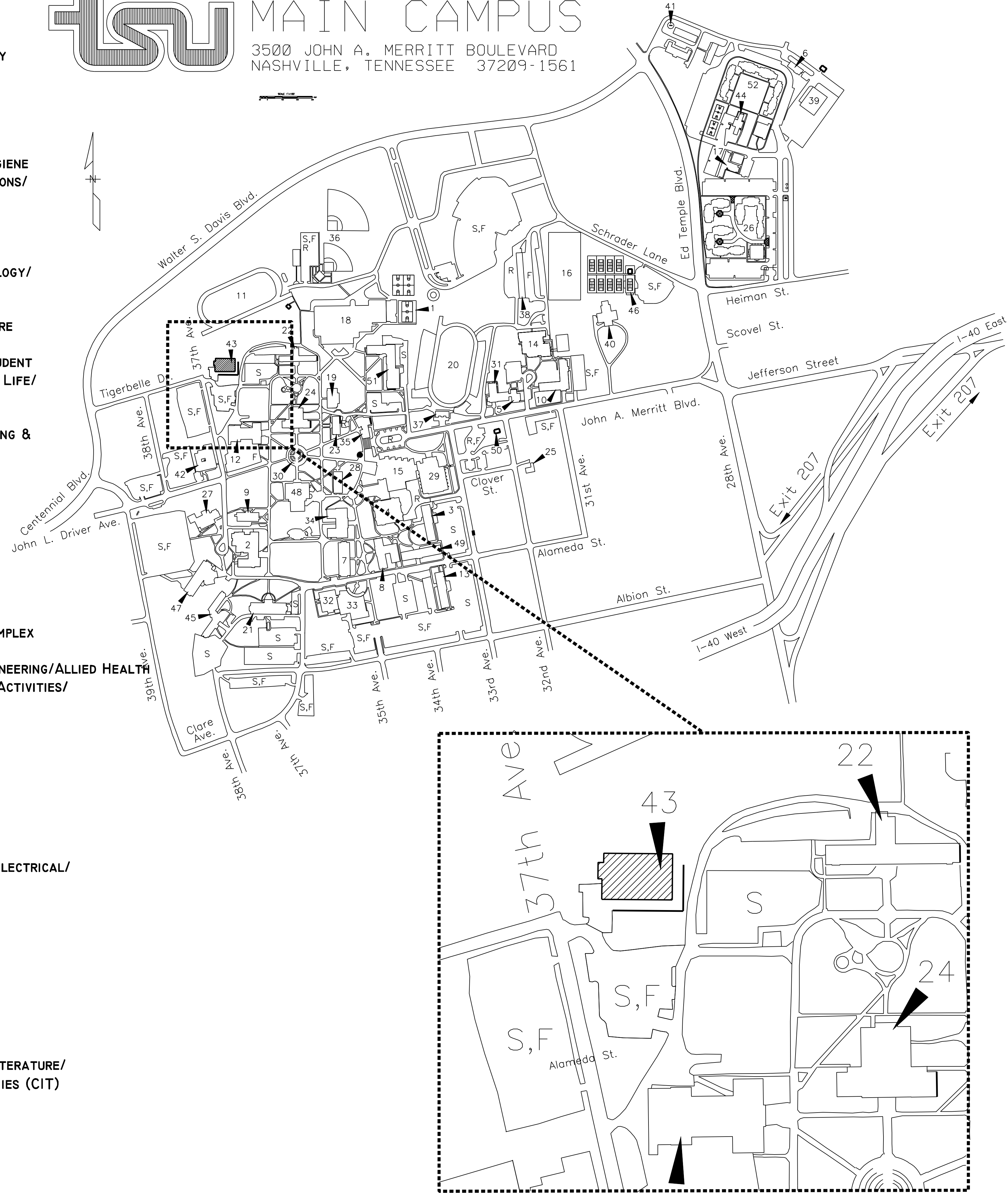


LEGEND

1. OUTDOOR BASKETBALL COURT
2. ALGER V. BOSWELL COMPLEX - PHYSICS/MATH/CHEMISTRY
3. HENRY ALLEN BOYD RESIDENCE CENTER
4. MARTHA M. BROWN - LOIS H. DANIEL LIBRARY
5. CARP BUILDING
6. CENTRAL RECEIVING
7. ROBERT E. CLAY HALL - EDUCATION
8. FRANK G. CLEMENT HALL - ALLIED HEALTH/DENTAL HYGIENE
9. HUBERT CROUCH HALL - GRADUATE SCHOOL/COMMUNICATIONS/ARTS & SCIENCES
10. FREDERICK S. HUMPHRIES HALL - FAMILY & CONSUMER SCIENCES/NURSING EDUCATION
11. EDWARD S. TEMPLE TRACK
12. JANE E. ELLIOTT HALL - ART/AFRICANA STUDIES/SOCIOLOGY/SOCIAL WORK
13. MERLE R. EPPSE RESIDENCE CENTER
14. JAMES E. FARRELL-FRED WESTBROOK HALL - AGRICULTURE RESEARCH & EXTENSION
15. OTIS L. FLOYD-JOSEPH A. PAYNE CAMPUS CENTER - STUDENT SERVICES/CAFETERIA/ADMISSIONS & RECORDS/RESIDENCE LIFE/RECREATION/BOOKSTORE/COPY CENTER/FINANCIAL AID
16. FOOTBALL PRACTICE FIELD
17. GENERAL SERVICES - HUMAN RESOURCE/POLICE/PURCHASING & BUSINESS SERVICE/PUBLIC RELATIONS
18. HOWARD C. GENTRY ATHLETIC COMPLEX
19. GOODWILL MANOR - ALUMNI RELATIONS/DEVELOPMENT & FOUNDATION
20. WILLIAM J. HALE STADIUM
21. HARRIETT H. HALE RESIDENCE CENTER
22. EDNA R. HANKAL RESIDENCE CENTER
23. PERRY L. HARNED HALL OF SCIENCE - BIOLOGY
24. HAROLD M. LOVE SR. LEARNING RESOURCE CENTER
25. HEALTH RESEARCH CENTER
26. HAROLD E. FORD SR. & JOHN N. FORD RESIDENTIAL COMPLEX
27. LEWIS R. HOLLAND HALL - SCHOOL OF BUSINESS
28. TOM JACKSON INDUSTRIAL TECHNOLOGY BUILDING - ENGINEERING/ALLIED HEALTH
29. HENRY A. KEAN HALL - ATHLETICS/AFROTC/STUDENT ACTIVITIES/DISABLED STUDENT SERVICES/YEARBOOK-NEWSPAPER
30. LAURA M. AVERITTE AMPHITHEATER
31. WILFRED W. LAWSON HALL - AGRICULTURE/HOSPITALITY
32. MARIE B. STRANGE MUSIC HALL
33. PERFORMING ARTS CENTER
34. JIM N. MCCORD HALL - COMPUTER SCIENCE/BIOLOGY
35. NED R. MCWHERTER ADMINISTRATION BUILDING
36. SOFTBALL FIELD COMPLEX - NCAA/INTRAMURAL
37. FIELDHOUSE
38. FACILITIES MANAGEMENT - OPERATIONS/MAINTENANCE/ELECTRICAL/PLUMBING/CARPENTRY/KEY SHOP/MECHANICAL
39. FACILITIES STORAGE - RECYCLING/VEHICLE OPERATIONS
40. PRESIDENT'S HOME
41. FRANK A. YOUNG POULTRY RESEARCH PLANT
42. POWER PLANT
43. QUEEN E. WASHINGTON HEALTH CENTER
44. READ HALL - PRINTING PLANT
45. WILMA RUDOLPH RESIDENCE CENTER
46. TENNIS COURT COMPLEX
47. ANDREW P. TORRENCE HALL - ENGINEERING
48. WALTER S. DAVIS HUMANITIES BUILDING - LANGUAGE/LITERATURE/PHILOSOPHY/COMMUNICATION & INFORMATION TECHNOLOGIES (CIT)
49. LENA B. WATSON RESIDENCE CENTER
50. WESLEY CHAPEL CENTER
51. MARY L. WILSON RESIDENCE CENTER
52. STUDENT APARTMENTS PHASE II
53. AVON WILLIAMS DOWNTOWN CAMPUS
54. INCUBATION CENTER

**tsu** MAIN CAMPUS  
3500 JOHN A. MERRITT BOULEVARD  
NASHVILLE, TENNESSEE 37209-1561



**POLICE DEPARTMENT RELOCATION**  
Tennessee State University

3500 JOHN MERRITT BOULEVARD NASHVILLE, TENNESSEE 37209

MELVIN GILL & ASSOCIATES, ARCHITECTS and PLANNERS

ABBREVIATIONS				LEGEND				PLAN REVIEW DATA				PROJECT DIRECTORY			
NOTE: Clarify with Architect all abbreviations not listed.															
AB. ACT A.F.F. AGGR. AL. ALT. APPROX. ARCH.	ANCHOR BOLT ACOUSTICAL CEILING TILE ABOVE FINISHED FLOOR AGGREGATE ALUMINUM ALTERNATE APPROXIMATE ARCHITECTURAL	I.D. INSUL. INT.  JAN. JNT. JST.  KIT.	INSIDE DIAMETER INSULATION INTERIOR  JANITOR JOINT JOIST  KITCHEN	MATERIAL DESIGNATIONS:				APPLICABLE CODES, ACTS AND STANDARDS:				OWNER:			
BD. BLDG. BLK BLK'G. BM. BOT. BTWN. B.U.R. B.W.	BOARD BUILDING BLOCK BLOCKING BEAM BOTTOM BETWEEN BUILT UP ROOFING BOTH WAYS	LAB. LAM. LAV. LT.	LABORATORY LAMINATE LAVATORY LIGHT	ELEVATION				2006 INTERNATIONAL BUILDING CODE 2006 INTERNATIONAL PLUMBING CODE 2006 INTERNATIONAL MECHANICAL CODE 2006 INTERNATIONAL GAS CODE 2011 NATIONAL ELECTRIC CODE 2006 INTERNATIONAL ENERGY CONVERSATION CODE 2006 NFPA 101 LIFE SAFETY CODE 2006 NFPA 1; (2003 NFPA 1 for Tennessee State Fire Marshal's Office) 2000 NATIONAL FIRE CODES 1974 STATE PUBLIC BUILDING ACCESSIBILITY ACT 2003 ICC/ANSI A117.1 - ACCESSIBLE & USABE BUILDING & FACILITIES CODE 1998 METROPOLITAN COMPREHENSIVE ZONING ORDINANCE				3500 John A. Meritt Boulevard Nashville, Tennessee 37209 (615) 963-5154  Ms. Mariah Green, Project Manager			
C.J. CLG. CLKG. CLR. C.M.U. COL. CONC. CONN. CONSTR. CONT. C.T.	CONTROL JT. CEILING CAULKING CLEAR CONCRETE MASONRY UNIT COLUMN CONCRETE CONNECTION CONSTRUCTION CONTINUOUS CERAMIC TILE	MAX. MECH. MEMB. MFR. M.H. MIN. MISC. M.O. MTL. MUL.	MAXIMUM MECHANICAL MEMBRANE MANUFACTURER MANHOLE MINIMUM MISCELLANEOUS MASONRY OPENING METAL MULLION	PLAN/SECTION				THE CONTRACTOR SHALL ASSURE THE STATE OF TENNESSEE THAT ALL SERVICES PROVIDED THROUGH THIS CONTRACT SHALL BE COMPLETED IN FULL COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT ("ADA") AND ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD, FEDERAL REGISTER 36 CFR PARTS 1190 AND 1191, ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES; ARCHITECTURAL BARRIERS ACT (ABA) ACCESSIBILITY GUIDELINES; PROPOSED RULE, PUBLISHED IN THE FEDERAL REGISTER AS HAS BEEN ADOPTED BY THE STATE.				ARCHITECT:			
DEG. DET./DTL. D.F. DIAG. DIA. DN. DS. DWG.	DEGREE DETAIL DRINKING FOUNTAIN DIAGONAL DIAMETER DOWN DOWN SPOUT DRAWING	N N.I.C. NO. NOM. N.T.S.	NORTH NOT IN CONTRACT NUMBER NOMINAL NOT TO SCALE					THIS PROJECT WILL MEET ANSI 117.1, 2003 EDITION ADA				Melvin Gill and Associates 1821 Ed Temple Boulevard Nashville, Tennessee 37208 (615) 242-GILL (4455)			
E (E) EA. E.J. E.I.F.S.	EAST EXISTING EACH EXPANSION JOINT EXTERIOR INSULATION AND FINISH SYSTEM	O.C. O.D. OH. OPG. OPP.	ON CENTER OUTSIDE DIAMETER OVERHEAD OPENING OPPOSITE					OCCUPANCY CLASSIFICATION:				STRUCTURAL			
EL. ELEV. ELEC. ELEV. EMER ENCL. EQ. EQUIP. E.W. E.W.C. EXP. EXT.	ELEVATION ELECTRICAL ELEVATION EMERGENCY ENCLOSURE EQUAL EQUIPMENT EACH WAY ELECTRIC WATER COOLER EXPANSION EXTERIOR	PCT. P.L. P. LAM. PLAS. PLYWD. PR.	PRE-CAST PROPERTY LINE PLASTIC LAMINATE PLASTER PLYWOOD PAIR					SBC: BUSINESS OCCUPANCY - GROUP B				Not Applicable			
F.A. F.D. F.D.C. FDN. F.E. F.E.C. F.F. F.H.C. FIN. F.L. FLR. FLUOR. FND. F.O.B. F.O.C. F.S. FT. FTG. FURR.	FIRE ALARM FLOOR DRAIN FIRE DEPARTMENT CONNECTION FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FIRE HOSE CABINET FINISH FLOW LINE FLOOR FLUORESCENT FOUNDATION FACE OF BRICK FACE OF CONCRETE FULL SIZE FOOT OR FEET FOOTING FURRING	Q.T.	QUARRY TILE					NFPA: BUSINESS OCCUPANCIES NEW & EXISTING				MECHANICAL PLUMBING ELECTRICAL			
GA. GALV. G.C. G.L. GR. GYP. GYP. BD.	GAUGE GALVANIZED GENERAL CONTRACTOR GLASS GRADE GYPSUM GYPSUM BOARD	R. R.D. RE: REFR. REINF. REQ'D. RM R.O.	RISER ROOF DRAIN REFER TO ... REFRIGERATOR REINFORCED REQUIRED ROOM ROUGH OPENING					CONSTRUCTION TYPE - 2006 IBC: Metro Government				Kurzynske & Associates 825 Third Avenue, South Nashville, Tennessee 37210 (615) 255-5203			
H.B. H.C. H/C HDWD. HDWE. H.M. HR. HT. HVAC	HOSE BIBB HOLLOW CORE HANDICAPPED HARDWOOD HARDWARE HOLLOW METAL HOUR HEIGHT HEATING, VENTILATION AND AIR CONDITIONING	S S.C. SCHED. SECT. S.F. SHT. SIM. SPEC. SQ. OR S.S. STAGG. STD. STIFF STL. STRUC. SUSP.	SOUTH SOLID CORE SCHEDULE SECTION SQUARE FOOT SHEET SIMILAR SPECIFICATION SQUARE STAINLESS STEEL STAGGERED STANDARD STIFFENER STEEL STRUCTURAL SUSPENDED					IBC: TYPE II-A TWO STORY W/ BASEMENT (BUILDING HEIGHT UNDER 55')				HAZARDOUS MATERIALS			
												Terracon Consultants, Inc. 5217 Linbar Drive Nashville, Tennessee 37211 (615) 333-6444			
												Mr. Matt Johnson			

Revisions:



TSU POLICE DEPARTMENT RELOCATION

Tennessee State University  
3500 JOHN MERRITT BOULEVARD  
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MELVIN GILL & ASSOCIATES  
ARCHITECTS and PLANNERS  
1821 Temple Boulevard, Nashville, Tennessee 37208 (615) 242-6111 (445)

Designer:

Technician:

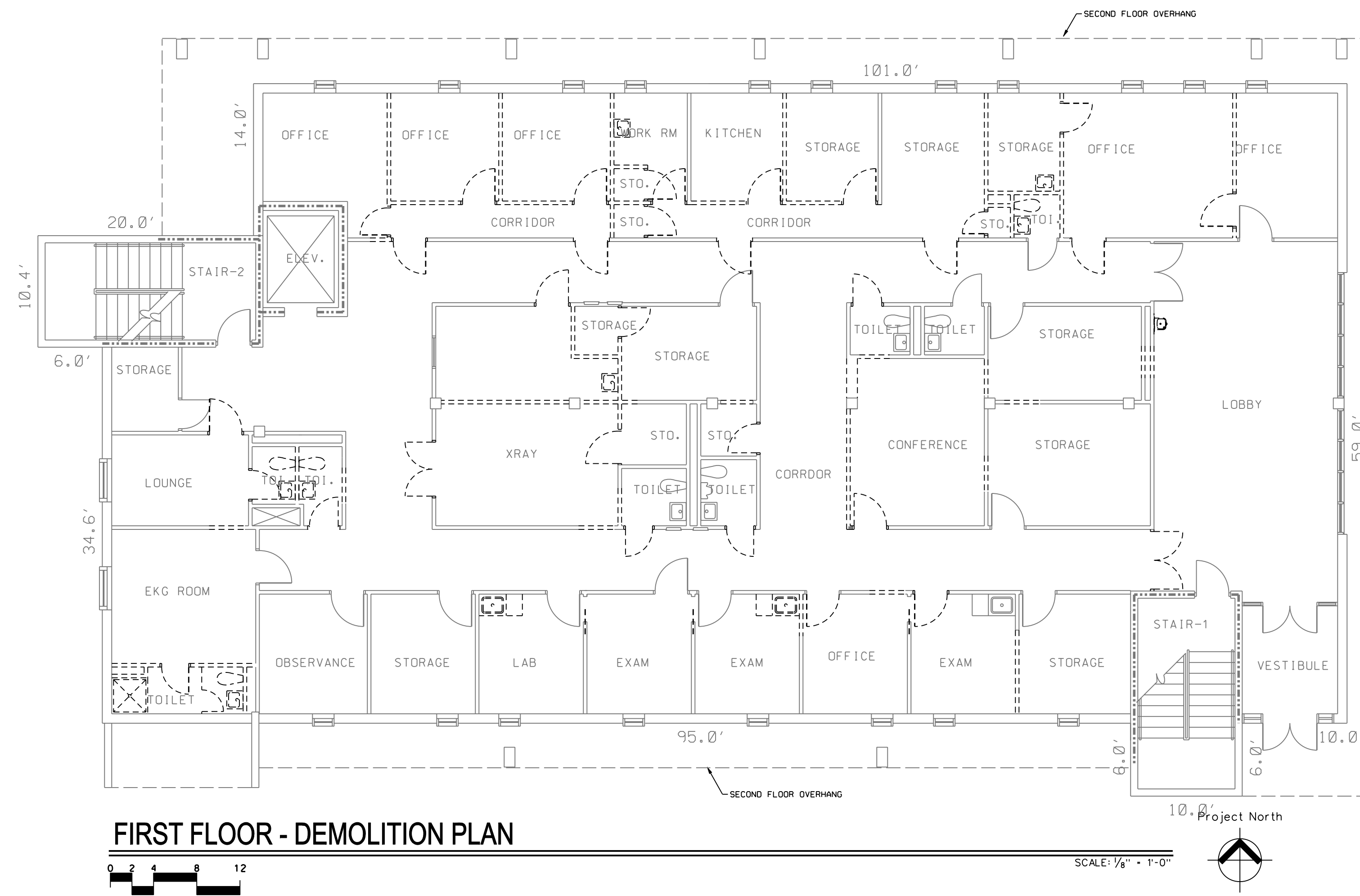
Reviewer:

Date:

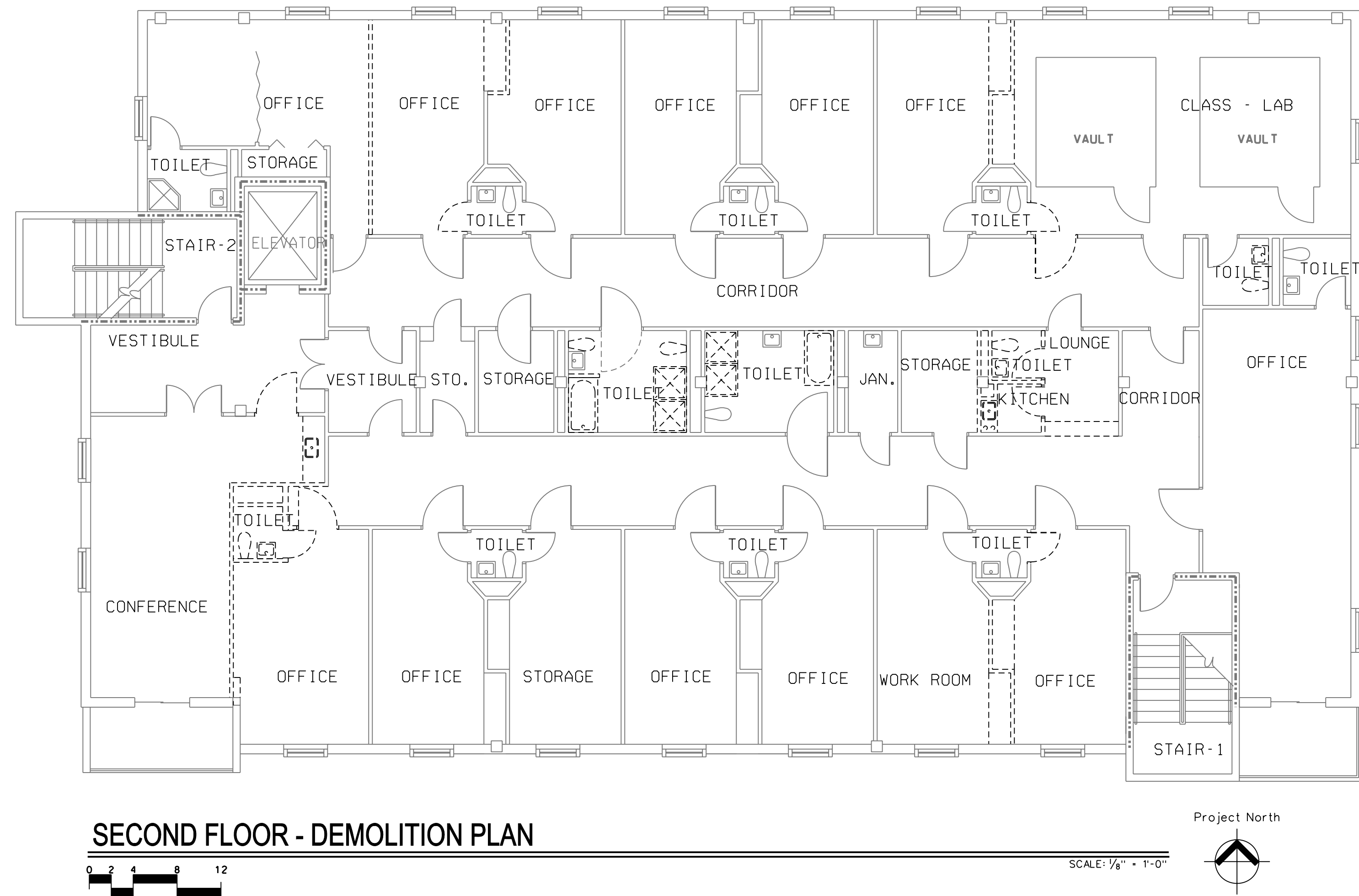
Sheet Title:  
FIRST & SECOND  
FLOOR DEMO PLAN

A-1

Project No:



FIRST FLOOR - DEMOLITION PLAN



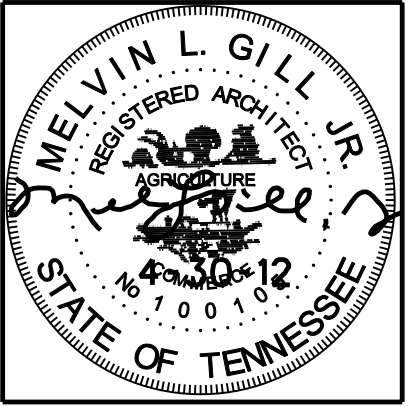
SECOND FLOOR - DEMOLITION PLAN

WALL LEGEND:

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING 2 HOUR WALL
- EXISTING CONSTRUCTION TO BE REMOVED



Revisions:



TSU POLICE DEPARTMENT RELOCATION

Tennessee State University  
Nashville, Tennessee 37209

3500 JOHN MERRITT BOULEVARD

MELVIN GILL & ASSOCIATES  
ARCHITECTS and PLANNERS  
1821 Temple Boulevard, Nashville, Tennessee 37208 (615) 242-6111 (445)

Designer:

Technician:

Reviewer:

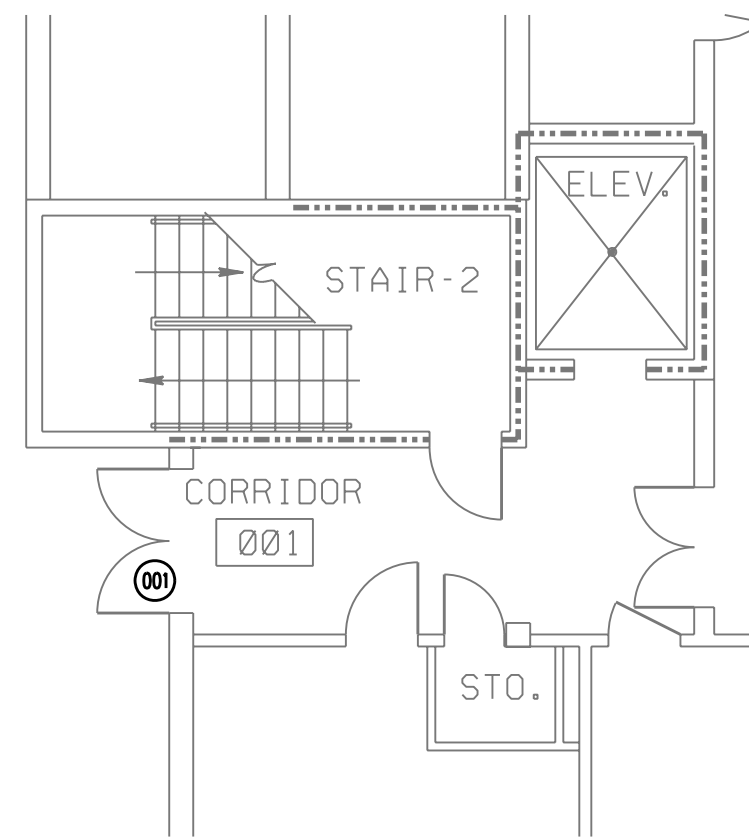
Date:

