PART FIVE: DRAWINGS AND PLANS

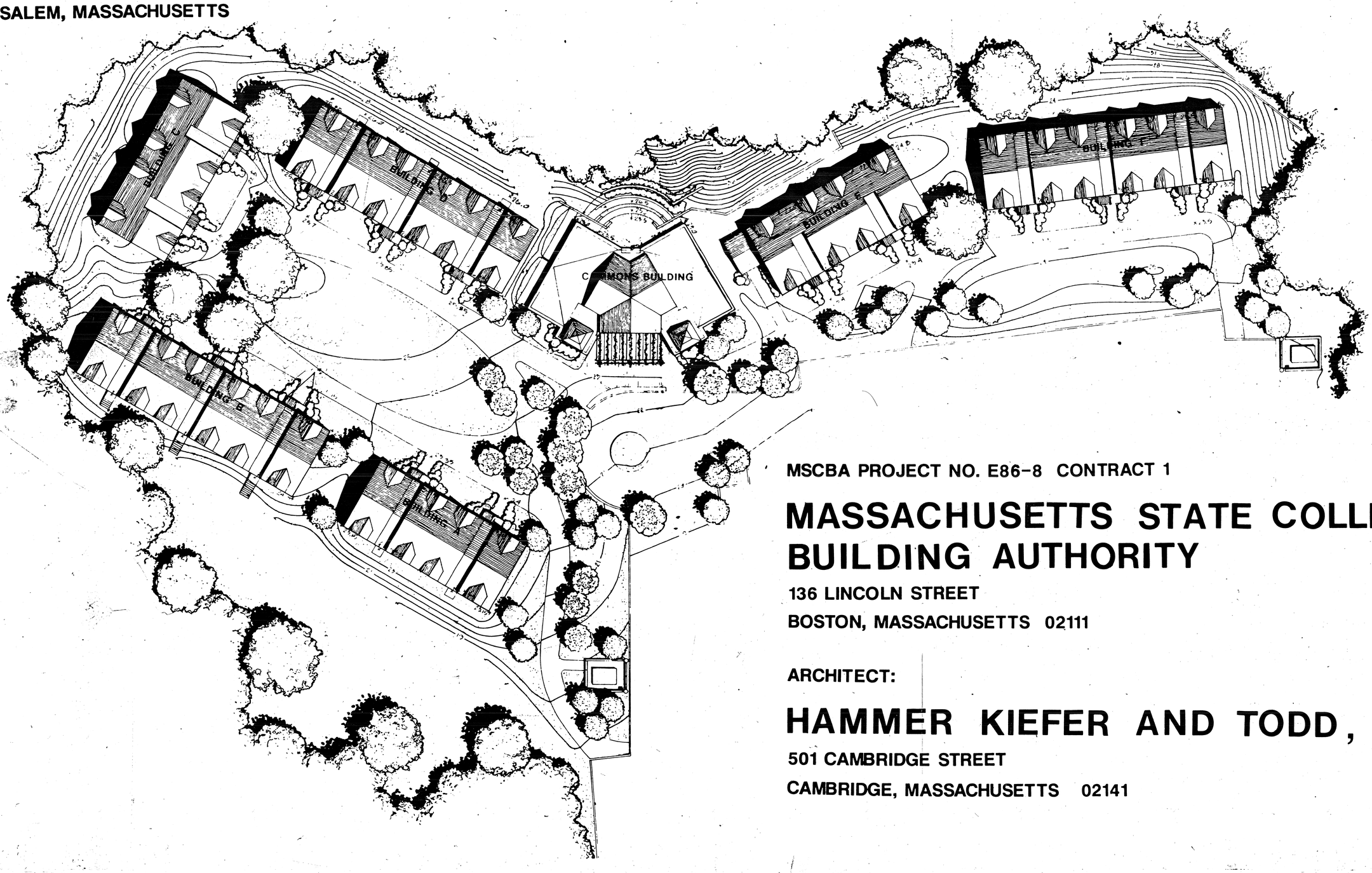
AS-BUILT DRAWINGS

CHARLES CONST CO 2/2/91

SALEM STATE COLLEGE
NEW RESIDENCE FACILITY

SOUTH CAMPUS

SALEM, MASSACHUSETTS



MSCBA PROJECT NO. E86-8 CONTRACT 1

MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY

136 LINCOLN STREET

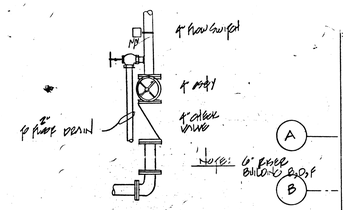
BOSTON, MASSACHUSETTS 02111

ARCHITECT:

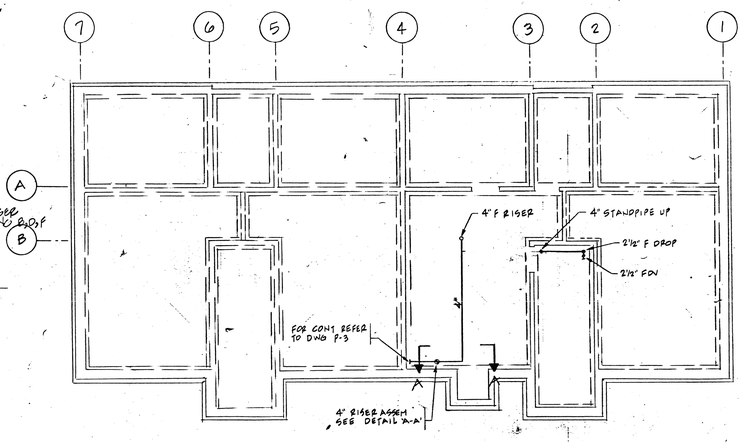
HAMMER KIEFER AND TODD, INC.

501 CAMBRIDGE STREET

CAMBRIDGE, MASSACHUSETTS 02141

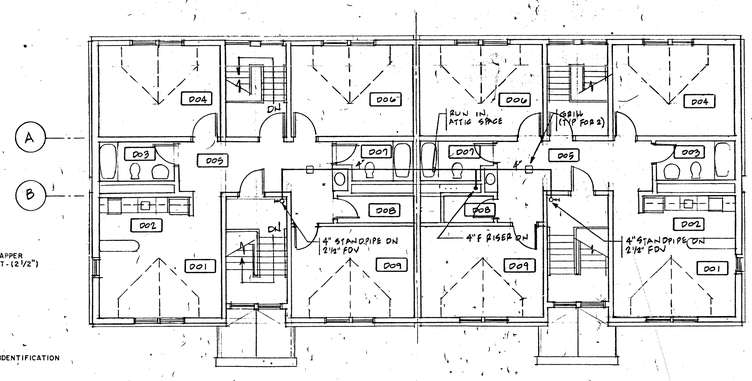


SECTION A-A
NONE 1/8"=1'0



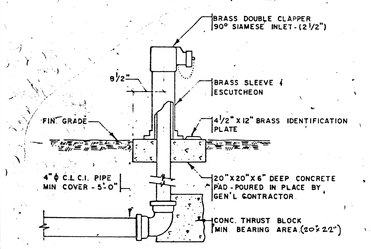
BASEMENT **PLAN** BUILDING C (E SIMILAR) 6

1/8"=1'-0"

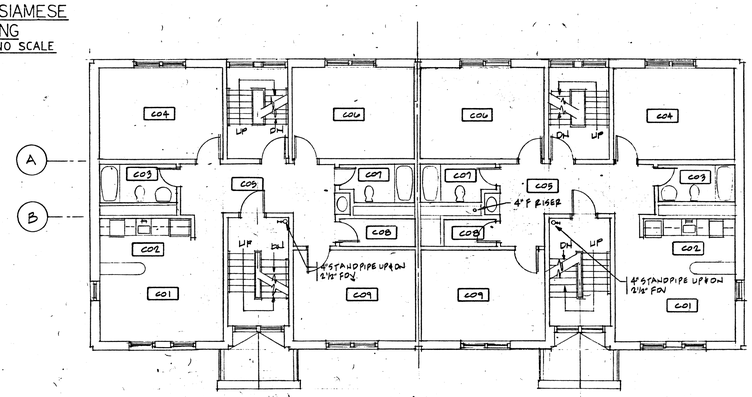


FOURTH FLOOR PLAN BUILDING C (E SIMILAR) 5

1/8" = 1'-0"

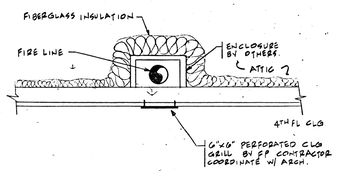


DETAIL ○
FREE STANDING FIRE DEPT. SIAMESE CONNECTION MOUNTING
NO SCALE

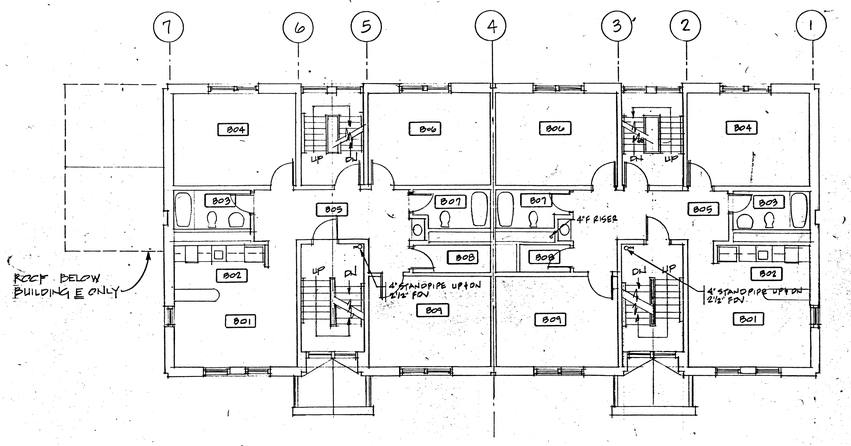


THIRD FLOOR PLAN BUILDING C (E SIMILAR) 3

1/8" = 1'-0"

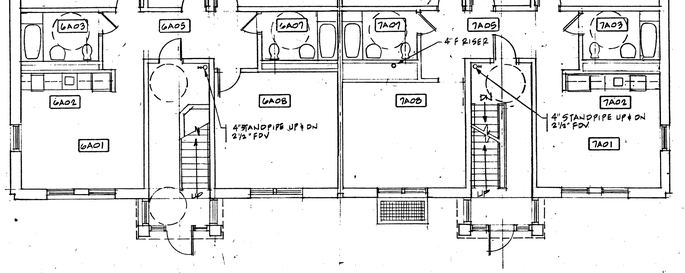


DETAIL - FIRE LINE ENCLOSURE
NO SCALE



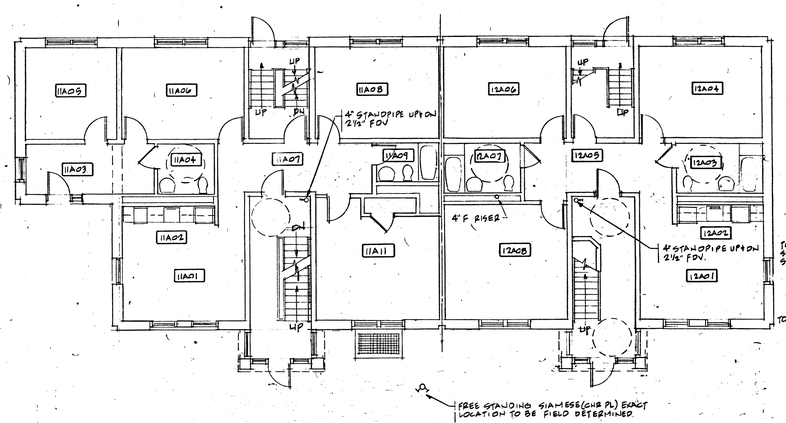
SECOND FLOOR PLAN BUILDING C (E SIMILAR) 9

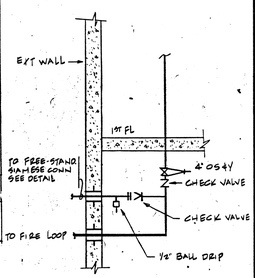
1/8" = 1'-0"



FIRST FLOOR PLAN BUILDING C 2

1/8" = 1'-0"





FIRST FLOOR PLAN BUILDING E 11

1/8" = 1'-0"

BUILDING 'E' FIRE DEPT. CONNECTION

FOR AS-BUILTS REFER TO DRWGS FP-5 FP-6 & FP-7

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SHEKAR & ASSOC. INC
775 Pleasant Street #14
East Weymouth, MA 02189
617 337-8347

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO.E86-8

Hammer Kiefer and Todd, Inc.
Architects Planners
301 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS
DONALD CHADWICK
NO. 27881
REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
ALLAN T. BOSLEY
No. 3690
CAMBRIDGE MASS.

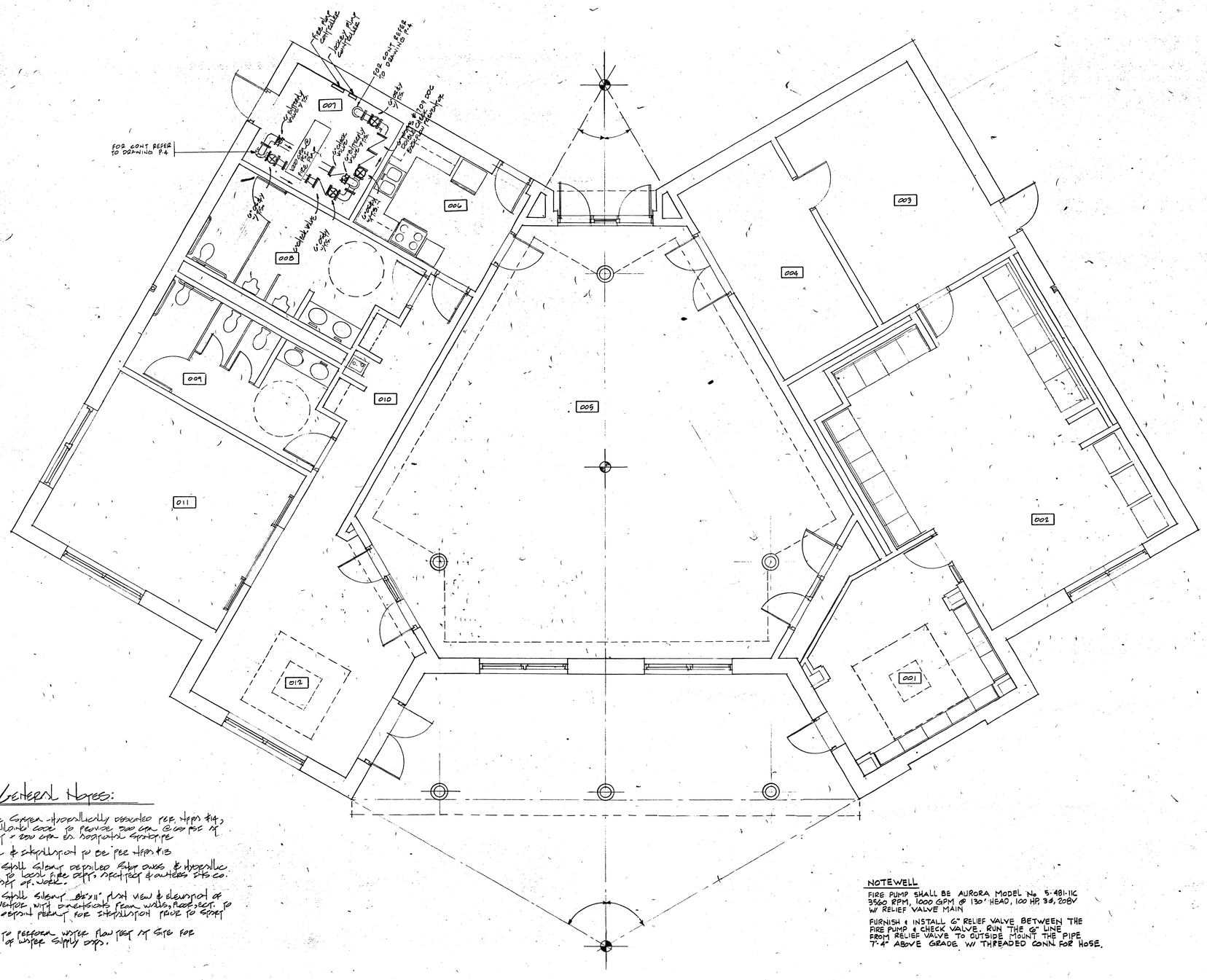
Drawing Title:
STANDPIPE FL PLAN-BLDG C & E

Date: 1-10-89 Designed By: JK
Scale: 1/8"=1'0 Drawn By: JM
Job Number: 2287 Checked By: RC

Revision: —

Drawing Number:
FP 3

Bates Complex Now Residence Facility
2/2/1951



General Notes:

1. Wet Sprinkler System - Hydraulically designed per NFPA #13, NFPA Life Safety Code to provide 200 GPM @ 65 PSI at farthest outlet + 250 GPM for hospital sprinkler.
2. All material & installation to be per NFPA #13
3. Contractor shall obtain required fire dues & hydraulic calculations to local fire dept., Architect & authors fire co. prior to start of work.
4. Contractor shall submit 8½"x11" plan view & description of backflow preventer with chemicals from walls, floor, etc. to engr. and obtain permit for installation prior to start of work.
5. Contractor to perform water flow test at site for verification of water supply data.

NOTEWELL

FIRE PUMP SHALL BE AURORA MODEL No. 5-481-11C 3560 RPM, 1000 GPM @ 130' HEAD, 100 HP, 3ø, 208V W/ RELIEF VALVE MAIN

FURNISH & INSTALL 6" RELIEF VALVE BETWEEN THE FIRE PUMP & CHECK VALVE. RUN THE 6" LINE FROM RELIEF VALVE TO OUTSIDE MOUNT THE PIPE 7'-4" ABOVE GRADE W/ THREADED CONN FOR HOSE.

COMMONS BUILDING FLOOR PLAN

Scale 1/4" = 1'-0"

FOR AS BUILTS, REFER TO DRWGS. FP-5, FP-6 & FP-7

© Hammer Kiefer and Todd, Inc.

SHEKAR & ASSOC. INC
775 Pleasant Street #14
East Weymouth, MA 02189
617 337-8047

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO.E86-8

Hammer Kiefer and Todd, Inc.
Architects Planners
1031 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS
BERNAPPS CHAIRMAN/SEAL
No. 27691
REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
No. 3690
CAMBRIDGE, MASS.
COMMONWEALTH OF MASSACHUSETTS

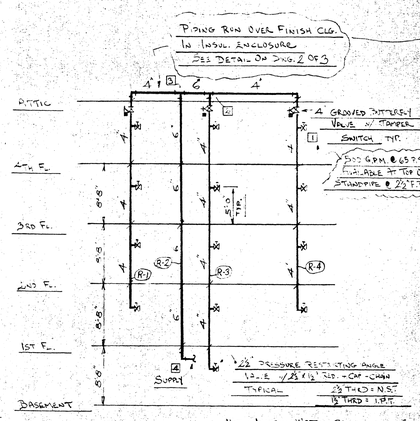
Drawing Title:
FIRE PUMP PLAN & GENERAL NOTES

Date: 1-10-89 Designed By: JK
Scale: 1/4"=1'-0" Drawn By: JK
Job Number: 2187 Checked By: SG

Revision:

Drawing Number:
FP-4

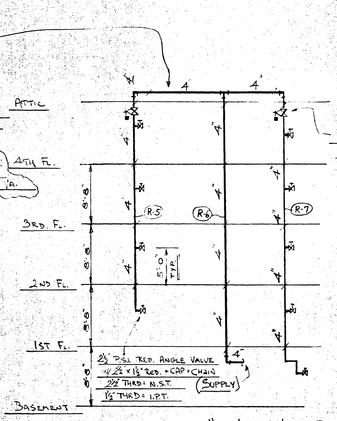
1311-15-1552-1554DR-4606
Bates Complex - New Residence Facility
2/21/2001
Chumbo 60x36"



NOTE: INSTALL WATER GAUGE AT TOP OF EACH STANDPIPE

STANDPIPE DETAIL BLDG. A·D·F

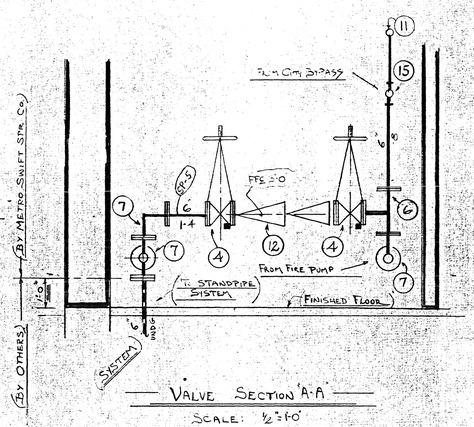
NOT TO SCALE



NOTE: INSTALL WATER GAUGE AT TOP OF EACH STANDPIPE

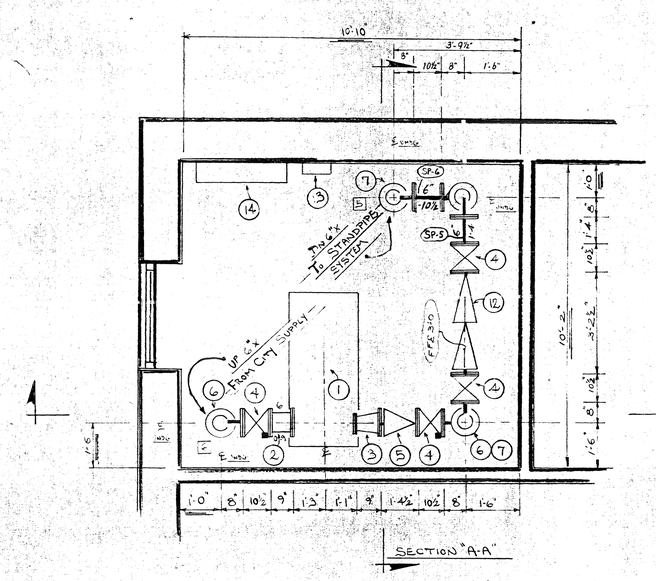
STANDPIPE DETAIL BLDG. B·C·E

NOT TO SCALE



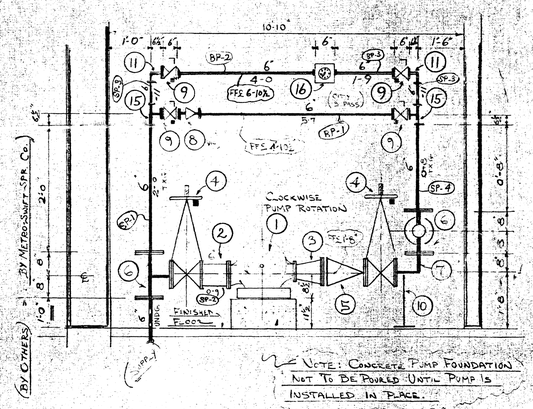
VALVE SECTION "A-A"

SCALE: ½"=1'-0"



FIRE PUMP PLAN

SCALE: ½"=1'-0"



NOTE: CONCRETE PUMP FOUNDATION NOT TO BE POURED UNTIL PUMP IS INSTALLED IN PLACE.

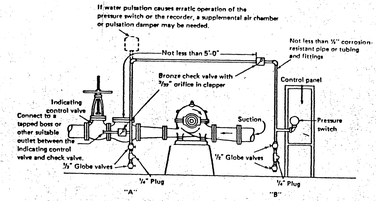
VALVE SECTION "B-B"

SCALE: NONE

NOTE: Per N.F.P.A. Standard 13, 1987 Edition, Para. (1-11.1) all underground mains and lead-ins shall be flushed before final connection to sprinkler system to remove foreign materials (Such as dirt, rocks, sand, etc.,)

Due to new underground piping being installed by others (and previously installed underground mains) not properly flushed as indicated by presence of rocks, sand and debris injected into system, we hereby disclaim responsibility for damage to equipment (Pumps, Backflow Preventers, specialty valves, etc.,) and/or liability caused by sprinkler system flow restriction.

Any labor required to remove foreign matter from piping and/or equipment will require compensation above and beyond original contract amount.



Test Connection at "A" or "B"

If water is clean, ground face unions with noncorrosive diaphrame drilled for 7/64" orifices may be used in place of the check valves

For SI Units: 1 in. = 25.4 mm; 1 ft. = 0.3048 m.

Figure A-7-5.2.1 Piping Connection for Each Automatic Pressure Switch (for Fire Pump or Jockey Pump).

NOTE: Solenoid drain valve used for engine driven fire pumps may be at "A," "B," or "inside of controller enclosure."

PUMP ROOM VALVE LEGEND

1. 1000 G.P.M. ELECTRIC FIRE PUMP
2. 6" x 0'-9" F.G. SPOOL PIECE
3. 6" x 5 F.G. CONCENTRIC REDUCER
4. 6" F.G. OS&Y GATE VALVE (w/ TAMPER SW.)
5. 6" F.G. NIBCO CHECK VALVE
6. 6" F.G. TEE
7. 6" F.G. ELL
8. 6" FIREMATIC GROOVED CHECK VA.
9. 6" SPRINK-BUTTERFLY GR. VALVE (w/ TAMPER SW.)
10. PIPE SADDLE SUPPORT
11. 6" SPRINK-GROOVED 90° ELL
12. 6" FEBCO MODEL 806DDC BACKFLOW PREVENTER
13. JOCKEY PUMP CONTROL PANEL
14. FIRE PUMP CONTROL PANEL
15. 6 SPRINK-GROOVED TEE
16. 6" VENTURI-GERAND FLOW METER

AS-BUILT; JULY 31, 1990

GENERAL NOTES

- (FF ± 0'-0") Denotes distance from finish floor up to center of pipe in feet + inches
- (TJ ± 0'-0") Denotes distance from top of joist down to center of pipe in feet + inches
- All pipe 2" and smaller to be Schedule 40 Steel
- All pipe 2½" and larger to be Schedule 10 Steel
- All screwed fittings to be black cast iron
- Hangers and supports to be U.L. listed for fire protection
- Sufficient heat shall be provided to keep system from freezing
- ——— Denotes hanger location
- ——— Denotes mechanical type coupling
- Installation shall conform to N.F.P.A. 13 - 1989 Edition

▽ REV.- RELOCATE TEST HEADER TO OUTSIDE PER SALEM FIRE DEPT. 10-25-89 JH

(APPROVING AUTHORITY: SALEM FIRE DEPT.)

FP-5

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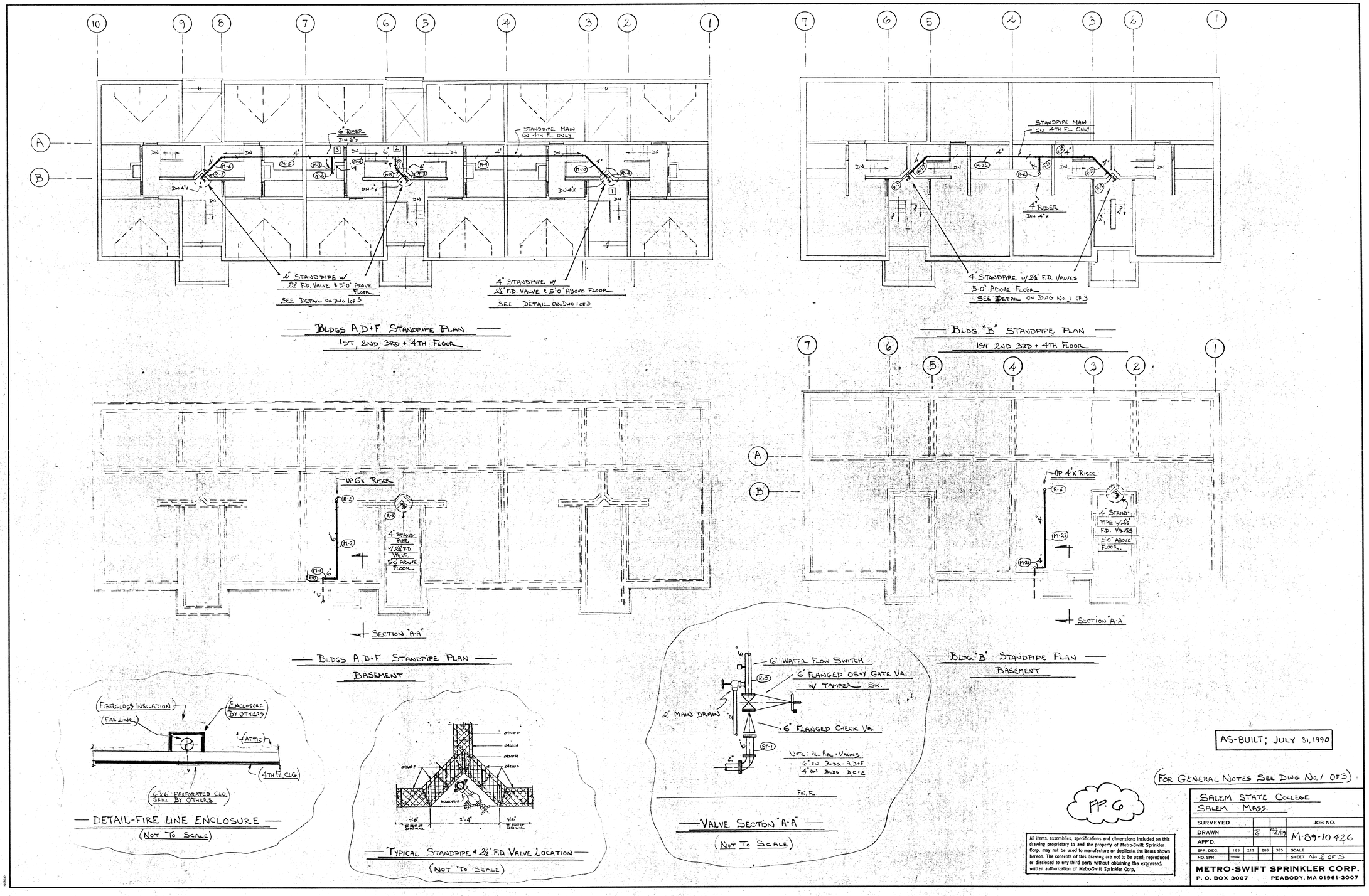
SALEM STATE COLLEGE
SALEM MASS.

