ASHRAE HEADQUARTERS

CONSTRUCTION DOCUMENTS PACKAGE

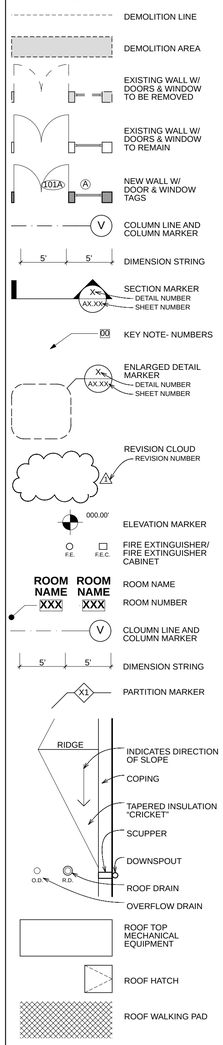
JUNE 15, 2007

PROJECT DESCRIPTION

THE PROJECT INVOLVES THE RENOVATION OF APPROXIMATELY 30,000 SQUARE FEET OF EXISTING OFFICE SPACE AND THE ADDITION OF ROUGHLY 4,000 SQUARE FEET OF NEW LEARNING CENTER SPACE. THE COMPLETED PROJECT WILL HOUSE THE HEADQUARTERS OFFICES OF ASHRAE AND WILL BE USED TO MAINTAIN MEMBERSHIPS, MANAGE RESEARCH OPERATIONS, PUBLISH JOURNAL AND MANUAL INFORMATION, AND SUPPORT THE CONTINUING EDUCATION OF MEMBERS. THE PROJECT IS EXPECTED TO ACHIEVE A LEED NC GOLD RATING.

SYMBOL LEGEND

THIS LEGEND INCLUDES SYMBOLS USED ON MOST DRAWINGS. SOME SHEETS MAY HAVE ADDITIONAL SYMBOLS. SEE SHEET LEGEND WHERE APPLICABLE FOR MORE INFORMATION.



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12/04/06

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INDICATES REVISION # OF ISSUE
INDICATES DATE OF LATEST ISSUE

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STATE OF GEORGIA
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ASHRAE HEADQUARTERS
ADDITION AND RENOVATION
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	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

INDEX

PROJECT NUMBER:

200614

DATE:

06/15/07

DRAWING NUMBER:

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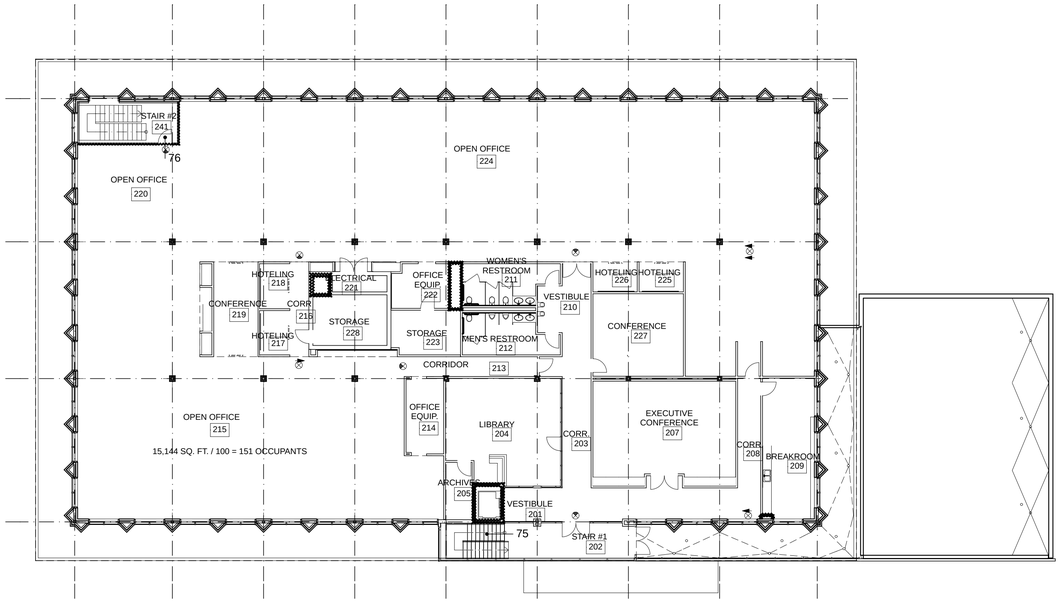
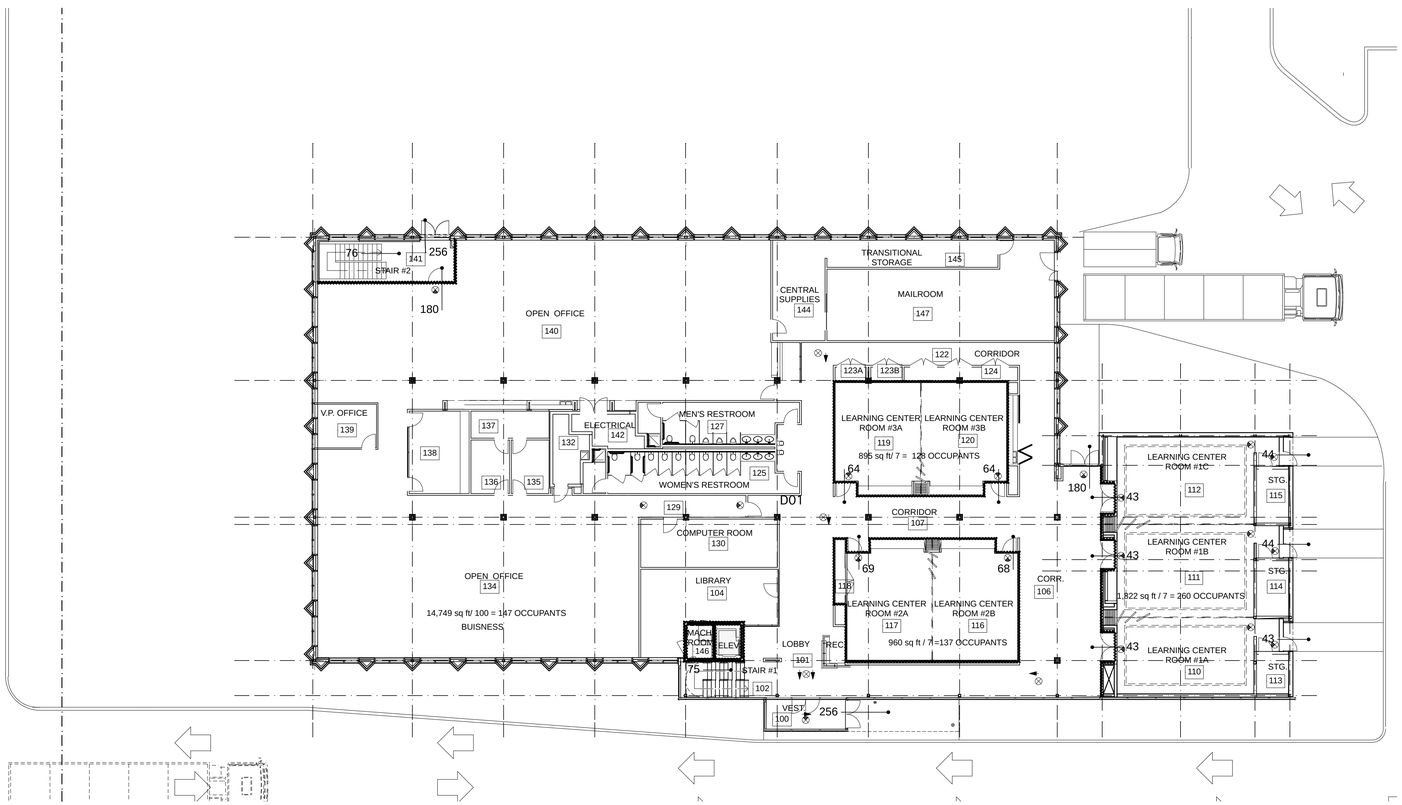


4 LEVEL 2 LIFE SAFETY PLAN 1/16" = 1'-0"



3 LEVEL 1 LIFE SAFETY PLAN 1/16" = 1'-0"

CODE REVIEW LIFE SAFETY

APPLICABLE CODES AND ORDINANCES:

ZONING:
Dekalb County, Georgia
BUILDING:
Standard Building Code (International Building Code), 2006 Edition with 2007 Georgia Amendments (IBC)
LIFE SAFETY:
Standard Building Code (International Fire Code), 2006 Edition with 2007 Georgia Amendments (IBC)
Life Safety Code Handbook NFPA -2000 eight edition
MECHANICAL:
Standard Mechanical Code (International Mechanical Code), 2006 Edition with 2007 Georgia Amendments
ELECTRICAL:
National Electrical Code, 2005 Edition with 2006 Georgia Amendments
PLUMBING:
Standard Plumbing Code (International Plumbing Code), 2006 Edition with 2007 Georgia Amendments
GAS:
Standard Gas Code (International Fuel Gas Code), 2006 Edition with 2007 Georgia Amendments
ACCESSIBILITY:
Georgia Handicapped Accessibility Law 120-3-20 (GAAC)
FIRE SAFETY:
Rules and Regulations of the Safety Fire Commissioner for the State Minimum Fire Safety Standards, August 21, 2003 (Georgia Safety Fire Law)

Standard Fire Prevention Code (International Fire Code), 2006 Edition with 2007 Georgia Amendments
ENERGY CONSERVATION:
International Energy Conservation Code, 2000 Edition with 2003, 2005, 2006 and 2007 Georgia Amendments (IEC), Climate Zone 7A

OCCUPANCY CLASSIFICATION
(IBC 304)B - Business
(IBC 303) A3 assembly for meeting rooms Exception #3 rooms less than 750 Sq. Ft. can be considered part of adjacent B occupancy
(NFPA- section 6.1.11) Business (B)
(NFPA- section 6.1.2.1) Assembly — (A-3) meeting rooms over 50 occupants
OCCUPANCY SEPARATION
Meeting Rooms first floor learning center:
(IBC Table 508.3.3): 1 hour exception with sprinkler
(NFPA-): 1 hour
Incidental use areas (IBC Table 508.2): Storage rooms over 100 sf require occupancy 1 hour separation in buildings unless a automatic fire suppression system than no separation required.
(IBC Table 508.3.3 exception b.)
Occupancy separation is not required for storage areas in occupancy (B) if
1) The area is less than 10% of the floor area
2) Area is equipped with an automatic fire-extinguishing system and is less than 3,000 sq.ft. or
3) Area is less than 1,000 Sq. Ft.
CONSTRUCTION TYPE
(IBC Table 503): Type III-B Protected with (Automatic Sprinkler)
(NFPA- section 8.2.1 table):
ALLOWABLE HEIGHT
75 feet, 3 stories for Assembly (IBC Table 503)
75 feet, 5 stories for Business (IBC Table 503)
(Includes height and story modifications permitted per automatic sprinkler system increase, IBC 504.2)
[55 FT (IBC Table 503) + 20 FT (IBC 504.2) = 75 FT]
ALLOWABLE AREA
26,125 square feet per floor for Assembly (IBC Table 503) (Includes area modifications permitted per automatic sprinkler system increase and are increase due to frontage, IBC 506.3 and 506.2)
[9,500 SF (IBC Table 503) X 2 (IBC 506.3) = 19,000]
+ [9,500 SF (IBC Table 503) X .75 (IBC 506.2) = 7125]
19,000 + 7,125 =26,125 for Assembly
38,000 square feet per floor for Assembly (IBC Table 503) (Includes area modifications permitted per automatic sprinkler system increase, IBC 506.3)
[19,000 SF (IBC Table 503) X 2 (IBC 506.3) = 38,000]
38,000 for Business
FIRE RESISTANCE RATING FOR BUILDING ELEMENTS
(IBC Table 601)

Structural frame- 0

Bearing walls
Exterior 0
Interior-0
Non-bearing walls
Exterior-2- existing building no exterior walls are bearing
Interior-0
Floor construction-0
Roof construction-0

NOTE: The structure will be protected with an approved automatic sprinkler system
FIRE RESISTANCE RATING BASED ON SEPARATION DISTANCE
(IBC Table 602)
<5 feet - 1 RATING, 5<x>10- 1 RATING, 10<x>30- 1 RATING, >30-0 RATING

