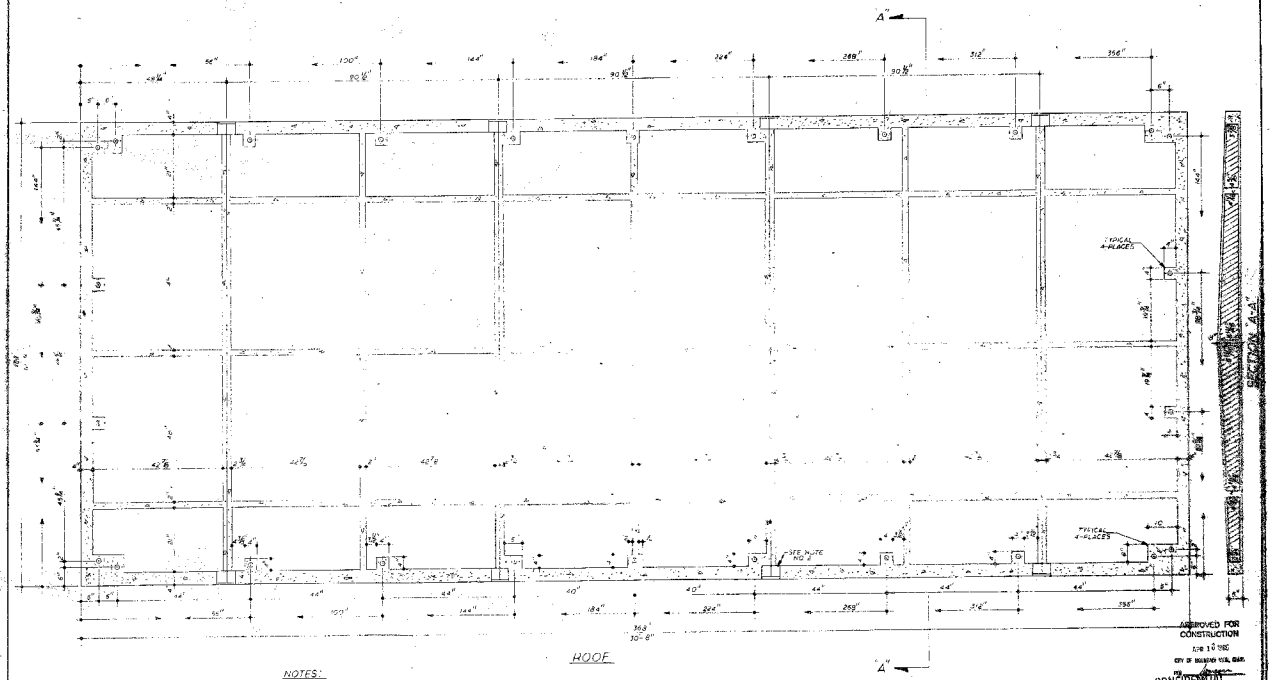
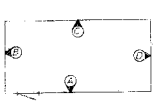
DR. BY D. WILLIAMS	DATE 12-12-85	GTE
CHK. BY JBH	DATE	2-0X30-0
ENGRG	DATE	HALO
APP. BY	DATE	
APP. BY	DATE	
PROJECT NO. GTM 084		SHT. 6 OF



ROOF

NOTES:
1. ROOF CAST FAST UP.
2. LIFTING BRACKETS TYPICAL 8 PLACES. SEE DETAIL SHEET.



ELEVATION KEY

BLDG. 462-465

APPROVED FOR CONSTRUCTION
APR 10 1985
CITY OF MARION VIA, GAS.
CONFIDENTIAL
MAR 07 1986

REV.	BY	DATE	REVISION	APP.	DATE

FIBREBOND
1100 Erwin Thompson Drive Minden, Louisiana 71055 318-377-1000

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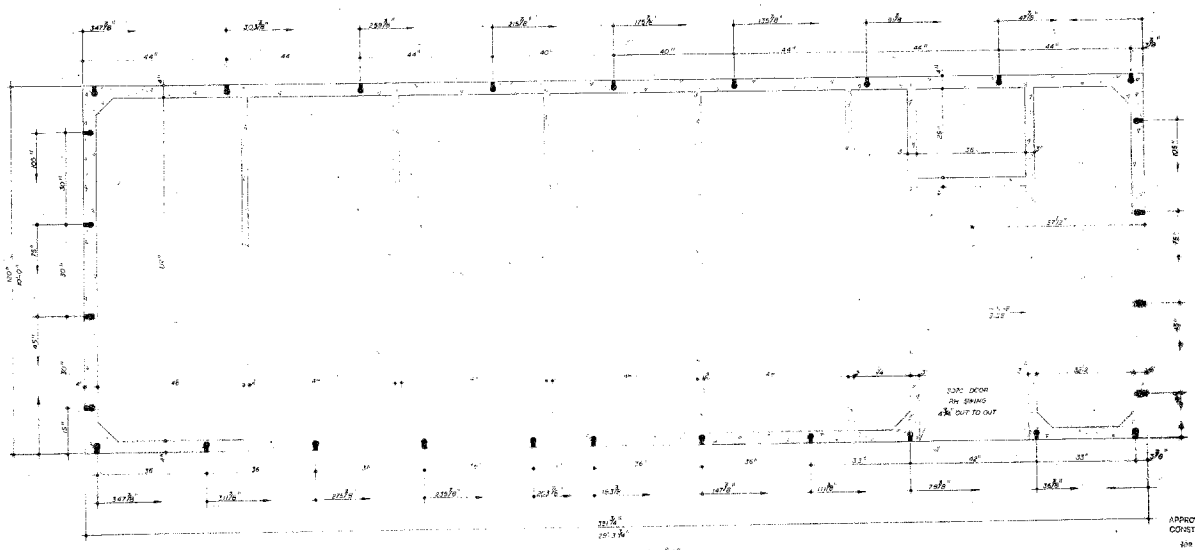
DR. BY: W. BONNER	DATE: 12-4-85	GTE MOBILET	
CHK. BY: DM	DATE: 12/11/85	12'-0"X30'-0" EQUIPMENT SHELTER	
ENG. BY:	DATE:	STRUCTURAL LAYOUT	
APP. BY: DM	DATE: 12/11/85	ROOF	
APP. BY:	DATE:		
PROJECT NO. GTM094		SCALE: 1"=1'-0"	SHEET NO. S1 / DWG. NO. D-1058



APPROVED FOR CONSTRUCTION
JUN 1 0 1986
CITY OF HOUSTON TEX. CONS.
BY: [signature]

CONFIDENTIAL

NOTES:
1. SIDE PANEL CAST FACE DOWN.
2. TYPICAL 4" WALL. SEE DETAIL SHEET.

ELEV. KEY.

BLDG: 462-465

REV.	BY	DATE	REVISION	APP	DATE

FIBREBOND
1100 Ervin Thompson Drive Minden, Louisiana 71055 318-377-1838

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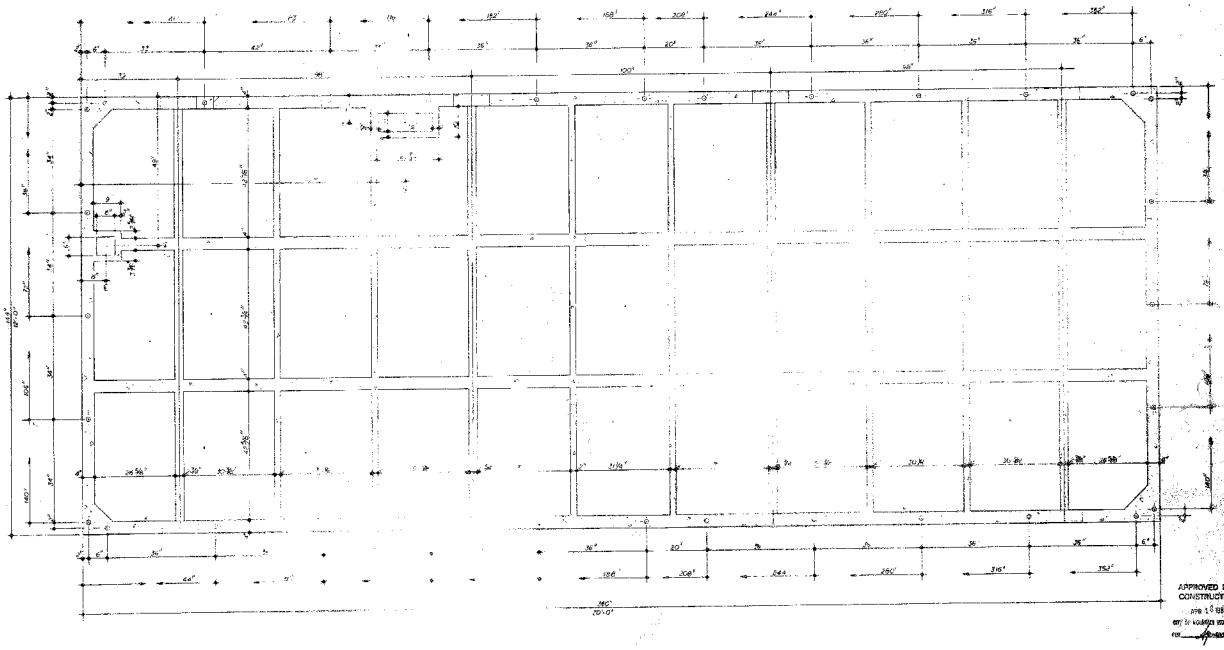
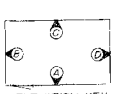
DR. BY: G. KEALY	DATE: 12-6-85
CHK. BY: BMM	DATE: 12/1/85
ENG. BY:	DATE:
APP. BY: BMM	DATE: 12/11/85
APP. BY:	DATE:
PROJECT NO. GTM094	

GTE MOBILNET
12'-0"X30'-0" EQUIPMENT SHELTER
STRUCTURAL LAYOUT
SIDE PANEL "A"

SCALE: 6"=1'-0" | SHEET NO. S3 | DWG NO. D-1058



NOTES:
1 FLOOR CAST FACE DOWN.
2 LIFTING BRACKETS TYPICAL 8-PLACES.
SEE DETAIL SHEET.



ELEVATION KEY

BLDG: 462-465

APPROVED FOR CONSTRUCTION
APR 1 8 1986
CITY OF KOSHKOSH DEVELOPMENT
FOR

CONFIDENTIAL

REV	BY	DATE	REVISION	APR	DATE

FIBREBOND
1185 Erwin Thompson Drive Mexico, Louisiana 71865 318-377-1828

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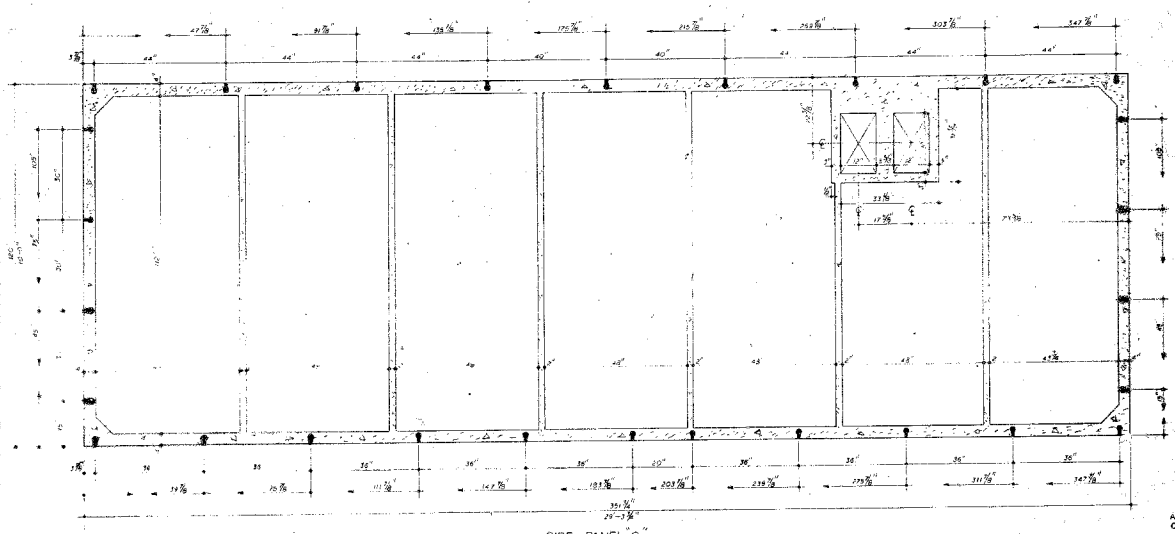
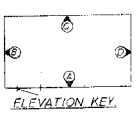
DR. BY: D. LISENBY	DATE: 12-4-85	GTE MOBILNET
CHK. BY: BM	DATE: 12/4/85	12'-0" X 30'-0" EQUIPMENT SHAPE
ENG. BY:	DATE:	STRUCTURAL LAYOUT FLOOR
APR. BY: DAN	DATE: 12/4/85	
APR. BY:	DATE:	
PROJECT NO. GTM094		SCALE 1"=1'-0" · SHEET NO. S2 · DWG NO. D-1058



SIDE PANEL "C"

NOTES:
1. SIDE PANEL CAST FACE DOWN.
2. TYPICAL 4" WALL. SEE DETAIL SHEET.



ELEVATION KEY.

BLDG: 462-465

APPROVED FOR CONSTRUCTION
APR 1 9 1985
CITY OF SUNRISE PERM. CORP.
NO.

CONFIDENTIAL

REV.	BY	DATE	REVISION	APP	DATE

FIBREBOND
1100 Erwin Thompson Drive Minden, Louisiana 71055 318-377-4000

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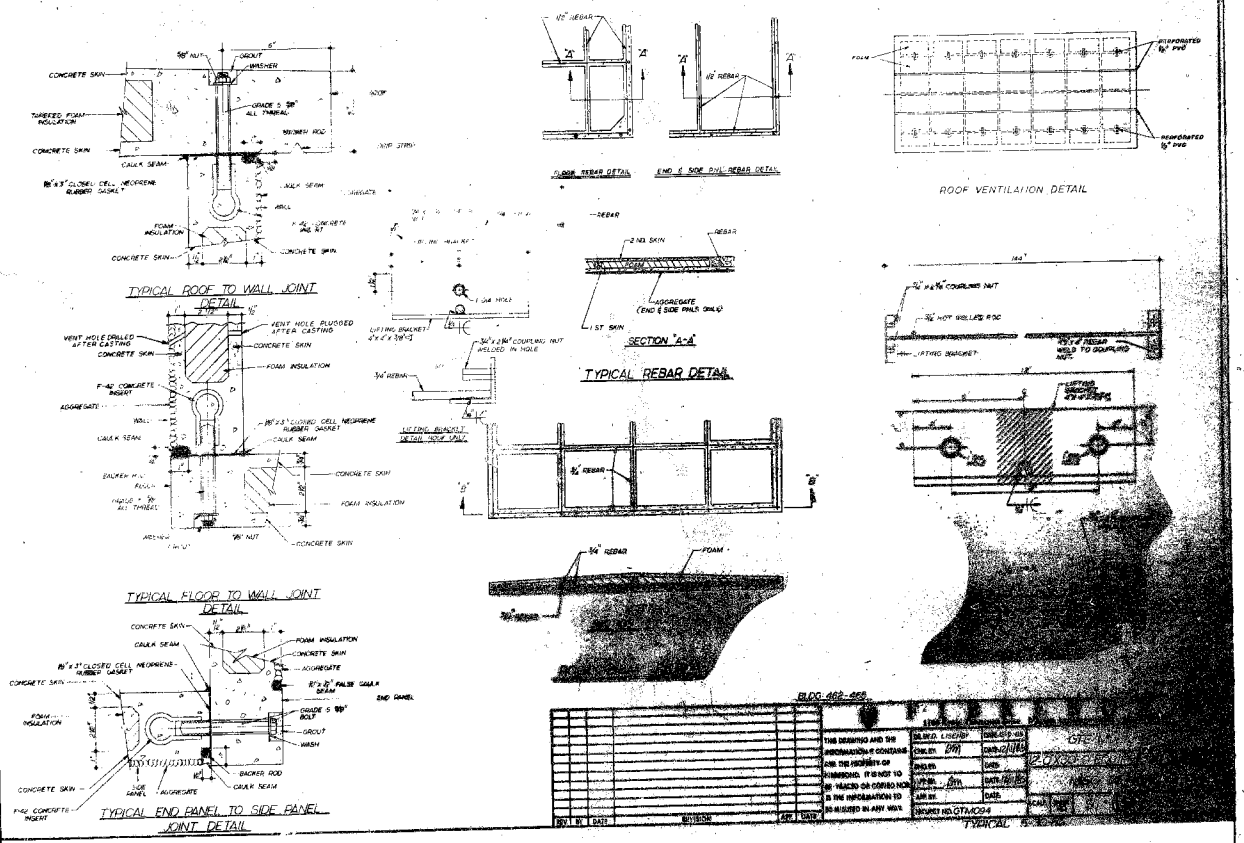
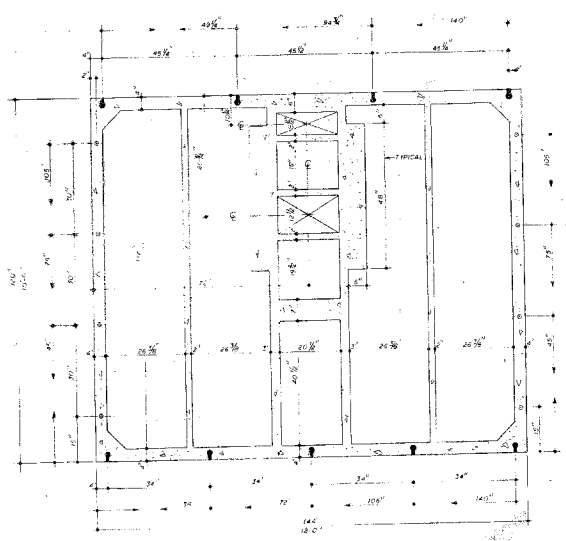
DR. BY: W. BONNER	DATE: 12-5-85
CHK. BY: RM	DATE: 12/6/85
ENG. BY:	DATE:
APP. BY: RM	DATE: 12/6/85
APP. BY:	DATE:
PROJECT NO. GTM094	

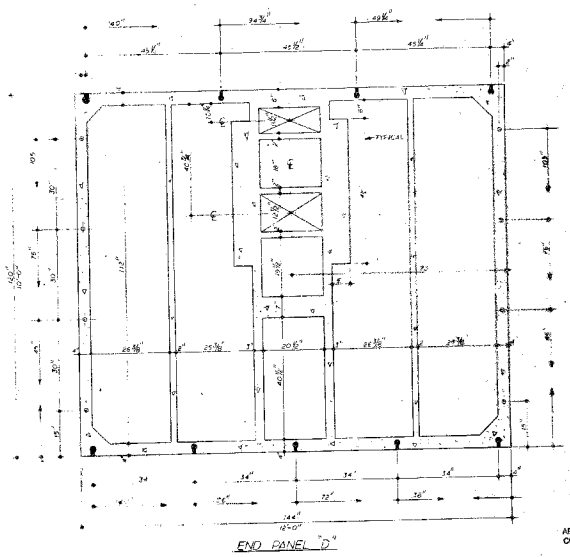
GTE MOBILNET
12'-0"X30'-0" EQUIPMENT SHELTER
STRUCTURAL LAYOUT
SIDE PANEL "C"

SCALE	SHEET NO.	SHEET NO.	DWG. NO.
1/2"		S4	D-1000


TYPICAL ROOF TO WALL JOINT DETAIL
TYPICAL FLOOR TO WALL JOINT DETAIL
TYPICAL END PANEL TO SIDE PANEL JOINT DETAIL
FLOOR REBAR DETAIL
END & SIDE PNL REBAR DETAIL
SECTION "A-A"
TYPICAL REBAR DETAIL
ROOF VENTILATION DETAIL
CONCRETE SKIN
CAULK SEAM
FOAM INSULATION
AGGREGATE
BACKER ROD
GROUT
WASHER
REBAR
FOAM
BLDG. 462-465
THIS DRAWING AND THE INFORMATION IS CONTAINED AND THE PROPERTY OF KIMMSONS. IT IS NOT TO BE TRACED OR COPIED NOR IS THE INFORMATION TO BE MISUSED IN ANY WAY.
DRAWN BY
CHK. BY
ENG. BY
APP. BY
DATE
DRAWING NO. GTM094
TYPICAL
REV
BY
DATE
DIVISION
APP.
DATE



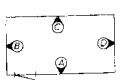
END PANEL "B"



END PANEL "D"

APPROVED FOR CONSTRUCTION
APR 1 8 1985
CITY OF MORGAN CITY, MAIN
PER
CONFIDENTIAL
MAR 0 7 1985

NOTES:
PANELS CAST FACE DOWN.
TYPICAL 4 WALLS SEE DETAIL SHEET.



ELEVATION KEY

BLDG: 462-465

REV	BY	DATE	REVISION	APP	DATE

FIBREBOND
1100 Erwin Thompson Drive Minden, Louisiana 71055 318-377-1030

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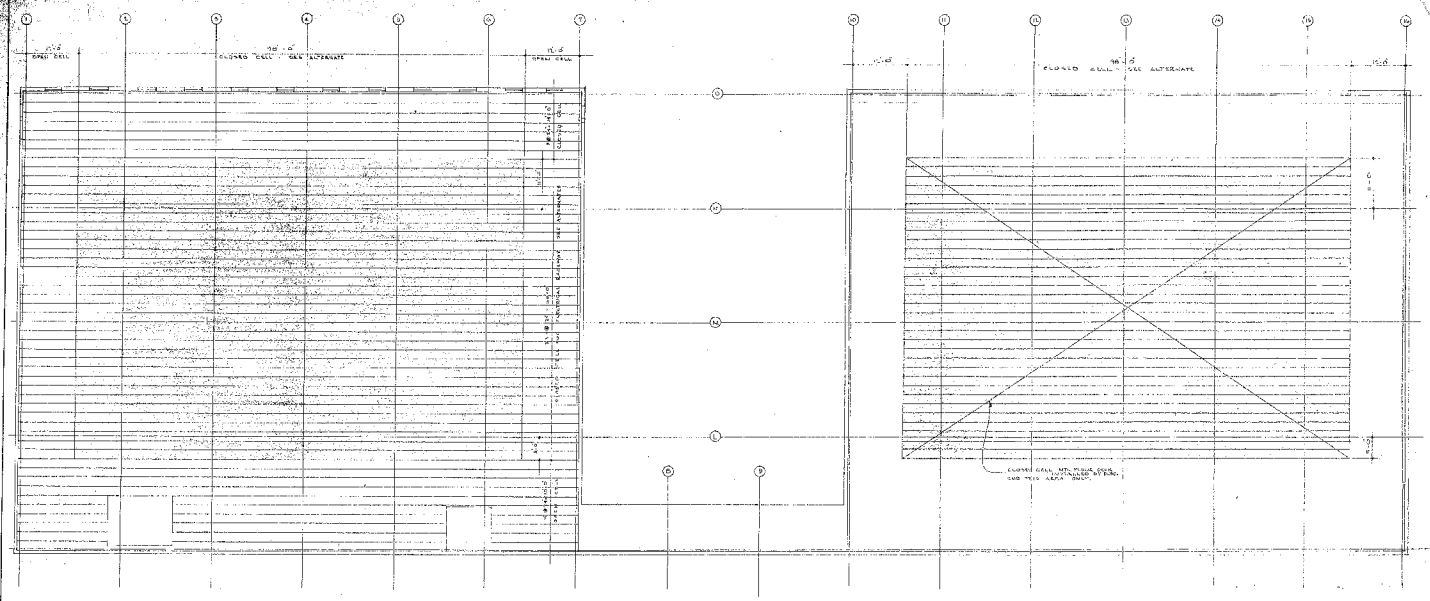
DR BY: M. BONNER	DATE: 12-9-85	GTE: MOBILNET
CHK. BY: BPM	DATE: 12/11/85	12'-0"X30'-0" EQUIPMENT SHELTER
ENG. BY:	DATE:	STRUCTURAL LAYOUT SIDE PANELS "B & D"
APP. BY: BPM	DATE: 12/11/85	
APP. BY:	DATE:	
PROJECT NO. GTM094		SCALE: AS-1-0 · SHEET NO. S5 · FAND NO. D-1058

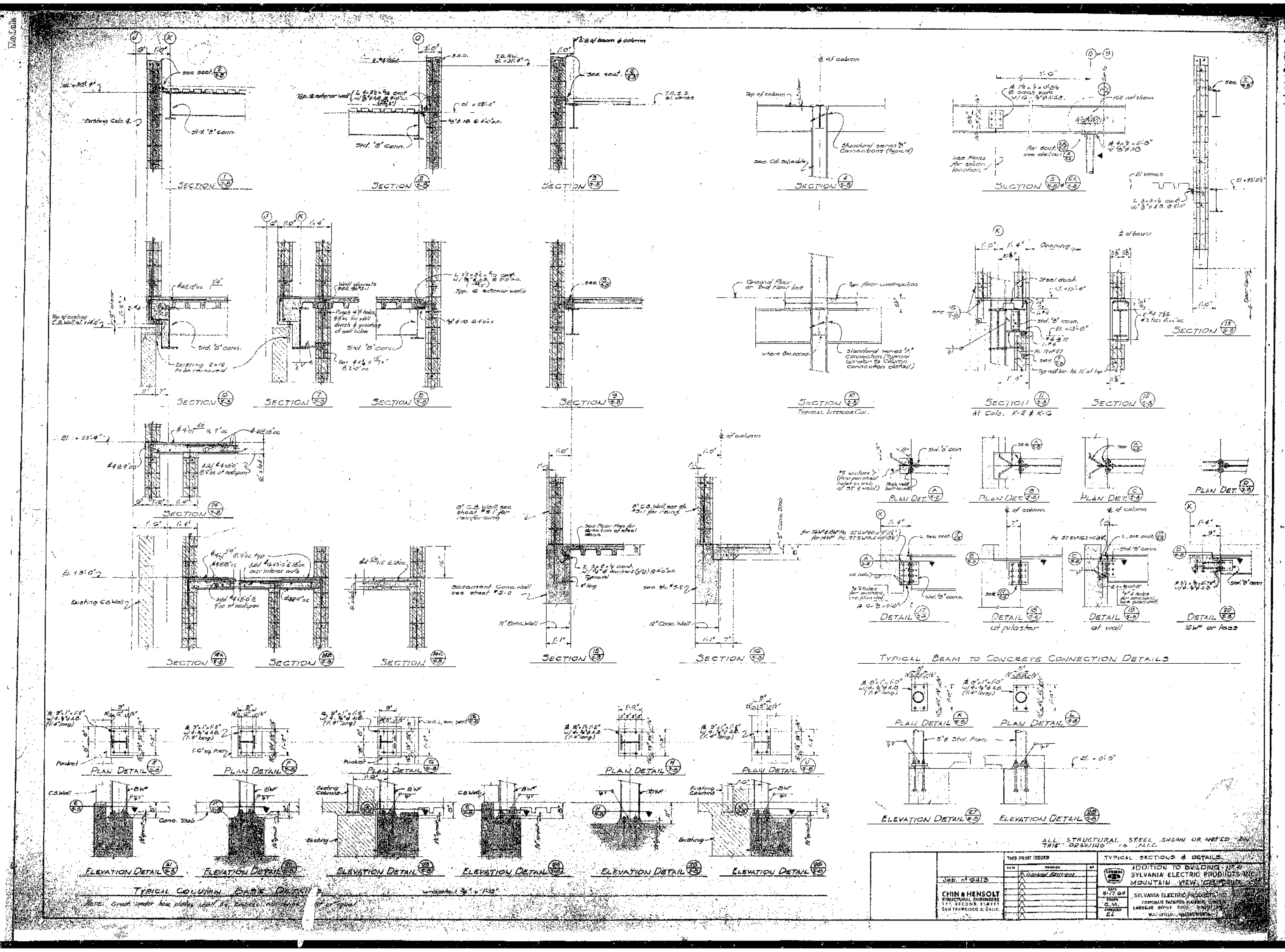


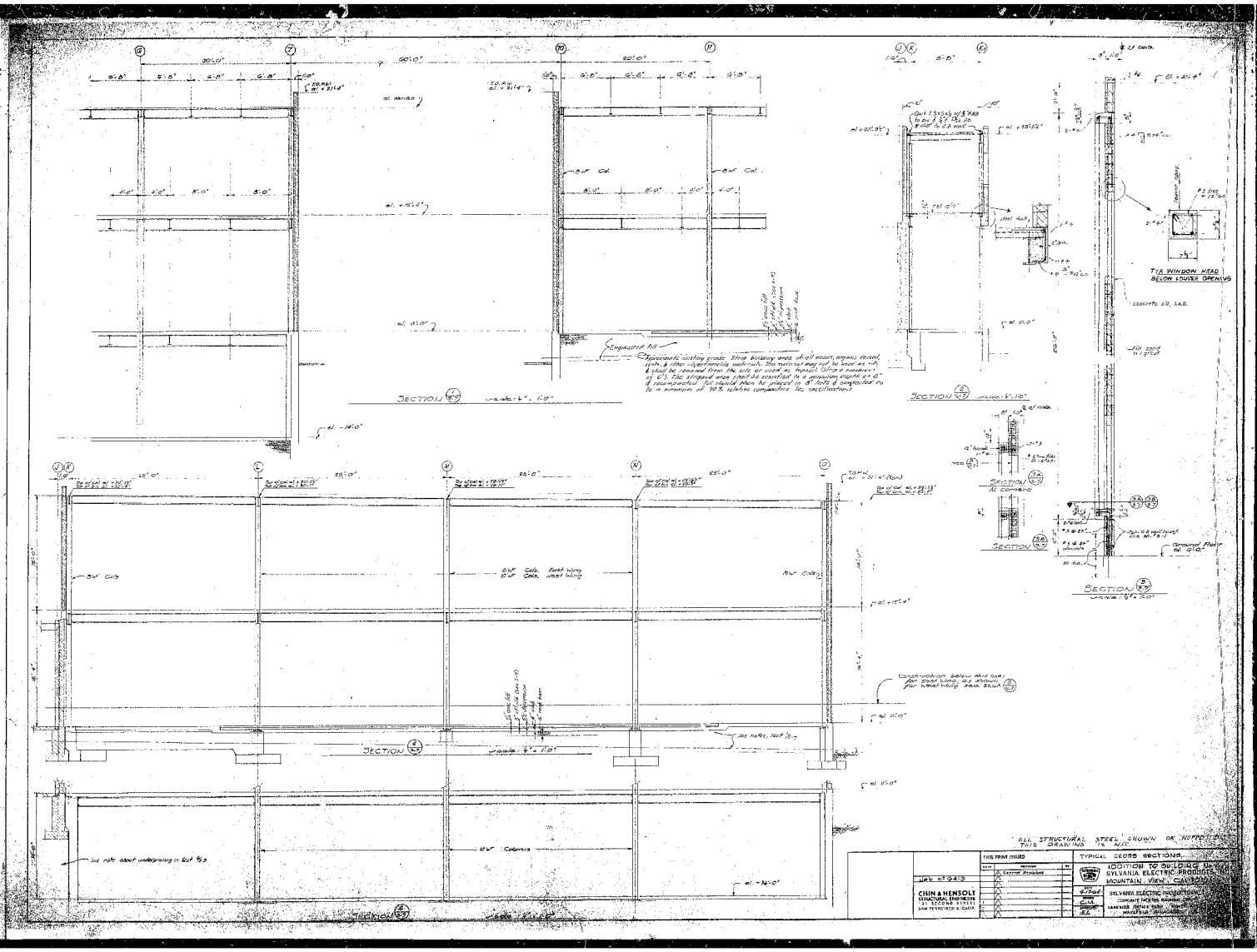
DECKING LAYOUT - 1ST FLOOR

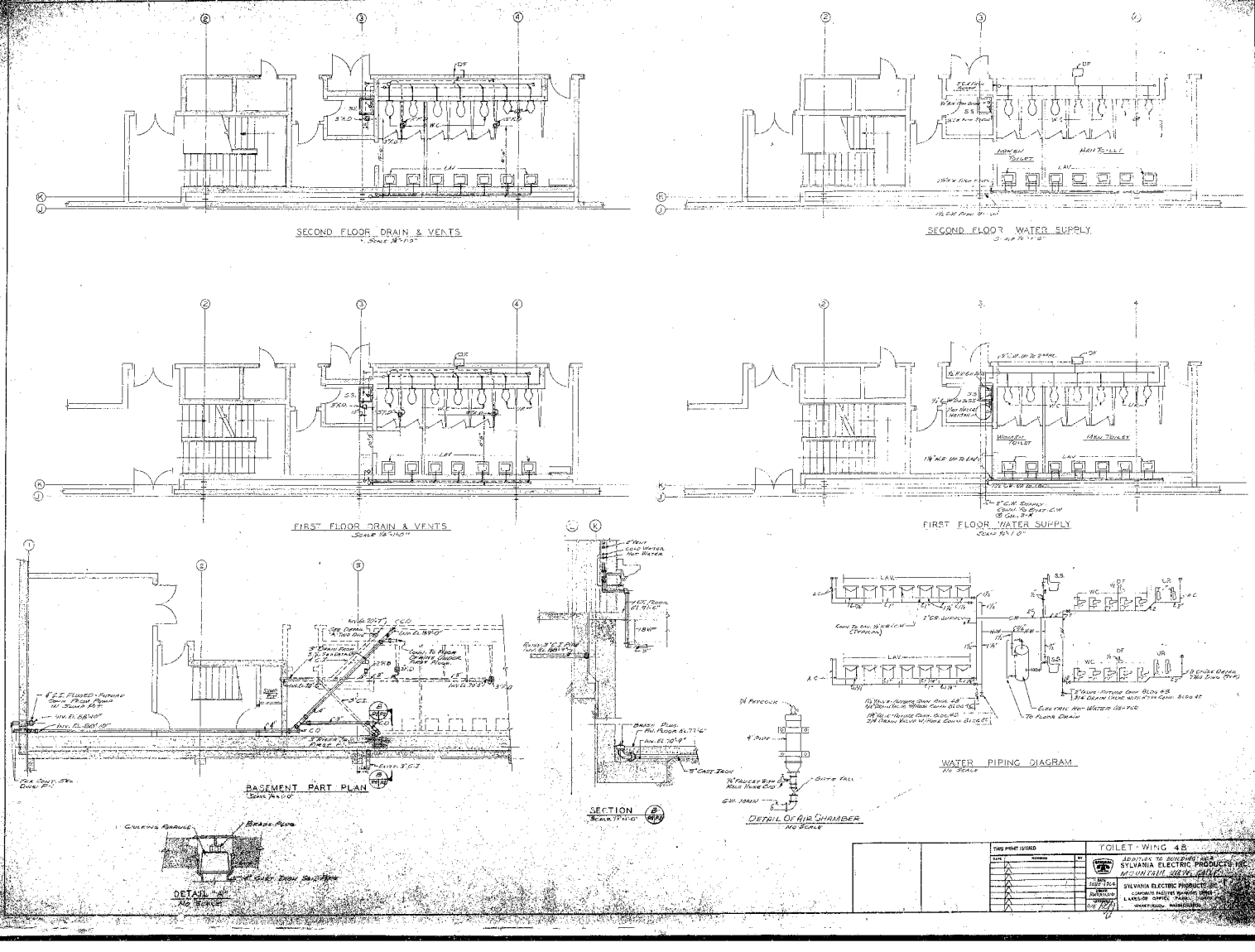
NEW:
CLOSED CELL FOR ELEC. RACEWAY - SEE ALTERNATE
OPEN CELL
NOTE: Closed cell rib shall be Robertson NRX 18-19 or equal
Open cell " " " " " Sect 81-18 " "

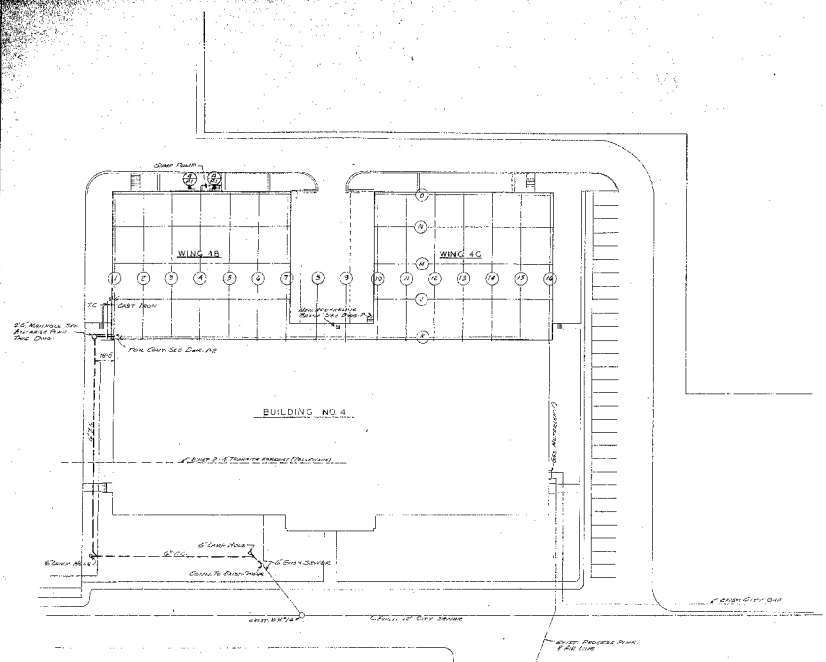
ALL STRUCTURAL STEEL SHOWN OR NOTED ON THIS DRAWING IS NIC

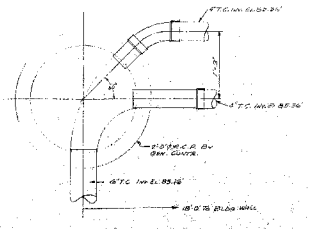
Job No. 5419	THIS PRINT ISSUED	DECKING LAYOUT 1ST FLOOR
CHIN & HENSOLT STRUCTURAL ENGINEERS 171 SECOND STREET SAN FRANCISCO 5 CALIF.	DATE / REVISION / BY	ADDITION TO BUILDING NO. 4 SYLVANIA ELECTRIC PRODUCTS INC. MOUNTAIN VIEW, CALIF.
		SYLVANIA ELECTRIC PRODUCTS INC. COMMON HOUSE PLANNING OFFICE LAWRENCE DEPOT DRIVE NORTH AND WAREFIELD MASSACHUSETTS
		JUNE 1964 / L. KITSON / JBS / 8/6

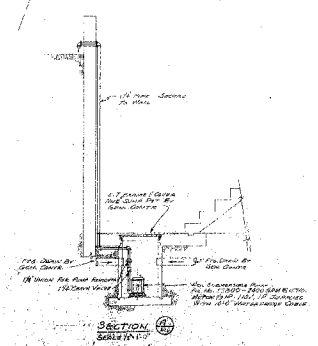

SECTION
PLAN DETAIL
ELEVATION DETAIL
DETAIL
at pilaster
at wall
TYPICAL INTERIOR COL.
At Cols. K-2 & K-G
TYPICAL BEAM TO CONCRETE CONNECTION DETAILS
TYPICAL COLUMN BASE DETAILS
ALL STRUCTURAL STEEL SHOWN OR NOTED ON THIS DRAWING IS N.I.C.
THIS PRINT ISSUED
DATE
REVISION
General Revisions
Job. no 6413
CHIN & HENSOLT
STRUCTURAL ENGINEERS
SAN FRANCISCO, CALIF.
TYPICAL SECTIONS & DETAILS
ADDITION TO BUILDING No 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIFORNIA
DATE
4-17-64
DRAWN
C.M.
APPROVED
SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE FACILITIES PLANNING OFFICES


SECTION
SECTION
SECTION
SECTION
SECTION
SECTION
TYP. WINDOW HEAD BELOW LOUVER OPENING
Engineered fill
Construction below this line: for Bent Wing, as shown, for West Wing see Sect
ALL STRUCTURAL STEEL SHOWN OR NOTED ON THIS DRAWING IS NEW.
THIS PRINT ISSUED
TYPICAL CROSS SECTIONS
ADDITION TO BUILDING No.
SYLVANIA ELECTRIC PRODUCTS
MOUNTAIN VIEW, CALIFORNIA
Job No. 6413
CHIN & HENSOLT
STRUCTURAL ENGINEERS
SAN FRANCISCO, CALIF.
SYLVANIA ELECTRIC PRODUCTS, INC.


SECOND FLOOR DRAIN & VENTS
SECOND FLOOR WATER SUPPLY
FIRST FLOOR DRAIN & VENTS
FIRST FLOOR WATER SUPPLY
BASEMENT PART PLAN
SECTION
DETAIL OF AIR CHAMBER
NO SCALE
WATER PIPING DIAGRAM
NO SCALE
DETAIL "A"
NO SCALE
THIS PRINT ISSUED
TOILET - WING 4B
ADDITION TO BUILDING NO. 3
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.
SYLVANIA ELECTRIC PRODUCTS, INC.
COMPOSITE FACILITIES PLANNING GROUP
LAKESIDE OFFICE PARK
WAKEFIELD, MASSACHUSETTS





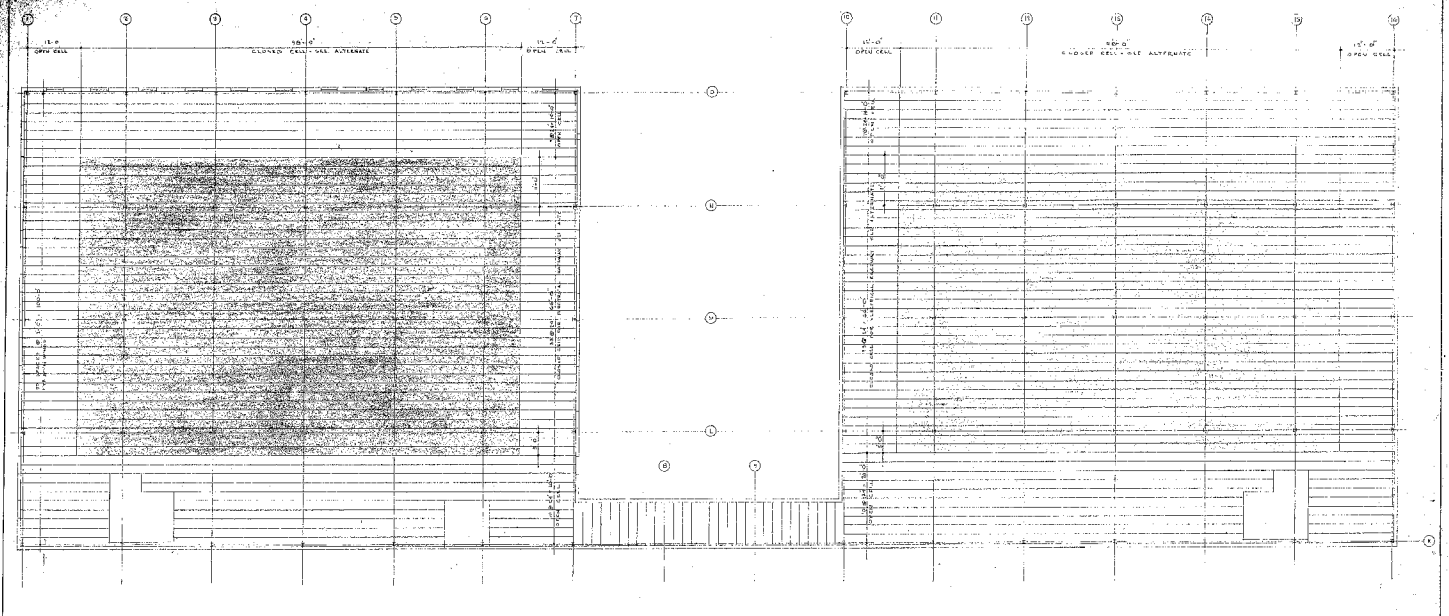


THIS PRINT ISSUED

PLOT PLAN AND DETAILS

ADDITION TO BUILDING NO. 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.

SYLVANIA ELECTRIC PRODUCTS INC.
CONDAN HEATING HARBOR, INC.
LANSDALE, OFFICE PARK, LANSDALE
HARBOR, VIRGINIA



DECKING LAYOUT - 2ND FLOOR

1/8" = 1'-0"

KEY

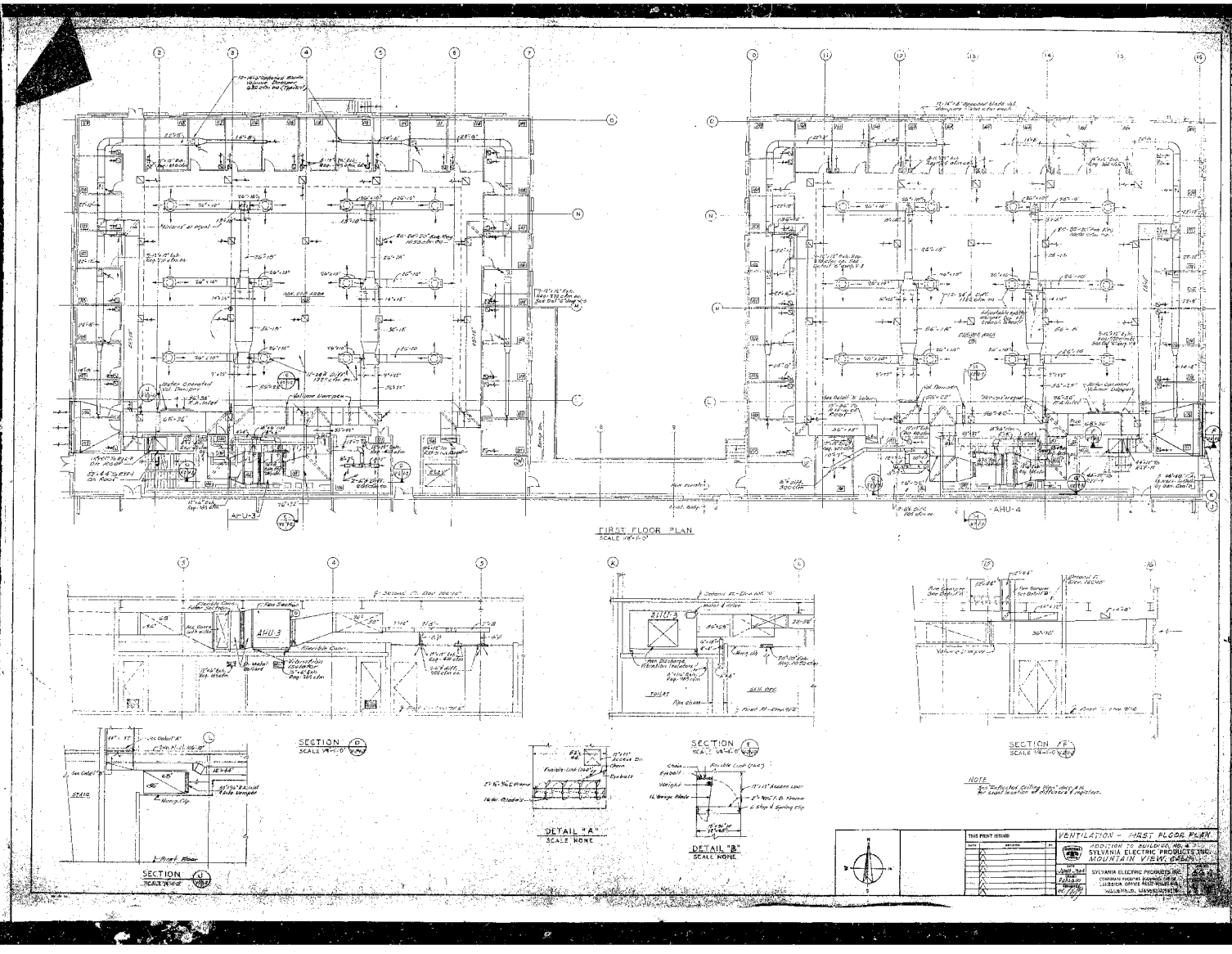
CLOSED CELL FOR ELEC. RACEWAY - SEE ALTERNATE

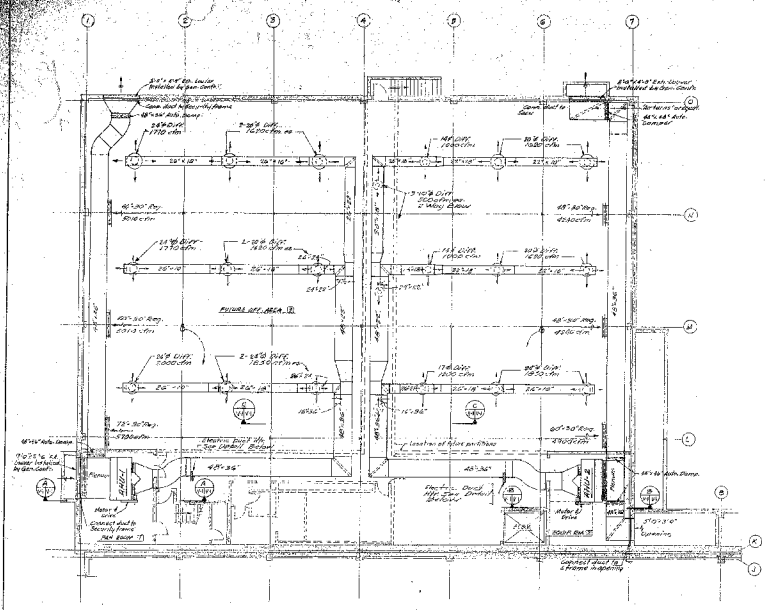
OPEN CELL

SEE NOTES 1 & 2-8

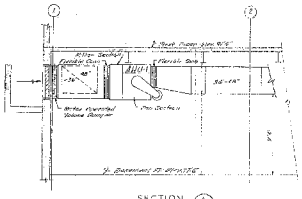
ALL STRUCTURAL STEEL SHOWN OR NOTED ON THIS DRAWING IS NEC

JOB NO. 2413	THIS PRINT ISSUED	DECKING LAYOUT 2ND FLOOR
CHIN & HENSOLT STRUCTURAL ENGINEERS 27 SECOND STREET SAN FRANCISCO 5, CALIF.		ADDITION TO BUILDING NO. 4 SYLVANIA ELECTRIC PRODUCTS, INC. MOUNTAIN - VIEW, CALIF.
		SYLVANIA ELECTRIC PRODUCTS INC. CORPORATE FACILITIES PLANNING OFFICE LAKESIDE OFFICE PARK MOUNT. VIEW, CALIFORNIA

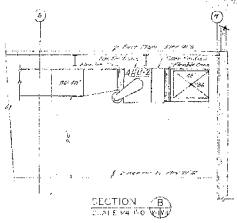

FIRST FLOOR PLAN
SCALE 1/8"=1'-0"
AHU-3
AHU-4
SECTION D
SCALE 1/4"=1'-0"
SECTION F
SCALE 1/4"=1'-0"
SECTION J
SCALE 1/4"=1'-0"
DETAIL "A"
SCALE NONE
DETAIL "B"
SCALE NONE
NOTE
See "Reflected Ceiling Plan" dwg. 4.16 for exact location of diffusers & registers.
THIS PRINT ISSUED
VENTILATION - FIRST FLOOR PLAN
ADDITION TO BUILDING NO. 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.
SYLVANIA ELECTRIC PRODUCTS INC.
COMMAND PACKERS DIVISION
LEXINGTON OFFICE PARK
WAKEFIELD, MASSACHUSETTS



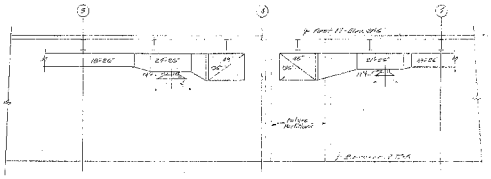
PLAN
BASEMENT FLOOR
SCALE 1/8 = 1'-0"



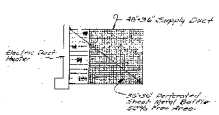
SECTION A
SCALE 1/4 = 1'-0"



SECTION B
SCALE 1/4 = 1'-0"



SECTION C
SCALE 1/4 = 1'-0"



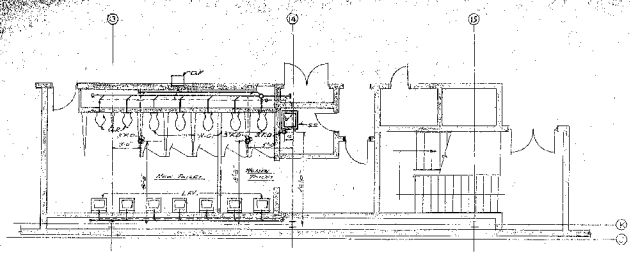
DUCT HEATER DETAIL
No Scale

THIS PRINT ISSUED

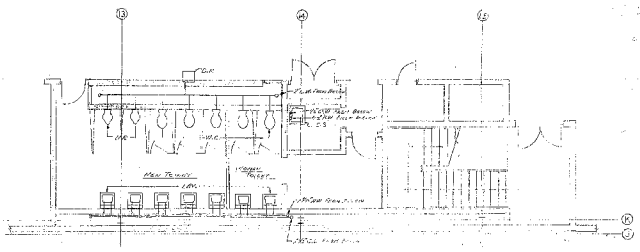
VENTILATION - BASEMENT - PLAN

ADDITION TO BUILDING No. 6
SYLVANIA ELECTRIC PRODUCTS
MOUNTAIN VIEW, CALIF.

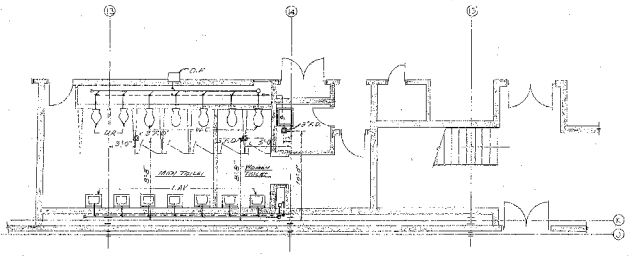
SYLVANIA ELECTRIC PRODUCTS, INC.
COMMUNITY TECHNICAL BUILDING, DIVISION
LACEDON, MOUNTAIN VIEW, CALIF.
WINDSHEETS - MAIN LOCATION



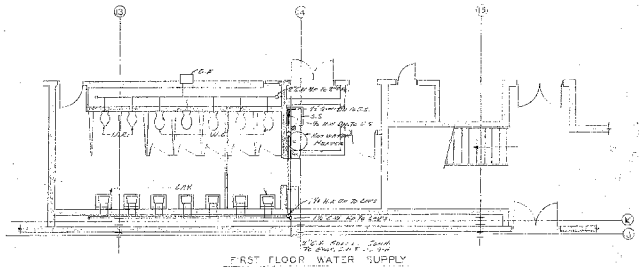
SECOND FLOOR DRAIN & VENTS
SCALE 1/8"=1'-0"



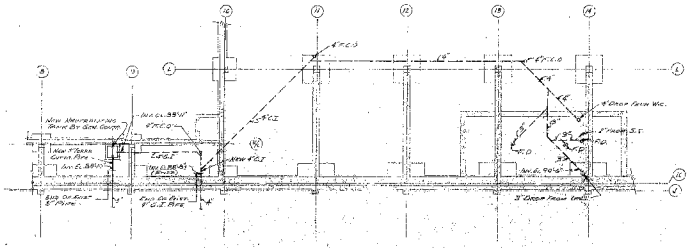
SECOND FLOOR WATER SUPPLY
SCALE 1/8"=1'-0"



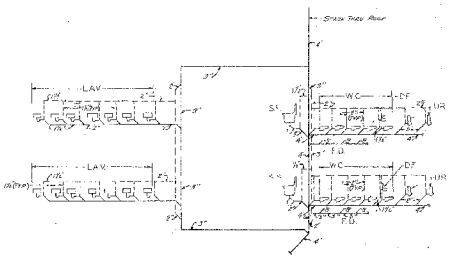
FIRST FLOOR DRAIN & VENTS
SCALE 1/8"=1'-0"



FIRST FLOOR WATER SUPPLY
SCALE 1/8"=1'-0"

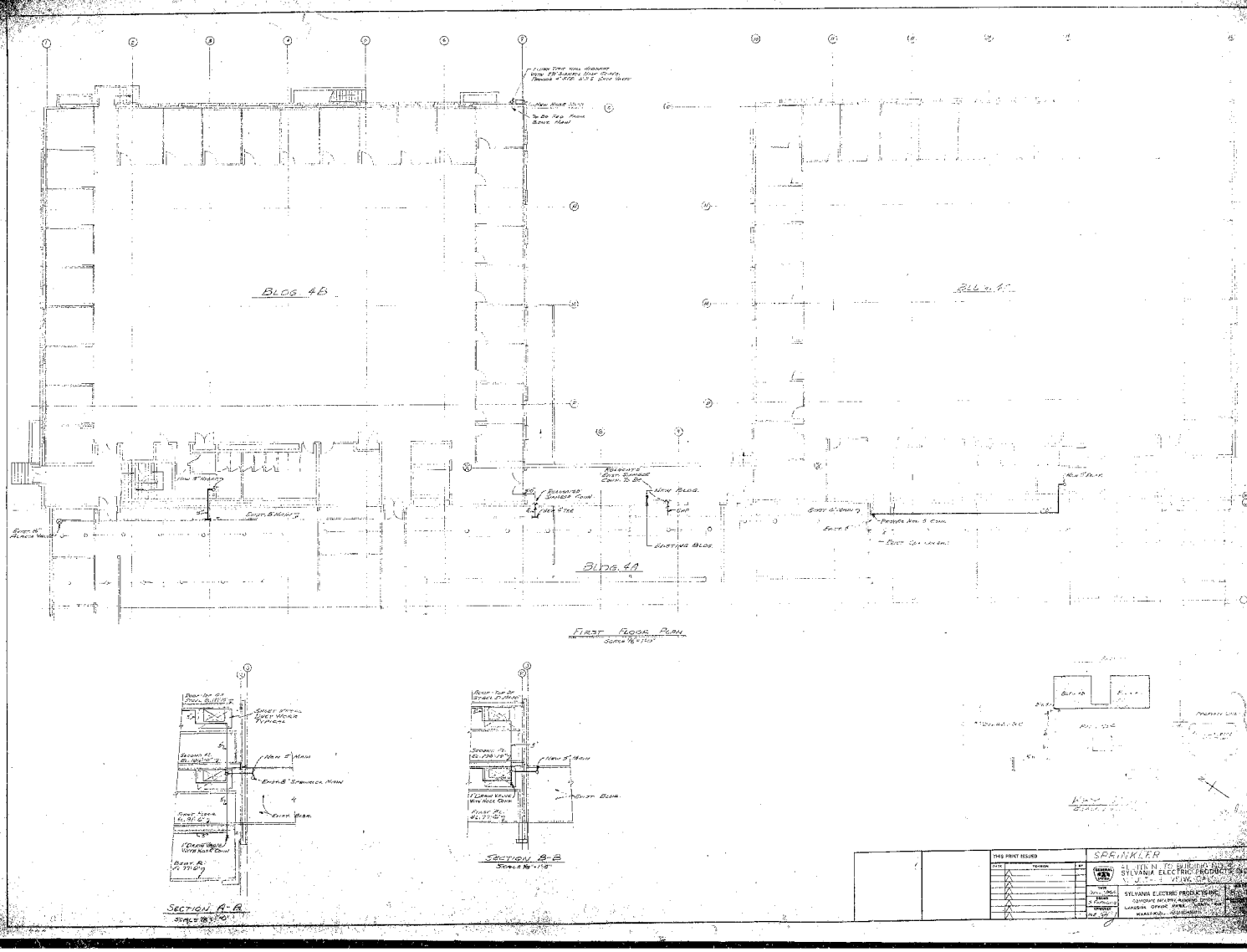


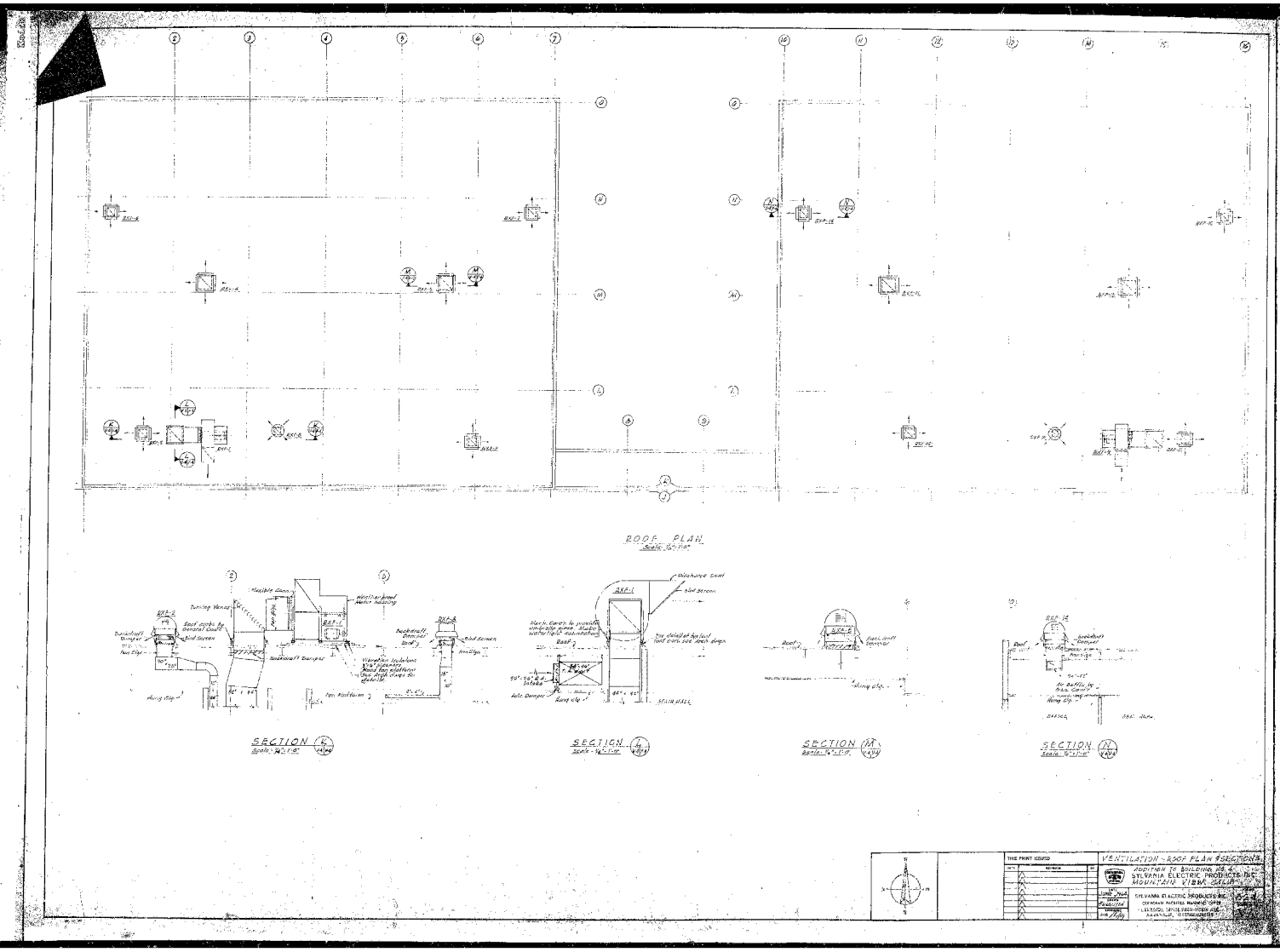
PLAN BELOW FIRST FLOOR BLDG. 4C
SCALE 1/8"=1'-0"

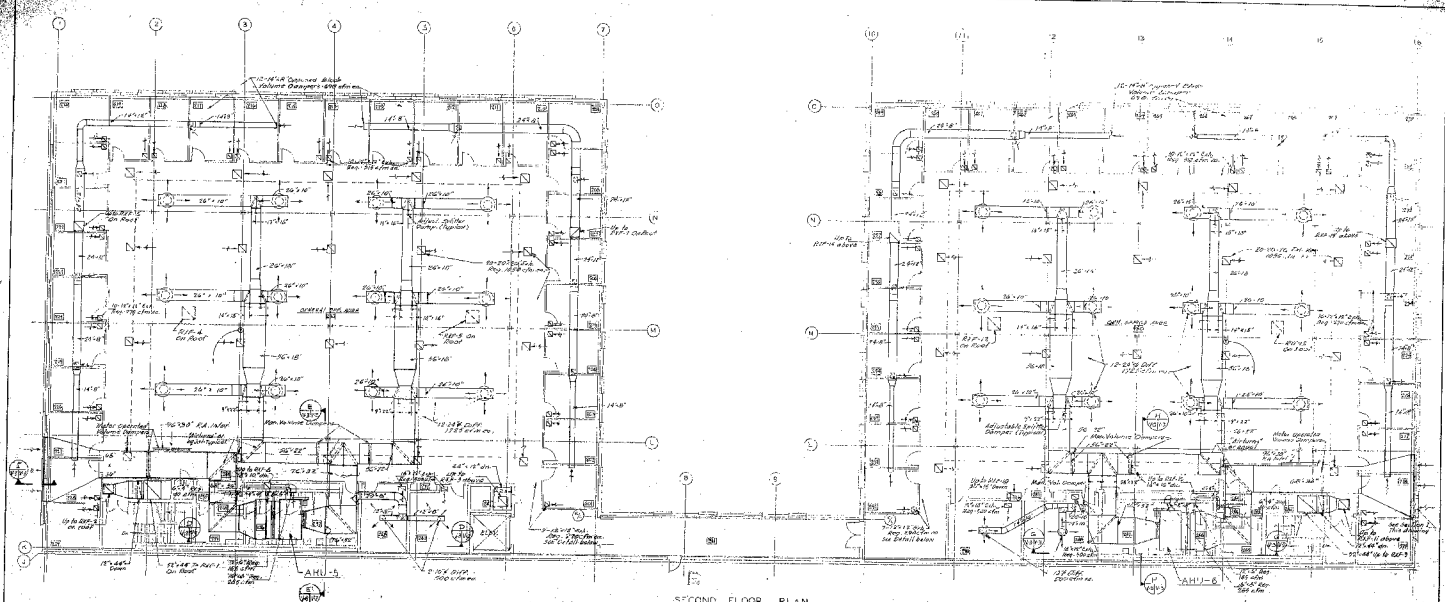


DRAIN & WASTE PIPING DIAGRAM
NO SCALE

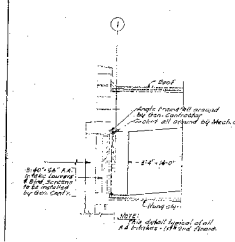
	1	THIS PRINT ISSUED
		TOILET - WING 4C
		ADDITION TO BUILDING NO. 5 SYLVANIA ELECTRIC PRODUCTS INC. MOUNTAIN VIEW CALIF.
		SYLVANIA ELECTRIC PRODUCTS INC. CONSULTING ENGINEERS WASHINGTON, D.C. LAKE SIDE DRIVE, PARK, BEDFORD, WASHINGTON, D.C.


BLDG. 4B
BLDG. 4A
FIRST FLOOR PLAN
SECTION A-A
SECTION B-B
NEW BLDG.
EXISTING BLDG.
SPRINKLER
SYLVANIA ELECTRIC PRODUCTS INC.

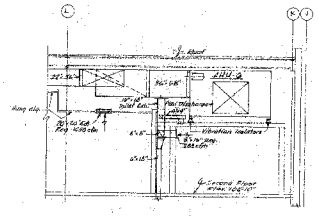

ROOF PLAN
SECTION K
SECTION L
SECTION M
SECTION N
THIS PRINT ISSUED
VENTILATION - ROOF PLAN & SECTIONS
ADDITION TO BUILDING NO. 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.
SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE PATENTED MANUFACTURING OFFICE
LIBERTY SERVICE DEPARTMENT
ALBANY, NEW YORK



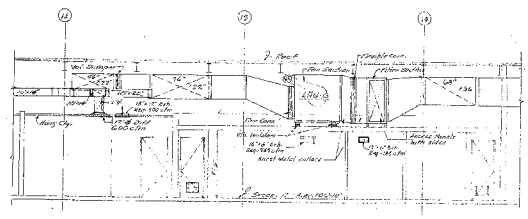
SECOND FLOOR PLAN
SCALE 1/8"=1'-0"



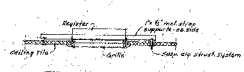
SECTION
SCALE 1/2"=1'-0"



SECTION
SCALE 1/4"=1'-0"



SECTION
SCALE 1/4"=1'-0"



TYPICAL DETAIL
CL'G MOUNTED EXH REGISTER
SCALE 1/2"=1'-0"

NOTE
See Reflected Ceiling Plan, Dwg. A-16 for exact location of diffusers & registers.

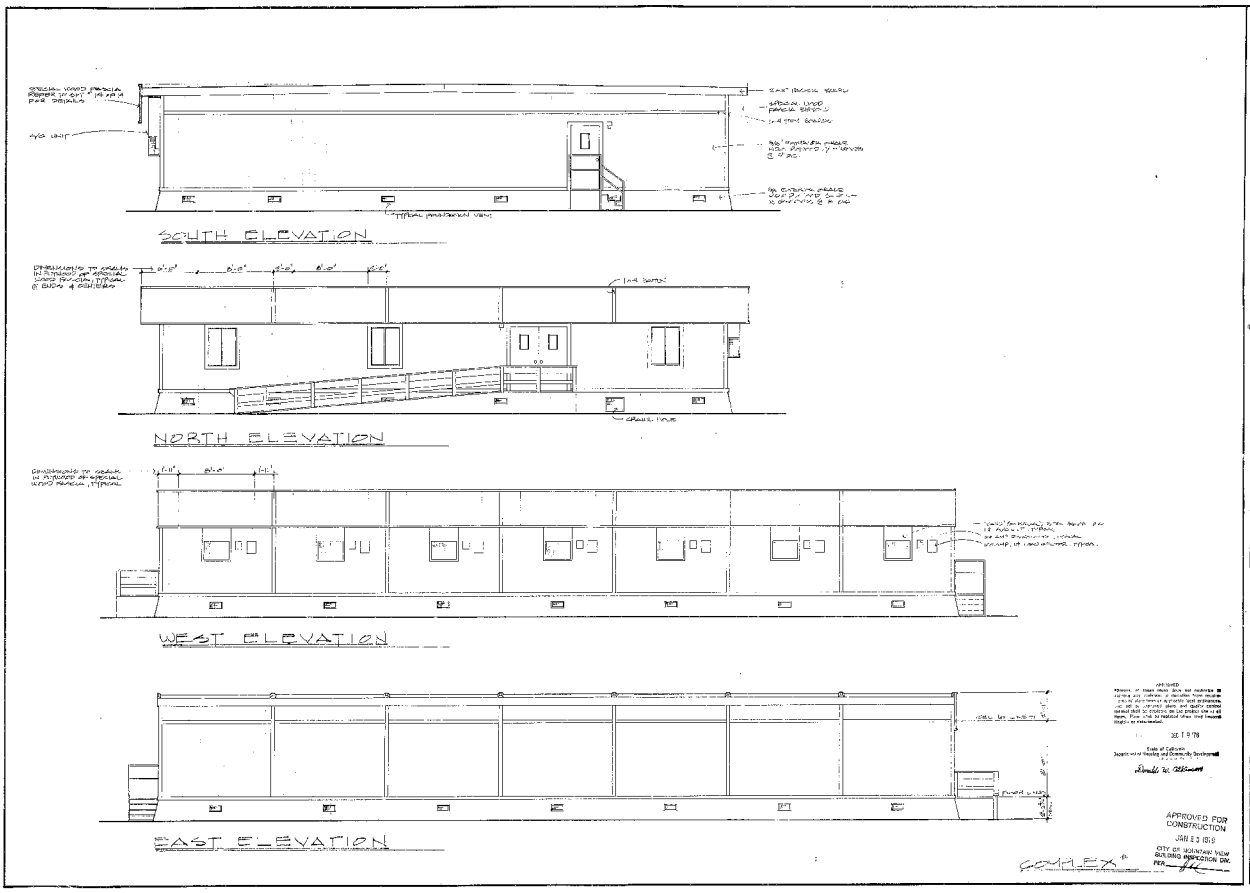
THIS PLAN IS ISSUED

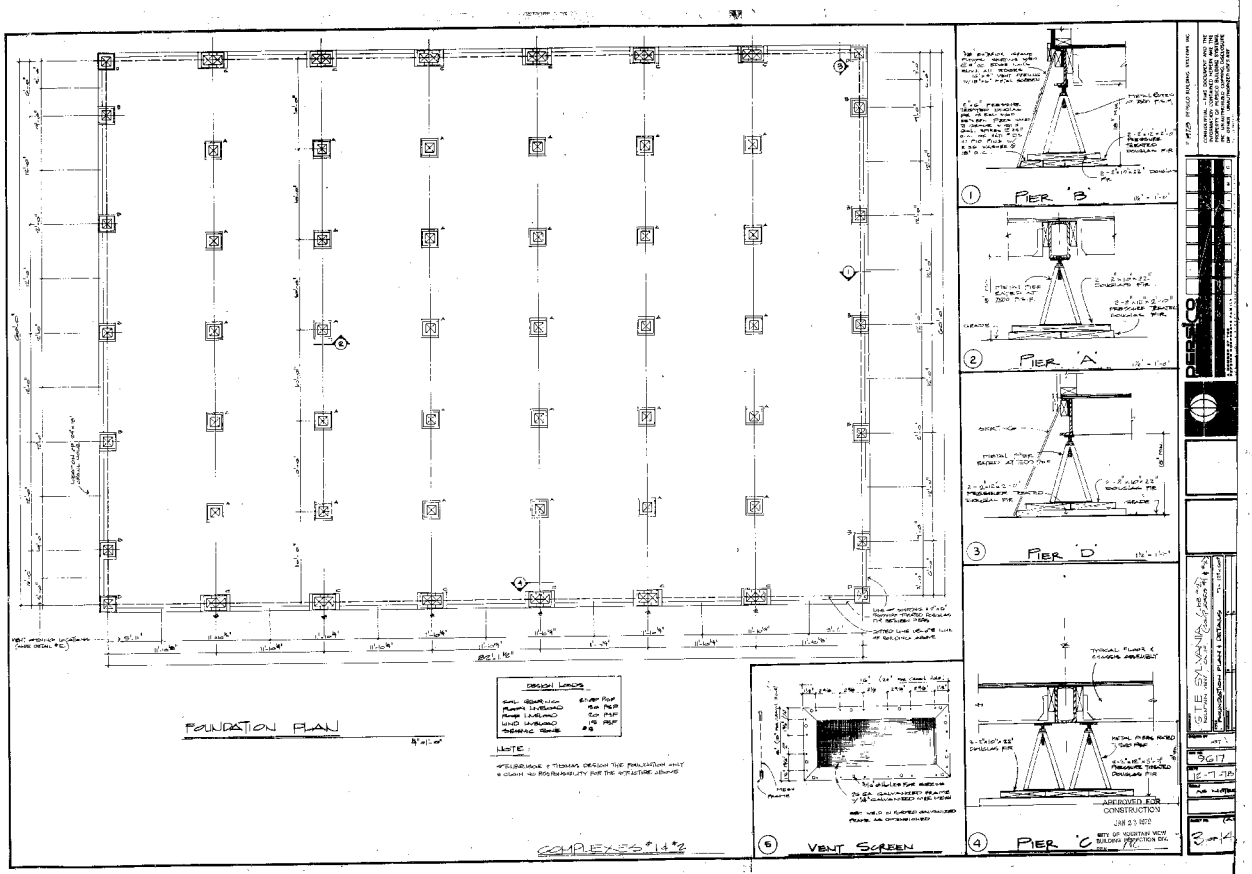
DATE	REVISION	BY

VENTILATION- SECOND FLOOR PLAN

ADDITION TO BUILDING NO. 4
SYLVANIA ELECTRIC PRODUCTS INC.
MOUNTAIN VIEW, CALIF.

SYLVANIA ELECTRIC PRODUCTS INC.
CORPORATE HEADQUARTERS
LANCASTER, PENNSYLVANIA
WASHINGTON, DC


SOUTH ELEVATION
NORTH ELEVATION
WEST ELEVATION
EAST ELEVATION
COMPLEX
APPROVED FOR CONSTRUCTION
JAN 23 1979
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.
PERSICO
BUILDING SYSTEMS
GREG
12-7-78
4 of 14


FOUNDATION PLAN
DESIGN LOADS
NOTE:
COMPLEXES #1 & #2
VENT SCREEN
PIER 'B'
PIER 'A'
PIER 'D'
PIER 'C'
APPROVED FOR CONSTRUCTION
SITE SYLVANIA
3617
3 of 14

INTERIOR FINISH SCHEDULE

NAME	MATERIAL \ ROOMS	ALL ROOMS	STRUCTURE DESIGN / COMMENTS	FIRE CHARACTERISTIC: Flame spread	Smoke developed	Fuel contributed	Fire Class/Rating
FLOOR	VINYL MARBLE TILE - 9"x9"x1/8"	●	[illegible] FIBERS UNIVERSAL FLOOR WAX.	[illegible]			
	CARPETING	●	30 OZ. [illegible] COLOR. [illegible] AT TOP TIER				
BASE	VINYL BASE	●	[illegible] TRIM W/ [illegible]	[illegible]			3
	1"x3" PR. [illegible]	●	CROWN [illegible] #1, MFG. BY NATIONAL PLYWOOD	[illegible]			3
WALL							
CEILING	12"x12" SUSPENDED T-BAR	●	[illegible] FIBER [illegible] TILE [illegible]	[illegible]			3

Note CARPET & CARPET PADS TO BE INSTALLED ON BOTH 1st & 2nd FLOOR. [illegible]

DOOR SCHEDULE

SYMBOL	WIDTH	HEIGHT	THICK	TYPE	ROUGH OPG.	COMMENTS
1	3'-0"	6'-8"	1 3/4"	STEEL	40 3/4" x 82 1/2"	[illegible]
2	[illegible]	6'-8"	1 3/4"	STEEL	[illegible]	[illegible]

Note

WINDOW SCHEDULE

SYMBOL	WIDTH	HEIGHT	TYPE	ROUGH OPG.	COMMENTS
A	3'-0"	4'-0"	ALUMINUM	36 x 48	[illegible]

MATERIAL SCHEDULE

	NAME	SIZE	TYPE or MFG. NAME	GRADE	COMMENTS
CHASSIS	[illegible] FRAME	[illegible]	STEEL [illegible] CHASSIS	ASTM A-36	
HITCH	[illegible]	[illegible]	STEEL [illegible]	ASTM A-36	[illegible]
FLOOR	JOISTS	2" x 8"	HEM FIR	*	[illegible]
	LUMBER	2" x 8"	HEM FIR	#1	[illegible]
	PANELING	3/4" THK.	DOUGLAS FIR PLYWOOD T&G	INTERIOR	PLYWOOD SHALL BE [illegible]
	[illegible]				
	[illegible]	[illegible]	[illegible]		[illegible]
EXTERIOR WALL	PLATES	2" x 4"	HEM FIR	STD & STR	[illegible]
	STUDS	2" x 4"	HEM FIR	STUD	16" OC CENTER.
	EXT. SHEATHING	5/8"	PLYWOOD [illegible]	EXT	[illegible]
	INT. SHEATHING	5/8"	[illegible]		CROWN "PEGAN #1", MFG. BY NATIONAL PLYWOOD
	INSULATION	6"	[illegible]		[illegible]
	FRAMING	[illegible]	[illegible]	[illegible]	[illegible]
	TRIM & MOULDING	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	3/4"	[illegible]	EXTERIOR	[illegible]
	[illegible]	3/4"	[illegible]	PLYW "A"	[illegible]
SPACIA FACIA	[illegible]	[illegible]	[illegible]	EXTERIOR	[illegible]
	TRIM & MOULDING	[illegible]	[illegible]	[illegible]	[illegible]
	GUTTER	[illegible]	[illegible]	[illegible]	[illegible]
ROOF	RAFTERS	2" x 8"	HEM FIR	NO. 2	16" OC CENTER. [illegible]
	LUMBER	2" x 8"	HEM FIR	NO. 2	[illegible]
	PANELING	3/8" THK.	DOUGLAS FIR PLYWOOD	A-EX	PLYWOOD SHALL BE [illegible]
	INSULATION	3/4"	FIBERGLAS WOVEN BLANKET R-11		[illegible]
	GUTTERING	NO GAUGE	GALVANIZED METAL	CLASS "A"	
	FASTENING	SEE NOTES	GALVANIZED METAL		

Note

HARDWARE SCHED. / MISC. SPEC. ITEM

DOOR NO.	COMMENTS
1	[illegible]
2	[illegible]

CONSTRUCTION APPROVED
BY: [illegible]
DATE: 12-7-79
MOUNTAIN VIEW POLICE
CRIME PREVENTION UNIT

[illegible]

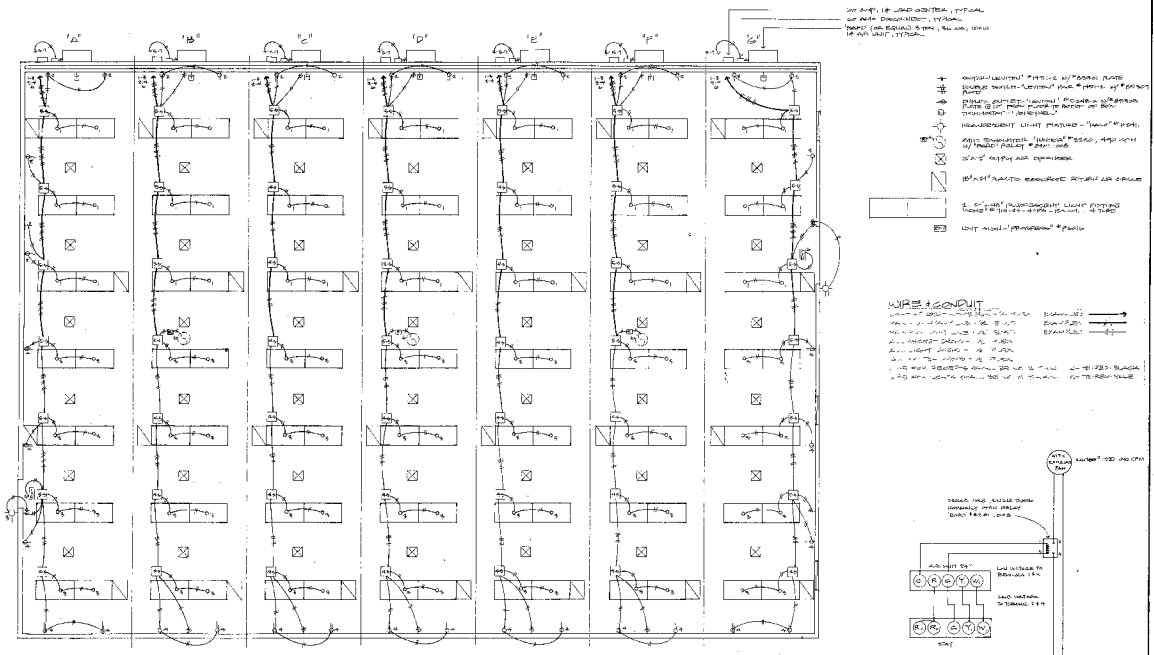
APPROVED FOR CONSTRUCTION
JAN 5 1981
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.

COMPLETE

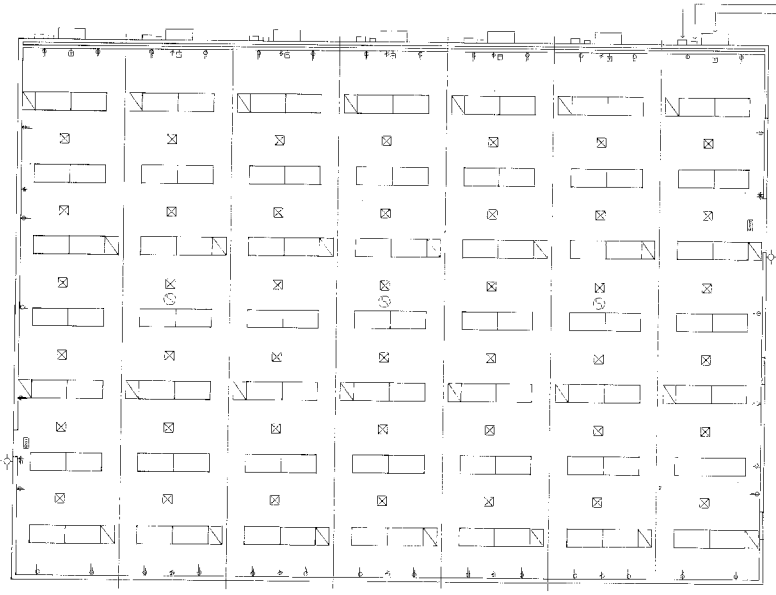
PERSICO BUILDING SYSTEMS

SITE SYLVANIA

2 of 14



ELECTRICAL CIRCUITING PLAN



REFLECTED CEILING PLAN

APPROVED FOR CONSTRUCTION

CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.

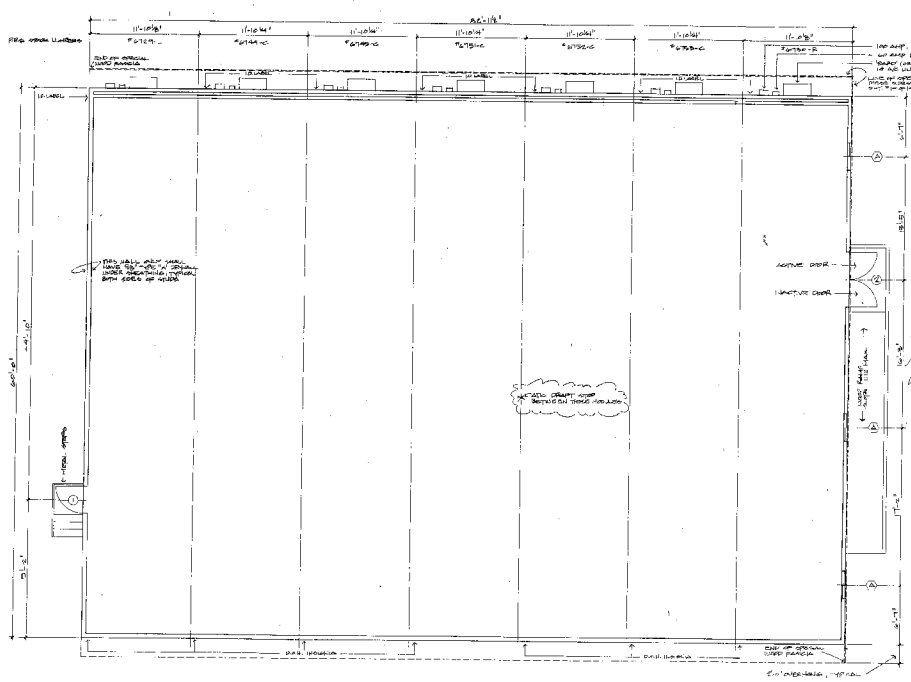
COMPLEX #1

PERSICO BUILDING SYSTEMS

SITE SYLVANIA (JOB #2)
MOUNTAIN VIEW, CALIF. (JOB #2)

12-7-78

6 of 14



NOTES

1. B-2 occupancy ensemble for office and type VAB construction.
2. This structure is approved to be located in Fire Zone #2.
3. Provide sign adjacent to entrance, stating "This door is always unlocked during business hours."
4. This structure is not to be located less than 10 feet from property lines.
5. Occupancy load shall be under 30 max. Will have 2 exits on each unit.
6. Exit door shall be openable from the inside without use of key or any special knowledge.
7. Landings at exit doorways shall comply with #3303 (h) U.B.C. 1976 Edition.
8. Install a mechanically operated ventilating system providing a minimum of 15 cfm per occupant and 0.15 cfm per square foot.
9. Roof covering system shall be class A, 30 ga. galv. metal.
10. Plastic to shall comply w/ U.B.C. #3314
11. Systems to be used: 1hr Elec. C-A, Wood H-A & approved H-BM.
12. All food centers shall be UC exp. I B.
13. Air conditioning and heating units shall be sized or equal 3 ton 36 MC, to the single phase in each unit of the complex. Each unit shall be separately metered to insure gas compliance 30 code.

DRAWINGS PLANS: U.C. 200-1969

Q.E. Manual in File:
Mech. M-6 on File
Elec. E-6 on File
Plumb. Q-6 on File
Fire Prot. FP-10 on File

Minimum Loads Required:
Roof: Live Load: 20#
Floor Live Load: 40#
Misc. Live Load: 10#

14. All fire walls and exterior walls projecting and 4 feet on sides shall be of at least 4" thick. Must be non combustible construction.

FLOOR PLAN

NOTE:
1. Wall finish material on interior walls shall be gypsum board.
Animal wall mount & fuse at each unit in the complex w/ single 100 amp. breaker & service supplier on each unit w/ shell meter behind locked enclosure.

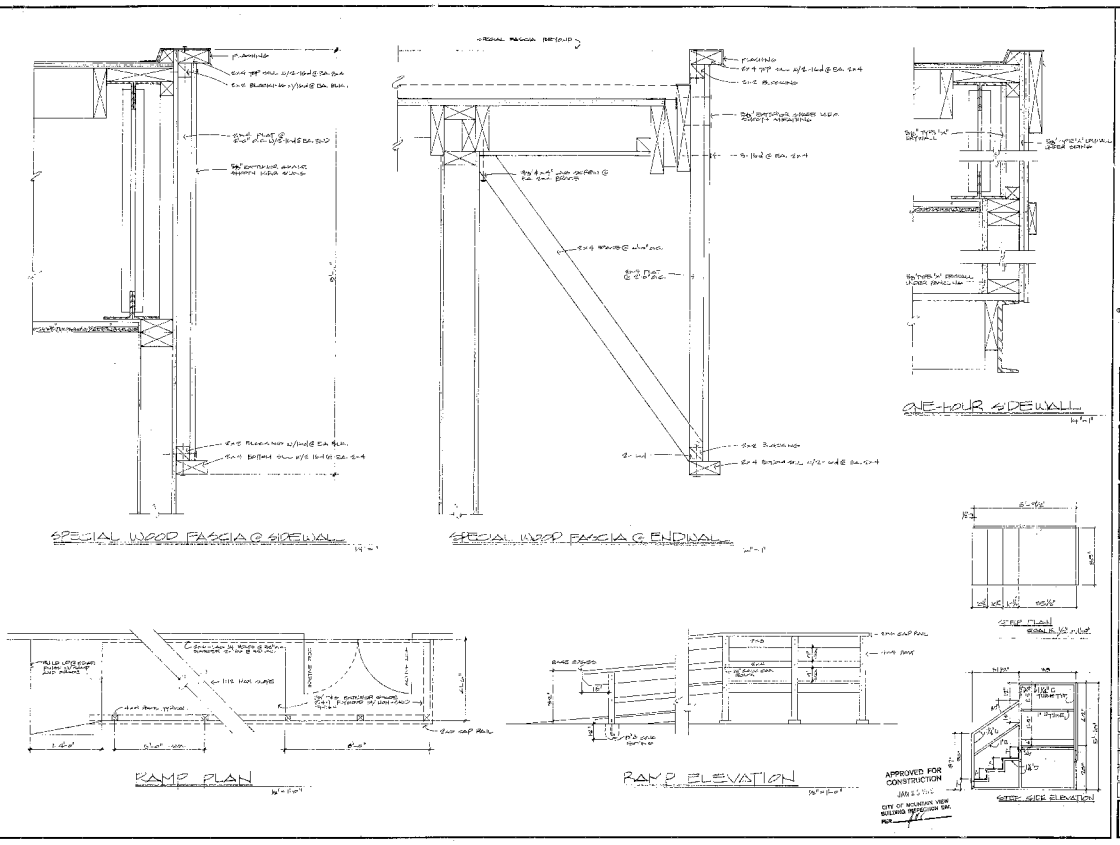
APPROVED
Office of Water and Sewer Development
Department of Public Works
Salt Lake City, Utah
DEC 19 1978
Director of Operations
Water Supply and Sewer Development
Department of Public Works
Donald W. Gillmore

APPROVED FOR CONSTRUCTION
JAN 22 1979
CITY OF SPANISH FORK
BUILDING INSPECTION DIV.
BY: [illegible]

COMPLEX #1

PERSICO
A PITTED PRODUCTS BUILDING SYSTEMS, INC.
CONFIDENTIAL — THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF PERSICO BUILDING SYSTEMS, INC. AND MUST BE RETURNED UPON REQUEST. THE CONTENTS MUST NOT BE DISCLOSED OR REPRODUCED WITHOUT WRITTEN PERMISSION.

SITE: PROVIDENCE (UNIT #1)
SPANISH FORK, UTAH
DATE: 12-8-78
SCALE: 1/4"=1'-0"
DRAWN BY: GREG
CHK'D: [illegible]
DATE: 2-7-78
SCALE: 1/4"=1'-0"
SHEET NO. 5 of 14


SPECIAL WOOD FASCIA @ SIDEWALL
SPECIAL WOOD FASCIA @ ENDWALL
ONE-HOUR SIDEWALL
RAMP PLAN
RAMP ELEVATION
STEP PLAN
STEP SIDE ELEVATION
APPROVED FOR CONSTRUCTION
CITY OF MOUNTAIN VIEW BUILDING INSPECTION DIV.
PERSICO
BUILDING SYSTEMS
CITY OF SUNNYVALE (+3.5%)
SUNNYVALE, CALIFORNIA (AMERICAN)
DESIGN & SPECIFICATION
SPEC
9617
12-7-78
AS NOTED
14 of 4

THESE PLANS NOT PLAN CHECKED
FOR COMPLIANCE WITH:
THE FEDERAL AMERICANS WITH DISABILITIES ACT
THE FEDERAL FAIR HOUSING ACT

SUBMIT (3) SETS OF SHOP QUALITY PLANS
FOR REVIEW BY THE FIRE PREVENTION BUREAU
FOR:

- [X] Fire Sprinkler System
- [ ] Underground Fire Line(s)
- [ ] On-site Hydrant System
- [X] Hood & Duct Extinguishing System
- [ ] Chemical Extinguishing System (i.e. Halon,
- [ ] Fire Detection System
- [ ] Fire Alarm System
- [ ] Other

PROVIDE A 2-A:10BC FIRE EXTINGUISHER FOR EVERY 3,000 SQUARE FEET OF FLOOR AREA. TRAVEL DISTANCE TO AN EXTINGUISHER SHALL NOT EXCEED 75'.

APPROVED

TITLE 24

CERTIFICATE OF COMPLIANCE — Part 1 of 2 — ENV-1

TABULATIONS

SITE AREA	15.00 / 653,400	ACRES / SQ. FT.
BUILDING AREA 1		SQ. FT.
2		SQ. FT.
TOTAL		SQ. FT.
AREA OF THIS IMPROVEMENT	394.1	SQ. FT.
BUILDING COVERAGE	EXISTING	%
PARKING REQUIRED		CARS
PARKING PROVIDED		STANDARD STALLS
		HANDICAP STALLS
		COMPACT STALLS
TOTAL	535	STALLS
PARKING RATIO	1/431 SF	N
PAVED AREA	EXISTING	SQ. FT.
PAVED COVERAGE	EXISTING	%
LANDSCAPE AREA	EXISTING	SQ. FT.
LANDSCAPE COVERAGE	EXISTING	%
TYPE OF CONSTRUCTION		
OCCUPANCY	B-2	
USE ZONE	M	
FIRE SPRINKLER SYSTEM	AUTOMATIC	
U.B.C.	1991	
U.M.C.	1991	
U.P.C.	1991	
U.F.C.	1991	
TITLE 24 HANDICAP CODE	1991	

GTE GOVERNMENT SYSTEMS
MOUNTAIN VIEW, CALIFORNIA

SCALE: IN FEET 100 0 100 200 300 400 500

AREA OF IMPROVEMENT

APPROVED — SANTA CLARA COUNTY — FIRE PREVENTION BUREAU

CONSTRUCTION SHALL COMPLY WITH THE 1991 EDITION OF THE UBC, UMC, UPC, NEC, CBC, CFC, CFC, AND THE 1991 EDITION OF THE UFC, AS ADOPTED BY THE SANTA CLARA COUNTY BUILDING AND FIRE CODES.

PREPARED FOR CONSTRUCTION
OCT 9 1995

REVISIONS

GTE BUILDING 7
CAFETERIA

MOUNTAIN VIEW, CALIFORNIA

RECEIVED
SEP 12 1995
PLAN CHECK

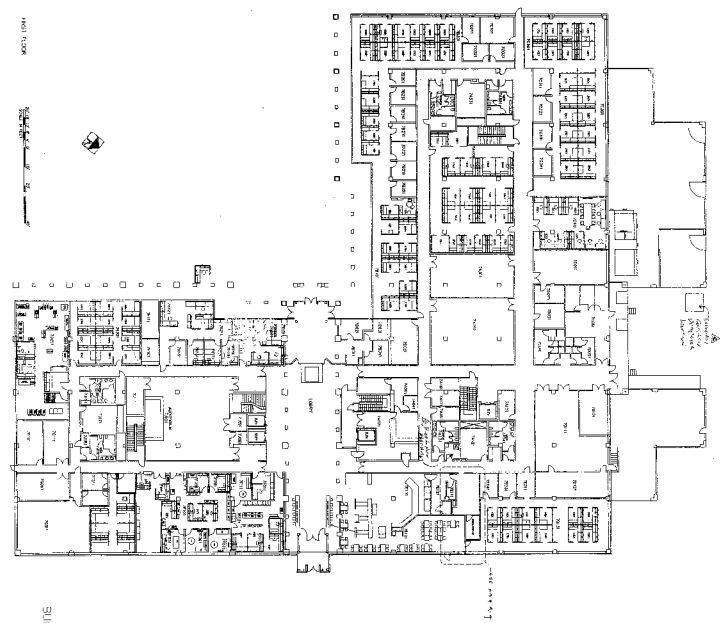
LRS ASSOCIATES
ARCHITECTURE AND PLANNING
10 PEGASUS DRIVE SUITE 200 BURLINGAME, CALIFORNIA 94010 (415) 342-1227 FAX (415) 342-1229

ARCHITECT — DATE — PROJECT NO. 94-1110 — SCALE — DRAWN GTE — SHEET A-1 — OF SHEETS

CMA Fire — Rick

100 Ferguson

24X



APPROVED FOR CONSTRUCTION
OCT 3 0 1995
CITY OF MOUNTAIN VIEW CALIF
PER

LRS ASSOCIATES
ARCHITECTURE AND PLANNING

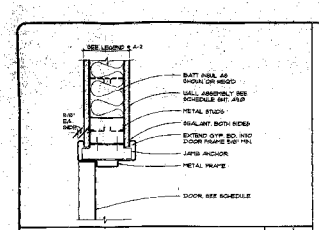
GTE BUILDING 7
CAFETERIA

100 FERGUSON DRIVE
MOUNTAIN VIEW, CALIFORNIA

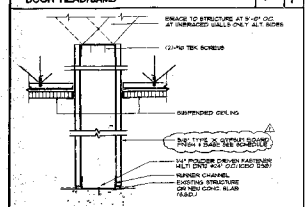
REVISIONS

A-2

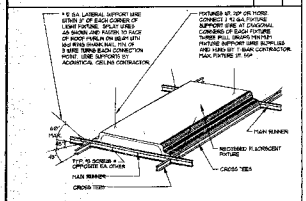
24X



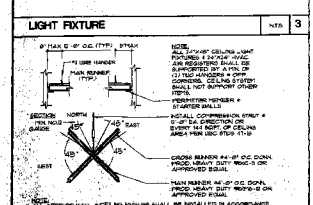
DOOR HEAD/JAMB 3" 1



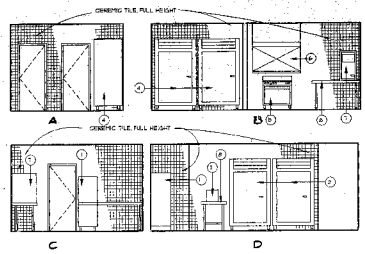
WALL DETAIL 3" 2



LIGHT FIXTURE N.T.S. 3



SEISMIC BRACING 3" 4



INTERIOR ELEVATIONS

SCALE: 1/4"=1'-0"

FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOORS: SHEET VINYL	FLOORS: CERAMIC TILE	BASE: VINYL	BASE: CERAMIC TILE	WALLS: CERAMIC TILE	WALLS: ACOUSTIC TILE (SEE DOOR & HARDWARE SCHED.)	CEILING: GYP. BD. SMOOTH FINISH	CEILING: HEIGHT
1	KITCHEN		*		*	*		*	9'-0"
2	DINING/SERVERY		*		*		*	*	9'-0"

FINISH SCHEDULE

FLOOR
1. CERAMIC TILE

BASE
1. CERAMIC COVED BASE W/ MINIMUM 3/8" RADIUS

WALL
2. GYPSUM BOARD TAPE, SMOOTH FINISH, AND PAINT FLAT LATEX
3. FULL HEIGHT CERAMIC TILE

CEILING
4. 2'-0"X4'-0" SECOND LOOK SUSPENDED ACOUSTIC TILE CEILING
5. GYPSUM BOARD, TAPE, SMOOTH FINISH AND PAINT

DOOR & HARDWARE SCHEDULE

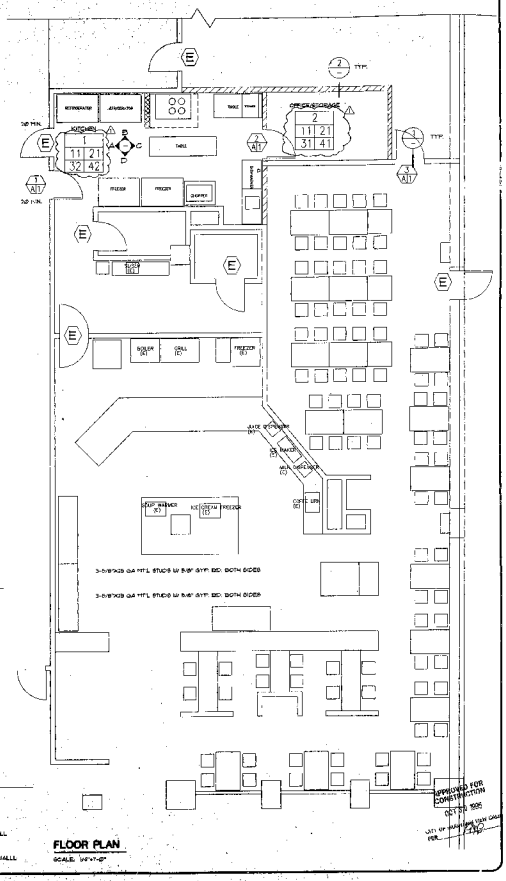
1. 3'-0"X7'-0" SOLID CORE WOOD DOOR W/ PLASTIC LAMINATED FINISH SET IN ALUMINUM FRAME

HARDWARE

1 1/2 PAIR BUTTS
1 LEVER TYPE LOCK SET
1 STOP
1 CLOSER AS REQUIRED
HEAD + JAMB GASKET INTERNAL SERVICE

LEGEND

- EXISTING TO REMAIN
- NEW FULL HEIGHT WALL
- NEW CEILING HEIGHT WALL



FLOOR PLAN

SCALE: 1/4"=1'-0"

REVISIONS

GTE BUILDING 7
CAFETERIA

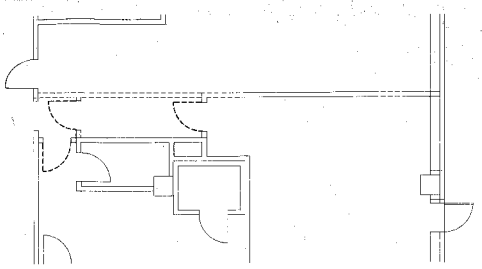
100 FERGUSON DRIVE
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
102 FERGUSON DRIVE, SUITE 201, SUNNYVALE, CALIFORNIA 94086
(408) 749-0200
FAX (408) 749-0209

REGISTERED ARCHITECT
JOHN LRS
C-2117
STATE OF CALIFORNIA

DATE 8-11-86
PROJECT NO. 6-24-91 (0089)
SCALE AS SHOWN
DRAWN PTN
SHEET A-3
OF SHEETS

24X

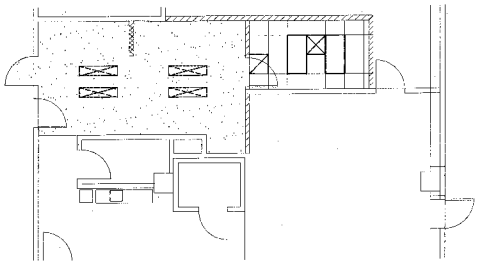


DEMOLITION FLOOR PLAN

SCALE: 1/4"=1'-0"

LEGEND

- EXISTING TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- EXISTING DOOR TO BE REMOVED

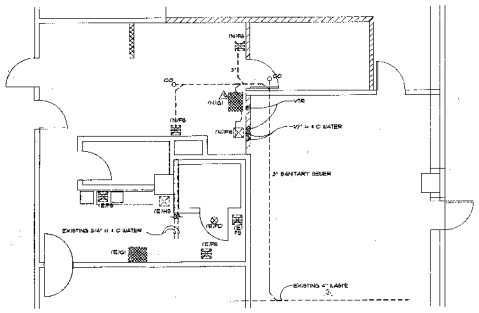


REFLECTED CEILING PLAN

SCALE: 1/4"=1'-0"

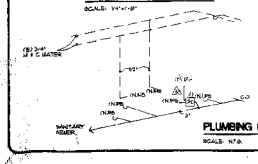
LEGEND

- DUPLEX PLUG
- DUPLEX PLUG DEDICATED
- SWITCH
- AIR SUPPLY
- AIR RETURN
- 2'-0"X4'-0" SUSPENDED ACOUSTIC CEILING TILE
- GYP. BD. TAPE STIPPLE & MISC. PAINT SEMI-GLOSS ENAMEL
- 2'-0"X4'-0" FLUORESCENT LIGHT FIXTURE
- 1'-0"X4'-0" FLUORESCENT RECESS LIGHT FIXTURE



PLUMBING FLOOR PLAN

SCALE: 1/4"=1'-0"



PLUMBING DIAGRAM

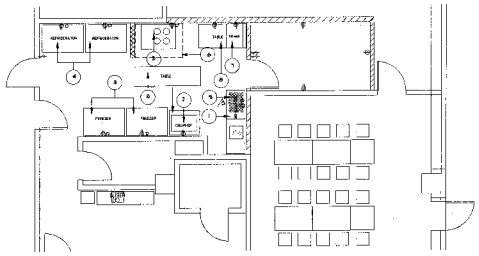
SCALE: N.T.S.

ABBREVIATION

CO	CLEAN OUT
FD	FLOOR DRAIN
FS	FLOOR SINK
HS	HOT SINK
HS	HAND SINK
GI	GREASE INTERCEPTOR
E	EXISTING
N	NEW

NOTES

1. ALL VENTS 1 1/2" VTR
2. ALL PIPING & CONDUIT ARE CONCEALED WITHIN WALLS, FLOORS & CEILINGS



ELECTRICAL & EQUITMENT LAYOUT

SCALE: 1/4"=1'-0"

EQUIPMENT LIST

ITEM	QTY	DESCRIPTION	MODEL	REMARK	ELECTRICAL
1	1	DISHWASHER	CHAMPION D-HB	STEAM COIL, STEAM INJECTION, STEAM BOOSTER	208-240V/60/3PH/17FH
2	1	CHOPPER	HOBART		
3	3	FREEZER	TRAULSEN RDT 1-30 SUT	FULL LENGTH DOOR	115-60/1PH
4	3	REFRIGERATOR	TRAULSEN RHT 1-32 2 SUT	FULL LENGTH DOOR	115-60/1PH
5	1	OPEN BURNER	GARLAND 4-36		208/230 60 4PH
6	1	VENT. ESS HOOD	GILES FSH-9		208-240V/1PH
7	1	STEAMER	HOBART		
8		STAINLESS TABLE			
9	1	GREASE INTERCEPTOR	ZURN 2-TGI	ELECTRO-MATIC GREASEBSORBTOR	SIZE 4.0GD. RATED 12 GPM. INC. USE

APPROVED FOR CONSTRUCTION
OCT 2 0 1995
CITY OF MOUNTAIN VIEW
PER

REVISIONS

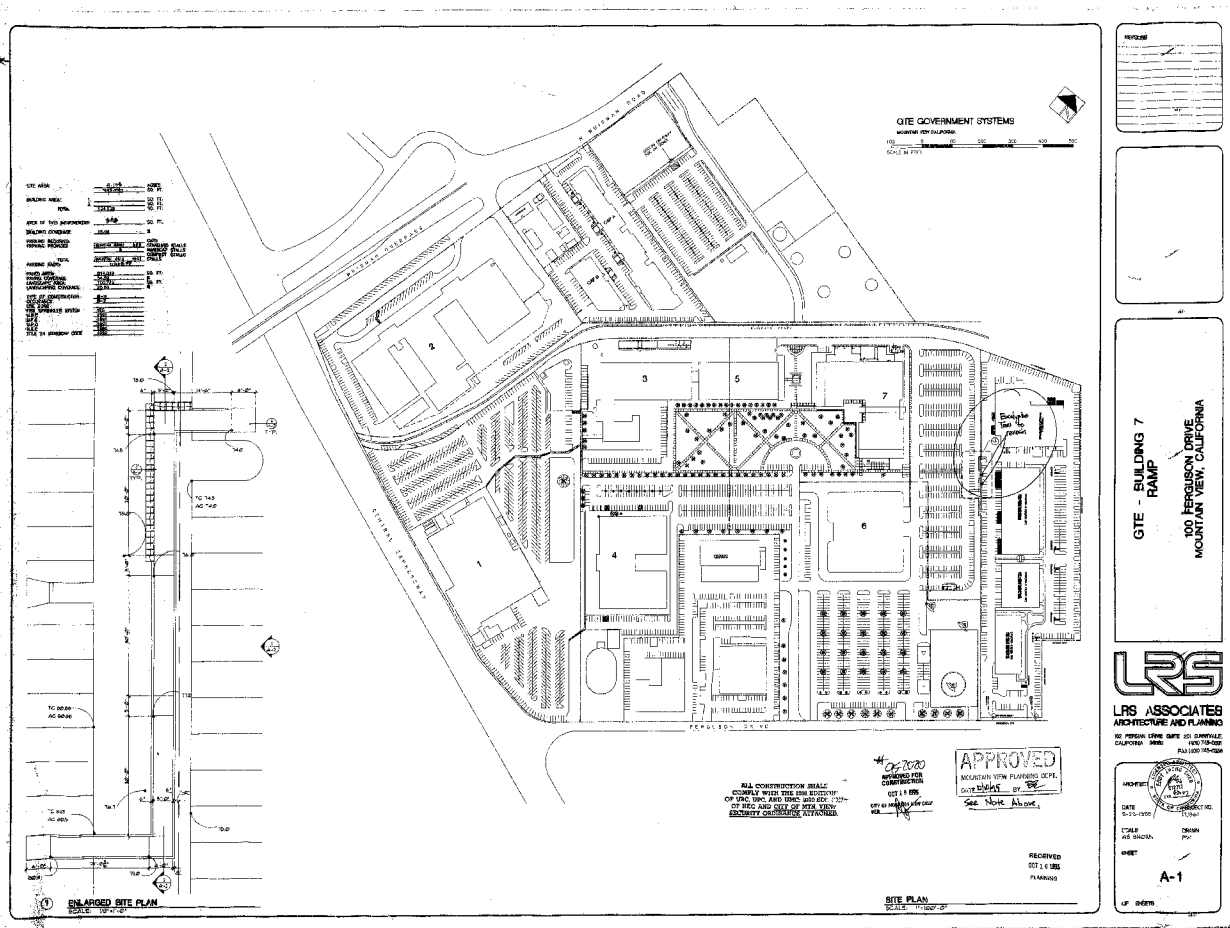
GTE BUILDING 7
CAFETERIA

100 FERGUSON DRIVE
MOUNTAIN VIEW, CALIFORNIA

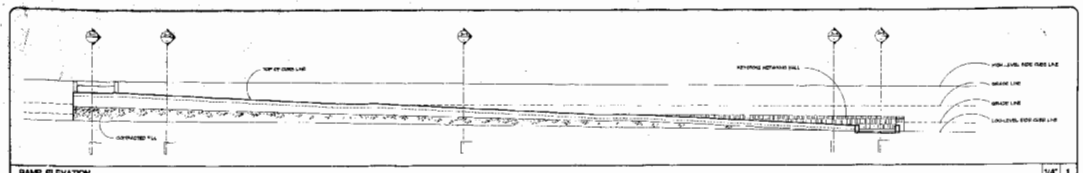
LRS ASSOCIATES
ARCHITECTURE AND PLANNING
100 FERGUSON DRIVE SUITE 201 SUNNYVALE, CALIFORNIA 94086 (408) 245-1227 FAX (408) 245-0306

ARCHITECT
DATE 9-1-1995
PROJECT NO. 11.1355
SCALE AS SHOWN
DRAWN FK
SHEET A-4
OF SHEETS

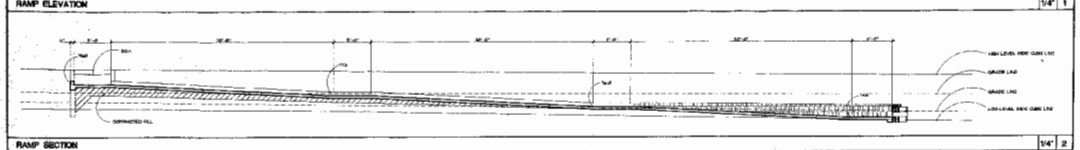
24X


GTE GOVERNMENT SYSTEMS
MOUNTAIN VIEW CALIFORNIA
SCALE IN FEET
N. BUISMAN ROAD
BUISMAN HIGHWAY
CENTRAL EXPRESSWAY
FERGUSON DRIVE
1
2
3
4
5
6
7
Eucalyptus Tree to remain
ALL CONSTRUCTION SHALL COMPLY WITH THE 1986 EDITION OF UBC, UPC, AND UMC AND 1986 EDITION OF NEC AND CITY OF MTN. VIEW SECURITY ORDINANCE ATTACHED.
APPROVED FOR CONSTRUCTION
OCT 1 6 1986
APPROVED
MOUNTAIN VIEW PLANNING DEPT.
DATE 10/16/86 BY BR
See Note Above.
RECEIVED
OCT 1 6 1986
PLANNING
ENLARGED SITE PLAN
SITE PLAN
REVISIONS
GTE - BUILDING 7
RAMP
100 FERGUSON DRIVE
MOUNTAIN VIEW, CALIFORNIA
LRS
LRS ASSOCIATES
ARCHITECTURE AND PLANNING
ARCHITECT
DATE
SCALE
DRAWN
SHEET
A-1
OF SHEETS

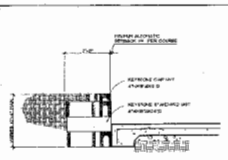
30 X



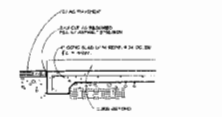
RAMP ELEVATION 1/4" 1



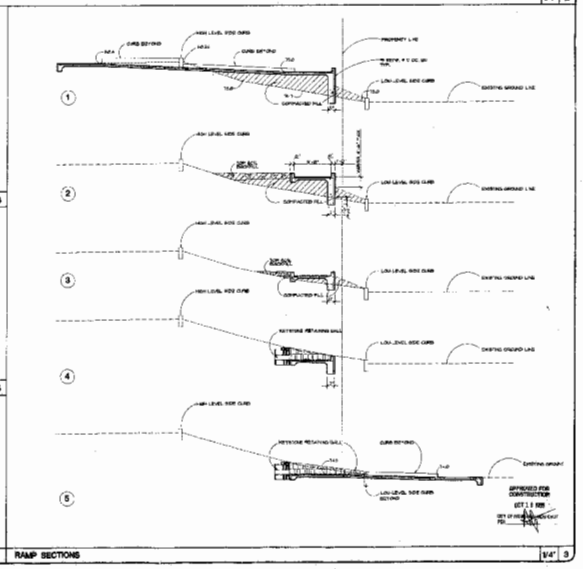
RAMP SECTION 1/4" 2



RETAINING WALL DETAIL 3/4" 4



CONC. SLAB @ GROUND 3/4" 5



RAMP SECTIONS 1/4" 3

GTE - BUILDING 7
RAMP

100 FERGUSON DRIVE
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING

ARCHITECT

DATE

PROJECT NO.

SCALE AS SHOWN

DRAWN

SHEET A-2

OF SHEETS

30 X

BUILDING 3

1. Water/Fire Service

Operate two PIV's that serve the building fire system, one valve at west corner of building, the other near the middle of the building along the rear wall. PIV #14 and PIV #15 will close off all fire service to this building. Hold both PIV's in the closed position.

Domestic Water

Operate two valves in U.G. water vault at west corner of building to shut off domestic water supply.

2. Sanitary Sewer

Two sanitary sewer laterals #11 and #12 exit from the rear wall of the building. They are identified by existing clean-outs, 3' behind the rear wall of the building, and the clean outs should be saved.

Plug the upstream portion of the lateral and place marker posts for future reuse.

3. Gas

PG&E to remove gas meter and plug this long lateral at its origin in Whisman Road. The lateral will be plugged at each end and abandoned by PG&E.

4. Electric

This building is on the CTE electric loop. The contractor is to remove all electric transformers and conductors. See electric instructions for Building 5. PG&E is not involved with this service.

BUILDING 5

1. Water/Fire Service

Operate two PIV's along the rear of the building to close off all fire service to the structure. One PIV is at each end of the building. PIV #16 and PIV #17 will shut off all fire service to this building.

Domestic Water

Operate two valves in UG water vault located midway between Building 3 and Building 5. This will close all domestic water to the building.

2. Sanitary Sewer

One sewer lateral #13 is thought to exist that leaves the western portion of the building on a diagonal path to the sewer main. This lateral should be plugged upstream and install a clean-out to probe main a marker post. Install 2 marker post. Laterals #14, #15, and #16 exit the east side of the building as shown. Each should be plugged with a new cap and a marker post. Plug each lateral as it exits the building to reduce water transmission.

3. Gas

This building did not have gas service.

4. Electric

The contractor is to remove all transformers/conductors. See electric instructions for Building 3 re-arrangements. PG&E is not involved with this service

TRANSFER BUILDING 7 TO NEW SNOWY EGRET WATER LATERAL

1. After Building 3 demolition begins, expose the water line junction where the 6" main from the Whisman/Central Expressway water meets the 6" main coming from the Whisman/Private Roadway meter. This point is shown as "WM" on the plans.

Cap the private water main leading to the Whisman/Central Expressway meter.

The "campus loop" system is now severed; the remaining buildings are all metered from the Whisman/Private Roadway meter and that portion of the water network is active.

Remove the Whisman/Central Avenue meter and backflow assembly for reuse at the Whisman/Snowy Egret Baseline. Cap the 6" stub per details and install a marker post.

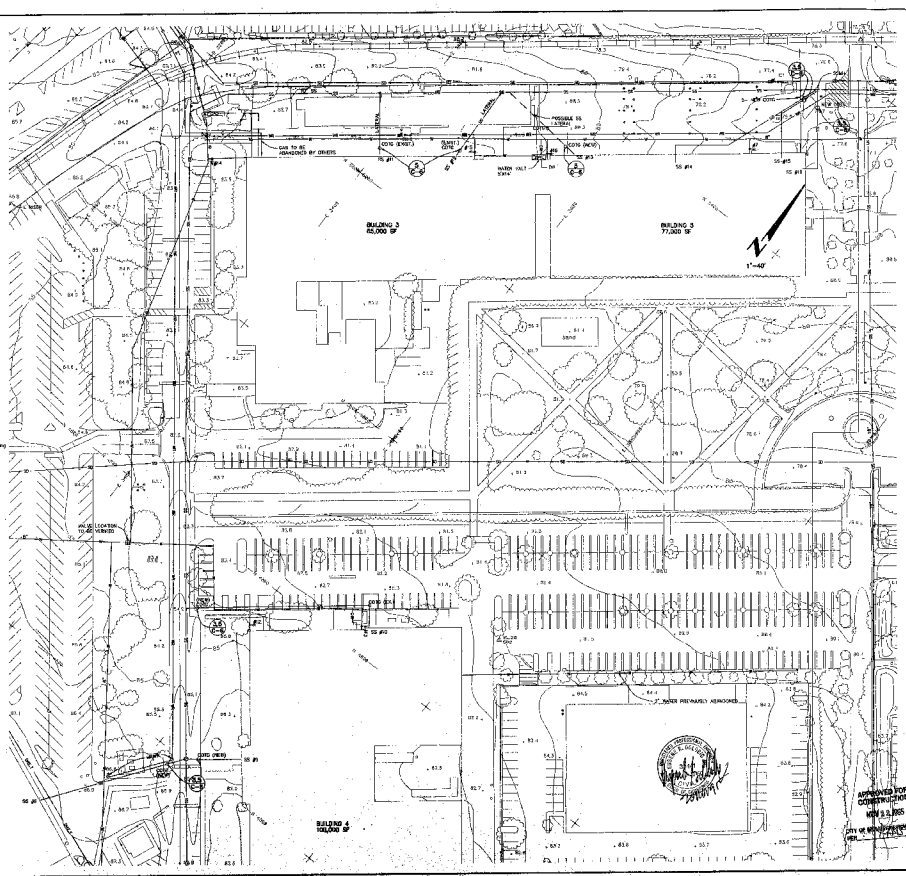
The City of Mountain View will refurbish the meter itself with a new work interval. The Contractor is to remove and legally dispose of all PIV's, vaults, or appurtenances for the General Expressway side of the campus loop, i.e. Building 1 and 2. The 6" campus main should be plugged at all locations to prevent underground water flow.

2. After Building 3 demolition begins the new Snowy Egret lateral should be placed and tied to the existing 6" meter line that serves Building 3.

The existing 6" line should also be cut and capped behind Building 5 to allow all water service to be from the new Snowy Egret main.

The meter/BAF assembly at the Whisman/Private Road location should be removed. The lateral should be capped with a thrust block as shown in the details. The Contractor is to remove and legally dispose of all PIV's, vaults, or appurtenances for this newly abandoned portion of the campus loop, i.e. Building 4, 3, 5 or Building 2. The campus main should be plugged at all locations to prevent underground water flow.

Install a marker post on the 6" stub to mark for future reuse.



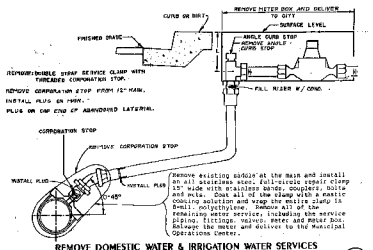
KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
2850 Collen Street, Suite 100 95054
Santa Clara, California 95054 FAX (408) 727-3964

UTILITY PLANS
BUILDING 3,5

SANTA CLARA COUNTY, CALIFORNIA

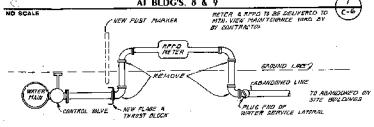
C-5

24X



REMOVE DOMESTIC WATER & IRRIGATION WATER SERVICES AT BLDG'S. 8 & 9 (1 / C-6)

NO SCALE

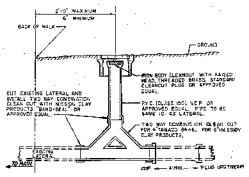


ELEVATION VIEW

REMOVE CAMPUS WATER METERS

TWO LOCCATIONS ON WEISMAN RD., ONE LOCATION ON FERGUSON DR. (2 / C-4)

NO SCALE



1. ALL CLEANOUT RISER SHALL BE REMANUFACTURED BY CHERRY CONCRETE PRODUCTS WITH THE FOLLOWING SPECIFICATION NUMBERS:

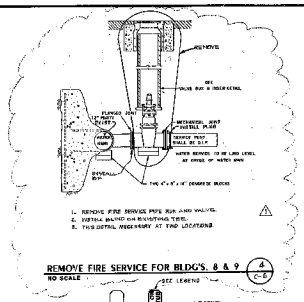
	4" RISER		6" RISER		8" RISER	
	NON-TRAFFIC TRAFFIC		NON-TRAFFIC TRAFFIC		NON-TRAFFIC TRAFFIC	
CCO	V-1	C-5	C-6	C-6	C-12	C-12
LID	C-102	C-275	C-275	C-275	C-280	C-280

LIDS SHALL BE MARKED "SEWER"

2. BACKFILL FOR CLEANOUTS SHALL BE COMPACTED BY JETTING. TAMPING IS NOT THE PREFERRED METHOD.
3. CLEANOUT MAINTENANCE AND REPLACEMENT OF DEFECTIVE OR BROKEN PARTS SHALL BE AT THE PROPERTY OWNER'S EXPENSE.

SEWER LATERAL CLEANOUT (COTG) FOR EXIST. LATERALS (3 / C-6)

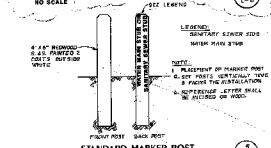
NO SCALE



1. REMOVE FIRE SERVICE PIPE RUN AND VALVES.
2. INSTALL PLUG ON EXISTING TEE.
3. TWO DETAIL REQUIRED AT TWO LOCATIONS

REMOVE FIRE SERVICE FOR BLDG'S. 8 & 9 (4 / C-6)

NO SCALE

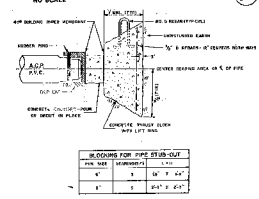


LEGEND:
SANITARY SEWER SIDE
WATER MAIN STAB

NOTE:
1. PLACEMENT OF MARKER POST
2. SET POSTS VERTICALLY TAKE 3 PADDS THE INSTALLATION
3. SUPERIMPOSE LETTER SHALL BE INCISED OR WOOD.

STANDARD MARKER POST (5 / C-6)

NO SCALE



BLOCKING FOR PIPE STUB-OUT		
PIPE SIZE	DIMENSIONS	L x H
4"	1	1'-0" X 2'-0"
6"	1	1'-0" X 2'-0"

THRUST BLOCK DETAIL (6 / C-6)

NO SCALE

APPROVED FOR CONSTRUCTION
NOV 12 1985
CITY OF MOUNTAIN VIEW
PER _____

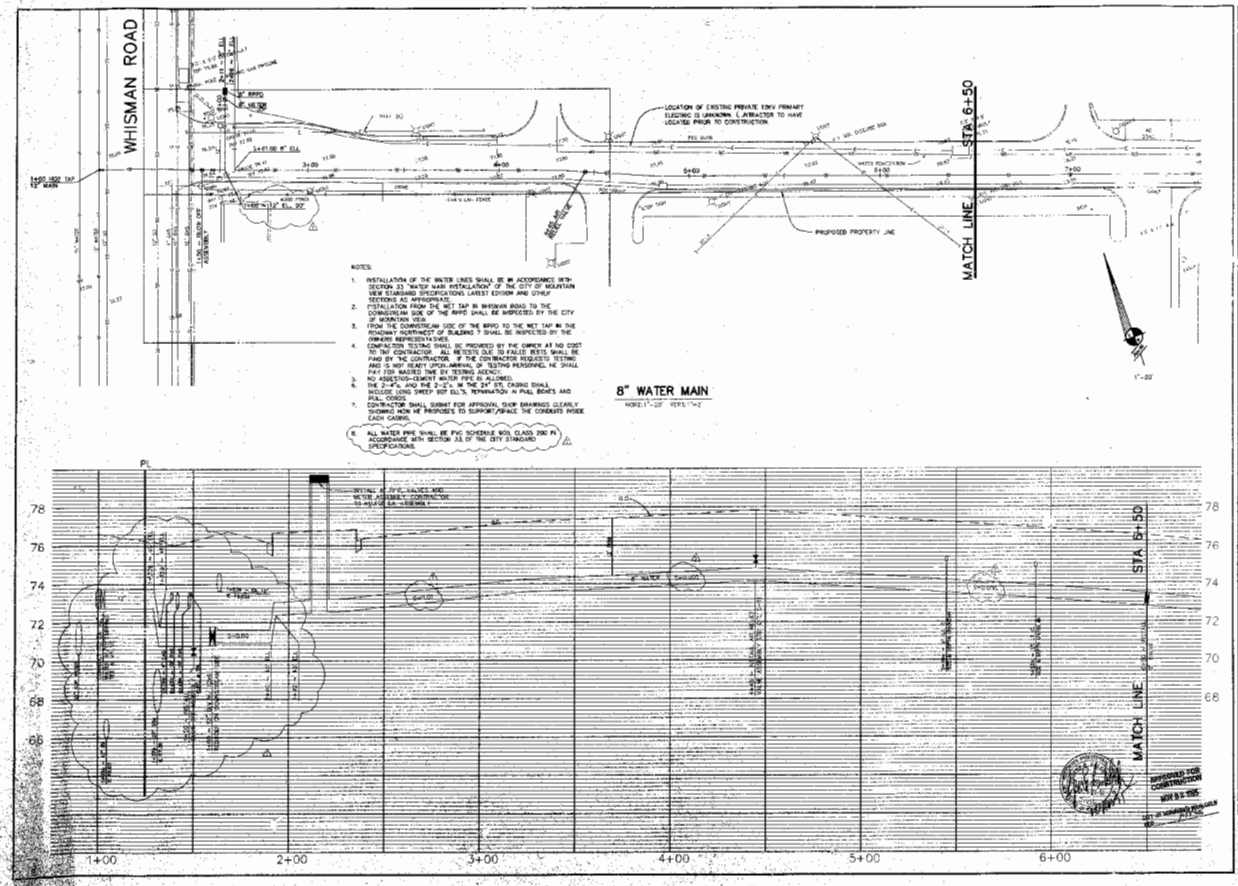
NO.	REVISION	BY	CK.	REVISION	BY
1	REVISED PER PLANT 10-2-85				
2	CITY COMMENTS 11-17-85				

KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
3655 SCHEMMER DRIVE
Santa Clara, California 95054 • FAX (408) 727-5613

UTILITY DETAILS
GTE-GOVERNMENT SYSTEMS CORPORATION
ELECTRONIC DEFENSE SYSTEMS DIVISION
MOUNTAIN VIEW, CALIFORNIA

DATE
SCALE
DESIGNER
JOB 8609-14
SHEET C-6
OF SHEETS

24X



NOTES:

1. INSTALLATION OF THE WATER LINES SHALL BE IN ACCORDANCE WITH SECTION 33 "WATER MAIN INSTALLATION" OF THE CITY OF MOUNTAIN VIEW STANDARD SPECIFICATIONS LATEST EDITION AND OTHER SECTIONS AS APPROPRIATE.
2. INSTALLATION FROM THE WET TAP IN WHISMAN ROAD TO THE DOWNSTREAM SIDE OF THE RPPD SHALL BE INSPECTED BY THE CITY OF MOUNTAIN VIEW.
3. FROM THE DOWNSTREAM SIDE OF THE RPPD TO THE WET TAP IN THE ROADWAY NORTHWEST OF BUILDING 7 SHALL BE INSPECTED BY THE OWNERS REPRESENTATIVES.
4. COMPACTION TESTING SHALL BE PROVIDED BY THE OWNER AT NO COST TO THE CONTRACTOR. ALL RETESTS DUE TO FAILED TESTS SHALL BE PAID BY THE CONTRACTOR. IF THE CONTRACTOR REQUESTS TESTING AND IS NOT READY UPON ARRIVAL OF TESTING PERSONNEL HE SHALL PAY FOR WASTED TIME BY TESTING AGENCY.
5. NO ASBESTOS-CEMENT WATER PIPE IS ALLOWED.
6. THE 2-4"ø, AND THE 2-2"ø, IN THE 24" STL CASING SHALL INCLUDE LONG SWEEP 90° ELL'S, TERMINATION IN PULL BOXES AND PULL CORDS.
7. CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS CLEARLY SHOWING HOW HE PROPOSES TO SUPPORT/SPACE THE CONDUITS INSIDE EACH CASING.
8. ALL WATER PIPE SHALL BE PVC SCHEDULE 900, CLASS 200 IN ACCORDANCE WITH SECTION 33 OF THE CITY STANDARD SPECIFICATIONS.

KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
3136 Scott Boulevard, Building 22 (408) 727-6600
Santa Clara, California 95054 FAX (408) 727-5641

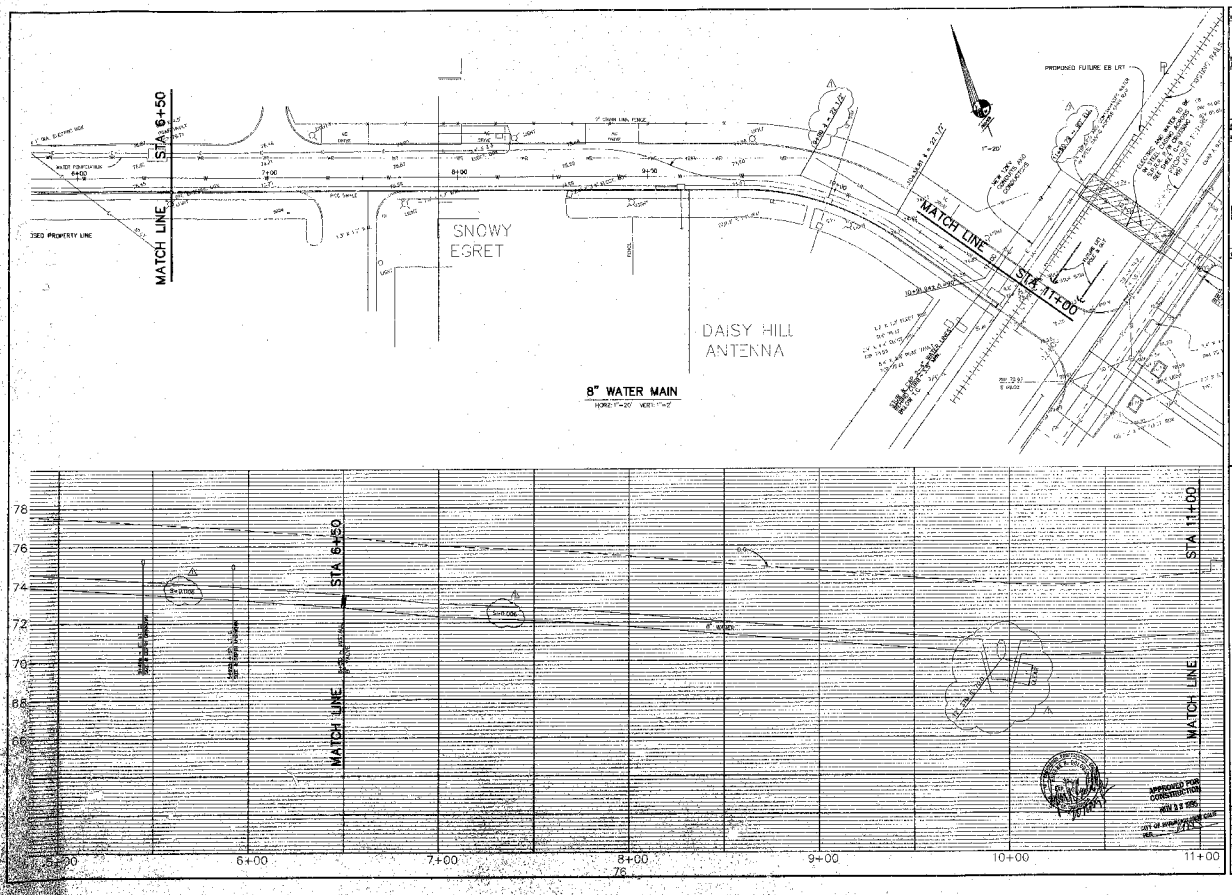
CITY COMMENTS 11-17-93

IMPROVEMENT PLAN FOR
INSTALLATION OF PRIVATE 8" WATER MAIN
FOR: DTE GOVERNMENT SYSTEMS

SAN JOSE CALIFORNIA

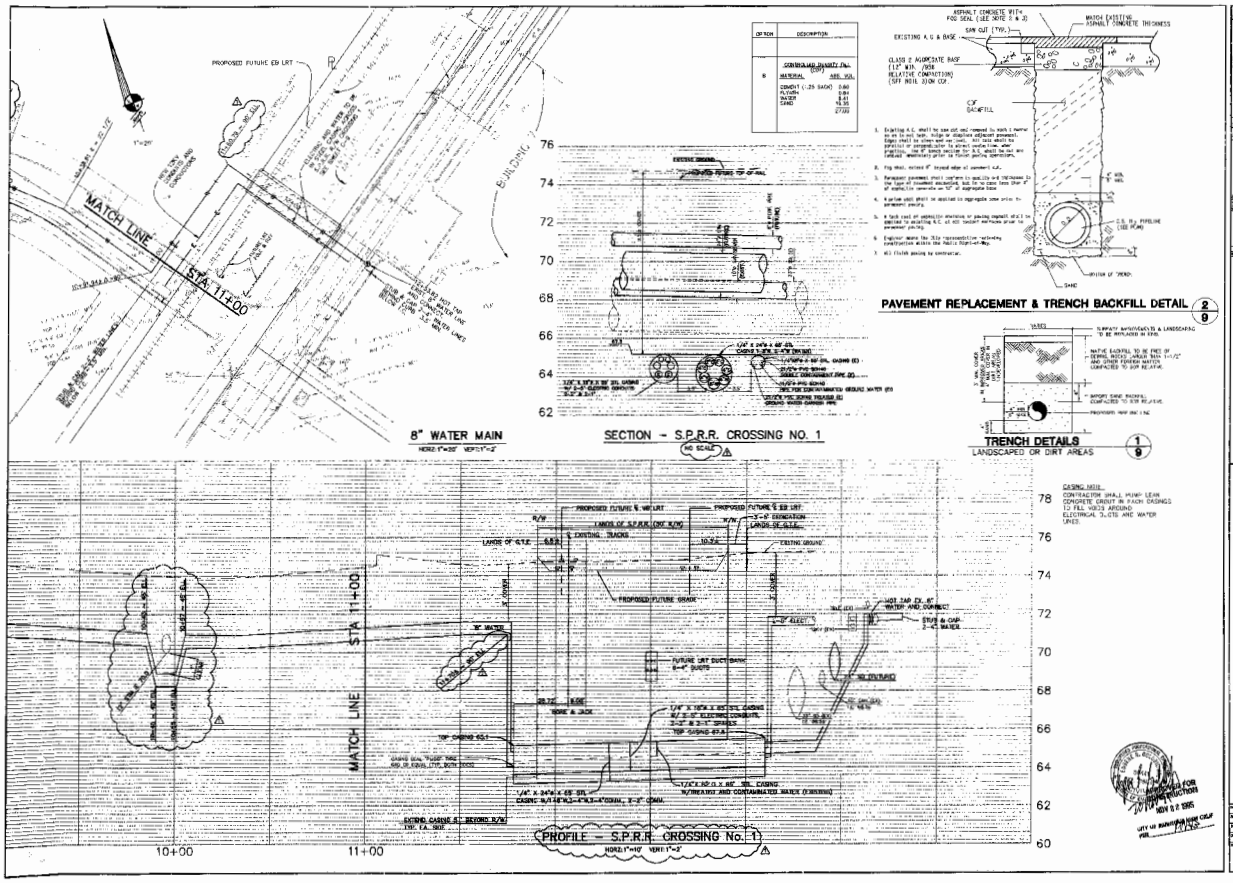
C-7

24X

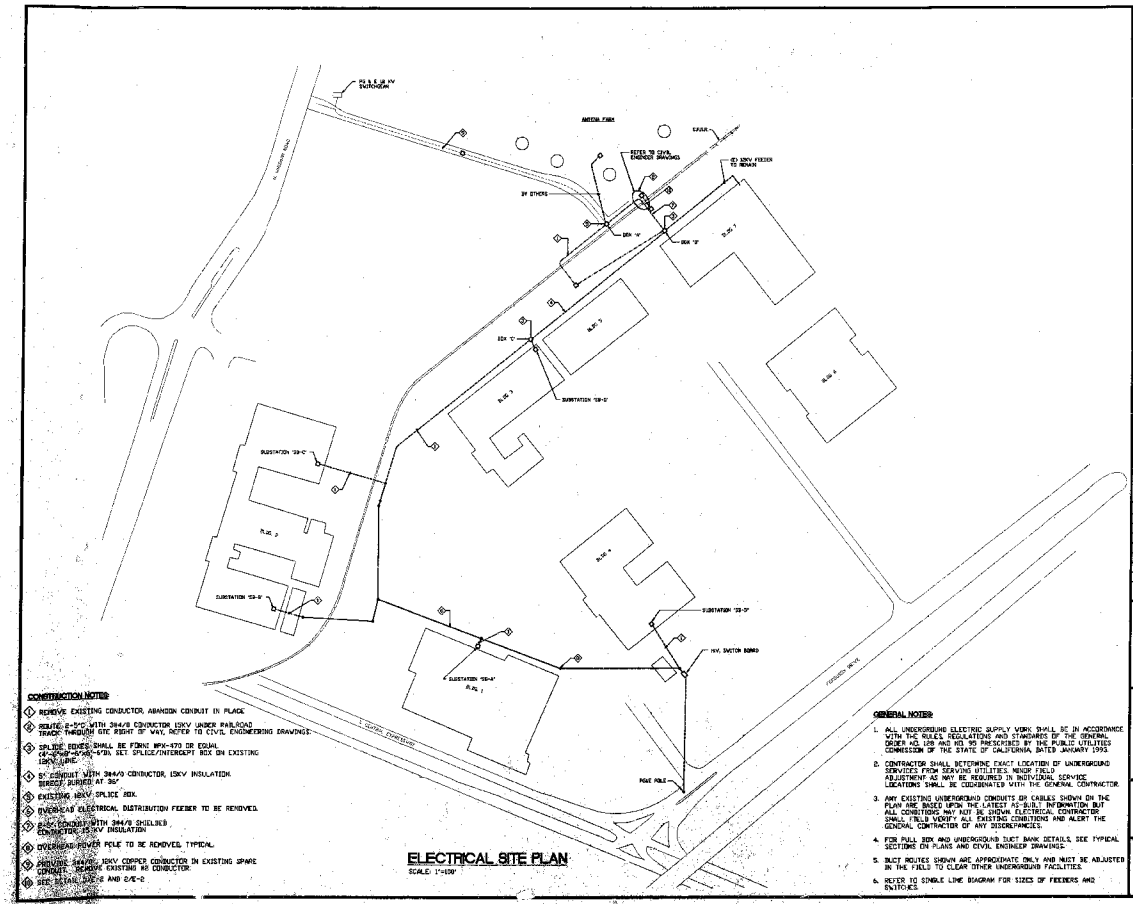


MATCH LINE
STA 6+50
SNOWY EGRET
DAISY HILL ANTENNA
8" WATER MAIN
MATCH LINE
STA 11+00
PROPOSED FUTURE EB LRT
6+00
7+00
8+00
9+00
10+00
11+00
78
76
74
72
70
68
66
APPROVED FOR CONSTRUCTION
KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
3300 Scott Boulevard, Building 22 (408)727-6865
Santa Clara, California 95054 FAX(408)727-5641
IMPROVEMENT PLAN FOR
INSTALLATION OF PRIVATE 8" WATER MAIN
FOR GTE GOVERNMENT SYSTEMS
SAN JOSE
CALIFORNIA
C-8

24X


PROPOSED FUTURE EB LRT
MATCH LINE
STA. 11+00
BUILDING
8" WATER MAIN
HORZ: 1"=20' VERT: 1"=2'
SECTION - S.P.R.R. CROSSING NO. 1
NO SCALE
PAVEMENT REPLACEMENT & TRENCH BACKFILL DETAIL
TRENCH DETAILS
LANDSCAPED OR DIRT AREAS
PROFILE - S.P.R.R. CROSSING No. 1
HORZ: 1"=10' VERT: 1"=2'
10+00
11+00
CASING NOTE:
CONTRACTOR SHALL PUMP LEAN CONCRETE GROUT IN EACH CASINGS TO FILL VOIDS AROUND ELECTRICAL CONDUITS AND WATER LINES.
KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
IMPROVEMENT PLAN FOR
INSTALLATION OF PRIVATE 8" WATER MAIN
SAN JOSE
CALIFORNIA
C-9

24X



ELECTRICAL SITE PLAN

SCALE: 1"=100'

CONSTRUCTION NOTES:

1. REMOVE EXISTING CONDUCTOR, ABANDON CONDUIT IN PLACE.
2. ROUTE: 2-5"C WITH 3#4/0 CONDUCTOR 15KV UNDER RAILROAD TRACK THROUGH GTE RIGHT OF WAY. REFER TO CIVIL ENGINEERING DRAWINGS.
3. SPLICE RULES SHALL BE FORD WPX-270 OR EQUAL (2-2/0-2/0-4/0) SET SPLICE/INTERCEPT BOX ON EXISTING 15KV LINE.
4. 5" CONDUIT WITH 3#4/0 CONDUCTOR, 15KV INSULATION. BURIED AT 36".
5. EXISTING 15KV SPLICE BOX.
6. OVERHEAD ELECTRICAL DISTRIBUTION FEEDER TO BE REMOVED.
7. 2-5" CONDUIT WITH 3#4/0 SHIELDED CONDUCTOR 15KV INSULATION.
8. OVERHEAD POWER POLE TO BE REMOVED, TYPICAL.
9. PROVIDE 3#4/0, 15KV COPPER CONDUCTOR IN EXISTING SPARE CONDUIT. REMOVE EXISTING #6 CONDUCTOR.
10. SEE DETAIL D/E-6 AND D/E-2.

GENERAL NOTES:

1. ALL UNDERGROUND ELECTRIC SUPPLY WORK SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS AND STANDARDS OF THE GENERAL ORDER NO. 128 AND NO. 95 PRESCRIBED BY THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA DATED JANUARY 1993.
2. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF UNDERGROUND SERVICES FROM SERVING UTILITIES. MINOR FIELD ADJUSTMENT AS MAY BE REQUIRED IN INDIVIDUAL SERVICE LOCATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR.
3. ANY EXISTING UNDERGROUND CONDUITS OR CABLES SHOWN ON THE PLAN ARE BASED UPON THE LATEST AS-BUILT INFORMATION BUT ALL CONDITIONS MAY NOT BE SHOWN. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND ALERT THE GENERAL CONTRACTOR OF ANY DISCREPANCIES.
4. FOR PULL BOX AND UNDERGROUND DUCT BANK DETAILS SEE TYPICAL SECTIONS ON PLANS AND CIVIL ENGINEER DRAWINGS.
5. DUCT ROUTES SHOWN ARE APPROXIMATE ONLY AND MUST BE ADJUSTED IN THE FIELD TO CLEAR OTHER UNDERGROUND FACILITIES.
6. REFER TO SINGLE LINE DIAGRAM FOR SIZES OF FEEDERS AND SWITCHES.

ALFA TECH CONSULTANTS
CONSULTING ENGINEERS
Tel. (408)943-1611
Project # A21A

REV	DESCRIPTION	DATE
2	REVISION 2	10-19-95
1	REVISION 1	10-13-95

PROJECT TITLE

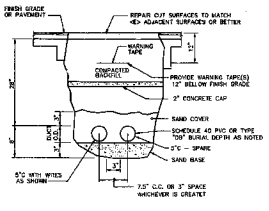
GTE SYSTEMS
MOUNTAIN VIEW, CALIFORNIA

TITLE

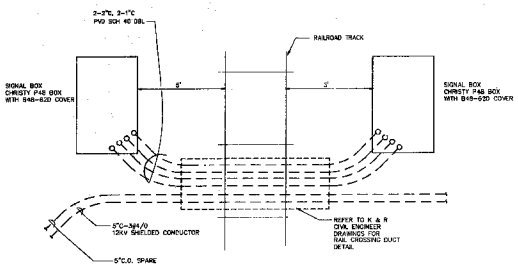
ELECTRICAL SITE PLAN

DATE:	9-20-95	SHEET:
JOB NO.	A21A	E-1
FILE NAME:		
SCALE:	1"=100'	

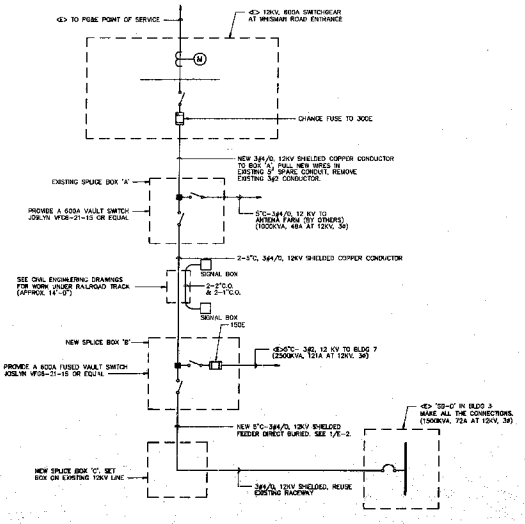
24X



1 E-2 TRENCH DETAIL
NOT TO SCALE



3 E-2 RAILROAD CROSSING DETAIL
NOT TO SCALE



2 E-2 SINGLE LINE DIAGRAM
NOT TO SCALE

ALTA TECH ENGINEERS
10 East Baltimore Ave., Ste #200 • Sky Ave., Ste 101 • Reno, NV 89512 Phone (702)786-1000
Sun Jose • Alameda • Simi Valley • Portland • Seattle Fax (408)248-1911
Project #: 1636 Lic. #:

REV	DESCRIPTION	DATE
2	REVISION 2	10-18-95
1	REVISION 1	10-13-95

PROJECT TITLE
GTE SYSTEMS
MOUNTAIN VIEW
CONSTRUCTION
NOV 22 1995
WALK MOUNTAIN BACK CALF
FOR

TITLE
DETAILS AND SINGLE LINE DIAGRAM

DATE: 9-20-95
JOB NO. A216
FILE NAME:
SCALE: NTS
SHEET: E-2

I:\CAD\A216\E-2 10/19/95 at 15:33

24X

SECTION 16005 - OUTLINE OF WORK SCOPE

1.01 SUMMARIZED OUTLINE OF SCOPE OR WORK

GTE Systems operates 7 buildings at the Mountain View, California Site.

The Electrical Contractor will be engaged to provide the fundamental scope of work summarized below. The Contractor shall:

A. Furnish and install a new underground primary feeder system to interconnect the existing substation "SB-O" located in Building 3.

Included in this work will be: All necessary cutting of pavements, curbs and sidewalks; all necessary trenching, backfilling and compacting of soil; patching of all pavement, curbs and sidewalks disturbed for the project; prompt removal of debris and general cleanup of excavated areas.

Refer to Drawing E-1 for location of PG&E splice box and requirements.

It is the Owner's objective to minimize disruption of power to the facility (Building-5). Accordingly, these documents describe a design arrangement where it will be possible to complete all of the items of work summarized above - except for final connection and cutover - on normal workday straight time hours, all well in advance of the cutover outage, date. A brief outage will be arranged on a date to be determined to open and inspect the existing 12.0kV service entrance equipment. This outage will afford the installing contractor the opportunity to examine the existing equipment details carefully, and to make necessary measurements for proper and accurate planning of the final cutover work.

B. Furnish necessary field labor, supervision, and all required materials to make final interconnection and cutover from the new service, during a power outage of approximately 8 hours duration, date to be determined hereafter known as "the cutover outage date".

C. Furnish necessary field labor, supervision and all required equipment to perform demolition of the 12 kv distribution system overhead and underground the sequence of work as follows:

1. Substation "SB-A"

- Do not remove covers or open doors or start building demolition unless main circuit breaker has been turned off and all circuits de-energized and disconnected.
- Open overhead switch located in electrical power pole.

- Disconnect, de-energize, lock-out and properly ground main feeder before start demolition.
- Use proper safety precautions.
- Remove conductor from electrical power pole to substation.

2. Substation "SB-B"

Same sequence of work as "SB-A".

3. Substation "SB-C"

Same sequence of work as "SB-A".

4. Substation "SB-F" - same reference of work as "SB-A".

5. The following work must be accomplished only after scope of work "A" and "B" has been completed.

- Disconnect, de-energize, lock-out and properly ground main feeder for overhead 12 kv distribution system at H.V. switchboard.
- Use proper safety precautions.
- Remove power poles, conductors and all hardware associated with the 12 kv distribution system.

END OF SECTION

a218/16005

SECTION 16010 - ELECTRICAL GENERAL REQUIREMENTS

1.00 GENERAL

1.01 CONDITIONS AND REQUIREMENTS

A. Refer to the General Conditions, Supplementary General Conditions and Division I - General Requirements. The Contractor, shall read the conditions and be responsible for, and governed by, all requirements thereunder. This Condition applies to all Sections of Specification Division 16000.

1.02 CORRELATION, INTERPRETATION AND INTENT OF CONTRACT DOCUMENTS

A. It is the intent of the Specifications and Drawings to describe a complete, safe, operating Project and the materials and installation work to be performed under the Contract.

B. The Contract Documents are complementary; what is called for by one is binding as if called for by all. If the Contractor finds a conflict, error or discrepancy in the Contract Documents, he shall call it to the Architect's/Engineer's attention in writing before proceeding with the work affected. Any work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which so applied have a well-known technical or trade meaning shall be deemed to refer to such recognized materials or work. The Contractor assumes full responsibility for familiarizing himself with the nature and extent of the Contract Documents, work, locality and local conditions that may in any manner affect the work to be done.

C. The Drawings are, in general, drawn to scale and the Contractor may obtain approximate distances and dimensions by scaling the Drawings. It is distinctly understood, however, that he does so entirely on his own responsibility. The accuracy of the Drawings is not guaranteed. Refer to Architect's Drawings, Specifications and Room Schedules for construction details which will affect this work and equipment. Examine the Plumbing, Heating and Ventilating Drawings and Specifications to ensure that the Electrical work does not conflict with the above trades. Mechanical and Electrical Drawings are largely schematic and, therefore, do not necessarily represent the exact installations; it is the Contractor's responsibility to cover all conditions on his prepared Shop Drawings and by arrangement with other trades in the field.

1.03 REGULATIONS

A. The Contractor shall give all required notices to the building inspectors, the Engineer and the Owner and comply with all laws, ordinances, rules and regulations applicable to the work and safety. Authorities include, but are not limited to:

1. The latest revision of the State of California, Electrical Code.

2. The applicable Rules and Regulations of the National Fire Protection Association.
3. State Fire Marshall.
4. The National Electric Code.
5. Any other applicable Federal, State, County or City Codes or Regulations, including O.S.H.A.

B. Nothing in these Drawings or Specifications shall be construed to permit work not conforming to the above Regulations and Codes.

1.04 PERMITS, LAWS AND TAXES

A. The Contractor shall secure and pay for all permits, licenses, inspection fees and all governmental and public utility charges necessary for the completion of the work. See Division I, Section 01010.

1.05 EXAMINATION OF SITE

A. The Contractor shall examine the site and the existing conditions and make allowances for them in preparing his proposal. In the event of discrepancies between existing conditions and the Drawings, the Contractor shall bid the conditions necessary to complete the job and provide a fully operable and acceptable system.

Extra charges will not be allowed for work that must be done and was apparent from an inspection of the premises at that time, even though the work is not shown on the drawings or called for in the Specification.

1.06 DRAWINGS AND SPECIFICATIONS

A. All Drawings and all Divisions of these specifications shall be considered as a whole and work shown anywhere herein shall be furnished under this Division.

B. Drawings are diagrammatic and indicate the general arrangement of equipment and wiring. Exact requirements shall be governed by architectural, structural and mechanical conditions of the job. Consult all other drawings in preparation of the bid.

Extra lengths of wiring or pull boxes or junction boxes, etc., necessitated by conditions shall be included in the bid. Report any apparent discrepancies before submitting bid.

C. Right is reserved by the Owner to make changes of up to ten feet in location of any outlet or equipment prior to roughing-in without increasing contract cost.

1.07 SAFETY AND INDEMNITY

A. Safety: The Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the contract. This requirement will apply continuously and not be limited to normal working hours. See also Section 01500 and General Conditions.

B. No act, service, drawing review or construction review by the Owner, the Architect, the Engineers or their Consultants is intended to accept responsibility for the adequacy of the Contractor's safety measures, in, on, or near the construction site.

1.08 RECORD DRAWINGS

A. See Division I, Sections 01010 and 01700.

1.09 GUARANTEE

A. See Division I, Section 01700.

2.00 PRODUCTS

2.01 MATERIAL APPROVAL

A. The design, manufacture and testing of electrical equipment and materials shall conform to or exceed latest applicable NEMA, IEEE and ANSI standards.

B. All materials must be new and bear Underwriters Laboratories (UL) label or other accepted testing laboratory certification. Materials that are not labelled by U.L. shall be tested and approved by an independent testing laboratory or a governmental agency acceptable to the Engineer, Owner and code enforcing authority.

2.02 SUBSTITUTIONS

A. See Division I, Section 01600.

B. A list of materials, methods and/or equipment proposed as substitutes for that specified shall be submitted to the Electrical Engineer and Owner for approval per Section 01300, Division I. Where proposed substitutions are disapproved, the specified materials, methods and/or equipment shall be provided.

C. All subsequent changes and substitutions shall be requested by letter from the Contractor to the Architect and shall be considered as authorized only upon written approval from the Architect and Engineer.

D. Any item which is proposed as a substitute shall be accompanied by Drawings and/or data giving sizes, capacities and all other necessary information for determining equality. When Drawings are submitted to the Architect for the purpose of showing the installation in greater detail, approval of them shall not excuse the Contractor from other requirements of the Plans or Specifications.

E. No work involving substitution materials shall proceed until written approval is received from the Architect and Engineer.

3.00 EXECUTION

3.01 WORKMANSHIP AND CONTRACTOR'S QUALIFICATIONS

A. Installation of parts and connection of parts into systems shall be done by skilled electrical journeymen. Material assemblies and installation work shall be securely fastened to structure, attractive in appearance and safe to operate. Assembly work or installations that are improper, unsafe or unattractive shall be removed and replaced with satisfactory work at no additional cost to the Owner.

B. Provide a foreman or superintendent in charge of this work at all times.

3.02 COORDINATION

A. Coordinate work with other trades to avoid conflict and to provide correct rough-in and connection for equipment furnished by other trades. Inform other trades Sub-contractors of the required access to, and clearances around, electrical equipment to maintain serviceability and code compliance.

B. Verify equipment dimensions and requirements. Check actual job conditions before installing work. Report necessary changes in design to Architect/ Engineer /General Contractor in time to prevent needless work. Changes, or additions subject to additional compensation, which are made without written authorization and an agreed price, shall be at Contractor's risk and expense.

3.03 MANUFACTURER'S INSTRUCTIONS

A. Where the specifications call for an installation to be made in accordance with Manufacturer's recommendations, a copy of such recommendations shall at all times be kept in the job superintendent's office and shall be available to the Owner's representative.

B. Follow manufacturer's instructions where they cover points not specifically indicated on drawings and specifications. If instructions are in conflict with the drawings and specifications, obtain clarification from the Architect before starting work.

3.04 QUALITY ASSURANCE

A. Provide a Quality Assurance program. These specifications set forth the minimum acceptable requirements. The specifications do not prohibit the Contractor from executing other Quality Assurance measures which can improve any operating facility, improve the construction schedule, reduce costs, and conserve energy within the scope of this project.

B. The Contractor shall insure that all workmen's practices, all materials employed, all equipment and all method of installation conform to accepted construction and engineering practices, and that each piece of equipment can satisfactorily perform its functional operation.

C. Quality Assurance Tests and Operational Check:

ALFA TECH CONSULTING ENGINEERS

REV	DESCRIPTION	DATE

PROJECT TITLE

GTE SYSTEMS
MOUNTAIN VIEW, CALIFORNIA

APPROVED FOR CONSTRUCTION
NOV 22 1995
CITY OF MOUNTAIN VIEW CALIF
PER

TITLE

SPECIFICATIONS

DATE: 10-13-95
JOB NO.
FILE NAME:
SCALE: NTS
SHEET: E-3

24X

1. Provide Quality Assurance Tests and Operational Check as specified in Section 16040.

3.05 CUTTING AND PATCHING

A. The Contractor shall do all structural cutting and patching and shall provide all openings and supports which may be required for the installation of the work under this Division of the Specifications. Patching shall be with the same workmanship, materials and finish as all surrounding construction. No cutting of the structure shall be permitted without written permission of the Architect.

3.06 EXCAVATION AND BACKFILL

A. The Contractor shall do all excavating and backfilling required for the Electrical Work. Trenches shall be straight and true to line and grade; bottom shall be smooth and undisturbed. Backfill material shall be approved fill, free of organic matter, air hammer tamped in six (6) inch layers under buildings, slabs, roadways, pavements and walks. All other locations as determined by the Architect may be jetted. Excess material shall be removed from the site. Trenches shall be backfilled immediately after approval.

B. Subgrade for area to be paved shall be of material approved for the purpose by the Architect and shall be similar and equal to that found in the area. Paving finish shall be the same as found in the area.

3.07 UNDERGROUND CONDUITS IN CONCRETE ENCASEMENT

A. Perform trenching, duct installation and concrete placement for conduit envelopes with details as indicated on Drawings and as follows:

1. Trenches:

a. Evacuate as indicated with not less than 24 inch cover over envelope unless otherwise noted on Drawings.

b. After trenches are excavated and graded, lay conduit in rows on precast concrete block combs, plastic spacers, or other approved spacers, located so that each section of conduit is supported at fifth points from each end.

c. Enclose conduits in concrete envelope as indicated with at least three inch cover on all sides.

d. Make joints water tight per manufacturer's specifications.

e. Make terminations in manholes with standard trace endbells.

f. Concrete: 2000 psi at 28 days, four sack mix (minimum), 3/4 inch maximum size aggregate, mixed and placed in accordance with requirements of Section 03300. Integrally color concrete by addition of four pounds of red oxide color per yard of cement.

2. Cleaning

a. Clean each duct and test with cylindrical mandrel to demonstrate freedom from obstructions. Use mandrel 1/4 inch less than the nominal diameter of duct and at least twice the nominal diameter in length.

b. Cleaning by pulling stiff circular brushes through ducts and blowing free from foreign material using compressed air.

c. Test each duct after cleaning. Replace any section found to be obstructed in a manner acceptable to Construction Engineer and at no additional cost to Owner.

d. Provide 5/32 inch polyvinyl rope in each spare duct. Coil rope inside duct at ends and seal with plugs.

3.08 CLOSING IN UNINSPECTED WORK

A. The Contractor shall not allow or cause any of his work to be covered up or enclosed until it has been inspected, tested and approved. This inspection does not waive the inspections required by the Building Permit and performed by the local inspection authority.

B. Should any of the work be enclosed or covered up prior to inspection and testing, the contractor shall uncover the work at his own expense, and after it has been tested, inspected and approved, make all repairs with such materials as may be necessary to restore the uncovered work to its original condition.

3.09 PRELIMINARY OPERATION

A. Should the Owner request that any portion of the plant, apparatus or equipment be operated prior to final completion and acceptance of the work, the Contractor shall consent, and such operation shall be under the supervision and direction of the Contractor, but all expense thereof will be paid by the Owner, separate and distinct from money paid on account of the Contract. Such preliminary operation and payment thereof shall not be construed as an acceptance of any of the work of this Contract.

3.10 POWER INTERRUPTIONS

A. Existing Electrical circuits shall be interrupted only with Owner's prior written consent. Such interruptions shall be preceded by all possible preparations (by the Contractor) to keep the Electrical circuits off for a minimum time. If required, circuit interruptions shall be done on weekends, nights, holidays or other non-business hours with no added expense to the owner.

B. Written requests for power outages shall be submitted 7 calendar days in advance of the outage date. This request will list the circuits, the time of day the power should be removed, and the approximate hours the power will be off.

C. All work on service conductors and other such equipment shall be done only when such conductors and equipment are de-energized. The foreman of the work must disconnect the voltage from these circuits himself, install his own padlock and keep the key. In addition, a safety warning tag shall be affixed to the disconnect device. This tag shall describe the work being done and the location of the job. The padlock shall be removed at the earliest possible moment after the line has been cleared of all personnel.

3.11 TESTS

A. Where the Contract Documents, laws, ordinances or any public authority requires any work to be tested specifically or reviewed by another authority, the Contractor shall give the Engineer/Owner timely notice of readiness therefor. The Contractor shall give the Engineer/Owner the test results for review. If any work to be tested is covered up without written approval or consent of the Architect, it must, if directed by the Architect, be uncovered for examination at the Contractor's expense.

B. The cost of all such tests shall be borne by the Contractor.

C. Any work which fails to meet the requirements of any test or any work which does not meet the requirements of the Contract Documents shall be considered defective and may be rejected. Rejected work shall be corrected promptly by the Contractor or removed from the site.

END OF SECTION

a216/16010

SECTION 16040

DEMOLITION AND EXISTING SYSTEMS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Verify existing systems.

B. Demolish existing electrical as required to permit work.

1.02 PROTECTION OF EXISTING SYSTEMS

A. Existing site has existing underground utilities. Prior to any excavation, verify locations of existing underground pipes, conduits, ductbanks, sewer, and water lines. Systems adjacent to the work shall be investigated thoroughly and any damage resulting from performance of work under this contract shall be repaired to assure continuing operation and integrity during and at completion of the project. Protect existing systems to remain. Any existing wiring serving devices to remain in service, and which is interrupted by work performed under this contract shall be rerouted to maintain circuit continuity during hours they are in use. Temporary outages will be permitted during cutover work at such times and places as can be pre-arranged with the Owner's Representative. Keep such outages to a minimum number and length. Make no outages without prior approval. Include all costs for temporary wiring and overtime work required in the contract price. Remove temporary wiring at completion of work.

B. Contractor shall provide and maintain proper shoring and bracing for existing underground utilities, sewers, and building foundations, encountered during his excavation work, to protect them from collapse or other type of damage until such time as they are to be removed, incorporated into the new work, or can be properly backfilled upon completion of new work.

C. Contract shall provide and maintain protection during sitework for all existing lawns, trees, curbs, gutters, drives, walks, and building, not noted for removal. Damaged work shall be repaired or replaced, and damaged lawns shall be replaced with sod. Trees shall be protected until final grading has been completed.

1.03 EXISTING SYSTEMS CONCEALED

A. The Electrical Drawings show portions of the existing electrical systems which are to remain, be removed or be modified as a part of the Contractor's work.

B. The Contractor shall inspect the existing installation prior to bidding and shall make his own judgment as to the work required to provide a complete installation within the intent of the Contract Documents.

C. Concealed features of the existing systems are derived from Record Drawings and the Engineer's best judgment of the configuration, but no guarantee is made as to their correctness.

1.04 ASBESTOS

A. Contractor shall notify Engineer immediately in writing if asbestos bearing material or material suspected of containing asbestos is encountered during demolition. No further demolition shall be done until directed by the Architects.

PART 2 - PRODUCTS

2.01 EXISTING MATERIALS

A. All materials which are a part of the facility shall remain the property of the Owner except as follows.

2.02 EXISTING MATERIALS REINSTALLED

A. Existing materials and equipment that are removed as a part of the work or stored in surplus may be reinstalled as a part of the new systems subject to approval of condition and suitability by the Engineer. The requirements of the Specifications (i.e.; installation, warranty, testing, etc.) shall apply as if the materials were new, supplied by the Contractor.

2.03 EXISTING MATERIALS NOT TO BE REINSTALLED

A. In coordination with the Engineer, these materials shall be made available for his inspection and decision as to whether the Owner will retain possession. Items selected for retention shall be delivered to a location on the premises selected by the Owner and turned over to him. Take reasonable care to avoid damage to this material.

B. Material not selected for retention by the Owner and debris shall be disposed of by the Contractor.

PART 3 - EXECUTION

3.01 EXISTING CONDITIONS

A. Examine the structure, building, and conditions under which electrical work is to be installed for conditions detrimental to proper and timely completion of electrical work.

3.02 DEMOLITION

A. Remove exposed electrical systems within the area of renovation which are not required as a part of the completed installation. Exceptions:

1. Systems which are not visible in finished spaces may be left in place as specifically permitted by Architect.

2. Junction boxes, etc., required for continued operation of the building may be left in place and exposed for access.

3.03 OUTAGES

A. The facility (Building 5) will continue its normal operation during the construction work; therefore it is required that the Contractor schedule power or other system outages with the Owner. Outages to Owner occupied areas shall not be permitted from 7:00 a.m. to 8:00 p.m. on any day of the week. Premium time shall be bid for this work. In the event that the Contractor's work causes or contributes to an outage (or other system fault), the Contractor is responsible for immediately correcting the problem and shall include premium time required to stay on the job site until problem is corrected.

3.04 PREMIUM TIME

A. Premium time shall be included in the Base Bid for power outages to Owner occupied areas and for other work as required by the schedule, as shown on the Drawings and in other Divisions of the Specifications.

END OF SECTION

a216/16040

ALFA TECH CONSULTING ENGINEERS
97 East Brokaw Road, Ste #300 • San Jose, CA 95112 Phone (408)436-8300 Fax (408)436-1511
San Jose • Alameda • Shell Beach • Portland • Seattle
Project # A 916

REV	DESCRIPTION	DATE

PROJECT TITLE

GTE SYSTEMS
MOUNTAIN VIEW, CALIFORNIA

APPROVED FOR CONSTRUCTION
NOV 22 1995
CITY OF MOUNTAIN VIEW CALIF

TITLE

SPECIFICATIONS

DATE:	10-13-95	SHEET:	E-4
JOB NO.			
FILE NAME:			
SCALE:	NTS		

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24X

SECTION 16121 - PRIMARY VOLTAGE CABLES

PART 1 - GENERAL

1.01 CONDITIONS AND REQUIREMENTS

A. Refer to the General Conditions, Supplementary General Conditions and Division I General Requirements.

1.02 DESCRIPTION

A. Work included in this Section: Primary voltage cables.

1.03 INCORPORATED DOCUMENTS

A. Section 16010, Electrical General Requirements, applies to all work in this Section.

1.04 SUBMITTALS

A. Manufacturer's literature describing the product.

B. Manufacturer's certified factory test report.

C. Field high potential test report.

PART 2 - PRODUCTS

2.01 GENERAL

A. Standards: Conform to applicable standards of ASIC, ASTM, UL, ICEA, IEEE and NEMA, latest edition.

B. Voltage class: 15KV volts 90°C normal operating temperature, 130°C emergency overload temperature, and 250° short circuit temperature.

C. Acceptable manufacturers: Anaconda, Okonite, Pirelli-General, Cyprus-Rome or General Electric.

2.02 CONDUCTOR

A. Single conductor, stranded copper, sizes as shown on Drawings.

2.03 INSULATION

A. Material: Ethylene propylene rubber (EPR).

B. Minimum insulation thickness 104 mils for 5KV cable.

C. Minimum insulation thickness 220 mils for 15KV cable.

D. Minimum insulation thickness 345 mils for 25KV cable.

2.04 SHIELDING

A. The metallic shielding of the cable shall have a 5 mil bare tinned copper tape with a minimum overlap of 12-12%, over the insulating screen.

2.05 JACKET

A. Jacket shall be a protective extruded polyvinyl chloride or polyethylene (black).

B. Jacket shall have a minimum thickness of 80 mils for up to 500 KCMIL and 110 mils for 750 and 1000 KCMIL wires.

2.06 FACTORY TEST

A. Perform a corona test and other tests on the cable in accordance with ICEA Standards. Submit certified test results prior to installation.

B. Seal ends of cables before shipment to prevent entrance of moisture.

PART 3 - GENERAL

3.01 CABLE PULLING

A. Pulling tensions shall in no case exceed maximum values recommended by cable manufacturer.

B. Use only powdered soapstone, Mineralite or Wire-Rite as lubricants for cable pulling.

C. Use only plain Manila or Nylon rope or other non-abrasive material for pulling cable into conduit or duct.

3.02 CABLE SPLICES AND TERMINATIONS

A. The Contractor shall use thermohit heat-shrinkable high voltage termination kits for runway and indicator connections, splices in manholes, link boxes entrances etc., as manufactured by Raychem Corp. or approved equal.

B. Splice and termination installation methods shall be as recommended by the terminations and cable manufacturers for all applications.

C. Cable terminations and splices shall be done by certified cable splicer.

D. Splices are permitted only in manholes and pull boxes.

E. Ground the metallic cable shield at each splice and termination.

3.03 CABLES IN MANHOLES

A. Provide 270° minimum loop of slack cable in manhole. Support cables with galvanized steel channels and porcelain insulators. See Drawings for additional details.

B. Arc Proofing: After all tests have been performed and accepted, arc proof each cable and each splice independently by one half-lapped layer of 3M Scotch 77 electric arc and Engineering tape. Secure this wrap by a final wrap of glass cloth electrical tape to prevent unrewinding.

3.04 IDENTIFICATION

A. Identify cables as to manufacturer, year, voltage, size, temperature rating and ampere capacity. If such identification is not visible on the surface the information shall be carried on an embossed plastic tape permanently secured where the cable emerges into each manhole or switchgear cubicle.

END OF SECTION

A218/16121

REV	DESCRIPTION	DATE

PROJECT TITLE

GTE SYSTEMS
MOUNTAIN VIEW, CALIFORNIA

APPROVED FOR CONSTRUCTION
NOV 2 2 1995
JIM W. MONTGOMERY, CHIEF
FOR

TITLE

SPECIFICATIONS

DATE: 10-13-95	SHEET:
JOB NO.	E-5
FILE NAME:	
SCALE: NTS	

24X

CITY OF MOUNTAIN VIEW

ENERGY PLAN CHECK "CORRECTIONS"

ENERGY CONSERVATION STANDARDS

NON RESIDENTIAL BUILDINGS

OWNER [illegible] JOB ADDRESS [illegible]

ARCHITECT [illegible] ENGINEER'S ENGINEER [illegible]

[illegible]

[illegible]

[illegible] ENERGY Application Number ____

[illegible] Received [illegible] date Out [illegible]

Checker [illegible] CHECK OUT NUMBER ____

Plan Check Information Sheet [illegible]

[illegible] PLEASE READ CAREFULLY

Compliance Documents Checked Under Chapter [illegible] Title 24 Part 2 [illegible]

Approved As Noted and Returned Sub Ritchie [illegible]

Plans have been reviewed for compliance with California Energy Commission Regulations, Title 24. Deficiencies with California Energy Commission Regulations, Title 24. Deficiencies with the enclosed page(s) were checked or incorrect. Completed items on the enclosed page(s) were checked or incorrect. Incomplete items on the enclosed page(s) will be gone or "N/A" until corrections are received.

TO INSURE PLAN CHECK PROGRESS:

1. Upon contacting this office please review (and/or ask designer to review) the plan check correction sheets thoroughly and the noted section(s) of the energy standards.

Please review "original drawings" and submit ____ sets of corrected prints with ca-2 and support documentation to INSCHECK for review/approval. Note: one complete plan set to remain on file with INSCHECK INC.

Copies of the regulations may be obtained through the California Energy Commission, 1516 Ninth St. Sacramento, California (916) 324-9800.

For faster plans review return the requested information, the corrections, and the plan check correction sheet to INSCHECK INC.

INSCHECK, INC.
Energy Plan Check Service
Long Beach Office (213) 590-7208
San Jose, CA 95112

Plan checking by: [illegible]
Robert E. Holmes

1 of [illegible]

GENERAL REQUIREMENTS

Note: Items marked below indicate either missing or incorrect plan information and need to be corrected. The items which have been checked ( ) have been reviewed and were found to be correct.

1. Provide the designers signed statement on the plan (See 820-1457) as follows:

"I have reviewed the current California Conservation Standards for nonresidential buildings. In my professional judgment, the design in this set of plans and specifications conform with the following division of these regulations:

a. **Division 4, Building Envelope Forms 1, 2, 3 or alternative division 2 or 3.

b. **Divisions 5 and 6, HVAC Systems and equipment Forms 4 and 5.

c. ** Division 9, Lighting Form 3".

*The person signing as being responsible for the design of the plans or for preparation of the forms must be an architect, the engineer, building designer or nonarchitect registered or licensed by the State of California. See 820-1457. Please show license number of "responsible" party on plans.

**Please list "a", "b", or "c" as appropriate, under statement of compliance on plans.

2. Please submit and sign compliance form Number ____ ____

a. Provide backup calculations for Form 2.

b. Provide backup calculations for Form 1.

c. Development cooling loads seem excessive. Please document each major place of equipment, providing the CP rating and BTU output.

3. Please/Complete mechanical plan notes as indicated on the following pages.

4. Please/Complete lighting plan notes as indicated on the following pages.

5. Submit/Complete architectural plan notes as indicated on the following pages.

6. Please provide job address (street name and number) on plans.

7. Submit:

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ARCHITECTURAL

1. Forms 1, 2 or 3 are incorrect or not consistent with the plans. Please resubmit.

2. Provide support documentation to show that the heat flow through the wall ____ ____ will equal or be less than through the existing ____ ____.

3. Correct plans to conform with the energy calculations as follows:

a. Insulation type and R-value shown in the calculations but not on the plans:

Walls ____ Roof ____ Floor ____

b. Roofing color: ____ ____

Absorptance Compliance ____ ____

c. The glazing area in the plans exceeds that of the calculations by approximately ____ ____ square feet.

4. Submit plans and specifications indicating the size, type and location of all walls, roofs, floors, windows, skylights and doors that are a part of the building envelope as shown on compliance forms 1, 2 and 3.

5. Submit plans and specifications showing building cross sections and/or typical cross sections of walls, ceilings/roofs and floors that indicate the type of materials used including the location, type, R-value and thickness of the insulation.

6. Specify caulking and sealants. All open joints, penetrations, and other openings in the building envelope shall be sealed, caulked, gasketed, or weather-stripped to limit air leakage; including open exterior joints around window and door frames, between wall and foundation, between wall and roof, between wall panels, at penetrations of utility services through walls, floors and roofs, and all other openings in the exterior envelope.

7. Specify exterior opaque windows and sliding glass doors will be weather-stripped, tested, certified, and labeled. See 820-1455.

8. Specify proposed and existing exterior doors between the garage and a conditioned area or garage at each door. Fire-rated doors are exempt.

9. Specify proposed and existing exterior access doors will be provided with a weather-tight gasket or closure at the center rail. Fire-rated doors are exempt.

10. Specify proposed and existing exterior swinging and revolving doors will be self-closing at the head, sill and jambs. Fire-rated doors are exempt.

WALK-IN REF. AND FRZ. DOORS

1. Specify the surface area of existing exterior sectional doors and the specific types on rails of the exterior air-curtain doors will be provided with a seal, gasket, or sweep. Fire-rated doors are exempt.

2. Specify the exterior doors opening or exposed to the outside or the outside of an adjacent dock will have a minimum 5' tall at each jamb. Fire-rated doors are exempt.

3. Specify passive strobe doors which require a vertical chain or curtain will be a continuous doorway. Walk-in at each jamb. Fire-rated doors are exempt.

4. Please add completed, checked and signed form CP-1 (Parts 1 & 2) to plan packet. Add check (✓) or complete form (P-1) to make. Note: form MUST be completed and signed by (a) party(s) responsible for design, (b) installing and/or maintenance, (c) building owner and (d) energy compliance representative author(s).

Please [illegible] [illegible] Department of [illegible] Energy [illegible]

4 of 11

MECHANICAL

4. Specify elevator shaft will be fitted with approved, normally closed smoke damper which will be opened upon the action of a detector of products of combustion (other than heat) located at the top of the shaft.

5. HVAC equipment does not comply with the mechanical requirements. See Form 6 of equipment specifications. Revise, specify complying equipment, and resubmit.

6. Specify each joint substantially sealed with approved mastic or duct tape (what sealant of choice):

Seal transverse joints on air-supply ducts installed in locations where air leakage through the joints would be non-beneficial to the overall duct system performance requirements.

Seal longitudinal joints on low pressure supply ducts where external static pressures exceed 0.75" of water pressure.

7. Duct insulation is required on supply and return ducts (what is required). The minimum are:

Air conditioning ducts: R-2 outside, R-1 inside.
Heating ducts: R-6 outside, R-2 inside.
See 720-1.9(d).

8. Show EER and COP ratings for all units to be installed. The minimums are:

EER = 7.2 for units over 65,000 Btu cooling.
7.5 for units over 65,000 BTU cooling.
8.0 for units under 65,000 BTU cooling.

COP = 2.5 at 47 degrees F. outside temperature.
2.2 at 45 degrees F. outside temperature.
1.5 at 17 degrees F. outside temperature.

9. Specify maintenance information. Equipment which requires preventive maintenance for efficient operation shall be furnished with complete necessary maintenance information. Required routine maintenance actions shall be clearly stated and incorporated on the durable label, which may be limited to identifying title and/or publication number in the Operation and Maintenance Manual for that particular model and type of equipment. At least one copy of the information to be furnished by the manufacturer for the original owner upon request.

10. Submit plans and specifications showing the location, make, capacity, and model number of the HVAC system components and controls, to include of manufacturer and model number, performance specifications may be submitted, which include applicable FHAC performance requirements.

11. Submit one of the following for electric resistant heating:

a. A calculation worksheet showing that the capacity of the electric heating system is less than 10% of the capacity of the total heating system.

b. Compliance forms 9, 10, 11 and/or 12 (whichever are applicable) and supporting calculations and documentations showing that the heating and cooling system consumes at least 50% of its annual energy requirement from nonexhaustible energy sources. Nondepletable energy includes waste heat recovery or energy recycling system.

c. Compliance Form 8 and supporting calculations showing that the life cycle cost of the electric resistant heating system is lower than a comparable gas furnace system or heat pump system (if which gas is not available).

d. Plan and specification revisions showing the deletion of the electric resistant heat.

12. Significant amounts of heating or air conditioned equipment from Form 4 requirements will not be approved. See "20-10.1(b) and California Energy Commission publication "Blueprint" dated 1/79.

	Plans	Forms
Heating:	___ ___	___ ___ Btu/hr.
Cooling:	___ ___	___ ___ Btu/hr.

13. Form 6 design conditions are incorrect.

a. Outside design: 33 degrees F. dry winter; 85 degrees F. db and 68 degrees F. wb summer.

b. Infiltration is 0 in pressurized buildings and shall not exceed 0.5 air changes per hour in depressurized buildings. See 720-1.5(d)(2).

c. Indoor design conditions must be within the comfort range of ASHRAE 55-74. See 720-1.5(b)(2).

d. Excessive outside airload. See 720-1.5(b)(3).

e. Excessive transmissional losses compared to Form 1.

14. HVAC CONTROLS:

a. Specify thermostat set points and/or capability of increasing heating and cooling. See 720-1.5(b)(4).

b. Include a 7-day time clock or other economizer 7-day control method. See 720-1.5(b)(4). This is not required if the building is less than 1,000 square feet or the building envelope use a heat loss of less than 20 BTU/hr/sq.ft. See 720-1.5(b) or 720-1.5(c).

c. Include 8-hour automatic by-pass clear readily accessible by the public.

15. Specify temperature control. Each HVAC system shall be provided with at least one automatic temperature control device with the following features:

a. Manual and automatic. Provide a readily accessible, variably adjustable, automatic means of reducing the energy use for HVAC during period of absence or alternative use of the building or area served by the system.

b. Zones. Provide a means to adjust space temperature set points from 55 degrees F. to 85 degrees F.

c. Scheduling. Provide a means to operate the heating and cooling in sequence. If both are provided, this provides an automatic changeover to prevent simultaneous heating and cooling.

d. Dead band zones. Provide an adjustable zone of nothing a temperature range of up to 20 degrees to 30 degrees F. between full heating and full cooling.

e. Fix set points. Provide a means of terminating all heating at a temperature of not more than 70 degrees F. and of terminating all cooling at not less than 75 degrees F. A locking thermostat cover will accomplish this.

16. Specify zoning for temperature control. Provide at least one automatic temperature control device for each zone, not more than one floor of a building shall be included in one zone.

17. Specify heat pump supplementary heat control. Heat pumps shall be installed with a control to prevent supplementary heat operation when the heating load can be met by the heat pump alone. Supplementary heater operation is permitted during transient periods such as changeup, defrost, and following zone set point advance.

18. Specify economizer. Provide an economizer cycle for the cooling fan system that will use up to 100% of the fan system capacity for cooling with outdoor air whenever cooling provides energy savings in modes and either the enthalpy of outdoor air is lower than that of the indoor air or the outdoor air dry bulb temperature is lower than that of the return indoor air. This is required for a system capacity greater than 7,500 BTUH under 720-1.5(f)(3) is claimed, submit exceptions allowed under 720-1.5(f)(3) in claims, submit documentation supporting the claim.

19. Specify back-draft dampers for mechanical ventilators. Provide automatic dampers, interlocked and closed on loss of power, for each mechanical ventilation system or unit, supply fans, for each mechanical ventilation system or unit, supply fans, or exhaust. This applies to restroom fans, kitchen vents, etc., as well as central system air intakes and exhausts.

20. Specify back-draft dampers for gravity ventilation systems. Provide either automatic or readily removable manually operated dampers in all openings to the outside other than combustion air openings.

21. Specify HVAC piping insulation. Provide piping insulation for HVAC piping in accordance with Section 720-1.5(g) of the Energy Conservation Regulations. This specification shall include R-value, thickness, density, type of insulation and location.

22. Show independent heating and cooling systems serving common spaces and requiring non energy for cooling to be provided with one or more of the following:

a. Provide sequential control of both heating and cooling capacity in each zone to prevent simultaneous heating and cooling.

b. Provide controls that will automatically reset the heating water temperature or energy input rate to only that necessary to offset heat loss due to transmission and infiltration.

23. Specify (for multi-zone reheat systems) controls that will automatically reset the system cold air supply to the highest temperature level that will satisfy the zone requiring the temperature level that will satisfy the zone requiring the cooling. This is not required when less than 25% of the total system air is reheated.

24. Specify (for single zone reheat systems) controls that will sequence reheat and cooling.

22. Specify constant volume dual duct or multi zone systems to be provided with the following:

a. Provide a means to automatically reset the hot deck temperatures to the lowest temperatures necessary to satisfy the zone requiring the most heating.

b. Provide a means to automatically reset the cold deck temperatures to the highest temperature necessary to satisfy the zone requiring the most cooling.

c. The manufacturer shall state leakage rates.

23. Specify (for reheating systems) controls that will automatically reset the temperature of the heated supply air to the lowest temperature that will satisfy the zone requiring the most heating. This is not required when less than 20% of the zone system air is reheated.

24. Submit a calculation worksheet showing that the air leakage for dampers utilized for the mixing of heated and cooling air does not exceed 3% of the total air quantity handled by the dampers when operating at the maximum system pressure to which the dampers will be subjected. Also submit the manufacturer's documentation of damper leakage rates.

25. Submit one of the following for constant volume reheat systems:

a. Documentation showing that the system design is necessary to satisfy a specific humidity level or a percent.

b. Plan and specification revision deleting the constant volume reheat system.

26. Constant volume dual duct or multi-zone systems which utilize new energy to simultaneously heat and cool air streams which are then mixed for temperature control are prohibited for buildings over 20,000 square feet of conditioned space. Redesign and resubmit.

ADDITIONAL

27. The lighting design does not comply. See Form 5. Review and resubmit.

28. Submit lighting plans and specifications showing:

A. Each room labeled with its intended use and numbered to each one as referenced on Form 5.

B. The location and type of all light fixtures.

C. A schedule that will identify the type of fixture, number and type of lamps in each fixture, and the total input wattage, including ballasts, for each fixture.

29. Specify accessible switching. Provide independent control of lighting for each area enclosed by ceiling height partitions. Devices used to control lighting shall be readily accessible to personnel occupying the area. It is required, but not shown for rooms listed below. Control devices remote from the area control can be approved if the designer submits a statement which includes a description of reasonable design sensitivity which requires remote switching or an explanation of how the remote location does not reduce the usefulness of the switching. See T20-1511. Not shown for rooms:

30. Specify dual switch or dimmer lighting control. Provide a means to control the otherwise lighting load so that it may be reduced by at least one-half in a uniform pattern for all areas larger than 100 square feet that are allowed more than 1.0 watt per square foot. See Form 5. See T20-1511. A.4. Exp deck.A switching (or approved alternate system) for rooms where the respective floor area exceeds 100 sq.ft., the lighting wattage level exceeds 1 watt per square foot AND the respective room has more than one light fixture or has one light fixture which consumes more than one lamp. This is required, but not shown for the following rooms:

31. Specify local switching. Provide local switching for banks to which Note 2 of table 5-1 applies with no more than 10 or each location controlled by one switch. See Form 5. This is required, but not shown for the following rooms:

PLEASE SHOW ON PLANS THAT 3-LAMP FIXTURES LOCATED WITHIN 10' OF A SINGLE SWITCH IN THE SAME ROOM SHALL BE TANDEM WIRED

32. Specify use of natural light. Show on plans actual circuit arrangement for areas where effective use may be made of natural light. The lighting circuitry shall be arranged so that units in portions of the area where natural light is available are switched independently of the remainder of the area. (Zone interpretation: 2(ft - 15)). Where Tw = Ht of window wall and Cl = ceiling level. See 910-1241(b)(5). This is required, but not shown for the following rooms:

33. More than 25 of the gross roof area in the zones or areas listed below is composed of skylights; you must provide automatic light-sensitive switches. See T20 1241(d)(1). Required for rooms:

34. In order to allow partial lighting of large rooms which are sometimes not fully occupied the standards and the National Electrical Code impose a limit of two 20-amp. single pole circuit breakers located in a maximum of 900 for a single pair of switches.

35. Form 5 and/or plans require correction of discrepancies listed below. See notations on Form 5 if enclosed.

a. Cannot complete check. Show fixture wattages and ballasts on plans.

b. Energy complete check. Include room numbers and lighting task numbers on Form 5. See Design Manual, Section 4.6.4.

c. Arithmetic error. See corrections on Form 5 and resubmit.

d. Room cavity ratios appear incorrect. The height CH is measured above the work plane and not the floor. See CEC-1342.

e. Nominative wattage mismatches. See table 9-1 or 7.

f. Occupancy is to be calculated from Table 7 of the Standards to two decimal places. See the California Energy Commission publication "Blueprint" dated 3/79 Energy Conservation publication "Blueprint" dated 3/79 and the California Energy Commission letter dated 10/18/78.

36. Sensor type switches. Show make and model number of proposed sensor type light switches and provide written documentation from the manufacturer and/or California Energy Commission to clearly show that the particular unit used is on the C.E.C. Directory approval list.

THE FOLLOWING REPORT CONTAINS THE TITLE 24 ANALYSIS FOR

CTC - BLDG. 1, THE LOOP & LIGHT

MOUNTAIN VIEW, CALIFORNIA

SCH JOB REPORT: 47789

PREPARED BY

CTC

PREPARED BY

CHICO CONTRACTS

ENERGY CONSULTANTS SYSTEMS, INC.

AUGUST 4, 1981

ENERGY COMPLIANCE SYSTEMS, INC.
2881 Hemlock Ave., Suite 2
San Jose, CA 95128-3199
(408) 244-1220 FAX: (408) 244-0994
5600 Madison Ave., Suite F
Sacramento, CA 95841-3149
(916) 331-5234 FAX: (916) 331-[illegible]
(415) 521-0980 (714) 771-2750

COMPLIANCE WITH THE CALIFORNIA ENERGY COMMISSION
THE 1988 NON-RESIDENTIAL TAILORED LIGHTING ONLY
(2ND GENERATION STANDARDS)

AUGUST 8, 1989

DEAR BUILDING OFFICIAL:

THE FOLLOWING FORMS AND CALCULATIONS HAVE BEEN PREPARED BY:

ENERGY COMPLIANCE SYSTEMS, INC.
2881 HEMLOCK AVENUE, SUITE 2
SAN JOSE, CA 95128-3199

(408) 244-1220
FAX: (408) 244-0994

PLEASED BE ADVISED THAT ENERGY COMPLIANCE SYSTEMS, INC. CANNOT BE HELD RESPONSIBLE FOR ANY DISCREPANCIES BETWEEN THESE FORMS AND CALCULATIONS PREPARED BY ENERGY COMPLIANCE SYSTEMS, INC. AND THE ACCOMPANYING DRAWINGS, UNLESS THE ACCOMPANYING DRAWINGS ARE STAMPED AS FOLLOWS:

IF YOU HAVE ANY QUESTIONS PLEASE CALL.

SINCERELY,

Chris Childers

CHRIS CHILDERS
FOR ENERGY COMPLIANCE S[illegible]S, INC.

JOB NAME: GTE-BLDG. 1, RMS 1501 & 1533 ECS JOB NUMBER:47789

TABLE OF CONTENTS

THE 1988 NON-RES TAILORED LIGHTING ONLY
(SECOND GENERATION STANDARDS)

COMPLIANCE FORMS & WORKSHEETS

NOTICE Regarding the CF-1.

CF-1a, certificate of compliance, pgs. 1 & 2

MF-1, mandatory features checklist.

LIGHTING COMPLIANCE

CF-5, Installed Lighting Summary.

WS-5B, Room Cavity Ratio Worksheet.

WS-5C, Tailored LPD Summary and Worksheet, Categories A-E.

NOTICE: PLEASE READ

Dear Contractor,

Please refer to the certificate of compliance and mandatory measures checklist. It will be the responsibility of each specialty contractor to fill in reference spaces checked on the MF-1.

If your compliance package contains an HVAC sizing calculation you are hereby informed that the calculations are for the new regulations and for compliance purposes only. Energy Compliance Systems can not be held responsible for any equipment installed based on the State of California minimum compliance standards. It is the responsibility of the owner and contractor to verify size and type of equipment to be installed, or ask Energy Compliance Systems to produce an HVAC calculation for sizing your equipment for actual design conditions.

CERTIFICATE OF COMPLIANCE
A certificate of compliance must be included with all building permit applications submitted after January 1, 1987. The certificate of compliance is required for all four sets of energy standards. The certificate of compliance must be included on the plans. A separate copy of the certificate of compliance must be retained by the building owner. This copy must be passed on to future owners of the building or to future tenants so that they will know the energy efficiency standards that will apply to future improvements or modifications and can file a copy of the certificate with their permit applications.

SIGNATURES
The certificate of compliance (must) be signed by the professional (or professionals) responsible for design and the owner. The certificate must be approved by the enforcement agency (usually a local building department). The enforcement agency approval is indicated by a signature on the certificate of compliance. Enforcement agency approval indicates that the building features and performance specifications indicated on the certificate of compliance are adequate to achieve compliance with the applicable set of standards and that the measures represented on the certificate of compliance are acceptable for future improvements or modifications.

RECORDING THE CERTIFICATE OF COMPLIANCE
Some enforcement agencies may require that the certificate of compliance be recorded with the County Recorder. When required by the enforcement agency the permit applicant will usually be responsible for filing and retrieving records.

The County Recorder will issue a receipt of filing or will stamp a copy. The enforcement official may require that the receipt or stamped copy be presented as proof that the document has been filed. The building department would then issue the appropriate building permits.

In instances where the building department and permit applicant concur that future commitments would not create difficulties for future owners or tenants, the enforcement agency need not require that the certificate of compliance be recorded. The owner, however, should still retain a copy for future owners of building tenants that may wish to alter the building.

Certificate of Compliance (Part 2 of 2)

Prescriptive Compliance CF-1A

GTE-BLDG 1, RMS 1501 & 1533 — Project Title; 8/8/89 — Date of Certificate; 26497.75 — Cond. Fl. Area; L.E. OFFICE — Occ. Type
ENERGY COMPLIANCE SYSTEMS, INC. — Documentation Author/Firm

For Enforcement Agency Use Only
Plan Checked By ____ Date ____

Note: More than one Part 2 may be submitted, but all must reference the same Part 1. The person responsible for the design compliance for each major building system acknowledges the following compliance statement by signing the appropriate space below.

Compliance Statement. The proposed building improvements substantially comply with the requirements indicated on the Certificate of Compliance for the building, dated ____. The plans and specifications include the significant energy conservation features and the compliance documentation is consistent with the plans and specifications.

Envelope N/A

		Allowed	Proposed	
1	Roof/Ceiling R			h-F-sf/Btu
2	Exterior Floor R			h-F-sf/Btu
3	Opaque Wall R			h-F-sf/Btu
4	Exterior Wall Area			sf
5	Wall Glazing Area			sf
6	Average SC (Wall)			
7	Total Wall % Glazing			%
8	West Exterior Wall Area* (if applic.)			sf
9	Glazing Area (West Wall)* (if applic.)			sf
10	Average SC (West Wall)* (if applic.)			
11	West Wall % Glazing*			%
12	Roof Glazing? (attach CF-5)			(Y/N)

* Low-rise office Bldgs. B, S, & F and all high-rise office Bldgs.

Extent of Improvements ____
Plans dated ____ Specs dated ____
Signature ____ Date ____
Name/Title ____
Company ____
Address ____
City/State/Zip ____
Telephone ____ Cal. License No. ____
Enforcement Agency ____ Date ____

Lighting

13 Basis of Allowed LPD ... TAILORED

		Allowed	Proposed	
14	LPD	2.86	[illegible]	watts/sf
15	Package Lighting Reduction	N/A	[illegible]	watts/sf
16	Adjusted LPD	2.86	[illegible]	watts/sf
17	Lighting Control Credits?		N	(Y/N)

Other requirements:

ROOMS 1501 & 1533 — Extent of Improvements
Plans dated ____ Specs dated ____
Signature ____ Date ____
Name/Title ____
Company ____
Address ____
City/State/Zip ____
Telephone ____ Cal. License No. ____
Enforcement Agency ____ Date ____

Mechanical N/A

		Allowed	Proposed	
18	Whole Building HVAC Sel.? (WS-4A)			(Y/N)
	a. Fan Wattage Index			watts/sf
	b. Cooling Power Index			Btu/sf
	c. Heating Power Index			Btu/sf
19	Tailored HVAC Approach? (WS-4B)			(Y/N)
	a. Heating Capacity			(units)
	b. Cooling Capacity			(units)
	c. Fan Performance Index			sfm-in/sf
20	Simultaneous heat/cool? (WS-4C)			(Y/N)

Other requirements:

Extent of Improvements ____
Plans dated ____ Specs dated ____
Signature ____ Date ____
Name/Title ____
Company ____
Address ____
City/State/Zip ____
Telephone ____ Cal. License No. ____
Enforcement Agency ____ Date ____

Certificate of Compliance (Part 1 of 2) — Prescriptive Requirements CF-1A

ATC-21261 DWG 0013333 07/09
Project Title — Date / Plan Reference
ROCKY CASTLE
Project Name/Address
MOUNTAIN VIEW, CA
ENERGY COMPLIANCE SYSTEMS, INC. (408) 261-1700
Name of Energy Consultant — Telephone

For Enforcement Agency Use Only

Building Permit Issued: ____ Date
Field Checked By: ____ Date
Approved By: ____ Date

Attached Drawings: The proposed dwelling will be in compliance with the California Energy Code (Title 24, California Administrative Code) according to the plans and specifications and drawings (plans) submitted with this application. The plans and specifications and drawings (plans) submitted with this form are sufficient to establish compliance with the mandatory energy conservation standards required by the energy efficiency standards. Before energy inspection can be scheduled, all items not marked or the calculations are incorrect or incomplete, or are not applicable, shall be completed and corrected.

07/09/89
Date signed — Date (date)
ENERGY COMPLIANCE SYSTEMS
Name of Energy Consultant
RICHARD S. DELGADO
Signature
ENERGY CONSULTANT
Title
1100 FERGUSON DRIVE
Address
MOUNTAIN VIEW CA 94039
Consultant Firm
(415) 967-1700
Telephone — Cal License No.

General:
1. Climate zone 2
2. HSG Glazing Type ..... LOW-E
3. HSG Glazing Orientation ..... N/S
4. Orientation of Dwelling ..... FACING NORTH
5. Conditioned Floor Area ..... 2000 ft²
6. Unconditioned Floor Area ..... — ft²

Air Conditioning Efficiency Type:
7. Updated Code Equipment ..... NA
8. Occupancy Code Number ..... —
9. Maximum Allowed Heating ..... — Btu/h-ft²
10. Standard CTTV ..... — Btu/h-ft²

2nd Generation Calculation Type:
11. Climate Zone 4
12. Prototype Number ..... ALLIED LIGHTING
13. Actual Power Criteria (watts/sq.ft.) ..... NA

Notes: The energy conservation features and performance calculations included on this checklist are in full compliance with the California Energy Code (Title 24, California Administrative Code) and the Conservation Standards. Even with a new Certificate of Compliance submitted, a copy of the Certificate will not necessarily be required in future permits, if the plans and specifications are identical to those upon which the Certificate of Compliance is submitted. A copy of the Certificate of Compliance is required if the Certificate of Compliance is submitted, if the required before a permit is issued for dwellings. Uncontrolled lighting fixtures, if any, shall be shown on the plans and specifications. Lighting fixtures, when shown on plans, to comply with the applicable energy conservation type is utilized.

07/09/89
Date signed — Date (date)
JOHN LAUER — PROJECT ENGINEER
Name — Title
G.T.E. GOVT SYSTEMS
Firm
100 FERGUSON DRIVE
Address
MOUNTAIN VIEW CA 94039
Consultant Firm

Enforcement Agency: The proposed building and future alterations will be in compliance with the California Energy Code (Title 24, California Administrative Code) as required and indicated in the plans and specifications and all mandatory conservation standards, as well as the energy conservation type is being utilized.

Date — Name
Name — Title
Name — Firm
Address
Signature

NOTE: THIS SUBMITTAL DOCUMENTS T-24 REQUIREMENTS FOR THE LIGHTING COMPONENT ONLY

EDM Form Revised September 1988 — Page 1 of 2

Mandatory Measures Checklist — MF-1

ATC-21261 DWG 0013333 07/09
Project Title — Date / Plan Reference
ROCKY CASTLE
Project Name/Address
MOUNTAIN VIEW, CA
ENERGY COMPLIANCE SYSTEMS, INC. (408) 261-1700
Name of Energy Consultant — Telephone

For Enforcement Agency Use Only

Title Checked By: ____ Date

"The Checklist is required to meet Residential Generalist Homes using Standards Construction."

Statements of Compliance — Reference in Construction Documents

Envelope Measures

( )	Certified insulation materials per § 2-310 (a)	Factory labels
( )	Insulation installed to meet flame spread and smoke density requirements per § 2-311 (a)	Factory labels
( )	Lime containing insulation materials installed per § 2-312 (a)	NA
( )	Perimeter insulation installed as per § 2-313	NA
( )	All fireplaces and stoves to be specified for installation in dwelling units shall be provided with a tight fitting door covering the opening of such fireplace or stove with a weatherstripping as per Section 2-317	Fireplace
( )	Proposed exterior and interior finishes and materials shall be in accordance with § 2-320 (a)	NA
( )	Wall heating or air conditioning equipment shall be provided with a thermostat as specified in Section 2-321	—
( )	Water heating or air conditioning equipment shall be provided with a thermostat as per Section 2-322	—
( )	Pipe insulation of cold water pipes and pipes of domestic water heaters shall be in accordance with Section 2-323	—
( )	Water of space heating and cooling systems per § 2-324 (a)	—

Lighting System Measures

✓	Certified lamps and ballasts per § 2-331 (a)	Part Specifiers
✓	Incandescent lamps in enclosed areas per § 2-331 (b)	Cut Sheets
✓	Approved lamp holder installed per § 2-331 (c)	Cut Sheets
( )	Indicator or pilot lamp shall be added into the 120 VAC, Grounded Neutral circuit supplying lamps serving 100 watts or more per § 2-331 (d)	NA
( )	Separate switching of display lamps per § 2-332 (a)	NA
( )	Separate switching of display lamps per § 2-332 (b)	NA
( )	Automatic control of display lamps in small unit schedule (lamp per § 2-332 (c)	NA
✓	Certified low voltage and cove lighting transformers per § 2-333 (a)	Part Specifiers

Daylighting and Lumen Maintenance Controls (when applicable)

( )	Daylighting shall meet requirements of Section 2-334 (a)	NA
( )	Room area adjacent to exterior shall be provided with a switch per § 2-334 (b)	—
( )	Time clocks to control interior lighting per § 2-334 (c)	—
( )	Area controlled devices and automatic receivers shall comply with § 2-334 (d)	—

Occupancy Sensing Devices (when applicable)

( )	Wall or ceiling mounted sensor shall be per § 2-335 (a)	—
( )	Small unit shall be installed per § 2-335 (b)	—

HVAC and Plumbing System Measures

( )	Pump size shall be justified per § 2-343	Factory Tests
( )	Certified HVAC equipment per § 2-344 (a)	HVAC Manual
( )	Certified duct equipment per § 2-344 (b)	HVAC Manual
( )	Heating and cooling equipment efficiency per § 2-345	Factory Tests
( )	Pumps capacity of one satisfactorily per § 2-346 (a)	Factory
( )	Automatic shut off for all heaters per § 2-346 (b)	Factory Tests
( )	Thermostat on each equipment per § 2-346	Factory Tests
( )	Swimming pool or spa heaters and covers per § 2-347	Factory Tests
( )	Automatic ignition system per § 2-348 (a)	Factory Tests
( )	Thermostatic control for each hot tub per § 2-348 (b)	Factory Tests
( )	Automatic timer per § 2-348 (c)	Factory
( )	Water heaters per § 2-349 (a)	Factory
( )	Insulation for complex hot water pipes per § 2-349 (b)	Factory

MANDATORY MEASURES THAT ARE SUBMITTED AS PART OF THIS REPORT HAVE BEEN CHECKED. CHANGES, TO CODE FOR MANDATORY CONSTRUCTION SECTIONS IS NOT THE RESPONSIBILITY OF ENERGY COMPLIANCE SYSTEMS, INC. AND MAY BE CONFLICTED.

EDM Form Revised September 1988 — Page 1 of 1

Installed Lighting Summary — CF-5

ATC-21261 DWG 0013333 07/09
Project Title — Date / Plan Reference
ROCKY CASTLE
Project Name/Address

For Enforcement Agency Use Only

Permit No. ____ Date

Proposed Adjusted LPD

1	Total Installed Lighting Watts (from below)	2480 W
2	Common Credit Watts (WS-6A)	NA Watts
3	Adjusted Watts (Line 1 - Line 2)	2480 W
4	Conditioned Floor Area (from CF-1)	2000 ft²
5	Adjusted Lighting Power Density (line 3/line 4)	1.24 W/ft²
6	Allowed Lighting Power Density LPD (from CF-1, Part II)	2.0 W/ft²
7	Allowed Tailored LPD (line 5 or WS-6B)	2.0 W/ft²

Installed Lighting Schedule

A	B	C	D	E	F
Luminaire Reference Code	Reference in Construction Documents	Luminaire Description	Number of Luminaires	Watts per Luminaire (incl. ballast)	Total Watts
A	1-232	400 WATT HIGH PRESSURE SODIUM WALL PACK	4	270 W	1080 W
Q		400 WATT HIGH PRESSURE SODIUM WALL WASH	2	270 W	540 W
X		60 WATT PAR-20	2	108	216
X1		150 WATT PAR-38 SPOTLIGHT	1	115	115

Page Total: 1951 W
Building Total: 2480 W

EDM Form Revised September 1988

Room Cavity Ratio Worksheet (RCR>=3.5) — WS-5B

ATC-21261 DWG 0013333 07/09
Project Title — Date / Plan Reference
ROCKY CASTLE
Project Name/Address

For Enforcement Agency Use Only

Permit No. ____ Date

Rectangular Spaces

A	B	C	D	E	F
Room Number	IES/IDSA Illuminating Description	Room Length (ft)	Room Width (ft)	Room Area (ft²)	Room Cav. Ratio (RCR) = 2.5/h
	CLINICAL LAB	17.0	9.5	162	5.37

Irregular Shaped Spaces

A	B	C	D	E	F
Room Number	IES/IDSA Illuminating Description	Area (ft²)	Perimeter (ft)	Room Area (ft²)	Room Cav. Ratio (RCR) = 2.5/h
2	LAB	1344	216	6	7.3

EDM Form Revised September 1988 — Page 1 of 1

Tailored LPD Summary and Worksheet

WS-5C

For Environmental Agency Use Only

Project Title: 41-04

Jurisdiction / Agency Name / Address: —

Contractor / Address #: —

Plan / Permit #: —

Date: —

Tailored LPD Summary

1. Water for Illuminance Categories A - E (from below) ..... 5797.57 gpm
2. Water for Illuminance Categories F - [illegible] ..... 5797.57 gpm
3. Total Allowed WCS (line 1 + 2) ..... 5797.57 gpm
4. Consumed Flow Area ..... 2.32 acres
5. Maximum Allowed (1.5 times 3 times 4) ..... 8.7 acres

Illuminance Categories A through E Worksheet

Note: Illuminance Category B does not do work for same reason (see footer) non-residential (Sec. 2-5420(b)(2)(A)"B")

A	B	C	D	E	F	G
Task Illuminance	Task Ability	IES Illuminance Category	Depth (feet) Total	Total Area	Allowed WS	Allowed Water Set
1	OFFICE LAB	E	32.4	140.75	2.6	595.5
2	LAB/HYGIENE (HYDRONIC)	E	7.22	6,494.67	2.6	5,492.2
			39.57	6,635.42		5,797.57

The Illuminance Category E work sheet on the back (only as required by Section 2-5420(b)(2)(A)"B") does not include the Hygiene (Hydronic) or "WHYS IN ONE" areas (per the footnote to "Illuminance" on "WHYS IN ONE" sheet per the footnote to

Page Total: 5,797.57

Balance Total: 5,797.57

Signature: 5,797.57

Date of Submittal: 5,797.57

Page — of —

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ENERGY COMPLIANCE NOTES

- ALL INSULATION MATERIALS SHALL BE LISTED IN THE CHIEF-2 DIRECTORY OF CERTIFIED INSULATION MATERIALS AND BEARING "CONSUMER GUIDE AND DESCRIPTION OF CERTIFIED INSULATION MATERIAL" DATED 1990 OR MORE CURRENT EDITION AS PUBLISHED BY THE BUREAU OF HOME FURNISHINGS, DEPT OF CONSUMER AFF. WALL BATT PLANS SHOWED ARE SHOWN INSTEAD REQUIREMENTS OF SECTION 2-5510(b) T-24, NRC SECTION 1712 & 1713.
- ALL NEW, EXCEPTED OR ALTERED LONGITUDINAL AND TRANSVERSE DOOR JOINTS, CURBS AND FITTING JOINTS SHALL BE SEALED WITH PRESSURE SENSITIVE TAPE OR EASTIC NO POLYMER AIR LOSS.
- ALL NEW, EXPOSED OR ALTERED DUCTS SHALL BE INSULATED WITH R-5 (MINIMUM INSULATION NO 2-5.0 MINIMUM. GREATER ENCLOSURE. INSTALLATION OF DUCTS SHALL COMPLY WITH SECTION 1003 OF THE UNIFORM MECHANICAL CODE.
- THE OWNER SHALL BE PROVIDED WITH MAINTENANCE AND OPERATING INFORMATION FOR ALL EQUIPMENT WHICH REQUIRES PREVENTIVE MAINTENANCE FOR EFFICIENT OPERATION.
- THE HVAC SYSTEM SHALL HAVE INSTALLED OR BE CONNECTED TO A HVAC MANAGEMENT CONSOLE SYSTEM WHICH INCORPORATES A 7-DAY TIME CLOCK TO SUPPORT AUTOMATIC CONTROL SCHEDULE.
- THERMOSTAT SHALL POSSESS THE FOLLOWING FEATURES: SETBACK AND SHUTOFF STATS TO AUTOMATICALLY REDUCE ENERGY FOR HEATING OF NON USE; RANGE WILL BE 55 DEGREES F TO 85 DEGREES F; HEATING AND COOLING SPECIFICATIONS GRAD BAND RANGE SHALL BE AT LEAST 10 DEGREES; THE HOURS SHALL BE FIXED TO TERMINATE ALL SYSTEM AT ONE HOUR THAN 30 DEGREES F AND ALL COOLING AT NOT LESS THAN 78 DEGREES F (A LOCKING THERMOSTAT COVER WILL ACCOMPLISH THIS).
- AT LEAST ONE AUTOMATIC TEMPERATURE CONTROL DEVICE SHALL BE INSTALLED FOR EACH ZONE.
- ALL TAN SYSTEMS EXHAUSTING AIR FROM THE BUILDING EVIDENCE TO SEE SYSTEMS SHALL BE PROVIDED WITH BACKDRAFT DAMPERS OR AUTOMATIC DAMPERS INSTALLED TO PREVENT AIR LEAKAGE.
- ALL 3-WAY FIXTURES LOCATED WITHIN 15' OF A SPECIAL FIXTURE IN THE SAME ROOM SHALL BE LABELED STATE.

WM. JAY HAMMOND
Civil Engineer
8310 THORNTON AVENUE
NEWARK, CA 94560
415/791-0587

1 of 4

job no. 0861

date 9-1-89

STRUCTURAL CALCULATIONS

JOB: GTE CONSTRUCTION SYSTEMS
BUILDING #1
100 FERGUSON DR.
MOUNTAIN VIEW, CA 94039

Berlin Project By:

job no.

REGISTERED PROFESSIONAL ENGINEER
No. CIV 18960
Exp. 12-31-92
CIVIL
STATE OF CALIFORNIA

0861
E SPF

BEAM - SAPEWOOD DSL 1500 # SQ"

b = 6.0 ft
w = 60.0 pcf
P = 60.0(6.0 / 2) = 180 lbs

M = 180.0(4.0) - (60.0(4.0) (4.0 / 2)) = 0.6 k-ft

fb = M (12.0K) / W = 782 psi
Fv = 24 psi

Deflection = 0.1364 in. - L / 614

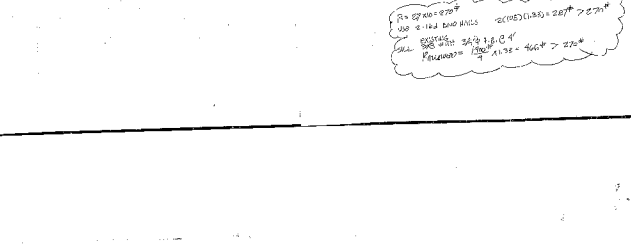
STAMP - PONDEROSA DSL 4324

L = 10.0 ft
w = 240.0 plf
R = 240.0(10.0 / 2) = 2400 lbs

M = 240.0(10.0) - (240.0(10.0) (10.0 / 2)) = 12.0 k-ft

fb = 12(12K) / 182 = 1426 psi
Fv = 69 psi

Deflection = 0.7401 in. - L / 180



6561
3 of

• 1671 ft² roof weight 2449 psf = 1.5
Weatherproof = 1.75
Deck = 0.5
7.8 psf use 8.0 psf

• check existing roof ft/ft

roof roof weight
w = 8.0 psf + 4 x 8 = 220 plf

M = 220 x 20²/8 = 156 ft-k

f_b = 156 x 12000/2.4 = 1579 psi ∴ F_b = 1800 psi > 1579 psi

F_v = 1.6 x 2/2 x (6 x 1.5)/2.4 = 7.2 psi

$\Delta = \frac{5wL^4}{384EI} = \frac{5 \times 0.22 \times 20^4}{384 \times 1600 \times 2.4} = 0.60" = \frac{L}{400}$ acceptable

• check existing roof/wall 15 ft/ft x 12 ft = 180 ft² roof/wall

roof roof/wall tributary area = 180 ft²

w = 18 x 2.5 ft + 1.5 = 48.2 plf roof/wall

P_w = 50 x 8 x 3.9 = 1560 lb

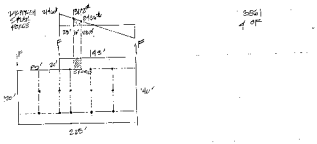
P_r = (20 ft - 4 ft)/2 x (0.4 x 8) x 15 psf = 384 lb

f_b = 1560 x 12000/2935 = 2705 psi

F_b = 1.6 x 0.96 x (20 - 2.9)/4.0 = 11 ksi

$\Delta = \frac{23.3 \times 0.22 \times 20^4}{384 \times 1600 \times 2.4} = 0.08" = \frac{L}{250}$ existing 2" x 4" deck acceptable

6561
4 of



roof/wall dead load: 0.16 x (220 plf + 48.2 plf) = 56.0 x 10³ lb — overhead
roof live: 15 psf (2.5 x 20) = 750 lb

check roof: 56.0 x 10³ / 8 x 1.96 = 3.6 psi use 4000 psi concrete

check overhead:

F_b = 3.6 x 4.0 = 14.4 psi
f_b = 48.2/4.0 = 12 psi
f_b = 0.7 x 28.5 = 19.9 psi
F_b = 0.6 x 28.5 = 17.1 psi
F_b = 1.6 x 0.7 x 0.6 x 28.5 = 19.9 psi
overhead = 3.6 psi
F_b = 0.4 x 20 = 18.0 psi use STRUT STRUT (2.5 x 1.5 = 3.75 in²)

f_b = 0.4 x 20 = 18.0 psi
f_{bx} = 3.6 x 14/2 = 18 psi
f_{by} = 3.6 x 20/2 = 36 psi

GTE

Western Division
GTE Government Systems Corporation
100 Ferguson Drive
P.O. Box 7188 Bldg. 3200
Mountain View, CA 94039
(415) 966-4245

September 12, 1989

City of Mountain View
444 Castro Street
P. O. Box 7540
Mountain View, CA 94039

Reference: Plan Check #89-253
Building Department Comments

Attention: Ron Geary

Dear Mr. Geary:
The following are our responses to the above referenced comments of your letter dated September 8, 1989 PC #89-253.

1. Included, please find the required cut sheets on the new equipment to be installed inside Environment Test Lab.

2. Please refer to notes and legend on print #3 of 10, to distinguish between the new and existing construction.

3. There are existing sprinklers throughout the project area and these are going to stay as is. Additional sprinklers are incorporated in the office area as shown clouded on Sheet 2 of 10. The temperature chamber (oven) and the other equipment do not need sprinklers.

4. The new Environment Test Lab will be used to conduct variety of tests on electronic equipment assemblies. The assemblies will undergo a variation in temperature, duly monitored for its performance and reliability when shaken under variable degrees of vibration. Due to the nature of this process, this project is also named SIGNAL AND TONE project.
5. Fumes are expected to be generated during the test process. However, an exhaust blower is employed to vent down the Stoker machine enclosure.

We hope this will satisfy your comments. Still, should you have a question please feel free to call me at (415) 966-4245.

Sincerely,

Jule Kalira, Facilities Project Engineer
Agent of GTE Corporation

CITY OF MOUNTAIN VIEW

Building Inspection
415-966-6313
9-8-89
CTE/GOVERNMENT SYSTEMS
500 FERGUSON DR.
MOUNTAIN VIEW, CA. 94039

PLAN CHECK FOR 500 FERGUSON
PLAN CHECK NO. 89-253

Dear CTE,

READ THIS LETTER CAREFULLY:

Your application for a permit for the referenced address, together with the plans, specifications and calculations, has been examined. The project is described as Type VN construction, B occupancy in a 3B, one story. You are advised that the issuance of a permit is withheld for weights indicated hereon.

Please make corrections on the original tracings in such a way as to distinguish them from the approved portions of the drawings. This may be done by placing a line around the area number nearby or replacing with a numbered revision. This can be only - the margin of this letter or a separate letter identifying the Sheet Number where the item was corrected. Include the following when resubmitting the corrected plans:

A. 2 sets of new plans. All check and attachment must be bound. Have smaller sheets over the larger sheets over the larger sheets. If this is not done, your plans will be returned to you for assembly into complete sets prior to review, causing additional delay.

B. Are specified p.v. check computations. This correction letter will not be accepted as a supplement to the plans. Do not re-make statements and notes on the plans to answer the corrections listed in this letter.

C. All copies of the plans originally submitted, especially those checked and stamped by the original Plan Checker. A fee of $10 per hour (minimum 1/2 hour) may be assessed for the reworking of the applications.

D. Energy calculations if required elsewhere in this letter. Construction permits will not be issued until all aspects of the project are approved.

Applications, where no action is taken by the applicant within 180 days of submittal and no building permit is issued, are expired. The approval of plans and specifications as submitted may not be construed to permit the violations of any section of the Building Code or other City ordinances or State law found during construction.

The Plan Checker will be available to answer questions in person or by telephone between the hours of 8 a.m. to 9 a.m. and 4 p.m. to 5 p.m. Limiting contact to these times helps us ensure fast turnaround times for everyone.

Thank you for your cooperation.

Don Coury
Building Official

KCrosl

Enclosures

cc: File, PW, Planning, Recheck, DEV

PLANS RETURNED FROM A RECHECK

RECHECK DATE:

Corrections were not complete. Made changes as described next to the items circled in the original letter

Corrections signed off with an initial are approved.

Resubmit for review and approval as below in A through D, above. Allow a minimum of five working days, after which you may call (415) 965-6569 for information on its status. This is a 24-hour number and may be reached at any time. For further information or questions you may reach the Building Department between 8 a.m. through 5 p.m. at (415) 866-6213.

P.C. 891253

BUILDING DEPARTMENT COMMENTS:

1. Supply cut sheets on all of the equipment in the new area.

2. What area is new construction and what is existing? Indicate these areas on the floor plan.

3. Is this a sprinkled area? Are the ovens and cubicles to be sprinkled?

4. What type of process is being do in this area? Are any type of fumes being produced and exhausted?

GTE
Quotation 108886
October 19, 1988

THERMOTRON (OVEN)

SPECIFICATIONS

PERFORMANCE

TEMPERATURE RANGE:	-73°C to +177°C (-100°F to +350°F)
TEMPERATURE CONTROL:	±1°C from control point after stabilization of the control sensor at steady state conditions.
TRANSITION RATES:	heating and cooling (with up to 2,000 pound product mass load) 10°C per minute minimum average air temperature change rate in the temperature range of +80°C to -65°C.
LIVE LOAD CAPACITY:	5 K.W. at -65°C and above.

CONDITIONING EQUIPMENT

REFRIGERATION SIZE:	(3) 60 HP cascade systems
AIRFLOW:	Approximately 7800 CFM
HEATING CAPACITY:	Approximately 100 KW

SIZE

DIMENSIONS:	
WORKSPACE:	68" wide X 60" deep X 96" high, with Shaker in Horizontal mode and 66" high when shaker is in vertical mode.
CHAMBER EXTERIOR:	Approximately 7' wide X 7' deep X 8' high
MACHINE SECTIONS:	(3) 22h 8' high X 4' wide X 8' long
CONSOLE	6' high X 2' wide X 2'deep
CHAMBER DOORS:	(1) full opening hinged door and (1) full opening sliding door.

APPROXIMATE WEIGHTS

CHAMBER:	12,000 pounds (Chamber Box only = 9,000 lbs)
MACHINE SECTIONS:	(3) 4,000 pounds each
INSTRUMENT CONSOLE:	300 pounds

Form No. 73-820 Printed in U.S.A.

SHAKER

Ms. Brenda Moore,
GTE Government Systems Corporation

October 20, 1988
Page 2

74080 Shaker

The Shaker Model 24060 is our largest with ratings up to 45,000 pounds force. Features are:

- 24 inch table outer bolt circle and 48 load attaching points
- 4 linear armature guidance bearings
- Automatic table load support
- IMPROVED-RING Design and reliability
- Armature axial resonant frequency above 2000 Hz
- 1-3/4 inches between stroke limiting stops
- See enclosure 3

7A245 Power Amplifier

The amplifier has proven reliability from continuous improvements based on field experience since 1985. It is of linear class AB design for low dissipation and efficient water cooling as summarized on enclosures 5 and 6.

Included in the SRP-3 Sine Random Protection System allowing front panel settable upper release of output voltage and current and a shock free reduction of excitation if user adjustable and normal rated factory use working limits are exceeded. See enclosure 7.

The amplifier and shaker operation is expandable to 55,000 pounds sine and random.

System Performance

System ratings are summarized on enclosures 8 and 9. The random ratings listed are based on 1000 pounds shaker table load or more and with a flat g/Hz spectrum from 20 to 2000 Hz.

Slip Table Assembly

Two slip table assemblies are offered: namely, the CSTA400U-42-22-6X3 of U-M manufacture, and the alternate TEAM82.360/1000C of TEAM manufacture.

CSTA400U-42-22-6X3 (U-M Design)

The features of this unit are:

1. Complete responsibility of shaker system-slip table assembly by Unholtz-Dickie
2. Integrated shaker-slip table operation at Unholtz-Dickie factory prior to shipment to GTE.
3. Designed exclusively for the T4800.
4. The proposed slip table is tailored to your specification of 42 x 22 inches and supplies 2 inches thick.
5. The estimated weights are:

For Horizontal:

Slip plate ---------	375
CTS insulation -----	130
CS drive bar -------	90 - increased to 150 lbs @ Design Review
T4800 armature -----	250
Total moving weight-	845 pounds

For Vertical:

Head expander with Slip ----------	415
T4800 armature -----	250
Total moving weight-	765 pounds

The item under test and its fixture weight must be added to these weights.

Return = (915 + 1300) x 2 g = 14,805 — 7305 / 14,805 = 68%

6. The weight of the shaker and slip table assembly is approximately 53,000 pounds.
7. The force/weight ratio for full T4800 rating of 45,000 pounds is 45,000/53,000 pounds corresponding to 0.85. Ideally this means the base acceleration under full force operation would be 0.85 g. In actual operation, the acceleration is more than this calculation indicated for several reasons.
8. The U-M design has shifted the overall C.G. close to the vertical thrust axis. The vibration isolation air mounts under the base are located to give a maximum elastic center closer to the vertical thrust axis. The result is reduced base pitching at low frequencies when the shaker is driving large weights vertically.
9. Six peripheral Torrington bearings are proposed to give lateral and vertical guidance to the slip plate. See enclosures 10 and 11.
10. Mobility of the base is proposed using "air sliders". We believe this is a preferred approach for an assembly weighing approximately 53,000 pounds.
11. Dimensional data on the U-M design is given on Drawing D27439.

TEAM82.360/T4800 (TEAM Design) No

Description information on this unit is given on enclosure 12. TEAM indicated the following to us:

- Slip table work-area (standard size) 60 x 60 x 2
- Slip table weight 563 pounds — Too Heavy, we STD
- 60 x 60 x 1/2 G-10 thermal insulation - 137 pounds
- T4080 drive adapter - 130 pounds

- Cover-all approximate dimensions (inches):

Base width	64
Base length	128
Slip plate above floor approximately	34
Shaker vertical to-top of head expander	64.5
Base (less shaker) weight	15,000 pounds

Model 480A8 Digital Vibration Control System

Descriptive information is given in the following

- Enclosure 13 gives information on the random, sine and shock configurations
- Enclosure 14 gives specifications on the random control
- Enclosure 15 gives specifications on the sine control
- Enclosure 16 shows the spectrum generated by the 480A8/M corresponding to MIL-STD-810C method 514.3 Proc. I, Cat 4, Fig 514.3 - 25(a)

Optical Controls

Yes PAS-100 - Enclosure 17 illustrates the PAS-100 System Sequencer. It cycles the system through the several start-up modes with proper time delays, etc. to the "operate" mode. Power up and down results from an external isolated relay contact programmable part of a thermal chamber control. The PAS-100 signals the external control that the system is on line and ready for the vibration driving signal.

Yes AM-121 - The Vibration Monitor Simulator, enclosure 18, is useable on sine or random and can be set for a maximum level on displacement or acceleration which if reached causes the termination of vibration with a controlled reduction of amplitude. It can see 128 non-monitoring accelerometer, thereby giving limiting independently of the system controls.

MISCELLANEOUS

1. In the quotation, either item 3 or 4a alternate Item 3a should be selected.
2. We have contacted Mr. Leon Kragt at Thermotron, Holland, Michigan. He has discussions of the larger horizontal slip table and base assembly, Item 3. He has agreed that Thermotron can interface with the base assembly with a temperature chamber giving adjustable he GTE as required for the horizontal and vertical loading surfaces. He also agreed that movement of the chamber from horizontal to vertical shaker configuration might be more convenient than moving a 53,000 pound shaker/slip table assembly. Our price in the quotation is based on "Air Slides" mobility of the shaker assembly. Some savings in Item 3 of the quotation might be realized if Thermotron provides mobility of the chamber.
3. In reference to spare parts, we expect 10% of the item cost will provide a supply of items most likely to be required in the year following the first year which is covered by our warranty.
4. Utilities required under worst full rated operating conditions: @ 28,000 Hz

Electrical 480 volts, 3φ, 60 Hz

Amps: Console	500
Cooling Chamber	74 KVA
Shaker Blower	20 KVA
	433 KVA

Water

45 gpm at 28°F cooling tower water
32 gpm at 60°F cooling tower water

Heat added to cooling water

150 BTU during worst full rated operating conditions

FINDINGS REPORT/ZONING PERMIT

APPLICATION NO.: 131-89-AR

DATE OF FINDINGS: June 23, 1989

THIS REPORT IS SUBMITTED IN ACCORDANCE WITH THE PROVISIONS OF THE ZONING ORDINANCE

Applicant's Name:

Ingracio S. DeLeon for GTE Government Systems

Street Address of Property: Zone:

169 Ferguson Drive MK

Request:

Request for Site Plan and Architectural Review approval to construct an 8" high stucco parapet, 340 square feet in area, on top of an existing industrial building.

APPROVED X CONDITIONALLY APPROVED ___ DISAPPROVED ___ CONTINUED ___ OTHER ___

CONDITIONS OR COMMENTS

Since the proposed parapet will have minor visible impact as proposed, this item is approved.

1. This approval expires in one year unless building permits have been obtained. To apply for Building permits, submit two sets of plans along with a copy of the Findings Report.

NOTE: SPAR decisions may be appealed to the City Council through the City Clerk within 10 working days of the date of the findings. No permits may be issued or occupancy authorized during this appeal period.

LESLIE W. GOULD, ZONING ADMINISTRATOR

By: Kate Black
Deputy Zoning Administrator

KB-LWG/ZZC
243-0297L1

BUILDING PERMIT FEE APPLICATION

169 FERGUSON — BP 1653

BUILDING ADDRESS — DCI

CONSTRUCT TAX	BUILD.	PLAN CHK.	ZONING PLAN CHK.	M.PLEN	TOTAL

BUILDING PERMIT

Const. type: NC-SMR Occ. group: B2 Lane Appl? Y/N Value: SEE BELOW
Units: # St. 1 Hgt. (ft.): Sq. ft.: 340
Fire Sep: City By-Law # Plan sheets: 3 Use code: 3341 Stats: Non
Main Description: REST. LAB - COMPUT. TEST

PLUMBING FEES

Late Application? Y/N
Sew. Sewerlat
Vacuum Breaker(s) 3
Gasmains SYS./FD
Ind. Waste SYS.
Fee Inspection (Fire)
Other

Fixtures
Rainwater drains
Gas outlets
Water Cisterns(s)
Plan check Y/S
TOTAL FEE

ELECTRIC FEES

Commercial (sq. ft.) 7320 ft²
Residential (sq.ft.)
Fan/Dishwsh/Disp/Wood
Swim Pools Outdoor
Service Upgrd. (AMPS) Overhead
Serv.Reg/Service Y/N
Heating Dev. (units)
J Hdl. Meters
Signs under 20 ft.
Fee Inspection (hrs.)

Late Application? Y/N
Bmp/Rgrr/WH/Rooftop
Light Poles
Service Change N/C
Motors (units) 0
Transformers (units)
Plan Check Y/N
Signs over 20 ft.
Apartments (living unit)
PERMIT TOTALS

MECHANICAL FEES

Late Application? Y/N
Rect 1%
Fwrs(100k BTU/less)
A.C. (5 tons/less)
Plan Check Y/N
Boiler (perm.design)
Ex. hood(s)(canopy)
Air handler(s)

Furn (over 100K BTU)
A.C. (over 5 tons)
Ex. hood(s)(vent.)
Vent fan(s)
Other
TOTAL FEE

40 12 52

PW-1-1 (Rev. 7/83) WHITE: Owner; YELLOW: Agent; PINK: File; GREEN: Fire; GOLD: Public Works

GTE GOVERNMENT SYSTEMS

PROJECT

[illegible]

SHEET

[illegible]	[illegible]
1	[illegible]
2	[illegible]
3	[illegible]
4	[illegible]
5	[illegible]
6	[illegible]
7	[illegible]
8	[illegible]
9	[illegible]
10	[illegible]

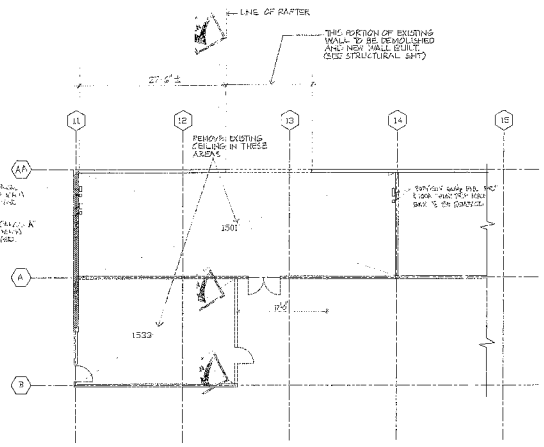
APPROVED
MV Fire Prevention Division
Approval of this plan does not authorize or approve any execution or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.

Revisions Rec'd: B. Bartli 9-13-89

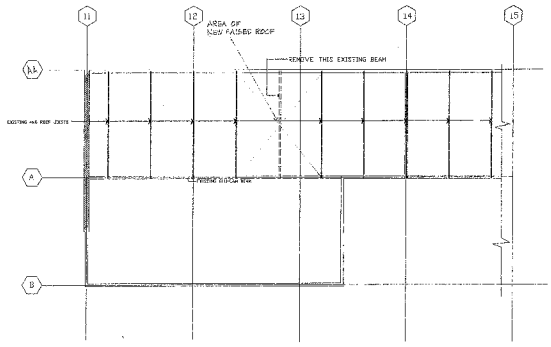
after Sprinkler System as necessary.

APPROVED FOR CONSTRUCTION
SEP 19 1989
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.
PER

100 Ferguson Dr.



DEMOLITION PLAN



PARTIAL ROOF FRAMING PLAN (DEMOLITION)

NOTES AND LEGEND

1. CONTRACTOR SHALL BE RESPONSIBLE IN VERIFYING ALL EXISTING CONDITIONS.

======== EXISTING TO BE REMOVED

NEXT ASSY	USED ON	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES AND TOLERANCES ARE ±1/2 DEG. ANGLES ±1/2 DEG. DIMENSIONS APPLICABLE AFTER FINISH UNLESS OTHERWISE	CONTRACT NUMBER
APPLICATION			PREP / DATE
MATERIALS		DIM. FRAC (.4%)	CHK
		DWG. DECIM (.033)	APVD
		TUBE DECIM (.03%)	APPD
		ANGLES ±	ISSUED
		SURFACE FINISH ✓	WEIGHT/PAGE
		DO NOT SCALE DRAWING COPY	

THIRD ANGLE PROJECTION (ISO)

TRW Government Systems — Electronic Systems, Mountain View, CA 94039

ENVIRONMENTAL TEST LAB
BLDG 1-ROOMS 1501 & 1533

DEMOLITION PLAN

SIZE	FSCM NO.	DWG NO.	REV
D	07997	1-238	

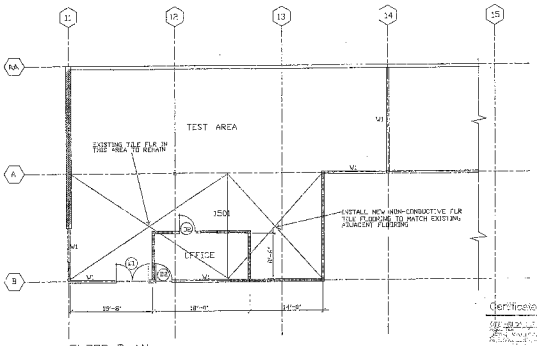
SCALE — SHEET 1 OF 1

Plans and dimensions have been checked against the 24 resources and are correct. 10/21/92

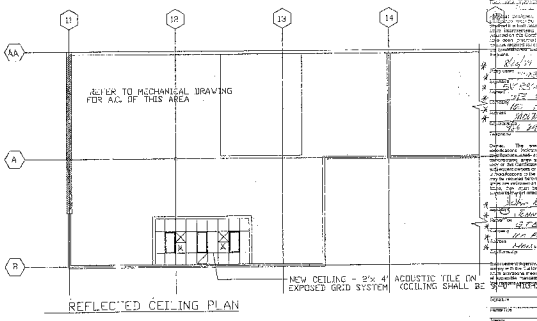
Drawings are drawn to scale — No

Dimensions are drawn to scale — Yes

APPROVED FOR CONSTRUCTION
SEP 8 1993
CITY OF SUNNYVALE
BUILDING & SAFETY DIVISION
PERMIT NO. 93-1



FLOOR PLAN



REFLECTED CEILING PLAN

NOTES AND LEGEND

1. ALL WALLS THAT IS INCLUDED IN THIS WORK (OLD & NEW) SHALL BE PAINTED WITH 'KELLY MOORE' BLANCO #OW2
2. ALL DOOR FRAMES SHALL BE PAINTED WITH 'KELLY MORE' MOCKINGBIRE #Y20-3
3. ALL DOORS SHALL BE PAINTED WITH 'KELLY MOORE' BLANCO #OW2

NEW WALL - 2 LAYERS OF 5/8" TYPE 'X' GYP BD ON EACH SIDE ON 6" METAL STUDS AT 16" O.C. WITH R-19 INSULATION. PARTITION SHALL BE TRUE FLOOR TO TRUE CEILING.

W1 EXISTING WALL TO BE UPGRADED. ADD 1 LAYER OF 5/8" TYPE 'X' GYP BD ON 2x4 STUDS AT 16" O.C. WITH R-11 INSULATION (ON INTERIOR SIDE) TRUE FLOOR TO TRUE CEILING.

D1 DOUBLE DOOR - 3'x 7'x 1-3/4" (EACH LEAF) SOLID CORE FLUSH TYPE WOOD DOOR 3/4 HR RATED. PROVIDE AUTOMATIC DOOR CLOSER AND ASTRAGAL.

D2 3'x 7'x 1-3/4" SOLID CORE FLUSH TYPE WOOD DOOR 3/4 HR RATED WITH AUTOMATIC DOOR CLOSER

Certificate of Compliance (Part 1 of 2)

Certificate of Compliance (Part 2 of 2)

Prescriptive Compliance CF-1A

NOTE: THE SUBMITTAL DOCUMENTS THAT PERMITS ARE FOR THE LIGHTING COMPONENT ONLY.

Lighting

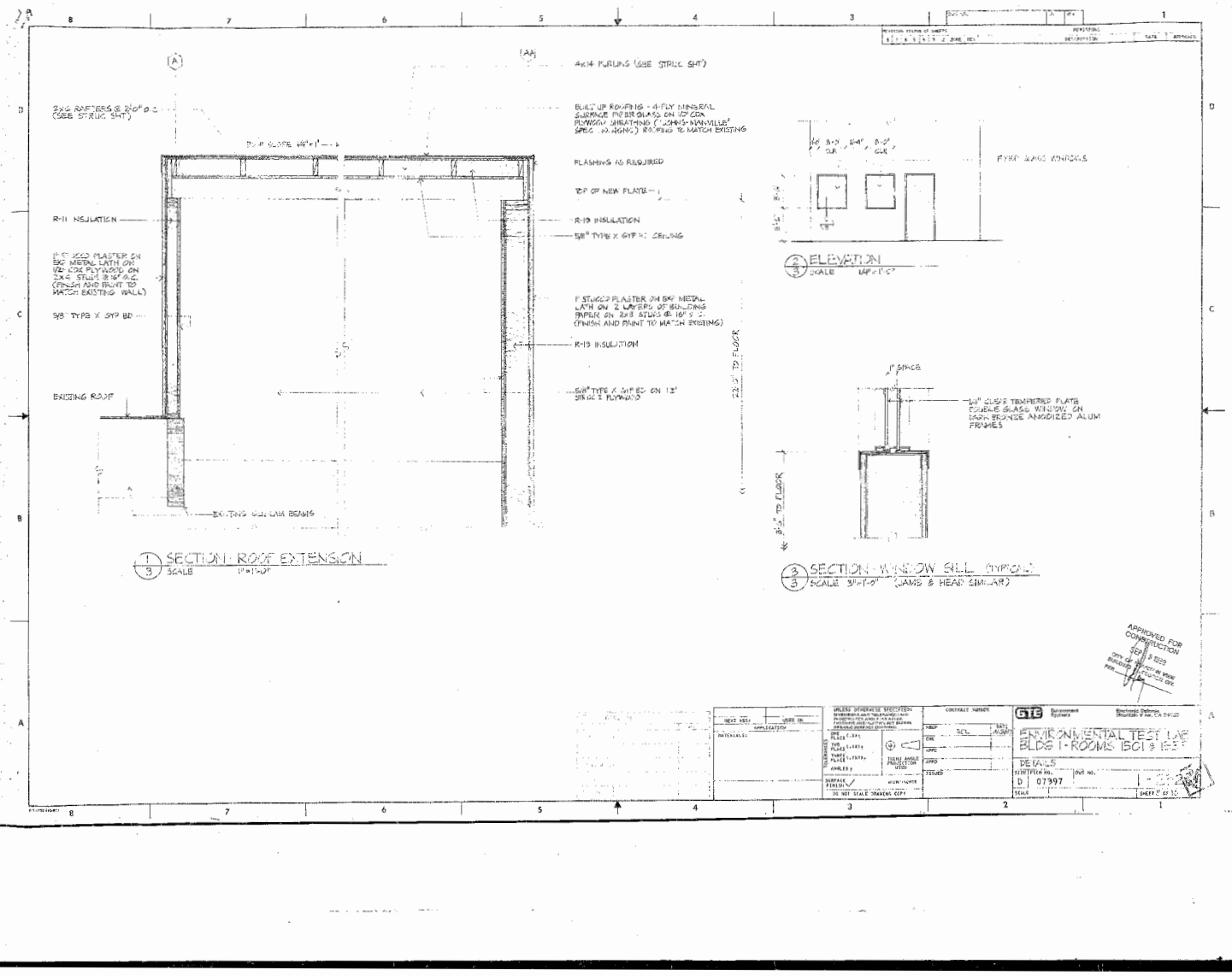
Mechanical

PROVED FOR INSTRUCTION

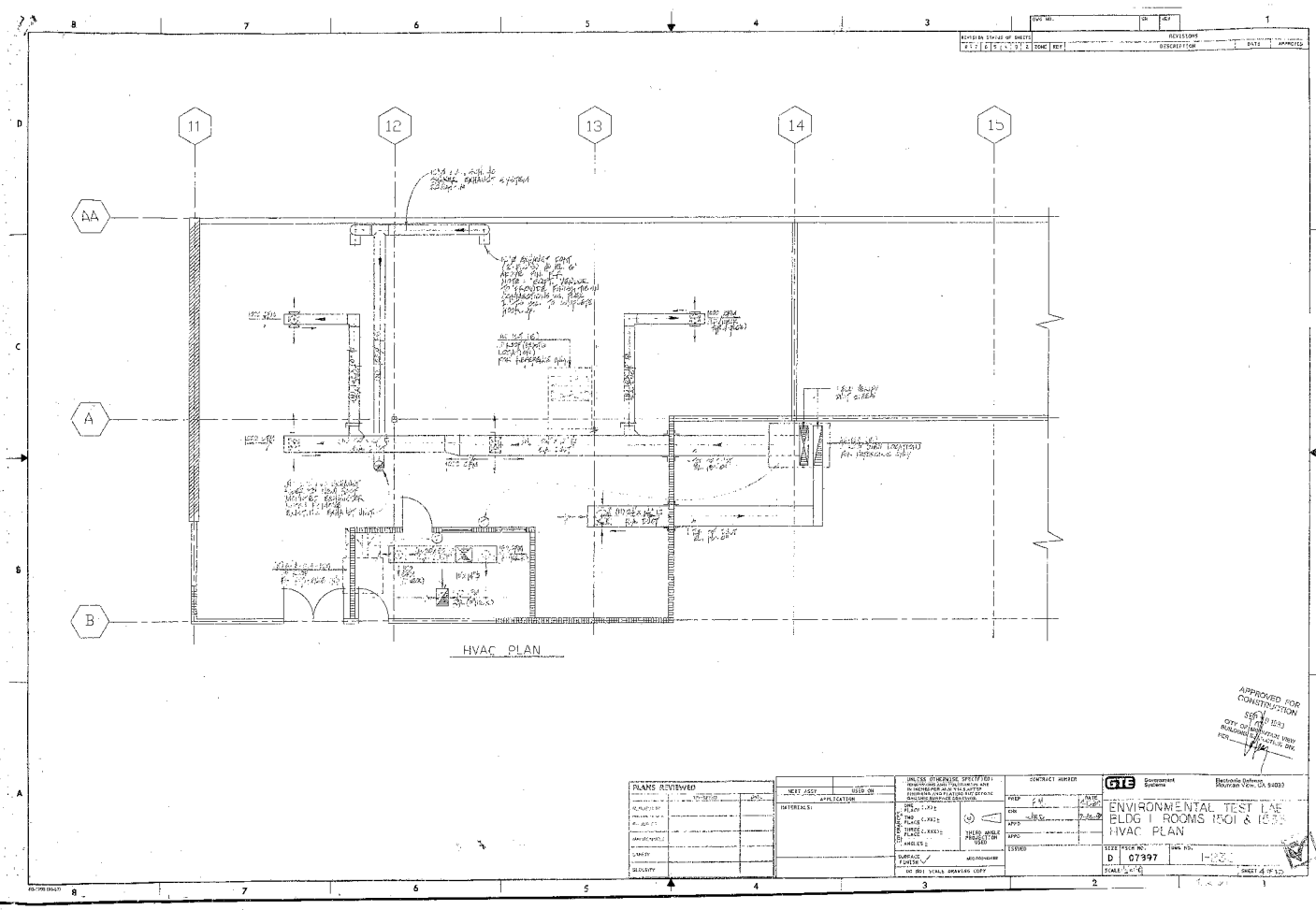
ENVIRONMENTAL TEST LAB
PLDG 1-ROOMS 1501 & 1533

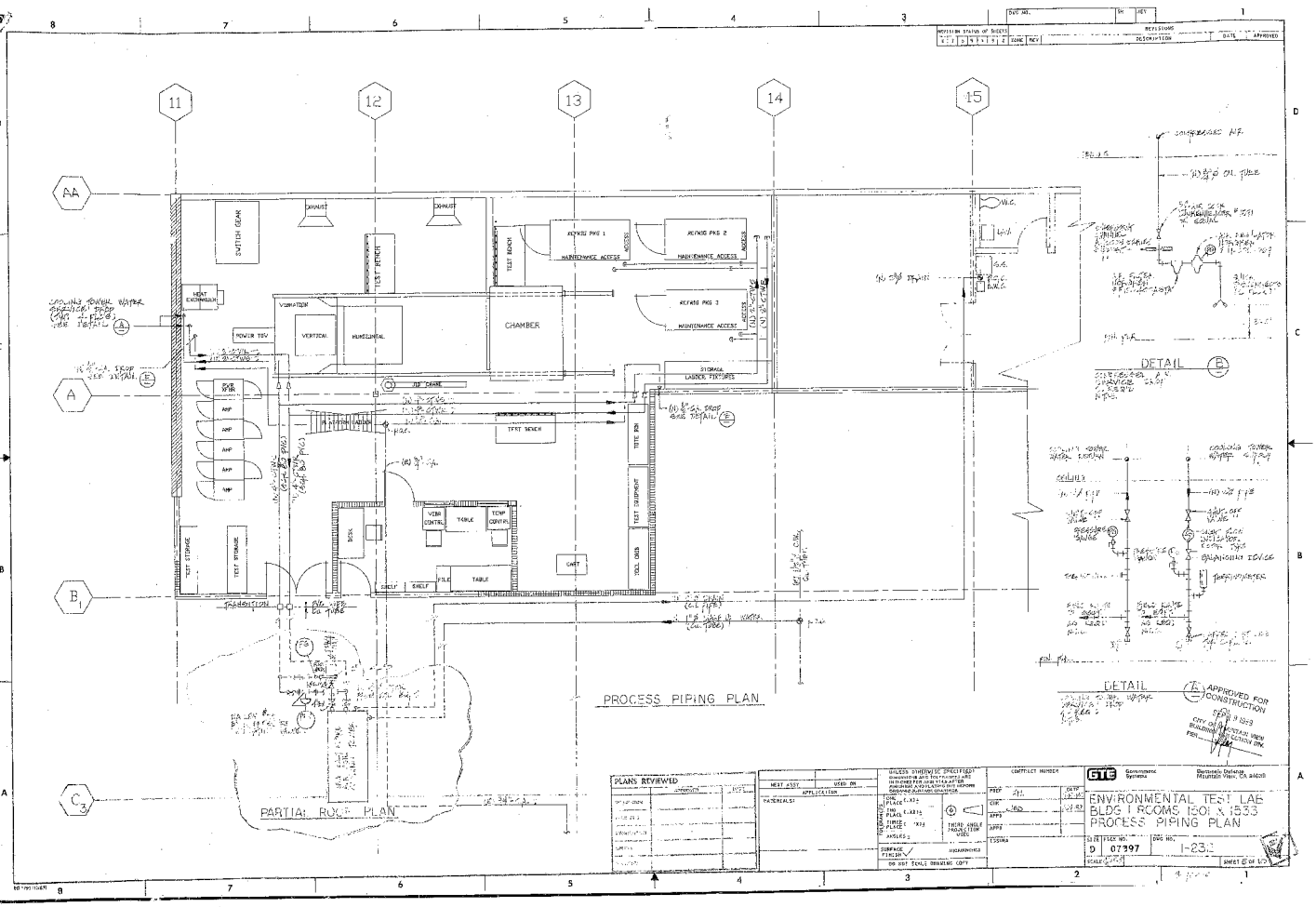
SIZE D | FSCM NO. 07397 | DWG NO. -232

SCALE | SHEET 2 of 10

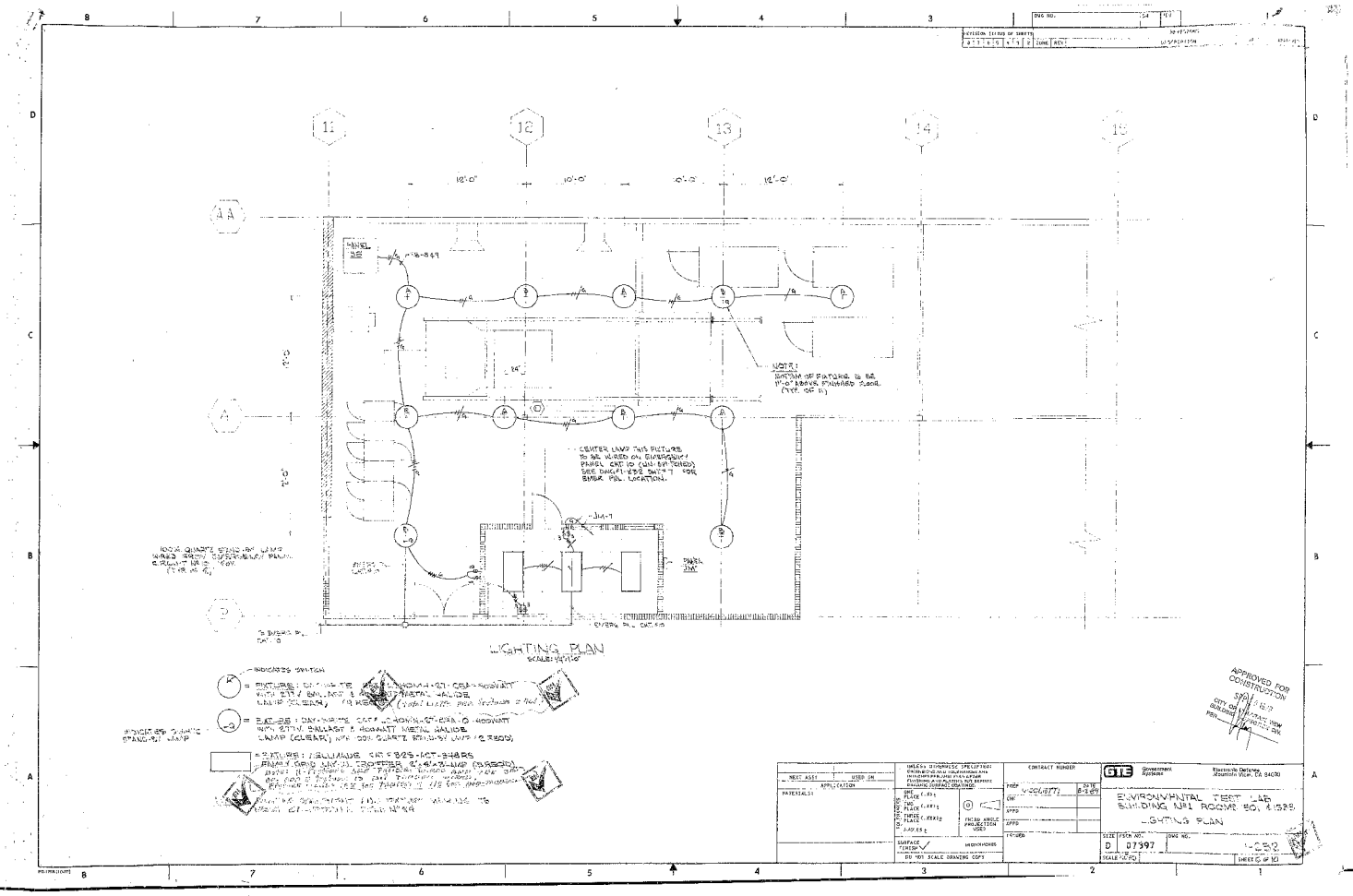


4x14 PURLINS (SEE STRUC SHT)
2x6 RAFTERS @ 2'-0" O.C. (SEE STRUC SHT)
BUILT UP ROOFING - 4-PLY MINERAL SURFACE PIPER GLASS ON 1/2" CDX PLYWOOD SHEATHING ("JOHNS-MANVILLE" SPEC. NO. AGNC) ROOFING TO MATCH EXISTING
FLASHING AS REQUIRED
TOP OF NEW PLATE
R-11 INSULATION
R-19 INSULATION
5/8" TYPE X GYP BD CEILING
1" STUCCO PLASTER ON EXP METAL LATH ON 1/2" CDX PLYWOOD ON 2x4 STUDS @ 16" O.C. (FINISH AND PAINT TO MATCH EXISTING WALL)
5/8" TYPE X GYP BD
1" STUCCO PLASTER ON EXP METAL LATH ON 2 LAYERS OF BUILDING PAPER ON 2x8 STUDS @ 16" O.C. (FINISH AND PAINT TO MATCH EXISTING)
R-19 INSULATION
EXISTING ROOF
5/8" TYPE X GYP BD ON 1/2" STRUC I PLYWOOD
EXISTING GLULAM BEAMS
22'-0" TO FLOOR
1 SECTION - ROOF EXTENSION
3 SCALE 1"=1'-0"
FIXED GLASS WINDOWS
2 ELEVATION
3 SCALE 1/4"=1'-0"
1" SPACE
1/4" CLEAR TEMPERED PLATE DOUBLE GLASS WINDOW ON DARK BRONZE ANODIZED ALUM FRAMES
3'-6" TO FLOOR
3 SECTION - WINDOW SILL (TYPICAL)
3 SCALE 3"=1'-0" (JAMB & HEAD SIMILAR)
APPROVED FOR CONSTRUCTION
SEP 5 1989
GTE Government Systems
Electronic Defense Mountain View, CA 94039
ENVIRONMENTAL TEST LAB
BLDG 1 - ROOMS 15C1 & 15C2
DETAILS
D 07397
SCALE
SHEET 2 OF 10

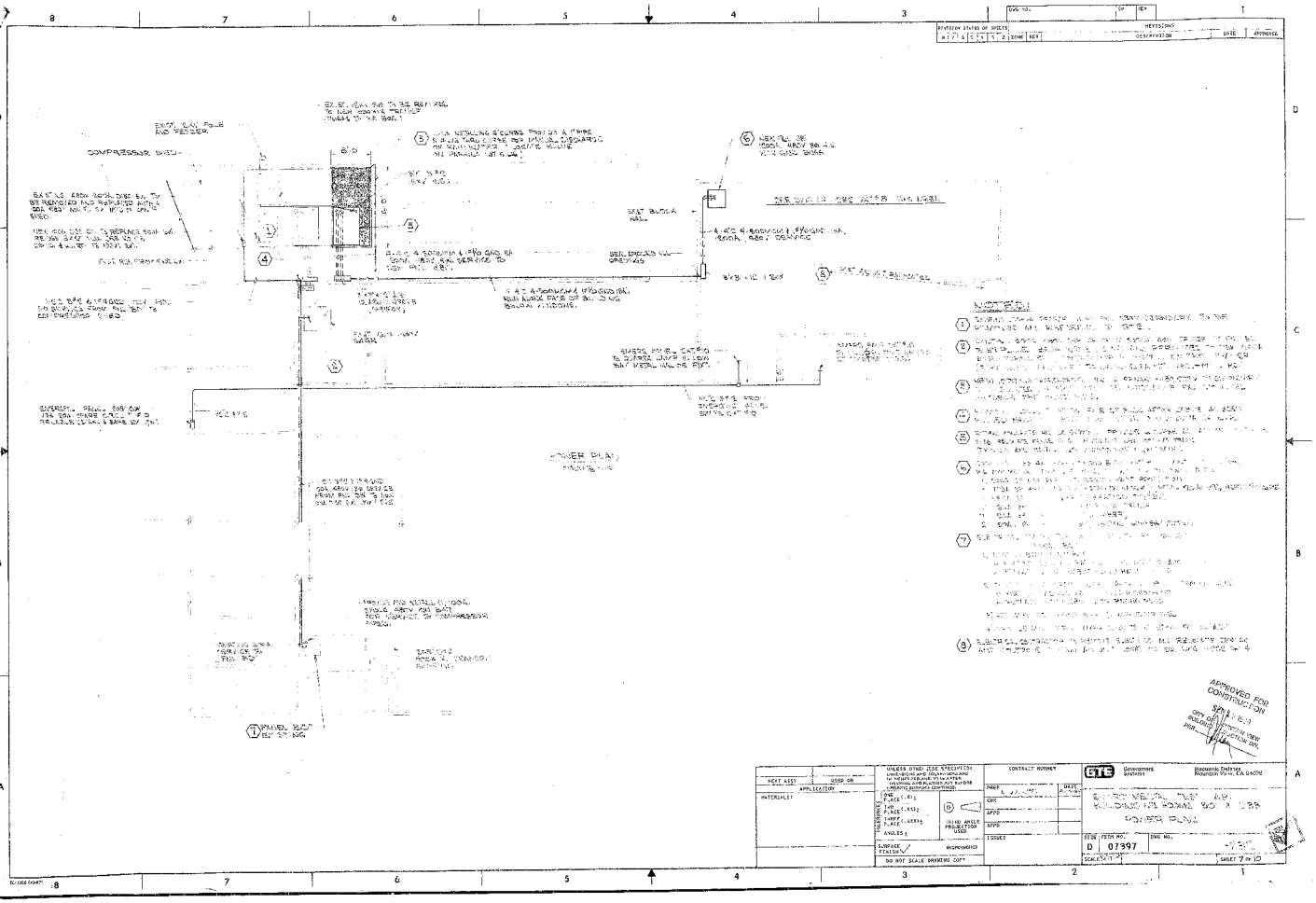

11
12
13
14
15
AA
A
B
HVAC PLAN
APPROVED FOR CONSTRUCTION
PLANS REVIEWED
NEXT ASSY
USED ON
APPLICATION
DO NOT SCALE DRAWING COPY
CONTRACT NUMBER
GTE Government Systems
Electronic Defense
Mountain View, CA 94039
ENVIRONMENTAL TEST LAB
BLDG I ROOMS 1501 & 1535
HVAC PLAN
SIZE
D
07397
SHEET 4 OF 12



11
12
13
14
15
AA
A
B1
C3
SWITCH GEAR
EXHAUST
TEST BENCH
HEAT EXCHANGER
VIBRATION
VERTICAL
HORIZONTAL
POWER TBV
CHAMBER
REFRIG PKG 1
REFRIG PKG 2
REFRIG PKG 3
MAINTENANCE ACCESS
STORAGE
LADDER FIXTURES
TEST BENCH
TOTE PIN
TEST EQUIPMENT
TOOL CRIB
VIBR CONTROL
TABLE
TEMP CONTROL
DISK
SHELF
FILE
CART
TEST STORAGE
TRANSITION
PROCESS PIPING PLAN
PARTIAL ROOF PLAN
DETAIL B
DETAIL A
APPROVED FOR CONSTRUCTION
PLANS REVIEWED
NEXT ASSY
USED ON
APPLICATION
MATERIALS
THIRD ANGLE PROJECTION USED
DO NOT SCALE DRAWING COPY
CONTRACT NUMBER
GTE Government Systems
Bardstown Defense Mountain View, CA 94039
ENVIRONMENTAL TEST LAB
BLDG 1 ROOMS 1501 & 1533
PROCESS PIPING PLAN
SIZE D
FSCM NO. 07397
DWG NO. 1-232
SCALE
SHEET 8 OF 10



LIGHTING PLAN
SCALE: 1/4"=1'-0"
NOTE:
BOTTOM OF FIXTURE TO BE 11'-0" ABOVE FINISHED FLOOR. (TYP. OF 11)
CENTER LAMP THIS FIXTURE TO BE WIRED ON EMERGENCY PANEL CKT 10 (UN-SWITCHED) SEE DWG F1-232 SHT 7 FOR EMER PNL LOCATION.
PANEL JM
PANEL JM
INDICATES SWITCH
FIXTURE: DAY-WHITE CAT # LC-HOWN-27-CEA-0-HOOWATT WITH 277V BALLAST & HOOWATT METAL HALIDE LAMP (CLEAR), (8 REQ'D) (Total Lights per Fixture = 4 lbs)
FIXTURE: DAY-WHITE CAT # LC-HOWN-27-CEA-0-HOOWATT WITH 277V BALLAST & HOOWATT METAL HALIDE LAMP (CLEAR), WITH 100V QUARTZ ROLLING LAMP (2 REQ'D)
FIXTURE: WELLMADE CAT # B25-ACT-SHARS FAMILY GRID MAGNETIC TROFFER 2'x4'x3-LAMP (8 REQ'D)
APPROVED FOR CONSTRUCTION
CITY OF BUILDING
PER
DO NOT SCALE DRAWING COPY
CONTRACT NUMBER
GTE Government Systems
Electronic Defense Jesuitain View, CA 94020
EMIRONMENTAL TEST LAB
BUILDING No1 ROOMS 50, 41528
LIGHTING PLAN
SIZE D
FSCM NO. 07397
DWG NO. 1-232
SCALE 1/4"=1'-0"
SHEET 6 OF 10



COMPRESSOR SHED
POWER PLAN
NOTES:
APPROVED FOR CONSTRUCTION
GTE Government Systems
Electronic Defense
Mountain View, CA 94039
POWER PLAN
D 07397
SHEET 7 OF 10

THE FOLLOWING REPORT CONTAINS THE TITLE 24 ANALYSIS

FOR

BUILDING 3, LIBRARY MODIFICATION

MOUNTAIN VIEW, CALIFORNIA

ECS JOB NUMBER: 20188

APPROVED FOR CONSTRUCTION

MAY 20 1988

CITY OF MOUNTAIN VIEW, CALIF.

PERMIT NO.

PREPARED TO

GTE

MAY 12, 1988

ENERGY COMPLIANCE SYSTEMS INC.

(408) 244-1220
SAN JOSE

(415) 521-0856
SAN FRANCISCO

COMPLIANCE WITH THE CALIFORNIA ENERGY COMMISSION
1985 NON-RESIDENTIAL REGULATIONS (2ND GENERATION)

MAY 12, 1988

DEAR BUILDING OFFICIAL:

THE FOLLOWING FORMS AND CALCULATIONS HAVE BEEN PREPARED BY:

ENERGY COMPLIANCE SYSTEMS, INC.
2281 HEMLOCK AVENUE, SUITE 2
SAN JOSE, CA 95128

(408) 244-1220

PLEASE BE ADVISED THAT ENERGY COMPLIANCE SYSTEMS, INC. CANNOT BE HELD RESPONSIBLE FOR ANY DISCREPANCIES BETWEEN THESE FORMS AND CALCULATIONS PREPARED BY ENERGY COMPLIANCE SYSTEMS, INC. AND THE ACCOMPANYING DRAWINGS, UNLESS THE ACCOMPANYING DRAWINGS ARE STAMPED AS FOLLOWS:

ENERGY COMPLIANCE SYSTEMS, INC.

IF YOU HAVE ANY QUESTIONS PLEASE CALL.

SINCERELY,

CHRIS CHILDERS
FOR ENERGY COMPLIANCE SYSTEMS, INC.

288 HEMLOCK AVENUE, SUITE 2, SAN JOSE, CALIFORNIA 95128-5199

BUILDING 3, LIBRARY MODIFICATIONS
ECS JOB NUMBER: 20188

TABLE OF CONTENTS

THE 1985 NONRESIDENTIAL OFFICE REGULATIONS
(2ND GENERATION STANDARDS)

PRESCRIPTIVE PACKAGE A

COMPLIANCE FORMS

1) NOTICE OF INCOME

2) CF-1, certificate of compliance, pgs. 1 & 2.

3) MF-1, mandatory features checklist.

4) CF-3, lighting summary.

NOTICE: PLEASE READ

Dear Contractor,

Please refer to our EN-1 sheet which contains the certificate of compliance and mandatory measures checklist. Have the responsible professional and the building owner sign off on the CF-1. It will be the responsibility of each specialty contractor to fill in reference spaces checked on the MF-1. Do likewise to CF-1 and MF-1 in energy compliance packages.

DISCLAIMER:

If your energy compliance documentation contains HVAC sizing calculations, you are hereby informed that these calculations are for compliance purposes only, according to the energy standards in effect at the date of this report.

Energy Compliance Systems Inc., cannot be held responsible for any HVAC equipment installed based on the State of California Energy Commission's building and appliance Regulations, or other state energy compliance programs that produce HVAC calculations based on C.E.C. regional climate zone data in local default values. It is the responsibility of the owner and contractor to verify size and type of equipment prior to installation, or request Energy Compliance Systems Inc. to produce HVAC sizing calculations for your equipment for actual design conditions and actual occupancy of the building.

Certificate of Compliance (Part 1 of 2) CF-1

For Enforcement Agency Use Only

Project Title: BLDG 2 LIBRARY MODIFICATIONS (3083)

Project Architect/Engineer: GTE — Building Permit Number

Project Location: MOUNTAIN VIEW CA — Climate Zone: 4 — City/Town

Documentation Author: Energy Compliance Systems — Date: 5-7-88

Plan Checked By — Date — Field Checked By — Date — Signature and Registration Stamp — Approved By — Date

Prescriptive Approach/Performance Approach Strategy LIGHTING ONLY

2ND GENERATION OFFICE CRIT.