SURVEYED				JOB NO.
DRAWN			10/6/89	M-89-10426
APP'D.				
SPR. DEG.	165	212	286	365
NO. SPR.	—			

SCALE ½"=1'-0"
SHEET 3 OF 3

METRO-SWIFT SPRINKLER CORP.
P. O. BOX 3007 PEABODY, MA 01961-3007

0015 19-1524-105-R4-0007
Bates Complex, New Residence Facility
2/21/95



AS-BUILT; JULY 31, 1990

(FOR GENERAL NOTES SEE DWG No. 1 OF 3)

FP-6

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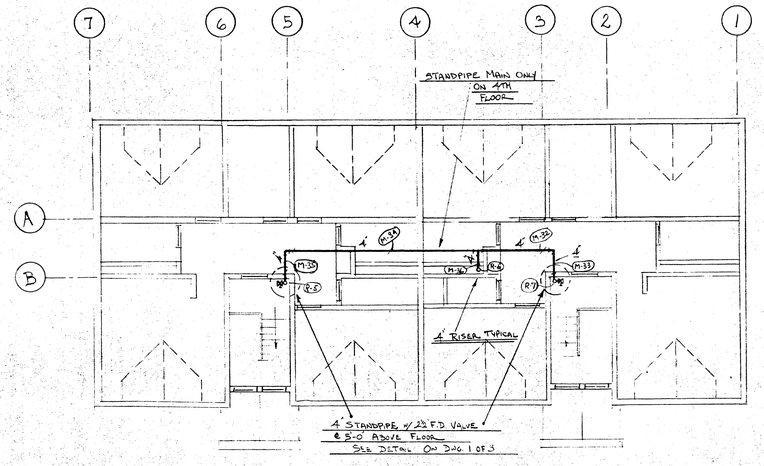
SALEM STATE COLLEGE
SALEM MASS.

SURVEYED					JOB NO.
DRAWN		RG	10/2/89		M-89-10426
APP'D.					
SPR. DEG.	165	212	286	365	SCALE
NO. SPR.	—				SHEET No 2 OF 3

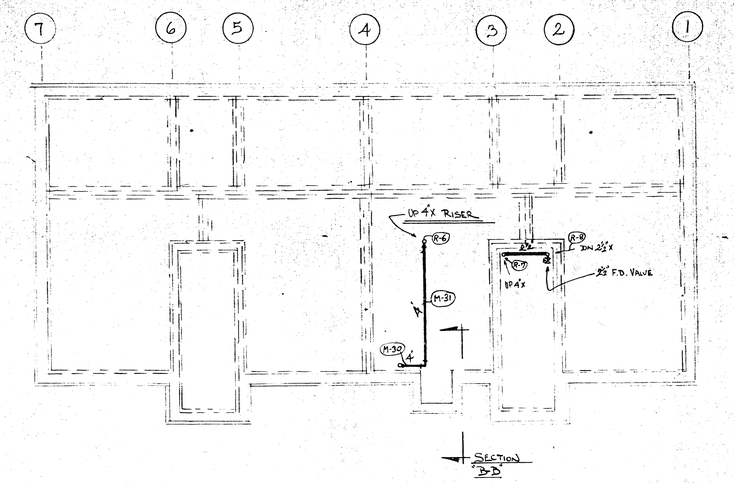
METRO-SWIFT SPRINKLER CORP.
P. O. BOX 3007 PEABODY, MA 01961-3007

10-116-152-195-DR-4008
Bates Complex, New Residence Facility
2/2/1991



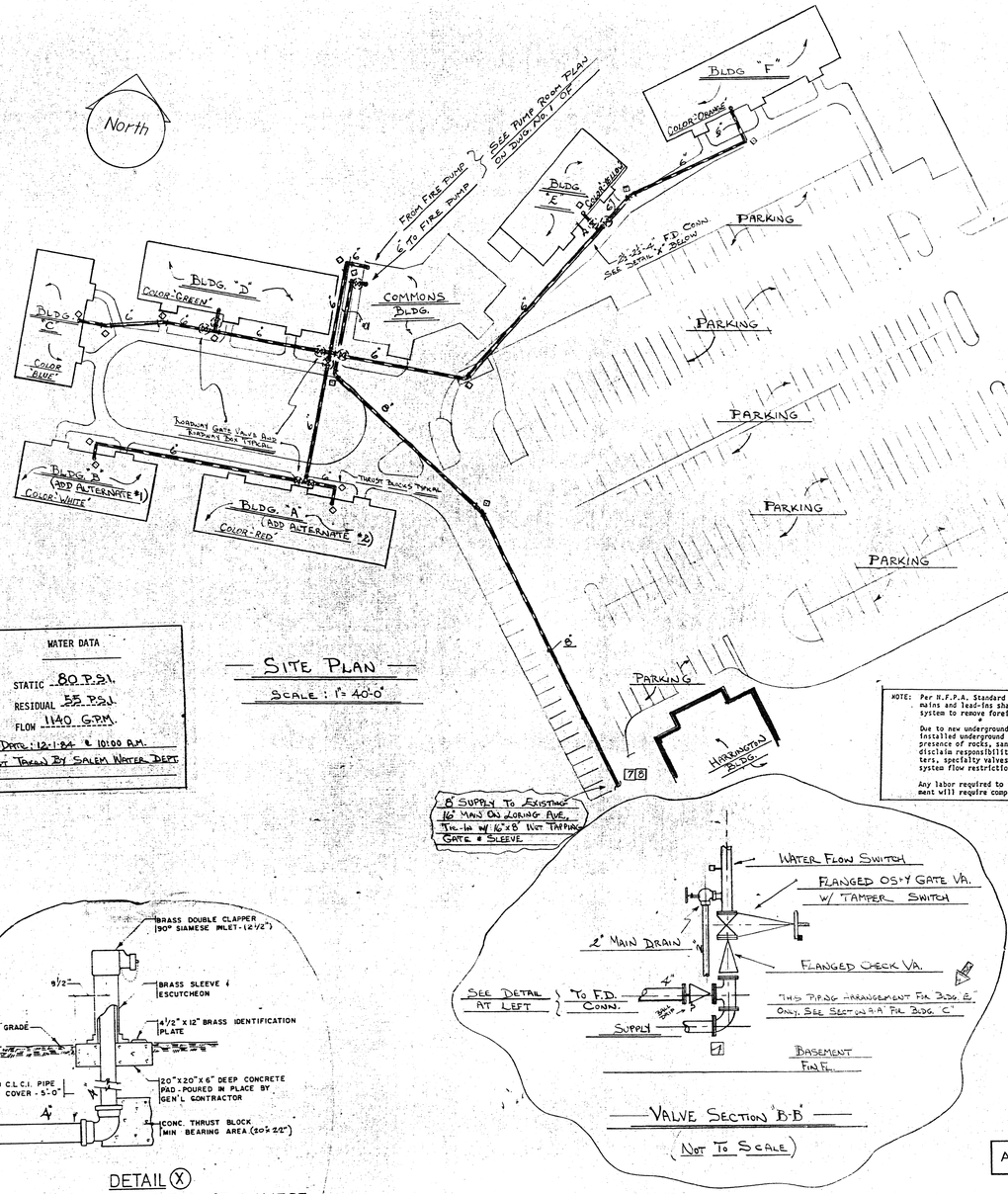
BLDG. C+E STANDPIPE PLAN

1ST, 2ND, 3RD + 4TH FLOOR



BLDG. C+E STANDPIPE PLAN

(BASEMENT)



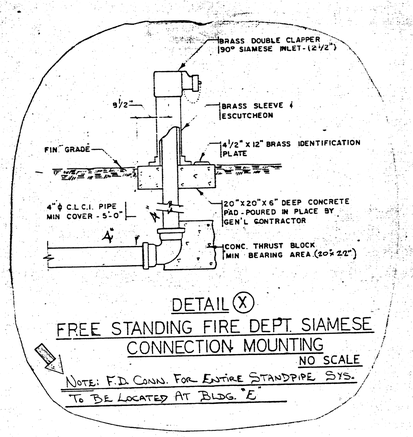
SITE PLAN

SCALE: 1" = 40'-0"

WATER DATA	
STATIC	80 P.S.I.
RESIDUAL	55 P.S.I.
FLOW	1140 G.P.M.

DATE: 12-1-84 @ 10:00 A.M.

TEST TAKEN BY SALEM WATER DEPT.



DETAIL (X)

FREE STANDING FIRE DEPT SIAMESE CONNECTION MOUNTING

NO SCALE

NOTE: F.D. CONN. FOR ENTIRE STANDPIPE SYS. TO BE LOCATED AT BLDG. "E"

VALVE SECTION B-B

(NOT TO SCALE)

NOTE: Per N.F.P.A. Standard 13, 1987 Edition, Para. (1-11.1) all underground mains and lead-ins shall be flushed before final connection to sprinkler system to remove foreign materials (Such as dirt, rocks, sand, etc..)

Due to new underground piping being installed by others (and previously installed underground mains) not properly flushed as indicated by presence of rocks, sand and debris injected into system, we hereby disclaim responsibility for damage to equipment (Pumps, Backflow Preventers, specialty valves, etc..) and/or liability caused by sprinkler system flow restriction.

Any labor required to remove foreign matter from piping and/or equipment will require compensation above and beyond original contract amount.

AS-BUILT; JULY 31, 1990

(FOR GENERAL NOTES SEE DWG. No. 1 OF 3)

FP7

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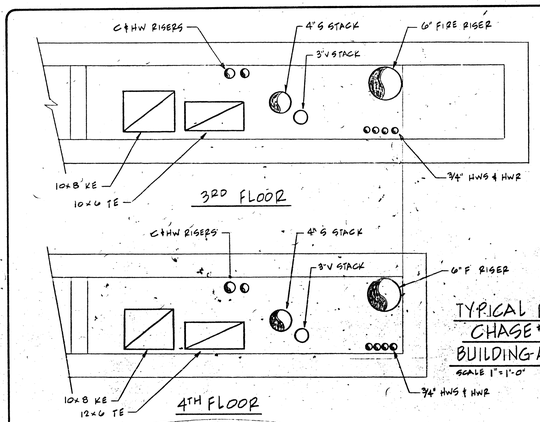
SALEM STATE COLLEGE
SALEM MASS.

SURVEYED					JOB NO.
DRAWN				8	11-89-10426
APP'D.					
SPR. DEG.	165	212	286	365	SCALE AS NOTED
NO. SPR.	—				SHEET No. 3 OF 3

METRO-SWIFT SPRINKLER CORP.
P. O. BOX 3007 PEABODY, MA 01961-3007

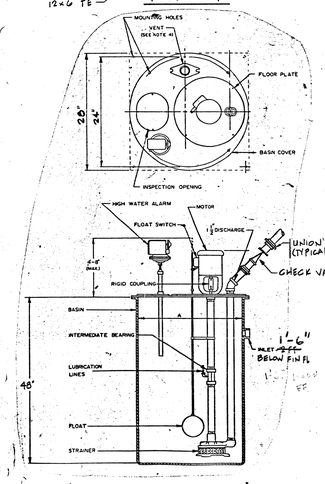
10-115-1503-8540-84008
Bates Complex: New Residence Facility
2/2/1991



3RD FLOOR

4TH FLOOR

TYPICAL PIPE CHASE #1
BUILDING A, B, D, F
SCALE 1"=1'-0"



DETAIL- SUMP PUMP
NO SCALE

SUMP PUMP SPECIFICATION

Pump. Furnish as shown on plans single Weil Pump Series 1100 Water Boy Model Number 1-1/2 - 110014 - 1/3 centrifugal, semi-open impeller type sump pump each rated to deliver 50 GPM against a TDH of 17 feet at 1750 RPM. Pump to be complete with galvanized steel strainer, cast iron base plate, suction plate and casing, cast iron impeller and stainless steel shaft. Unit to be furnished with a 20° O.D. split floor plate and 1-1/2" discharge pipe and elbow.

Pump to be directly connected by means of a rigid coupling to a 1/3 HP., single phase, 115 volt; 60 hertz, 1750 RPM open drip-proof electric motor.

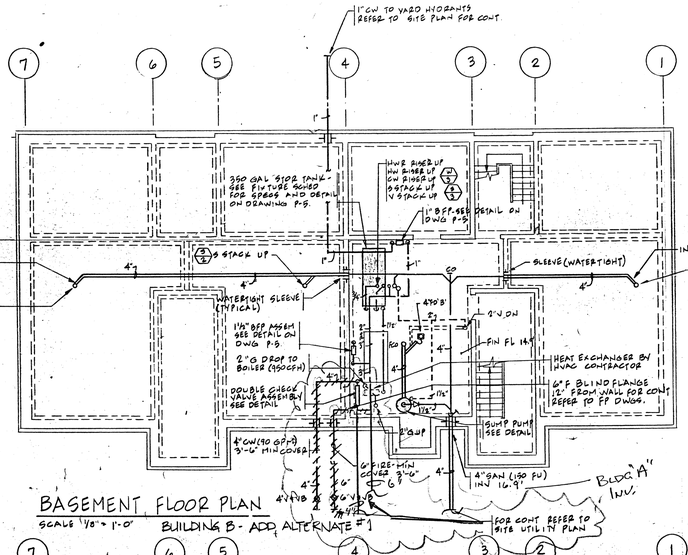
Pump shall be designed for a sump depth of 4 feet.

Controls. Pump shall be automatically controlled by a NEMA 1 motor mounted float switch complete with float, float rod, and rod buttons. Pump shall be completely wired and furnished with 10' of three conductor power cable and moulded grounding plug.

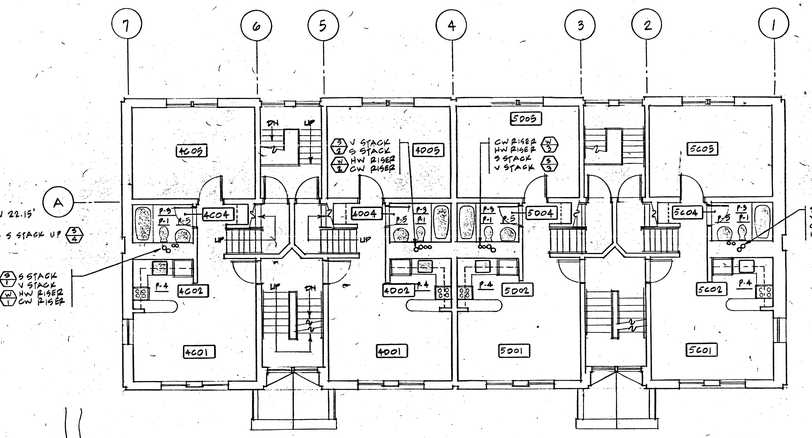
Alternator. Furnish for duplex installations one (1) NEMA 1 pedestal mounted automatic alternator to distribute operation to both units on each successive cycle and operate both units when one unit cannot handle the load.

Basin and Cover. Furnish fiberglass basin 24 inches in diameter and 4 feet deep, with centerline of inlet 24 inches down from top of basin.

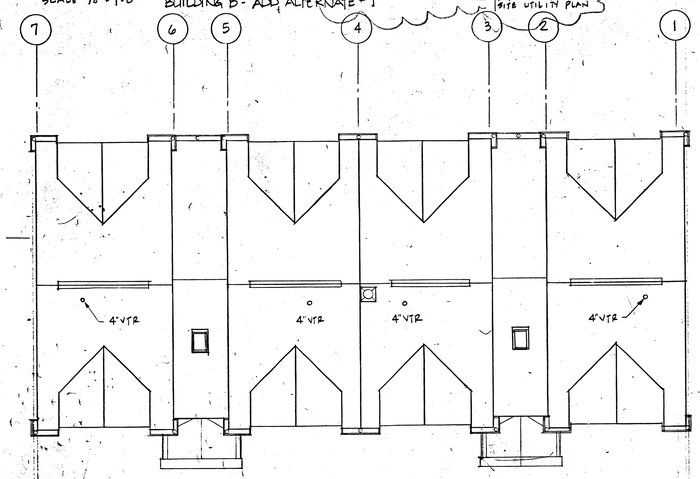
Furnish steel 28 inch circular cover for pump, controls and a suitable inspection opening.



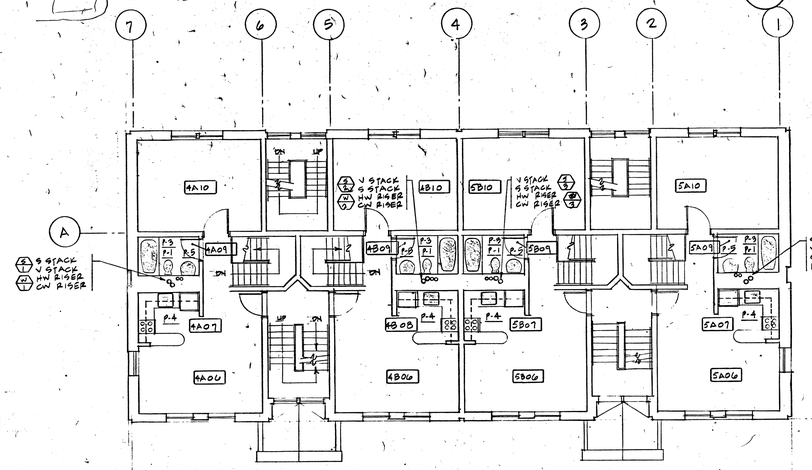
BASEMENT FLOOR PLAN
SCALE 1/8" = 1'-0" BUILDING B - ADD ALTERNATE #1



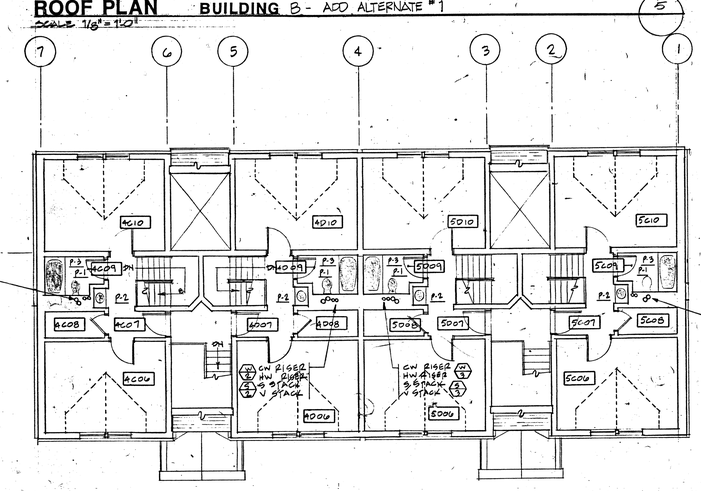
THIRD FLOOR PLAN BUILDING B- ADD ALTERNATE #1
SCALE 1/8" = 1'-0"



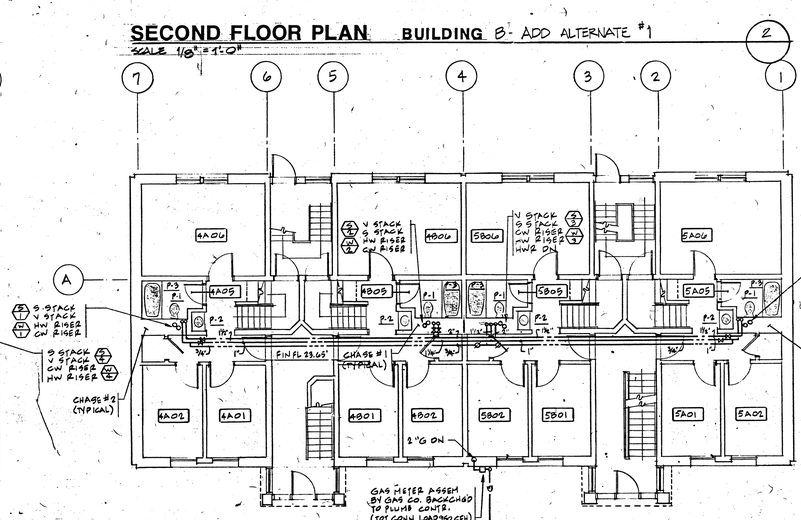
ROOF PLAN BUILDING B - ADD ALTERNATE #1
SCALE 1/8" = 1'-0"



SECOND FLOOR PLAN BUILDING B- ADD ALTERNATE #1
SCALE 1/8" = 1'-0"

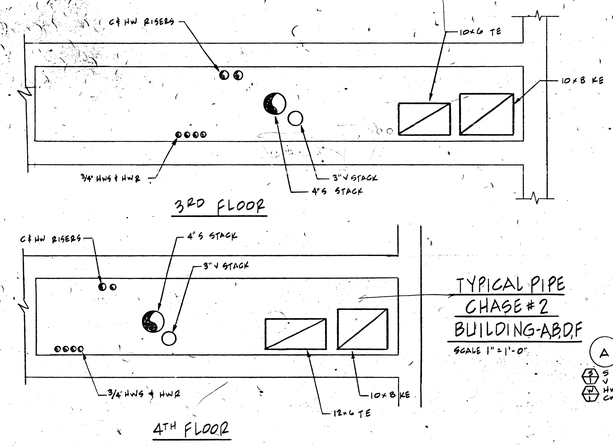


FOURTH FLOOR PLAN BUILDING B ADD ALTERNATE #1
SCALE 1/8" = 1'-0"



FIRST FLOOR PLAN BUILDING B - ADD ALTERNATE #1
SCALE 1/8" = 1'-0"

TYPICAL PIPE CHASE #2
BUILDING A, B, D, F
SCALE 1"=1'-0"



NOTE WELL

FLOOR PLAN REFLECTS TYPICAL MODULE.
ACTUAL NUMBER OF MODULES PER BLDG IS AS FOLLOWS:

BLDG A - 3 MODULES - 12 APT. (ADD ALTERNATE #2)
BLDG B - 2 MODULES - 8 APT. (ADD ALTERNATE #1)
BLDG C - 2 MODULES - 8 APT.
BLDG D - 3 MODULES - 12 APT.
BLDG E - 2 MODULES - 8 APT.
BLDG F - 3 MODULES - 12 APT.

10-116-182-195-DR-4010
Bates Compliant Architectural Quality
2/27/1991

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E86-8

Hammer Kiefer and Todd, Inc.
Architects Planners
531 Cambridge Street Cambridge, MA 02141

775 Pleasant Street #14
East Weymouth, MA 02189
617 337-4347
SHEKAR & ASSOC., INC.

ROU FURBISH - SHEKAR
COMMONWEALTH OF MASSACHUSETTS
ROBERT CHANDRAKANT NO. 27081
REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
No. 3690
CAMBRIDGE MASS.

Drawing Title:
FLOOR PLANS BUILDING "B"

Date: 1-10-89 Designed By: RCF Drawn By: RCF Checked By: SC
Scale: 1/8" = 1'-0" Job Number: 2287

Revision:

Drawing Number:
P-1

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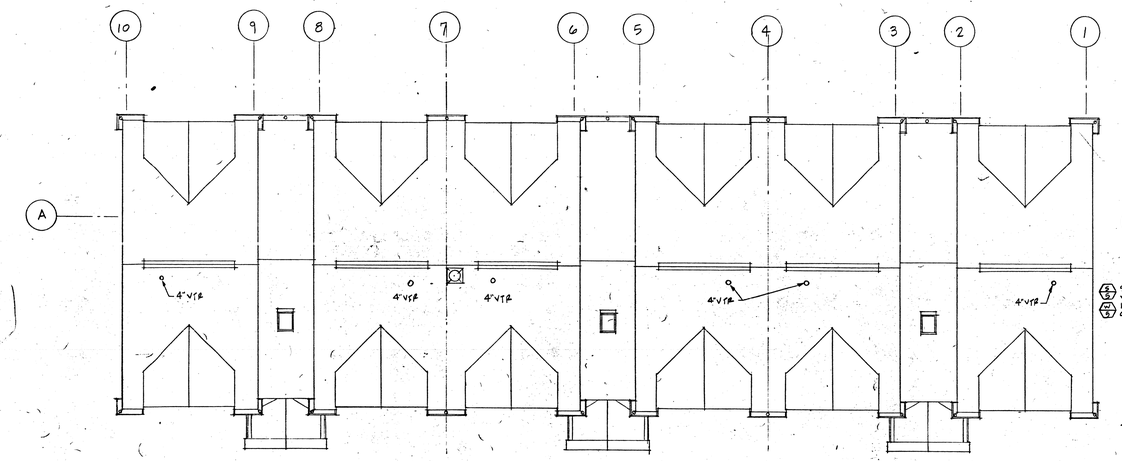
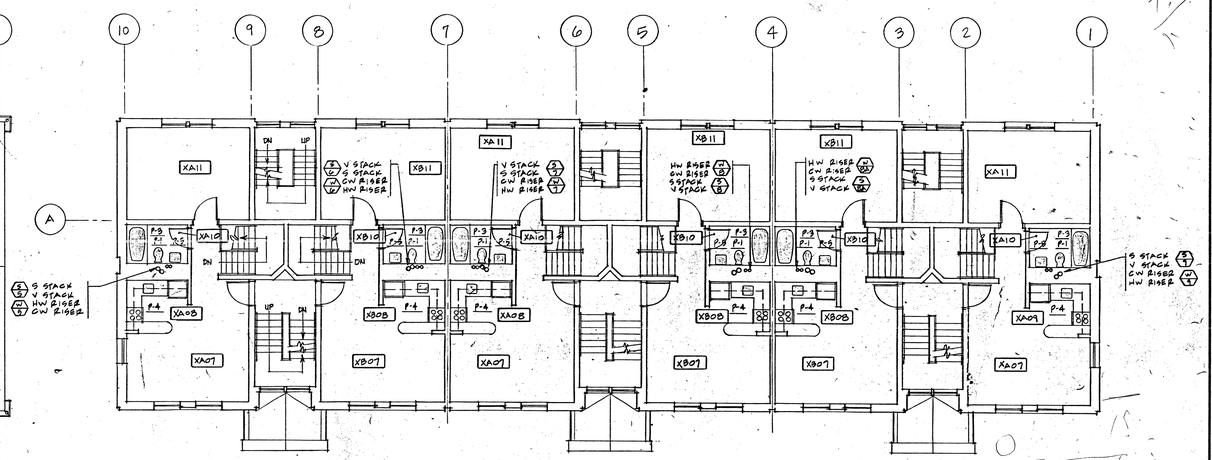
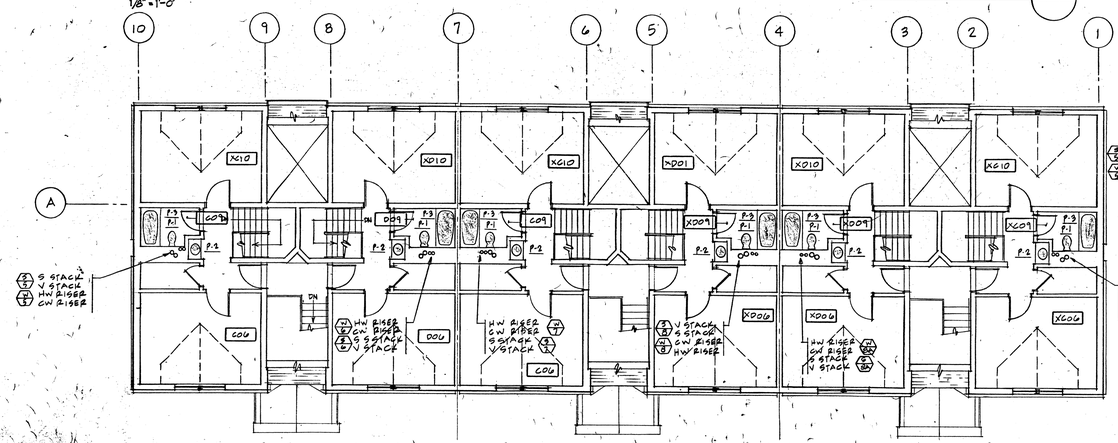




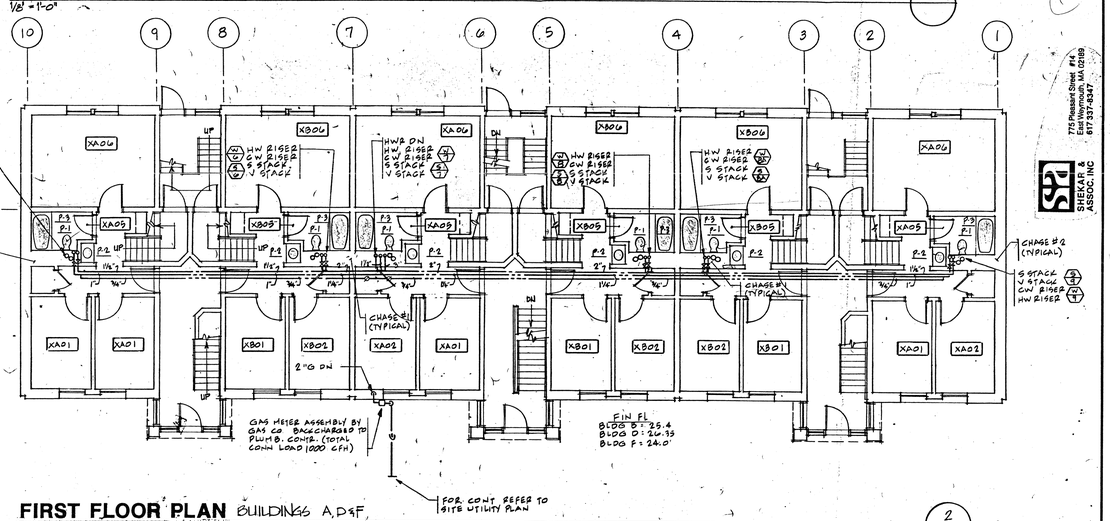
ROOF PLAN BUILDINGS A,D & F (BUILDING A - ADD ALTERNATE #2)

1/8" = 1'-0"



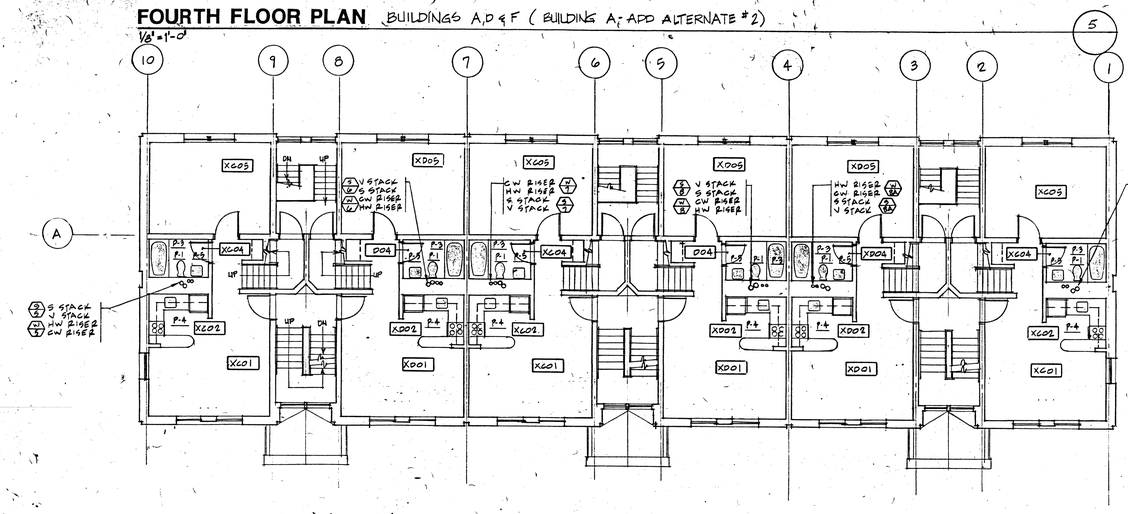
SECOND FLOOR PLAN BUILDINGS A,D & F (BUILDING A - ADD ALTERNATE #2)

1/8" = 1'-0"