Sheet Title:  
FIRST & SECOND  
FLOOR: NEW PLAN

A-2

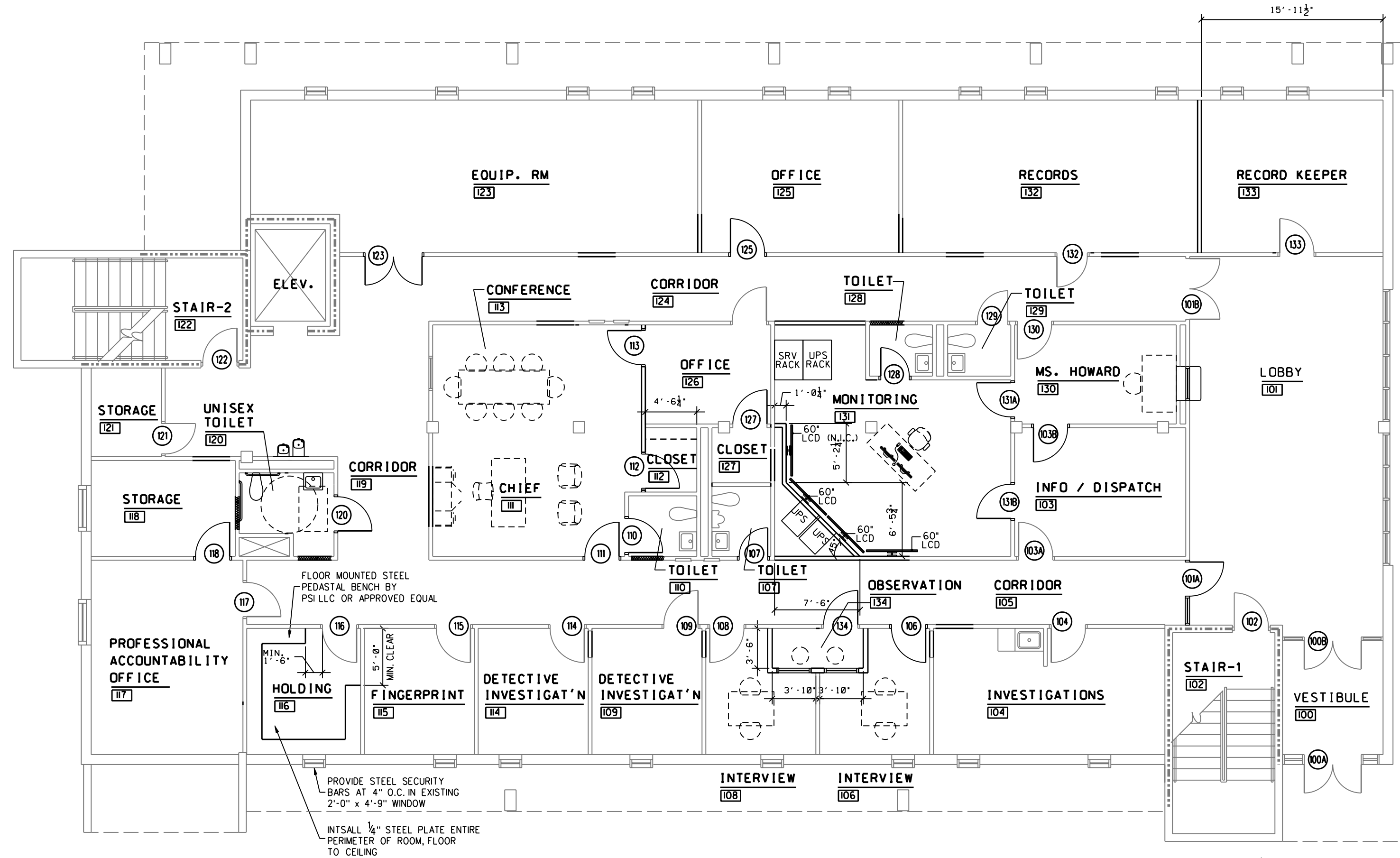
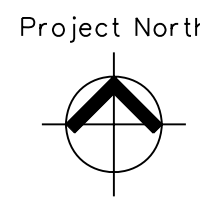
Project No:

Copyright 2007  
Melvin Gill, Architect  
©



BASEMENT FLOOR

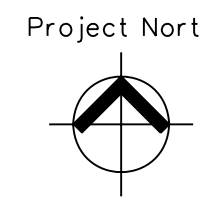
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SCALE: 1/8" = 1'-0"



FIRST FLOOR - NEW FLOOR PLAN

(6,450 SQ. FT.)

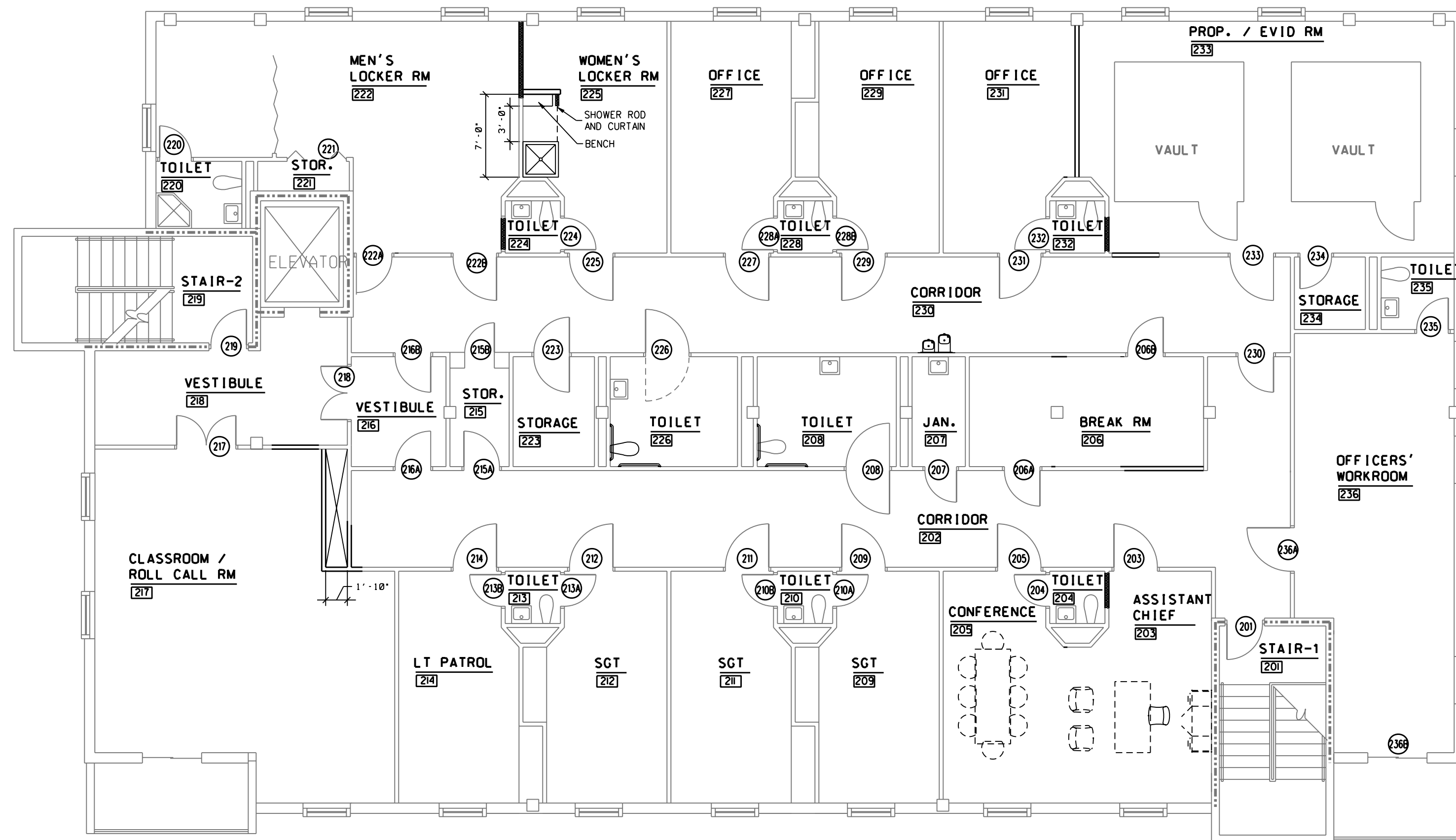
0 2 4 8 12  
SCALE: 1/8" = 1'-0"



WALL LEGEND:

- EXISTING CONSTRUCTION
- EXISTING 2 HOUR WALL
- NEW NON-RATED WALL
- SOUND ATTENUATION

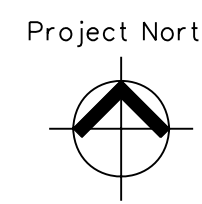
EXTEND ALL NEW WALLS TIGHT AGAINST THE  
UNDERSIDE OF THE CONCRETE SLAB ABOVE.



SECOND FLOOR - NEW FLOOR PLAN

(7,466 SQ. FT.)

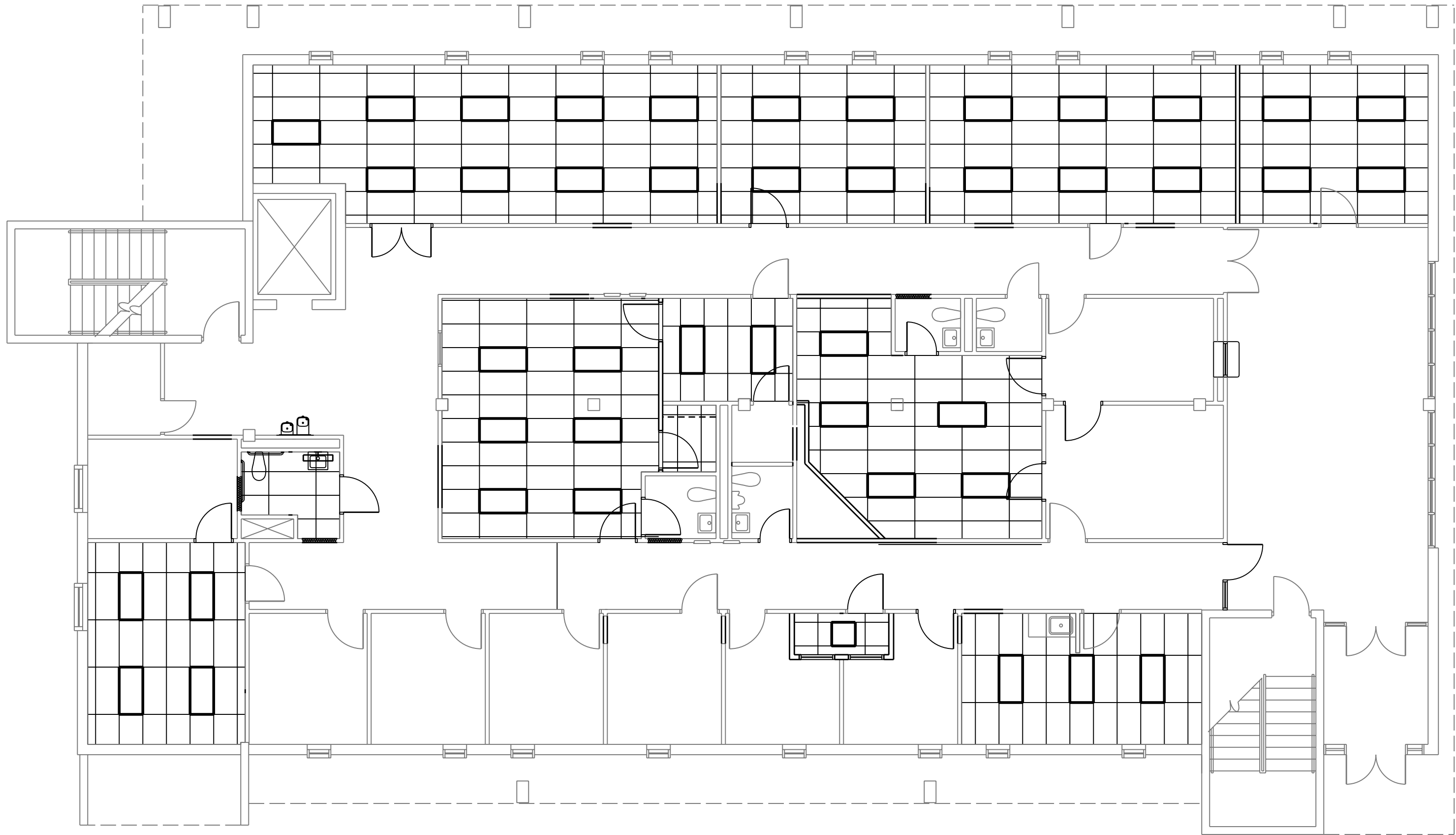
0 2 4 8 12  
SCALE: 1/8" = 1'-0"



- NOTES:
1. EXISTING CEILING TO REMAIN THROUGHOUT, UNLESS OTHERWISE NOTED.
  2. MAINTAIN EXISTING CEILING HEIGHTS THROUGHOUT PER NEW WORK.
  3. REPLACE ALL DAMAGED AND STAINED CEILING TILES AS REQUIRED.

REFLECTED  
CEILING LEGEND:

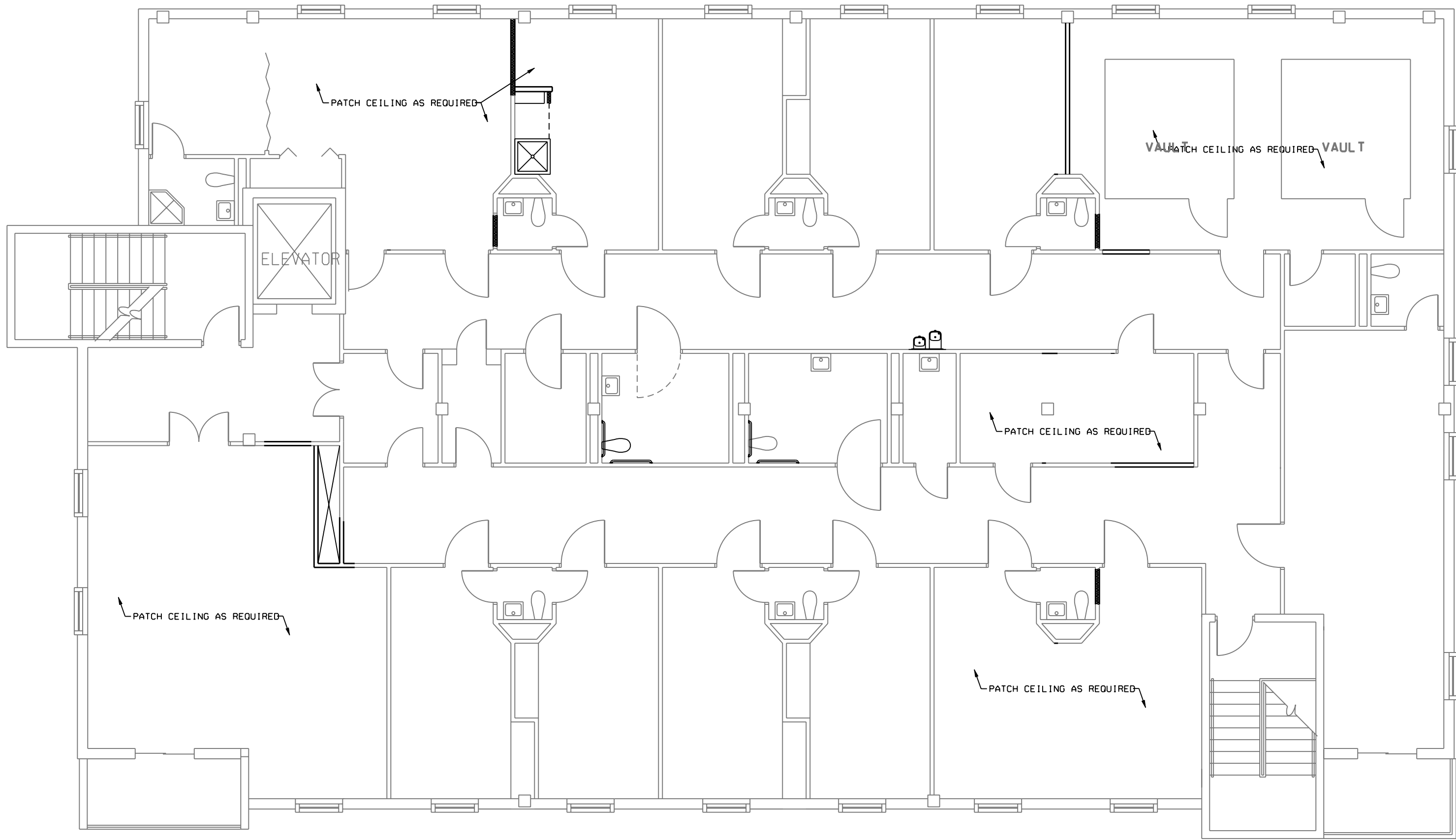
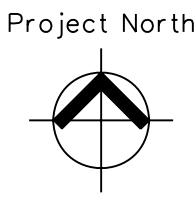
- 2X4 CEILING GRID
- GYPSUM BOARD  
CEILING, PAINTED
- EXPOSED CONCRETE
- 2X4 LAY-IN FLUORESCENT  
LIGHT FIXTURE
- 1X4 SURFACE MOUNTED  
FLOURESCENT LIGHT FIXTURE
- 2X2 LAY-IN FLUORESCENT  
LIGHT FIXTURE
- WALL MOUNTED  
FLOURESCENT LIGHT FIXTURE
- EXIT LIGHT



FIRST FLOOR - REFLECTED CEILING PLAN



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



SECOND FLOOR - REFLECTED CEILING PLAN



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



**TSU POLICE DEPARTMENT RELOCATION**  
Tennessee State University  
3500 JOHN MERRITT BOULEVARD  
NASHVILLE, TENNESSEE 37209

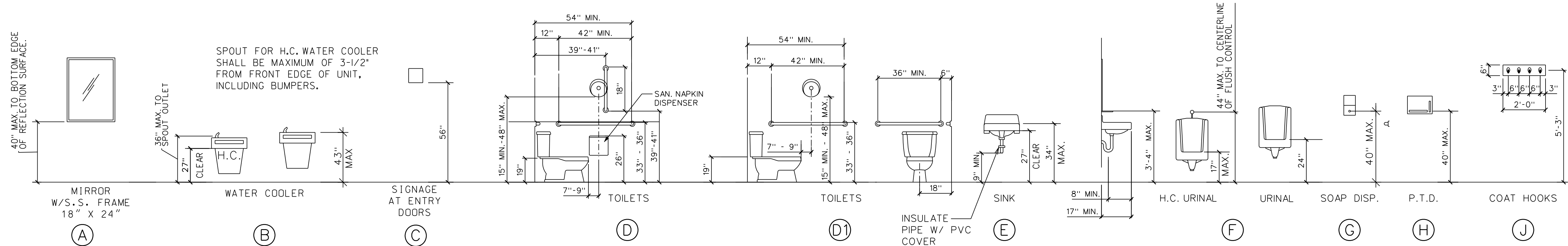
**MELVIN GILL & ASSOCIATES**  
ARCHITECTS and PLANNERS  
1821 Temple Boulevard, Nashville, Tennessee 37208 (615) 242-GILL (4455)

Designer: \_\_\_\_\_  
Technician: \_\_\_\_\_  
Reviewer: \_\_\_\_\_  
Date: \_\_\_\_\_

Sheet Title:  
FIRST & SECOND  
FLOOR RCP

A-3

Project No: \_\_\_\_\_

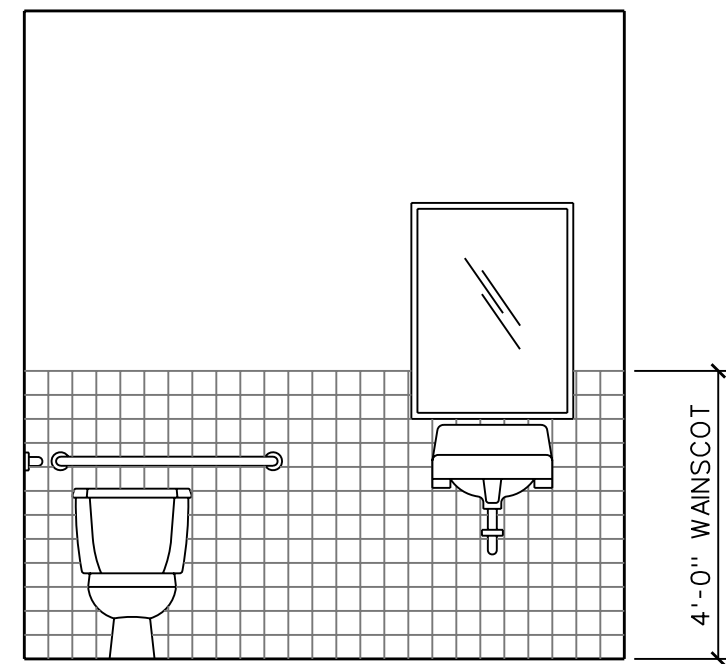


## MISCELLANEOUS MOUNTING HEIGHTS

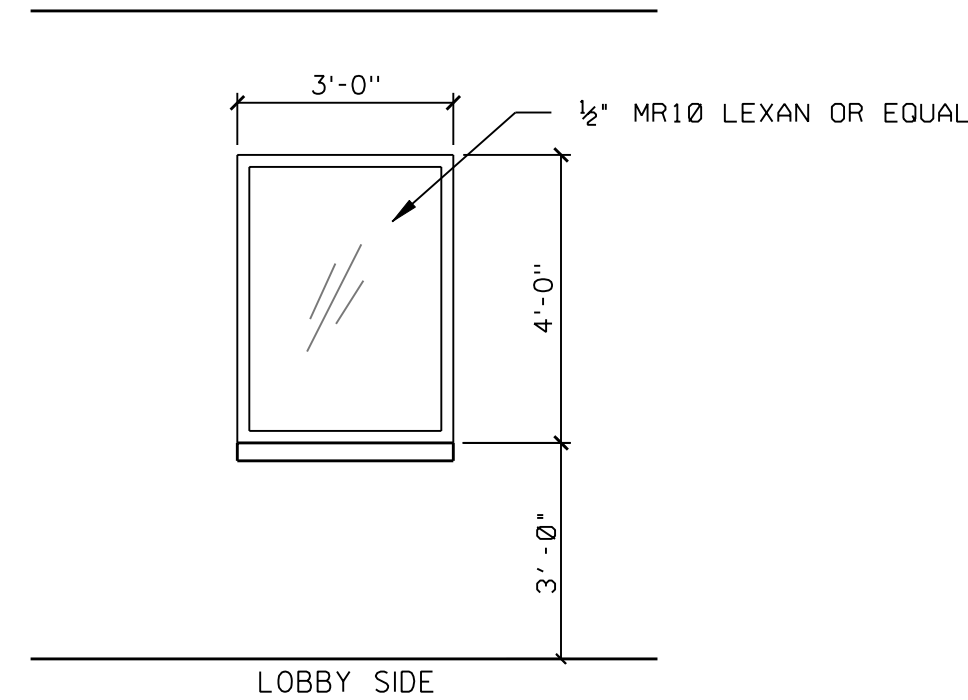
SCALE: 1/4" = 1'-0"

NOTE:  
GRAB BAR DESIGN AND INSTALLATION SHALL COMPLY WITH ADA/ABA ACCESSIBILITY GUIDELINES:  
1. G.B. TO BE 1 1/4" TO 1 1/2" IN WIDTH OR OUTSIDE DIA.  
2. G.B. TO HAVE 1 1/2" CLEAR SPACE BETWEEN FACE OF GRAB BAR AND FACE OF WALL.  
3. GRAB BARS SHALL WITHSTAND A 250 LB. FORCE APPLIED IN A VERTICAL OR HORIZONTAL DIRECTION AT ANY POINT ON THE GRAB BAR, FASTENER, MOUNTING DEVICE, OR SUPPORTING STRUCTURE.

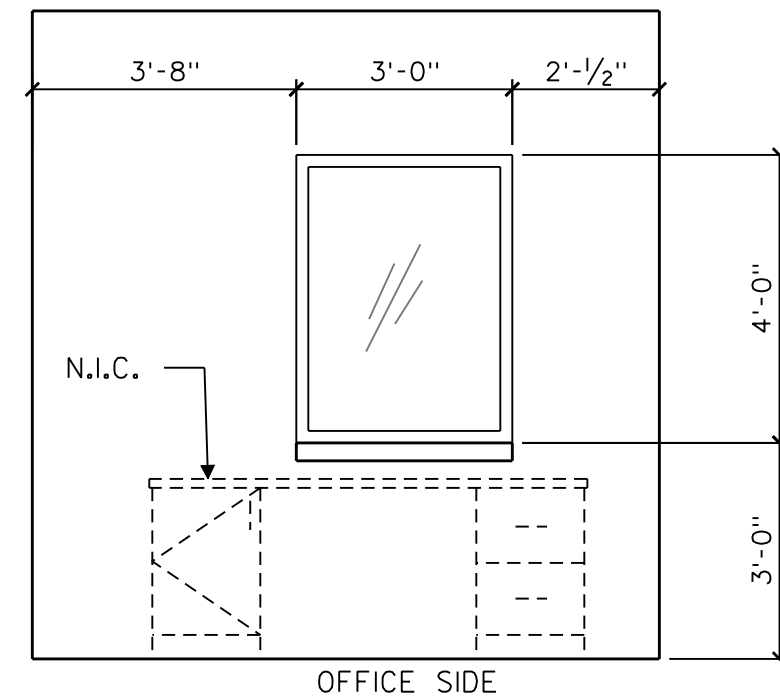
NOTE:  
H.C. WATER COOLER:  
1. THE CLEAR FLOOR SPACE REQ'D. AT H.C. DRINKING FOUNTAIN MUST BE A MIN. OF 30" WIDE BY 48" LONG. (LONG DIM. MUST BE PARALLEL TO THE DIRECTION OF THE APPROACH).