General

1. CEC Occupancy Type . . . . LIBRARIES
2. UBC Occupancy Group/Division B2
3. Package Selected . . . . A
4. Gross Conditioned Floor Area . . . . . 3211 ft²

Roof and Floors

5. Proposed Roof/Ceiling R (CF-2, CF-3) . . . N/A hr-F-ft²/Btu
6. Required Roof/Ceiling R (CF-2) . . . . . hr-F-ft²/Btu
7. Proposed Exterior Floor R (CF-2, CF-3) . . . hr-F-ft²/Btu
8. Required Exterior Floor R (CF-2) . . . . hr-F-ft²/Btu

Walls

9. Proposed Opaque Wall R (CF-2, CF-3) . . . hr-F-ft²/Btu
10. Wall Heat Capacity (CF-3) . . . . . Btu/F-ft²
11. Required Opaque Wall R (CF-2) . . . . hr-F-ft²/Btu

Glazing in Walls

12. Exterior Wall Area (CF-2) . . . . . . ft²
13. Total Glazing Area (CF-2) . . . . . . ft²
14. Proposed Total Percent (Line 13 / Line 12) . . %
15. Average Total SC (CF-2) . . . . . .
16. Allowed Total Glazing Percent . . . . . %
17. West Exterior Wall Area (CF-2) . . . . . ft²
18. West Glazing Area (CF-2) . . . . . . ft²
19. Proposed West Percent (CF-2) . . . . . %
20. Average West SC (CF-2) . . . . . .
21. Allowed West Glazing Percent . . . . . %

Glazing in Roof (CF-6) — Proposed — Allowed

22. Skylight 1 . . . . NO — NO ft²
23. Skylight 2 . . . . ft²
24. Skylight 3 . . . . ft²
25. Skylight 4 . . . . ft²
26. Skylight 5 . . . . ft²
27. Skylight 6 . . . . ft²
28. Skylight 7 . . . . ft²
29. Skylight 8 . . . . ft²

Lighting (See Part 2 for Additional Performance Specifications)

30. Proposed Adjusted LPD (CF-5) . . . . 1.44 Watts/ft²
31. Allowed LPD (CF-5) . . . . 1.52 Watts/ft²

HVAC (See Part 2 for Additional Performance Specifications)

32. Performance Set Selected . . . . . . N/A
33. Proposed Fan Wattage Index (CF-4) . . . Watts/ft²
34. Allowed Fan Wattage Index . . . . . . Watts/ft²
35. Proposed Cooling Power Index (CF-4) . . . Btu/h/ft²
36. Allowed Cooling Power Index . . . . . Btu/h/ft²
37. Proposed Heating Power Index (CF-4) . . . Btu/h/ft²
38. Allowed Heating Power Index . . . . . Btu/h/ft²

Performance Approach

Energy Budget

1. CEC Occupancy Type . . . . N/A
2. UBC Occupancy Group/Division . . . . .
3. Conditioned Floor Area . . . . ft²
4. Budget Table . . . .
5. Allowed Energy Budget (WS-A) . . . . . kBtu/yr-ft²

Calculated Annual Energy Consumption

6. Approved Calculation Method . . . . . .
7. CEC Designation . . . .
8. Multiplier . . . .

Estimated Energy Use

9. Heating . . . . kBtu/yr-ft²
10. Cooling . . . . kBtu/yr-ft²
11. Fans . . . . kBtu/yr-ft²
12. Lights . . . . kBtu/yr-ft²
13. Miscellaneous Equipment . . . . . . kBtu/yr-ft²
14. Total . . . . kBtu/yr-ft²
15. Adj. Total Energy Use (Line 8 x Line 14) . . kBtu/yr-ft²

Compliance Statement

General. The proposed building represented in this set of compliance documentation is consistent with the other compliance forms and worksheets, with the plans and specifications and with any other calculations or computer runs submitted with this permit application. Performance Approach, (when applicable) The energy performance estimate presented on this form was calculated using the approved calculation method indicated above and with the CEC established fixed and restricted engineering inputs for the applicable climate zone and occupancy type.
Prescriptive Approach, (when applicable) The proposed building has been designed to meet the requirements of the Alternative Component Package indicated above for the appropriate occupancy type and climate zone.

[signature]

Signed: Raymond Soguero, President — Name/Title

Company: Energy Compliance Systems, Inc.

Address: 2881 Hemlock Avenue, Suite 2

City/State/Zip: San Jose, CA 95125

Telephone: (408) 244-1220 — Calif. License Number: C-12710

Form Revised September 1986 — Page __ of __

Certificate of Compliance (Part 2 of 2) CF-1

(3083)

For Enforcement Agency Use Only

Project Title

Energy Compliance Systems — Documentation Author/Firm — Date — Checked by — Date

Both parts one and two of this Certificate of Compliance must be included with each building permit application for the above noted building and appear on the plans submitted for approval. The building features and requirements represented on the Certificate of Compliance are adequate to achieve compliance with the second generation nonresidential energy standards for the building referenced above. The building features and requirements are also adequate for any subsequent alterations, modifications or additions to the building.

Designer One: ARCHITECT — Name (Print) — Title/Company Name — Address — Signature — Date — Enforcement Agency Signature — Date

Designer Two: ELECTRICAL (✔)
Name (Print): FRANK W. NICOLETTI
Title/Company Name: FACILITIES ELECT. DESIGN G.T.E.
Address: 100 FERGUSON DRIVE MT. VIEW
Signature: [signature] — Date: 5-13-88
Enforcement Agency Signature — Date

Designer Three: MECHANICAL — Name (Print) — Title/Company Name — Address — Signature — Date — Enforcement Agency Signature — Date

Designer Four: PLUMBING — Name (Print) — Title/Company Name — Address — Signature — Date — Enforcement Agency Signature — Date

Owner (✔)
Name (Print): GTE GOVERNMENT SYSTEMS
Title/Company Name
Address: 100 FERGUSON DRIVE MTN VIEW 94043
Signature: [signature] — Date: 5-13-88

Enforcement Agency (✔) — Name (Print) — Title/Agency — Address

Form Revised September 1986 — Page __ of __

Mandatory Measures Checklist MF-1

(3083)

For Enforcement Agency Use Only

Project Title

Energy Compliance Systems, Inc. — Documentation Author/Firm — Date — Checked By — Date

Reference in Construction Documents

Envelope Measures

- [ ] Certified insulation materials per 2-5311(a)
- [ ] Insulation installed to meet flame spread and smoke density requirements of 2-5311(b)
- [ ] Urea formaldehyde foam insulation is installed per 2-5311(c)
- [ ] Retrofit insulation specified as per 2-5313
- [ ] Air infiltration is minimized by specification of tested manufactured doors and windows and proper sealing and weatherstripping as per 2-5317

SHT 2 OF 11

Lighting System Measures

- [✔] Certified luminaires/ballasts per 2-5314(b) — NOTE 1a
- [✔] Independent control of enclosed areas per 2-5319(a) — NOTE 1b
- [✔] Manual switching readily accessible per 2-5319(b) — NOTE 1c
- [✔] Reduction of lighting load to at least one half per 2-5319(c). Occupancy sensors or programmable timers meeting CEC criteria may substitute — NOTE 1d
- [ ] Separate switching of daylit areas per 2-5319(d)
- [ ] Separate switching of display and valance lighting in retail and wholesale stores per 2-5319(h)
- [ ] Automatic control of display lighting in retail and wholesale stores per 2-5319(i)
- [ ] Tandem wiring of one- and three-lamp luminaires per 2-5319(j)

Daylighting and Lumen Maintenance Controls (when applicable)

- [ ] Uniform illuminance reduction to one-half per 2-5319(e)1
- [ ] Flicker free operation and no premature lamp failure per 2-5319(e)2
- [ ] Time delays to prevent undesirable cycling per 2-5319(e)3
- [ ] Step switching devices with separation between on/off settings per 2-5319(e)4
- [ ] Photocell sensors with a diffusing cover and no obscuring cover per 2-5319(e)5
- [ ] Manufacturer's instructions covering for installation and calibration per 2-5319(e)6
- [ ] Proper installation of controls including sensor location, certification of lumen calibration and control of luminaires only within daylit area per 2-5319(e)8
- [ ] Visible or audible malfunction alarms per 2-5319(e)

Occupancy Sensing Devices (when applicable)

- [ ] Flicker free operation and no premature lamp failure per 2-5319(g)2
- [ ] Time delays to prevent undesirable cycling per 2-5319(g)3
- [ ] Visible or audible malfunction alarms per 2-5319(g)
- [ ] Limits on emissions per exceptions to 2-5319(g)

HVAC and Plumbing System Measures

- [ ] Piping insulated as required by 2-5312
- [ ] Certified HVAC equipment per 2-5314(a)
- [ ] Certified plumbing equipment per 2-5314(c)
- [ ] Heating and cooling equipment efficiency per 2-5314(d)
- [ ] Pilotless ignition of gas appliances per 2-5314(e)
- [ ] Automatic controls for off-hours per 2-5315(a)
- [ ] Thermostat set point requirements per 2-5315(a)
- [ ] Sequential control of heating and cooling per 2-5315(a)
- [ ] Automatic outdoor fan dampers per 2-5316(b)
- [ ] Thermostat controls for each zone per 2-5315(b)
- [ ] Ventilation provided per 2-5316 and 2-5342
- [ ] Heaters for domestic hot water and/or pools per 2-5318

MANDATORY MEASURES THAT ARE REQUIRED AS PART OF THIS PERMIT HAVE BEEN CHECKED[✔]. HOWEVER, THE LINE FOR REFERENCING CONSTRUCTION DOCUMENTS IS NOT THE RESPONSIBILITY OF ENERGY COMPLIANCE SYSTEMS, INC. AND MUST BE COMPLETED BY PREPARER OF SUCH CONSTRUCTION DOCUMENTS.

Form Revised September 1986 — Page __ of __

Lighting Summary and Worksheet (Part 1 of 2) CF-5

(3083)

For Enforcement Agency Use Only

Project Title

Energy Compliance Systems — Documentation Author/Firm — Date — Checked By — Date

Proposed Adjusted LPD

1. Total Building Watts (CF-5) . . . . . . 5822 Watts
2. Control Credit Watts (WS-5B) . . . . . . N/A Watts
3. Adjusted Watts (Line 1 - Line 2) . . . . . 5822 Watts
4. Conditioned Floor Area . . . . 3211 ft²
5. Adjusted LPD (Line 3 / Line 4) . . . . . . 1.44 Watts/ft²

Tailored LPD Approach (when applicable)

1. Watts for IC: A - D/E (WS-5D) . . . . . Watts
2. Task Watts for IC: E & F (WS-5D) . . . . Watts
3. Non-Task Watts for IC: E & F (WS-5D) . . . Watts
4. Task Watts for IC: G, H & I (WS-5E) . . . Watts
5. Non-Task Watts for IC: G, H & I (WS-5E) . . Watts
6. Retail/Wholesale Store Lighting (WS-5F) . . Watts
7. Total Allowed Watts (lines 1-6) . . . . . Watts
8. Conditioned Floor Area . . . . ft²
9. Maximum LPD (Line 7 / Line 8) . . . . . Watts/ft²

Whole Building LPD Luminaire Schedule

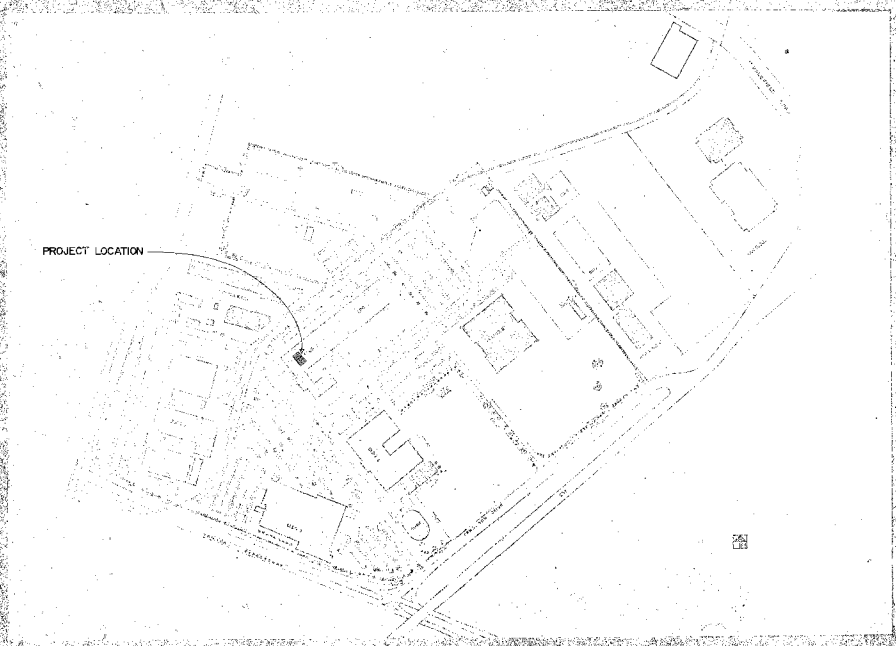
A Luminaire Reference Code	B Reference in Construction Documents	C Luminaire Description	D Number of Luminaires	E Watts per Luminaire (incl. ballast)	F Total Watts
A	3-2??	2X4 2 LAMP FLUOR. FIX.	70	72	5040
B	3-2??	2X2 ? LAMP FLUOR. FIX.	11	72	792

Page Total

Building Total [illegible]

Form Revised September 1986 — Page __ of __

GTE GOVERNMENT SYSTEMS 100 FERGUSON DRIVE MOUNTAIN VIEW



PROJECT

MODIFICATIONS TO ROOMS 3101, 3105, & 3106 - BUILDING 3 - FOR LIB.

DRAWING INDEX

SHEET

1 DEMOLITION PLAN
2 FLOOR PLAN
3 REFLECTED CEILING PLAN
4 SEISMIC BRACING PLAN FOR BOOK SHELVES
5 SEISMIC BRACING DETAILS
6 COUNTER DETAILS
7 COUNTER DETAILS
8 ELEC POWER PLAN
9 ELEC LIGHTING PLAN
10 SHELVING LAYOUT
11 FURNITURE LAYOUT

100 Ferguson Bl. 3
88449 -71
APPROVED
MOUNTAIN VIEW
FIRE PREVENTION BUREAU
SUBJECT TO FIELD
INSPECTION AND TEST
DATE 3-31-88 INSPECTOR R. Rossi

R Exits shall be illuminated at all
times the building is occupied and
N shall be tested above each
required exit doorway.

A [illegible] fire
[illegible] 3 ft. of door swing not included in
travel dimension.

APPROVED
CONSTR
MAY
CITY OF MOUNTAIN VIEW
FOR [illegible]

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

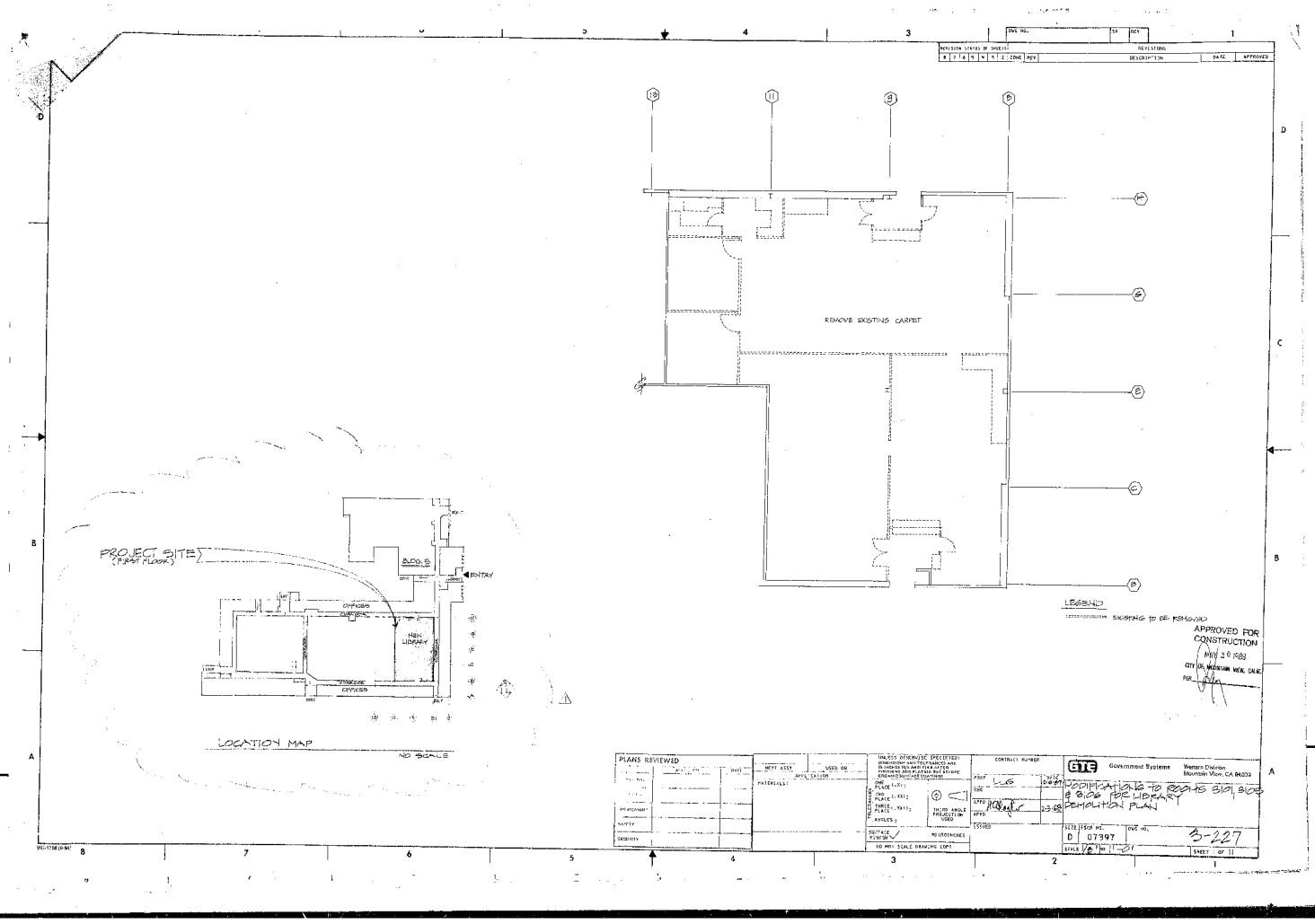
NOTES:

THESE ROOMS WILL ACCOMODATE THE RELOCATION OF THE SITE LIBRARY. THE LIBRARY WILL HAVE A COMBINATION OF WOOD & METAL SHELVING INTERCONNECTED BY A SERIES OF SEISMIC BRACING & A FULLY AUTOMATIC MONITORED FIRE PROTECTION SPRINKLER SYSTEM.

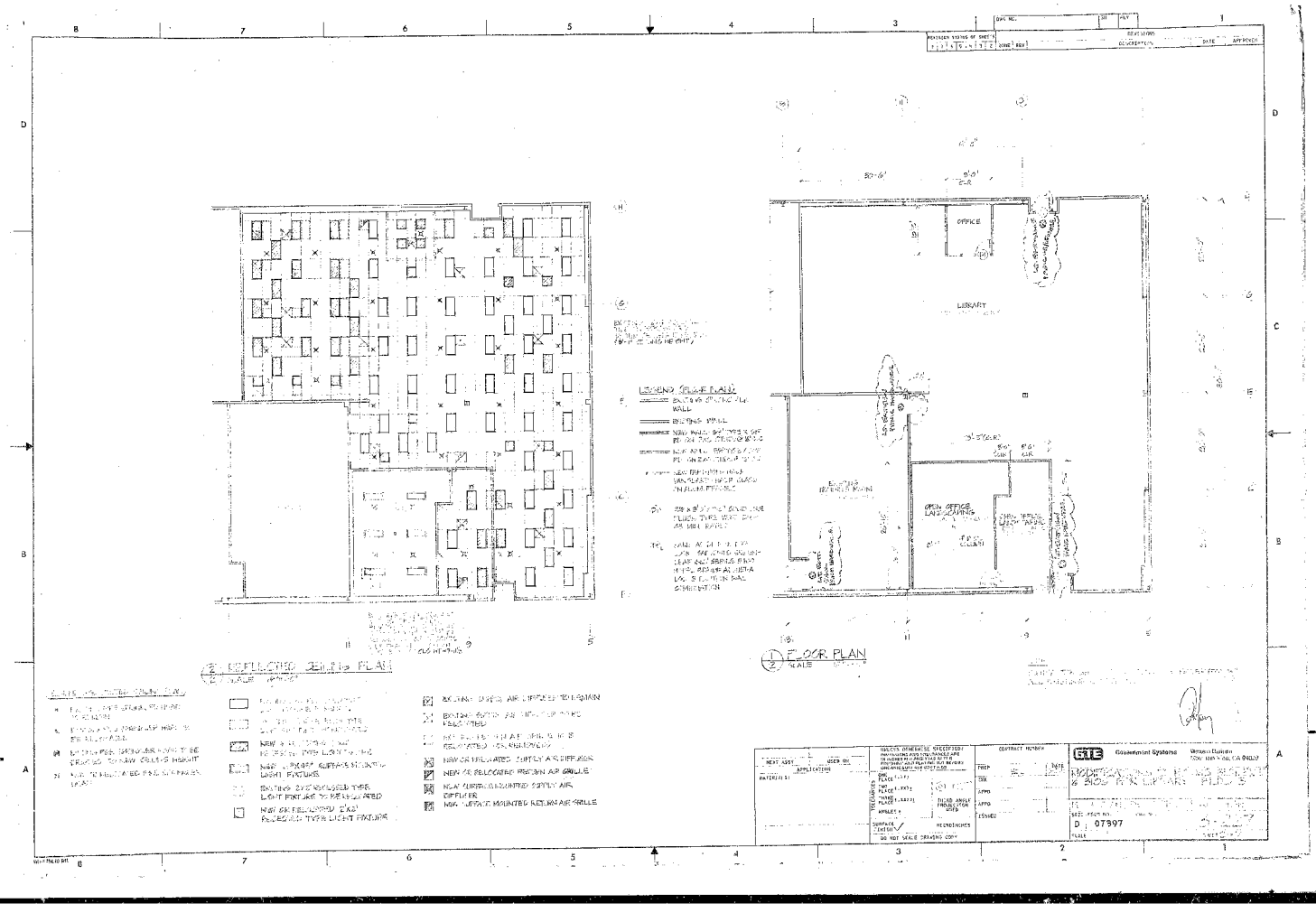
OCCUPANCY B-2

CONSTRUCTION V-N

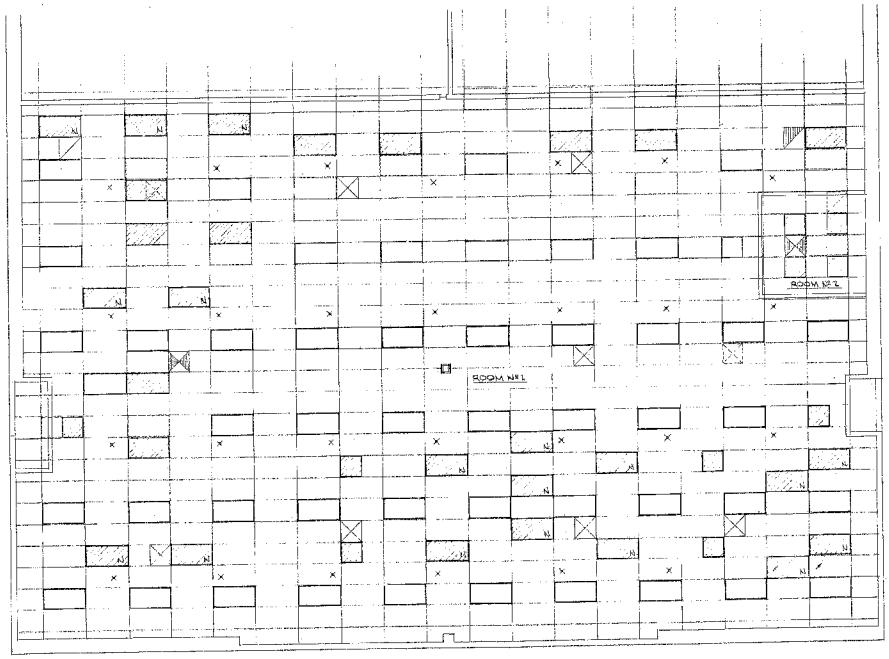
APPROVED FOR CONSTRUCTION
MAY 20 1988
CITY OF MOUNTAIN VIEW, CALIF.
FOR [illegible]



REMOVE EXISTING CARPET
LEGEND
EXISTING TO BE REMOVED
APPROVED FOR CONSTRUCTION
MAY 30 1983
CITY OF MOUNTAIN VIEW, CALIF.
PROJECT SITE
(FIRST FLOOR)
BLDG. 5
ENTRY
OFFICES
NEW LIBRARY
LOCATION MAP
NO SCALE
PLANS REVIEWED
NEXT ASSY
USED ON
APPLICATION
MATERIALS:
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES
ONE PLACE (.X):
TWO PLACE (.XX):
THREE PLACE (.XXX):
ANGLES:
THIRD ANGLE PROJECTION USED
SURFACE FINISH
NO BURRS
DO NOT SCALE DRAWING COPY
CONTRACT NUMBER
PROF
DATE
DWN
APPD
ISSUED
GTE
Government Systems
Western Division
Mountain View, CA 94039
MODIFICATIONS TO ROOMS 3101, 3103 & 3106 FOR LIBRARY DEMOLITION PLAN
SIZE
D
FSCM NO.
07397
DWG NO.
3-227
SCALE
SHEET 1 OF 11



LEGEND (FLOOR PLAN)
OFFICE
LIBRARY
OPEN OFFICE LANDSCAPING
1 FLOOR PLAN
2 REFLECTED CEILING PLAN
NEW OR RELOCATED SUPPLY AIR DIFFUSER
NEW OR RELOCATED RETURN AIR GRILLE
NEW SURFACE MOUNTED SUPPLY AIR DIFFUSER
NEW SURFACE MOUNTED RETURN AIR GRILLE
GTE Government Systems
D 07397



LEGEND

- EXISTING 2'x4' LIGHT FIXTURE TO REMAIN ROOM 101 - (SEE NOTE NO 4)
- EXISTING LIGHT FIXTURE TO BE REMOVED AND RELOCATED ROOM NO 1 & 2
- NEW OR RELOCATED 2'x4' LIGHT FIXTURE INDICATES NEW FIXT. ROOM NO 1 (SEE NOTE NO 4)
- NEW 2'x2' RECESSED TYPE LIGHT FIXTURE ROOM NO 1 & 2 (SEE NOTE NO 4)
- EXISTING FIRE SPRINKLER HEAD TO BE RELOCATED
- RELOCATED FIRE SPRINKLER HEAD
- EXISTING FIRE SPRINKLER HEAD TO REMAIN
- EXISTING SUPPLY AIR DIFFUSER TO REMAIN
- EXISTING AIR DIFFUSER TO BE RELOCATED
- NEW OR RELOCATED SUPPLY AIR DIFFUSER
- EXISTING RETURN AIR GRILLE TO REMAIN
- EXISTING RETURN AIR GRILLE TO BE RELOCATED
- NEW OR RELOCATED RETURN AIR GRILLE

NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE IN VERIFYING ALL EXISTING CONDITIONS.
2. PROVIDE SEISMIC HANGERS AS REQUIRED PER CALIFORNIA ADMINISTRATIVE CODE, TITLE 24.
3. PROVIDE NEW CEILING TILES AS REQUIRED.
4. EXISTING 2'x4' FIXT'S TO REMAIN, OR TO BE RELOCATED ARE WELL MADE CAT #STA-WEA-1GN/RS, WHICH HAVE BEEN RETROFIT WITH REFLECTORS, 2 LAMPS REMOVED & THE REMAINING 2 LAMPS CHANGED TO SYLVANIA 32 WATT SUPER SAVER PLUS LAMPS.
   THE NEW 2'x4' FIXT'S TO MATCH EXIST. TO BE WELL MADE CAT #32S-WAN-GABRS WITH 32 WATT SYLVANIA SUPER SAVER PLUS LAMPS.
   THE NEW 2'x2' FIXT'S TO MATCH EXIST. TO BE WELL MADE CAT #32S-WA-SLRS WITH 32 WATT SYLVANIA SUPER SAVER LAMPS.
   2 x 4 x LAMP FIXT. W/BALLAST x 8 WATTS EA.
   2 x 2 x LAMP FIXT. W/BALLAST x 32 WATTS EA.

APPROVED FOR CONSTRUCTION
NOV 20 1985
CITY OF MOUNTAIN VIEW, CALIF.
BY: [illegible]

1 REFLECTED CEILING PLAN
SCALE 1/4"=1'-0"

DWG NO.	SH	REV	
REVISIONS			
DESCRIPTION	DATE	APPROVED	

NEXT ASSY | USED ON
APPLICATION

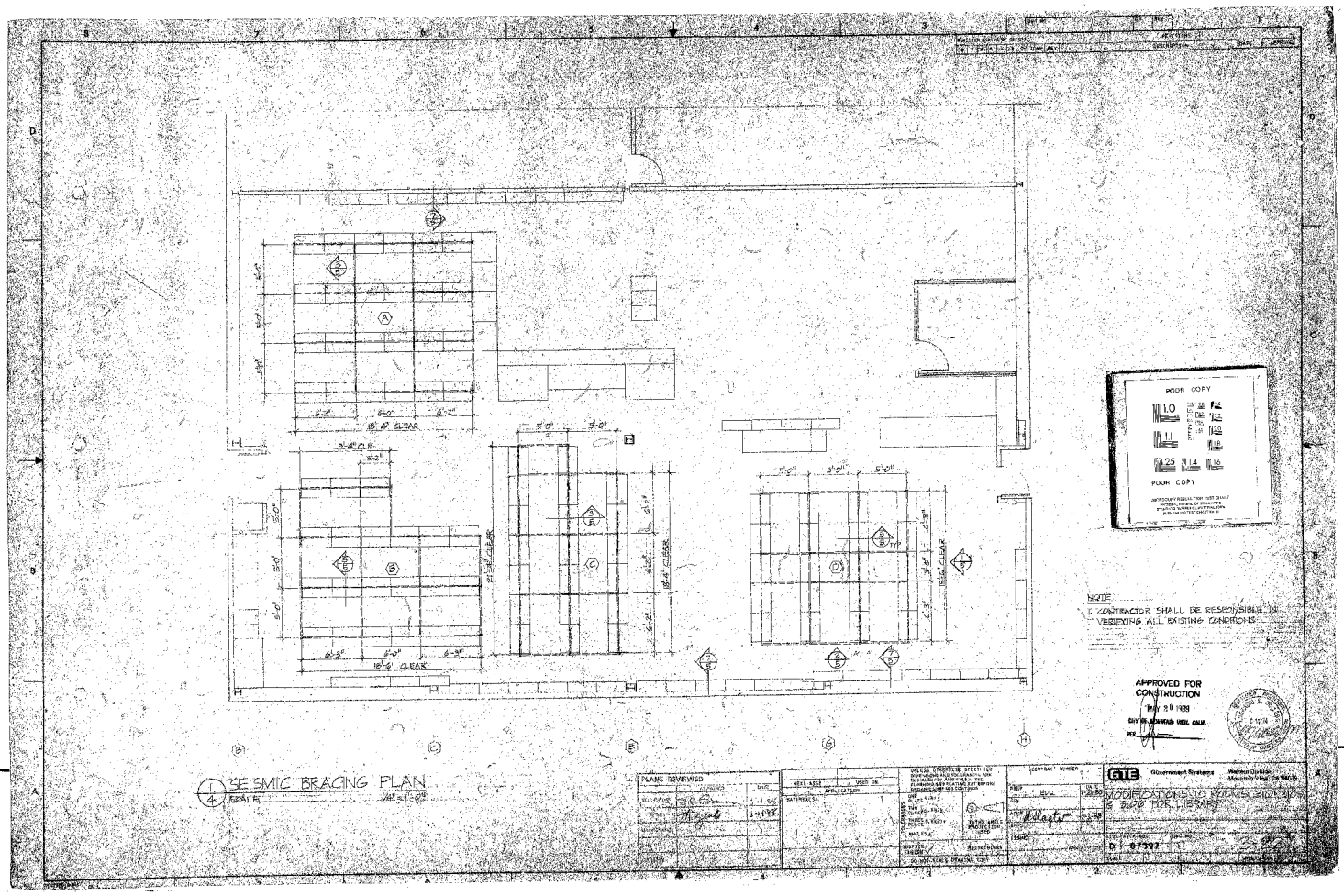
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE TO BE APPLIED AFTER FINISHING. DIMENSIONS AND TOLERANCES ARE APPLICABLE WITHOUT FINISH.
DIMENSIONS ARE IN INCHES
TOLERANCES: DECIMALS ± 0.010 | FRACTIONS ± 1/64 | ANGLES ± 1/2°
SURFACE FINISH 125 RMS
DO NOT SCALE DRAWING COPY

CONTRACT NUMBER
DRAWN REDL 11-6-85
CHK
APPD NCTaylor 11/6/85
APPD
ISSUED

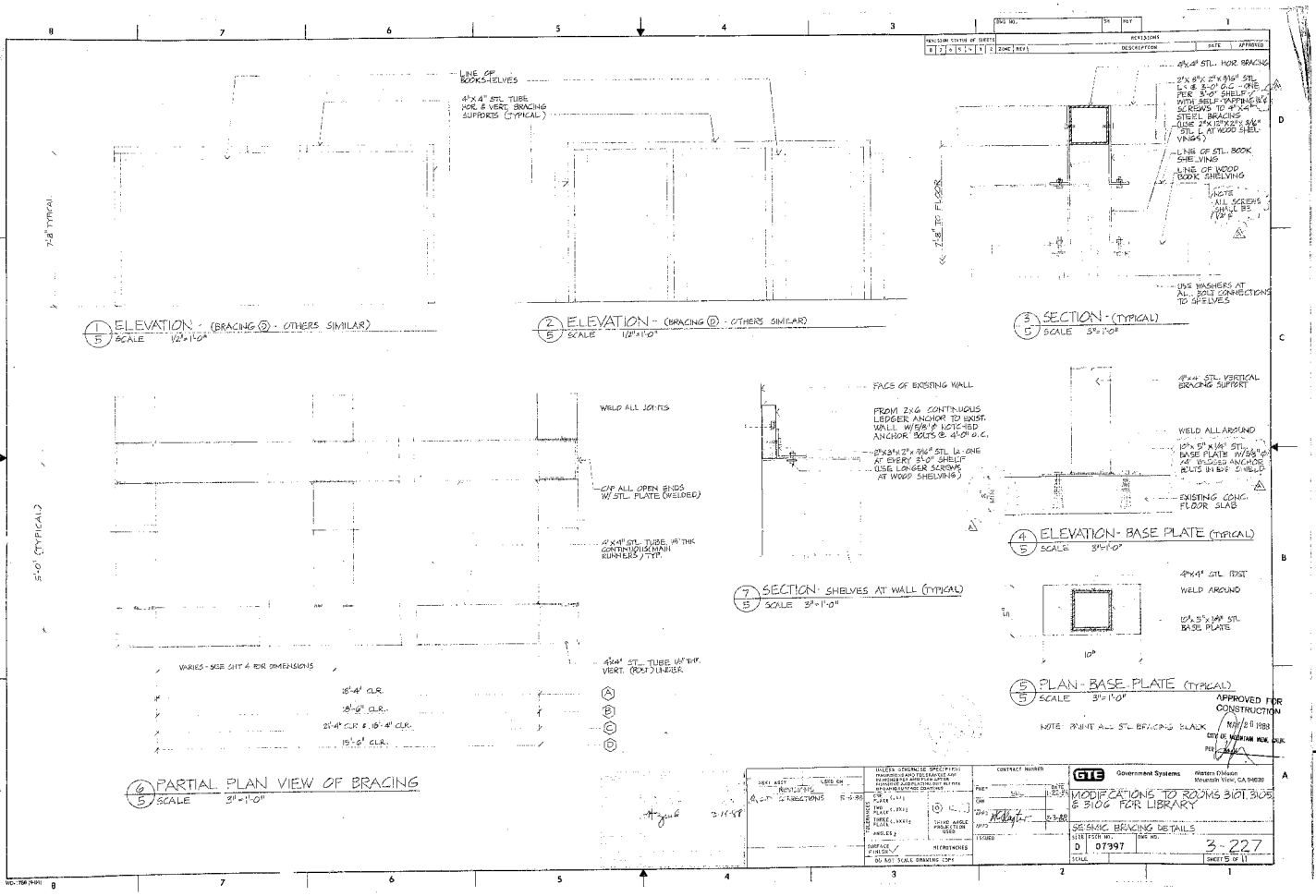
GTE Government Systems — Western Division, Mountain View, CA 94039

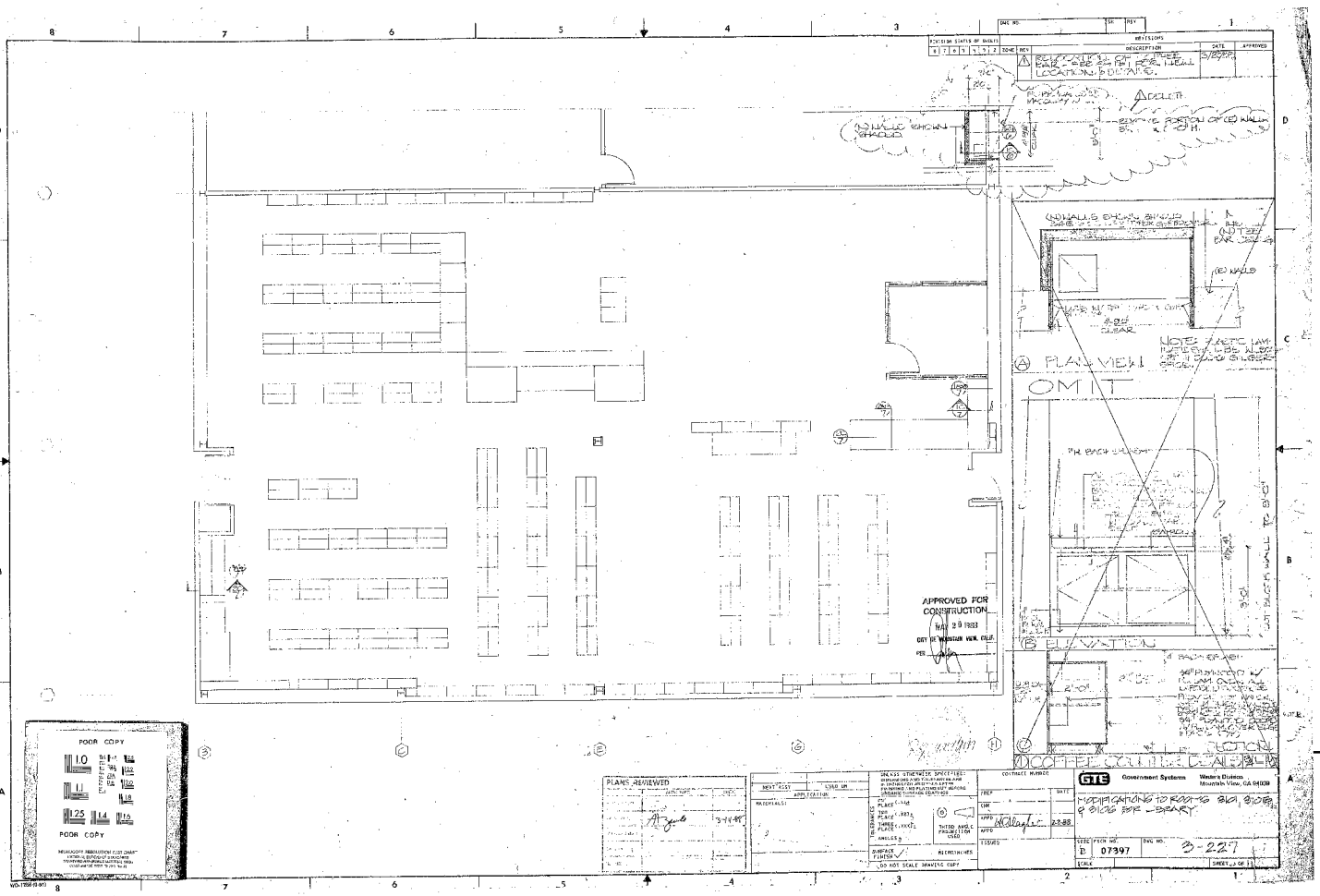
MODIFICATIONS TO ROOMS 3101, 3105, & 3106 - FOR LIBRARY
REFLECTED CEILING PLAN

SIZE D | CODE IDENT NO. 07997 | DWG NO. 3-227
SCALE | SHEET 3 OF 11

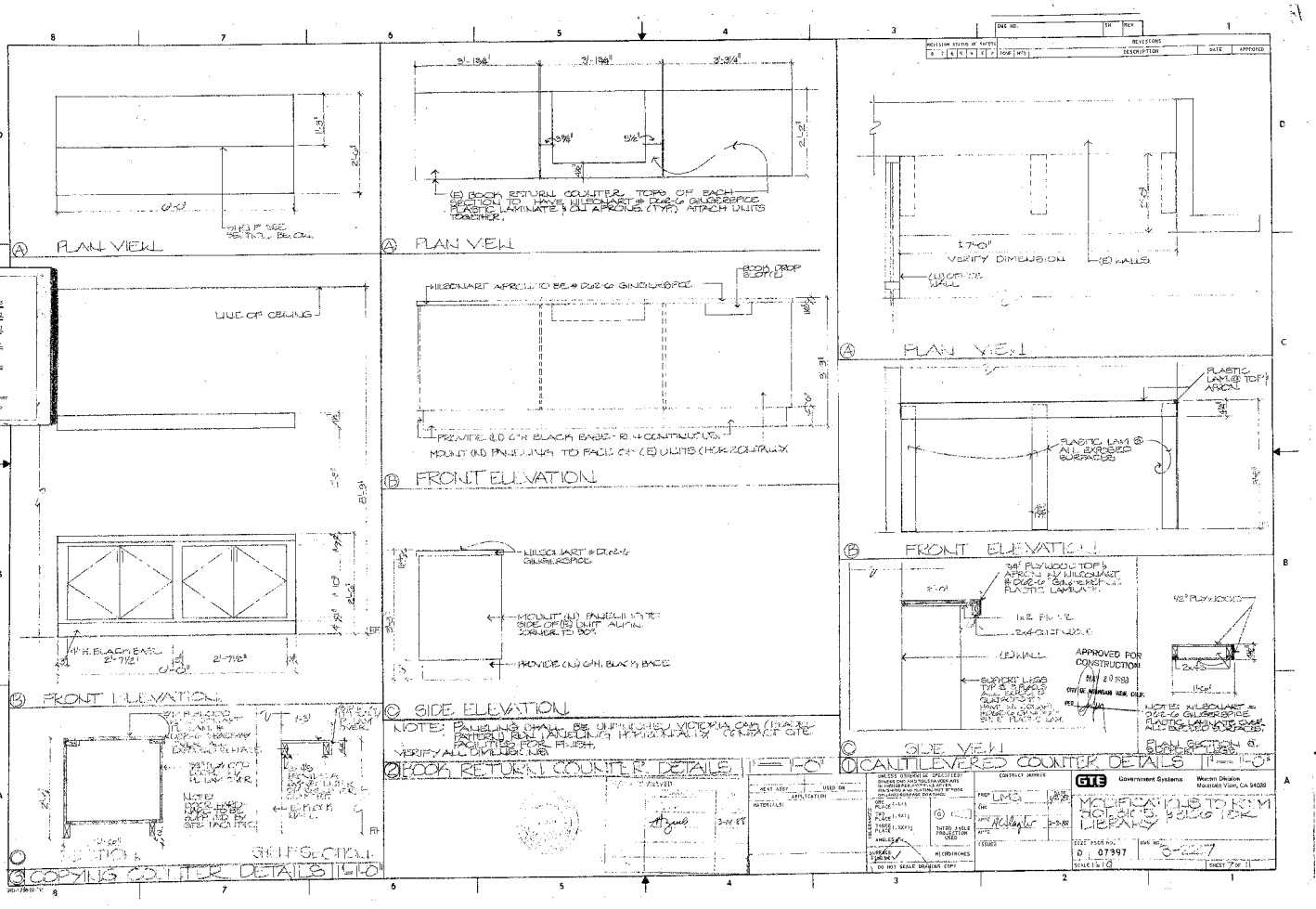


SEISMIC BRACING PLAN
SCALE 1/4" = 1'-0"
NOTE
1. CONTRACTOR SHALL BE RESPONSIBLE IN VERIFYING ALL EXISTING CONDITIONS
APPROVED FOR CONSTRUCTION
MAY 20 1988
POOR COPY
18'-4" CLEAR
18'-6" CLEAR
GTE Government Systems
MODIFICATIONS TO ROOMS 3101, 3102 & 3106 FOR LIBRARY

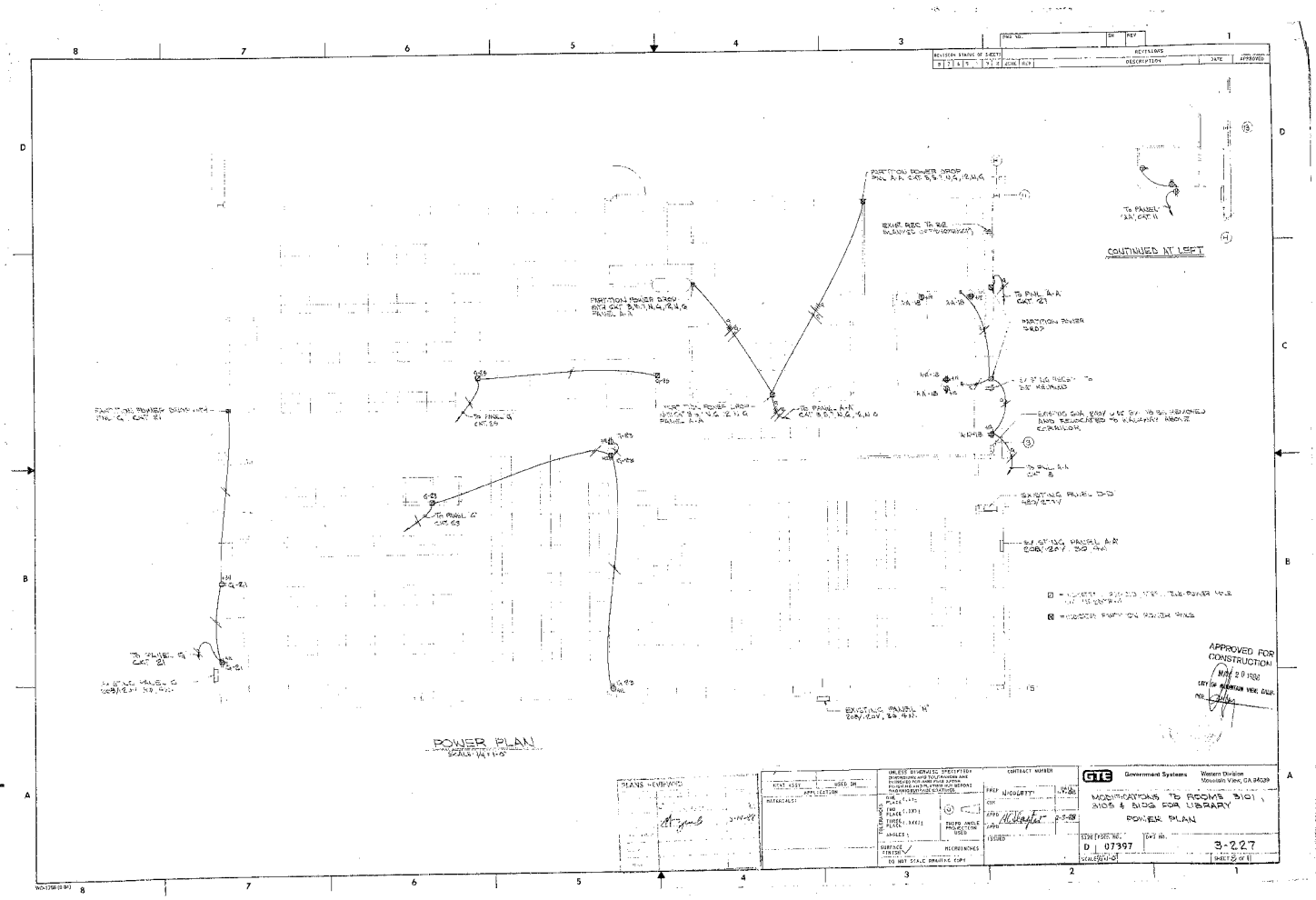

LINE OF BOOKSHELVES
4"X 4" STL. TUBE HOR. & VERT. BRACING SUPPORTS (TYPICAL)
7'-8" TYPICAL
1/5 ELEVATION - (BRACING D - OTHERS SIMILAR)
SCALE 1/2"=1'-0"
2/5 ELEVATION - (BRACING D - OTHERS SIMILAR)
SCALE 1/2"=1'-0"
4"X4" STL. HOR. BRACING
2"X 8"X 2"X 3/16" STL L's @ 3'-0" O.C. - ONE PER 3'-0" SHELF WITH SELF-TAPPING 1/4" SCREWS TO 4"X4" STEEL BRACING (USE 2"X 1.5"X 2"X 3/16" STL L AT WOOD SHELVING)
LINE OF STL. BOOK SHELVING
LINE OF WOOD BOOK SHELVING
NOTE: ALL SCREWS SHALL BE 1/4" ø
7'-8" TO FLOOR
USE WASHERS AT ALL BOLT CONNECTIONS TO SHELVES
3/5 SECTION - (TYPICAL)
SCALE 3"=1'-0"
WELD ALL JOINTS
C/P ALL OPEN ENDS W/ STL. PLATE (WELDED)
4"X4" STL. TUBE, 1/8" THK CONTINUOUS MAIN RUNNERS (TYP.)
5'-0" (TYPICAL)
FACE OF EXISTING WALL
FROM 2X6 CONTINUOUS LEDGER ANCHOR TO EXIST. WALL W/5/8" ø LOTIS-BD ANCHOR BOLTS @ 4'-0" O.C.
2"X3"X 2"X 3/16" STL L's - ONE AT EVERY 3'-0" SHELF (USE LONGER SCREWS AT WOOD SHELVING)
7/5 SECTION - SHELVES AT WALL (TYPICAL)
SCALE 3"=1'-0"
4"X4" STL. VERTICAL BRACING SUPPORT
WELD ALL AROUND
10"X 5" X 1/4" STL. BASE PLATE W/5/8" ø AT WEDGE ANCHOR BOLTS IN EXP. SHIELD
EXISTING CONC. FLOOR SLAB
4/5 ELEVATION - BASE PLATE (TYPICAL)
SCALE 3"=1'-0"
4"X4" STL TUBE
WELD AROUND
10"X 5"X 1/4" STL BASE PLATE
10"
5"
5/5 PLAN - BASE PLATE (TYPICAL)
SCALE 3"=1'-0"
VARIES - SEE SHT 4 FOR DIMENSIONS
4"X4" STL. TUBE 1/8" THK. VERT. (ROOF) LINGER.
18'-4" CLR.
18'-6" CLR.
21'-4" CLR & 18'-4" CLR.
19'-8" CLR.
A
B
C
D
6/5 PARTIAL PLAN VIEW OF BRACING
SCALE 3"=1'-0"
NOTE: PAINT ALL STL BRACING BLACK
APPROVED FOR CONSTRUCTION
CITY OF MOUNTAIN VIEW, CALIF.
GTE Government Systems
Western Division
Mountain View, CA 94039
MODIFICATIONS TO BLDGS 3107, 3105 & 3106 FOR LIBRARY
SEISMIC BRACING DETAILS
SIZE D
FSCM NO. 07997
DWG NO. 3-227
SCALE
SHEET 5 OF 11
DO NOT SCALE DRAWING COPY
MICROINCHES
ISSUED
CONTRACT NUMBER
DATE 2-7-88
2-11-88
REVISIONS
DESCRIPTION
DATE
APPROVED
DWG NO.
SH
REV
WD-708 (4-80)



REVISIONS
DESCRIPTION
DATE
APPROVED
DELETE
PLAN VIEW
OMIT
ELEVATION
APPROVED FOR CONSTRUCTION
MAY 29 1983
CITY OF MOUNTAIN VIEW, CALIF.
PLANS REVIEWED
GTE Government Systems
Western Division
Mountain View, CA 94039
MODIFICATIONS TO ROOMS 3101, 3108 & 3106 FOR LIBRARY
SIZE D
FSCM NO. 07397
DWG NO. 3-227
DO NOT SCALE DRAWING COPY
POOR COPY



POOR COPY
POOR COPY



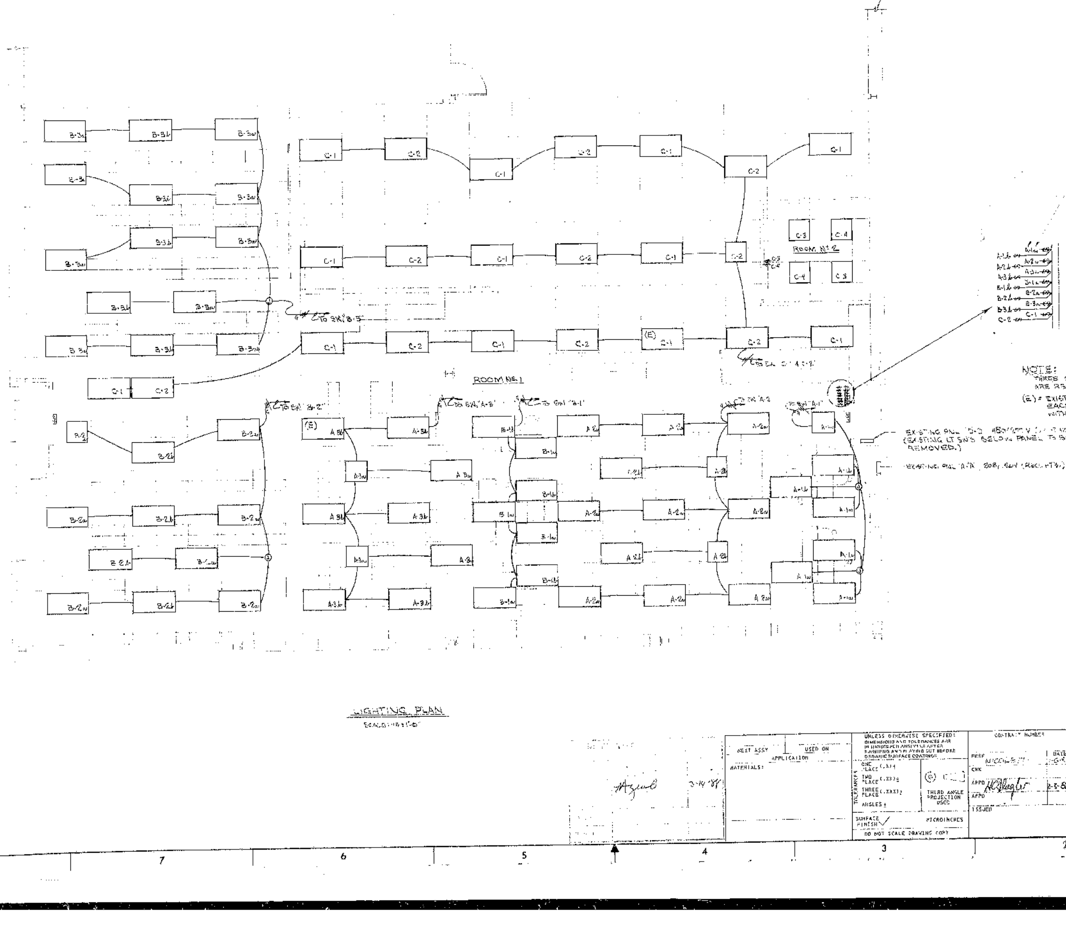
POWER PLAN
CONTINUED AT LEFT
EXISTING PANEL "H" 208/120V, 3Ø, 4W.
EXISTING PANEL A-A 208/120V, 3Ø, 4W.
EXISTING PANEL D-D 480/277V
TO PANEL "G" CKT 63
TO PANEL "G" CKT 21
TO PANEL "A" CKT 21
TO PANEL "A-A" CKT 8
PARTITION POWER DROP
APPROVED FOR CONSTRUCTION
MAY 20 1988
GTE Government Systems
Western Division
Mountain View, CA 94039
MODIFICATIONS TO ROOMS 3101, 3105 & 3106 FOR LIBRARY
POWER PLAN
D 07397
3-227

DWG NO.	SH	REV

REVISION STATUS OF SHEETS									
8	7	6	5	4	3	2			

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	CITY CORRECTIONS	5-13-88	

CONTINUED BELOW RIGHT THIS DWG.



NOTE:
THREE 20A [illegible] CIRCUITS, DESIGNATED AS A, B & C, ARE REQUIRED FOR LIBRARY LIGHTING.

(E) = EXISTING EMERGENCY LIGHT FIXTURE (1 LAMP EACH FIXT UNSWITCHED. [illegible]

EXISTING PNL 'D-2' 480/277 V 3 Φ 4 W (EXISTING LT SW'S BELOW PANEL TO BE REMOVED.)

EXISTING PNL 'A-A' 208/120V (RECEPT'S)

LIGHTING PLAN
SCALE: 1/8"=1'-0"

APPROVED FOR CONSTRUCTION
MAY 20 1988
CITY OF MOUNTAIN VIEW, CALIF.
PER [signature]

NEXT ASSY	USED ON
APPLICATION	
MATERIALS:	

UNLESS OTHERWISE SPECIFIED: DIMENSIONS AND TOLERANCES ARE IN INCHES PER ANSI Y14.5 AFTER FINISHING AND PLATING BUT BEFORE ORGANIC SURFACE COATINGS

TOLERANCES: ONE PLACE (.X) ± / TWO PLACE (.XX) ± / THREE PLACE (.XXX) ± / ANGLES ±

THIRD ANGLE PROJECTION USED

SURFACE FINISH ✓ MICROINCHES

DO NOT SCALE DRAWING COPY

CONTRACT NUMBER

		DATE
PREP		
CHK		
APPD	H. Slaughter	2-3-88
APPD		
ISSUED		

GTE Government Systems — Western Division, Mountain View, CA 94039

MODIFICATIONS TO ROOMS B101, B105 & B106 FOR LIBRARY
LIGHTING PLAN

SIZE	FSCM NO.	DWG NO.
D	07397	3-227

SCALE | SHEET 9 OF 11

WD-1756 (9-84)

BUILDING PERMIT FEE CALCULATION

160 FERGUSON	SHED ON SLEEP		2359
BUILDING OWNER			

OCCUPANCY USE	ROOM	FLOOR USE	GROSS FLOOR SQ. FT.	V.FACT	TOTAL

BUILDING PERMIT

Const. Type: TYPE V-N Occ. Group: H-7 Lane Appl: Y/N Value: $ 7,000
Shelf: Dwl. Unit: /Bldg Hotspot (Y): Sq. Ft. 1,000
Plan Ch: Y/N Ver: Y/N Use Code: 333 C.Ins: Y/N
Roof Description

Comments

BUILDING FEES

Lane Application? Y/N		Plancheck	
Hor. General		Building Permit	1
Vacuum Breaker(s)		Gas Outlets	
Underslab Gas/Sp		Water Heater(s)	
Fee Preparation Charge		Plan Check 1/2	
Copies		TOTAL FEE	

MECHANICAL FEES

Chemical (Sq. Ft.) 1,000 ±		Lane Applications? Y/N	
Residential (Sq.Ft.)		Hvac/Ccy/PRD/Recomp	
Fuel/Combustible/Compressed			
Comp Power Solid(s)		Light Poles	
Service Equip.(amps) 100 AMPS		Electric Change	
Temp Use/Service Y/N			
Heating Fur. Central		Potence (welds)	
I Wall Heater		Transformers Install	
		Transformers Change Y/N	
Signs Wall 10 Sq.		Alarm Over 25 Sq.	
Fee Preparation Charge		Architects Plan Review	
		PLANCH 50%/2	

PLUMBING FEES

Lane Applications? Y/N		Burn (Over 125k BTU)	
Sewer Cap		A.C. (Over 8 Tons)	
Sewer Cap DPW/I Ch			
A/S 18 (Over/In Ab		Re. Roof(s) Install	
Plan Check Y/N		Re. Roof(s)	
Boiler (Over 100,000)		Gas	
Ac Condition		Drain	
Air Condition		Drain Y/N	

CITY OF MOUNTAIN VIEW

(415) 966-6333 P.O. Box 7540
Mountain View, CA 94039

YPAY33.1588

SITE
160 FERGUSON / 1588
NOT ASSIGNED

PLAN CHECK FEE 160 FERGUSON - BLDG #3 — MAKE CHECK TO BALL

Near BOWIE (CLEANS)

DEAR BUILDING OWNER/AGENT:

Your application for a permit for the referenced address, together with the plans, specifications, and calculations, has been examined. The project is described as TYPE V-N CONSTRUCTION, OCC. GROUP H-7 and USE. You are advised that the issuance of a permit is withheld for reasons enclosed herewith.

Please make corrections on the original drawings in such a way as to distinguish them from the original portions of the drawings. This may be done by placing a cloud around them or a number nearby in conjunction with a letter of explanation. This can be noted on the margin of this letter or a separate letter describing the cloud number where the item was originated. Include the following when submitting the corrected plans:

A. 2 sets of new plans. All sheets and calculations must be bound. Place smaller sheets over the larger sheets. If this is not done, your plans will be returned to you for assembly into complete sets prior to recheck, causing additional delay.

B. An annotated plan check correction letter. This correction letter will not be accepted as a supplement to the plans. The time to make corrections and notes on the plans to answer the corrections listed in the letter.

C. All copies of the plans originally submitted, especially those checked and stamped by the structural Plan Checker. A fee of $15 per hour (minimum 1/2 hour) may be assessed for the rechecking of the applications.

① PROVIDE A SITE PLAN.
(SEE COVER SHEET.)

✓ ② THE CONTENTS OF THE SHED (2,000 GALS. MAX) EXCEED TABLE 9-A. THEREFORE THE SHED BECOMES AN H-2 OCCUPANCY. THIS REQUIRES A 1-HR. OCCUPANCY SEPARATION BETWEEN THE SHED AND THE OFFICE BUILDINGS. REVISE PLANS TO REFLECT THIS. TABLES 9A-3A-UBC
(SEE SECTION 5 and 8)

✓ ③ THE STORAGE SHED REQUIRES TWO EXITS
SEC. 3320-UBC.
(SEE SECTION 1 and 4)

✓ ④ THE FLOORS SHALL BE NON-COMBUSTIBLE AND LIQUID TIGHT. THEY SHALL BE A MEANS OF SECONDARY CONTAINMENT IN ANY OF THE MEANS LISTED IN SEC. 902 (C)(4)-UBC. THE RACK SYSTEM FOR THE BATTERIES SHALL BE NON-COMBUSTIBLE AND SEISMICALLY BRACED. PLEASE INCLUDE RACK DETAILS ON PLANS.
(SEE SECTION 5 and 'Containment Calculations')

✓ ⑤ PROVIDE CUT SHEETS ON EPOXY FLOOR COVERING.
(Attached)

✓ ⑥ PROVIDE A MECHANICAL VENTILATION SYSTEM PROVIDING A MIN. OF 4 AIR CHANGES PER HOUR, WITH THE AIR DRAWS TAKE FROM A POINT NEAR THE FLOOR.
SEC. 905-UBC.
(SEE SECTION 4)

W. BUTLER

ADHESIVE ENGINEERING COMPANY

CONCRESIVE 1020

PRODUCT DATA

CONCRESIVE® 1020

HIGH CHEMICAL RESISTANT COATING

Solventless, non-emulsifying epoxy, rigid epoxy coating for great protection of concrete, steel and other materials from most highly aggressive chemicals. Standard color is Spice Red.

FEATURES

- Outstanding resistance to most organic and inorganic acids, alkalies and other corrosives
- Resistant to stack discharge, high temperature and rainfall exposure
- Unaffected by the presence of moisture during cure.
- Provides an attractive, high-gloss finish

BENEFITS

- Allows use in many most aggressive environments
- Extends service life of equipment
- For use on "dry" surfaces
- Suitable for use in food processing areas as well as high-traffic areas

TYPICAL APPLICATIONS

- Coating concrete, wood, metals and many types plastic for when protection from strong chemicals is required.
- In petrochemical facilities using strong chemical as: NaOH, NaOCl, chemical plants, refineries, hydrocarbon, sulfuric, nitric, drilling zones, nuclear facilities, paper pulp plants and chemical stacking areas.
- For tank and pipe linings and as a tie-coat (before coat) for "enhancement" fiberglass linings for concrete tanks.
- As gel coat in conjunction with CONCRESIVE 1118 for laminated tank linings.

Technical Bulletin 39213
March 1984

® Registered Trade Name, Adhesive Engineering Company

CONCRESIVE 1305
Page 2

PRODUCT INFORMATION[1]

Form: Two component liquid with controlled flow.

Color: Part A - brick red, Part B - clear green, Mixed - brick red. Special dark colors available on request.

Mix Ratio, by volume: 2 parts A to 1 part B
by weight: 100 parts A to 42 parts B

Density[2], lb/gal:	Part A - 11.0	
	Part B - 9.3	
	Mixed - 10.4	
Viscosity[2], poise:	Part A - 169.0	
	Part B - 3.0	
	Mixed - 30.0	

Standard Packaging: 1 gallon, 15 gallon and 150 gallon units.

Shelf Life: 18 months minimum in sealed containers between 40 and 90°F.

PROPERTIES OF CURED MATERIAL[3]

Property	Test Method	Value
Tensile Strength, psi	ASTM D638	6,500
Tensile Elongation, %	ASTM D638	4
Heat Deflection Temperature, °F	ASTM D648	125
Impact Resistance, in./lb.	Gardner-Direct	18

EFFECT OF TEMPERATURE ON CURE

	Material Temperature	
	50°F	77°F
Potlife, min., 1 quart mass	95	40
1 gallon mass	90	35
Thin Film Tack Free Time, hours	13	6.5
Thin Film Hard Dry Time, hours	20	8.5
Full Cure Time, days (for maximum chemical resistance)	14	7

1 Properties listed in this bulletin are typical and descriptive of the product and should not be used for specification purposes. See disclaimer.

2 At 77°F (25°C)

3 Cured 7 days @ 77°F and tested @ 77°F.

CONCRESIVE 1305
Page 3

INSTRUCTIONS FOR USE

Surface preparation: Surfaces must be free of dirt or dust, paint, grease, oil, rust or other contaminants. Surface may be dry or damp. Sandblasting is the preferred method of preparation for metals, concrete, stone and cloud [illegible]. Acid etching or waterblasting should be considered where sandblasting is not possible.

Concrete which upon surface preparation reveals presence of small holes (bug holes) must be treated to eliminate the holes. Block fillers are recommended for this purpose. Use of cementitious block fillers may require further surface preparation to remove laitance.

Primer recommendations are as follows:
1. Most metals (a) Solventless - one coat of CONCRESIVE 1170; (b) Solvent containing - one coat of standard epoxy/polyamide anti-corrosive metal primer available from most large paint manufacturers; dry according to manufacturer's instructions.
2. Concrete and stone - one coat of CONCRESIVE 1442 may be used for improved bond, if necessary.

Mixing: Mix only the amount of material that can be used before the expiration of the potlife. Measure the components carefully and add Part B to Part A. Mix thoroughly, using a mechanical mixer, such as an electric drill-powered paint mixer (e.g., a Jiffy mixer, Jiffy Mixer Co., Irvine, CA). Carefully scrape the sides and bottom of the container while mixing. Proper mixing will take from 3-5 minutes, and the mixed material must contain no streaks nor lumps.

Application: Apply by stiff brush, short-nap roller, squeegee or airless spray gun. Spray equipment is commercially available for larger jobs that automatically meters, mixes and applies two component systems at various material temperatures.

To avoid pinholing, apply two or more thin, 6-8 mil coats, rather than one thick coat. The second coat may be applied as soon as the first is touch dry. To insure proper adhesion between coats, the maximum time between coats should be:

72 hrs. @ 60°F
35 hrs. @ 77°F
24 hrs. @ 90°F

When using airless hot-spray equipment, single coat multi-pass (cross-spray) techniques may be employed.

Limitations: CONCRESIVE 1305 is not recommended for application below 50°F air or substrate temperature. Minimum cure temperature is 32°F.

Clean up: Mixed epoxy coating is much easier to clean up before it hardens. Solvents used for this purpose are methyl ethyl ketone (MEK - flammable) or 1,1,1-trichloroethylene or methylene chloride (non-flammable). Two component airless spray equipment normally has a built-in solvent purging system. Cured epoxy coatings may be removed from tools and equipment by using heavy duty epoxy strippers, such as CONCRESIVE 6003.

CONCRESIVE 1305
Page 4

Handling and Toxicity: This bulletin does not accompany the product when sold. For specific hazard warnings and first-aid instructions, READ THE CONTAINER WARNING LABELS CAREFULLY.

Mixed components contain liquid epoxy resin and amines. May cause allergic skin and respiratory reaction. Harmful if swallowed. Do not get in eyes, on skin or on clothing. Use only with adequate ventilation. Wash thoroughly after handling.

The use of barrier creams, such as Kerodex No. 71 or Indio Lake No. 211, 213 or 214 is recommended. Clean rubber gloves or disposable polyethylene gloves provide the best protection. Should skin contact occur, wash immediately with soap and water or Adhesive Engineering Company's [illegible]® 6001 hand cleaner.

CHEMICAL RESISTANCE PROPERTIES OF CURED MATERIAL

The following data is based on continuous immersion of the material coated on metal panels at the temperatures and concentrations indicated. This is considered the most serious attack condition; thus, where only fume, splash or spill are involved, the protection afforded by CONCRESIVE 1305 will be greatly extended. Please contact Adhesive Engineering's technical service department for advice on chemicals and conditions not listed. This data should be used as a guide and a test patch installed in case of doubt.

Acids (diluted with water, % by weight): Acetic acid - 10% at 77°F and 158°F - excellent; 20% at 77°F - excellent; 100% at 77°F - not resistant.
Citric acid - 10% at 77°F and 140°F - excellent.
Chromic acid - up to 3% at 77°F - attack after 6 months; between 5% and 10% up to 158°F - limited resistance; 20% and 30% - not resistant.
Formic acid - 5% at 77°F - limited resistance.
Hydrochloric (muriatic) acid - up to 10% to 158°F - excellent; up to 15% to 140°F - excellent; 37% (concentrated) - not resistant.
Linseed oil fatty acid at 77°F - excellent.
Nitric acid - 3% at 77°F - surface attack only after 10 months; up to 10% at 77°F - surface attack only after 4 months; 30% at 77°F - not resistant.
Phosphoric acid - up to 30% to 158°F - excellent; 43% at 77°F - blistered after 18 months; 43% at 140°F - limited resistance
Silo acid at 77°F - excellent
Sulfuric acid - up to 60% to 140°F - excellent; up to 10% at 170°F - excellent; 20% to 30% at 158°F - limited resistance; 70% - not resistant.
Alkalis (bases) diluted with water:
Ammonium hydroxide (ammonia) - up to 28% at 77°F - excellent; 10% at 122°F - limited resistance; 10% at 158°F - not resistant.
Sodium hydroxide (caustic soda) - up to 50% at 77°F - excellent; up to 30% to 158°F - excellent; 50% at 140°F - excellent; after 1 month - probably much longer.
Water
Sea water, tap water, distilled water and deionized water up to 158°F - excellent.
Salt solutions
Sodium chloride (table salt) - up to 20% - excellent.
Sodium sulfate - 33% - excellent.
Bleaches
Sodium sulfite (1%), spent sulfite liquor, zinc hydrosulfite (1%), calcium hypochlorite (5%), sodium hypochlorite (Clorox®) - 5% at 77°F - all excellent.

CONCRESIVE 1305
Page 5

Paper bleaching solution at 77°F (25°C) - not resistant.
Solvents
Ethyl alcohol (in water) - up to 40% to 150°F - excellent; 50% at 77°F - excellent; 95% at 77°F - not resistant.
Normal and secondary butyl, iso-propyl and diacetone alcohols at 77°F - limited resistance.
Toluene at 77°F - not resistant.
Heptane/toluene (25:75) at 77°F - limited resistance
Heptane/toluene (50:50 and 75:25) at 77°F - excellent
Xylene - limited resistance
Gasoline and kerosene at 77°F - excellent
Carbon tetrachloride at 77°F - excellent
Ethyl acetate, methyl iso butyl ketone (MIBK), acetone, methyl ethyl ketone (MEK), trichloroethylene, nitrobenzene, [illegible], [illegible] (ether), methylene chloride, chloroacetyl chloride at 77°F - not resistant.
Attack by these solvents is not strictly chemical, but a softening or swelling action. If the coating does not receive mechanical damage while the solvent evaporates, most of the original integrity is regained.
Miscellaneous materials
Sour crude oil, fuel oil, mineral oil, [illegible], [illegible], dioctyl phthalate, dibutyl phthalate, [illegible], ethylene glycol at 77°F - excellent
Mineral oil at 140°F - excellent
Hydrogen peroxide - 10% at 77°F - excellent
Formaldehyde - 37% - excellent
Styrene at 77°F - not resistant
Epichlorohydrin at 77°F - not resistant
Phenol (in water) - 1% and 5% - not resistant
Sodium monochloroacetate (in water) - 45% at [illegible] - limited resistance
Detergent solution - 5% at 77°F - excellent.

Neither seller nor manufacturer has any knowledge or control concerning the purchaser's use of the product. No express warranty is made by seller or manufacturer with respect to the results of any use of the product. NO IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO AN IMPLIED WARRANTY OF MERCHANTABILITY, OR AN IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, ARE MADE WITH RESPECT TO THIS PRODUCT. Neither seller nor manufacturer assumes any liability for personal injury, loss or damage resulting from the use of this product. In the event that the product shall prove defective, buyer's exclusive remedy, within sixty days from date of receipt, shall be as follows: Seller or manufacturer shall, upon request of buyer, replace any quantity of the product which is proved to be defective, or shall, at its option, refund the purchase price for the product upon return of the product.

Adhesive Engineering Company may alter or discontinue the product described herein at anytime without prior notice. To assure yourself of product availability and applicability of the information presented herein to product of current production contact Adhesive Engineering's Sales Department.

NEC 1987

(b) Vented Alkaline-type Batteries. Cells with covers sealed to jars of nonconductive, heat-resistant material shall require no additional insulation support. Cells in jars of conductive material shall be installed in trays of nonconductive material with not more than 20 cells (24 volts, nominal) in the series circuit in any one tray.

(c) Rubber Jars. Cells in rubber or composition containers shall require no additional insulating support where the total nominal voltage of all cells in series does not exceed 150 volts. Where the total voltage exceeds 150 volts, batteries shall be sectionalized into groups of 150 volts or less and each group shall have the individual cells installed in trays or on racks.

(d) Sealed Cells or Batteries. Sealed cells and multicompartment sealed batteries constructed of nonconductive, heat-resistant material shall not require additional insulating support. Batteries constructed of a conducting container shall have insulating support if a voltage is present between the container and ground.

480-6. Insulation of Batteries of Over 250 Volts. The provisions of Section 480-5 shall apply to storage batteries having the cells so connected as to operate at a nominal voltage exceeding 250 volts, and, in addition, the provisions of this section shall also apply to such batteries. Cells shall be installed in groups having a total nominal voltage of not over 250 volts on any one rack. Insulation, which can be air, shall be provided between racks and shall have a minimum separation between live battery parts of opposite polarity of 2 inches (50.8 mm) for battery voltages not exceeding 600 volts. Maximum protection can be secured by sectionalizing high-voltage batteries into groups.

480-7. Racks and Trays. Racks and trays shall comply with (a) and (b) below.

(a) Racks. Racks, as required in this article, are rigid frames designed to support cells or trays. They shall be substantial and made of:

(1) Metal, so treated as to be resistant to deteriorating action by the electrolyte and provided with nonconducting members directly supporting the cells or with continuous insulating material other than paint on conducting members; or

(2) Other construction such as fiberglass or other suitable nonconductive materials.

(b) Trays. Trays are frames, such as crates or shallow boxes usually of wood or other nonconductive material, so constructed or treated as to be resistant to deteriorating action by the electrolyte.

480-8. Battery Locations. Battery locations shall conform to (a) and (b) below.

(a) Ventilation. Provisions shall be made for sufficient diffusion and ventilation of the gases from the battery to prevent the accumulation of an explosive mixture.

Compliance with this section is necessary to prevent classification of a battery location as a hazardous (classified) location in accordance with Article 500.

It is not the intent of Section 480-8(a) to mandate mechanical ventilation. Hydrogen disperses rapidly and requires very little air movement to prevent accumulation. Unrestricted natural air movement in the vicinity of the battery, together with normal air changes for occupied spaces or heat removal, will normally be sufficient. If the space is confined, mechanical ventilation may be required in the vicinity of the battery.

Ventilation can be a fan, roof ridge vent, or louvered areas.

(b) Live Parts. Guarding of live parts shall comply with Section 110-17.

Batteries are required to be located in a clean, dry room and arranged to provide sufficient work space for inspection and maintenance. Provision is required to be

TELEPHONE BATTERY SHED
CONTAINMENT CALCULATIONS

CHEMICAL VOLUME

(24) EXIDE LEAD ACID BATTERIES TYPE GT-17 AT 14.00 GALLONS EA
= 336.00 GALLONS

(24) EXIDE LEAD ACID BATTERIES TYPE GT-25 AT 18.1 GALLONS EA.
= 434.40 GALLONS

TOTAL GALLONS OF ELECTROLYTE = 770.40 GALLONS

SPRINKLER FLOW

(1) SPRINKLER .214 GPM X 90 SQ. FT. PER HEAD = 18.9 GPM
X 20 MIN.

TOTAL GALLONS FROM SPRINKLER = 378 GALLONS

GRAND TOTAL = 1,148.40 GALLONS

CONTAINMENT

3'-8 1/2" HIGH X 11'-9" WIDE X 19'-8" = 162.43 CUBIC FEET
USING 7.48 GALLONS PER CUBIC FOOT,

TOTAL CONTAINMENT = 1,215 GALLONS

Phil Perry
Facilities Engineering

SECTION 50.40

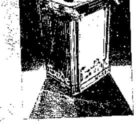
Exide

Antimony Flat Plate

Type GT

Long Duration

- For floating applications, tolerant of high ambient temperatures on a limited basis
- Polycarbonate jars & covers—provide best flame retardant characteristics
- "Post-Lock" terminal post seal—virtually eliminates terminal post corrosion
- Heat bonded jar to cover seal provides increased structural integrity
- 18 year life expectancy
- Flat-plate construction—antimony-alloy grids
- Extra large electrolyte reservoir maximizes performance for discharges of more than two hours while maintaining excellent short duration high current performance.



SPECIFICATIONS

PLATE DIMENSIONS: POSITIVE / NEGATIVE
SEDIMENT SPACE: [illegible]
ELECTROLYTE OVER PLATES: [illegible]
CONTAINER: Polycarbonate
COVER: Polycarbonate
SEPARATORS: Microporous rubber
RETAINERS: [illegible]—glass fiber
POST TYPE: GT-9 through 15—Single Posts
GT-15 through 31—Double Posts
GT-33 through 45—Triple Posts
POST SEAL TYPE: Post-Lock
PLATE SUSPENSION TYPE:
Positive: Bridge hung
Negative: Bottom supported
VENT TYPE: Flame arrestor, [illegible]
FLOAT VOLTAGE:
Acceptable Range: 2.17—2.20 VPC
Recommended: 2.20 VPC
SPECIFIC GRAVITY: 1.215 (1.170 available on request)
BOLT CONNECTIONS: Stainless Steel, [illegible]
INTERCELL CONNECTORS: Lead-plated copper

Capacities-Dimensions-Weights

TYPE	NOM. A.H. CAP.	LENGTH in	LENGTH mm	WIDTH in	WIDTH mm	HEIGHT in	HEIGHT mm	UNPACKED lbs.	UNPACKED kg	DOMESTIC PACKED lbs.	DOMESTIC PACKED kg	ELECTROLYTE ONLY lbs	ELECTROLYTE ONLY kg	ELECTROLYTE ONLY gal.	ELECTROLYTE ONLY l	OUTLINE DRAWING SEE CATALOG SECTION
2GT-9	800	12.4	315	15.1	384	25.4	371	357	162	387	176	136	62	13.6	51	
2GT-11	1020							402	182	422	191	137	62	12.7	48	
2GT-13	1140							458	190	450	207	112	50	11.2	48	
GT-15	1310	12.4	315	15.1	384	25.4	671	347	157	367	156	144	65	14.4	54	
GT-17	1520							364	165	384	174	140	62	14.0	53	
GT-19	1820							392	178	402	182	136	62	13.6	51	
GT-21	2020							401	182	421	191	132	60	13.2	50	
GT-23	2420							483	219	506	229	185	84	18.5	70	50.40
GT-25	2590							501	227	523	237	181	82	18.1	68	
GT-27	2740	16.6	422	15.1	384	26.4	671	520	236	542	246	177	80	17.7	67	
GT-29	2850							536	244	560	254	170	77	17.0	65	
GT-31	3040							557	253	578	262	165	77	16.5	64	
GT-33	3140							562	264	590	274	165	75	16.5	62	
GT-35	3530							601	273	623	282	161	73	16.1	61	
GT-37	3270							620	281	642	291	157	71	15.7	59	
GT-39	3400							638	290	660	299	153	69	15.3	58	
GT-41	3550							657	298	679	308	148	67	14.8	56	
GT-43	3620							675	306	697	316	144	65	14.4	55	
GT-45	3700							690	314	712	324	140	63	14.0	53	

[illegible footnotes]

Average Cell Performance Data*

Discharge rates in amperes.
1.215 SP. GR. ELECTROLYTE AT 77°F (25°C), INCLUDING CELL CONNECTORS

TYPE	NOM. A.H. CAP.	72 HR.	24 HR.	12 HR.	8 HR.	6 HR.	4 HR.	3 HR.	2 HR.	1.5 HR.	1 HR.	30 MIN.	15 MIN.	1 MIN.	TO 1.50 VPC 1 MIN.
To 1.75 VPC Final															
GT-9	800	10.0	36	62	106	140	175	206	250	300	360	455	531	629	1250
GT-11	1020	14.3	57	92	137	174	202	242	310	357	433	546	618	750	1500
GT-13	1140	24.0	54	105	119	196	[illegible]	272	334	406	500	632	750	882	1750
GT-15	1310	27.0	58	145	182	251	295	350	425	525	600	755	924	1100	2150
GT-17	1520	36.5	95	161	213	287	309	385	502	606	704	820	1025	1251	2500
GT-19	1820	38.8	105	176	231	310	335	476	545	645	729	960	1140	1350	2700
GT-21	2020	49.0	115	190	252	302	379	434	565	720	840	1065	1275	1475	3010
GT-23	2420	51.4	124	201	263	412	473	585	714	855	1000	1205	1460	1656	3365
GT-25	2590	57.4	142	244	274	411	527	608	767	905	1055	1290	1538	1826	3600
GT-27	2740	59.7	150	259	370	465	540	640	818	932	1131	1450	1670	1945	3875
GT-29	2850	58.7	157	271	351	486	571	686	867	1023	1215	1535	1762	2067	4216
GT-31	3020	60.4	164	282	378	521	601	735	914	1085	1290	1615	1860	2180	4450
GT-33	3140	[illegible]	168	292	392	575	629	788	900	1102	1365	1770	2025	2405	5040
GT-35	3280	72.7	170	301	401	584	655	790	1003	1163	1420	1850	2180	2506	5007
GT-37	3370	83.1	174	305	401	590	682	820	1045	1235	1495	1980	2265	2720	5590
GT-39	3460	89.5	176	316	403	600	705	854	1085	1285	1560	2030	2376	2615	5915
GT-41	3550	92.8	178	321	414	607	725	862	1125	1320	1615	2070	2460	2863	6060
GT-43	3620	94.6	179	325	420	614	736	869	1160	1372	1670	2135	2540	2985	6295
GT-45	3700	96.5	180	330	424	618	770	875	1170	1400	1725	2200	2605	3050	[illegible]

[illegible footnotes]

Standard-Rack Selection Guide for "GT" Cells*

CAUTION: Additional length may be required for seismic and high seismic racks.

NO. OF CELLS	CELL SIZE	(QUANTITY REQUIRED) CATALOG NUMBER—RACK LENGTH IN INCHES 1-TIER	2-TIER	2-STEP
12	9-13	(1)845[illegible]-84	(1)84537-60	(1)84554-60
	15-21	(1)84520-156	(1)84539-84	(1)84558-84
	23-45	(2)84520-80	(1)84540-96	(1)84569-96
24	9-13	(1)84520-156	(1)84539-84	(1)84556-84
	15-21	(2)84520-156	(1)84538-72 + (1)84539-84	(1)84558-156
	23-45	(2)84528-120 + (1)84529-132	(2)84540-96	(2)84569-96
26	9-13	(1)84521-168	(1)84541-96	(1)84557-96
	15-21	(2)84521-168	(3)84539-84	(1)84558-168
	23-45	(2)84529-132 + (1)84530-144	(1)84540-60 + (2)84541-72	(1)84568-96 + (1)84569-108
27	9-13	(1)84522-180	(1)84044-96	(1)84557-96
	15-21	(1)84516-108 + (2)84517-120	(1)84539-84 + (1)84540-96	(1)84554-180
	23-45	(1)84529-132 + (2)84530-144	(3)84541-72	(2)84569-108
30	9-13	(2)84516-108	(2)84537-60	(1)84556-108
	15-21	(3)84518-132	(3)84538-72	(1)84557-96 + (1)84558-108
	23-45	(3)84531-156	(3)84542-84	(1)84569-108 + (1)84571-132
60	9-13	(4)84516-108	(4)84537-60	(2)84556-108
	15-21	(6)84518-132	(6)84538-72	(1)84557-96 + (2)84558-108
	23-[illegible]	(5)84531-156	[illegible]542-84	(2)84560-108 + (2)84571-132

NOTE: In developing the above table, it was assumed that multiple racks [illegible] 12, 24, 26, 27 and [illegible] would be installed end-to-end. If another arrangement is anticipated, additional rack length may be required.

*This rack selection guide is applicable for standard racks [illegible] [illegible] For additional information [illegible] see Catalog Sections [illegible]

Accessories

		CATALOG NUMBER
PORTABLE HYDROMETER		51332
HYDROMETER HOLDER—WALL MOUNT		32717
THERMOMETER (Portable or Flame Arrestor Mounting)		37[illegible]
CELL NUMBER SETS	1-30	49535
	1-60	49331
	1-120	49332
	1-240	49333
CELL LIFTING DEVICE	GT-9 thru 13	84974
	GT-15 thru 45	84975
FLAME ARRESTOR (Supplied With Each Cell)	GT-9 thru 13	61707
	GT-17 thru 33	83442
	GT-35 thru 45	83622

For complete information about these and other accessories, see Catalog Section 56.[illegible]

Note: All intercell, intertier, interstep electrodeless intercells, back-to-back interrack connectors, terminal lugs, and terminal plates are included with every Exide battery. Across-aisle inter-rack connectors are not included.

EXIDE INDUSTRIAL BATTERY DIVISION
ESB INCORPORATED

Form [illegible] Printed in U.S.A.

EXIDE Section 58.10

INSTRUCTIONS for ASSEMBLING & MAINTAINING HIGH SEISMIC RACKS for Exide BATTERIES

1. SAFETY PRECAUTIONS

a. Racks are to be assembled in accordance with the instructions contained in this document without deviations.
b. The SAFETY PRECAUTIONS contained in the Battery Installing and Operating Instructions, Section 58.00, Form 8140 also apply to these instructions.
c. These instructions provide for GROUNDING in accordance with ANSI N41.24-1976 (IEEE Std. 484-1975).
d. DO NOT loosen braces on a rack that has cells already installed except as instructed in Par. 6.

2. RACK LOCATION

Section 58.00, Form 8140 covering battery installing and operating instructions are to be followed for rack location.

3. RACK (General)

a. All Exide stationary battery seismic racks are supplied unassembled; the main parts being frames, support rails, side rails, end rails, braces, brackets, intertier connections for [illegible] F & G type cells, clamp assembly for "G" cells and plastic channels.

Each size of bolt, nut, stud, washer and nut is packaged separately, identified on outside of package and shipped in a carton or fiber drum. Plastic channels for the support and side rails are included in the rail package. The plastic channel for the end rail is included in the hardware package. Two-faced tape for adhering the plastic channels to rails is furnished in the rail package.

(Racks that are to be used with [illegible] and [illegible] Cells will have "header packages" — one for each frame — and special end rails in an additional package.)

b. The minimum clearance between these racks and any other objects (including walls, equipment and any other racks) is to be [illegible]. THE RACKS ARE TO BE BUTTED TOGETHER END-TO-END OR BACK-TO-BACK.

Inter rack main connectors, (supplied by Exide) are based on [illegible] spacing; connectors for any other spacing over [illegible] is the responsibility of the installer.

c. Racks covered by these instructions are to be firmly connected to the floor of the building structure only as specified.

d. The floor on which the racks are to be installed must be level. If floor on which rack is to be placed is not level, floor shims must be used. Floor shimming is not to exceed [illegible]. Suggested floor shims would be steel [illegible] with [illegible] hole larger than bolt. (Not furnished by Exide.)

4. RACK ASSEMBLY

a. It is important that all SAE Grade 5 or better bolts and nuts, with class 2A fit, used to anchor rack frames be torqued to the floor as shown in table below without lubrication. An equivalent tested anchoring device of equal strength may be utilized. Anchoring must provide at least the same holding capacity. Anchoring devices are to be provided by the installer. Make sure that frames are plumb and in alignment both before and after tightening the bolts. Anchoring devices imbedded in the floor shall have threaded portion extending [illegible] above finished floor.

TABLE I

Rack Cat. No's.	No. Bolts per frame	Bolt Diameter in.	Bolt Diameter mm	Torque ft. lbs.	Torque kgm
[illegible] to [illegible]	3	[illegible]	12	75	10.4
[illegible] to [illegible]	3	[illegible]	12	[illegible]	10.4
[illegible] to [illegible]	1	[illegible]	14	[illegible]	20.0

b. Bolt Tightening

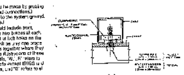
All rack bolts for [illegible] type cells shall be tightened to 80 ft. lbs. [illegible] torque.

All rack bolts for "G" type cells shall be tightened to 75 ft. lbs. [illegible] torque.

c. Care must be exercised to assure frames both on [illegible] centers, plus or minus [illegible].

d. On installations where grounding, in accordance with ANSI N41.24-1976 (IEEE Std. 484-1975) is to be required, the following steps must be taken. As each component is installed, apply a coating of [illegible] corrosion compound [illegible] to the mating surfaces and make the connection to the required torque. An ohmmeter reading between each component and a common point on a frame must indicate continuity to assure complete grounding. Any component that does not show continuity must have at least one connection loosened and retightened with the ohmmeter test repeated. It is not necessary to loosen each connection to show continuity as long as there is at least one ground. [illegible]

[illegible]



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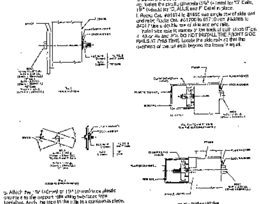
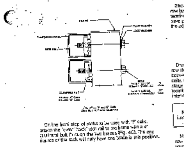
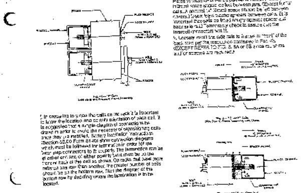


[illegible]





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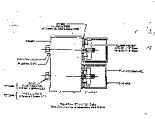
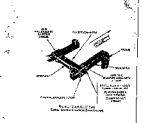
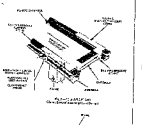
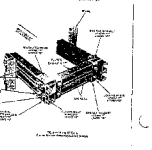
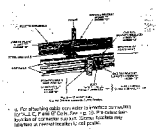
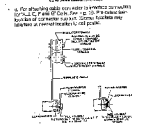


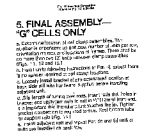












5. FINAL ASSEMBLY—"G" CELLS ONLY

6. RACK INSPECTION AND MAINTENANCE

EXIDE

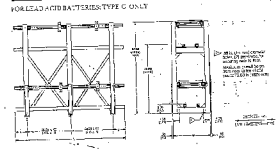
A Corporation of
Inco Electro-Energy

Exide

Zone 2,3 and 4 (Seismic) Battery Racks

2 Tier

FOR LEAD ACID BATTERIES TYPE G ONLY



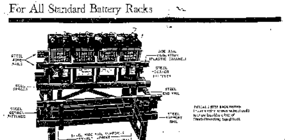
CATALOG NUMBER																			

SECTION 51.45

Exide

Shock-Protecting Equipment

For All Standard Battery Racks



STANDARD RACK LENGTH ALL DESIGNS	ORDER ONE PACKAGE OF SHOCK-PROTECTING EQUIPMENT PER ROW						APPROX. SHIPPING WEIGHT
	CELL TYPE						
	LA/LC DA/DC	DMP	TYPE [illegible]	TYPE [illegible]	[illegible]	ALL OTHER [illegible] CELLS	
in (mm)	CATALOG NUMBER						lbs (kg)
36.00 (914)	77409	77402	774[illegible]				20 (9)
48.00 (1219)	77410	55300	51216	80145			22 (10)
60.00 (1524)	78785	55301	51317	56069	84376	84607	27 (12)
72.00 (1829)	78786	55302	51318	56067	84377	84609	34 (15)
84.00 (2134)	78787	55303	27160	55068	84570	[illegible]	35 (16)
96.00 (2438)	78785	77403	51419	56061	84579	84610	42 (19)
108.00 (2743)	[illegible]	55304	51420	56070	84520	[illegible]	46 (20)
120.00 (3048)	78793	77404	51921	56071	84531	84612	47 (21)
[illegible]	[illegible]	55305	[illegible]	56072	84562	84610	49 (22)
[illegible]		55306	[illegible]	[illegible]	[illegible]	[illegible]	50 (23)
[illegible]			77107	[illegible]	[illegible]	[illegible]	55 (25)
[illegible]		55107	51224	55074	84566	84618	61 ([illegible])
[illegible]			51325	56075	84566	84617	63 ([illegible])

Notes:

Standard "G" racks come with vertical side rail supports standard, and are NOT included in shock protecting kit.

All Shock-Protecting Equipment painted with acid resisting ASA #61 gray paint.

When necessary to secure racks, Subsid end to end special [illegible] pkg. Catalog #[illegible]

*The number of Shock-Protecting Equipment packages required is determined according to the rack style utilized:

1 Tier = 1 Package
2 Tier = 2 Packages
3 Step = 3 Packages, etc.

FINDINGS REPORT/ZONING PERMIT

Page 1 of 2

APPLICATION NO.: 014-88-AA

DATE OF FINDINGS: February 3, 1988

THIS REPORT IS SUBMITTED IN ACCORDANCE WITH THE PROVISIONS OF THE ZONING ORDINANCE

Applicant's Name:
Bruce Zelenka for GTE Government Systems

Street Address of Property:
130 Ferguson Drive

Zone:
ML

Request:
Request for Site Plan and Architectural Review approval to construct a second floor exit door with an exterior staircase and a freestanding 270 square foot battery shed at an existing multi-building industrial complex.

APPROVED ___ CONDITIONALLY APPROVED X DISAPPROVED ___ CONTINUED ___ OTHER ___

CONDITIONS OR COMMENTS

Since the proposed emergency exit stairway and telephone battery shed are in unobtrusive areas not visible from off-site and are generally compatible with the appurtenant building and other small structures on the site, this item is approved subject to the following conditions:

Fire Conditions

1. Fill in or replace existing glass windows under the stairway on the first floor to create a one-hour fire rated assembly to ensure that a fire on the first floor does not negate the emergency exit from the second floor.

2. Confirm with the Building Division the appropriate stairway landing size. (It appears to be too small for the door swing.)

3. Provide signs on the battery building to notify emergency personnel of electrical hazard inside.

4. Modify Hazardous Materials Plan as appropriate to list the battery shed and contents.

Planning Conditions

5. The landscape upgrading, especially within parking areas, is still needed to meet current standards. Conditions of Findings Report No. 117-86-AA, dated June 9, 1986, still apply and must be implemented in timely manner to comply with the past and present Findings.

FI-1[illegible] (Rev. 7/83) WHITE: Owner; YELLOW: Agent; PINK: File; GREEN: Fire; GOLD: [illegible]

Page 2 of 2
014-88-AA

6. The removal of "temporary" sheds must proceed as stipulated in Drawing A55 dated September 15, 1987. It appears that a structure near the antenna domes on the northerly side of the property still remains, although it was to have been removed by December 1987. This building must be removed prior to building permit issuance for the stairway or the battery shed. Photographs showing the building being removed or other suitable documentation shall be submitted to document this condition.

7. This approval expires in one year unless all conditions have been met and the use is subsequently instituted or building permits have been obtained. To apply for building permits, submit three sets of plans modified to reflect these conditions of approval ALONG WITH AN ANNOTATED COPY OF THE FINDINGS REPORT NOTING NEXT TO EACH CONDITION HOW IT HAS BEEN SATISFIED.

NOTE: SPAR decisions may be appealed to the City Council through the City Clerk within 10 working days of the date of the findings. No permits may be issued or occupancy authorized during this appeal period.

LESLIE W. GOULD, DEPUTY ZONING ADMINISTRATOR

By: [signature]
Michael J. Percy, Housing Coordinator

MJP/PLC
812-2-327

PROPOSED BATTERY SHED

BATTERY STORAGE BLDG - SPRINKLER PLANS #3

25 BERGRAM DR. GOTC

PROPOSED INSTALLATION

☒ Approved in Accordance NFPA 13D

☐ Conditionally approved. See letter dated ____

☐ Disapproved – Justify Deficiencies

☐ Disapproved – Does not meet Code

By: N. Morgan

Date: 7/5/89

NOTE: Acceptance applies to systems as shown on plans. Inspection subject to all Code and field inspections.

MOUNTAIN VIEW FIRE DEPARTMENT
BUREAU OF FIRE PREVENTION

#8859

→ Fill the pipe penetration

① When there the fire wall NFPA meets equivalent to 1 hr. and

② Submit (2) extra cpies of this plan to the S.D. so that we can signoff. Then it is that GTC has an approved set on-site for final inspection.

③ Place (1) extra 165°F heat sealed head in the spare sprinkler box on-site.

④ Provide a fire hose cabinet and maintenance test of automatic sprinkler system. Contractor shall have a certified contractor, licensed by the State Fire Marshal. BCD#3

EPT. COPY

⑤ Provide a fire hose cabinet and maintenance test of automatic sprinkler system. Contractor shall have a certified contractor, licensed by the State Fire Marshal. BCD#3

ALTERNATE FIRE SPRINKLER SYSTEM FOR:

E.	G.T.E.	SUPPLY AND INSTALL SYSTEM PURSUANT 1.2.2 OF BLDG 2 NOTE	
BY:	[redacted]	DATE: 6-16-89	CONTRACTOR: Sprinkler
		DATE: 6-16-89	CONTRACTOR: Sprinkler
STANKELEES INC.			
VR. WITTE J. PRESIDENT		CONTRACTOR:	DATE: 7-5-89
LIC. NO. 597116 (C-16)			

NO 1984054-14 - BLDG #3

BATTERY STORAGE BLDG.

PROPOSED CONSTRUCTION ON

LIMITED

☒ Approved as shown ____

☐ Conditionally approved. See letter dated ____

☐ Disapproved

By: N. Morgan

Date: 7/5/89

NOTE: Acceptance applies to plans as shown on approved Construction plans. As in Code and field inspection.

MOUNTAIN VIEW FIRE DEPARTMENT
BUREAU OF FIRE PREVENTION

#8859

1. EXIT DOOR HARDWARE SHALL BE OF THE PUSH-OPERATING TYPE (I.E. PANIC BAR WITHOUT THE ONE OR NOT SPECIAL KNOWLEDGE OR EFFORT)

2. ALARM/HELP CHECK OF ALTERNATE SYSTEM 2-5-89 & 6/28/89 WHEN HAVE BEEN SUBMIT PRIOR TO FINALIZATION OF PERMIT.

3. THE SPECIAL PLANS WERE ATTACHED PROVIDE LABORATORY REPORT (1) COPY. SEE PROPOSAL OF OPTIONAL APPROVED TO THIS PLAN. PLEASE DESCRIPTION, SUBMIT XTRAS PRIOR TO INSPECTION.

4. A minimum of one 2-A:10-B:C fire extinguisher for every 3,000 sq. ft. of floor area not exceed 75 travel distance. 1 REQ'D.

APPROVED FOR CONSTRUCTION

JUL 16 1989

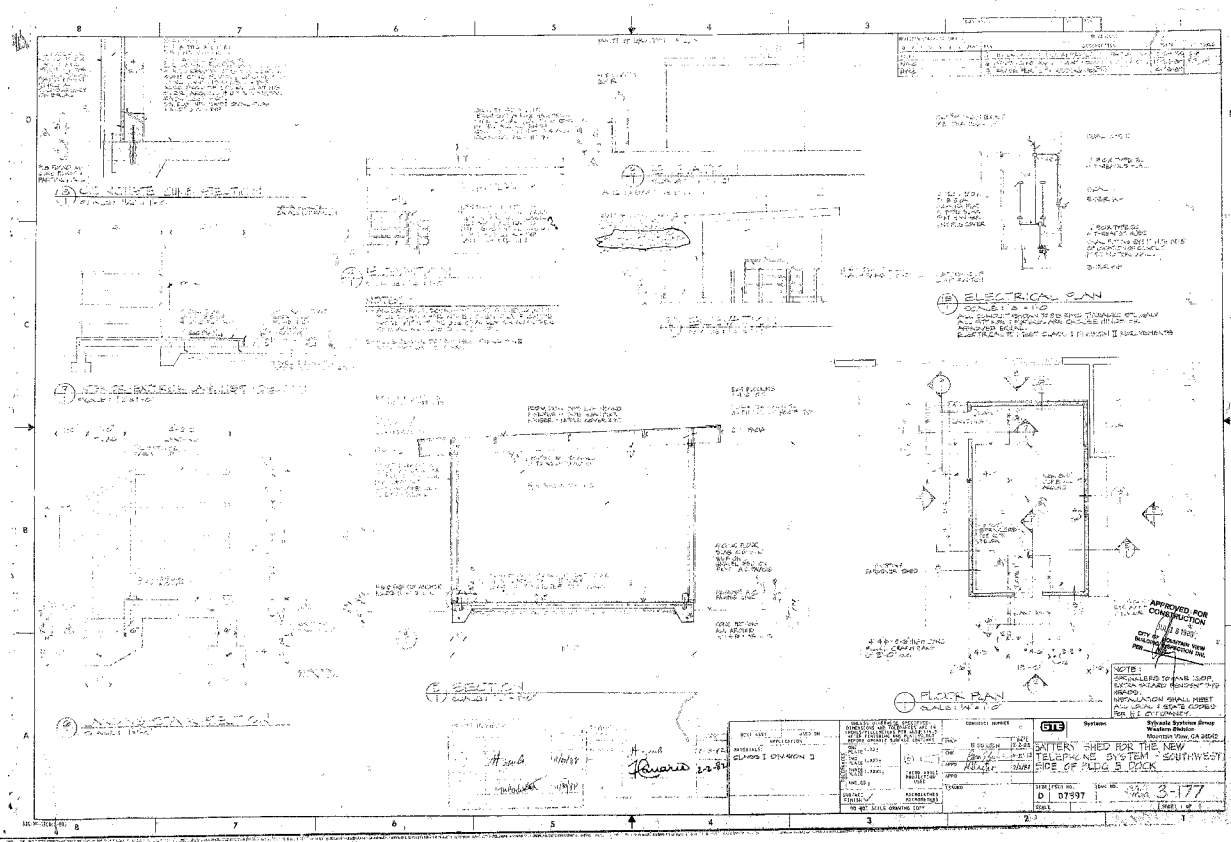
CITY OF MOUNTAIN VIEW BUILDING INSPECTION DIV.

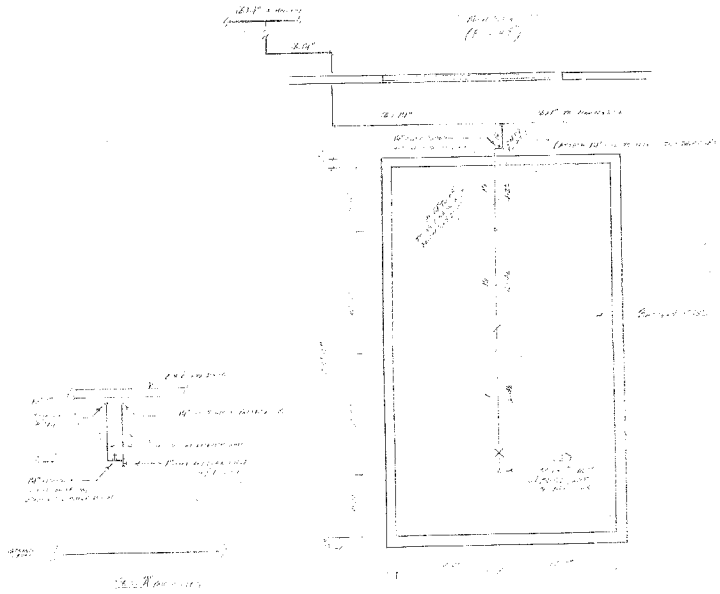
PER ____

POOR COPY

10 CM. EPA
11 3 732
12 5 73
9.25 14 16

POOR COPY


FLOOR PLAN
ELECTRICAL PLAN
APPROVED FOR CONSTRUCTION
NOTES:
BATTERY SHED FOR THE NEW TELEPHONE SYSTEM - SOUTHWEST SIDE OF PIER 5 DOCK
Sylvania Systems Group
Western Division
Mountain View, CA 94040
D 07597
3-177



Building Pck 3 set

REVISIONS | BY:

ALL WORK SHOWN, NOTED OR REQUIRED IN TO BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF N.F.P.A. PAMPHLET NO. 13 AS WELL AS LOCAL CODES AND REQUIREMENTS WITH THIS INSTALLATION IS SUBJECT TO THE ACCEPTANCE OF THE AUTHORITY HAVING JURISDICTION

ALL MATERIAL TO BE IN GOOD WORKING CONDITION AS A COMPLETE SYSTEM (N.F.P.A. PAMPHLET NO. 13 SEC. 2013)

RELEASE OUTLETS NOT TO BE MORE THAN 1,000 FEET

RESTRICTED TO FUNCTIONAL INTENT OF AUTOMATIC SPRINKLER LAYOUT ONLY

SPRINKLER HANGERS ARE NOT DESIGNED FOR THE STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE ADDED LOAD OF THE SPRINKLER PIPING

APPROVALS | DATE

HAZARD: [illegible]

SYSTEM DESIGN: [illegible]

FIRST HOSE ROUTE: [illegible]

CONSTRUCTION: [illegible]

LEGEND

- DENOTES SUBTRACTIVE DESIGN
- EXISTING SYS. & PIPE TO BOTH, ROOF
- PENALTIES [illegible]

SPRINKLERS	SYMBOL	TYPE	FINISH	DEGREE	AMOUNT
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]

TOTAL HEADS THIS CONTRACT [illegible] TOTAL HEADS THIS SHEET [illegible]

DATE: [illegible]

DESIGNED AND INSTALLED BY:

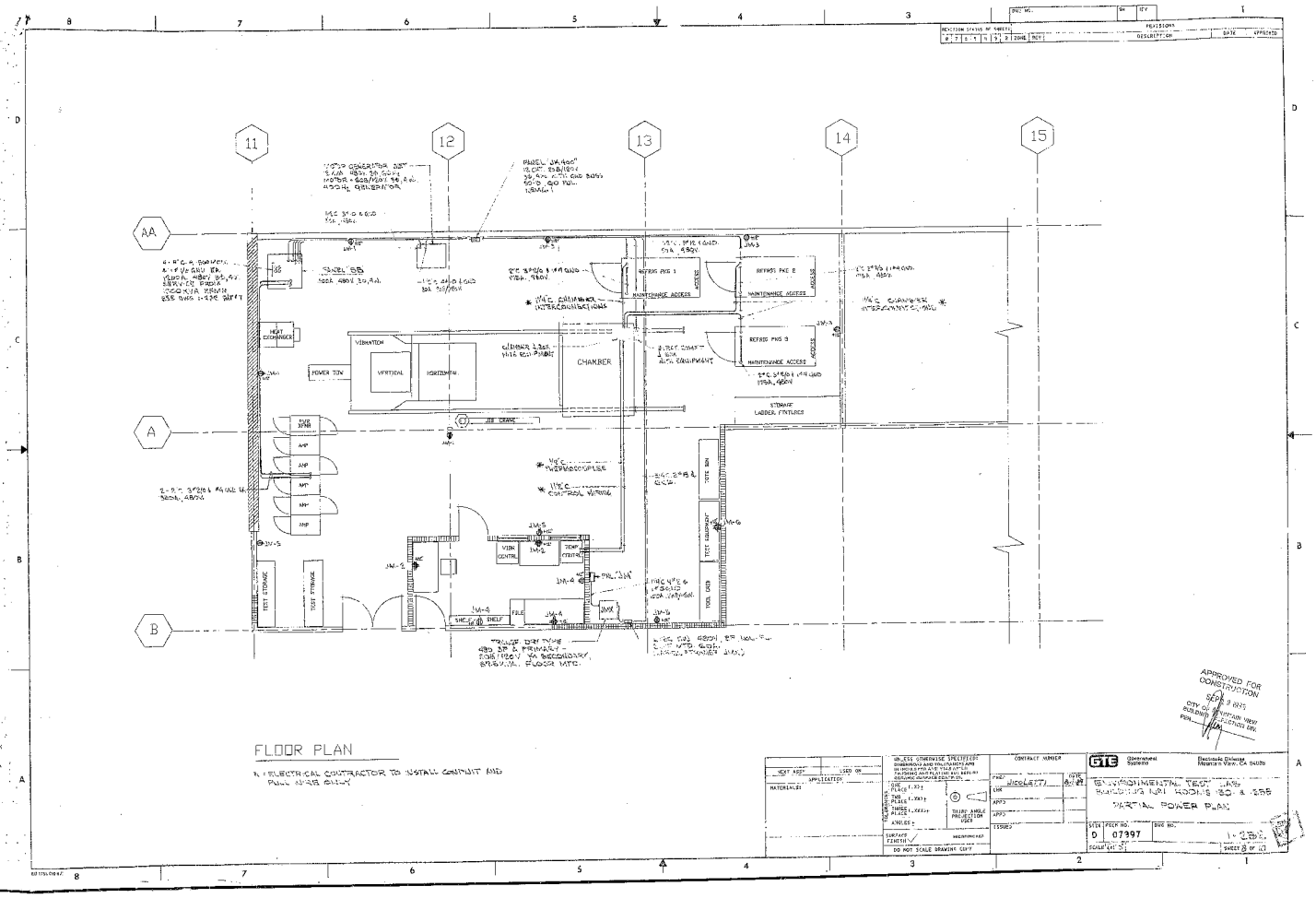
[illegible]

AUTOMATIC FIRE SPRINKLER SYSTEM FOR

[illegible]

SCALE [illegible]

CONTRACT NO. [illegible]



FLOOR PLAN

* ELECTRICAL CONTRACTOR TO INSTALL CONDUIT AND PULL WIRE ONLY

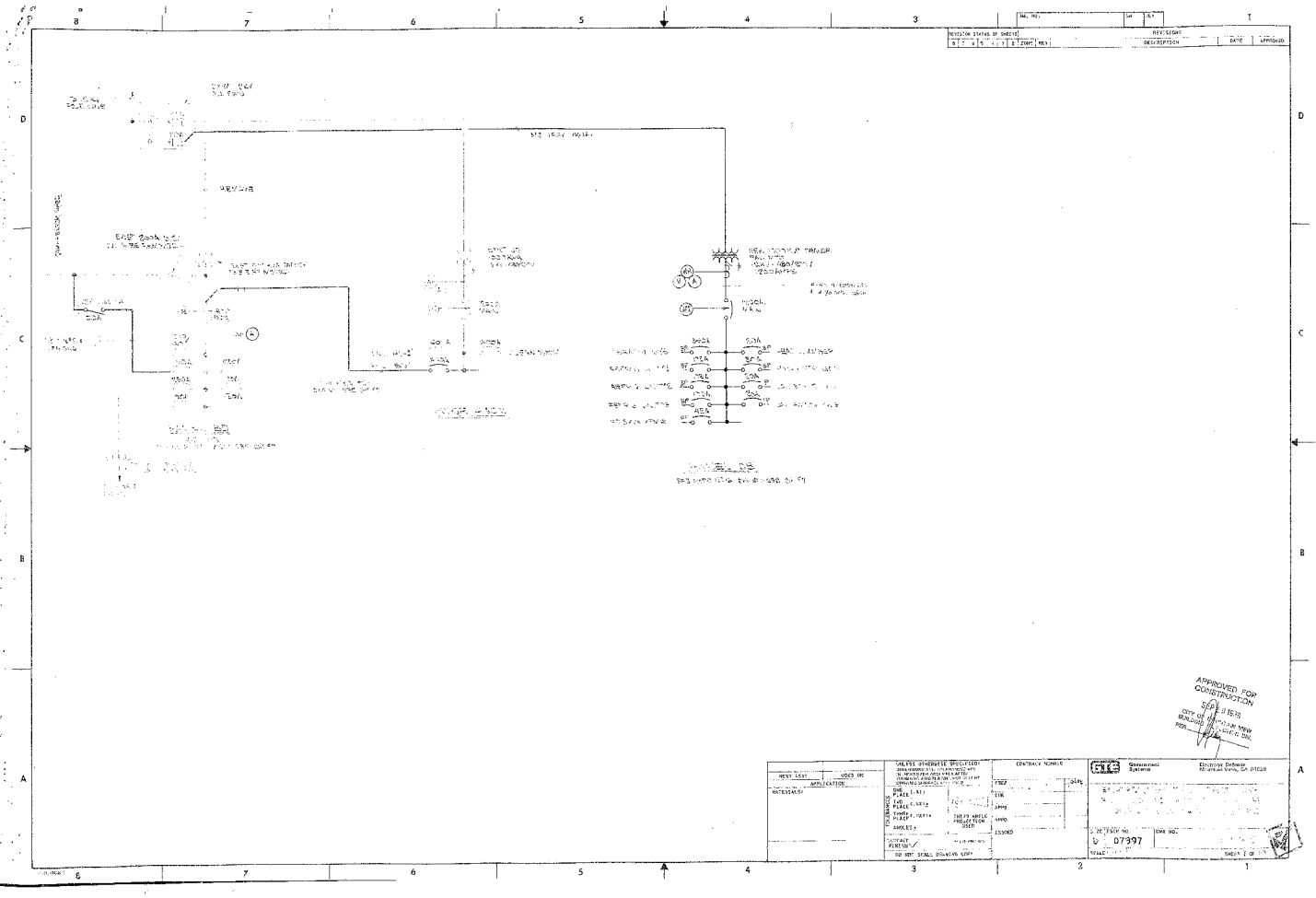
NEXT ASSY	USED ON	UNLESS OTHERWISE SPECIFIED: DIMENSIONS AND TOLERANCES ARE IN INCHES PER ANSI Y14.5 (1973) FINISHING AND PLATING AND MEASURING ARE PER ANSI Y14.5 (1973)	CONTRACT NUMBER
APPLICATION		DIM PLACES (.XX) ±	PROJ: JICOLETTI
MATERIALS:		TWO PLACES (.XX) ±	CHK
		THREE PLACES (.XXX) ±	APPD
		ANGLES ±	APPD
		THIRD ANGLE PROJECTION USED	ISSUED
		SURFACE FINISH	SECONDARY
		DO NOT SCALE DRAWING CONT	

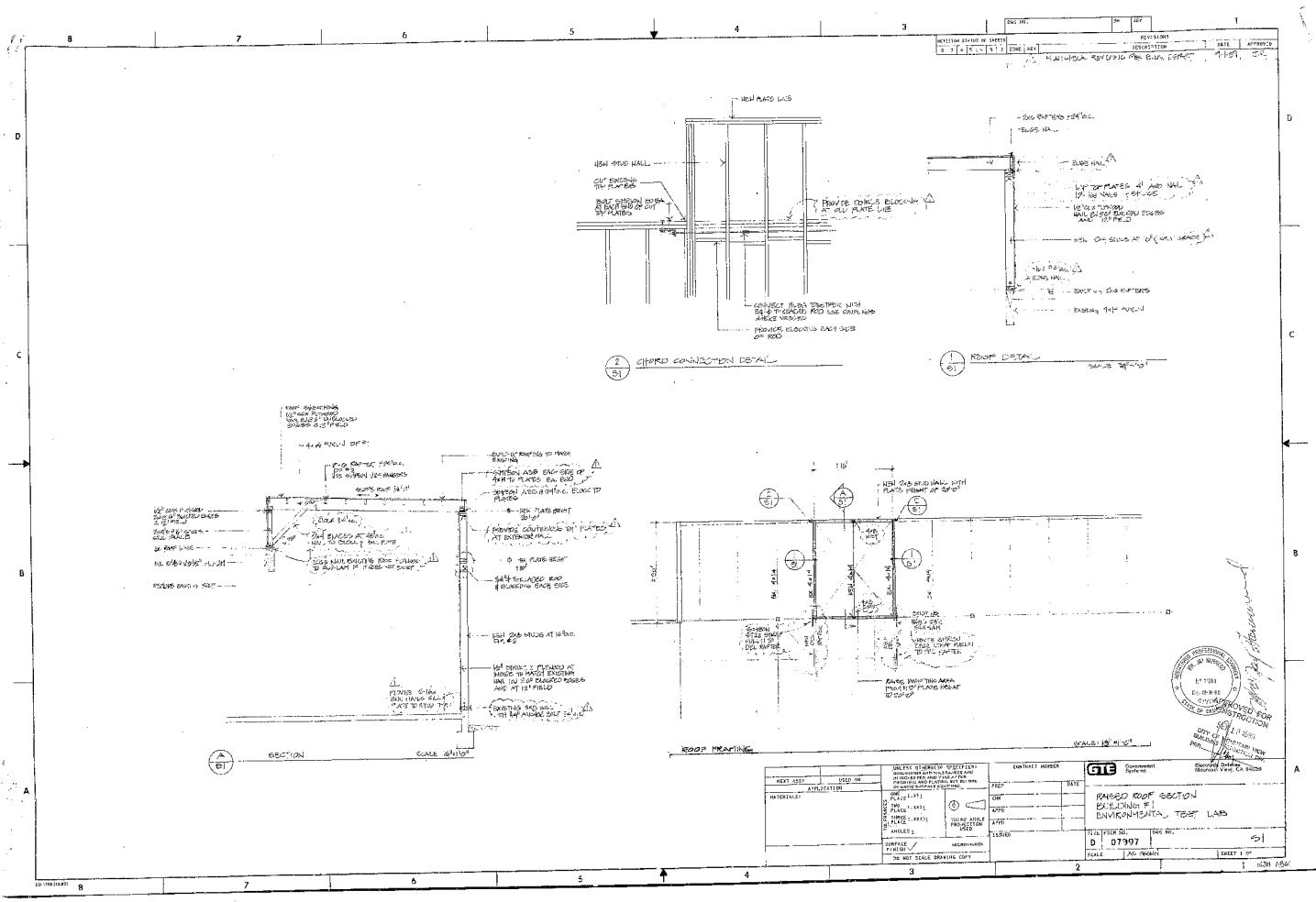
GTE Government Systems — Electronic Defense, Mountain View, CA 94039

ENVIRONMENTAL TEST LAB BUILDING NO. HOOKS 130 & 135

PARTIAL POWER PLAN

SIZE	FSCM NO.	DWG NO.	
D	07397		1-282
SCALE: 1/4" = 1'		SHEET 8 OF 10	


REVISION STATUS OF SHEETS
REVISIONS
DESCRIPTION
DATE
APPROVED
APPROVED FOR CONSTRUCTION
CITY OF NEWPORT NEW BUILDING
NEXT LEAST
USED ON
APPLICATION
MATERIALS:
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES AND ARE IN INCHES PER INCH AND TOLERANCES ARE IN INCHES
DIMENSIONS ARE IN INCHES
TOLERANCES
ONE PLACE (.X)
TWO PLACE (.XX)
THREE PLACE (.XXX)
ANGLES ±
SURFACE FINISH
THIRD ANGLE PROJECTION USED
DO NOT SCALE DRAWING COPY
CONTRACT NUMBER
PREP
CHK
APPD
APPD
ISSUED
GTE Government Systems
Electronic Defense
Mountain View, CA 94039
SIZE
D
07397
DWG NO.
SCALE
SHEET 1 OF 1



CHORD CONNECTION DETAIL
ROOF DETAIL
SECTION
ROOF FRAMING
RAISED ROOF SECTION
BUILDING #1
ENVIRONMENTAL TEST LAB
D 07397

FINDINGS REPORT/ZONING PERMIT

APPLICATION NO.: 171-80-AA

DATE OF FINDINGS: October 8, 1980

THIS REPORT IS SUBMITTED IN ACCORDANCE WITH THE PROVISIONS OF THE ZONING ORDINANCE

Applicant's Name:

John Kalira for GTE Government Systems

Street Address of Property: | Zone:

180 Pacquaw Drive | ML

Request:

Request for Site Plan and Architectural Review approval to install a walkway with a bridge, a canopy and a storefront door at an existing research and industrial facility.

APPROVED ___ CONDITIONALLY APPROVED X DISAPPROVED ___ CONTINUED ___ OTHER ___

CONDITIONS OR COMMENTS

Since the proposed walkway will improve the function of the site plan, will not harm any of the existing mature trees and will be architecturally compatible with the existing structures, it is approved subject to the following conditions:

1. The note on Sheet 6-165 which reads "verify location of existing tree, remove if necessary," shall be changed to delete the portion of the note specifying removal.

2. The proposed walkway shall be relocated if necessary to preserve the nearby Blackwood acacia.

3. Notes shall be added to the plans which spell out to contractors that the portion of the walkway which is to be built within the drip line of the tree may not be excavated more than 6" below grade; that if excavation requires the cutting of roots larger than 1½", said cutting shall be done under the supervision of a certified arborist, and if roots are severed, they must be cut clean and sealed, consistent with ISA pruning standards.

4. The proposed shape of the awning shall be changed to be either angle-edged, similar to the corners of the building or rounded, similar to the arched columns of the building. The color of the awning shall be revised to match the color of the building and must be approved by the Planning Department.

5. The plans shall be revised to include low-growing shrubs around the retaining walls of the proposed bridge to blend it into the existing landscape.

PL-141 (Rev. 7/83) WHITE: Owner; YELLOW: Agent; PINK: File; GREEN: File; GOLD: Public Works

Fire Department Comments

6. The canopy shall be fire-retardant per California State Fire Marshal, Title 19.

7. The sprinkler system shall be altered as necessary.

This approval expires in one year unless all conditions have been met and the use is subsequently instituted or building permits have been obtained. To apply for building permits, submit three sets of plans modified to reflect these conditions of approval along with an updated copy of this findings report noting how to each condition now it has been satisfied.

NOTE: SPAR decisions may be appealed to the City Council through the City Clerk within 10 working days of the date of the findings. No permits may be issued or occupancy authorized during this appeal period.

KAYE BLACK, ZONING ADMINISTRATOR (ACTING)

By: Geo Gillington for Mary Gifford
Mary Gifford
Deputy Zoning Administrator (Acting)

KB/MF/PSC
845-18-8F2

STRUCTURAL CALCULATION

CANOPY - SITE BLDG. G

$D = \frac{5 \times 8}{2} + 15^{\#} = 35^{\#}/ft$

$\frac{35^{\#} \times 6 \times 35}{2} = T = 2450^{\#}$

$C = 2450 \times 5/7 = 2100^{\#}$

Upright Cap = 20

$P_{cr} = 2.96 \times 15 \times 12 = 15 \times 512^{\#}$

Use Hilti Anchor HVA 1/2

3000 psi 3000# TENSION 2100# SHEAR

APPROVED FOR CONSTRUCTION
OCT 20 1980
JAN DE LEEUW VAN PAPE
JVP

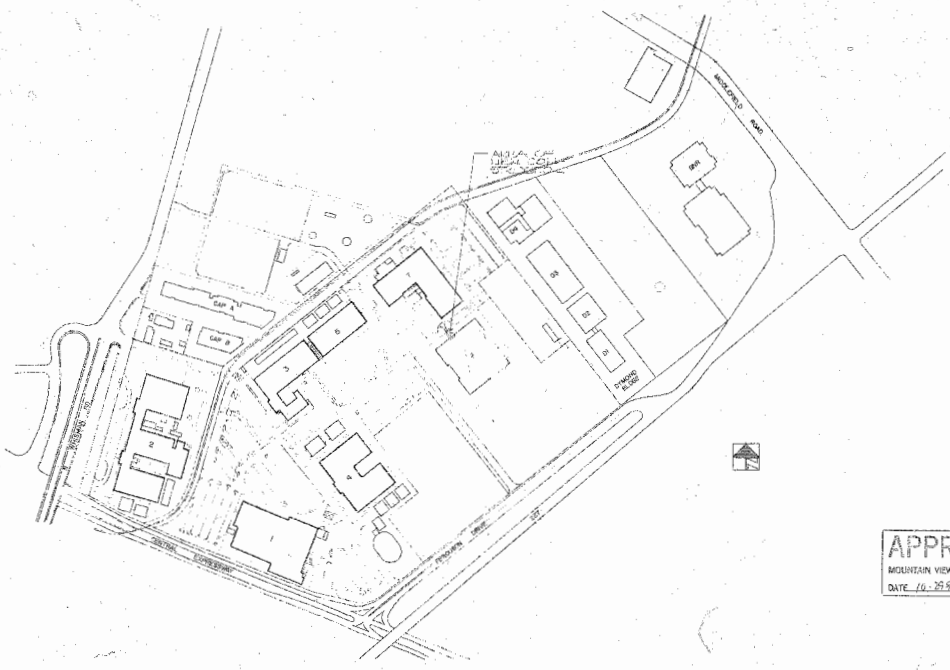
WM. JAY MAUSKOPF & ASSOCIATES
CIVIL ENGINEERS
6360 Thornton Avenue
Newark, CA 94560
(415) 790-0880

REGISTERED PROFESSIONAL ENGINEER
WM. JAY MAUSKOPF
No. 17969
Exp. 12-31-82
CIVIL
STATE OF CALIFORNIA

GTE GOVERNMENT SYSTEMS

PROJECT: BLDG. G NEW DOCK & CONCRETE [illegible]

SHEET: 1 of 3



APPROVED — as redlined
MOUNTAIN VIEW PLANNING DEPT.
DATE 10-25-90 BY [illegible]

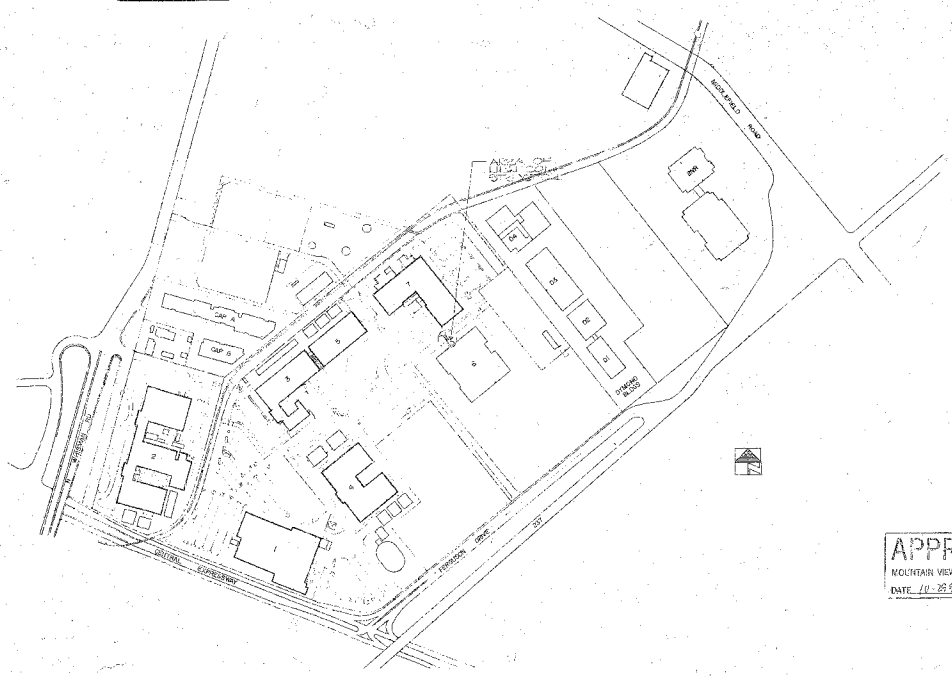
RECEIVED
OCT 29 1990
PLAN CHECK

APPROVED FOR CONSTRUCTION
OCT 29 1990
CITY OF MOUNTAIN VIEW, CALIF.
BY [illegible]

GTE GOVERNMENT SYSTEMS

PROJECT: BLDG. 6 [illegible]

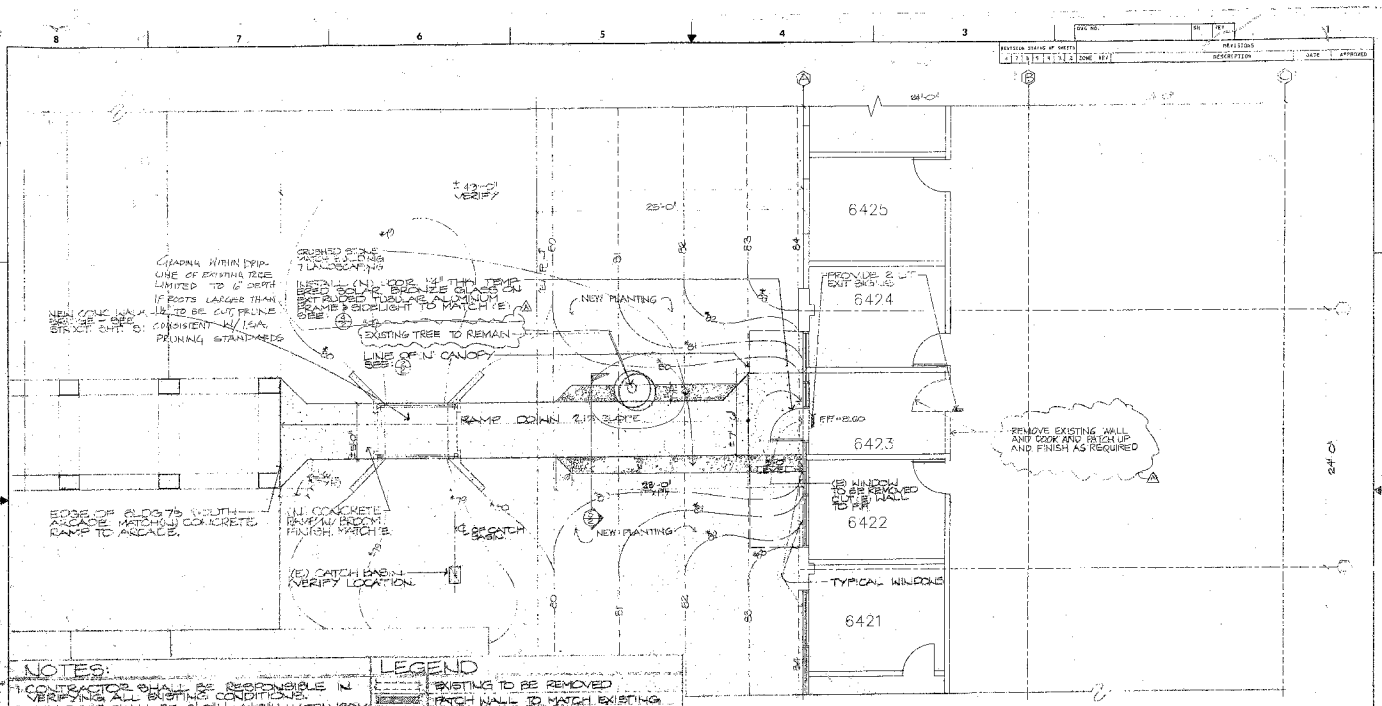
SHEET: 1 of 3



APPROVED — as redlined
MOUNTAIN VIEW PLANNING DEPT.
DATE 10-25-88 BY [illegible]

RECEIVED
OCT 19 1988
PLAN CHECK

APPROVED FOR CONSTRUCTION
OCT 20 1988
[illegible]
NO. 13



NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE IN VERIFYING ALL EXISTING CONDITIONS.
2. NEW DOOR SHALL BE 3'-0" W x 6'-8" H W/ TRANSOM ABOVE & SIDE LIGHT. ARCADIA, 400 SERIES W/ 180 NARROW STILE DOOR. ANODIZED ALUMINUM W/ MEDIUM BRONZE FRAMES. TO MATCH (E).
3. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SERVED LANDSCAPING AS SPECIFIED & SITE DEBRIS.
4. PATCH & MATCH CARPET WHERE NECESSARY.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFICATIONS TO (E) SPRINKLER LINES AS REQUIRED.
6. CONTRACTOR SHALL RELANDSCAPE & PLANT NEW BERMED BANK AS REQUIRED TO MATCH (E).

LEGEND

	EXISTING TO BE REMOVED
	PATCH WALL TO MATCH EXISTING
	EXISTING DOOR TO BE REMOVED
	NEW/RELOCATED DOOR
	CONCRETE W/ BROOM FINISH
80	EXISTING ELEVATION @ LANDSCAPING
	NEW LANDSCAPED ELEVATION
	ELEVATION
	CRUSHED STONE MATCH E @ BLDG & LANDSCAPING

APPROVED FOR CONSTRUCTION
OCT 29 1996
CITY OF MOUNTAIN VIEW, CALIF.

PLANS REVIEWED

REVISED WORK SCOPE 9/20/90 REVISED NOTE ON TREE (AS PER SPAR NOTE 1 ATTACHED)

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES AND TOLERANCES ARE ±1/32 INCHES. DIMENSIONS ARE IN FEET AND DECIMALS. FINISHED SURFACE DIMENSION.