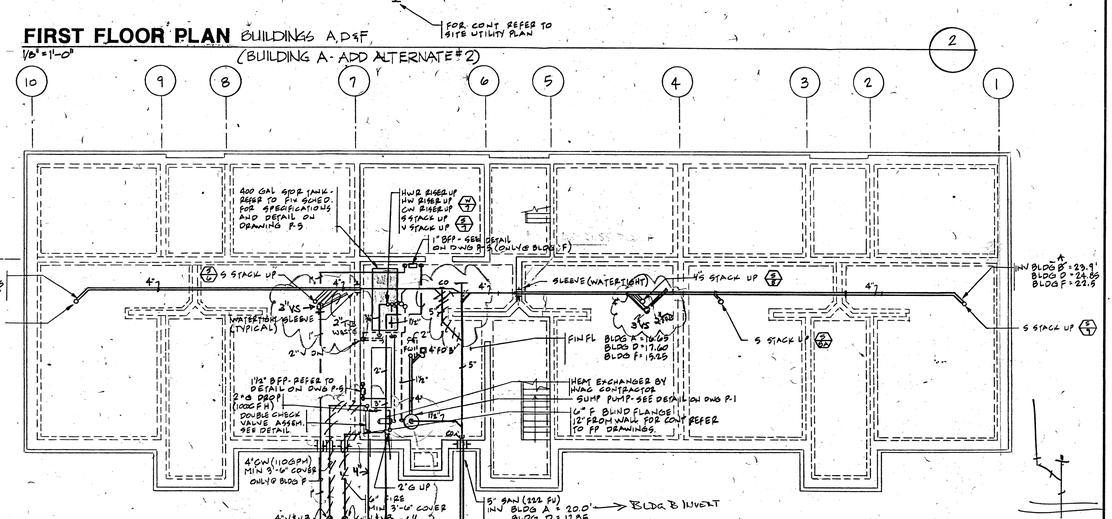
FOURTH FLOOR PLAN BUILDINGS A,D & F (BUILDING A - ADD ALTERNATE #2)

1/8" = 1'-0"



FIRST FLOOR PLAN BUILDINGS A,D & F (BUILDING A - ADD ALTERNATE #2)

1/8" = 1'-0"



THIRD FLOOR PLAN BUILDINGS A,D & F (BUILDING A - ADD ALTERNATE #2)

1/8" = 1'-0"

BASEMENT FLOOR PLAN BUILDINGS A,D & F (BUILDING A - ADD ALTERNATE #2)

1/8" = 1'-0"

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E86-6

Hammer Kiefer and Todd, Inc.
Architects
501 Cambridge Street Cambridge, MA 02141
775 Pleasant Street #14
East Weymouth, MA 02189
617 337-8547
SHEKAR & ASSOC. INC

COMMONWEALTH OF MASSACHUSETTS
GREGORY ESCHENASESER
NO. 27981
REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
ALLAN T. KIEFER
No. 3690
CAMBRIDGE MASS.
STATE OF MASSACHUSETTS

Drawing Title: FLOOR PLANS BUILDINGS A,D & F

Date: 1-10-89 Designed By: RCF
Scale: 1/8" = 1'-0" Drawn By: RCF
Job Number: 2287 Checked By: GC

Revision:

Drawing Number: P-2

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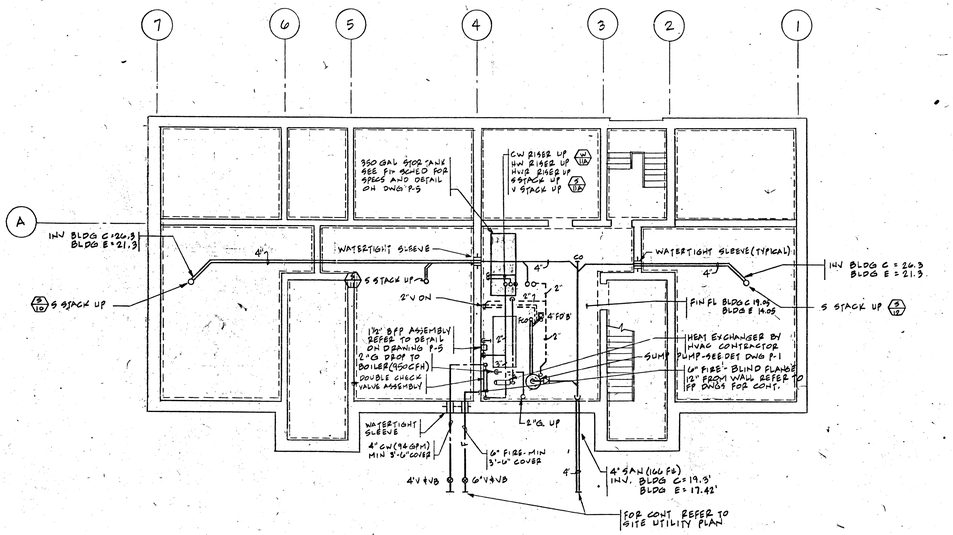
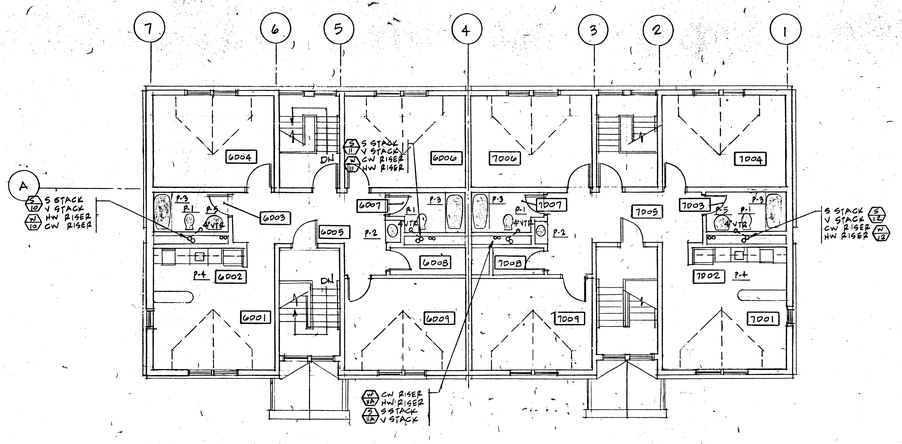
10-115-132-195-DR-0011
Bates County Missouri Recorder of Deeds
2/2/1991



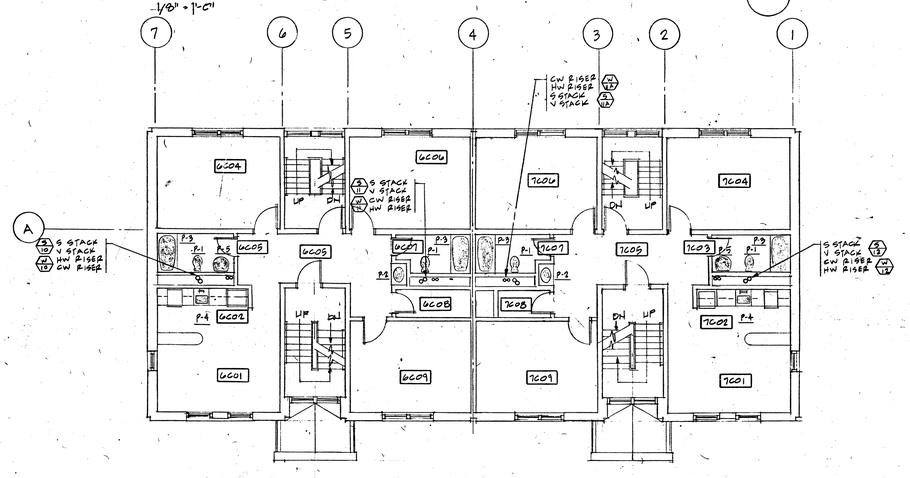
BASEMENT FLOOR PLAN - BLDG 'C' — BUILDING E OPPOSITE HAND

1/8" = 1'-0"



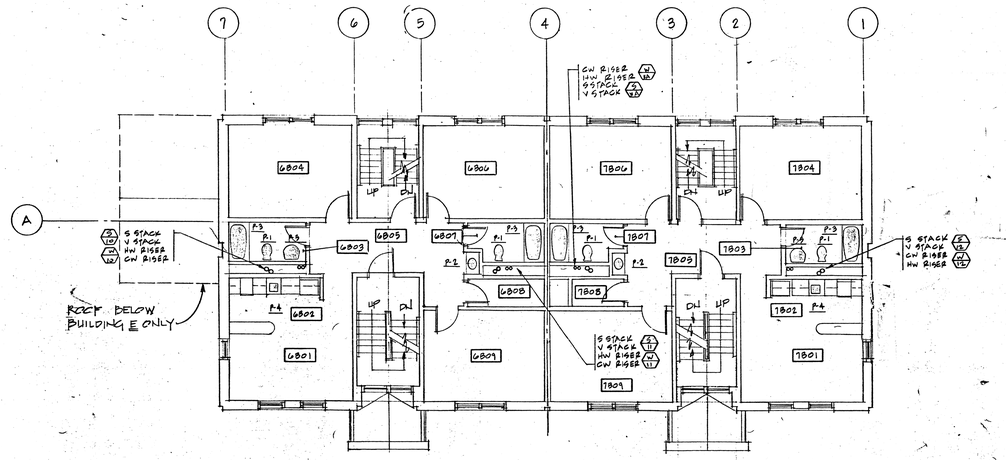
FOURTH FLOOR PLAN BUILDING C (E SIMILAR) 5

1/8" = 1'-0"



THIRD FLOOR PLAN BUILDING C (E SIMILAR) 3

1/8" = 1'-0"



SECOND FLOOR PLAN BUILDING C (E SIMILAR) 4

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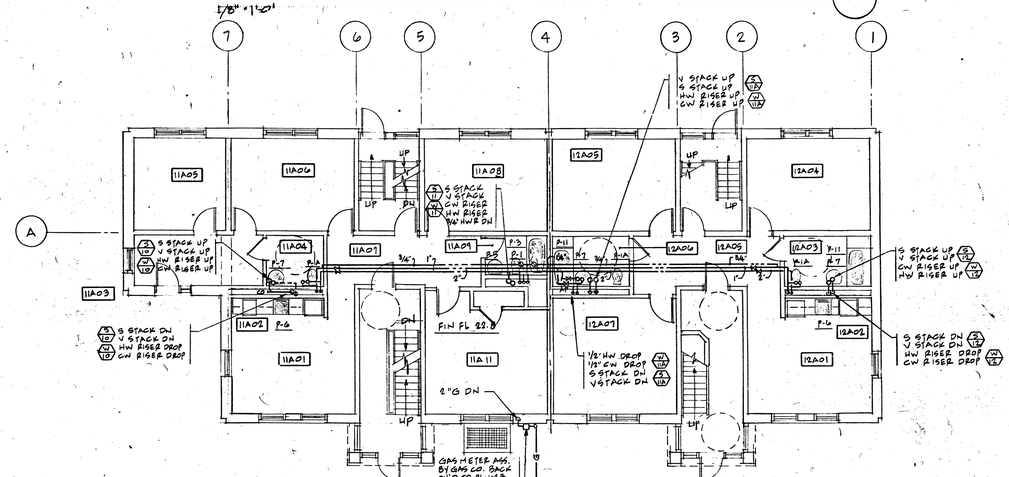
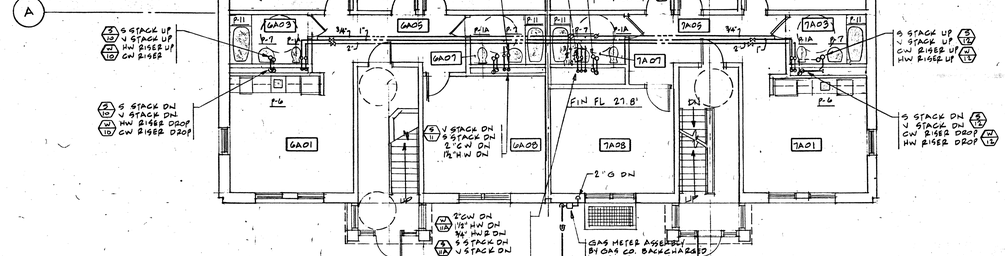


FIRST FLOOR PLAN BUILDING C

1/8" = 1'-0"



FIRST FLOOR PLAN BUILDING E 1

1/8" = 1'-0"

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No.	Date	Revision

Project:
SALEM STATE COLLEGE NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E88-8

SHEKAR & ASSOC. INC
775 Pleasant Street #14
East Weymouth, MA 02189
617 337-4347

Hammer Kiefer and Todd, Inc.
Architects Planners
501 Cambridge Street Cambridge, MA 02141

REGISTERED ARCHITECT
No. 27691
COMMONWEALTH OF MASSACHUSETTS
PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
No. 3690
CAMBRIDGE, MASS.
COMMONWEALTH OF MASSACHUSETTS

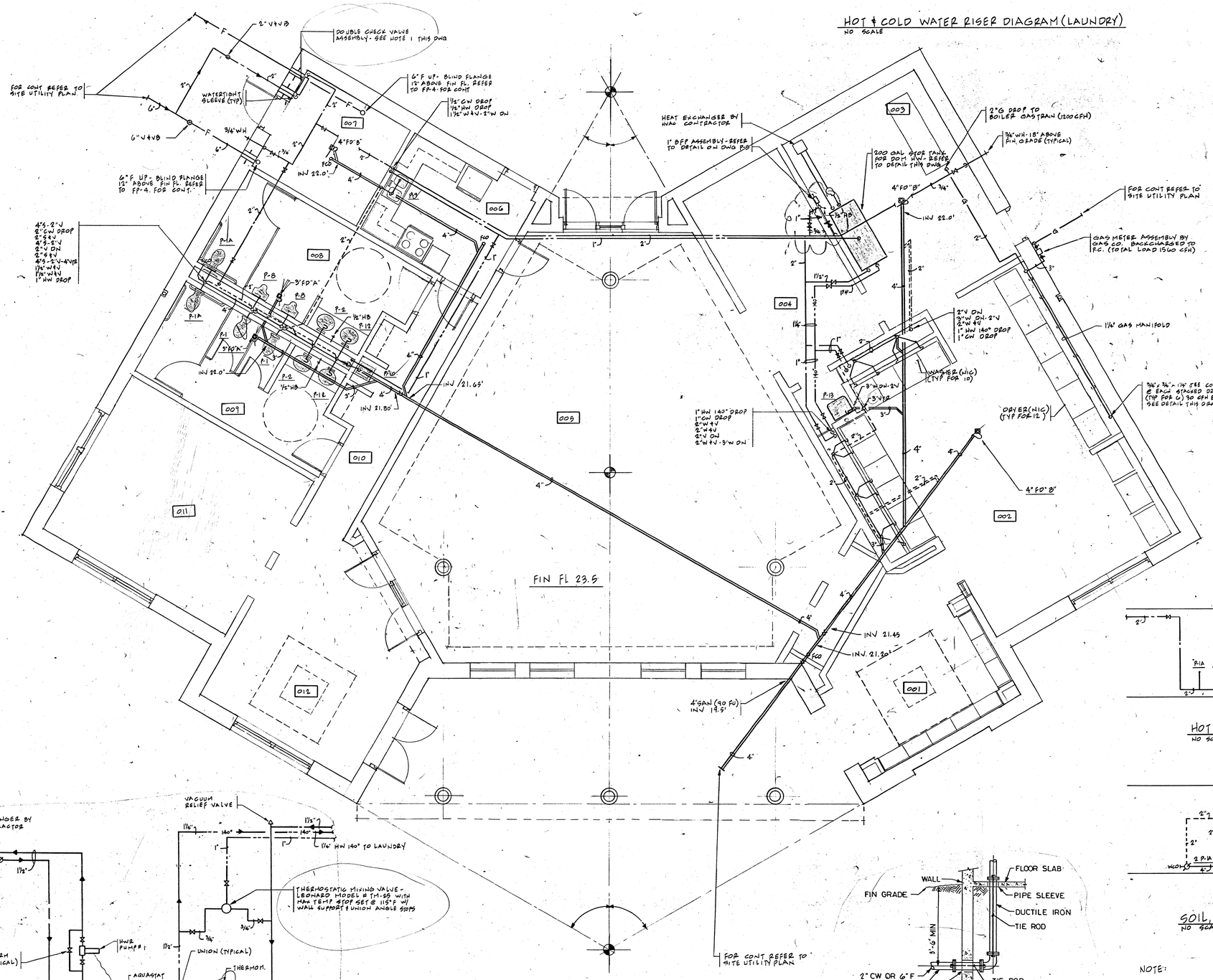
Drawing Title:
FLOOR PLANS BLDGS C & E

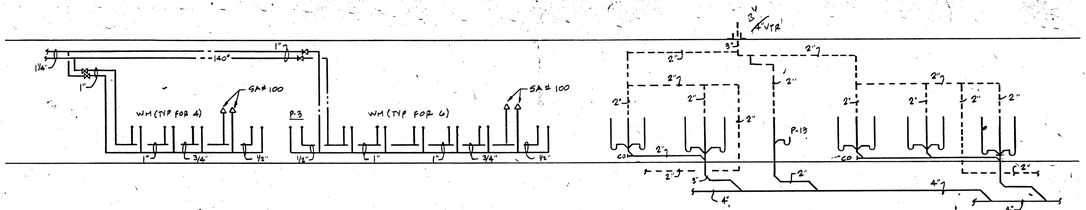
Date: 1-10-89
Designed By: RCF
Drawn By: RCF
Checked By: GKC
Scale: 1/8" = 1'-0"
Job Number: 2287

Revision:

Drawing Number:
P-3

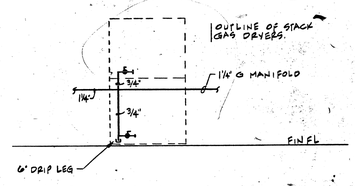
10-116-152-156-DR-4012
Salem Complex Residence Facility
2/01/89



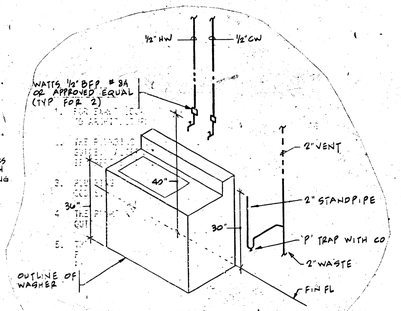


HOT & COLD WATER RISER DIAGRAM (LAUNDRY)
NO SCALE

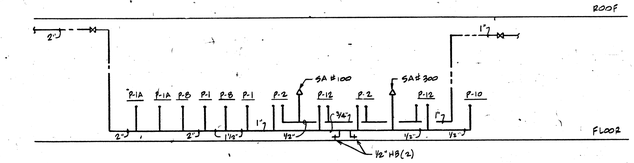
SOIL, WASTE & VENT RISER DIAGRAM (LAUNDRY)
NO SCALE



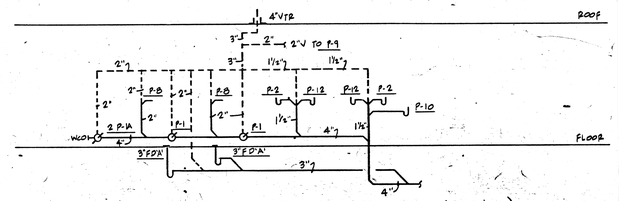
TYPICAL GAS PIPING @ DRYERS
NO SCALE



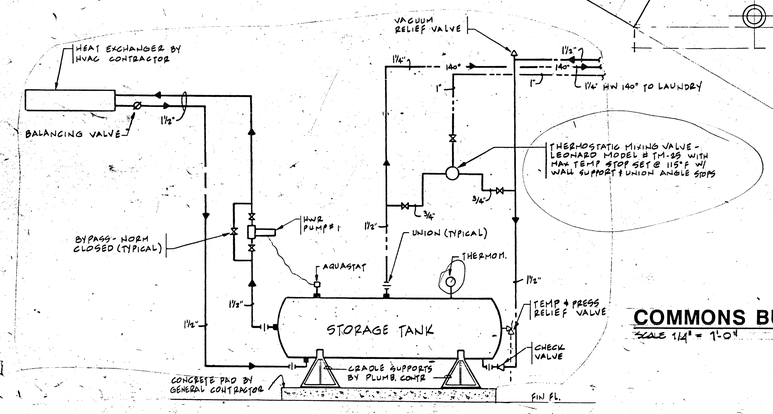
SCHEMATIC - WASHER PIPING
NO SCALE



HOT & COLD WATER RISER DIAGRAMS (TOILET)
NO SCALE

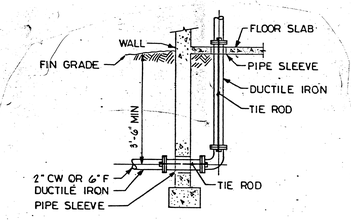


SOIL, WASTE AND VENT RISER DIAGRAM (TOILET)
NO SCALE



DOMESTIC HOT WATER PIPING DIAGRAM - COMMONS
NO SCALE

COMMONS BUILDING FLOOR PLAN
SCALE 1/4" = 1'-0"



WATER & FIRE MAIN ENTRANCE TO BUILDING
NO SCALE

NOTE:

1. DOUBLE CHECK VALVE ASSEMBLY SHALL BE AS MANUFACTURED BY WATTS MODEL # 709-S WITH BRONZE STRAINER OR APPROVED EQUAL.

No.	Date	Revision
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E86-8

Hammer Kiefer and Todd, Inc.
Architects Planners
50 Church Street Cambridge, MA 02141

775 Pleasant Street, Ext.
East Weymouth, MA 02189
617 337-8347
SHEKAR & ASSOC. INC

COMMONWEALTH OF MASSACHUSETTS
REGISTERED PROFESSIONAL ENGINEER
No. 27081
Richard Schwartz

REGISTERED ARCHITECT
ALLAN T. KIEFER
No. 3690
CAMBRIDGE MASS.
U.S.A.

Drawing Title:
FLOOR PLAN COMMONS BLDG

Date: 1 - 10 - 89
Designed By: RGF
Drawn By: RGF
Scale: 1/8" = 1'-0"
Checked By: A.K.
Job Number: 8887

Revision:

Drawing Number:
P-4

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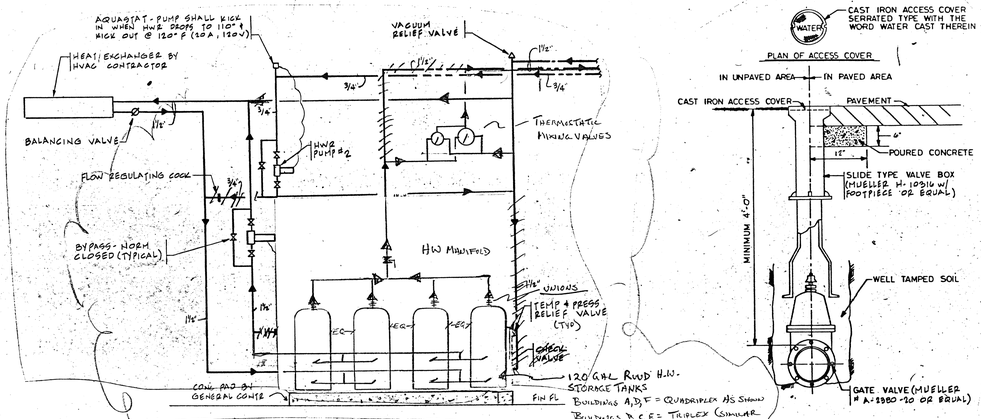
10-115-152-155-248-413
Bates Compare, New Residence Facility
Apr 1991



DOMESTIC HOT WATER PIPING DIAGRAM

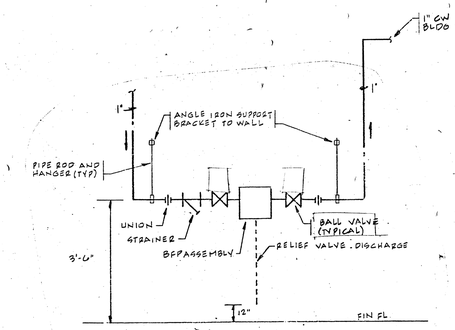
NO SCALE (TYP FOR ALL BLDGS)

GATE VALVE & VALVE BOX - 4" - 12"

NO SCALE

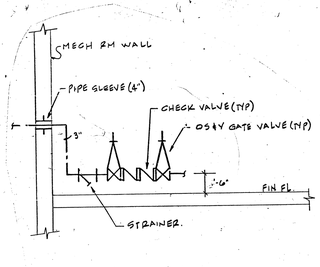
PLUMBING FIXTURE SCHEDULE

ITEM	DESCRIPTION	MANUFACTURER	MODEL #	CONNECTIONS HW	CW	SOVN	V.	REMARKS
P-1	WATER CLOSET	AMERICAN STANDARD	AFWALL 2477.016	—	1"	4"	2"	W/ WHITE OLSONITE #93 SEAT. SLOAN ROYAL 110-3 FLUSH VALVE
P-1A	HANDICAPPED WATER CLOSET	AMERICAN STANDARD	AFWALL 2477.016	—	1"	4"	2"	SAME AS P-1 EXCEPT MTG HGT FOR HANDICAPPED
P-2	LAVATORY (COUNTER)	AMERICAN STANDARD	AQUALYN 0476.028	½"	½"	1½"	1½"	W/ GYMMONS FAUCET S-90-2, 6" BRASS TAIL W/CO, 90° ANGLE STOPS W/ WHEEL HANDLE, FLEX RISERS, ESCUTCHEONS
P-3	BATHTUB	ELJER	026-0900 (L) 026-0905 (R)	½"	½"	1½"	1½"	W/ELJER FOR UP WATER & OVERFLOW 512-1100 GYMMONS VALVE S-94-2-XX W/ SERVICE STOPS, CURTAIN ROD
P-4	KITCHEN SINK	JUST	SL-2133-A-GR	½"	½"	1½"	1½"	3 HOLE 20 GUAGE, W/GYMMONS FAUCET # S-93-2, JUST BASKET STRAINER & TAILPIECE # 135-ST
P-5	LAVATORY (WALL)	AMERICAN STANDARD	WCE8NE 0355.012	½"	½"	1½"	1½"	SAME AS P-2
P-6	HANDICAPPED KITCHEN SINK	JUST	SL-2135-A-GR	½"	½"	1½"	1½"	SAME AS P-4 EXCEPT W/ OFFSET & INSULATED TAILPIECE TRAP ALONG WALL WITH CLEANOUT
P-7	HANDICAPPED LAVATORY (WALL)	AMERICAN STANDARD	WCE8NE 0355.013	½"	½"	1½"	1½"	SAME AS P-2 EXCEPT W/ OFFSET & INSULATED TAILPIECE, TRAP ALONG WALL WITH CLEANOUT
P-8	URINAL	AMERICAN STANDARD	WINGHBROOK 6501.010	—	¾"	2"	2"	WITH WALL HANGER 1054M. 17 BIS, SLOAN ROYAL 186 FLUSH VALVE
P-9	KITCHEN SK (COMMON)	JUST	DL-1829-A-GR	½"	½"	1½"	1½"	W/ 2 1½ IPS BASKET STRAINERS, GYMMONS # S-93-2 FAUCET TRAP W/ CO, 3 HOSE, 22 GA, 90° ANGLE STOPS & FLEX RISERS
P-10	DRINKING FOUNTAIN	HALSEY TAYLOR	6VL-EDP	—	½"	1½"	1½"	COMPLETE WITH, TRAP W/ CO, SERVICE STOP & WALL HANGER AS REQUIRED
P-11	HANDICAPPED BATH TUB	KIMSTOCK	7592-F 1NG	½"	½"	1½"	1½"	W/ GYMMONS VALVE S-94-300-B2A, WITH POP UP WASTE AND OVERFLOW, GRAB BARS, CURTAIN ROD, SOAP DISH
P-12	HANDICAPPED LAVATORY (COUNTER)	AMERICAN STANDARD	AQUALYN 0476.028	½"	½"	1½"	1½"	SAME AS P-2 EXCEPT W/ OFFSET & INSULATED TAILPIECE WITH TRAP ALONG WALL
P-13	SERVICE SINK	AMERICAN STANDARD	LAUDERDALE 7498.049	½"	½"	3"	2"	W/ FAUCET #8344.111 W/ VB, WALL BRACE, WALL HANGERS, # 8399.020 RIM GUARD, 7798.174 TRAP STANDARD.
FCO	FLOOR CLEANOUT	ZURN	ZN-1400-2	—	—	—	—	W/ NB FINISH
FCO*	FLOOR DRAIN TYPE A		ZN-415	—	—	2"DEB	2"	W/ NIKALOY TOP - LOCATED IN COMMONS BLDG, TYPE 'B' STRAINER
FD'B'	FLOOR DRAIN TYPE 'B'		Z-415	—	—	4"	2"	W/ CI TOP - LOCATED IN MECH RM, TYPE B STRAINER
WCO	WALL CLEANOUT		ZN-1460-2	—	—	—	—	W/ NB FINISH
SA	SHOCK ABSORBER		Z-1700	—	—	—	—	SEE RISER DIAGRAMS FOR SIZES
HB	HOSE BIBB	CHICAGO FAUCET	952	—	½"	—	—	W/ CP FINISH, VB, ¾" HOSE END THREAD
HWR P#1	HOT WATER RECIRC PUMP #1	BELL & GOSSETT	SERIES 60	—	—	—	—	¼ HP, 1PH, 115V INLINE, ALL BRONZE
HWR P#2	HOT WATER RECIRC PUMP #2	BELL & GOSSETT	SERIES 100	—	—	—	—	1½ HP, 1PH, 115V, INLINE, ALL BRONZE



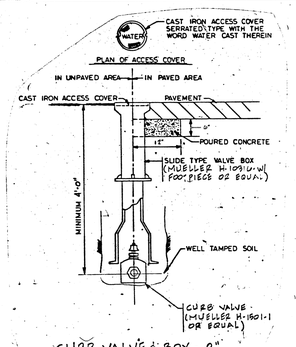
DETAIL - BACKFLOW PREVENTER - YARD HYDRANTS

NO SCALE



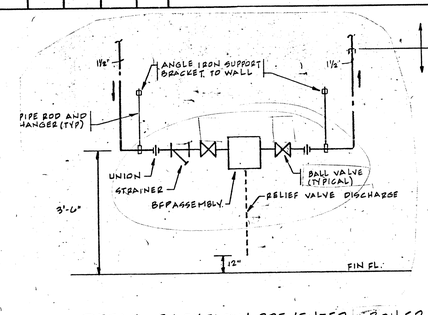
SCHEMATIC - DOM. WTR. DOUBLE CHECK VALVE ASSEMBLY

NO SCALE



CURB VALVE & BOX - 2" DIAMETER & SMALLER

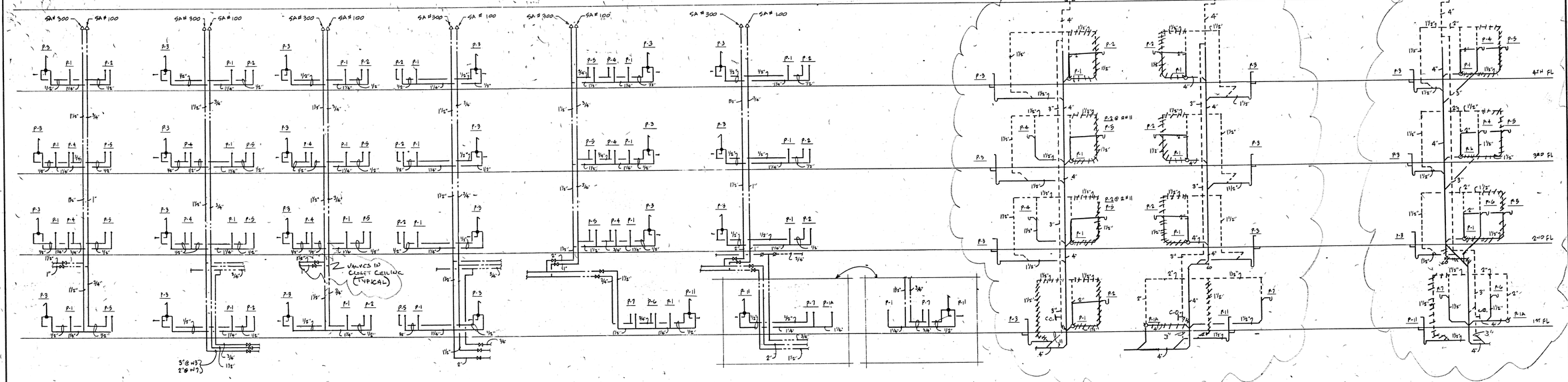
NO SCALE



DETAIL - BACKFLOW PREVENTER - BOILER

NO SCALE

NOTE: REDUCED PRESSURE BACKFLOW PREVENTER SHALL BE AS MANUFACTURED BY WATTS MODEL 909S-DT OR APPROVED EQUAL



HOT AND COLD WATER RISER DIAGRAMS

W-1 W-4 W-5 W-9 — W-2 W-7 — W-3 W-6 W-8 W-8A — W-11 BLDG 'E' — W-10 W-12 — W-11A BLDG 'C & E' — W-11 BLDG 'C'

SOIL, WASTE & VENT - RISER DIAGRAMS

S-1 S-2 S-3 S-4 S-5 S-6 S-7 S-8 S-9 — S-10 BLDG C & E — S-11 NO P-4 @ 2ND & 3RD LEVELS — S-12 BLDG 'C' — S-12 BLDG C & E — BLDG 'E' NO P-11 @ 1ST FLOOR

LEGEND

———	SOILS (S) OR WASTE (W) LINE
═══	SOIL OR WASTE LINE BURIED
- - - - -	VENT (V) LINE
═ ═ ═ ═ ═	VENT LINE BURIED
———	COLD WATER (CW) LINE
———	HOT WATER (HW) LINE
———	HOT WATER RETURN (HWR) LINE
——— G ———	GAS LINE
———	GATE VALVE
———	UNION
———	PIPE RISING UP
———	PIPE DROPPING DOWN (DN)
———	GAS COCK
FIN FL	FINISHED FLOOR ELEVATION
INV	INVERT ELEVATION
FCO	FLOOR CLEANOUT
GPM	GALLONS PER MINUTE
CFH	CUBIC FOOT PER HOUR
FD	FLOOR DRAIN
HB	HOSE BIBB
VB	VACUUM BREAKER
CO	CLEANOUT
WCO	WALL CLEANOUT
CLG	CEILING
BFD	BACKFLOW PREVENTER
CP	CHROME PLATED
GPH	GALLONS PER HOUR
———	BALANCING VALVE

GENERAL NOTES:

1. FOR EXACT LOCATION AND MOUNTING HEIGHT OF PLUMBING FIXTURES REFER TO ARCHITECTURAL DRAWINGS.
2. THE PLUMBING FIXTURES LISTED IN THE SCHEDULE ON THIS DRAWING ARE A GUIDE. ALTERNATE FIXTURES BY KOHLER, CRANE, OR EQUAL MAY BE USED IF APPROVED BY OWNER IN WRITING.
3. PLUMBING INSTALLATION SHALL BE IN ACCORDANCE WITH LOCAL AND STATE CODES.
4. THE PLUMBER SHALL PAY ALL COSTS FOR PERMITS, TESTING, ETC. AS REQUIRED.
5. THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL FIXTURES, PIPE FITTINGS, INSULATION, HANGERS, SUPPORTS, VALVES AND ALL APPURTENANCES REQUIRED FOR A COMPLETE SYSTEM.
6. ALL HOT AND COLD WATER LINES SHALL HAVE 1/2" THICK FIBERGLAS INSULATION WITH VAPOR JACKET.
7. AIR CHAMBERS SHALL BE INSTALLED AT ALL FIXTURES AND SHOCK ABSORBERS AS INDICATED ON RISER DIAGRAM.