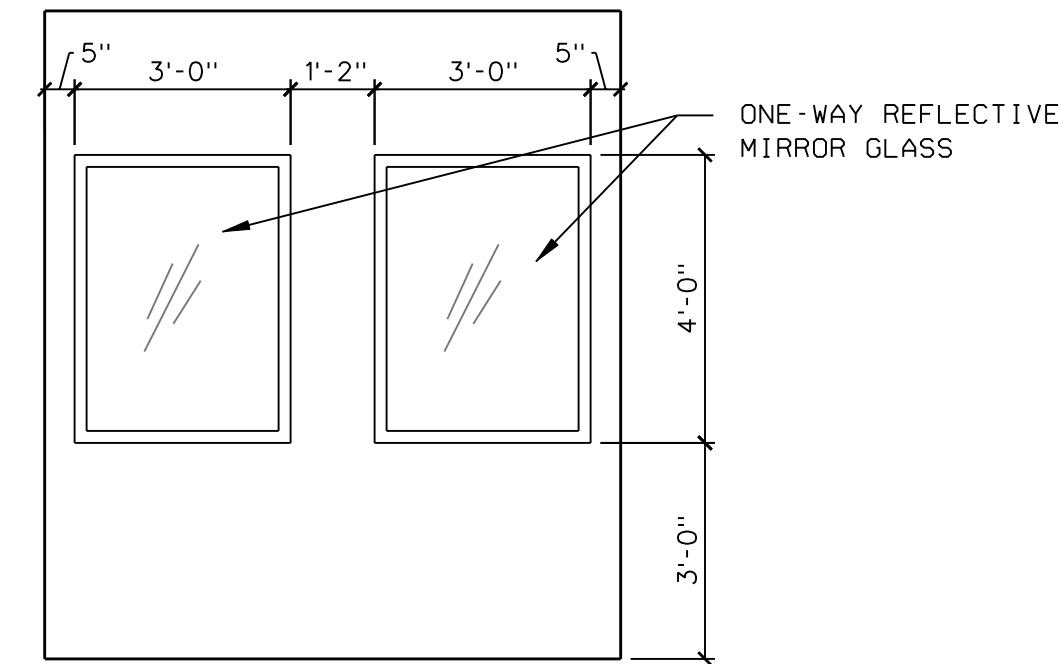
1 TOILET ELEV SCALE: 3/8" = 1'-0"



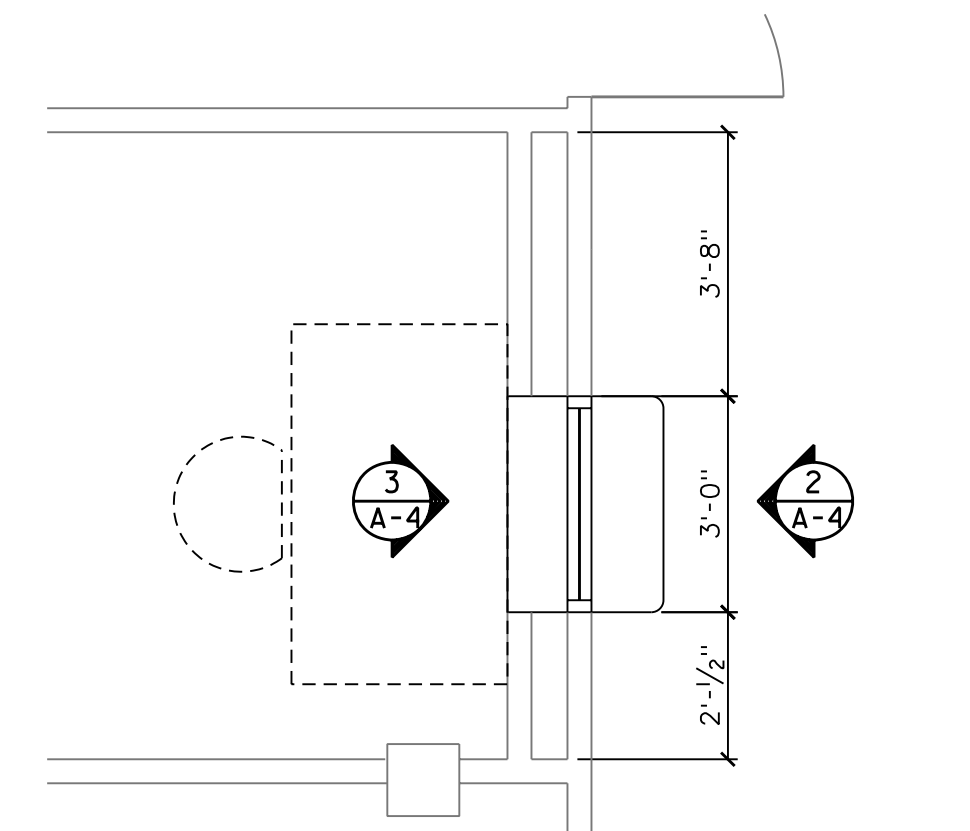
2 SERVICE COUNTER ELEV SCALE: 3/8" = 1'-0"



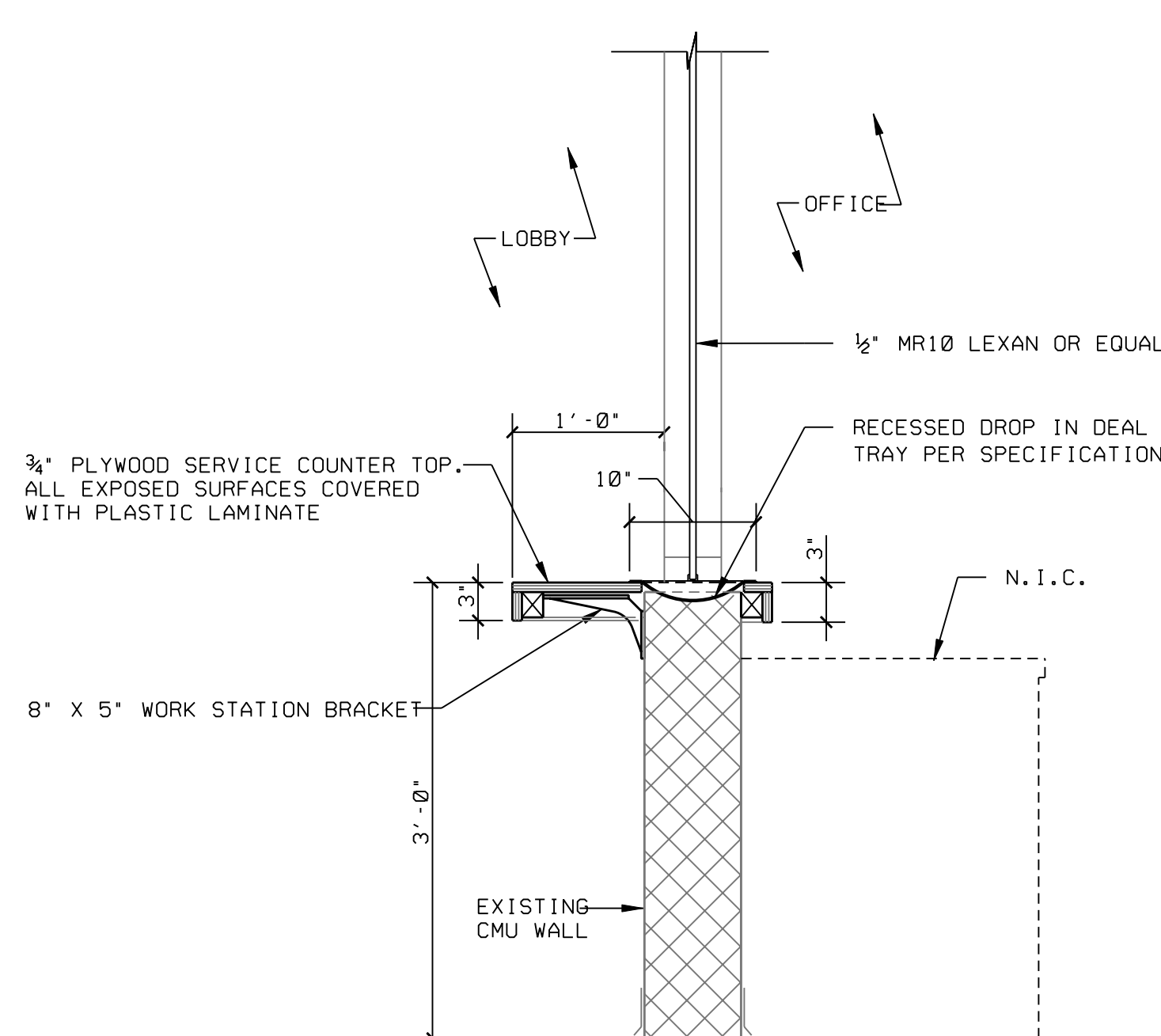
3 SERVICE COUNTER ELEV SCALE: 3/8" = 1'-0"



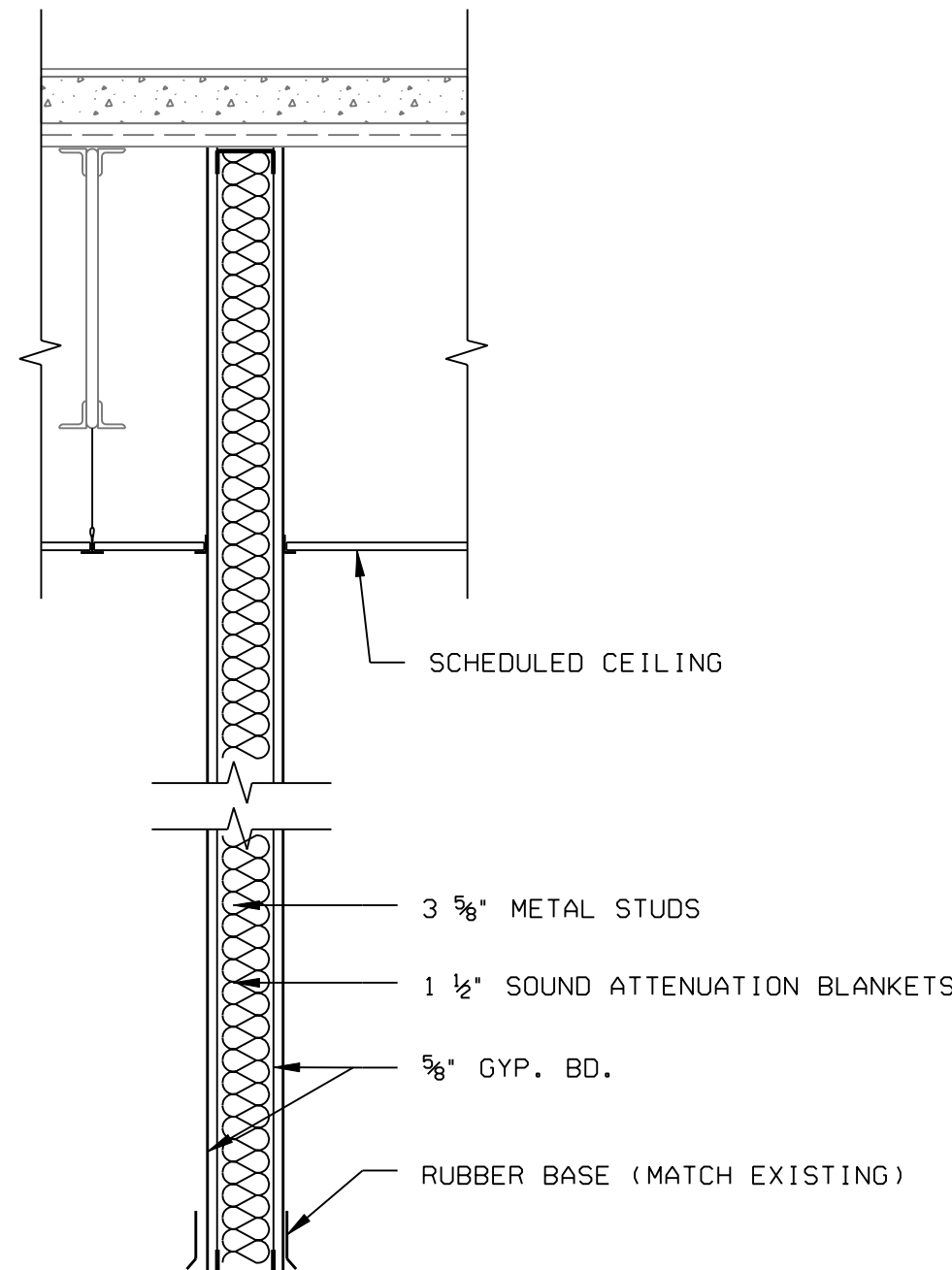
4 OBSERVATION ROOM SCALE: 3/8" = 1'-0"



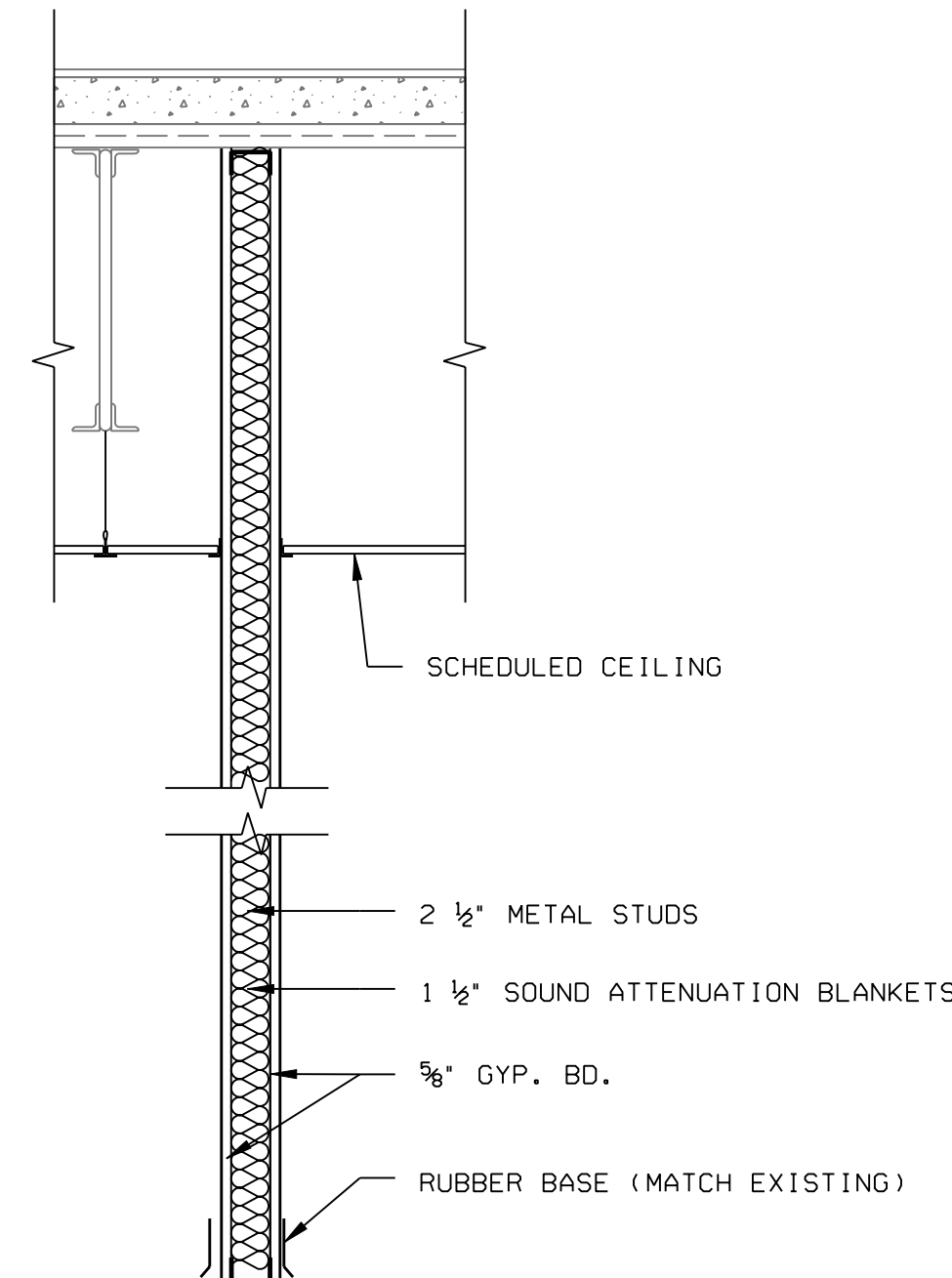
LOBBY/MS. HOWARD'S OFFICE SCALE: 3/8" = 1'-0"



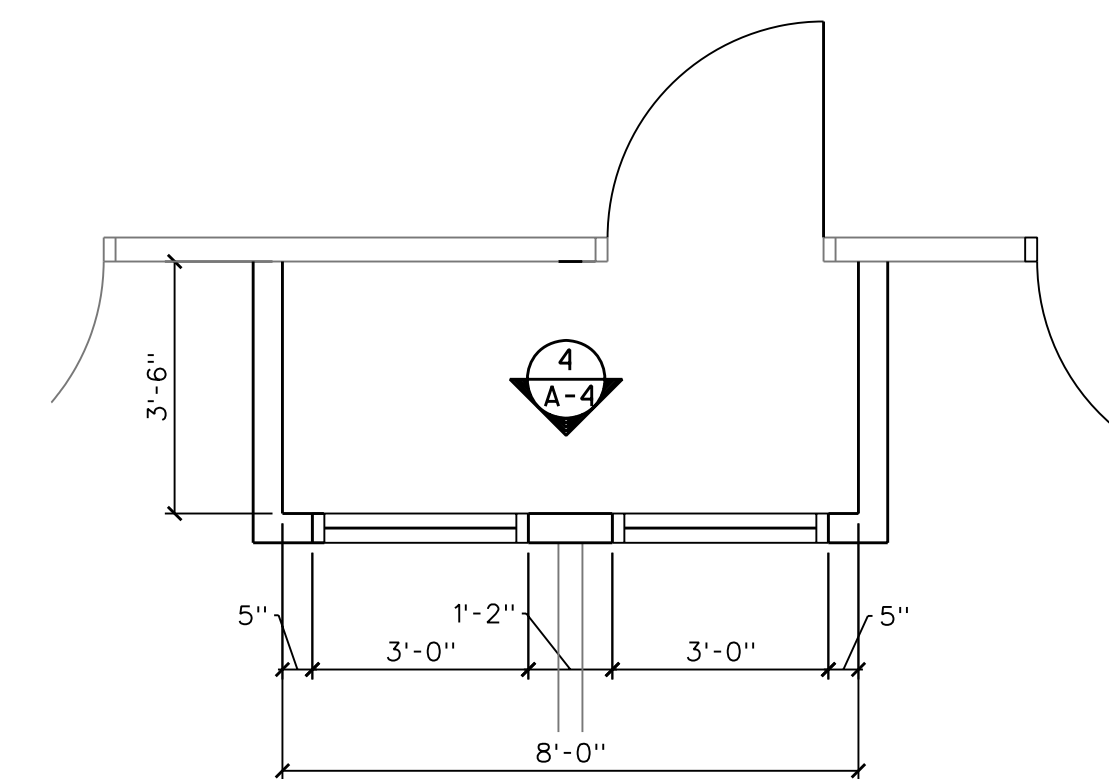
SECTION @ LOBBY/  
MS. HOWARD'S OFFICE  
SCALE: 1" = 1'-0"



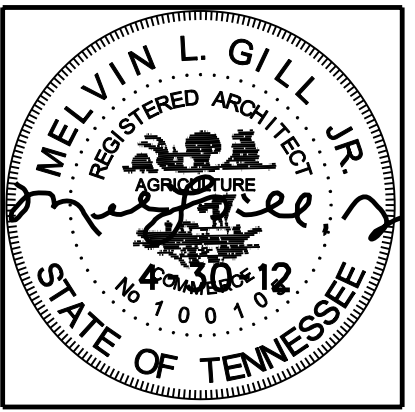
WALL TYPE 1  
SCALE: 1" = 1'-0"



WALL TYPE 2  
SCALE: 1" = 1'-0"



OBSERVATION ROOM  
SCALE: 3/8" = 1'-0"



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Tennessee State University  
3500 JOHN MERRITT BOULEVARD  
NASHVILLE, TENNESSEE 37209

MELVIN GILL & ASSOCIATES  
ARCHITECTS and PLANNERS  
1821 Temple Boulevard, Nashville, Tennessee 37208 (615) 242-6111 (445)

Designer: M.G.  
Technician: M.G.  
Reviewer: M.G.  
Date: 10/1/07

Sheet Title:  
INTERIOR ELEVATIONS  
AND DETAILS

A-4

Project No:

FINISH SCHEDULE: FIRST FLOOR

SPACE		FLOOR	BASE	WALLS								CEIL'G		CEIL'G HEIGHT	REMARKS
NUMBER	NAME	MATERIAL	MATERIAL	NORTH		SOUTH		EAST		WEST					
				MTRL	FIN	MTRL	FIN	MTRL	FIN	MTRL	FIN	MTRL	FIN		
100	VESTIBULE	EXISTING	EXISTING	---	PT.	---	PT.	EXIST CMU	PT.	EXIST CMU	PT.	----	EXISTING		
101	LOBBY	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	----	EXISTING		
102	STAR-1	EXISTING	EXISTING	EXIST CMU	PT.	EXIST CMU	PT.	EXIST CMU	PT.	EXIST CMU	PT.	----	EXISTING		
103	INFO / DISPATCH	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
104	INVESTIGATIONS		RUBBER	DRY WALL	PT.	EXIST CMU	PT.	EXIST CMU	PT.	DRY WALL	PT.	2 x 4	EXISTING		
105	CORRIDOR	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
106	INTERVIEW	EXISTING	EXISTING	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
107	TOILET	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
108	INTERVIEW	EXISTING	EXISTING	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
109	DETECTIVE INVESTIGATION	EXISTING	EXISTING	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
110	TOILET		C.T.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
111	CHIEF		RUBBER	---	---	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	2 x 4	EXISTING		
112	CLOSET		RUBBER	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	2 x 4	EXISTING		
113	CONFERENCE		RUBBER	DRY WALL	PT.	---	---	DRY WALL	PT.	DRY WALL	PT.	2 x 4	EXISTING		
114	DETECTIVE INVESTIGATION	EXISTING	EXISTING	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
115	FINGERPRINT	EXISTING	EXISTING	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
116	HOLDING	EXISTING	EXISTING	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
117	PRO. ACCT. OFFICE		RUBBER	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	EXIST CMU	PT.	2 x 4	EXISTING		
118	STORAGE	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	EXIST CMU	PT.	----	EXISTING		
119	CORRIDOR	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
120	UNISEX TOILET		C.T.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	2 x 4	EXISTING		
121	STORAGE	EXISTING	EXISTING	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	EXIST CMU	PT.	----	EXISTING		
122	STAR-2	EXISTING	EXISTING	EXIST CMU	PT.	EXIST CMU	PT.	EXIST CMU	PT.	EXIST CMU	PT.	----	EXISTING		
123	EQUIP. ROOM		RUBBER	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	EXIST CMU	PT.	2 x 4	EXISTING		
124	CORRIDOR	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
125	OFFICE		RUBBER	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	2 x 4	EXISTING		
126	OFFICE		RUBBER	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	2 x 4	EXISTING		
127	CLOSET		RUBBER	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
128	TOILET	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
129	TOILET	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
130	MS. HOWARD	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
131	MONITORING		RUBBER	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	2 x 4	EXISTING		
132	RECORDS		RUBBER	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	2 x 4	EXISTING		
133	RECORD KEEPER		RUBBER	EXIST CMU	PT.	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	2 x 4	EXISTING		
134	OBSERVATION		RUBBER	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	2 x 4	EXISTING		

FINISH SCHEDULE: SECOND FLOOR

SPACE		FLOOR	BASE	WALLS								CEIL'G		CEIL'G	REMARKS
NUMBER	NAME	MATERIAL	MATERIAL	NORTH		SOUTH		EAST		WEST		MTRL		HEIGHT	
				MTRL	FIN	MTRL	FIN	MTRL	FIN	MTRL	FIN	MTRL	FIN		
201	STAIR-1	EXISTING	EXISTING	EXIST CMU	PT.	EXIST CMU	PT.	EXIST CMU	PT.	EXIST CMU	PT.	----	EXISTING		
202	CORRIDOR	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
203	ASSISTANT CHIEF	VCT	RUBBER	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	---	---	DRY WALL	EXISTING		
204	TOILET	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
205	CONFERENCE	VCT	RUBBER	DRY WALL	PT.	DRY WALL	PT.	---	---	DRY WALL	PT.	DRY WALL	EXISTING		
206	BREAK RM	VCT	RUBBER	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	EXISTING		
207	JANITOR	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
208	TOILET	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
209	SGT	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
210	TOILET	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
211	SGT	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
212	SGT	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
213	TOILET	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
214	LT PATROL	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
215	STORAGE	EXISTING	EXISTING	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
216	VESTIBULE	EXISTING	EXISTING	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
217	CLASSROOM / ROLL CALL RM	VCT	RUBBER	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	EXISTING		
218	VESTIBULE	EXISTING	EXISTING	EXIST CMU	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
219	STAIR-2	EXISTING	EXISTING	EXIST CMU	PT.	EXIST CMU	PT.	EXIST CMU	PT.	EXIST CMU	PT.	----	EXISTING		
220	TOILET	EXISTING	EXISTING	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
221	STORAGE	EXISTING	EXISTING	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
222	MEN'S LOCKER RM	VCT	RUBBER	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	EXISTING		
223	STORAGE	EXISTING	EXISTING	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
224	TOILET	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
225	WOMEN'S LOCKER RM	VCT	RUBBER	DRY WALL	PT.	EXIST CMU	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	EXISTING		
226	TOILET	C.T.	C.T.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
227	OFFICE	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
228	TOILET	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
229	OFFICE	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
230	CORRIDOR	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
231	OFFICE	VCT	RUBBER	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
232	TOILET	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
233	PROP. / EVID RM	VCT	RUBBER	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	EXISTING		
234	STORAGE	VCT	RUBBER	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
235	TOILET	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		
236	OFFICERS' WROKROOM	EXISTING	EXISTING	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	DRY WALL	PT.	----	EXISTING		

NOTE:  
ALL EXISTING FINISHES TO REMAIN SHALL BE PROTECTED FROM DAMAGE THAT MAY BE CAUSED BY DEMOLITION AND CONSTRUCTION.