SURFACE FINISH ✓ HARDWARE

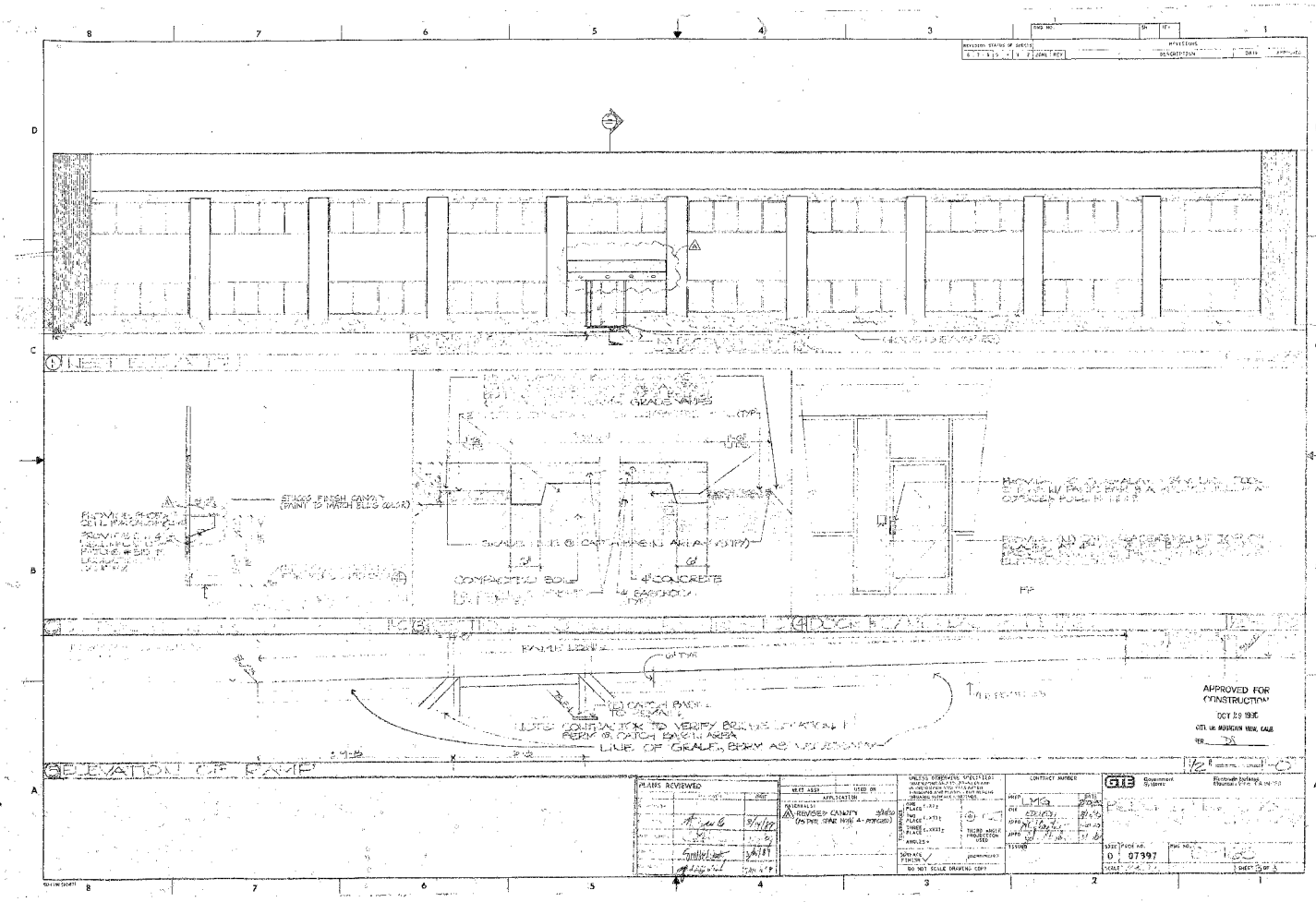
DO NOT SCALE DRAWING COPY

CONTRACT NUMBER

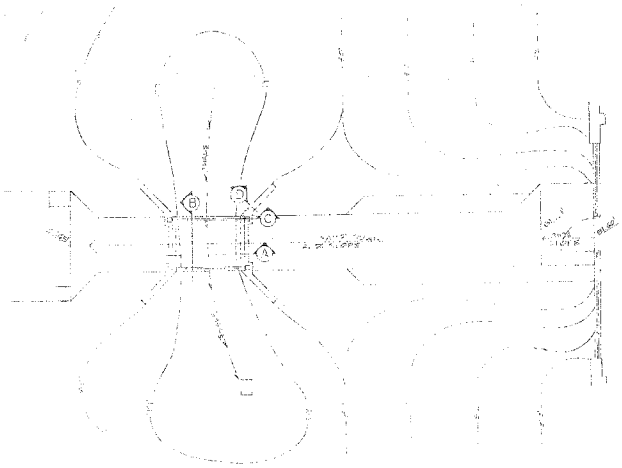
GTE Government Systems — Electronic Defense, Mountain View, CA 94039

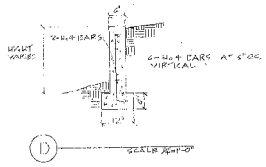
SIZE D | FSCM NO. 07397 | DWG NO. 6-165

SCALE 1/4"=1'-0" | SHEET 2 OF 3



NEET ELEVATION
STUCCO FINISH CANOPY (PAINT TO MATCH BLDG COLOR)
GRADE LINE @ CATCH BASIN AREA (VERIFY)
COMPACTED SOIL
4" CONCRETE
RAMP LEGEND
CATCH BASIN TO REMAIN
NOTE: CONTRACTOR TO VERIFY BRIDGE LOCATION & BERM @ CATCH BASIN AREA
LINE OF GRADE, BERM AS NECESSARY
ELEVATION OF RAMP
APPROVED FOR CONSTRUCTION
OCT 29 1996
CITY OF MOUNTAIN VIEW, CALIF.
PLANS REVIEWED
REVISED CANOPY
CONTRACT NUMBER
GTE Government Systems
Fairchild Defense Electronics Co. Inc.
SIZE D
FSCM NO. 07397
SCALE
SHEET 3 OF 3





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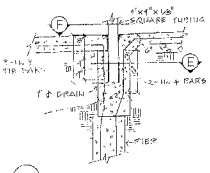

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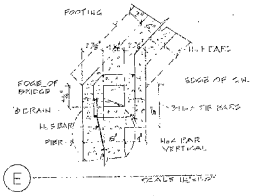

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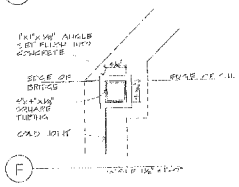

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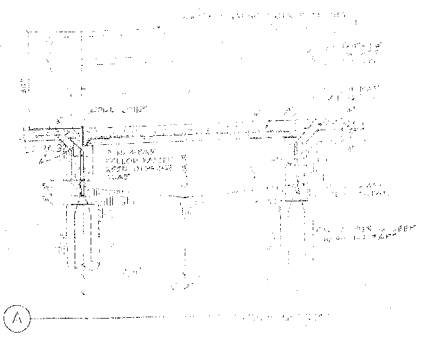

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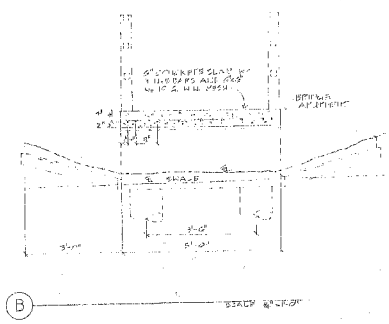


B

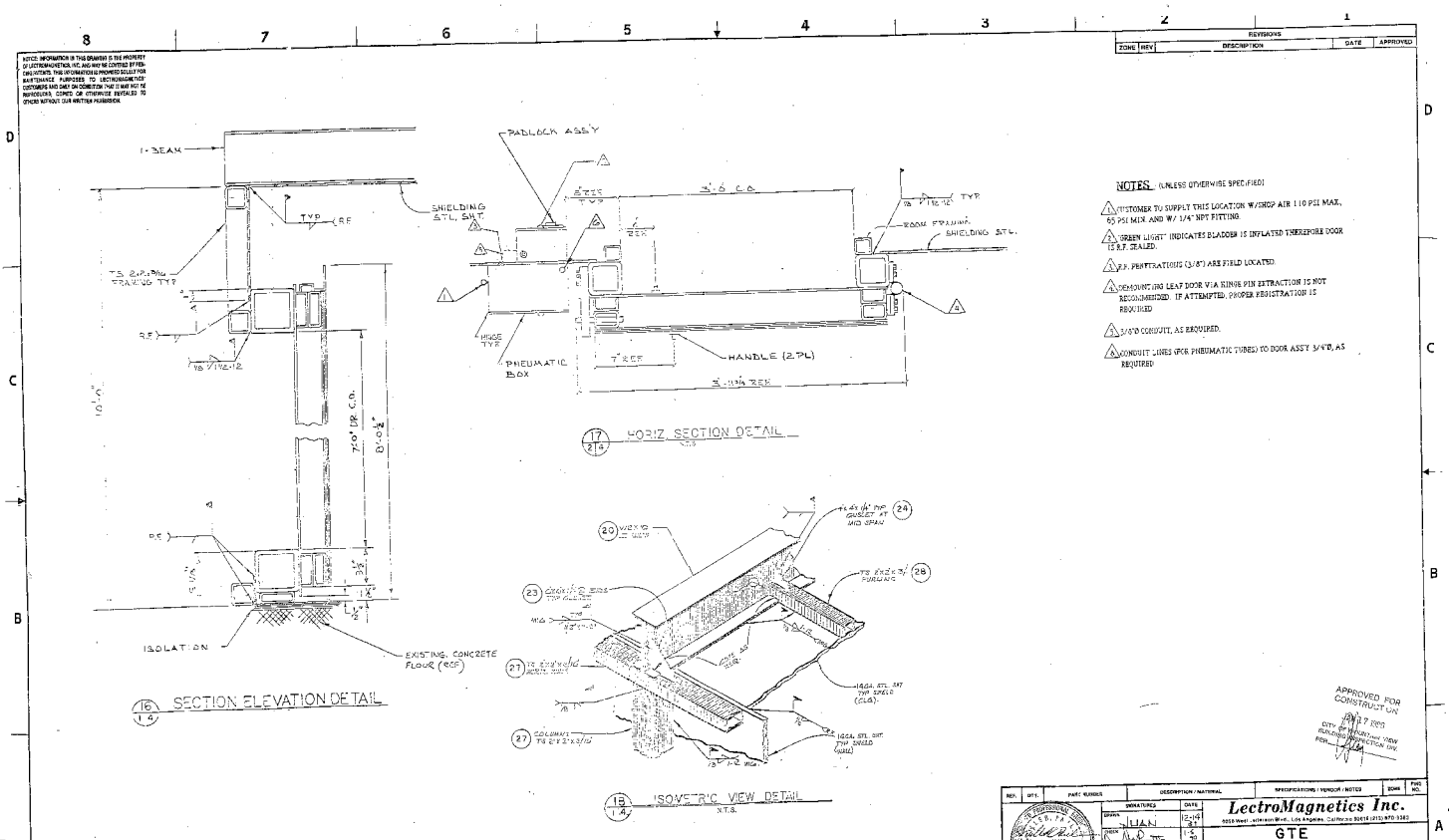
Structural Notes

1. Concrete for bridge and abutment shall be 2500 PSI 28 dry strength.
2. Reinforcing steel shall be grade 40 for #6 bars and smaller. Steel shall be accurately placed and firmly supported. Lap bars 40 diameters at splices.

APPROVED FOR CONSTRUCTION
OCT 29 1990
CITY OF MOUNTAIN VIEW, CALIF.
REV. D

WM. JAY HAMMOND & ASSOCIATES
CIVIL ENGINEERS
(415)790-0860
6310 THORNTON AVENUE, NEWARK, CA. 94560

GTE
CONCRETE FOOT BRIDGE
BUILDING #6



16 / 1.4 SECTION ELEVATION DETAIL

17 / 2.4 HORIZ. SECTION DETAIL

18 / 1.4 ISOMETRIC VIEW DETAIL

N.T.S.

NOTES (UNLESS OTHERWISE SPECIFIED)

1. CUSTOMER TO SUPPLY THIS LOCATION W/SHOP AIR 110 PSI MAX, 65 PSI MIN. AND W/ 1/4" NPT FITTING.
2. "GREEN LIGHT" INDICATES BLADDER IS INFLATED THEREFORE DOOR IS R.F. SEALED.
3. R.F. PENETRATIONS (3/8") ARE FIELD LOCATED.
4. DEMOUNTING LEAF DOOR VIA KINGS PIN EXTRACTION IS NOT RECOMMENDED. IF ATTEMPTED, PROPER REGISTRATION IS REQUIRED.
5. 3/4"Ø CONDUIT, AS REQUIRED.
6. CONDUIT LINES (FOR PNEUMATIC TUBES) TO DOOR ASS'Y 3/4"Ø, AS REQUIRED.

APPROVED FOR CONSTRUCTION

LectroMagnetics Inc.

GTE

MOUNTAIN VIEW, CA.

DETAILS

CODE IDENT. NO.	29098
SIZE	D
DWG. NO.	LSR-5457-10-5472
SCALE	NONE
SHEET	4

5472

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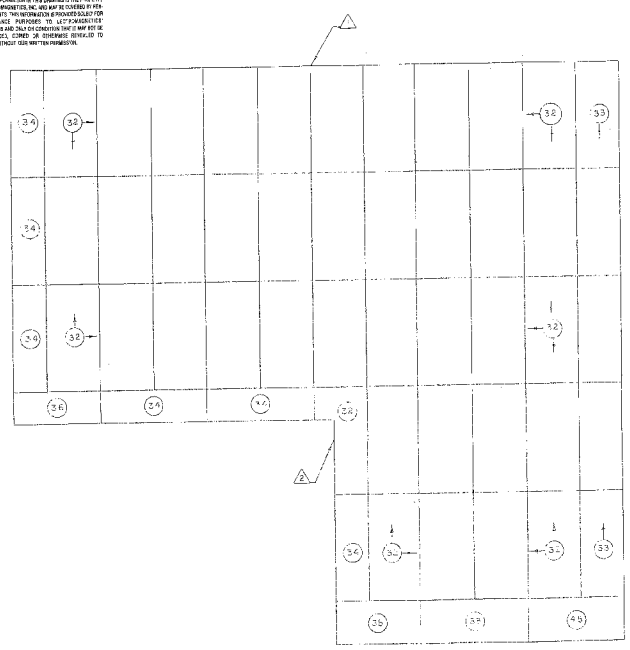
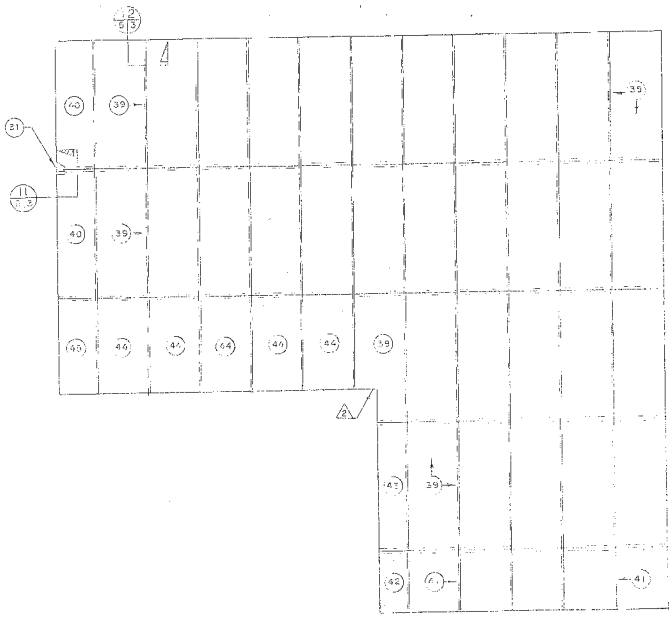
REVISIONS			
ZONE	REV	DESCRIPTION	DATE	APPROVED



CEILING



FLOOR

NOTES:

1. GAP BETWEEN SHEETS TO BE 1/8 MIN TYP
2. SHEETS TO BE FIELD CUT AS REQUIRED.

APPROVED FOR CONSTRUCTION
JAN 17 1950
CITY OF MOUNTAIN VIEW
BUILDING & PROTECTION DIV.
BY

ITEM	QTY.	PART NUMBER	DESCRIPTION / MATERIAL	SPECIFICATIONS / VENDOR / NOTES	ZONE	REQ'D NO.

SIGNATURES	DATE
DRAWN	
CHECKED	
ENGINEER	
APPROVED	

UNLESS OTHERWISE SPECIFIED
TOLERANCES
DECIMALS .XX ±.01 .XXX ±.010
FRACT. OVER ±
ANGLES ±°

LectroMagnetics Inc.
5568 West Jefferson Blvd., Los Angeles, California 90016 (213) 870-9040

GTE
MOUNTAIN VIEW, CA.
STEEL SHEET LAYOUT

CODE IDENT. NO.	SIZE	DWG. NO.	REV.
29098	D	LSR-5457-10-5472	

SCALE 1/4" = 1' SHEET 5

PROJ.	PART ASSEMBLY	REVISION
	5472	

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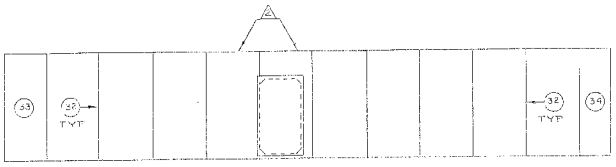
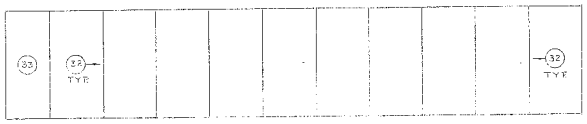
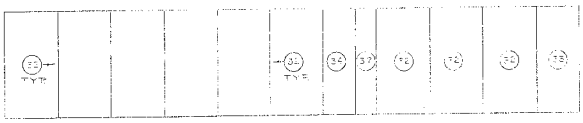
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



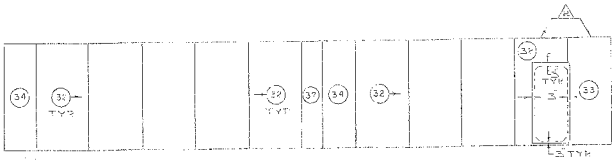
FRONT ELEV



LEFT ELEV



RIGHT ELEV



REAR ELEV

NOTES:

1. GAP BETWEEN ALL SHEETS TO BE 1/4" MIN. TYP ALL ELEVATIONS.
2. SHEETS TO BE FIELD FIT ALL REQUIRED.

APPROVED FOR CONSTRUCTION
APR 17 1980
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.

REV.	QTY.	PART NUMBER	DESCRIPTION / MATERIAL	SPECIFICATIONS / VENDOR / NOTES	TOPIC	FIND NO.

REGISTERED PROFESSIONAL ENGINEER — STEEL — STATE OF CALIFORNIA

SIGNAT. REQ	DATE
DRAWN	12-11-79
CHECK	1-8-80
APPROVED	1-8-80

LectroMagnetics Inc.
4555 West Jefferson Blvd., Los Angeles, California 90016 (213) 871-9312

GTE
MOUNTAIN VIEW, CA
STEEL SHEET LAYOUT

UNLESS OTHERWISE SPECIFIED
TOLERANCE
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ±
ANGLES ±1°

REV	NEXT ASSEMBLY	PROJECT NO.
		8672

CODE IDENT. NO. 29098 | SIZE D | LSR-5457-10-5472 | REV.

SCALE 1:1 | SHEET 1 OF 1

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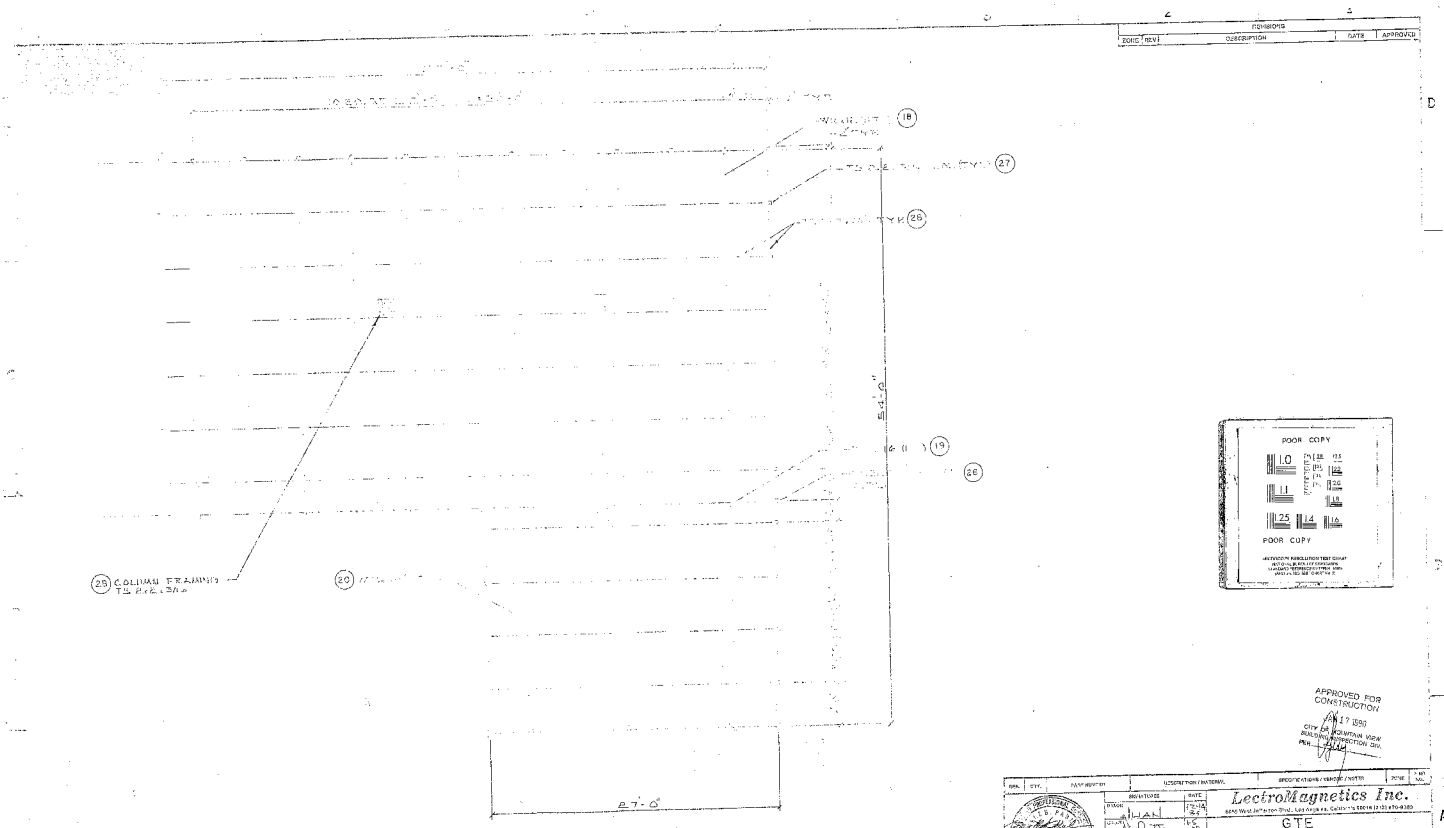
PRINTED IN U.S.A.



CEILING FRAMING

POOR COPY
POOR COPY

APPROVED FOR CONSTRUCTION
17 1990
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.
PER

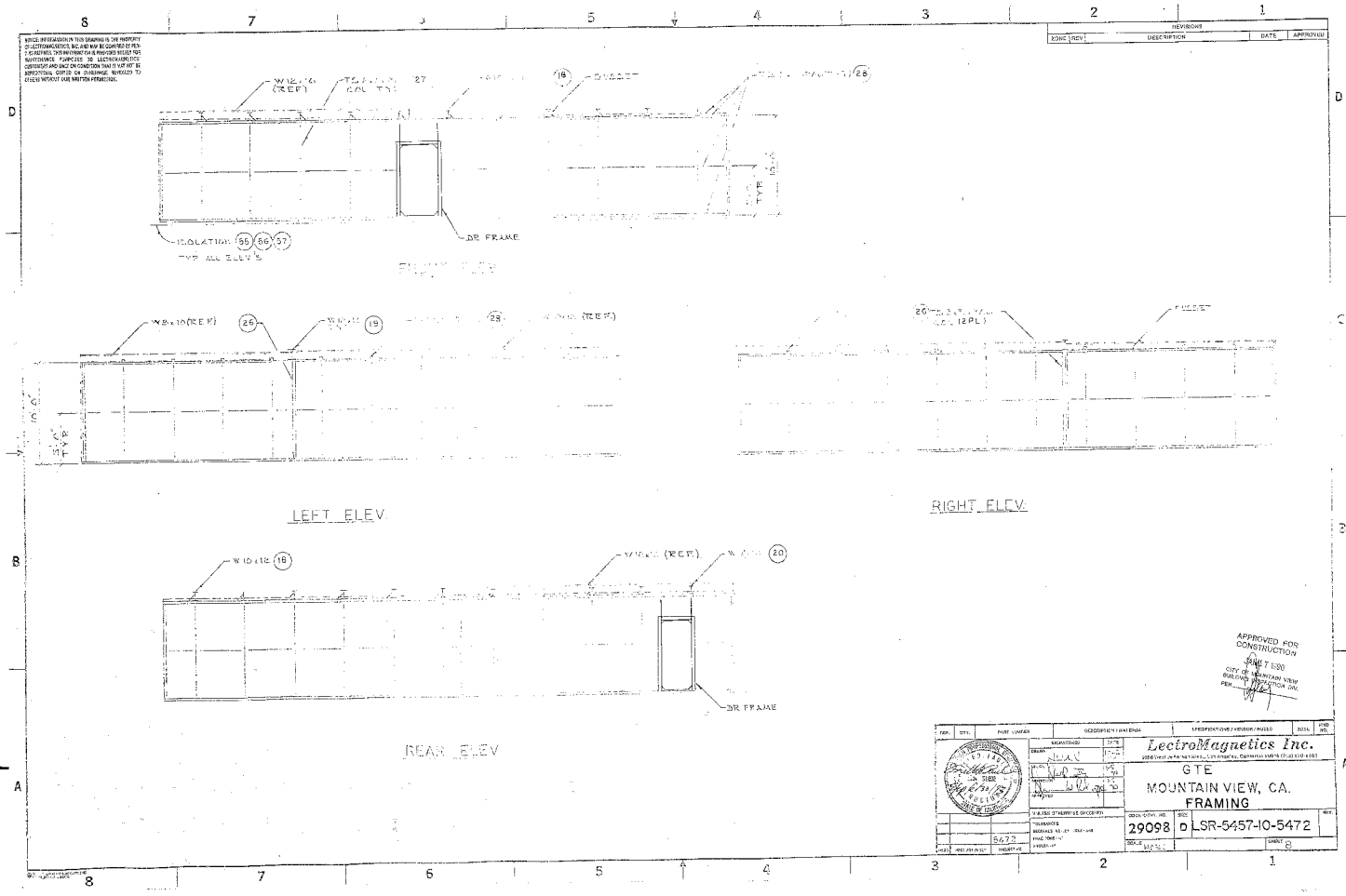
LectroMagnetics Inc.

GTE
MOUNTAIN VIEW, CA.
CEILING FRAMING

29098 | D | LSR-5457-10-5472

SHEET 7

5472



W12x16 (REF)
27
18
28
ISOLATION 55 56 57
TYP ALL ELEV'S
DR FRAME
W8x10(REF)
26
19
28
LEFT ELEV
20
RIGHT ELEV
W10x12 18
20
DR FRAME
REAR ELEV
APPROVED FOR CONSTRUCTION
JUN 7 1990
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.
LectroMagnetics Inc.
GTE
MOUNTAIN VIEW, CA.
FRAMING
29098
D
LSR-5457-10-5472
5472
SHEET 8

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ZONE	REV	REVISIONS DESCRIPTION	DATE	APPROVED

All Dimensions in Inches Unless Otherwise Specified

Ref	Qty	Part Number	Rev	Description/Material	Specifications/Vendor/Notes
65	4	LSR-5472-C-5472		NAME PLATE	
64	2	LSR-5472-U-5472		DRAWING	
63					
62					
61	20	4BV6T-1/8		(5-MIL) POLYETHYLENE	
60	80	4BX6Mx1/8		POLYPROPYLENE	(TRANS) (KENT WHITE)
59	80	4BX6Mx3/32		FILMERT	(ATM)
58					
57					
56					
55					
54				WASHER STL PLTD.	
53	4SS	3/8 BOLT SIZE			
52					
51	1	BX-UL-T-120		POWER LINE FILTER	W/PENT
50	2	LPX-11-A-10U		POWER LINE FILTER	W/PENT
49					
48					
47					
46	4	16x12Bx14GA		H.R.S.	A-561 SQUARED AND RESQUARED ±1/8"
45	2	48x12Bx14GA		H.R.S.	A-562 SQUARED AND RESQUARED ±1/8"
44	5	60x10Bx14GA		H.R.S.	A-563 SQUARED AND RESQUARED ±1/8"
43	1	56x14Bx14GA		H.R.S.	A-564 SQUARED AND RESQUARED ±1/8"
42		36x12x14GA		H.R.S.	A-565 SQUARED AND RESQUARED ±1/8"
41	5	60x7x14GA		H.R.S.	A-566 SQUARED AND RESQUARED ±1/8"
40	2	48x14Bx14GA		H.R.S.	A-567 SQUARED AND RESQUARED ±1/8"
39	14	60x7x14GA		H.R.S.	
38					
37	2	24x20x14GA		H.R.S.	A-568 SQUARED AND RESQUARED ±1/8"
36	1	12x9x14GA		H.R.S.	A-569 SQUARED AND RESQUARED ±1/8"
35	1	48x9x14GA		H.R.S.	A-570 SQUARED AND RESQUARED ±1/8"
34	8	36x12x14GA		H.R.S.	A-571 SQUARED AND RESQUARED ±1/8"
33	11	48x12x14GA		H.R.S.	A-572 SQUARED AND RESQUARED ±1/8"
32	17	60x12Bx14GA		H.R.S.	A-573 SQUARED AND RESQUARED ±1/8"
31	18	2x12Bx14GA		H.R.S.	A-574 BACK UP STRIP
30					
29					
28	37	TS2x2x3/16x240		STL TUBE	A-500 GR B
27	76	TS 2x2x3/16x110		STL TUBE	A-500 GR B
26	1	TS 3x3x3/16x240		STL TUBE	A-500 GR B
25					
24	26	4x8x1/4		STL GASKET	A-36
23	71	4x8x1/4		STL GASKET	A-36
22	19	8x8x1/4		STL GASKET	A-36
21					
20	5	W8x10x21'-0"		STL I-BEAM	A-36
19	1	W12x16x27'-0"		STL I-BEAM	A-36
18	11	W10x12x9'-6"		STL I-BEAM	A-36
17					
16	33	LST-2840-5472-01		1" A ANCHOR BOLT	BOLT
15					
14	1	LSW-3263-MOD		1/4" B PIPE PENT.	SCH 40
13	2	LSW-2224-B		1/2" B PIPE PENT.	SCH 40
12		LSW-2224-1		5 1/2" B PIPE PENT	SCH 40
11		LSW-2223-1		1/2" B COPPER PENT	TYPE K
10	4	LSW-2223-1		1/2" B SEAMLESS COPPER PENT.	TYPE K
9					
8		LSW-2323		1/2" B ELBO 3300	
7					
6		LSW-2313		1x1/2" CONNECTOR PAIRS	
5					
4	6	LSW-2221-1		1x1/2 S PENT	W/PVC COLLAR
3					
2		1PNB-5031-L		4x2" O.D. PNEUMATIC WHEELS 30.385"	
1		1PNB-5031-R		4x2" O.D. PNEUMATIC WHEELS 30.385"	

Ref	Qty	Part Number	Rev.	Description/Material	Specifications/Vendor/Notes

REF.	QTY.	PART NUMBER	DESCRIPTION / MATERIAL	SPECIFICATION / VENDOR / NOTES	ZONE	FIND NO.

SIGNATURES		DATE
DRAWN		12-20-82
CHECK		1-6-83
APPROVED		1-20-83
APPROVED		1-20-83
APPROVED		

UNLESS OTHERWISE SPECIFIED
TOLERANCES
DECIMALS .XX=±.01 .XXX=±.010
FRACTIONS ±1/64
ANGLES ±1°

LectroMagnetics Inc.
6158 West Jefferson Blvd., Los Angeles, California 90016 (213) 870-9383

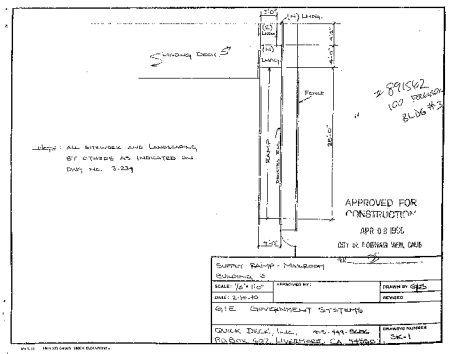
GTE
MOUNTAIN VIEW, CA.
BILL OF MATERIALS

CODE IDENT. NO. 29098 | SIZE D | LSR-5457-IC-5472 | REV.

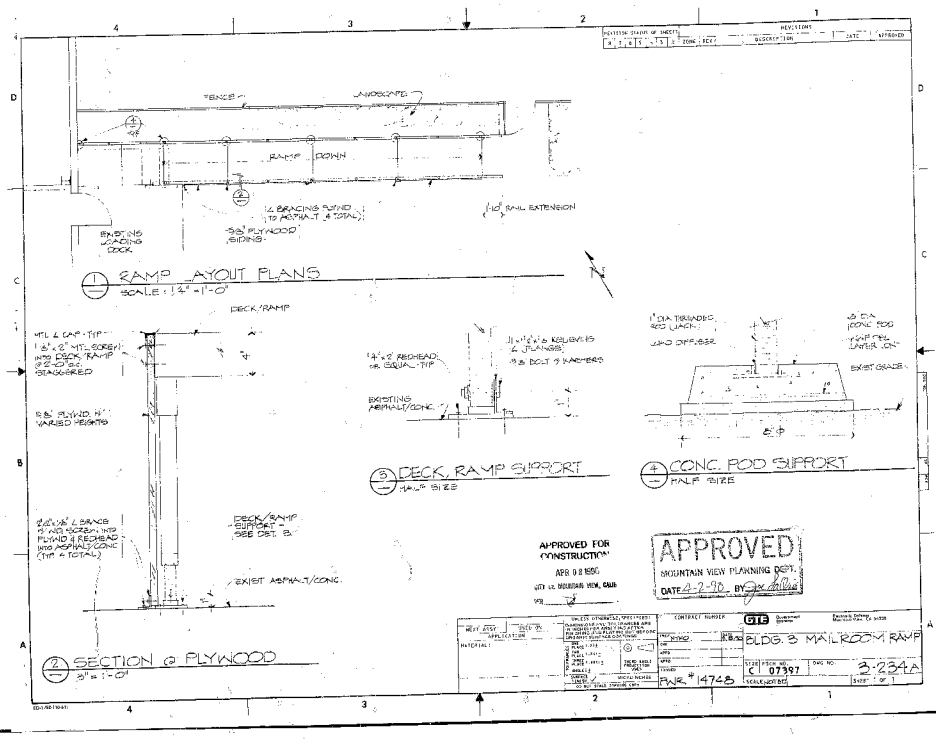
SCALE | SHEET 9

NEXT ASSEMBLY 5472 | PROJECT NO.

SIGNATURE / AUTHORIZATION REVISION DATE



SUPPLY RAMP - MAILROOM
BUILDING 3
SCALE: 1/8" = 1'-0"
DATE: 2-14-90
APPROVED BY:
DRAWN BY: GES
REVISED
GIE GOVERNMENT SYSTEMS
QUICK DECK, INC.
PO BOX 527, LIVERMORE, CA 94550
DRAWING NUMBER SK-1
APPROVED FOR CONSTRUCTION
APR 0 8 1990
DIST. 1 OF 1 MOUNTAIN VIEW, CALIF.



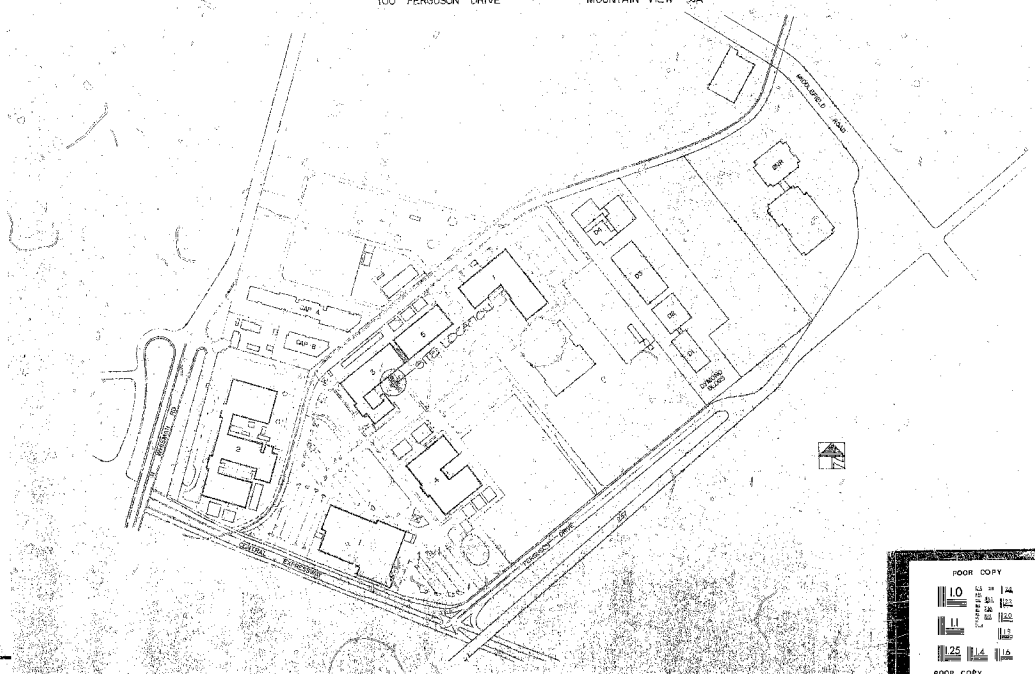
FENCE
LANDSCAPE
RAMP DOWN
EXISTING LOADING DOCK
1 RAMP LAYOUT PLANS
SCALE: 1/4" = 1'-0"
DECK/RAMP
EXISTING ASPHALT/CONC.
3 DECK, RAMP SUPPORT
HALF SIZE
4 CONC. POD SUPPORT
HALF SIZE
EXIST GRADE
DECK/RAMP SUPPORT - SEE DET. 3
EXIST ASPHALT/CONC.
2 SECTION @ PLYWOOD
3" = 1'-0"
APPROVED FOR CONSTRUCTION
APR 0 8 1990
APPROVED
MOUNTAIN VIEW PLANNING DEPT.
DATE 4-2-90
CONTRACT NUMBER
GIE
BLDG. 3 MAILROOM RAMP
SIZE C
FSCM NO. 07397
DWG NO. 3-234A
FWR #14748
SCALE NOT SET
SHEET 1 OF 1

GTE

GOVERNMENT SYSTEMS
100 FERGUSON DRIVE MOUNTAIN VIEW CA

PROJECT BUILDING THREE
MAILROOM RA[illegible]

SHEET 1A COVER SHEET - SITE LOCATION
1 PLAN, ELEVATIONS & DETAILS



100 FERGUSON BLDG. 3

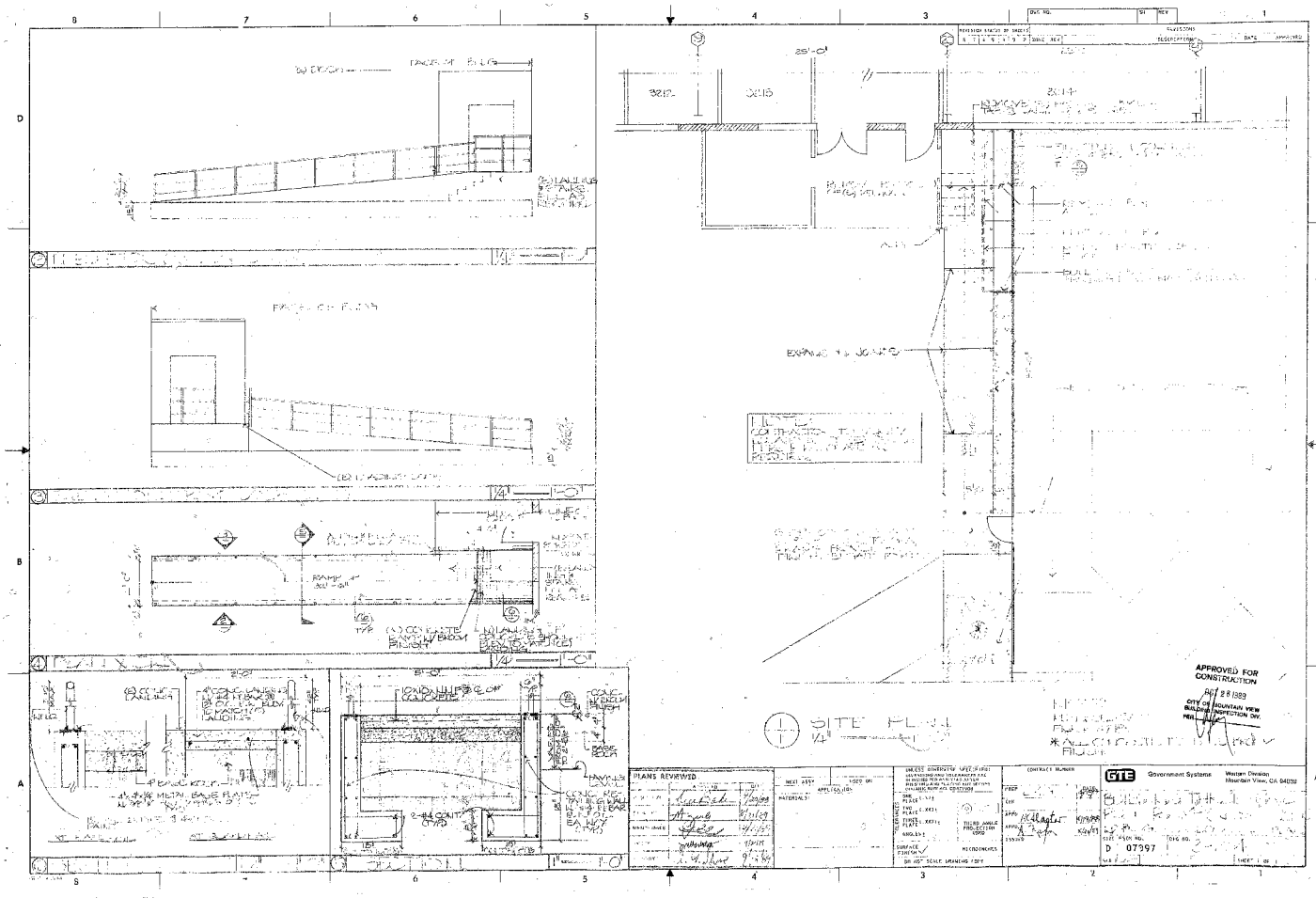
APPROVED
MV Fire Protection Bureau
Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available at the project site at all times.
Reviewer/date MJ[illegible]
#891562

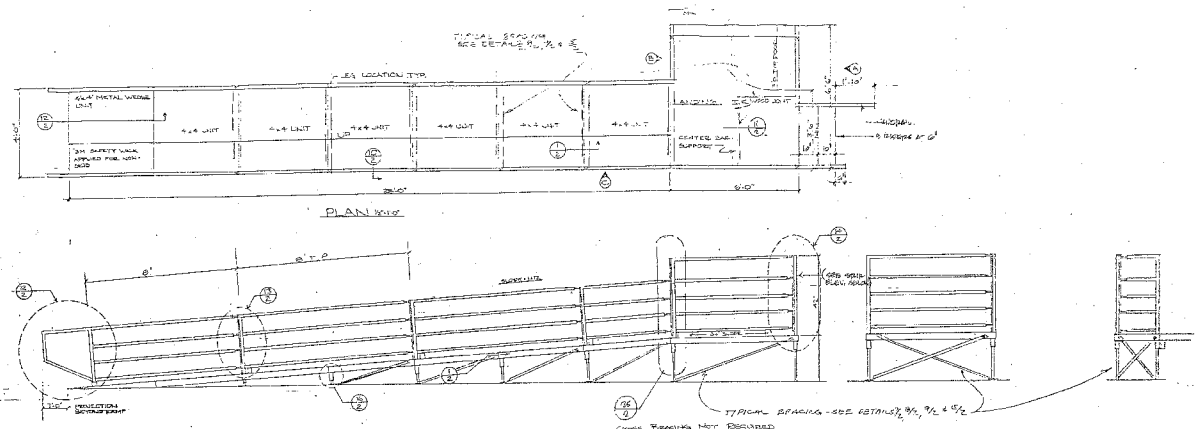
APPROVED FOR CONSTRUCTION
OCT 26 1989
CITY OF MOUNTAIN VIEW
BUILDING INSPECTION DIV.
PER [illegible]

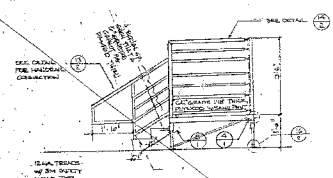
POOR COPY
1.0 1.1 1.25 1.4 1.6
POOR COPY

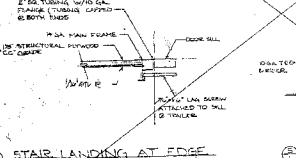
APPROVED
MOUNTAIN VIEW PLANNING DEPT.
DATE 10/17/89 BY [illegible]

RECEIVED
OCT 17 1989
PLAN CHECK

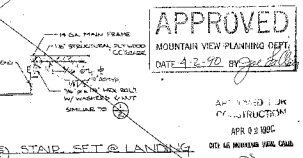

SITE PLAN
APPROVED FOR CONSTRUCTION
OCT 28 1989
CITY OF MOUNTAIN VIEW BUILDING INSPECTION DIV.
PLANS REVIEWED
GTE Government Systems
Western Division
Mountain View, CA 94039
D 07997







STAIR LANDING AT EDGE OF BUILDING



STAIR SET @ LANDING CONNECTION

N.I.C.

APPROVED
MOUNTAIN VIEW PLANNING DEPT.
DATE 4-2-90 BY

APPROVED FOR CONSTRUCTION
APR 0 2 1990
CITY OF MOUNTAIN VIEW, CALIF.

PARTS SET - STEPS

EACH SIDE HAS	# REQ'D	NOTES
3x3 MAIN FRAME	1	
3/4" GUARDRAIL	2	
3/4" GUARDRAIL	1	
LEGS	4	
4 TEAD STEP SET	1	
HANDRAIL	2	
HANDRAIL ADAPTER	2	
LAMINATE LINE	2	

PARTS LIST - RAMP ONLY

EACH SIDE HAS	# REQ'D	NOTES
6"x6" MAIN FRAME	1	
4x4" MAIN FRAME	4	
3x4 WEDGE	1	
6"x3x3" SPACER	1	
LEGS - WITH LEVELERS	4	
ENTRANCE HANDRAIL 33" HIGH	2	
HANDRAIL 8'0" 32" HIGH	4	
HANDRAIL 4'0" 32" HIGH	2	
GUARDRAIL 6'0" 42" HIGH	2	
GUARDRAIL 3'0" 42" HIGH	1	

NOTES
LIGHTWEIGHT UNITS PER STRUCTURAL
LIGHTWEIGHT UNITS PER ELECTRICAL

REGISTERED PROFESSIONAL ENGINEER
Jack Hoffman
No. 19755
Exp. 6-30-92
CIVIL
STATE OF CALIFORNIA

OFFICE OF THE STATE ARCHITECT
STRUCTURAL SAFETY SECTION
48128 APR 16 '87
Jack Hoffman
APPROVED
FOR RAMP ONLY
APR 16 1987
Jack Hoffman
STATE OF CALIFORNIA
OFFICE OF THE STATE ARCHITECT
STRUCTURAL SAFETY SECTION

STEP SPECIFICATIONS

1. TREADS TO BE 3/8" & GA. FLAT METAL WITH 3M SAFETY WALK.
2. SURFACE OF LANDING TO BE 1/8" THICK EXTERIOR GRADE PLYWOOD, SEALED WITH SAND PAINT APPLIED. (4 LAMINATIONS)
3. METAL LANDING TO BE 14 GA. GALVANIZED FINISH
4. HANDRAILS TO BE 1/2" SQ. TUBING, FINISH TO BE INDUSTRIAL ENAMEL.

RAMP SPECIFICATIONS

1. SURFACE & RAMP & LANDING TO BE 1/8" THICK EXTERIOR GRADE PLYWOOD, SEALED WITH SAND PAINT APPLIED. PS-1-74
2. ALL FRAMES TO BE 14 GA. ASTM A 570
3. ALL HANDRAILS & GUARDRAILS TO BE 1/2" SQ. TUBING, 1" HIGH TO BE INDUSTRIAL ENAMEL. ASTM A 500
4. ALL FIELD WELDS SHALL COMPLY TO THE REQUIREMENTS SET FORTH BY THE AMERICAN WELDING SOCIETY AND SPECIFIED IN ANSI AWS D1.1-84 PER 84 PAGE 5
5. TEAM SHALL COMPLY TO PAGE 3-3

GENERAL NOTES

1. ALL HARDWARE REQUIRED FOR ASSEMBLY TO BE PROVIDED.
2. ALL HARDWARE TO BE EITHER GALVANIZED OR PLATED
3. NO PAINTING IS INCLUDED.

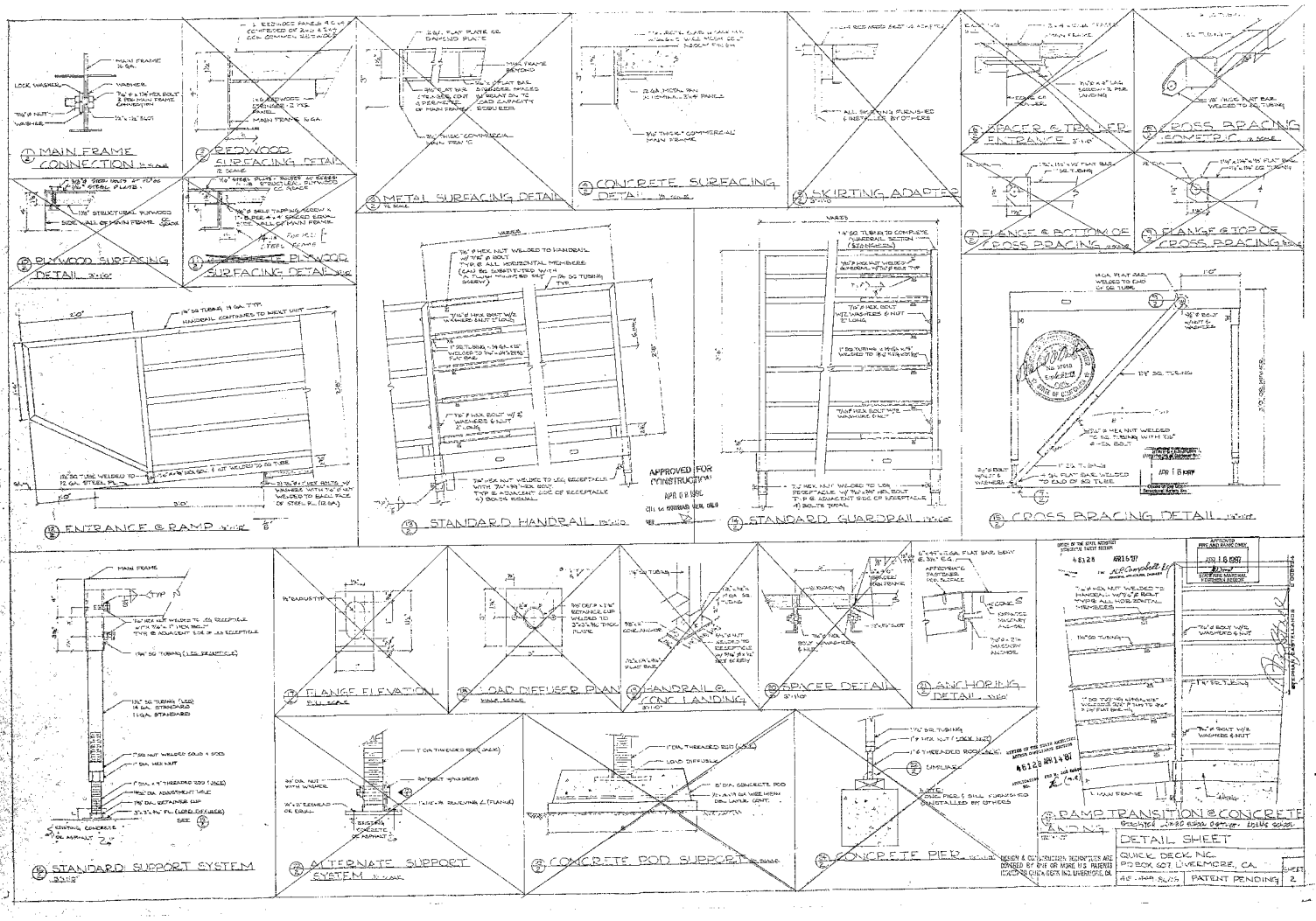
DESIGN & CONSTRUCTION TECHNIQUES ARE COVERED BY ONE OR MORE U.S. PATENTS ISSUED TO QUICK-DECK INC. LIVERMORE, CA.

LOCATION: UNIFIED SCHOOL DISTRICT, ROCKLIN, CA 95650

RAMP & STEPS — 5/21/86

QUICK DECK, INC.
PO BOX 607, LIVERMORE, CA.
415-449-8686, PATENT PENDING

SHEET 1 OF 2


MAIN FRAME CONNECTION
REDWOOD SURFACING DETAIL
METAL SURFACING DETAIL
CONCRETE SURFACING DETAIL
SKIRTING ADAPTER
SPACER & TRAILER ENTRANCE
CROSS BRACING ISOMETRIC
PLYWOOD SURFACING DETAIL
PLYWOOD SURFACING DETAIL
FLANGE & BOTTOM OF CROSS BRACING
FLANGE & TOP OF CROSS BRACING
ENTRANCE & RAMP
STANDARD HANDRAIL
STANDARD GUARDRAIL
CROSS BRACING DETAIL
APPROVED FOR CONSTRUCTION
APR 0 8 1986
STANDARD SUPPORT SYSTEM
FLANGE ELEVATION
LOAD DIFFUSER PLAN
HANDRAIL & CONC. LANDING
SPICER DETAIL
ANCHORING DETAIL
ALTERNATE SUPPORT SYSTEM
CONCRETE POD SUPPORT
CONCRETE PIER
RAMP TRANSITION & CONCRETE
DETAIL SHEET
QUICK DECK, INC.
PO BOX 607 LIVERMORE, CA.
PATENT PENDING
SHEET 2

GTE

GOVERNMENT SYSTEMS

100 FERGUSON DRIVE MOUNTAIN VIEW, CA

POOR COPY

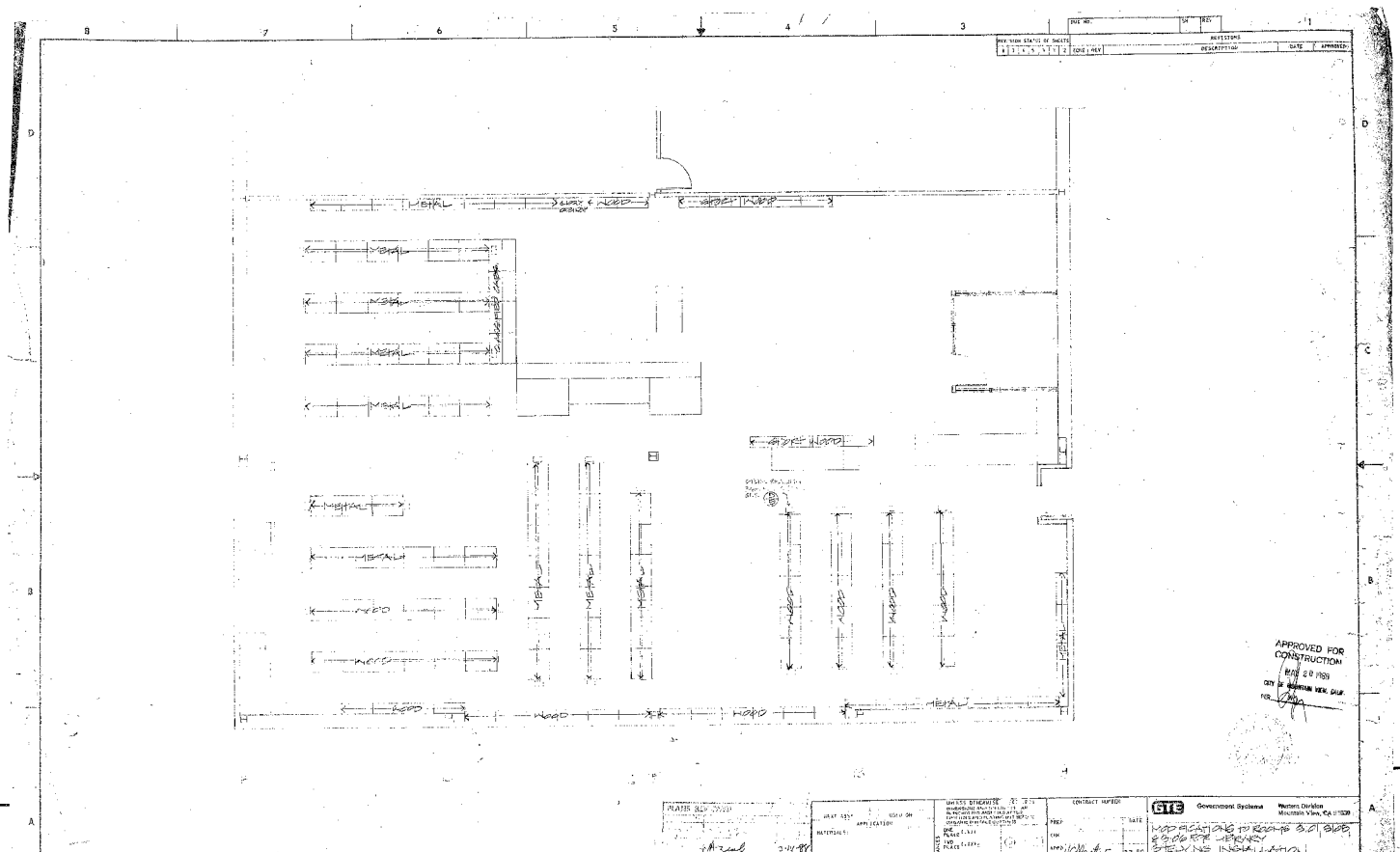
1.0 1.1 1.25 1.4 1.6

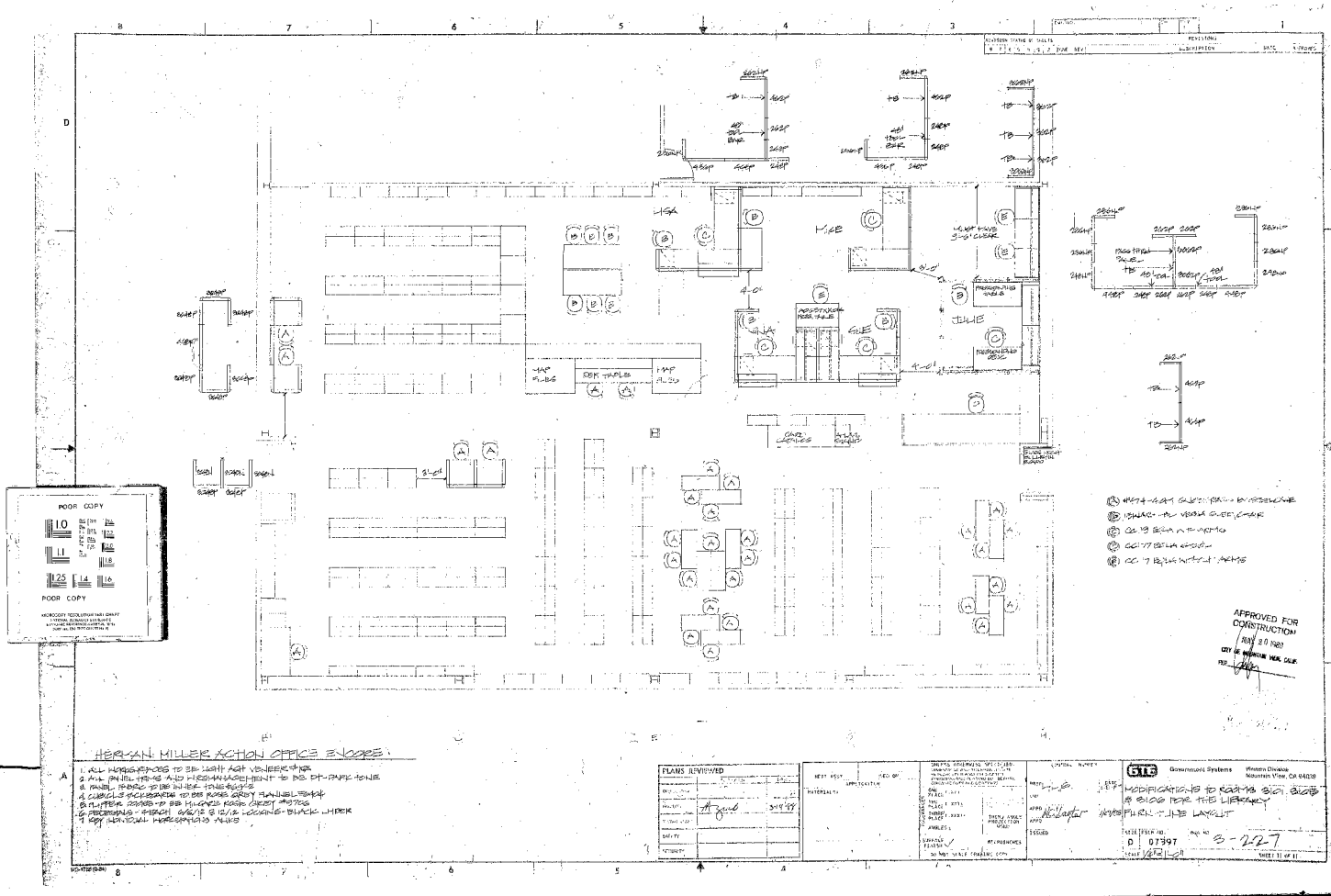
POOR COPY

APPROVED FOR CONSTRUCTION

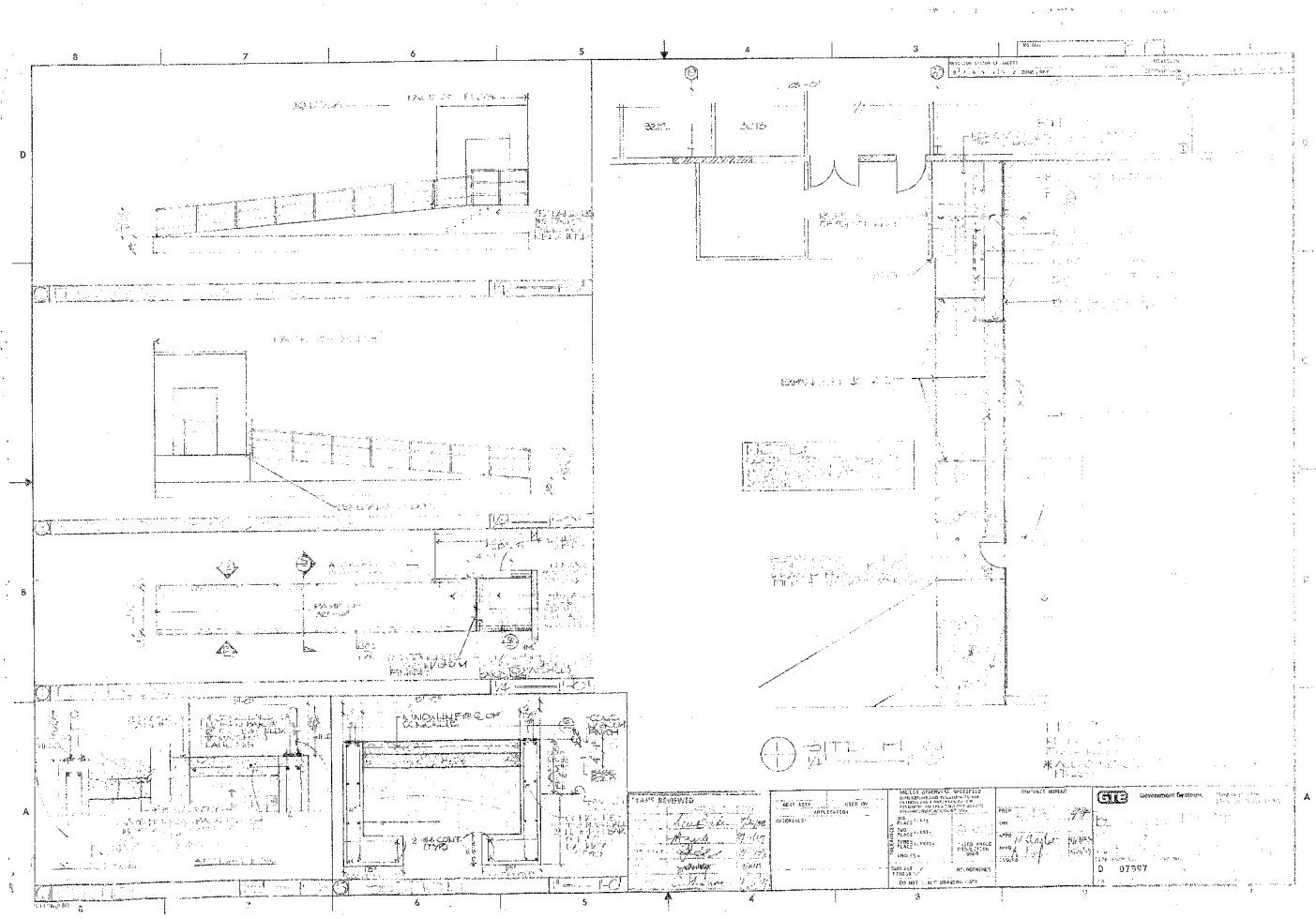
APR 0 8 1982

CITY OF MOUNTAIN VIEW, CALIF.

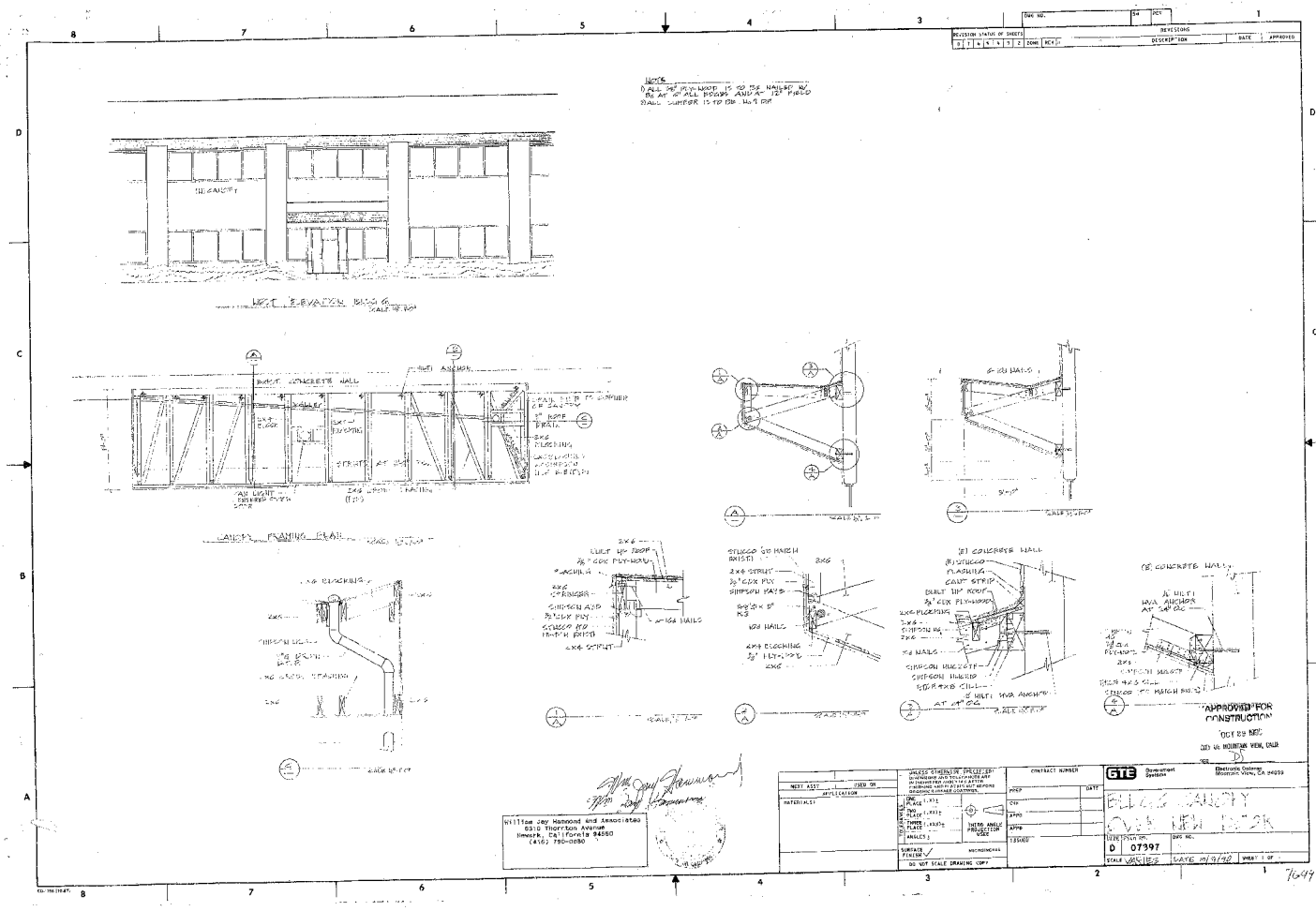

METAL
WOOD
SPORT WOOD
APPROVED FOR CONSTRUCTION
MAY 20 1988
CITY OF MOUNTAIN VIEW, CALIF.
GTE Government Systems
Western Division
Mountain View, CA 94039
MODIFICATIONS TO ROOMS 3.01, 3.05, & 3.06 FOR LIBRARY STEVENS INSTALLATION.
D 07397
3-227
SHEET 10 OF 11
DO NOT VOICE DRAWING COPY



POOR COPY
POOR COPY
APPROVED FOR CONSTRUCTION
MAY 20 1988
CITY OF MOUNTAIN VIEW, CALIF.
PLANS REVIEWED
GTE Government Systems
Western Division
Mountain View, CA 94039
MODIFICATIONS TO ROOMS 3101, 3105 & 3106 FOR THE LIBRARY
FURN. TUNE LAYOUT
D 07397
3-227



3217
3215
SITE PLAN
TEAMS REVIEWED
GTE
Government Systems
D 07997


NOTES
WEST ELEVATION BLDG 6
CANOPY FRAMING PLAN
APPROVED FOR CONSTRUCTION
OCT 29 1987
CITY OF MOUNTAIN VIEW, CALIF
William Jay Hammond and Associates
6310 Thornton Avenue
Newark, California 94560
(415) 790-0880
GTE Government Systems
Electronic Control
Mountain View, CA 94039
CONTRACT NUMBER
DO NOT SCALE DRAWING COPY
D 07397
SCALE VARIES
DATE 10/9/90
SHEET 1 OF
7649

THE P.O. BOX 7540
JACK MOUNTAIN VIEW
DYMOND CALIFORNIA
CO. 94039-7540

TRANSMITTAL

Calibrate Card Inc. Rev. 10/90

Date 3/12/92	Job No. 9088
Attn.	Ron Cherry/Mark Gonzalez
Re	GTE Government Systems
	Bldg. Chem. Storage Tanks
	Permit, No. 91001870

Name City of Mountain View
Address P.O. Box 7540
City Mountain View, CA 94039

We are sending you:

☐ Attached ☐ Under separate cover via _____ the following:

☐ Drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of Letter ☐ Change Order ☐ Indoor Fees OK

DESCRIPTION: RE: March 9, 1992 Letter from LBS/

Please sign the attached Indoor Fees OK to the project file folder for this project.

It was just submitted on our office and GTE Safety personnel asked that it be submitted to the Mountain View Fire Department - Hazardous Materials Division.

These are transmitted as checked below:

☐ For Approval ☐ Submit ____ Copies for Approval

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Remarks: See attached letters.

Sincerely,

Signed: Steve Williams

Steve Williams

420 FERGUSON DRIVE, BLDG. 4 • MOUNTAIN VIEW, CALIFORNIA 94043 • (415) 965-3211

MAR- 9-92 MON 15:56 P.02

March 9, 1992

Mr. Kurt Denziger
Fire Department/Tenant
130 Villa Street
Mountain View, CA 94041-1298

Re: GTE Building 1
Plan Check #91001870
LBS Project #14.743

Dear Kurt:

This is to inform you that:

1. Both 500 gallon waste tanks will be labeled with chemical name, DOT number and percentage of concentration by General Contractor prior to final inspection.

2. The tank lining material was enclosed.

3. See enclosed - letter from MPI for "Trace-Vek" acceptance.

4. See enclosed letter from MPI for shut off valve explanation.

If you have any further questions please feel free to call.

Sincerely,

Rudy Shum, AIA
Principal

RSS/sc

Encl.

LBS ASSOCIATES
Architecture and Planning
100 Pacifica, Suite 300 • Irvine, CA 92618 • (714) 727-0511 • FAX (714) 727-0577

A part of CH2M Hill

GTE

GTE Government Systems Corporation

Telecom Division
2500 Maude Drive
P.O. Box 7508
Mountain View, CA 94039

March 6, 1991

Mountain View Fire Department
1000 Villa Street
Mountain View, CA 94041-1205

Dear Sirs:

With the relocation of the Photodeveloping Lab to Building 1, we have added two 500-gallon storage tanks for waste chemicals, as indicated on our revised HMMP. The tanks currently have Hazardous Waste Labels on them which include information on the D.O.T. Shipping Name and Hazard Class, the main chemical components and their percentages.

Sincerely,

Steven M. Hochstein

SECTION 15050 - BASIC MECHANICAL REQUIREMENTS

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SECTION 15050 - BASIC MECHANICAL REQUIREMENTS

1.00 GENERAL

1.01 CONDITIONS AND REQUIREMENTS

A. Refer to General Conditions, Supplementary Conditions, and Division 1 General Requirements.

B. This section applies specifically to all other sections of Division 15.

1.02 SCOPE OF WORK

A. Provide all labor, equipment, and materials that are required to provide a complete installation as indicated on the drawings and as described in these specifications including that reasonably inferred for proper execution of work and system operation.

B. Provide cutting and patching as required for execution of work performed under this section unless specifically provided for under other sections.

C. Coordinate with work performed by other sections in order to accommodate the requirements of this section and to ensure adequate space and proper location for all necessary work on this project whether or not work is under this section.

D. Provide all necessary rigging, equipment and manpower to set equipment and materials in place and to remove demolished equipment and materials from the site.

E. Provide all seismic restraints required by code and this specification, for all equipment, duct, pipe, and materials furnished under this section. The contractor is responsible for the design of the restraints and for proof of adequacy of the restraints and shall submit seismic calculations prepared by a registered Civil or Structural Engineer.

F. Lay out trench locations, do all excavation, shoring, pipe laying, backfilling, and compacting for work performed under this section and not provided under other sections.

G. Provide placement of all sleeves, hangers, supports, and openings for work under this section.

H. Provide flashing of all wall and roof penetrations for work performed under this section.

1.03 DEFINITIONS

A. Contractor: Mechanical, Plumbing, Drainage Piping, Fire Protection, Insulating, Control, or Utility Subcontractor associated with the work performed.

B. Furnish: Supply and deliver complete.

C. Install: Place, secure, and connect as required to make fully operational.

D. Provide: Furnish and install as defined above.

E. Start up: Place system or systems in operation using proper equipment for starting and, where required, equipment manufacturer's personnel to start equipment.

1.04 CODES AND STANDARDS

A. The work installed under this section shall conform to all applicable local codes, regulations, and standards.

B. Do not construe anything contained in these specifications or drawings to permit work to be installed that does not conform to code. The codes shall govern where they require higher standards or are violated by the drawings and specifications.

C. Consider interpretations and rulings of the enforcing agencies as part of these specifications.

D. Comply with drawings and specifications showing work exceeding minimum code requirements.

E. The Contractor shall furnish without any extra charge additional materials and labor required for the compliance with any rules and regulations.

1.05 DRAWINGS AND SPECIFICATIONS

A. Consider all drawings and all divisions of this specification as a whole and provide work of this division shown anywhere therein.

B. Absolute accuracy of the drawings and specifications cannot be guaranteed. While reasonable effort has been made to coordinate the location of equipment and materials with the structure and other trades, it is the responsibility of the Contractor to coordinate exact requirements and locations as governed by actual job conditions. Check all information and report any discrepancies before fabrication and in time to avoid any unnecessary work. Any changes or additions subject to additional charges made without written authorization, based upon an agreed price, shall be at the contractor's own risk and cost.

C. The Contractor may modify duct sizes and shift duct locations as required to meet field conditions. Duct sizes, where modified, shall be sized at a friction rate equal to the size shown. The Contractor shall indicate, and clearly note, all changes on his shop and coordination drawings and submit them for review prior to ordering or fabrication.

D. The Contractor shall provide all necessary offsets, transitions, fittings, and modifications required to complete the work.

E. Follow equipment and material manufacturer's instructions where items are not specifically covered on the drawings or within the specifications. If instructions are in conflict, obtain clarification before starting work.

F. Scaled and figured dimensions are approximate and are for estimating purposes only. Before proceeding with the work, check and verify dimensions and assume responsibility for fitting materials, equipment, and other parts of equipment within the structure.

G. Confirm all slopes and inverts. Route and coordinate all piping locations as required to obtain necessary slopes and proper drainage. This is particularly important for steam, condensate, and drainage piping.

1.06 SAFETY AND INDEMNITY

A. Safety:

1. The Contractor shall be solely and completely responsible for conditions of the job site including safety of all persons and property during performance of the work. This requirement will apply continually and not be limited to normal hours of work.

2. No act, services, drawing, review, or construction review by the Owner, Engineers, or their consultants is intended to include the review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

B. Indemnity: The Contractor will hold harmless, indemnify and defend the Owner, the Engineers, and their consultants, and each of their officers and employees and agents from any and all liability claims, losses, or damage arising or alleged to arise, from the performance of the work described herein, but not including the sole negligence of the Owner, the Engineer, and his consultants and each of their officers and employees and agents.

1.07 GUARANTEE AND WARRANTIES

A. All materials, parts, equipment, and workmanship shall be guaranteed for a period of one year from date of substantial completion.

B. If a manufacturer provided for a longer guarantee period, it shall be submitted.

1.08 EXAMINATION OF SITE

Examine the building site including the chemical waste storage shed. And compare the drawings with existing conditions. The act of submitting a bid shall be deemed as having made such an examination and that allowances, therefore, have been made in preparing the bid figure. No extra payment will be made for additional work that could have been made apparent by the site visit.

1.09 FEES

A. Provide, procure, and pay for all permits, services, meters, licenses, fees, etc., required for performance or work of this section.

B. Upon completion of the work, deliver to the Owner all certificates of approval signed by the controlling authorities.

1.10 SUBMITTAL DATA

A. Submit six (6) sets of complete data for all equipment, fixtures, and materials to be installed.

B. Equipment, materials, and products specifically identified, described, or scheduled on the drawings and named first in the specifications are the basis of design. The other manufacturers or suppliers which may be named in the specification only indicate the general acceptability of the manufacturer or supplier. It is the Contractor's responsibility to research, select, and prove, through the submittal process, that the specific model, size, or type of the alternate item proposed is equal and will perform equal to that which is the basis of the design. Operational characteristics for such items as outlet velocities, power input, sound levels, efficiencies, etc., shall be considered in addition to the overall performance or output.

C. Each item submitted shall be labeled or identified the same as on the drawings. (EF-1, EF-2, etc.)

D. The Contractor assumes full responsibility that alternative items substituted for the first named manufacturer will meet the job requirements and is responsible for the cost of redesign and modifications necessary due to this substitution.

1.11 PROTECTION OF BUILDING

Protect new and existing building structures and adjacent finished surfaces during construction. Patch, repair, and refinish existing work damaged by work under this division to match adjacent undisturbed area. Patching, repair, and refinishing shall be performed by workmen skilled in the section involved.

1.12 RECORD DRAWINGS

A. Record of Job Progress: Keep accurate, dimensional record of the as-built locations of all work. Keep record up-to-date on blueline prints as the job progresses and available for inspection at all times.

B. Final as-built, reproducible drawings shall be submitted prior to final acceptance and shall include the following:

1. Position of all buried or concealed mains accurately dimensioned, both horizontally and vertically.

2. Location of piping, duct, and equipment including height of main ducts in the ceiling space.

3. Any modifications to the actual design required by field conditions.

1.13 OPERATING AND MAINTENANCE INSTRUCTIONS

A. As a condition of final acceptance, five (5) sets of operating and maintenance manuals shall be given to the Owner upon substantial completion. Final payment will not be made until manuals have been approved.

B. These manuals shall include all manufacturers' data to explain in detail the routine maintenance actions that must be performed to maintain the equipment, materials, and systems in an efficient operating condition.

1.14 SPECIFIC MANUFACTURER AND MODEL

A. Trade names are used to establish standards. Where more than one name is given, the first listed is the basis of the project design and will be described fully. Other names indicate product lines of generally comparable quality, but are subject to review and approval.

D. Follow manufacturer's instructions where they cover points not specifically indicated on the drawings and specifications. If they are in conflict with the drawings and specifications, obtain clarification before starting work.

1.15 COORDINATION

Coordinate with work performed by other sections in order to accomodate the requirements of this section and to ensure adequate space and proper location of all necessary work on this project whether or not the work is under this section. This coordination shall include, but not be limited to, the following:

1. Provide all required sleeves, chases, concrete inserts, anchor bolts, etc., before concrete is poured. Be responsible for correct location and installation of same.

2. Layout support pads, curbs, sleepers, anchor bolts, etc., for all mechanical equipment and materials so as to be in the proper location for the equipment actually ordered. These pads shall be of adequate dimension to provide for proper mounting of equipment isolators and equipment mounting so that anchor bolts meet all seismic criteria. Contractor shall allow for proper service clearance.

3. Provide templates, information, and instructions to other divisions as necessary to properly locate holes and openings to be cut or provided for mechanical work.

4. Layout ducts, piping, and other mechanical systems and confirm all sizes of systems and components to be sure they fit the space available prior to ordering and manufacturing of components.

5. Be certain to allow for proper pipe slopes.

6. Provide proper clearances for access to and service of all equipment and items requiring adjustment including shutoff valves.

.16 SEISMIC RESTRAINTS

A. General: All equipment, piping, ductwork, and materials shall be fastened to the structure with properly sized and structurally engineered anchors, bolts, and restraints to prevent permanent displacement in any direction caused by lateral motion, overturning, or uplift.

B. Calculations:

1. Submit drawings, calculations, and specifications that clearly indicate the furnished systems for support of equipment, piping, ductwork, and materials.

2. Calculations shall be in a form that can be readily reviewed. All engineering designs for the restraining systems shall bear the seal of a Structural or Civil Engineer registered in California.

3. Calculations shall indicate compliance with UBC Code requirements.

C. Provide specifications of anchor bolt size and loads with installation instructions for each item.

D. All isolators shall be fastened to the structure and to the equipment with properly sized and structurally engineered anchors and bolts as specified above. The isolator manufacturers shall submit seismic calculations confirming that such bolts and anchors can handle the specified seismic requirements.

E. The SMACNA "Guidelines for Seismic Restraints of Mechanical Systems and Plumbing Piping Systems" may be used for reference. However, submittals must be stamped by a Structural or Civil Engineer licensed in California and certified to meet the specified project requirements.

F. Seismic Bracing for Hangers and Ducts: All required seismic bracing shall be installed as per the State of California Administrative Code, Title 24, Division T-20 for force factors (cp) of 0.8 G in any direction.

2.00 MATERIALS

2.01 GENERAL

All items of similar nature shall be by the same manufacturer.

2.02 ELECTRICAL

A. General:

1. All equipment shall be selected to suit power available; this requirement supersedes other portions of the specifications.

2. All equipment shall conform to the National Electrical Manufacturer's Association Standards and shall bear Underwriter Laboratories label where applicable.

3. Load and line voltage connections to equipment will be made by the Electrical Division unless specifically noted otherwise. Coordinate work with the Electrical Division. Furnish the Electrical Division with shop drawing information for indicating ratings and control circuits required for the actual equipment furnished.

B. Motors:

1. Motors shall be open drip proof for general use, totally enclosed for wet or exterior use, and explosion proof for hazardous duty.

2. All motors shall be rated for continuous operation at 115% of nameplate amperage (SF = 1.15).

2. Match the nameplate voltage rating with the voltage available as indicated on the electrical drawings. Provide a transformer for each motor not wound specifically for the available voltage.

C. Starters:

1. Provide starters for packaged equipment where starters are an integral part of the equipment or where the design must be compatible with special motors such as hermetically sealed compressors. See equipment schedules and specifications for special requirements.

2. Starters for standard motors shall be furnished and installed under Division 16. Connection to starters furnished by this section shall be under Division 16. Coordinate work to provide a completely operative system.

D. Controls: Provide devices as indicated on the drawings and in the specifications.

2.03 PIPES AND FITTINGS

A. Cast Iron:

1. Soil, Bell and Plain End:

a. Pipe and Fittings: ANSI A112.5.2, service weight, bituminous coated interior and exterior.
b. Joints: Bell and plain end, caulked with neoprene compression gaskets. No hub pipe with "Husky" or ANSI fittings may be substituted for bell and plain end.

2. Soil, Plain End (no hub):

a. Pipe and fittings: ANSI A112.5.1, hubless, service weight, bituminous coated interior and exterior.
b. Joints: Neoprene sleeve with stainless steel shield, CISPI 301-82 and ASTM C564.

B. Galvanized Steel:

1. Threaded Malleable Iron:

a. Pipe: 4" and Smaller: ASTM A53 or ASTM A120, schedule 40, galvanized.
b. Fittings: ANSI B16.3, 150 psig class, galvanized.
c. Flanges, system pressure less than 175 psig: ANSI B16.1, 125 psig class. Black; ANSI B16.21, nonmetallic gasket.
d. Unions: ANSI B16.39, 150/300 psig, galvanized.
e. Joints: ANSI B2.1 pipe threads.

2. Drainage:

a. Pipe: ASTM A120, schedule 40, galvanized.
b. Fittings: ANSI B16.21, black, coated.
c. Joints: ANSI B2.1 pipe threads.

C. Copper:

1. Drainage; Type DWV:

a. Tubing: ASTM B306.
b. Fittings: ANSI B16.23 cast bronze, or ANSI B16.29 wrought copper.
c. Solder: ASTM B32, alloy grade 50A; 50% tin, 50% lead.

2. Pressure; Type L and K; Hard Drawn:

a. Tubing: ASTM B88.
b. Fittings: ANSI B16.22, wrought copper.
c. Solder: ASTM B32, alloy grade; 95% tin, 5% antimony.

2.04 DIELECTRIC CONNECTIONS

A. General: Isolate ferrous from non-ferrous material in piping systems and equipment connections with dielectric unions.

B. Dielectric Unions: 2" and Smaller: EPCO Model FX 250 WOG, with standard gaskets for plumbing and high temperature gaskets for heating.

2.05 VALVES

A. Provide Stockham, Jenkins, Dumco, Grinnell, Demarik, or Nibco valves. All ball or butterfly valves for general use shall have EPT seats.

B. General Use Valves:

1. Gate Valves:

a. 1/2" through 2" - Sweat: Stockham Figure B-109.
b. 1/2" through 2" - Threaded: Stockham Figure B-105.

2. Ball Valves - 1/2" through 2": Hammond No. 806.

2.06 PIPE HANGERS, SUPPORTS, AND PENETRATIONS

A. General:

1. The Contractor shall be responsible for locating and sizing all piping supports, hangers, and accessories including all attachments to the structure. See "Seismic Restraints".

2. Provide Pipe Shields Anchors, guides, and supports as indicated on the drawings or equal Grinnell, Elcen, Superstrut, Unistrut.

3. All piping shall be properly anchored and guided to assure expansion and contraction is properly controlled and works toward the expansion loops and offsets provided.

4. All hangers, supports, anchors, guides, and structural attachments shall be installed according to good standard practice and according to the manufacturer's recommendations.

5. Use cadmium plated or galvanized hangers, attachments, rods, nuts, bolts, and other accessories.

6. Do not use wire, plaster's tape, or other make-shift devices for hangers.

7. Provide a support or hanger close to each change of direction in the pipe, either horizontal or vertical.

B. Pipe Protection:

1. Isolate bare copper and plastic piping from hangers with Superstrut C-PIP Pale-Lined hangers or S-716 Quik-A-Strip.

2. No water piping shall have direct contact with the hanging and support system or the structure except at anchor points required for expansion and contraction control.

C. Penetrations and Escutcheons:

1. Provide galvanized steel sleeves where work of this division passes through partitions or walls. Sleeves shall be a minimum of 2" larger than the pipe (Pipe Shield, Inc.).

a. Noninsulated Piping:
(1) Nonrated Wall: Seal annular space.
(2) Fire Wall: Model WFB.
b. Insulated Piping.
(1) Nonrated Wall: Model WFS-CS.
(2) Fire Wall: Model WFS-CS.

2. Provide escutcheon plates that are neat, rigid, and securely attached where work of this section penetrates the structure. Provide stainless steel or chrome plated brass in finished areas (or where required for proper appearance) and galvanized steel elsewhere.

2.07 EQUIPMENT SUPPORTS

A. Mount equipment on curbs or sleepers as shown on project documents. Vibration isolation is not required for heat pump units. Provide structural calculations to prove that equipment mounts meet all applicable seismic restraint codes.

B. All connections to vibrating equipment such as piping, conduits, and ductwork shall be installed so that short circuiting does not occur.

1. Conduits shall have flexible connections looped in at 90 degrees to allow for movement.

2. Piping shall have flexible connections where specified or shall have sufficient spring legs or changes in direction before the first hanger to dampen vibration and assure that piping is not work hardened.

C. Curb-mounted exhaust fans do not require isolation.

2.08 DRIVES AND GUARDS

A. Belt Drives:

1. Browning, Gates, Woods, or Dayton V-belt drives with cast iron sheaves rated for not less than 1.5 times motor horsepower.

2. Adjustable motor sheaves for 15 horsepower and smaller; solid sheaves for others unless noted otherwise on drawings. Adjustable sheaves shall be selected at the midpoint of the adjustable range.

C. All rotating parts shall be statically and dynamically balanced.

2.09 ACCESS DOORS AND PANELS

A. Where Required: Wherever a piece of equipment or valve and damper operator is inaccessible and requires access for maintenance, repair, or adjustment.

B. Size: Size is dependent upon the relationship of the door to the product being serviced, therefore, the size of the door shall be selected to provide convenient access to its contents.

C. Manufacturer: Inryco/Milcor, Bilco, or Cesco.

D. Access doors in ducts for access to fire dampers shall be rated at the duct design pressure. Access in ducts 14" in diameter or 14" x 14" or smaller can be flat plates attached with drive screws and sealed. All others shall be easily assemblies hinged type doors.

3.00 EXECUTION

3.01 GENERAL PIPING

A. Cut piping accurately to job measurements and install without springing or forcing, true to line and grade, generally square with building and adequately supported to prevent sagging or undue stress on pipe, fittings, and accessories.

B. Thoroughly clean all pipe and maintain in such condition throughout construction. Temporarily cap off plug ends of unprotected pipe.

C. Install unions at connections to equipment, on service side of valves and elsewhere as required or shown to facilitate maintenance.

D. Install dielectric insulating unions or flanges between all dissimilar metals unless otherwise indicated.

E. Run all piping generally level, free of unnecessary traps and bends, and arrange to conform to the building requirements and to suit measuring of clearance for other work.

F. Arrange piping and hangers to allow for expansion, contraction, and structural settlement. Do not install piping in contact with the building structure. Anchor pipes properly so expansion/contraction is controlled.

G. Flush all pipes free from foreign substances before installing valves, stops, or making final connections.

H. Any section of pipe for which size is not shown or any intermediate section erroneously shown obviously undersized shall be the same size as the largest line connecting to it.

I. Do not cover or enclose the piping work before it has been tested, inspected, and approved.

J. Pipe the discharge of each relief valve, backflow preventer, and similar device to floor sink, floor drain, exterior, or other acceptable location whether indicated or not on the drawings and per code requirements.

K. Install exposed polished or enameled connections with special care showing no tool marks or threads.

L. Provide lateral bracing for horizontal piping at every fourth hanger where hanger rods are more than 12" in length.

M. Install sleeves for pipes passing through floors and walls. After pipe sleeves have been installed, caulk annular space between pipe and sleeve water tight.

N. Provide a support or hanger close to each change of direction in the pipe, either horizontal or vertical.

3.02 EXCAVATION AND BACKFILL

A. Provide all necessary excavation and backfill for the installation of the mechanical work. Walls of all trenches shall be a minimum of six (6) inches from the side of the nearest pipe.

B. Backfill shall not be placed until all lines have been tested and approved.

C. Utility Trench Excavation:

1. Keep excavated portions of the work free of water at all times and until all concrete work and backfilling is completed. Install adequate facilities for removing excess water.

2. Shore and brace excavations where necessary to prevent cave-ins and/or in accordance with all safety laws.

3.03 GENERAL EQUIPMENT INSTALLATION REQUIREMENTS

A. Install all equipment at locations indicated on the drawings and as directed by Owner or Owner's representative, and in strict accordance with the equipment manufacturer's requirements.

B. Where anchoring devices are not a standard part of any equipment, submit shop drawings and calculations for proposed method of securing equipment.

C. Position equipment to result in good appearance, provide easy access to all components for maintenance and adequate space for tube removal or other repairs. Install the piping and pipe line accessories so they do not interfere with equipment access.

D. Install equipment level, secure, and out of moisture. Provide shims, anchors, support straps, angles, and grouted bases as required to accomplish this.

E. Only use galvanized screws, nuts, bolts, rods, and washers. After fabrication, hot dip galvanize unfinished ferrous items for outdoor use, below grade installations, or other areas subject to moisture.

F. Manufacturer's Directions: Follow manufacturer's directions where these directions cover parts not included on drawings or in specifications.

G. Start-up: Secure the services of the manufacturer's representative to start up all equipment that is special and/or which Contractor's personnel does not have adequate experience in starting up.

3.04 IDENTIFICATION

A. Piping:

1. Identify all pipelines with adhesive markers indicating the contents and direction of flow.

2. Markers to be Seton type Setmark, Brady, or Pressa-Color.

3. Employ a maximum of four basic background colors conforming to American National Standards Institute, A 13.1, "Scheme for Identification of Piping Systems". Superimpose names of materials (pipe contents) on ANSI background colors. Conform to ANSI No. 13.1 work legends to avoid confusion and mistakes. Basic background colors and content classification are:

Yellow	Dangerous
Red	Fire Protection
Bright Blue	Protective Materials
Green	Safe Materials

4. Provide pipe marking as follows:

a. Apply "Plastic Pipe Marker" at each valve to show identification of pipe contents.
b. Use an "Arrow Marker" with each "Pipe Content Marker" and in direction of flow.
c. Apply "Pipe Marker" and "Arrow Marker" at every point of pipe entry and exit where line goes through wall, floor, or roof.
d. Apply "Pipe Marker" and "Arrow Marker" on each side and "T" joint.
e. Apply "Pipe Marker" and "Arrow Marker" every 50' on long continuous lines.
f. Identify branch runs from mains with "Pipe Marker" and "Arrow Marker" at point of takeoff.
g. Apply "Markers" on two lower quarters of pipe and where view is unobstructed. In this position, "Markers" are read at a glance from ground floor level and dust will not obscure "Marker". Locate roof-mounted piping "Markers" so that they can be read from a standing position on the roof.

h. Provide at each end of each marker, brady or equal, 2-1/4" wide self-sticking clear tape around the perimeter of pipe or insulation to further secure the marker. All markers shall be installed after finish painting is complete. Coat full marker with clear lacquer after installation.
i. Guarantee that "Pipe Markers" will stay on pipe systems for a period of not less than 5 years.
j. Identify piping 2-1/2" and smaller with 1" minimum height lettering every 30' where exposed to view and at valves where concealed.

B. Equipment Identification: Identify each item of equipment with laminated black plastic tags with engraved white core lettering. Use tags with a minimum thickness of 1/16", a minimum size of 1-1/2" x 4", and with .5" high lettering. Acceptable manufacturers: Seton, P.K. Wilcox, or Brady. Secure tags to equipment by means of screws or bolts.

3.05 WATERPROOF CONSTRUCTION

A. Maintain the waterproof integrity of penetrations through materials intended to be waterproof. Provide flashings at exterior wall and roof penetrations. Caulk watertight penetrations of foundation walls and floors. Provide membrane clamps at penetrations of waterproof membranes.

B. Provide galvanized sheet-metal weather protection canopies, hoods or enclosures over all out-of-door equipment, the operation or maintenance of which would be impaired by relentlessness. This requirement applies to, but is not limited to, damper operators and bearings, damper motors, controls, and instruments.

3.06 ADJUSTMENTS TO SYSTEMS

A. Adjust all equipment and system components as scheduled on drawings, or as required, to result in the intended system operation.

B. Thereafter, as a result of system operation or as directed by the Owner make readjustments as necessary to refine performance.

3.07 START-UP SERVICES

A. Contractor shall be responsible for proper operation of all systems, minor subsystems, and services provided under this division. He shall coordinate start-up procedures, calibration, and system check-out with all subcontractors and trades involved. Any system operational problems shall be diagnosed and all correctional procedures shall be initiated with the various subcontractors as required to bring the system into compliance with the design intent.

B. Personnel performing start-up services shall be fully qualified, experienced, and normally engaged in this type of work. If the Contractor does not have such personnel available from his own company, he shall hire, at his own expense, subcontractors who are qualified.

C. Prior to start-up, ensure that the systems are ready, including but no limited to the following: proper equipment rotation; the systems are flushed and are clean; proper wiring; auxiliary connections; lubrication; venting; controls; all filters and strainers installed; and properly set relief and safety valves.

D. The Contractor shall provide all labor, materials and services necessary for the start-up and operation of all systems and equipment furnished and installed under this section.

E. The Contractor and the factory representative shall check all equipment during the initial start-up to ensure correct rotation, proper lubrication, adequate fluids or air flows, non-overloading electrical characteristics, proper alignment, and vibration isolation. Systems shall be checked for air and/or water flows throughout without blockages. Air handling systems shall be checked for proper damper connections and positions, aligned and adjusted belt drives, proper lubrication, temporary air filters installed, non-excessive electrical characteristics, and minimal vibration. Other miscellaneous equipment shall be started and operated as described above as applicable.

F. A final and complete start-up and balance report shall be submitted prior to final acceptance and payment.

3.02 MAINTENANCE AND OPERATING INSTRUCTIONS

A. Furnish five (5) complete sets of operating and maintenance instructions bound in a hardboard binder and indexed. Start compiling the data upon approval of list of materials. Final payment will not be made until booklets are reviewed.

B. These sets shall incorporate the following:

1. Complete operating instructions for each item of equipment.

2. Typewritten maintenance instructions for each item of equipment listing in detail inspections required, adjustments, etc.

3. Manufacturers' bulletins with parts numbers, instructions, etc., for each item of equipment properly separated and assembled.

4. Test data and air balancing reports as specified.

5. Include in these instructions: chemical high level alarm panel diagrams and procedures, tank pump-out procedures with respect to alarms, "Trace-Tek" alarm system diagram, sensor part numbers and panel diagrams, and sump pump station maintenance and operating instructions.

END OF SECTION

SECTION 15500 - HEATING, VENTILATING, AND AIR CONDITIONING

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SECTION 15500 - HEATING, VENTILATING, AND AIR CONDITIONING

1.00 GENERAL

1.01 CONDITIONS AND REQUIREMENTS

Section 15050 is hereby made a part of this section as fully as if repeated herein.

1.02 SCOPE OF WORK

A. Provide all labor, equipment, and materials that are required to provide a complete installation and properly operating systems as indicated on the mechanical drawings and as described in these specifications including that reasonably inferred for proper execution of the work.

B. Provide demolition of pipes, ductwork, and equipment as necessary.

C. Provide new packaged rooftop air conditioning units as scheduled and shown on the drawings.

D. Provide new roof-mounted exhaust fans as indicated on the drawings.

E. Provide new and modifications to existing supply, return, and exhaust ductwork; diffusers; and grilles as shown on the drawings.

F. Provide sleepers, roof curbs, and flashing of all roof penetrations required by mechanical equipment.

G. Provide cutting, patching, and framing of any roof penetrations required for mechanical work.

H. Provide capping of roof openings where ducts or equipment have been removed.

I. Provide rigging and setting of all mechanical equipment.

J. Provide controls and low voltage control wiring as shown on the drawings and as described by these specifications.

K. Provide start-up and check-out of new and existing equipment.

L. Provide balancing of all air systems.

1.03 RELATED WORK SPECIFIED ELSEWHERE

The following items are to be included in other sections to be done by other trades. Where coordination is necessary, it shall be provided by this Contractor.

1. All line voltage, electrical wiring, disconnect switches, circuit breakers, and miscellaneous electrical devices not included as standard items with equipment.

2. Supply and installation of extra "Y" bars required for diffusers and grilles.

3. Fire suppression and alarm systems.

4. Condensate drains.

2.00 MATERIALS

2.01 DUCT AND ACCESSORIES

A. Duct shall be fabricated of galvanized carbon sheet steel conforming to ASTM A527 (G 90).

B. Fabricate and install the duct in accordance with the latest SMACNA HVAC duct Construction Standards.

Supply, Return, and Exhaust Air: 1" static pressure rating, 2500 fpm maximum velocity, rigid galvanized duct on mains and branches. Provide a 6' section of acoustical flexible duct ahead of each diffuser and grille.

C. Acoustical flexible duct shall be UL 181, Class 1 listed and be constructed as follows:

Core:	Corrosion resistant steel wire helix with scrim cloth inner liner.
Insulation:	1-1/2 inch thick, 3/4 lb./cu. ft. glass fiber insulation.
Vapor Barrier:	Polyethylene jacket.
C Factor:	0.25 Btu/hr./sq. ft. /°F (maximum).

Casco Silent - Flex II or approved substitute.

2.02 GRILLES AND DIFFUSERS

As scheduled on the drawings or approved equal.

2.03 DAMPERS

A. Manual balance dampers shall be provided ahead of each branch runout duct to each supply air outlet and return grille. Dampers shall be 20 gauge galvanized steel and shall have a 3/8" minimum shaft and a Duro-Dyne RS380 quadrant set. Quadrant shall be accessible and easily visible. Where difficult to locate, they shall be marked with a red ribbon hanging below the duct.

B. Fire Dampers:

1. Supply Air: Air Balance, Inc., 119ALS or 119SLK, 100% free area (scaled).

2. Return Air: Air Balance, Inc., 119AL.

3. Ceiling: Ruskin Model CFL25, UL classified ceiling fire damper with diffuser radiation shields.

2.04 PACKAGED ROOFTOP HEAT PUMP UNITS

A. Carrier or approved equal as scheduled on the drawings.

1. All units shall be certified to the California Energy Commission by its manufacturer to comply with the energy efficiency standards for air source heat pumps.

2. Install smoke detectors in return air duct on all units in excess of 2000 cfm and interlock with unit controls to shut down fan in the event of smoke detection.

B. Provide Options:

1. HP-1, HP-4, HP-5, HP-6, HP-7: Provide units with integrated outside air economizer complete with filter in outside air intake. Set minimum outside air per schedule. Provide easily accessible filter tran. and 2" pleated throw-away filters in return duct adjacent to all units except HP-4 (down discharge). Include weatherproof filter access cover. Size filter face velocity for 500 ft. per minute.

2. HP-3: Provide with outside air hood with manual damper. Set minimum outside air per schedule.

3. HP-4: Provide down discharge unit per schedule, factory roof curb, and leveling.

2.05 EXHAUST FANS

A. The exhaust fans shall be as indicated on the drawings or approved equal.

B. The fans shall be the curb-mounted type. The Contractor may provide either factory or field manufactured curbs.

C. The fans shall be securely fastened to the curb and a gasket shall be provided between the curb and fan.

D. Provide with a variable speed controller, bird screen, and backdraft damper.

2.06 INSULATION

Duct Insulation:

1. Wrap all unlined sheet metal supply and return ducts which are located in unconditioned spaces with minimum 1" thick unfaced duct wrap, 3/4 pound density fiberglass type 100 insulation as manufactured by Owens Corning Fiberglass Corporation, Mansville, or Certainteed. Lap all circumferential joints and longitudinal joints a minimum of 2". Additionally, secure insulation to the bottom of rectangular ducts over 24" wide with mechanical fasteners at not more than 18" on-center.

2. Provide acoustical lining in rectangular supply and return air ducts where indicated on the drawings. Install in accordance with SMACNA HVAC Duct Construction Standards Metal and Flexible Section II and as follows: Lining shall be 1" thick (unless noted otherwise on plans), 3-1/2# minimum density J-M, Micro-Cosmic, Fiberglas, or Certainteed with black coating. Cement the lining in place with 100% coverage of adhesive and coat all butt joint edges and joints with sealants. No cut fiberglass edges shall be left exposed to air stream. Adhesive and sealants shall be UL listed or classified type I per Adhesive and Sealant Council Standard ASC-A-7001. Note: Duct sizes shown are net inside dimensions. (Minimum R-value = 4.0.)

3.00 EXECUTION

3.01 DUCT AND ACCESSORIES

A. Fabricate and install the duct in accordance with SMACNA HVAC Duct Construction Standards Metal and Flexible - 1985.

B. Rectangular Duct and Fittings: Rectangular duct and fittings shall be fabricated in accordance with design drawing details and SMACNA HVAC Duct Construction Standards Metal and Flexible.

C. Joint Sealing: Joints and seams shall be sealed in accordance with SMACNA HVAC Duct Construction Standards Metal and Flexible - 1985, Table 3-2, seal class "C". Seal with mastic and canvas, hardcast or equal. (Duct tape is not allowed.)

D. Duct shall be installed and supported in accordance with SMACNA HVAC Duct Construction Standards Metal and Flexible - 1985, Section IV. (Provide Seismic restraints per code.)

E. Provide access doors in ductwork to provide easy access to each fire damper. Use insulated access doors in insulated ducts.

F. Fire dampers shall be installed according to state and local codes and exactly as tested by UL to develop fire ratings.

G. Provide double thickness airfoil type turning vanes in all 90 degree rectangular elbows.

H. Final connections to all supply air outlets, return air inlets, and exhaust grilles shall be made with sound absorbing flexible duct.

3.02 START-UP, CHECK, TEST, AND BALANCE

A. Prior to the final observation of construction or commencement of the balancing procedure, whichever occurs first, operate all systems for at least 72 consecutive hours in automatic mode, or longer if required, to prove satisfactory automatic operation. If system shutdown is experienced for any reason, repeat the test until 72 consecutive hours are achieved. Operate equipment as recommended by the equipment manufacturers.

B. All diffusers and grilles connected to existing and new equipment in the project, including exhaust fans, shall be balanced per AABC and as specified below by the Mechanical Contractor prior to Owner's acceptance of the system. The Contractor may have an independent balancing firm perform the work if he so desires.

1. Complete all punch list items.

2. Confirm that all dampers and other balancing devices have been installed as called for in the Construction Documents and are look open prior to starting balancing.

3. Check all motors for proper rotation.

4. Check out and align all equipment drives.

5. Set all fan sheaves to provide the indicated capacities at specified static pressures.

6. Make sure all control systems are calibrated and functioning properly.

7. Set minimum outside air quantity.

8. Balance all systems per AABC and submit a final report for approval. Report shall include rated and actual amperage readings for all motors.

3.03 CONTROL SYSTEMS

A. Provide all necessary control components and low voltage control wiring so that the systems work as intended. Provide factory thermostats with two stage cooling and one-stage heating.

B. Check out the operation of all control systems and components.

C. The rooftop packaged heat pump units shall operate as follows:

1. The units shall be brought on by the building energy management system.

2. The room thermostats for each unit shall sequence the economizer cycle with mechanical refrigeration or heating as required to maintain room temperature.

3. The dead band between heating and cooling shall be adjustable up to at least 10°F.

4. The mechanical cooling on all units shall be locked out below 55°F outdoor air temperature and the outside air dampers shall be at minimum above 70°F outdoor air temperature.

D. The exhaust fans shall be interlocked to come on with their associated air handling unit.

E. All field wiring shall be in conduit where either on the roof or in the space where exposed to damage.

END OF SECTION

SECTION 15400 - PLUMBING AND PROCESS PIPING

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SECTION 15400 - PLUMBING AND PROCESS PIPING

1.00 GENERAL

1.01 CONDITIONS AND REQUIREMENTS

A. Refer to General Conditions, Supplementary Conditions, and Division 1 General Requirements.

B. Section 15850 is hereby made a part of this section as fully as if repeated herein.

1.02 SCOPE OF WORK

This portion of the work shall include, but not be limited to, the following:

1. Provide cold and hot water and hot water return distribution and water filtration system as indicated herein and on the drawings.

2. Provide plumbing wastes, vents, indirect drains, chemical drains, chemical waste double containment, and connections to site plumbing as indicated herein and on the drawings.

3. Provide saw cutting, trenching, excavating, installation, back-filling, and compaction of plumbing work on site. Concrete replacement shall include dowels at 24" on-center epoxy fixed to existing slab. Consult with Architect for exact details.

4. Provide plumbing equipment, fixtures, trim, and floor sinks as indicated herein and on the drawings. Provide rough-in and all final connections to equipment and fixtures. Provide chrome plated stops and supplies and escutcheon plates, service stops, and access panels for all fixtures and equipment.

5. Provide all plumbing items required for complete and properly operating plumbing installation in accordance with all applicable codes and regulations.

6. Remove all debris and clean up all equipment before final acceptance by Owner.

7. Provide air conditioning units condensate drain piping. See mechanical plans for location and size and routing.

8. Provide gas piping to the water heater.

9. Provide compressed air piping, compressed air pipe support drops, and filter system as indicated in the Specifications and on the drawings.

10. Provide chemical waste high level alarm panel and all control wiring level switches' wiring designed to function as described in these specifications and on those drawings.

11. Raychem "Trace-Tek" leak detector alarm system shall be provided and installed including sensors in all tank and sump double containment. Conduit and pull wire by Electrical.

12. Double contained chemical waste pumps, receivers with level start/stop switches, and high level alarms shall be provided. Provide with seismic hold down straps.

13. Two (2) double contained, enclosed polypropylene waste tanks with manhole access, drain valve vent connection, and fill connection. Provide port for leak detector sensor to be installed in the double containment annulus. Provide seismic hold down for tanks. Secondary containment piping shall be hard piped to drain into secondary containment space around the tank.

14. Provide insulation for all hot water and hot water return piping systems as specified herein.

1.03 RELATED WORK SPECIFIED ELSEWHERE

The following work is included in other sections. Where coordination is necessary, it shall be provided by this Contractor.

1. Electrical - By G.T.E. (except control wiring and leak detector sensor and remote alarm panel wiring).

2. Painting - Division 9000.

3. HVAC systems.

4. Concrete housekeeping pads.

2.00 PRODUCTS

2.01 PIPING

A. General: Refer to pipe material, joints and fitting requirements in Section 15080.

B. Sanitary Soil, Waste, and Vent:

1. Underground: Cast iron; soil, bell and plain end with neoprene compression gaskets. No hub with "husky" or ABS fittings are acceptable.

2. Aboveground: Cast iron; soil, plain end (no hub). Contractor Option: DWV (copper or steel pipe DRC) drainage may be used for pipe sizes 2-1/2" and smaller.

C. Potable and Nonpotable Water System - Domestic Water:

1. Above Grade: 3" and smaller, copper; pressure Type L; joints 95/5 tin, 4% copper, 0.5% silver solder, and noncorrosive flux.

2. Under Grade: Copper, pressure Type K, joints 15% silver brazing alloy and silver brazing flux. Machine wrap all underground piping with "3M" pipe wrap. Double hand wrap all joints and fittings. Plastic pipe above is an acceptable substitute if trench base and backfill in sand.

D. Natural Gas: Standard weight, schedule 40 steel pipe conforming to the following specification:

1. Above Ground Pipe Exposed to Weather: ASTM A120, galvanized pipe made up with banded galvanized malleable iron fittings.

2. All screwed unions in gas pipe shall be 150 pound rated ground joint type.

E. Compressed Air:

1. Piping: ACR Copper, Type L, cleaned and capped ANSI B280.

2. Fittings: ACR wrought copper, ANSI B16.22.

3. Joints: Brazed, 15% silver brazing alloy.

4. Pipe shall be continuously purged with nitrogen while making up joints.

5. Valves: Bronze, Nibco T3984, threaded.

F. Chemical Waste Piping: Polypropylene pipe and fittings. Pressure type for pumped waste; DWV type for gravity drain.

G. Chemical waste double containment on roof: Schedule 80 PVC pipe and fittings. Below roof: Schedule 40 PVC or polypropylene is acceptable.

2.02 VALVES

A. General: Refer to Section 15050 for valve requirements. Valves shall be compatible with the media being served.

B. Chemical:

1. Check valves: Polypropylene "Ryan Herco" series 5190.

2. Valves: Polypropylene "Ryan Herco" series 5010.

2.03 PIPING SPECIALTIES:

Piping Specialties: Refer to Section 15050.

2.04 DRAINAGE SPECIALTIES

A. Manufacturers: J.R. Smith, Josam, Wade, or Zurn. Model numbers shown are for J.R. Smith.

B. Cleanouts: Provide where shown and as required; sizes as scheduled, types as follows:

1. Wall Cleanout: Model No. 4434 taper threaded plug with square frame and cover. Cast iron.

2. Other Cleanouts: Josam Model No. 58470, cast iron body with bronze threaded plug.

C. Floor Sinks: Floor sinks shall be Zurn model number Z1815-2.

D. Trap Primers: Precision Plumbing Products "Prime-Rite" or "O-ringo No. 1". One for each trap. Provide service stop for each trap primer and access panels as required.

2.05 WATER HEATERS

A. General: Comply with California energy commission standards and submit evidence that manufacturer has lawfully certified to the Commission compliance with appliance efficiency standards for heater models to be provided.

B. Manufacturers: A.O. Smith or approved equal. Conservatorist STE200, 199MMH 200 gallon.

C. Secure water heater seismically per Section 15050 (Seismic Restraints).

D. Provide with drain pan, T & P relief valve, Ball & Gossett series 100, all bronze, twinsulation pump, Honeywell emersion thermostat to switch recirculation pump dielectric connection to heater.

2.06 PIPE INSULATION

A. General:

1. The term "piping" used herein shall include pipe, valves, strainers, fittings, and all piping accessories.

2. Insulation shall be installed per the manufacturer's instructions.

B. Type and Thickness:

1. Insulate piping with Owens-Corning Fiberglas ASJ/SSL-II heavy density pipe insulation, jacketed with a Kraft reinforced foil vapor barrier laminate with integral pressure sensitive longitudinal sealing lap. Band insulation with factory finished pressure sensitive sealing strip, 16" minimum on center and at each butt joint. Miter insulation at fittings and irregular surfaces and secure with pressure sensitive joint sealing bands. Seal or butter all raw edges of fiberglass. Use PVC snap on covers on fittings. Use manufacturer provided insulation covers on all circuit setters.

2. Insulate piping system as follows:

System	Insulation Thickness
Domestic Hot Water	1"
Domestic Hot Water Return	1"

2.07 OTHER MATERIALS

All other materials not specifically described but required for a complete and proper installation shall be new, first quality of their respective kinds, and subject to the approval of the Architect.

2.08 CHEMICAL PUMPS SYSTEMS

A. Chemical pump sumps shall be polyethylene material and pumps shall be CPCC welded parts. Unit shall be a customized version of the "Ryan Herco" model 510 with a 1/3 hp pump, 110 v/1-phase/60-.

B. Sumps shall be double contained with removable double containment cover. Contain 110% of the sump volume. Provide port for installing leak detector sensor in the double containment annulus. Nalgene 24" x 18" x 18" polypropylene tank. Harrington Part No. 1K2PP-0045.

C. Pump shall provide 1-3 gpm flow at 25 head. Harrington Part No. TE-2-MD-SG, 1" suction, 1/2" discharge. Pump shall be compatible with the materials being pumped. Provide check and gate valve on discharge.

D. Pump controls shall come complete with unit mounted disconnect, on/off control, and high level audible alarm automatically reset with disconnect. Controls shall be packaged into a panel mounted on the pump. Install a "Ryan Herco" Model 6903-502, 120 v, high/low level unit to signal an audible high level alarm. Mount alarm horn on sump package.

E. Discharge equipment drain into top of sump.

2.09 CHEMICAL WASTE TANKS

A. Chemical sumps shall be polypropylene or cross linked polyethylene material as compatible with the Kodak developing chemicals used on this project. Inner tank 72" x 36" x 48"W. 500 gallon.

B. Sumps shall be double contained with containment enclosed over sump and containing 110% of the sump volume minimum. Provide port for installing leak detector sensor in the double containment annulus. Outer tank shall be a custom fabricated 78" x 44" x 48". 715 gallon steel tank with reinforcing and seismic calculations done by a registered, professional, Civil, or Structural Engineer. Calculations shall consider the tank to be full of water to the top of the tank. Inside of tank shall be primed and painted with a finish resistant to photographic developer and fixer or shall be lined with a welded polypropylene liner.

C. Install a 2" polypropylene suction line, valve, and capped, threaded connection for tank pump out and secondary containment tank pump out. Extend inlet to the suction line low to 1" from bottom of tank.

D. Install conduit port in top of secondary containment cover for installation of "Trace-Tek" leak detector sensor and for high level alarm switch. Switch shall be "Ryan Herco" Part Number 6932-605.

E. High level alarm panels shall be with remote subpanel and shall be manufactured by a U.L. approved panel house. Provide the following functions:

1. High level alarm panel shall have these functions for each tank (SBT-1 and (WSDF-1):

a. Audible alarm horn to sound when tank is 85% full (400 gallons).
b. Acknowledge button to shut off horn and maintain a high level alarm indicating light.
c. Automatic reset of alarm when tank level is lowered to below 80% of tank capacity.
d. Panel power on/off and fused power supply. Provide panel door keyed lock.
e. On/off switch to shut down the remote alarm panel in the work area.

2. Remote high level tank alarm panel shall have a slave alarm horn and a slave indicating light with an independant acknowledge horn button. Provide power from the main panel in the tank storage room. Provide with on/off switch and panel door keyed lock.

2.10 AIR DRYER/FILTRATION SYSTEM

A. General: Install inline compressed air dryer/filtration system with the following components beginning upstream with two (2) redundant prefilters followed by two (2) redundant final filters, then, one refrigerated air dryer, followed by one (1) pressure regulator valve. Install unions and isolating valves on both sides of all equipment and filters. Install 2" gauges, 0 - 160 across all filters. Install automatic drains and drain piping to an oil separator. Pipe oil separator clean water waste to a floor sink with a 3/4" drain.

B. Prefilter: Atlas-Copco QD filter, 1 micron particulate, 0.5 micron liquid vapor. Sized for 60 scfm at 3 psi ΔP maximum.

C. Final Filter: Atlas-Copco UD filter, 0.01 micron particulate, 0.003 micron liquid vapor. Sized for 60 scfm at 3 psi ΔP maximum.

D. Refrigerated air dryer: Atlas-Copco FD-30, 1.1 BHP at 110 v, 1-phase, 50-, 68 scfm from 100-F to 39-F.

E. Pressure regulator: Norgren Model R-17 with gauge and knob handle.

F. Oil separator: Zander ZT-2.

3.00 EXECUTION

3.01 SURFACE CONDITIONS

A. Inspections:

1. Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

2. Verify that plumbing may be installed in strict accordance with all pertinent codes and regulations and the approved shop drawings.

B. Discrepancies:

1. In the event of discrepancy, immediately notify the Architect.

2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 PLUMBING SYSTEM LAYOUT

A. General:

1. Layout the plumbing system in careful coordination with the contract and approved shop drawings, determining proper elevations for all components of the system and using only the minimum number of bends to produce a satisfactorily functioning system.

2. Follow the general layout shown on the approved shop drawings in all cases except where other work may interfere.

3. Size any section of pipe for which size is not indicated or any intermediate section erroneously shown undersized the next size as the largest pipe connecting to it. Sizes listed are nominal.

4. Cut pipe accurately to job measurements and install without springing or forcing, true to line and grade, generally square with building, and adequately supported to prevent sagging or undue stress on pipe, fittings, and accessories.

5. Install Ells, dielectric unions, or flanges at points of connection between copper piping and steel or cast iron pipes, other dissimilar metals.

6. Provide unions at connections to equipment, on service side of valves, and elsewhere as required to facilitate maintenance.

7. Provide chrome plated, split ring type escutcheons where pipe penetrations through wall or ceiling are exposed to view.

8. Arrange pipe and hangers to allow for expansion, contraction, and structural settlement. No pipe shall contact structure.

9. Make changes of size or direction with manufactured fittings. Bushings, reducing flanges, and bending of pipe is not allowed.

10. Run full pipe size through shutoff valves, balancing valves, etc. Change pipe size within three pipe size diameters of final connection to fixtures and equipment.

B. Enclosure of Pipes:

Except where specifically permitted by the Architect, layout all pipes to fall within partition, ceiling, or roof cavities and not to required furring other than that shown on the contract documents.

3.03 INSTALLATION OF PIPING EQUIPMENT

A. General:

1. Install all piping promptly capping or plugging all open ends and making pipe generally level and plumb, free from traps, and in a manner to conserve space for other work.

2. Provide uniform pitch of at least 1/4" per foot for all horizontal waste, soil, and rain leader piping within the building except as noted on the drawings; pitch all vents for proper drainage.

3. Firmly anchor all pipes in position; provide complete isolation of dissimilar metals.

4. Inspect each piece of pipe, tube fittings, and equipment for defects and obstructions; promptly remove all defective materials from the job site.

5. Install pipes to clear all beams and obstructions. Do not cut structural members without the approval of the Architect.

6. Underground Piping: All piping shall be laid on a bed of clean dry sand not less than 6" thick. The space between the pipe and the sides of the trench shall be backfilled with clean dry sand to a point 6" above the crown of the pipe and both sides of the pipe shall be filled at the same time.

B. Joints and Connections:

1. Smoothly ream all cut pipe; cut all threads straight and true; apply best quality Teflon tape to all male pipe threads but not inside the fittings; use graphite on all cleanout plugs.

2. Pack all joints in cast iron soil and waste pipe and fittings using oakum and securing with one inch deep lead caulking, fully and properly caulked and smoothly finished, except where compression-type neoprene fittings are permitted and used.

3. Make all joints in copper tube in strict accordance with the manufacturer's recommendation.

3.04 CLOSING IN UNINSPECTED WORK

A. General: Do not cover up or enclose work until it has been properly and completely inspected and approved.

B. Noncompliance: Should any of the work be covered up or enclosed prior to all required inspections and approvals, uncover the work as required and, after it has been completely inspected and approved, make all repairs and replacements with such materials as are necessary to the approval of the Architect.

3.05 TESTS AND ADJUSTMENTS

A. Test the installations in accordance with the following requirements and all applicable codes.

1. Notify the Architect at least seven (7) days in advance of any test.

2. All piping shall be tested at completion of roughing-in, or at any other times as directed by the Architect.

3. Furnish all necessary materials, test pumps, gases, instruments, and labor required for testing. Tests shall be witnessed by the Architect.

B. Protect valves and equipment from damage during tests. Include connection to previously tested sections if the systems are tested in sections.

C. Test Schedule:

Test all piping as noted below, with no leaks or loss in pressure. Repair or replace defective piping until tests are accomplished successfully.

SYSTEM	TEST PRESSURE	TEST MEDIUM	TEST TIME
Drainage, soil, waste and vents, condensate drains	Fill to top of highout vent	Water	8 hours
Double containment piping	10 psig	Air	4 hrs
Domestic CW & HW and HWR	150 psig	Water	4 hours
Chemical pressure	25 psig	Air	4 hrs
Gas	100 psig	Air & Soap	24 hours
Compressed Air	150 psig	Nitrogen	4 hours

D. Perform operational test under simulated or actual service conditions, including one test of complete plumbing installation with all fixtures and other appliances connected and operating.

E. Should any material or work fail in any of these tests, it shall be immediately removed and replaced by new materials, and portion of the work replaced shall again be tested.

F. Instruct Owner's operating personnel during operating adjustment period. Lubricate each item of equipment, including motors, before operation.

3.06 STERILIZATION OF PIPES

A. General:

1. After preliminary purging of the system, chlorinate the entire potable domestic water system in accordance with the current recommendations of the American Water Works Association and in accordance with all pertinent state and local health codes and regulations.

2. Chlorinate only when prescheduled and provide proper warning signs at outlets.

B. Flushing:

1. Upon completion of the sterilization, thoroughly flush the entire potable water system and immediately fill the system.

2. When sterilization and flushings are complete, arrange with pertinent agencies for all required test on mains and systems. Submit certificate of sterilization.

3.07 CLEANING PIPING SYSTEMS

After the piping systems have been tested and proved tight, clean piping systems of dirt, scale, oil, grease, waste, and other foreign substances which may have accumulated during the process of installation.

3.08 FINAL CLEAN UP

Prior to acceptance of the buildings, thoroughly clean all exposed portions of the plumbing installation, removing all labels and all traces of foreign substance, using only a cleaning solution approved by the manufacturer of the plumbing item and being careful to avoid all damage to finished surfaces.

3.09 PIPING PENETRATIONS OF FIRE WALLS

A. Bare Pipe: All steel pipe or copper tubing penetrating fire walls or decks shall be encircled by sheet metal sleeves sized for maximum one inch annular spacing between pipe and sleeve. Spacing shall be packed on each end with UL rated ceramic fiber strip insulation.

B. Insulated Pipe: Same as for bare pipe, but with the addition of a 360 degree cylinder of waterproofed calcium silicate insulation encasing the pipe and covered with galvanized sheet metal shielding, all sized to extend to a minimum of one inch beyond wall or deck.

C. Plastic Pipe: All bare or insulated plastic pipe penetrating fire walls shall be encircled by sheet metal sleeves sized for one inch annular spacing between pipe and sleeve. Spacing shall be packed on each end with U.L. rated ceramic fiber strip insulation. In addition, there shall be a 360 degree cylinder of waterproofed calcium silicate insulation encasing the pipe and covered with galvanized sheet metal shielding, all sized to extend a minimum of 24" beyond fire wall.

D. Sleeve and packing shall have the same fire rating as the partition constructing in which they are installed. Any substitutions must have passed the ASTM E-119 test, per UBC 43-1 for pipe penetrations.

E. Fire barrier kits shall be Pipe Shields, Inc., Model "F" series or approved substitution.

3.10 PIPE INSULATION

Pipe fittings and Accessories: Apply Hi-low temp insulation to the fittings and cover with "Proton" fitting closure. Tuck the ends of the Hi-Low Temp insulation into the throat of the fittings and the edges adjacent to the pipe covering turned and tucked in, fully insulating the fitting before applying fitting cover. Secure the fitting cover by bending fittings where manufactured insulation coverings are not used or available, apply insulating cement to the fittings, and trowel it smooth to the thickness of the adjacent covering, then cover with jacket to match piping. Extend the insulation on the valves up to the valve bonnet. Leave strainer cleanout plugs accessible. At unions, miter insulation at 45 degrees and coat exposed insulation with insulating cement.

END OF SECTION

CITY OF MOUNTAIN VIEW

RECEIVED
MAR 11 1992
BLDG. INSPECTION

DATE: March 11, 1992

TO: Karen Brancaberry, Building Official

FROM: Kurt Danziger, Hazardous Materials Specialist

SUBJECT: PC 911870, CTE PRINT SHOP & BANK ROOM, 100 FERGUSON

Plan check No. 911870 is conditionally approved with the following comment:

1. The liquid level sensor when activated inside the waste collection tank must shut down the pump at the point of waste generation, Section 24.13(i) MVCC.

CITY OF MOUNTAIN VIEW

Fire Department • 1009 Wills Street • Mountain View, California 94041-1285 • 415-960-4188 • FAX 415-960-4122

Plan Check Requirements for:
HAZARDOUS MATERIALS STORAGE ORDINANCE (Chapter 24, MVCC)
INSTALLATION OR UPGRADE OF HAZMAT STORAGE OR USE AREAS
(Update--7/91)

The Hazardous Materials Code Enforcement Division of the Mountain View Fire Department (903-6378) will review your submitted plans using this plan check outline.

Where appropriate, enter below the page number of your submitted plans where the item asked for is called out and highlight the item in your plans. Include brochures, manufacturer's cut sheets, and calculations with the plans when asked for.

If all the information requested in this outline is included in your plans or attachments, they can be reviewed and approved by the Hazardous Materials Division within five working days.

Facility Name: GTE BUILDING #1 Address: 100 FERGUSON DRIVE

Architect Name: LEO MOSCHETTO Phone: 646-7424 PC#: _____ Date: _____

PLAN CHECK

1) Have two complete sets of plans been submitted for the Hazardous Materials Division? ✓

2) Does a Hazardous Materials Management Plan (HMMP) need to be submitted or updated? X If so, indicate whether the HMMP is attached, or has been submitted separately: ✓ (NOTE: ADD TO PLAN)

GENERAL

A *A chemical inventory list must be attached to the plans indicating quantities and proposed storage/use locations.* (the HMMP inventory can be used for this as long as the locations are also identified in the submitted plans). ✓

B If plating tanks are utilized, do the plans identify each tank separately, including contents, concentration, hazard class, and location? NA Plan page number _____

C Do the plans describe the security measures which will be used to restrict access to each hazardous materials storage or use area? YES Plan page number 22

Revised

B) That the cabinets will be labeled either "Hazardous–Keep Fire Away" and "Flammable" in red letters on a contrasting background (for flammable liquid storage) or "Corrosive–Acids" or "Corrosives–Bases" (for corrosive liquid storage)? ____ Cut sheet number: ____

C) That the cabinets will be constructed of metal (for flammable liquid storage), or lined with a non-corroding plastic if corrosives are stored? ____ Plan page or cut sheet number: ____

D) That the metal thickness is not less than 0.042 inches? ____ Plan page or cut sheet number: ____

E) That the cabinets are double-walled with a 1.5" airspace between the walls? ____ Plan page or cut sheet number: ____

F) That the cabinets have self-closing and self-latching doors? ____ Plan page or cut sheet number: ____

G) The file cabinets have a minimum height of 2" in the bottom all? ____ Plan page or cut sheet number: ____

18) If the storage or use area will hold only a simply container, are calculations showing that the secondary container can hold 110% of this primary container included in the plans? N/A * Plan page number: P-1 ____ If the storage or use area will hold multiple containers, are calculations provided which show that the secondary containment can hold either 10% of the aggregate volume or 100% of the largest container, whichever is greater? N/A * Plan page number: P-1 ____
* (gas storage & fuel systems, TB 79-2 only)

A) If this area is sprinklered, do the calculations include 30 minutes of sprinkler flow from 3 heads as an additional volume of liquid that the secondary containment must hold? ____ Plan page number: P-1 ____ * Double check calculations and site plan review

B) If this area is open to rainfall, do the calculations include 0.13 times the containment area as an additional volume of liquid that the secondary containment must hold? N/A Plan page number: ____

17) Is the method or procedure for negotiating each secondary containment area called out in the plans? YES Plan page number: P-1 ____ Is the person and his/her title who is responsible for monitoring the secondary containment called out? ____ Plan page number: ____

A) If applicable, is the method for removing spilled liquid from the secondary containment called out in the plans? YES Plan page number: P-1 ____

18) If the secondary containment is open to rainfall, is a method for analyzing the water before it is removed described in the plans? N/A Plan page number: ____ Is the method of removal and discharge location shown on the plans? ____ Plan page number: ____

LABELING/PLACARDING

19) Do the plans show the NFPA 704 placard (see number designation) which will be installed on each entrance to the hazardous material storage or use areas? YES Plan page number: A6

A) Do the plans indicate that these placards will be 10" x 10" with 4" numbers, minimum? YES Plan page number: A6

20) For storage containers exceeding 60 gallons or any piping or process tank, do the plans indicate the fluid (specifying the chemical name, DOT class, and % concentration) which will be

placed on this container/tank? YES Plan page number: A6

A) Do the plans indicate that these labels will have 4" lettering, minimum? YES Plan page number: ____

STORAGE/HANDLING

21) Do the plans describe the method used to transport chemicals throughout the facility? YES Plan page number: N/A *If chemical carts or other transportation equipment is proposed, attach cut sheets of this equipment to the plans.*

22) (For office use only) Is the chemical storage layout designed so that incompatible hazard classes of chemicals are stored together and incompatible classes of chemicals are stored separately? ____

23) If empty drums will be stored on site, do the plans show where this storage area will be? N/A Plan page number: ____

A) Do the plans call out that this area will be identified with the sign "Empty Drums Only" in letters that can be seen from at least 200' away? N/A Plan page number: ____

24) If containers are used for accumulating hazardous liquids (such as batch processing tanks or waste tanks), do the plans show the liquid level control (i.e. high-level indicator and pump shut-off) which will be used to keep the container from overflowing? YES (Visual inspection may suffice if the operator is within sight and immediate control of the filling device). Plan page number: P-1 *If this is an electronic device, manufacturer's cut sheets must be attached to the plans.*

A) If the liquid level control employs a high-level alarm, do the plans indicate the location to which the alarm is sent? YES Plan page number: ____ Do the plans indicate that this location is normally staffed when the alarm could sound? ____ Plan page number: P-1

25) If heated containers/vessels will be used, do the plans call out the temperature controls (high temperature or low-level sensors and shut-offs) which will be used? N/A Plan page number: ____ *Manufacturer's cut sheets of all electronic sensors and shut-offs must be attached to the plans.*

26) If temperature sensitive materials are used (for example, starters which must remain refrigerated), do the plans call out a redundant temperature control system which will operate upon failure of the primary system? N/A Plan page number: ____

27) If any stationary tanks or processing equipment is proposed which generates pressures exceeding the tank design limits, do the plans call out pressure relief valves or vacuum breakers and their ratings? N/A Plan page number: ____

28) If compressed gas cylinders are proposed, do the plans call out that all cylinders not in use will be chained to a stationary structure? N/A Plan page number: ____ Do the plans include a drawing of the stationary structure? N/A Plan page number: ____

29) If dispensing of Class I flammables or Class II combustibles is proposed, do the plans show and

describe the bonding and grounding which will be used? N/A Plan page number: ____

30) If storage shelves are used, do the plans show how they will be seismically braced? N/A Plan page number: ____

A) Do the plans call out the safeguards to be used across the front face of the shelves (lip guards, metal brackets, etc.) to keep containers from falling? ____ Plan page number: ____

CITY OF ORANGE COVE
PROPERTY PLAN CHECK "CORRECTIONS"
FIGHT CONSERVATION ORDINANCE
NON-RESIDENTIAL BUILDINGS

OWNER'S NAME ____ JOB ADDRESS ____
ARCHITECT ____ OWNER'S ADDRESS ____
TELEPHONE ____ TELEPHONE ____
Permit Application Number ____
Date Received ____
PLANCHECK JOB NUMBER ____

PLEASE READ CAREFULLY

Plans for the above addressed building have been reviewed for compliance with California Energy Conservation Regulations. Table 2A, Application Check on the attached sheet were checked or properties. The Power Application will be put on "HOLD" until all items are resolved.