No.	Date	Revision

Project: SALEM STATE COLLEGE NEW RESIDENCE FACILITY MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY PROJECT NO. E88-8

SHEKAR & ASSOC. INC. 776 Pleasant Street #14 Weymouth, MA 02189 617 337-4547

Hammer Kiefer and Todd, Inc. Architects Planners 501 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS — JOSEPH CHARBONNIER — NO. 27681 — REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT — ALBERT T. SCOTT — No. 3690 — CAMBRIDGE MASS. — COMMONWEALTH OF MASSACHUSETTS

Drawing Title: LEGEND, SCHEDULE NOTES, DETAILS & RISER DIAGRAMS

Date: 1-10-89 Designed By: RCF Drawn By: RCF Checked By: AJS

Scale: AS NOTED Job Number: 2287

Revision:

Drawing Number: P-5

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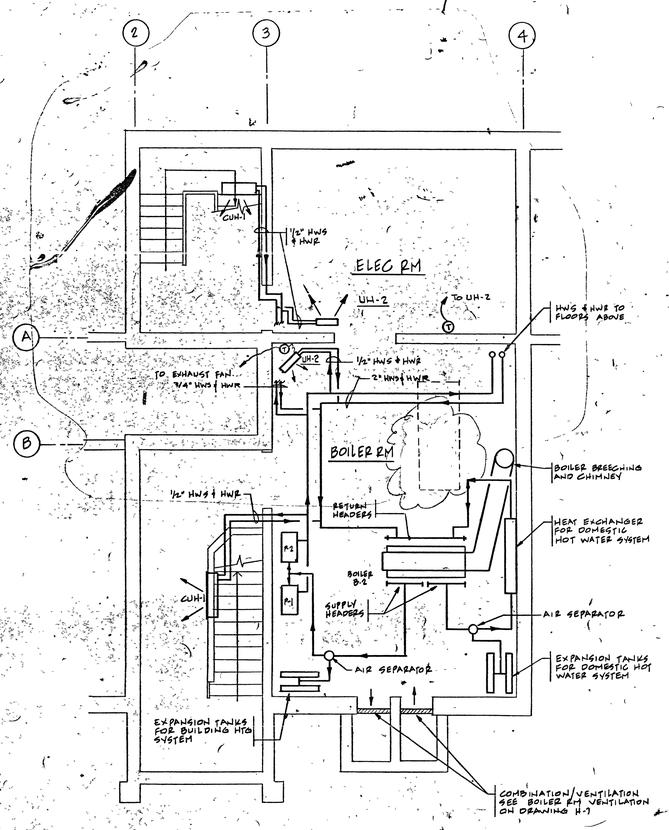
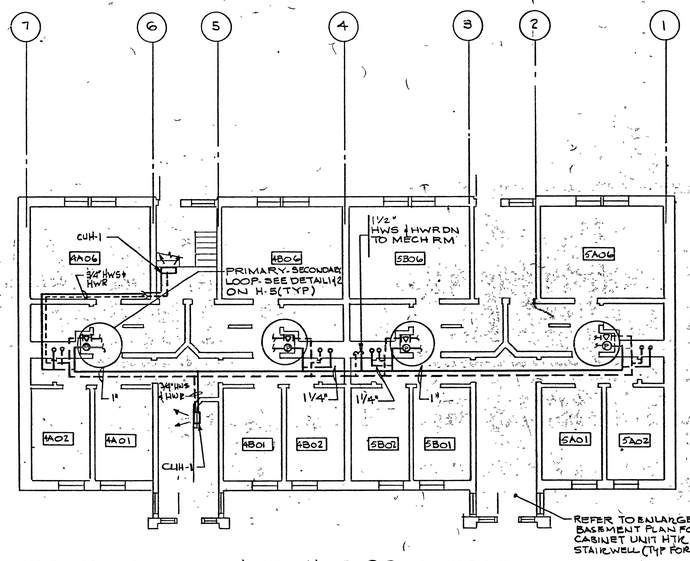
Bates Complex, New Residence Facility 2201991



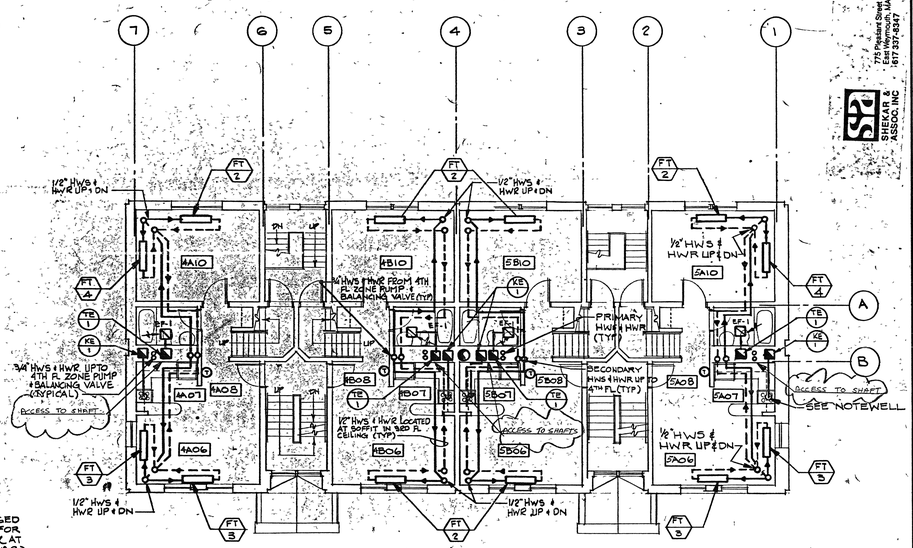
ENLARGED BASEMENT PLAN - BUILDING C&E

SCALE 1/4"=1'-0" NOTEWELL FOR PIPE SIZES REFER BOILER SYSTEM EQUIPMENT TABLE ON H-7 UNLESS OTHERWISE NOTED



FIRST FLOOR MAIN HWS & HWR PIPING BLDG B

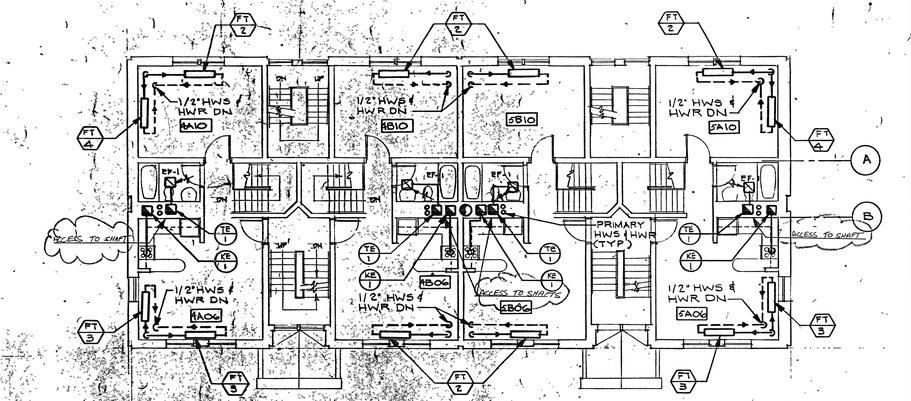
SCALE: 1/8"=1'-0" ADD ALTERNATE #2



THIRD FLOOR PLAN BUILDING B ADD ALTERNATE #2

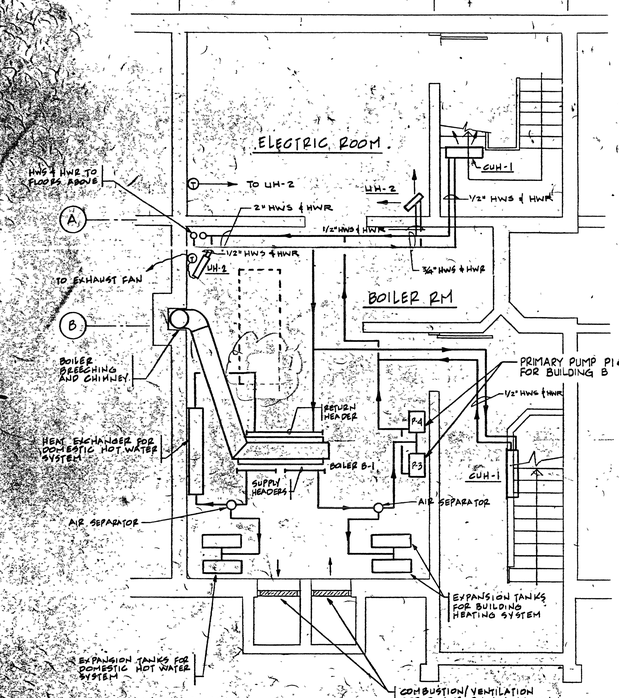
SCALE 1/8"=1'-0" — 3

NOTEWELL
EXHAUST FAN SUPPLIED BY G.C. FINAL CONNECTION BY HVAC SUB CONTRACTOR (TYP FOR ALL KITCHEN EXHAUST HOODS)



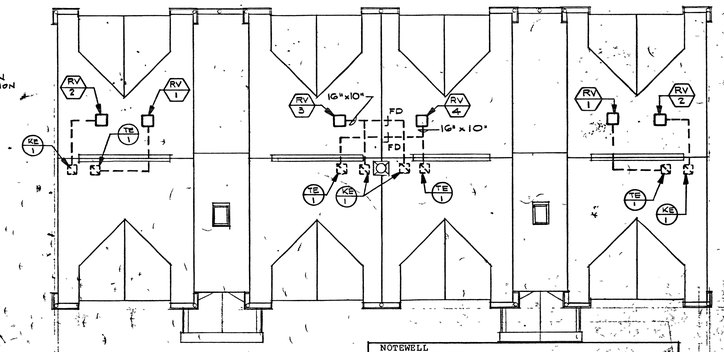
SECOND FLOOR PLAN BUILDING B ADD ALTERNATE #1

SCALE 1/8"=1'-0" — 2



ENLARGED BASEMENT PLAN - BLDGS A, B, D & F

SCALE 1/4"=1'-0" NOTEWELL FOR PIPE SIZES REFER BOILER SYSTEM EQUIPMENT TABLE ON H-7 UNLESS OTHERWISE NOTED



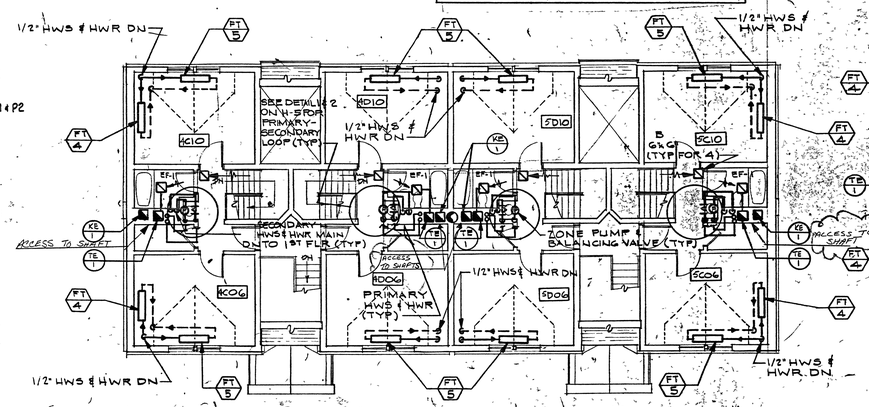
ROOF PLAN BUILDING B

SCALE 1/8"=1'-0" ADD ALTERNATE #2

NOTEWELL

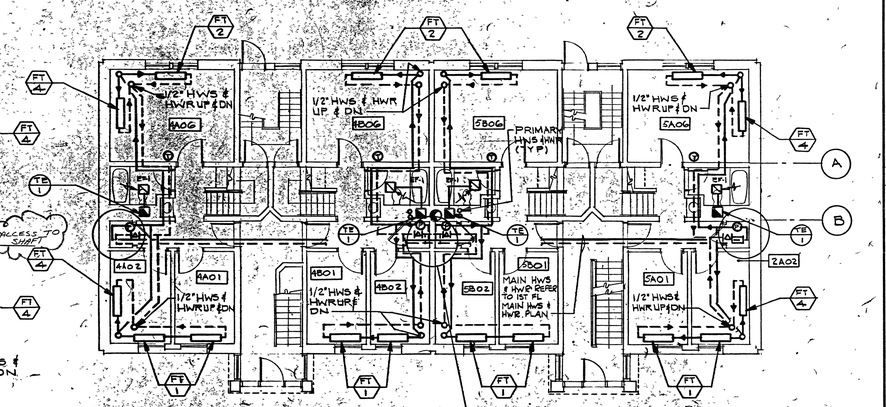
FLOOR PLAN REFLECTS TYPICAL MODULE.
ACTUAL NUMBER OF MODULES PER BLDG IS AS FOLLOWS:

BLDG A - 3 MODULES - 12 APT. (ADD ALTERNATE #2)
BLDG B - 2 MODULES - 8 APT. (ADD ALTERNATE #1)
BLDG C - 2 MODULES - 8 APT.
BLDG D - 3 MODULES - 12 APT.
BLDG E - 2 MODULES - 8 APT.
BLDG F - 3 MODULES - 12 APT.



FOURTH FLOOR PLAN BUILDING B ADD ALTERNATE #2

SCALE 1/8"=1'-0" — 4



FIRST FLOOR PLAN BUILDING B ADD ALTERNATE #1

SCALE 1/8"=1'-0" — 1

NOTE:
FOR LOCATION OF ZONE PUMPS & VALVE REFER FIRST FLOOR MAIN HWS & HWR PIPING LAYOUT ABOVE

BREKER ASSOC. INC.
715 Pleasant Street #14
New Bedford, MA 02740
617 237-7500 FAX 508 997-0...

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. 686-8

Hammer Kiefer and Todd, Inc.
Architects Planners
501 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS — DENNIS ONUFREMKA — NO. 27434 — REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT — STEVEN T. SCHUH — No 3690 CAMBRIDGE MASS.

Drawing Title: HV FLOOR PLAN

Date: 1-10-89 Designed By: JT
Scale: AS NOTED Drawn By: RH
Job Number: 1187 Checked By: SC

Revision.

Drawing Number: H-1

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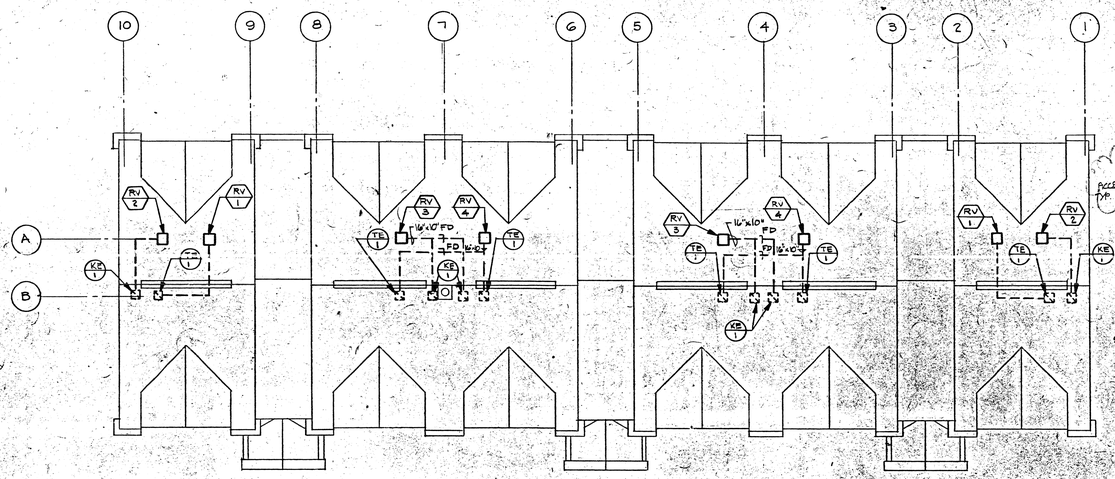
ID:115.102.150.238:4010 Bldg Complex_New Residence Facility CQ01009

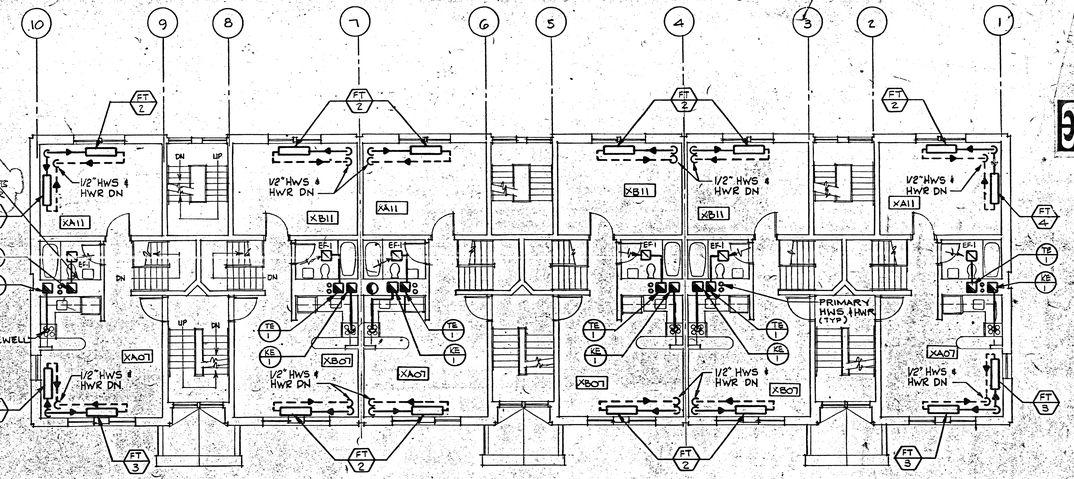


ROOF PLAN BUILDING A (BUILDINGS D & F SIM) (BUILDING A - ADD ALT. #2)

1/8" = 1'-0"

6

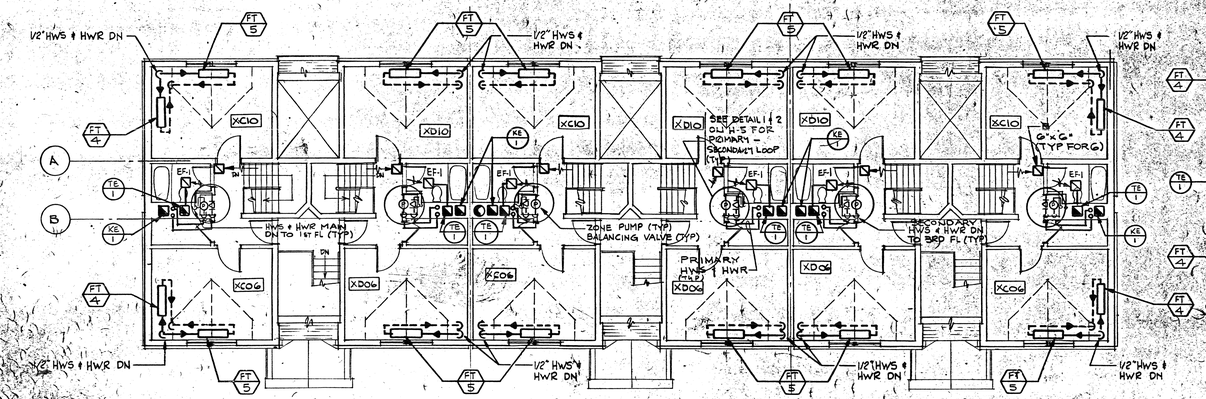
NOTE WELL EXHAUST FAN SUPPLIED BY G.C. FINAL CONNECTION BY HVAC SUBCONTRACTOR (TYP. FOR ALL KITCHEN EXH HOODS)



SECOND FLOOR PLAN | BLDG A (BLDGS D & F SIM) (BUILDING A - ADD ALTERNATE #2)

1/8" = 1'-0"

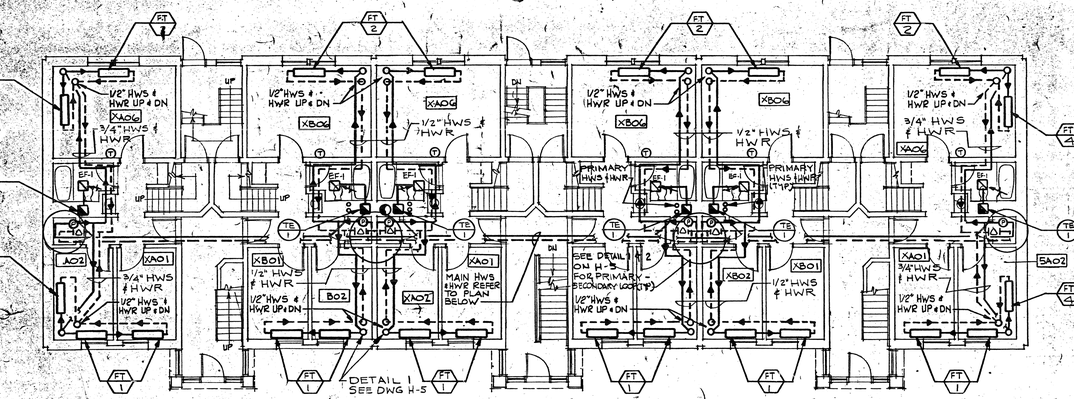
3



FOURTH FLOOR PLAN BLDG A (BLDGS D & F SIM) (BUILDING A-ADD ALTERNATE #2)

1/8" = 1'-0"

5

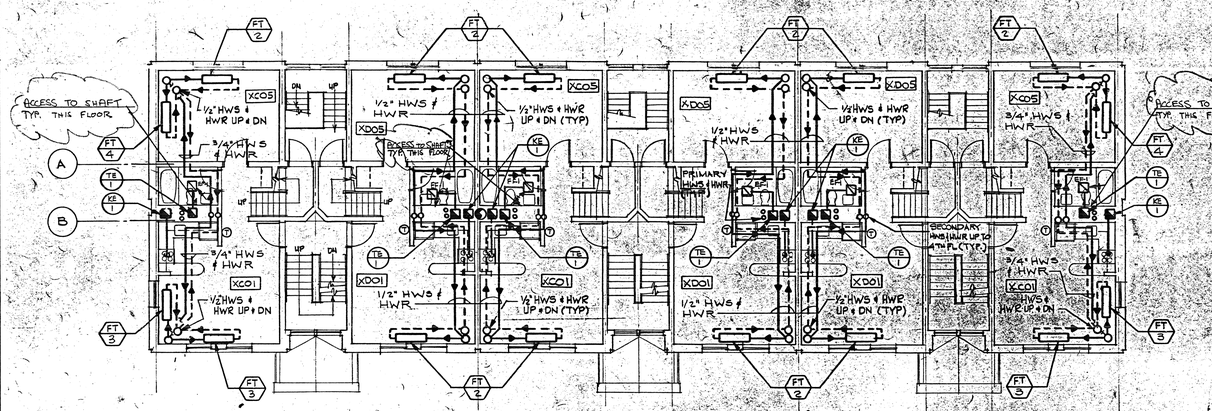


FIRST FLOOR PLAN BLDG A (BLDGS D & F SIM) (BUILDING A - ADD ALTERNATE #2)

1/8" = 1'-0"

2

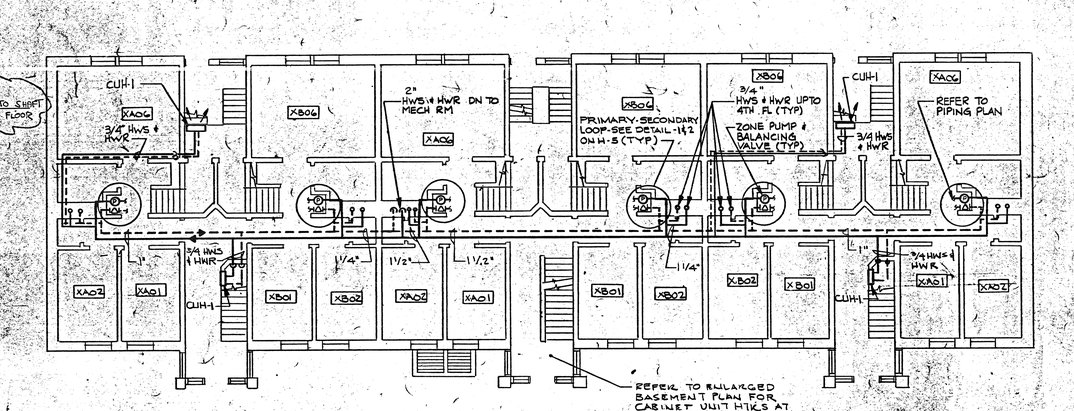
NOTE: FOR LOCATION OF ZONE PUMPS & VALVE REFER FIRST FLOOR MAIN HWS & HWR PIPING LAYOUT BELOW



THIRD FLOOR PLAN BLDG A (BLDGS D & F SIM) (BUILDING A-ADD ALTERNATE #2)

1/8" = 1'-0"

4



FIRST FLOOR MAIN HWS & HWR PIPING BUILDING A (BUILDINGS D & F SIM) (BUILDING A-ADD ALTERNATE #2)

1/8" = 1'-0"

1

SEBESTYEN ASSOCIATES INC.
775 Pleasant Street #H
Weymouth, MA 02189
617 337-8347

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E86-8

Hammer Kiefer and Todd, Inc.
Architects Planners
501 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS
Benjamin Jacobsmeier
NO. 37651
REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
No. 3690
CAMBRIDGE
MASS.