GYPSUM WALLBOARD, STEEL STUDS

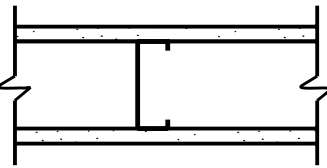
ONE LAYER 5/8" TYPE X GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED PARALLEL OR AT RIGHT ANGLES TO EACH SIDE OF 3-5/8" STEEL STUDS 24" o.c. WITH 1" TYPE S DRYWALL SCREWS 8" o.c. AT VERTICAL JOINTS AND 12" o.c. AT FLOOR AND CEILING RUNNERS AND INTERMEDIATE STUDS.

JOINTS STAGGERED 24" ON EACH SIDE AND ON OPPOSITE SIDES. SOUND TESTED WITH 3-1/2" GLASS FIBER FRICTION FIT IN STUD SPACE.

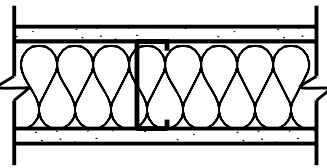
THICKNESS: 3-1/2"  
APPROX. WEIGHT 5 PSF  
FIRE TEST UL R3501, 93NK22748  
9-15-93  
UL DESIGN V401:  
FM WP-731, 9-12-84  
SEE WP 1070  
(RAL TL69-42, 10-17-68)

SOUND TEST:

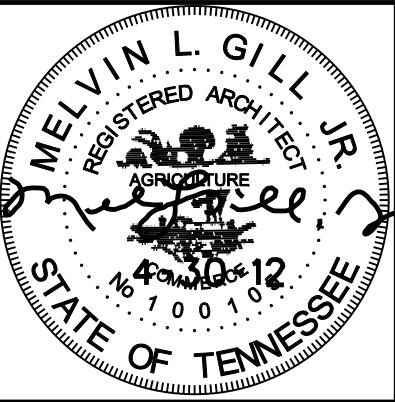
1 HOUR  
FIRE



45 TO 49 STC  
SOUND



NOTE:  
1. SEE NOTE WITH DETAIL 2 ON SHEET A-14 FOR LOCATION OF PARTITIONS WITH SOUND ATTENUATION INSULATION



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Designer: \_\_\_\_\_  
Technician: \_\_\_\_\_  
Reviewer: \_\_\_\_\_  
Date: \_\_\_\_\_

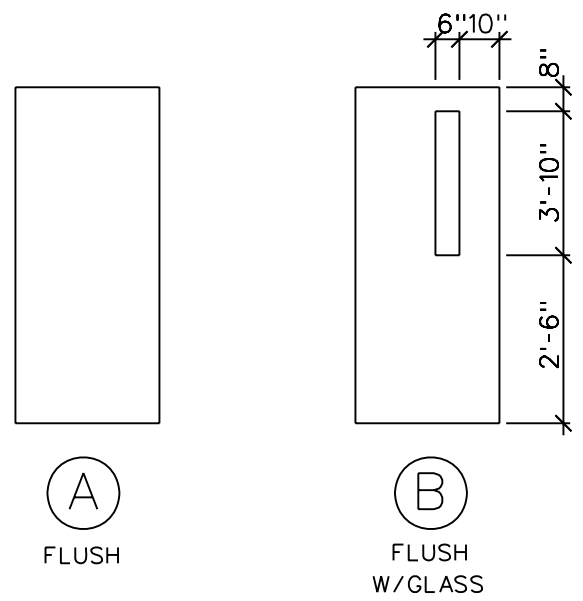
Sheet Title:  
FINISH SCHEDULE

A-5

Project No:

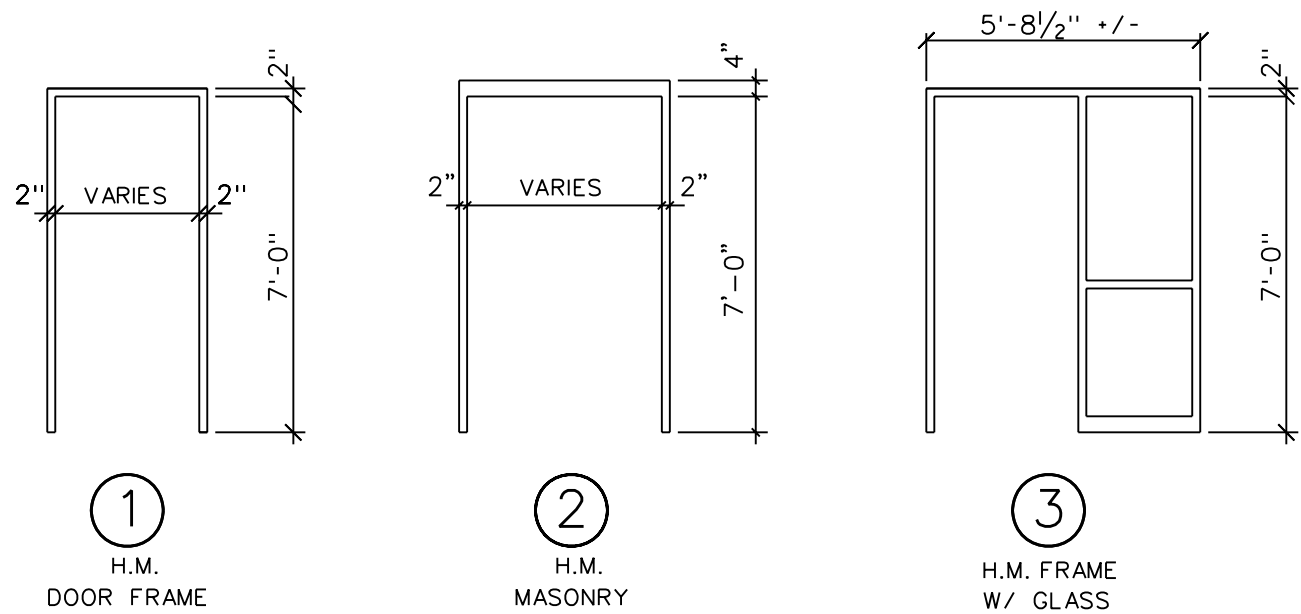
DOOR SCHEDULE: FIRST FLOOR / BASEMENT

DOOR NO.	ROOM NAME	DOOR						FRAME					FIRE RATING LABEL	HARDWARE		REMARKS
		SIZE	THICK	MAT.	TYPE	GLASS	UNDER CUT	MAT.	TYPE	DETAILS	JAMB	HEAD	SILL	SET NO	KEYSIDE SPACE	
		WIDTH	HEIGHT													
001	CORRIDOR	EXISTING	TO REMAIN													PROVIDE KEY FOB
100A	VESTIBULE	EXISTING	TO REMAIN													
100B	VESTIBULE	EXISTING	TO REMAIN													
101A	LOBBY	3'-0"	7'-0"	1¾"	WD	B		H.M.	3	1	1					PROVIDE KEY FOB
101B	LOBBY	EXISTING	TO REMAIN													PROVIDE KEY FOB
102	STAIR-1	EXISTING	TO REMAIN													PROVIDE KEY FOB
103A	INFO / DISPATCH	3'-0"	7'-0"	1¾"	WD	A		H.M.	1	2	2					
103B	INFO / DISPATCH	EXISTING	TO REMAIN													
104	INVESTIGATIONS	EXISTING	TO REMAIN													
106	INTERVIEW	EXISTING	TO REMAIN													
107	TOILET	2'-6"	7'-0"	1¾"	WD	A		H.M.	1	2	2					
108	INTERVIEW	EXISTING	TO REMAIN													
109	DETECTIVE INVESTIGATION	EXISTING	TO REMAIN													
110	TOILET	2'-6"	7'-0"	1¾"	WD	A		H.M.	1	2	2					
111	CHIEF	3'-0"	7'-0"	1¾"	WD	A		H.M.	1	2	2					
112	CLOSET	2'-6"	7'-0"	1¾"	WD	A		H.M.	1	1	1					
113	CONFERENCE	3'-0"	7'-0"	1¾"	WD	A		H.M.	1	2	2					
114	DETECTIVE INVESTIGATION	EXISTING	TO REMAIN													
115	FINGERPRINT	EXISTING	TO REMAIN													
116	HOLDING	EXISTING	TO REMAIN													PROVIDE KEY FOB
117	PRO. ACCOUNTABILITY OFFICE	EXISTING	TO REMAIN													
118	STORAGE	3'-0"	7'-0"	1¾"	WD	A		H.M.	1	1	1					
120	UNISEX TOILET	3'-0"	7'-0"	1¾"	WD	A		H.M.	1	2	2					
121	STORAGE	EXISTING	TO REMAIN													
122	STAIR-2	EXISTING	TO REMAIN													
123	EQUIP. RM	2'-6" PAIR	7'-0"	1¾"	WD	A		H.M.	1	1	1					
125	OFFICE	3'-0"	7'-0"	1¾"	WD	A		H.M.	1	2	2					
126	OFFICE	EXISTING	TO REMAIN													
127	CLOSET	2'-6"	7'-0"	1¾"	WD	A		H.M.	1	1	1					
129	TOILET	2'-6"	7'-0"	1¾"	WD	A		H.M.	1	2	2					
130	MS. HOWARD	EXISTING	TO REMAIN													
131A	MONITORING	3'-0"	7'-0"	1¾"	WD	A		H.M.	1	2	2					
131B	MONITORING	3'-0"	7'-0"	1¾"	WD	A		H.M.	1	2	2					
132	RECORDS	EXISTING	TO REMAIN													
133	RECORD KEEPING	EXISTING	TO REMAIN													
134	OBSERVATION	3'-0"	7'-0"	1¾"	WD	A		H.M.	1	2	2					



NOTE:  
HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERABLE PARTS ON DOORS AND GATES SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAXIMUM.  
OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FINISH FLOOR.

DOOR TYPES

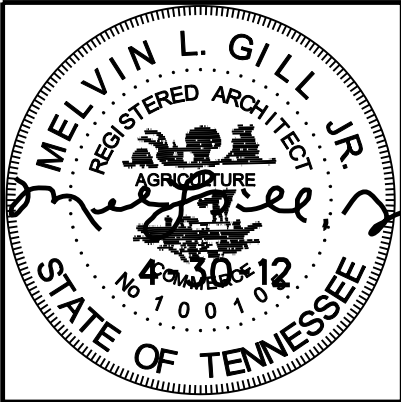


FRAME TYPES

DOOR SCHEDULE: SECOND FLOOR

DOOR NO.	ROOM NAME	DOOR						FRAME					FIRE RATING LABEL	HARDWARE		REMARKS
		SIZE	THICK	MAT.	TYPE	GLASS	UNDER CUT	MAT.	TYPE	DETAILS	JAMB	HEAD	SILL	SET NO	KEYSIDE SPACE	
		WIDTH	HEIGHT													
201	STAIR-1	EXISTING	TO REMAIN													
203	ASSISTANT CHIEF	EXISTING	TO REMAIN													
204	TOILET	EXISTING	TO REMAIN													
205	CONFERENCE	EXISTING	TO REMAIN													
206A	BREAK RM	EXISTING	TO REMAIN													
206B	BREAK RM	EXISTING	TO REMAIN													
207	JANITOR	EXISTING	TO REMAIN													
208	TOILET	EXISTING	TO REMAIN													
209	SGT	EXISTING	TO REMAIN													
210A	TOILET	EXISTING	TO REMAIN													
210B	TOILET	EXISTING	TO REMAIN													
211	SGT	EXISTING	TO REMAIN													
212	SGT	EXISTING	TO REMAIN													
213A	TOILET	EXISTING	TO REMAIN													
213B	TOILET	EXISTING	TO REMAIN													
214	LT PATROL	EXISTING	TO REMAIN													
215A	STORAGE	EXISTING	TO REMAIN													
215B	STORAGE	EXISTING	TO REMAIN													
216A	VESTIBULE	EXISTING	TO REMAIN													
216B	VESTIBULE	EXISTING	TO REMAIN													
217	CLASSROOM / ROLL CALL RM	EXISTING	TO REMAIN													
218	VESTIBULE	EXISTING	TO REMAIN													
219	STAIR-2	EXISTING	TO REMAIN													
220	TOILET	EXISTING	TO REMAIN													
221	STORAGE	EXISTING	TO REMAIN													
222A	MEN'S LOCKER RM	EXISTING	TO REMAIN													
222B	MEN'S LOCKER RM	EXISTING	TO REMAIN													
224	TOILET	EXISTING	TO REMAIN													
225	WOMEN'S LOCKER RM	EXISTING	TO REMAIN													
226	TOILET	EXISTING	TO REMAIN													
227	OFFICE	EXISTING	TO REMAIN													
228A	TOILET	EXISTING	TO REMAIN													
228B	TOILET	EXISTING	TO REMAIN													
229	OFFICE	EXISTING	TO REMAIN													
230	CORRIDOR	EXISTING	TO REMAIN													
231	OFFICE	EXISTING	TO REMAIN													
232	TOILET	EXISTING	TO REMAIN													
233	PROP. / EVID RM	EXISTING	TO REMAIN													PROVIDE KEY FOB
234	STORAGE	EXISTING	TO REMAIN													
235	TOILET	EXISTING	TO REMAIN													
236A	OFFICERS' WORKROOM	EXISTING	TO REMAIN													
236B	OFFICERS' WORKROOM	EXISTING	TO REMAIN													

Revisions:



TSU POLICE DEPARTMENT RELOCATION  
Tennessee State University  
NASHVILLE, TENNESSEE 37209

MELVIN GILL & ASSOCIATES  
ARCHITECTS and PLANNERS  
1821 Temple Boulevard, Nashville, Tennessee 37208 (615) 242-GILL (4453)

Designer: \_\_\_\_\_  
Technician: \_\_\_\_\_  
Reviewer: \_\_\_\_\_  
Date: \_\_\_\_\_

Sheet Title:  
DOOR SCHEDULE  
AND DETAILS

A-6

Project No: \_\_\_\_\_



SECTION 22 1113 – PLUMBING

- 1.0 Design based on International Plumbing Code. Where local municipal codes have jurisdiction, the applicable plumbing code shall prevail. Wherever individual or more stringent codes apply, these shall be adopted.
- 2.0 General: For each service, provide the piping materials indicated including pipe, fittings, supports, anchors, valves, and accessories as necessary.
- A. PLUMBING PIPING
- 1.0 Provide pipe type, joint type, grade, size and weight (wall thickness of class) indicated for each service. Where type, grade or class is not indicated, provide proper selection as determined by installer for installation requirements and comply with governing regulations and industry standards.

DOMESTIC WATER PIPING

Temperature – 200 degrees F.

Operating Pressure: 125 PSIG.

Aboveground Pipe – All sizes – Type L, hard tempered copper tube, Schedule 40; or PVC PEX.

Belowground – 2" & smaller; Type K, soft tempered copper tube; 2–1/2" & larger; Type K, hard tempered copper tube, Schedule 40; or PVC PEX.

Fittings: All sizes 125 LB. MIN. wrought copper, socket ends. NO JOINTS UNDERSLAB.

Unions: 2–1/2" and smaller – 125 LB., cast bronze, socket ends, bronze to copper seats.

Joints: 95/5 Solder. The use of acid core and lead bearing solder is prohibited.

SANITARY PIPING (SOIL–WASTE–VENT) – Underground

Temperature: Ambient.

Operating Pressure: 150 PSIG maximum.

Pipe: Sch. 40, C.I., PVC;  
Soil, waste, vent, service weight, B & S ends.

Fittings: Cast iron, PVC; Soil, waste, and vent, service weight, B & S ends.

Vents underground 1–1/2" and smaller – screwed galvanized.

Joints: Neoprene gasket, Solvent cement.

SANITARY PIPING (SOIL, WASTE, VENT) ABOVEGROUND

Temperature: Ambient.

Operating Pressure: 150 PSIG maximum.

Pipe: Schedule 40, Cast iron. Waste – service weight C.I. plain ends (no hub). If PVC is used, provide fire protective wrap to maintain plenum rating where plenums are used.

Fittings: Waste – Service weight C.I. plain ASTM A74 (No hub).

Joints: Neoprene gasket and Series 300 stainless steel shield and clamp assembly.

- 2.0 Escutcheons:  
Provide chromeplated, cast set screw on all pipe penetrating a finished wall.
- 3.0 Interior Cleanouts:  
J. R. Smith, Josom, or approved equal. Provide at each direction in drain lines.
- 4.0 Exterior Cleanouts: J. R. Smith, 4225, Wade W–6010–1, Josom 56040.

C. PIPE INSTALLATION

- 1.0 Install pipe, fittings, and accessories in accordance with recognized industry practices which will achieve permanently leakproof piping sytems, capable of performing each indicated service without piping failure. Install each run with a minimum of joints and couplings, but with adequate and accessible unions for disassembly and maintenance/repairs of valves and equipment. Reduce sizes (where indicated) by use of reducing fittings. Align piping accurately at connections, within 1/16" misalignment tolerance. Comply with ANSI B31 Code for Pressure Piping.
- 2.0 All plumbing lines to be identified with type of fluid (ie: HW, CW, Temp Wtr, etc) and flow direction.

D. PIPING TESTS

- 1.0 Provide temporary equipment for testing, including pump and gauges. Test each natural section of each piping system independently, but do not use piping system valves to isolate sections where test pressure exceeds valve pressure rating. At each section fill and pressurize. Observe each test section for leakage at end of test period. Test fails if leakage is observed or if pressure drop exceeds 5% of test pressure.
- 2.0 Domestic Water Piping: Test and prove tight at a hydrostatic pressure of 150 PSIG held for two hours.
- 3.0 Sanitary & Storm Water Piping: Test and prove tight at a hydrostatic pressure head of 10 feet minimum for not less than thirty minutes.
- 4.0 Piping: Test with nitrogen at 100 PSIG for two hours.

SECTION 23 0500 – GENERAL

- 1.0 Furnish all materials, labor, tools, transportation and in–cidentals to complete in every detail and leave in working order all items called for herein or shown on the accompany–ing drawings.
- 2.0 It is the responsibility of this contractor to read all specifications and consult all drawings which may affect the installation and coordination of his work with other trades.

- 3.0 The layout shown on the drawings is based on a particular make of equipment. If another make of equipment is desired, contractor must provide six submittal sets of shop drawings to the owner for approval prior to starting work. These submittals must also show all required modifications and changes, including those involving other trades, and the cost thereof included in his bid. Contractor must receive approved submittal copy, signed by owner before proceeding with any modifications or specifications.
- 4.0 Contact the owner's representative immediately if any discrepancies or omissions in drawings or specifications are found. If there are any questions regarding the intent thereof, the owner's representative should be consulted.
- 5.0 The contractor is required to visit the site and fully inform himself concerning all conditions affecting the scope of work. Failure to do so shall not relieve the contractor of any responsibility in the performance of his work.
- 6.0 Contractor shall file all drawings, pay all fees and obtain all permits and certificates of inspection relative to this work.
- 7.0 Completed installation shall conform to all applicable Federal, State and local codes and ordinances, including but not limited to the latest approved editions of the following:
1. International Building Codes (Mechanical & Plumbing, Gas)
  2. NFPA–90A, NFPA–96, NFPA–101
- 8.0 System layout is schematic and exact locations shall be determined by structural and other conditions; coordinated with other trades. The contractor shall carefully investigate the structural and finish conditions affecting his work and shall arrange such work accordingly. Structural supports are not to be cut or altered to assure fit of HVAC systems.
- 9.0 Contractor is responsible for all defects, repairs and replacements in materials and workmanship for a period of one year after final payment is approved. Contractor to honor factory warranties on all equipment provided as a part of this system.
- 10.0 Upon completion of the project, all system equipment and materials shall be in new, clean condition with all damage restored to acceptable condition. All equipment, components and ductwork shall be inspected and thoroughly cleaned, ready for use. At completion of the job, all miscellaneous tools, conducting tests, preparing and submitting reports, and recommending modifications to the Work.
- 11.0 If HVAC equipment is used for temporary heating or cooling, the contractor must assume responsibility for cleaning filters, coils, etc. Final permanent connections of services to units must be complete prior to any start–up of equipment.
- 12.0 Where pipes or ducts are to pass through walls, duct sleeves shall be provided prior to wall construction. Sleeve shall be of equal or greater gauge metal than pipes passing through.

SECTION 23 0593 – HVAC TEST, ADJUST, & BALANCE

- 1.0 Provide all of the labor, materials, equipment and services required to provide the test–adjust–balance work required.
- 2.0 This work shall include, but not be limited to, air distribution systems, and associated equipment and apparatus of HVAC work; and setting the speed, volume, and temperature change adjusting facilities provided for the systems, recording data, conducting tests, preparing and submitting reports, and recommending modifications to the Work.
- 3.0 The component types of testing, adjusting and balancing shall include, but not be limited to, the following HVAC equipment:

HVAC Low Pressure Duct System (air handling units, ductwork, grille and diffusers).

Exhaust Fans

QUALITY ASSURANCE

- 1.0 The independent testing agent shall be a firm with at least two years successful test–adjust–balance experience on projects that have had testing and balancing similar to those required herein. The TAB firm shall be submitted for the engineer's approval within 30 days after contract is signed for mechanical portion of this project.
- 2.0 AABC Compliance: Comply with the Associated Air Balance Council Publication No. 1-173, "National Standards for Field Measurements and Instrumentation, Total System Balance", as applicable to HVAC air and hydronic distribution system and associated equipment and apparatus.

SECTION 23 0700 – INSULATION

A. DUCTWORK

- 1.0 Insulate all supply, return, and outside air trunk duct with a one inch glass fiber wrap U.L. approved, having a conductivity no greater than 0.20 at 75 degrees F. Concealed duct runouts to be externally wrapped with insulation thickness of two inches with no raw edges exposed or left uncovered. All external insulation shall have a foil faced vapor barrier jacket.
- 2.0 All exposed ductwork (duct with no ceiling below) to be internally lined with a pre–formed, fiberglass insulation liner. Provide with an acrylic polymer airstream surface coating capable of withstanding velocities up to 3,000 FPM without fiber erosion.

B. DOMESTIC WATER PIPE

- 1.0 Insulate with sectional glass fiber insulation, UL approved, (max. 180 degree F) having a conductivity no greater than 0.24 at 75 degrees and have a maximum vapor barrier transmission of 0.02 perms. Seal seams and joints with manufacturer flame resistant vapor barrier jacket with double seal sealing lap.
- Insulation Thickness:  
Hot Water Supply/Return – 1" and less; 3/4"  
– 1–1/4" and larger; 1"  
Cold Water Pipe in Interior Space; 1/2"

SECTION 23 3113 – DUCTWORK

- 1.0 General: All sheetmetal ductwork shall conform to the following standards.
- NFPA 90A, "Standard for the Installation of Air Conditioning and Ventilating Systems."
- NFPA 96, "Standard for the Installation of Equipment for the Removal of Smoke and Grease–Laden Vapors for Commercial Cooking Equipment," Chapter 3, "Duct System," for kitchen hood duct systems.
- 2.0 Install ductwork in strict accordance with best standard practices as described in the SMACNA Low Velocity Duct Manual for 3/4" static pressure rating and Class "C" seals.
- 3.0 Minimum duct gauges are as follows:
- | Maximum Dimension | Steel Gauge |
|-------------------|-------------|
| Thru 12"          | 26          |
| 13" thru 30"      | 24          |
| 31" thru 54"      | 22          |
| 55" thru 84"      | 20          |
- 4.0 Ductwork dimensions shown on the drawings are net inside dimensions.
- 5.0 Qualify each welder in accordance with AWS qualification tests for welding processes involved. Certify that their qualification is current.

HVAC DUCTWORK

- 1.0 Construct ductwork from bloom galvanized steel according to SMACNA Standards. Make square rectangular elbows where shown with double thickness turning vanes in supply and return ductwork. Provide connector to inlet and outlet of air handling equipment with flexible connections not less than 4" long made of neoprene impregnated glass fabric. Provide two bore 1/2" wide braided copper jumper wires across each flexible connection and securely bolt to duct on each side of flexible connections. Seal all joints in galvanized duct with Hardcoat DT300 3" wide tape coated with FTA 20 adhesive, standard duct tape will not be acceptable. Any joints exposed to outdoor elements shall be sealed using an asphalt based or similar sealant in order to make joint weathertight.

HANGERS & SUPPORTS

- 1.0 Hangers and supports shall be installed in accordance with SMACNA guidelines.
- 2.0 Support of other items from ductwork is prohibited.

SPIN–IN BALANCING COLLARS

- 1.0 Sheet metal conical or heeled top with locking quadrant balancing dampers are to be supplied at all branch take–offs. Material of construction shall match the main supply duct.

VANES AND DEFLECTORS

- 1.0 Vanes and deflectors where described shall be provided of the same material and thickness as used in ductwork. All such vanes shall be securely anchored to duct or casing and shall have free standing edge braces as specified for turning vanes. Turning vanes shall be double thickness vanes.

DUCT INSTALLATION

- 1.0 Install ducts with the fewest possible joints. Use fabricated fittings for all changes in directions, changes in size and shape, and connections. Install couplings tight to duct wall surface with projections into duct at connections kept to a minimum.
- 2.0 Locate ducts, except as otherwise indicated, vertically and horizontally, parallel and perpendicular to building lines; avoid diagonal runs. Install duct systems in shortest route that does not obstruct useable space or block access for servicing building and its equipment. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.
- 3.0 Coordinate layout with suspended ceiling and lighting layouts and similar finished work.
- 4.0 Non–Fire–Rated Partition Penetrations: Where ducts pass interior partitions and exterior walls, and are exposed to view, conceal space between construction opening and duct or duct insulation with sheet metal flanges of same gage as duct. Overlap opening on 4 sides by at least 1–1/2 inches.