TO REDUCE PLAN CHECK FEE CHARGES:

BEFORE contacting this office please review and check off the items to review the plan check correction sheets and consult the cited noted section(s) of the energy standards.

Please review "Minimum Drawings" and provide corrected prints with calcs and support documents [illegible] for rechecks/approval. Note: No complete plan [illegible] like with building [illegible].

Copies of the regulations may be obtained [illegible] Energy Commission, Publication Division, [illegible] (916) 324-5000.

For rechecks please return the requested information [illegible] stamp. AND YOU MAY CONTACT CONSERVATION [illegible]

BROWCK, INC.
[illegible]
[illegible] 650-0377

Plan checked by: [illegible]

REV: 1 MAY - 91

GENERAL PROVISIONS

Note: Items circled below indicate either missing or incorrect plan information and need to be corrected. The items which have been checked ( ) have been reviewed and were found to be correct.

1. Provide the designer signed statement on the plan (See T20-1407) as follows:

"I have reviewed the current California Conservation Standards for nonresidential buildings. In my professional judgment, the design in this set of plans and specifications conform with the following division of these regulations:

a. *Division 4, Building Envelope Forms 1, 2, 3 or alternative Division 2 or 2.

b. *Divisions 5 and 6, HVAC Systems and Equipment Forms 4 and 6.

c. ** Division 9, Lighting Form 8".

*The person signing as being responsible for the design of the plans or for preparation of the forms must be an architect, the engineer, building designer or contractor registered or licensed by the State of California. See 220-1401. Please show license number of "responsible" party on plans.

**Please list "b", "b", or "c" as appropriate, under statement of compliance on plans.

2. Please submit and sign compliance Form Numbers_____.

a. Provide backup calculations for Form 2.

b. Provide backup calculations for Form 4.

c. Equipment cooling loads seem excessive. Please document each major piece of equipment, providing the EER rating and HVU output.

3. Submit/complete mechanical plan notes as indicated on the following pages.

4. Submit/complete: lighting plan notes as indicated on the following pages.

5. Submit/complete architectural plan notes as indicated on the following pages.

6. Please provide job address (street name and number) on plans.

7. Submit:

ARCHITECTURAL

1. Form (1, 2 or 3) appears incorrect on the plans. Please resubmit.

1a. Provide support documentation to show that the heat flow through the roof _____ will equal or be less than through the ceiling_____.

2. Correct plans to conform with the energy calculations as follows:

a. Insulation type and R-values shown in the calculations but not on the plans:

Walls_____ Roof_____ Floor_____

b. Roofing color: _____

Absorptance Coefficient_____

c. The glazing area in the plans exceeds that of the calculations by approximately_____ square feet.

2. Submit plans and specifications indicating the size, type and location of all walls, roofs, floors, windows, skylights and doors that are a part of the building envelope as shown on compliance Forms 1, 2 and 3.

4. Submit plans and specifications showing building cross sections and/or typical cross sections of walls, ceilings/roofs and floors that indicate the type of materials used including the location, type, R-value and thickness of the insulation.

5. Specify caulking and weatherstripping. All open joints, penetrations, and other openings in the building envelope shall be sealed, caulked, gasketed, or weather-stripped to limit air leakage; including open exterior joints around window and door frames, between wall and foundation, between wall and roof, between wall panels, at penetrations of utility services through walls, floors and roofs, and all other openings in the exterior envelope.

6. Specify exterior operable windows and sliding glass doors will be weather-stripped, tested, certified and labeled. See T20-1454.

7. SPECIFY THE PROPOSED, NEW AND EXISTING EXTERIOR DOORS WILL BE PROVIDED WITH A SEAL, ASTRAGAL, OR BAFFLE AT THE HEAD AND JAMB SILL. FIRE-RATED DOORS ARE EXEMPT.

8. SPECIFY PROPOSED AND EXISTING EXTERIOR DOORS BETWEEN DWELLING UNITS AND THE MINIMUM HAVE A CONTINUOUS SEAL OR BAFFLE AT EACH JAMB. FIRE-RATED DOORS ARE EXEMPT.

9. SPECIFY PROPOSED AND EXISTING EXTERIOR DOUBLE DOORS WILL BE PROVIDED WITH A WEATHER-STRIPPED ASTRAGAL OR CLOSURE AT THE CENTER CRACK. FIRE-RATED DOORS ARE EXEMPT.

10. SPECIFY PROPOSED AND EXISTING EXTERIOR SWINGING AND WEARING DOORS WILL BE WEATHER-STRIPPED AT THE HEAD, SILL AND JAMB. FIRE-RATED DOORS ARE EXEMPT.

ROOF-UP ROOF TYPE DOORS

11. SPECIFY THE DETAILS OF EXISTING EXTERIOR STATIONARY DOORS AND THE DETAIL STYLES OR RAILS OR THE SWINGING BI-PASTING DOORS WILL BE MODIFIED WITH A SEAL, ASTRAGAL, OR BAFFLE. FIRE-RATED DOORS ARE EXEMPT.

12. SPECIFY THE EXTERIOR DOORS MODIFIED BY ALTERNATE THICKNESS OR DIFFERENT OF AN EXISTING WALL WILL HAVE A MINIMUM 1" LAP AT EACH JAMB. FIRE-RATED DOORS ARE EXEMPT.

13. SPECIFY EXISTING EXTERIOR DOORS WHICH REQUIRE A VERTICAL TRACT OR GUIDES WILL USE A CONTINUOUS SEALING ASTRAGAL AT EACH JAMB. FIRE-RATED DOORS ARE EXEMPT.

14. PLEASE ADD DIMENSIONS, CORRECTED AND SIGNED FORM CF-3 (PARTS 1 & 2) TO PLAN MACHINE, AND ATTACH OR ADD COMPLETED FORM NP-3 TO PLANS. NOTE: FORMS MUST BE COMPLETED AND SIGNED BY (1) PARTIES RESPONSIBLE FOR PLANS, (2) ELECTRICAL AND HVAC DESIGNERS, (3) BUILDING OWNER AND (4) ENERGY COMPLIANCE DOCUMENTATION AUTHOR(S).

MECHANICAL

1. Specify elevator shaft will be fitted with barrier, normally closed smoke dampers which will be closed upon the action of a detector of products of combustion (other than heat) located at the top of the shaft.

2. HVAC equipment does not comply with the efficiency requirements. See Form 6 of equipment specifications. Revise, specify complying equipment, and resubmit.

3. Specify duct joint sealant (show on plans). Provide mastic or duct tape joint sealant as follows:

a. Seal transverse joints on air-supply ducts installed in locations where air leakage through the joints would be non-beneficial to the occupied area temperature requirements.

b. Seal longitudinal joints on low pressure supply ducts where internal static pressure exceeds 3" of water pressure.

4. Duct insulation is required on supply and return ducts beneficial (show on plans). The minimum are:

Air conditioning ducts: R-7 outside, R-5 inside.
Heating ducts: See Section, R-7 [illegible]
Sec 123-1308(a).

5. Show EER and COP ratings for all units to be installed. The minimum are:

EER: 7.8 for all heat pumps.
7.8 for units over 65,000 BTU capacity.
8.0 for units under 65,000 BTU capacity.

COP = 2.8 at 47 degrees F. outside temperature.
2.2 at 43 degrees F. outside temperature.
1.8 at 17 degrees F. outside temperature.

6. Specify maintenance information. Equipment shall require preventive maintenance for efficient operation shall be furnished with complete maintenance information. Required routine maintenance actions shall be clearly stated and incorporated on the accessible panel which can be limited to identification tags and/or instruction signs in the Operation and Maintenance Manual for the equipment model and type of product. At least [illegible] of the [illegible] shall be furnished by the manufacturer of the equipment owner upon request.

7. Submit plans and specifications showing the location, manufacturer, and model number of the HVAC system equipment and thermostat. The list of manufacturer and model numbers for [illegible] specifications may be completed with the [illegible] applicable HVAC performance requirements.

8. Submit one of the following for electric resistant heating:

a. A calculation worksheet showing that the capacity of the electric heating system is less than 10% of the capacity of the total heating system.

b. Compliance Forms 8, 10, 11 and/or 12 (whichever are applicable) and supporting calculations and documentations showing that the heating and cooling system derives at least 60% of its annual energy requirement from nondepletable energy sources. Nondepletable sources cannot include waste heat recovery or energy recycling systems.

c. Compliance Form 3 and supporting calculations showing that the life cycle cost of the electric resistant heating system is lower than a comparable gas furnace system or heat pump system if natural gas is not available.

d. Plan and specification revision showing the deletion of the electric resistant heat.

9. Significant excesses of heating or air conditioned equipment from Form 4 requirements will not be approved. See 720-1501(8) and California Energy Commission publication "Blueprint" dated 1/78.

	Sizes	Forms
Heating:	_____	_____ BTU/hr.
Cooling:	_____	_____ BTU/hr.

10. Form 4 design conditions are incorrect.

a. Outside design: 33 degrees F. db winter; 83 degrees F. db and 66 degrees F. wb summer.

b. Infiltration is 0 in pressurized buildings and shall not exceed 0.5 air changes per hour in unpressurized buildings. See 720-1501(3)(2).

c. Indoor design conditions must be within the comfort range of ASHRAE 55-74. See 720-1501(8)(2).

d. Excessive outside airload. See 720-1501(8)(3).

e. Excessive transmissional losses compared to Form 1.

11. HVAC CONTROLS:

a. Specify thermostat set points and/or capability of separating heating and cooling. See 720-1503(a).

b. Include a 7-day time clock or other automatic 7-day control setback. See 720-1503(c). This is not required if the building is less than 1,000 square feet or the building envelope has a U-factor of less than 10 BTU/SF/hour. See 720-1.0 or 720-1.6b.

c. Include 6-hour automatic by-pass timer readily accessible by the public.

12. Specify temperature control. Each HVAC system shall be provided with at least one automatic temperature control device with the following features:

a. Setback and Shutoff. Provide a readily accessible, manually adjustable, automatic means of reducing the energy use for HVAC during portion of means or alternative use of the building or zone served by the system.

b. Zones. Provide a means to adjust space temperature set points from 55 degrees F. to 85 degrees F.

c. Sequencing. Provide a means to operate the heating and cooling in sequence, if both are provided. This provides an automatic changeover to prevent simultaneous heating and cooling.

d. Dead band range. Provide an adjustable zone of heating & temperature range of up to at least 10 degrees F. between full heating and full cooling.

e. Fix set points. Provide a means of terminating all heating at a temperature of not more than 72 degrees F. and of terminating all cooling at not less than 70 degrees F. A locking thermostat cover will accomplish this.

13. Specify zoning for temperature control. Provide at least a automatic temperature control device for each home. No more than one floor of a building shall be included in one zone.

14. Specify heat pump supplementary heat control. Heat pumps shall be installed with a control to prevent supplementary heat operation when the heating load can be met by the heat pump alone. Supplementary heating operation is permitted during transient periods such as startups, defrost, and following room set point advance.

15. Specify economizer. Provide an economizer cycle for the outdoor air system that will use up to 100% of the outdoor air capacity for cooling when outdoor air enthalpy is cooler than that of the inside air or the outdoor air dry bulb temperature is lower than that of the return indoor air. This is required for a system capacity greater than 19,000 BTUH and/or greater than 3,150 CFM. If one of the exceptions allowed under 720-1503(b) is claimed, submit documentation supporting the claim.

16. Specify backdraft dampers for mechanical ventilators. Provide automatic dampers interlocked and closed on fan shutdown, for each mechanical ventilation system or unit, supply or exhaust. This applies to restroom fans, kitchen hoods, etc., as well as central system air intakes and exhausts.

17. Specify backdraft dampers for gravity ventilation systems. Provide sliding automatic or readily accessible manually operated dampers in all openings to the outside other than combustion air openings.

18. Specify HVAC piping insulation. Provide piping insulation for HVAC piping in accordance with Section 720-1507 of the Energy Conservation Regulations. This specification shall include R-value, thickness, density, type of insulation and location.

19. Show independent heating and cooling systems serving common spaces and specifications use energy for cooling to be provided with one or both of the following:

a. Provide sequential control of both heating and cooling capacity in each zone to prevent simultaneous heating and cooling.

b. Provide controls that will automatically reset the heating cooling temperature or energy input rate to only that necessary to offset heat loss due to transmission and infiltration.

20. Specify (for multi-zone reheat systems) controls that will automatically reset the system cold air supply to the highest temperature level that will satisfy the zone requiring the most cooling. This is not required when less than 75% of the total system air is reheated.

21. Specify (for single zone reheat systems) controls that will sequence reheat and cooling.

22. Specify exhaust volume. (If more than multi-zone systems to be provided with the following:)

a. Provide a means to automatically reset the hot deck temperature to the lowest temperature necessary to satisfy the zone requiring the most heating.

b. Provide a means to automatically reset the cold deck temperature to the highest temperature necessary to satisfy the zone requiring the most cooling.

c. The manufacturers label or nameplate on the air mixing damper shall state leakage rates.

23. Specify (for recooling systems) controls that will automatically reset the temperature of the heated supply air to the lowest temperature that will satisfy the zone requiring the most heating. This is not required when less than 25% of the total system air is reheated.

24. Submit a calculation worksheet showing that the air leakage for dampers utilized for the mixing of heating and cooling air does not exceed 3% of the total air quantity handled by the dampers when operating at the maximum energy program to which the dampers will be subjected. Also submit the manufacturer's documentation of damper leakage rates.

25. Submit one of the following for heat recovery systems:

a. Documentation showing that the system design is necessary to satisfy a specific process.

b. Plan and specification revisions deleting the heat recovery exhaust system.

26. Consider volume dual duct or multi-zone systems which utilize low energy to simultaneously heat and cool air streams which are then mixed for temperature control, in conditioned buildings over 20,000 square feet or conditioned shell, renovation and remodel.

ELECTRICAL

1. The lighting design does not comply. See Form 5. Revise and resubmit.

2. Submit lighting plans and specifications showing:

   a. Each room labeled with its intended use and numbered so each can be referenced to Form 5.

   b. The location and type of all light fixtures.

   c. A schedule that will identify the type of fixture, number and type of lamps in each fixture, and the total input wattage, including ballast, for each fixture.

3. Specify accessible switches. Provide independent control of lighting for each area approved by ceiling height partitions. Devices used to control lighting shall be readily accessible to personnel occupying the area. It is required, but not shown for rooms listed below. Control devices remote from the area control can be approved if the designer submits a statement which includes a description of reasonable design conditions which require remote switching or an explanation of how the remote location does not reduce the usefulness of the switching. See T20-1341. Not shown for rooms:

4. Specify dual switch or dimmer lighting control. Provide a means to control the connected lighting load so that it may be reduced by at least one-half in a uniform pattern for all areas larger than 100 square feet which are allowed more than 1.0 watt per square foot. See Form 5. See T20-1341. (i.e: Show double switching for approved alternate system) for rooms where [illegible] respective floor area exceeds 100 sq.ft., the lighting wattage (watt level) exceeds 1 watt per square foot AND the respective room has more than one light fixture or has one light fixture which possesses more than one lamp. This is required, but not shown for the following rooms:

5. Specify local switching. Provide local switching for tasks to which Note 2 of Table 9-2 applies with no more than four task locations controlled by one switch. See Form 5. This is required, but not shown for the following rooms:

6. Specify use of natural light. Show on plans actual circuit arrangement for areas where effective use may be made of natural light. The lighting circuitry shall be arranged so that units in portions of the area where natural light is available are switched independently of the remainder of the area. (Area determination: 2(Tw - Sl); where Tw = top of window wall and Sl = sill level). See T20-1341(b)(5). This is required, but not shown for the following rooms:

7. Have shown S4 at the group toilet area in the rooms or areas listed below is composed of skylights you must provide automatic light-sensitive switches. See T20-1341(b)(2). Required for rooms:

8. In order to allow partial lighting of large rooms which are occupied not fully occupied the standards and the National Electrical Code impose a limit of two 20-amp. single pole circuit breakers loaded to a maximum of 80% for a single pair of switches.

9. Form 5 and/or plans require correction of discrepancies listed below. See notations on Form 5 if enclosed.

   a. Common arithmetic check. Show fixture wattages and multiplier on branch.

   b. Output complete check. Include room numbers and lighting task numbers on Form 5. See Design Manual, Section 4.6.4.

   c. Arithmetic errors. See corrections on Form 5 and resubmit.

   d. Room quality ratios appear incorrect. The height "H" is measured above the work plane and not the floor. See T20-1342.

   e. Excessive wattage allowances. See Table 9-1 or 7.

   f. Occupancy is to be calculated from Table 7 of the Standards in lieu maximum allowed. See the California Energy Commission publication "Discussion" dated 3/79 and the California Energy Commission letter dated 12/18/78.

10. Submit type catalogs. Show make and model number of proposed energy type light ballasts and provide written documentation from the manufacturer and/or California Energy Commission to clearly show that the particular unit meets or on the C.E.C. Mandatory approval list.

PLUMBING

1. Please show the plans the location, manufacturer, model number, rate in gallons and energy factor of the water heater for building(s). To permit verification of CEC approval listing. The California Energy Code requirements require that the water heater or boiler for one which has been certified by the Energy Commission. See T20-1121 and T20-1421.

2. The water heater is not listed in the current Energy Commission Directory of certified hot water heaters. Submit the manufacturer's certification that the unit complies with the California Appliance Efficiency Regulations or revise, specify a listed water heater, and resubmit.

3. Specify hot water system pipe insulation. Provide insulation for service hot water supply and circulation piping except for fixture runouts not longer than 12 feet in accordance with Table 9-1 of the Energy Conservation Regulations. this specification shall include R-value (R-4 to R-6.5) type, thickness and density of the insulation. See T20-1097 and Table 9-1.

4. Specify circulating hot water system control. Provide a means to automatically turn off the circulating pumps when the hot water system is not in operation. See T20-1321.

5. Show on plans approved/listed plumbing fixtures. Shower heads, lavatory and sink faucets shall be certified by the manufacturer to the California Energy Commission as complying with the Appliance Efficiency Regulations (Fittings and/or for safety purposes are exempt). White toilets and urinals must be approved and listed by the California Department of Housing and Community Development Administration.

   a. Show make and model number for all shower heads, lavatory and sink faucets to permit verification of C.E.C. approval listing.

   b. Show make and model number for all toilets and urinals to permit verification of California Department of Housing and Community Development Administration.

ENERGY COMPLIANCE NOTES

DESIGN TO PLANS FOR:
[illegible]
[illegible]
[illegible]

1. ALL THE INSULATION MATERIALS SHALL BE [illegible] INSTALLED [illegible] ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. [illegible] ADDITIONS OR FURNISHED AND THE BOARD [illegible] AND FULL THE SPACE BETWEEN AND BEHIND BOARDS AND [illegible] SECTION [illegible] & T20-[illegible].

2. ALL NEW, EXTENDED OR ALTERED LIGHTING AND [illegible] SHALL BE DESIGNED WITH PROGRAM SENSITIVE TYPE OF MATERIAL TO [illegible] [illegible].

3. ALL NEW, EXTENDED OR ALTERED DUCTS SHALL BE INSULATED [illegible] AND [illegible] OF THE ALLOW MECHANICAL CODE.

4. ALL NEW FAN SYSTEMS EXHAUSTING AIR FROM THE BUILDING [illegible] PROVIDED WITH BACK DRAFT DAMPERS OR AUTOMATIC [illegible] AIR [illegible] DEVICE [illegible] THE WORK PER [illegible] CONSULT WITH THE [illegible].

5. THE [illegible] SHALL BE PROVIDED WITH MAINTENANCE AND [illegible] WHICH WILL [illegible] PROVIDE MAINTENANCE FOR MECHANICAL [illegible].

6. IF THE NEW PUMPS PROVIDES SUPPLEMENTARY HEAT [illegible] CONTROLS OF PRIMARY SUPPLEMENTARY HEAT OPERATION [illegible] [illegible].

7. THE HOT WATER SHALL HAVE INSTALLED OR BE [illegible] WITH DOMESTIC HOT WATER SYSTEM A TIME CLOCK OR OTHER [illegible].

8. THE HOT WATER SUPPLY PIPE SYSTEM SHALL BE [illegible] FROM THE HEAT SOURCE TO THE TAP, FOR [illegible] THE [illegible] AND THE RECIRCULATION CONTACTOR [illegible] PROVIDED OVERALL. IN ADDITION THE [illegible] [illegible] PROVISIONS NOT LESS THAN [illegible].

9. INDUSTRIAL SHALL PROVIDE THE FOLLOWING [illegible] AUTOMATICALLY REDUCE ENERGY FOR HEATING [illegible] THE [illegible] SHALL BE AT [illegible] THROUGHOUT ALL HEATING AT ANY TIME [illegible] THE [illegible] OR LOCKING THERMOSTAT [illegible].

10. THE [illegible] WATER HEATER [illegible] APPROVED AND LISTED APPLIANCE OF [illegible] [illegible] OR [illegible] [illegible].

11. FLUORESCENT FIXTURES HAVE BE [illegible] AUTOMATIC FIXTURE MANUFACTURER'S SPECIFICATIONS [illegible] AND LISTED BALLASTS.

12. ALL NEW AND EXISTING [illegible] SHALL BE [illegible] SHALL BE FIELD VERIFIED TO BE [illegible].

13. ALL FLUORESCENT LUMINAIRES SHALL PROVIDE AT [illegible] [illegible].

14. ALL LIGHT FIXTURES [illegible] OR [illegible] [illegible] SHALL BE [illegible] AND FUNCTIONAL [illegible].

15. THE MATERIALS OF [illegible] ALL FIXTURES [illegible] [illegible].

PRESCRIPTIVE APPROACH Section 3.3

Table 3-20: Typical Wattage/Lamp Including Ballasts (Fluorescent)

Lamp Type	Lamps/Ballast One	Two	2	3	4	
1500 MA. Rapid Start						
48 " F48T12/1500	134	121				
72 " F72T12/1500	180	173				
96 " F96T12/1500 Reg.	230	225	450	690	675	900
96 " F96T12/1500 low wattage	200	195	390	595	585	780
800 MA. Rapid Start						
24 " F24T12/HO	55	49				
36 " F36T12/HO	65	61				
48 " F48T12/HO Reg.	85	73	146	231	219	292
48 " F48T12/HO low wattage ES/Lum	–	66	[illegible]		198	264
72 " F72T12/HO Reg.	135	97	244	379	396	518
96 " F96T12/HO Reg.	140	119	238	378	357	476
96 " F96T12/HO low wattage ES/Lum	125	104	208	333	312	416
Circline						
FC12T10	45	–				
FC16T10	57	–				
FC6T8	25	–				
FC9T9	27	–				
Biaxial Compact						
5 watt	8	–				
7 watt	9	–				
9 watt	11	–				
13 watt	17	–				
Preheat						
18 " F15T8,F15T12	20	–				
24 " F20T12	25	–				
48 " F40	51	48				
6 " F4T5	9	–				
9 " F6T5	11	–				
12 " F8T5	13	–				
Rapid Start						
36 " F30T12 Reg.	46	41	84	133	123	164
36 " F30T12 low wattage	42	37	[illegible]	[illegible]	[illegible]	[illegible]
48 " F40 Reg. Typ 2x4	50	43	86	136	129	172
48 " F40 low wattage ES/Lum	43	36	72	115	108	144
Slimline						
24 " F24T12 Reg. Typ 8x2x4	39	34	68	107	102	136
36 " F36T12	49	44	88	137	132	176
48 " F48T12 Typ Strip	59	49	98	157	147	196
48 " F48T12 low wattage Typ Strip	52	41	82	133	123	164
72 " F72T12	92	61	122	204	183	244
96 " F96T12 Reg. Typ 8' Strip	100	79	158	258	237	316
96 " F96T12 low wattage ES/Lum	83	62	124	207	186	248

Revised September 1986 3-41

Installed Lighting Summary CF-5

STE BLDG-1 (T.I.)
Project Title
DES ASSOCIATES
Documentation Author/Firm Date

For Enforcement Agency Use Only
Plan Checked By Date

Proposed Adjusted LPD

1. Total Installed Lighting Watts (from below) .... 9,623 Watts
2. Control Credit Watts (WS-5A) .... 0 Watts
3. Adjusted Watts (Line 1 - Line 2) .... 9,623 Watts
4. Conditioned Floor Area (from CF-1) .... [illegible] ft²
5. Adjusted Lighting Power Density (Line 3/Line 4) .... 2.19 Watts/ft²
6. ☐ Allowed Whole Building LPD (from CF-1, Part II)
   or
   ☐ Allowed Tailored LPD (from Line 6 of WS-5C) .... 1.5 Watts/ft²

Installed Lighting Schedule

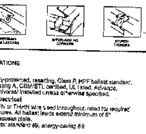
A Luminaire Reference Code	B Reference in Construction Documents	C Luminaire Description	D Number of Luminaires	E Watts per Luminaire (incl. ballast) Non standard value? ✓	F Total Watts
A	E4	[illegible]	34	68	[illegible]
B	E4	[illegible]	97	68	6,596
C	E4	[illegible] LED [illegible]	12	60	720

Page Total [illegible]
Building Total 9,623

EEM Form Revised September 1988 Page ___ of ___

GRID TROFFER
2' x 4' • 2 LAMPS • RAPID START | 2GT 240

FEATURES



- Opposing, rotary-action cam latches for secure door closing. Latches finished after fabrication with smooth, durable, white nylon coating.
- T-hinges die-embossed for maximum strength. Door frame can be hinged or latched from either side.
- Door frame corners screwed together for rigidity — ensures tight fit and easy lens replacement.
- Full-depth end plates secured by screws and unique interlocking corner detail.
- Shielding media completely framed in all door types. Diffusers 100% UV-stabilized acrylic plastic except as noted.
- Urethane foam gasket seals fully between door frame and housing—eliminates light leaks.
- Pressure-lock lampholders secured by snap-in socket track for simplified maintenance.

SPECIFICATIONS

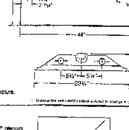
Ballast
Thermally-protected, resetting, Class P, HPF ballast standard. Sound rating A, CBM/ETL certified, UL listed. Advance, GE or Universal installed unless otherwise specified.

Wiring & Electrical
AWM, TFN or THHN wire used throughout, rated for required temperatures. All ballast leads extend minimum of 6" through access plate.
Input watts: standard 89, energy-saving 69.

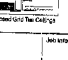
Materials
Metal parts die-formed from heavy-gauge steel, housing die-embossed for added rigidity. Metal gauges: channel and end plates 22-gauge; steel door frame 20-gauge; channel cover and socket track 24-gauge.

Finish
Five-stage, iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. High-gloss, baked white enamel finish (88% gloss, 88% reflectance). Salt spray test 250 hours. Hardness minimum 2H.

UL listed and labeled I.B.E.W.—A.F. of L.
Fixture guaranteed for one year against mechanical defects in manufacture.

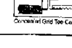


MOUNTING DATA Lay-In Grid Luminaire for use in:



Exposed Grid Tee Ceilings

Minimum 5⅛" plenum depth required for installation



Concealed Grid Tee Ceilings

Approval

Job Information

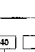
LITHONIA

SHEET 2GT 240

2GT 240 | GRID TROFFER
2' x 4' • 2 LAMPS • RAPID START

PHOTOMETRICS
2GT 240 A12*

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY [illegible]



CANDLEPOWER [illegible]

ZONAL LUMEN SUMMARY [illegible]

TYPICAL VCP PERCENTAGES [illegible]

* Standard ballast, F40T12/CW lamps (3150 lumens)
Spacing criterion: II = 1.2 x mounting height, ⊥ = 1.3 x mounting height
Full report available. Request ITL 27058
For photometrics on other configurations, see Technical Data section or Lithonia representative

ORDERING INFORMATION
Example: 2GT 240 RN A12 120 ES GLR

Explanation of Catalog Number: 2GT 240

Series
No. Lamps
Lamp Wattage

VOLTAGE 120 or 277
Others available—consult factory

FRAME TYPE

FLUSH STEEL	FLUSH ALUMINUM	REGRESSED ALUMINUM
(Leave Blank)	FN-Natural FM-Matte black FW-White	RN-Natural RM-Matte black RW-White

Cam-action spring-loaded latch standard on aluminum door frames

DIFFUSER TYPE

A12	A12 pattern acrylic
A12 125	A12 pattern acrylic, .125" thick
A15	A15 pattern acrylic, .156" thick
A20	A20 pattern acrylic, .140" thick
SE	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
AD	[illegible]

For complete list of lenses and louvers see OPTIONS AND ACCESSORIES section

FIXTURE SCHEDULE

TYPE	CATALOG NUMBER

REMARKS

OPTIONS

ES	Energy-saving ballast [illegible]
GLR	Internal fast-blow fusing
EL	Self-contained emergency lighting
LP	F40 CW lamps installed
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
FR	Suitable for UL listed fire-rated ceilings

For complete list of options, see OPTIONS AND ACCESSORIES section

LITHONIA

SHEET 2GT 240

Certificate of Compliance (Part 1 of 2) — Prescriptive Requirements CF-1A

GTE BLDG - 1 (T.I.)

Project Title — Date of Certificate

[illegible] CHEN (A.I.A.)

Project Architect/Engineer

162 FERGUSON DR.

Project Location

MOUNTAIN VIEW CA.

City/Town

CRS ASSOCIATES (408) 745-6331

Documentation Author/Firm — Telephone

For Enforcement Agency Use Only

Building Permit Number

Plan Checked By — Date

Field Checked By — Date

Approved By — Date

Principal Designer. The proposed building will be in substantial compliance with the California Building Energy Efficiency Standards provided it is built according to the plans and specifications and provided future improvements are completed according to the requirements indicated on this Certificate of Compliance. The plans and specifications have been prepared to include all significant energy conservation features required for compliance with the Standards. Building areas that are unconditioned and/or not subject to the standards are indicated on the plans.

Plans dated [illegible] — Specs dated

Signature — Date

[illegible] CHEN (AIA)

Name/Title

CRS ASSOCIATES

Company

162 FERGUSON DR. STE 201

Address

SUNNYVALE, CA. 94089

City/State/Zip

408 745-6331 — C12717

Telephone — CA License No

Owner. The energy conservation features and performance specifications indicated on this document and on the plans and specifications shall apply to future alterations, unless compliance is demonstrated anew and a new Certificate of Compliance is submitted. A copy of this Certificate will be retained and transmitted to future tenants, subsequent owners or others with responsibility for making improvements or modifications to the building. If this certificate is lost, a new Certificate may be required before a permit is issued for alterations. Unconditioned areas are indicated on the plans and, if these areas are conditioned in the future, they must be made to comply with the applicable energy standards then in effect.

Signature — Date

Name/Title

Company

Address

City/State/Zip

Enforcement Agency. The proposed building, and future alterations will comply with the California Building Energy Efficiency Standards, provided future alterations meet the requirements indicated on this Certificate and all applicable mandatory measures, as long as the building occupancy type remains unchanged.

Signature — Date

Name/Title

Agency

Address

City/State/Zip

General

1. Unconditioned or Mixed-use shell? . . . ______
2. CEC Occupancy Type . . . ______
3. UBC Occupancy Group/Division . . . ______
4. Edition of Standards . . . ______ date
5. Conditioned Floor Area . . . ______ sf
6. Unconditioned Floor Area . . . ______ sf

1st Generation Occupancy Types

7. Location Code Number . . . ______
8. Occupancy Group Number . . . ______
9. Maximum Allowable Value . . . ______ Btu/h-sf
10. Standard OTTV . . . ______ Btu/h-sf

2nd Generation Occupancy Types

11. Climate Zone . . . ______
12. Package Selected . . . ______
13. HVAC Power Criteria Set (if applic.) . . . ______

Note: List other options and requirements significant for compliance below or on an attached supplement. For example, include tenant improvement specifications. Additional requirements should be further detailed in the energy compliance documentation. Attachment becomes part of Certificate of Compliance.

14. Supplement Attached? . . . ______ (Y/N)

SEE ARCHITECTURAL

Certificate of Compliance (Part 2 of 2) — Prescriptive Compliance CF-1A

GTE BLDG. 1 (T.I.)

Project Title — Date of Certificate — Cond. Fl. Area

CRS ASSOCIATES (408) 745-6331

Documentation Author/Firm — Telephone — CEC Occ. Type

For Enforcement Agency Use Only

Plan Checked By — Date

Note. More than one Part 2 may be submitted, but all must reference the same Part 1. The person responsible for the design compliance for each major building system acknowledges the following compliance statement by signing the appropriate space below.

Compliance Statement. The proposed building improvements substantially comply with the requirements indicated on the Certificate of Compliance for this building, dated ______. The plans and specifications include the significant energy conservation features and the compliance documentation is consistent with the plans and specifications.

Envelope

		Allowed	Proposed	
1	Roof/Ceiling R_t			h-F-sf/Btu
2	Exterior Floor R_t			h-F-sf/Btu
3	Opaque Wall R_t			h-F-sf/Btu
4	Exterior Wall Area			sf
5	Wall Glazing Area			sf
6	Average SC (Wall)			
7	Total Wall % Glazing			%
8	West Exterior Wall Area* (if applic.)			sf
9	Glazing Area (West Wall)* (if applic.)			sf
10	Average SC (West Wall)* (if applic.)			
11	West Wall % Glazing*			%
12	Roof Glazing? (attach CF-5)			(Y/N)

* Lowrise office Pkgs. D, E, & F and all highrise office Pkgs

SEE ARCHITECTURAL

Extent of Improvements

Plans dated — Specs dated

Signature — Date

Name/Title

Company

Address

City/State/Zip

Telephone — Ca. License No

Enforcement Agency — Date

Lighting

13. Basis of Allowed LPD . . . ______

		Allowed	Proposed	
14	LPD	1.5	1.[illegible]	watts/sf
15	Package Lighting Reduction	0		watts/sf
16	Adjusted LPD	0	[illegible]	watts/sf
17	Lighting Control Credits?		N	(Y/N)

Other requirements

T.I.

Extent of Improvements

Plans dated [illegible] — Specs dated

Signature — Date

[illegible] CHEN (AIA)

Name/Title

CRS ASSOCIATES

Company

162 FERGUSON DR. STE. 201

Address

SUNNYVALE, CA. 94089

City/State/Zip

(408) 745-6331 — C12717

Telephone — Ca. License No

Enforcement Agency — Date

Mechanical

		Allowed	Proposed	
18	Whole Building HVAC Sys? (WS-4A)			(Y/N)
	a. Fan Wattage Index			watts/sf
	b. Cooling Power Index			Btu/sf
	c. Heating Power Index			Btu/sf
19	Tailored HVAC Analysis? (WS-4B)			(Y/N)
	a. Heating Capacity			(units)
	b. Cooling Capacity			(units)
	c. Fan Performance Index			dimensionless
20	Simultaneous Heat/Cool? (WS-4D)			(Y/N)

Other requirements

SEE MECHANICAL

Extent of Improvements

Plans dated — Specs dated

Signature — Date

Name/Title

Company

Address

City/State/Zip

Telephone — Ca. License No

Enforcement Agency — Date

Mandatory Measures Checklist — MF-1

GTE BLDG. 1 (T.I.)

Project Title

CRS ASSOCIATES

Documentation Author/Firm — Date

For Enforcement Agency Use Only

Plan Checked By — Date

This Checklist is applicable to both First and Second Generation nonresidential Standards Compliance.

Reference in Construction Documents

Envelope Measures

- [ ] Certified insulation materials per 2-5311(a) . . . ______
- [ ] Insulation installed to meet flame spread and smoke density requirements of 2-5311 . . . ______
- [ ] Urea formaldehyde foam insulation is installed per 2-5311(c) . . . ______
- [ ] Retrofit insulation specified as per 2-5315 . . . ______
- [ ] Air infiltration is minimized by specification of tested manufactured doors and windows, proper sealing and caulking of joints and openings in exterior walls and weatherstripping as per Section 2-5317 . . . ______

SEE ARCHITECTURAL

Lighting System Measures

- [ ] Certified lamps and ballasts per 2-5314(b) . . . E3
- [ ] Independent control of enclosed areas per 2-5319(a) . . . E4
- [ ] Manual switching readily accessible per 2-5319(b) . . . E4
- [ ] Reduction of lighting load to at least one half per 2-5319(c). Occupancy sensors or programmable timers meeting CEC criteria may substitute . . . E4
- [ ] Separate switching of daylit areas per 2-5319(d) . . . N/A
- [ ] Separate switching of display and valance lighting in retail and wholesale stores per 2-5319(f) . . . ______
- [ ] Automatic control of display lighting in retail and wholesale stores per 2-5319(i) . . . ______
- [ ] Tandem wiring of one- and three-lamp luminaires per 2-5312(i) . . . ______

Daylighting and Lumen Maintenance Controls (when applicable)

- [ ] Uniformly illumination reduction to one-half per 2-5319(e)1 . . . U6
- [ ] Flicker free operation and no premature lamp failure per 2-5319(e)2 . . . ______
- [ ] Time delays to prevent unnecessary cycling per 2-5319(e)3 . . . ______
- [ ] Stop switching devices with separation between on/off settings per 2-5319(e)4 . . . ______
- [ ] Photocell sensors with a diffusing cover and no obvious color per 2-5319(e)5 . . . 1A
- [ ] Manufacturer's instructions provided for installation and calibration per 2-5319(e)6 . . . ______
- [ ] Proper installation of controls including sensor location, configuration of most of lamps and control of luminaires only within daylit area per 2-5319(e)8 . . . ______
- [ ] Visible or audible malfunction alarms per 2-5319(e) . . . ✓

Occupancy Sensing Devices (when applicable)

- [ ] Visible or audible malfunction alarms per 2-5319(e) . . . ______
- [ ] Limits on emissions per exceptions to 2-5319(e) . . . ______

HVAC and Plumbing System Measures

- [ ] Piping insulated as required by 2-5312 . . . ______
- [ ] Certified HVAC equipment per 2-5314(a) . . . ______
- [ ] Certified plumbing equipment per 2-5314(a) . . . ______
- [ ] Heating and cooling equipment efficiency per 2-5314(b) . . . ______
- [ ] Pilotless ignition of gas appliances per 2-5314(c) . . . ______
- [ ] Automatic controls for off-hours per 2-5315(a)1 . . . ______
- [ ] Thermostat set point requirements per 2-5315(a) . . . ______
- [ ] Sequential control of heating and cooling per 2-5315(a)3 . . . ______
- [ ] Automatic control for dampers per 2-5315(b) . . . ______
- [ ] Thermostat controls for each zone per 2-5315(b) . . . ______
- [ ] Ventilation provided per 2-5316 and 2-5313 . . . ______
- [ ] Ventilation and recirculation air quantity information provided per 1403(b)3 . . . ______
- [ ] Heaters for domestic hot water and/or pools per 2-5318 . . . ______

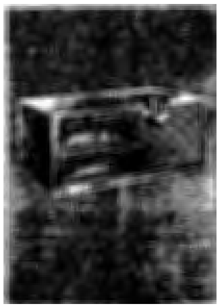
SEE MECHANICAL

Product Data

Carrier

50QJ
Single-Package Rooftop Heat Pump Units

Nominal 3 to 10 Tons



Single-Package Rooftop Heat Pump Units with the following innovative Standard Features:

- 2-in. return-air filters
- Acutrol™ refrigerant metering device
- Chronotemp™ defrost system
- DrainGuard™ condensate disposal system
- full-perimeter base rails
- high-pressure, loss-of-charge/low-pressure cutout switches and freeze protection thermostat
- corrosion-resistant condensate pan with internal trap
- refrigerant filter driers
- galvanized steel cabinet with prepainted protection on all externally exposed surfaces
- motors with permanently lubricated ball bearings
- Cycle-Loc™ compressor anti-cycle protector

Features/Benefits

Compact, vertical discharge units easily convert to horizontal discharge, combining installation flexibility with efficient performance and easy maintenance.

Easy maintenance and conversion

All units are shipped from the factory in the vertical discharge configuration for fit-up to standard roof curbs. One accessory curb fits sizes 004-[illegible], another accessory roof curb fits sizes 008 and 012. The contractor can order and install the roof curb [illegible] the construction stage, before decisions on size requirements are made.

[illegible] units feature [illegible] designs with [illegible] slots and [illegible]

Copyright 1991 Carrier Corporation

holes for easier maneuvering. Stretch-wrap packaging protects the unit during shipment and storage.

Units are easily converted to horizontal discharge applications to make retrofit and add-on jobs easier. To convert from vertical discharge to horizontal discharge, simply move 2 panels. The same basic unit can be used for a variety of applications and can be quickly modified at the jobsite.

Ductwork connections are made easy by the logical 2 to 1 aspect ratio. On vertical discharge units, ductwork attaches directly to the roof curb. Accessory thru-the-curb service connections allow power and control wiring to be routed through the curb, thereby minimizing roof penetrations. Both power and control connections are made on the same side of the unit to simplify installation.

Factory-installed, internally trapped DuraGuard™ non-corrosive condensate drain eliminates the need for a field-supplied condensate trap, saving time and money.

Standard 2-in. throwaway type filters are easily accessed through a hinged access door located directly above the air intake hood. No tools are required to change the filters. Rounded corners on panels help prevent damage to or puncture of roof materials. Weather-resistant cabinet is coated with a baked enamel finish on externally exposed surfaces to ensure long life and attractive appearance, and can withstand Federal test method Standard No. 141 (Method 6061) 500 hour salt spray test.

Factory- or field-installed electric heaters are available in a wide range of capacities. Single point wiring kit makes installation simple.

Quiet, efficient operation and dependable performance

Compressors are fully hermetic with vibration isolators and accumulators for extremely quiet operation. Efficient fan and motor design permits operation at a low sound power of 8.2 bels for sizes 004-006, 5.5 bels for size 008 and 8.8 bels for size 012.

All coils use state-of-the-art enhanced copper tubing with aluminum fins and are completely degreased at the factory to eliminate coil blow-off problems.

Solid-state control system is readily adaptable to most conventional and programmable thermostats. In addition, units are suitable for integrating in [illegible] monitor control systems if requir[illegible]

The patented Chronotemp™ defrost system uses time and temperature to keep the outdoor coil frost-free for economical, dependable operation.

Refrigerant circuit protection assures dependability. Loss-of-charge/low-pressure cutout protection allows operation at lower ambient conditions while protecting against low-charge operation. Freeze protection thermostat protects against indoor coil frost build-up. High-pressure switch protects against above normal operating pressure. Replaceable filter driers trap moisture and dirt. Carrier's exclusive Acutrol™ metering device precisely controls refrigerant flow, preventing slugging and floodback, while maintaining optimum unit performance.

Optional Vari-Slide™ economizer permits low-cost operation by utilizing cool outdoor air for free cooling. Reliable sliding plate damper is easily adjusted for 100% outdoor air, 100% return air, or any proportions of mixed air. Economizer operation is controlled by Accusensor™ I dry-bulb thermostat that senses outdoor-air temperature. Optional accessory upgrade kits include Accusensor™ II solid-state enthalpy control and Accusensor™ III differential enthalpy control.

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Model number nomenclature

50 OJ 004 - 3 0 1 AA

- 50 — Electric Cooling
- OJ — Heat Pump
- Nominal Capacity: 004 — 3 Tons; 005 — 4 Tons; 006 — 5 Tons; 008 — 7½ Tons; 012 — 10 Tons
- V-Ph-Hz: 1 — 575-3-60; 3 — 208-230-1-60 or 230-1-50; 5 — 230/230-3-60; 6 — 460-3-60
- Series
- Packaging
- Factory-Installed Option Code*

* Refer to [illegible] price pages for Factory-Installed Option (FIOP) code table.

ARI* capacities

UNIT MODEL 50OJ	NOMINAL TONS	CFM	COOLING Cap. (Btuh)	COOLING SEER† With Timer**	COOLING SEER† Without Timer	EER	HEATING High-Temp Cap. (Btuh) Single-Phase Unit	HEATING High-Temp Cap. (Btuh) Three-Phase Unit	COP	HSPF	HEATING Low-Temp Cap. (Btuh)	COP	SOUND RATING (bels)
004	3	1200	35,000	8.4	9.2	8.60	34,000	34,300	2.92	5.10	17,300	1.8	8.2
005	4	1750	47,000	8.3	8.6	8.15	47,000	47,500	2.90	5.00	24,000	1.9	8.2
006	5	2000	58,000	9.0	1.0	8.70	61,000	61,000	3.10	7.15	33,000	2.1	8.2

UNIT MODEL 50OJ	NOMINAL TONS	STANDARD CFM	COOLING Cap. (Btuh)	COOLING EER	HEATING High-Temp Cap. (Btuh)	COP	HEATING Low-Temp Cap. (Btuh)	COP	SOUND RATING (bels)
008	7½	3025	86,000	8.5	87,500	2.98	45,000	1.9	8.6
012	10	3500	112,000	8.2	115,000	2.94	62,000	2.0	8.8

LEGEND

Bels — Sound Levels (1 bel = 10 decibels)
Cap. — Net Capacity (Btuh)
COP — Coefficient of Performance
EER — Energy Efficiency Ratio
HSPF — Heating Seasonal Performance Factor
SEER — Seasonal Energy Efficiency Ratio

*Air-Conditioning & Refrigeration Institute.
†Applies only to units with capacity of 60,000 Btuh or less.
**SEER ratings with timer are made using time delay relay part number HN67ZK001.

Rated in accordance with ARI Standard 210/240-89 and 270-84. Ratings are net values, reflecting effects of circulating fan heat. Supplementary electric heat is not included. Ratings based on:

Cooling Standard: 80 F db, 67 F wb indoor entering-air temperature and 95 F db outdoor entering-air temperature.

Hi-Temp Heating Standard: 70 F db indoor entering-air temperature and 47 F db, 43 F wb outdoor entering-air temperature.

Lo-Temp Heating Standard: 70 F db indoor entering-air temperature and 17 F db, 15 F wb outdoor entering-air temperature.

Physical data

BASE UNIT 50OJ		004	005	006
NOMINAL CAPACITY (tons)		3	4	5
OPERATING WEIGHT (lb)				
Unit		450	500	530
With Economizer		524	534	554
Roof Curb		115	115	115
COMPRESSOR			Hermetic	
Quantity		1	1	1
Oil (oz)		55	55	70
REFRIGERANT TYPE			R-22	
Operating Charge (lb-oz)		6-0	6-2	8-5
OUTDOOR FAN			Propeller	
Quantity...Diameter (in.)		1...26	1...26	1...26
Nominal Cfm		4100	4100	3900
Motor Hp...Rpm		[illegible]...850	[illegible]...850	[illegible]...850
OUTDOOR COIL			Enhanced Copper Tubes, Aluminum Fins	
Rows...Fins/in.		1...17	1...17	2...17
Total Face Area (sq ft)		12.25	12.25	12.26
INDOOR FAN			Centrifugal	
Size (in.)		10 x 10	10 x 10	10 x 10
Type Drive	Std	Direct	Direct	Direct
	Alt	Direct	Belt	Belt
Nominal Cfm		1200	1500	2000
Horsepower per NEC (National Electrical Code)*	Std	[illegible]	[illegible]	[illegible]
	Alt	[illegible]	[illegible]	[illegible]
Maximum Continuous Bhp	Std	.34	.81	1.0
	Alt	.72	1.30	.63
Motor Frame	Std	48	48	1.70
	Alt	48	56	48
Nominal Rpm High/Low	Std	860/845	1060/870	56
	Alt	1060/920	—	1050/1040
Fan Rpm Range	Std	—	—	—
	Alt	—	800-1180	875-1150
Motor Bearing Type		Ball	Ball	Ball
Maximum Fan Rpm		2100	2100	2100
Motor Pulley Pitch Diameter A/B (in.)	Std	—	—	—
	Alt	—	2.4/3.4	2.8/3.8
Fan Pulley Pitch Diameter (in.)	Std	—	—	—
	Alt	—	5.2	5.5
Belt — Type...Length (in.)	Std	—	—	—
	Alt	—	A...40	A...40
Pulley Center Line Distance (in.)	Std	—	—	—
	Alt	—	14.7-15.5	14.7-15.5
Speed Change per Full Turn of Movable Pulley Flange (rpm)	Std	—	—	—
	Alt	—	66	63
Movable Pulley Maximum Full Turns From Closed Position	Std	—	—	—
	Alt	—	5	5
Factory Setting Full Turns Open	Std	—	—	—
	Alt	—	3	3
Factory Speed Setting (rpm)	Alt	—	930	1000
Fan Shaft Diameter at Pulley (in.)		—	⅝	⅝
INDOOR COIL			Enhanced Copper Tubes, Aluminum Double Wavy Fins, Acutrol™ Feed Device	
Rows...Fins/in.		2...15	2...15	3...15
Total Face Area (sq ft)		5.5	5.5	5.5
HIGH-PRESSURE SWITCH (psig) Cutout			428	
Reset (Auto.)			320	
LOSS-OF-CHARGE/LOW-PRESSURE SWITCH (Liquid Line) (psig) Cutout			7 ± 3	
Reset (Auto.)			22 ± 7	
OUTSIDE-AIR INLET SCREENS			Cleanable	
Quantity...Size (in.)			1...20 x 24 x 1	
RETURN-AIR FILTERS			Disposable	
Quantity...Size (in.)			2...16 x 25 x 2	

LEGEND
Bhp — Brake Horsepower
*Used to determine wire sizing per NEC.

BASE UNIT 50OJ		008	012
NOMINAL CAPACITY (tons)		7½	10
OPERATING WEIGHT (lb)			
Unit		840	840
With Economizer		864	864
Roof Curb		225	225
COMPRESSOR		Hermetic	
Quantity		2	2
Oil (oz) (each compr)		55	70
REFRIGERANT TYPE		R-22	
Operating Charge (lb-oz) Circuit 1		[illegible]	[illegible]
Circuit 2		[illegible]	[illegible]
OUTDOOR FAN		Propeller	
Quantity...Diameter (in.)		[illegible]...26	[illegible]...26
Nominal Cfm		[illegible]	7000
Motor Hp...Rpm		[illegible]...1100	[illegible]...1100
OUTDOOR COIL		Enhanced Copper Tubes, Aluminum Fins	
Rows...Fins/in.		2...17	2...17
Total Face Area (sq ft)		20.5	25.0
INDOOR FAN		Centrifugal	
Size (in.)		15 x 15	15 x 15
Type Drive	Std	Belt	Belt
	Alt	Belt	Belt
Nominal Cfm		3000	4000
Horsepower per NEC*	Std	[illegible]	1.5
	Alt	1.5	2.0
Maximum Continuous Bhp	Std	2.4	2.4
	Alt	2.4	2.9
Motor Frame	Std	56	56
	Alt	56	56
Fan Rpm Range	Std	[illegible]	700-850
	Alt	[illegible]	850-1100
Motor Bearing Type		Ball	Ball
Maximum Fan Rpm		[illegible]	2100
Motor Pulley Pitch Diameter A/B (in.)	Std	[illegible]	2.8/3.8
	Alt	[illegible]	[illegible]
Fan Pulley Pitch Diameter (in.)	Std	[illegible]	7.0
	Alt	[illegible]	[illegible]
Belt — Type...Length (in.)	Std	A...48	A...5[illegible]
	Alt	A...48	A...5[illegible]
Pulley Center Line Distance (in.)	Std	[illegible]	18.28-20.75
	Alt	[illegible]	18.28-20.75
Fan Shaft Diameter at Pulley (in.)		[illegible]	1
Speed Change per Full Turn of Movable Pulley Flange (rpm)	Std	[illegible]	50
	Alt	[illegible]	50
Movable Pulley Maximum Full Turns from Closed Position	Std	[illegible]	5
	Alt	[illegible]	5
Factory Setting — Full Turns Open	Std	[illegible]	3
	Alt	[illegible]	3
Factory Speed Setting (rpm)	Std	[illegible]	700
	Alt	[illegible]	950
INDOOR COIL		Enhanced Copper Tubes, Aluminum Double Wavy Fins, Acutrol™ Feed Device	
Rows...Fins/in.		3...15	3...15
Total Face Area (sq ft)		[illegible]	10.0
HIGH-PRESSURE SWITCH (psig) Cutout		428	
Reset (Auto.)		320	
LOSS-OF-CHARGE/LOW-PRESSURE SWITCH (Liquid Line) (psig) Cutout		7 ± 3	
Reset (Auto.)		22 ± 7	
OUTSIDE-AIR INLET SCREENS		Cleanable	
Quantity...Size (in.)		[illegible]	
RETURN-AIR FILTERS		Disposable	
Quantity...Size (in.)		[illegible] x 20 x 2	4...20 x 20 x 2

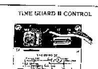
LEGEND
Bhp — Brake Horsepower
*Used to determine wire sizing per NEC.

Options and accessories

ITEM	OPTION*	ACCESSORY†
Electric Heater	X	X
Economizer	X	X
Manual Outdoor-Air Damper	X	X
Two-Position Damper	X	X
Alternate Drive (std)	X	
Alternate Motor and Drive (004-006, 012)	X	
Roof Curb		X
Thru-the-Curb Service Connections		X
Outdoor-Air Thermostat		X
Thermostat and Subbase		X
Electronic Programmable Thermostat		X
Time Guard® II Control Circuit		X
Motormaster® Head Pressure Control (004-008)		X
Motormaster® II Head Pressure Control (004-012)		X
Accusensor® II Enthalpy Control		X
Accusensor® III Differential Enthalpy Control		X
Hail Guard		X
Remote Control Panel		X
Emergency Heat Package		X

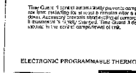
*Factory installed.
†Field installed.

TIME GUARD II CONTROL



Time Guard II control automatically prevents compressor from restarting for at least 5 minutes after a shutdown. Accessory prevents short cycling of compressor if thermostat is rapidly changed. Time Guard II device mounts in the control compartment of unit.

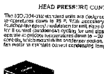
ELECTRONIC PROGRAMMABLE THERMOSTAT



Electronic programmable thermostat provides efficient temperature control by allowing you to program heating and cooling setbacks and setups with provisions for weekends and holidays. Accessory remote sensing package is also available to provide tamperproof control in high traffic spaces.

HEAD PRESSURE CONTROL

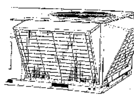
The 50QJ004-012 standard units are designed to operate at outdoor temperatures down to 35 F. With accessory Motormaster control (outdoor-fan speed modulation for unit sizes 004-008) or Motormaster II control (outdoor-fan cycling for unit sizes 004-012), units can operate at outdoor temperatures down to −20 F. The head pressure controls, which mount in the condenser section, modulate the outdoor-fan motor to maintain correct condensing temperature.



Motormaster (Unit sizes 004-008)

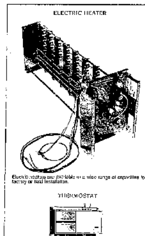
Motormaster II (Unit sizes 004-012)

HAIL GUARD



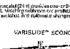
Hail guard accessory protects coils against damage from hail and other flying debris. (Field installed.)

ELECTRIC HEATER



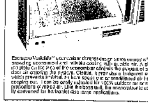
Electric heaters are available in a wide range of capacities for factory or field installation.

THERMOSTAT



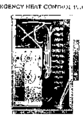
Zone thermostat (24 v) provides one- or 2-stage cooling for control of unit. Matching subbases are available with or without tamperproof switches and automatic changeover.

VARISLIDE™ ECONOMIZER



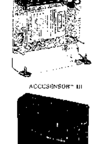
Exclusive Varislide™ economizer conserves energy while providing economical and reliable cooling with outside air. A gliding plate on the face of the economizer controls the amount of outdoor air entering the system. Closed, it provides a leakproof seal which prevents outdoor air from seeping in or conditioned air from escaping out. It can be easily adjusted for 100% outdoor air or any proportions of mixed air. Like the base unit, the economizer is easily converted for horizontal discharge applications.

EMERGENCY HEAT CONTROL [illegible]

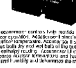


Emergency heat control package allows emergency operation of electric heat and fans by bypassing compressor circuits and outdoor thermostats.

ACCUSENSOR™ II



ACCUSENSOR™ III



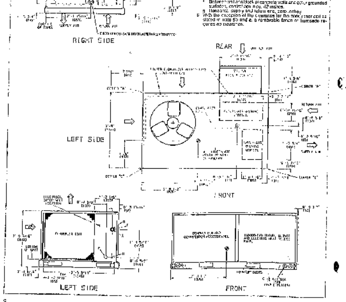
Accusensor economizer controls help provide efficient, economical economizer operation. Accusensor I [illegible] monitors outdoor temperature. Accusensor II solid-state enthalpy control senses both dry and wet bulb of the outdoor air to provide an accurate enthalpy reading. Accusensor III differential enthalpy control compares outdoor temperature and humidity to return-air temperature and humidity and determines the most economical mixture of air.

Base unit dimensions — 50QJ004-006

UNIT	STD. UNIT WEIGHT Lb	Kg	ECONOMIZER WEIGHT Lb	Kg	CORNER WEIGHT "A" Lb	Kg	CORNER WEIGHT "B" Lb	Kg	CORNER WEIGHT "C" Lb	Kg	CORNER WEIGHT "D" Lb	Kg
50QJ004	490	222	34	15.4	103	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50QJ005	500	227	34	15.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50QJ006	570	[illegible]	34	15.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

	CONNECTION SIZES
A	[illegible] power supply hole
B	[illegible] power supply knockout
C	[illegible] charging-port hole
D	[illegible] field control wiring hole
E	[illegible] condensate drain
F	[illegible] power supply knockout

NOTES:
1. Dimensions in [ ] are in millimeters.
2. Center of gravity
3. Direction of airflow
4. Ductwork to be attached to accessory roof curb only.
5. Minimum clearance (local codes or jurisdiction may prevail):
 a. Bottom to combustible surfaces (when not using curb) one inch.
 b. Condenser coil, for proper airflow, 36 in. one side, 12 in. the other. The side getting the greater clearance is optional.
 c. Overhead, 60 in. to assure proper condenser fan operation.
 d. Between units, control box side, 42 inches.
 e. Between unit and ungrounded surfaces, control box side, 36 inches.
 f. Between unit and block or concrete walls and other grounded surfaces, control box side, 42 inches.
 g. Horizontal supply and return end, zero inches.
6. With the exception of the clearance for the condenser coil as stated in note 5b and c, a removable fence or barricade requires no clearance.

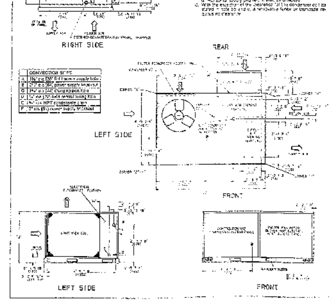


Base unit dimensions — 50QJ008, 012

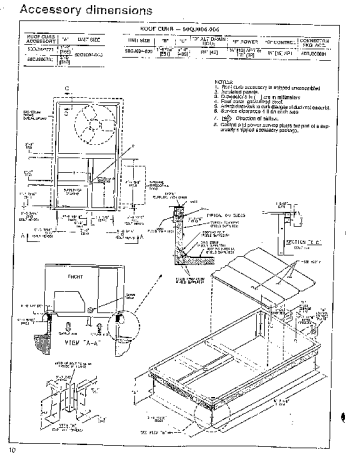
UNIT	STD. UNIT WEIGHT Lb	Kg	ECONOMIZER WEIGHT Lb	Kg	CORNER WEIGHT "A" Lb	Kg	CORNER WEIGHT "B" Lb	Kg	CORNER WEIGHT "C" Lb	Kg	CORNER WEIGHT "D" Lb	Kg	"H" Ft-in.	mm	"J" Ft-in.	mm	"K" Ft-in.	mm
50QJ008	840	381	44	20	[illegible]	[illegible]	156	[illegible]	231	105	271	123	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50QJ012	[illegible]	[illegible]	44	[illegible]	[illegible]	[illegible]	174	79	258	117	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

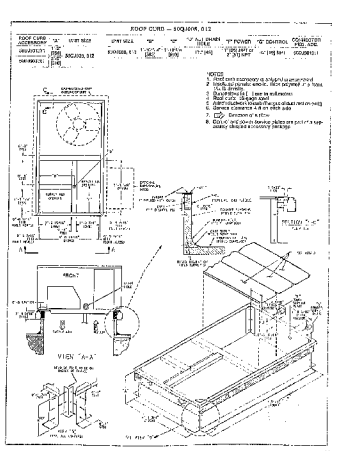
NOTES:
1. Dimensions in [ ] are in millimeters.
2. Center of gravity
3. Direction of airflow
4. Ductwork to be attached to accessory roof curb only.
5. Minimum clearance (local codes or jurisdiction may prevail):
 a. Bottom to combustible surfaces (when not using curb) one inch.
 b. Condenser coil, for proper airflow, 36 in. one side, 12 in. the other. The side getting the greater clearance is optional.
 c. Overhead, 60 in. to assure proper condenser fan operation.
 d. Between units, control box side, 42 inches.
 e. Between unit and ungrounded surfaces, control box side, 36 inches.
 f. Between unit and block or concrete walls and other grounded surfaces, control box side, 42 inches.
 g. Horizontal supply and return end, zero inches.
6. With the exception of the clearance for the condenser coil as stated in note 5b and c, a removable fence or barricade requires no clearance.

	CONNECTION SIZES
A	[illegible] power supply hole
B	[illegible] power supply knockout
C	[illegible] charging-port hole
D	[illegible] field control wiring hole
E	[illegible] NPT condensate drain
F	[illegible] power supply knockout



Accessory dimensions





Selection procedure (with 50QJ005 example)

I. Determine cooling and heating requirements at design conditions.

Given:

Required Cooling Capacity (TC) . . . . . 45,000 Btuh
Sensible Heat Capacity (SHC) . . . . . 32,700 Btuh
Required Heating Capacity . . . . . 45,000 Btuh
Outdoor Entering Air Temperature . . . . . 95 F
Outdoor-Air Water Design Temperature . . . . . 91 F
Indoor-Air Water Design Temperature . . . . . 70 F
Indoor Entering-Air Temperature . . . . . 80 F db, 67 F wb
Indoor-Air Quantity . . . . . 1600 cfm
External Static Pressure . . . . . 45 in. wg
Electrical Characteristics (V-Ph-Hz) 230-1-60

II. Select unit based on required cooling capacity.

Using Cooling Capacities table to determine cooling frequencies of 95 F, indoor-air entering at 1600 cfm and 67 F wb. The 50QJ005 unit will provide a total cooling capacity of 49,200 Btuh and a sensible heat capacity of 35,100 Btuh.

For indoor-air temperature other than 80 F db, calculate new sensible heat capacity correction, as required, using the Correction Factors found in Note 2 following the cooling capacities table.

NOTE: Use ratings are gross capacities and do not include the effect of indoor-fan motor heat. To calculate net capacities, see Step V.

III. Select electric heat.

Enter the Heating Capacities and Integrated Heating Capacities table at 1600 cfm, 95 F outdoor-coil air and 70 F for indoor-coil air. (Interpolate heating capacity is 17,300 Btuh. (Round integrated heating capacity value since deductions for outdoor-coil frost and defrosting have already been made. No correction is required.)

The required heating capacity is 45,000 Btuh. Therefore, 45,000 Btuh-17,300 = 27,700 additional electric heat is required.

Determine additional electric heat capacity in kW.

45,700 Btuh
3413 Btuh/kW = 7.0 kW of heat required.

From the Electric Heating Capacities table for 50QJ005 at 230 volts, 3 phase. The 8.7 kW heater at 240 volts, closely matches the heating required. To calculate kW at 230 volts use the Multiplication Factors table.

8.7 kW x .92 = 8.0 kW
8.7 kW x 3.4 x 240 = 27,936 Btuh

Total unit heating capacity is 44,936 Btuh (17,300 + 27,936).

IV. Determine fan speed and power requirements at design conditions.

Below using Fan Performance table, calculate the total static pressure against fan and unit components. Enter the chart and the Fan-Low Drop table, and:

External static pressure	.45 in. wg
Economizer	.05 in. wg
Electric heat	.05 in. wg
Total static pressure	.55 in. wg

Enter the Fan Performance table for 50QJ005 vertical discharge at 1600 cfm and 230-v high speed, for .55 in. wg and above. Note wg bhp, watts and 208 bhp. This will adequately handle job requirements.

NOTE: Consult the Note using the formula, found in the note following the Indoor-Fan Motor Efficiency table.

For this example:

$$\text{Watts} = \frac{\text{bhp} \times 746}{\text{Motor Efficiency}}$$

$$\text{Watts} = \frac{.98 \times .74}{.74}$$

Watts = .980

V. Determine net capacities.

Capacities are gross and do not include the effect of indoor-fan motor (IFM) heat.

Determine net cooling capacity as follows:

Net capacity = Gross capacity - IFM heat
- Electric heat capacity

= 49,100 Btuh - 1,000 Watts x 3.413 Btuh/Watt
= 49,100 Btuh - 3,413 Btuh
= 45,711

Net available capacity = 35,100 Btuh - 3,413 Btuh
= 32,711 Btuh

Determine net cooling capacity as follows:

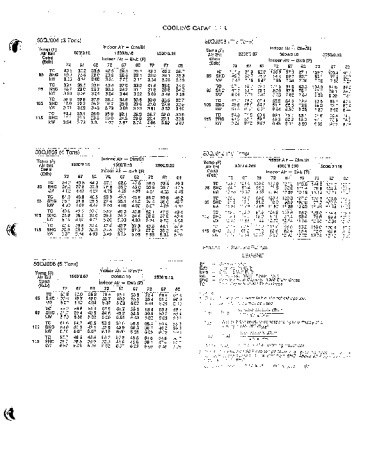
Net capacity = Gross capacity - IFM heat
+ Electric heat capacity

= 49,100 + 1,000 x 3.413
= 49,100 + 3,413
= 52,513 Btuh

Determine net heating capacity as follows:

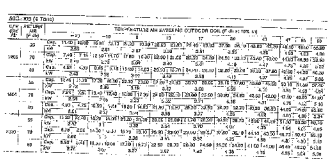
Net capacity = Gross capacity - IFM heat
+ Electric heat capacity

= 44,936 + 1,000 x 3.413
= 44,936 + 3,413
= 48,349 Btuh

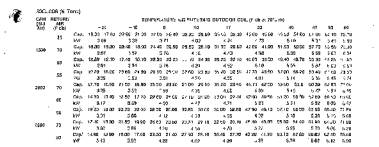


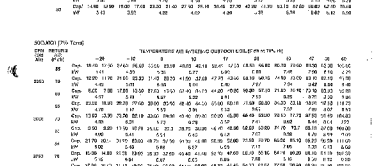
Performance data (cont)

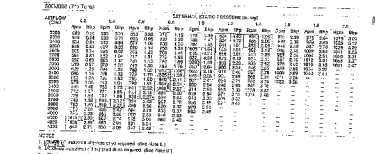
INSTANTANEOUS AND INTEGRATED HEATING RATINGS

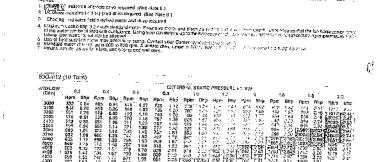


INSTANTANEOUS AND INTEGRATED HEATING RATINGS (cont)









FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS

50QJ004 (3 Tons) — STANDARD MOTOR (DIRECT)

AIRFLOW (Cfm)	LOW SPEED 208 ESP	Bhp	230, 460, 575 ESP	Bhp	HIGH SPEED 208 ESP	Bhp	230, 460, 575 ESP	Bhp
900	.71	.20	.72	.22	.80	.24	.82	.26
1000	.67	.22	.70	.24	.76	.26	.70	.28
1100	.61	.24	.64	.25	.70	.27	.72	.30
1200	.55	.25	.58	.27	.65	.25	.60	.32
1300	.47	.27	.50	.25	.57	.32	.56	.34
1400	.38	.29	.41	.30	.48	.34	.50	.37
1500	.29	.33	.32	.33	.40	.36	.41	.36

NOTE: Values include losses for filters, unit casing and wet coils.

50QJ004 (3 Tons) — ALTERNATE MOTOR (DIRECT)

AIRFLOW (Cfm)	LOW SPEED 208 ESP	Bhp	230, 460, 575 ESP	Bhp	HIGH SPEED 208 ESP	Bhp	230, 460, 575 ESP	Bhp
900	1.14	.49	1.20	.54	1.26	.60	1.34	.72
1000	1.07	.53	1.14	.57	1.20	.66	1.28	.74
1100	1.02	.55	1.07	.58	1.14	.68	1.22	.70
1200	.96	.59	1.02	.62	1.09	.70	1.16	.76
1300	.91	.61	.96	.64	1.03	.73	1.12	.80
1400	.84	.64	.90	.67	.96	.75	1.06	.82
1500	.76	.66	.83	.68	.90	.77	1.01	.84

NOTE: Values include losses for filters, unit casing and wet coils.

50QJ005 (4 Tons) — STANDARD MOTOR (DIRECT)

AIRFLOW (Cfm)	LOW SPEED 208 ESP	Bhp	230, 460, 575 ESP	Bhp	HIGH SPEED 208 ESP	Bhp	230, 460, 575 ESP	Bhp
1200	.95	.58	1.01	.63	1.13	.70	1.18	.70
1300	.91	.60	.95	.64	1.04	.72	1.10	.81
1400	.84	.64	.90	.66	.96	.75	1.05	.83
1500	.76	.66	.84	.69	.90	.77	1.01	.85
1600	.69	.68	.75	.72	.83	.70	.94	.80
1700	.60	.70	.67	.75	.76	.81	.85	.89
1800	.51	.74	.59	.76	.68	.85	.74	.91
1900	.42	.78	.45	.82	.59	.89	.70	.94
2000	.30	.81	.35	.85	.50	.91	.61	.97

NOTE: Values include losses for filters, unit casing and wet coils.

50QJ005 (4 Tons) — ALTERNATE MOTOR AND DRIVE (BELT)

AIRFLOW (Cfm)	0.1 Rpm	Bhp	0.2 Rpm	Bhp	0.4 Rpm	Bhp	0.6 Rpm	Bhp	0.8 Rpm	Bhp	1.0 Rpm	Bhp	1.2 Rpm	Bhp	1.4 Rpm	Bhp	1.6 Rpm	Bhp	1.8 Rpm	Bhp
1200	514	0.15	592	0.20	723	0.31	828	0.42	924	0.55	999	0.69	1020	0.56	—	—	—	—	—	—
1300	545	0.18	612	0.23	744	0.35	848	0.47	940	0.59	1042	0.74	1090	0.84	1151	0.97	—	—	—	—
1400	577	0.21	642	0.27	762	0.39	869	0.52	958	0.65	1042	0.81	1106	0.95	1176	1.06	1236	1.00	—	—
1500	609	0.26	673	0.31	790	0.44	892	0.58	980	0.72	1060	0.86	1136	1.01	1203	1.19	1258	1.30	1309	1.34
1600	642	0.30	651	0.36	811	0.49	913	0.64	1001	0.79	1080	0.92	1153	1.12	1224	1.29	1287	1.46	1337	1.50
1700	675	0.36	721	0.42	836	0.55	936	0.71	1023	0.86	1101	1.02	1174	1.20	1241	1.38	1307	1.56	1368	1.72
1800	709	0.41	765	0.48	855	0.62	957	0.78	1044	0.94	1122	1.11	1192	1.20	1258	1.48	1323	1.67	1385	1.80
1900	743	0.48	789	0.56	886	0.65	981	0.86	1066	1.03	1143	1.21	1214	1.32	1279	1.58	1345	1.70	1402	1.88
2000	778	0.55	822	0.62	913	0.77	1000	0.94	1088	1.12	1159	1.31	1235	1.49	1300	1.69	1337	1.90	1419	2.10

NOTES:
1. Boldface indicates field-supplied drive required. (See note 5.)
2. Shading indicates field-supplied motor and drive required.
3. Maximum usable bhp is 1.2. Extensive motor and electrical testing on these units ensures that the full horsepower range of the motor can be utilized with confidence. Using your fan motors up to the horsepower ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
4. Values include losses for filters, unit casing and wet coils.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.
6. Alternate motor drive range 800 to 1100 rpm. All other rpms require field-supplied drive.

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50QJ006 (5 Tons) — STANDARD MOTOR (DIRECT)

AIRFLOW (Cfm)	LOW SPEED 208 ESP	Bhp	230, 460, 575 ESP	Bhp	HIGH SPEED 208 ESP	Bhp	230, 460, 575 ESP	Bhp
1500	.80	.76	.95	.79	.98	.80	1.03	.83
1600	.83	.76	.85	.81	.92	.83	.96	.86
1700	.74	.82	.80	.85	.84	.86	.90	.90
1800	.65	.86	.78	.87	.76	.90	.83	.93
1900	.57	.89	.64	.92	.69	.93	.75	.97
2000	.44	.93	.56	.95	.51	.97	.68	1.01
2100	.37	.99	.45	1.00	.52	1.02	.59	1.05
2200	.25	1.02	.36	1.03	.42	1.07	.43	1.12
2300	.16	1.07	.25	1.09	.32	1.12	.40	1.16
2400	.05	1.11	.13	1.14	.21	1.16	.29	1.21
2500	—	—	—	1.19	.10	1.20	.16	1.25

NOTE: Values include losses for filters, unit casing and wet coils.

50QJ006 (5 Tons) — ALTERNATE MOTOR AND DRIVE (BELT)

AIRFLOW (Cfm)	0.1 Rpm	Bhp	0.2 Rpm	Bhp	0.4 Rpm	Bhp	0.6 Rpm	Bhp	0.8 Rpm	Bhp	1.0 Rpm	Bhp	1.2 Rpm	Bhp	1.4 Rpm	Bhp	1.6 Rpm	Bhp
1500	645	0.26	712	0.33	824	0.45	920	0.59	1014	0.72	1090	0.86	1172	1.02	1250	1.19	—	—
1600	680	0.31	741	0.38	852	0.51	951	0.65	1040	0.80	1117	0.94	1191	1.11	1262	1.27	1327	1.47
1700	713	0.36	776	0.44	880	0.57	974	0.71	1065	0.87	1140	1.03	1214	1.20	1292	1.37	1347	1.55
1800	748	0.42	800	0.51	906	0.65	996	0.76	1090	0.95	1166	1.13	1233	1.26	1305	1.40	1360	1.65
1900	783	0.45	841	0.59	939	0.73	1026	0.88	1111	1.04	1190	1.22	1259	1.40	1329	1.57	1390	1.28
2000	812	0.56	874	0.65	970	0.81	1059	0.97	1134	1.14	1210	1.32	1284	1.51	1349	1.66	1409	1.88
2100	864	0.66	907	0.75	1001	0.91	1083	1.07	1160	1.24	1238	1.43	1309	1.53	1372	1.83	1420	1.99
2200	950	0.71	940	0.61	1032	1.01	1112	1.18	1187	1.36	1259	1.54	1331	1.75	1396	1.93	1456	2.16
2300	926	0.85	974	0.90	1064	1.12	1142	1.30	1216	1.49	1284	1.67	1351	1.86	1420	2.05	1460	2.22
2400	962	0.97	1000	1.01	1096	1.25	1172	1.43	1242	1.62	1311	1.81	1377	2.02	1443	2.24	—	—
2500	990	1.10	1042	1.12	1129	1.38	1203	1.50	1272	1.76	1330	1.66	1402	2.17	1460	2.39	—	—

NOTES:
1. Boldface indicates field-supplied drive required. (See note 6.)
2. Shading indicates field-supplied motor and drive required.
3. Maximum usable bhp is 1.7. Extensive motor and electrical testing on these units ensures that the full horsepower range of the motor can be utilized with confidence. Using your fan motors up to the horsepower ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
4. Values include losses for filters, unit casing and wet coils.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.
6. Alternate motor drive range is 875 to 1150 rpm. All other rpms require field-supplied drive.

50QJ008 (7½ Tons)

AIRFLOW (Cfm)	0.2 Rpm	Bhp	0.4 Rpm	Bhp	0.6 Rpm	Bhp	0.8 Rpm	Bhp	1.0 Rpm	Bhp	1.2 Rpm	Bhp	1.4 Rpm	Bhp	1.6 Rpm	Bhp	1.8 Rpm	Bhp	2.0 Rpm	Bhp
2200	453	0.42	519	0.52	625	0.83	691	1.00	753	1.31	805	[illegible]	842	[illegible]	[illegible]	[illegible]	851	2.45	883	2.70
2300	471	0.45	540	0.66	638	0.90	693	1.12	700	1.37	816	1.30	850	1.06	[illegible]	[illegible]	897	2.55	907	2.85
2400	462	0.50	540	0.71	645	0.95	702	1.16	750	1.44	824	1.72	872	2.01	[illegible]	[illegible]	831	2.51	935	2.06
2500	464	0.54	561	0.76	651	1.01	717	1.25	770	1.61	832	1.79	892	2.03	[illegible]	[illegible]	853	2.72	973	3.06
2600	507	0.69	592	0.82	663	1.06	727	1.32	784	1.60	834	1.87	891	2.17	939	2.20	973	2.92	968	3.16
2700	520	0.65	601	0.86	672	1.14	737	1.40	763	1.66	1162	[illegible]	890	2.26	948	2.56	907	3.01	1010	3.26
2800	533	0.71	616	0.95	683	1.20	747	1.47	802	[illegible]	1055	2.04	900	2.35	951	2.67	907	3.01	1024	3.36
2900	540	0.77	620	1.02	693	1.27	766	1.57	813	1.84	[illegible]	2.13	913	2.44	958	2.77	1006	3.12	—	—
3000	558	0.83	637	1.09	701	1.35	765	1.66	823	1.91	[illegible]	2.22	921	2.54	969	2.89	1014	3.22	—	—
3100	572	0.90	646	1.17	715	1.43	776	1.74	[illegible]	[illegible]	[illegible]	2.20	920	2.65	979	2.99	1022	3.34	—	—
3200	555	0.95	660	1.24	727	1.52	785	1.93	841	2.15	892	2.45	933	2.70	994	3.10	—	—	—	—
3300	633	1.05	671	1.32	729	1.62	795	1.91	851	2.29	902	2.57	940	2.80	933	3.21	—	—	—	—
3400	616	1.10	682	1.41	750	1.72	800	2.01	859	2.30	912	2.60	950	3.01	1002	3.34	—	—	—	—
3500	629	1.17	691	1.50	761	1.82	812	2.11	870	2.47	921	2.82	969	3.15	—	—	—	—	—	—
3600	636	1.25	707	1.50	772	1.93	828	2.22	880	2.57	930	2.55	978	3.20	—	—	—	—	—	—
3700	645	1.33	720	1.71	783	2.03	840	2.25	890	2.80	940	3.07	—	—	—	—	—	—	—	—
3800	651	1.41	733	1.62	785	2.15	850	2.46	901	2.80	940	3.20	—	—	—	—	—	—	—	—
3900	674	1.49	749	1.93	805	2.20	863	2.6	912	2.93	950	3.33	—	—	—	—	—	—	—	—
4000	687	1.57	759	2.05	817	2.39	874	2.75	923	3.00	—	—	—	—	—	—	—	—	—	—
4100	659	1.66	772	2.17	828	2.51	885	2.90	935	3.23	—	—	—	—	—	—	—	—	—	—
4200	712	1.75	745	2.30	840	2.54	887	3.03	947	3.33	—	—	—	—	—	—	—	—	—	—
4300	725	1.85	780	2.43	852	2.77	900	3.17	—	—	—	—	—	—	—	—	—	—	—	—

NOTES:
1. Shading indicates alternate drive required. (See note 6.)
2. Boldface indicates field-supplied drive required. (See note 6.)
3. Shading indicates field-supplied motor and drive required.
4. Maximum usable bhp is 2.4 with standard motor. Extensive motor and electrical testing on these units ensures that the full horsepower range of the motor can be utilized with confidence. Using your fan motors up to the horsepower ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.
6. Standard motor drive range is 560 to 800 rpm. Alternate drive range is 700 to 900 rpm. All other rpms require field-supplied drive.

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50QJ012 (10 Tons)

AIRFLOW (Cfm)	0.2 Rpm	Bhp	0.4 Rpm	Bhp	0.6 Rpm	Bhp	0.8 Rpm	Bhp	1.0 Rpm	Bhp	1.2 Rpm	Bhp	1.4 Rpm	Bhp	1.6 Rpm	Bhp	1.8 Rpm	Bhp	2.0 Rpm	Bhp
3000	491	0.56	560	0.70	621	0.57	680	1.03	747	1.20	830	1.50	840	1.52	879	1.30	925	1.51	951	1.32
3100	495	0.61	570	0.78	630	0.92	689	1.10	755	1.27	803	1.44	857	1.63	898	1.66	935	1.62	975	1.80
3200	505	0.69	573	0.81	640	0.98	703	1.20	761	1.35	812	1.51	860	1.71	901	1.85	944	2.01	984	2.09
3300	516	0.72	559	0.97	698	1.05	717	1.32	767	1.40	818	1.58	867	1.70	915	1.65	952	2.11	998	2.22
3400	527	0.78	595	0.93	651	1.11	724	1.33	775	1.45	827	1.67	871	1.85	930	2.07	955	2.21	1001	2.31
3500	537	0.85	608	0.88	672	1.16	731	1.35	784	1.56	833	1.75	883	1.94	926	2.15	970	2.36	1007	2.41
3600	540	0.92	610	1.05	682	1.24	738	1.43	784	1.64	840	1.83	888	2.04	931	2.23	976	2.47	1017	2.52
3700	560	1.03	629	1.12	688	1.31	747	1.51	802	1.73	847	1.92	893	2.13	936	2.33	971	2.56	1024	2.77
3800	571	1.04	639	1.15	695	1.38	760	1.60	810	1.81	856	2.02	900	2.23	945	2.44	986	2.65	1029	2.88
3900	592	1.16	649	1.27	705	1.47	764	1.66	816	1.91	866	2.12	909	2.33	953	2.55	1003	2.73	1034	3.00
4000	603	1.25	659	1.35	717	1.55	774	1.78	823	1.93	875	2.22	913	2.42	960	2.65	1000	2.87	1039	3.10
4100	605	1.35	670	1.44	727	1.65	781	1.86	832	2.08	883	2.31	921	2.51	968	2.75	1006	2.99	1046	3.21
4200	619	1.45	680	1.55	737	1.74	789	1.95	841	2.18	885	2.41	934	2.62	972	2.84	1015	3.09	1053	3.34
4300	629	1.54	690	1.65	747	1.82	798	2.06	849	2.30	895	2.51	943	2.72	980	2.99	1021	3.23	1061	3.43
4400	630	1.67	701	1.72	757	1.92	807	2.18	858	2.41	891	2.62	931	2.82	990	3.12	1025	3.36	—	—
4500	651	1.70	712	1.84	767	2.02	817	2.27	866	2.51	912	2.74	958	3.00	999	3.26	—	—	—	—
4600	662	1.81	722	1.95	777	2.13	827	2.38	874	2.62	921	2.87	965	3.11	1000	3.38	—	—	—	—
4700	674	2.02	733	2.07	787	2.24	837	2.50	883	2.73	930	3.00	972	3.25	—	—	—	—	—	—
4800	685	2.17	744	2.20	737	2.38	846	2.62	891	2.85	938	3.14	980	3.37	—	—	—	—	—	—
4900	698	2.31	755	2.35	800	2.47	855	2.73	902	2.98	948	3.27	—	—	—	—	—	—	—	—
5000	710	2.45	765	2.47	816	2.61	866	2.86	910	3.12	954	3.35	—	—	—	—	—	—	—	—

NOTES:
1. Shading indicates alternate motor required. (See Note 6.)
2. Boldface indicates field-supplied drive required. (See Note 6.)
3. Shading indicates field-supplied motor and drive required.
4. Maximum usable bhp is 2.4 with standard motor; 2.9 with alternate motor. Extensive motor and electrical testing on the Weathermaker units ensures that the full horsepower range of the motor can be utilized with confidence. Using your fan motors up to the horsepower ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
5. Use of field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.
6. Standard motor drive range is 700 to 950 rpm. Alternate motor drive range is 860 to 1100 rpm. All other rpms require field-supplied drive.
7. Values include losses for filters, unit casing and wet coils.

FAN RPM AT MOTOR PULLEY SETTINGS

UNIT 50QJ	MOTOR/ DRIVE	MOTOR PULLEY TURNS OPEN 0	½	1	1½	2	2½	3	3½	4	4½	5
005	Alt	1100	1035	1060	1020	995	960	930	900	880	840	830
006	Alt	1100	1160	1130	1100	1055	1035	1005	970	942	915	875
008	Std	800	780	760	740	720	700	680	660	640	620	600
	Alt	900	880	860	840	820	800	780	760	740	720	700
012	Std	950	925	900	875	850	825	800	775	750	725	700
	Alt	1100	1075	1050	1025	1000	975	950	925	900	875	850

INDOOR-FAN MOTOR EFFICIENCY

MOTOR	EFFICIENCY (%)
¼ HP, DIRECT DRIVE	68
½ HP, DIRECT DRIVE	70
¾ HP, DIRECT DRIVE	63
¾ HP, BELT DRIVE	81
1.0 HP, BELT DRIVE	81
1.5 HP, BELT DRIVE	80
2.0 HP, BELT DRIVE	83

NOTE: Convert bhp to Watts using the following formula:

$$\text{Watts} = \frac{746 \times \text{Bhp}}{\text{Motor Efficiency}}$$

Performance data (cont)

ACCESSORY STATIC PRESSURE DROP (in. wg) — 50QJ004-006

COMPONENT	CFM 900	1200	1400	1600	1800	2000	2200	2400	2600
1 Heater Module	.05	.07	.09	.09	.10	.11	.11	.12	.13
2 Heater Modules	.15	.16	.16	.16	.17	.17	.17	.18	.15
Economizer	.05	.05	.05	.05	.05	.05	.05	.05	.05

ACCESSORY/FIOP STATIC PRESSURE DROP (in. wg) — 50QJ008,012

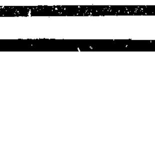
COMPONENT	CFM 2200	2500	3000	3500	4000	4500	5000	5500	6000
1 Heater Module	.02	.03	.05	.065	.08	.10	.12	.14	.16
2 Heater Modules	.03	.05	.07	.09	.12	.14	.16	.19	.21
Economizer	.02	.02	.03	.04	.05	.06	.07	.08	.09

SOUND POWER (Total Unit)

50QJ	ARI RATING (60 Hz)	OCTAVE BANDS 63	125	250	500	1000	2000	4000	8000
004-006	8.2 Bels	76.5	84.0	77.5	73.0	70.5	72.0	65.2	58.5
008	8.6 Bels	83.2	87.4	83.5	82.8	83.3	77.7	71.9	67.0
012	8.8 Bels	97.8	90.4	85.7	84.8	83.9	77.6	71.4	66.9

LEGEND
Bels — Sound Levels (1 bel = 10 decibels)
ARI — Air-Conditioning & Refrigeration Institute

ECONOMIZER BAROMETRIC RELIEF DAMPER CHARACTERISTICS 50QJ004-012



ELECTRIC HEATING CAPACITIES

UNIT	VOLTAGE (60 Hz)	FIOP kW	ACCESSORY kW
50GJ004	208/230 (one phase)	6.5 8.7 10.6	4.4 6.5 8.7 10.5 13.0*
	208/230 (3 phase)	5.5 8.7 10.5	4.4 5.5 8.7 10.5 13.0
	460 (3 phase)	6.0 8.8 11.5	6.0 8.8 11.5 14.0
50GJ005	208-230 (one phase)	8.7 13.0 17.4	4.4 8.7 13.0* 17.4* 21.0*
	230/230 (3 phase)	8.7 13.0 21.0	6.5 8.7 13.0 21.0*
	460 (3 phase)	6.0 11.5 14.0	6.0 11.5 14.0 23.0*
50GJ006	208/230 (one phase)	8.7 13.0 17.4	6.5 8.7 13.0* 17.4* 21.0*
	208/230 (3 phase)	10.5 16.0 21.0	6.5 10.5 16.0 21.0* 26.5*
	460 (3 phase)	11.5 14.1 23.0	6.0 11.5 14.0 23.0* 25.5*
50GJ008	208/230 (3 phase)	16.5 24.8 32.3	10.4 16.0 24.8 32.8 42.4*
	460 (3 phase)	16.5 27.8 33.0	13.9 16.5 27.8 33.0 41.7*
	575 (3 phase)	— —	18.0 35.0
50GJ012	208/230 (3 phase)	13.0 32.0 42.4	13.4 19.0 32.0 42.4* 50.0*
	460 (3 phase)	27.8 33.0 41.7	16.5 27.8 33.0 41.7* 50.0*
	575 (3 phase)	— —	18.0 36.0 54.0*

MULTIPLICATION FACTORS

HEATER kW RATING	VOLTAGE DISTRIBUTION V/3/60	MULTIPLICATION FACTOR
240	200 208 230 240	.69 .75 .92 1.00
480	440 460 480	.84 .92 1.00

Example: A 12.8-kW (at 240 v) heater on 208 v
= (12.8) (.74 mult factor)
= 9.225 kW capacity at 208 v

*Two electric heater packages required to provide kW indicated.

NOTES:
1. The kW ratings shown above are at 240, 480, and 600 v. Use the Multiplication Factors table to determine heater capacity for your particular voltage.
2. Heaters are not available for 575-v 004-006 575-v units.

UNIT 50GJ	NOMINAL VOLTAGE (60 Hz)	VOLTAGE RANGE Min	VOLTAGE RANGE Max	COMPRESSOR RLA	COMPRESSOR LRA	OFM FLA	IFM Hp	IFM FLA	ELECTRIC HEAT Nominal kW*	ELECTRIC HEAT FLA	POWER SUPPLY MCA	POWER SUPPLY MOCP†
004 (3 Tons)	208-230 (one phase)	187	254	17.5	98	1.0	½**	2.0	— 3.3- 4.4 4.9- 6.5 6.5- 8.7 7.9-10.5 9.8-13.0	— 16.2-18.6 23.6-27.3 31.4-38.2 37.0-43.8 47.1-54.3	27.1- 27.1 47.3- 50.9 56.0- 61.2 64.0- 72.9 74.5- 81.0 85.9- 95.9	35- 35 50- 60 60- 70 70- 80 80- 90 90-100
							¾††	3.8	— 3.3- 4.4 4.9- 6.5 6.5- 8.7 7.9-10.5 9.8-13.0	— 16.2-18.6 23.8-27.3 31.4-38.2 37.6-43.8 47.1-54.3	28.1- 28.1 48.3- 51.3 57.0- 62.2 67.3- 73.4 75.5- 82.8 86.9- 96.5	35- 35 60- 60 60- 70 70- 80 80- 90 90-100
	208/230 (3 phase)	187	254	11.2	60	1.0	½**	2.0	— 3.3/ 4.4 4.9/ 6.5 5.5/ 8.7 7.9/10.5 12.1/15.0	— 9.4/10.6 13.6/15.7 18.1/20.7 22.2/25.3 33.6/36.4	16.7/ 16.8 30.5/ 32.0 36.0/ 38.4 41.4/ 44.6 46.5/ 50.4 60.7/ 60.7	20/ 20 35/ 35 40/ 40 45/ 45 50/ 60 70/ 70
							¾††	3.8	— 3.3/ 4.4 4.9/ 6.5 6.5/ 8.7 7.9/10.5 12.1/15.0	— 9.4/10.6 13.6/15.7 18.1/20.7 22.0/25.3 33.3/36.4	18.7/ 18.7 31.5/ 33.0 37.6/ 39.4 42.4/ 45.6 47.6/ 51.4 61.7/ 67.7	25/ 25 35/ 35 40/ 40 45/ 60 50/ 60 70/ 70
	460 (3 phase)	414	508	5.1	40	1.0	½**	1.5	— 6.0 8.8 11.5 14.0	— 7.0 10.5 13.8 16.8	10.1 19.1 23.4 26.9 31.2	15 20 25 30 35
							¾††	1.9	— 6.0 8.8 11.5 14.0	— 7.0 10.5 13.8 16.8	10.5 19.5 23.8 27.3 31.6	15 20 25 30 35
	575 (3 phase)	518	632	4.5	27	1.0	½** ¾††	0.8 1.0	— —	— —	7.5 7.9	15 15
005 (4 Tons)	208-230 (one phase)	187	254	23.0	127	1.0	½**	3.8	— 3.3- 4.4 6.5- 8.7 9.8-13.0 13.0-17.4 16.0-21.0	— 16.2-18.6 31.4-36.2 47.1-54.6 62.0-72.4 75.6-87.8	35.5- 35.5 65.2- 68.7 74.7- 80.7 94.4-103.7 114.3-126.0 130.2-145.0	45- 45 60- 70 80- 90 100-110 125-150 150-150
							¾††	7.0	— 3.3- 4.4 6.5- 8.7 9.8-13.0 13.0-17.4 16.0-21.0	— 16.2-18.6 31.4-36.2 47.1-54.6 62.0-72.5 75.6-87.8	39.3- 39.3 60.5- 62.4 76.5- 84.6 96.2-107.5 117.8-129.0 134.0-148.8	50- 50 70- 70 80- 90 100-110 125-125 150-150
	230/230 (3 phase)	187	254	15.7	90	1.0	½**	3.8	— 4.9/ 6.5 5.6/ 8.7 12.1/16.0 16.0/21.0	— 13.0/15.7 18.1/20.7 33.6/38.4 44.4/50.4	26.3/ 26.3 40.9/ 44.9 48.0/ 51.2 67.4/ 73.0 80.0/ 88.5	30/ 30 45/ 60 50/ 60 70/ 80 80/ 90
							¾††	3.1	— 4.9/ 6.5 6.5/ 8.7 12.1/16.0 16.0/21.0	— 13.6/15.7 18.1/20.7 33.6/38.4 44.4/50.4	24.0/ 24.0 41.0/ 44.2 47.3/ 50.5 65.7/ 72.6 80.1/ 87.6	30/ 30 45/ 60 50/ 60 70/ 80 80/ 90
	460 (3 phase)	414	508	7.8	50	1.0	½**	1.0	— 6.0 11.5 14.0 23.0	— 7.0 13.8 16.8 27.6	12.3 21.4 25.0 33.0 47.4	20 25 30 35 50
							¾††	1.5	— 6.0 11.5 14.0 23.0	— 7.0 13.8 16.8 27.6	12.0 21.0 25.3 33.2 47.0	20 25 30 35 50
	575 (3 phase)	518	632	5.8	40	1.0	½** ¾††	3.8 2.6	— —	— —	8.5 11.0	15 15

UNIT 50GJ	NOMINAL VOLTAGE (60 Hz)	VOLTAGE RANGE Min	VOLTAGE RANGE Max	COMPRESSOR RLA	COMPRESSOR LRA	OFM FLA	IFM Hp	IFM FLA	ELECTRIC HEAT Nominal kW*	ELECTRIC HEAT FLA	POWER SUPPLY MCA	POWER SUPPLY MOCP†
006 (5 Tons)	230 (one phase)	187	254	27.8	145	1.9	¾**	4.4	— 6.5 8.7 13.0 17.4 21.0	— 27.3 36.2 54.6 72.4 87.6	41.1 75.2 86.3 109.2 131.5 147.8	60 80 90 110 150 150
							1.0††	8.0	— 6.0 8.7 13.0 17.4 21.0	— 27.3 36.2 54.0 72.3 87.6	41.7 78.9 90.0 112.9 135.2 154.0	60 80 90 125 150 150
	208/230 (3 phase)	187	254	19.2	88	1.9	¾**	4.4	— 4.9/ 6.5 7.6/10.6 12.1/16.0 16.0/21.0 20.0/26.5	— 13.6/15.7 22.2/24.1 33.6/38.4 44.4/50.4 55.7/63.6	30.3/ 33.2 47.5/ 49.8 58.1/ 60.0 72.3/ 73.3 85.9/ 93.2 100.0/109.9	40/ 40 60/ 60 60/ 60 80/ 80 100/100 110/110
							1.0††	4.9	— 4.9/ 6.5 7.9/10.5 12.1/16.0 16.0/21.0 20.0/26.5	— 13.6/15.7 22.2/24.1 33.6/38.4 44.4/50.4 55.7/63.6	20.9/ 20.9 47.2/ 49.9 57.7/ 60.0 71.9/ 77.9 86.4/ 92.9 92.7/109.5	40/ 40 60/ 60 60/ 60 80/ 80 100/100 100/110
	460 (3 phase)	414	508	9.6	49	1.0	¾**	2.0	— 6.0 11.5 14.0 23.0 25.5	— 7.0 13.8 16.8 27.6 30.7	15.0 24.8 33.3 37.0 50.8 54.4	20 30 35 40 60 60
							1.0††	1.9	— 6.0 11.5 14.0 23.0 25.5	— 7.0 13.8 16.8 27.6 30.7	16.6 21.2 32.5 38.2 49.8 51.8	20 30 35 40 50 60
	575 (3 phase)	518	632	9.8	45	1.0	¾** 1.0††	4.4 3.0	— —	— —	12.9 14.8	15 20

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
Hp — Nominal Horsepower
IFM — Indoor-Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
OFM — Outdoor-Fan Motor
RLA — Rated Load Amps

*Heater capacity (kW) is based on heater voltage of 240 v or 480 v. If power distribution voltage to unit varies from rated heater voltage, heater kW will vary accordingly. Refer to page 23 for details.
†Fuse or HACR circuit breaker.
**Standard motor.
††Alternate motor.
‡Heaters are field installed only.
§Fusing in single point box provides the required branch circuit protection.

Electrical Data — 50GJ008,012

UNIT 50GJ	NOMINAL VOLTAGE (60 Hz)	VOLTAGE RANGE Min	VOLTAGE RANGE Max	COMPR (each) RLA	COMPR (each) LRA	OFM FLA	IFM Hp	IFM FLA	ELECTRIC HEAT Nominal kW*	ELECTRIC HEAT FLA	POWER SUPPLY MCA	POWER SUPPLY MOCP†
008 (7½ Tons)	208/230 (3 phase)	187	254	13.7	90.0	3.1	1.5**	5.8	— 7.8/10.4 12.0/16.0 18.6/24.8 24.0/32.0 31.8/42.4	— 21.7/ 24.9 33.4/ 38.1 51.7/ 59.7 66.7/ 77.0 88.4/102.0	39.7/ 39.7 66.5/ 70.5 81.4/ 87.5 104.3/114.2 123.1/135.2 150.0/157.5	45/ 45 70/ 80 90/ 90 110/125 125/150 175/175
							1.5††	5.8	— 7.8/10.4 12.0/16.0 18.6/24.8 24.0/32.0 31.8/42.4	— 21.7/ 24.9 33.4/ 38.1 51.7/ 59.7 66.7/ 77.0 88.4/102.0	39.7/ 39.7 66.6/ 70.3 81.4/ 87.2 104.2/114.3 123.1/136.2 150.0/157.2	45/ 45 70/ 80 90/ 90 110/125 125/150 175/175
	460 (3 phase)	414	506	5.9	45.0	1.4	1.5**	2.6	— 13.9 16.5 27.8 33.0 41.7	— 16.6 19.0 33.4 [illegible] 50.2	19.5 40.2 44.3 [illegible] 69.2 82.2	25 45 50 60 70 90
							1.5††	2.6	— 13.9 16.5 27.6 33.0 41.7	— 16.0 19.0 33.4 39.7 50.2	19.6 42.2 44.3 61.3 69.2 82.3	25 45 50 60 70 90
	575 (3 phase)	518	632	4.9	35.0	1.4	1.5**	2.5	— [illegible] 35.0	— 17.0 34.0	14.2 35.5 55.7	[illegible]
						1.4	1.5††	2.6	— 15.0 35.0	— 17.0 34.0	14.2 36.5 55.7	[illegible]
012 (10 Tons)	208/230 (3 phase)	187	254	19.2	105.0	3.1	1.5**	5.8	— 7.8/10.4 [illegible] [illegible] [illegible] [illegible]	— 21.7/ 25.0 33.4/ 38.6 [illegible] 80.4/102.0 104.2/122.2	62.1/ 62.1 79.0/ 83.4 93.0/100.0 127.5/148.8 162.6/170.8 192.0/170.8	[illegible]
							2.0††	7.5	— 7.8/10.4 [illegible] [illegible] 31.8/42.4 [illegible]	— 21.7/ 25.0 [illegible] [illegible] 80.4/102.0 104.2/122.2	53.6/ 52.6 80.8/ 85.0 95.0/100.2 127.0/150.0 164.5/191.3 184.0/174.2	[illegible]
	460 (3 phase)	414	506	9.6	55.0	1.4	1.5**	2.6	[illegible]	— 19.3 [illegible] [illegible] [illegible] 57.4	[illegible] 30.4 [illegible] 75.0 [illegible] 85.0	[illegible]
							2.0††	3.4	— 16.5 [illegible] [illegible] 41.7 50.0	— 16.6 [illegible] [illegible] 50.2 [illegible]	[illegible] [illegible] [illegible] [illegible] 85.4 85.0	[illegible]
	575 (3 phase)	518	632	6.3	46.0	1.4	1.5**	2.7	[illegible]	— 17.0 34.0 51.0	[illegible]	[illegible]
							2.0††	3.4	[illegible]	— 17.0 34.0 51.0	[illegible]	[illegible]

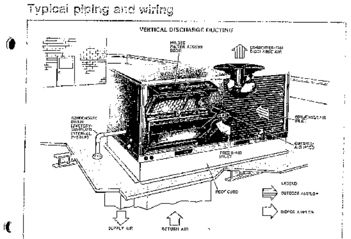
LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
Hp — Nominal Horsepower
IFM — Indoor-Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
OFM — Outdoor-Fan Motor
RLA — Rated Load Amps

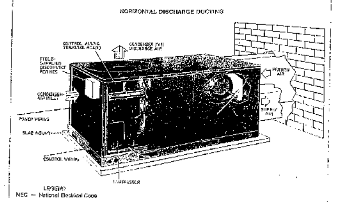
*Heater capacity (kW) is based on heater voltage of 240 v or 480 v. If power distribution voltage to unit varies from rated heater voltage, heater kW will vary accordingly. Refer to page 23 for details.
†Fuse or HACR circuit breaker.
**Standard motor.
††Alternate motor.
‡Heaters are field installed only.
§Fusing in single point box provides the required branch circuit protection.

Typical piping and wiring

VERTICAL DISCHARGE DUCTING



HORIZONTAL DISCHARGE DUCTING



NEC — National Electrical Code

Operating Sequence

Cooling — Set system switch at AUTO. or COOL position. Set thermostat at desired temperature.

Without economizer — When thermostat calls for cooling, the indoor-fan contactor (IFC) is energized and starts indoor-fan motor. Compressor contactor is energized to start compressor and outdoor fan.

As conditioned space temperature approaches thermostat's cooling set point, the indoor fan, compressor and outdoor fan shut off.

With economizer — When the outdoor ambient temperature is above the outdoor-air thermostat (OAT) or optional enthalpy control (EC) setting, sequence of operation is identical to units without economizer. Economizer blade is in minimum position.

When the outdoor ambient temperature is below the OAT or optional EC setting and the thermostat calls for cooling, the IFC is energized, the indoor fan is started and the economizer modulates open. The economizer acts as the first stage of cooling, providing free cooling with outside air. If the outside air alone cannot satisfy the cooling requirements of the conditioned space, economizer cooling is integrated with mechanical cooling. Compressor contactor is energized to start the compressor and outdoor fan.

As conditioned space temperature approaches the thermostat's cooling set point, the mechanical cooling stages cycle off, last stage first.

Heating — Set system switch at AUTO. or HEAT position. Set thermostat at desired temperature.

When the thermostat calls for heat, the reversing valve solenoid (RVS), IFC, outdoor-fan contactor and compressor contactor are energized. The reversing valve switches position and the indoor fan, outdoor fan and compressor are energized. On economizer units, the economizer blade will move into the minimum position.

If the thermostat calls for a second stage of heat, the heater contactor (HC) is energized and starts the electric heaters.

When the space temperature approaches the heating temperature set point, heating stages cycle off. The reversing valve solenoid remains energized.

Defrost — As frost builds up on the outdoor coil, the coil temperature drops below 28 F. When this outdoor-coil temperature drop is sensed by the defrost thermistor (TDF) and the defrost timer is at the end of a timed period (adjustable at 30, 50 or 90 minutes), the unit operates in a defrost cycle controlled by the defrost timer or thermistor. During this cycle, the RVS is deenergized and the outdoor fan shuts off. The electric heaters (if installed) will be energized. On units with economizer, the economizer will move to the fully closed position.

The unit continues to defrost until the coil temperature as measured by the TDF reaches 68 F, or the duration of defrost cycle completes a 10-minute period.

At the end of the defrost cycle, the electric heaters (if installed) will be deenergized, and the reversing valve and outdoor fan motor will be energized. The unit will now operate in the heating mode. On units with economizer, the economizer blade will move to the minimum position.

If the thermostat is satisfied during a defrost cycle, the unit will continue in the defrost mode until the time or temperature constraints are satisfied.

Operating Sequence

Cooling, Units Without Economizer — Upon a request for cooling from the space thermostat, terminals Y1 and G will be energized with 24 v. As a result, the indoor-fan contactor (IFC), outdoor-fan contactor (OFC) and compressor contactor no. 1 (C1) will be energized, which in turn will energize the indoor fan, outdoor fan and compressor no. 1, respectively.

If the space thermostat calls for a second stage of cooling by supplying 24 v to Y2, compressor contactor no. 2 (C2) will be energized, thus energizing compressor no. 2.

When the space thermostat is satisfied, Y2 will be deenergized first, which will deenergize compressor no. 2.

Upon a further drop in space temperature, Y1 will be deenergized which will deenergize compressor no. 1, and the outdoor and indoor fans.

Heating, Units Without Economizer — Upon a request for heating from the space thermostat, terminal W1 will be energized with 24 v.

If the average outdoor-coil temperature is greater than 28 F as measured by the defrost thermistors (TDF1 and 2), the reversing valve solenoids (RVS1 and RVS2), IFC, OFC, and C1 will be energized. This will cause the reversing valves to switch position and energize the indoor fan, outdoor fan and compressor no. 1.

If the average outdoor-coil temperature is lower than 28 F, RVS1, RVS2, IFC, OFC, C1 and C2 will be energized.

If the space temperature continues to fall while W1 is energized, W2 will be energized with 24 v.

If the average outdoor-coil temperature is greater than 28 F, C2 will be energized, which will energize compressor no. 2.

If the average outdoor-coil temperature is lower than 28 F, the heater contactor(s) (HC) will be energized, which will energize the electric heater(s).

When the space thermostat is satisfied, W2 will be deenergized first.

If the average outdoor-coil temperature is greater than 28 F, C2 will be deenergized.

If the average outdoor-coil temperature is lower than 28 F, the electric heater(s) will be deenergized.

Upon a further rise in space temperature, W1 will be deenergized.

If the average outdoor-coil temperature is greater than 28 F, the indoor fan, outdoor fan and compressor no. 1 will be turned off. RVS1 and RVS2 will remain energized.

If the average outdoor-coil temperature is lower than 28 F, the indoor fan, outdoor fan and compressor no. 1 will be turned off. RVS1 and RVS2 will remain energized.

Defrost, Units Without Economizer — When the average temperature of the outdoor coil drops below 28 F as sensed by TDF1 and 2, and the defrost timer is at the end of a timed period (adjustable at 30, 50 or 90 minutes), RVS1, RVS2 and the OFC are deenergized. This switches the position of the reversing valves and shuts off the outdoor fan. The electric heaters (if installed) will be energized.

The unit continues to defrost until the average coil temperature as measured by TDF1 and 2 reaches 68 F, or the duration of defrost cycle completes a 10 minute period.

During the defrost mode, if circuit 1 defrosts first, RVS1 will oscillate between heating and cooling modes until the defrost mode is complete.

At the end of the defrost cycle, the electric heaters (if installed) will be deenergized, and the reversing valves and outdoor-fan motor will be energized. The unit will now operate in the heating mode.

If the space thermostat is satisfied during a defrost cycle, the unit will continue in the defrost mode until the time or temperature constraints are satisfied.

Cooling, Units With Economizer — Upon a request for cooling from the space thermostat, terminals Y1 and G will be energized with 24 v. As a result, the indoor-fan contactor (IFC) and indoor-fan motor (IFM) will be energized and the economizer damper blade will open to minimum position. Note that if the indoor fan is on when the space thermostat calls for cooling, terminal G is already energized and the economizer damper blade is at minimum position.

If the outdoor-air temperature is below the outdoor-air thermostat (OAT) setting, then the position of the damper blade will be determined by the temperature of the discharge air as sensed by the discharge-air thermistor (DAT). The damper blade will slide open for 8 seconds, and rest for 30 seconds until the proper discharge-air temperature is obtained. The damper blade will modulate to different positions to maintain this discharge air temperature.

If the thermostat calls for a second stage of cooling by supplying 24 v to Y2, the outdoor-fan contactor (OFC) and compressor contactor no. 1 (C1) will be energized, which will bring on the outdoor fan and compressor no. 1, respectively.

When the thermostat is satisfied, Y2 will be deenergized first, which will deenergize the outdoor fan and compressor no. 1. When the indoor fan is deenergized, the economizer will return to a fully closed position.

If the outdoor air temperature is above the OAT setting, the economizer will move to the minimum position and the unit will operate as described in Cooling, Units Without Economizer section above.

Heating, Units With Economizer — Upon a request for heating from the space thermostat, terminal W1 will be energized with 24 v. The economizer damper blade will move to minimum position regardless of the outdoor-air temperature and the unit will operate as described in Cooling, Units Without Economizer section above.

When both stages of the space thermostat are satisfied, W1 and W2 will be deenergized and the economizer will move to the fully closed position. The reversing valve solenoids (RVS1 and RVS2) will remain energized.

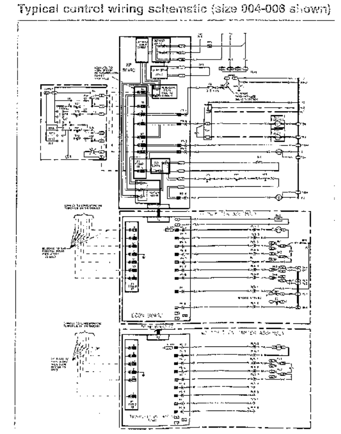
Defrost, Units With Economizer — When the average temperature of the outdoor coil drops below 28 F as sensed by the defrost thermistors (TDF1 and 2), and the defrost timer is at the end of a timed period (adjustable at 30, 50 or 90 minutes), RVS1, RVS2 and the OFC are deenergized. This switches the position of the reversing valves and shuts off the outdoor fan. The electric heaters (if installed) will be energized. The economizer will move to the fully closed position.

The unit continues to defrost until the average coil temperature as measured by TDF1 and 2 reaches 68 F, or the duration of defrost cycle completes a 10 minute period.

At the end of the defrost cycle, the electric heaters (if installed) will be deenergized, and the reversing valves and outdoor fan motor will be energized. The unit will now operate in the heating mode. The economizer will move to the minimum position.

If the thermostat is satisfied during a defrost cycle, the unit will continue in the defrost mode until the time or temperature constraints are satisfied.

Typical control wiring schematic (size 004-008 shown)



LEGEND FOR CONTROL WIRING SCHEMATIC

AHA — Adjustable Heat Anticipator
C — Contactor, Compressor
CB — Circuit Breaker
CC — Cooling Compensator
CLO — Compressor Lockout
COM — Common
DAT — Discharge-Air Thermistor
DFT — Defrost Thermostat
EC — Enthalpy Control
ECON — Economizer
EMCF — Energy Management Closed
EMOF — Energy Management Open
FPT — Freeze-Up Protection Thermostat
FU — Fuse
GND — Ground
HC — Heater Contactor (Strip Heat)
HP — Heat Pump
HPS — High-Pressure Switch
— Indoor-Fan Contactor
— Light Emitting Diode (LED)
LPS — Loss-of-Charge/Low-Pressure Switch
LSM — Limit Switch (Manual Reset)
MTR — Motor
OAT — Outdoor-Air Thermostat
P — Plug
PL — Plug Assembly
RES — Resistor
RVS — Reversing Valve Solenoid
SC — Safety Circuit
SW — Switch
TB — Terminal Block
TC — Thermostat-Cooling
TH — Thermostat-Heating
TRAN — Transformer

Circuit Board Run
Field Splice
Marked Wire
Terminal (Marked)
Terminal (Unmarked)
Terminal Block
Terminal Econ Two-Position Board
Terminal CV Board
Splice
Splice (Marked)
Factory Wiring
Field Control Wiring
Field Power Wiring
Accessory or Optional Wiring
To indicate common potential only, not to represent wiring

Application data

Internal condensate trap — Internally trapped condensate pan is supplied on all units. An external trap is not required. *Attachment of external trap could cause leakage of water into the building.* Condensate drain is located on the bottom and side of the unit.

Ductwork — Secure vertical discharge ductwork to roof curb. For horizontal discharge applications, attach ductwork to unit, or field-supplied flanges can be attached to horizontal discharge openings and all ductwork attached to flanges.

To convert from vertical discharge to horizontal discharge:

1. Remove economizer or two-position damper to gain access to return duct opening.
2. Move the horizontal discharge duct opening covers to the vertical discharge openings.
3. Rotate economizer or two-position damper 90 degrees (until the economizer motor faces the condenser section).
4. Rotate the barometric relief damper 90 degrees.
5. Install block-off plate over the opening on the access panel.

IMPORTANT: On horizontal discharge units equipped with economizer or two-position damper, the air filters MUST be installed external to the unit or economizer or two-position damper will have to be removed to access the filters.

Thru-the-curb service connections — Roof curb connections allow field power wires and control wires to enter through the roof curb opening.

Heating-to-cooling changeover — All units are automatic changeover from heating to cooling when automatic changeover thermostat and subbase are used.

Thermostat — Use of 2-stage cooling thermostat is recommended for all units equipped with economizer.

Airflow — Units are draw-thru on cooling and blow-thru on heating.

Maximum airflow — T[illegible] [illegible]ability of condensate blow-off from evap[illegible] [illegible] through units should not exceed 500 cfm/ton.

Minimum airflow for [illegible]

For units with electric [illegible] minimum cfm is 900 for 50QJ004, 1200 for 50QJ005, 1500 for 50QJ006, 2250 for 50QJ008, and 3000 for 50QJ012, with the following exceptions.

UNIT 50QJ	UNIT VOLTAGE	HEATER kW	UNIT CONFIGURATION	REQUIRED MINIMUM CFM
012	208/230	16.0	Horizontal or Vertical	3250
	460	50.0	Horizontal or Vertical	3100
008 and 012	575	18.0	Horizontal or Vertical	2500
		36.0		2500
		54.0		3500

Minimum ambient operating temperature for 50QJ004-012 standard units is 25 F. With accessory Motormaster® control (for unit sizes 004-005) or Motormaster® II control (for unit sizes 004-012), units can operate at outdoor temperatures down to −20 F.

Electric resistance heat — Electric resistance heaters shall be supplied to offset heat loss (at winter design conditions) when the heat pump heating cycle capacity cannot satisfy space requirements. Electric heat may be required to temper air during defrost cycle.

Guide specifications — 50QJ004-006

Packaged Rooftop Air-to-Air Heat Pump Constant Volume Application

HVAC Guide Specifications — Section 15786
Size Range: 3 to 5 Tons, Nominal (Cooling)
36,000-60,000 Btuh, Heating
Carrier Model Number: 50QJ

Part 1 — General

1.01 SYSTEM DESCRIPTION

A. Outdoor rooftop mounted, electrically controlled air-to-air heat pump utilizing a reciprocating type compressor for heating and cooling duty. Unit shall discharge air downward or horizontally as shown on contract drawings.

1.02 QUALITY ASSURANCE

A. Unit shall be rated in accordance with ARI Standard 210/240 and 270.
B. Unit shall be designed to conform to ANSI B9.1 and in accordance with UL 559.
C. Unit shall be UL listed and CSA certified as a total package for safety requirements.
D. Roof curb shall be designed to conform to NRCA Standards.
E. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
F. Unit casing shall be capable of withstanding Federal test method standard No. 141 (Method 6061) 500 hour salt spray test.

1.03 DELIVERY, STORAGE AND HANDLING

A. Unit shall be stored and handled per manufacturer's recommendations.

Part 2 — Products

2.01 EQUIPMENT (STANDARD)

A. General:
Factory-assembled, single-piece, air-to-air heat pump. Contained within the unit enclosure shall be all factory wiring, piping, control and safeties, refrigerant charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:
1. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a prepainted baked enamel finish on all externally exposed surfaces.
2. Indoor blower compartment: Interior cabinet surfaces shall be insulated with a minimum ½-in. thick flexible glass fiber insulation, coated on the air side. Aluminum foil faced glass fiber insulation shall be used in the heating compartment.
3. Cabinet panels shall be easily removable for servicing.
4. Filters will be accessible through a hinged access door, and will require no panel or screw removal.
5. Holes shall be provided in the base rails for rigging shackles to facilitate overhead rigging and moving.
6. Unit shall have a factory-installed internal condensate drain trap made of a non-corrosive material, providing a ¾-in. connection (do not reduce).

C. Fans:
1. Indoor Blower:
a. Fan shall be directly driven with 2 speeds or belt driven as shown on the equipment drawings. Belt drive shall include an adjustable-pitch motor pulley.
b. Fan wheel shall be double-inlet type with forward-curved blades.
c. Bearings shall be sealed, permanently lubricated, ball-bearing type for longer life and lower maintenance.
2. Indoor blower shall be made from steel with a corrosion-resistant finish and shall be dynamically balanced.
3. Outdoor fan shall be of the direct-driven propeller type and shall discharge air vertically upward.
4. Outdoor fan shall have aluminum blades riveted to corrosion resistant steel spiders and shall be dynamically balanced.

D. Compressor:
1. Fully hermetic type, internally protected.
2. Factory rubber shock mounted and internally spring mounted for vibration isolation.
3. Equipped with a factory-installed crankcase heater to minimize liquid refrigerant accumulation in compressor during shutdown and prevent refrigerant dilution of oil.

E. Coils:
1. Indoor and outdoor coils shall have aluminum plate fins mechanically bonded to seamless copper tubes with all joints brazed and be fully degreased at the factory.
2. Tube sheet openings shall be belled to prevent tube wear.
3. Indoor coil shall be of the full face active design.
4. Variable refrigerant circuited for optimum heat transfer utilizing ball type check valves.

F. Refrigerant Components:
Refrigerant circuit shall include:
1. Acutrol™ feed system.
2. Filter drier.
3. Reversing valve.
4. Accumulator.

G. Filter Section:
1. Standard filter section shall consist of factory-installed low velocity, disposable 2-in. thick glass fiber filters of commercially available sizes.
2. Filter face velocity shall not exceed 320 fpm at nominal airflows.
3. Filter section should use only one size filter.

Guide specifications — 50QJ004-006 (cont)

H. Controls and Safeties:
1. Unit Controls.
a. Unit shall be complete with self-contained low-voltage control circuit, protected by a manually resettable circuit breaker.
b. Unit shall incorporate an outdoor coil defrost system to prevent excessive frost accumulation during heating duty, and shall be controlled as follows:
1) Defrost shall be initiated on the basis of time and coil temperature.
2) A 30/50/90 minute timer shall activate defrost cycle only if coil temperature is low enough to indicate a heavy frost condition.
3) Defrost cycle shall terminate when defrost thermistor is satisfied and shall have a positive termination time of 10 minutes.
2. Standard Safeties.
Unit shall incorporate a solid-state compressor protector which provides reset capability at the space thermostat, should any of the following safety devices trip and shut off compressor:
a. Compressor overtemperature.
b. High-pressure switch.
c. Loss-of-charge/low-pressure switch.
d. Freezestat, evaporator coil.

I. Operating Characteristics:
1. Unit shall be capable of starting and operating at 115 F outdoor ambient temperature per maximum load criteria of ARI Standard 210/240 at ± 10% voltage.
2. Compressor with standard controls shall be capable of operation down to 25 F ambient outdoor temperature in cooling duty.
3. Compressor shall be capable of operation in heating duty down to −20 F ambient outdoor-air temperature.
4. Unit shall be capable of simultaneous heating duty and defrost cycle operation when using electric heaters indicated in Section L, Special Features.

J. Electrical Requirements:
All unit power wiring shall enter unit cabinet at a single factory predrilled location.

K. Motors:
1. Compressor motor shall be cooled by suction gas passing through motor windings, and shall have internal thermal overload protection.
2. Indoor blower motor shall have permanently lubricated bearings and inherent automatic reset thermal overload protection.
3. Outdoor totally enclosed motor shall have permanently lubricated bearings, and inherent automatic reset thermal overload protection.

L. Special Features
Certain features are not applicable when the features designated by * are specified. For assistance in amending the specifications, contact your local Carrier Sales Office.
* 1. Roof Curb
a. Formed galvanized steel with wood nailer strip and capable of supporting entire unit weight.
b. Allows for installing and securing ductwork to curb prior to mounting unit on the curb.
* 2. Integrated Economizer
a. Integrated type capable of simultaneous economizer and compressor operation.
b. Includes all hardware and controls to provide cooling with outside air.
c. Equipped with low-leakage dampers not to exceed 3% leakage at one-inch wg pressure differential.
d. Capable of introducing up to 100% outside air.
e. Equipped with a gravity relief damper.
f. Capable of going to fully-closed position in defrost mode.
* 3. Manual Damper.
Manual damper package shall consist of a damper, [illegible] and rain hood which can be preset to admit up to 50% outdoor air for year round ventilation.
* 4. Two Position Damper
a. Two position damper package shall include single-blade damper and motor. Admits up to 100% outdoor air.
b. Damper shall close upon unit shutoff.
* 5. Electric Resistance Heaters
a. Open wire nichrome elements with all necessary safety and operating controls.
b. UL and CSA listed and indicated on basic unit nameplate.
c. Each heater assembly shall include the following safety features:
1) Automatic reset switches.
2) Heat limiters for primary and secondary overcurrent and thermal protection.
3) Branch circuit protection.
d. Unit shall have a single power wiring [illegible] location for heating section.
* 6. Solid State Enthalpy Control
a. For use with economizer package only.
b. Capable of sensing outdoor-air [illegible] temperature and humidity and [illegible] economizer at a point to have [illegible] content air passing over the evaporator [illegible] most efficient system operation.

7. Differential Enthalpy Sensor:
   a. For use with economizer only.
   b. Capable of comparing heat content (temperature and humidity) of outdoor air and indoor air and controlling economizer cut-in point at the most economical level.
8. Compressor Cycle Delay:
   Compressor shall be prevented from restarting for a minimum of 5 minutes after shutdown.
* 9. Remote Control Panel:
   Panel shall be a decorative, indoor wall-mounted panel consisting of:
   a. Two-stage heat/2-stage cool thermostat.
   b. Automatic changeover.
   c. System switch with HEAT-COOL-AUTO.-OFF settings.
   d. Fan switch with ON-AUTO. settings.
   e. Ventilation control for remote variation of the amount of outdoor-air intake.
   f. Indicator lights for HEAT-COOL-FAN operation.
   g. Three unused indicator lights for field use.
* 10. Thermostat and Subbase:
   Provides staged cooling and heating automatic (or manual) changeover, fan control and indicator light.
* 11. Outdoor-Air Thermostat:
   a. For use with economizer package only.
   b. Capable of sensing outdoor air temperature to control economizer cut-in point at most economical level.
* 12. Emergency Heat Package:
   When mechanical heating is locked out, auxiliary heat shall be activated when necessary.
13. Thru-the-Curb Service Connections:
   Allow control and electrical connections to be brought to the unit through the roof curb.
* 14. Electronic Programmable Thermostat:
   Capable of using deluxe full-features electronic thermostat.
15. Head Pressure Control Package:
   Consists of solid-state control and condenser-coil temperature sensor to maintain condensing temperature between 90 F and 110 F at outdoor ambient temperatures down to −20 F by either condenser-fan speed modulation or condenser-fan cycling.
16. Hail Guard:
   Hail guard shall protect against damage from hail and flying debris.

Guide specifications — 50QJ008 and 012

Packaged Rooftop Air-to-Air Heat Pump Constant Volume Application

HVAC Guide Specifications — Section 15786
Size Range: 7½ and 10 Tons, Nominal
Carrier Model Number: 50QJ

Part 1 — General

1.01 SYSTEM DESCRIPTION
   A. Outdoor rooftop mounted, electrically controlled air-to-air heat pump utilizing a reciprocating compressor for heating and cooling duty. Unit shall discharge supply air downward or horizontally as shown on contract drawings.

1.02 QUALITY ASSURANCE
   A. Unit shall be rated in accordance with ARI Standards 210/240 and 270. Designed in accordance with UL Standard 559.
   B. Unit shall be designed to conform to ANSI/ASHRAE 15-1978.
   C. Unit shall be UL listed and CSA certified as a total package for safety requirements.
   D. Roof curb shall be designed to conform to NRCA Standards.
   E. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
   F. Unit casing shall be capable of withstanding Federal test method Standard No. 141 (Method 6061) 500 hour salt spray test.

1.03 DELIVERY, STORAGE AND HANDLING
   A. Unit shall be stored and handled per manufacturer's recommendations.

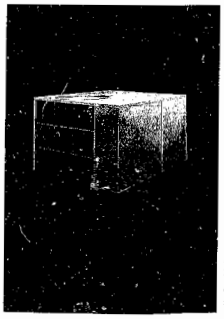
Part 2 — Products

2.01 EQUIPMENT (STANDARD)
   A. General:
      Factory-assembled single-piece heating and cooling unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-22) and special features required prior to field start-up.
   B. Unit Cabinet:
      1. Unit cabinet shall be constructed of galvanized steel, bonderized and pre-coated with a baked enamel finish on all externally exposed surfaces.
      2. Indoor blower compartment interior cabinet surfaces shall be insulated with a minimum ½-in. thick, flexible glass fiber insulation, coated on the air side. Aluminum foil faced glass fiber insulation shall be used in the furnace compartment.
      3. Cabinet panels shall be easily removable for servicing.
      4. Filters will be accessible through a hinged access door and will require no panel or screw removal.
      5. Holes shall be provided in the base rails for rigging shackles to facilitate overhead rigging and maneuvering.
      6. Unit shall have a factory-installed internally trapped condensate drain made of a non corrosive material, providing a ¾-in. connection (do not reduce).
   C. Fans:
      1. Indoor Blower (Evaporator Fan):
         a. Fan shall be belt driven as shown on the equipment drawings. Belt drive shall include an adjustable-pitch motor pulley.
         b. Fan wheel shall be made from steel, be double-inlet type with forward curved blades with a corrosion-resistant finish and shall be dynamically balanced.
         c. Bearings shall be sealed, permanently lubricated, ball-bearing type for longer life and lower maintenance.
      2. Outdoor (condenser) fan shall be of the direct-driven propeller type with aluminum blades, riveted to corrosion resistant steel spiders, dynamically balanced, and discharge air vertically upwards.
   D. Compressors:
      1. Fully hermetic type with internal and external vibration isolation and internally protected.
      2. Equipped with factory-installed crankcase heater to prevent refrigerant dilution of oil.
      3. On independent circuits.
   E. Coils:
      1. Evaporator and condenser coils shall have aluminum plate fins mechanically bonded to seamless copper tubes with all joints brazed and be fully degreased at the factory.
      2. Tube sheet openings shall be belled to prevent tube wear.
      3. Indoor coil shall be of the face split design.
      4. Variable refrigerant circuited for optimum heat transfer utilizing ball-type check valves.
   F. Refrigerant Components:
      Refrigerant circuit shall include:
      1. Acutrol™ feed system.
      2. Filter drier.
      3. Reversing valve.
      4. Accumulator.
   G. Filter Section:
      1. Standard filter section shall consist of factory-installed low-velocity, disposable 2-in. thick glass fiber filters of commercially available sizes.
      2. Filter face velocity shall not exceed 320 fpm at nominal airflows.
   H. Controls and Safeties:
      1. Unit Controls:
         a. Unit shall be complete with self-contained low voltage control circuit protected by a manually resettable circuit breaker.
         b. Unit shall incorporate an outdoor coil defrost system to prevent excessive frost accumulation during heating duty, and shall be controlled as follows:
            1) Defrost shall be initiated on the basis of time and coil temperature.
            2) A 30/50/90-minute timer shall activate defrost cycle only if coil temperature is low enough to indicate a heavy frost condition.
            3) Defrost cycle shall terminate when defrost thermistors are satisfied and shall have a positive termination time of 10 minutes.
      2. Standard Safeties:
         Unit shall incorporate a solid-state compressor protector which provides reset capability at the space thermostat, should any of the following safety devices trip and shut off compressor.
         a. Compressor overtemperature.
         b. High-pressure switch.
         c. Loss-of-charge/low pressure switch.
         d. Freezestat, evaporator coil.
   I. Operating Characteristics:
      1. Unit shall be capable of starting and operating at 115 F outdoor ambient temperature per maximum load criteria of ARI Standard 210/240 at ± 10% voltage.
      2. Compressor with standard controls shall be capable of operation down to 25 F ambient outdoor temperature in cooling duty.
      3. Compressor shall be capable of operation in heating duty down to −20 F ambient outdoor-air temperature.
      4. Unit shall be capable of simultaneous heating duty and defrost cycle operation when using electric heaters indicated in Section L, Special Features.
   J. Electrical Requirements:
      All unit power wiring shall enter unit cabinet at a single factory-predrilled location.
   K. Motors:
      1. Compressor motor shall be of the refrigerant-cooled type with line break thermal overload protection.
      2. Indoor blower motor shall have permanently lubricated bearings and inherent automatic reset thermal overload protection.
      3. Outdoor totally enclosed motor shall have permanently lubricated bearings, and inherent automatic reset thermal overload protection.
   L. Special Features:
      Certain features are not applicable when the features designated by * are specified. For assistance in amending the specifications, contact your local Carrier Sales Office.
      1. Roof Curb:
         a. Formed galvanized steel with wood nailer strip and capable of supporting entire unit weight.
         b. Allows for installing and securing ductwork to curb prior to mounting unit on the curb.
* 2. Integrated Economizer:
   a. Integrated type capable of simultaneous economizer and compressor operation.
   b. Includes all hardware and controls to provide cooling with outside air.
   c. Equipped with low leakage dampers not to exceed 3% leakage, at one-in. wg pressure differential.
   d. Capable of introducing up to 100% outside air.
   e. Equipped with a gravity relief damper.
   f. Capable of going to fully-closed position in the defrost mode.
* 3. Manual Damper:
   Manual damper package shall consist of a damper, birdscreen and rain hood which can be preset to admit up to 50% outdoor air for year round ventilation.
* 4. Two-Position Damper:
   a. Two-position damper package shall include single-blade damper and motor. Admits up to 100% outdoor air.
   b. Damper shall close upon unit shutoff.
* 5. Electric Resistance Heaters:
   a. Open wire nichrome elements with all necessary safety and operating controls.
   b. UL and CSA listed and indicated on basic unit informative plate.
   c. Each heater assembly shall include the following safety features:
      1) Automatic reset switches.
      2) Heat limiters for primary and secondary overcurrent and thermal protection.
      3) Branch circuit protection.
   d. Unit shall have a single power wiring entry location for heating section.
* 6. Solid State Enthalpy Control:
   a. For use with economizer package only.
   b. Capable of sensing outdoor-air heat content (temperature and humidity) and controlling economizer cut-in point to the most economical level.
7. Differential Enthalpy Sensor:
   a. For use with economizer only.
   b. Capable of comparing heat content (temperature and humidity) of outdoor air and return air and controlling economizer cut-in point at the most economical level.
8. Compressor Cycle Delay:
   Compressor shall be prevented from restarting for a minimum of 5 minutes after shutdown.

* 9. Remote Control:
   Panel shall be a decorative, indoor, wall-mounted panel consisting of:
   a. Two-stage heat/2-stage cool thermostat with automatic changeover.
   b. System switch with HEAT-COOL-AUTO-OFF settings.
   c. Fan switch with ON-AUTO settings.
   d. Indicator lights for HEAT-COOL-FAN operation.
   e. Three unused indicator lights for field use.
10. Emergency Heat Package:
   When mechanical heating is locked out, auxiliary heat shall be activated when necessary.
11. Thru-the-Curb Service Connections:
   Allow gas and electrical connections to be brought to the unit through the roof curb.
* 12. Electronic Programmable Thermostat:
   Capable of using deluxe full-featured electronic thermostat.
13. Outdoor Coil (Hail) Guards:
   Expanded metal grille complete with support retainers and fasteners shall be provided for the protection of the condensing coil.
* 14. Thermostat and Subbase:
   Provides staged cooling and heating automatic (or manual) changeover, fan control and indicator light.
* 15. Outdoor-Air Thermostat:
   a. For use with economizer package only.
   b. Capable of sensing outdoor air temperature to control economizer cut-in point at most economical level.
* 16. Head Pressure Control Package:
   a. Consists of solid state control and condenser coil temperature sensor for head pressure control.
   b. Capable of controlling outdoor-fan motor cycling to maintain condensing temperature between 90 F and 110 F at outdoor ambient temperatures down to −20 F.