Drawing Title: HVAC FLOOR PLAN

Date: 1-10-86 Designed By: LT
Scale: AS NOTED Drawn By: LT
Job Number: 1287 Checked By: BC

Revision:

Drawing Number:
H-2

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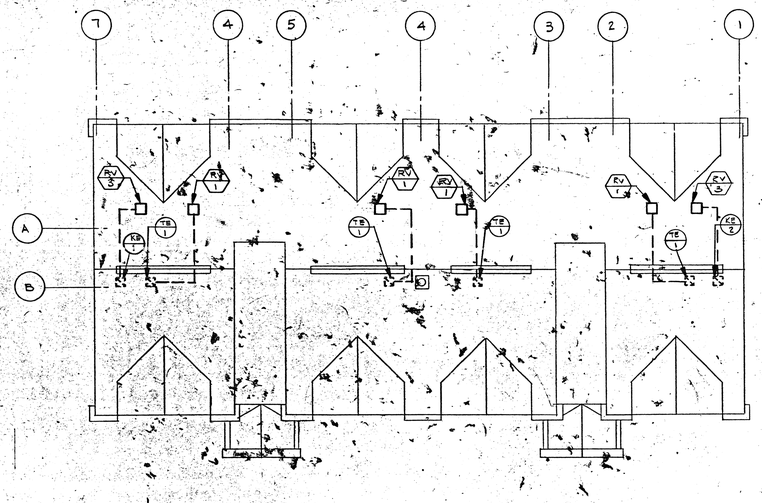
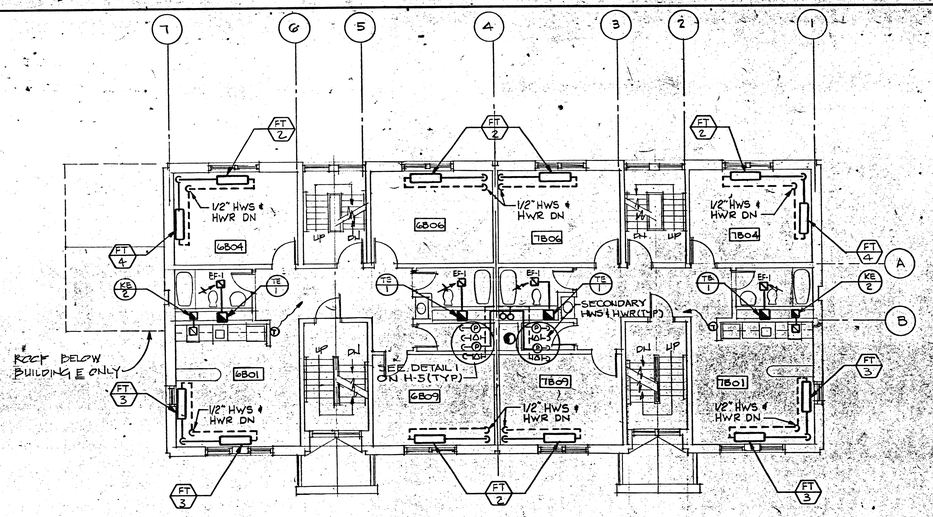
10-1-86-150-185-230-401-6
Salem Complex, New Residence Facility
Project



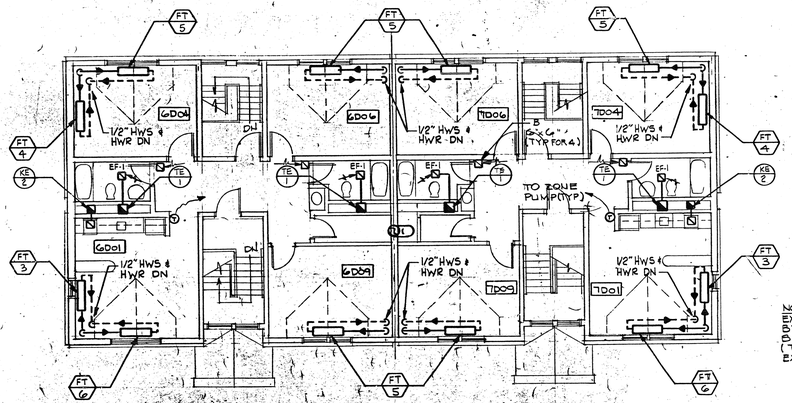
ROOF PLAN BUILDING C (E OPP. HAND)

1/8" = 1'-0"



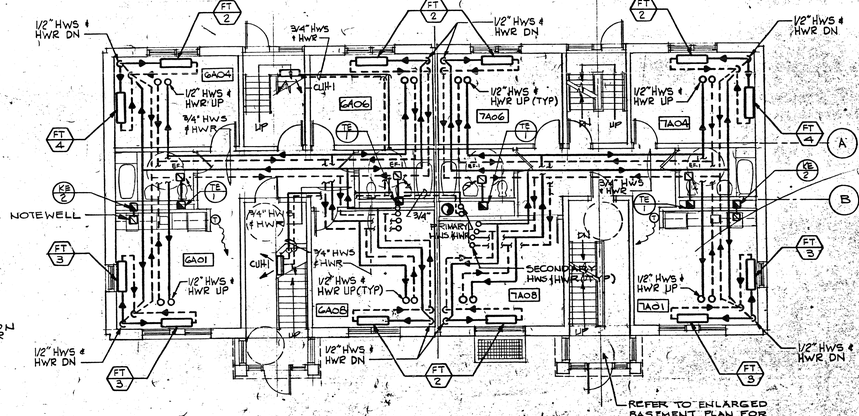
SECOND FLOOR PLAN BUILDING C (E SIMILAR)

3/8" = 1'-0"



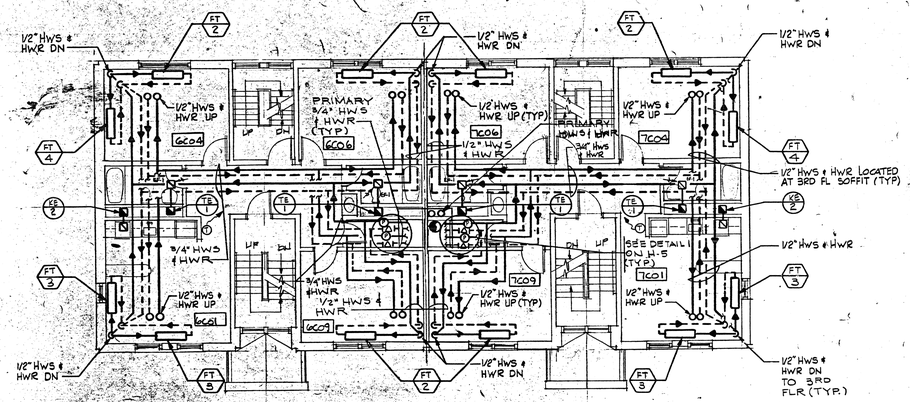
FOURTH FLOOR PLAN BUILDING C (E SIMILAR)

1/8" = 1'-0"



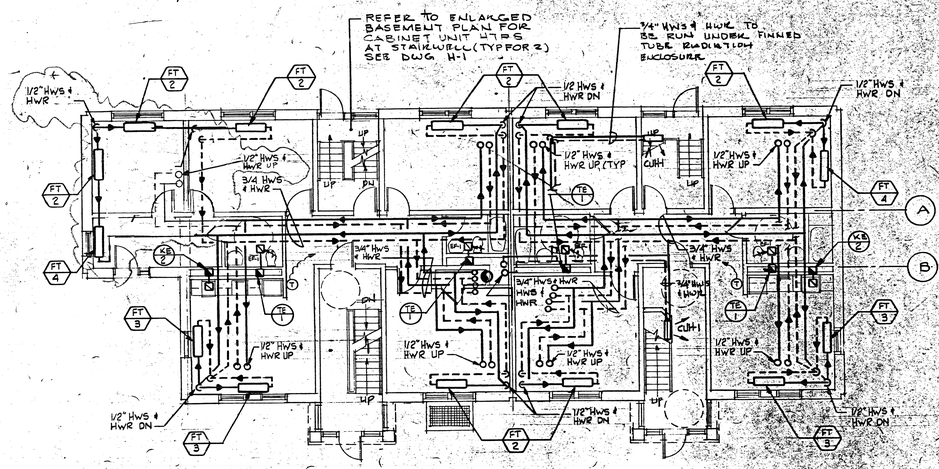
FIRST FLOOR PLAN BUILDING C

1/8" = 1'-0"



THIRD FLOOR PLAN BUILDING C (E SIMILAR)

1/8" = 1'-0"



FIRST FLOOR PLAN BUILDING E

1/8" = 1'-0"

NOTEWELL
ALL THERMOSTAT LOCATION & MOUNTING HEIGHT SHALL BE AS PER HANDICAP CODE

775 Pleasant Street #4
New Bedford, MA 02740
617 837-9347
Building Design Associates, Inc.

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO.E86-8

Hammer Kiefer and Todd, Inc.
Planners
Architects
501 Cambridge Street Cambridge MA 02141

COMMONWEALTH OF MASSACHUSETTS
STEPHEN CHRISTOPHER KIEFER
NO. 27691
REGISTERED PROFESSIONAL ENGINEER

No. 3650
CAMBRIDGE
MASS.

Drawing Title: HV FLOOR PLANS

Date: 1-10-89
Designed By: JT
Drawn By: JT
Scale: AS NOTED
Checked By: SC
Job Number: 8787

Revision:

Drawing Number: H-3

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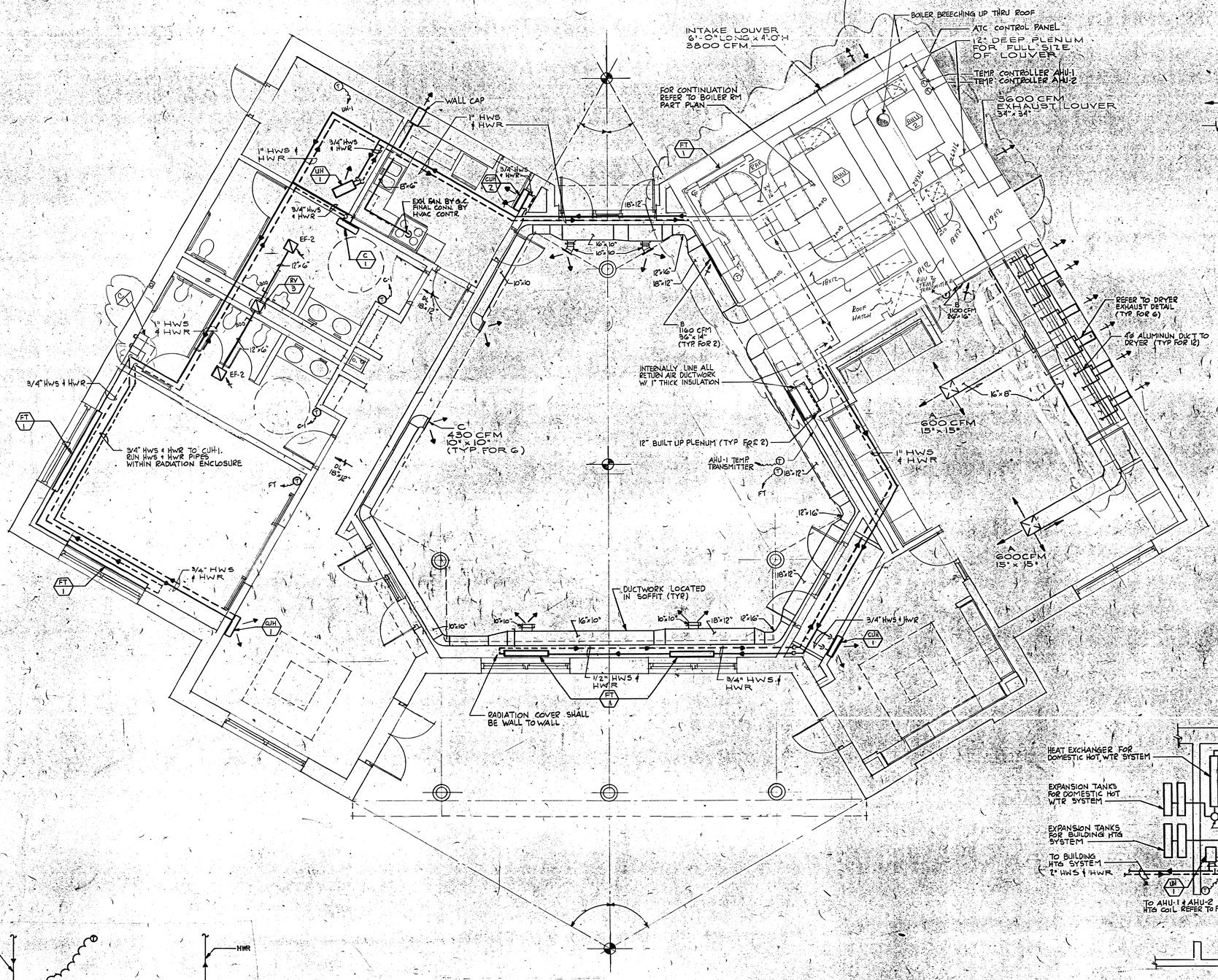
Bates Number Stamp Area
Do Not Use Stamp Below This Line

SHEKAR A. ASSOC, INC
775 Pleasant Street #14
Weymouth, MA 02189
617-337-8347

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO:E88-8

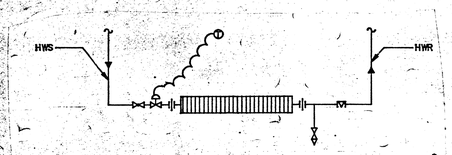
Hammer Kiefer and Todd, Inc.
Architects | Planners
501 Cambridge Street | Cambridge MA 02141



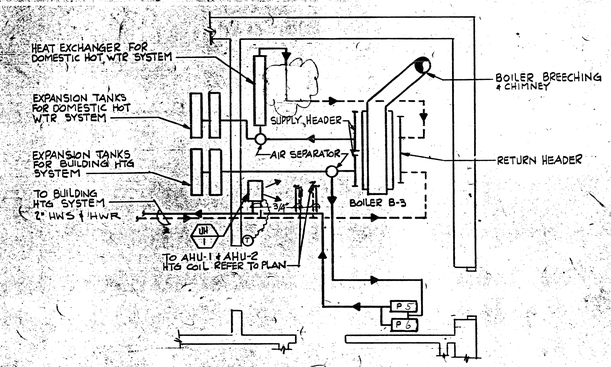
SECTION A-A
N. T. S.

DRYER EXHAUST DETAIL
NO SCALE
FINAL CONNECTION TO DRYER BY HVAC SUBCONTRACTOR

COMMONS BUILDING FLOOR PLAN
SCALE 1/4" = 1'-0"



TYPICAL RADIATION & CONVECTOR DETAIL
NO SCALE



BOILER RM PART PLAN
SCALE: 1/4"=1'-0"

Drawing Title: HV FLOOR PLAN COMMONS BUILDING

Date: 1-10-89 | Designed By: JT | Drawn By: JT | Checked By: SC
Scale: AS NOTED | Job Number: 1287

Revision:

Drawing Number: H-4

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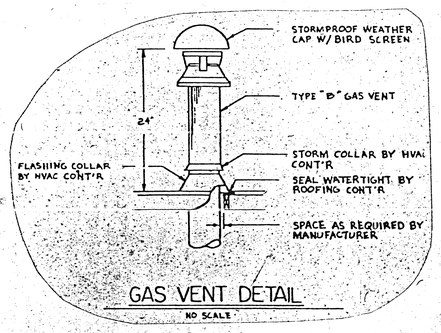
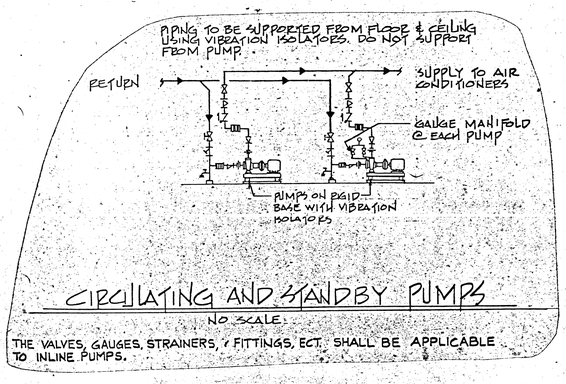
Boston Complex Text Digitization Facility
2/27/1991



GAS VENT DETAIL

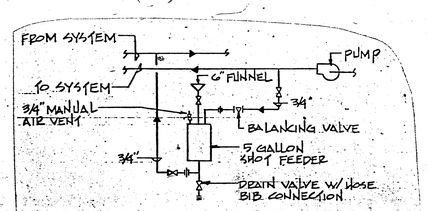
NO SCALE



CIRCULATING AND STANDBY PUMPS

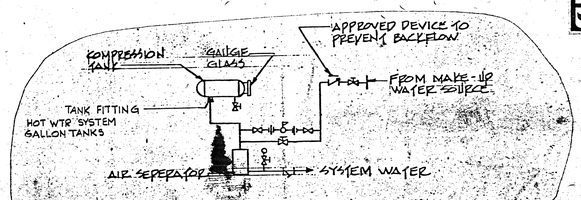
NO SCALE

THE VALVES, GAUGES, STRAINERS, FITTINGS, ECT. SHALL BE APPLICABLE TO INLINE PUMPS.



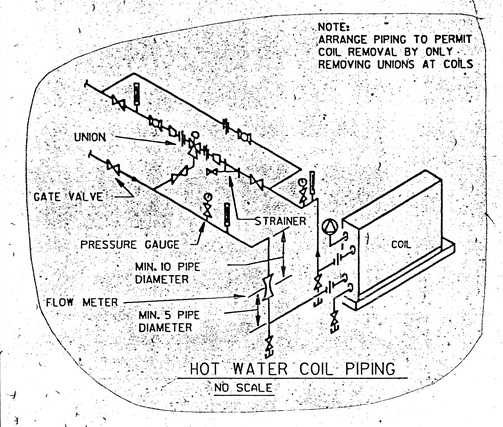
CLOSE SYSTEM SHOT FEEDER

NO SCALE



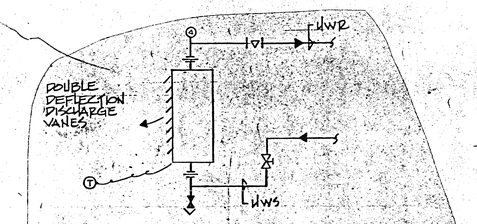
SYSTEM WATER PRESSURE AND AIR CONTROL

NO SCALE



HOT WATER COIL PIPING

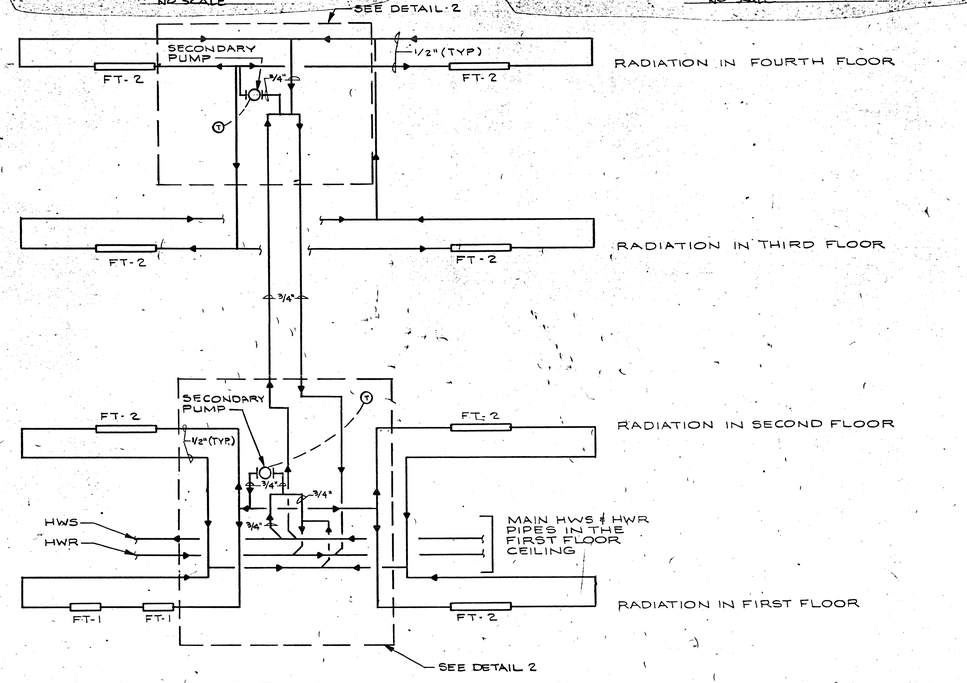
NO SCALE



HORIZONTAL UNIT HEATER DETAIL

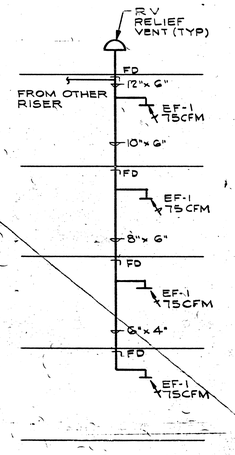
NO SCALE

CABINET UNIT HEATER, TOE SPACE HEATER (UH-1&2, CUH-1&2, TS-1&2)

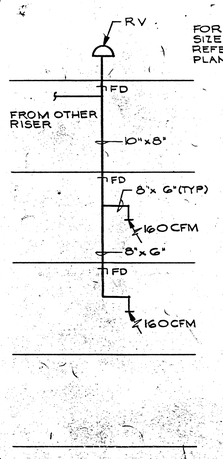


DETAIL 1

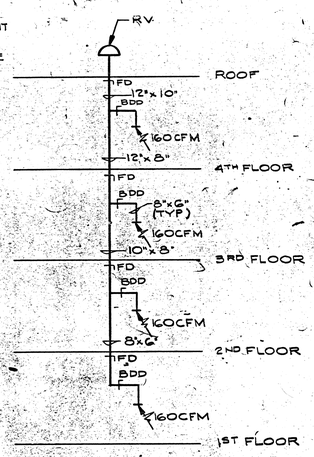
BUILDING A, B, D, F



TE/1 TOILET EXHAUST RISER

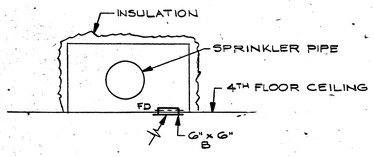


KE/1 KITCHEN EXHAUST RISER



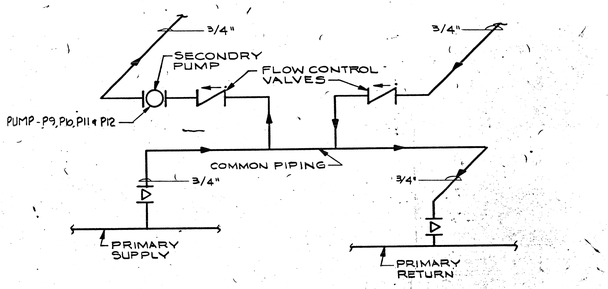
KE/2 KITCHEN EXHAUST RISER

NOTEWELL
KITCHEN HOOD EXHAUST FAN BY HOOD MANUFACTURER. FINAL DUCT CONNECTION TO HOOD BY HVAC SUBCONTRACTOR. TYPICAL TO ALL KITCHEN HOODS IN ALL THE BUILDINGS



SPRINKLER-PIPE BOOT DETAIL

TYPICAL FOR BUILDING A, B, C, D, E & F



PRIMARY-SECONDRY PIPING DETAIL

DETAIL-2

BUILDING A, B, C, D, E & F

SHEKAR & ASSOC. INC.
775 Pleasant Street #54
East Weymouth, MA 02189
617-337-4547

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO.E96-6

Hammer Kiefer and Todd, Inc.
Architects Planners
501 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS
BENJAMIN CHRISTOPHER
NO. 37661
REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
No. 3690
CAMBRIDGE MASS
COMMONWEALTH OF MASSACHUSETTS

Drawing Title:
HVAC DETAILS & RISERS

Date: 1-10-89
Designed By: JT
Drawn By: JT
Checked By: SC
Scale: AS NOTED
Job Number: 2197

Revision:

Drawing Number:
H-5

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10-116-132-105-DR-4019
Bates Computer Aided Architectural Facility
2/2/1991

AIR HANDLING UNIT SCHEDULE

EQUIPMENT DESIGN.	QUANT.	LOCATION	MANUF	MODEL No	CFM	RPM	EXT STATIC PRESS IN. OF WTR	FAN MOTOR DATA			HEATING COIL SECTION							REMARKS
								HP	V	PH	MIN COIL FACE VEL	EAT °F	LAT °F	MBH	EWT °F	LWT °F	MAX PD	
AHU-1	1	COMMONS	CARRIER	39B060	2600	1400	0.50	2.0	208	3	600	35	80	126.4	180	160		
AHU-2	1	COMMONS	CARRIER	39B040	1200	1550	0.50	1.0	208	3	600	35	80	58.3	180	160		

FINNED TUBE RADIATION *

SYMBOL	MANUF	MODEL No	TOTAL CAPACITY BTU/HR	GPM	ENT WTR TEMP °F	LVG WTR TEMP °F	HEATING ELEMENT				ENCLOSURE #		RUN OUT SIZE	VALVE SIZE	REMARKS
							TUBE	FINS	ACTIVE FIN LENGTH	ROWS	DEPTH	HEIGHT			
FT-1	SLANT-FIN	90-H 5-532	950/FT	.30	180	160	1¼"	32	3'-2"		5¼"	14"	–	–	FURNISH W/ BACK PLATE
FT-2				.60					6'-4"				–	–	
FT-3				.40					4'-8"				–	–	
FT-4				.20					2'-1"				–	–	
FT-5				.70					7'-5"				–	–	
FT-6				.50					5'-3"				–	–	
C-1	STERLING	SW-A-14 G14	4.1	0.4	180	160	–	–	–	–	6¼	14	–	–	–

* RADIATION COVER SHALL BE WALL TO WALL OR AS INDICATED ON ARCHITECTUAL DWG'S

RETURN & EXHAUST FAN SCHEDULE

SYMBOL	LOCATION	SERVICE	CFM	STATIC PRESS INCH OF WTR	RPM	TYPE	MANUFACTURE & MODEL No	MOTOR DATA			REMARKS
								HP / WATTS	V	PH	
EF-1	BATHROOMS	EXHAUST	100	0.38	1550	CEILING	AIR CONTROL PRODUCT 81 HORIZ	100	120	1	SPEED CONTROLLER
EF-2	COMMONS	EXHAUST	300	0.38	1050	CEILING	AIR CONTROL PRODUCT 35 HORIZ.	255	120	1	
EF-3	BOILER RM	EXHAUST	1200	0.25	1140	PROPELLER	ILG-PV 163/25	1/4	120	1	BACKDRAFT DAMPER SAFETY BOX GUARD
RAF-1	COMMONS	RETURN	2600	0.5	1545	INLINE	GREENHECK BSQ 14-7	3/4	208	3	INSULATED HOUSING, BELT DRIVE MOTOR COVER

PUMP SCHEDULE

SYMBOL	SERVICE	LOCATION	MANUF & MODEL No	GPM	HEAD	MOTOR DATA				REMARKS
						HP	V	PH	RPM	
P-1, P-2	PRIMARY HEATING	BLDG B,C,E	BELL & GOSSETT SERIES 60-16	35	40	3/4	208	3	1750	
P-3, P-4		BLDG A,D,F	BELL & GOSSETT SERIES 60-22	45	50	3	208	3		
P-5, P-6		COMMONS	BELL & GOSSETT SERIES 60-16	25	30	3/4	208	3		
P-7, P-8	SECONDARY HEATING	BLDG B,C,E	TACO - 007	3.0	10	1/25	115	1	1770	ZONE PUMP
P-9, P10		BLDG A,D,F	TACO - 007	3.0	10	1/25	115	1	1775	ZONE PUMP
P-11, P-12	PRIMARY HEATING	COMMONS	TACO - 008	5.0	10	1/25	115	1		
P-13, P-14	DOMESTIC HOT WATER	BLDG A,B,C, D E,F, COMM	BELL & GOSSETT SERIES 60-13-1½AA	10	15	1/2	208	3	1730	

BOILER & HEAT EXCHANGER SCHEDULE

SYMBOL	LOCATION	MANUF	BOILER MODEL No.	FUEL TYPE	AGA INPUT MBH	GROSS OUTPUT MBH	NET OUTPUT MBH	BOILER HP	VENT DIA.	HEAT EXCHANGE MODEL NUMBER	REMARKS
B-1	BSMT	HYDRO THERM	MR1000BP	GAS	1000	936	813.7	27.94	14"	MCI 25	BLDG A, D, F
B-2			MR 900BP		950	702	610.4	21.0	12"	MCI 25	BLDG B, C, E
B-3			MR1200BP		1200	936	813.9	27.94	14"	MCI 25	COMMONS BLDG

GRILLES, REGISTER & DIFFUSERS

EQUIPT. DESIGNATION	MFTR	SERVICE	TYPE	MODEL No.	REMARKS
A	TITUS	SUPPLY	DIFF.	TDC AG-95, OBD	
B		RETURN	REG.	25RLS AG95, OBD	
C		SUPPLY	REG	272 RS, AG 95 OBD	

120V, 1PH UNIT HEATER SCHEDULE

180°F INLET WATER 160°F OUTLET WATER

SYMBOL	BTUH	CFM	HP	STATIC PRESSURE INCH OF WTR	MANUF & MODEL No	RPM	REMARKS
UH-1	13,400	500	1/50	–	STERLING HS-118A	1550	1.9 GPM
UH-2	32,900	750	1/20	–	STERLING HS-136A	1350	3.6 GPM
* CUH-1	23,000	275	1/10	–	STERLING CUH-100-W1	850	2.4 GPM
* CUH-2	8670	72	3/10A	–	BEACON MORRIS WB2	—	
* TS-1	4010	36	1/2A	–	BEACON MORRIS KA1	—	
* TS-2	8130	72	3/10A	–	BEACON MORRIS WB2	—	

* W/INTEGRAL THERMOSTAT

RELIEF VENT SCHEDULE

SYMBOL	MANUF	THROAT SIZE IN INCHES	CFM	ROOF CURB IN INCHES	HOOD SIZE IN INCHES	PRESS. DROP	REMARKS
* RV-1	GREENECK FABRA HOOD	12"x12"	850	20"x20"	22"x24"x14"	.05	TOILET-EXHAUST
* RV-2							KITCHEN EXHAUST
* RV-3		12"x24"	650	20"x32"	22"x36"x14"	.06	KITCHEN EXHAUST
* RV-4							TOILET EXHAUST
* RV-5							COMMON TOILET EXHAUST

* W/ROOF CURB

LEGEND

PIPING

- INLINE CENTRIFUGAL PUMP
- BASEBOARD RADIATION
- GATE VALVE
- CHECK VALVE
- UNION
- PRESSURE REDUCING VALVE
- BALANCING VALVE
- CONTROL VALVE
- GLOBE VALVE
- THERMOMETER
- STRAINER
- STRAINER W/ BLOW OFF
- ELECTRIC THERMOSTAT
- PRESSURE GUAGE
- UNIT HEATER
- UNDERCUT DOOR
- LOUVER, DOOR OR WALL
- GRILLE, DIFFUSSER, REGISTER, CEILING
- GRILLE, EGGCRATE CEILING
- 90° DUCT ELBOW
- ACOUSTICAL LINING
- VOLUME DAMPER
- BACKDRAFT DAMPER
- FIRE DAMPER
- DUCT TRANSITION
- FLEXIBLE DUCT
- FLEXIBLE CONNECTION

GENERAL NOTES

1. Internally line ALL THE supply and return duct with 1" thick acoustical insulation.
2. Maximum lenght of insulated flexible fiberglass duct shall be 5'-0" from the grilles, registers and diffusers.
3. Coordinate with architectural drawings for exact location of all diffusers, registers and grilles.
4. Final location of all thermostats shall be coordinated with the architect.
5. All work shall be as per state, local and city codes and regulations.
6. Subcontractor shall coordinate their work with trades of others.
7. Prior to start of all work this subcontractor shall coordinate with arch. / owner on routing of pipes & ductwork.
8. Furnish all exhaust fans with speed control, wall cap or roof cap, ductwork, backdraft damper and other accessories to complete the system.
9. Co-ordinate all pipe location with architect and field conditions. Some minor allowances may have to be made to avoid structual members.
10. Install all piping and valves as high as possible.
11. Insulate all piping, supply and return insulation shall be 1" thick filberglass insulation with ASJ jacket.
12. This drawing is diagramatic. field conditions shall predict actual locations of all new piping and vertical runs.
13. All ductwork construction shall be accordance with SMACNA low pressure srtandards.
14. Pipe sizes shall be as shown on drawings.
15. All debris and dirt shall be removed from the work area.
16. The contractor shall visit the site before presenting proposal.
17. All air and water systems shall be balanced per Associated Air Balance concils latest standards, submit report for architects approval.
18. The HVAC Contractor shall engage and pay for the services of a air & water balancing contractor approved by the owner to perform the following:
    a. Balance all hot water piping.
    b. Balance all air system.
    c. submit balancing report for approval.
19. The Contractor shall instruct the Owner's Maintenance personel as to the proper operation and maintenance procedures of all new equipment and controls.
20. All high points of the hot water riser shall be fitted with air vents as shown on the drawing. All low points shall be fitted with 3/4" gate valve and hose bib connection.
21. Furnish and install, where shown and where required, balancing valves. Valves shall be as described in the above paragraph except that they shall be equipped with memory stop assembly.