SUPPLY/RETURN/EXHAUST DUCT RUN–OUT CONNECTION SIZES (UNLESS NOTED OTHERWISE)

DUCT SIZE	MAXIMUM CFM
6"ø	100
8"ø	200
10"ø	325
12"ø	450

AIR DEVICE SCHEDULE

PLAN SYMBOL	DESCRIPTION
	TITUS TDC ADJUSTABLE SQUARE LOUVERED DIFFUSER FOR LAY–IN CEILING; (UNLESS NOTED OTHERWISE) PROVIDE ROUND NECK TO ACCOMMODATE 18x18 DIMENSION FACE/VANE SIZE; 24x24 MODULE SIZE; (12x12 MODULE W/ FULL SIZE FACE WHERE SHOWN ON PLAN) PROVIDE ALUMINUM DIFFUSER MODEL IN KITCHEN.
	TITUS MODEL 50F EGGRATE RETURN/EXHAUST GRILLE W/ COLLAR; 24x24 MODULE SIZE : 1/2"x1/2"x1/2" ALUMINUM GRID W/ HIDDEN BORDER FOR LAY–IN CEILING INSTALLATION; PROVIDE W/ O.B.D.; PROVIDE 20"x20" COLLAR IF NO SIZE SPECIFIED.
COORDINATE FINISH OF ALL DIFFUSERS W/ ARCHITECTURAL	

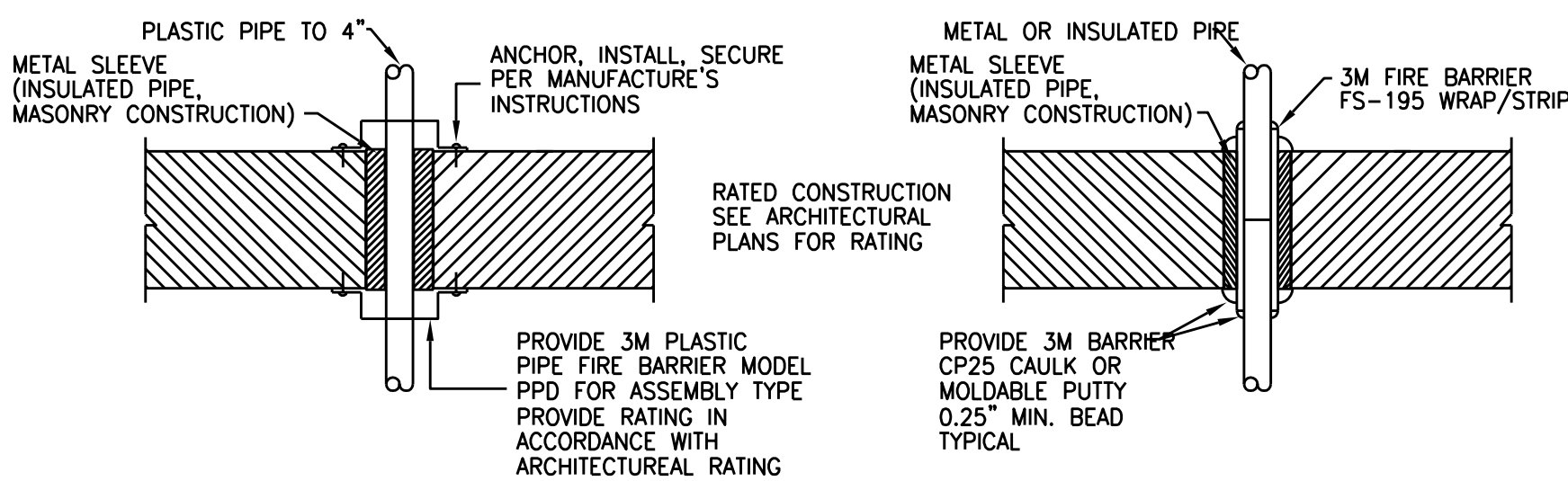
A/C EQUIPMENT SCHEDULE REFRIGERANT R–410A

MARK	AC–1
CFM	700/620
SYSTEM TONS	2.0
HEATING KW	3.0
EVAP. FAN FLA	0.55
MCA	17.0
MOCP (HACR BRKR)	20.0
VOLTS/PHASE	208/1
MANUFACTURER	EMI
MODEL NO.	CACQ24D3
WEIGHT	150
MARK	CU–1
AMB. AIR TEMP. °F	95
VOLTS/PHASE	208/1
COMP. RLA	8.0
COND. FAN FLA.	0.8
MCA	10.8
MOCP (HACR BRKR)	15.0
MANUFACTURER	EMI
MODEL NO.	S1CAH4000D01
WEIGHT	170
WIDExDEPTHxHEIGHT	32"x15"x40"
REMARKS	ALL

1. PROVIDE REMOTE THERMOSTAT  
2. PROVIDE CONDENSATE PUMP.  
3. PROVIDE ALL INTERLOCKING WIRING WITH CONDENSING UNIT.  
4. PROVIDE LOW AMBIENT CONTROLS.  
5. PROVIDE HARD START KIT.  
6. PROVIDE WALL SUPPORT BARRACKED.

ELECTRIC PANEL SCHEDULE M

		120/208 VOLT		3 PHASE	4 WIRE	10,000 A.I.C.	RATING		
		200 AMP	MCB	X	ML0	X	SURFACE		
OKT NO	BKR AMPS	WIRE SIZE	P	DESCRIPTION	LOAD IN KW			DESCRIPTION	P
					PHASE A	PHASE B	PHASE C		WIRE SIZE
1	20	12	2	CU–1 (HACR)	1.125			AC–1 (HACR)	2
					1.500				12
3						1.125			
						1.500			
5	20	12	1	PLUGS			0180		
7				SPACE					
9									
11									
13									
15									
17									
19									
21									
23									
25									
27									
29									
31									
33									
35									
37									
39									
41									
42									
TOTAL CONNECTED					2.625	2.625	0.180	TOTAL CONNECTED LOAD=5.430 KW	15.072 AMPS



PLASTIC PIPE

REFER TO UL FIRE RESISTANCE DIRECTORY						
CONSTRUCTION	PIPE SIZE INCHES	UL SYSTEM NUMBERS				
		METALLIC	RATING (HR)	NON–METALLIC	RATING (HR)	INSULATED
MASONRY/ CONCRETE	UP TO 4"	C–AJ–1027	3	C–AJ–2001	2	C–AJ–5001
MASONRY/ CONCRETE	UP TO 4"	C–AJ–1044	4	---	---	C–BJ–5003
GYPSTUM	UP TO 4"	W–L–1001	1,2,3,4	W–L–2002	1,1½,2	W–L–5001
WOOD FLOOR/ CEILING	UP TO 4"	F–C–1006	1	F–C–2024	1,2	F–C–5002

FIRE RATED PIPE PENETRATION DETAILS

NO SCALE

LIGHT FIXTURE SCHEDULE

MARK	SYMBOL	CATALOG #	NO–LAMPS TYPE	FIXTURE INPUT WATTS	FIXTURE VOLTS	MOUNTING	DESCRIPTION	REMARKS
A		TEXAS FLUORESCENTS 131–A–4–32–M20–E120	4–32W T8	98	120	LAY IN	2X4 TROFFER WITH PRISMATIC LENS 4 LAMP PROVIDE FIXTURE WITH TWO LEVELS OF SWITCHING	
B		TEXAS FLUORESCENTS 131–A–4–32–M20–E120	4–17W T8	52	120	LAY IN	2X2 TROFFER WITH PRISMATIC LENS 4 LAMP PROVIDE FIXTURE WITH TWO LEVELS OF SWITCHING	
C		TEXAS FLUORESCENTS 131–A–4–32–M20–E120	2–32W T8	49	120	WALL	WALL MOUNT ANGLED FRONT WHITE ACRYLIC LENS 2 LAMP	

PLUMBING FIXTURE LIST

- P–1 WATER CLOSET (Handicap – Pressure Assisted)  
2467.016 Codet Elongated Tank Type Closet (1.6 gpl), 16.5" Rim Height  
Beneke No. 523 SS Elongated Open Front Seat  
McGuire 169 Supply
- P–2 LAVATORY (Wall Hung)  
0355.012 Viterous China Lavatory (4" O.C. Holes)  
JR Smith Model #0720 Concealed Lavatory Support Arms  
Moen #8413 Single Lever Faucet w/ Aerator (0.5 gpm)  
Grid Drain w/ 17 Ga. C.P. Brass Tailpiece  
McGuire H–2165 Supplies w/ Stops  
McGuire 8872 1–1/4" P–Trap w/ Set Screw Escutcheon  
Handi Lav–Guard Insulation Kit (Pre–molded Vinyl Insulation)
- P–3 FLOOR DRAIN  
J.R. Smith 2005–A  
Sediment Bucket  
6" Square Polished Bronze Top  
Trap Primer Connection, 3" Outlet
- P–4 DRINKING FOUNTAIN (Bi–Level, Stainless Steel Cabinet)  
Oasis Model PBACSL Wall Hung (Handicap Height)  
1–1/4" P–Trap, Supply w/ Stop
- P–5 SHOWER  
Fiat MS336 with D–36 Enclosure  
Symmons S–96–1X Shower Faucet

(ALL FIXTURES AMERICAN STANDARD UNLESS NOTED OTHERWISE)

FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	CW	HW	TRAP	DRAIN	VENT
P–1	WATER CLOSET (Handicap)	1/2"	–	–	3"	2"
P–2	LAVATORY (Wall Hung)	1/2"	1/2"	1–1/4"	2"	2"
P–3	FLOOR DRAIN	–	–	3"	2"	2"
P–4	DRINKING FOUNTAIN (HC)	1/2"	–	1–1/4"	2"	2"
P–5	SHOWER	1/2"	1/2"	2"	2"	2"

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MECHANICAL SPECIFICATIONS AND SCHEDULES

MPE1

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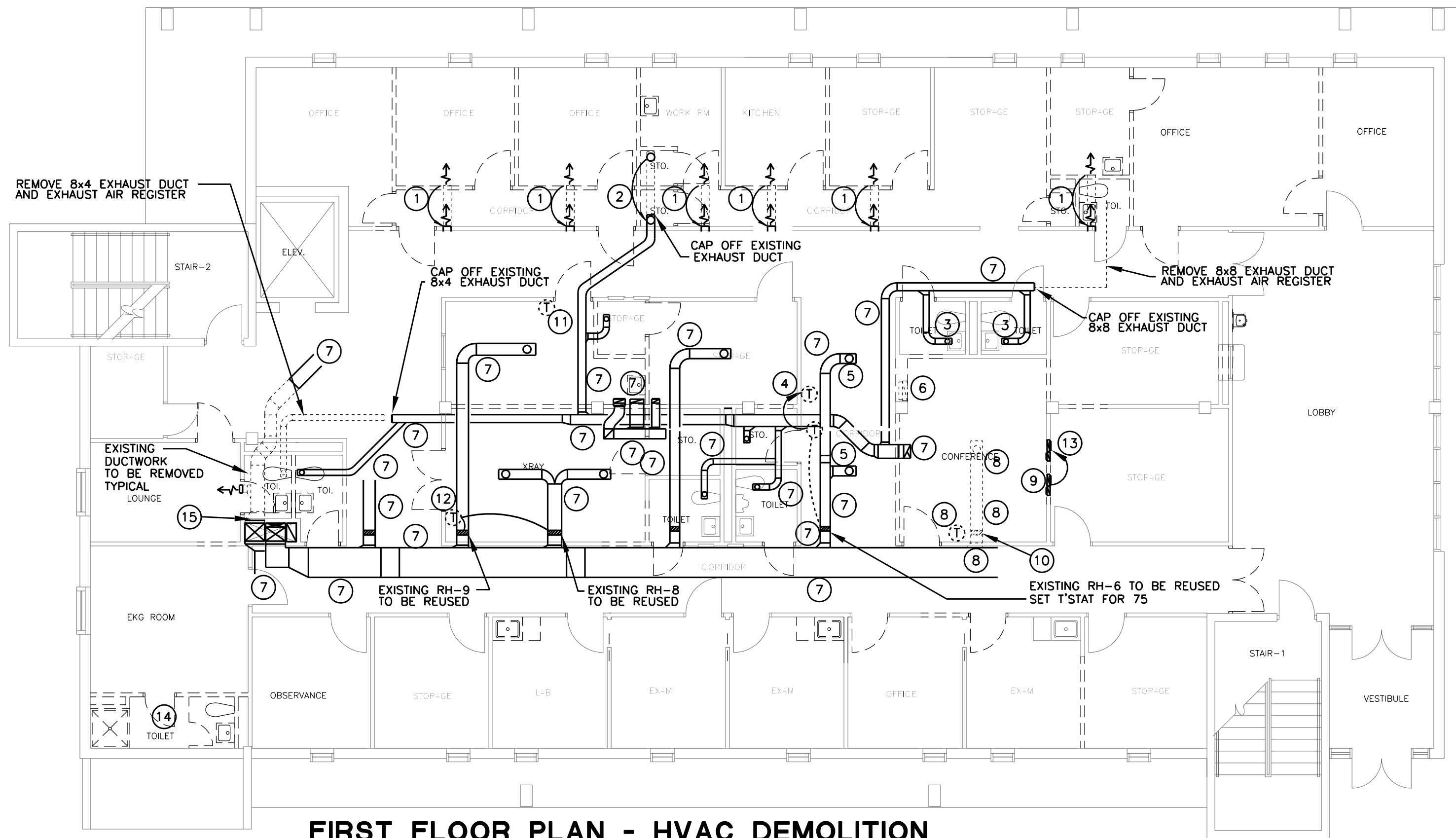
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HVAC AND PLUMBING  
DEMOLITION PLANS

Project No:

MP1

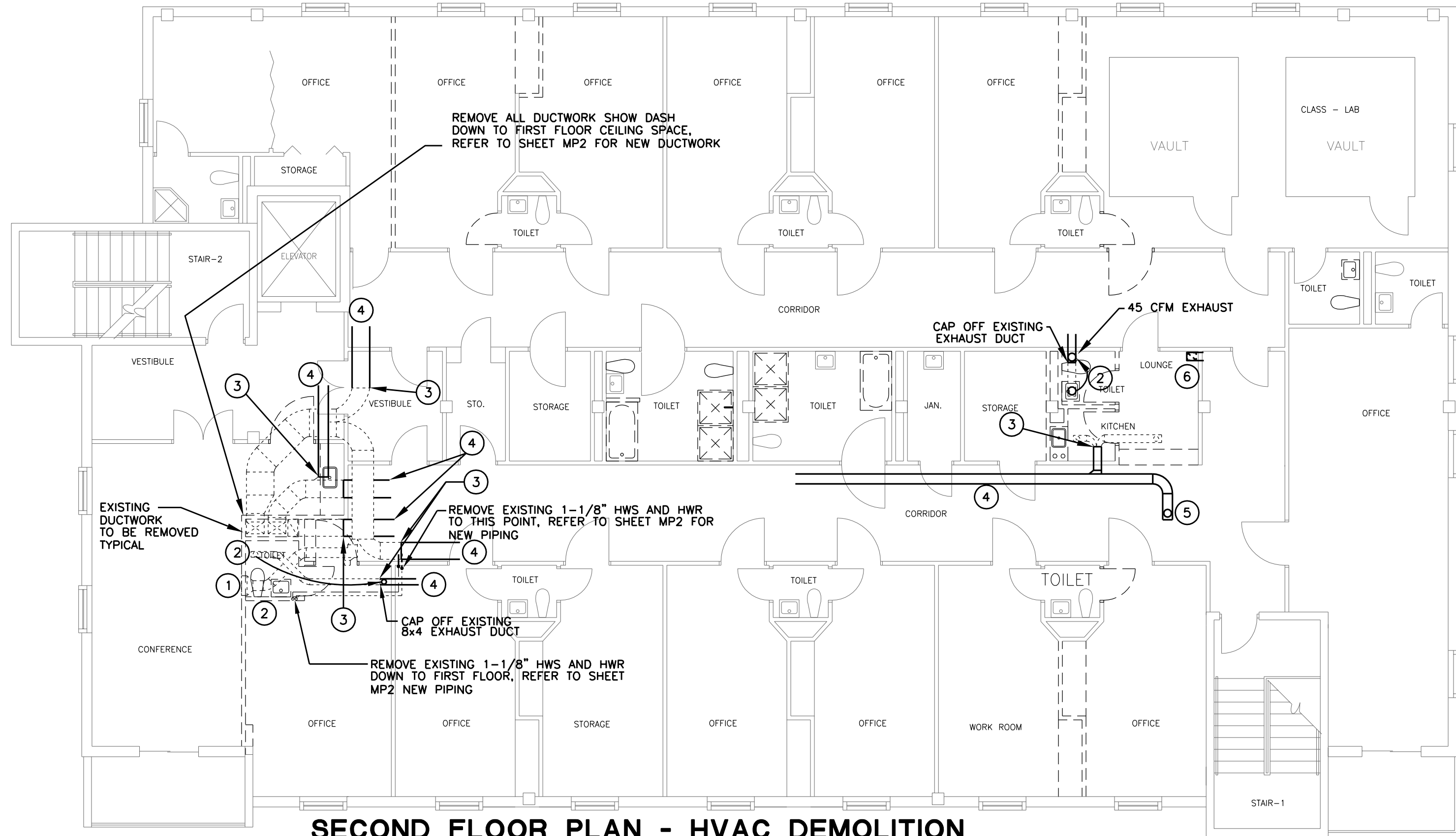


FIRST FLOOR PLAN - HVAC DEMOLITION

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

FIRST FLOOR PLAN NOTES - HVAC DEMOLITION:

- |  |   |  |   |
|--|---|--|---|
| 1 MOVE EXISTING SIDEWALL SUPPLY GRILLE AS SHOWN.     | 6 CAP OFF 20x8 RETURN AIR DUCT BELOW FLOOR; REPAIR FLOOR TO MATCH EXISTING.   | 9 PROVIDE COVER OVER 14x10 RA GRILLE. PROVIDE PAINT GRIP FINISH ON COVER.                      | 13 OFFSET RA DUCT IN BASEMENT TO MISS NEW DOOR.         |
| 2 MOVE EXISTING EXHAUST REGISTER AS SHOWN.           | 7 EXISTING DUCTWORK TO REMAIN.  | 10 RH-5 AND T'STAT. TO BE RELOCATED.   | 14 REMOVE ALL SUPPLY AND EXHAUST DUCTWORK IN THIS AREA. |
| 3 RE-BALANCE EXISTING EXHAUST REGISTER TO 65 CFM.    | 8 EXISTING SUPPLY AIR DUCT, HEATING COIL, T'STAT, AIR DEVICE TO BE REMOVED AND MAIN SUPPLY TO BE PATCHED AND RE-INSULATED. HEATING HOT WATER HEATING COIL, T'STAT TO BE REUSED AS SHOWN ON SHEET MP2. | 11 RH-9 T'STAT. TO BE REMOVED.   | 15 REFER TO SHEET MP2 FOR NEW DUCTWORK IN THIS AREA.    |
| 4 RELOCATE EXISTING T'STAT. AS SHOWN ON PLAN.        |   | 12 RH-8 T'STAT. TO BE CONNECT TO CONTRLO VALVE ON RH-9 TO MAKE BOTH RH COILS TO WORK TOGETHER. |   |
| 5 RE-BALANCE EXISTING SUPPLY AIR DIFFUSER TO 50 CFM. |   |  |   |

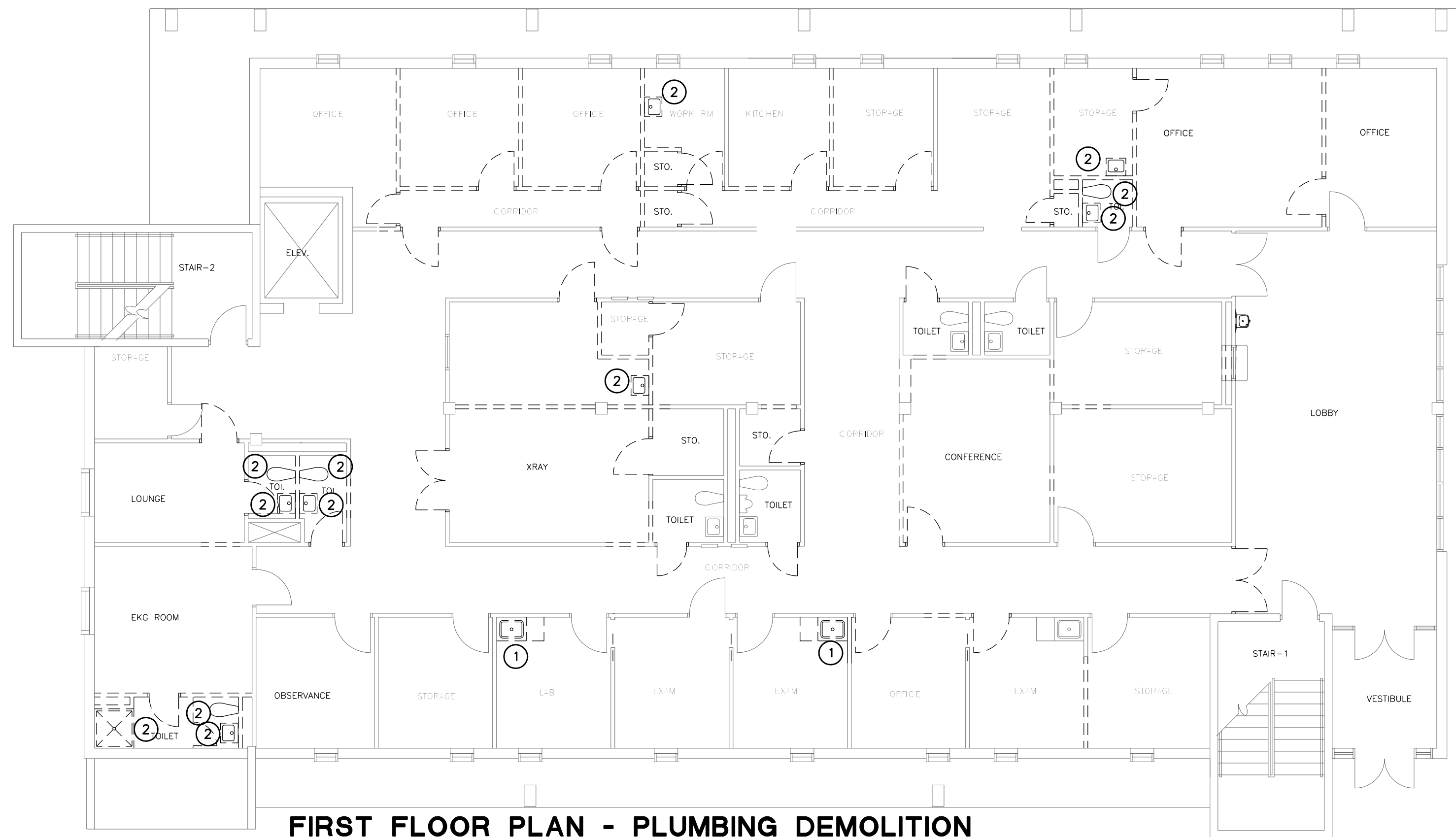


SECOND FLOOR PLAN - HVAC DEMOLITION

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

SECOND FLOOR PLAN NOTES - HVAC DEMOLITION:

- |   |  |
|---|--|
| 1 MOVE EXISTING SIDEWALL SUPPLY GRILLE AS SHOWN ON SHEET MP2. | 5 REBALANCE EXISTING SA DIFFUSER FROM 170 DFM TO 95 CFM.   |
| 2 MOVE EXISTING EXHAUST REGISTER AS SHOWN.                    | 6 REBALANCE EXISTING RA REGISTER FROM 100 CFM TO 155 CFM. REFER TO SHEET MP2 FOR NEW SA DEVICES. |
| 3 REMOVE EXISTING DUCTWORK TO THIS POINT.                     |  |
| 4 EXISTING DUCTWORK TO REMAIN.                                |  |

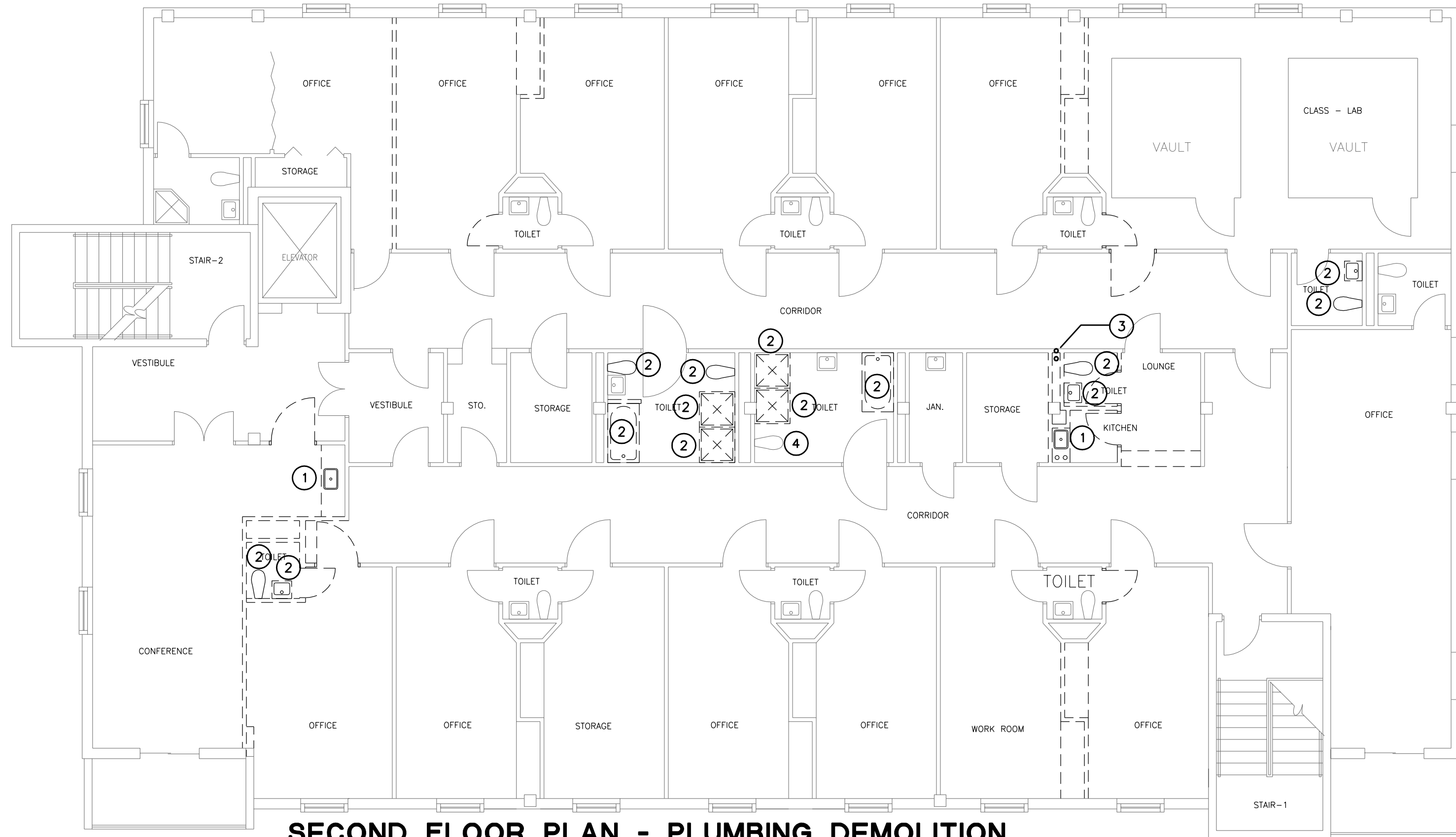


FIRST FLOOR PLAN - PLUMBING DEMOLITION

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

FIRST FLOOR PLAN NOTES - PLUMBING DEMOLITION:

- |   |
|---|
| 1 REMOVE EXISTING SINK AND FAUCET AND RETURN TO OWNER. CAP OF HOT, COLD, WASTE LINE IN WALL.                  |
| 2 REMOVE EXISTING PLUMBING FIXTURE AND RETURN TO OWNER. CAP OF HOT, COLD, WASTE LINE IN WALL AND/BELOW FLOOR. |



SECOND FLOOR PLAN - PLUMBING DEMOLITION

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

SECOND FLOOR PLAN NOTES - PLUMBING DEMOLITION:

- |   |   |
|---|---|
| 1 REMOVE EXISTING SINK AND FAUCET AND RETURN TO OWNER. CAP OF HOT, COLD, WASTE LINE IN WALL.                  | 4 REMOVE EXISTING WATER CLOSET AND FLUSH VALVE AND RETURN TO OWNER. REPLACE WITH NEW P-1 FIXTURE. |
| 2 REMOVE EXISTING PLUMBING FIXTURE AND RETURN TO OWNER. CAP OF HOT, COLD, WASTE LINE IN WALL AND/BELOW FLOOR. |   |
| 3 OFF SET EXISTING VENT LINE IN COOR. WALL AND RECONNECT TO EXISTING VTR. FIELD VERIFY EXACT LOCATION.        |   |

THE INFORMATION USED TO DEVELOP THE EXISTING CONDITIONS AS SHOWN ON THESE PLANS IS FROM PREVIOUS BUILDING DRAWINGS AND FIELD OBSERVATIONS. WHAT WAS SHOWN ON PLAN AND WHAT WAS ACTUALLY INSTALLED MAY VARY. FIELD VERIFY ALL EXISTING CONDITIONS.