Product Data

50NQ
Single-Package Heat Pumps



Features/Benefits

- Convertible duct configuration, designed to accepts return air from either an end or dense discharge and which does not require an accessory plenum.
- Available in a variety of heating/cooling sizes with energy options to meet most residential and commercial requirements. This would enable only one or two units on a general level pad.
- High efficiency design with minimum SEER of up to 10.0 for single phase models and 9.6 EER.
- Factory-installed package is a compact, fully self-contained, combination cooling/heating unit that is pre-wired, pre-piped, and pre-charged for minimum installation expense.
- Rugged, efficient compressors are designed for high energy efficiency. Each compressor is hermetically sealed against contamination to help maximize longer life and dependable operation. Isolation bushing to provide quiet operation. All compressors are hermetically protected and automatic protection.
- Blower-free condensed, PSC blower motor in all models.
- Modulating, PSC condenser fan motors are designed to help reduce energy consumption and provide for cooling operation down to 55 F outdoor temperature.
- Convenience features are standard on all units. Easier-to-read thermometrically calibrated sealed 24hr/7day wall thermostat.

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UNITED TECHNOLOGIES CARRIER

- Bridgeport system is designed with accessories to provide optimum performance and efficiency. Bridgeport system is pre-tested for proper cooling and heating operation. Each unit is shipped fully factory-wired with refrigerant charge. Bridgeport system accessories are designed for easy installation and pre-wiring.
- Unit design — Indoor and outdoor coils are compact, designed for optimum heat transfer and cooling efficiency. Construction and fabrication of copper tube and aluminum fin and is protected by a factory-installed coil guard. Vertical outflow for the large carrier sound and warm air and easy. Blade clearance is a long, durable, and flexible.
- Cleanstrip Dented System uses large and compressor and fan to ensure the quality low-velocity. A removable cleanstrip is located on the defined board to prevent speed and easy Economic cleanstrip.
- Wooden test cabinets are constructed of heavy duty galvanized steel, 16 gauge, and are finished with corrosion resistant, polyester or urethane coating. Interior surfaces of the compressor, heat exchanger components are insulated to help keep the conditioned air prevent being affected by the outdoor ambient temperature.

ACCESSORIES

- Supplemental Electric Heaters for power outage, the best plenum heater configurations are available as a variety of KW and voltage options.
- Additional Accessories are available to meet the particular requirements of a variety of applications, such as, the economizer, roof curb, damper, filter rack, DP low ambient kit, high pressure kit, and Item Guard.

Model number nomenclature

50NQ E18 3 G 1

Product line group

General Cooling Capacities
018 — 18,000 Btu
024 — 24,000 Btu (2.0 ton)
030 — 30,000 Btu (2.5 ton)
036 — 36,000 Btu (3.0 ton)

Voltage
2 — 208/230/1
3 — 208/230/3
5 — 460/3

Series

Packaging

Rooftop System Accessories

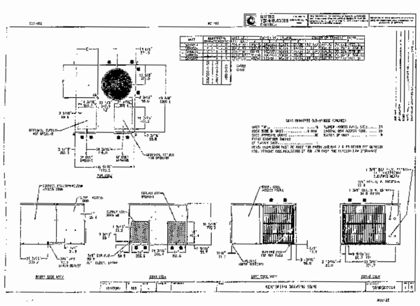
SYSTEM ACCESSORY APPLICATIONS

Item	018	024	030	036	042	048	060
Item Guard (Dry Contact)	50NQ-900-01					50NQ-900-01	
Item Guard (Dry Contact)	50NQ-900-02					50NQ-900-02	
Item Guard (Dry Contact)	50NQ-900-03					50NQ-900-03	
50NQ Low Ambient Kit	50NQ-900-04					50NQ-900-04	
Wood Roof Curb Dense Mounting Supplied	50NQ-900-05					50NQ-900-05	
Reference Technical Brochure	50NQ-900-06					50NQ-900-06	
Horizontal Discharge Damper	50NQ-900-07					50NQ-900-07	
High Density Filter Rack (Filters Not Supplied)	50NQ-900-08					50NQ-900-08	
High Density Filter Rack (Filters Not Supplied)	50NQ-900-09					50NQ-900-09	
Gravity Exhaust Damper (Only)	—	50NQ-900-10		50NQ-900-10			
(Yes)	48VLR01-001						
(Yes)							48VLR01-002
Flexible Duct Connectors	—	48NQ-900-03				48VLR01-003	—
(Yes)	48VLR01-003						
(Yes)							48VLR01-003
Split Duct Downflow Converted to Offset Plenum Kit	50NQ-900-07					50NQ-900-07	
Two Position Damper—Economizer	50NQ-900-08					50NQ-900-08	
Two Position Damper—Economizer (Not Factory Shipped)	50NQ-900-09					50NQ-900-09	
Two Position Damper—Economizer	50NQ-900-10					50NQ-900-10	
Backward Curved Motorized Damper (Only)	50NQ-900-11					50NQ-900-11	
Flexible Duct Kit (Only Outside Air Kit)	50NQ-900-12						

*Dense mounting of small and large cabinet.
(R) Includes both damper and motor assembly.
Flexible duct kit is shown on the back cover of this.

THERMOSTAT AND SENSOR GUIDE

APPLICATION	THERMOSTAT P/N	SENSOR P/N
Heating/Cooling Single Stage Cooling Natural Ventilation	50QN-900-01	50QN-900-01
Heating/Cooling Single Stage Cooling 2-Stage Heating Auto Changeover	50QN-900-02	50QN-900-02



Dimensional Drawing—Small Cabinet Sizes 018 thru 042

Dimensions—Small Cabinet Unit

Specifications

SIZES 50NQ018301 THRU 50NQ036511

Model & Size	018301	024301	030311	036311	036511	036611
Series	1	0	[illegible]			
RATINGS & PERFORMANCE						
Cooling Rated Net Capacity (Btuh)*	18,000	24,000	29,000	35,000		
Rated Airflow (cfm)*	675	900	1100	1330		
Power Factor	[illegible]					
SEER*/SEER with TDR†	10/9.7	9.4/9.7	[illegible]	10	10.0	—
EER*	—		9.2	8.5		
ARI Sound Rating‡	7.6		7.8	8.0		
Heating Capacity at 47 F*	18,000	24,600	30,000	35,000		
Capacity at 17 F*	10,500	12,500	16,000	18,800		
COP at 47 F	—		2.84			
COP at 17 F	—		1.50			
HSPF*	[illegible]			[illegible]		
ELECTRICAL DATA						
Unit Volts—Phase (60-Hz)	208/230—1				208/230—3	460—3
Operating Voltage Range	187—253					414—508
Unit Full Load Amps	14.4	16.7	19.7	[illegible]	17.0	8.1
Minimum Ampacity for Wire Sizing**	17.6	20.0	22.5	29.3	20.8	5.5
Minimum Wire Size (75 C Copper)**	12		10		12	14
Maximum Wire Length (Ft)**	55	85	120	85	100	287
Maximum Fuse Size (Amps)/HACR Circuit Breaker	25	30	35	40	30	15
Control Transformer—24-V (VA)	60					
External Control Power Available Heating/Cooling (VA)	20					
COMPRESSOR, REFRIGERANT & CONTROLS						
Compressor Type	Hermetic					
RPM	3450					
Rated Load Amps	11.7	13.3	15.3	19.0	12.8	5.7
Locked Rotor Amps	40.6	61.0	66.0	[illegible]	68	35
Temperature & Overcurrent Protection	Internal Inherent					
Low-Ambient Operation (F)	55 F					
Refrigerant Charge (R22)	6 lb—11 oz	5 lb—6 oz	6 lb—10 oz	[illegible]		
INDOOR COIL						
Rows & Fins per In.	[illegible]					
Height & Width (In.)	16 x 20	24 x 20	28 x 20			
Face Area (Sq Ft)	2.5	3.3	4.0			
Refrigerant Metering Device (Piston) ID/OD	53/42	60/55	67/59	70/93		
INDOOR BLOWER & MOTOR						
Wheel Diameter & Width (In.)	10 x 8			10 x 10		
Required Filter Area (Sq In.)†† Disposable-Type	200	264	320	024		
Cleanable- or High-Capacity-Type	192	256	352	416		
Motor HP & Speeds (No.)	1/4—3	1/3—3		[illegible]		
Nominal Speed (RPM)	850	1100				
Type & Service Factor	Direct Drive, PSC—1.0					
Full Load Amps	1.8	2.10		0.70		1.60
OUTDOOR COIL						
Rows & Fins per In.	[illegible]		1.6—20	2—20		
Face Area (Sq Ft)	12.1					
OUTDOOR FAN & MOTOR						
Fan Diameter (In.)—Pitch (Degrees)	22—24					
Motor HP (CD,PSC) & Speeds (No.)	1/5—1			1/4—1		
Nominal Speed (RPM)	825			1393		
Full Load Amps	0.8			1.3		0.8

See Notes on page 6.

ELECTRIC HEATER DATA AND USAGE

Heater Model	Volts-Ph	KW		Unit Fixed Heat		Heater Amps		MCA		MOCP		Fuses	Breaker	Field Wire Size		Ground Wire Size		Used with Size Unit
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MCA—Minimum Circuit Ampacity (complies with Section 430-24 of NEC)
MOCP—Maximum Circuit Overcurrent Protection (Fuses or Circuit Breaker)
* VA draw per stage is 6.2
† Wire size based on 75°C copper conductor
‡ Indicates heaters without CSA approval
** Heaters shipped with fuses.
NOTE: Power supply electrical characteristics for unit and heater must be identical.

ELECTRIC HEAT ACCESSORY PRESSURE DROP (IN. WC)

Heater KW	CFM 600	800	1000	1200	1400	1600	1800	2000	2200
Min. Size	.020	.030	.040	.045	[illegible]	.055	.060	.070	[illegible]
Max. Size	.040	.045	.050	.055	[illegible]	.070	.080	.090	[illegible]

MINIMUM AIRFLOW FOR SAFE ELECTRIC HEATER OPERATION

Size	018	024	030	036	042	048	060
Airflow (cfm)	600	800	1000	[illegible]	[illegible]	1500	[illegible]

Performance data

MODELS 50NQ AIR DELIVERY (CFM) AT 208 VOLT HORIZONTAL FLOW SET-UP AT INDICATED EXTERNAL STATIC PRESSURE & VOLTAGE (SIZES 018, 024, 030, 036, 042, 048, 060)

UNIT SIZE	VOLTS/ PHASE/ HERTZ	MOTOR SPEED		EXTERNAL STATIC PRESSURE — INS. WATER COLUMN 0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
018	208/1/60	MED	CFM	651	636	621	[illegible]	569	443	393	0	0	0	0
			WATTS	228	220	212	150	[illegible]	153	132	0	0	0	0
		HIGH	CFM	792	762	771	724	658	531	355	0	—	0	—
			WATTS	282	256	243	220	206	181	153	0	—	0	—
024	208/1/60	MED	CFM	1052	1023	993	966	916	874	829	712	580	467	337
			WATTS	416	406	403	395	387	378	395	337	[illegible]	264	265
		HIGH	CFM	1371	1320	1298	1213	1156	1081	1034	933	816	597	381
			WATTS	534	516	502	485	467	451	434	410	385	347	302
030	208/1/60	MED	CFM	1090	1054	1018	960	941	894	846	757	668	500	349
			WATTS	446	441	405	394	366	376	395	342	318	289	260
		HIGH	CFM	1354	1324	1284	1247	1210	1153	1095	1025	961	745	591
			WATTS	552	542	531	519	507	488	476	451	432	402	331
036	208/1/60	MED	CFM	1251	1280	1203	1188	1150	1110	1030	953	816	723	530
			WATTS	607	585	569	542	545	498	401	442	416	391	369
		HIGH	CFM	1705	1667	1635	1650	1514	1461	1307	1110	984	832	722
			WATTS	760	765	761	736	711	649	586	546	505	483	460
042	208/1/60	MED	CFM	1251	1250	1208	1169	1120	1110	1030	933	816	725	630
			WATTS	637	592	606	542	515	498	461	445	418	394	362
		HIGH	CFM	1709	1697	1688	1650	1614	1481	1307	1115	924	850	735
			WATTS	768	766	761	726	711	649	586	546	506	463	465
048	208/1/60	MED	CFM	1865	1862	1844	1794	1744	1674	1604	1488	1372	1114	855
			WATTS	763	774	772	773	694	681	626	581	503	462	404
		HIGH	CFM	2213	2107	2110	2022	1934	1844	1753	1671	1509	1215	821
			WATTS	844	834	831	802	780	749	750	655	625	553	465
060	208/1/60	MED	CFM	2126	2115	2109	2067	2035	2033	1984	1887	1812	1704	1604
			WATTS	1235	1205	1176	1141	1107	1059	1011	961	919	862	815
		HIGH	CFM	2315	2333	2301	2266	2230	2184	2150	2058	1957	1801	1706
			WATTS	1409	1389	1326	1265	1249	1216	1183	1114	1045	986	926

*Air deliveries based on unit dry coil without air filter or optional electric heaters. Deduct field supplied air filter and electric heater pressure drop to obtain external static pressure available for ducting. Dashes indicate portions of the table below 350 cfm per each 12,000 Btuh of rated cooling capacity. Indoor coil icing may occur at these static pressures and resulting cfm's.

MODELS 50NQ AIR DELIVERY (CFM) AT 230 VOLT HORIZONTAL FLOW SET-UP AT INDICATED EXTERNAL STATIC PRESSURE & VOLTAGE (SIZES 018, 024, 030, 036, 042, 048, 060)

UNIT SIZE	VOLTS/ PHASE/ HERTZ	MOTOR SPEED		EXTERNAL STATIC PRESSURE — INS. WATER COLUMN 0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
018	230/1/60	MED	CFM	1241	1120	1009	937	870	651	425	0	0	0	0
			WATTS	350	344	319	295	270	229	208	0	0	0	0
		HIGH	CFM	1339	1243	1147	1020	909	672	434	0	—	0	—
			WATTS	301	270	348	326	303	276	240	0	—	0	—
024	230/1/60	MED	CFM	1259	1222	1184	1151	1118	1053	900	701	353	547	240
			WATTS	505	497	486	476	465	445	422	408	392	347	302
		HIGH	CFM	1545	1469	1414	1301	1194	1115	1036	932	828	623	418
			WATTS	612	593	[illegible]	540	518	487	470	451	425	384	343
030	230/1/60	MED	CFM	1263	1245	1201	1181	1120	1007	1014	956	857	682	347
			WATTS	511	502	493	481	469	458	437	416	392	311	290
		HIGH	CFM	1577	1514	1451	1365	1216	1224	1120	1074	977	727	478
			WATTS	685	610	599	578	557	539	516	493	465	412	359
036	230/1/60	MED	CFM	1540	1512	1484	1449	1412	1200	1166	1037	900	794	677
			WATTS	678	664	650	623	595	550	622	491	480	437	413
		HIGH	CFM	2091	2031	1971	1870	1701	1612	1412	1226	1000	800	700
			WATTS	898	864	830	790	762	766	652	606	559	537	515
042	230/1/60	MED	CFM	1540	1512	1484	1448	1412	1206	1103	1032	650	751	577
			WATTS	678	604	650	625	605	560	522	491	466	437	410
		HIGH	CFM	2091	2031	1971	1876	1701	1612	1442	1226	1005	800	700
			WATTS	898	864	830	793	755	709	664	606	550	537	515
048	230/1/60	MED	CFM	2133	2033	1933	1943	1907	1803	1705	1585	1402	1170	870
			WATTS	903	877	871	912	753	716	676	653	670	606	453
		HIGH	CFM	2352	2291	2230	2130	1896	1881	1781	1659	1557	1249	941
			WATTS	916	899	877	856	854	653	785	729	698	521	549
060	230/1/60	MED	CFM	2451	2423	2364	2346	2297	2231	2160	2049	1932	1591	1663
			WATTS	1416	1354	1366	1306	1322	1174	1120	1092	938	933	903
		HIGH	CFM	2647	2558	2519	2456	[illegible]	2366	2283	2170	2097	1917	1700
			WATTS	1574	1524	1470	1424	1377	1325	1293	1216	1181	1065	1015

*Air deliveries based on unit dry coil without air filter or optional electric heaters. Deduct field supplied air filter and electric heater pressure drop to obtain external static pressure available for ducting. Dashes indicate portions of the table below 350 cfm per each 12,000 Btuh of rated cooling capacity. Indoor coil icing may occur at these static pressures and resulting cfm's.

WET COIL PRESSURE DROP AT RATED AIRFLOW

Unit Size	Wet Coil P.D. (in. Wc.)
018	.054
024	.057
030	.060
036	.070
042	.075
048	.085
060	.100

MODELS 50NQ AIR DELIVERY (CFM) AT 208 VOLT DOWN FLOW SET-UP AT INDICATED EXTERNAL STATIC PRESSURE & VOLTAGE (SIZES 018, 024, 030, 036, 042, 048, 060)

UNIT SIZE	VOLTS/ PHASE/ HERTZ	MOTOR SPEED		EXTERNAL STATIC PRESSURE — INS. WATER COLUMN 0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
018	208/1/60	MED	CFM	659	643	627	607	584	448	511	0	0	0	0
			WATTS	235	224	212	200	165	148	134	0	0	0	0
		HIGH	CFM	805	791	770	741	705	535	355	0	—	0	—
			WATTS	269	261	255	223	212	185	157	0	—	0	—
024	208/1/60	MED	CFM	1057	1035	994	962	930	930	890	751	685	571	375
			WATTS	420	412	403	393	383	363	352	329	300	276	252
		HIGH	CFM	1325	1267	1249	1169	1140	1088	1026	929	834	645	437
			WATTS	542	526	509	431	412	451	430	405	380	346	336
030	208/1/60	MED	CFM	1082	1045	1009	983	957	915	876	802	731	579	427
			WATTS	419	412	404	397	389	377	365	343	324	291	260
		HIGH	CFM	1340	1310	1280	1235	1189	1133	1071	934	697	719	541
			WATTS	649	636	524	605	486	465	442	419	394	359	351
036	208/1/60	MED	CFM	1181	1179	1161	1151	1138	1102	1006	899	713	600	645
			WATTS	534	525	523	512	503	486	463	428	393	362	341
		HIGH	CFM	1610	1640	1639	1627	1516	1461	1386	1159	924	700	611
			WATTS	736	745	724	700	675	648	611	545	475	451	432
042	208/1/60	MED	CFM	1131	1173	1164	1151	1130	1109	1353	900	710	606	505
			WATTS	534	520	523	513	533	466	459	480	385	362	341
		HIGH	CFM	1640	1610	1639	1627	1615	1604	1380	1155	924	706	611
			WATTS	785	745	724	700	675	649	611	545	470	451	428
048	208/1/60	MED	CFM	1838	1817	1795	1778	1783	1697	1682	1517	1400	1163	825
			WATTS	872	810	850	834	743	712	675	619	563	466	410
		HIGH	CFM	2245	2186	2140	2072	2007	1903	1808	1335	1561	1288	1010
			WATTS	941	881	920	870	827	785	745	692	546	566	461
060	208/1/60	MED	CFM	2065	2083	2031	2057	2018	1394	1509	1836	1759	1666	1665
			WATTS	1215	1189	1162	1105	1046	1314	1092	923	979	874	766
		HIGH	CFM	2343	2311	2259	2215	2164	2093	2018	1928	1837	1736	1655
			WATTS	1382	1321	1280	1204	1147	1080	1051	1005	880	805	859

*Air deliveries based on unit dry coil without air filter or optional electric heaters. Deduct field supplied air filter and electric heater pressure drop to obtain external static pressure available for ducting. Dashes indicate portions of the table below 350 cfm per each 12,000 Btuh of rated cooling capacity. Indoor coil icing may occur at these static pressures and resulting cfm's.

MODELS 50NQ AIR DELIVERY (CFM) AT 230 VOLT DOWN FLOW SET-UP AT INDICATED EXTERNAL STATIC PRESSURE & VOLTAGE (SIZES 018, 024, 030, 036, 042, 048, 060)

UNIT SIZE	VOLTS/ PHASE/ HERTZ	MOTOR SPEED		EXTERNAL STATIC PRESSURE — INS. WATER COLUMN 0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
018	230/1/60	MED	CFM	1186	1155	1121	1033	884	856	426	0	0	0	0
			WATTS	374	348	322	300	278	245	[illegible]	0	0	0	0
		HIGH	CFM	1346	1262	1156	1025	914	677	439	0	—	0	—
			WATTS	410	385	356	358	[illegible]	280	[illegible]	0	—	0	—
024	230/1/60	MED	CFM	1244	[illegible]	[illegible]	1126	1235	1137	954	679	762	620	491
			WATTS	505	491	476	489	[illegible]	439	423	393	355	373	290
		HIGH	CFM	1530	1457	1404	1550	1273	1197	1122	1073	902	765	336
			WATTS	585	558	482	529	[illegible]	511	488	450	431	380	245
030	230/1/60	MED	CFM	1256	1227	1182	1137	1156	1067	1008	934	800	872	482
			WATTS	514	500	486	472	458	439	422	397	374	334	294
		HIGH	CFM	1570	1518	1456	1393	1334	1254	1177	1077	977	754	590
			WATTS	533	515	502	570	545	524	499	472	445	404	362
036	230/1/60	MED	CFM	1449	1443	1431	1400	1359	1307	1245	1021	757	651	584
			WATTS	655	544	633	616	598	570	542	451	425	404	383
		HIGH	CFM	1574	1824	1874	1793	1692	1557	1451	1257	1055	835	617
			WATTS	660	850	819	782	744	[illegible]	675	614	549	514	474
042	230/1/60	MED	CFM	1448	1440	1431	1400	1339	1307	1245	1021	797	651	584
			WATTS	656	644	653	616	590	570	542	484	425	404	382
		HIGH	CFM	1974	1824	1674	1783	1653	1557	1451	1257	1053	835	617
			WATTS	890	850	819	782	744	[illegible]	675	614	553	514	474
048	230/1/60	MED	CFM	2125	2102	2079	2018	[illegible]	1856	1777	1557	1568	1062	838
			WATTS	994	952	911	[illegible]	[illegible]	789	711	668	625	544	462
		HIGH	CFM	2411	2349	2286	2174	[illegible]	1953	1884	1748	1612	1316	1017
			WATTS	1063	1078	938	873	[illegible]	[illegible]	610	760	703	537	[illegible]
060	230/1/60	MED	CFM	2401	2331	[illegible]	[illegible]	[illegible]	2124	2046	1932	1857	1756	1662
			WATTS	1350	1314	[illegible]	[illegible]	[illegible]	1115	1082	1011	980	911	862
		HIGH	CFM	2556	2492	2429	[illegible]	[illegible]	[illegible]	2115	2016	1917	1810	[illegible]
			WATTS	1494	1432	1372	[illegible]	[illegible]	1227	1162	1137	1051	990	[illegible]

*Air deliveries based on unit dry coil without air filter or optional electric heaters. Deduct field supplied air filter and electric heater pressure drop to obtain external static pressure available for ducting. Dashes indicate portions of the table below 350 cfm per each 12,000 Btuh of rated cooling capacity. Indoor coil icing may occur at these static pressures and resulting cfm's.

Performance data (cont'd)

DETAILED NET COOLING CAPACITIES—MODEL 50NQ; SIZES 018, 024, 030 & 036

Indoor Coil Air CFM	EWB	85 Total	85 Sens	85 Total System KW	95 Total	95 Sens	95 Total System KW	105 Total	105 Sens	105 Total System KW	115 Total	115 Sens	115 Total System KW
50NQ018													
600 .077*	72	19.7	9.64	2.15	19.2	9.54	2.26	18.4	9.33	2.39	17.3	8.92	2.52
	67	18.6	12.7	2.07	17.7	12.4	2.19	16.7	12.1	2.31	15.7	11.7	2.43
	62	17.5	15.9	2.02	16.2	15.2	2.13	15.3	14.7	2.24	14.3	14.1	2.36
	57	16.7	16.7	2.00	15.9	15.9	2.12	15.1	15.1	2.22	14.2	14.2	2.35
675 .075*	72	20.2	10.0	2.10	19.4	9.92	2.21	18.5	9.61	2.41	17.4	9.27	2.57
	67	18	13.4	2.12	18.0	13.1	2.22	17.0	12.8	2.37	15.8	12.4	2.49
	62	17.8	16.6	2.08	16.9	16.1	2.18	15.9	15.5	2.31	14.7	14.7	2.40
	57	17.3	17.3	2.07	16.3	16.5	2.18	15.6	15.3	2.31	14.7	14.7	2.43
750 .103*	72	20.5	10.1	2.21	19.5	10.0	2.31	18.6	9.82	2.40	17.5	9.61	2.57
	67	19.1	14.0	2.17	18.2	13.9	2.30	17.1	12.5	2.42	15.0	13.1	2.55
	62	17.8	17.3	2.13	15.5	16.5	2.20	18.0	15.0	2.37	15.1	15.1	2.49
	57	17.6	17.6	2.12	15.0	16.0	2.24	16.0	15.0	2.37	15.1	15.1	2.49
50NQ024													
800 .083*	72	27.6	13.9	2.72	26.1	13.4	2.88	24.5	12.9	3.04	22.8	12.2	3.19
	67	23.1	17.6	2.62	22.6	17.3	2.77	22.1	16.7	2.91	20.8	16.1	3.06
	62	22.5	21.6	2.63	21.6	20.9	2.67	20.5	20.0	2.81	19.0	19.0	2.96
	57	22.4	22.4	2.51	21.3	21.4	2.60	20.2	20.3	2.91	19.0	19.0	2.96
900 .110*	72	28.0	14.5	2.78	26.5	14.0	2.94	24.9	14.5	3.10	23.1	12.9	3.25
	67	25.6	19.9	2.68	24.0	18.3	2.83	22.4	17.7	2.97	20.8	17.1	3.11
	62	23.4	22.8	2.55	22.1	22.0	2.73	20.9	20.9	2.88	19.6	19.6	3.04
	57	23.2	23.2	2.58	22.1	22.1	2.72	20.9	20.5	2.82	19.5	19.6	3.04
1000 .140*	72	28.2	15.1	2.83	26.8	14.8	2.55	23.1	14.1	3.18	23.3	13.5	3.30
	67	25.9	19.3	2.74	24.3	18.2	2.88	22.7	18.7	3.02	21.0	18.3	3.17
	62	23.3	23.9	2.95	22.7	22.7	2.88	21.4	21.4	2.98	20.2	20.2	3.11
	57	23.9	25.0	2.05	22.7	22.7	2.80	21.5	21.5	2.95	20.2	20.2	3.11
50NQ030													
1000 .098*	72	33.6	17.5	3.40	31.8	16.4	3.60	30.0	15.6	3.81	28.1	15.1	4.01
	67	30.4	21.3	3.23	28.7	21.2	3.47	27.0	20.8	3.66	25.3	19.9	3.85
	62	27.9	26.4	3.19	26.3	25.0	3.37	24.9	24.7	3.55	20.5	23.5	3.75
	57	27.3	27.3	3.17	26.6	26.0	3.38	24.8	24.9	3.55	23.8	23.5	3.75
1100 .120*	72	34.0	17.6	3.46	32.1	17.0	3.37	30.2	16.7	3.67	25.4	15.7	4.07
	67	30.6	22.9	3.35	29.0	22.2	3.54	27.3	21.5	3.75	21.6	20.8	3.92
	62	29.2	27.5	3.25	26.6	26.7	3.44	25.1	25.1	3.60	24.1	24.1	3.83
	57	28.0	28.0	3.25	26.7	26.7	3.44	25.4	25.4	3.63	24.1	24.1	3.83
1250 .154*	72	31.4	18.5	3.55	32.5	17.0	3.70	30.6	17.2	3.38	28.7	18.6	4.18
	67	31.2	24.5	3.44	29.4	23.8	3.62	27.7	23.0	3.82	25.9	22.2	4.01
	62	28.0	29.3	3.35	27.6	27.6	3.55	26.2	26.2	3.75	24.8	24.8	3.95
	57	29.0	29.0	3.35	27.0	27.6	3.55	26.3	26.3	3.75	24.9	24.9	3.95
50NQ036													
1200 .101*	72	40.0	20.0	3.96	38.0	19.4	4.17	35.6	18.7	4.42	33.2	17.6	4.67
	67	37.0	26.5	3.93	34.5	25.2	4.06	32.5	24.3	4.29	29.7	23.2	4.49
	62	33.6	31.5	3.72	31.5	30.4	3.86	29.5	29.1	4.15	27.5	27.5	4.30
	57	32.9	32.9	3.70	31.1	31.1	3.99	29.3	29.3	4.12	27.5	27.5	4.30
1350 .121*	72	40.2	21.5	3.56	38.5	19.9	4.22	36.1	19.2	4.48	33.5	18.4	4.73
	67	37.5	27.1	3.85	[illegible]	26.5	4.12	32.5	25.3	4.34	30.6	24.5	4.56
	62	34.1	32.5	3.71	[illegible]	31.5	4.07	30.0	30.0	4.23	[illegible]	28.1	4.40
	57	33.7	33.7	3.72	31.3	31.9	4.00	30.0	30.5	4.25	28.1	28.1	4.46
1500 .151*	72	40.5	[illegible]	4.03	38.7	20.3	4.33	35.5	20.3	[illegible]	33.5	19.5	4.84
	67	37.9	[illegible]	3.99	35.6	29.2	4.28	33.3	27.1	[illegible]	35.4	[illegible]	4.67
	62	35.2	[illegible]	[illegible]	33.1	[illegible]	4.16	31.1	31.1	[illegible]	[illegible]	[illegible]	4.61
	57	36.0	35.6	3.91	33.1	33.1	4.14	31.1	31.1	4.32	29.1	25.1	4.91

NOTES:
1. Total and sensible capacities are net capacities. Blower motor heat has been subtracted.
2. Sensible heat capacities shown are based on 80 F entering air at the indoor coil. For sensible capacities at other than 80 F, deduct 800 Btuh per 1000 Cfm of indoor coil air for each degree below 80 F, or add 800 Btuh per 1000 Cfm of indoor coil air per degree above 80 F.
3. Total system KW includes compressor KW, condenser fan motor KW, and indoor blower motor KW.
*Bypass factor.

Performance data (cont'd)

DETAILED HEATING CAPACITIES—MODEL 50NQ—SIZES 018 AND 024

Indoor Coil Air Temp. (F EDB) · Indoor Coil Airflow (cfm) · Capacities (Instantaneous (MBtuh), Integrated (MBtuh), Total Power Input (KW)) · Outdoor Coil Air Temp (F EDB)

Carrier Corporation • Syracuse, New York 13221 6-90

UNITED TECHNOLOGIES CARRIER

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

Book 1 4 · Tab 5a 5a · Page 20 · Catalog No. 525-051 · Printed in U.S.A. · PC 101 · Form 50NQ-1PD · Replaces: 50NQ-1PD

JULY 27, 1990 · GAS WATER HEATERS · Brand Name A. O. SMITH

MODEL NUMBER	Fuel	Volume (gals)	First Hour Rating (gals)	Dimensions Ht. (inches)	Dimensions Wid. (inches)	Mob Home	Instant	Rated Input (BTUH)	Recovery or Thermal Eff (%)	Standby Loss (%/Hr)	Auxiliary Elec Power (Watts)	Recov	Stby
Type: Small Storage (Continued)													
PGXL-40	G	38.0	60.0 C	48	20	N	N	33500	76.0	4.05			
PGXL 40	L	38.0	60.0 C	48	20	N	N	33500	76.0	4.05			
Type: Large Storage													
BT-080-***	G	72.0	127.8 C	58	26	N	N	75100	76.0	3.10	0	0	
BTC-120-***	G	72.0	178.0 C	64	26	N	N	120000	78.5	2.20	475	240	
BTC-154-***	G	85.0	222.0 C	70	29	N	N	154000	78.0	2.50	475	280	
BTC-179-***	G	82.0	250.3 C	70	29	N	N	178000	80.0	2.50	475	280	
BTC-197-***	G	95.0	212.2 T	76	26	N	N	197000	80.0	2.30	475	280	
BTC-197A-***	G	95.0	212.2 T	76	26	N	N	197000	80.0	2.20	416	280	
BTC-200-***	G	65.0	371.0 C	65	30	N	N	199000	76.0	2.20	450	326	
BTC-240 ***	G	85.0	325.9 C	76	29	N	N	240000	80.0	2.20	476	280	
BTC-240-***	L	95.0	320.5 C	76	29	N	N	235000	80.0	2.50	475	280	
BTC-247A-***	G	85.0	325.0 C	76	28	N	N	240000	80.0	2.20	475	280	
BTC-240A-***	L	95.0	320.5 C	76	28	N	N	255000	80.0	2.00	475	280	
BTC 250 ***	G	95.0	323.2 C	65	30	N	N	250000	76.0	2.90	460	326	
BTC-305-***	G	72.0	375.6 C	73	41	N	N	305000	80.0	2.63	405	395	
BTC-305A-***	G	72.0	375.6 C	73	41	N	N	305000	80.0	2.63	406	395	
BTC-365-***	G	66.0	440.0 C	72	43	N	N	365000	80.0	3.20	405	395	
BTC-365A-***	G	66.0	440.0 C	72	43	N	N	365000	80.0	3.20	406	395	
BTC-500-***	G	66.0	572.0 C	76	44	N	N	500000	78.0	3.20	O	O	
BTC 500-***	L	66.0	551.0 C	76	44	N	N	480000	78.0	3.20	O	O	
BTC-500A-***	G	66.0	572.0 C	76	44	N	N	500000	78.0	3.20	O	O	
BTC-500A-***	L	66.0	551.0 C	76	44	N	N	480000	78.0	3.20	O	O	
BTP-125-140	G	128.0	214.8 C	84	46	N	N	140000	80.0	2.80	216		
BTP-125-199	G	128.0	307.0 C	84	40	N	N	199000	80.0	2.80	216		
BTP-125-210	G	128.0	317.7 C	84	35	N	N	210000	80.0	2.80	216		
BTP-125-270	G	129.0	382.3 C	84	35	N	N	270000	80.0	2.80	216		
BTP-125-400	G	139.0	532.4 C	84	35	N	N	400000	80.0	2.80	216		
BTP-125-540	G	133.0	685.9 C	84	35	N	N	540000	80.0	2.92	216		
BTP 125-720	G	133.0	882.6 C	84	35	N	N	720000	80.0	2.32	216		
BTP-140-***	G	82.0	201.4 C	75	28	N	N	140000	78.0	2.74	180		
BTP-189-***	G	82.0	281.8 C	75	28	N	N	189000	76.0	2.34	180	O	
BTP-200-0300	G	334.0	510.2 C	84	75	N	N	300000	80.0	2.32	216		
BTP-200-0600	G	225.0	826.5 C	84	75	N	N	600000	80.0	2.33	216		
BTP-200-0800	G	220.0	1038.0 C	84	76	N	N	800000	80.0	2.34	216		
BTP-200-1000	G	314.0	1248.6 C	84	75	N	N	1000000	80.0	2.35	216		
BTP-200-1250	G	307.0	1512.4 C	84	75	N	N	1250000	80.0	2.36	365		
BTP-200-1600	G	300.0	1776.2 C	84	75	N	N	1600000	80.0	2.37	365		
BTP 270-***	G	82.0	338.9 C	75	28	N	N	270000	77.5	3.00	180	O	
BTP-270A-***	G	82.0	338.9 C	75	28	N	N	270000	77.5	3.00	180	O	
BTP 370-***	G	71.3	439.2 C	76	28	N	N	370000	78.0	3.50	O	O	
BTP 370A-***	G	71.3	439.3 C	76	28	N	N	370000	78.0	3.50	O	O	
BTP-400-0600	G	431.0	993.7 C	92	85	N	N	600000	80.0	2.20	216		
BTP-400-0800	G	427.0	1206.9 C	92	85	N	N	800000	80.0	2.21	216		
BTP-400-1000	G	422.0	1416.0 C	92	85	N	N	1000000	80.0	2.21	216		
BTP-400-1250	G	414.0	1672.0 C	92	85	N	N	1250000	80.0	2.22	365		

Certificate of Compliance (Part 1 of 3) Prescriptive Requirements CF-1A

SFD BLDG 1 - Tenant improvement

Building Permit Number

For Enforcement Agency Use Only

Field Checked By Date

Field Checked By Date

Approved By Date

Individual Envelope. This part must indicate all to be completed compliance with the Section 150(b) Energy Efficiency Standards, predicated in part necessitiy on the plans and other forms are provided in the Certificate of Compliance. The plans and specifications referred to the Certificate of Compliance. The plans and specifications have been prepared to conform all appropriate energy conservation requirements in compliance with the Standards. Energy saving features and conformance of insulation and certain to the standards are described on the plans.

11/6/01

Preparer SEE ARCH. PLANS Date

Signature

Title

Company

Address

City/State/Zip

Tel. Fax Secure No.

Owner. The owner, construction designer and installer/contractor shall sign the owner's statement below, and return the signature page to the enforcement agency. Owner's signature on the Certificate of Compliance indicates a commitment to comply with the energy conservation requirements of the Standards. In order to comply with the applicable energy standards, the owner shall:

SEE ARCH. PLANS

Signature Date

Company

Address

City/State/Zip

Enforcement Agency. The enforcement agency, and subcontractors, will review the plans and specifications to determine if they are in compliance with the Standards. Note that supplementary information may be required before or at the Certificate of Compliance stage. If any of the following mandatory requirements are not applicable, mark the "Not Applicable" box.

Signature Date

Signature

Name

Date

Jurisdiction

General

1 Is residential or multi-family? SEE ARCH. PLANS

2 CEC Occupancy Type

3 HCD Occupancy Group/Division

4 Conditioned Floor Area ft²

5 Conditioned Floor Area ft²

6 Unconditioned Floor Area ft²

Not Conditioned Occupancy Types

7 Location Code Section

8 Occupancy Code Number

9 Occupancy (Specify Mixed)

10 Standard CTZV Backup

Self Generation Occupancy Types

11 Climate Zone

12 Peak Load Schedule

13 HCD Power Column Script (optional)

14 Supplement Attached (Yes)

Note: List other codes and requirements applicable to compliance below or on an attached supplement. For example, list the energy requirements applicable to Accessory Dwelling Units, Residential Hotels, or Mixed Occupancy Buildings. Attach the Residential Table of Contents Table of Compliance.

Page ___ of ___

Prescriptive Compliance CF-1A

SFD BLDG 1 - Tenant improvement

Building Permit Number

For Enforcement Agency Use Only

Field Checked By Date

Field Checked By Date

Approved By Date

Note: If the Table on Page 2 must be submitted, fill out the above, or write Page 2. The person responsible for the design/compliance for each mark the appropriate box and also judge the following compliance criteria by using the Table on Page 2.

Compliance Determined. The proposed building is physically and/or operationally complying with the requirements indicated on the Certificate of Compliance for the building shell. The plans and specifications include all the right to work or operations, and the design/construction is consistent with the plans and specifications.

Envelope SEE ARCH. PLANS

	Allowed	Proposed	
1 Roof/Ceiling R			U-factor
2 Raised Floor R			U-factor
3 Crawl Wall R			U-factor
4 Exterior Wall R			U
5 Mid Floating R			U
6 Average SC (Total)			
7 Total Wall % Glazing			%
8 Wall Glazing Total Area (if applicable)			U
9 Glazing area (Mixed Wall) (if applicable)			U
10 Average SC (Total Wall) (if applicable)			
11 Glazing % Glazing			%
12 Roof Glazing (if applicable)			(%)

Lighting

	Allowed	Proposed	
13 Area of Conditioned Space			
14 LPD			W/ft²
15 Prescriptive Lighting Reduction			W/ft²
16 Adjusted LPD			W/ft²
17 Lighting Control Credit			(%)

Other Notes SEE ARCH. PLANS

Mechanical

	Allowed	Proposed	
18 Wall/Ceiling HVAC Sched (R/S-U)			R/S-U
a. Fan Watts/cfm			Watts/cfm
b. Cooling Power Index			Watts
c. Heating Power Index			Watts
19 Table of HVAC Equipment (R/S-U)			(Y/N)
a. Heating Capacity			BTU/hr
b. Cooling Capacity			BTU/hr
c. Fan Performance Index			Watts/cfm
20 Ventilation System Type			(Y/N)

Other Mechanical Notes (Continued)

CF-2	19,500	18,214	
CF-3	97,500	78,000	
CF-4	97,500	78,000	
CF-5	44,154	35,000	
CF-6	44,154	35,000	

Page ___ of ___

Mandatory Measures Checklist — MF-1

GTE Bldg 1 Tenant Improvement
Project Title
Hayes Young /MPI 11/6/91
Documentation Author/Firm — Date

For Enforcement Agency Use Only
Plan Checked By — Date

This Checklist is applicable to both First and Second Generation Nonresidential Standards Compliance.

Reference in Construction Documents

Envelope Measures

- [ ] Certified insulation materials per 2-5311(a)
- [ ] Insulation installed to meet flame spread and smoke density requirements of 2-5311(b)
- [ ] Urea formaldehyde foam insulation is installed per 2-5311(c)
- [ ] Retrofit insulation specified as per 2-5313
- [ ] Air infiltration is minimized by specification of tested manufactured doors and windows, proper sealing and caulking at joints and openings in exterior walls, and weatherstripping as per Section 2-5317
- [ ] Photocell sensors with a diffusing cover and no opaque cover per 2-5315(a)5
- [ ] Manufacturer's instructions provided for installation and calibration per 2-5315(n)6
- [ ] Proper installation of controls including sensor location, certification of initial calibration and control of luminaires only within daylit area per 2-5319(u)
- [ ] Visible or audible malfunction alarms per 2-5319(g)

Lighting System Measures

- [ ] Certified luminaires/ballasts per 2-5314(b)
- [ ] Independent control w/ enclosed areas per 2-5319(a)
- [ ] Manual switching readily accessible per 2-5319(b)
- [ ] Reduction of lighting load to at least one-half per 2-5319(c). Occupancy sensors or programmable timers meeting CEC criteria may substitute
- [ ] Separate switching of daylit areas per 2-5319(c)
- [ ] Separate switching of display and valance lighting in retail and wholesale stores per 2-5319(h)
- [ ] Automatic control of display lighting in retail and wholesale stores per 2-5319(h)
- [ ] Tandem wiring of one- and two-lamp luminaires per 2-5319(j)

Occupancy Sensing Devices (when applicable)

- [ ] Visible or audible malfunction alarms per 2-5319(g)
- [ ] Limits on emissions per exceptions in 2-5319(u)

HVAC and Plumbing System Measures

- [ ] Piping insulated as required by 2-5312 — 15400 / 2.02, 14
- [ ] Certified HVAC equipment per 2-5314(a) — 15400 / 2.07 A
- [ ] Certified plumbing equipment per 2-5314(a) — 15400 / 2.05, 4
- [ ] Heating and cooling equipment efficiency per 2-5314(b) — N/A
- [ ] Pilotless ignition of gas appliances per 2-5314(c) — N/A
- [ ] Automatic controls for off-hours per 2-5315(u) — 15500 / 3.04, C, 1
- [ ] Thermostat set point requirements per 2-5315(a) — 15500 / 3.04, C.3
- [ ] Sequential control of heating and cooling per 2-5315(n)3 — 15500 / 3.04, C.3
- [ ] Automatic exhaust fan dampers per 2-5316(b) — M-1
- [ ] Thermostat controls for each zone per 2-5315(b) — M-2
- [ ] Ventilation provided per 2-5315 and 2-5343 — M-1
- [ ] Ventilation and recirculation air quantity information provided per 1403(b)2 — M-1
- [ ] Heaters for domestic hot water and/or pools per 2-5318 — 15400 / 3.05

Daylighting and Lumen Maintenance Controls (when applicable)

- [ ] Uniformly illumination reduction to one-half per 2-5319(e)1
- [ ] Flicker free operation and no premature lamp failure per 2-5319(n)2
- [ ] Time delays to prevent undesirable cycling per 2-5319(n)3
- [ ] Stop switching devices with separation between switch settings per 2-5319(n)4

HVAC Summary (Part 1 of 2) — CF-4

GTE Bldg 1 - Tenant Improvement
Project Title
Hayes Young /MPI 11/6/91
Documentation Author/Firm — Date

For Enforcement Agency Use Only
Plan Checked By — Date

Required Measures Checklist (Prescriptive Approach)

☐ Economizer Requirement. List each cooling fan/coil system. List the reference in the construction documents indicating that an integrated air or water economizer has been specified, or, if an economizer is not included, list applicable exceptions 1 to 6 per Section 2-5342(c)1.A

	Cooling System Description	Reference
1	H-1	M-1
2	H-2 · 1½ ton · Exception #5 · Less than 5% of installed cap	N/A
3	H-4	M-1
4	H-5	M-1
5	H-6	M-1
6	H-7	M-1

☐ Independent thermostatic control of each zone. If an independent perimeter system (eg. base board or fan coil) is specified, indicate reference that shows zoning and control requirements have been met per 2-5342(c)1.B

	Cooling System Description	Reference
1	N/A - Packaged single zone units	M-1
2		
3		
4		
5		
6		

☐ Simultaneous heating or cooling. List each central fan system which uses reheat, recool, mixing of hot and cold air streams, or other simultaneous operation of heating and cooling for zone temperature or humidity control. Also indicate if VAV is required per 2-5342(c)1.C, and that it meets zone minimum air flow setpoint requirements. Reference location in construction documents where supply air reset controls have been specified.

	System Description	VAV Required?	VAV min set restrict (VAV) (As WS-4C)	Reset Control Reference
1	N/A No reheat or recool			
2				
3				
4				
5				
6				

☐ Variable air volume performance. List each variable air volume fan system, fan type (eg. airfoil centrifugal, vaneaxial), VAV control device (eg. inlet vanes, variable pitch blades), and system reference in construction documents. For airfoil or backward inclined centrifugal fans, attach manufacturer's fan performance data showing that part load performance meets 2-5342(c)1.5.2.

	System Description	VAV Fan Type	Unstation Control Device	Document Reference
1	N/A - Constant volume			
2				
3				
4				
5				
6				

HVAC Summary (Part 2 of 2) — CF-4

GTE Bldg 1 Tenant Improvements
Project Title
Hayes Young /MPI 11/6/91
Documentation Author/Firm — Date

For Enforcement Agency Use Only
Plan Checked By — Date

Whole Building HVAC Approach (attach WS-4A)

This approach may only be used for whole buildings, no incremental systems. See Section 2-5342(n)2 — N/A

HVAC Power Index Set Selected (from CF-1, Part 1) ......

		Allowed	Proposed	
1	Fan Wattage Index (WS-4A, Line 5)			watts/ft2
2	Cooling Power Index (WS-4A, Line 5)			Btu/hr ft2
3	Heating Power Index (WS-4A, Line 7)			Btu/hr ft2

Tailored HVAC Approach (attach one WS-4B for each system)

When this approach is used, it must be applied to each HVAC system individually. See Section 2-5342(n)3

	Cooling System Description	Allowed Load (25a, WS-4B)	Proposed Load (26a, WS-4B)	FPI
1	HP-1	66,157	47,900	N/A
2	HP-2	19,532	15,000	
3	HP-4	91,290	73,800	
4	HP-5	51,775	47,700	
5	HP-6	53,124	31,300	
6	HP-7	68,106	50,600	

	Heating System Description	Allowed Load (25b WS-4B)	Proposed Load (26b WS-4B)	FPI
1	HP-1	17,150	38,700	N/A
2	HP-2	5,152	11,800	
3	HP-4	60,219	54,800	
4	HP-5	16,564	36,500	
5	HP-6	13,678	30,700	
6	HP-7	52,902	38,500	

Attach additional summary sheets as necessary.

Tailored HVAC Worksheet (Equipment Loads) — WS-4B

GTE Bldg 1 Tenant Improvements
Project Title
Hayes Young /MPI 11/6/91
Documentation Author/Firm — Date

For Enforcement Agency Use Only
Plan Checked By — Date

One of these forms must be completed for each heating and/or cooling primary plant (eg. chiller, air conditioner unit) in the building. Attach input and output load calculation summaries (hand or computer calculated), and equipment catalog performance data. This approach does not exempt systems from the general HVAC requirements of Sec. 2-5342(c)1.

GENERAL INFORMATION & DESIGN CONDITIONS

		COOLING		HEATING	
1	System name (provide brief description as referenced in plans)	HP-1		HP-1	
2	Floor area served	640	ft2	640	ft2
3	Outdoor drybulb temperature (per ASHRAE SPCDX)	85	F	35	F
4	Outdoor wetbulb temperature (per ASHRAE SPCDX)	64	F		F
5	Indoor drybulb temperature (per ASHRAE Standard 55-1981)	72	F Process	70	F
6	Indoor relative humidity (per ASHRAE Standard 55-1981)	50	RH	50	RH

LOAD CALCULATION SUMMARY

		Area ft2	Design Parameter	Value		COOLING Sensible Load kBtuh	HEATING Sensible Load kBtuh
7	Glass conduction	0	Ave. U-value		Btu/h-ft2-F		
8	Glass solar gain	0	Ave. SC				
9	Wall conduction	0	Ave. U-value		Btu/h-ft2-F		
10	Roof conduction	640	Ave. U-value	.05	Btu/h-ft2-F	525	1152
11	Floor conduction		Ave. U-value		Btu/h-ft2-F		
12	People	640	Ave. density	210	ft2/person	1134	
13	Lights	640	Pwr. density	1.8	W/ft2	3902	
14	Misc. equipment	640	Pwr. density	15	W/ft2	32,125	
15	Infiltration		Cfm/wall area		cfm/ft2		
16	Ventilation	640	Cfm/floor area	.35	cfm/ft2	2103	2342
17	Fan heat		Fan static	.5	in. H2O	3102	
18	Pump heat		Pump head		ft. H2O		
19	Duct/piping losses						
20	Other						
21	Other						
22	Other						
23	Total Load (sum lines 7 to 22)					44,091	3428
24	Safety/Warmup Factor (max. of 150% cooling, 130% heating)					150 %	150 %
25	Maximum Adjusted Load (line 23 x line 24/100)					a 66,157	b 17,150
26	Installed Equipment Capacity at Design Conditions					a 47,900	b 38,700

Line 26a must be less than or equal to Line 25a. Line 26b must be less than or equal to Line 25b.

Enter reference exception: * Smallest htg. cap. that will fit this unit.

FAN POWER DEMAND
(Lines 27 through 30 may be left blank for low-rise buildings with less than 4 stories)

		COOLING		HEATING	
27	Fan supply air quantity		cfm		cfm
28	Fan total pressure drop		in. H2O		in. H2O
29	Adjustment for VAV systems (= 1.0 for constant volume systems)				
30	Adjusted Fan Performance Index (line 27 x line 28 x line 29 / line 21)		FPI		FPI

Building average of line 30 must be less than 5.0 cfm-in/ft2

Final reference exception:

WS-4D

For Enforcement Agency Use Only

Date Bldg 1 Toilet Improvement
Address Wells Unit
Inspection Date 11/6/89

Plan Checked By ____ Date ____

One of these boxes must be completed for each heating and/or cooling primary plant (eg. boiler, air conditioner, heat pump) in the building. Attach heat gain/loss calculations (Form 2) and supply the completed, best significant catalog product cut sheets. The approach does not exceed Title 24 prescriptive requirements, or Exceptions at Sec. 2-5347(d).

GENERAL INFORMATION & DESIGN CONDITIONS

		COOLING	HEATING
1.	System name (provide brief description or reference plans)	HP-1	HP-1
2.	Floor area served	800 sf	800 sf
3.	Outdoor dry-bulb temperature (per ASHRAE SPCDB)	81 F	28 F
4.	Outdoor wet-bulb temperature (per ASHRAE SPCDB)	64 F	
5.	Indoor dry-bulb temperature (per ASHRAE Standard 55-1981)	76 F 70/64%	70 F
6.	Indoor relative humidity (per ASHRAE Standard 55-1981)	50 RH	30 RH

LOAD CALCULATION SUMMARY

		Area or Perimeter	Design Value		Cooling Load Btu/h	Heating Load Btu/h
7.	Glass conduction	1056	Area, U-value	Btu/h-ft²		
8.	Glass solar gain		Area, SC			
9.	Wall conduction		Area, U-value	Btu/h-ft²		
10.	Roof conduction	800	Area, U-value	Btu/h-ft²	352	432
11.	Floor conduction		Area, U-value	Btu/h-ft²		
12.	People	2	Area, density	ft²/person	1024	1024
13.	Lights	1.0	Per density	W/ft²	1024	
14.	Misc. equipment	10	Per density	W/ft²	3412	
15.	Infiltration		Differential area	cfm/ft²		
16.	Ventilation	40	Cfm/ft² area	cfm/ft²	2048	2048
17.	Fan heat	1.5	Per watt	in. H2O	512	
18.	Pump heat		Pump head	in. H2O		
19.	Distribution losses					
20.	Other					
21.	Other					
22.	Other					
23.	Total Load (sum lines 7 to 22)				7392	2480
24.	Sensible/Heating Factor (sum of 100% cooling, 100% heating)				100	100 %
25.	Ventilation Adjusted Load (line 23 × line 24 / 100)				7392	2480
26.	Installed Equipment Capacity at Design Conditions				12,000	12,000

Line 26a must be less than or equal to line 25. Line 26b must be less than or equal to line 25b

Brief, relevant exceptions: * SMALLEST, LOW CAP, NEW, ENERGY WAIT

FAN POWER DEMAND

(Lines 27 through 30 may be left blank for terminal reheat, dual duct, or single zone.)

		COOLING	HEATING
27.	Fan supply air density	cfm	cfm
28.	Fan total pressure drop	in. H2O	in. H2O
29.	Adjusted Fan Horsepower (= 1.0 for constant volume systems)	hp	hp
30.	Adjusted Fan Horsepower Index (line 29 × line 28 / (line 27 × 6.35))	FPI	FPI

Building average of line 30 must be less than 0.6 cfm/w@

Brief, relevant exceptions:

WS-4D

For Enforcement Agency Use Only

Date Bldg 2 Toilet Improvement
Address Wells Unit
Inspection Date 11/6/89

Plan Checked By ____ Date ____

One of these boxes must be completed for each heating and/or cooling primary plant (eg. boiler, air conditioner, heat pump) in the building. Attach heat gain/loss calculations (Form 2) and supply the completed, best significant catalog product cut sheets. The approach does not exceed Title 24 prescriptive requirements, or Exceptions at Sec. 2-5347(d).

GENERAL INFORMATION & DESIGN CONDITIONS

		COOLING	HEATING
1.	System name (provide brief description or reference plans)	HP-2	HP-2
2.	Floor area served	1875 sf	1875 sf
3.	Outdoor dry-bulb temperature (per ASHRAE SPCDB)	81 F	28 F
4.	Outdoor wet-bulb temperature (per ASHRAE SPCDB)	64 F	
5.	Indoor dry-bulb temperature (per ASHRAE Standard 55-1981)	76 F 70/64%	70 F
6.	Indoor relative humidity (per ASHRAE Standard 55-1981)	50 RH	30 RH

LOAD CALCULATION SUMMARY

		Area or Perimeter	Design Value		Cooling Load Btu/h	Heating Load Btu/h
7.	Glass conduction	1056	Area, U-value	Btu/h-ft²		
8.	Glass solar gain		Area, SC			
9.	Wall conduction		Area, U-value	Btu/h-ft²		
10.	Roof conduction	1875	Area, U-value	Btu/h-ft²	1,594	2,812
11.	Floor conduction		Area, U-value	Btu/h-ft²	5,625	9,375
12.	People	4	Area, density	ft²/person	1,024	1,024
13.	Lights	1.0	Per density	W/ft²	1,024	
14.	Misc. equipment	10	Per density	W/ft²	3,412	
15.	Infiltration		Differential area	cfm/ft²		
16.	Ventilation	40	Cfm/ft² area	cfm/ft²	2,048	2,048
17.	Fan heat	1.5	Per watt	in. H2O	1,024	
18.	Pump heat		Pump head	in. H2O		
19.	Distribution losses					
20.	Other					
21.	Other					
22.	Other					
23.	Total Load (sum lines 7 to 22)				14,731	15,259
24.	Sensible/Heating Factor (sum of 100% cooling, 100% heating)				100	100 %
25.	Ventilation Adjusted Load (line 23 × line 24 / 100)				14,731	15,259
26.	Installed Equipment Capacity at Design Conditions				18,000	18,000

Line 26a must be less than or equal to line 25. Line 26b must be less than or equal to line 25b

Brief, relevant exceptions: * SMALLEST, HIGH CAPACITY, ENERGY WAIT, NEW UNIT

FAN POWER DEMAND

(Lines 27 through 30 may be left blank for terminal reheat, dual duct, or single zone.)

		COOLING	HEATING
27.	Fan supply air density	cfm	cfm
28.	Fan total pressure drop	in. H2O	in. H2O
29.	Adjusted Fan Horsepower (= 1.0 for constant volume systems)	hp	hp
30.	Adjusted Fan Horsepower Index (line 29 × line 28 / (line 27 × 6.35))	FPI	FPI

Building average of line 30 must be less than 0.6 cfm/w@

Brief, relevant exceptions:

WS-4D

For Enforcement Agency Use Only

Date Bldg 3 Toilet Improvement
Address Wells Unit
Inspection Date 11/6/89

Plan Checked By ____ Date ____

One of these boxes must be completed for each heating and/or cooling primary plant (eg. boiler, air conditioner, heat pump) in the building. Attach heat gain/loss calculations (Form 2) and supply the completed, best significant catalog product cut sheets. The approach does not exceed Title 24 prescriptive requirements, or Exceptions at Sec. 2-5347(d).

GENERAL INFORMATION & DESIGN CONDITIONS

		COOLING	HEATING
1.	System name (provide brief description or reference plans)	HP-3	HP-3
2.	Floor area served	1875 sf	1875 sf
3.	Outdoor dry-bulb temperature (per ASHRAE SPCDB)	81 F	28 F
4.	Outdoor wet-bulb temperature (per ASHRAE SPCDB)	64 F	
5.	Indoor dry-bulb temperature (per ASHRAE Standard 55-1981)	76 F 70/64%	70 F
6.	Indoor relative humidity (per ASHRAE Standard 55-1981)	50 RH	30 RH

LOAD CALCULATION SUMMARY

		Area or Perimeter	Design Value		Cooling Load Btu/h	Heating Load Btu/h
7.	Glass conduction	1056	Area, U-value	Btu/h-ft²		
8.	Glass solar gain		Area, SC			
9.	Wall conduction		Area, U-value	Btu/h-ft²		
10.	Roof conduction	1875	Area, U-value	Btu/h-ft²	1,594	2,812
11.	Floor conduction		Area, U-value	Btu/h-ft²	5,625	9,375
12.	People	4	Area, density	ft²/person	1,024	1,024
13.	Lights	1.0	Per density	W/ft²	1,024	
14.	Misc. equipment	10	Per density	W/ft²	3,412	
15.	Infiltration		Differential area	cfm/ft²		
16.	Ventilation	40	Cfm/ft² area	cfm/ft²	2,048	2,048
17.	Fan heat	1.5	Per watt	in. H2O	1,024	
18.	Pump heat		Pump head	in. H2O		
19.	Distribution losses					
20.	Other					
21.	Other					
22.	Other					
23.	Total Load (sum lines 7 to 22)				14,731	15,259
24.	Sensible/Heating Factor (sum of 100% cooling, 100% heating)				100	100 %
25.	Ventilation Adjusted Load (line 23 × line 24 / 100)				14,731	15,259
26.	Installed Equipment Capacity at Design Conditions				18,000	18,000

Line 26a must be less than or equal to line 25. Line 26b must be less than or equal to line 25b

Brief, relevant exceptions: * SMALLEST, HIGH CAPACITY, ENERGY WAIT, NEW UNIT

FAN POWER DEMAND

(Lines 27 through 30 may be left blank for terminal reheat, dual duct, or single zone.)

		COOLING	HEATING
27.	Fan supply air density	cfm	cfm
28.	Fan total pressure drop	in. H2O	in. H2O
29.	Adjusted Fan Horsepower (= 1.0 for constant volume systems)	hp	hp
30.	Adjusted Fan Horsepower Index (line 29 × line 28 / (line 27 × 6.35))	FPI	FPI

Building average of line 30 must be less than 0.6 cfm/w@

Brief, relevant exceptions:

VV-0-4D

GSA BLDG. 1 TOILET IMPROVEMENT
Seattle, Lewis Intz 11/4/91

For Performance Agency Use Only

Date Received (2) ____ Date

One of these forms must be completed for each heating and/or cooling plant, chiller, or equivalent unit in the facility. Attach load and energy (heat extraction) calculation (form or equivalent) and equipment data. This approach does not substitute required 3-Year Performance Plans (PPP) requirements of Sec. 3-3240(c).

GENERAL INFORMATION & DESIGN CONDITIONS

		COOLING	HEATING
1.	System name (specify bldg. & system or subsystem plant)	HP-1	HP-2
2.	Floor area served	2630 sf	2630 sf
3.	Outdoor dry-bulb temperature (per ASHRAE 3/90.3)	82 F	33 F
4.	Outdoor wet-bulb temperature (per ASHRAE 3/90.3)	66 F	
5.	Indoor design temperature (per ASHRAE Std 55-1981)	72 F	72 F
6.	Indoor relative humidity (per ASHRAE Std 55-1981)	50 %	30 RH

LOAD CALCULATION SUMMARY

		Area sf	Design Parameter	Value	COOLING Peak Load (Btuh)	HEATING Peak Load (Btuh)
7.	Wall conduction		Avg. U-value	Btuh/sf-F		
8.	Glass infiltration		Avg. SC			
9.	Wall conduction		Avg. U-value	Btuh/sf-F		
10.	Roof/ceiling/floor		Avg. U-value	Btuh/sf-F	-3795	2794
11.	Floor conduction		Avg. U-value	Btuh/sf-F		
12.	Occupancy		Avg. density	150 sf/person	-4150	
13.	Lights		Avg. density	1.5 W/sf	-16,417	
14.	Other equipment		Avg. density	2 W/sf	-17,208	
15.	Infiltration		Cfm/sf-hr	cfm/sf		
16.	Ventilation		Cfm/sf-hr	cfm/sf	2630	-15160
17.	Fan heat		Fan watts	0.7 W/cfm	-3284	
18.	Pump heat		Pump heat	0 Btuh		
19.	Duct/piping losses					
20.	Other					
21.	Other					
22.	Other					
23.	Total Load (Lines 7 to 22)				-43,904	12,634
24.	Net Monthly Load Factor (Load/1000 sq. ft.)				-20	480 %
25.	Maximum Adjusted Load (Line 23 x line 24/100)				-878,080	+32,592
26.	Installed Equipment Capacity at Design Conditions				-30,000	38,000

Use this area to show does or equal to Line 23a. (Line 26 should be less than or equal to Line 23a.)

Book capacity at HEATING: 38 MBH/SEC HTR. CAPACITY AVAIL. OUT THIS UNIT

FAN POWER DEMAND
(Lines 27 through 30 are for VAV/DAC for heating buildings with less than 1 capacity)

		COOLING	HEATING
27.	Fan motor kW quantity		
28.	Fan total pressure drop	____ Cfm	____ Cfm
29.	Efficiency (or VAV/variable) (= 1.0 for constant volume systems)	____ kW/kW	____ kW/kW
30.	Adjusted Fan Performance Watts (Line 27 x line 28 x line 29 x line 30)	____ FPI	____ FPI

Building average of line 30 in excess (less than) 0.5 Watts/cfm?

Energy efficiency adequate?

DSA Form Revised August 4, 1986

Page ____ of

Carrier

Product Data

HP-1
HP-4 THRU HP-7

50QJ
Single Package Rooftop Heat Pump Units

Nominal 3 to 10 Tons

Single Package Rooftop Heat Pump Units with Innovative Features:

- Actuel® integral mixing dampers
- 2-speed fan control system
- Evaflated™ condensate drain system

Features/Benefits

Compact, vertical discharge units easily convert to horizontal discharge, downflowing installation. Versatility with efficient performance and easy maintenance.

Easy maintenance and operation

All units are shipped in the vertical discharge configuration for ease of installation and curb. Either set-in-place curb (for item 009-006, another option) or curb (for item 009-005 and 009-2). The condensate tank never and install on existing curb, the condensate drain, before dedicated or site installations, have been made.

All units feature self-contained design with flexible duct and equipment for easier maintenance by Service, wrap packaging protection, and cabinet alignment and design.

Units are easily combined to operate in horizontal discharge applications as under normal and reflection also easily. Fan convert from vertical discharge to horizontal discharge, requires more 2 panels. The same basic unit can be used for a variety of applications and can be quickly switched in the field.

The unit connection are easily easy by the actual 3 to 1 equal ratio. On vertical discharge units, downflow adapter directly to the curb curb.

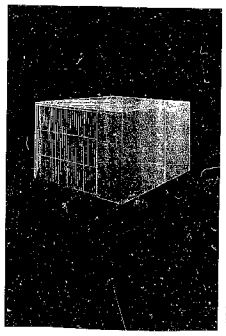
Form 50QJ-2PD

Carrier

Product Data

HP-2

50NQ
Single-Package Heat Pumps



Features/Benefits

- Convertible duct configuration, designed to be easily converted to offer-end or direct discharge and which does not require an accessory plenum.
- Available in a variety of housing/roof top sizes and voltage options to meet local mechanical and operational requirements. The model housing can be used for roofing or ground level pad.
- High-efficiency design with minimum SEER's up to 10.0 on single-phase models and 6.0 HSPF.
- Factory-installed rooftop mounted, fully self-contained, conformation housing/roofing and that has been, packaged, and pre-tested for minimum installation expense.
- Rugged, efficient components are defined for high energy efficiency. Each component is tested, fully tested against contamination to help assures long life and dependable operation. Air filtration factored to provide cost operation. All components have latest high pressure and movement protection.
- Direct-drive, multispeed, PSC blower motor on all models.
- Direct-drive, PSC condenser fan motor on design to help reduce energy consumption and provide for cooling operation down to 35°F outdoor temperature.
- Condenser heaters are standard only. Heaters are thermostatically controlled on all 208/230 volt models.

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Form 50NQ-2PD

[illegible]

LOAD CALCULATION

	BLDG/ZONE (BTU/hr)	UNIT (BTU/hr)
BLDG/ZONE LOAD		
BLDG. INFILTRATION		
WALL INSULATION		
ROOF INSULATION		
FENESTRATION TRANSMISSION		
LIGHTING (W/sq ft)		
OTHER ELEC. (W/sq ft)		
PEOPLE (sq ft/PEOPLE)		
SENSIBLE HEAT GAINS		
FENESTRATION INFILTRATION		
DUCT/PIPE HEAT		
SENSIBLE SUPPLY LOAD		
[illegible]		
SUPPLY FAN LOAD		
WALL LOAD TO PLENUM		
ROOF LOAD TO PLENUM		
LIGHTING LOAD TO PLENUM		
[illegible]		
TOTAL COOLING LOADS		

COIL SELECTION INFORMATION

COIL ENTERING AIR TEMP. (DB WB)	[illegible]
COIL LEAVING AIR TEMP. (DB WB)	[illegible]
TOTAL SENSIBLE LOAD	[illegible] BTU/hr
COIL TOTAL LOAD	[illegible] BTU/hr
COIL SUPPLY AIR TEMPERATURE	[illegible] deg F
TOTAL COOLING CFM (actual)	[illegible] CFM
TOTAL COOLING CFM (std. air)	[illegible] CFM
RESULTING ROOM REL. HUMIDITY	[illegible] %
COIL DRIVER FAN HP	[illegible]
COIL EXPANSION ELEMENT	[illegible]
WEIGHT ADJUSTER	[illegible]

GENERAL INFORMATION

TOTAL COOLING LOAD	[illegible] tons
TOTAL FLOOR AREA	[illegible] sq ft
AVAILABLE LOCATION	[illegible]
LOAD/AREA CFM/sq ft	[illegible]

ZONE DESIGN LOADS AND SUMMARIES

Location : MOUNTAIN VIEW, California 11-06-91
Prepared By : MECHANICAL PLUMBING, INC 4100165002
Carrier Hourly Analysis Program Page 2 of 2

CALCULATION DATA:

Zone Name : AC-1 Date Time: Jun 15@4p
Job Name : DTE BLDG. 1 WB db/hb: 84.6/ 64.0 F

WALL AND GLASS LOAD BREAKDOWN

LOAD COMPONENT	AREA (sq ft)	TRANSMISSION (BTU/hr)	WALL+ LOAD (BTU/hr)
GLASS LOADS: NE	0	0	0
E	0	0	0
SE	0	0	0
S	0	0	0
SW	0	0	0
W	0	0	0
NW	0	0	0
N	0	0	0
H	0	0	0
WALL LOADS: NE	0	0	-
E	0	0	-
SE	0	0	-
S	0	0	-
SW	0	0	-
W	0	0	-
NW	0	0	-
N	0	0	-

ZONE DESIGN LOADS AND SUMMARIES

Location : MOUNTAIN VIEW, California 11-06-91
Prepared By : MECHANICAL PLUMBING, INC 4100165002
Carrier Hourly Analysis Program Page 1 of 1

CALCULATION DATA:

Zone Name : AC-1 Date Time: Jun 15@4p
Job Name : DTE BLDG. 1 WB db/hb: 84.6/ 64.0 F

LOAD COMPONENT LOAD (BTU/hr)

WALL TRANSMISSION	0
ROOF TRANSMISSION	1,184
GLASS TRANSMISSION	0
TRANSMISSION LOSS TO UNCONDS. SPACES	0
INFILTRATION LOSS	0
GLASS FLOOR	-48
HEATING SAFETY (10%)	0
SUB-TOTAL	1,136
NET VENTILATION LOAD	105
TOTAL HEATING LOAD	1,241

HEATING SUPPLY CFM 54 CFM
HEATING SUPPLY AIR TEMPERATURE 120.0 deg F
HEATING VENTILATION CFM 2 CFM
HEATING THERMOSTAT SETPOINT TEMP 70.0 deg F

ZONE DESIGN LOADS AND SUMMARIES

Location : MOUNTAIN VIEW, California 11-06-91
Prepared By : MECHANICAL PLUMBING, INC 4100165002
Carrier Hourly Analysis Program Page 1 of 2

CALCULATION DATA:

Zone Name : AC-1 Date Time: Jun 15@4p
Job Name : DTE BLDG. 1 WB db/hb: 84.6/ 64.0 F

LOAD SUMMARY

LOAD COMPONENT	SENSIBLE (BTU/hr)	LATENT (BTU/hr)
GRAND LOAD	0	0
GLASS TRANSMISSION	0	0
WALL TRANSMISSION	0	0
ROOF TRANSMISSION	0	0
PEOPLE (SENSIBLE)	300	0
LIGHTING	0	0
EQUIPMENT (0 W TOTAL)	0	0
INFILTRATION	1,176	0
FRESH AIR (0 PEOPLE TOTAL)	0	410
CURTAIN WALL FLOOR	0	0
INTERNAL WALL	0	0
INTERNAL CEILING	0	0
TOTALS	11,147	410
HEAT ADDITIONS (0 CFM) 82 CFM	754	1,21
SUPPLY FAN LOAD (0 CFM) 54 CFM	914	0
WALL LOAD TO PLENUM	0	0
ROOF LOAD TO PLENUM	0	0
LIGHTING LOAD TO PLENUM	0	0
TOTAL LOADS (Cooling)	13,021	2,0

SELECTION INFORMATION

COIL SENSIBLE CAPACITY	=	13,17 BTU/hr
COIL LEAVING AIR TEMP. (DB/WB)	=	55.4/ 55.1 deg F
COIL GRAIN LOAD	=	17,021 BTU/hr
COIL TOTAL LOAD	=	13,546 BTU/hr
COOLING SAFETY AIR TEMPERATURE	=	75.0 deg F
TOTAL COOLING CFM (actual)	=	820 CFM
TOTAL VOLUMETRIC FLOW (std. air)	=	818 CFM
RESULTING RELATIVE HUMIDITY	=	50.0 %
COIL DESIGN FACTOR	=	0.050
COIL APPARATUS DEW POINT	=	45.5 deg F
RESPAN REQUIRED	=	0 BTU/hr

GENERAL INFORMATION

TOTAL COOLING LOAD	=	1.31 Tons
TOTAL FLOOR AREA	=	23,438 Sqft/Zone
OVERALL U-VALUE	=	260.00 sqft
OVERALL BTU/sqft	=	0.064 BTU/hr/sqft/F
		0.39 CFM/sqft

ZONE DESIGN LOADS AND SUMMARIES

Location : MOUNTAIN VIEW, California 11-06-91
Prepared By : MECHANICAL PLUMBING, INC 4100165002
Carrier Hourly Analysis Program Page 2 of 2

CALCULATION DATA:

Zone Name : AC-1 Date Time: Jun 15@4p
Job Name : DTE BLDG. 1 WB db/hb: 84.6/ 64.0 F

WALL AND GLASS LOAD BREAKDOWN

LOAD COMPONENT	AREA (sqft)	TRANSMISSION (BTU/hr)	WALL+ LOAD (BTU/hr)
GLASS LOADS: NE	0	0	0
E	0	0	0
SE	0	0	0
S	0	0	0
SW	0	0	0
W	0	0	0
NW	0	0	0
N	0	0	0
H	0	0	0
WALL LOADS: NE	0	0	-
E	0	0	-
SE	0	0	-
S	0	0	-
SW	0	0	-
W	0	0	-
NW	0	0	-
N	0	0	-

TRANE DESIGN HOURLY LOAD SUMMARY

Location : MOUNTAIN VIEW, California 11-06-91
Prepared By : MECHANICAL PLANNING, INC 8:06:04PM
Carrier Hourly Analysis Program Page 1 of 1

CALCULATION DATA:
Zone Name : AD-2 Data from Hunter design
Job Name : OTE BLDG. 1 Amb db : 92.0 F

LOAD COMPONENT	LOAD (BTU/hr)
WALL TRANSMISSION	0
ROOF TRANSMISSION	480
GLASS TRANSMISSION	0
TRANSMISSION LOSS TO UNCOND. SPACES	0
INFILTRATION LOSS	0
SLAB FLOOR	-29
HEATING SAFETY BTU/hr	0
SUB-TOTAL	451
NET VENTILATION LOSS	53
TOTAL HEATING LOAD	504
HEATING SUPPLY CFM	12 CFM
HEATING SUPPLY AIR TEMPERATURE	150.0 deg F
HEATING VENTILATION AIR CFM	1 CFM
HEATING THERMOSTAT SETPOINT (FR	70.0 deg F

TRANE DESIGN HOURLY LOAD SUMMARY

Location : MOUNTAIN VIEW, California 11-06-91
Prepared By : MECHANICAL PLANNING, INC 8:06:04PM
Carrier Hourly Analysis Program Page 1 of 1

CALCULATION DATA:
Zone Name : AD-2 Data from Hunter design
Job Name : OTE BLDG. 1 Amb db : 92.0 F

LOAD TABULATION

LOAD COMPONENT	SENSIBLE (BTU/hr)	LATENT (BTU/hr)
SOLAR LOAD	1,087	0
GLASS TRANSMISSION	758	0
WALL TRANSMISSION	6,444	0
ROOF TRANSMISSION	1,296	0
PARTITION TRANSMISSION	0	0
LIGHTING : 1,954 W TOTAL	6,492	0
OTHER ELEC. : 2,774 W TOTAL	12,006	0
PEOPLE : 5.00 PEOPLE TOTAL	1,250	1,625
MISCELLANEOUS LOADS	0	0
EXTERNAL TERMINALS	0	0
INTERNAL WIRING	0	0
SAFETY STATIC LOAD	0	0
SUB TOTALS	29,557	1,625
NET VENTILATION LOAD : 10% OTD	3,704	1,214
SAFETY TEMPERED LOAD : 5.0%	1,478	0
WALL LOAD TO PLENUM	0	0
ROOF LOAD TO PLENUM	0	0
LIGHTING LOAD TO PLENUM	0	0
TOTAL COOLING LOAD	34,739	2,839

COIL SELECTION PARAMETERS:

COIL ENTERING AIR TEMP. (DB/WB)	=	73.37 69.4 deg F
COIL LEAVING AIR TEMP. (DB/WB)	=	53.67 53.1 deg F
COIL SENSIBLE LOAD	=	35,776 BTU/hr
COIL TOTAL LOAD	=	36,272 BTU/hr
COOLING SUPPLY AIR TEMPERATURE	=	55.0 deg F
TOTAL COOLING CFM (actual)	=	1,480 CFM
TOTAL COOLING CFM (std. air)	=	1,483 CFM
RESULTING ROOM RH. HUMIDITY	=	50.8 %
COIL ROWS (FINS)	=	6.0
COIL APPROACHES DEW POINT	=	32.6 deg F
REHEAT HEATING	=	0 BTU/hr

BLENDED INFILTRATION:

TOTAL CURRENT LOAD	=	3.00 tons
	=	346.04 sqft/ton
TOTAL FLOOR AREA	=	1,038.00 sqft
ENTERING ENERGY	=	6,267 BTU/hr (sqft)
COOLING EFFICIENCY	=	1.41 CFM/sqft

TRANE DESIGN HOURLY LOAD SUMMARY

Location : MOUNTAIN VIEW, California 11-06-91
Prepared By : MECHANICAL PLANNING, INC 8:06:04PM
Carrier Hourly Analysis Program Page 1 of 1

CALCULATION DATA:
Zone Name : AD-2 Data from Hunter design
Job Name : OTE BLDG. 1 Amb db : 92.0 F

LOAD TABULATION

LOAD COMPONENT	AREA (sqft)	TRANSMISSION (BTU/hr)	SOLAR LOAD (BTU/hr)
GLASS TRANSMISSION			
N	0	0	0
NE	0	0	0
E	0	0	0
SE	0	0	0
S	0	0	0
SW	0	0	0
W	0	0	0
NW	0	0	0
H	0	0	0
WALL LOADS:			
N	0	0	-
NE	0	0	-
E	24	6,444	-
S	0	0	-
SW	0	0	-
W	0	0	-
NW	0	0	-
H	0	0	-

TRANE DESIGN HOURLY LOAD SUMMARY

Location : MOUNTAIN VIEW, California 11-06-91
Prepared By : MECHANICAL PLANNING, INC 8:06:04PM
Carrier Hourly Analysis Program Page 1 of 1

CALCULATION DATA:
Zone Name : AD-2 Data from Hunter design
Job Name : OTE BLDG. 1 Amb db : 92.0 F

LOAD COMPONENT	LOAD (BTU/hr)
WALL TRANSMISSION	6,444
ROOF TRANSMISSION	1,296
GLASS TRANSMISSION	1,845
TRANSMISSION LOSS TO UNCOND. SPACES	0
INFILTRATION LOSS	0
SLAB FLOOR	-29
HEATING SAFETY BTU/hr	0
SUB-TOTAL	9,556
NET VENTILATION LOSS	1,214
TOTAL HEATING LOAD	10,770
HEATING SUPPLY CFM	51 CFM
HEATING SUPPLY AIR TEMPERATURE	150.0 deg F
HEATING VENTILATION AIR CFM	1 CFM
HEATING THERMOSTAT SETPOINT TEMP	70.0 deg F

MECHANICAL SYSTEM COOLING LOADS

Location : MOUNTAIN VIEW, California 11-04-91
Prepared By : MECHANICAL PLANNING, INC. 02:01:44:02
Carrier Hourly Analysis Program Page 1 of 1

Zone Name : AC-3

Space Name	No.	Mult	Sensible (Tons)	Latent (Tons)	Supply Air (CFM)
1520	Rep	1100	2.17	0.05	1,423.0
1540 INTERIOR OFFICE	[illegible]	1800	0.15	0.02	99.7
1460 EXTERIOR OFFICE	Rep	100	0.33	0.02	217.0

Total including space multipliers : 1,741.2

[illegible] COOLING LOADS

Location : MOUNTAIN VIEW, California 11-04-91
Prepared By : MECHANICAL PLANNING, INC. 02:01:44:02
Carrier Hourly Analysis Program Page 1 of 2

CALCULATION DATA

Zone Name : AC-4 Calc Time : [illegible]
Job Name : STE BLDG. 1 Amb db/wb : [illegible]

LOAD INFORMATION

LOAD COMPONENT	SENSIBLE (BTU/hr)	LATENT (BTU/hr)
SOLAR LOAD	0	0
GLASS TRANSMISSION	0	0
WALL TRANSMISSION	11,331	0
ROOF TRANSMISSION	2,770	0
PARTITION TRANSMISSION	0	0
LIGHTING : 5,791 W TOTAL)	17,600	0
OTHER ELEC. : 0.224 W TOTAL)	26,944	0
PEOPLE : 6.00 PEOPLE TOTAL)	1,448	1,290
MISCELLANEOUS LOADS	0	0
COOLING DEHUMIDIFICATION	0	0
PULLDOWN/WARM-UP	0	0
COOLING SAFETY FACT.	0	0
SUB-TOTALS	59,093	1,290
NET VENTILATION LOAD (30.0 CFM)	4,009	-893
SUBTOTAL LOAD (BTU/hr)	63,102	0
WALL LOAD TO PLENUM	0	0
ROOF LOAD TO PLENUM	0	0
LIGHTING LOAD TO PLENUM	0	0
TOTAL COOLING LOADS	63,860	397

COIL SELECTION PARAMETERS

COIL ENTERING AIR TEMP. (DB/WB)	=	77.7 / 60.7 deg F
COIL LEAVING AIR TEMP. (DB/WB)	=	53.6 / 51.1 deg F
COIL SENSIBLE LOAD	=	64,880 BTU/hr
COIL TOTAL LOAD	=	65,257 BTU/hr
COOLING SUPPLY AIR TEMPERATURE	=	55.0 deg F
TOTAL COOLING CFM (actual)	=	2,702 CFM
TOTAL COOLING CFM (std. air)	=	3,063 CFM
RESULTING ROOM REL. HUMIDITY	=	51.5 %
COIL BYPASS FACTOR	=	0.050
COIL MECHANIC DEHUMIDIFI	=	55.0 deg F
REHEAT REQUIRED	=	0 BTU/hr

GENERAL INFORMATION

TOTAL COOLING LOAD	=	5.44 Tons
	=	578.25 sqft/Ton
TOTAL FLOOR AREA	=	3,064.00 sqft
OVERALL L-FACTOR	=	0.252 BTU/hr/sqft/F
COOLING CFM/sqft	=	1.49 CFM/sqft

[illegible]

Location : MOUNTAIN VIEW, California 11-04-91
Prepared By : MECHANICAL PLANNING, INC. 02:01:44:02
Carrier Hourly Analysis Program Page 2 of 2

CALCULATION DATA

Zone Name : AC-4
Job Name : STE BLDG. 1 Amb db/wb : 84.7/ 63.0 F

GLASS AND GLASS TYPE DESCRIPTION

LOAD COMPONENT	WEEK (sqft)	TRANSMISSION (BTU/hr)	SOLAR LOAD (BTU/hr)
GLASS LOADING	0	0	0
E	0	0	0
SE	0	0	0
S	0	0	0
SW	0	0	0
W	0	0	0
NW	0	0	0
N	0	0	0
H	0	0	0
WALL LOADS NE	0	0	-
E	0	0	-
SE	570	11,331	-
S	0	0	-
SW	0	0	-
W	0	0	-
NW	0	0	-
N	0	0	-

[illegible]

Location : MOUNTAIN VIEW, California 11-04-91
Prepared By : MECHANICAL PLANNING, INC. 02:01:44:02
Carrier Hourly Analysis Program Page 1 of 1

CALCULATION DATA

Zone Name : AC-4 Calc Time: [illegible]
Job Name : STE BLDG. 1 Amb db : 75.0 F

LOAD COMPONENT Time: [illegible]

WALL TRANSMISSION	15,934
ROOF TRANSMISSION	-2,906
GLASS TRANSMISSION	0
TRANSMISSION LOSS TO UNCONDITIONED	0
INFILTRATION LOSS	0
PEOPLE	1,290
HEATING BALLAST BTU/hr	0
SUB-TOTAL	14,318
NET VENTILATION LOSS	-893
TOTAL HEATING LOAD	[illegible]
HEATING SUPPLY CFM	397 CFM
HEATING VENTILATION AND INFILTRATION	30 CFM
HEATING VENTILATION AIR CFM	30 CFM
HEATING THERMOSTAT SETPOINT	[illegible] deg F

Location : MOUNTAIN VIEW, California
Prepared by : MECHANICAL PLANNING, INC.
Carrier Hourly Analysis Program

11-04-91
Page 1 of 2

CALCULATION DATA

Zone Name : ACS
Job Name : GTE BLDG. 1

Calc Time: Jun 10th
Adj db/wb: 92.1/ 65.8 F

LOAD INFORMATION

LOAD COMPONENT	SENSIBLE (BTU/hr)	LATENT (BTU/hr)
SOLAR LOAD	0	0
GLASS TRANSMISSION	0	0
WALL TRANSMISSION	0	0
ROOF TRANSMISSION	2,071	0
partition transmission	0	0
LIGHTING: (5,432 W TOTAL)	18,543	0
OTHER ELEC.: (5,412 W TOTAL)	18,485	0
PEOPLE : (15 PEOPLE TOTAL)	1,261	1,062
MISCELLANEOUS LOADS	0	0
EQUIPMENT DISSIPATION	0	0
PHILOSOPHER-UP	0	0
COOLING SAFETY LOAD	0	0
SUB-TOTAL:	30,991	1,062
NET VENTILATION LOAD : (164 CFM)	1,999	-728
SUPPLY FAN LOAD (HP= 1.0)	2,437	0
WALL LOAD TO PLENUM	0	0
ROOF LOAD TO PLENUM	0	0
LIGHTING LOAD TO PLENUM	0	0
TOTAL COOLING LOADS	35,427	334

COIL SELECTION PARAMETERS:

COIL ENTERING AIR TEMP. (DB/WB)	=	73.17 69.8 deg F
COIL LEAVING AIR TEMP. (DB/WB)	=	53.67 53.1 deg F
COIL SENSIBLE LOAD	=	34,517 BTU/hr
COIL TOTAL LOAD	=	35,246 BTU/hr
COOLING SUPPLY AIR TEMPERATURE	=	55.0 deg F
TOTAL COOLING CFM (actual)	=	1,641 CFM
TOTAL COOLING CFM (std. air)	=	1,638 CFM
RESULTING ROOM REL. HUMIDITY	=	50.6 %
COIL BYPASS FACTOR	=	0.050
COIL APPARATUS DEWPOINT	=	35.6 deg F
REHEAT REQUIRED	=	0 BTU/hr

GENERAL SUMMARIES

TOTAL COOLING LOAD	=	2.94 Tons
	=	460.83 sqft/Ton
TOTAL FLOOR AREA	=	1,355.00 sqft
OVERALL U FACTOR	=	0.000 BTU/hr/sqft/F
COOLING CFM/sqft	=	1.22 CFM/sqft.

ZONE DESIGN COOLING LOAD SUMMARY

Location : MOUNTAIN VIEW, California
Prepared by : MECHANICAL PLANNING, INC.
Carrier Hourly Analysis Program

11-04-91
Page 2 of 2

CALCULATION DATA

Zone Name : ACS
Job Name : GTE BLDG. 1

Calc Time: Jun 10th
Adj db/wb: 92.1/ 65.8 F

WALL AND GLASS LOAD BREAKDOWN

LOAD COMPONENT	AREA (sqft)	TRANSMISSION (BTU/hr)	SOLAR LOAD (BTU/hr)
GLASS LOADS/AL	0	0	0
E	0	0	0
SE	0	0	0
S	0	0	0
SW	0	0	0
W	0	0	0
NW	0	0	0
N	0	0	0
H	0	0	0
WALL LOADS: E	0	0	0
E	0	0	0
SE	0	0	0
S	0	0	0
SW	0	0	0
W	0	0	0
NW	0	0	0
N	0	0	0

ZONE DESIGN COOLING LOAD SUMMARY

Location : MOUNTAIN VIEW, California
Prepared by : MECHANICAL PLANNING, INC.
Carrier Hourly Analysis Program

11-04-91
Page 2 of 2

CALCULATION DATA

Zone Name : ACS
Job Name : GTE BLDG. 1

Calc Time: Jun 10th
Adj db/wb: 92.1/ 65.8 F

LOAD COMPONENTS

	LOAD (BTU/hr)
WALL TRANSMISSION	0
ROOF TRANSMISSION	[illegible]
GLASS TRANSMISSION	0
TRANSMISSION THRU UNCOND. SPACES	0
INFILTRATION LOAD	0
INFILTRATION	[illegible]
HEATING SAFETY LOAD	0
SUB-TOTAL	[illegible]
NET VENTILATION LOAD	[illegible]
NOTE: NEGATIVE LOAD	
NOTE: NEGATIVE LOAD	
HEATING SUPPLY CFM	[illegible] CFM
HEATING SUPPLY TEMPERATURE	[illegible] deg F
HEATING SUPPLY AIRFLOW	[illegible] CFM
HEATING DESIGN AIRFLOW TEMP.	[illegible] deg F

ZONE DESIGN COOLING LOAD SUMMARY

Location : MOUNTAIN VIEW, California
Prepared by : MECHANICAL PLANNING, INC.
Carrier Hourly Analysis Program

11-04-91
Page 2 of 2

CALCULATION DATA

Zone Name : ACS
Job Name : GTE BLDG. 1

Calc Time: Jun 10th
Adj db/wb: 92.1/ 65.8 F

LOAD INFORMATION

LOAD COMPONENT	SENSIBLE (BTU/hr)	LATENT (BTU/hr)
SOLAR LOAD	0	0
GLASS TRANSMISSION	0	0
WALL TRANSMISSION	0	0
ROOF TRANSMISSION	0	0
partition transmission	2,724	0
LIGHTING: (2,457 W TOTAL)	[illegible]	0
OTHER ELEC.: (2,594 W TOTAL)	[illegible]	0
PEOPLE : (8.77 PEOPLE TOTAL)	[illegible]	[illegible]
MISCELLANEOUS LOADS	0	0
EQUIPMENT DISSIPATION	0	0
PHILOSOPHER-UP	0	0
COOLING SAFETY LOAD	0	0
SUB-TOTAL:	[illegible]	[illegible]
NET VENTILATION LOAD : ([illegible] CFM)	[illegible]	[illegible]
SUPPLY FAN LOAD (HP= [illegible])	[illegible]	0
WALL LOAD TO PLENUM	0	0
ROOF LOAD TO PLENUM	0	0
LIGHTING LOAD TO PLENUM	0	0
TOTAL COOLING LOADS	[illegible]	[illegible]

COIL SELECTION PARAMETERS:

COIL ENTERING AIR TEMP. (DB/WB)	=	[illegible] deg F
COIL LEAVING AIR TEMP. (DB/WB)	=	[illegible] deg F
COIL SENSIBLE LOAD	=	[illegible] BTU/hr
COIL TOTAL LOAD	=	[illegible] BTU/hr
COOLING SUPPLY AIR TEMPERATURE	=	[illegible] deg F
TOTAL COOLING CFM (actual)	=	[illegible] CFM
TOTAL COOLING CFM (std. air)	=	[illegible] CFM
RESULTING ROOM REL. HUMIDITY	=	[illegible] %
COIL BYPASS FACTOR	=	[illegible]
COIL APPARATUS DEWPOINT	=	[illegible] deg F
REHEAT REQUIRED	=	[illegible] BTU/hr

GENERAL SUMMARIES

TOTAL COOLING LOAD	=	[illegible] Tons
	=	[illegible] sqft/Ton
TOTAL FLOOR AREA	=	[illegible] sqft
OVERALL U FACTOR	=	[illegible] BTU/hr/sqft/F
COOLING CFM/sqft	=	[illegible] CFM/sqft

ZONE DESIGN COOLING LOAD SUMMARY

Location : MOUNTAIN VIEW, California 11-04-91
Prepared By : MECHANICAL PLANNING, INC a1001920C
Carrier Hourly Analysis Program Page 2 of 2

CALCULATION DATA:
Zone Name : DC-A Calc Time: Jun 16<0>
Job Name : GTE BLDG. 1 Des db/wb: 83.4/ 63.8 F

WALL AND GLASS LOAD BREAKDOWN

LOAD COMPONENT		AREA (sqft)	TRANSMISSION (BTU/hr)	SOLAR LOAD (BTU/hr)
GLASS LOADS:	NE	0	0	0
	S	0	0	0
	SE	0	0	0
	E	0	0	0
	SW	0	0	0
	W	0	0	0
	NW	0	0	0
	N	0	0	0
	H	0	0	0
WALL LOADS:	NE	0	0	-
	E	0	0	-
	SE	0	0	-
	S	0	0	-
	SW	0	0	-
	W	0	0	-
	NW	0	0	-
	N	0	0	-

ZONE DESIGN HEATING LOAD SUMMARY

Location : MOUNTAIN VIEW, California 11-04-91
Prepared By : MECHANICAL PLANNING, INC a1001920C
Carrier Hourly Analysis Program Page 1 of 1

CALCULATION DATA:
Zone Name : DC-A
Job Name : GTE BLDG. 1
Calc Time: Jan 16<0>
Des db: 3.0 F

LOAD COMPONENT | LOAD (BTU/hr)

WALL TRANSMISSION	0
ROOF TRANSMISSION	0
GLASS TRANSMISSION	0
TRANSMISSION LOSS TO UNHEAD. SPACES	0
INFILTRATION LOSS	88
SLAB MOUNT	0
HEATING BOILER BTU/hr	1,999
SUB-TOTAL	18%
NET VENTILATION LOSS	2,188
TOTAL HEATING LOSS	4e CFM
MINIMUM OUTDOOR AIR	1100 deg F
HEATING SUPPLY AIR TEMPERATURE	5.3M
HEATING VENTILATION AIR CFM	3000 deg F
HEATING THERMOSTAT SETPOINT TEMP	

ZONE DESIGN COOLING LOAD SUMMARY

Location : MOUNTAIN VIEW, California 11-04-91
Prepared By : MECHANICAL PLANNING, INC a1001920C
Carrier Hourly Analysis Program Page 1 of 2

CALCULATION DATA:
Zone Name : DC-A
Job Name : GTE BLDG. 1
Calc Time: Jan 16<0>
Des db/wb: 85.2/ 63.8 F

LOAD DIAGNOSTICS

LOAD COMPONENT	SENSIBLE (BTU/hr)	LATENT (BTU/hr)
SOLAR LOAD	0	0
GLASS TRANSMISSION	0	0
WALL TRANSMISSION	0	0
ROOF TRANSMISSION	0	0
PARTITION TRANSMISSION	0	0
INFILTRATION	9,736 W TOTAL	0
OTHER PEOPLE : 4	4,440 W TOTAL	0
PEOPLE : 12,000 SENSIBLE (BTU/hr)	8,109	3,401
MISCELLANEOUS LOADS	0	0
COMPUTER LOAD	0	0
PARLOUS/SHEETS	0	0
LOAD DUE TO WALL	0	0
SUB-TOTAL	17,845	3,401
NET VENTILATION LOAD : 216 CFM	1,966	651
SUPPLY FAN LOAD (BHP) : 1.31	1,000	0
WALL LOAD TO PLENUM	0	0
ROOF LOAD TO PLENUM	0	0
LIGHTING LOAD TO PLENUM	0	0
TOTAL COOLING LOADS	21,309	4,034

COIL SELECTION PARAMETERS:

COIL ENTERING AIR TEMP. (DRYBU)	=	70.17 ed.1 deg F
COIL LEAVING AIR TEMP. (DRYBU)	=	55.47 53.1 deg F
COIL SENSIBLE LOAD	=	45,408 BTU/hr
COIL TOTAL LOAD	=	46,338 BTU/hr
COOLING SUPPLY AIR TEMPERATURE	=	55.0 deg F
TOTAL COOLING CFM (actual)	=	3,142 CFM
TOTAL COOLING CFM (std. air)	=	2,185 SCFM
RESULTING ROOM REL. HUMIDITY	=	52.1 %
COIL BYPASS FACTOR	=	0.050
COIL APPARATUS DEW POINT	=	52.6 deg F
WHEEL BY-PASS	=	0 BTU/hr

SENSIBLE HEAT RATIO

TOTAL COOLING LOAD

	=	3.02 Tons
TOTAL FLOOR AREA	=	650.72 sqft/Zone
OVERALL U-FACTOR	=	2,636.00 sqft
COOLING CFM/sqft	=	4.850 BTU/hr/sqft/F
	=	0.80 CFM/sqft

ZONE DESIGN COOLING LOAD SUMMARY

Location : MOUNTAIN VIEW, California 11-04-91
Prepared By : MECHANICAL PLANNING, INC a1001920C
Carrier Hourly Analysis Program Page 2 of 2

CALCULATION DATA:
Zone Name : DC-A
Job Name : GTE BLDG. 1
Calc Time: Jan 16<0>
Des db/wb: 85.2/ 63.8 F

WALL AND GLASS LOAD BREAKDOWN

LOAD COMPONENT		AREA (sqft)	TRANSMISSION (BTU/hr)	SOLAR LOAD (BTU/hr)
GLASS LOADS:	NE	0	0	0
	S	0	0	0
	SE	0	0	0
	E	0	0	0
	SW	0	0	0
	W	0	0	0
	NW	0	0	0
	N	0	0	0
	H	0	0	0
WALL LOADS:	NE	0	0	-
	E	0	0	-
	SE	0	0	-
	S	0	0	-
	SW	0	0	-
	W	0	0	-
	NW	0	0	-
	N	0	0	-

ZONE DESIGN HEATING LOAD SUMMARY

Location : MOUNTAIN VIEW, California — 11-04-91
Prepared By : MECHANICAL PLANNING, INC — 010014K202
Carrier Hourly Analysis Program — Page 1 of 1

CALCULATION DATA:
Zone Name : AL-7 — Calc Time: Winter design
Job Name : ETE BLDG. 1 — Amb db : 32.0 F

LOAD COMPONENT	LOAD (BTU/hr)
WALL TRANSMISSION	0
ROOF TRANSMISSION	4,077
GLASS TRANSMISSION	0
TRANSMISSION LOSS TO UNHTD. SPACES	0
INFILTRATION LOSS	0
SLAB FLOOR	-196
HEATING SAFETY BTU/hr	0
SUB-TOTAL	4,047
NET VENTILATION LOSS	433
TOTAL HEATING LOAD	5,120

HEATING SUPPLY CFM : 197 CFM
HEATING SUPPLY AIR TEMPERATURE : 120.0 deg F
HEATING VENTILATION AIR CFM : 11 CFM
HEATING THERMOSTAT SETPOINT TEMP : 70.0 deg F

ZONE DESIGN COOLING LOAD SUMMARY

Location : MOUNTAIN VIEW, California — 11-04-91
Prepared By : MECHANICAL PLANNING, INC — 010014K202
Carrier Hourly Analysis Program — Page 1 of 1

Zone Name : AL-7

Space Name	No.	Date	Invisible (Btu/h)	Latent (Btu/h)	Supply Air (CFM)
1414 ART DEPT	Jun	1800	2,01	0.24	1,687.2
1415-TO 1417 CLOTHING	Jun	1800	0.85	0.00	504.8
Total including space multipliers					2,192.0

STRUCTURAL CALCULATIONS FOR

PROJECT: ETE BUILDING 1 MOUNTAIN VIEW, CALIFORNIA

ADDRESS: MOUNTAIN AVENUE, MOUNTAIN VIEW, CALIFORNIA
(Please indicate this address on all correspondence and on the envelope used)

ARCHITECT: KEE WONG

PROJECT NO.: 1881132/91

RECEIVED NOV 15 1991 ANDREW & KNOX, INC

INDEX TO CALCULATIONS

SHEET:	ITEM:
M-1 TO M-8	CALCULATIONS
S-1 TO S-2	DRAWINGS

PLAN CHECK SET
RETURN TO BLDG. DEPT
DATE NOV 11 BY

KEE WONG ENGINEERING, INC.
CONSULTING ENGINEERS
201 SOUTH SANTA FE AVE, SUITE 300
SANTA ANA, CALIFORNIA 92704

REGISTERED PROFESSIONAL ENGINEER — KEE WONG — No. 25276 — Exp. 3-31-92 — STATE OF CALIFORNIA — CIVIL

KEE WONG ENGINEERING, INC.
CONSULTING ENGINEERS

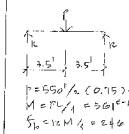
Date: 11/7/91 Prepared By: CMA Form No. LB51(92/91)

Sheet No. M-1

ROOF LOADING

	PURLIN	ELB.
ROOFING	2.0	2.0
1/2" PLYWD	1.5	1.5
INSUL	1.5	1.5
PURLIN	2.0	2.0
ELB.		2.0
CEILING	1.5	1.5
SPRINKLER	1.5	1.5
DL	10 PSF	12 PSF
LL	20 PSF	12 PSF

CHECK SUPPORT AT AC-1



4x6 D.F No 2
$F_b = 1250$ psi
$S = 17.0$ in^3

$P = 550^{\#}/_{ft}(0.75) = 206^{\#}$
$M = PL/4 = 361^{\#}\text{-}ft$
$f_b = 12M/S = 254$ psi O.K.

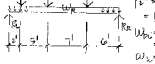
KEE WONG ENGINEERING, INC.
CONSULTING ENGINEERS

Date: 11/7/91 Prepared By: CMA Project No. LR5 1103/91

Sheet No. M-2

CHECK 4x14 PURLIN W/ (N) MECH. UNIT

(EXIST.)



$P_b = 550^{\#}/_{ft}(0.75)$
$= 103^{\#}$

$W_{DL} = 10^{\#}/_{ft}$
$= 80^{\#}/_{ft}$

$W_{LL} = 20^{\#}/_{ft}$
$= 160^{\#}/_{ft}$

4x14 - D.F. No. 1

$F_b = 1500 \times 1.25$
$= 1875$ psi

$F_v = 95 \times 1.25$
$= 119$ psi

$S = 102.4\ IN^3$
$A = 46.4\ IN^2$
$I = 678.5\ IN^4$

$M_{CONT.} = W_{DEAD} L^2/8 + 710(2 \times 10)/L + 103(5 \times 10)/L + 103(5 \times 10)/L$
@ MIDSPAN
$= 13337^{\#}\text{-FT}$

$R_{CONT} = W_{DL} L/2 + 710\left(\frac{18}{20}\right) + 103\left(\frac{13}{20} + \frac{6}{20}\right)$
$= 3191^{\#}$

$f_b = 12M/S = 1503$ psi O.K.

$f_v = 1.5R/A = 51$ psi O.K.

$\Delta = ML^2/9.6EI = 0.8\ IN < L/240$ O.K.

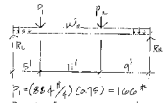
HANGER CAP $= 3.25^K > R_{CONT}$ O.K.

KEE WONG ENGINEERING, INC.
CONSULTING ENGINEERS

Date: 11/7/91 Prepared By: CMA Project No. LR5 1102/91

Sheet No. M-3

CHECK 4x10 PURLIN W/ (N) MECH. UNIT.



$P_b = 1500 \times 1.25$
$= 1875$ psi

$F_v = 95 \times 1.25$
$= 119$ psi

$S = 15.7\ IN^3$
$A = 33.4\ IN^2$
$I = 103.4\ IN^4$

$P_1 = (88.4^{\#}/_{ft})(0.75) = 66^{\#}$

$P_2 = 600^{\#} \times 0.75 = 450^{\#}$

$W_{DL} = 80^{\#}/_{ft}$ $W_{LL} = 160^{\#}/_{ft}$

$M_{CONT.} = W_{DEAD} L^2/8 + P_1(5 \times 15.5)/L + P_2(9 \times 13.5)/L$
@ MID-SPAN
$= 2190^{\#}\text{-FT}$

$R_{CONT} = W_{DL} L/2 + P_1\left(\frac{5}{20}\right) + P_2\left(\frac{16}{20}\right) = 3381^{\#}$

$f_b = 12M/S = 1875$ psi O.K.

$f_v = 1.5R_{max}/A = 93$ psi O.K.

$\Delta = ML^2/9.6EI = 1.28' \approx L/240$ O.K.

HANGER CAP $= 5.3^K > R_{CONT.}$ O.K.

KEE WONG ENGINEERING, INC.

Date: 11/7/91 Prepared By: CMA Project No. LR5 1102/91

Sheet No. M-4

G L U E D - L A M I N A T E D B E A M D E S I G N

DESCRIPTION : GLB @ 4.125 IN (4/ NEW AGL, ACS & AC-4)

ALLOWABLE STRESSES

Fb - Bending	=	2,400 psi	
Fv - Shear	=	165 psi	
Elastic Modulus	=	1,800,000 psi	
L.D.F.	=	1.28	

Prelim. Beam Width	=	5.125 in	
Lamination Thickness	=	1.5 in	
Eff. Length Factor	=	1.92	
DL : Center Span	=	0 ft	
DL : Left Cant.	=	0 ft	
DL : Right Cant.	=	0 ft	

CROSS BEAM

LEFT CANT. LENGTH	=	0 ft	
RIGHT CANT. LENGTH	=	0 ft	

SUPPORT BEAM DIMENSIONS

# 1 Uniform D.L.	=	12 psf		X-Left	=	0 ft	
Uniform L.L.	=	12 psf		X-Right	=	48.25 ft	
Prob. Width	=	25.0 ft					
# 2 Uniform D.L.	=	0 psf		X-Left	=	0 ft	
Uniform L.L.	=	0 psf		X-Right	=	0 ft	
Prob. Width	=	0 ft					

Concentrated Loads : Length : 7 x Width from Left Support :

#1: DL	=	884 #	#2: DL	=	442 #	#3: DL	=	0 #
LL	=	0 #	LL	=	0 #	LL	=	0 #
X-Dist	=	12 ft	X-Dist	=	32 ft	X-Dist	=	0 ft

(AC-4) 884# (AC-4) 884# (AC-4) 884# (AC-5)

LAYOUT SCHEMATIC -- Suggested Size : 5.125 in x 24 in

SELECTED BEAM SIZE --> 5.125 in x 26.5 in

M : Actual	=	585 in^3	A - Actual	=	131 in^2
M : M / (FB*CD)	=	493 in^3	A - Required	=	76 in^2
Fb : Actual	=	2,444 psi	Fv : Actual	=	123 psi
Fb : Allowable	=	2,700 psi	Fv : Allowable	=	300 psi
% of Max.	=	90.5 % O.K.	% of Max.	=	89.4 % O.K.

POSSIBLE SECTION & SIZES (Give Loads Skip Loaded For Max. Mom.)

M2 = (L2/8) / FB	=	3,936	Cb = (Lm d / b^2)^.5	=	58.21
MAXIMUM BENDING	=	1,337 in-k	Bonin Size Req'd	=	*******
MAX. MOM.AC * 1.5	=	14,880 #	Area Required	=	492 in^2
				=	77.6 in^2

KEE WONG ENGINEERING, INC.

Date: 11/7/91 Prepared By: CMA Project No. LR5 1103/91

Sheet No. M-5

Positive Moment	=	1,382 in-k	Allow. Fb*: Center	=	2189.2 psi	
Left Neg. Moment	=	0 "	Allow. Fb*: Left	=	0 "	
Right Neg. Moment	=	0 "	Allow. Fb*: Right	=	0 "	

Shear @ Left = 10,628 # Shear @ Right = 10,057 #

REQUIRED DEPTHS CLEARANCE OVERHEAD (2' x-s. 3-0) = 0

LOS TO BEARING : (Approx.)			DOS TO BREAK : (Approx.)		
Center Span	=	33.3 in	@ Left Support	=	35.1 in
Left Cant	=	0.0 in	@ Right Support	=	15.1 in
Right Cant	=	0.0 in			

MAX. REACTION

		Skip Load Left Support	Live Load Right Support
Dead Load	=	5,880 #	8,921 #
Live Load	=	5,480 #	8,300 #
Total Load	=	11,360 #	17,221 #

DEFLECTIONS Positive = Downward

		Left Cantilever	Center Span	Right Cantilever
X-Distance (Center = Span/2)	=	0 ft	20 ft	0 ft
Dead Load Defl. L/Defl	=	0A in 0A	1.35 in 358	0A in 0A
Live Load Defl. L/Defl	=	0A in 0A	1.23 in 391	0A in 0A
Total Load Defl. L/Defl	=	0A in 0A	2.58 in 186	0A in 0A
CAMBER - L/2 * DL	=	0A in	********in	0A in

BEARING :

Fb - Bearing	=	850 psi	
Bearing Length Required @ Left Support	=	********in	
Bearing Length Required @ Right Support	=	********in	

BOLT CUT DEPTHS

Minimum Bolt Height @ Left End For Shear Stress	=	********in
Minimum Bolt Height @ Right End For Shear Stress	=	********in

REE WORK ENGINEERING, INC. Sheet No. M-6

Date: 11/7/91 Prepared by: CMA Project No. LR6102/91

GLUED - LAMINATED BEAM DESIGN

DESCRIPTION: GB# 8 LINE 18 (W/ NEW ACH & EXISTS CU-1)

ALLOWABLE STRESSES

Fb - Bending	= 2,400 psi	Profile, Beam Width	= 5.125 in
Fv - Shear	= 165 psi	Lamination Thickness	= 1.5 in
Elastic Modulus	= 1,800,000 psi	Eff. Length Factor	= 1.92
L.D.F.	= 1.25	Lu : Center Span	= 8 ft
		Lu : Left Cant.	= 0 ft
		Lu : Right Cant.	= 0 ft

CENTER SPAN = 48 ft LEFT CANT. LENGTH = 0 ft

RIGHT CANT. LENGTH = 0 ft

CENTER SPAN LOADING

# 1 Uniform D.L.	= 12 psf	X-Left	= 0 ft
Uniform L.L.	= 12 psf	X-Right	= 48 ft
Trib. Width	= 24 ft		
# 2 Uniform D.L.	= 0 psf	X-Left	= 0 ft
Uniform L.L.	= 0 psf	X-Right	= 0 ft
Trib. Width	= 0 ft		

2304 # = 576 (0.5)

Concentrated Loads : X = Dist. from Left Support)

#1: DL	= 3576 #	#2: DL	= 0 #	#3: DL	= 0 #
LL	= 0 #	LL	= 0 #	LL	= 0 #
X-Dist	= 13 ft	X-Dist	= 0 ft	X-Dist	= 0 ft

DESIGN SUMMARY -- Suggested Size : 5.125 in X 24 in

SELECTED BEAM SIZE : 5.125 in X 24 in

S : Actual	= 492 in^3	A - Actual	= 123 in^2
S : D / (Fb*CF)	= 480 in^3	A - Required	= 78 in^2
F-b : Actual	= 2,390 psi	Fv : Actual	= 133 psi
F-b : Allowable	= 2,579 psi	Fv : Allowable	= 206 psi
% of Max.	= 93.6 % O.K.	% of Max.	= 65.6 % O.K.

DEFLECTION SUMMARY & CHECKS (Live Loads Ship Loaded For Max. Def.)

DF - DL(L) ***	= 0.526	CR = 100 d / L^2 *E*	= ******
DF - LL(L) ***	= 1.207 in-k	Beam Size Req'd	= 484 in^3
MAX. DEFLECT * L/E	= 16.125 #	Area Required	= 78.3 in^2

REE WORK ENGINEERING, INC. Sheet No. M-7

Date: 11/7/91 Prepared by: CMA Project No. LR6102/91

Positive Moment	= 1,361 in-k	Allow. Fb*: Center	= 2777.8 psi
Left Neg. Moment	= 0 " "	Allow. Fb*: Left	= 0 "
Right Neg. Moment	= 0 " "	Allow. Fb*: Right	= 0 "

Shear @ Left = 10.149 # Shear @ Right = 9.889 #

REQUIRED DEFLECTION SUBMERGENCE COVERED ?? E=1, H=0 ----> 0 <---

LINE TO BEARING : (Approx.) DUE TO SHEAR : (Approx.)

Center Span	= 23.4 in	@ Left Support	= 15.3 in
Left Cant	= 0.0 in	@ Right Support	= 14.0 in
Right Cant	= 0.0 in		

MAX. REACTIONS

	Ship Load	Live Load	T=1.0-0 --->	I
	Left Support	Right Support		---
Dead Load	= 8,530 #	5,027 #		
Live Load	= 4,996 #	4,800 #		
Total Load	= 13,526 #	10,027 #		

DEFLECTIONS Positive = Downward

	Left Cantilever	Center Span	Right Cantilever
X-Distance	= 0 ft	24 ft	0 ft
(DeLeaf = Span/2)			
Dead Load Defl. (L/Def)	= NA in = NA	1.78 in O.K. 270	.00 in NA
Live Load Defl. (L/Def)	= NA in = NA	1.31 in 327	NA in NA
Total Load Defl. (L/Def)	= NA in = NA	3.05 in 190	NA in NA
CAMBER = 1.5 * DL	= NA in	******in	NA in

BEARING :

Bearing Length Required @ Left Support	Fb - Bearing	= 650 psi
Bearing Length Required @ Right Support		=********in
		=********in

BEAM END HEIGHTS

Minimum End Height @ Left End For Shear Stress	=********in
Minimum End Height @ Right End For Shear Stress	=********in

REE WORK ENGINEERING, INC. Sheet No. M-8

Date: 11/7/91 Prepared by: CMA Project No. LR6102/91

GLUED - LAMINATED BEAM DESIGN

BEAM DESIGN : GB# 8 LINE 9.3 (ATWA LANDING 8 18)

ALLOWABLE STRESSES

Fb - Bending	= 2,400 psi	Profile, Beam Width	= 5.125 in
Fv - Shear	= 165 psi	Lamination Thickness	= 1.5 in
Elastic Modulus	= 1,800,000 psi	Eff. Length Factor	= 1.92
L.D.F.	= 1.25	Lu : Center Span	= 9 ft
		Lu : Left Cant.	= 0 ft
		Lu : Right Cant.	= 0 ft

CENTER SPAN = 45 ft LEFT CANT. LENGTH = 0 ft

RIGHT CANT. LENGTH = 0 ft

CENTER SPAN LOADING

# 1 Uniform D.L.	= 0 psf	X-Left	= 0 ft
Uniform L.L.	= 0 psf	X-Right	= 0 ft
Trib. Width	= 0 ft		
# 2 Uniform D.L.	= 0 psf	X-Left	= 0 ft
Uniform L.L.	= 0 psf	X-Right	= 0 ft
Trib. Width	= 0 ft		

CHANGED ALL THE LOADS TRANSFERED THU GLBS & CANNOT IN PERPENDICULAR

Concentrated Loads : X = Dist. from Left Support)

#1: DL	= 11251 #	#2: DL	= 0 #	#3: DL	= 0 #
LL	= 10500 #	LL	= 0 #	LL	= 0 #
X-Dist	= 22.5 ft	X-Dist	= 0 ft	X-Dist	= 0 ft

(8.5+4.5)

DESIGN SUMMARY : 7.5 (Dead Load) + 4.5 (Live Load) / 2 = 2.875 (0.4) / 2 (Cantilever)

Defl. DL = 0 psf #1: DL = 9327 # #2: DL = 0 #

Defl. LL = 0 psf DL = 0 # LL = 0 #

Trib Width = 0 ft X Dist = 0 ft X Dist = 0 ft

(Find Reaction, SEE P.M-5)

(Left Support) (Cantilever)

DESIGN SUMMARY -- Suggested Size : 5.125 in X 34.5 in

SELECTED BEAM SIZE ---> 5.125 in X 34.5 in

S : Actual	= 1,911 in^3	A - Actual	= 177 in^2
S : D / (Fb*CF)	= 986 in^3	A - Required	= 97 in^2
F-b : Actual	= 2,866 psi	Fv : Actual	= 213 psi
F-b : Allowable	= 2,834 psi	Fv : Allowable	= 206 psi
% of Max.	= 97.2 % O.K.	% of Max.	= 54.9 % O.K.

DEFLECTION SUMMARY & CHECKS (Live Loads Ship Loaded For Max. Def.)

DF - DL(L) ***	= 0.883	CR = 100 d / L^2 *E*	= ******
DF - LL(L) ***	= 3.252 in-k	Beam Size Req'd	= 968 in^3
MAX. DEFLECT * L/E	= 26.625 #	Area Required	= 97.1 in^2

REE WORK ENGINEERING, INC. Sheet No. M-9

Date: 11/7/91 Prepared by: CMA Project No. LR6102/91

Positive Moment	= 2,583 in-k	Allow. Fb*: Center	= 2583.1 psi
Left Neg. Moment	= 576 " "	Allow. Fb*: Left	= 2633.6 "
Right Neg. Moment	= 0 " "	Allow. Fb*: Right	= 0 "

Shear @ Left = 12.357 # Shear @ Right = 0.784 #

REQUIRED DEFLECTION SUBMERGENCE COVERED ?? E=1, H=0 ----> 0 <---

LINE TO BEARING : (Approx.) DUE TO SHEAR : (Approx.)

Center Span	= 22.7 in	@ Left Support	= 19.8 in
Left Cant	= 15.4 in	@ Right Support	= 12.4 in
Right Cant	= 0.0 in		

MAX. REACTIONS

	Ship Load	Live Load	T=1.0-0 --->	I
	Left Support	Right Support		---
Dead Load	= 12,531 #	3,984 #		
Live Load	= 7,200 #	2,800 #		
Total Load	= 19,654 #	6,784 #		

DEFLECTIONS Positive = Downward

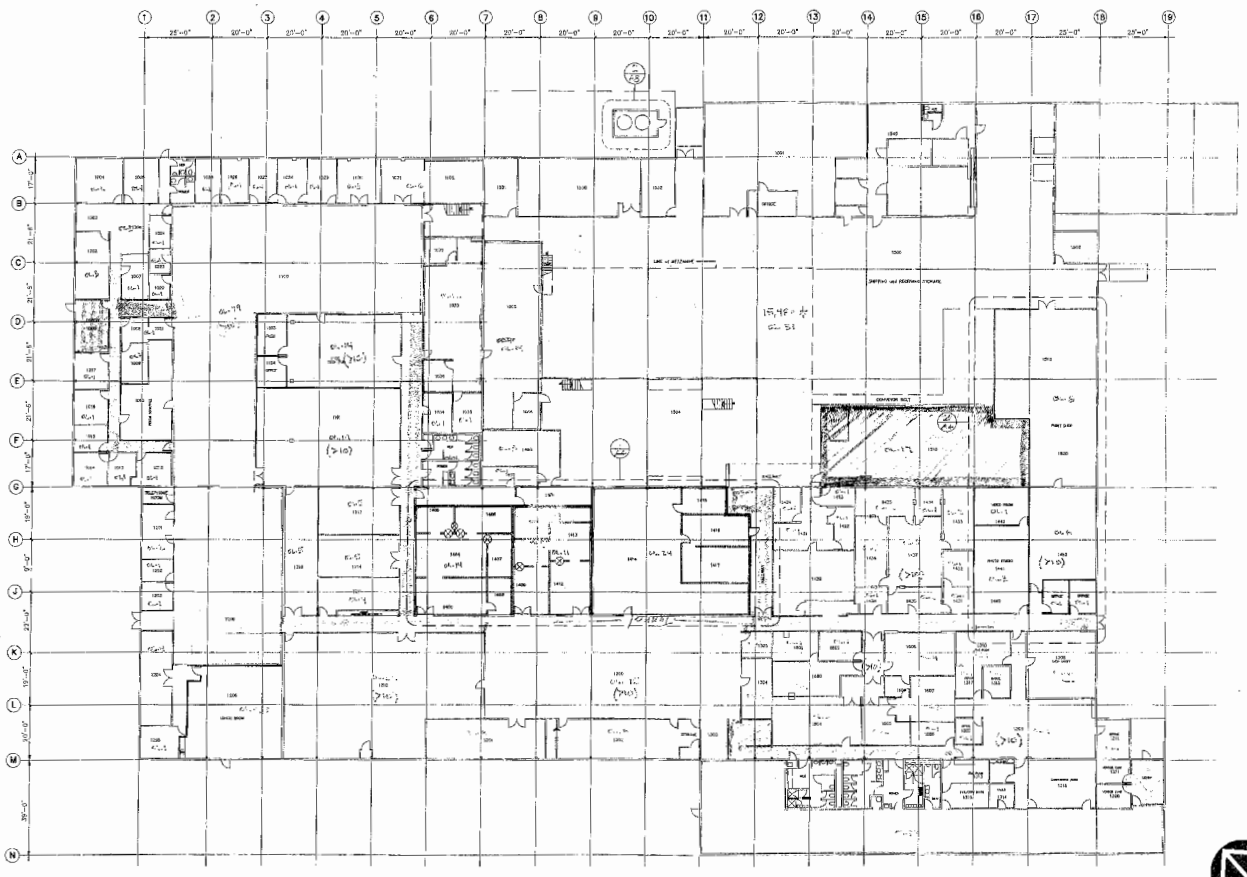
	Left Cantilever	Center Span	Right Cantilever
X-Distance	= 9 ft	22.5 ft	0 ft
(Default = Span/2)			
Dead Load Defl. (L/Def)	= -0.38 in O.K. = -364	0.82 in O.K. 656	NA in NA
Live Load Defl. (L/Def)	= -0.69 in = -157	1.18 in 380	NA in NA
Total Load Defl. (L/Def)	= 0.09 in = -160	1.95 in 289	NA in NA
CAMBER = 1.5 * DL	= ********in		NA in

BEARING :

Bearing Length Required @ Left Support	Fb - Bearing	= 850 psi
Bearing Length Required @ Right Support		=********in
		=********in

BEAM END HEIGHTS

Minimum End Height @ Left End For Shear Stress	= NA in
Minimum End Height @ Right End For Shear Stress	=********in



GENERAL FLOOR PLAN

1/16"=1'-0" | 1

REVISIONS

GTE BUILDING-1
TENANT IMPROVEMENT
100 FERGUSON DRIVE,
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
102 PERSIAN DRIVE SUNNYVALE
(408) 745-0331
FAX (408) 745-0336

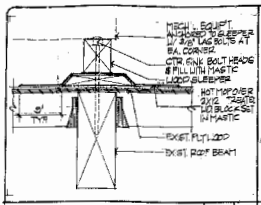
ARCHITECT

DATE 11-4-91 | PROJECT NO. 14,343

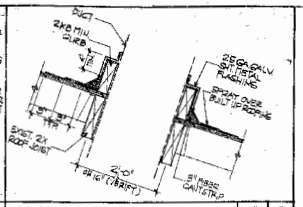
SCALE 1/16"=1'-0" | DRAWN LRS

SHEET A-2

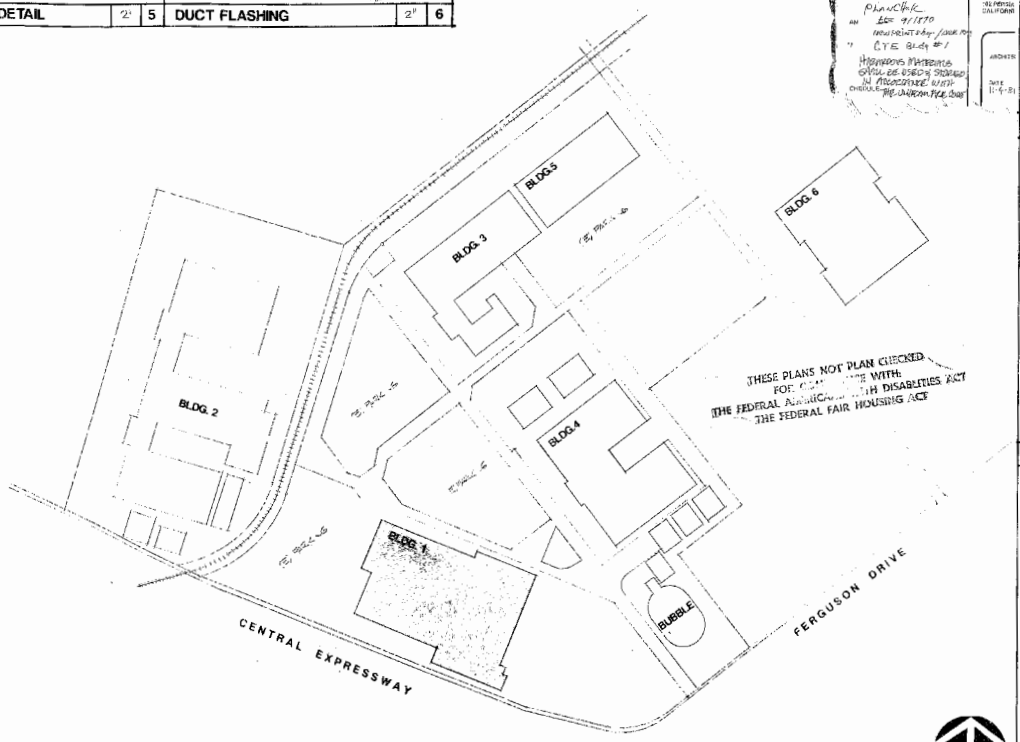
OF 5 SHEETS



SLEEPER DETAIL | 2" | 5



DUCT FLASHING | 2" | 6



EXISTING SITE PLAN | 1"=30' | 4

BUILDING DETAILS
100 Ferguson Dr. Bldg. 1
APPROVED
MV Fire Protection Bureau
Approval of this plan does not a[illegible] approval any violation of ordinance [illegible] applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.
Revisions/Date 2-23-71
PLANCHECK
EEE 4/1/70
INSURANCE/FIRE/SAFETY
CITE Bldg #1
HANDRAILS MATERIALS SHALL BE USED & STORED IN ACCORDANCE WITH THE UNIFORM FIRE CODE
CHECKED
DATE 1-9-81

LRS ARCHITECTS
MOUNTAIN VIEW, CALIFORNIA

GENERAL NOTES:

1. Dimensions marked * are flexible and can change as required to fit. Dimension not so marked shall take precedence over * dimensions.
2. Report any discrepancies in dimensions to Architect for clarification.
3. Exit doors shall be openable from the inside without the use of a key or any special knowledge or effort or, if the door is readily distinguishable, as locked be provided with a durable, conspicuous sign with minimum 1" letter stating, "This door to remain unlocked during business hours."
4. All walls not attached to roof structure shall be braced to roof structure at 10'-0" o.c. with metal studs at 45° maximum.
5. Do not connect to or suspend any items from 2 x 4 roof stiffeners without approval from Architect.
6. Exits shall be illuminated at any time when the building is occupied. Signs shall have a light level of not less than one foot candle at floor level.
7. Exit signs and exit illumination shall be on separate circuits, on an which shall be controlled independently.
8. All areas to be sprinklered, Group II, ordinary hazard. (N.B.C.) piping plans to be submitted to City for approval by sprinkler contractor.