SHEKAR & ASSOC. INC
775 Pleasant Street #14
East Weymouth, MA 02189
617 337-8347

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E86-8

Hammer Kiefer and Todd, Inc.
Planners
Architects
801 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS — JOSEPH T. CLARK — No. 20709 — REGISTERED PROFESSIONAL ENGINEER

JOSEPH T. CLARK — No. 3690 — CAMBRIDGE, MASS. — REGISTERED ARCHITECT

Drawing Title:
HV SCHEDULES, LEGEND & GENERAL NOTES

Date: 1-10-89 | Designed By: JT
Scale: AS NOTED | Drawn By: JT
Job Number: 2327 | Checked By: SC

Revision:

Drawing Number:
H-6

10-116-102-185-DR-4000
Bates Hangers, Inc. Providence, Rhode Island
2/2/1991

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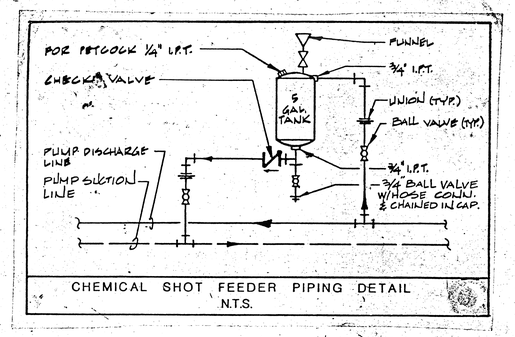
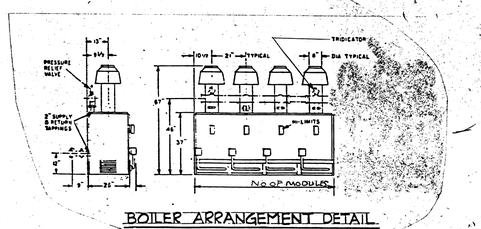
BOILER SYSTEM EQUIPTMENT TABLE

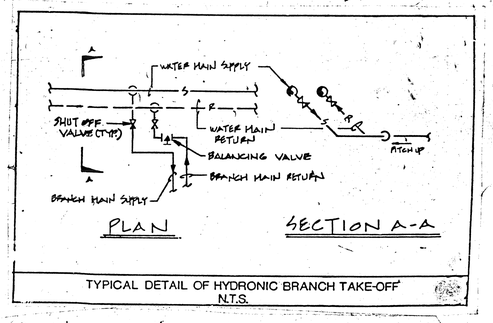
BUILDING NAME	BOILER MODULES		STACK INCHES	PUMPS		EXPANSION TANKS GALLONS		AIR SEPARATOR SIZE (GPM)		PIPE SIZE IN INCHES								REMARKS
	BUILDING HEATING	DOMESTIC HOT WATER		BUILDING HEATING	DOMESTIC HOT WATER	BUILDING HEATING	DOMESTIC HOT WATER	BUILDING HEATING	DOMESTIC HOT WATER	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	
B	1	2	12	P-1, P-2		(2) 24	(2) 24	29.0	30.0	2	2	2	2	2	2	2½	2	
A, D, F	2	2	14	P-3, P-4		(2) 24	(2) 24	34.0	37.0	2	2	2	2	2	2	2½	2	
C, E	1	2	12	P-1, P-2		(2) 24	(2) 24	29.0	30.0	2	2	2	2	2	2	2½	2	
COMMONS	2	2	14	P-5, P-6		(2) 15	(2) 15	22.0	22.5	2	2	2	2	2	2	2½	2	



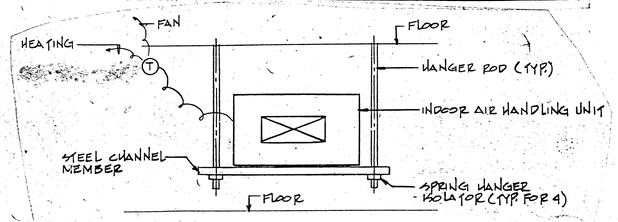
CHEMICAL SHOT FEEDER PIPING DETAIL
N.T.S.



BOILER ARRANGEMENT DETAIL

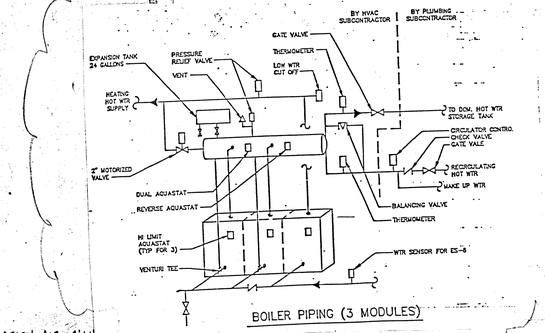


TYPICAL DETAIL OF HYDRONIC BRANCH TAKE-OFF
N.T.S.

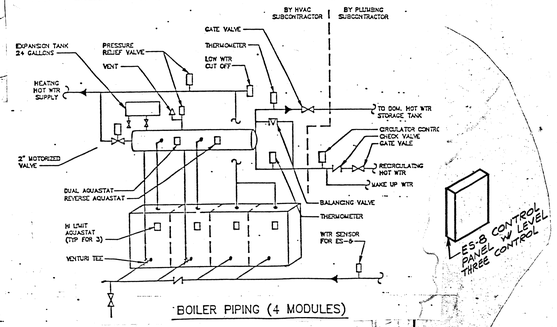


NOTES:
1. WEATHER PROTECT ALL THE STEEL MEMBERS WITH RUST PROOF PAINT.
2. FURNISH & INSTALL FLEXIBLE CONNECTIONS AT RETURN & SUPPLY ON AIR HANDLING UNIT.

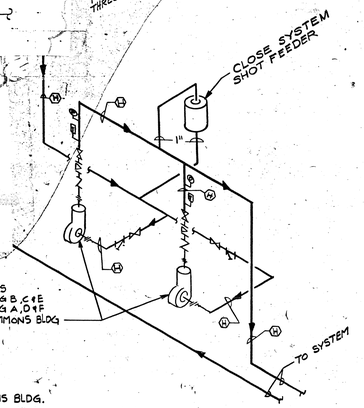
TYPICAL DETAIL FOR HORIZONTAL AIR HANDLING UNITS
NO SCALE



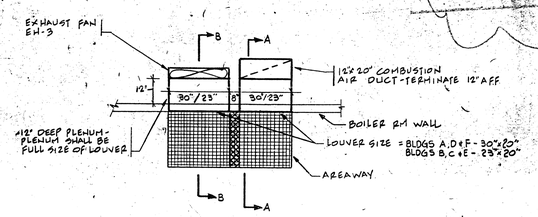
BOILER PIPING (3 MODULES)



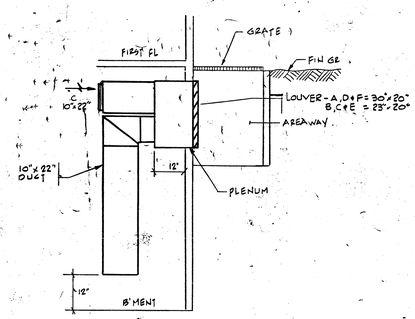
BOILER PIPING (4 MODULES)



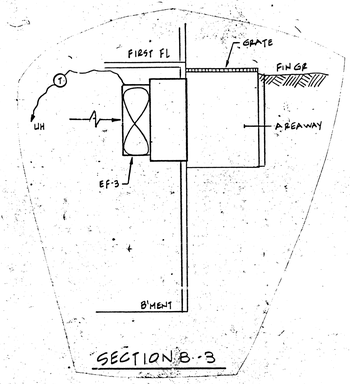
PRIMARY PUMPS
P1 & P2 FOR BLDGS B, C & E
P3 & P4 FOR BLDGS A, D & F
P11 & P12 FOR COMMONS BLDG



PLAN



SECTION 'A-A'

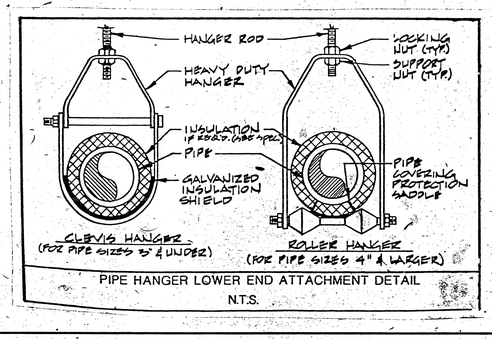


SECTION B-3

BOILER ROOM VENTILATION

TYPICAL FOR BUILDING A, B, C, D, E, F

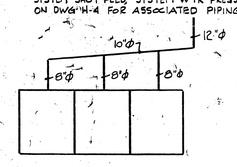
NOTES
1. IN COMMONS BUILDING LOUVER SHALL BE LOCATED ABOVE GRADE
2. COORDINATE WITH ARCHITECTS FOR LOUVER LOCATION.



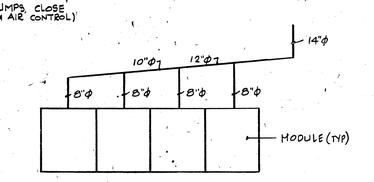
PIPE HANGER LOWER END ATTACHMENT DETAIL
N.T.S.

BOILER SCHEMATICS

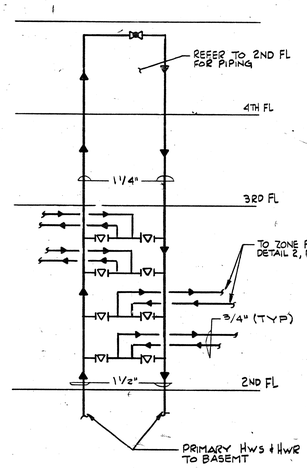
1. TYPICAL FOR BUILDINGS A,B,C,D,E,F & COMMONS BLDG. REFER TO TABLE 1 ON DWG H-7 FOR DETAILS
2. REFER TO DETAILS (CIRCULATING & STAND BY PUMPS, CLOSE SYSTEM SHOT FEED, SYSTEM WTR PRESSURE & AIR CONTROL) ON DWG H-4 FOR ASSOCIATED PIPING



TYP BREECHING DETAIL FOR BUILDINGS B, C & E



TYP BREECHING DETAIL FOR BUILDINGS A, D, F & COMMONS BLDG



DETAIL-1 PRIMARY HWS & HWR SCHEMATIC BLDGS C & E
NO SCALE

SHEKAR & ASSOC. INC
735 Pleasant Street #24
East Weymouth, MA 02189
617 337-8347

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. 88-8

Hammer Kiefer and Todd, Inc.
Planners
Architects
501 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS
ROBERT CRAIG KIEFER
No. 27656
REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
ALAN T. BRAY
No. 3690
CAMBRIDGE MASS.

Drawing Title:
SCHEDULES AND FLOW DIAGRAMS

Designed By: JT
Drawn By: JT
Checked By: AG
Date: 1-10-89
Scale: AS NOTED
Job Number: 2187

Revision:

Drawing Number:
H-7

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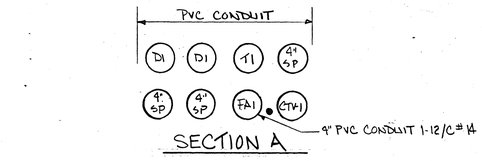
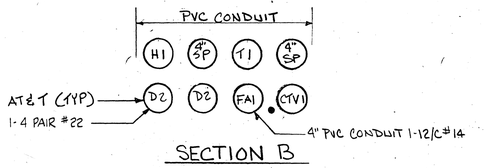
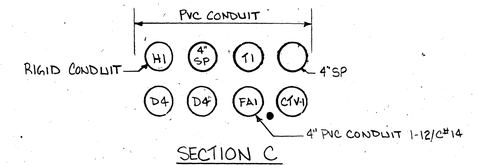
05-115-02-1-185-DR-4021
Bass Rocks Elementary School Facility
2/2/1991



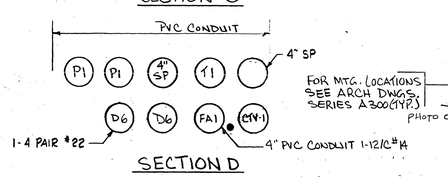
SECTION A



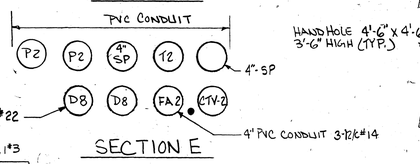
SECTION B



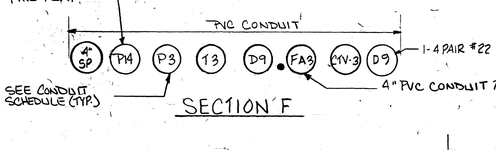
SECTION C



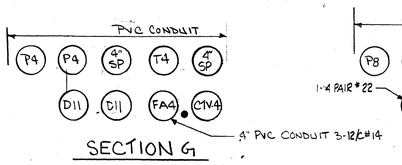
SECTION D



SECTION E



SECTION F



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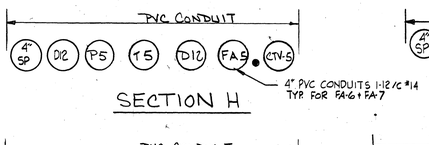

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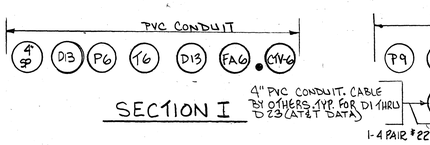

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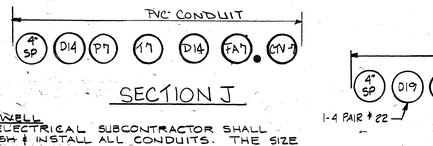

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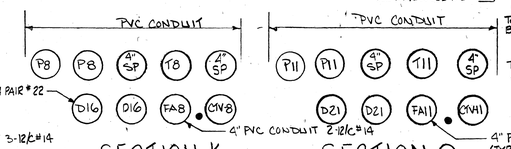

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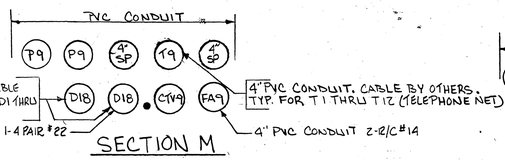

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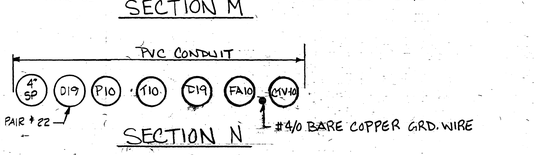
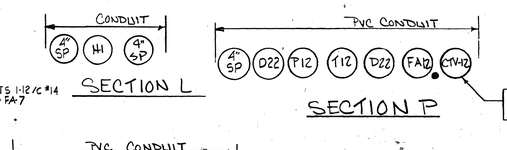


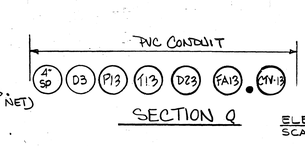
SECTION N

SECTION O



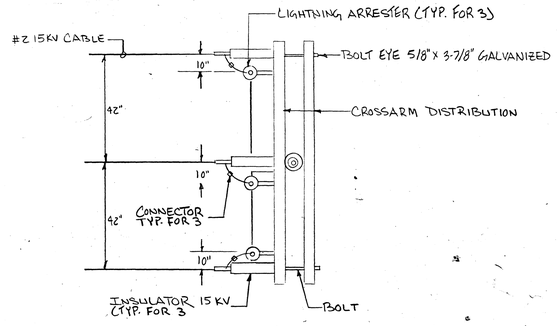
SECTION L

SECTION P

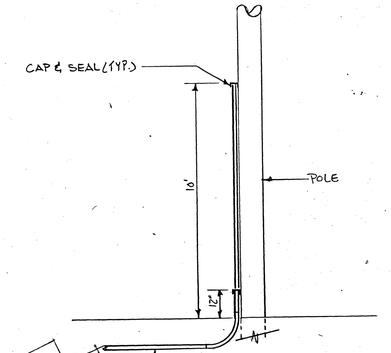


SECTION Q

NOTEWELL
THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH & INSTALL ALL CONDUITS. THE SIZE OF ALL CONDUITS SHALL BE 4" UNLESS OTHERWISE NOTED.



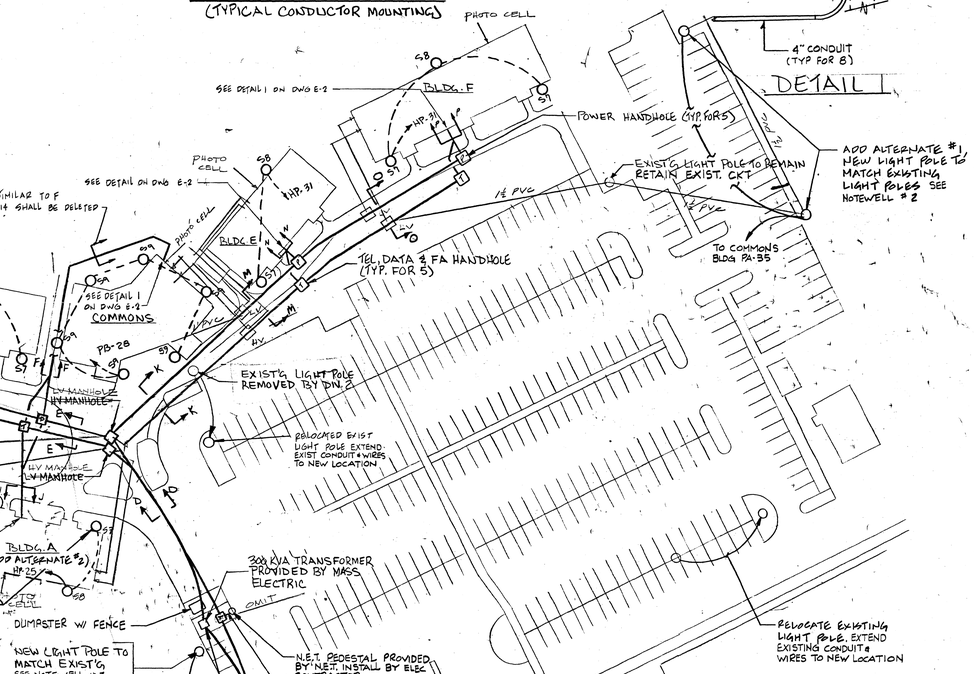
PLAN EXISTING POLE
(TYPICAL CONDUCTOR MOUNTING)



DETAIL 1

NOTES
1. SEE DWG. E2 FOR DETAILS

NOTEWELL
1. MINIMUM SIZE OF ALL UNDERGROUND CONDUITS SHALL BE 4" UNLESS OTHERWISE INDICATED
2. NEW LIGHT POLES TO MATCH EXISTING SHALL BE HUBBEL FIXTURE No. MGL-10005-12B-4024HD-PE W/ HUBBEL POLE No SSP-5351-PO-M20

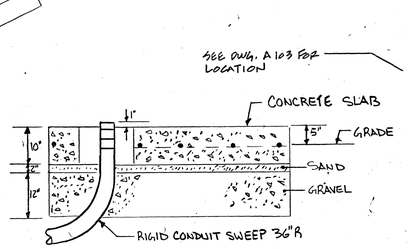


ELECTRIC UTILITY PLAN
SCALE 1" = 40'-0"

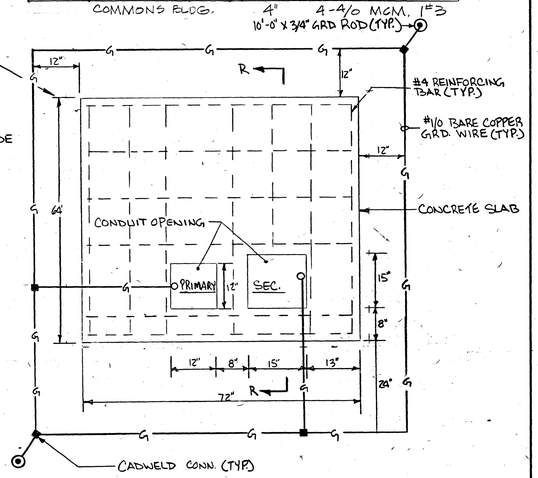
BLDG. 'D' 4" 4-750 MCM, 1#3

CONDUIT SCHEDULE

NO	DESCRIPTION	CONDUIT SIZE	CABLE SIZE
H1	PRIMARY	4"	3-#2 15KV CU.
P1	SECONDARY FEEDER	6"	8-750MCM, 1# 3/0
P2	SECONDARY FEEDER	6"	8-750MCM, 1# 3/0
P3	COMMONS BLDG. (POWER)	4"	4-~~2/0~~ 4/0, 1#4
P4	SECONDARY FEEDER	6"	8-750 MCM, 1# ~~3/0~~
P5	BLDG. "G" (POWER)	4"	4-500 MCM, 1#3
P6	BLDG. "C" (POWER)	4"	4-~~250~~ 350 MCM, 1#4
P7	BLDG. "B" (POWER)	4"	4-~~250~~ 350 MCM, 1#4
P8	SECONDARY FEEDER	6"	8-750 MCM, 1# 3/0
P9	SECONDARY FEEDER	6"	8-750 MCM, 1# 3/0
P10	BLDG. "E" (POWER)	4"	4-~~250~~ 350 MCM, 1#4
P11	SECONDARY FEEDER	6"	8-750 MCM, 1# 3/0
P12	BLDG. "F" (POWER)	4"	4-~~500~~ 600 MCM, 1#3
P13	BLDG. "A" (POWER)	4"	4-500 MCM. 1# 3
	COMMONS BLDG.	4"	4-4/0 MCM. 1#3



SECTION R



PLAN TRANSFORMER PAD

SHEKAR & ASSOC., INC.
775 Pleasant Street #14
East Weymouth, MA 02189
617-337-8347

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. 838-8

Hammer Kiefer and Todd, Inc.
Architects Planners
501 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS — ANTHONY DeFRANCESCO — NO. 27881 — REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT — ALLEN T. REED — No. 3690 — CAMBRIDGE — U.S.A.

Drawing Title:
ELECTRICAL UNDERGROUND SERVICE AND DISTRIBUTION

Date: 1-10-89 | Designed By: JC | Drawn By: JC | Checked By: SC | Scale: AS NOTED | Job Number: 2287

Revision:

Drawing Number:
E-1

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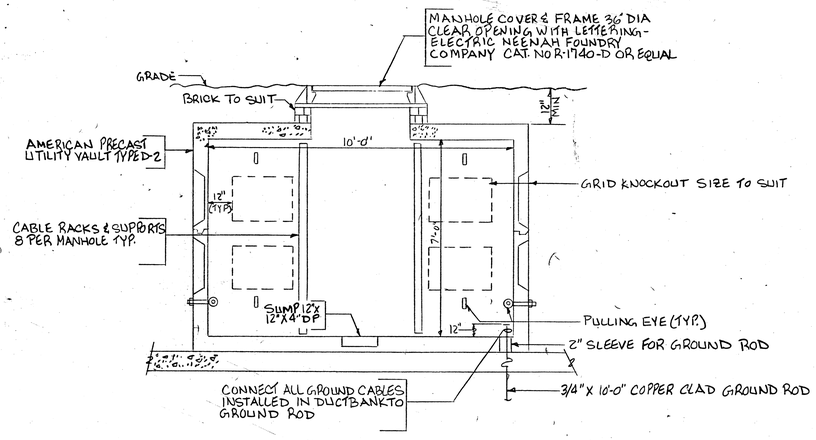
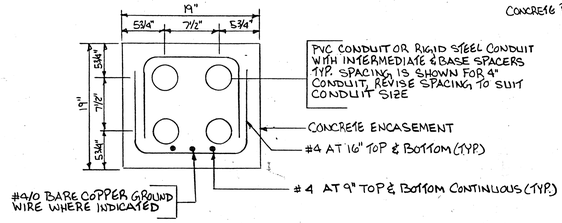
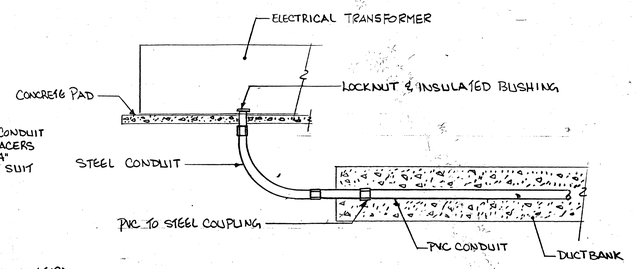
Bidder Complete Residence Facility
10-116-152-155-DR-4022
2/21/91



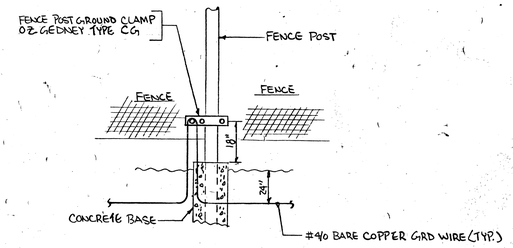
ELECTRICAL MANHOLE TYPE D2
SCALE: NONE
HIGH VOLTAGE MANHOLE SHOWN (LOW VOLTAGE SHALL BE TYPE D2 MTD CORNER TO CORNER)



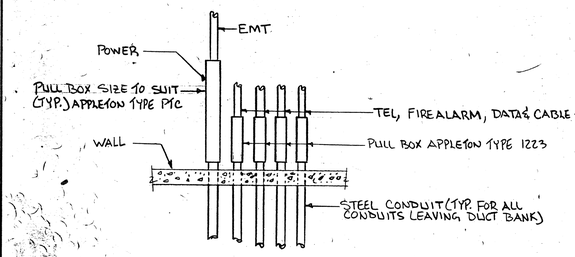
TYPICAL DUCTBANK REINFORCEMENT



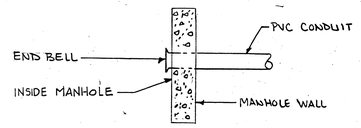
DETAIL 2
SCALE: NONE



DETAIL 3
SCALE: NONE
(FENCE POST GROUNDING)



DETAIL 1
SCALE: NONE



DETAIL-5

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SHEKAR & ASSOC. INC.
775 Pleasant Street #14
East Weymouth, MA 02189
617 337-8347

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E86-8

Hammer Kiefer and Todd, Inc.
Architects Planners
501 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS
SESHAPPA CHANDRASHEKAR
NO. 27891
REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
ALLAN T. BAER
No. 3690
CAMBRIDGE MAS.
COMMONWEALTH OF MASSACHUSETTS

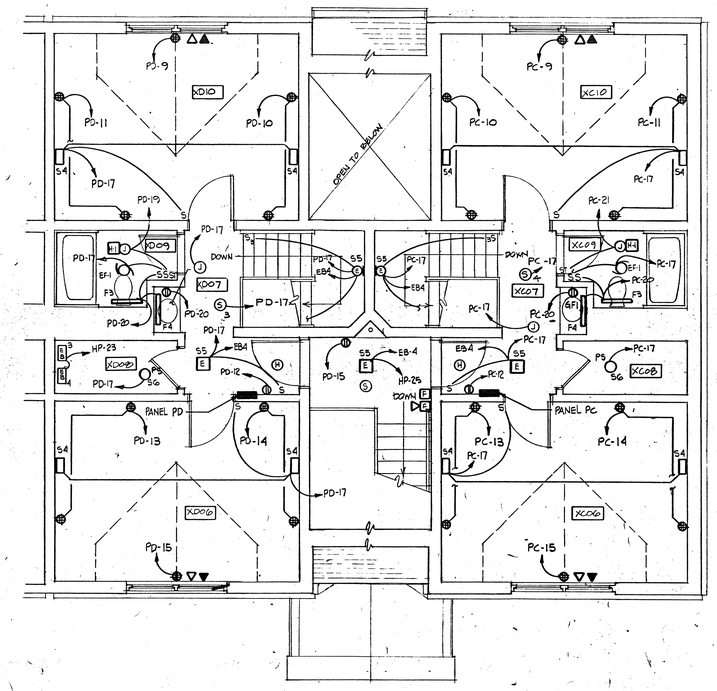
Drawing Title:
ELECTRICAL UNDERGROUND SERVICE AND DISTRIBUTION

Date: 1-10-89
Designed By: JT
Scale: AS NOTED
Drawn By: JT
Job Number: 2287
Checked By: SC

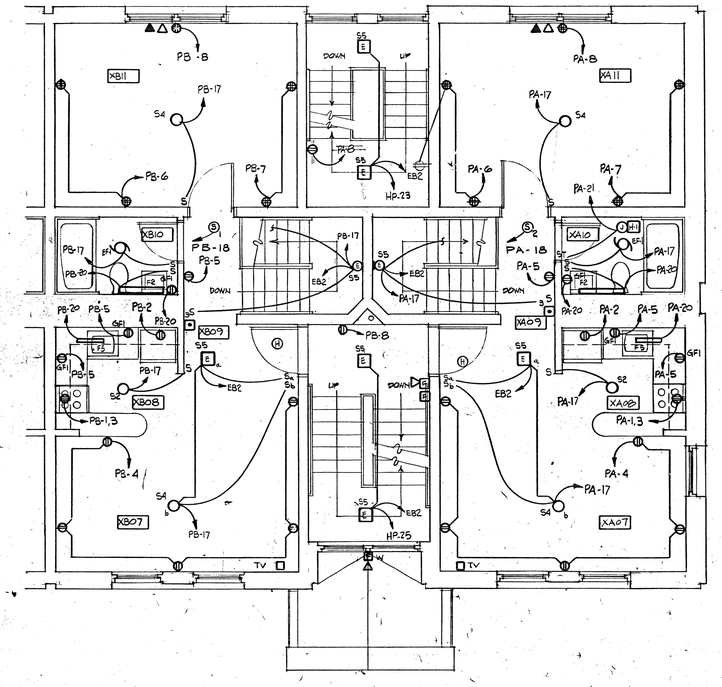
Revision:

Drawing Number:
E-2

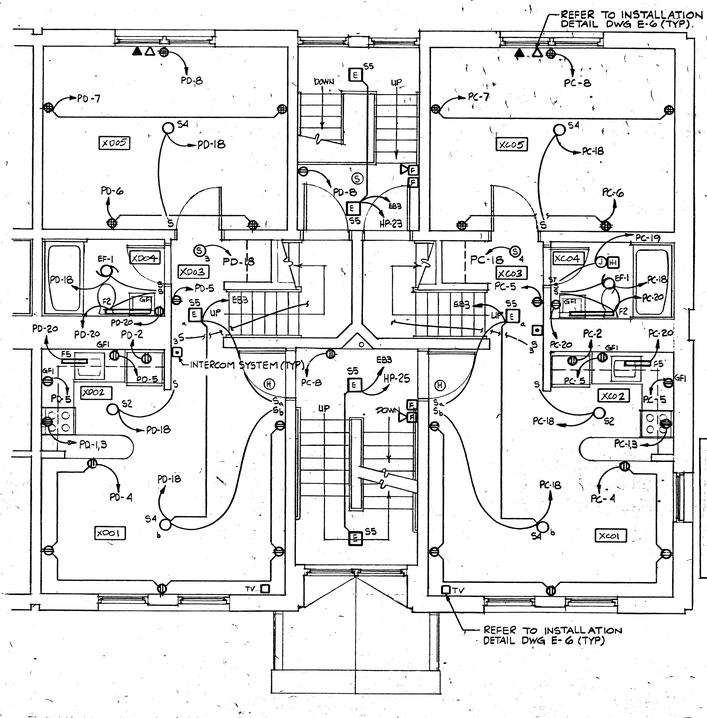
10-116-152-195-DR-4023
Bates Complex New Residence Facility
2/2/1991



FOURTH FLOOR PLAN BUILDINGS A,B,D & F (BUILDING A - ADD ALT. #2) (BUILDING B - ADD ALT #1) 4



SECOND FLOOR PLAN BUILDINGS A,B,D & F (BUILDING A - ADD ALT #2) (BUILDING B - ADD ALT #1) 2

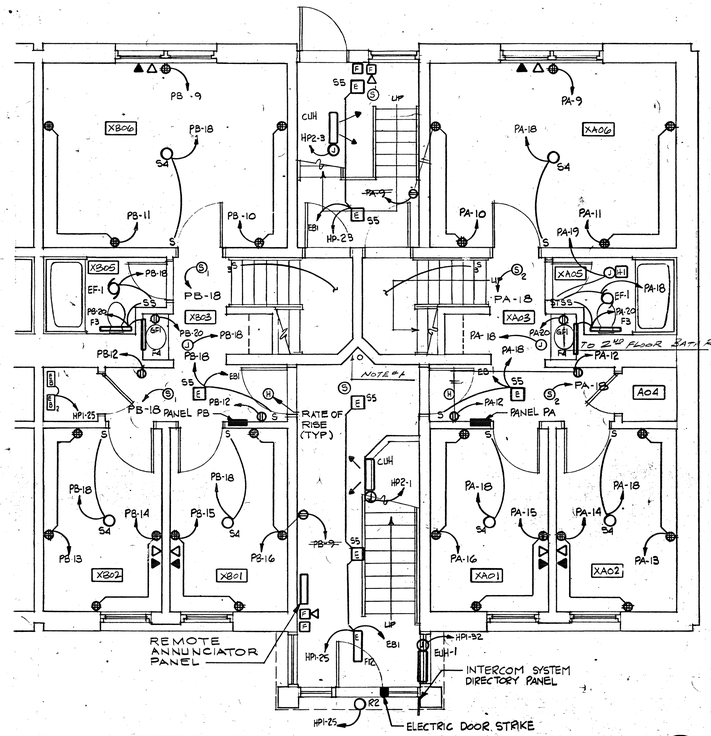


NOTEWELL

FLOOR PLAN REFLECTS TYPICAL MODULE.,
ACTUAL NUMBER OF MODULES PER BLDG IS AS FOLLOWS:

BLDG A - 3 MODULES - 12 APT. (ADD ALTERNATE #2)
BLDG B - 2 MODULES - 8 APT. (ADD ALTERNATE #1)
BLDG C - 2 MODULES - 8 APT.
BLDG D - 3 MODULES - 12 APT.
BLDG E - 2 MODULES - 8 APT.
BLDG F - 3 MODULES - 12 APT.