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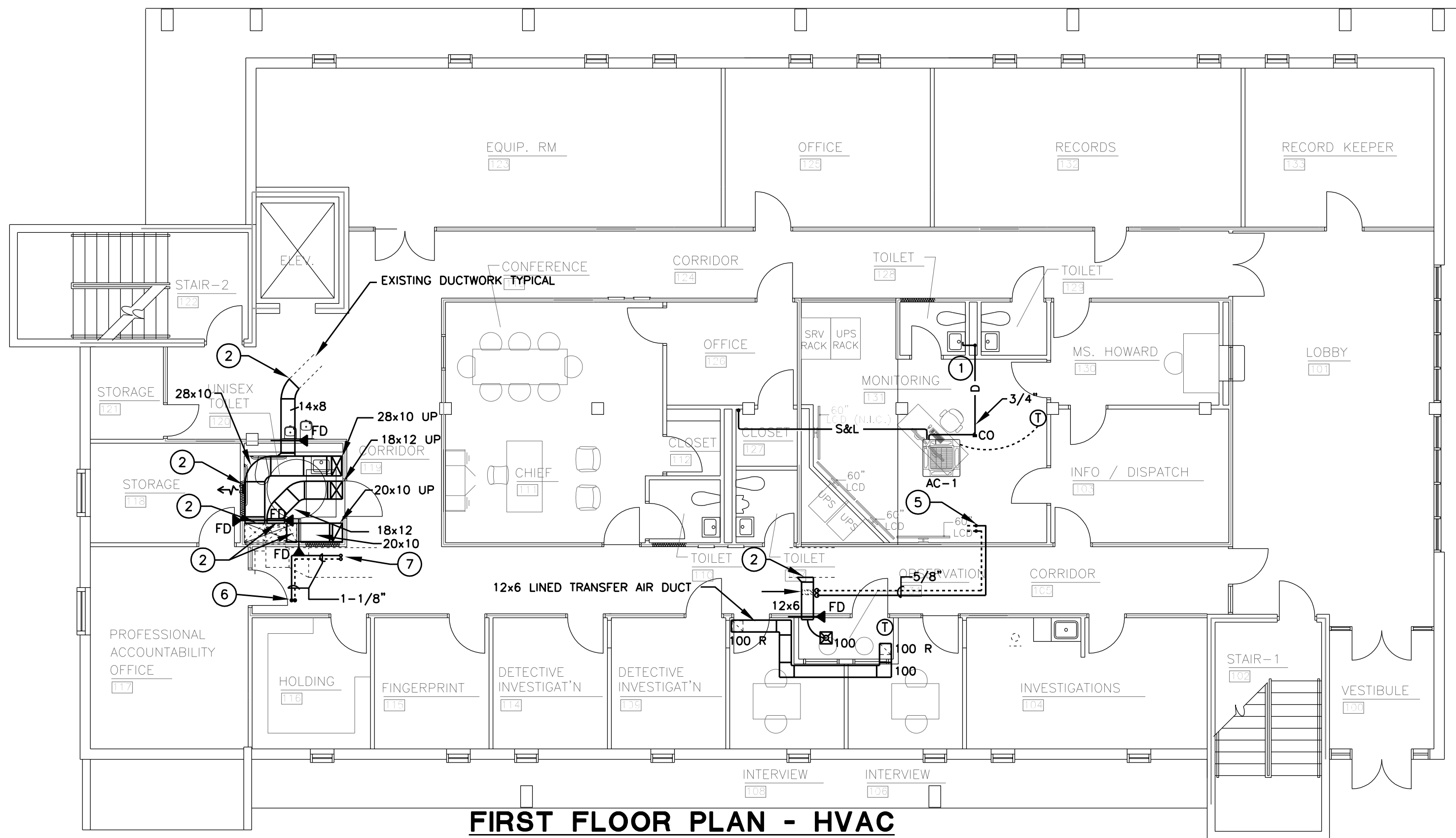
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**HVAC AND PLUMBING  
FLOOR PLANS**

MP2

Project No:

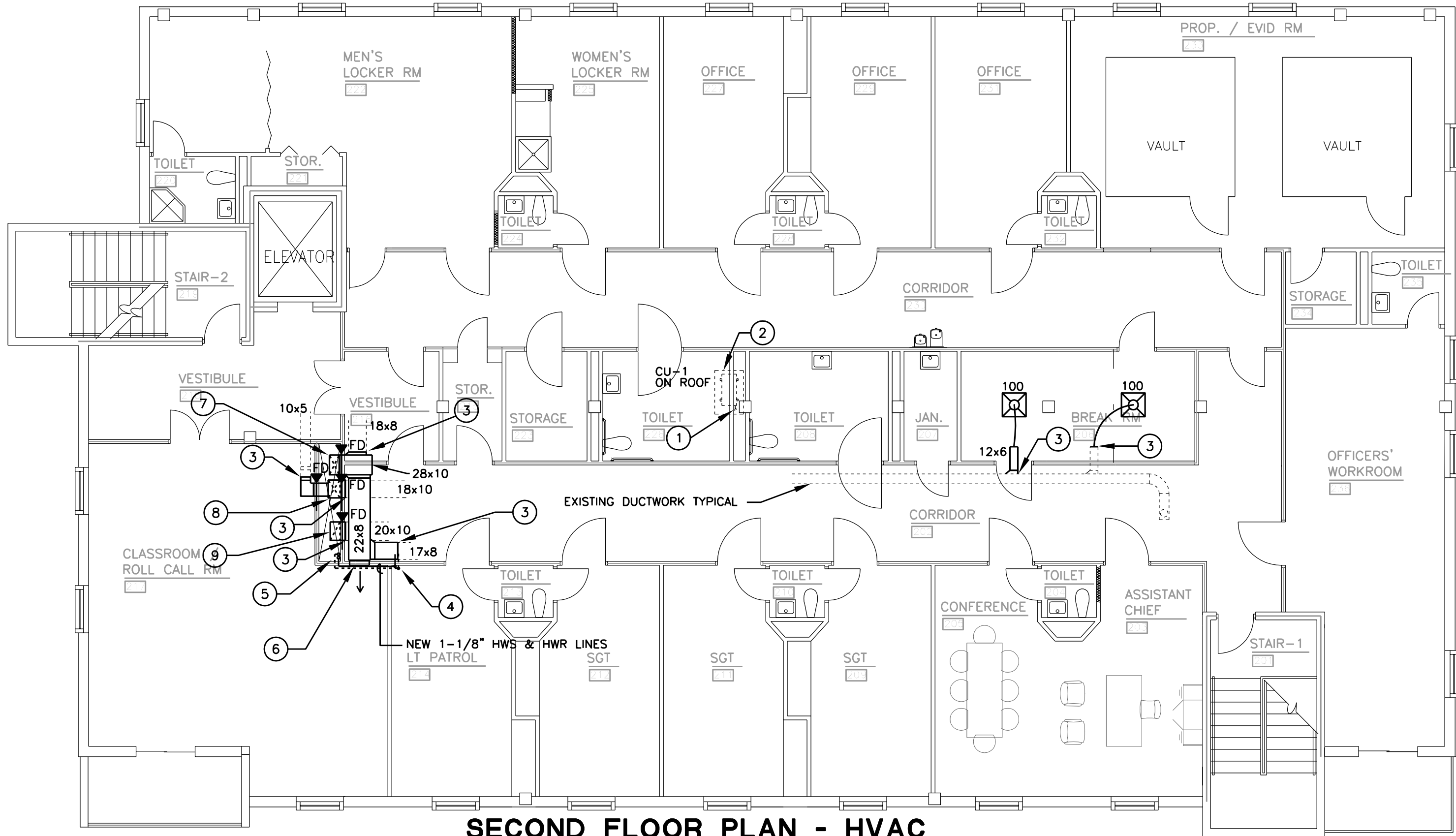


**FIRST FLOOR PLAN NOTES - HVAC:**

- 1 ROUTE PUMP CONDENSATE LINE TO OUTLET ABOVE EXISTING WALL HUNG LAVATORY; PROVIDE 3/4" INSULATION ON LINE.
- 2 CONNECT TO EXISTING DUCTWORK.
- 3 RH-5 (RELOCATED RERER TO SHEET MP1).
- 4 T'STAT FOR RH-5 (RELOCATED RERER TO SHEET MP1).
- 5 CONNECT NEW 5/8" HWS & HWR LINES TO EXISTING TAP FOR RH-5.
- 6 CONNECT NEW 1-1/8" HWS & HWR LINES TO EXISTING TAP THAT FEED THE SECOND FLOOR.
- 7 NEW 1-1/8" HWS & HWR LINES UP TO BACK FEED THE SECOND FLOOR.

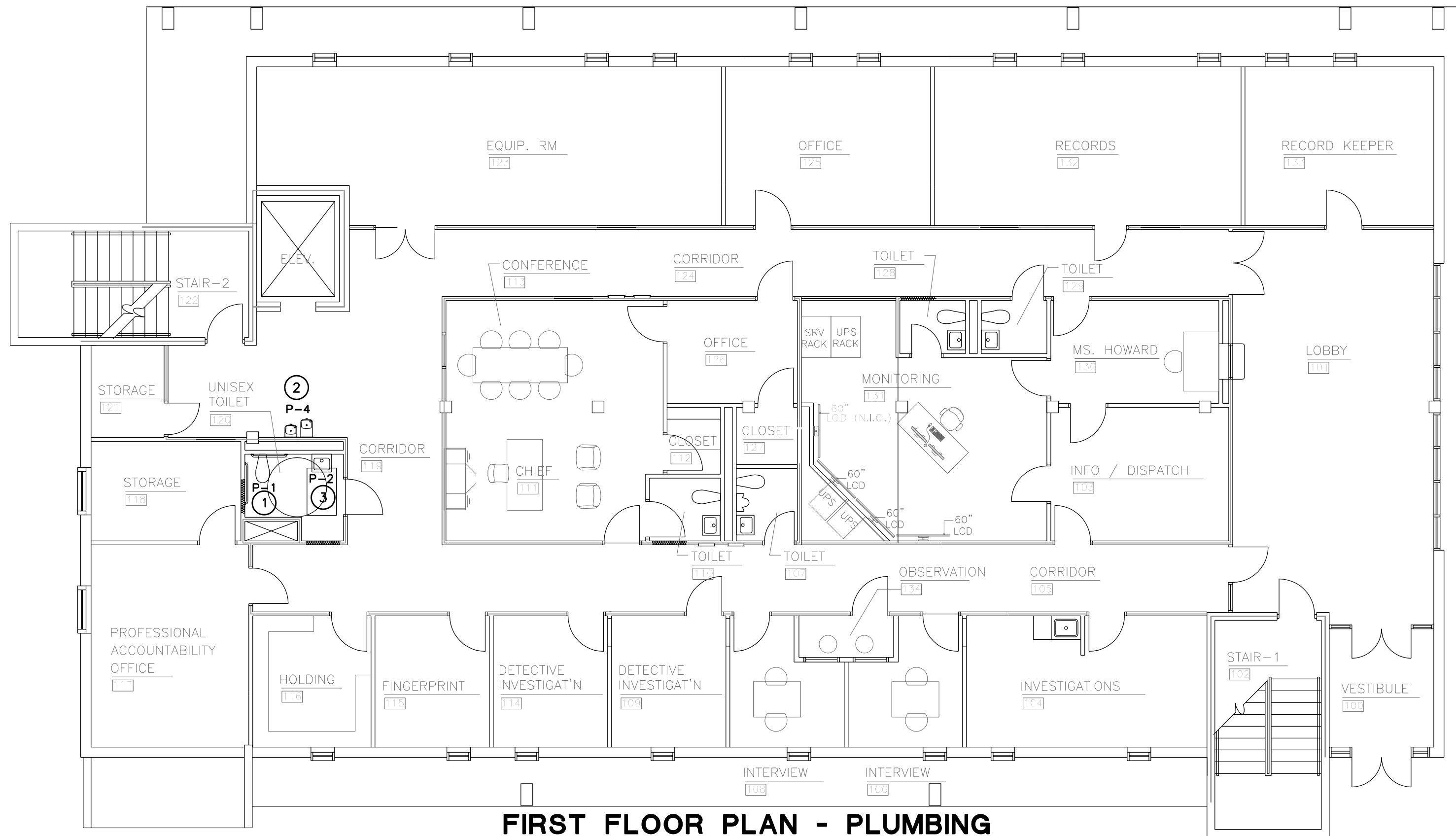
**FIRE DAMPER LEGEND**

- FD FIRE DAMPER (1-HR)  
(AIR BALANCE MODEL 119BL)
- FD2 FIRE DAMPER (2-HR)  
(AIR BALANCE MODEL 319BL)
- ALL DUCT FLOOR PENETRATIONS TO HAVE 2-HR FIRE DAMPER



**SECOND FLOOR PLAN NOTES - HVAC:**

- 1 ROUTE REFRIGERANT LINES DOWN FROM CU-1 ON ROOF DOWN THROUGH CHASE TO AC-1.
- 2 RPROVIDE ROOF CURB WITH CAP TO MOUNT CU-1 ON AND SEAL REFG. LINES WATER TIGHT THROUG CAP.
- 3 CONNECT TO EXISTING DUCTWORK.
- 4 NEW 1-1/8" HWS & HWR LINES CONNECTED TO EXISTING 1-1/8" HWS & HWR AT THIS LOCATION.
- 5 NEW 1-1/8" HWS & HWR LINES UP FROM FIRST FLOOR FLOOR.
- 6 RELOCATED 20x4 SIDEWALL GRILLE REFER TO SHEET MP1, BALANCE TO 175 CFM.
- 7 28x10 UP FROM FIRST FLOOR.
- 8 18x10 UP FROM FIRST FLOOR.
- 9 20x10 UP FROM FIRST FLOOR.

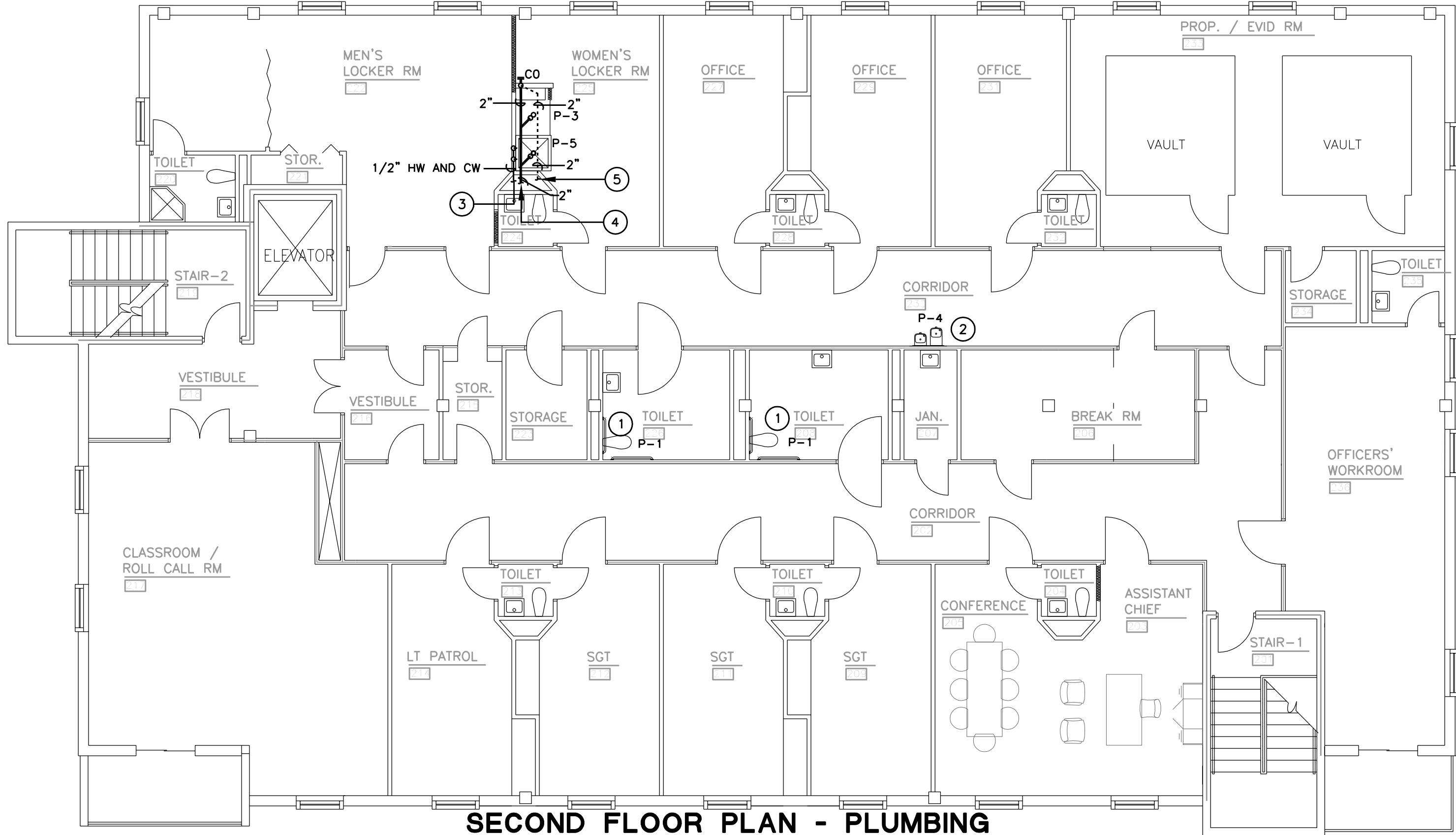


**FIRST FLOOR PLAN - PLUMBING**

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

**FIRST FLOOR PLAN NOTES - PLUMBING:**

- 1 CONNECT TO EXISTING WASTE, VENT, AND CW LINES IN CHASE FOR NEW FIXTURE P-1.
- 2 CONNECT TO EXISTING WASTE, VENT, AND CW LINES IN CHASE FOR NEW FIXTURE P-4.
- 3 CONNECT TO EXISTING WASTE, VENT, HW AND CW LINES IN CHASE FOR NEW FIXTURE P-2.



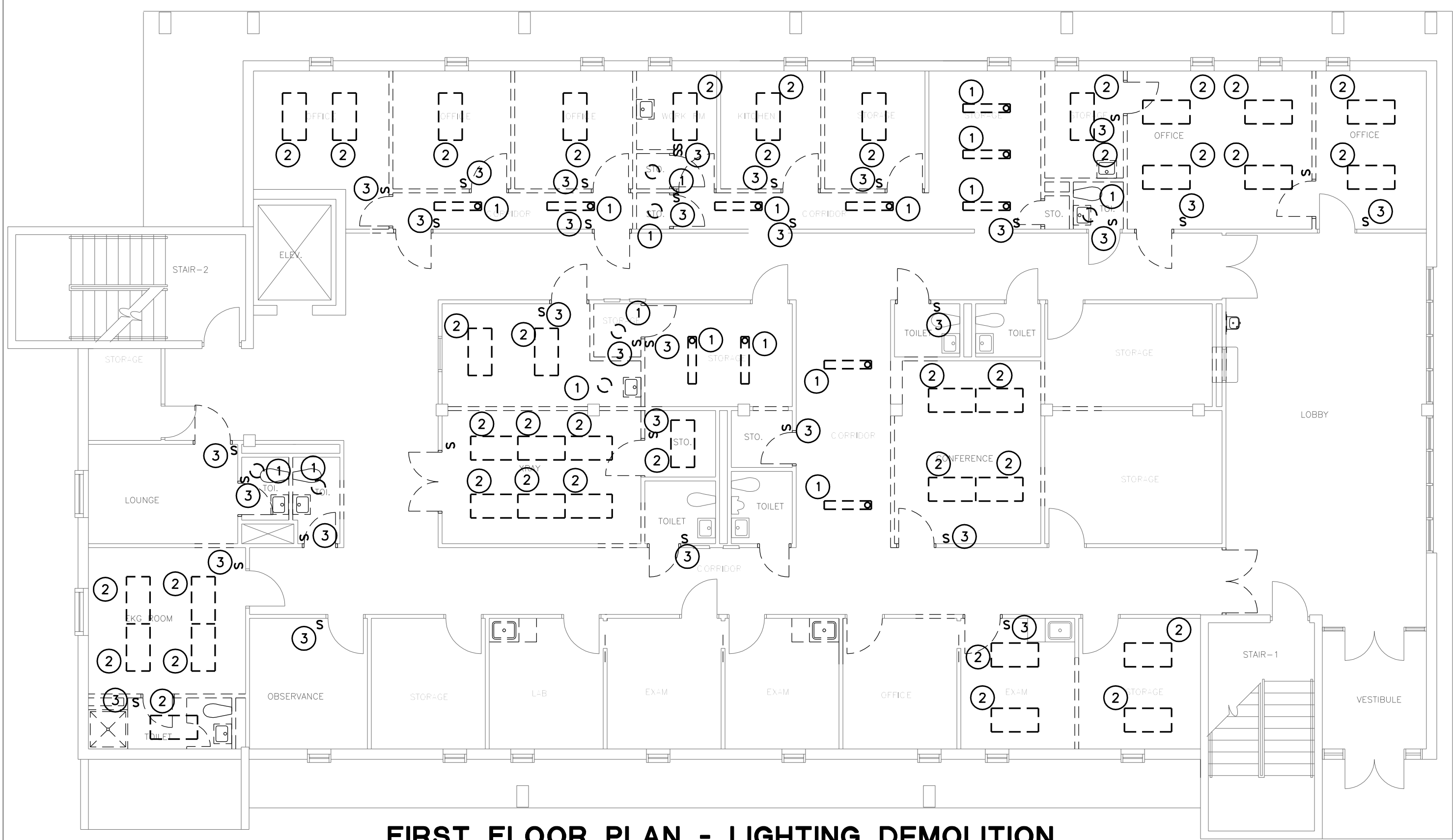
**SECOND FLOOR PLAN - PLUMBING**

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

**FIRST FLOOR PLAN NOTES - PLUMBING:**

- 1 CONNECT TO EXISTING WASTE, VENT, AND CW LINES IN CHASE FOR NEW FIXTURE P-1.
- 2 CONNECT TO EXISTING WASTE, VENT, AND CW LINES IN CHASE FOR NEW FIXTURE P-4.
- 3 CONNECT TO EXISTING HW AND CW LINES IN CHASE FOR NEW FIXTURE P-5.
- 4 CONNECT TO EXISTING WASTE LINE IN CHASE FOR NEW FIXTURE P-5.
- 5 CONNECT TO EXISTING VENT LINE IN CHASE FOR NEW FIXTURE P-5.