GENERAL NOTES | 3

APN	EXISTING	
SITE AREA	51.72	ACRES
	2,252,608	SQ. FT.
BUILDING AREA (Gross)	347,000	SQ. FT.
	0	SQ. FT.
TOTAL	347,000	SQ. FT.
AREA OF THIS IMPROVEMENT		
BUILDING GFA AREA	87,100	SQ.FT.
VERTICAL DIMENSIONS	38,478	SQ.FT.
BUILDING COVERAGE	4	%
PARKING REQUIRED	3,088	CARS
PARKING PROVIDED	EXISTING	STANDARD STALLS
	(5) 2%	HANDICAP STALLS
	(2)21%(6)	COMPACT STALLS
TOTAL	(2)1,(5)	STALLS
PARKING RATIO	1/356 SF	%
PAVED AREA	EXISTING	SF
PAVING COVERAGE	EXISTING	%
LANDSCAPE AREA	EXISTING	SF
LANDSCAPING COVERAGE	EXISTING	%
TYPE OF CONSTRUCTION	EXISTING	
OCCUPANCY	B-2	
USE ZONE		
FIRE SPRINKLER SYSTEM	100% AUTOMATIC SPRINKLERS	
U.B.C. REFERENCE	1968	

SITE TABULATION | 2

ARCHITECTURAL

A-1 SITE PLAN, GEN. NOTES, TABULATION, DETAILS
A-2 GENERAL FLOOR PLAN
A-3 DEMOLITION PLANS
A-4 FLOOR PLANS
A-5 CEILING PLANS
A-6 EQUIPMENT LAYOUT
A-7 DETAILS
A-8 DETAILS
A-9 CORRIDOR DEMOLITION PLAN
A-10 CORRIDOR FLOOR PLAN
A-11 CORRIDOR CEILING PLAN

STRUCTURAL

S-1 PARTIAL ROOF FRAMING PLAN
S-2 GENERAL NOTES AND DETAILS

ELECTRICAL

E-3 TITLE 24 - DEMOLITION PLAN
E-4 LIGHTING LAYOUT
E-5 POWER LAYOUT (PHOTO LAB)
E-6 POWER LAYOUT (PAINT SHOP)

MECHANICAL

M-1 DRAWING INDEX, LEGEND, SCHEDULE DETAILS
M-2 HVAC - FLOOR PLAN
M-3 TITLE 24

PLUMBING

P-1 PLUMBING LAYOUT, DETAILS & LEGEND

APPROVED FOR CONSTRUCTION
BUILDING & SAFETY DIV.
CITY OF MOUNTAIN VIEW
PLAN CHECK

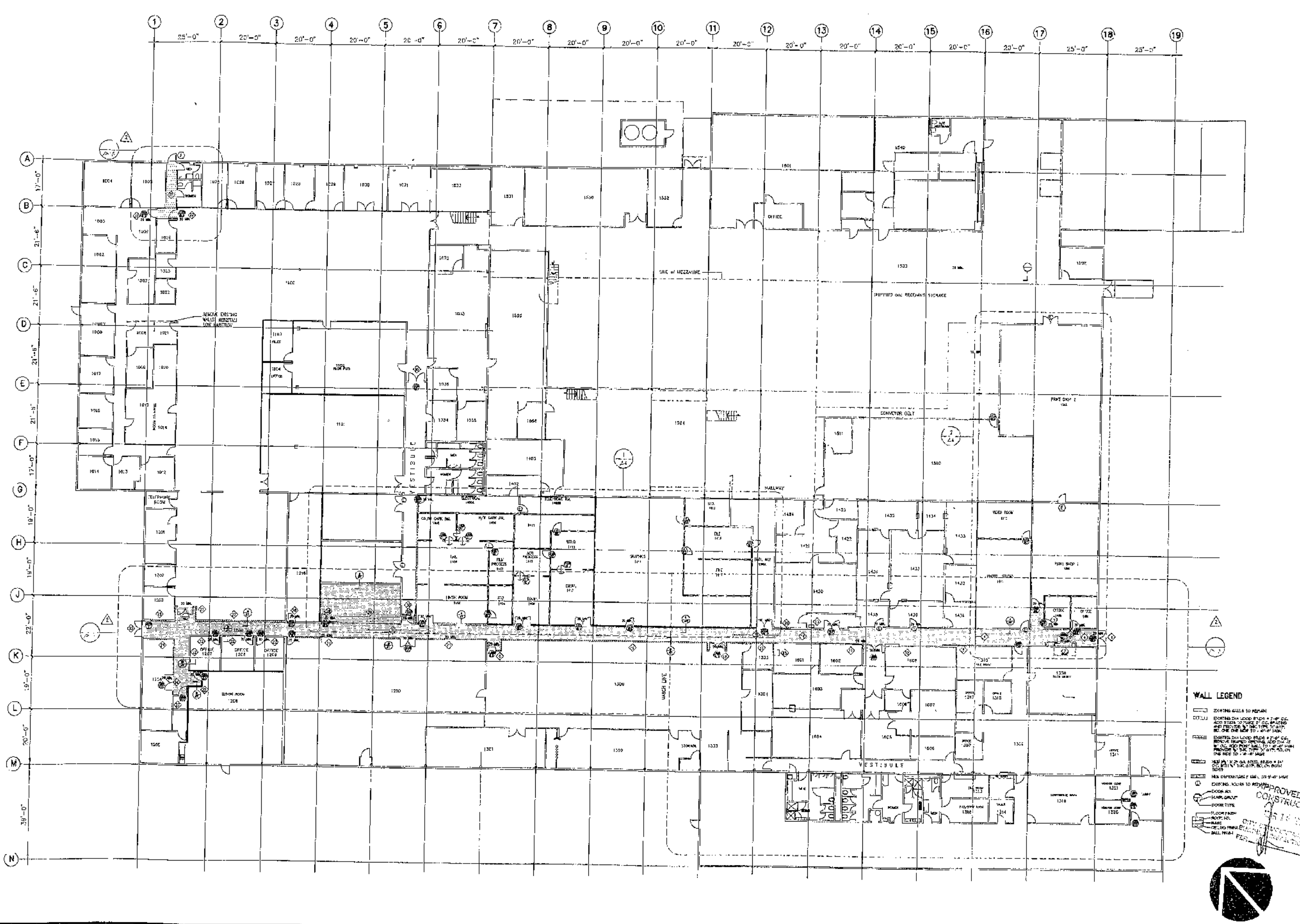
DRAWING INDEX | 1

REVISIONS

CITE BUILDING 1
TENANT IMPROVEMENT
100 FERGUSON DRIVE,
MOUNTAINVIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
100 FRESHAN SUITE 300
CALIFORNIA 94080
SUNNYVALE
(408) 745-0331
FAX: 745-0336

ARCHITECT
DATE
SCALE
DRAWN
SHEET
A-1
OF SHEETS



GENERAL FLOOR PLAN | 1/16"=1'-0" | 1

REVISIONS

2 CITY COMMENTS	2-21-92

GTE BUILDING–1
TENANT IMPROVEMENT

100 FERGUSON DRIVE,
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
102 PERSIAN DRIVE SUNNYVALE
(408) 745-0331
(408) 745-0336

APPROVED FOR CONSTRUCTION

ARCHITECT

DATE 11-4-91

PROJECT NO. 143

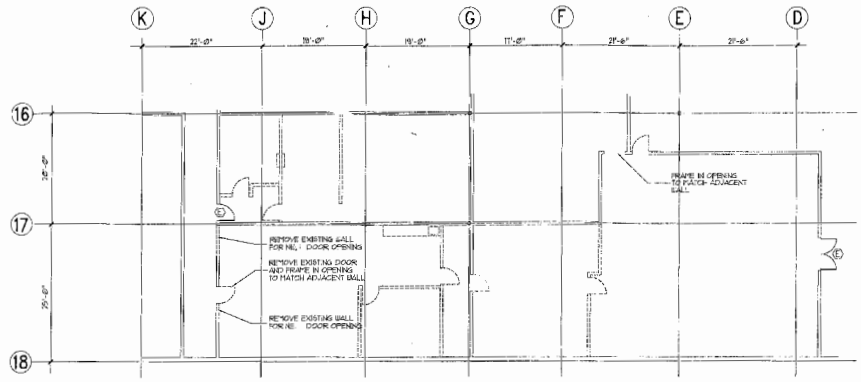
SCALE 1/16"=1'-0"

DRAWN LRS

SHEET

A-2

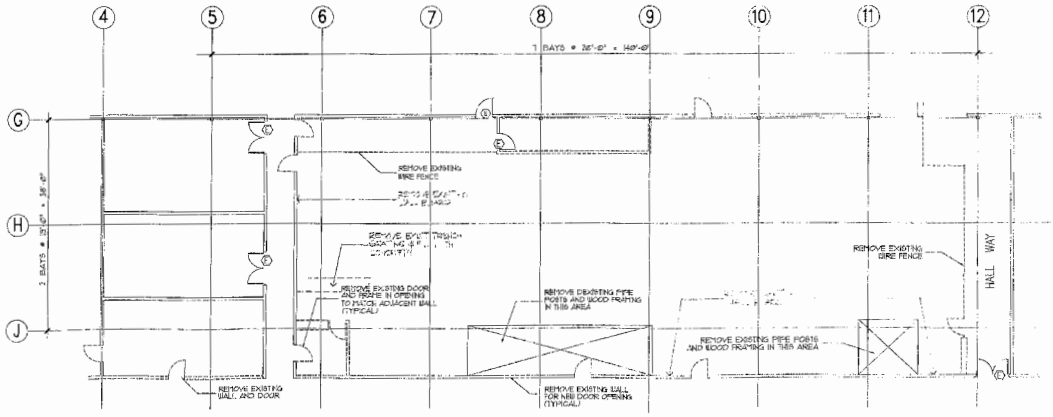
OF SHEETS



LEGEND

- EXISTING WALL TO REMAIN
- EXISTING WALL TO BE REMOVED
- EXISTING DOOR TO BE REMOVE AND FRAME IN OPENING TO NATC ADJACENT WALL
- EXISTING DOOR TO REMAIN

DEMOLITION FLOOR PLAN (PRINT SHOP AREA) 2



LEGEND

- EXISTING WALL TO REMAIN
- EXISTING WALL TO BE REMOVED
- EXISTING WIRE FENCE TO BE REMOVED
- EXISTING DOOR TO BE REMOVE AND FRAME IN OPENING TO NATC ADJACENT WALL
- EXISTING DOOR TO REMAIN

APPROVED FOR CONSTRUCTION

DEMOLITION FLOOR PLAN (PHOTO LAB. AND ART DEPT.) 1

REVISIONS

GTE BUILDING-1
TENANT IMPROVEMENT
100 FERGUSON DRIVE,
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
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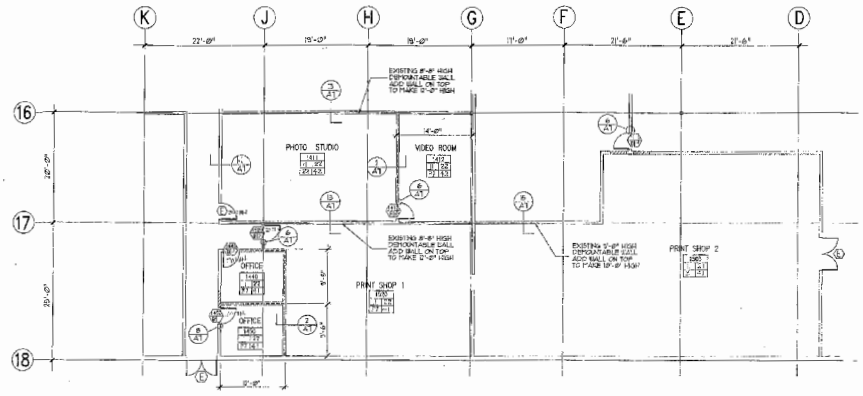
102 PERSIAN DRIVE SUNNYVALE
CALIFORNIA 94089 (408) 745-0381
FAX (408) 745-0336

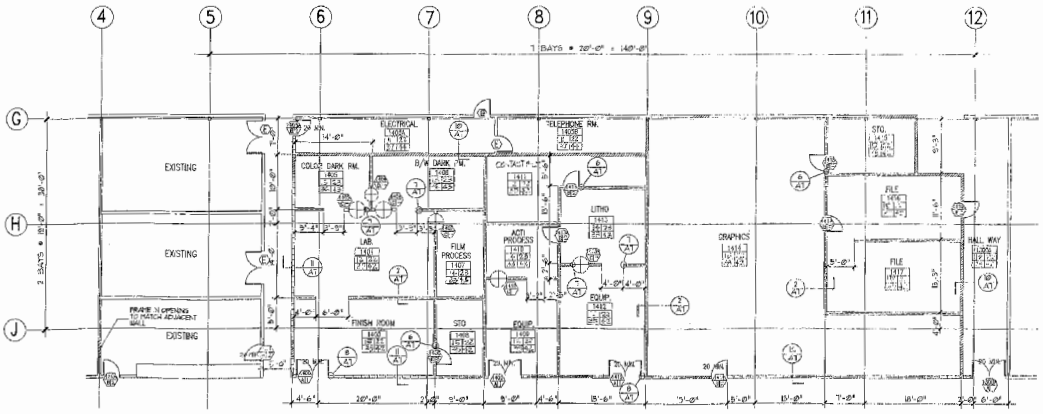
ARCHITECT
DATE 11-4-91
SCALE 1/8"=1'-0"
DRAWN AE
SHEET A-3
OF 7 SHEETS



WALL LEGEND

- EXISTING WALLS TO REMAIN
- NEW 3⅝" X 25 GA. STEEL STUDS @ 24" O.C. WITH ⅝" THK. GYP. BD. ON BOTH SIDES
- NEW DEMOUNTABLE WALL TO 2'-0" HIGH
- EXISTING DOORS TO REMAIN
- DOOR NO.
- HDWR. GROUP
- DOOR TYPE
- FLOOR FINISH
- ROOM NO.
- BASE
- CEILING FINISH
- WALL FINISH

FLOOR PLAN (PRINT SHOP AREA) 1/8"=1'-0" 2



WALL LEGEND

- EXISTING WALLS TO REMAIN
- EXISTING 2X4 WOOD STUDS @ 2'-0" O.C. ADD STUDS TO MAKE 0" O.C. SPACING AND PROVIDE ⅝" THK. TYPE 'X' GYP. BD. ONE ONE SIDE TO 2'-0" HIGH
- EXISTING 2X4 WOOD STUDS @ 2'-0" O.C. REMOVE FRAMED OPENING. ADD 2X4 AT 16" O.C. ADD PONY WALL TO 2'-0" HIGH PROVIDE ⅝" THK. TYPE 'X' GYP. BD. ON ONE SIDE TO 2'-0" HIGH
- NEW 3⅝" X 25 GA. STEEL STUDS @ 24" O.C. WITH ⅝" THK. GYP. BD. ON BOTH SIDES
- NEW DEMOUNTABLE WALL TO 2'-0" HIGH
- EXISTING DOORS TO REMAIN
- DOOR NO.
- HDWR. GROUP
- DOOR TYPE
- FLOOR FINISH
- ROOM NO.
- BASE
- CEILING FINISH
- WALL FINISH

APPROVED FOR CONSTRUCTION

FLOOR PLAN (PHOTO LAB AND ART DEPT.) 1/8"=1'-0" 1

REVISIONS

GTE BUILDING-1 TENANT IMPROVEMENT

100 FERGUSON DRIVE,
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
102 PERSIAN DRIVE SUNNYVALE
CALIFORNIA 94089 (408) 745-0331
FAX (408) 745-0336

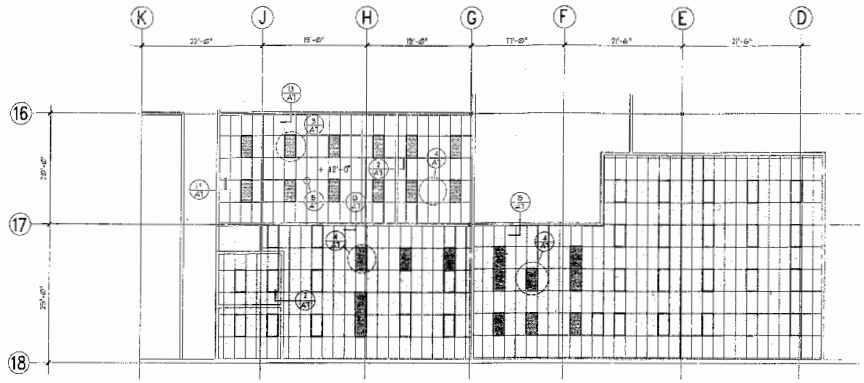
ARCHITECT

DATE 8-4-81 PROJECT NO. 14,745

SCALE 1/8"=1'-0" DRAWN AB

SHEET A-4

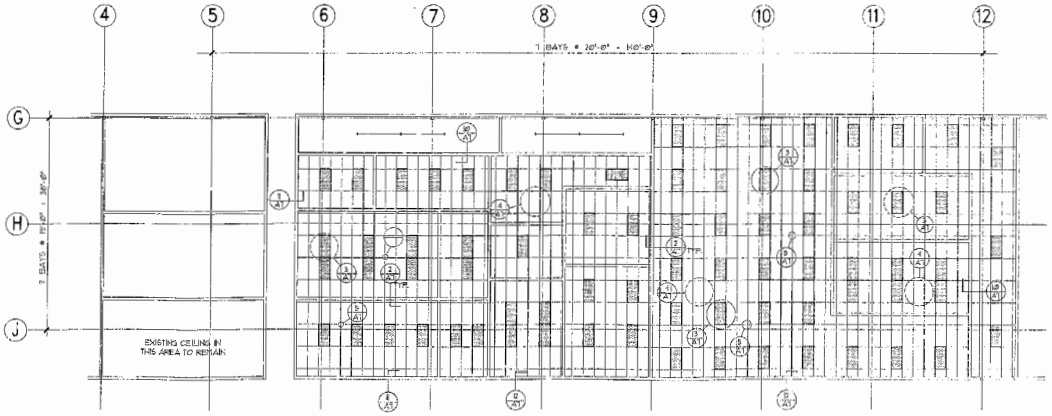
OF 3 SHEETS



CEILING LEGEND

- NEW 2'-0" X 4'-0" FLUORESCENT LIGHT FIXTURE (3/A1)
- 2'-0" X 4'-0" SUSPENDED ACCOUSTIC CEILING TILE AND GRID (4/A1)
- EXISTING FLUORESCENT LIGHT FIXTURE TO REMAIN
- EXISTING SUSPENDED CEILING TO REMAIN

REFLECTED CEILING PLAN (PRINT SHOP AREA) 1/8"=1'-0" 2



CEILING LEGEND

- NEW 2'-0" X 4'-0" FLUORESCENT LIGHT FIXTURE (3/A1)
- 2'-0" X 4'-0" SUSPENDED ACCOUSTIC CEILING TILE AND GRID (4/A1)

APPROVED FOR CONSTRUCTION

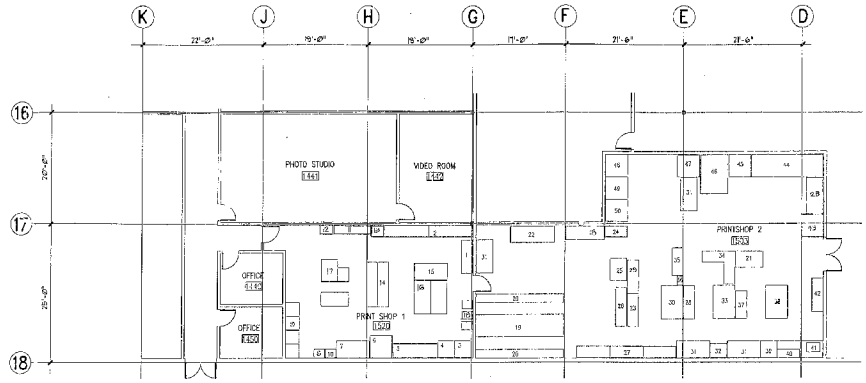
REFLECTED CEILING PLAN (PHOTO LAB. AND ART DEPT.) 1/8"=1'-0" 1

REVISIONS

GTE BUILDING-1
TENANT IMPROVEMENT
100 FERGUSON DRIVE,
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
102 PERSIAN DRIVE SUNNYVALE
CALIFORNIA 94089 (408) 745-0331
FAX (408) 745-0356

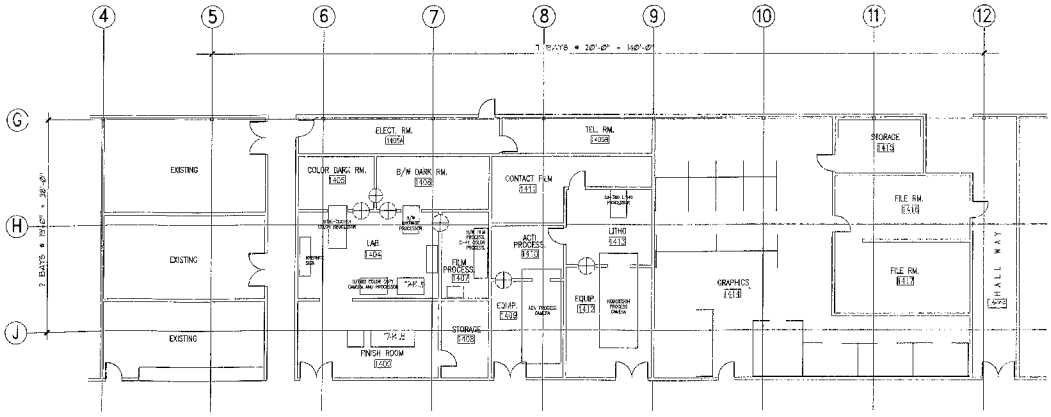
ARCHITECT
DATE 11-4-91
PROJECT NO. 14743
SCALE 1/8"=1'-0"
DRAWN AE
SHEET A-5
OF 2 SHEETS



EQUIPMENT NAME

1. SHARP SF-9350
2. COLLATING TRAYS AND COUNTER
3. COPIER TABLE
4. STAPLER
5. CERMOK AND COUNTER
6. DESKTOP DESIL
7. COUNTER
8. SPECIAL PROJECTS BURN BOX
9. PAPER TABLE
10. POP BURN BOX
11. RAPID PLATFORM
12. RACK FOR TANS
13. PRINT CABINET
14. MANOR TABLE
15. CERMOK TABLE
16. CERMOK TABLE
17. MANOR 2500
18. CANON EPM COPIER DUPLICATOR
19. 30-STATION COLLATOR
20. COLLATOR TABLE
21. 3 X 3 TABLES
22. PRINTER
23. STORAGE SHELVES
24. PAPER RACK
25. BINDERING MACHINES
26. NON PAPER
27. COLORED PAPER SHELVES
28. PRESS TABLE & SHELVES
29. TABLES 2 X 4
30. TABLES 2 X 4 & PRESS
31. 3 X 3 TABLES
32. LOOSE TABLE
33. 1625 PRINTING PRESS
34. 1-SEARCH CUTTER
35. STORAGE TABLE
36. RACK TRAYS
37. 1625 PRINTING PRESS
38. 1625 PRINTING PRESS
39. FLATBANKS
40. FLAMMABLE CABINET
41. SINK & COUNTER TOP
42. PLATE FILES
43. PALLET - BLUE BORDER
44. PLAT STOCK STORAGE RACK
45. PALLET - 2 BOX 20.3
46. PAPER CUTTER
47. PALLET - COVER & BOOK STOCK
48. PALLET CUT 8 X 11
49. PALLET CUT 11 X 17
50. PALLET 208 8 X 11

EQUIPMENT LAYOUT (PRINT SHOP AREA) 1/8"=1'-0" 2



APPROVED FOR CONSTRUCTION

EQUIPMENT LAYOUT (PHOTO LAB. AND ART DEPT.) 1/8"=1'-0" 1

REVISIONS

GTE BUILDING-1
TENANT IMPROVEMENT
100 FERGUSON DRIVE,
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
102 PERSIAN DRIVE SUNNYVALE
CALIFORNIA 94089 (408) 745-0331
FAX (408) 745-0336

ARCHITECT

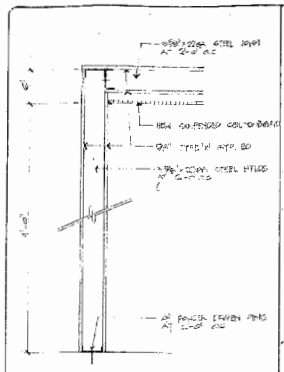
DATE 11-4-91

SCALE 1/8"=1'-0"

DRAWN AE

SHEET A-6

OF 4 SHEETS



WALL SECTION 1½" 18

DOOR SCHEDULE

(A) PAIR 3'-0" X 7'-0" X 1-3/4" SOLID CORE WOOD DOOR. PRE-FINISHED STAIN VENEER SET IN BRONZE ANODIZED ALUMINUM FRAME WITH 8" X 12" CLEAR WIRE GLASS VIEW PANEL (20 MINUTE INTER AS SHOWN ON PLAN)

(B) 3'-0" X 7'-0" X 1-3/4" SOLID CORE WOOD DOOR. PREFINISHED STAIN VENEER. SET IN BRONZE ANODIZED ALUMINUM FRAME (20 MINUTE RATED AS SHOWN ON PLAN)

(C) PAIR 3'-0" X 7'-0" X 1-3/4" SOLIDCORE RATED DOOR SET IN EXISTING STEEL FRAME PAINT TO MATCH ADJACENT WALL

(D) EXIST NO WALL TO REMAIN

HARDWARE

GROUP 1 (1400, 1409, 1412, 1300A, 1308, 1402, 1210A)

3 PAIR BUTTS	BQ179 X 4-1/2 X 4-1/2 X 10W	STN
1 LOCKSET (LEVER TYPE)	STORE OLYMPIAN X 10B	SCH
1 CLOSER	1600 X 10B	SCH
1 ARTMOUNT	X 10B	TGA
1 CO-ORDINATOR	COR 2-FB-1X 10B	GLX
2 STOPS	WS3 X 10B	JAM
SEAL & JAMB GASKET	INTEGRAL WITH DOOR FRAME	
2 DROP SEAL	415 ON X 10B	PEM

GROUP 2 (1405A, 1411, 1412A, 1414, 1440, 1450, 1520, 1520A, 1300B)

3-1/2 PAIR BUTTS	BQ179 X 4-1/2 X 4-1/2 X 10W	STN
1 LOCKSET (LEVER TYPE)	STORE OLYMPIAN X 10B	SCH
1 CLOSER	1600 X 10B	SCH
SEAL & JAMB GASKET	INTEGRAL WITH DOOR FRAME	
1 DROP SEAL	415 ON X 10B	PEM
1 STOP	WS5 X 10B	JAM

GROUP 3 (1408, 1415, 1417, 1416, 1418, 2510)

1-1/2 PAIR BUTTS	BQ179 X 4-1/2 X 4-1/2 X 10W	STN
1 LOCKSET (LEVER TYPE)	STO 20 OLYMPIAN	SCH
1 STOP	WS5 X 10B	
SEAL & JAMB GASKET	INTEGRAL WITH DOOR FRAME	

GROUP 4 (1200B)

1 LOCKSET (LEVER TYPE)	STORE OLYMPIAN X 10B	SCH

BALANCE HARDWARE AND EXISTING

GROUP 5 (1300)

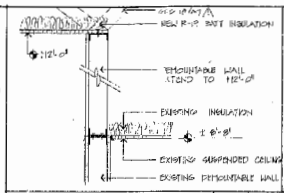
1 LOCKSET (LEVER TYPE)	STORE OLYMPIAN X 10B	SCH
1 VISION PANEL	1/4" WIRE GLASS METAL FRAME (20 MIN)	

GROUP 6

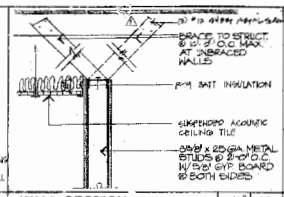
WINDOW SCHEDULE

(1) 6'-0" X 3'-0" X 1/4" CLEAR WIRE GLASS SET IN STEEL FRAME

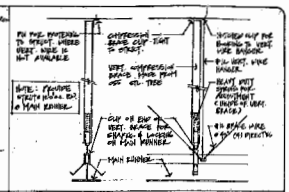
DOOR & HARDWARE SCHEDULE 16



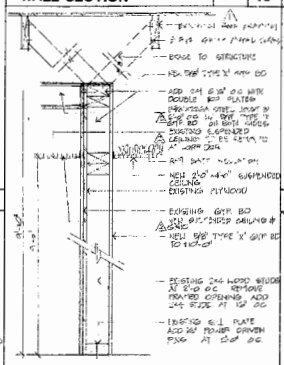
WALL SECTION 1½" 13



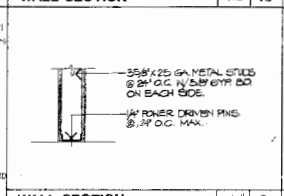
WALL SECTION 1½" 10



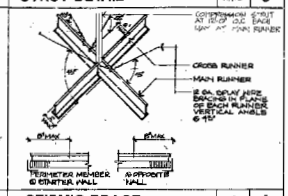
STRUT DETAIL NTS 5



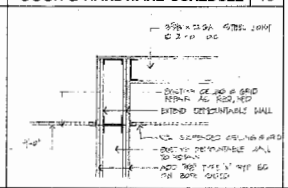
WALL SECTION 1½" 12



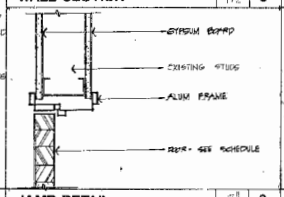
WALL SECTION 1½" 9



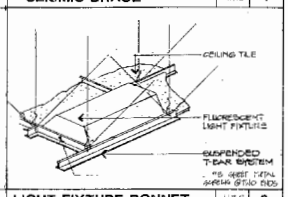
SEISMIC BRACE NTS 4



WALL SECTION 1½" 15



JAMB DETAIL 3" 8



LIGHT FIXTURE BONNET NTS 3

FLOOR

11. EXISTING TO REMAIN (PATCH UP WHERE REQUIRED)
17. 12" X 12" X 1/8" VCT
15. BLACK SHEET VINYL
16. BLACK VCT
19. CARPET ARMSTRONG CITY LINE PARKWAY GREY #2491
18. CHEMICAL RESISTANT EPOXY COATING

BASE

21. EXISTING TO REMAIN
22. 4" RUBBER TOPSET
23. BLACK TWIN
24. CHEMICAL RESISTANT EPOXY COATING

WALLS

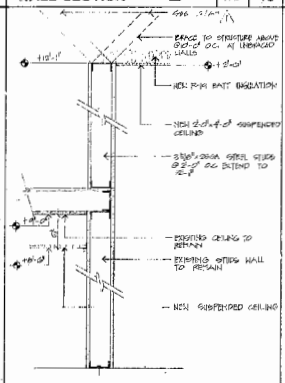
31. EXISTING TO REMAIN, REPAIR AND PAINT
32. PRE-FINISHED DEMOUNTABLE WALL
33. DEMOUNTABLE WALL PAINT FLAT BLACK
34. GYP. BD., TAPE, TEXTURE AND PAINT
35. ITEMS 32 & 34
36. ITEMS 32 & 34
37. ITEMS 31 & 34
38. ITEMS 31, 32 & 34

CEILING

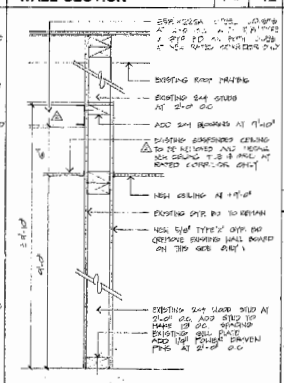
41. EXISTING TO REMAIN, REPLACE PC REQUIRED
42. 2' X 4' SUSPEND ACOUSTIC CEILING
43. 2' X 4' SUSPEND ACOUSTIC CEILING PAINT FLAT BLACK
44. DRAW TO STRUCTURE
45. EXISTING TO REMAIN, PAINTED

LEGEND.742

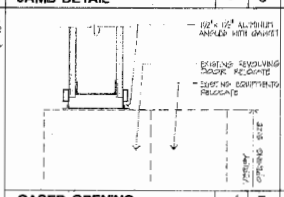
FINISH SCHEDULE 17



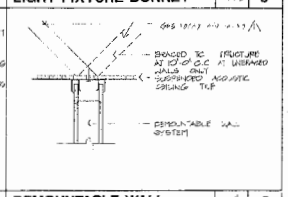
WALL SECTION 1½" 14



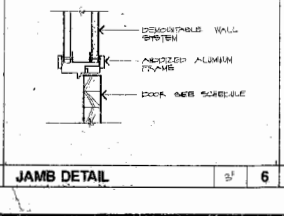
WALL SECTION 1½" 11



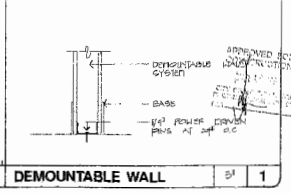
CASED OPENING 3" 7



DEMOUNTABLE WALL 3" 2



JAMB DETAIL 3" 6



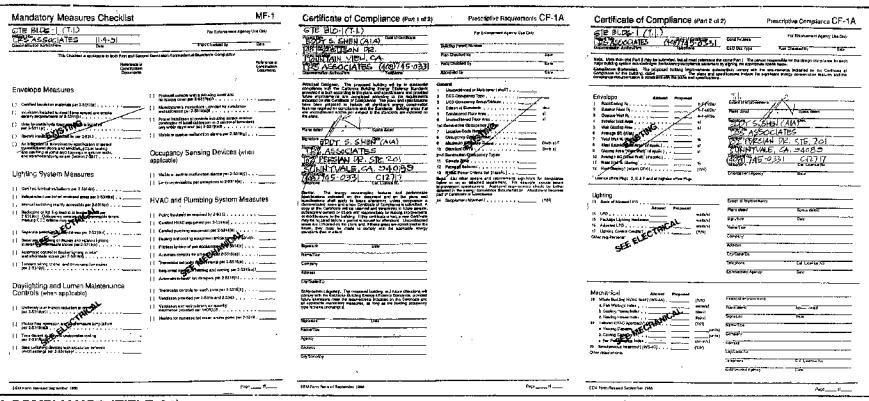
DEMOUNTABLE WALL 3" 1

REVISIONS

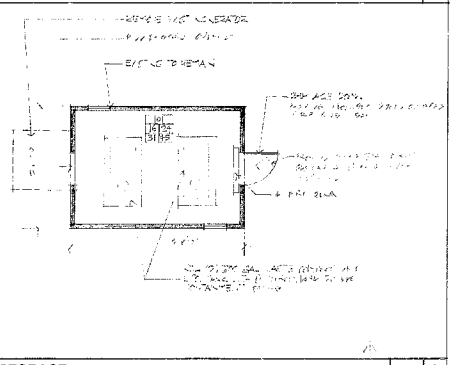
GTE BUILDING-1
TENANT IMPROVEMENT
100 FERGUSON DRIVE,
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
105 PENNSYLVANIA SUITE 201 CALIFORNIA 94089
SUNNYVALE (408) 745-0331 (415) 745-0336

ARCHITECT
DATE
SCALE
DRAWN
SHEET
A-7
OF 8 SHEETS



ENERGY COMPLIANCE (TITLE-24) 1



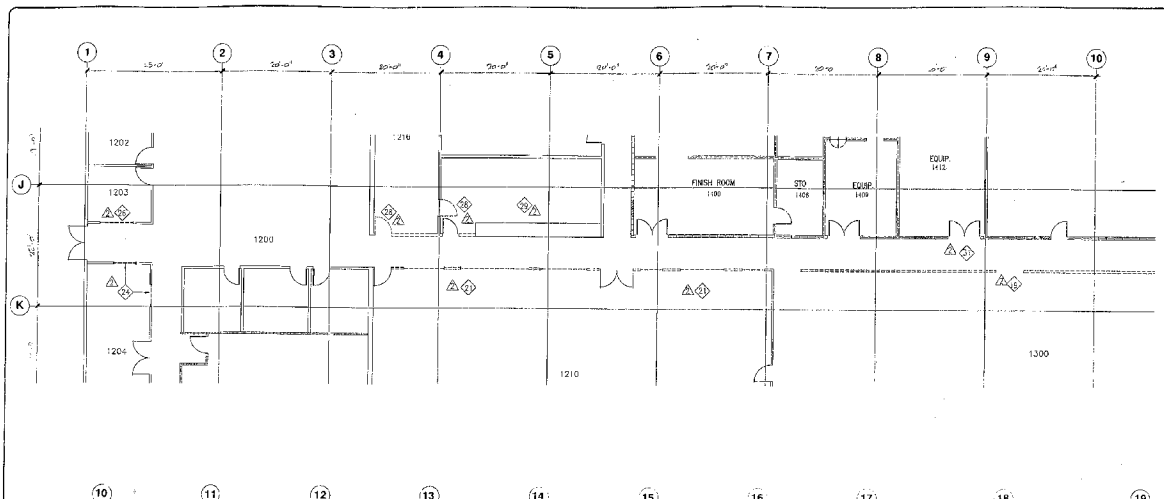
WASTE STORAGE 2

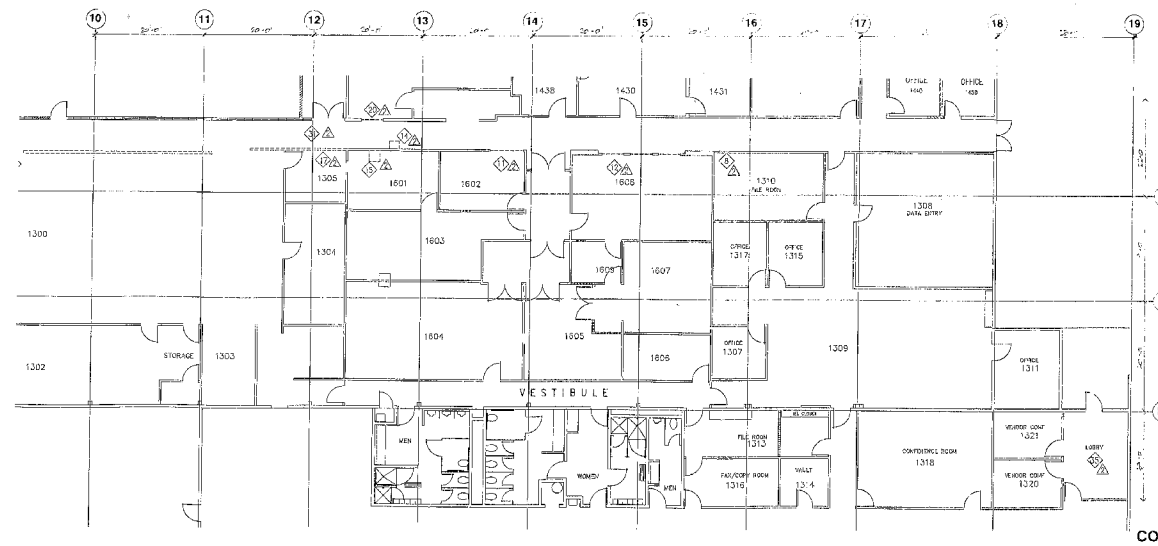
REVISIONS

GTE BUILDING-1
TENANT IMPROVEMENT
100 FERGUSON DRIVE,
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING

A-8





KEY NO:

(1) Add Yale lock to building exit doors.

(3) Close in abandoned jamb to new monitor area - includes walls, doors, hardware and fire sprinkler head modifications.

(4) Lower 30 linear feet of existing fire sprinkler main by 24 inches and hang non-combustible. This will make the ceiling height through-out at approximately 8'6".

(5) Modify existing door by removing existing winter panel and install fire-rated winter panel frame - change lock to lever type.

(7) Add closers on three (3) each existing doors.

(8) Remove existing transfer grilles; close to wire mesh; tape and paint.

(10) Modify existing corridor double doors with fire-rated hardware and seals. Includes jamboree, astragale, surface bolts and coordinator.

(11) Remove and replace one existing non-rated window and and frame with new F.R. monitor frame. Fill in balance of wall W.I. sheetrock. Tape and paint.

(12) Remove three existing windows and frames, include wall with sheetrock; install one (1) new F.R. frame and tempered glass. Tape and paint.

(13) Add new section of wall at (8) closer; frame for (8) double doors. Furnish and install new double doors and frame. Tape and paint.

(14) Remove existing ladder from fire corridor. Remove and patch ceiling and gypsum wall. Patch hole where ladder was removed.

(15) Remove and relocate pass-through window to interior wall at office 1309 and 1308. Patch hole where pass-through was removed.

(17) Remove approximately 80 linear feet of demountable wall and replace with 10' high sheetrock wall. Tape and paint.

(20) Furnish and install one new 4'x8' wet pan new 3'x6' door and frames. Includes all F.R. hardware and painting of frames.

(25) Take down and remove 70 linear feet of low demountable partitions. Furnish and install sheetrock ceiling and sheetrock walls to 10' high sheetrock wall; includes taping and painting. NOTE: is to take down and relocate work stations to accomodate new development.

(26) Remove existing windows - (12) in all which structural tape and paint.

(31) Zone 1310 - Conference Wall
Cut back ceiling in room 1310 to allow for a wall work; demo existing demountable wall; install and install new sheetrock wall to 10' high wall. Provide tape and paint to be installed in new wall. Provide new 3'x6' door and frame. NOTE: is to remove and relocate furniture to allow for demolition and new wall construction.

(33) Landscape structure to three exterior offices and conference room exp. Remove old frames and install new F.R. frames and existing doors. Includes 12" gray wall on top of existing walls.

(37) Furnish and install a linear foot of sheetrock wall and one new 3'x7' door and frame to create new office 1317.

(38) Modify existing corridor walls to place 1310 Remove window in fire corridor - close up opening with sheetrock; tape and paint. Add acoustical and remove walls to existing doors. *Equipment to be removed for construction and replaced by GTE.

(39) Furnish and install new wall door to existing frame at exterior wall of building - doors are have popular exit hardware.

(40) Remove existing pass-through window close up with sheetrock; tape and paint.

(47) Install one (1) each (1) linear feet of new 10' high sheetrock wall at office 1315 and 1317. 3'x7' double doors and frame; include one hardware and painting.

(48) Remove existing wood frame; furnish and install new metal frame and existing door. - Includes 8'x7' door and 3'x7' door.

(50) Fire-rate zone 1311 - is includes:
a. Close in 3' door to zone 1312.
b. Demo (8) T-bar ceiling; furnish and install new T-bar ceiling.
c. Furnish and install new fire dampers in (2) ducts.
d. Produce T-bar ceiling, lights and air heads.
e. (4) Sandbags to be removed and replaced by GTE.

(52) Furnish and install two new drywall walls to T-bar ceiling; furnish and install two new doors, frames and hardware; tape and paint.

(53) New sheetrock ceiling at fire corridor - Area 0.5 from zones - 1a to 1b - as follows:
a. Add (8) T-bar ceiling tiles.
b. Add one (1) new fire damper in (1) of new gray wall.
c. Furnish and install new lights, sheetrock and Corridor only above 8'
d. Furnish and install new T-bar ceiling 8" below new sheetrock line.
e. Install new lights and new exit signs.
f. Relocate sprinkler heads to new ceiling height.
g. Furnish and install fire dampers for HVAC penetrations.
h. Paint or fire walls to new T-bar ceiling.

(57) Fire Zones 1a to 1b is as follows:
a. Add sheetrock; furnish tape and paint entire corridor, including new door frames.
b. Furnish and install new lights under (8) sheetrock ceiling.
c. Lower (8) fire sprinkler heads.
d. Relocate surface mounted lights and new exit signs
e. Furnish and install four new exit door frames and F.R. doors; include new hardware per code.

(73) Demolition of offices 1308 and 1309:
a. Remove (2) walls and provide bearing beam to support ceiling and floor.
b. Install sheetrock to demo; tape and paint to match (4) area.
c. Tape and patch all wall demo (2)
d. Modify (2) AC ducts as required.
e. Remove baseboard and sheetrock (2) lights to demo.
f. Provide new VCT to match (4) assembly floor area.
g. Transform to be ready to be occupied by GTE.

(74) Furnish and install new (2) new doors and frames at lines 7-11 and 9-11, including door and hardware at line 13.

(75) Lobby upgrade at line M and 19.
a. Remove three (3) aluminum frames and sheetrock interior walls of existing lobby to true ceiling.
b. Furnish and install 3 line new door, frames and (8) lights.
c. Demo and install approximately 4' of T-bar ceiling at lobby perimeter.

(76) Lobby Upgrade at line M and 19, Incorporated:
d. Furnish and install five dampers in (8) ducts.
e. Tape and patch new included sheetrock; all perimeter walls, and new doors.
f. *Removal or relocation of pay telephone is by GTE as is any modification to (8) lobby area.

LEGEND

EXISTING WALL TO REMAIN

EXISTING WALL TO BE REMOVED

CORRIDOR DEMOLITION PLAN

REVISIONS

1 GTE CONC'T'S 10-5-93

GTE BUILDING-1
TENANT IMPROVEMENT

100 FERGUSON DRIVE,
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
123 FERGUSON SUITE 201 CALIFORNIA 94089
SUNNYVALE (408) 745-0201 FAX (408) 745-0208

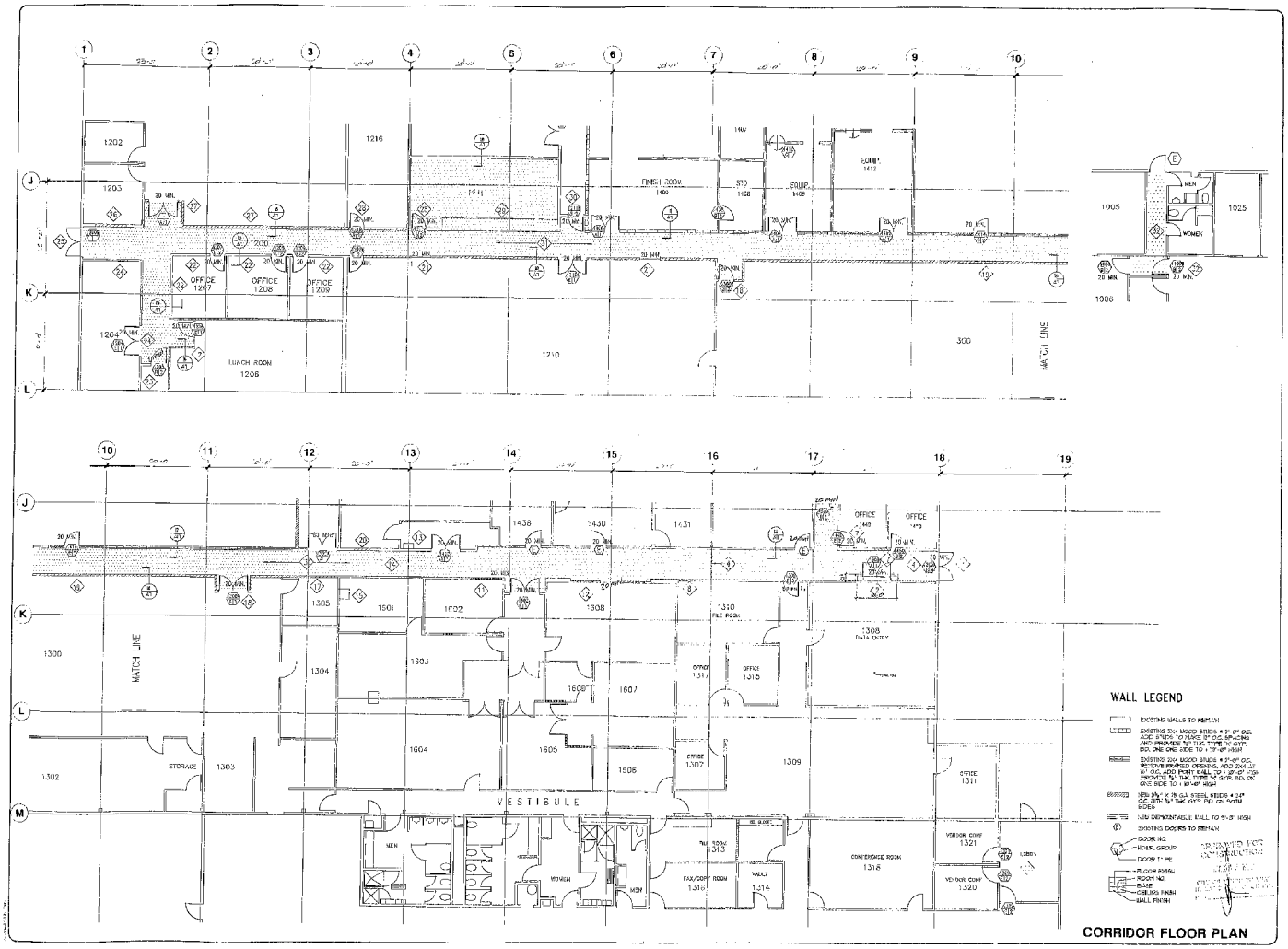
ARCHITECT C12217 STATE OF CALIFORNIA

DATE PROJECT NO

SCALE DRAWN

SHEET A-9

OF SHEETS



CORRIDOR FLOOR PLAN

REVISIONS

GTE BUILDING-1
TENANT IMPROVEMENT

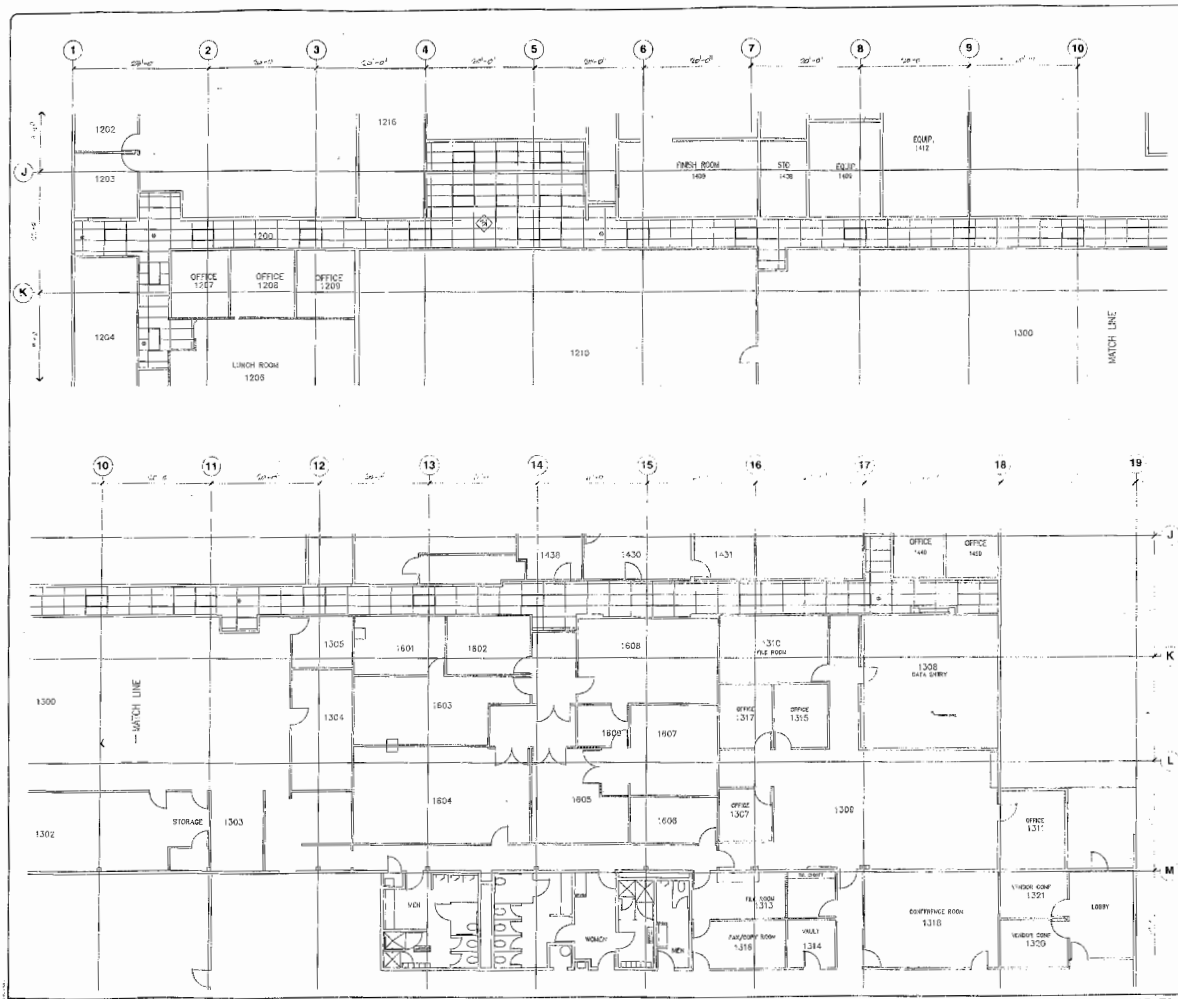
100 FERGUSON DRIVE,
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING

100 FERGUSON SUITE 261
CALIFORNIA 94043
SUNNYVALE
(408) 745-0331
(408) 745-0332

ARCHITECT C12777
STATE OF CALIFORNIA

DATE
SCALE
DRAWN
SHEET
A-10
OF SHEETS



CEILING LEGEND

2'-0" x 4'-0" SUSPENDED ACOUSTIC CEILING TILE AND GRID

EXISTING LIGHT FIXTURE TO BE RELOCATED

EXIT SIGN

APPROVED FOR CONSTRUCTION

CORRIDOR REFLECTED CEILING PLAN

REVISIONS

GTE BUILDING-1
TENANT IMPROVEMENT

100 FERGUSON DRIVE,
MOUNTAIN VIEW, CALIFORNIA

LRS ASSOCIATES
ARCHITECTURE AND PLANNING

102 PERSIAN SUITE 201
CALIFORNIA 94086

SUNNYVALE
(408) 745-0331
(408) 745-0330

ARCHITECT

DATE

PROJECT NO

SCALE

DRAWN

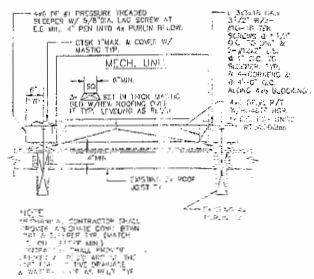
SHEET

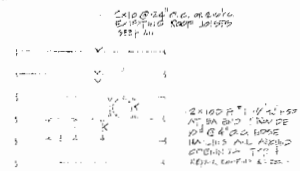
A-11

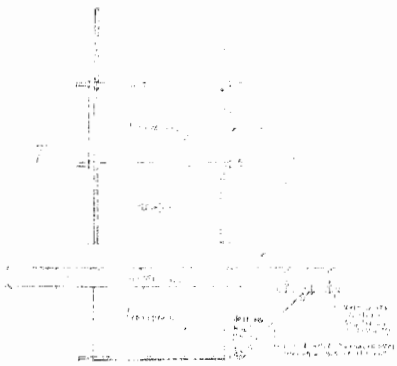
OF SHEETS

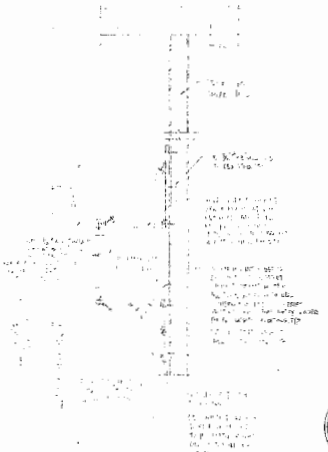
GENERAL NOTES

1. CONTRACTOR SHALL VERIFY TYPE AND LOCATIONS OF EXISTING PURLINS AND PURLIN HANGERS.
2. VERIFY LOCATIONS OF EXISTING AND NEW MECHANICAL UNITS AND ROOF OPENINGS WITH MECHANICAL CONTRACTOR.
3. CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY SUPPORTS BEFORE STARTING ALTERATIONS TO EXISTING ROOF STIFFENERS.
4. FOR TYPICAL FRAMING DETAILS AT NEW ROOF OPENINGS, SEE (2)
5. ALL NEW LUMBER SHALL BE DOUGLAS FIR No. 2 GRADE UNLESS OTHERWISE NOTED AND ALL LUMBER EXPOSED TO WEATHER SHALL BE PRESSURE-TREATED OR REDWOOD.
6. ALL TIMBER CONNECTORS SHALL BE SIMPSON OR APPROVED EQUAL. CONTRACTOR SHALL CLEAN ROOF OF ALL DEBRIS UPON COMPLETION OF CONSTRUCTION. CONTRACTOR SHALL ALSO VERIFY WITH THE ROOFING CONTRACTOR OF THE ORIGINAL SHELL THAT THE NEW WORK DOES NOT VOID HIS WARRANTY. IF IT DOES, CONTRACTOR SHALL MAKE ALL REPAIRS DEEMED NECESSARY BY ROOFING CONTRACTOR.
7. (E) DENOTES EXISTING TECH. UNITS OR ROOF FRAMING MEMBERS.
   (N) DENOTES NEW MECH. UNITS OR ROOF FRAMING MEMBERS.
   (F) DENOTES FUTURE MECH. UNITS.
8. PROVIDE CRICKETS AROUND MECH. UNITS AS REQUIRED FOR PROPER DRAINAGE.
9. MECHANICAL UNITS SHALL BE ADEQUATELY SEPARATED BY USING "ISOPAD" (BY MECHANICAL CONTRACTOR) TO PREVENT VIBRATION OF UNIT TRANSMITTED TO SUPPORTING STRUCTURE BELOW.
10. [illegible] AS PER IN ACCORDANCE WITH W.C.L.A. STANDARD [illegible], 1979-80, EXTERIOR GLUE, INDUSTRIAL APPEARANCE, FOR SEAL.
11. MECHANICAL CONTRACTOR SHALL PROVIDE ADEQUATE CONNECTIONS BETWEEN UNITS AND SLEEPERS, TYPICAL. (MATCH L.S. ON SLEEPER PIN.)
12. USE A-36 STRUCTURAL STEEL AND A-307 HOLES TYP. U.O.N.









APPROVED FOR CONSTRUCTION

REVISIONS

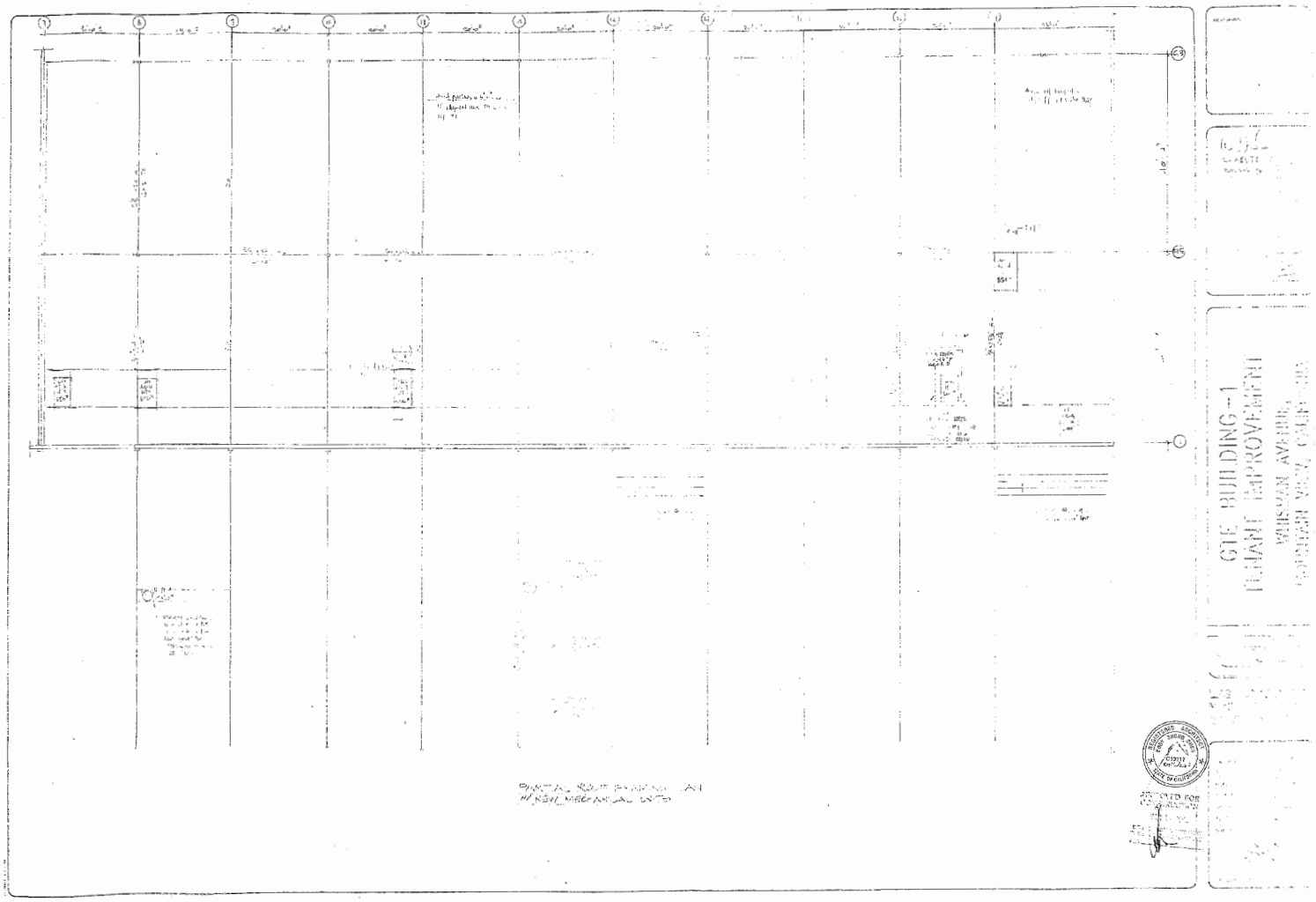
KLEINFELDER ENGINEERING, INC.
CONSULTING ENGINEERS
GEOLOGISTS, ENGINEERS, & SCIENTISTS
MATERIALS TESTING & RESEARCH

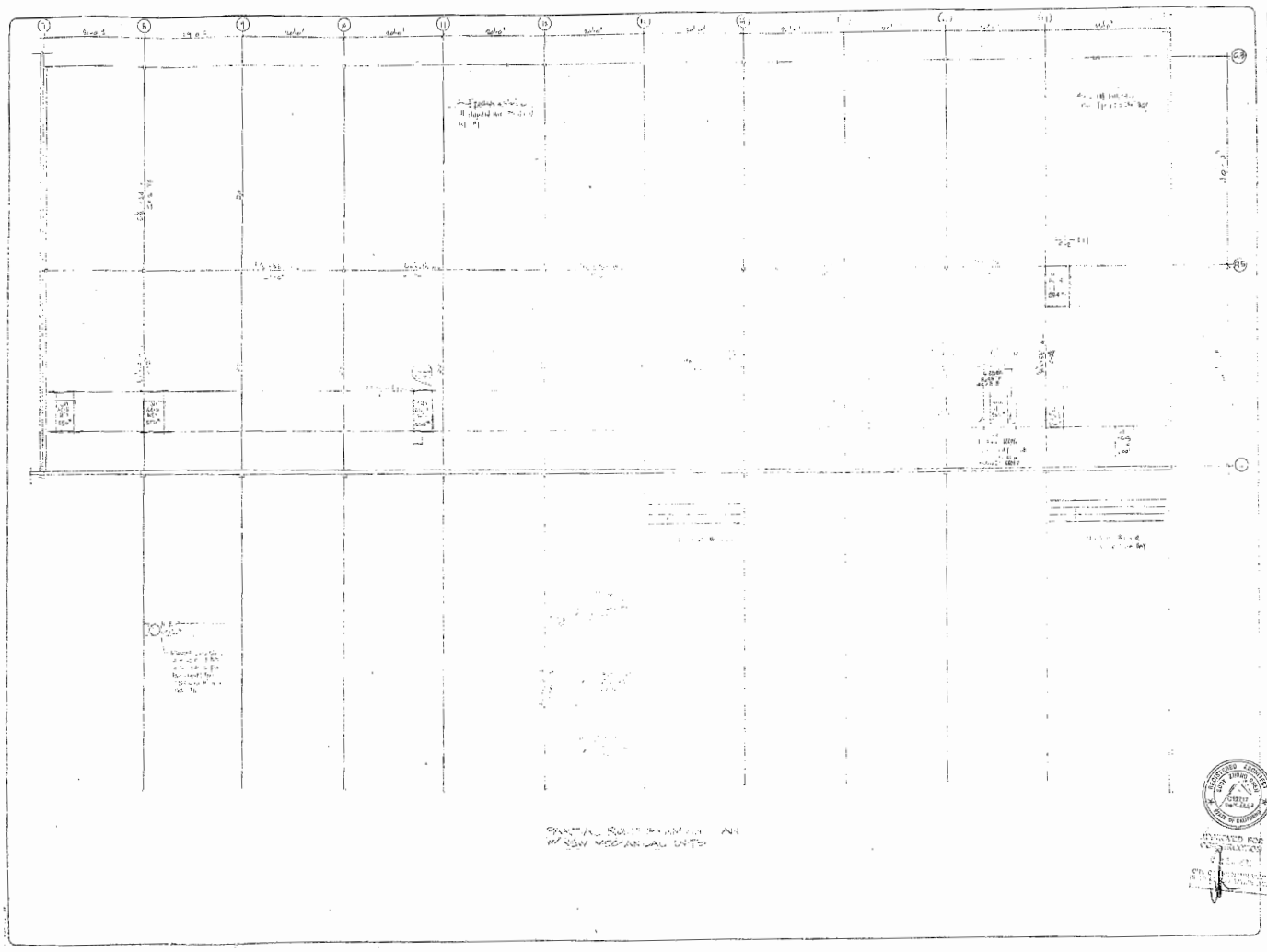
GTE BUILDING-1
TENANT IMPROVEMENT
WHISMAN AVENUE,
MOUNTAIN VIEW, CALIFORNIA

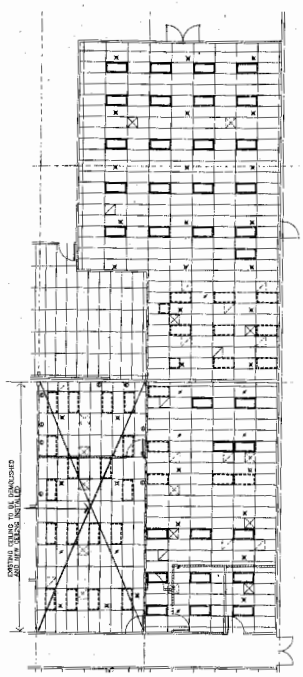
LRS ASSOCIATES
ARCHITECTURE AND PLANNING

REGISTERED ARCHITECT
CALIFORNIA
STATE OF CALIFORNIA

DATE
PROJECT NO.
SCALE
DRAWN
SHEET
S-2


GTE BUILDING-1
TENANT IMPROVEMENT
WHISMAN AVENUE,
MOUNTAIN VIEW, CALIFORNIA
PARTIAL ROOF FRAMING PLAN
W/ NEW MECHANICAL UNITS
REGISTERED ARCHITECT
STATE OF CALIFORNIA
PROTECTED FOR


GTE BUILDING-1
TENANT IMPROVEMENT
WHISMAN AVENUE,
MOUNTAIN VIEW, CALIFORNIA



1 REFLECTED CEILING PLAN (DEMOLITION)
SCALE 1/4"=1'-0"
PHOTO STUDIO AND PRINT SHOP

Certificate of Compliance (Part 1 of 2) — Prescriptive Requirements CF-1A

Certificate of Compliance (Part 2 of 2) — Prescriptive Compliance CF-1A

Mandatory Measures Checklist — MF-1

Envelope Measures

Lighting System Measures

Daylighting and Lumen Maintenance Controls (when applicable)

Occupancy Sensing Devices (when applicable)

HVAC and Plumbing System Measures

REVISION STATUS OF SHEETS								REVISIONS		
8	7	6	5	4	3	2	ZONE	REV	DESCRIPTION	DATE	APPROVED

LEGEND

- EXISTING LIGHT FIXTURE TO BE RELOCATED
- EXISTING LIGHT FIXTURE TO REMAIN
- EXISTING FIRE SPRINKLER HEAD TO REMAIN
- EXISTING FIRE SPRINKLER HEAD TO BE REMOVED OR RELOCATED
- EXISTING SUPPLY AIR DIFFUSER TO REMAIN
- EXISTING RETURN AIR GRILLE TO REMAIN
- EXISTING SUPPLY AIR DIFFUSER TO BE REMOVED
- EXISTING RETURN AIR GRILLE TO BE REMOVED

PLANS REVIEWED	
	APPROVAL / DATE
ARCHITECT	
CHIEF, RES	
MAINTENANCE	
SAFETY	
DESIGN SUPERV	
SPECIAL SPECIALIST	

NEXT ASSY | USED ON
APPLICATION
MATERIALS:

UNLESS OTHERWISE SPECIFIED: DIMENSIONS AND TOLERANCES PER MIL-STD-100 DRAWING PRACTICE FINISHES AND FILTERS PER PLATFORM DRAWING SURFACE CRITERIA

DIMENSIONS: PLACES (.XX) ±; ANGLES (.XXX) ±; THIRD ANGLE PROJECTION USED

SURFACE FINISH ✓ | ACCESSORIES
DO NOT SCALE DRAWING COPY

CONTRACT NUMBER | DATE
PREP | DATE
CHK
APPD
APPD
CODIND FWR

GTE Government Systems — Western Division, Mountain View, CA 94039

MODIFICATIONS TO ROOMS 1211, 1400, 1440, 1441, 1450, 1503, 1520, FOR GRAPHIC COMMUNICATIONS

SIZE D | PATH NO. 07397 | DWG NO. E-3 | 1-250
SCALE | SHEET 3 OF

DWG NO	SH	REV

REVISIONS

SHEETS ON STATUS OF SHEETS							ZONE	REV	DESCRIPTION	DATE	APPROVED
8	7	6	5	4	3	2					

LEGEND

A — EXISTING LIGHT FIXTURE TO REMAIN

B — NEW (OR RELOCATED) 2'x 4' RECESSED TYPE LIGHT FIXTURE

+ — NEW FIRE SPRINKLER HEAD,

NEW SUPPLY AIR DIFFUSER

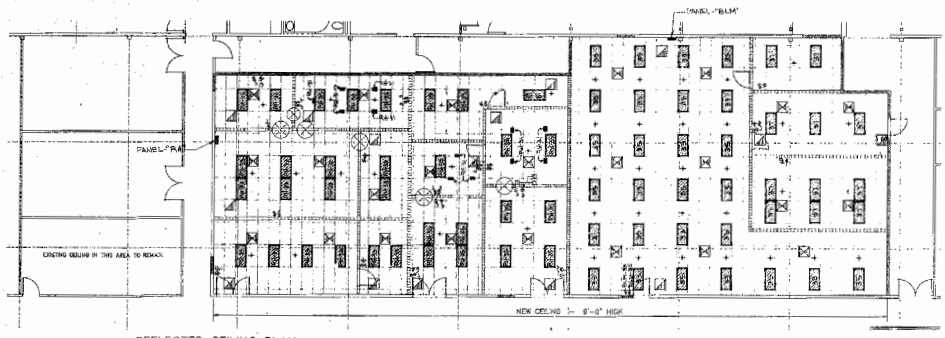
NEW RETURN AIR GRILLE

$ — LIGHT SWITCH 20A, 1P

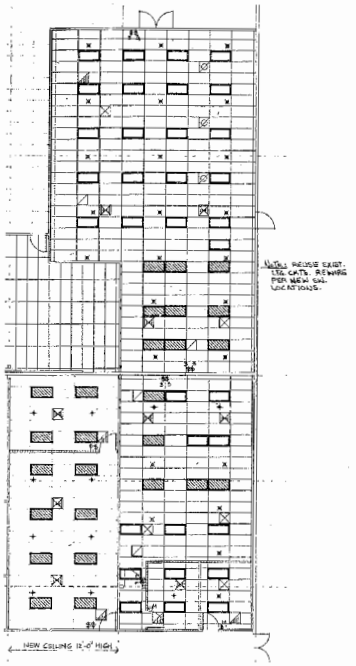
$M — LIGHT SWITCH MOTION DETECTOR

$3 — THREE WAY LIGHT SWITCH

C — RELOCATED RED LIGHTS



1 REFLECTED CEILING PLAN
SCALE 1/8"=1'-0" PHOTO LAB AND ART DEPT



2 REFLECTED CEILING PLAN (MODIFIED)
SCALE 1/8"=1'-0" PRINT SHOP AREA

PLANS REVIEWED		
	APPROVAL	DATE
PRODUCTION		
FACILITIES		
MAINTENANCE		
SAFETY		
PATENT SECURITY		
SPECIAL SECURITY		

NEXT ASSY | USED ON
APPLICATION
MATERIALS:

UNLESS OTHERWISE SPECIFIED, DIMENSIONS AND TOLERANCES ARE IN INCHES PER ANSI Y14.5M-1982 DIMENSIONS AND TOLERANCING PER ANSI Y14.5M-1982

FINISHES: ONE PLACE (.XX); TWO PLACE (.XXX); THREE PLACE (.XXXX); ANGLES: ±

USED ANGLE PROJECTION USED

SURFACE FINISH: 125 MICROINCHES

DO NOT SCALE DRAWING COPY

CONTRACT NUMBER

PREP | DATE
CHK
APPD
APPD

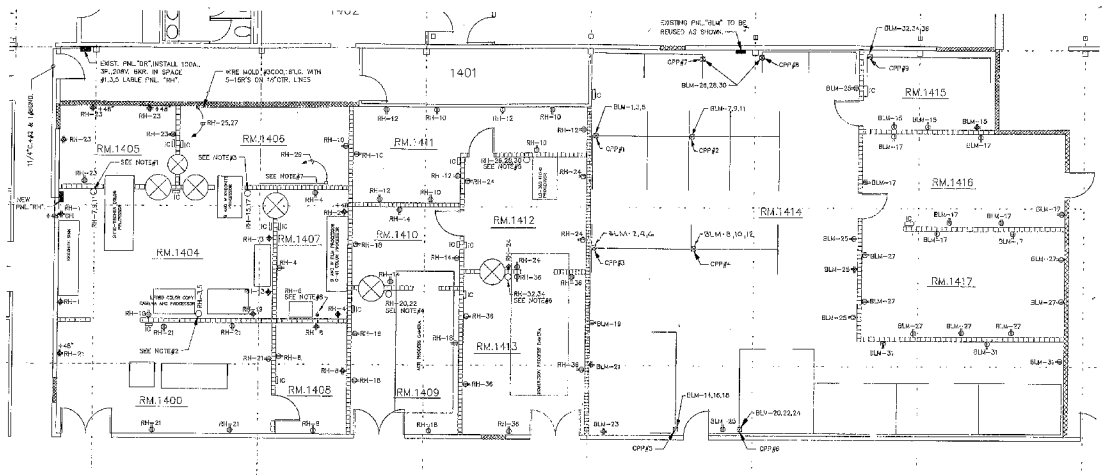
ISSUED FWR

GTE Government Systems Western Division Mountain View, CA 94039

MODIFICATIONS TO ROOMS 1211, 1400, 1440, 1441, 1450, 1503, 1520, FOR GRAPHIC COMMUNICATIONS

SIZE D | FSCM NO. 07397 | DWG NO. E-4 | 1-250
SCALE | SHEET 1 OF 1

WG-1288 (9-84)



NOTES:

1. RELOCATE EXISTING RECEPTACLE WITH EQUIPMENT AND CONNECT TO PNL."RH",CKT. 7,9,11, 3PH. 208V.40A,LABEL-STTC TRUEVUE QUICK PROCESSOR.
2. RELOCATE EXISTING RECEPTACLE WITH EQUIPMENT AND CONNECT TO PNL."RH",CKT.13,15, 1PH.208V. 20A. LABEL 8"ORO COLOR COPY CAMERA.
3. RELOCATE EXISTING RECEPTACLE WITH EQUIPMENT AND CONNECT TO PNL."RH",CKT.5,6,7, 1PH. 208V.20A. LABEL 8 & 11 MASONITE PROCESSOR
4. RELOCATE EXISTING RECEPTACLE WITH EQUIPMENT AND CONNECT TO PNL."RH",CKT.22,23, 1PH. 208V. 30A. LABEL ATTR PROCESS CAMERA.
5. RELOCATE EXISTING RECEPTACLE WITH EQUIPMENT AND CONNECT TO PNL."RH",CKT.28,29,30, 3PH. 208V. 30A. LABEL LD-240 ULTRO PROCESSOR.
6. RELOCATE EXISTING RECEPTACLE WITH EQUIPMENT AND CONNECT TO PNL."RH",CKT.32,34, 1PH. 208V.,20A.LABEL ROBERTSON PROCESS CAMERA.
7. WORKBOX 2000;BLG. WITH NEMA 5-15 OUTLETS ON 16" C.R. LINES.
8. PROVIDE NEW NEMA 5-20R FOR RELOCATED EQUIPMENT 24" COLOR PROCESSOR.

SYMBOLS:

- = NEMA 5-15 DUPLEX
- = NEMA 5-15 DOUBLE DUPLEX
- = NEMA 5-20 SINGLE
- = EXISTING RECEPTACLE, RELOCATED WITH EQUIPMENT.
- = OVERHEAD POWER POLE J BOX ABOVE CEILING.
- = INTERCOM STATION LOCATION, MASTER STATION IS LOCATED IN RM.1211

ELECTRICAL POWER PLAN
SCALE 3/16"=1'-0"
PHOTO LAB AND ART DEPT

PLANS REVIEWED	APPROVAL	DATE
ENGINEERING		
PLANNING		
MAINTENANCE		
SAFETY		
REGIONAL SERVICES		
SPECIAL SERVICES		

NEXT ASSY | USED ON
APPLICATION
MATERIALS:

UNLESS OTHERWISE SPECIFIED: DIMENSIONS AND TOLERANCES ARE FINISHED FACTS, NOTED ANGLES ARE FINISHED ANGLES AFTER ALL SURFACE FINISHING

DEC PLACE (.XX) ±
TWO PLACE (.XXX) ±
THREE PLACE (.XXXX) ±
ANGLES ±

THIRD ANGLE PROJECTION USED

SURFACE FINISH
MICROINCHES

DO NOT SCALE DRAWING COPY

CONTRACT NUMBER

PREP. Moore 12/7/7
CHK
APPD
APPD

DATE 12/14/76

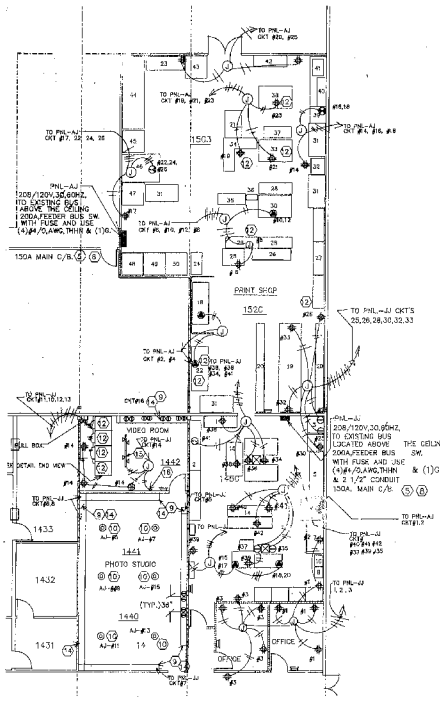
ISSUED FWR

GTE Government Systems Western Division Mountain View, CA 94039

MODIFICATIONS TO ROOMS 1211, 1400, 1440, 1441, 1450, 1503, 1520, FOR GRAPHIC COMMUNICATIONS

SIZE D | FSCM NO. 07397 | DWG NO. E-5 | 1-250
SCALE | SHEET 5 OF

WC-175B (5-84)



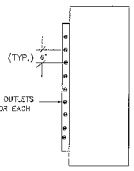
1 ELECTRICAL POWER PLAN
SCALE 1/8"=1'-0"
PHOTO STUDIO AND PRINT SHOP

LEGEND

- DUPLEX 5-15R,RECEPT,120V,1Ø
- 4-PLEX,RECEPT,5-15R,120,1Ø
- EXISTING RECEPT,#5-15R,REMOVE AND RELOCATE
- RECEPT,208V,3Ø,#L21-20R
- RECEPT,#L21-20R,208,3Ø .60HZ
- RECEPT,208V,1Ø,45A,60HZ
- RECEPT,#6-20R,120,1Ø,20A.
- INTERCOM LOCATION 5'-0" ABOVE FLOOR.
- POST FOR ELECTRICAL INPUT (RECEPT.).
- J-BOX.

NOTES:

1. ALL WIRING TO BE COPPER #,THHN AS REQ'D.
2. ALL CONDUIT EMT AS REQ'D.
3. LABEL ALL CIRCUIT BREAKER J-BOXES RECEPT. WIRING.
4. CONTRACTOR SHALL VERIFY ALL EXISTING EMERGENCY CIRCUITS.
5. PROVIDE & INSTALL(1) 42 SLOTS PNL-AJ 225A BUSES WITH 150A MAIN C/B. AND (1)36 SLOTS PNL-AJ 225A BUSS WITH150A MAIN C/B
6. ALL RECEPT.,WALL MTD.TO BE 12" ABOVE FLOOR.
7. REMOVE AND REINSTALL ALL EXISTING RECEPT.UNLESS OTHERWISE SPECIFIED.
8. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH N.E.C. CITY, STATE SAFETY CODES AND SPECIFICATIONS.
9. PROVIDE & INSTALL #3000 WIREMOLD 5A REQ'D. 36" CENTER TO CENTER & 18" ABOVE THE FLOOR (DOUBLE DUPLEX TYP.)
10. CORD REELS & RECEPT. AND 4 NEW INSTALL AS SHOWN AT NEW LOCATION.
11. ALL RECEPT.TO BE 5-15R UNLESS OTHERWISE SPECIFIED
12. DEDICATED CIRCUIT .
13. ALL EXISTING INTERCOM UNITS SHALL BE REMOVED AND REINSTALLED AT NEW LOCATIONS AS SHOWN.
14. REMOVE EXISTING PLUG 120V,1Ø,5-20R
15. RELOCATED TRACK LIGHTS. (RECEPT)
16. DIMMER SWITCH .



WIREMOLD #2000 WITH (9) OUTLETS ON 8" CTR'S. ONE REQ'D FOR EACH RACK WITH DEDICATED CKT.

RACK END VIEW
N.T.S.

PLANS REVIEWED		
	APPROVAL	DATE
REGISTER		
FACILITIES		
MAINTENANCE		
SAFETY		
MATERIAL SECURITY		
SPECIAL SECURITY		

NEXT ASSY | USED ON
APPLICATION
MATERIALS:

UNLESS OTHERWISE SPECIFIED: DIMENSIONS AND TOLERANCES ARE IN INCHES AND APPLY AFTER PLATING OR OTHER FINISH. ALL DIMENSIONS ARE AFTER FINISH. SHARP EDGES TO BE BROKEN.

FINISH: PLATE (.XX) ; PAINT PLATE (.XXX) ; ANODIZE (.XXX) PLATE ; ANGLES ±

THIRD ANGLE PROJECTION USED

SURFACE FINISH ✓ MICROINCHES

DO NOT SCALE DRAWING COPY

CONTRACT NUMBER

MFGR | DATE
CHECK | 10-27-81
APPD | 10-27-81
APPD

ISSUED FWR

GTE Government Systems — Electronic Defense, Mountain View, CA 94039

MODIFICATIONS TO ROOMS 1211, 1400, 1440, 1441, 1450, 1503, 1520, FOR GRAPHIC COMMUNICATIONS

SIZE	FSCM NO.	DWG NO.	SHEET OF
D	07997	E-6	1-250

SCALE

HEAT PUMP SCHEDULE

UNIT MARK	MFR	MODEL	SCFM	ESP IN/WG	COOLING TOTAL MBH	COOLING SENS MBH	COOLING COND AT °F	COOLING EAT °F WB	COOLING EAT °F DB	HEATING CAP MBH	HEATING DAT °F	HEATING RAT °F	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL FAN HP	ELECTRICAL VOLTAGE	OPER WT LBS	REMARKS
HP-1	CARRIER	38QUD06	1800	.5	19.5	17.8	82	72.2	68.7	35.7	70	72	14.0	20	1.0	460/3/60	550	(1)(2) 210 CFM MIN. OUTSIDE AIR
HP-2	CARRIER	38HQ018	620	.5	19.3	19.0	85	75.0	68.0	13.8	92	70	17.5	26	1/4	208/1/60	225	(2) 60 CFM MIN. OUTSIDE AIR
(E)HP-3	CARRIER	38QUD06	1720	.5	-	-	95	-	-	-	93	70	-	-	-	-	-	EXISTING. 172 CFM MIN. OUTSIDE AIR
HP-4	CARRIER	38QUD08	3020	.5	74.5	74.2	75	73.2	68.7	54.0	98	70	25.0	30	1.5	460/3/60	984	(1)(2)(3) 310 CFM MIN. OUTSIDE AIR
HP-5	CARRIER	38QUD05	1635	.5	45.2	42.2	92	73.1	68.0	28.9	98	70	14.0	20	1.0	460/3/60	589	(1)(2) 150 CFM MIN. OUTSIDE AIR
HP-6	CARRIER	38QUD05	1470	.5	34.2	31.3	95	73.1	68.0	28.7	98	70	24.0	30	3/4	208/1/60	502	(1)(2) 150 CFM MIN. OUTSIDE AIR
HP-7	CARRIER	38QUD06	2250	.5	58.9	51.6	95	73.1	68.1	35.9	98	72	14.0	20	1.0	460/3/60	550	(1)(2) 240 CFM MIN. OUTSIDE AIR

HEAT PUMP SCHEDULE NOTES:

1. PROVIDE COMPLETE WITH INTEGRATED ECONOMISER
2. PROVIDE WITH FACTORY THERMOSTAT, 2-STAGE COOLING, 1 STAGE HEATING
3. PROVIDE FACTORY ROOF CURB, DOWN DISCHARGE. MOUNT IN ACCORDANCE W/ MANUFACTURE'S RECOMMENDATIONS
4. SET THESE UNITS SO THAT AREAS SERVED ARE AT SLIGHTLY NEGATIVE PRESSURE TO MINIMIZE DOORS LEAVING AREA.

ABBREVIATIONS

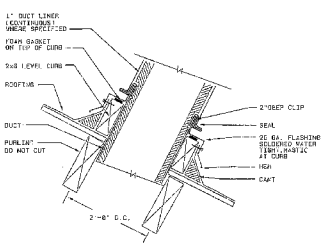
ABBREV	DESCRIPTION
AD	ACCESS DOOR (IN DUCT OR EQUIPMENT)
CONN.	CONNECTION
CD	CEILING DIFFUSER
DN	DOWN
(E)	EXISTING
EG	EXHAUST GRILLE
MIN.	MINIMUM
(N)	NEW
OA	OUTSIDE AIR
POC	POINT OF CONNECTION
RA	RETURN AIR
RG	RETURN GRILLE
SA	SUPPLY AIR
TYP	TYPICAL

DRAWING INDEX

DWG No.	DESCRIPTION
M-1	INDEX, LEGEND, ABBREVIATIONS, SCHEDULES AND DETAILS
M-2	HVAC FLOOR PLANS
M-3	DETAILS & TITLE 24 FORMS
P-1	PLUMBING - PLAN, DETAILS & LEGENDS

SYMBOL LEGEND

SYMBOL	DESCRIPTION
(1)	DETAIL 1 / SHEET M1
(1)	SECTION 1 / SHEET M1
P-1	EQUIPMENT MARK NO. P-1 / SEE EQUIPMENT SCHEDULE
12x12	DUCT WIDTH X DEPTH
12x12 (A)	ACOUSTIC LINED DUCT - SHEET METAL DIMENSION
R OR D	DUCT RISE OR DROP IN DIRECTION OF AIR FLOW
12x12	DUCT THRU BEAM
	FLEXIBLE CONNECTION
	SQUARE TO ROUND DUCT
	TURNING VANES, PROVIDED AT ALL RECTANGULAR 90° ELBOWS
	FIRE DAMPER
	DUCT OR FLUE THRU ROOF OR FLOOR
	SUPPLY DUCT THRU ROOF OR FLOOR
	RETURN DUCT THRU ROOF OR FLOOR
	EXHAUST DUCT THRU ROOF OR FLOOR
	BALANCE DAMPER
	AIR FLOW DIRECTION ARROWS
	SINGLE LINE FLEX DUCT
	SUPPLY DIFFUSER
	RETURN DIFFUSER
	EXHAUST DIFFUSER
12x12 EHCS 100 CFM	AIR OUTLET, NECK SIZE & TYPE / AIR QUANTITY
(T)	THERMOSTAT



5 DUCT PENETRATION THRU ROOF
NOT TO SCALE

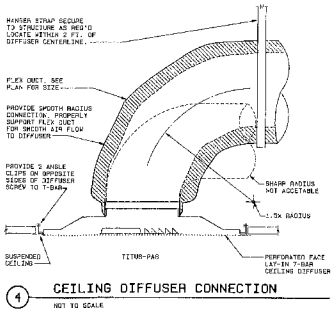
AIR DISTRIBUTION SCHEDULE

UNIT MARK	MFR	MODEL	FACE SIZE	CONN. SIZE	DESCRIPTION
CD-1	TITUS	PAS	24x24	SEE PLAN	PERFORATED FACE, LAY-IN T-BAR
CD-2	THERMAFUSER	HC	24x24	SEE PLAN	THERMALLY POWERED, VARIABLE VOLUME DIFFUSER W/ AUTO CHANGEOVER
RG-1	TITUS	PAR	24x24 / 12x24	SEE PLAN	PERFORATED FACE, LAY-IN T-BAR, PROVIDE SQUARE TO ROUND NECK ADAPTER TO MATCH LISTED CONN. SIZE
SG-1	TITUS	PAR	12x24	SEE PLAN	PERFORATED FACE, LAY-IN T-BAR, PROVIDE SQUARE TO ROUND NECK ADAPTER TO MATCH LISTED CONN. SIZE

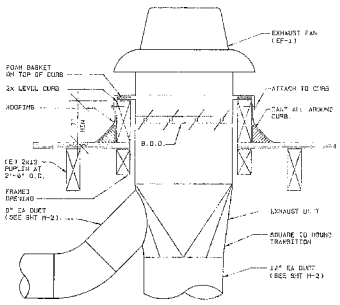
EXHAUST FAN SCHEDULE

UNIT MARK	MFR	MODEL	CFM	ESP IN/WG	ELECTRICAL HP	ELECTRICAL VOLTAGE	OPER WT LBS	DESCRIPTION
EF-1	PENN	AG 18L	740	.25	1/4	115/1/60	40	CENTRIFUGAL ROOF EXHAUSTER (1)
EF-2	PENN	KG 89	425	0.25	1/12	115/1/60	30	CENTRIFUGAL ROOF EXHAUSTER (2)

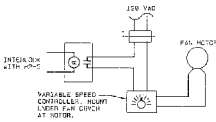
1. PROVIDE WITH BACKDRAFT DAMPER, BIRDSCREEN, "TEN-TURN" SPEED CONTROLLER AND FIELD BUILT CURB.
2. EF-2 SHALL BE MOUNTED CENTERED ON THE ROOF OF THE CHEMICAL STORAGE ROOM. THE FAN SHALL RUN CONTINUOUSLY. PROVIDE A MANUAL BREAK-GLASS TYPE SHUTTER SWITCH MOUNTED OUTSIDE THE DOOR ADJACENT TO THE EXTERIOR DOOR AND LABEL "VENTILATION SYSTEM - EMERGENCY SHUTOFF. LIFT UP TO INSPECT OR SOLENOID. PROVIDE 1/4" PROTECTIVE SCREEN INSIDE ROOM BELOW FAN INLET. DOORS TO BE LOUVERED. (SEE ARCH PLANS.)



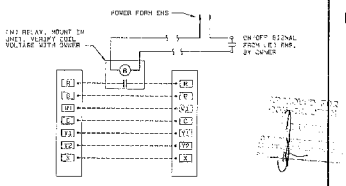
4 CEILING DIFFUSER CONNECTION
NOT TO SCALE



3 ROOF MOUNTED EXHAUST FAN DETAIL
NO SCALE



2 EXHAUST FAN EF-1 WIRING DETAIL
NO SCALE, ALL WIRING BY ELECTRICAL



1 THERMOSTAT & EMS CONTROL WIRING
NO SCALE

REVISIONS

11-06-91	ISSUED FOR BID/PERMIT

MECHANICAL & PLANNING INC.
REFRIGERATION, HEATING, VENTILATION, AIR CONDITIONING
2161 SPECTRUM BLVD.
SAN JOSE, CALIFORNIA 95131
(408) 435-8400
JOB: 4-9148
DATE: 11-06-91
DRAWN BY: M. HALLEY

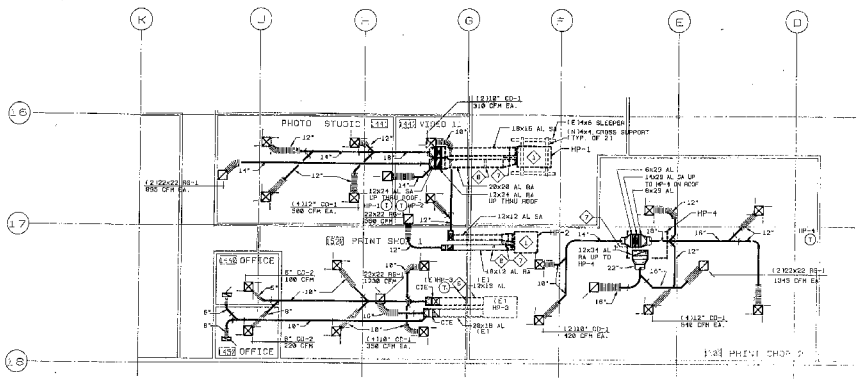
GTE BUILDING-1
TENANT IMPROVEMENT
WHITSAN AVENUE
MOUNTAIN VIEW, CALIFORNIA

INDEX, LEGEND, ABBREV., SCHEDULES & DETAILS

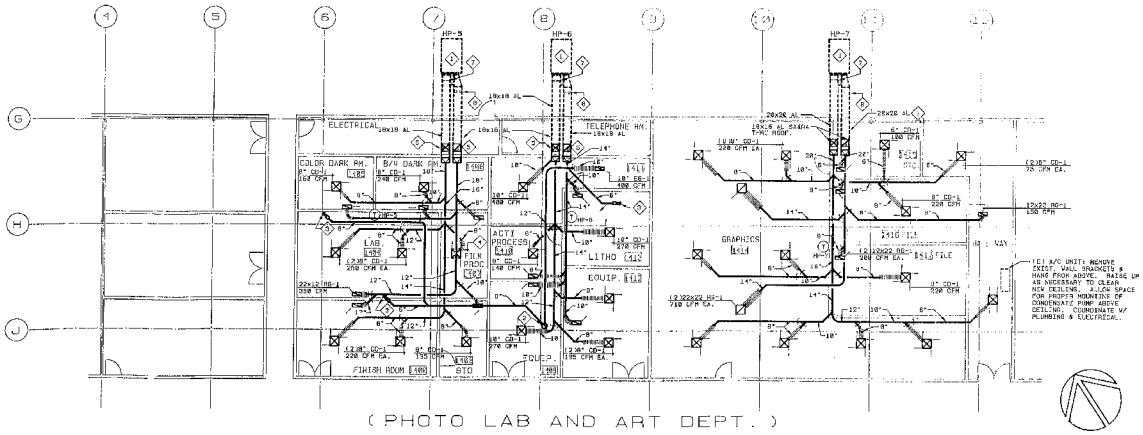
LRS ASSOCIATES
ARCHITECTURE AND PLANNING
102 PERSIAN DRIVE SUNNYVALE
CALIFORNIA 94086 (408) 745-0331
FAX (408) 740-6336

ENGINEER 11/06/91
DATE JAY/WTR
PROJECT NO. 9148 14 TAB
SCALE NONE
DRAWN BAA
SHEET M-1
OF 3 SHEETS

SUBMITTED 8 (OCT 91)



(PRINT SHOP)



(PHOTO LAB AND ART DEPT.)

GENERAL NOTES:

1. BALANCE RETURN AIR GRILLES TO SUPPLY AIR QUANTITY IN SAME ROOM UNLESS OTHERWISE NOTED.
2. FOR DUCT PENETRATION THROUGH ROOF SEE DETAIL 4 SHT M-1
3. ALL DUCT SIZES ARE NET INSIDE DIMENSION
4. FOR ROOF MOUNTING OF HEAT PUMP UNITS SEE DETAILS 1 & 2, SHEET M-3

SHEET NOTES:

1. DUCTWORK AND EQUIPMENT SHOWN DASHED TO BE LOCATED ON ROOF. TYPICAL.
2. 12" EA DUCT UP TO NEW EXHAUST FAN EF-1. SEE DETAIL 2 SHEET M-1 FOR MOUNTING/CONNECTION DETAIL.
3. 4" EA DOWN TO EQUIPMENT:100 CFM. VERIFY EXACT LOCATION WITH OWNER. PROVIDE BALANCE DAMPER IN DROP BELOW CLNG AND ESCUTCEON PLATE. 48" TO 4" TRANSITION ABOVE CLNG.
4. 8" CD-1. 135 CFM.
5. 18"x18"AL R4 & SA THRU ROOF.
6. RELOCATED THERMOSTAT FOR (E) HEAT PUMP HP-3
7. 3/4" CONDENSATE DRAIN. PIPE TO NEAREST EXISTING CONDENSATE DISCHARGE POINT.
8. FIELD FABRICATED FILTER BOX FOR 2" 30% PLEATED FILTERS. SIZE FOR MAXIMUM 500 FPM THRU FILTERS.

REVISIONS

11-8-91	ISSUED FOR BID/PERMIT

MECHANICAL PLANNING INC.
MECHANICAL ENGINEERS • PROJECT MANAGERS
1140 SOUTH DE ANZA BLVD. SUITE 2
SAN JOSE, CALIFORNIA 95129
(408) 996-1122

GTE BUILDING-1 TENANT IMPROVEMENT

WHITSAN AVENUE
MOUNTAIN VIEW, CALIFORNIA

HVAC - FLOOR PLANS

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
182 PERSIAN DRIVE SUNNYVALE
CALIFORNIA 94089 (408) 745-1201
FAX (408) 745-0298

ENGINEER JNV/VTH
DATE 11/08/91
PROJECT NO. 5149
SCALE 1/8"=1'-0"
DRAWN BVG
SHEET M-2
OF 3 SHEETS

D:\FIGURES - NOV 91
SUNNYVALE 2 NOV 91

Certificate of Compliance (Part 1 of 2) — Prescriptive Requirements CF-1A

GTE BLDG. 1 - TENANT IMPROVEMENT

Certificate of Compliance (Part 2 of 2) — Prescriptive Compliance CF-1A

Mandatory Measures Checklist — MF-1

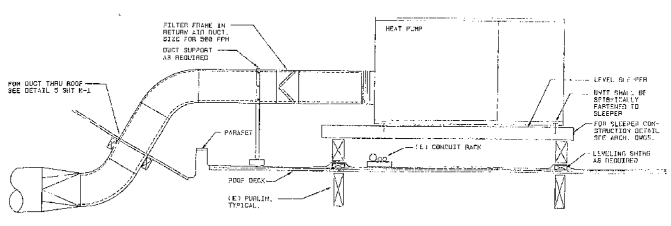
Envelope Measures

Lighting System Measures

Daylighting and Lumen Maintenance Controls (when applicable)

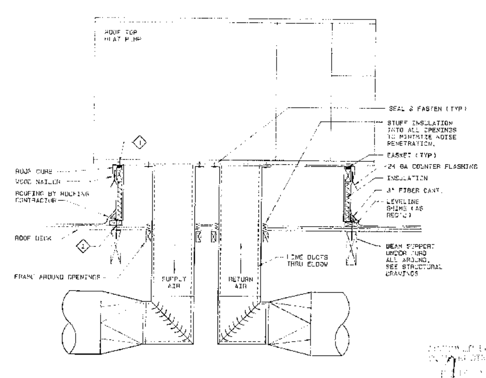
Occupancy Sensing Devices (when applicable)

HVAC and Plumbing System Measures



(2) **HEAT PUMP MOUNTING DETAIL**

NO SCALE



(1) **HP-4 MOUNTING & DUCT THRU ROOF**

NO SCALE

CURB SHALL BE SEISMICALLY FASTENED TO STRUCTURE AND UNIT SHALL BE SEISMICALLY FASTENED TO CURB

REVISIONS

11-08-91 ISSUED FOR BID/PERMIT

MECHANICAL PLANNING INC.
MECHANICAL ENGINEERS • PROJECT MANAGERS

WILLIAM T. HURLEY

GTE BUILDING-1 TENANT IMPROVEMENT

WHITSAN AVENUE
MOUNTAIN VIEW, CALIFORNIA

DETAILS & TITLE 24 FORMS

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
102 PERSIAN DRIVE SUNNYVALE
CALIFORNIA 94089 (408) 745-0351
FAX (408) 745-0336

ENGINEER JWY/VTH	
DATE 11/08/91	PROJECT NO. 9140
SCALE NONE	DRAWN GWA
SHEET M-3	
OF SHEETS	

SYMBOL LEGEND

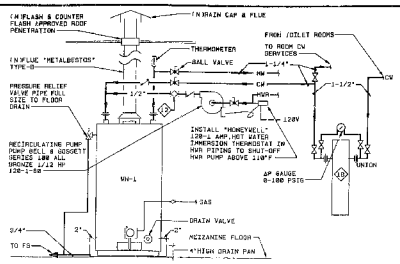
SYMBOL	DESCRIPTION
	DETAIL 1 / SHEET M1
	SECTION A / SHEET M1
P-1	EQUIPMENT MARK NO. P-1 / SEE EQUIPMENT SCHEDULE
	CIRCUIT SETTER
	CHECK VALVE - SWING TYPE
	SHUT OFF VALVE
	SLOPE DOWN (DIRECTION OF ARROW)
	DIRECTION OF FLOW
BFP	BACK FLOW PREVENTOR

ABBREVIATIONS

ABBREV	DESCRIPTION
AP	ACCESS PANEL (IN CEILING OR WALL)
CA	COMPRESSED AIR
CO	CLEAN OUT
CW	CITY WATER (DOMESTIC)
CHEM	CHEMICAL
D	DRAIN
DN	DOWN
(E)	EXISTING
G	NATURAL GAS
HWR	DOMESTIC HOT WATER RETURN
IE	INVERT ELEVATION
(N)	NEW
V	SANITARY VENT
VTR	VENT THRU ROOF
WR	WALL REGISTER
HW	HOT WATER
FS	FLOOR SINK

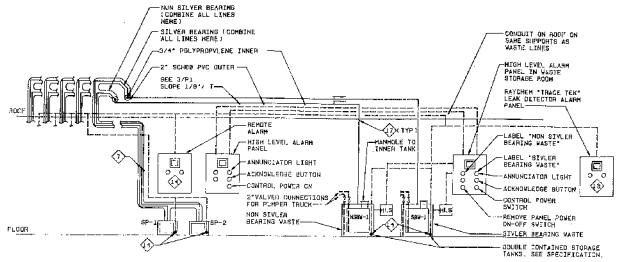
SHEET NOTES:

1. (N)1/2" HBCW TO RELOCATED THERMOSTATIC MIXING FAUCET.
2. (E) PLUMBING FAUCETS AND WASTES TO BE RELOCATED WITH SINK.
3. NEW FLOOR SINK (FS-1). 3"W. 1-1/2"V & 1/2"CW TO TRAP PRIMER.
4. NEW ENERGY EFFICIENT OEG APPROVED A.O. SMITH 100 GAL. 199 MBH WATER HEATER (WH-1) ABOVE MOOR ON MEZZANINE.
5. SKYLITE OVER TO FS-1.
6. CHEMICAL TRANSFER PUMP AND HOLDING SUMP DOUBLE CONTAINED. ONE FOR SILVER CONTAINING CHEMICAL (SP-1). ONE FOR NON SILVER CHEMICAL (SP-2). (TYPICAL FOR 5 PAIRS). COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH IN.
7. INSTALL A DOUBLE CONTAINED LINE OF 2"PVC WITH (2)1/2" POLYPROPYLENE TUBES INSIDE UP TO ROOF PENETRATION. EXTEND ACROSS IN CEILING SPACE TO CHEMICAL PUMPS.
8. 1/2"CA DOWN TO +48" WITH CONNECTION FOR AIR GUN. RELOCATE AIR GUN FROM (E) LAB.
9. (E)4" WASTE BELOW GRADE IN TRENCH REMOVE TRAP DOWN BELOW SLAB AND CONNECT 4" WASTE. VERIFY THAT THIS IS AN ACTIVE SANITARY SEWER PRIOR TO CONNECTING.
10. COMPRESSED AIR FILTER ASSEMBLY (CAF-1). SEE SPEC.
11. PRESSURE REGULATING VALVE (PRV-1). SET AT 45PSI. SEE SPEC.
12. CIRCUIT SETTER IN HWR LINE SET AT 4 GPM.
13. DOUBLE CONTAINED CHEMICAL WASTE STORAGE TANK WITH MANHOLE ACCESS INTO TOP AND (2)2" PUMP OUT DRAIN CONNECTIONS (...TOP W/VALVE AND DIP TUBE TO BOTTOM OF TANK. ONE SILVER BEARING WASTE (SBW-1). ONE NON SILVER BEARING WASTE (NSBW-1).
14. TRACE TEK ALARM PANEL (TTA-1) WITH LEAK SENSORS IN ANNULUS OF EACH WASTE TANK (SBW-1 & NSBW-1) AND IN EACH OF 5 REMOVE PUMP SUMP DOUBLE CONTAINMENT TANKS. ALL PIPING DOUBLE CONTAINMENT SHALL DRAIN BY GRAVITY INTO THE DOUBLE CONTAINMENT AROUND THE SUMPS AND TANKS. TRACE TEK PANEL SHALL BE PROVIDED WITH REMOTE ALARM AND ANNUNCIATOR IN THE WORK AREA.
15. HIGH LEVEL ALARM PANEL FOR WASTE STORAGE TANK.
16. REMOTE HIGH LEVEL ALARM PANEL FOR WASTE STORAGE TANK.
17. PROVIDE WATER PROOF ROOF JACKS AT ALL ROOF PENETRATIONS.
18. FILTER SPECIALISTS INC. (FS-1) FSRMS WITH 10 MICRON POLYPROPYLENE BAG FILTER AND 20 REPLACEMENT BAGS CARBON STEEL. 150PSI. ASME RATING. 2" SIDE INLET/OUTLET.
19. CONNECT TO EXISTING CW AT TOILET ROOMS.



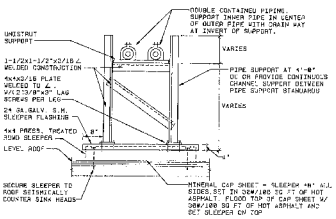
2 WATER HEATER DETAIL (WH-1)

NO SCALE



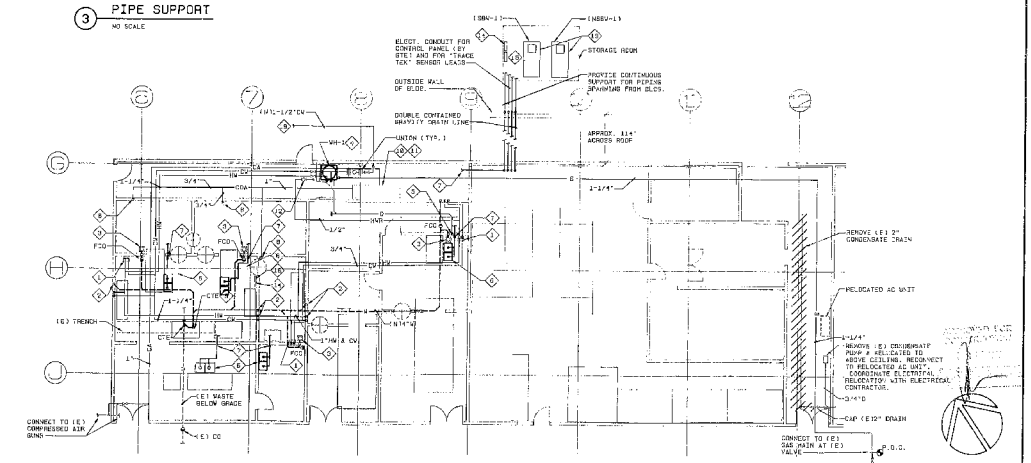
1 CHEMICAL FLOW SCHEMATIC

NO SCALE



3 PIPE SUPPORT

NO SCALE



(PHOTO LAB AND ART DEPT.)

REVISIONS

MECHANICAL PLANNING INC.
2122 CAMPBELL AVENUE
SUITE 200
SAN JOSE, CALIFORNIA 95128
(408) 371-0100
FAX (408) 371-0105
PROJECT MANAGER
WILLIAM T. MORLEY
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
WILLIAM T. MORLEY
No. 14143
EXP. 12-31-95

GTE BUILDING-1 TENANT IMPROVEMENT

WHITSAN AVENUE
MOUNTAIN VIEW, CALIFORNIA

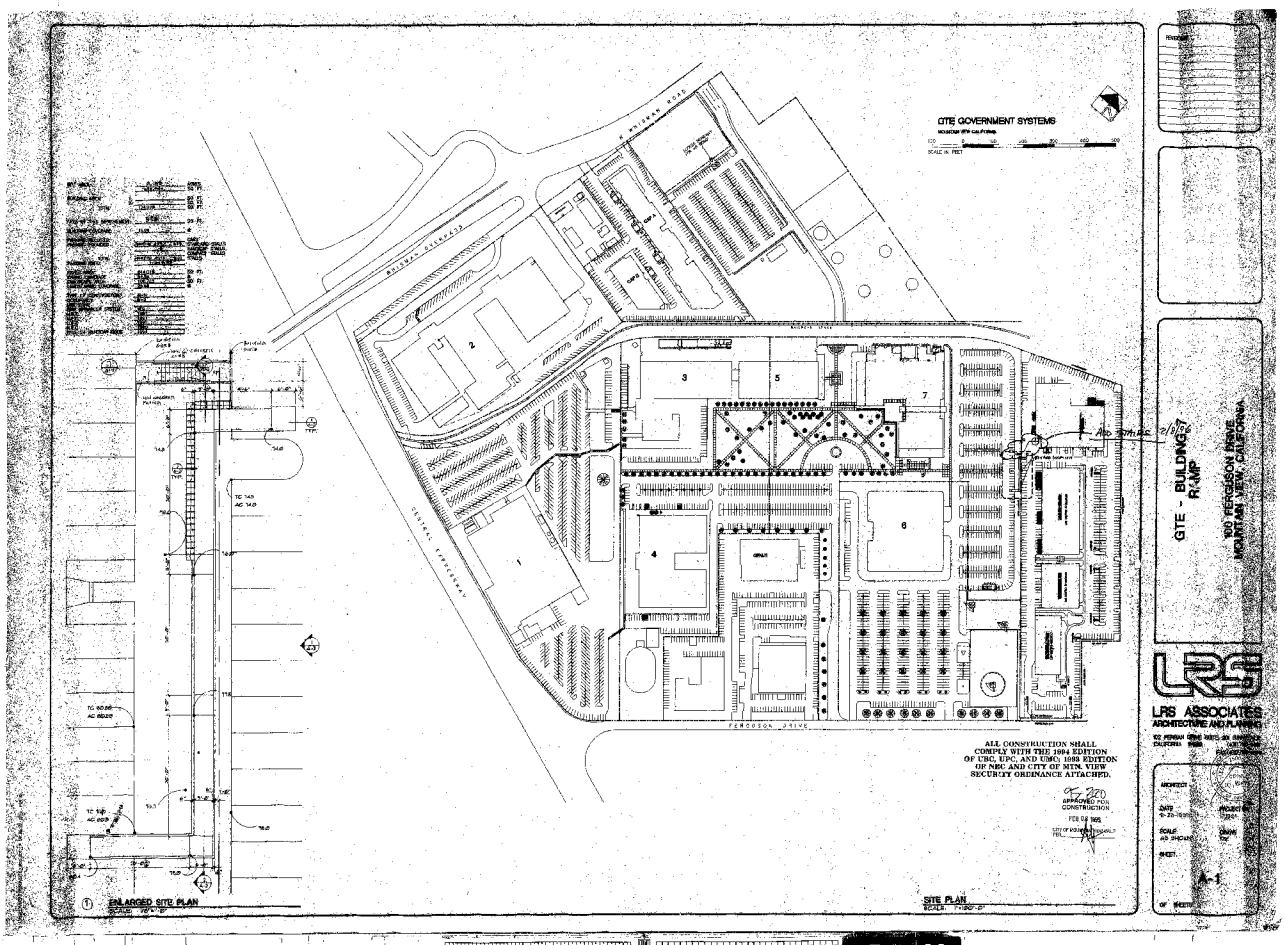
PLUMBING - PLAN, DETAILS & LEGENDS

LRS ASSOCIATES
ARCHITECTURE AND PLANNING
102 PERSIAN DRIVE SUNNYVALE
CALIFORNIA 94089 (408) 745-0331
FAX (408) 745-0336

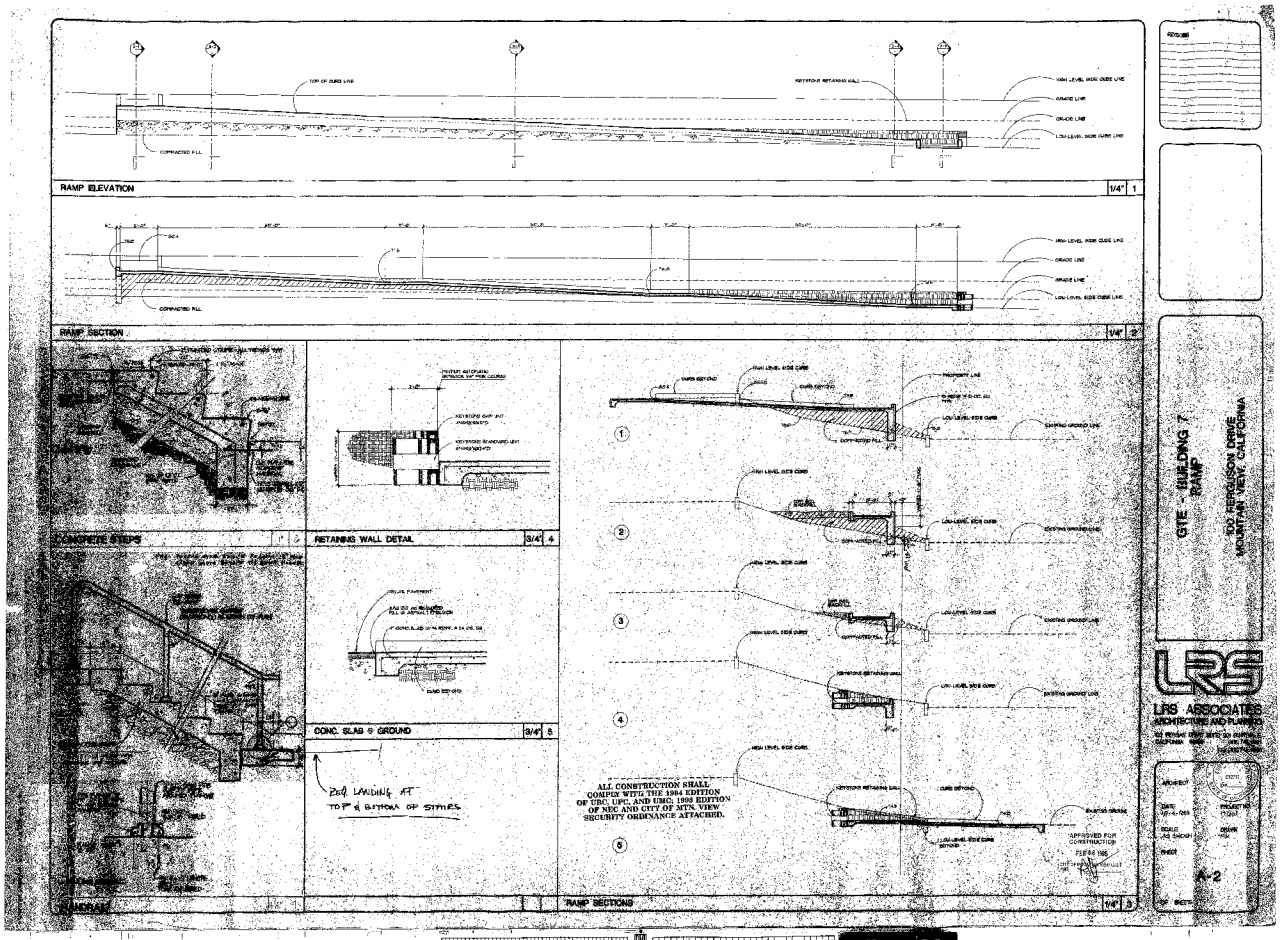
ENGINEER
ST/VTH

DATE 11-9-93
PROJECT NO. 9140 -J-749
SCALE AS NOTED
DRAWN DAG
SHEET P--1
OF 1 SHEETS

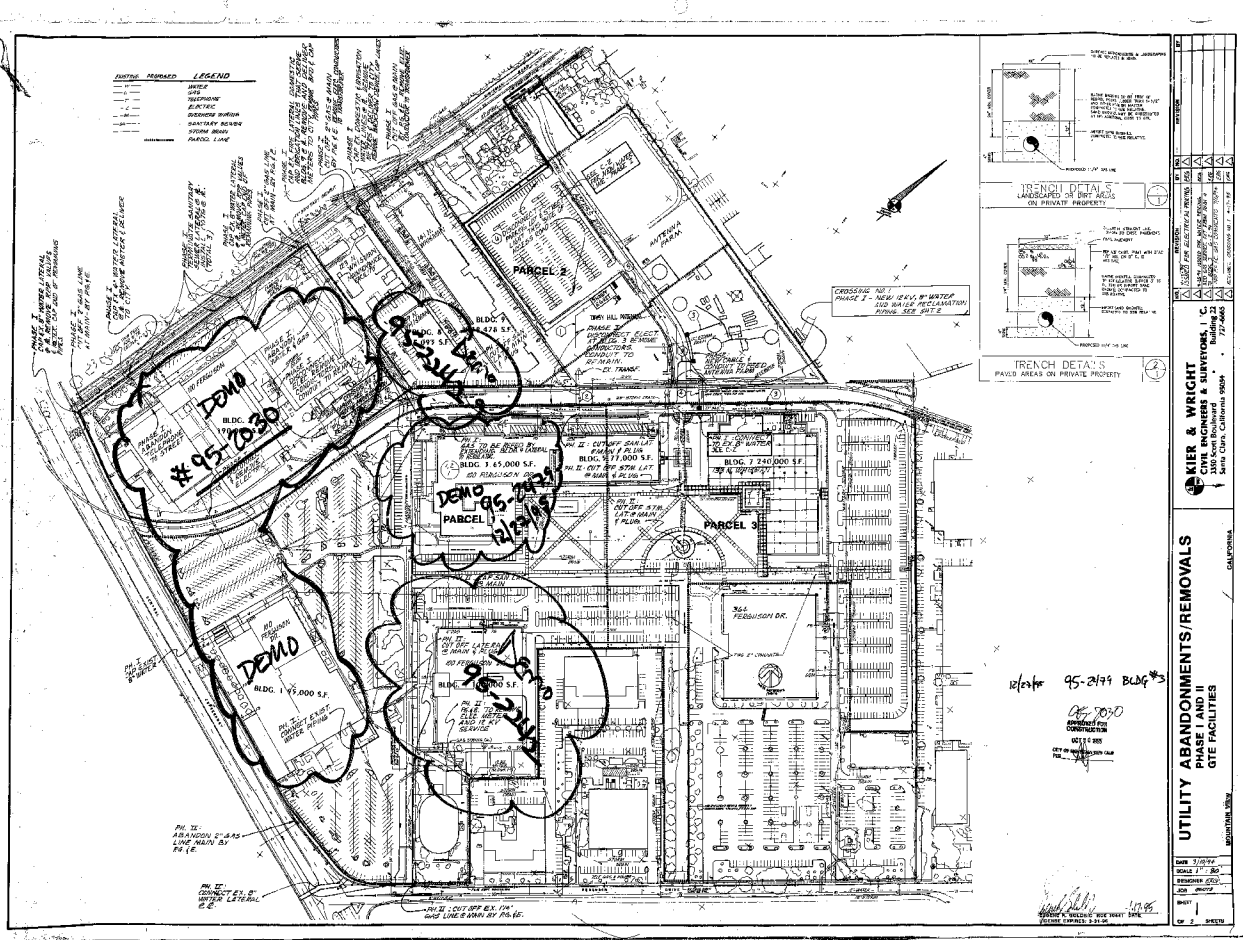
1-1-1-1 TEMPLATE


GTE GOVERNMENT SYSTEMS
MOUNTAIN VIEW, CALIFORNIA
SCALE IN FEET
BRISBAN ROAD
CENTRAL EXPRESSWAY
FERGUSON DRIVE
GTE - BUILDING 7
RAMP
100 FERGUSON DRIVE
MOUNTAIN VIEW, CALIFORNIA
LRS ASSOCIATES
ARCHITECTURE AND PLANNING
ALL CONSTRUCTION SHALL COMPLY WITH THE 1994 EDITION OF UBC, UPC, AND UMC; 1993 EDITION OF NEC AND CITY OF MTN. VIEW SECURITY ORDINANCE ATTACHED.
APPROVED FOR CONSTRUCTION
FEB 04 1995
ENLARGED SITE PLAN
SITE PLAN
A-1

30 X

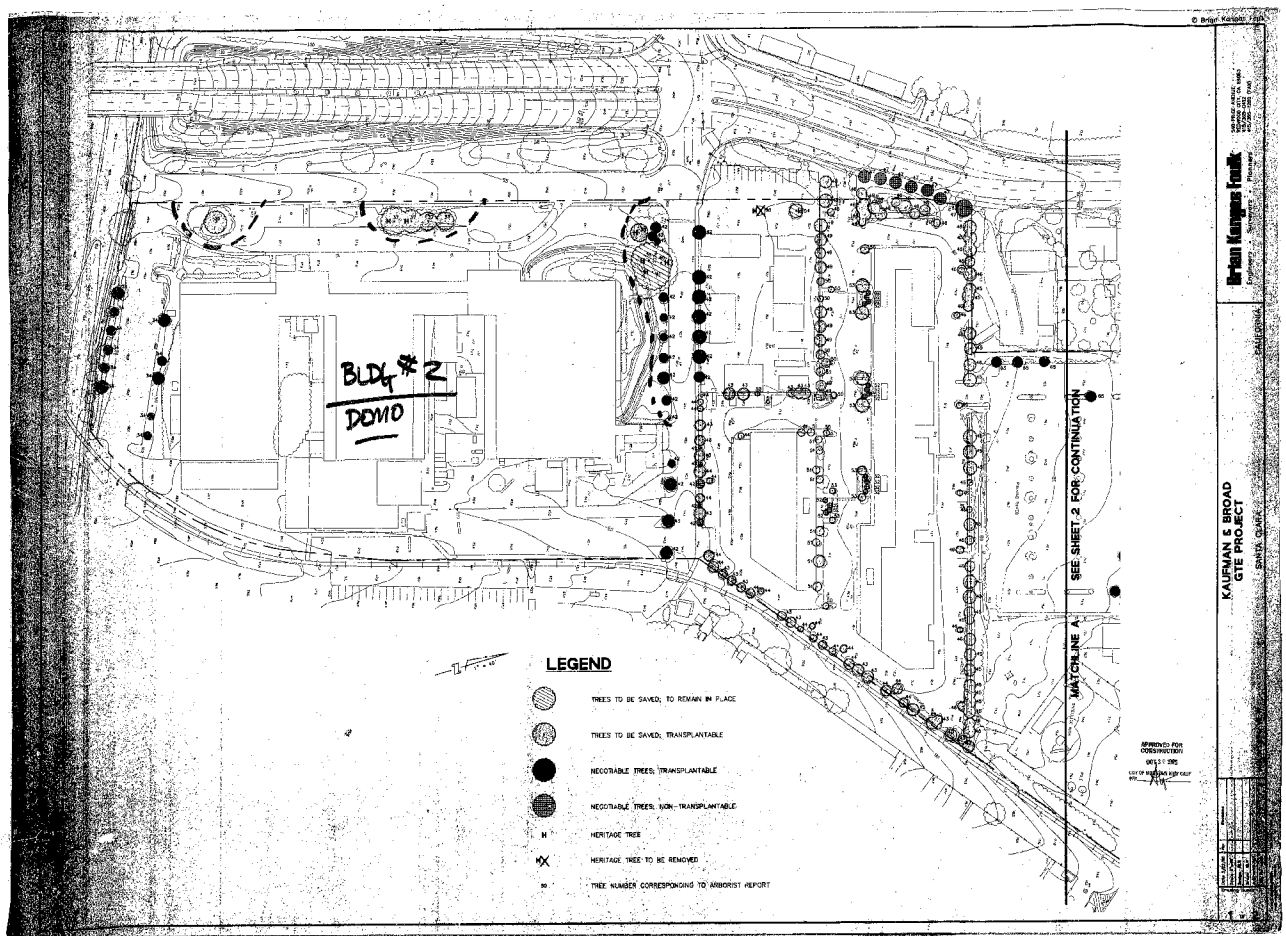

RAMP ELEVATION
1/4" 1
RAMP SECTION
1/4" 2
CONCRETE STEPS
RETAINING WALL DETAIL
3/4" 4
CONC. SLAB @ GROUND
3/4" 5
RAMP SECTIONS
1/4" 3
ALL CONSTRUCTION SHALL COMPLY WITH THE 1994 EDITION OF UBC, UPC, AND UMC; 1993 EDITION OF NEC AND CITY OF MTN. VIEW SECURITY ORDINANCE ATTACHED.
APPROVED FOR CONSTRUCTION
GTE - BUILDING 7
RAMP
500 FERGUSON DRIVE
MOUNTAIN VIEW, CALIFORNIA
LRS ASSOCIATES
ARCHITECTURE AND PLANNING
A-2

30 X



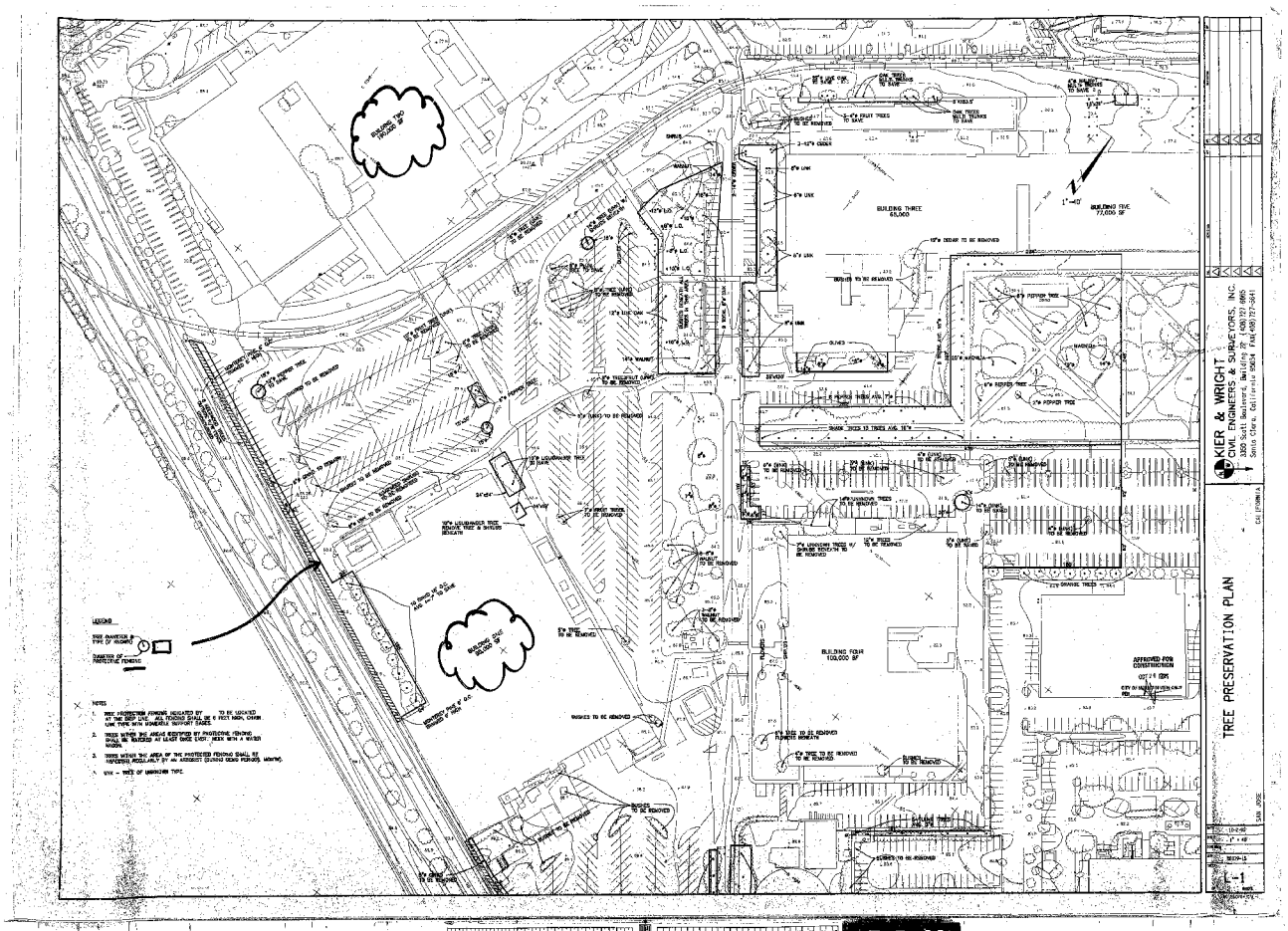
LEGEND
WATER
GAS
TELEPHONE
ELECTRIC
SUBSTATION
SANITARY SEWER
STORM DRAIN
PARCEL LINE
PARCEL 2
PARCEL 3
PARCEL
BLDG. 3 65,000 S.F.
BLDG. 7 240,000 S.F.
BLDG. 1 95,000 S.F.
DEMO
#95-2030
95-2342
95-2429
12/27/95
95-2479 BLDG #3
TRENCH DETAILS
LANDSCAPED OR DIRT AREAS ON PRIVATE PROPERTY
TRENCH DETAILS
PAVED AREAS ON PRIVATE PROPERTY
KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, I.C.
3350 Scott Boulevard • Building 22
Santa Clara, California 95054 • 727-6465
UTILITY ABANDONMENTS/REMOVALS
PHASE I AND II
GTE FACILITIES
MOUNTAIN VIEW
CALIFORNIA
DATE 3/10/94
SCALE 1" = 80'
DESIGNER
JOB
SHEET 1
OF 2 SHEETS

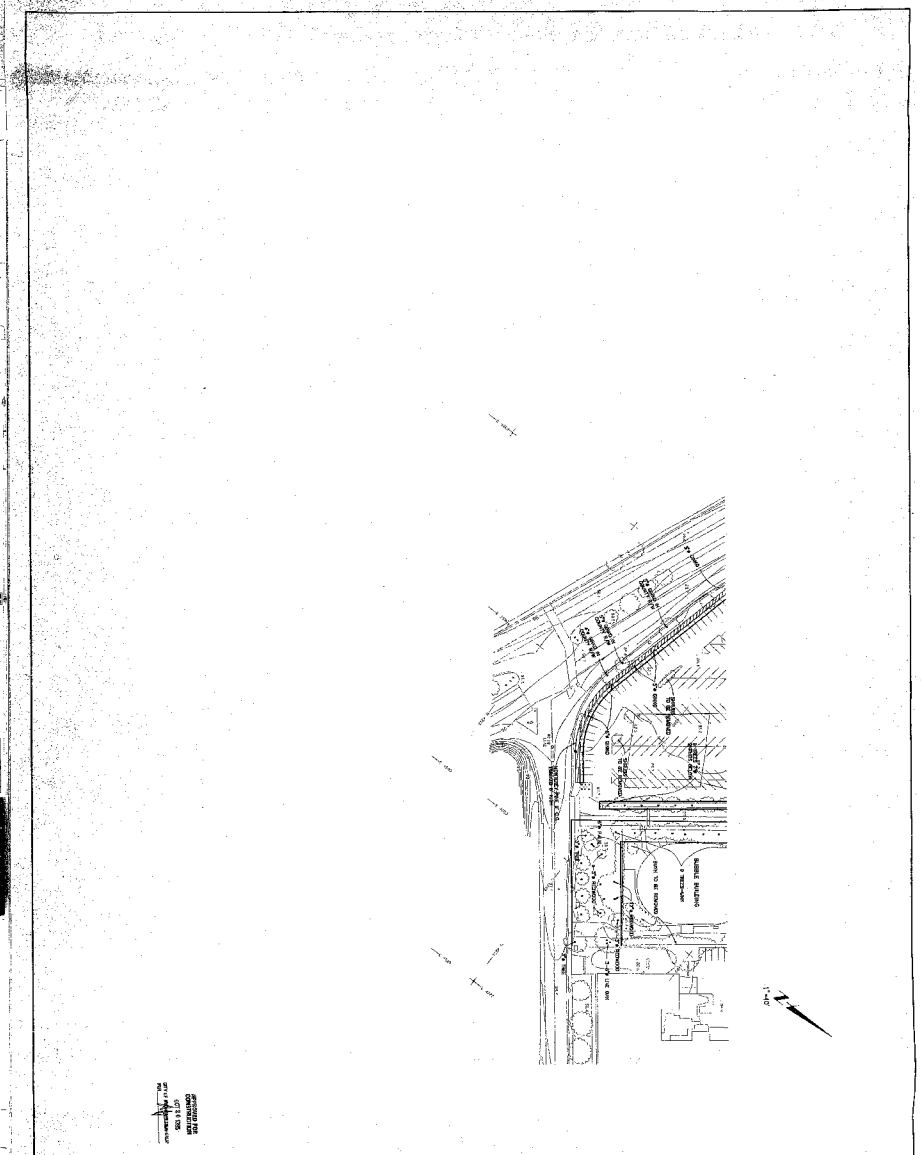
30 X



BLDG #2
DEMO
MATCHLINE A
SEE SHEET 2 FOR CONTINUATION
LEGEND
TREES TO BE SAVED; TO REMAIN IN PLACE
TREES TO BE SAVED; TRANSPLANTABLE
NEGOTIABLE TREES; TRANSPLANTABLE
NEGOTIABLE TREES; NON-TRANSPLANTABLE
H HERITAGE TREE
HX HERITAGE TREE TO BE REMOVED
50 TREE NUMBER CORRESPONDING TO ARBORIST REPORT
APPROVED FOR CONSTRUCTION
Brian Kangas Foulk
KAUFMAN & BROAD
GTE PROJECT
SANTA CLARA
CALIFORNIA

30 X


KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
TREE PRESERVATION PLAN
SAN JOSE
L-1
BUILDING THREE
65,000
BUILDING FIVE
77,000 SF
BUILDING FOUR
110,000 SF
AFFIXED FOR CONSTRUCTION
LEGEND
NOTES
30 X



TREE PRESERVATION PLAN

SAN JOSE CALIFORNIA

KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
3350 Scott Boulevard, Building 22 (408)727-6665
Santa Clara, California 95054 FAX(408)727-5641

L-2

30 X

GTE- GOVERNMENT SYSTEMS CORPORATION

ELECTRONIC DEFENSE SYSTEMS DIVISION

MOUNTAIN VIEW, CALIFORNIA

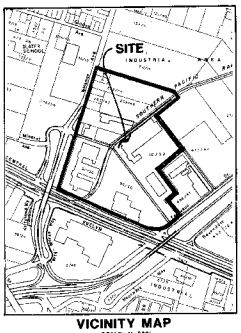
BENCH MARK

CITY OF MOUNTAIN VIEW 1942
ELEVATION 74.85-1980 BENCH CIRCUIT

FOUND BRONZE DISK SET IN BASE OF FLAG POLE IN FRONT OF FIRE STATION NO. 4 ON WHISMAN ROAD.

HORIZONTAL CONTROL

THE HORIZONTAL CONTROL IS THE MONUMENTATION SHOWN ON THE PARCEL MAP RECORDED NOVEMBER 25, 1987 IN BOOK 581 OF MAPS AT PAGES 5, 6, & 7 SANTA CLARA COUNTY RECORDS.



VICINITY MAP
SCALE: 1"=2000'

NO SCALE

SCOPE OF WORK:

REMOVAL OF BUILDINGS 1, 2, 3, 4, 5, 8 AND 9 AT THE **GTE GOVERNMENT SYSTEMS CORPORATION** LOCATION BETWEEN WHISMAN ROAD AND FERGUSON DRIVE IN MOUNTAIN VIEW, CALIFORNIA.

INDEX OF SHEETS

G-1	COVER SHEET
G-2	ABBREVIATIONS, SYMBOLS & NOTES
C-1	PLAN FOR EXISTING UTILITIES
C-2	UTILITY PLANS BUILDING 8, 9
C-3	UTILITY PLANS BUILDING 2
C-4	UTILITY PLANS BUILDING 1, 4, BUBBLE BUILDING
C-5	UTILITY PLANS BUILDING 3, 5
C-6	UTILITY DETAILS
C-7	PRIVATE WATER SERVICE-SNOWY EGRET
C-8	PRIVATE WATER SERVICE-SNOWY EGRET
C-9	PRIVATE WATER SERVICE-SNOWY EGRET
E-1	ELECTRICAL SITE PLAN
E-2	DETAILS AND SINGLE LINE DIAGRAM
E-3	SPECIFICATIONS
E-4	SPECIFICATIONS
E-5	SPECIFICATIONS

ENGINEER

KIER & WRIGHT CIVIL ENGINEERS & SURVEYORS, INC
3350 SCOTT BOULEVARD, BUILDING 22
SANTA CLARA, CALIFORNIA 95054
408/727-6665
CONTACT: GENE GOLOBIC, P.E.

SUBCONTRACTOR

ALFA-TECH CONSULTING ENGINEERS
67 EAST BROKAW, 3RD FLOOR
SAN JOSE, CALIFORNIA 95112
408/436-8520
CONTACT: DON KLICKLENS, P.E.

OWNER

GTE GOVERNMENT SYSTEMS CORPORATION
100 FERGUSON DRIVE
MOUNTAIN VIEW, CA 94043

APPROVED
PUBLIC WORKS ENGINEERING DIVISION
NOTE: Work within public right-of-way is not authorized under this approval. A separate encroachment permit is required for approved work will be issued only after all other fees are paid.
By Engineer [illegible] DATE 11-20-85

ALL CONSTRUCTION SHALL COMPLY WITH THE 1981 EDITION OF UBC, UPC AND UMC, 1980 EDITION OF NEC AND CITY OF MTN. VIEW SECURITY ORDINANCE ATTACHED.

APPROVED FOR CONSTRUCTION
NOV 22 1985
CITY OF MOUNTAIN VIEW, CALIF.

RECEIVED
NOV 20 1985
PUBLIC WORKS

CONTRACTOR MUST BE PRESENT AT TIME OF FINAL INSPECTION.

REVISION

SCALE: PROGRESS PRINT

KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
3350 Scott Boulevard, Building 22 • (408) 727-6665
Santa Clara, California 95054 • FAX (408) 727-5441

COVER SHEET
GTE-GOVERNMENT SYSTEMS CORPORATION
ELECTRONIC DEFENSE SYSTEMS DIVISION
MOUNTAIN VIEW, CALIFORNIA

DATE
SCALE
DESIGNED
JOB 85079-14
SHEET G-1
BY

24X

ABBREVIATIONS & SYMBOLS

LIST OF ABBREVIATIONS

B	BORING
BF	BLIND FLANGE
BKF	BACK FLOW PREVENTOR
BLDG	BUILDING
CB	CATCH BASIN
CJMJ	CAST IRON PIPE MECHANICAL JOINT
CIP	CAST IRON PIPE FLANGED
COTG	CLEAN OUT TO GRADE
DI	DROP INLET
DIMJ	DUCTILE IRON PIPE MECHANICAL JOINT
DIP	DUCTILE IRON PIPE FLANGED
DW	DOMESTIC WATER
DWG	DRAWING
E,T RISER	ELECTRIC AND TELEPHONE RISER
FG	FINISH GRADE
FH	FIRE HYDRANT
FS	FIRE SERVICE
GR	GRADE
GW	GROUND WATER
INVT	INVERT
IRS	IRRIGATION WATER SERVICE
MW	MONITORING WELL
PL	PROPERTY LINE
PIV	POST INDICATOR VALVE ON FIRE SYSTEM
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SD	STORM DRAIN
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
TOC	TOP OF CONCRETE
UN	UTILITY VAULT
W	WATER LINE
WM	WATER METER
WR	WATER REMEDIATION LINE
WRMW	WATER REMEDIATION MONITORING WELL

TABLE OF SYMBOLS

COTG	CLEAN-OUT TO GRADE
PIV	POST INDICATOR VALVE
FH	FIRE HYDRANT
WM	WATER METER
—WR—	WATER REMEDIATION
WRMW	WATER REMEDIATION MONITORNING WELLS
—G—	GAS
—OHE—	OVERHEAD ELECTRICAL
—OHT—	
—OHE,T—	OVERHEAD ELECTRICAL & TELEPHONE
—SD—	STORM DRAIN
—SS—	SANITARY SEWER
—W—	WATER
—FS—	FIRE SERVICE
—DW—	DOMESTIC WATER
—IRS—	IRRIGATION
	UTILITY POLE

B. TRENCHES

1. EXISTING PAVING-PRIOR TO EXCAVATION, THE EXISTING PAVEMENT SHALL BE NEATLY WHEELCUT ALONG THE LIMITS OF THE PROPOSED EXCAVATION. EXISTING PAVEMENT OVER THE TRENCH SHALL BE REMOVED AND HAULED AWAY FROM THE JOB SITE. IF A LONGITUDINAL PAVEMENT JOINT OR EDGE OR PAVEMENT IS LOCATED WITHIN THREE FEET (3') OF THE LIMIT OF THE EXCAVATION, THE CONTRACTOR SHALL REMOVE AND REPLACE ALL INTERVENING PAVEMENT AFTER COMPLETING THE TRENCH BACKFILL AND PRIOR TO THE INSTALLING PERMANENT TRENCH SURFACING. ALL UTILITIES SHALL BE LAID IN OPEN TRENCH AND/OR TUNNELS AS INDICATE DON THE PLANS OR AS DIRECTED BY THE ENGINEER.