THIRD FLOOR PLAN BUILDINGS A,B,D & F (BUILDING A - ADD ALTERNATE #2) (BUILDING B - ADD ALTERNATE #1) 3
1/4"=1'-0"



NOTE
1.) INTERLOCK ALL SELF CONTAINED HARD WIRED SMOKE DETECTORS (S) WITHIN THE UNIT (TYP. FOR ALL UNITS)

NOTE #1: THIS AREA WAS USED FOR ALL FIRE ALARM CONDUITS COMMON IN A,B,D,F

NOTEWELL

FOR ROUTING OF ALL EXPOSED CONDUITS REFER TO ARCHITECTUAL REFLECTED CEILING PLAN

EUH-1
CHROMALOX MODEL No FWH-1151
120V, 1ø, 3W, 5120 BTU/HR FURNISH W/ INTEGRAL THERMOSTAT

FIRST FLOOR PLAN BUILDINGS A,B,D & F (BUILDING A - ADD ALTERNATE #2) (BUILDING B - ADD ALTERNATE #1) 1
1/4"=1'-0"

SHEKAR & ASSOC. INC.
715 Pleasant Street #14
New Bedford, MA 02740
617 337-4647

No.	Date	Revision

Project:
SALEM STATE COLLEGE NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E86-8

Hammer Kiefer and Todd, Inc.
Architects Planners
501 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS
BENJAMIN CHARLES KIEFER
No. 21881
REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
JOAN T. HAMMER
No. 3690
CAMBRIDGE MASS.
COMMONWEALTH OF MASSACHUSETTS

Drawing Title:
ELECTRICAL FLOOR PLAN

Date: 1-10-89 Designed By: JT
Drawn By: JT
Scale: AS NOTED Checked By: SC
Job Number: 8287

Revision:

Drawing Number:
E-3

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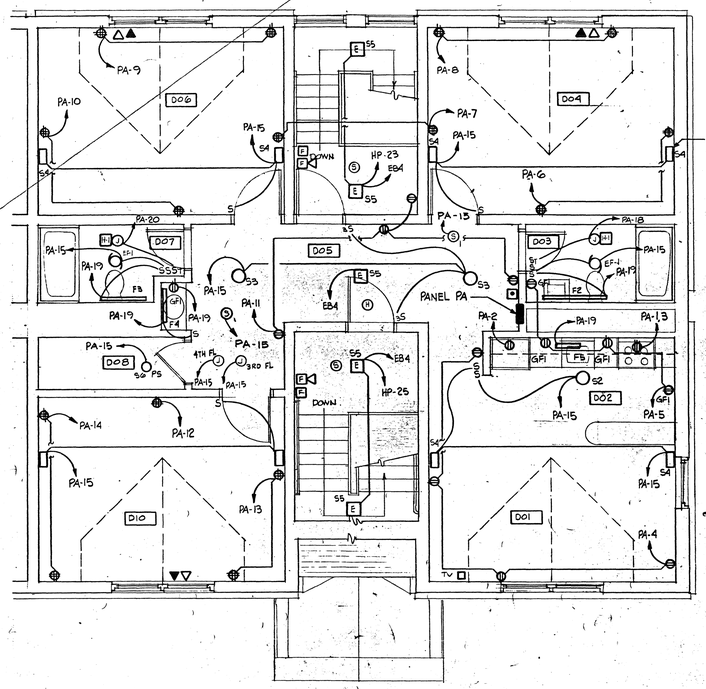
10-1162-165-2R-4024
Bates Complex, New Residence Facility
ARTIFI



FOURTH FLOOR PLAN BUILDINGS C & E

1/4" = 1'-0" (4)

SECOND & THIRD FLOOR PLAN BUILDINGS C&E

1/4" = 1'-0" (3)

FIRST FLOOR PLAN BUILDING E

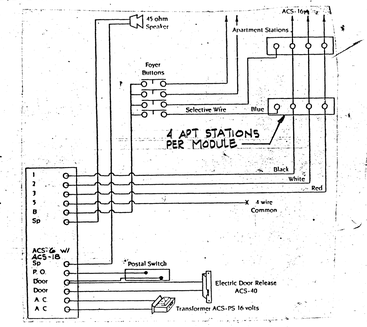
1/4" = 1'-0" (2)

FIRST FLOOR PLAN BUILDINGS C & E - BARRIER FREE APARTMENT

1/4" = 1'-0" (1)

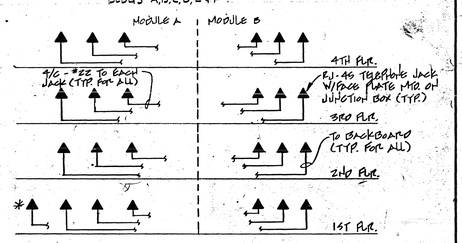
FLOOR PLAN TYPICAL FOR TWO (2) FOR BLDG C

NOTEWELL:
BLDGS A, D & F - 3 MODULES EACH BLDG, TOTAL OF 12 APT. EACH BLDG.
BLDGS B, C & E - 2 MODULES EACH BLDG. TOTAL OF 8 APT. EACH BLDG.



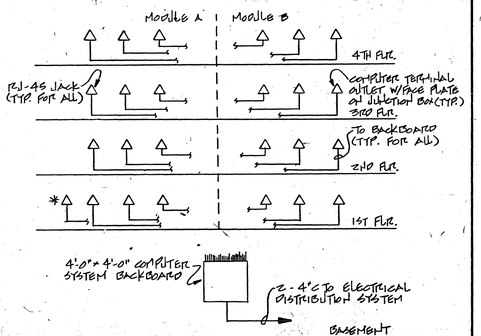
MODULE INTERCOM RISER DIAGRAM

BLDGS - A, B, C, D, E & F



TELEPHONE RISER DIAGRAM

BLDGS. C & E



COMPUTER RISER DIAGRAM

BLDGS. C & E

NOTE
1. INTERLOCK ALL SELF CONTAINED HARD WIRED SMOKE DETECTORS (S) WITHIN THE UNIT (TYP. TO ALL THE UNITS)

NOTEWELL
FOR ROUTING OF ALL EXPOSED CONDUIT REFERT TO ARCHITECTURAL REFLECTED CEILINGS PLAN

SHEKAR & ASSOC. INC
735 Pleasant Street #14
Belmont, MA 02178
617 337-8347

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E86-8

Hammer Kiefer and Todd, Inc.
Architects Planners
501 Cambridge Street Cambridge MA 02141

COMMONWEALTH OF MASSACHUSETTS — BENJAMIN CHARBONNEAUX — NO. 27691 — REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT — ALAN T. KIEFER — No. 3690 — CAMBRIDGE, MASS. — COMMONWEALTH OF MASSACHUSETTS

Drawing Title:
ELECTRICAL FLOOR PLAN

Designed By: JT
Drawn By: JT
Checked By: BC
Date: 1-10-89
Scale: AS NOTED
Job Number: 2207

Revision:

Drawing Number:
E-4

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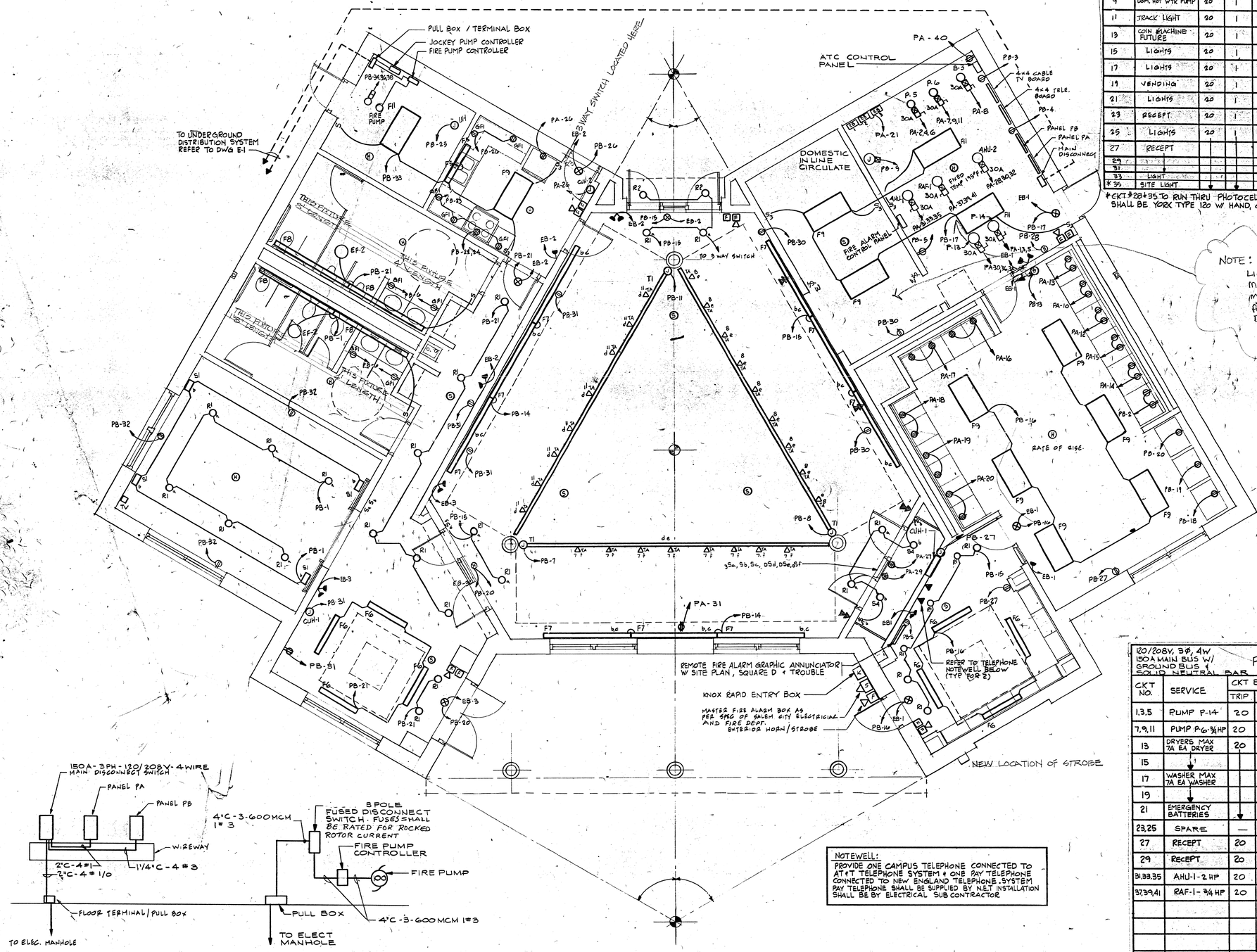
10-115-152-155-DR-0025
Bates Computer Graphics Facility
2/21/91



120/208V, 3PH, 4W 100A MAIN W/ GROUND BUS & SOLID NEUTRAL BAR	COMMONS BUILDING PANELBOARD SCHEDULE PB	42 CIRCUIT BREAKER PANEL 100A, 3PH MAIN CKT BKR

CKT NO.	SERVICE	CKT BKR TRIP	CKT BKR POLE	WIRE SIZE	WIRE SIZE	CKT BKR TRIP	CKT BKR POLE	SERVICE	CKT NO
1	LIGHTS	20	1	1/2"C-2#12, 1#12G	1/2"C-2#12, 1#12G	20	1	DRYER	2
3	CABLE TV BOARD	20	1			20	1	TELEPHONE BOARD	4
5	FIRE ALARM PANEL	20	1			20	1	BATHROOM GFI RECEPT.	6
7	TRACK LIGHTS	20	1			20	1	TRACK LIGHTS	8
9	DOM. HOT WTR PUMP	20	1			20	1	SPARE	10
11	TRACK LIGHT	20	1			20	1	LIGHTS	12
13	COIN MACHINE FUTURE	20	1			20	1	LIGHTS	14
15	LIGHTS	20	1			20	1	LIGHTS	16
17	LIGHTS	20	1			20	1	VENDING	18
19	VENDING	20	1			20	1	VENDING	20
21	LIGHTS	20	1		3/4"C-2#6, 1#10	60	2	RANGE 10K	22,24
23	RECEPT.	20	1		1/2"C-2#12, 1#12G	20	1	RECEPT	26
25	LIGHTS	20	1			20	1	EXT. LIGHTS	28 *
27	RECEPT							RECEPT	30
29									32
31									
33	LIGHT								
* 35	SITE LIGHT			1"C-2#8, 1#8GRD	3/4"C-4#12	20	3	JOCKEY PUMP	34,36,38

*CKT #28+35 TO RUN THRU PHOTOCELL & TIME CLOCK. PHOTOCELL SHALL BE YORK TYPE 210 & TIME CLOCK SHALL BE YORK TYPE 120 W HAND, OFF, AUTO OVERIDE SWITCH

NOTE:
LIGHT FIXTURES IN STORAGE AND MECHANICAL ROOM HAVE BEEN MOVED AND OR CHANGED TO PORCELIN BULB TYPE DUE TO DOCK WORK INTERFERENCE

120/208V, 3Φ, 4W 150A MAIN BUS W/ GROUND BUS & SOLID NEUTRAL BAR	COMMONS BUILDING. PANELBOARD SCHEDULE - PA	42 CKT BKR PANEL 125A - 3PH MAIN CIRCUIT BREAKER

CKT NO.	SERVICE	CKT BKR TRIP	CKT BKR POLE	WIRE SIZE	WIRE SIZE	CKT BKR TRIP	CKT BKR POLE	SERVICE	CKT NO
1,3,5	PUMP P-14	20	3	3/4"C-4#12	3/4"C-4#12	20	3	PUMP P-5	2,4,6
7,9,11	PUMP P-6-3/4 HP	20	3	3/4"C-4#12	1/2"C-2#12, 1#12G	20	1	BOILER B-3	8
13	DRYERS MAX 7A EA DRYER	20	1	1/2"C-2#12, 1#12G		20	1	DRYERS MAX 7A EA DRYER	10
15									12
17	WASHER MAX 7A EA WASHER								14
19								WASHERS MAX 7A EA WASHER	16
21	EMERGENCY BATTERIES								18
23,25	SPARE	—	2	——					20
27	RECEPT	20	1	1/2"C-2#12, 1#12G	——			SPARE	22
29	RECEPT	20	1	1/2"C-2#12, 1#12G	——				24
31,33,35	AHU-1-2 HP	20	3	3/4"C-4#12	1/2"C-2#12, 1#12G			REFRIGER.	26
37,39,41	RAF-1-3/4 HP	20	3	3/4"C-4#12	3/4"C-4#12	20	3	AHU-2-1 HP	28,30,32
					3/4"C-4#12	20	3	PUMP P-13	34,36,38
					1/2"C-2#12, 1#12G	20	1	ATC CONTROL PANEL	40
					——	2	1	SPARE	42

SINGLE LINE DIAGRAM
NO SCALE

COMMONS BUILDING FLOOR PLAN
SCALE 1/4" = 1'-0"

NOTEWELL:
PROVIDE ONE CAMPUS TELEPHONE CONNECTED TO AT&T TELEPHONE SYSTEM & ONE PAY TELEPHONE CONNECTED TO NEW ENGLAND TELEPHONE SYSTEM. PAY TELEPHONE SHALL BE SUPPLIED BY N.E.T. INSTALLATION SHALL BE BY ELECTRICAL SUB CONTRACTOR

SHEKAR & ASSOC. INC
775 Pleasant Street #14
East Weymouth, MA 02189
617 337-9347

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E88-8

Hammer Kiefer and Todd, Inc.
Architects Planners
501 Cambridge Street Cambridge, MA 02141

SINGAPORE MASSACHUSETTS NO. 27981 REGISTERED PROFESSIONAL ENGINEER

No. 3690 CAMBRIDGE MASS. REGISTERED ARCHITECT JOHN T. KIEFER

Drawing Title:
ELECTRICAL FLOOR PLAN COMMONS BLDG

Date: 1-10-89 Designed By: JT
Scale: AS NOTED Drawn By: JT
Job Number: 2247 Checked By: SC

Revision:

Drawing Number:
E-5

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10-115-152-195-238-4208
Bates Complex New Residence Faculty
2247.001

TYPICAL TOWNHOUSE UNIT PANEL BLDGS A, B, D & F

100 A MAIN BUS
120/208V, 1PH
3W, W/ GRD BUS & SOLID NUETRAL BAR

24 CIRCUIT BREAKER PANEL

PANELBOARD SCHEDULE - PA, PB, PC & PD

CKT NO.	SERVICE	CKT BKR TRIP	CKT BKR POLE	WIRE SIZE	WIRE SIZE	CKT BKR TRIP	CKT BKR POLE	SERVICE	CKT NO
1,3	RANGE	60	2	3/4"C-2#6,1#10G	1/2"C-2#12,1#12G	20	1	REFRIG	2
5	RECEPT	20	1	1/2"C-2#12,1#12G				RECEPT	4
7									6
9									8
11									10
13									12
15									14
17	LIGHTS								16
19	CEILING HEAT	20	1			20	1	LIGHT & ZONE PUMP	18
21		20	1			20 *	1	LIGHT	20
23	SPARE	20	1					SPACE	22-24

* GROUND FAULT INTERUPTOR TYPE, CKT BKR

120/208V, 3 PH, 4W
150A MAIN BUS W/ GROUND BUS & SOLID NEUTRAL BAR

42 CKT BKR PANEL

PANELBOARD SCHEDULE - HP-1

CKT NO.	SERVICE	CKT BKR TRIP	CKT BKR POLE	WIRE SIZE	WIRE SIZE	CKT BKR TRIP	CKT BKR POLE	SERVICE	CKT NO
1,3,5	PUMP P-1 HP	20	3	3/4"C-4#12	3/4"C-4#12	20	3	PUMP P-2 HP	2,4,6
7,9,11	PUMP P-3	20	3	3/4"C-4#12	3/4"C-4#12	20	3	PUMP P-4 HP	8,10,12
13	PUMP HWR-1 1/4 HP	20	1	1/2"C-2#12,1#12G	1/2"C-2#12,1#12G	20	1	PUMP HWR-2 1/12 HP	14
15	SUMP BP-1 1/3 HP	20	1			20	1	BOILER	16
17	UNIT HEATER	20	1			20	1	CABLE TV BOARD	18
21	TELEPHONE BOARD	20	1			20	1	FIRE ALARM CONTROL PANEL	20
23	LIGHT MODULE 1 REAR	20	1			20	1	ATC CONTROL	22
25	LIGHT MODULE 1 FRONT	20						LIGHT	24
27	LIGHT MODULE 2 REAR							COMPUTER SYST.	26
29	LIGHT MODULE 2 FRONT					20	1	LIGHT	28
31 *	EXTERIOR BLDG LIGHT					20	1	EF-3	30
33	CUH-1 MODULE 1 FRONT					20	1	EUH MODULE 1 FRONT	32
35	CUH MODULE 1 BACK							RECEPT	34
37,39	SPACE							SPARE	36-42
19	SPARE	20	1						

* CKT No 31 SHALL RUN THRU PHOTO CELL & TIME CLOCK. PHOTO CELL SHALL BE YORK TYPE 21-0 TIME CLOCK SHALL BE YORK TYPE W120 W/ HAND OFF AUTO OVER RIDE SWITCH

TYPICAL FLAT BLDG C & E

100A MAIN BUS
120/208V, 1PH
3W, W/ GRD BUS & SOLID NUET. BAR

24 CIRCUIT BREAKER PANEL

PANELBOARD SCHEDULE PA

CKT NO.	SERVICE	CKT BKR TRIP	CKT BKR POLE	WIRE SIZE	WIRE SIZE	CKT BKR TRIP	CKT BKR POLE	SERVICE	CKT NO
1,3	RANGE	60	2	3/4"C-2#6,1#10G	1/2"C-2#12,1#12G	20	1	REFRIG.	2
5	RECEPT	20	1	1/2"C-2#12,1#12G				RECEPT	4
7									6
9									8
11									10
13									12
15	LIGHT & ZONE PUMP								14
*17	RECEPT							RECEPT	16*
18	LIGHT	20 **	1			20	1	CEILING HEAT	18
19 **	LIGHT	20	1	1/2"C-2#12,1#12G		20	1		20
21, 23	SPACE							SPACE	22,24

* MANAGERS APT. ONLY.
** GROUND FAULT INTERUPTOR TYPE CKT BKR

120/208V, 3Ø, 4W
100A MAIN W/ GROUND BUS & SOLID NEUTRAL BAR

24 CKT BKR PANEL

PANELBOARD SCHEDULE - HP2

CKT NO.	SERVICE	CKT BKR TRIP	CKT BKR POLE	WIRE SIZE	WIRE SIZE	CKT BKR TRIP	CKT BKR POLE	SERVICE	CKT NO
1	CUH MODULE 2 FRONT	20	1	1/2"C-2#12,1#12G		20	1	SPARE	2
3	CUH MODULE 2 BACK	20	1	1/2"C-2#12,1#12G		20	1	SPARE	4
5,7	SPARE	20	2					SPACE	6-24
9-23	SPACE								

LEGEND

SYMBOL	DESCRIPTION
A O a PS	LIGHT FIXTURE "A" INDICATES TYPE, (REFER TO LIGHT FIXTURE SCHEDULE) "a" INDICATES CONTROL, PS INDICATES W/ PULL STRING.
E	LIGHT FIXTURE "E" INDICATES WIRED FOR EMERGENCY POWER.
	DUPLEX RECEPTACLE
	FOURPLEX RECEPTACLE
GFI	DUPLEX RECEPTACLE WITH GROUND FAULT INTERUPTOR
	TELEPHONE JACK
	COMPUTER TERMINAL JACK
S	SINGLE POLE SWITCH
DS	DIMMER SWITCH
3S	THREE-WAY SWITCH
	APT INTERCOM STATION
EF	EXHAUST FAN
	DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	MOTOR STARTER
	PANEL BOARD
	EXIT SIGN - EXIDE SWR-100
EB	EMERGENCY BATTERY - EXIDE B200
F	FIRE ALARM PULL STATION
F	FIRE ALARM HORN & LIGHT
F W	FIRE ALARM HORN & LIGHT "W" INDICATES WEATHERPROOF
S	SYSTEM SMOKE DETECTOR
S	SELF CONTAINED HARD WIRED SMOKE DETECTOR
H	HEAT DETECTOR
	EMERGENCY LIGHT -TLS 16UT24 W/ BR
J	JUNCTION BOX
ST	TIMER SWITCH
	MAIN SYSTEM FIRE ALARM BELL
H-1	HEAT/LIGHT FAN - NUTONE 9660N/NS-69 OR APPROVED EQUAL - 1500W HEATER, 100W LAMP, 120V/1 PH.

GENERAL NOTES

1. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NEC, OSHA AND LOCAL CODES.
2. PAY FOR ALL INSPECTION FEES, LICENCES AND PERMITS.
3. FURNISH AND INSTALL ALL MATERIALS, LABOR, EQUIPMENT REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM (S) AS INDICATED ON THE DRAWINGS.
4. FURNISH ALL REQUIRED FINAL ELECTRICAL CONNECTIONS FURNISHED BY OTHERS.
5. ALL CUTTING AND PATCHING WILL BE DONE BY THE GENERAL CONTRACTOR.
6. ALL MATERAILS SHALL BE NEW. SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT FOR APPROVAL BEFORE PURCHASING THE SAME. ALL EQUIPMENT SHALL BEAR THE UL LABEL.
7. ALL GROUNDING SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
8. ALL WIRING SHALL BE COPPER, UNLESS OTHERWISE NOTED, MINIMUM SIZE #12 AWG, THW INSULATION. FIXTURE WIRE SHALL BE TYPE AF OR SF-2 INSULATION.
9. MINIMUM SIZE OF CONDUIT SHALL BE 1/2" INCH. ALL FEEDERS AND SERVICE WIRING SHALL BE INSTALLED IN RIGID STEEL CONDUIT. (COMMONS BUILDING)
10. BRANCH CIRCUIT WIRING CONCEALED IN STUD WALLS AND ABOVE ANY CEILINGS SHALL BE INSTALLED IN EMT
11. FLEXIBLE CONDUIT CAN ONLY BE USED FOR SHORT FINAL CONNECTIONS (6'-0" MAXIMUM) TO INTERIOR LIGHTING FIXTURES AND EQUIPMENT.
12. COORDINATE LOCATION OF ALL EQUIPMENT CONNECTIONS WITH APPROVED SHOP DRAWING OF SAME.
13. PREFORM ALL TEST REQUIRED AND VERIFY CORRECT ROTATION OF ALL MOTORIZED EQUIPMENT. PHASE BALANCE ALL PANELBOARDS IN THE FIELD.
14. THE EXISTING FACILITY WILL BE IN OPERATION DURING THE CONSTRUCTION PERIOD AND OWNER'S ACCESS TO THE FACILITY SHALL BE MAINTAINED AND ACCESSIBLE AT ALL TIMES. (TELEPHONE & DATA COMMUNICATION)
15. SHUT-DOWN TIME SHALL BE KEPT TO A MINIMUM AND ONLY AT SUCH TIME(S) AS DESIGNATED BY THE OWNER'S REPRESENTATIVE. (TELEPHONE & DATA COMMUNICATION)
16. THE LIGHTING LAYOUT IN THE NEW SHOP AREA SHALL MATCH WITH THE EXISTING SHOP AREA LIGHTING LAYOUT.
17. DEVICE PLATE FINISH SHALL BE AS SELECTED BY ARCHITECT.
18. FURNISH AND INSTALL FLEXIBLE TYPE CONNECTIONS ON ALL MOTORIZED EQUIPMENT ~~OF~~ FINAL ACCEPTANCE.
19. COORDINATE ALL WORK WITH HVAC, SPRINKLER AND PLUMBING DRAWINGS. FURNISH AND INSTALL ALL POWER AND CONTROLS WIRING FOR A COMPLETE INSTALLATION.
20. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE BEFORE PRESENTING PROPOSAL.
21. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ROUTING OF ALL EXPOSED CONDUITS.
22. ELECTRICAL CONTRACTOR SHALL FURNISH & INSTALL ALL STARTERS & DISCONNECTS TO MOTORS & EQUIPMENT UNLESS OTHERWISE NOTED. COORDINATE W/ HVAC SUB-CONTRACTOR FOR MOTOR SIZES.

NOTES FOR TELEPHONE, COMPUTER & CABLE SYSTEMS

1. ALL CONDUITS, BOXES, WIRING, ETC. SHALL BE PROVIDED AS PER MANUFACTURER'S RECOMMENDATIONS.
2. FOR EXACT LOCATION AND QUANTITY OF DEVICES, SEE FLOOR AND UNIT PLANS.
3. PROVIDE A COMPLETE AND WORKING SYSTEM AS DESCRIBED IN LEGEND SPECIFICATIONS AND SHOWN IN RISER DIAGRAM AND PLANS. THE SYSTEM SHALL BE PROVIDED AND COMPLETELY WIRED AS RECOMMENDED BY SYSTEN MANUFACTURERS.
4. ALL ITEMS AND SERVICES CUSTOMARY OR NECESSARY TO THE PROPER FUNCTION OF THE SYSTEM SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY MENTIONED.
5. THE 1-4 PAIR CABLE FOR TELEPHONE & COMPUTER SYSTEMS (1-2 PAIR TELEPHONE & 1-2 PAIR FOR COMPUTER) SHALL TERMINATE AT RESPECTIVE BOARD WITH DEAD FRONT HIGH DENSITY CONNECTING BLOCK 110A AS MANUFACTURED BY AT&T TECHNOLOGIES OR APPROVED EQUAL. ELECTRICAL SUB-CONTRACTOR SHALL TEST FOR CONTINUITY POLARITY THROUGH TONING.