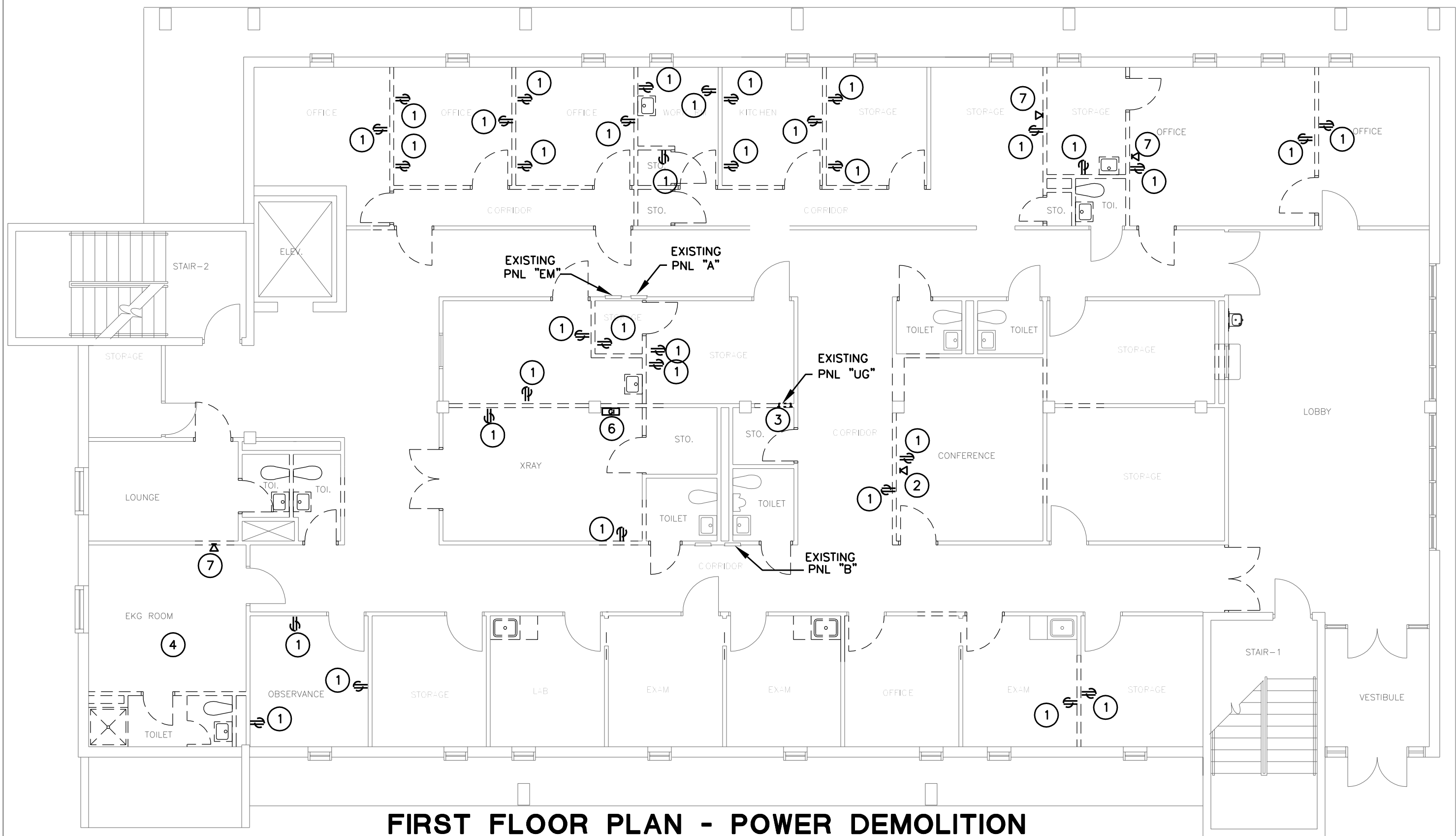
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FIRST FLOOR PLAN - LIGHTING DEMOLITION  
SCALE: 1/8" = 1'-0"

FIRST FLOOR PLAN NOTES - LIGHTING DEMOLITION:

- 1 EXISTING LIGHT FIXTURE TO BE REMOVED AND RETURNED TO OWNER.
- 2 EXISTING LIGHTING FIXTURE TO BE RELOCATED AS SHOWN ON SHEET E2.
- 3 EXISTING LTG. SWITCH TO BE REMOVED.
- 4 EXISTING PANEL "UG" TO BE RELOCATED AS SHOWN ON SHEET E2

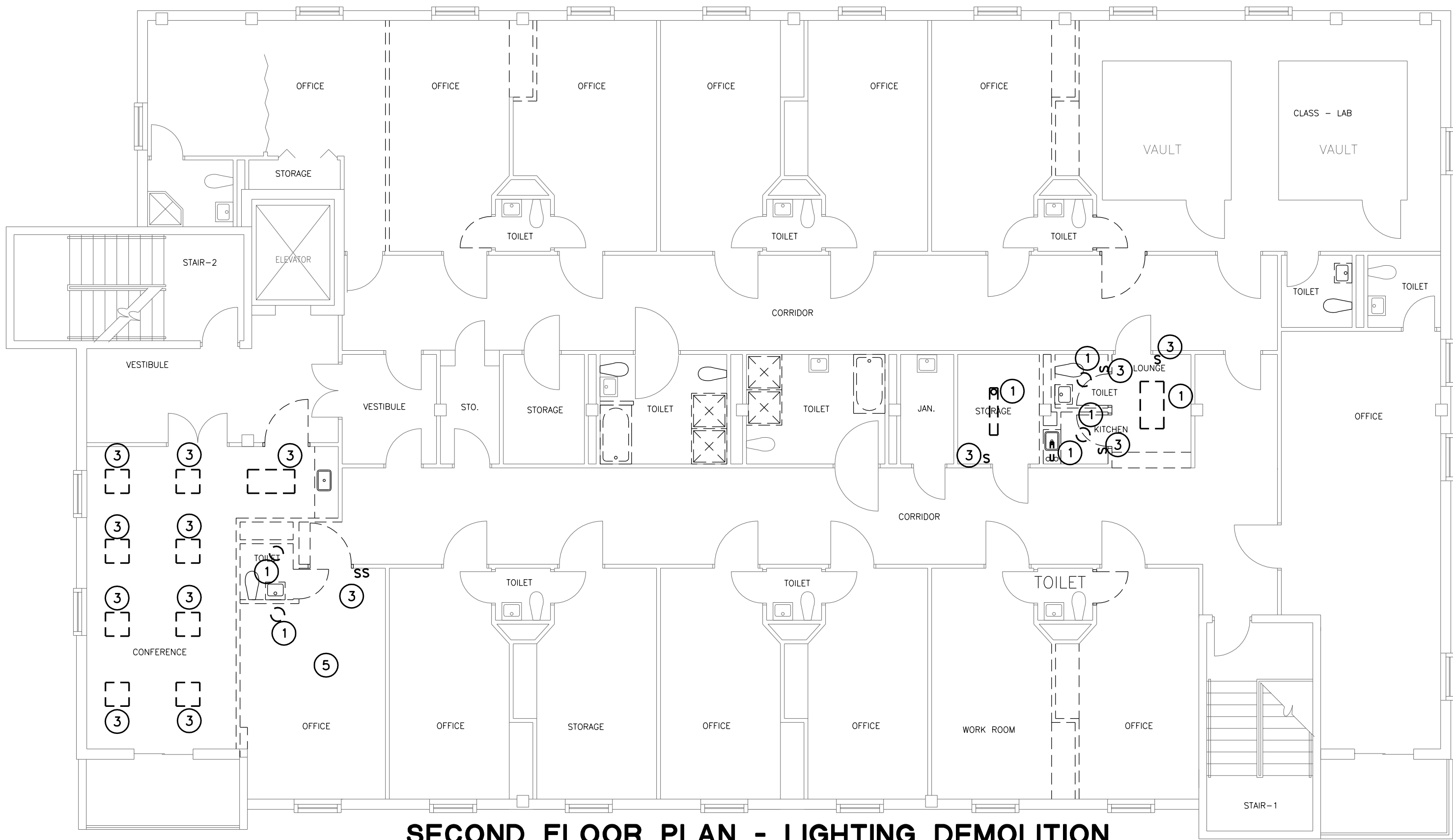


FIRST FLOOR PLAN - POWER DEMOLITION  
SCALE: 1/8" = 1'-0"

FIRST FLOOR PLAN NOTES - POWER DEMOLITION:

- 1 EXISTING RECPT. TO BE REMOVED.
- 2 EXISTING TELEPHONE OUTLET TO BE RELOCATED AS SHOWN ON SHEET E2.
- 3 EXISTING PANEL "UG" TO BE RELOCATED AS SHOWN ON SHEET E2.
- 4 REMOVE ALL EXISTING RECPT. IN THIS AREA.
- 5 EXISTING TELEPHONE OUTLET TO REMAIN.
- 6 EXISTING DEVICE TO BE REMOVED.
- 7 EXISTING TELEPHONE OUTLET TO BE REMOVED.

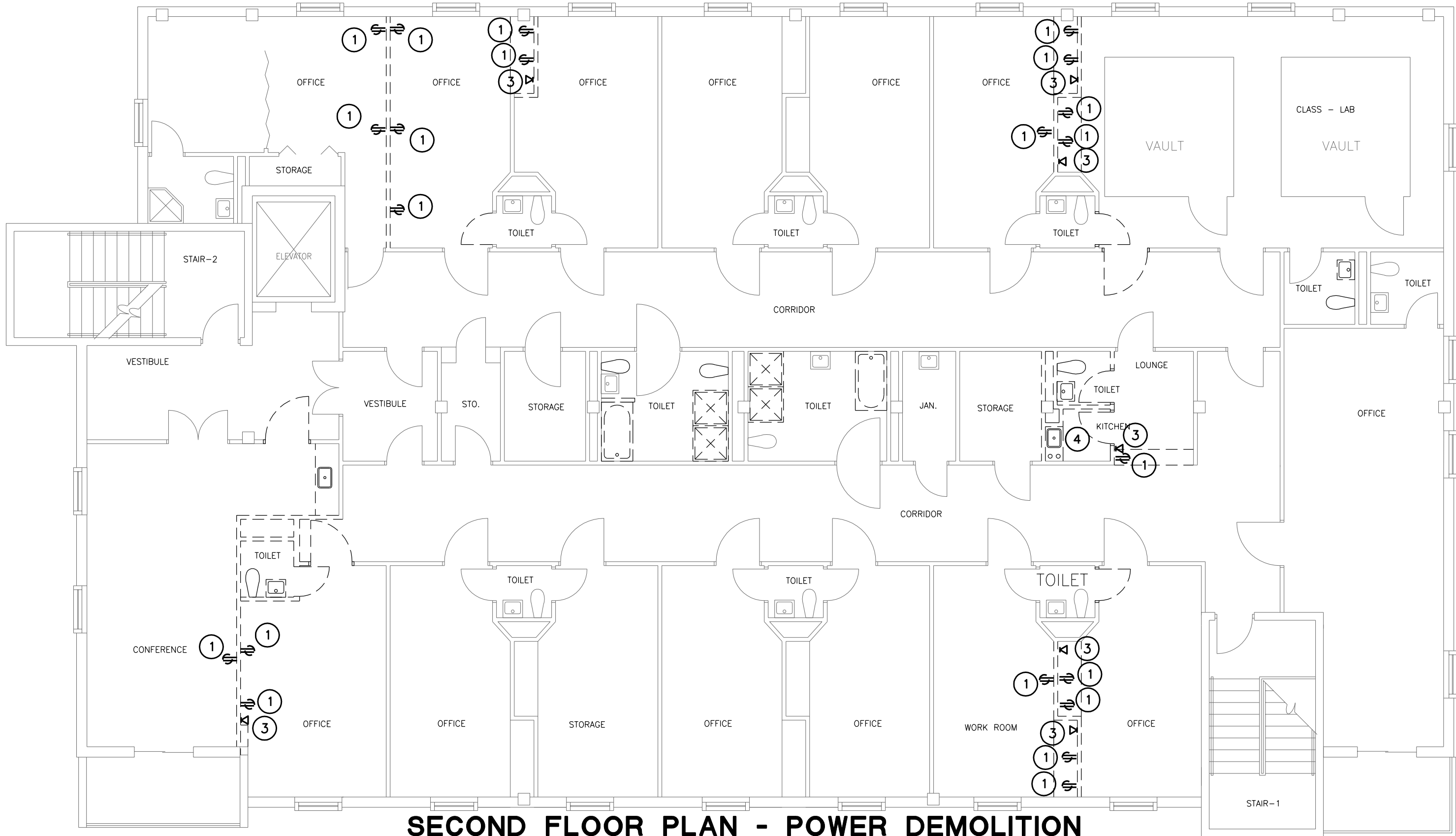
GENERAL NOTE:  
ON DEVICES THAT ARE TO BE REMOVED, THE EXISTING CKT. SHALL BE REWIRED TO PROVIDE A CONTINUOUS CKT.



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

SECOND FLOOR PLAN NOTES - LIGHTING DEMOLITION:

- 1 EXISTING LIGHT FIXTURE TO BE REMOVED AND RETURNED TO OWNER.
- 2 EXISTING LIGHTING FIXTURE TO BE REMAIN.
- 3 EXISTING LTG. SWITCH TO BE REMOVED.
- 4 EXISTING PANEL "UG" TO BE RELOCATED AS SHOWN ON SHEET E2
- 5 EXISTING LIGHT FIXTURE IN THIS AREA TO BE REMOVED AND RETURNED TO OWNER. FIELD VERIFY EXACT NUMBER.



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

SECOND FLOOR PLAN NOTES - POWER DEMOLITION:

- 1 EXISTING RECPT. TO BE REMOVED.
- 2 EXISTING TELEPHONE OUTLET TO BE RELOCATED AS SHOWN ON SHEET E2.
- 3 EXISTING TELEPHONE OUTLET TO BE REMOVED.
- 4 REMOVE ALL EXISTING CKT. FOR KITCHEN EQUIPMENT IN THIS AREA.

GENERAL NOTE:  
ON DEVICES THAT ARE TO BE REMOVED, THE EXISTING CKT. SHALL BE REWIRED TO PROVIDE A CONTINUOUS CKT.

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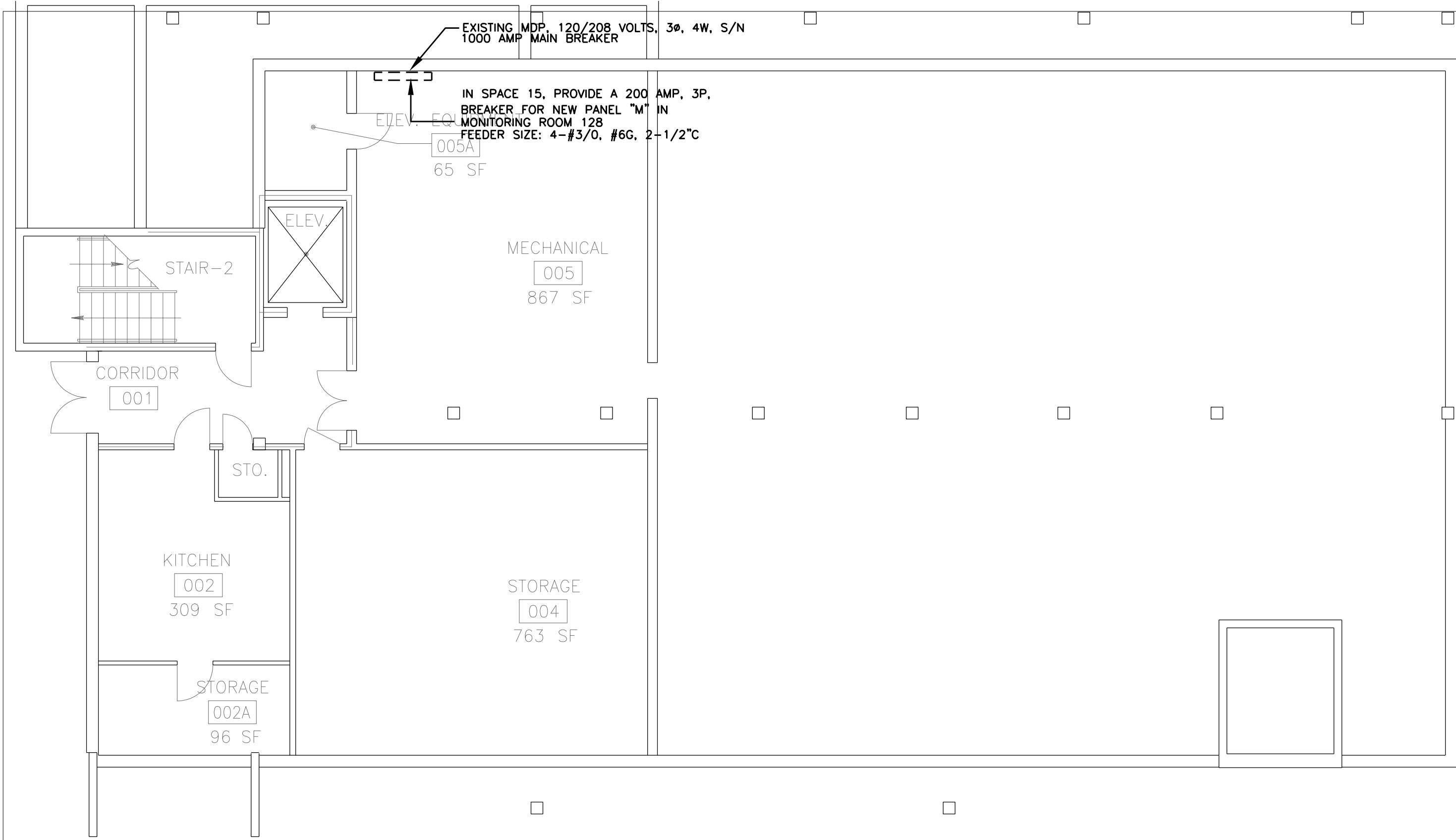
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DEMOLITION  
PLANS

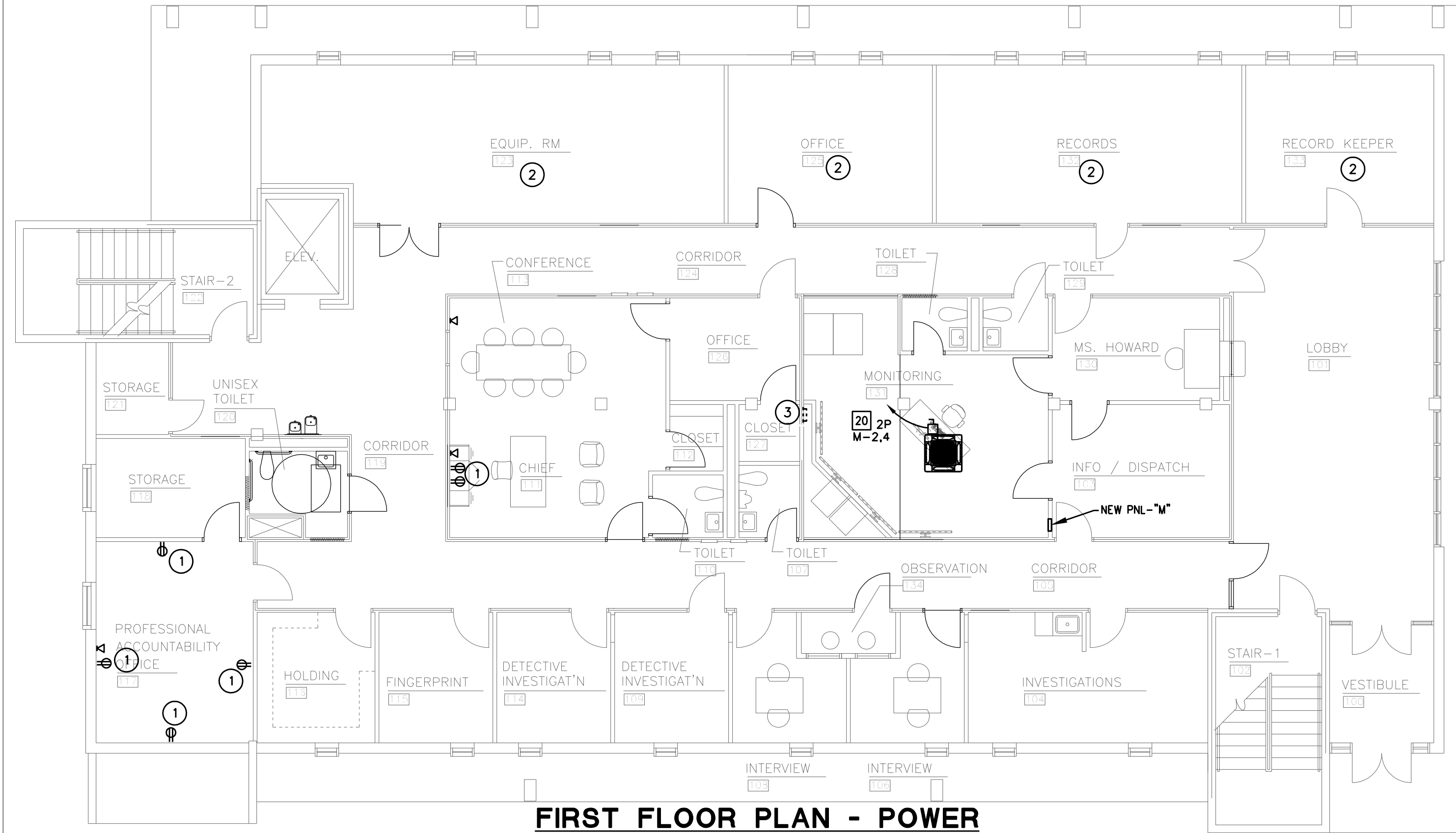
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**BASEMENT FLOOR PLAN - ELECTRICAL**  
SCALE: 1/8" = 1'-0"

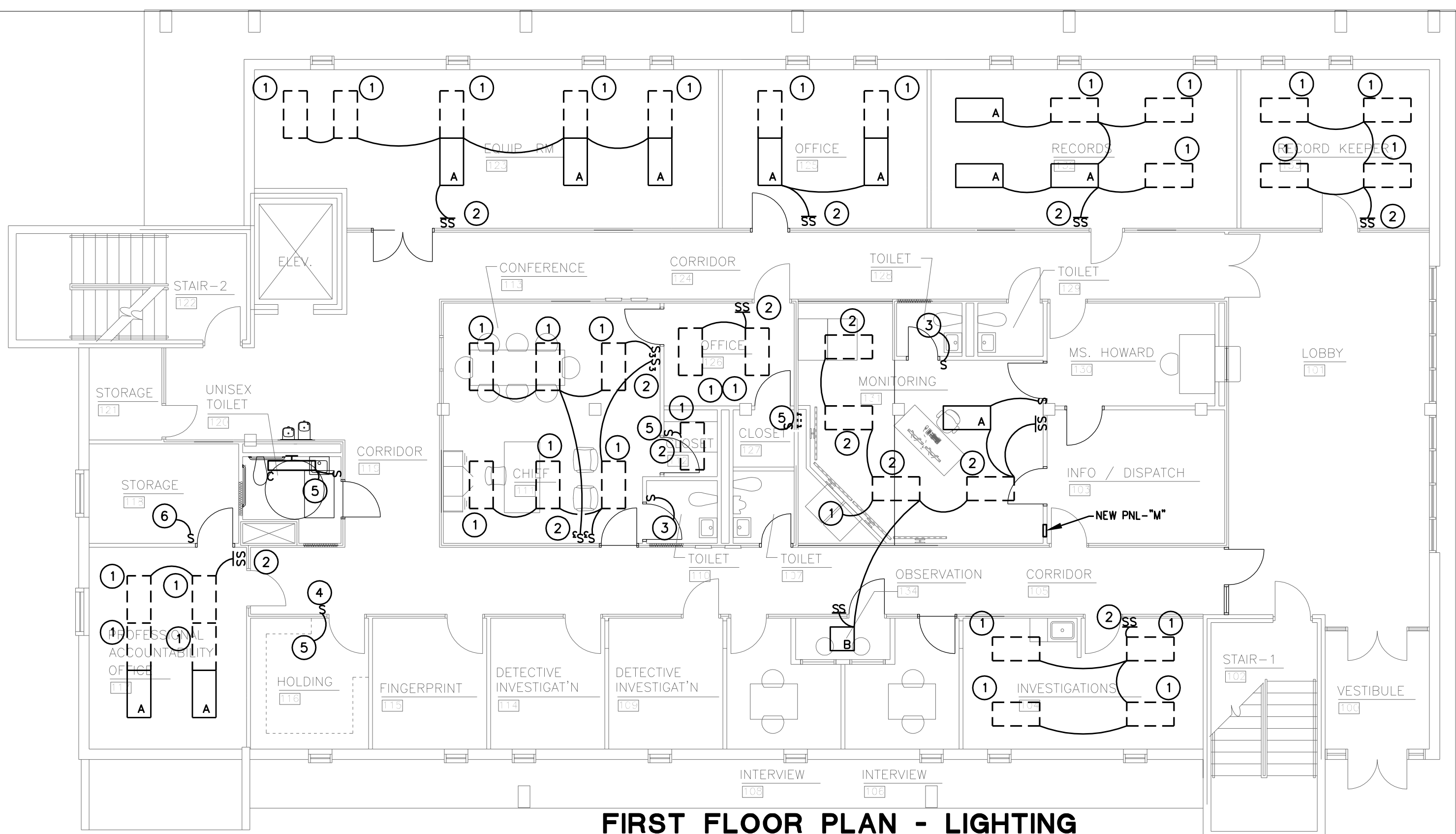


**FIRST FLOOR PLAN - POWER**  
SCALE: 1/8" = 1'-0"

**FIRST FLOOR PLAN NOTES -POWER**

- 1 CONNECT RECP.T. BACK TO EXISTING CKT..
- 2 PROVIDE THREE NEW RECP.T. IN THIS AREA. TIE BACK INTO EXISTING RECP.T. CKT. FIELD VERIFY WITH OWNER WHERE THEY ARE TO BE MTD.
- 3 RELOCATED PANEL "UG".