2. TRENCH WIDTH-THE ALLOWABLE TRENCH WIDTH AT THE TOP OF PIPE SHALL BE OUTSIDE DIAMETER OF PIPE PLUS 18".

3. PIPE BEDDING-THE TRENCH SHALL BE EXCAVATED BELOW THE GRADE OF THE PIPE BOTTOM FOR 6" MINIMUM. HOLES FOR BELLS AND FITTINGS SHALL BE EXCAVATED BY HAND. IT IS THE INTENTION OF THESE REQUIREMENTS TO PROVIDE UNIFORM BEARING UNDER THE FULL LENGTH OF PIPE TO A WIDTH OF AT LEAST SIXTY PERCENT (60%) OF THE EXTERNAL DIAMETER.

   WHEN THE TRENCH BOTTOM IS UNSTABLE DUE TO A WET OR SPONGY FOUNDATION, THE TRENCH BOTTOM MUST BE STABILIZED WITH GRAVEL OR CRUSHED ROCK. IF THE UNSTABLE CONDITION WAS CAUSED BY THE OPERATIONS OF THE CONTRACTOR, SUCH GRAVEL OR CRUSHED ROCK SHALL BE FURNISHED AT THE CONTRACTOR'S EXPENSE. THE ENGINEER SHALL BE THE SOLE JUDGE OF THE SUITABILITY OF THE TRENCH BOTTOM AND AS TO THE AMOUNT OF GRAVEL OR CRUSHED ROCK NEEDED TO STABILIZE A SOFT MATERIAL AND REPLACE IT WITH GRAVEL OR CRUSHED ROCK WHEN ORDERED TO DO SO BY THE ENGINEER.

4. EXCAVATED MATERIAL-MATERIAL EXCAVATED IN STREETS AND ROADWAYS SHALL BE LAID ALONGSIDE THE TRENCH AND KEPT TRIMMED SO AS TO CAUSE AS LITTLE INCONVENIENCE AS POSSIBLE TO PUBLIC TRAFFIC. ALL MATERIAL EXCAVATED IN STREETS OR ROADWAYS AND NOT REQUIRED FOR BACKFILL SHALL BE IMMEDIATELY REMOVED AND DISPOSED OF BY THE CONTRACTOR.

5. TRENCH BACKFILL AND RESURFACE-ALL WORK SHALL COMPLY WITH SECTION 24-04 AND 24-05 OF THE CITY OF MOUNTAIN VIEW STANDARD PROVISIONS, LATEST EDITION.

KIER & WRIGHT PLAN NOTES

A. GENERAL CONDITIONS

1. CONTRACTOR SHALL UNCOVER AND EXPOSE ALL EXISTING UTILITY AND SEWER LINES WHERE THEY ARE TO BE CROSSED ABOVE OR BELOW BY THE NEW FACILITY BEING CONSTRUCTED IN ORDER TO VERIFY THE GRADE AND TO ASSURE THAT THERE IS SUFFICIENT CLEARANCE. IF THE CONTRACTOR REQUIRES ASSISTANCE HE SHALL CALL KIER & WRIGHT CIVIL ENGINEERS AND SURVEYORS INC. AT 408/727-6665 AND REQUEST A SURVEY CREW TO MAKE THE DETERMINATION. PIPE SHALL NOT BE STRUNG NOR TRENCHING COMMENCED UNTIL ALL CROSSINGS HAVE BEEN VERIFIED FOR CLEARANCE. IF THE CONTRACTOR FAILS TO FOLLOW THIS PROCEDURE, HE WILL BE SOLELY RESPONSIBLE FOR ANY EXTRA WORK OR MATERIAL REQUIRED IF MODIFICATIONS TO THE DESIGN ARE NECESSARY.

2. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE IMPROVEMENT PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES.) HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THE DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.

3. COMPACTION TO BE DETERMINED USING ASTM D557, LATEST EDITION.

4. SPOT GRADES (ELEVATIONS) SHOWN HEREON ARE PAVEMENT GRADES, NOT TOP OF CURB GRADES, UNLESS NOTED OTHERWISE.

5. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE O.S.H.A. REGULATIONS.

6. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

7. THE CONTRACTOR SHALL SO CONDUCT HIS/HER OPERATIONS AS TO OFFER THE LEAST POSSIBLE OBSTRUCTION AND INCONVENIENCE TO PUBLIC TRAFFIC AND HE/SHE SHALL HAVE UNDER CONSTRUCTION NO GREATER LENGTH OR AMOUNT OF A WORK THAN HE/SHE CAN PROSECUTE PROPERLY WITH DUE REGARD TO THE RIGHTS OF THE PUBLIC. IN-USE EXISTING ROADS ARE NOT AVAILABLE FOR USE AS DETOURS, UNLESS OTHERWISE PROVIDED IN THE SPECIAL PROVISIONS. ALL TRAFFIC SHALL BE PERMITTED TO PASS THROUGH THE WORK WITH AS LITTLE INCONVENIENCE AND DELAY AS POSSIBLE. AT NO TIME, AS A RESULT OF CONTRACTOR'S EFFORTS SOLELY OR IN COMBINATION WITH OTHER PROJECTS THAT MIGHT BE UNDERWAY, SHALL ACCESS TO ANY PORTION OF THE CITY BE UNDULY LIMITED. THE ENGINEER, AT HIS DISCRETION, ANY STOP OR POSTPONE WORK AS NECESSARY, TO AVOID OR CORRECT SUCH CONDITIONS.

8. THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN SUCH FENCES, BARRICADES, LIGHTS AND SIGNS AS ARE, IN THE OPINION OF THE ENGINEER, NECESSARY TO GIVE ADEQUATE WARNING TO THE PUBLIC AT ALL TIMES.

9. THE CONTRACTOR SHALL KEEP THE CITY EMERGENCY COMMUNICATIONS CENTER (965-6395) INFORMED DAILY REGARDING EXCAVATIONS, BARRICADES AND DETOURS IN ROADWAY AREAS. FLASHERS SHALL BE PLACED AT EXCAVATIONS, BARRICADES AND AS DIRECTED BY THE ENGINEER.

APPROVED FOR CONSTRUCTION
NOV 2 2 1996
CITY OF MOUNTAIN VIEW CHIEF
PER _____

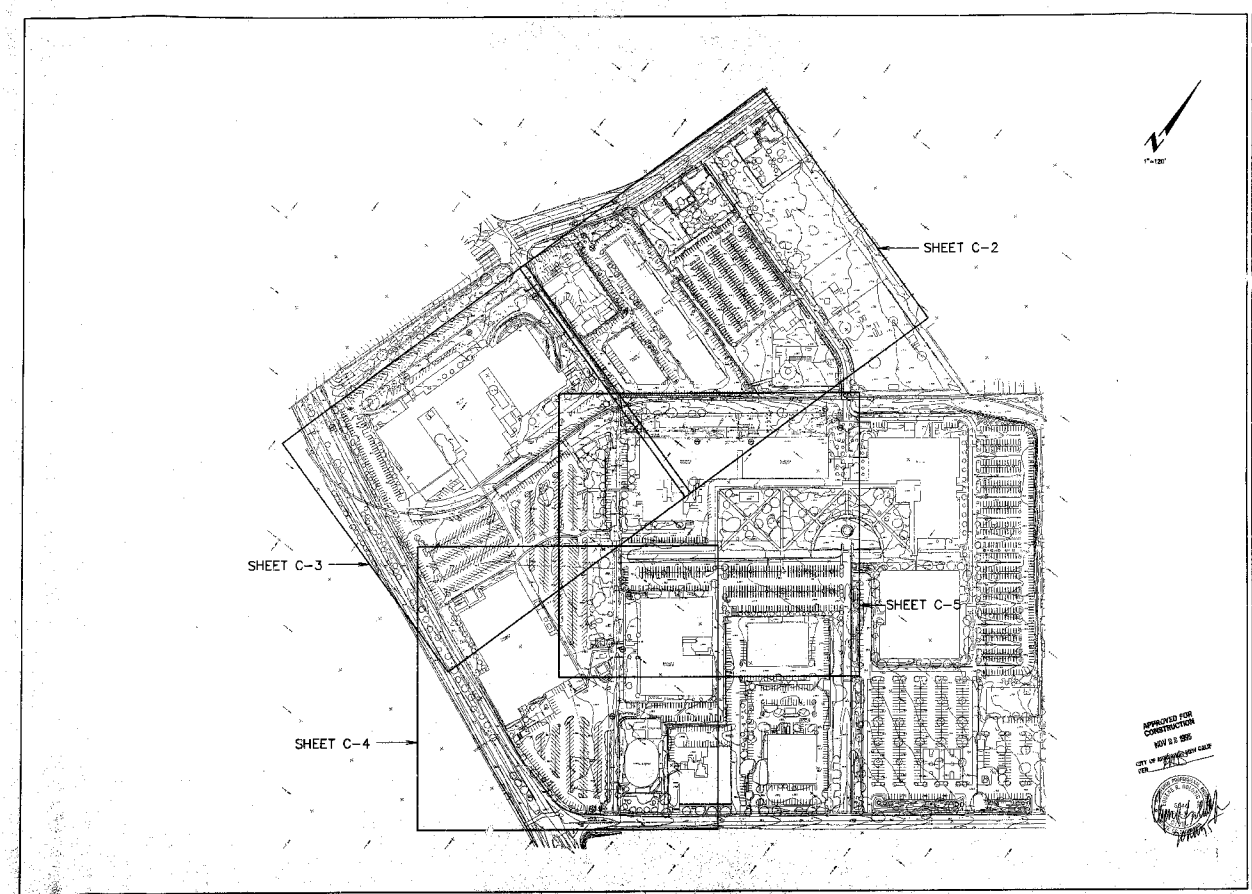
NO	REVISION	BY	NO	REVISION	BY	NO	REVISION	BY

KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
3350 Scott Boulevard, Building 22 · (408) 727-6665
Santa Clara, California 95054 · FAX (408) 727-5441

ABBREVIATIONS, SYMBOLS & NOTES
GTE-GOVERNMENT SYSTEMS CORPORATION
ELECTRONIC DEFENSE SYSTEMS DIVISION
MOUNTAIN VIEW, CALIFORNIA

DATE
SCALE
DESIGNER
JOB 96379-16
SHEET G-2
OF SHEETS

24X


SHEET C-2
SHEET C-3
SHEET C-4
SHEET C-5
1"=120'
APPROVED FOR CONSTRUCTION
NOV 22 1995
CITY OF SAN JOSE, NEW CALIF
PROGRESS PLAN
KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
3360 Scott Boulevard, Building 22 (408)727-6665
Santa Clara, California 95054 FAX (408)727-5641
PLAN FOR EXISTING
UTILITIES
SAN JOSE
CALIFORNIA
C-1

24X

BUILDING 8

1. Water/Fire Service

   Request the City of Mountain View to operate the 4" valve at the main to shut off PIV #2 and the fire service to the building. Remove the detector check and return to the City Water Department. Remove the 4" valve at the main and the tapping tee and install a new spool section on the 12" Whisman main. (See details). Contractor to remove and legally dispose of vaults, PIV, BFD and all appurtenances thereto.

   Domestic Water/Irrigation Water

   Operate the shut off valves in front of each meter to close water supply. Remove each meter and return to City Water Department. Each service lateral must be exposed and capped at the main (coordinate these meter removals with the water department to obtain an accurate final meter reading and for main closure-See details). Contractor to remove and legally dispose of vaults, PIV, BFD and all appurtenances thereto.

2. Sanitary Sewer

   Contractor to verify sanitary clean-out in driveway. If proper, cut lateral#2 behind clean-out, remove 4' section and cap upstream. Leave clean-out in place for reuse and install marker post. Also, cap the lateral as it exits the building.

3. Gas

   PG&E to remove gas meter and plug lateral at the main in Whisman Road. Lateral to be abandoned in place with plugs at each end by PG&E.

4. Electric

   PG&E to remove meter, transformer, and pull all conductors. Conduits to be plugged and abandoned in place by PG&E.

BUILDING 9

1. Water/Fire Service

   Request the City of Mountain View to operate the 4" valve at the main, to shut off PIV #1 and the fire service to the building. Remove the detector check and return to the City Water Department. Remove the 4" valve at the main and the tapping tee and install a new spool section in the 12" Whisman main. (See details). Contractor to remove and legally dispose of vaults, PIV, BFD and all appurtenances thereto.

   Domestic Water/Irrigation Water

   Operate the shut off valves in front of each meter, to close water supply. Remove each meter and return to City Water Department. Each service lateral must be exposed and capped at the main (Coordinate these meter removals with the water department to obtain an accurate final meter reading and for main closure-See details). Contractor to remove and legally dispose of vaults, PIV, BFD and all appurtenances thereto.

2. Sanitary Sewer

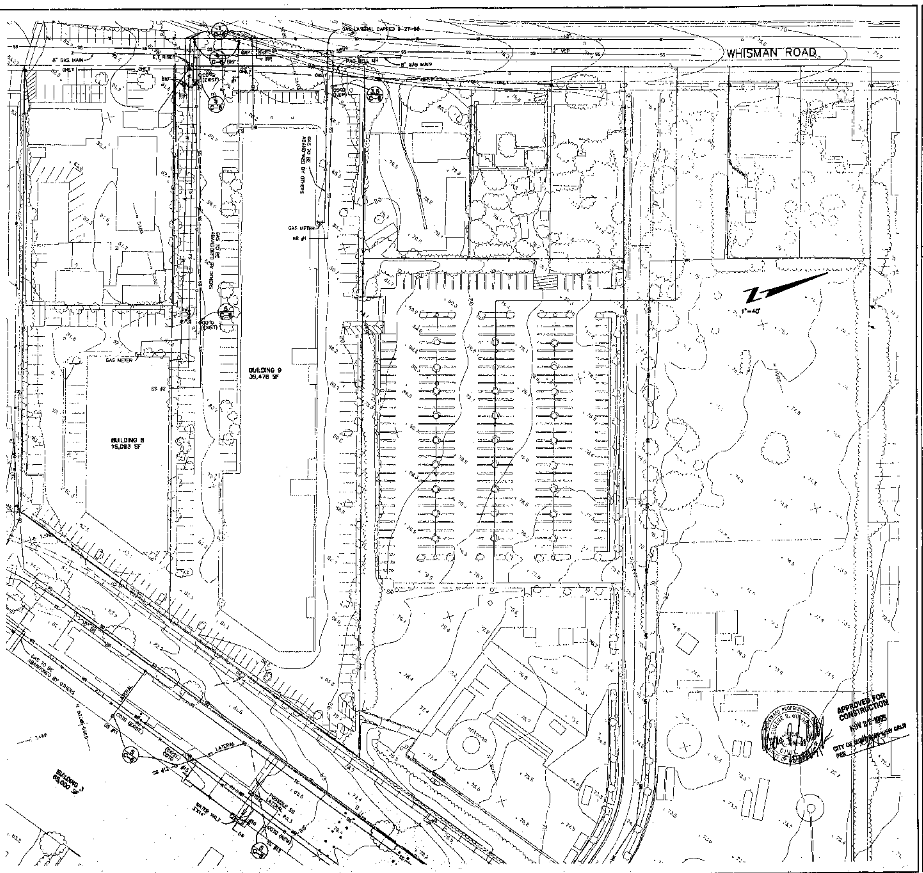
   Building lateral believed to be in east driveway and is noted as sanitary sewer lateral #1. Contractor to verify lateral, expose by pothole-remove 4' section. Install COTG as detailed and install marker post.

3. Gas

   PG&E to remove gas meter and expose and plug lateral at the gas main in Whisman Road. Lateral to be abandoned in place with plugs at each end by PG&E.

4. Electric

   PG&E to remove meter, transformer and pull all conductors. Conduits to be plugged and abandoned in place by PG&E.



PROGRESS PRINT 10-4-95

KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
3350 Scott Boulevard, Building 22 (408)727-6665
Santa Clara, California 95054 FAX(408)727-5641

UTILITY PLANS
BUILDING 8,9

SAN JOSE CALIFORNIA

DATE 10-3-95
SCALE 1" = 40'
JOB 85379-64
SHEET C-2 OF 9 SHEETS

24X

BUILDING 2

1. Water/Fire Service

   a. Operate PIV #2 near the 8" water at the corner of Whisman Road and the GTE private road. This PIV is thought to be a sectionalizing valve that shuts off both Fire Service and the Domestic Water for the north half of Building 2. If this PIV operates properly and does not impact additional buildings in the campus, skip to step c. If this sectionalizing valve has too large or impact, re-open the valve and go to step b.

   b. Operate PIV #4 at the basement level on the northeast corner of the building.

   c. Operate PIV #5 at the southwest corner of the building on the front side.

   d. Hold all PIV's that have been closed in the closed position.

   Water/Domestic Service

   a. There are two domestic water sources for this building and each has shut off valves outside the building.

   b. The shut off valve for the northwest portion of the building is in an underground vault near PIV #4. If PIV #2 operates as anticipated, this domestic water shut off may not be necessary, if not, then operate this domestic water shut off.

   c. The shut off valve for the southern portion of the building is in a wooden vault in the front of the building near PIV #5. Close this valve to stop domestic water for the southern half of the building.

2. Sanitary Sewer

   There are three sanitary sewer laterals #3, #4 and #5, all exiting the building on the west side, to the city main as shown. Each lateral should be exposed behind the curb line with a clean-out installed up to grade. See construction details for capping these laterals. Install a marker post on each lateral.

3. Storm Drain

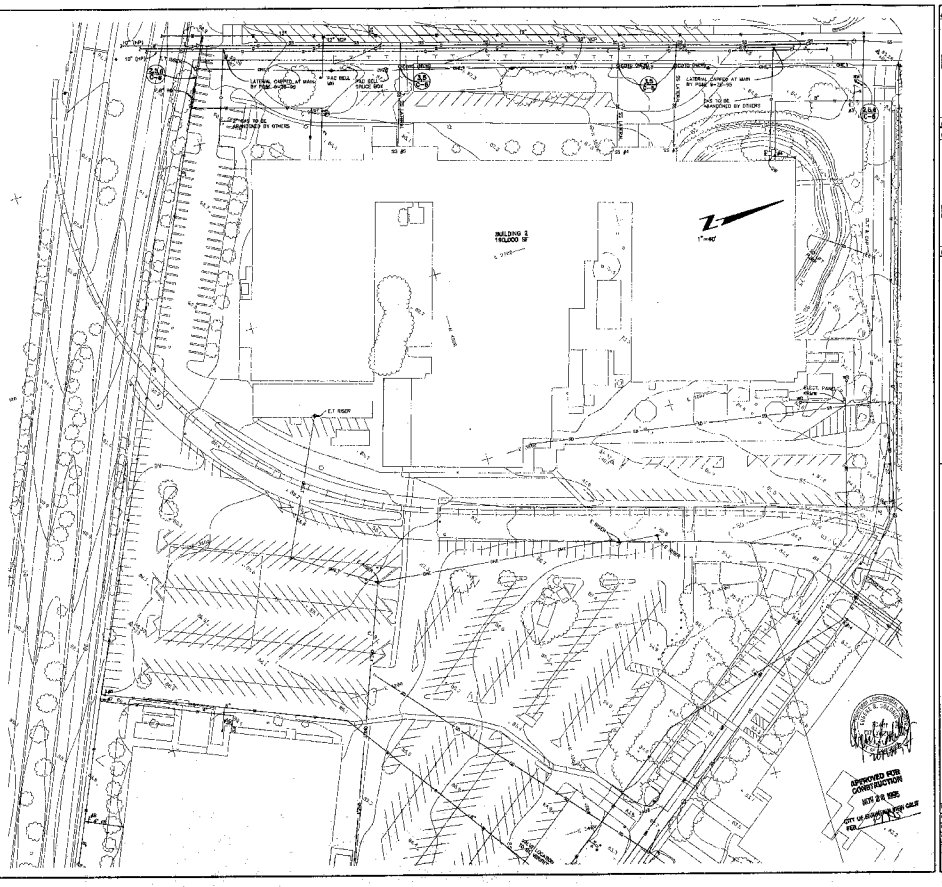
   The storm drain lift system should be capped at the catch basin in the private GTE access road on the east side of the building. The low end of the drain line should also be plugged at the lift station pump site when the station is removed.

4. Gas

   PG&E will remove two gas meters at the north and south end of the buildings and disconnect their lateral at the gas main. The gas laterals will be abandoned with caps installed at each end.

5. Electric

   This building is on the GTE electric loop and the demolition contractor will disconnect all service from the southeast riser at the rear of the building. Transformers, conductors, etc. will be removed by the demolition contractor. PG&E is not involved.



PROGRESS PRINT 10-4-95

KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
3355 South Boulevard, Building #2 (408)727-6666
Santa Clara, California 95054 FAX (408)727-5641

CALIFORNIA

UTILITY PLANS
BUILDING 2

SAN JOSE

10-3-95
1" = 40'
SA033-14
C-3

BUILDING 1

1. Water

This building has four water sources.

a. First close PIV, marked #7, thought to be a sectionalizing valve for three different water entrances to the building. If that works properly, mold the PIV in closed position and proceed to step c.

b. If PIV #7 does not sectionalize building one properly, then operate the individual PIV's #8, #9, & #10 as shown on the drawing and close water service at those points. Mold each PIV in closed position. Cap each water lateral in direction toward the building in present future drainage in this abandoned water line.

c. The fire service near the loading dock at the back of the building is served from the 6" water meter at Ferguson Drive. This meter should be removed at this time per detail. Shut the line at the Ferguson meter; the fire protection in the Bubble building is also killed and is the only other service on this meter. Contractor to cutter meter to City, and remove and legally dispose of vaults, PIV, BFD, and all appurtenances thereto.

2. Sanitary Sewer

One sanitary sewer lateral exists, #6 for this building, exiting the northeast area of the building. This lateral should have a clean-out installed at grade near the access road. The lateral can be plugged at each end and abandoned in place. (See detail). Install a marker post.

3. Gas

PG&E to remove the gas meter and disconnect the lateral at their main in Ferguson Drive. The gas lateral will be capped at each end and abandoned in place by PG&E.

4. Electric

All electric service is from electric riser on pole in center of building (north side). Contractor is to disconnect this riser and remove all conductors and transformers. PG&E is not involved with this service.

BUILDING 4

1. Sewer

Two sewer laterals exist for this building 8 and 10 going westward to the main in the roadway as shown. They are readily located by the existing cleanouts on lateral #9B and the manhole in the access road for lateral #9.

Install a new CDFG on each lateral behind the sidewalk. Cap each lateral upstream and provide a marker post.

2. Water/Fire Service

There are two fire service locations for this building, each is identified with a PIV on the northwest side of the building. Operate both PIV #12 and PIV #13 to close off the fire service.

Domestic Water

Close domestic water valve located in box on north side of doorway near PIV #13. There is only one domestic water source for this building.

3. Gas

PG&E will remove the gas meter and cap this long service lateral at their main in Ferguson. The lateral pipe is abandoned in place by PG&E.

4. Electric

This building is on the CTE electric loop with all electric service coming from the riser on the pole at the northwest corner of the building. The contractor is to remove all transformers/conductors at this building. PG&E is not involved with this service.

BUBBLE BUILDING AND BUTLER BUILDING

1. Sewer

The City of Mountain View sanitary sewer passes alongside the Bubble building and has a manhole in the roadway between the Bubble Building and Building 4.

There are two service laterals (#7 and #8) entering this manhole as shown on the plans. Each lateral should be cut, with a clean-out to grade. Plug the upstream direction and install marker posts. Leave the manhole undisturbed, for future reuse.

2. Water/Fire Service

The Bubble Building fire sprinklers are extensions from the fire line of Building 1 and will be canceled when the 8" meter is removed. PIV #15 controls the Bubble Building fire service and that fire line is not energized when the 6" meter at Ferguson is disconnected as part of the Building 1 removal.

Domestic Water

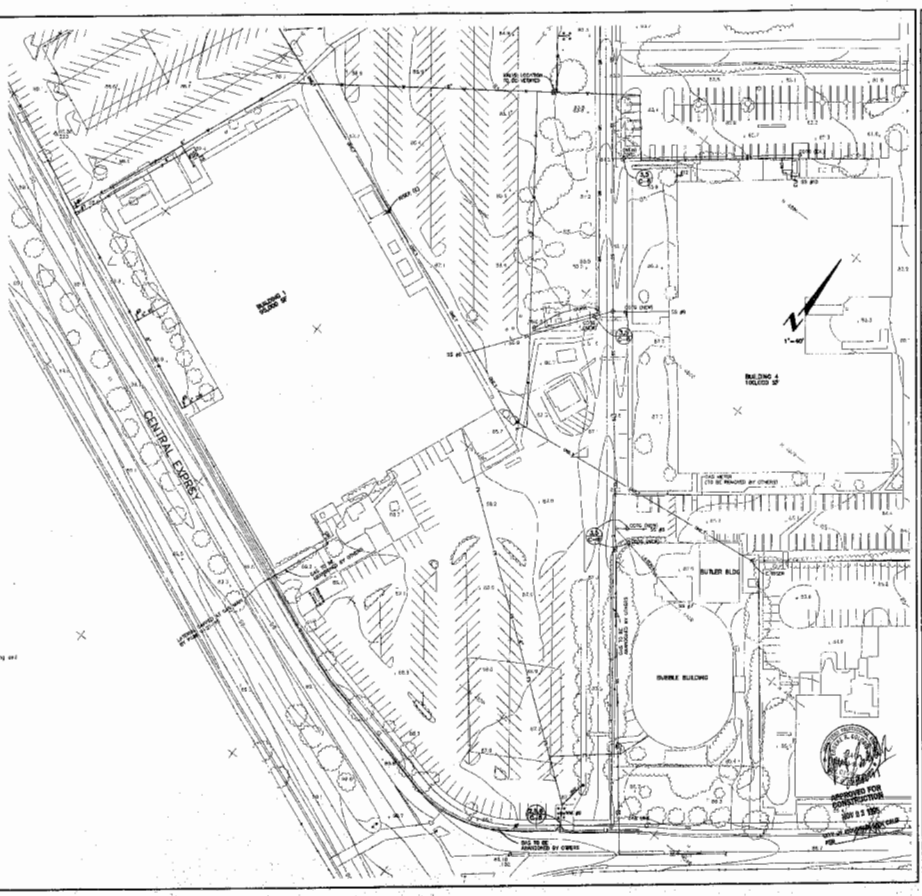
There is no water service in the Bubble Building. The water service in the Butler Building is an extension from Building 4 and will be canceled when Building 4 is shut off.

3. Gas

There is no gas service in these buildings.

4. Electric

The contractor will remove all transformers and conductors at this site.



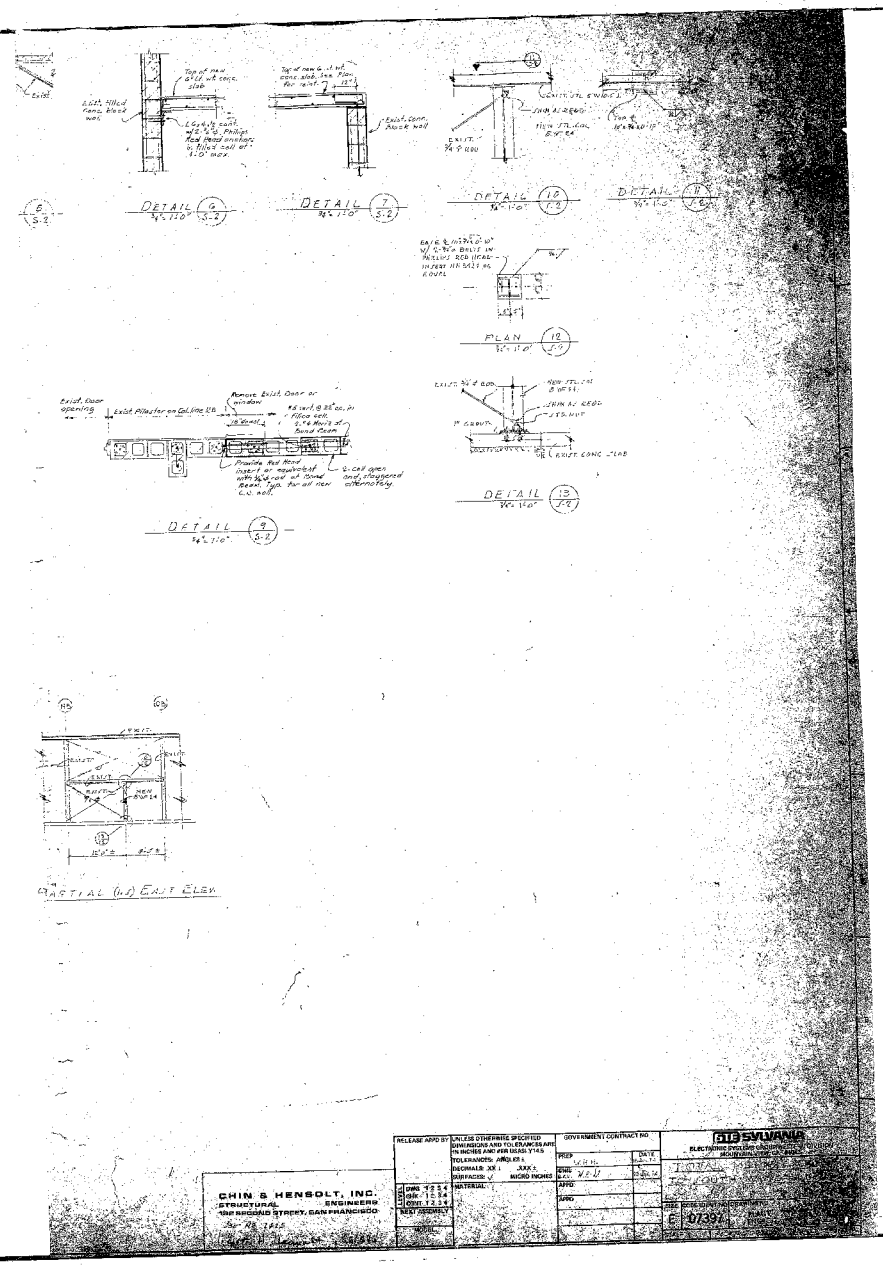
KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
3300 Scott Boulevard, Building 22 (408)727-6805
Santa Clara, California 95054 FAX (408)727-5641

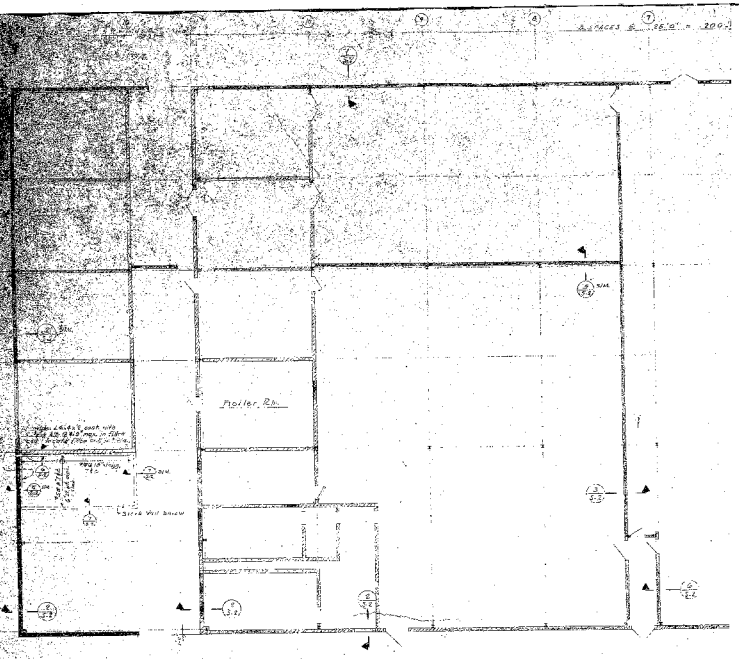
UTILITY PLANS
BUILDING 1,4,BUBBLE BUILDING

SAN JOSE CALIFORNIA

C-4

24X

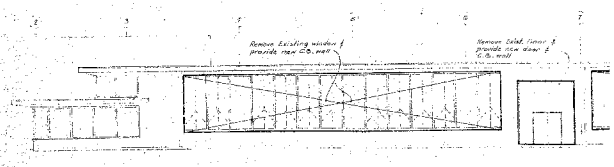

DETAIL 6 S-2
DETAIL 7 S-2
DETAIL 10 S-2
DETAIL 11 S-2
PLAN 12 S-2
DETAIL 13 S-2
DETAIL 9 S-2
PARTIAL (N.S) EAST ELEV.
CHIN & HENSOLT, INC.
STRUCTURAL ENGINEERS
SAN FRANCISCO
SYLVANIA
E 07397



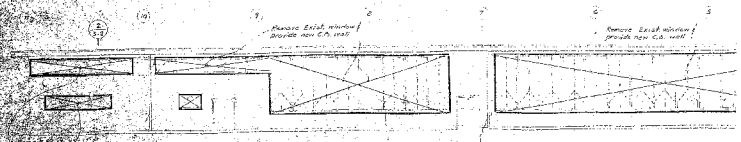
PLAN AT UPPER WINDOW SILL AT LEVEL

PLAN AT WINDOW SILL

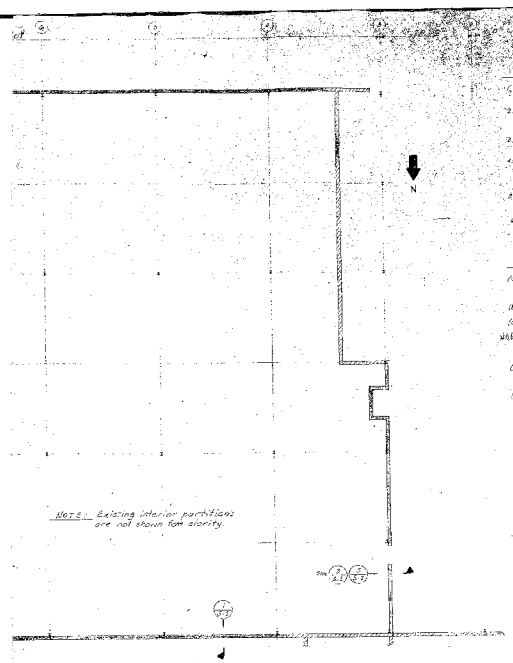
NOTE:
= Indicate new construction
= Indicate Existing Construction



SOUTH ELEVATION - SHOP



NORTH ELEVATION - SHOP WING



GENERAL

1. General [illegible] unless shown [illegible]
2. Reviews of [illegible] shall apply [illegible] modify typical [illegible]
3. Dimensions of [illegible] the [illegible]
4. Shop drawings shall be [illegible] approval before [illegible] fabrication. Shop drawings [illegible] reinforcing, [illegible] concrete, block, [illegible]
5. All materials and workmanship [illegible] Uniform Building Code 1973 [illegible]
6. Contractor shall verify all [illegible] Before work is begun, check with [illegible] Mechanical Contractors for [illegible] etc., to be embedded in concrete.

CONCRETE BLOCK

(a) All blocks shall be basalts [illegible] unless [illegible] is approved by the Engineer.

(b) All vertical joints in block walls shall be staggered.

(c) Provide 1-#3 6-36" [illegible] (dowels) in bond beam block unit [illegible] UNR [illegible] shall be completely filled [illegible] Grout to develop a minimum ultimate strength [illegible] in 28 days. Maximum size aggregate not [illegible]

(d) Provide 2-#5 bars portland at all openings [illegible] extend bars 24" beyond openings. Provide [illegible] edges of all openings, and at all intersections [illegible]

(e) Phillips Rel Rand insert with 3/8 bolt [illegible] for [illegible] Vertical & Horizontal reinforcement [illegible] as shown in Drawings.

CONCRETE NOTES

All concrete shall develop a minimum ultimate compressive strength at the end of 28 days, with corresponding [illegible] size of aggregate and slumps as follows.

	ultimate 28 day compressive strength	max. size aggregate	slump	air content
conc. slab over Women's Lounge	3,000 psi	3/4" (1 in)	6" ± 1"	6 ± 2

Concrete shall have a maximum plastic weight of 148 p.c.f.

LEVEL

Remove Exist. window & provide new C.B. wall

P. PLAN

APPROVED FOR CONSTRUCTION

CHIN & HENSOLT, INC.
STRUCTURAL ENGINEERS
100 SECOND STREET, SAN FRANCISCO.
[illegible]

GTE SYLVANIA
ELECTRONIC SYSTEMS DIVISION
MOUNTAIN VIEW, CALIFORNIA

COTAU LOCATION
TO BE DETERMINED
BY GTE

E. 07397

FILE FOR APPROVAL UNLESS OTHERWISE SPECIFIED
DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USAS Y14.5
TOLERANCES: ANGLES ±
DECIMALS: .XX ± .XXX ±
SURFACES: √ MICR INCHES
MATERIAL

GOVERNMENT CONTRACT NO.
DRWN
DATE
CHK
APPD
AREA

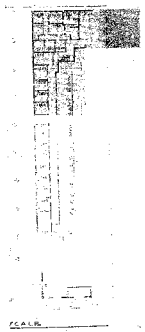
LOCATION
SCALE

INDEX

1. INDEX & LOCATOR (NOT TO SCALE)
2. FLOOR PLAN-LOWER FLOOR
3. FLOOR PLAN-UPPER FLOOR
4. MASONRY-LOWER FLOOR
5. MASONRY-UPPER FLOOR
6. SECTIONS & DETAILS-MASONRY
7. VAN SHELTER-PLANS, SECTION, & DETAILS
8. MODIFICATIONS-LOWER FLOOR
9. MODIFICATIONS-UPPER FLOOR
10. CARPENTRY SECTIONS & DETAILS
11. COMPUTER FLOORING
12. TEE-BAR CEILING
13. ALARM SYSTEM-LOWER FLOOR
14. ALARM SYSTEM-UPPER FLOOR
15. AIR SYSTEM-LOWER FLOOR
16. AIR SYSTEM-UPPER FLOOR
17. AIR SYSTEM-DETAILS & DIAGRAMS
18. COLUMNS-BEAMS-ROOF STRUCTURE
19. TILE FLOORING-LOWER FLOOR
20. TILE FLOORING-UPPER FLOOR
21. FIRE SPRINKLER SYSTEM-LOWER FLOOR
22. FIRE SPRINKLER SYSTEM-UPPER FLOOR
23. POWER TO AIR COND-LOWER FLOOR
24. POWER TO AIR COND-UPPER FLOOR
25. WALL OUTLETS-LOWER FLOOR
26. WALL OUTLETS-UPPER FLOOR
27. LIGHTING ON-LOWER FLOOR
28. LIGHTING ON-UPPER FLOOR

ALTERNATE DRAWINGS

4A. MASONRY ALTERNATE #1
5A. MASONRY ALTERNATE #2
10A. CARPENTRY SECTIONS & DETAILS

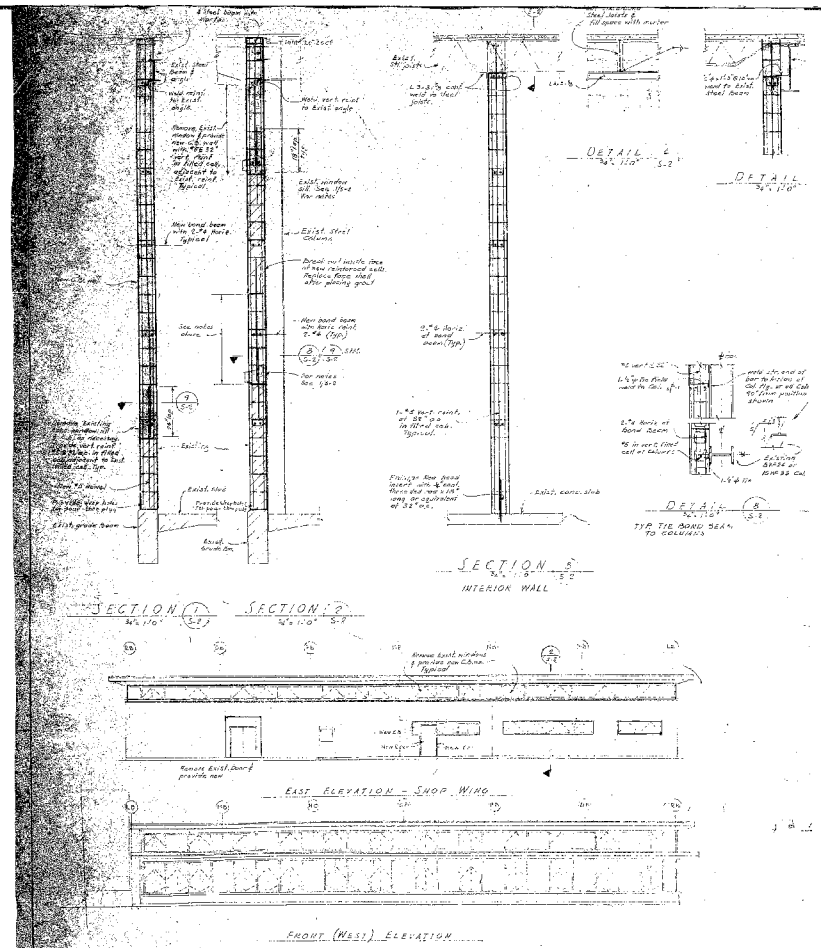


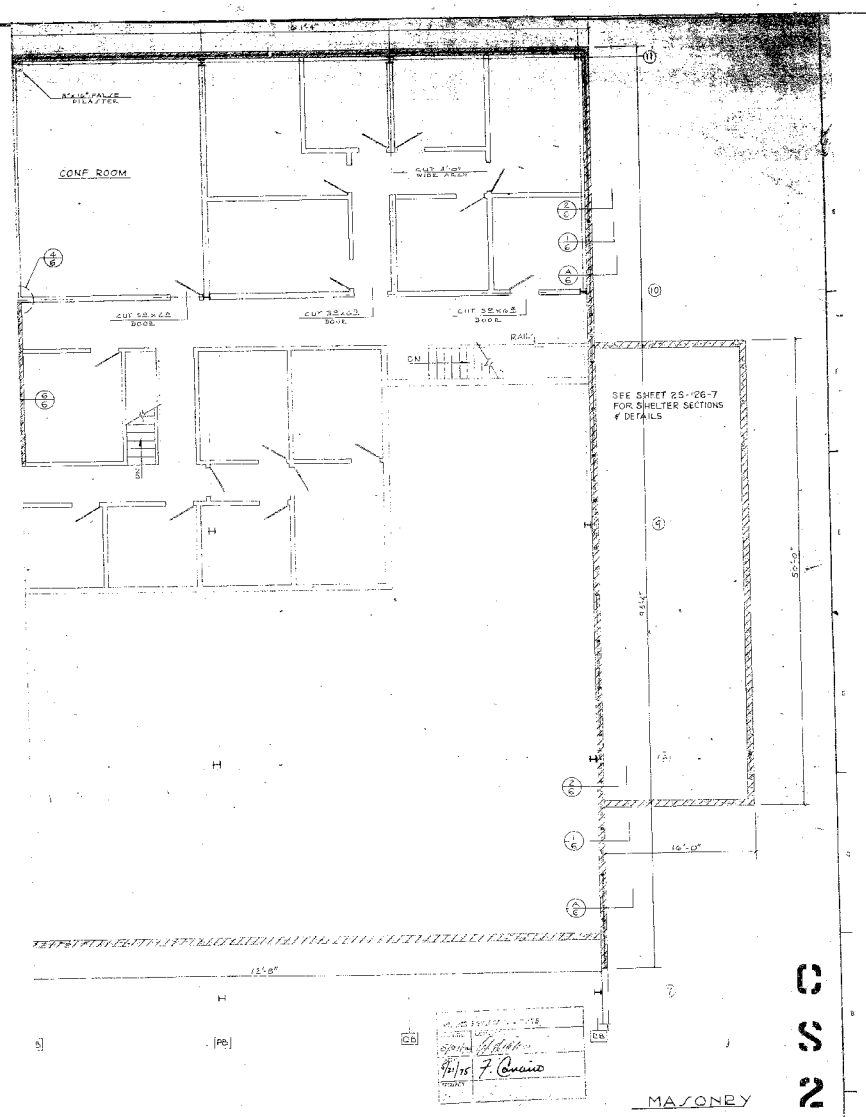
SCALE

PLANS REVIEWED - DATE
5/21/75 [signature]
5/21/75 F. [signature]

C
S
2

RELEASE APPD BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USING Y14.5 TOLERANCES: ANGLES ± DECIMALS .XX ± .XXX ± SURFACES ✓ MICROINCHES	GOVERNMENT CONTRACT NO		GTE SYLVANIA ELECTRONIC SYSTEMS GROUP WESTERN DIVISION MOUNTAIN VIEW, CA 94042
		PREP	DATE	INDEX & LOCATOR
		CHK		
LEVEL DWG 1 2 3 4 CHK 1 2 3 4 CONT 1 2 3 4	MATERIAL	APPD		
NEXT ASSEMBLY		APPD		SIZE E CODE IDENT NO 07397 DRAWING NO PLANT ENGRG 25-126-1
MODEL				SCALE SHEET 1 OF


SECTION 1
SECTION 2
SECTION 5
INTERIOR WALL
DETAIL 6
DETAIL 7
DETAIL 8
TYP. TIE BOND BEAM TO COLUMNS
EAST ELEVATION - SHOP WING
FRONT (WEST) ELEVATION



RELEASE APPROVED	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND FOR USABILITY 1 & 2	GOVERNMENT CONTRACT NO	GTE SYLVANIA ELECTRONIC SYSTEMS GROUP, EASTERN DIVISION MOUNTAIN VIEW, CA 94042
	TOLERANCES: ANGLES ± DECIMALS: XX ± XXX ± SURFACES: ✓ MICRO INCHES	PREP. DATE	MODIFICATIONS TO A PORTION OF UPPER FLOOR A PORTION OF SOUTH WING-BLDG. II
LEVEL	MATERIAL	CHK. DEMAND	
DWG 1 2 3 4		APPD	
CHK 1 2 3 4		APPD	
CONT 1 2 3 4			
NEXT ASSEMBLY			
MODEL			

SIZE	CODE IDENT NO	DRAWING NO
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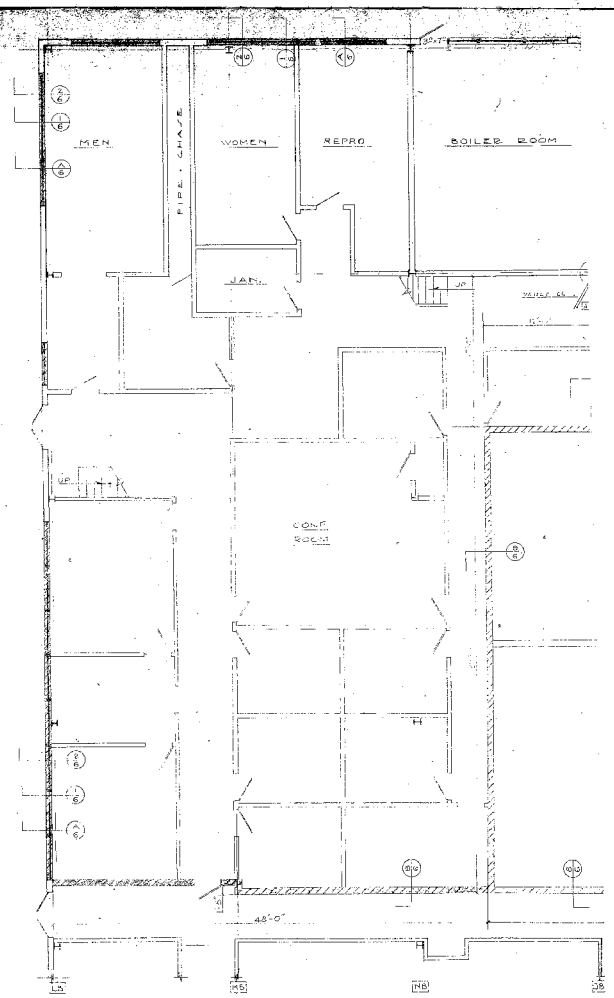
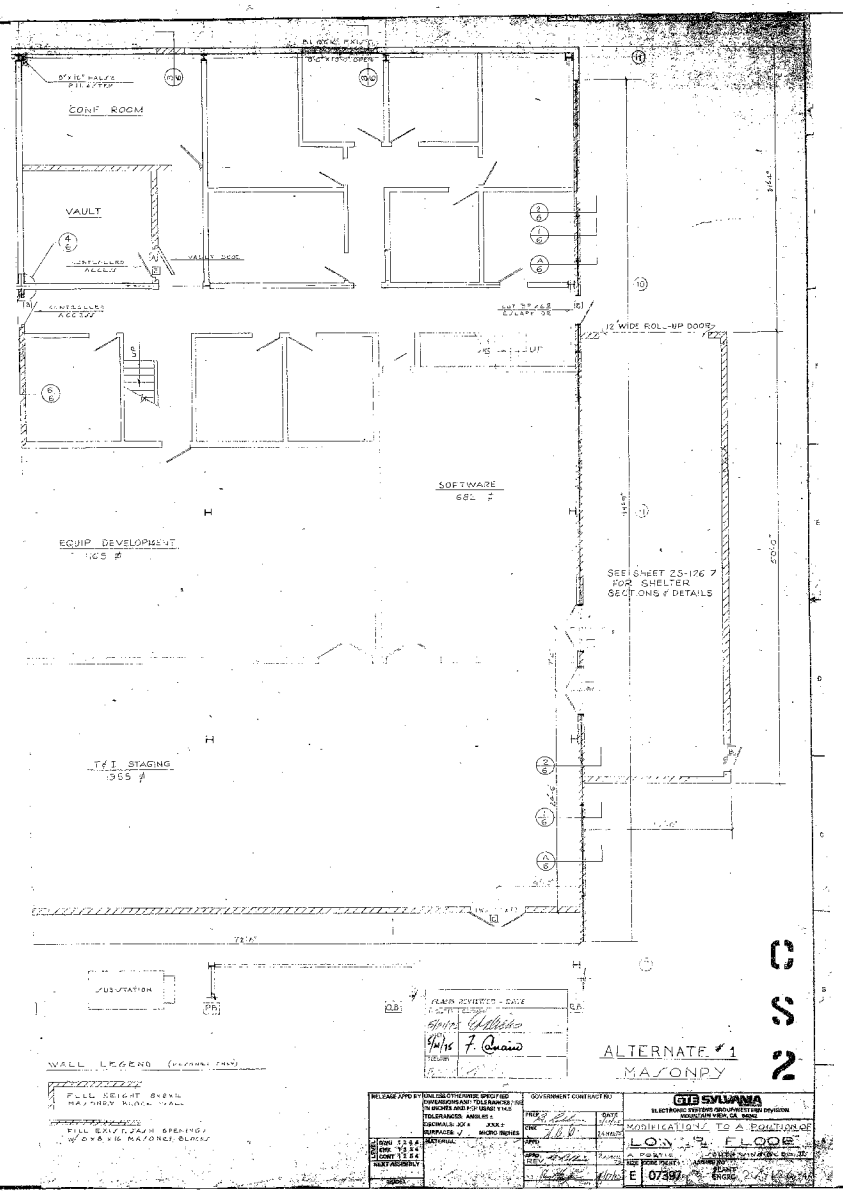


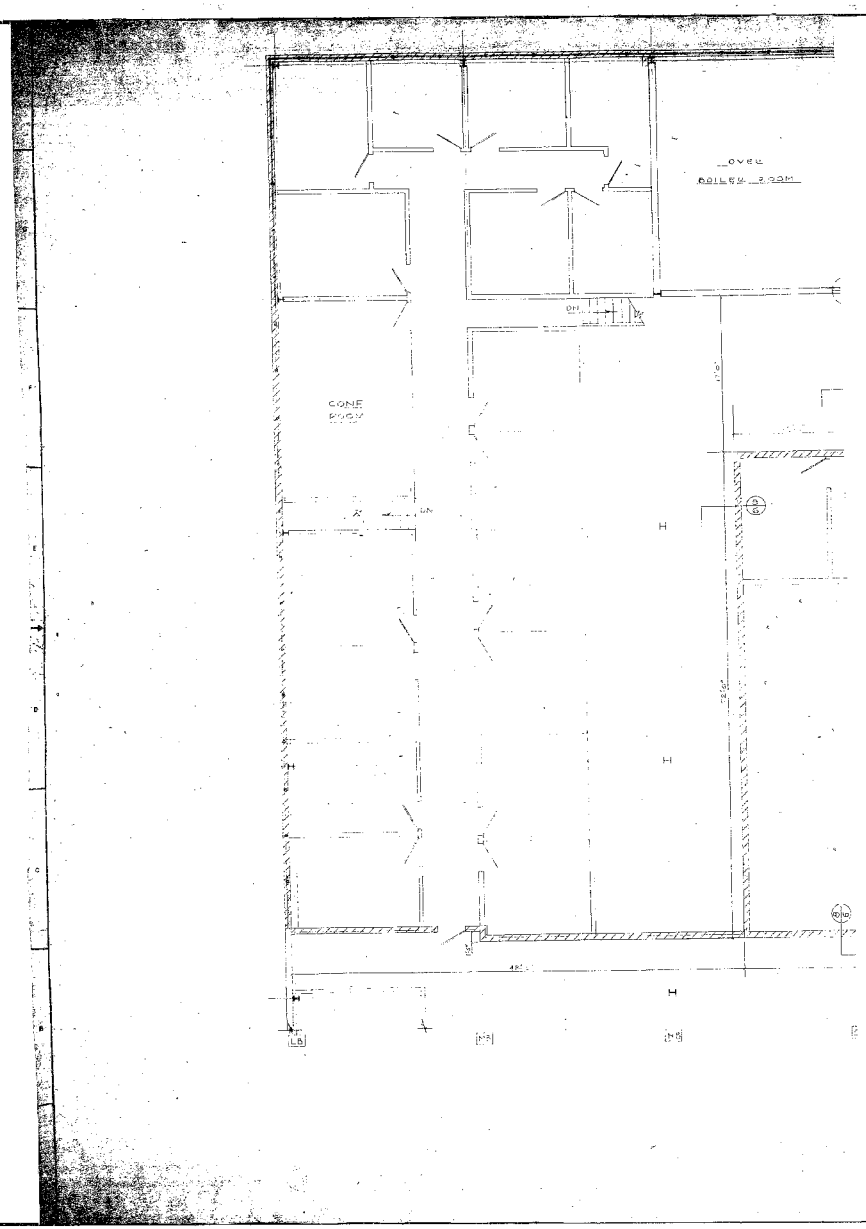
DOOR SCHEDULE (SEMI-CLOSED ONLY)

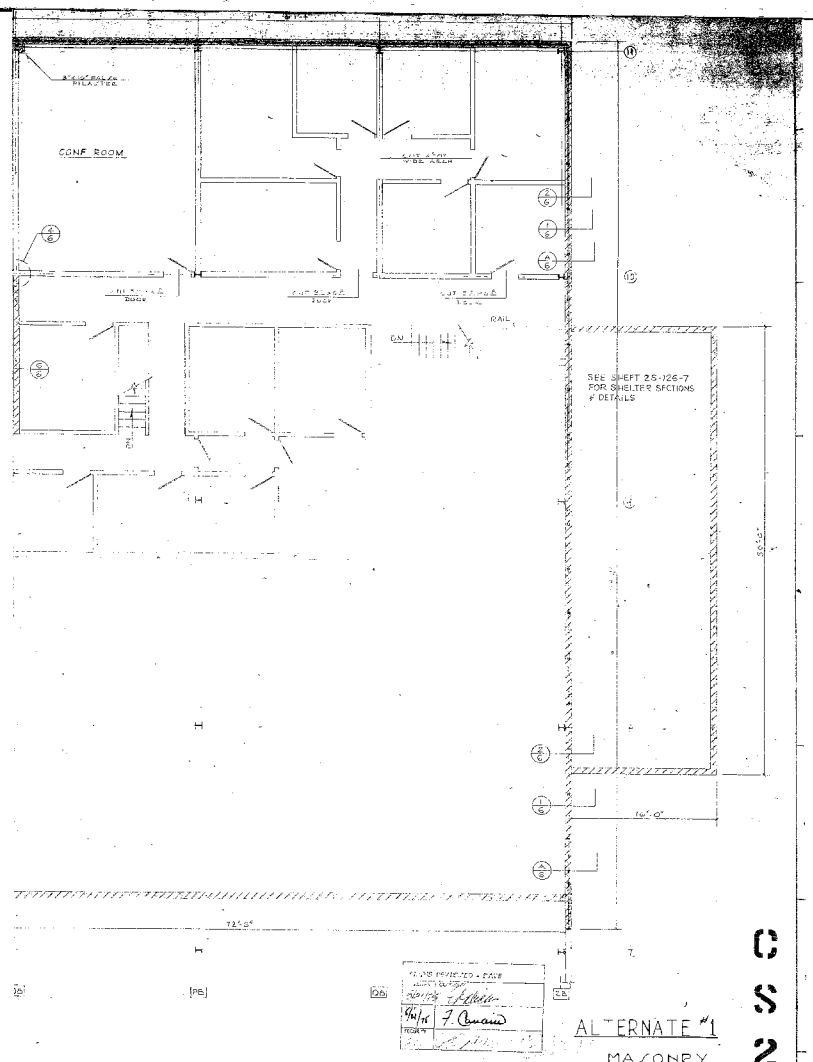
A DIEBOLD SEAD & MOD SHOT VALVE OR
B SOLDIERED 40 oz SOUND LEFTED DOOR
C HAIR TUCKERED 40 oz S/R DOORS (SIZE AS SHOWN)

NOTE

FILL ALL BLOCK CAVITIES W/THIN GROUT.
SEE DETAILS ELSEWHERE FOR WELDED CONNECTION TO STEEL COLUMNS & BEAMS.


CONF ROOM
VAULT
CONTROLLED ACCESS
VAULT DOOR
12' WIDE ROLL-UP DOOR
SOFTWARE
EQUIP DEVELOPMENT
SEE SHEET Z5-126 7 FOR SHELTER SECTIONS & DETAILS
T&I STAGING
SUBSTATION
WALL LEGEND
FULL HEIGHT 8"x8"x16 MASONRY BLOCK WALL
FILL EXISTING DOOR OPENING W/ 8"x8"x16 MASONRY BLOCKS
ALTERNATE #1
MASONRY
C
S
2
GTE SYLVANIA
ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION
MOUNTAIN VIEW, CA. 94042
MODIFICATIONS TO A PORTION OF
LOW "B" FLOOR
E
07397


OVER
BOILER ROOM
CONE
ROOM



ALTERNATE #1

MASONRY

C
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2

RELEASE APPLY BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER ISSUE Y14.5 TOLERANCES: ANGLES ± DECIMALS .XX ± .XXX ± SURFACES ✓ MICRO INCHES
MATERIAL	
NEXT ASSEMBLY	
MODEL	

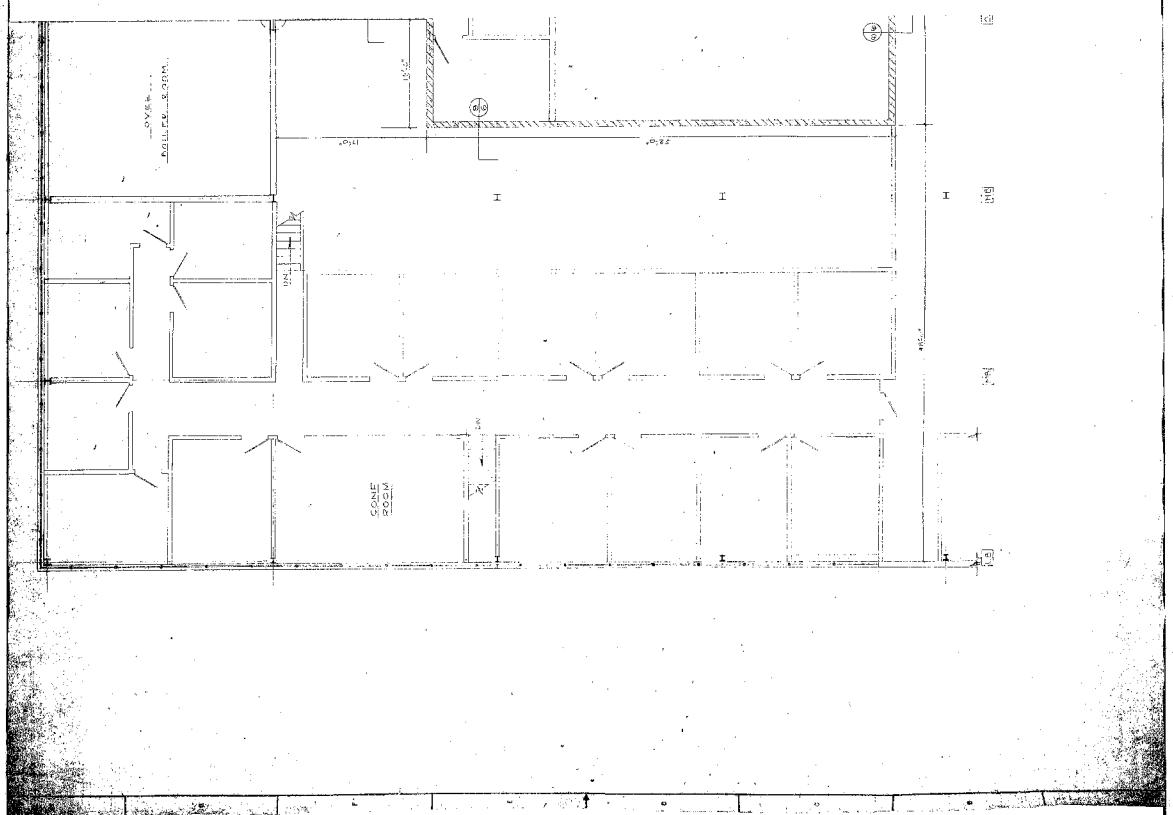
GOVERNMENT CONTRACT NO

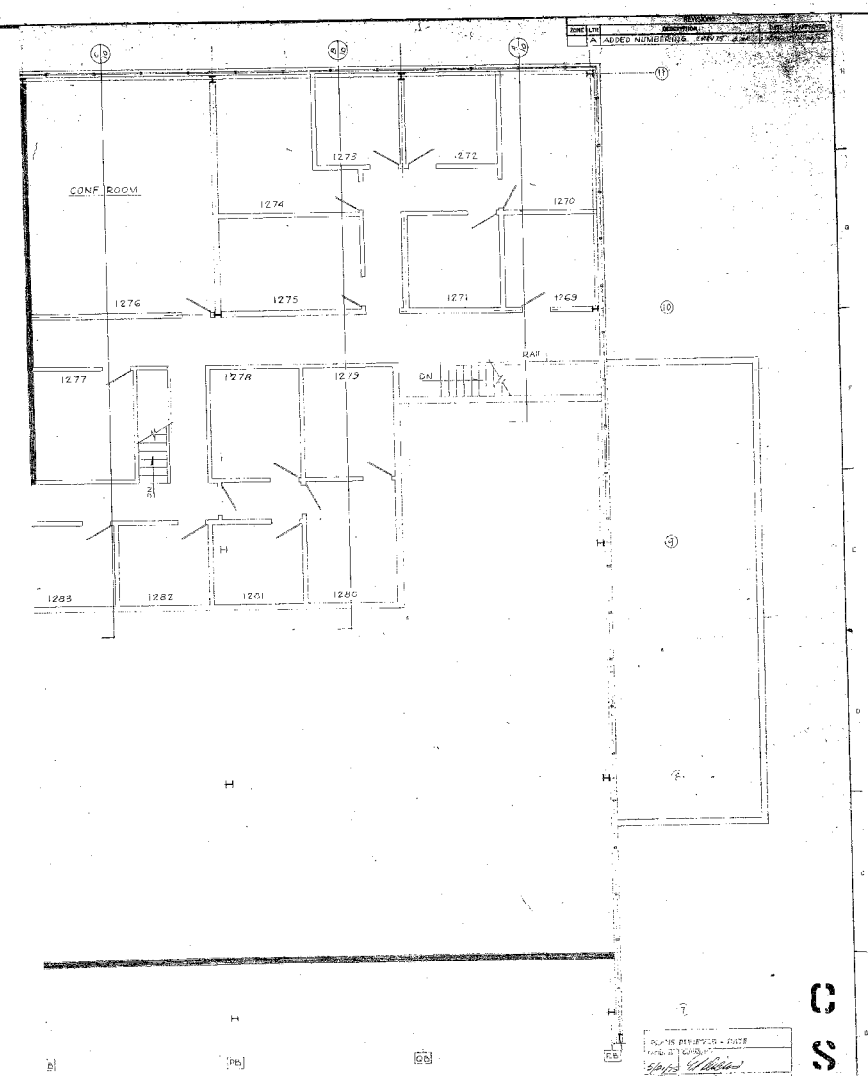
PREP	B Rich	DATE 6-7-76
CHK	HAD	7-7-76
APPD		
APPD	CEV HAD	7-7-76

GTE SYLVANIA
ELECTRONIC SYSTEMS GROUP-WESTERN DIVISION
MOUNTAIN VIEW, CA. 94042

MODIFICATIONS TO A PORTION OF
UPPER FLOOR
A PORTION OF SOUTH WING-BLDG. II

SIZE	CODE IDENT NO	DRAWING NO
E	07397	PLANT ENGRG. 25-126-5


CONE ROOM



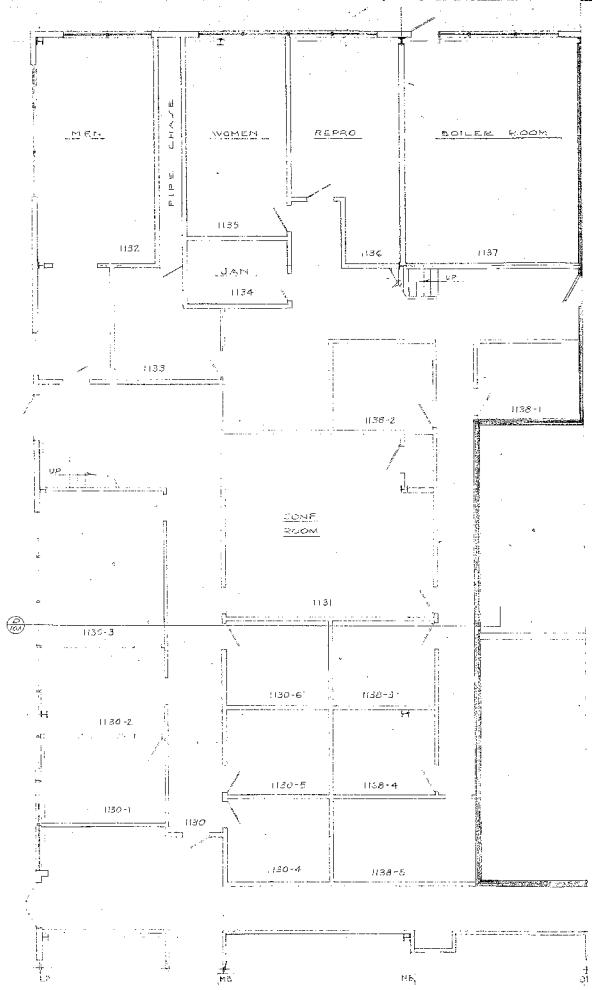
ZONE	LTR	REVISIONS DESCRIPTION	DATE	APPROVED
	A	ADDED NUMBERING		

C
S
2

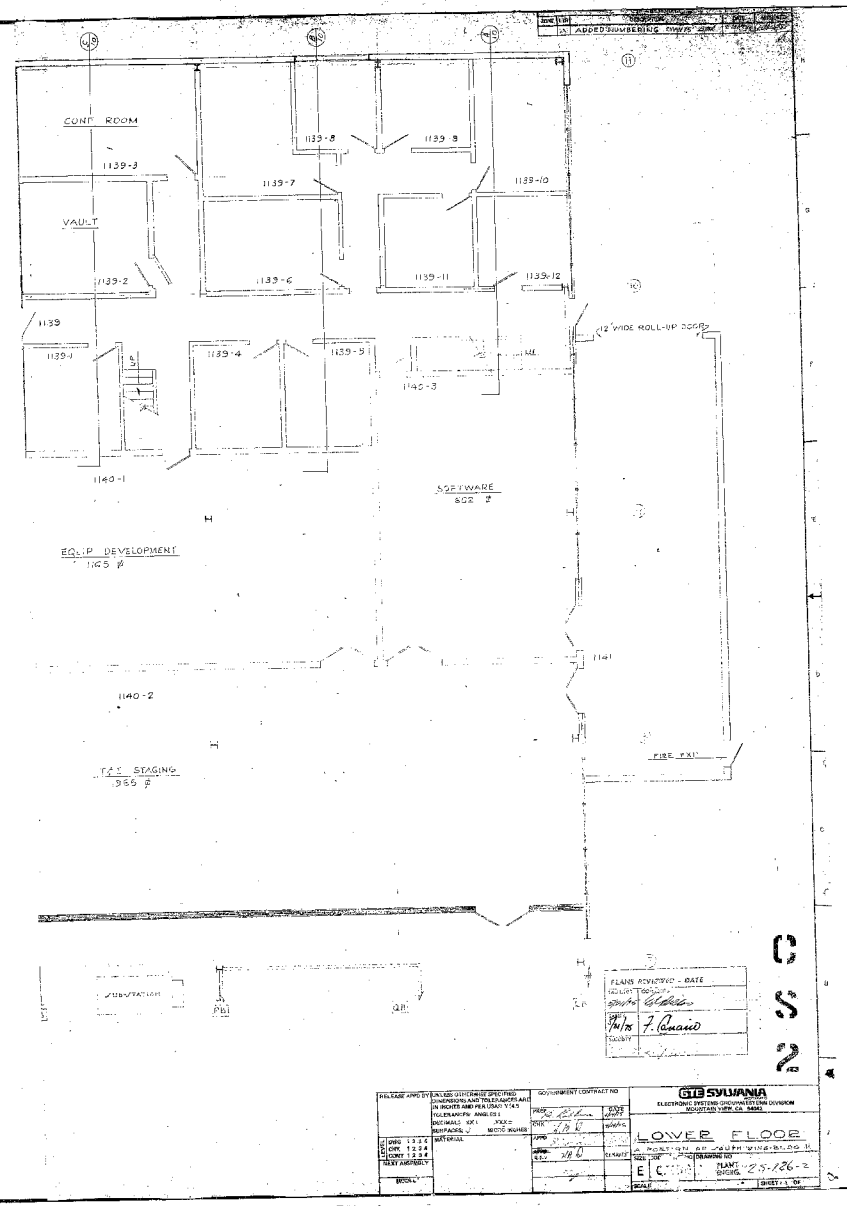
PLANS REVIEWED - DATE
PROJECT ENGINEER
5/21/75 [signature]
DATE 5/21/75 F. Canario
SUBMITTED

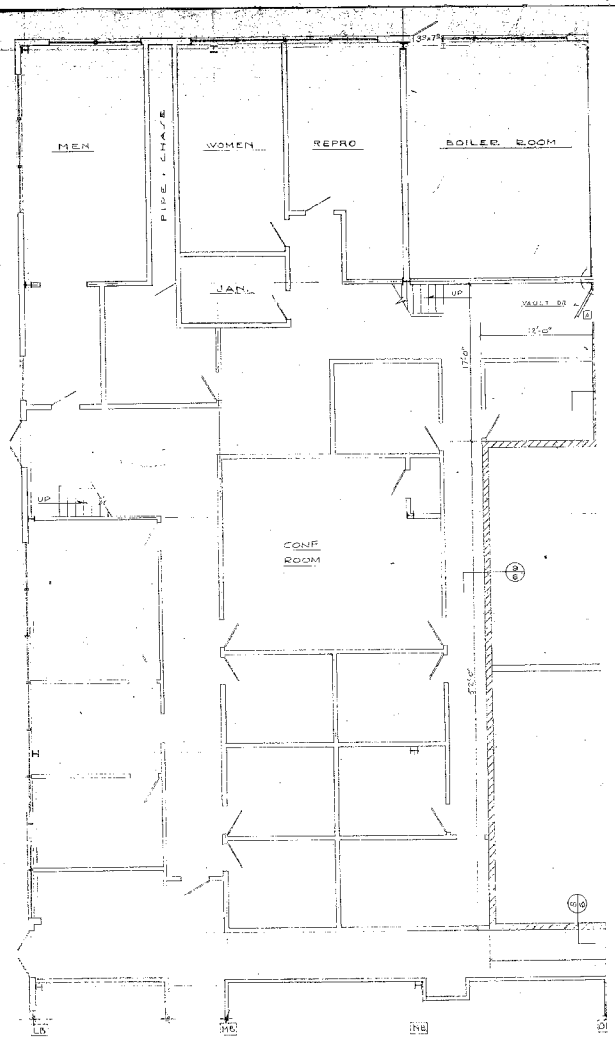
RELEASE APPD BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USAEF Y14.5 TOLERANCES: ANGLES ± DECIMALS: .XX ± .XXX ± SURFACES: ✓ MICRO INCHES	GOVERNMENT CONTRACT NO	GTE SYLVANIA ELECTRONIC SYSTEMS GROUP WEST DIN DIVISION MOUNTAIN VIEW, CA 94042
		PATE [signature] DATE 5/21/75	UPPER FLOOR
		CHK [signature] 5/21/75	A PORTION OF SOUTH WING-BLDG. II
DWG 1 2 3 4 CHK 1 2 3 4 CONT 1 2 3 4	MATERIAL	APPD	
NEXT ASSEMBLY		APPD	
MODEL			

SIZE	CODE IDENT NO	DRAWING NO
E	07397	PLANT ENGRG 25-126-3
SCALE		SHEET 1 OF



FLOOR PLAN & NUMBERING


ADDED NUMBERING DWGS
CONT ROOM
1139-3
VAULT
1139-2
1139
1139-1
1139-4
1139-5
1139-6
1139-7
1139-8
1139-9
1139-10
1139-11
1139-12
1140-1
1140-2
1140-3
1141
12' WIDE ROLL-UP DOOR
SOFTWARE
802 ⌀
EQUIP DEVELOPMENT
1165 ⌀
FIRE EXIT
FLANS REVIEWED - DATE
SUBSTATION
PBI
QPI
C
S
2
GTE SYLVANIA
ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION
MOUNTAIN VIEW, CA 94043
LOWER FLOOR
A PORTION OF SOUTH WING-BLDG K
DRAWING NO
PLANT ENGRG 25-126-2
SHEET 1 OF
RELEASE APPD BY
UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USAF Y14.5
GOVERNMENT CONTRACT NO
MATERIAL
NEXT ASSEMBLY
LOCAL



DOOR SCHEDULE (FIRE RATING)

A DIEBOLD SLAB & MOD SHAFT VAULT DR

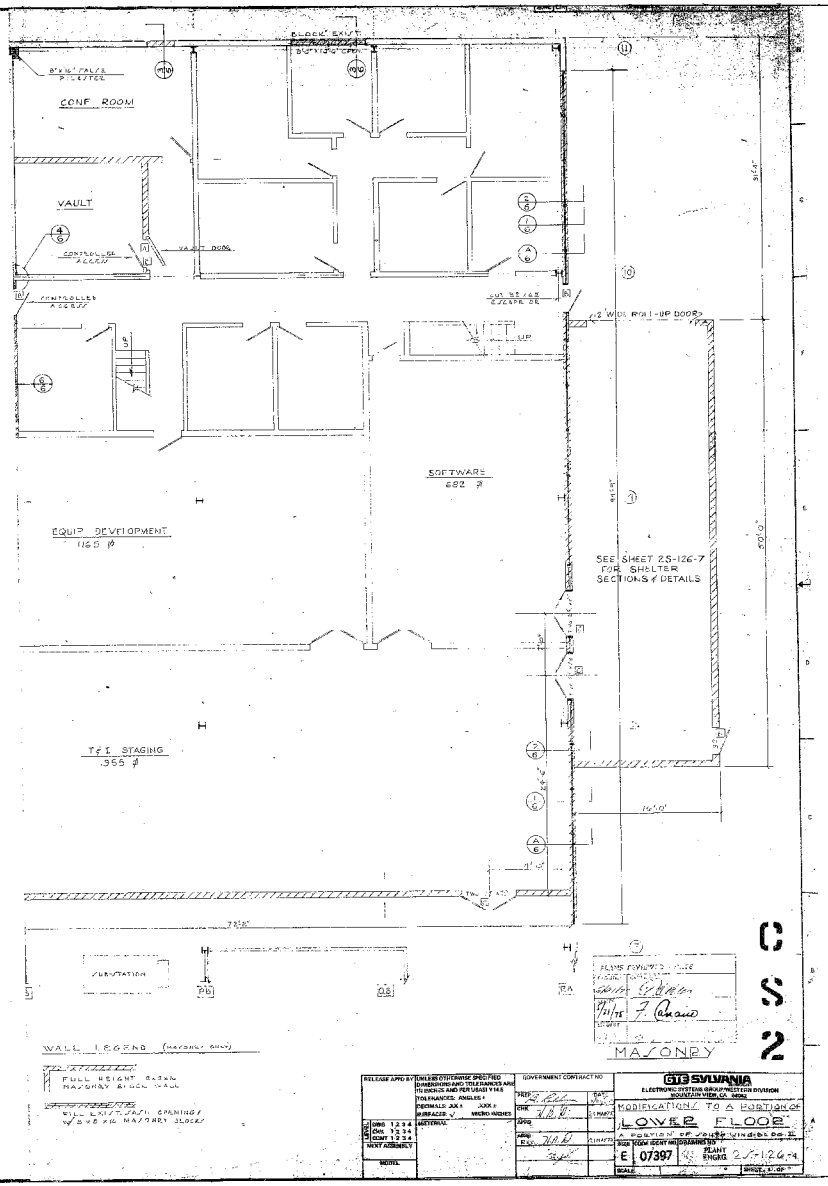
B FARBERER 40 SOUND RETARD DOOR

C PAUL FORDERER 40 SOUND DOORS (SEE ASSHOWN)

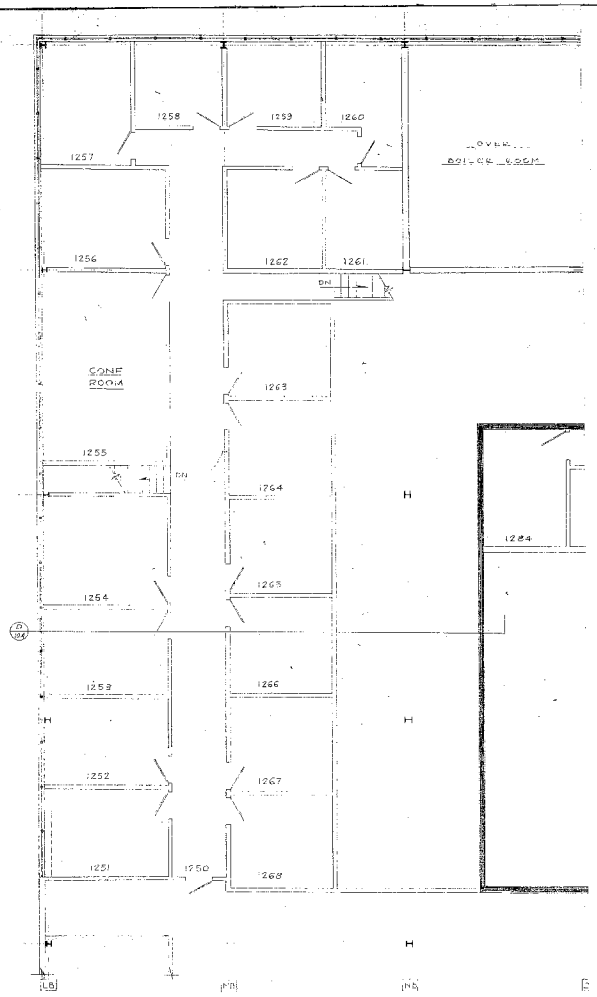
NOTE

FILL ALL BLOCK CAVITIES W/THIN GROUT

SEE DETAILS ELSEWHERE FOR WELDED CONNECTIONS TO STEEL COLUMNS & BEAMS.

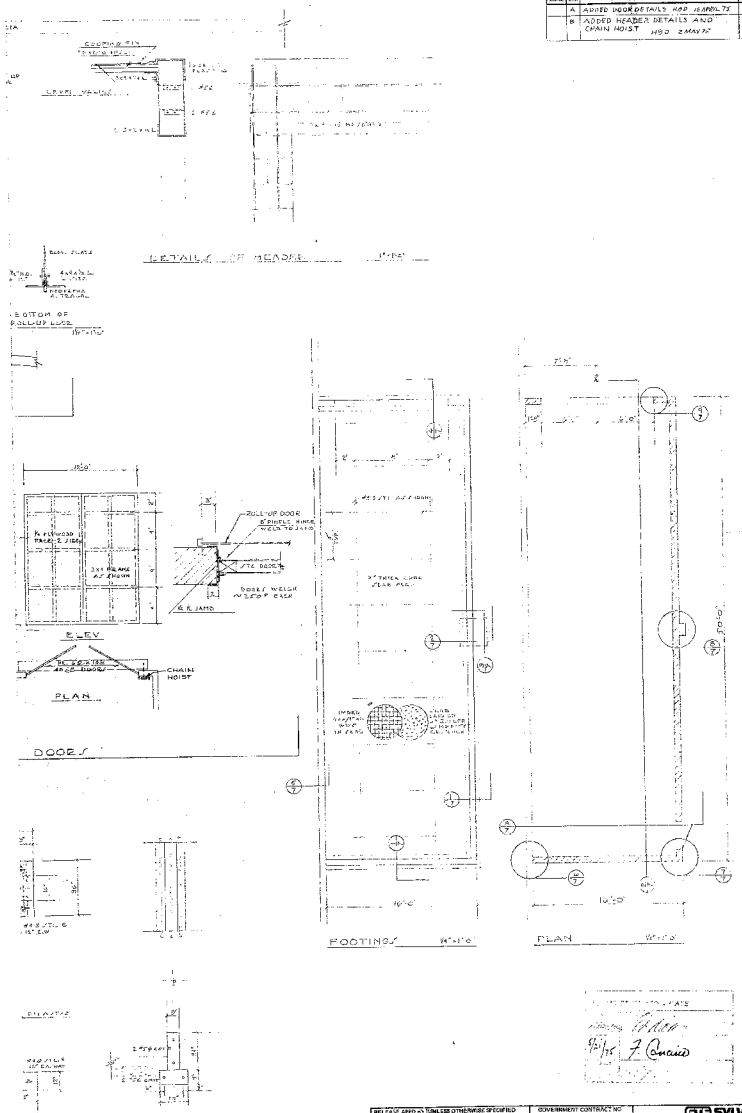


CONF ROOM
VAULT
SOFTWARE
682 ø
EQUIP DEVELOPMENT
1165 ø
T&I STAGING
.955 ø
SEE SHEET 2S-126-7
FOR SHELTER
SECTIONS & DETAILS
SUBSTATION
WALL LEGEND (MASONRY ONLY)
FULL HEIGHT BASIN
MASONRY BLOCK WALL
WILL EXIST. SASH OPENINGS
MASONRY
C
S
2
GTE SYLVANIA
ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION
MOUNTAIN VIEW, CA. 94042
MODIFICATIONS TO A PORTION OF
LOWER FLOOR
A PORTION OF SOUTH WING-BLDG. 2
E 07397
PLANT ENGRG
2S-126-4



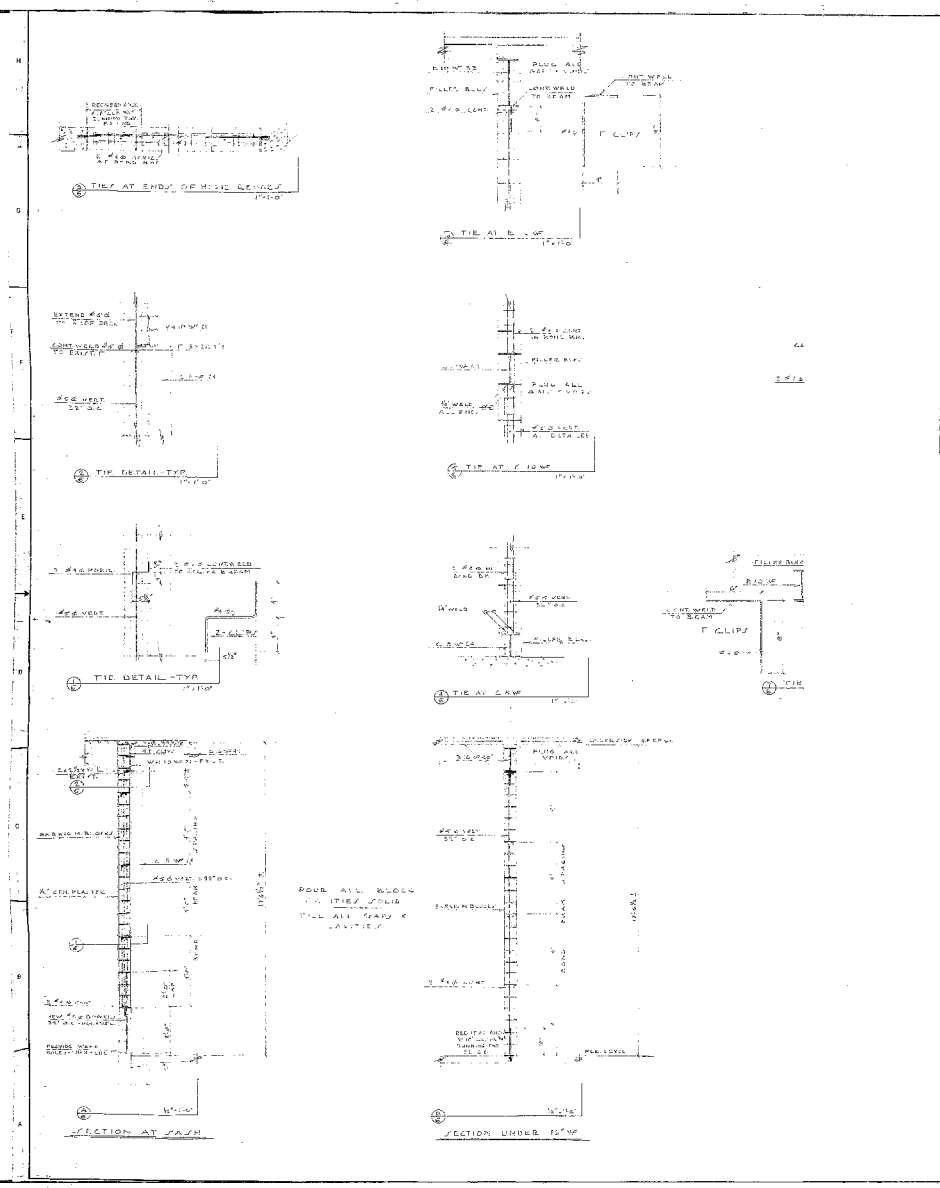
FLOOR PLAN & NUMBERING

ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	ADDED DOOR DETAILS HBO 18 APRIL 75	4/19/75	[illegible]
	B	ADDED HEADER DETAILS AND CHAIN HOIST HBO 2 MAY 75	5/5/75	[illegible]

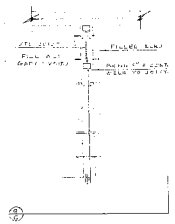


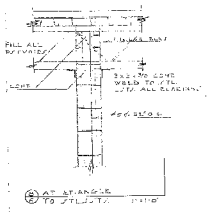
C
S
2

RELEASE APPD BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USASI Y14.5 TOLERANCES: ANGLES ± DECIMALS: .XX ± .XXX ± SURFACES: √ MICRO INCHES	GOVERNMENT CONTRACT NO	GTE SYLVANIA ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION MOUNTAIN VIEW, CA 94043
LEVEL HWC 1 2 3 4 CNK 1 2 3 4 CONT 1 2 3 4	MATERIAL	PREP [illegible] DATE 12/2/75 CHK [illegible] APPD	VAN SHELTER
NEXT ASSEMBLY		APPD	SIZE E CODE IDENT NO 07397 DRAWING NO PLANT ENGRG. 25-126-7
MODEL			

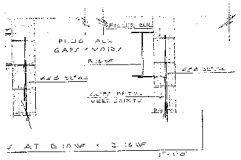

TIES AT ENDS OF HOOK BENDS
TIE AT B WF
TIE DETAIL-TYP
TIE AT C WF
TIE DETAIL-TYP
TIE AT C WF
SECTION AT SASH
SECTION UNDER 15" WF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

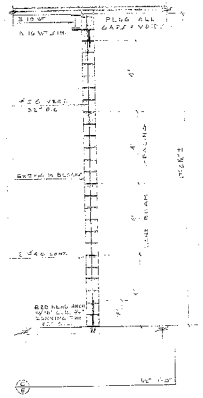


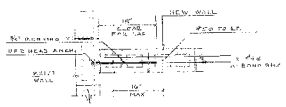


AT ATTACHE TO STRUCTURE

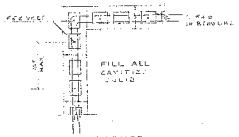


AT BLOW & SLOW

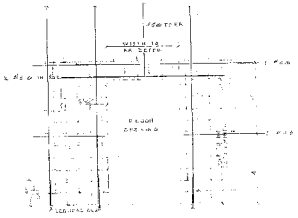




CONN. AT EXIST. WALL



TYPICAL CORNER



TYPICAL BREAK DRAWING

GENERAL NOTES

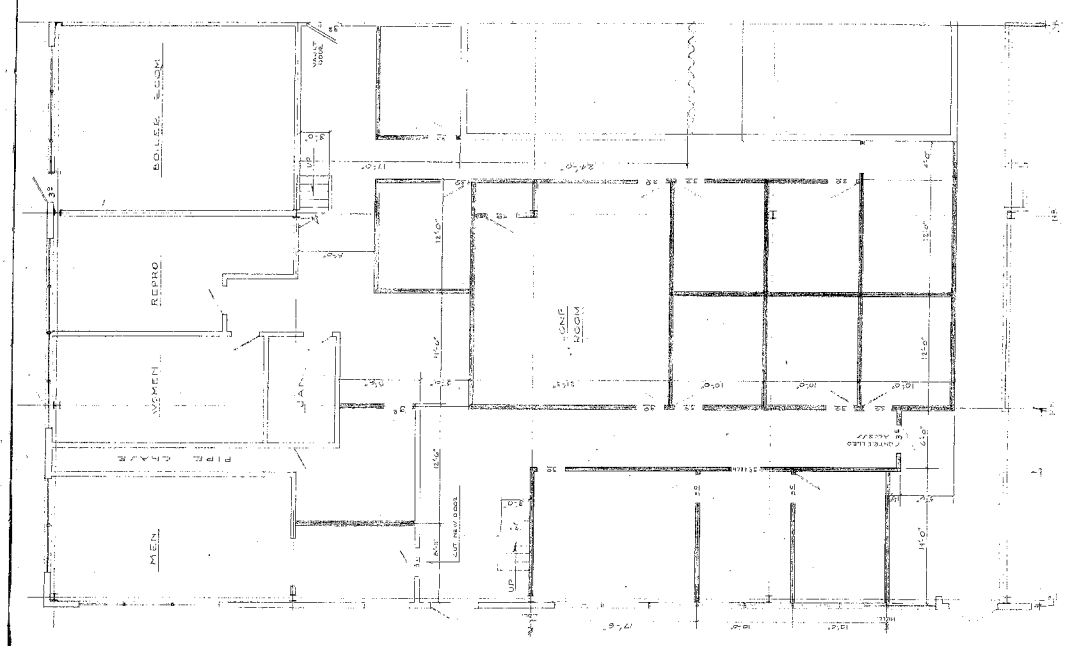
1. GENERAL NOTES & TYPICAL DETAILS APPLY TO ALL DRAWINGS UNLESS SHOWN OR NOTED OTHERWISE.
2. PRACTICE OF CONSTRUCTION SHOWN AS TYPICAL, & TYPE SHALL APPLY GENERALLY THROUGHOUT. FOR SIMILAR CONDITIONS NOTE TYPICAL DETAILS AS DIRECTED TO MEET SPECIAL CONDITIONS.
3. DIMENSIONS & CONDITIONS OF EXISTING CONSTRUCTION SHALL BE VERIFIED AT THE SITE BY THE CONTRACTOR PRIOR TO COMMENCING & SHALL BE WHOLLY THE RESPONSIBILITY OF THE CONTRACTOR.
4. SHOP DRAWINGS SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL PRIOR TO FABRICATION. REINFORCEMENT SHOP DETAILS SHALL ALSO BE SUBMITTED.
5. ALL MATERIALS & WORKMANSHIP SHALL CONFORM TO THE UNIFORM BUILDING CODE, 1973 EDITION.
6. CONTRACTOR SHALL COORD. WITH ELECTRICAL & MECHANICAL CONTRACTORS FOR LOCATIONS, SIZES, PIPE SLEEVES, DUCTING, ETC. TO BE IMPRESSED OR TO PASS THROUGH WALLS.

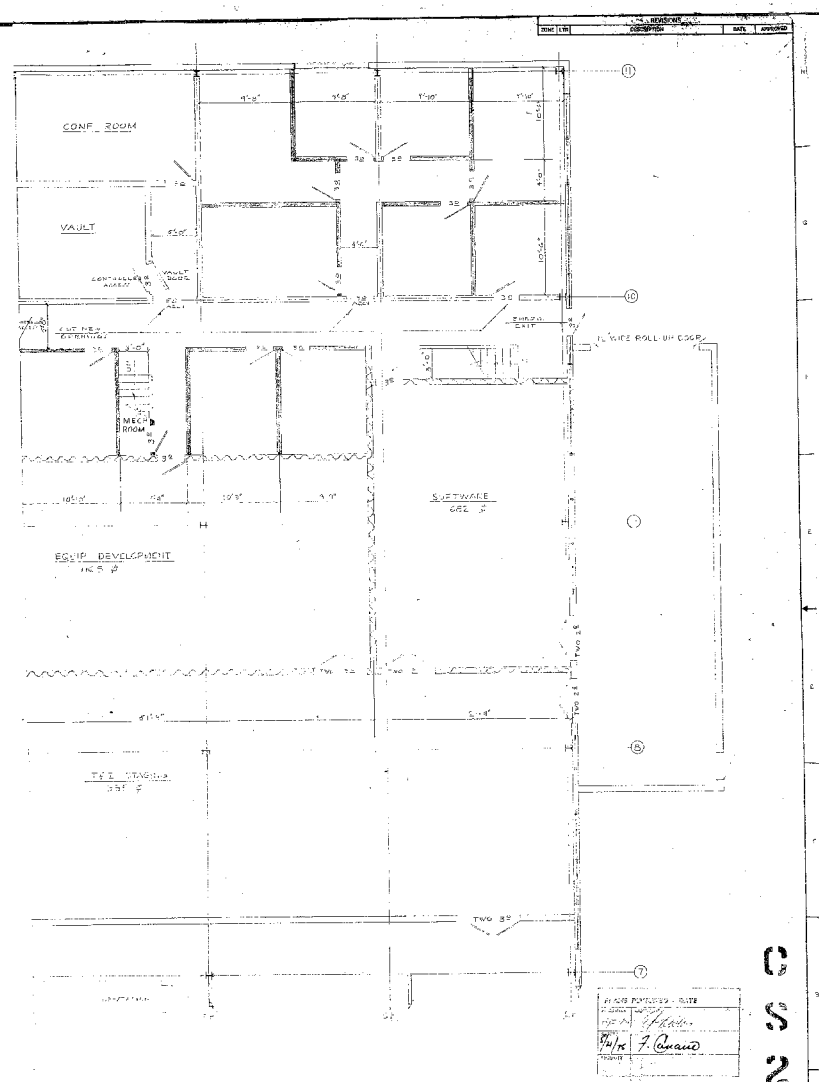
CONCRETE BLOCK

1. ALL BLOCKS SHALL BE BRALITE 16"x7⅝"x15⅝" W/ E.W. [illegible] OF TO USUAL IN QUALITY & UTILITY.
2. ALL VERTICAL JOINTS IN PARK WALLS SHALL BE STAGGERED.
3. PROVIDE #5 @ VERTICAL JOINTS, W/ APPROPRIATE DETAILED ANCHOR, & 2 #4 @ 48" O.C. HORIZONTAL IN SOLID BEAM BLOCKS. ALL CELLS SHALL BE COMPLETELY FILLED W/ GROUT. PROVIDE WIRE MESH, PL. [illegible] CELLS THEN CLOSE CLOSE TO ENVELOP A MINIMUM ULTIMATE STRENGTH OF 1,000 P.S.I. IN 28 DAYS. MAXIMUM SIZE AGGREGATE NOT TO EXCEED ⅜".
4. PROVIDE 2 #5 BARS IN HEADERS OVER ALL OPENINGS UP TO 6'-0" WIDTH. SETTING BLOCK TO BEYOND OPENING. PROVIDE 1 #5 @ 48" O.C. AT VERTICAL EDGES OF ALL OPENINGS & AT INTERSECTION OF ALL FRAMED WALLS.
5. FILL W/ SEE HERE ANCHOR, W/ CELL OR EQUAL TO LIN. VERTICAL & HORIZONTAL REINFORCEMENT AS AS SHOWN IN DRAWINGS.
6. ALL #5 @ BARS TO BE TIED TO RUNNING TRENCH DOWELS AS SHOWN IN DRAWINGS. ONE #4 BAR IN SOME BARS TO BE TIED TO RUNNING THICKEN DOWELS AS SHOWN IN DRAWINGS.

C S 2

RELEASE APPROVED BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN ACCORDANCE WITH SYLVANIA TOLERANCES - ANGLES ± DECIMALS .XX± .XXX± SURFACES √ MICRO INCHES	GOVERNMENT CONTRACT NO		SYLVANIA ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION MOUNTAIN VIEW, CA 94042
DWG 1 2 3 4	MATERIAL:	PREP	DATE	MASONRY
CHK 1 2 3 4	ALL NOTES & DRAWINGS ARE DATA AS BY WALTER E. JUN JR. STRUCTURAL ENGR.	CHK		SECTIONS & DETAILS
CONT 1 2 3 4		APPD		
NEXT ASSEMBLY		APPD		
MODEL	SEC 62 [illegible] 8/1/72 DATED 15 June 1972			SIZE E CODE ID. 0739 DRAWING NO. PLANT ENGRG 25-125-3
				SCALE AS SHOWN SHEET 2 OF


BOILER ROOM
REPRO
WOMEN
JAN
PIPE CHASE
MEN
CONF ROOM
CUT NEW DOOR
UP



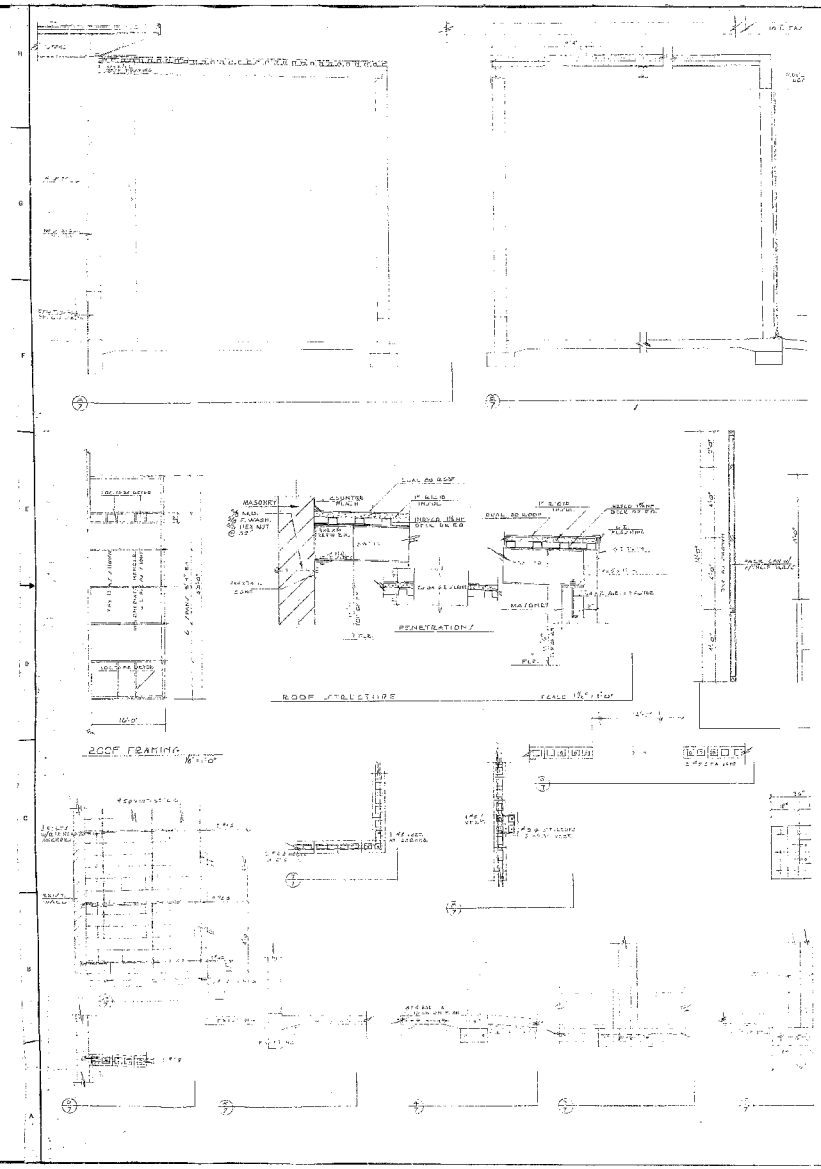
C
S
2

GTE SYLVANIA
ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION
MOUNTAIN VIEW, CA 94042

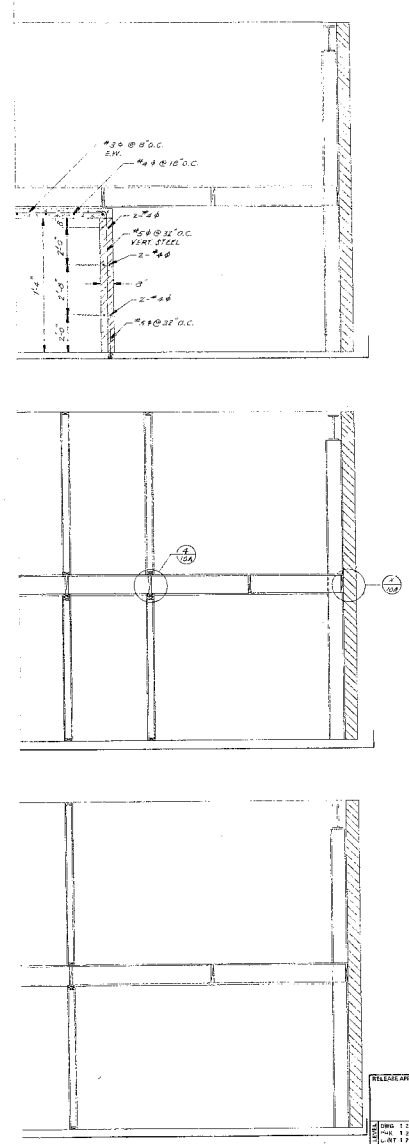
MODIFICATIONS TO
LOWER FLOOR
A PORTION OF SOUTH WING-BLDG. II

SIZE	CODE IDENT NO	DRAWING NO
E	07397	PLANT ENGRG. 25-126-8

SCALE — SHEET 1 OF

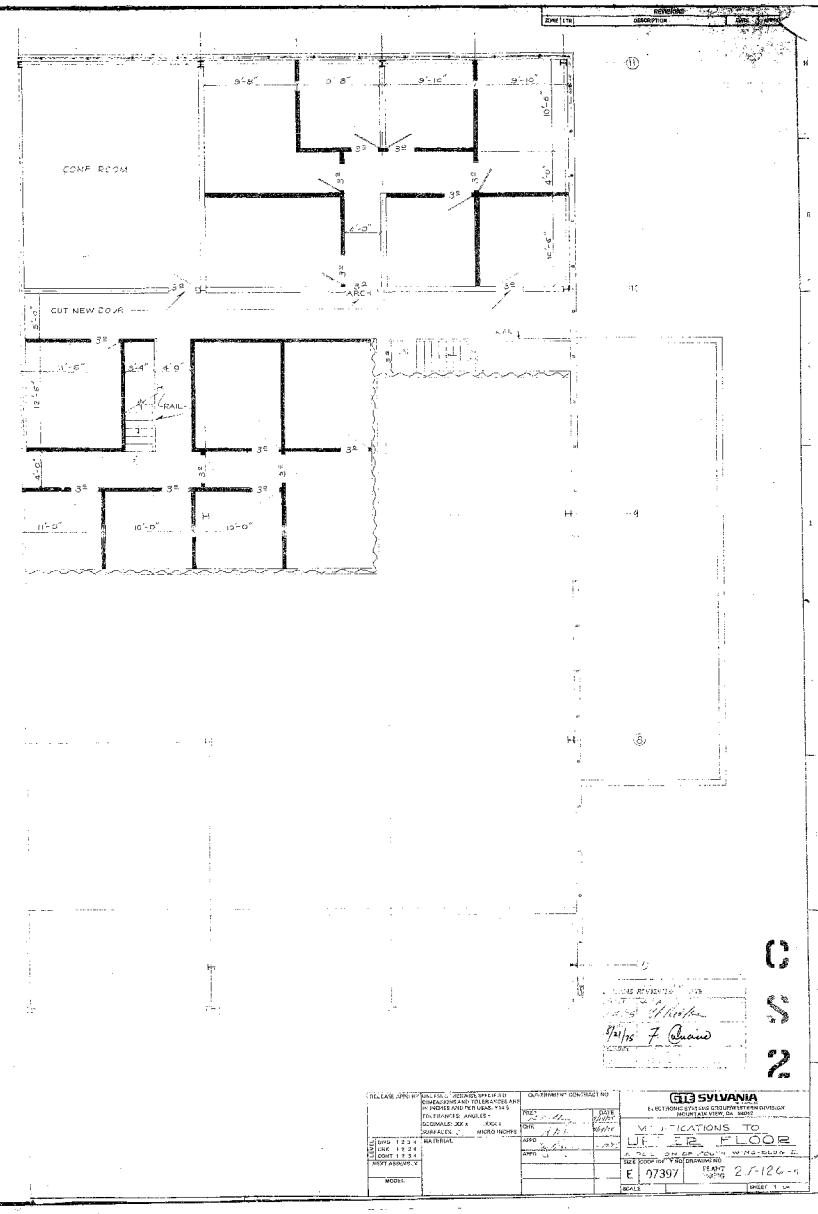

MASONRY
COUNTER FLASH
PENETRATION
ROOF STRUCTURE
ROOF FRAMING

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

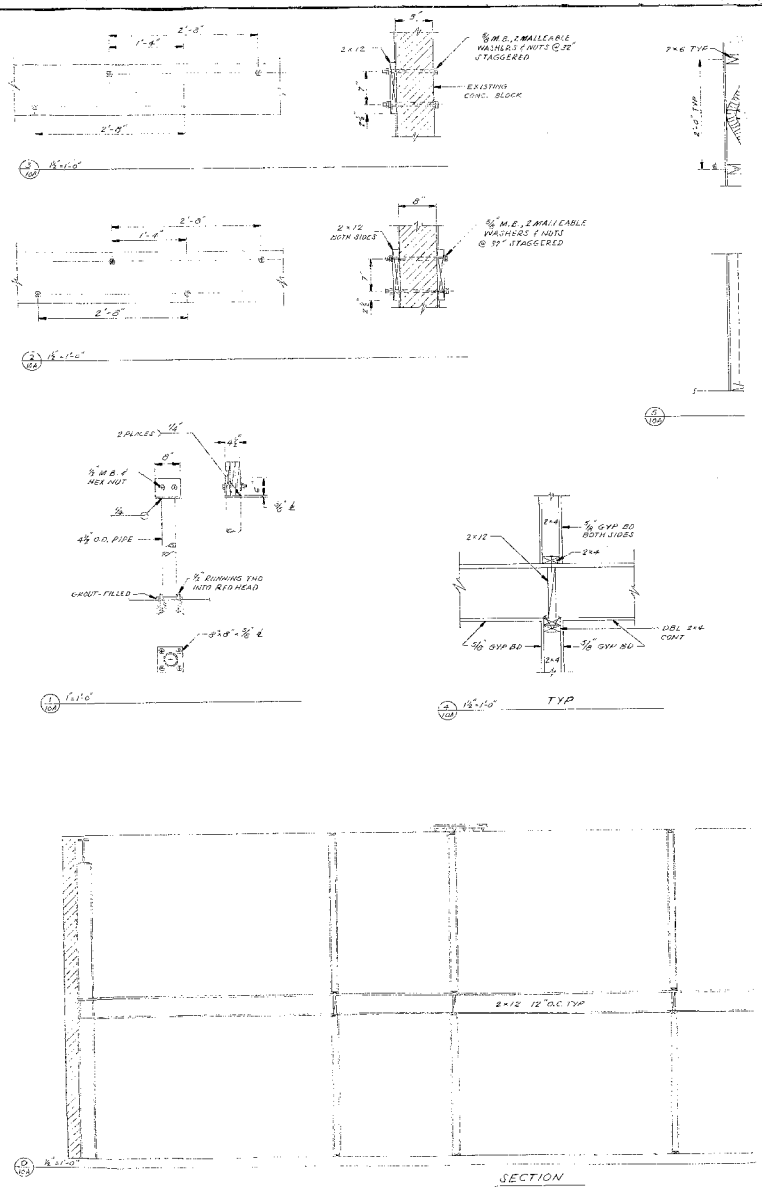


5/21/75 [signature]
5/21/75 F. Quano

RELEASE APPD BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USASI Y14.5 TOLERANCES: ANGLES ± DECIMALS: .XX ± .XXX ± SURFACES: √ MICRO INCHES	GOVERNMENT CONTRACT NO	GTE SYLVANIA ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION MOUNTAIN VIEW, CA 94042
LEVEL DWG 1 2 3 4 PAK 1 2 3 4 CONT 1 2 3 4	MATERIAL	PREP [signature] DATE [illegible]	CARPENTRY SECTIONS & DETAILS
NEXT ASSEMBLY		CHK [signature]	
MODEL		APPD	SIZE E CODE IDENT NO 07397 DRAWING NO 2S-126-10
		APPD	SCALE 1/4"=1'-0" SHEET 1 OF

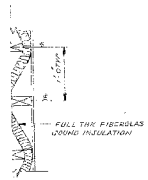


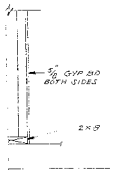
CONF ROOM
CUT NEW DOOR
ARCH
RAIL
9'-8"
9'-10"
10'-6"
4'-0"
11'-0"
10'-0"
12'-6"
C
S
2
GTE SYLVANIA
ELECTRONIC SYSTEMS COMMUNICATIONS DIVISION
MOUNTAIN VIEW, CA 94042
MODIFICATIONS TO
UPPER FLOOR
E 07397

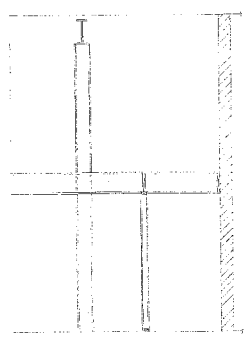


2'-8"
1'-4"
2'-8"
2 x 12
5/8" M.B., 2 MALLEABLE WASHERS & NUTS @ 32" STAGGERED
EXISTING CONC. BLOCK
1½"=1'-0"
2'-8"
1'-4"
2'-8"
2 x 12 BOTH SIDES
5/8" M.B., 2 MALLEABLE WASHERS & NUTS @ 32" STAGGERED
1½"=1'-0"
7 x 6 TYP
2'-0" TYP
2 PLACES
1/4"
4½"
1/2" M.B. & HEX NUT
4½" O.D. PIPE
1/2" RUNNING THD INTO RED HEAD
GROUT-FILLED
8"x8"x3/8" ℄
1"=1'-0"
2 x 12
2 x 4
5/8" GYP BD BOTH SIDES
2 x 4
DBL 2 x 4 CONT
5/8" GYP BD
5/8" GYP BD
2 x 4
1½"=1'-0"
TYP
2 x 12 12" O.C. TYP
1½"=1'-0"
SECTION

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

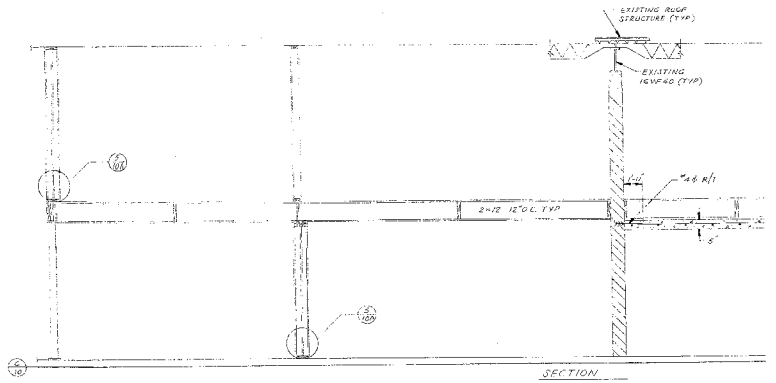


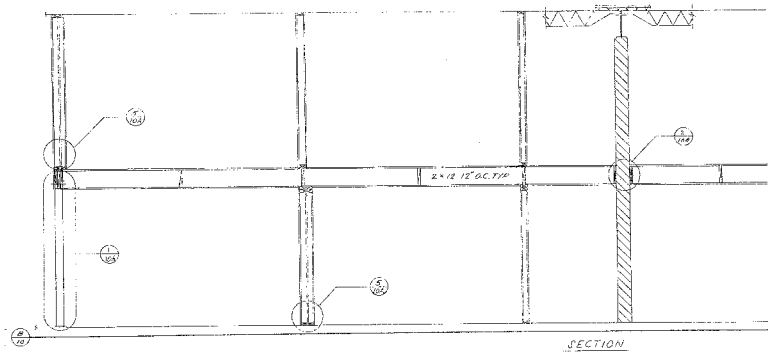


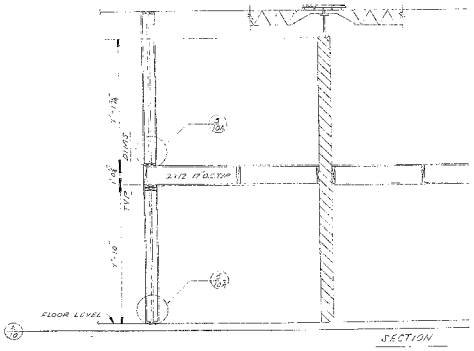


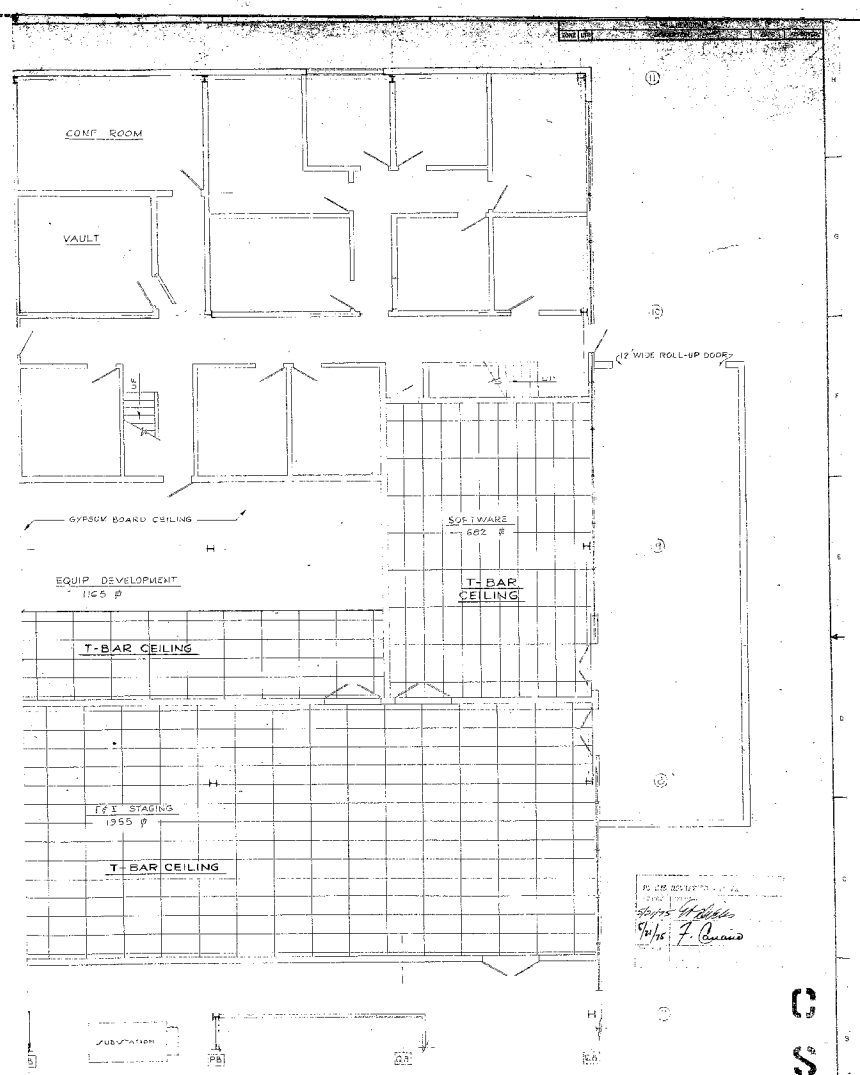
5/21/75 [signature]
5/21/75 F. Canaud

RELEASE APPD BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USASE Y14.5 TOLERANCES: ANGLES ± DECIMALS: .XX ± .XXX ± SURFACES: √ MICRO-INCHES	GOVERNMENT CONTRACT NO	GTE SYLVANIA ELECTRONIC SYSTEMS PROJECT/WESTERN DIVISION MOUNTAIN VIEW, CA 94042
		PREP [signature] DATE [illegible]	CARPENTRY SECTIONS & DETAILS
		CHK	
DWG 1 2 3 4 CHK 1 2 3 4 CONT 1 2 3 4	MATERIAL	APPD [signature]	SIZE E CODE IDENT NO 07397 DRAWING NO 2S-126-10A
NEXT ASSEMBLY		APPD [illegible]	SCALE: NOTED SHEET 1 OF
MODEL			


EXISTING ROOF STRUCTURE (TYP)
EXISTING 16WF40 (TYP)
2×12 12" O.C. TYP
5"
SECTION

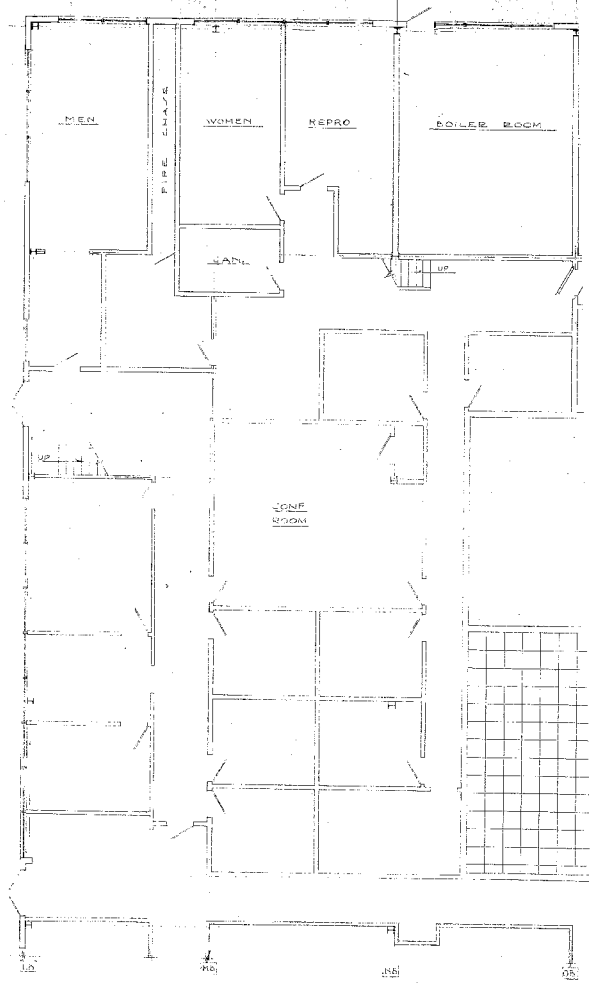

2×12 12" O.C. TYP
SECTION

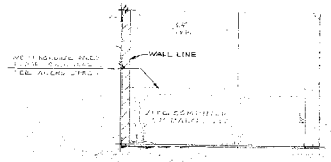

2×12 12" O.C. TYP
FLOOR LEVEL
SECTION

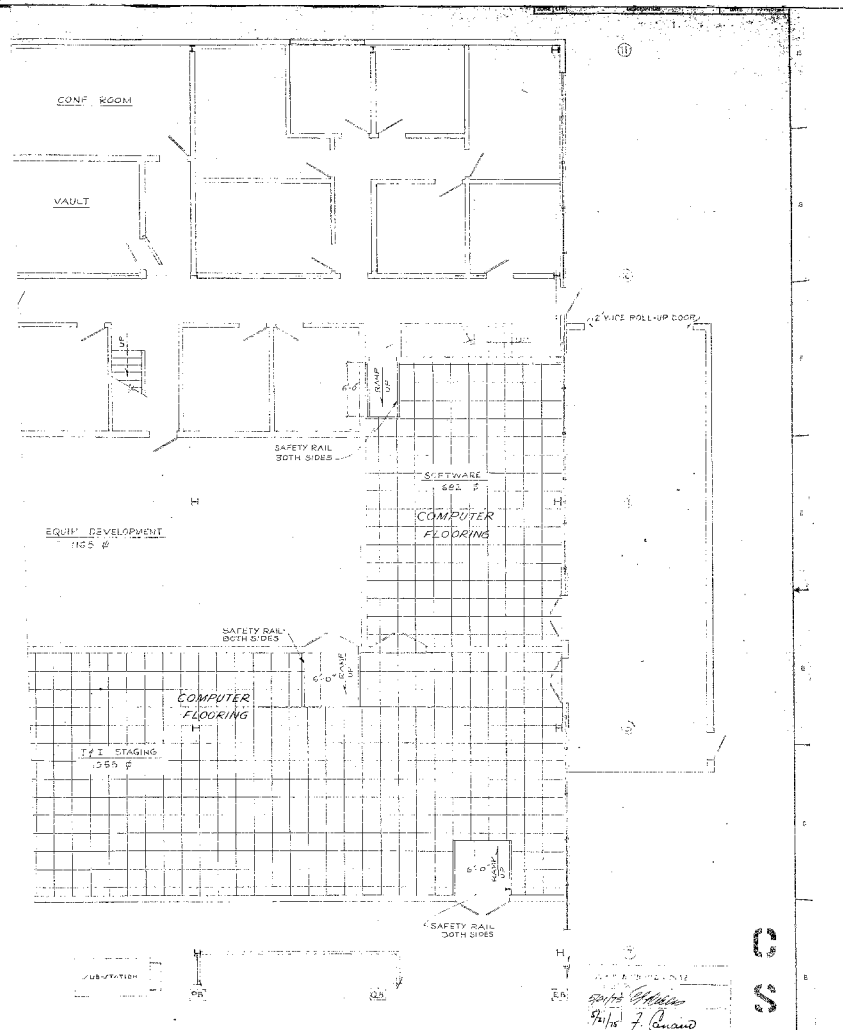


C
S
2

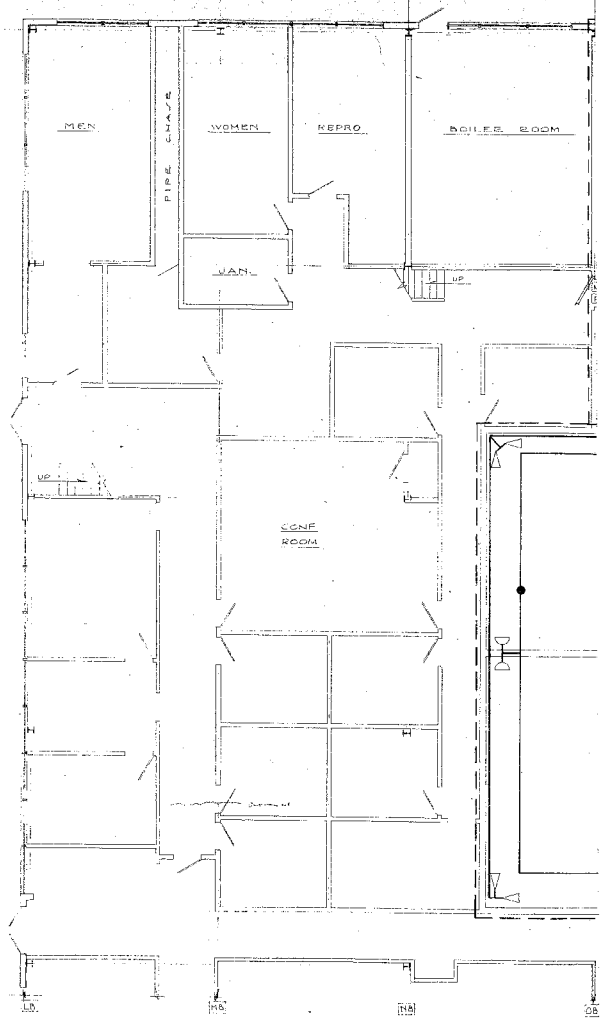
RELEASE APPD BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USASI Y14.5 TOLERANCES: ANGLES ± DECIMALS: .XX ± .XXX ± SURFACES: √ MICRO INCHES	GOVERNMENT CONTRACT NO	GTE SYLVANIA ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION MOUNTAIN VIEW, CA 94042
LEVEL: DWG 1 2 3 4 CHK 1 2 3 4 CONT 1 2 3 4	MATERIAL	PREP	T-BAR CEILING IN LOWER FLOOR A PORTION OF SOUTH WING-BLDG II
NEXT ASSEMBLY		CHK	SIZE E CODE IDENT NO 07397 DRAWING NO PLANT ENGRG 25-126-12
MODEL		APPD	SCALE SHEET 1 OF

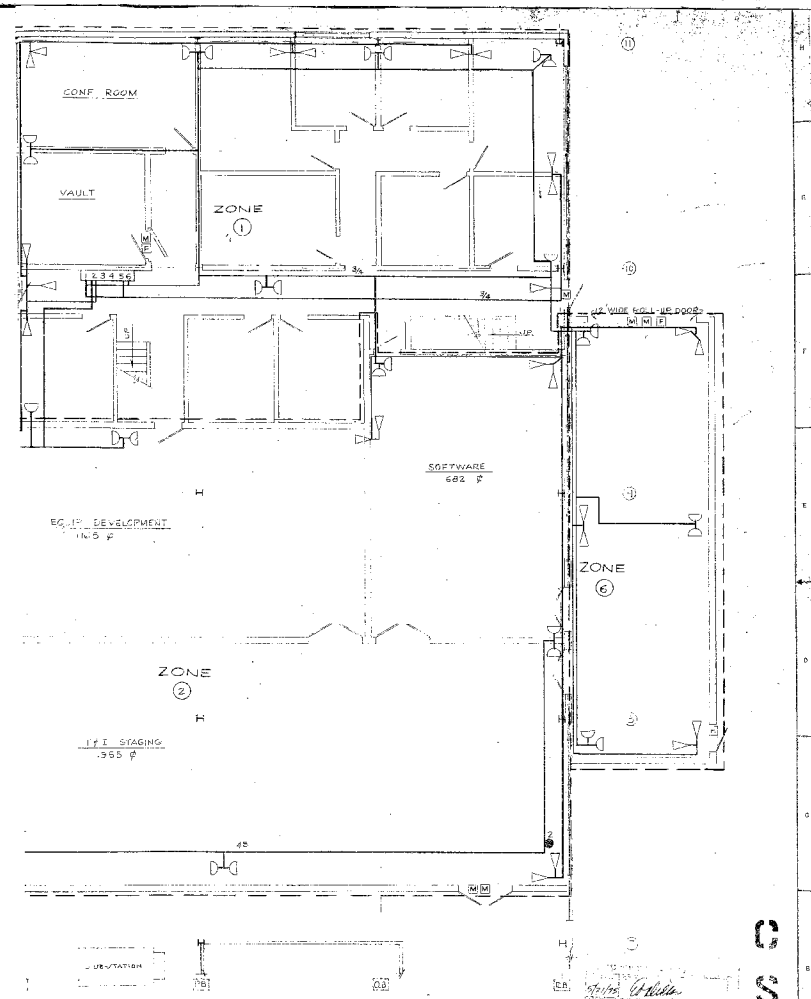

MEN
FIRE LADDER
WOMEN
REPRO
BOILER ROOM
VAULT
UP
UP
CONF ROOM


WALL LINE



RELEASE APPD BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER MASTER TAB TOLERANCES: ANGLES ± DECIMALS .XX ± .XXX ± SURFACES ✓ MICRO INCHES	GOVERNMENT CONTRACT NO	GTE SYLVANIA ELECTRONICS SYSTEMS GROUP WESTERN DIVISION MOUNTAIN VIEW, CA. 94042
		PROJ	DATE
		CHK	1.8.75
		APPD	
		APPD	
SCALE DWG 1 2 3 4 CHK 1 2 3 4 CONT 1 2 3 4	MATERIAL		COMPUTER FLOORING IN LOWER FLOOR A PORTION OF SOUTH WING-BLDG. II
HEAT ASSEMBLY			SIZE E · CODE IDENT NO 07297 · DRAWING NO PLANT ENGRG 25-126-11
MODEL			

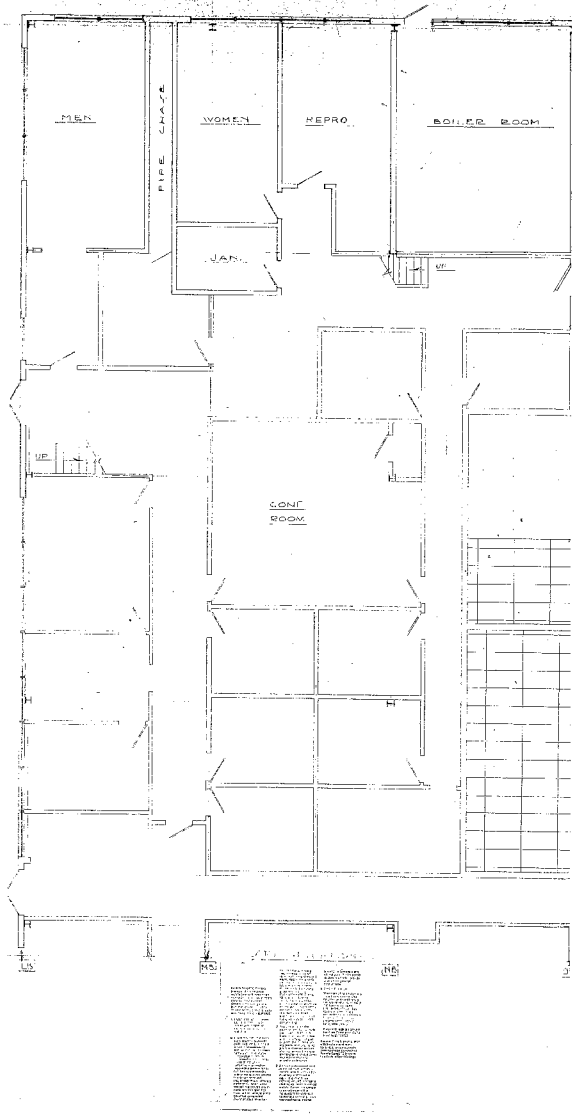

MEN
PIPE CHASE
WOMEN
REPRO
BOILER ROOM
JAN.
UP
UP
CONF
ROOM
LB
MB
NB
OB



LEGEND
TRANSMITTER
RECEIVER
MAG ALARM
FIRE ALARM
UNLESS OTHERWISE SPECIFIED ALL CONDUIT TO BE ½"

RELEASE APPD BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN INCHES AND PER USAF Y14.5 TOLERANCES: ANGLES ± DECIMALS .XX ± .XXX ± SURFACES ✓ MICRO INCHES	GOVERNMENT CONTRACTING	GTE SYLVANIA ELECTRONIC SYSTEMS GROUP/WESTERN DIVISION MOUNTAIN VIEW, CA 94042
LEVEL: DWG 1 2 3 4; CHK 1 2 3 4; CONT 1 2 3 4	MATERIAL	FIRE / CHK / APPD / APPD	ALARM SYSTEM IN LOWER FLOOR A PORTION OF SOUTH WING-BLDG. 2
FIRST ASSEMBLY			SIZE E · CODE IDENT NO 07397 · DRAWING NO 25-126-13
MODEL			SCALE · SHEET 1 OF

CS 2


MEN
PIPE CHASE
WOMEN
REPRO
BOILER ROOM
JAN.
UP
UP
CONF
ROOM
US
MS
MS