COMPUTER RISER DIAGRAM
BLDGS: C & E

TELEPHONE RISER DIAGRAM
BLDGS: C & E

BLDGS A,B,D & F MECH / ELEC POWER PART PLAN
SCALE: 1/4"=1'-0"
BLDGS C & E SIMILAR

BLDG A, B, D & F MECH/ELEC LIGHTING PART PLAN
SCALE 1/4" = 1'-0"
BLDGS C & E SIMILAR

LIGHT FIXTURE SCHEDULE

FIXTURE TYPE	MANUFACTURER & MODEL No.	LAMPS	MOUNTING	REMARKS
S1	LIGHTOLIER - 6555	2-TT13W WW	WALL SURFACE	WHITE FINISH MTD 6'-0" AFF.
S2	LIGHTOLIER - 6789-C	22W CIRCULINE WW	CEILING MTD	FURNISH WTH EXTENSION COLLAR W/ NOTCH FOR WIREMOLD MATCH W/ FIXTURE HOUSING
S3	LIGHTOLIER - 6790	32W CIRCULINE WW	CEILING MTD	
S4	LIGHTOLIER - 6791-C	22 & 32W CIRCULINE WW	CEILING MTD	FURNISH WTH EXTENSION COLLAR W/ NOTCH FOR WIREMOLD MATCH W/ FIXTURE HOUSING
S5	TLS - 16UT24W/BR	2-F8T5 WW	CLG & WALL MTD	WIRED TO EMERGENCY POWER
S6	GENERAL ELECTRIC 5740-7	1-60W	CEILING SURFACE	PORCEIAIN SOCKET W/ PULL CHAIN & PROTECTIVE GAURD
S7	HYDREL, HP2/11/6/1/1	250W HPS	SURFACE	MTD AT 20'-0" SEE ARCH ELEVATIONS
S8	HYDREL, HP2/11/6/1/1/FLP	250W HPS	SURFACE WALL	MTD AT 20'-0" SEE ARCH ELEVATIONS
S9	HYDREL, HP3/A/02/5/1/1 TPH	50W HPS	SURFACE	MTD AT 10'-0" SEE ARCH ELEVATIONS
R1	LIGHTOLIER - 8055-AO	2-TT13W WW	CEILING RECESSED	CLEAR FINISH
R2	LIGHTOLIER - 1184	2-TT9W WW	CEILING RECESSED	CLEAR FINISH
T1	LIGHTOLIER - 6102-6103	-------	SURFACE	WHITE FINISH, 8'-0" UNITS 2 - CIRCUITS
TA	LIGHTOLIER - 6268	75PAR FL	TRACK	WHITE FINISH
F2	KEENE - S-140 RS HPF	F40W WW	SURFACE	BWE, 4'0" LENGTH
F3	KEENE - S-130 RS HPF	F30W WW	SURFACE	BWE, 3'-0" LENGHT
F4	KEENE - 120 TS HPF	F20W WW	SURFACE	BWE, 2'-0" LENGHT
F5	PROGRESS - P7010	F13T5 WW	SURFACE	BWE, UNDERCABINET FURNISH WITH SWITCH
F6	PRUDENTIAL - PSM 101 48 RS	F40W WW	SURFACE	BWE, SIDE MOUNT SEE ARCH DETAIL, 4'-0"
F7	PRUDENTIAL-PSM 101 96 HO	F96HO WW	SURFACE	BWE, SIDE MOUNT SEE ARCH DETAIL, 8'-0"
F8	LIGHTCONTROL - 85N 28RS	2-F40W WW	CEILING RECESSED	BWE, CONTINUOUS FIXTURE WALL TO WALL INCLUDING END EXTENSIONS
F9	KEENE - NRTVA 340	3F40W WW	CEILING RECESSED	ARCLYIC LENS
F10	KEENE - DB440LE	4-F40W WW	CEILING SURFACE	ARCLYIC LENS
F11	DAY-BRITE 4N2R	2-F40LW RS WM11	CEILING SURFACE	4' INDUSTRIAL FLOURESCENT W/ ENERGY SAVING BALLAST, 120V
F12	LAM FB-304 x 4/4	2-F40WW	CEILING SURFACE	SUPPLY W/ WOOD ENDS WE EMERGENCY LIGHTING PACK (BODINE Co)

No.	Date	Revision

SHEKAR & ASSOC. INC
775 Pleasant Street #14
East Weymouth, MA 02189
617 337-8347

Project: SALEM STATE COLLEGE NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO.E86-8

Hammer Kiefer and Todd, Inc.
Architects Planners
501 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS
SESHAPPA CHANDRASHEKAR
NO. 27691
REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
ALLAN T. BAER
No. 3690
CAMBRIDGE MASS.
COMMONWEALTH OF MASSACHUSETTS

Drawing Title: ELECTRICAL SCHEDULES PART PLAN

Date: 1-10-89
Scale: AS NOTED
Job Number: 8287
Designed By: JT
Drawn By: JT
Checked By: SC

Revision:

Drawing Number: E-6

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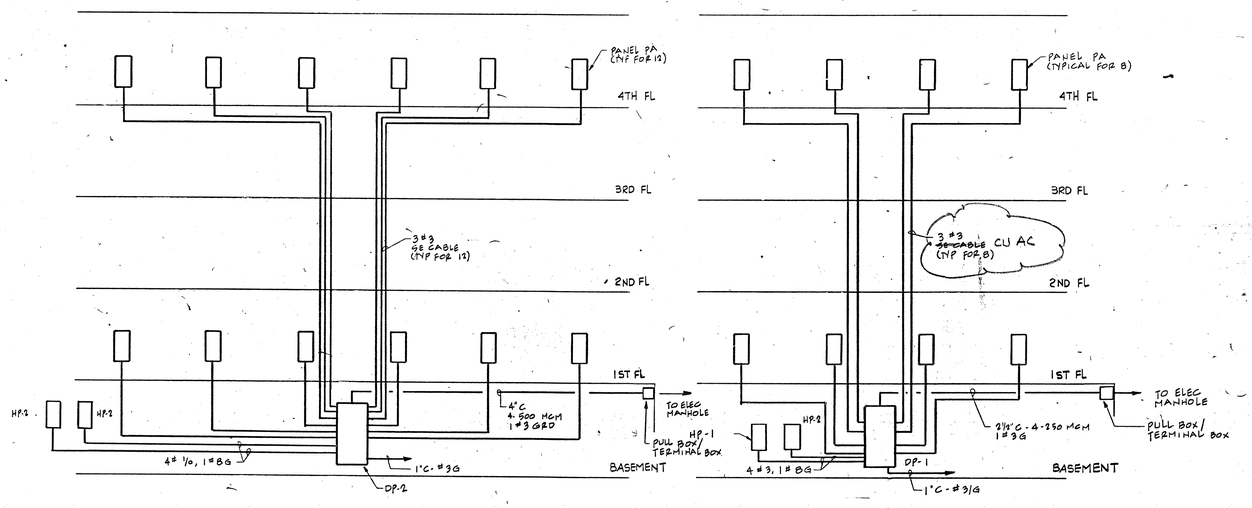
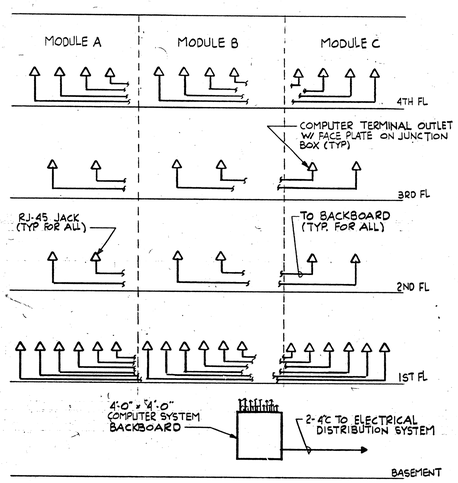
10-116-152-195-DR-4027
Bates Complex New Residence Facility
2/2/1991

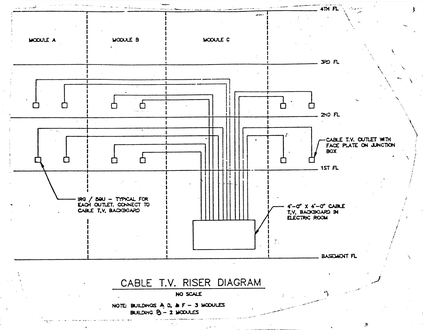


SINGLE LINE DIAGRAM (TYP FOR BLDGS A, D & F)
NO SCALE

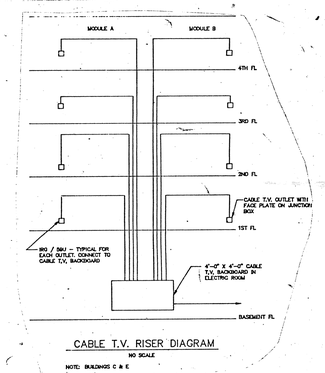
SINGLE LINE DIAGRAM (TYP FOR BLDGS B, C & E)
NO SCALE



COMPUTER RISER DIAGRAM
BLDGS A, B, D & F (BLDG B-2 MODULE)



CABLE T.V. RISER DIAGRAM
NO SCALE
NOTE: BUILDINGS A, D, & F - 3 MODULES
BUILDING B - 2 MODULES



CABLE T.V. RISER DIAGRAM
NO SCALE
NOTE: BUILDINGS C & E

400 A MAIN BUS
120/208 V, 3 PH, 4W
W/ GROUND BUS & SOLID NUETRAL BAR

DISTRIBUTION PANEL DP-1

30 CIRCUIT BKR PAN.
250 A, 3 P MAIN
CIRCUIT BREAKER

CKT NO.	SERVICE	CKT BKR TRIP	CKT BKR POLE	WIRE SIZE	WIRE SIZE	CKT BKR TRIP	CKT BKR POLE	SERVICE	CKT NO
1,3,5	MAIN C.B.	250	3		4#3, 1#8G SE CABLE	100	3	HOUSE PANEL HP-1	2,4,6
7,9	PANEL PA	100	2	3#3, 1#8G SE CABLE	3#3, 1#8G SE CABLE	100	2	PANEL PA	8,10
11,13									12,14
15,17									16,18
19,21									20,22
23,25,27	HOUSE PANEL HP-2	100	3	4#3, 1#8G SE CABLE				SPACE	24-30
29	SPACE								

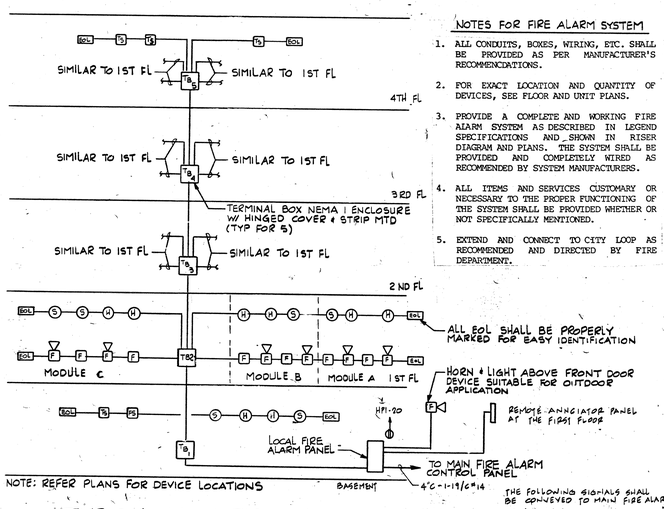
400 A MAIN BUS
120/208 V, 3PH, 4W
W/ GROUND BUS & SOLID NUETRAL BAR

DISTRIBUTION PANEL DP-2

42 CIRCUIT BKR PANEL
375 A, 3P MAIN
CIRCUIT BREAKER

CKT NO.	SERVICE	CKT BKR TRIP	CKT BKR POLE	WIRE SIZE	WIRE SIZE	CKT BKR TRIP	CKT BKR POLE	SERVICE	CKT NO
1,3,5	MAIN C.B.	375	3		3#1/0, 1#6 & SE CABLE	150	3	HOUSE PANEL	2,4,6
7,9	PANEL PA	100	2	3#3, 1#8G SE CABLE	3#3, 1#8G SE CABLE	100	2	PANEL PA	8,10
11,13									12,14
15,17									16,18
19,21									20,22
23,25									24,26
27,29									28,30
31-41	SPACE							SPACE	32-42

MAIN FIRE ALARM CONTROL PANEL	
ZONE 1	COMMONS BUILDING
ZONE 2	BUILDING A
ZONE 3	BUILDING B
ZONE 4	BUILDING C
ZONE 5	BUILDING D
ZONE 6	BUILDING E
ZONE 7	BUILDING F
ZONE 8	MASTER BOX
ZONE 9	TROUBLE – COMMONS BLDG
ZONE 10	TROUBLE – BUILDING A
ZONE 11	TROUBLE – BUILDING B
ZONE 12	TROUBLE – BUILDING C
ZONE 13	TROUBLE – BUILDING D
ZONE 14	TROUBLE – BUILDING E
ZONE 15	TROUBLE – BUILDING F
ZONE 16	TROUBLE – FIRE PUMP



NOTE: REFER PLANS FOR DEVICE LOCATIONS

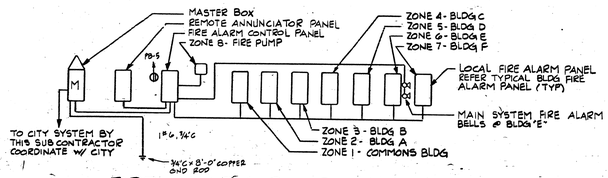
TYPICAL BLDG FIRE ALARM PANEL
TYPICAL FOR 7
COORDINATE W/ MANUF. FOR NUMBER & TYPE OF WIRES

NOTES FOR FIRE ALARM SYSTEM

1. ALL CONDUITS, BOXES, WIRING, ETC. SHALL BE PROVIDED AS PER MANUFACTURER'S RECOMMENDATIONS.
2. FOR EXACT LOCATION AND QUANTITY OF DEVICES, SEE FLOOR AND UNIT PLANS.
3. PROVIDE A COMPLETE AND WORKING FIRE ALARM SYSTEM AS DESCRIBED IN LEGEND SPECIFICATIONS AND SHOWN IN RISER DIAGRAM AND PLANS. THE SYSTEM SHALL BE PROVIDED AND COMPLETELY WIRED AS RECOMMENDED BY SYSTEM MANUFACTURERS.
4. ALL ITEMS AND SERVICES CUSTOMARY OR NECESSARY TO THE PROPER FUNCTIONING OF THE SYSTEM SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY MENTIONED.
5. EXTEND AND CONNECT TO CITY LOOP AS RECOMMENDED AND DIRECTED BY FIRE DEPARTMENT.

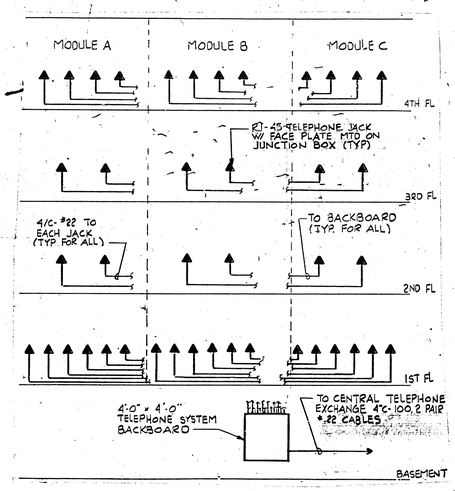
LOCAL FIRE ALARM CONTROL PANEL (TYP)		
ZONE 1	MODULE A	HEAT DETECTOR & SMOKE DETECTOR
ZONE 2	MODULE B	HEAT DETECTOR & SMOKE DETECTOR
ZONE 3	MODULE C	HEAT DETECTOR & SMOKE DETECTOR (WHERE APPLICABLE)
ZONE 4	MODULE A	MANUAL PULL STATION
ZONE 5	MODULE B	MANUAL PULL STATION
ZONE 6	MODULE C	MANUAL PULL STATION (WHERE APPLICABLE)
ZONE 7	MODULE A	TAMPER SWITCH
ZONE 8	MODULE B	TAMPER SWITCH
ZONE 9	MODULE C	TAMPER SWITCH (WHERE APPLICABLE)
ZONE 10	MAIN TAMPER SWITCH	
ZONE 11	MAIN BUILDING	FLOW SWITCH

TROUBLE BUZZER "O" SQUARE D SWITCH

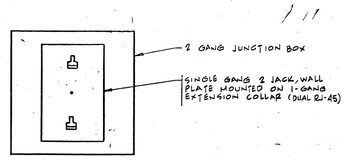


THE FOLLOWING SIGNALS SHALL BE CONVEYED TO MAIN FIRE ALARM
1) ALARM
2) SYSTEM TROUBLE
3) BATTERY FAILURE
4) RESET

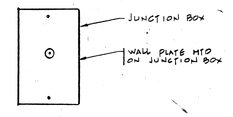
FIRE ALARM RISER DIAGRAM



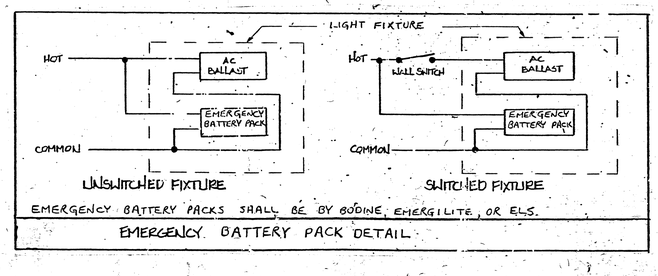
TELEPHONE RISER DIAGRAM
BLDGS: A, B, D & F (BLDG B-2 MODULE)



TELEPHONE & COMPUTER OUTLET DETAIL
NO SCALE



CABLE TV OUTLET DETAIL
NO SCALE



EMERGENCY BATTERY PACKS SHALL BE BY BODINE, EMERGILITE, OR ELS.

EMERGENCY BATTERY PACK DETAIL

SHEKAIT & ASSOC., INC.
775 Pleasant Street #14
So. Weymouth, MA 02190
617-337-8347

No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E86-8

Hammer Kiefer and Todd, Inc.
Planners
Architects
501 Cambridge Street Cambridge, MA 02141

COMMONWEALTH OF MASSACHUSETTS
BERNARD CRAIG LOEFFLER
No. 2763
REGISTERED PROFESSIONAL ENGINEER

REGISTERED ARCHITECT
No. 3690
CAMBRIDGE MASS.

Drawing Title:
ELECTRICAL SCHEDULES & RISER DIAGRAMS

Date: 1-10-89
Designed By: RCF
Drawn By: RCF
Checked By: BC
Scale: AS NOTED
Job Number: 2287

Revision:

Drawing Number:
E-7

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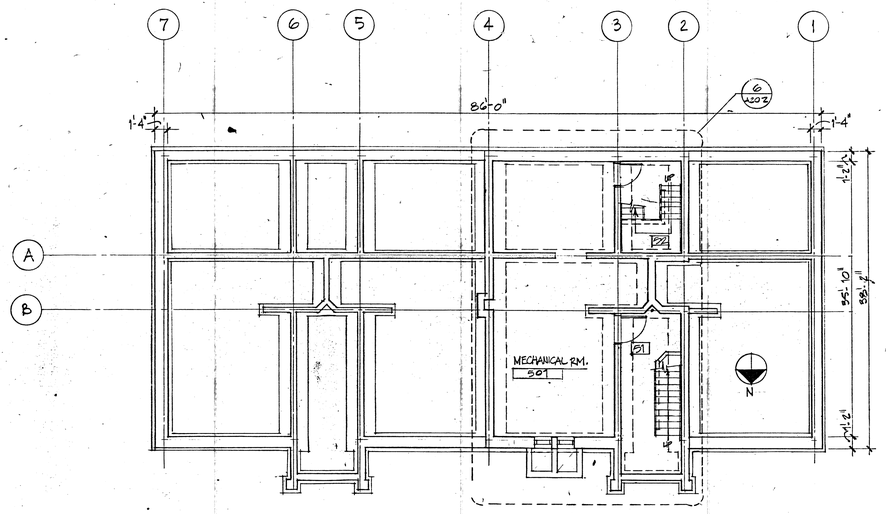
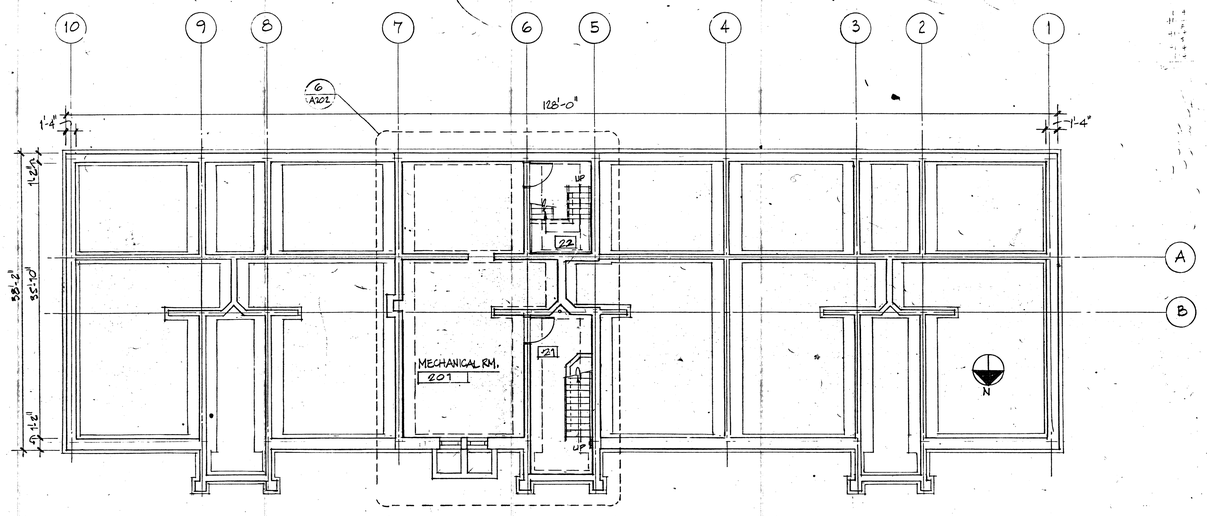
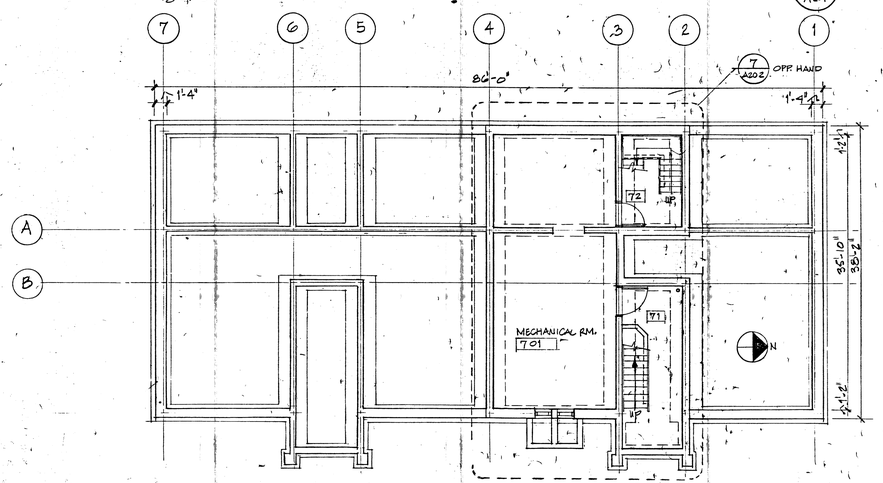
10-116-152-195-DR-4028
Bates Computer Aided Facility
2/2/1991



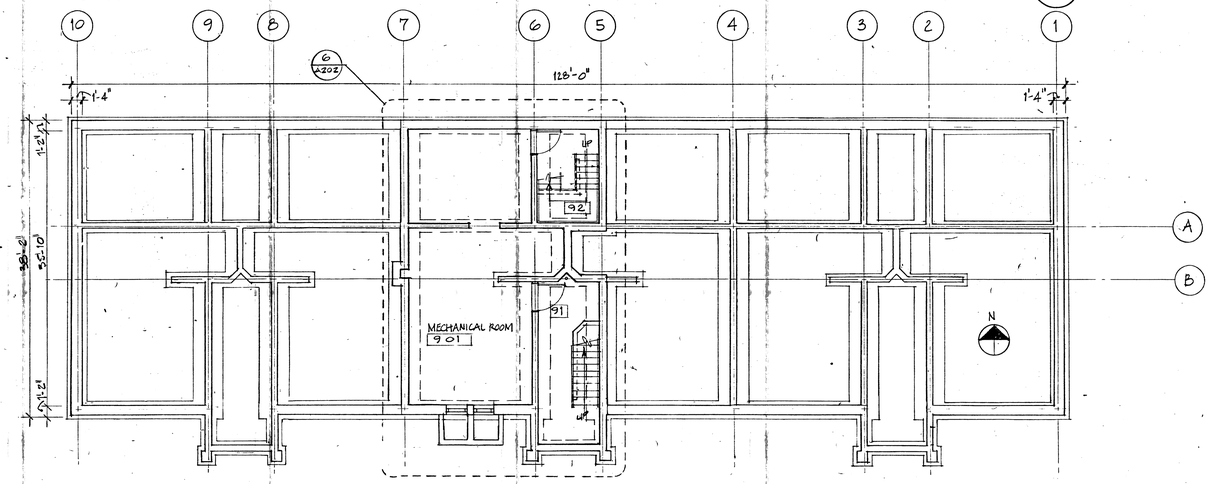
FOUNDATION PLAN BUILDING B ADD ALTERNATE #1 — 1 A201
1/8" = 1'-0"



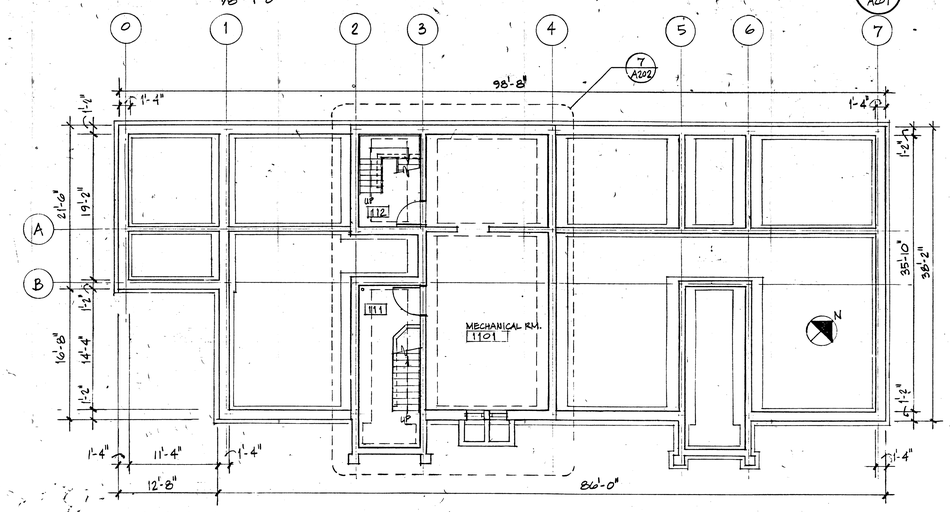
FOUNDATION PLAN BUILDING A ADD ALTERNATE # 2 — 2 A201
1/8" = 1'-0"



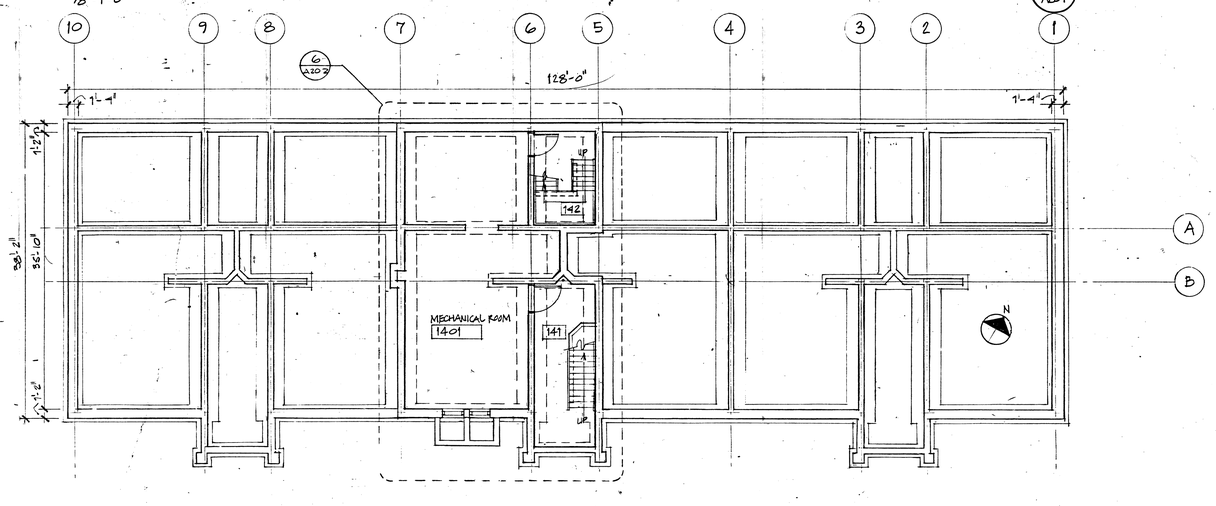
FOUNDATION PLAN BUILDING C — 3 A201
1/8" = 1'-0"



FOUNDATION PLAN BUILDING D — 4 A201
1/8" = 1'-0"



FOUNDATION PLAN BUILDING E — 5 A201



FOUNDATION PLAN BUILDING F — 6 A201

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No.	Date	Revision

Project:
SALEM STATE COLLEGE
NEW RESIDENCE FACILITY
MASSACHUSETTS STATE COLLEGE BUILDING AUTHORITY
PROJECT NO. E86-8

Hammer Kiefer and Todd, Inc.
Architects Planners
501 Cambridge Street Cambridge, MA 02141

REGISTERED ARCHITECT
ALLAN T. BAER
No. 3690
CAMBRIDGE MASS.
COMMONWEALTH OF MASSACHUSETTS

Drawing Title:
BASEMENT PLANS

Date: 1/10/89
Scale: 1/8" = 1'-0"
Job Number: 2287
Designed By:
Drawn By: JM, EVB
Checked By: EVB

Revision:

Drawing Number:
A201

10-116-152-195-DR-3958
Bates Complex New Residence Facility
2/2/1991