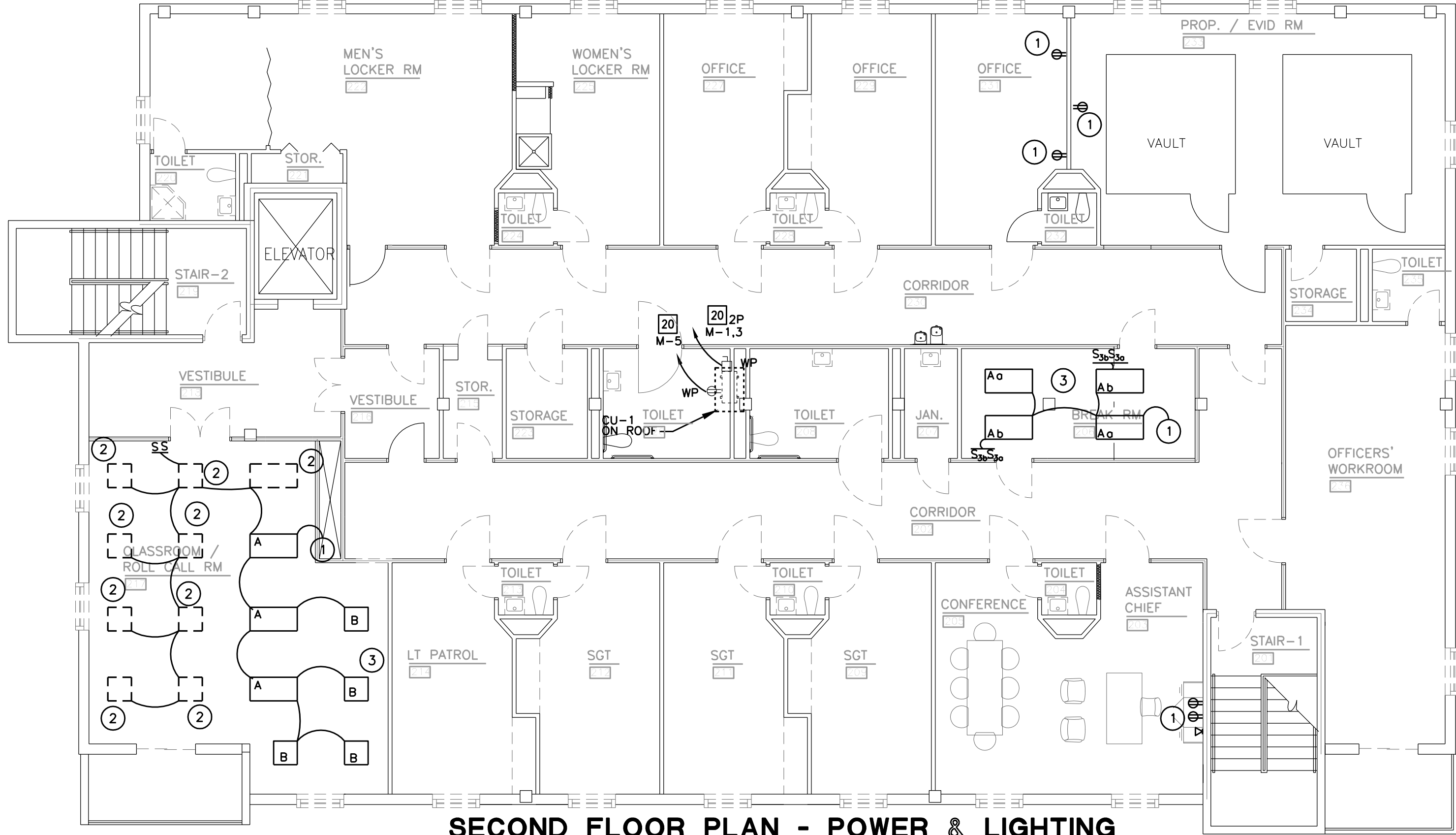
GENERAL NOTE:  
ALL DEVICES LOCATIONS SHALL BE APPROVED BY OWNER  
BE INSTALLING DEVICES.



**FIRST FLOOR PLAN - LIGHTING**  
SCALE: 1/8" = 1'-0"

**FIRST FLOOR PLAN NOTES - LIGHTING**

- 1 CONNECT LIGHT FIXTURES BACK TO EXISTING CKT..
- 2 EXISTING LIGHTING FIXTURE RELOCATED AS SHOWN. EXISTING FIXTURE IS 4 LAMP. SPLIT FIXTURE LAMPS TO TURN ON AT TWO LEVELS.
- 3 PROVIDE NEW WALL SWITCH TO BACK FEED LTG. IN TOILET.
- 4 RELOCATED LTG. SWITCH
- 5 CKT. BACK TO EXISTING LTG. CKT. IN THIS AREA.
- 6 PROVIDE NEW WALL SWITCH TO BACK FEED LTG. IN THIS ROOM.



**SECOND FLOOR PLAN - POWER & LIGHTING**  
SCALE: 1/8" = 1'-0"

**SECOND FLOOR PLAN NOTES - POWER AND LIGHTING**

- 1 CONNECT LIGHT FIXTURES BACK TO EXISTING CKT..
- 2 EXISTING LIGHTING FIXTURE RELOCATED AS SHOWN. EXISTING FIXTURE IS 4 LAMP. SPLIT FIXTURE LAMPS TO TURN ON AT TWO LEVELS.
- 3 PROVIDE THREE NEW RECP.T. IN THIS AREA. TIE BACK INTO EXISTING RECP.T. CKT. FIELD VERIFY WITH OWNER WHERE THEY ARE TO BE MTD.

GENERAL NOTE:  
ALL DEVICES LOCATIONS SHALL BE APPROVED BY OWNER  
BE INSTALLING DEVICES.

THE INFORMATION USED TO DEVELOP THE EXISTING CONDITIONS AS SHOWN ON THESE PLANS IS FROM PREVIOUS BUILDING DRAWINGS AND FIELD OBSERVATIONS. WHAT WAS SHOWN ON PLAN AND WHAT WAS ACTUALLY INSTALLED MAY VARY. FIELD VERIFY ALL EXISTING CONDITIONS.

Revisions:



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Technician:

Reviewer:

Date:

Sheet Title:  
**ELECTRICAL  
FLOOR  
PLANS**

Project No:  
**E2**



Designer:
Technician:
Reviewer:
Date:

Sheet Title:  
**ELECTRICAL  
SPECIFICATIONS**

Project No:  
**E3**

SECTION 16010 – BASIC ELECTRICAL REQUIREMENTS

A. RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this and other section of Division 16.

B. DELIVERY, STORAGE, AND HANDLING

Delivery products to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.

C. ROUGH-IN

Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected.

D. ELECTRICAL INSTALLATIONS

General: Sequence, coordinate, and integrate the various elements of electrical systems, materials, and equipment. Comply with the following requirements. Coordinate electrical systems, equipment, and materials installation with other building components. Verify all dimensions by field measurements. Coordinate the installation of required supporting devices and sleeves to be set in poured-in-place concrete and other structural components, as they are constructed. Sequence, coordinate, and integrate installations of electrical materials and equipment for efficient flow of the Work.

Conform to arrangements indicated by the Contract Documents, recognizing that portions of the Work are shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, refer conflict to the Designer. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components. Install electrical equipment to facilitate servicing, maintenance, and repair or replacement of equipment components.

As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations. Install systems, materials, and equipment giving right-of-way priority to systems required to be installed at a specified stage.

SECTION 16110 – RACEWAYS

A. METAL CONDUIT AND TUBING

Electrical Metallic Tubing and Fittings: ANSI C80.3.

Flexible Metal Conduit: UL 1, zinc-coated steel.  
Liquidtight Flexible Metal Conduit and Fittings: UL 360. (Fittings shall be specifically approved for use with this raceway.)

Rigid Non-Metallic Conduit: NEMA TC 2 and UL 651, Schedule 40 PVC.

B. CONDUIT BODIES

General: Types, shapes, and sizes as required to suit individual applications and NEC requirements. Provide matching gasketed covers secured with corrosion-resistant screws.

Metallic Conduit and Tubing: Use metallic conduit bodies. Use bodies with threaded hubs for threaded raceways.

Conduit Bodies 1 inch and Smaller: Use bodies with compression type EMT connectors.

C. WIRING METHODS

Outdoors: Exposed or Concealed: rigid non-metallic conduit.

Indoors or Outdoors: Connection to vibrating equipment and hydraulic, pneumatic, or electric solenoid or motor-driven equipment in moist or humid location or corrosive atmosphere, or where subject to water spray or dripping oil, grease, or water: liquid-tight flexible metal conduit.

Indoors: Use the following wiring methods:

Connection to Vibrating Equipment: Including transformers and hydraulic, pneumatic or electric solenoid or motor-operated equipment: flexible metal conduit.

Concealed or exposed: electrical metallic tubing.

D. INSTALLATION

General: Install electrical raceways in accordance with manufacturer's written installation instructions, applicable requirements of NEC, and as follows:

Conceal Conduit and EMT, unless indicated otherwise, within finished walls, ceilings, and floors. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot water pipes. Install raceways level and square and at proper elevations.

Elevation of Raceway: Where possible, install horizontal raceway runs above water and steam piping.

Complete installation of electrical raceways before starting installation of conductors within raceways.

Make bends and offsets so the inside diameter is not effectively reduced. Unless otherwise indicated, keep the legs of a bend in the same plane and the straight legs of offsets parallel.

Install raceways parallel and perpendicular to nearby surfaces or structural members and follow the surface contours as much as practical.

Join raceways with fittings designed and approved for the purpose and make joints tight. Where joints cannot be made tight, use bonding jumpers to provide electrical continuity of the raceway system. Make raceway terminations tight. Where terminations are subject to vibration, use bonding bushings or wedges to assure electrical continuity.

Tighten set screws of threadless fittings with suitable tool.

Terminations: Where raceways are terminated with locknuts and bushings, align the raceway to enter squarely and install the locknuts with dishd part against the box. Where terminations cannot be made secure with one locknut, use two locknuts, one inside and one outside the box. Where terminating in threaded hubs, screw the raceway or fitting tight into the hub so the end bears against the wire protection shoulder. Where chase nipples are used, align the raceway so the fitting is square to the box, and tighten the chase nipple so no threads are exposed.

Flexible Connections: Use short length (maximum of 6 ft.) of flexible conduit for recessed and semi-recessed lighting fixtures, for equipment subject to vibration, noise transmission, or movement; and for all motors. Use liquidtight flexible conduit in wet locations. Install separate ground conductor across flexible connections.

SECTION 16120 – WIRES AND CABLES

A. WIRES AND CABLES

Conductors: Provide solid conductors for power and lighting circuits no. 10 AWG and smaller. Provide stranded conductors for sizes no. 8 AWG and larger.

Conductor Material: copper for all wires and cables.

Insulation: Provide THHN/THWN insulation for all conductors size 500MCM and larger, and no. 8 AWG and smaller. For all other sizes provide THW, THHN/THWN or XHHW insulation as appropriate for the locations where installed.

B. CONNECTORS FOR CONDUCTORS

Provide UL-listed factory-fabricated, solderless metal connectors of sizes, ampacity ratings, materials, types and classes for applications and for services indicated. Use connectors with temperature ratings equal to or greater than those of the wires upon which used.

C. INSTALLATION OF WIRES AND CABLES

General: Install electrical wires and connectors in compliance with NEC.

Install all wire in raceway.

Pull conductors simultaneously where more than one is being installed in same raceway. Use UL listed pulling compound or lubricant, where necessary.

Use pulling means including, fish tape, cable, rope, and basket weave wire/cable grips which will not damage cables or raceways. Do not use rope hitches for pulling attachment to wire or cable.

Use splice and tap connectors which are compatible with conductor material.

Provide adequate length of conductors within electrical enclosures and train the conductors to terminal points with no excess. Bundle multiple conductors, with conductors larger than no. 10 AWG cabled in individual circuits. Make terminations so there is no bare conductor at the terminal.

Tighten electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torque specified in UL 486A and UL 486B.

SECTION 16135 – BOXES AND FITTINGS

A. BOXES AND FITTINGS

Electrical Boxes and Fittings: Of indicated types, sizes, and NEMA enclosure classes. Where not indicated, provide units of types, sizes, and classes appropriate for the use and location. Provide all items complete with covers and accessories required for the intended use. Provide gaskets for units in damp or wet locations.

Sheet Steel: Flat-rolled, code-gage, galvanized steel.

Fasteners for General Use: Corrosion resistant screws and hardware including cadmium and zinc plated items.

Fasteners for Damp or Wet Locations: Stainless steel screws and hardware.  
Exterior Finish: Gray baked enamel for items exposed in finished locations except as otherwise indicated.

B. METAL OUTLET, DEVICE, AND SMALL WIRING BOXES

Steel Boxes: Conform to NEMA OS 1, "Sheet Steel Outlet Boxes, Device Boxes, Covers, and Box Supports." Boxes shall be sheet steel with stamped knockouts, threaded screw holes and accessories suitable for each location including mounting brackets and straps, cable clamps, exterior rings and fixture studs.

Cast-Aluminum Boxes: Copper free aluminum threaded raceway entries, and features and accessories suitable for each location including mounting ears, threaded screw holes for devices and closure plugs.

C. PULL AND JUNCTION BOXES

General: Comply with UL 50, "Electrical Cabinets and Boxes" for boxes over 100 cubic inches volume. Boxes shall have screwed or bolted on covers of material same as box and shall be of size and shape to suit application.

Steel Boxes: Sheet steel with welded seams. Where necessary to provide a rigid assembly, construct with internal structural steel bracing.

D. GENERAL INSTALLATION REQUIREMENTS

Locations: Install items where indicated and where required to suit code requirements and installation conditions.

Remove sharp edges where they may come in contact with wiring or personnel.

E. APPLICATIONS

Outlet Boxes and Fittings: Install outlet and device boxes and associated covers and fittings of materials and NEMA types suitable for each location.

F. INSTALLATION OF OUTLET BOXES

Locations in Special Finish Materials: For outlet boxes for receptacles and switches mounted in glazed tile, concrete block, marble, brick, stone or wood walls, use rectangular shaped boxes with square corners and straight sides. Install such boxes without plaster rings. Saw cut all recesses for outlet boxes in exposed masonry walls.

Locate box covers or device plates so they will not spon different types of building finishes either vertically or horizontally. Protect outlet boxes to prevent entrance of plaster and debris. Thoroughly clean foreign material from boxes before conductors are installed.

SECTION 16143 – WIRING DEVICES

A. MANUFACTURERS

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

Bryant Electric Co.  
Challenger-Circle F.  
Eagle Electric Mfg. Co.  
General Electric Co.  
Hubbell Inc.  
Pass and Seymour Inc.  
Slater Electric Co.

B. WIRING DEVICES

General: Provide wiring devices, in types, characteristics, grades, colors, and electrical ratings for applications indicated which are UL listed and which comply with NEMA WD 1 and other applicable UL and NEMA standards. Provide brown color devices in the dining & bar areas and white in the kitchen areas. Verify color selections with Designer and Owner.

Receptacles: As scheduled in Table 1 below. Comply with UL 498 and NEMA WD 1.

Ground-Fault Interrupter (GFI) Receptacles: as indicated in Table 1 below; provide "feed-thru" type ground-fault circuit interrupter, with integral heavy-duty NEMA 5-20R duplex receptacles arranged to protect connected downstream receptacles on some circuit. Provide unit designed for installation in a 3/4 inch deep outlet box without adapter, grounding type, Class A, Group 1, per UL Standard 94.3.

Snap Switches: quiet type AC switches as indicated in Table 2 below. Comply with UL 20 and NEMA WD1.

C. WIRING DEVICE ACCESSORIES

Wall plates: single and combination, of types, sizes, and with ganging and cutouts as indicated. Provide plates which mate and match with wiring devices to which attached. Provide metal screws for securing plates to devices with screw heads colored to match finish of plates. Provide wall plate color to match wiring devices except as otherwise indicated. Provide wall plates with engraved legend where indicated. Conform to requirements of Section "Electrical Identification." Provide plates possessing the following additional construction features:

Material and Finish: smooth plastic.

D. INSTALLATION OF WIRING DEVICES AND ACCESSORIES

Install wiring devices and accessories as indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC and in accordance with recognized industry practices to fulfill project requirements.

Coordinate with other work, including painting, electrical boxes and wiring installations, as necessary to interface installation of wiring devices with other Work.

Install wiring devices only in electrical boxes which are clean; free from excess building materials, dirt, and debris.

Install wiring devices after wiring work is completed.

Install wall plates after painting work is completed.

Tighten connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values for wiring devices. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Standard 486A. Use properly scaled torque indicating hand tool.

E. PROTECTION

Protect installed components from damage. Replace damaged items prior to final acceptance.

RECEPTACLES						
DESIG-NATION (1)	CURRENT RATING AMPS	VOLTAGE RATING	SINGLE/ DUPLICATION	NEMA CONFIG-URATION	UL GRADE	
—	20	125	DUPLICATION	5-20R	HEAVY DUTY	
—	20	125	SINGLE	5-20R	HEAVY DUTY	
WP	20	125	DUPLICATION	5-20R	HEAVY DUTY	
GFI	20	125	DUPLICATION	5-20R	HEAVY DUTY	
IG	20	125	DUPLICATION	5-20R	HEAVY DUTY	

NOTES

(1) Letter designations are used where symbols alone do not clearly designate on plans locations where specific receptacle types are used.  
(2) Protects downstream receptacles on same circuit.

TABLE 2					
DESIG-NATION (1)	TYPICAL APPLICATION	LOAD RATING	VOLTAGE RATING (AC)	POLES	UL GRADE
S	CONTROL LIGHTS	20A	120/277	1	HEAVY DUTY
S <sub>S</sub>	CONTROL LIGHTS	20A	120/277	3-way	HEAVY DUTY
S <sub>S</sub>	DISCONN. MOTOR	1HP	120/277	1	HEAVY DUTY

NOTES

(1) For snap switches, designation is the same as the symbol used on plans for the device. Type of switch is determined from plan context including type of device or circuit being controlled.

SECTION 16170 – CIRCUIT AND MOTOR DISCONNECTS

A. MANUFACTURERS

Manufacturers: Subject to compliance with requirements, provide products by one of the following:

Appleton  
Cutler-Hammer Inc.  
Furnas Electric Co.  
General Electric Co.  
Square D Company.

B. CIRCUIT AND MOTOR DISCONNECT SWITCHES

General: Provide circuit and motor disconnect switches in types, sizes, duties, features, ratings, and enclosures as indicated. Provide NEMA 1 enclosure except for outdoor switches, and other indicated locations provide NEMA 3R enclosures with raintight hubs. For motor and motor starter disconnects, provide units with horsepower ratings suitable to the loads.

Non-Visible Disconnects: general duty switches of classes and current ratings as indicated.

Fusible Disconnects: general duty switches of classes and current ratings as indicated with fuses of current rating indicated which mate and match with the switch.

C. FIELD QUALITY CONTROL

Testing: Subsequent to completion of installation of electrical disconnect switches, energize circuits and demonstrate capability and compliance with requirements. Except as otherwise indicated demonstrate switch operation through six opening/closing cycles with circuit unloaded. Open each switch enclosure for inspection of interior, mechanical and electrical connections, fuse installation, and for verification of type and rating of fuses installed. Correct deficiencies then reset to demonstrate compliance. Remove and replace defective units with new units and reset.

SECTION 16190 – SUPPORTING DEVICES

A. MANUFACTURED SUPPORTING DEVICES

Raceway Supports: Clevis hangers, riser clamps, conduit straps, threaded C-channel and steel angle, ceiling trapeze hangers, wall brackets, and spring steel clamps.

Fasteners: Types, materials, and construction features as follows:

Expansion Anchors: Carbon steel wedge or sleeve type.  
Toggle Bolts: All steel springhead type.  
Powder-Driven Threaded Studs: Heat-treated steel, designed specifically for the intended service.

U-Channel Systems: 16-gage steel channels, with 9/16-inch diameter holes, at a minimum of 8 inches on center, in top surface. Provide fittings and accessories that mate and match with U-channel and are of the same manufacture.

B. INSTALLATION

Install supporting devices to fasten electric components securely and permanently in accordance with NEC requirements.

Coordinate with the building structural system and with other electrical installation.

Raceway Supports: Comply with the NEC and the following requirements:

Conform to manufacturer's recommendations for selection and installation of supports.

Install individual and multiple (trapeze) raceway hangers and riser clamps as necessary to support raceways. Provide U-bolts, clamps, attachments, and other hardware necessary for hanger assembly and for securing hanger rods and conduits.

Support parallel runs of horizontal raceways together on trapeze type hangers. Support individual horizontal raceways by separate pipe hangers. Spring steel fasteners may be used in lieu of hangers only for 1-1/2-inch and smaller raceways serving lighting and receptacle branch circuits above suspended ceilings only. For hanger rods with spring steel fasteners, use 1/4-inch-diameter or larger threaded steel. Use spring steel fasteners that are specifically designed for supporting single conduits or tubing.

Space supports for raceways in accordance with NEC.

Support exposed and concealed raceway within 1 foot of an unsupported box and access fittings. In horizontal runs, support at the box and access fittings may be omitted where box or access fittings are independently supported and raceway terminals are not made with chase nipples or threadless box connectors.

Miscellaneous Supports: Support miscellaneous electrical components as required to produce the same structural safety factors as specified for raceway supports. Install metal channel racks for mounting cabinets, panelboards, disconnects, control enclosures, pull boxes, junction boxes, transformers, and other devices.

SECTION 16195 – ELECTRICAL IDENTIFICATION

A. ELECTRICAL IDENTIFICATION PRODUCTS

Adhesive Flexible Labels for Raceway and Metal-clad Cable: Preprinted, flexible, self-adhesive labels with legend indicating voltage and service (Lighting, Power, Air Conditioning, Communications, Control).

Label Size: as follows:

Raceways 1-Inch and Smaller: 1-1/8 inches high by 4 inches long.

Raceways Larger than 1-Inch: 1-1/8 inches high by 8 inches long.

Color: Black legend on orange background.

Pretensioned Flexible Wraparound Colored Plastic Sleeves for Raceway and Cable.

Identification: Flexible acrylic bands sized to suit the raceway diameter and arranged to stay in place by pre-tensioned gripping action when coiled around the raceway or cable.

Wire/Cable Designation Tape Markers: Vinyl or vinyl-cloth, self-adhesive, wraparound, cable/conductor markers with preprinted numbers and letter.

Engraved, Plastic-Laminated Labels, Signs, and Instruction Plates: Engraved, black melamine plastic laminate, 1/16-inch or 1/8-inch thick for larger than 20 sq. inch signs. Engraved legend in white letters on black face and punched for mechanical fasteners.

Fasteners for Plastic-Laminated and Metal Signs: Self-tapping stainless steel screws or number 10/32 stainless steel machine screws with nuts and flat and lock washers.

B. INSTALLATION

Lettering and Graphics: Coordinate names, abbreviations, colors, and other designations used in electrical identification work with corresponding designations specified or indicated.

Install identification devices in accordance with manufacturer's written instructions and requirements of NEC.

Sequence of Work: Where identification is to be applied to surfaces that require finish, install identification after completion of finish work.

Conductor Color Coding: Provide color coding for secondary service, feeder, and branch circuit conductors throughout the project secondary electrical system as follows:

208/120 Volts	Phase
Black	A
Red	B
Blue	C
White	Neutral
Green	Ground

Tag or label conductors as follows:

Multiple Circuits: Where multiple branch circuits or control wiring or communications/signal conductors are present in the same box or enclosure (except for three-circuit, four-wire home runs), label each conductor or cable. Provide legend indicating source, voltage, circuit number, and phase for branch circuit wiring. These and other data for branch circuit wiring may be indicated by means of coded color of conductor. Use consistent letter/number conductor designations throughout on wire/cable marking tapes.

Match identification markings with designations used in wiring or communications/signal conductors, and similar panelboards shop drawings, Contract Documents, and similar previously established identification schemes for the facility's electrical installations.

Install equipment/system circuit/device identification as follows:

Apply equipment identification labels of engraved plastic laminate on each major unit of electrical equipment in building, including central or master unit of each electrical system. Except as otherwise indicated, provide single line of text, with 1/2" high label (2-inch high where two lines are required), white lettering in black field.

Tag shall match terminology and numbering of the Contract Documents and shop drawings. Apply labels for each unit of the following categories of electrical equipment.

Panelboards, electrical cabinets, and enclosures. Transformers.

Apply circuit/control/item designation labels of engraved plastic laminate for disconnect switches, breakers, pushbuttons, pilot lights, motor control centers, and similar items for power distribution and control components above, except panelboards and alarm/signal components, where labeling is specified elsewhere. For panelboards, provide framed, typed circuit schedules with explicit description and identification of items controlled by each individual breaker.

Install labels at locations indicated and at locations for best convenience of viewing without interference with operation and maintenance of equipment.

SECTION 16452 – GROUNDING

A. GROUNDING AND BONDING PRODUCTS

Products: Of types indicated and of sizes and ratings to comply with NEC. Where types, sizes, ratings, and quantities indicated are in excess of NEC requirements, the more stringent requirements and the greater size, rating, and quantity indications govern.

Conductor Materials: Copper.

B. WIRE AND CABLE CONDUCTORS

General: Comply with Division 16 Section "Wires and Cables." Conform to NEC Table 8, except as otherwise indicated, for conductor properties, including stranding.

Equipment Grounding Conductor: Green insulated.

Grounding Electrode Conductor: Stranded cable.

Bare Copper Conductors: Solid Conductors: ASTM B-3; Assembly of Stranded Conductors: ASTM B-8.

C. MISCELLANEOUS CONDUCTORS

Ground Bus: Bare annealed copper bars of rectangular cross section.

Braided Bonding Jumpers: Copper tape, braided No. 30 gage bare copper wire, terminated with copper ferrules.  
Bonding Strap Conductor/Connectors: Soft copper, 0.05 inch thick and 2 inches wide, except as indicated.

D. CONNECTOR PRODUCTS

General: Listed and labeled as grounding connectors for the materials used.

Pressure Connectors: High-conductivity-plated units.

Bolted Clamps: Heavy-duty units listed for the application.

Exothermic Welded Connections: Provided in kit form and selected for the specific types, sizes, and combinations of conductors and other items to be connected.

E. APPLICATION

Equipment Grounding Conductor Application: Comply with NEC Article 250 for sizes and quantities of equipment grounding conductors, except where larger sizes or more conductors are indicated. Provide separate green grounding conductor for all branch circuits and feeders.

Feeder and branch circuits. Lighting circuits. Receptacle circuits. Single-phase motor or appliance circuits. Three-phase motor or appliance branch circuits.

F. INSTALLATION

General: Ground electrical systems and equipment in accordance with NEC requirements except where the Drawings or Specifications exceed NEC requirements.

Bond interior metal piping systems and metal air ducts to equipment ground conductors of pumps, fans, electric heaters, and air cleaners serving individual systems.

G. CONNECTIONS

General: Make connections in such a manner as to minimize possibility of galvanic action or electrolysis. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.

Use electroplated or hot-tin-coated materials to assure high conductivity and make contact points closer in order of galvanic series.

Make connections with clean bare metal at points of contact. Coat and seal connections involving dissimilar metals with inert material such as red lead paint to prevent future penetration of moisture to contact surfaces.

Exothermic Welded Connections: Comply with manufacturer's written recommendations. Welds that are puffed up or that show convex surfaces indicating improper cleaning are not acceptable.

Terminate insulated equipment grounding conductors for feeders and branch circuits with pressure-type grounding lugs. Where metallic raceways terminate at metallic housings without mechanical and electrical connection to the housing, terminate each conduit with a grounding bushing. Connect grounding bushings with a bare grounding conductor to the ground bus in the housing. Bond electrically noncontinuous conduits at both entrances and exits with grounding bushings and bare grounding conductors.

Tighten grounding and bonding connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values for connectors and bolts. Where manufacturer's torquing requirements are not indicated, tighten connections to comply with torque tightening values specified in UL 486A and UL 486B.

Compression-Type Connections: Use hydraulic compression tools to provide the correct circumferential pressure for compression connectors. Use tools and dies recommended by the manufacturer of the connectors. Provide embossing die code or other standard method to make a visible indication that a connector has been adequately compressed on the ground conductor.

SECTION 16470 – PANELBOARDS