EGRESS STAIR ENCLOSURES
1 hour rating (IBC 707.4 & 1020) Required 2 hours provided
SHAFT ENCLOSEUERS
Elevator and mechanical shafts 1 hour rating (IBC 707.4)
ELEVATOR LOBBY
Not required less than 3 stories (IBC 707.14.1)
LIMMITING SIZES OF GLASS IN INTERIOR FIRE WALLS
Wire glass allowed in a 1 hour wall as the following: 100 sq. in. maximum total area, max height 33" maximum width 54" (IBC table 715.5.3 and Section 715.5)
FINISH
Business exit enclosures and exit passageways- class C is permitted with exception b, for corridors and rooms- class C
Assembly- exit encloses and exit passageways- class A, corridors- class A, lobby areas- class B and rooms and enclosed spaces- class C
(IBC Table 803.5)
OCCUPANT LOAD
100 Gross square feet per occupant (Business) (IBC Table 1004. 1.1)
15 Net square feet per occupant tables and chairs / 7 net sq.ft. Concentrated chairs (Assembly) (IBC Table 1004 1.1 and NFPA 7.3.1.2)
Note: (IBC 1004.3) Every room or space that is an assembly shall have the occupant load posted.

First Floor- Business
14,749 SF
147 occupants

First floor- Assembly
3677 SF
525 occupants (individual rooms rounded up fro fractions of persons)

Second Floor- Business
15,144 SF
151 occupants

Second floor- Assembly
0 SF
0 occupants

Total
33,570 SF
823 occupants

CODE REVIEW LIFE SAFETY

MEANS OF EGRESS COMPONENTS
Egress width per person served
Level 0.15 in (IBC Table 1005.1 & NFPA chapter 7)
Stairways
0.2in (IBC Table 1005.) 44" clear minimum width stairways and shall comply with (IBC 1009 and 1007.3) (NFPA 7.2.2.2) 48" required in area of refuge stairs if (NFPA 7.2.12.3.3) is taken 44" is allowed with sprinkler and 2 hour stair walls. 1" min treads 4" to 7" max risers for new stairs
Ramps
Comply with (IBC 1010) this project has no ramps
Minimum clear opening at doors
32 inches minimum with a 90 deg. Opening (IBC 1003.3.1.1 & NFPA- 7.2.1.2.3)
Minimum assessable corridor width per Accessibility
36" for one chair 60" for two chairs to pass.
Hardware
Assembly occupancy with latching device shall have panic hardware. (IBC 1008)
Accessible Means of Egress
Required (IBC 1007 chapter 11)
Open Stairways
Permitted if the in open to not more than one story above the story of discharge (IBC 1020.1 exception #1.1)
Area of Refuge
Not required for open stairs (IBC-1007.3 exception #2)
Minimum number of exits and exit accesses Business
2 exits (IBC 1019.1 & NFPA chapter 7.4)
Minimum number of exits and exit accesses Assembly
2 exits (IBC 1019.1 & NFPA chapter 7.4)
Exit Discharge Assembly area
Maximum Occupant Load:
(IBC 1019.1 and 1015.1)
1804sf 7sf Net = 258 occupants (2 exits)
838sf 7sf Net = 120 occupants (2 exits)
904sf 7sf Net = 130 occupants (2 exits)
Building exits:
For second story between 1-500 =2 exits
For first floor occupant load between 501-1000 =3 exits
Remoteness of exits Assembly
Separated by 1/3 of room diagonal (NFPA 7.5.1.4)
Exit access travel distance
(IBC 1016.1) 300 feet for Business with sprinkler
(IBC 1016.1 & 1025.7) 250 feet for Assembly with sprinkler

(NFPA 7.6.1) Exits shall be arranged so that total length of travel from any point to reach an exit shall not exceed 150 ft. in any assembly occupancy **(300 ft. if sprinklered) Common path of travel 100 ft. if sprinklered** ** Arrangement of Means of Egress

Exits shall be located remotely from each other and shall be arranged to minimize the possibility that they might be blocked by any emergency.

Exception: a common path of travel shall be permitted for the first 20 ft. from any point where serving any number of occupants and for the first 75 ft. from any point where serving not more than 50 occupants.
Corridor fire-resistance rating
0 hour
Minimum corridor width
44 inches (IBC 1004.3.2.2)
0.2 " per occupant (NFPA 7.3.3.1 table)
Maximum common path of travel
75 feet Business (IBC 1005.2.2)
100 feet for Business (NFPA 7.6.1 table)
30 feet for assembly (IBC 1025.8)
20feet for Assembly (NFPA 7.6.1 table)

Maximum dead end corridor length
50 feet for Business (IBC 10017.3)
50 feet for Business (NFPA 7.6.1 table)
20 feet for assembly
20 feet dead end aisle t for Assembly (NFPA 7.6.1 table)
Total travel distance
200 feet for Assembly (NFPA 7.6.1 table)
300 feet for Business (NFPA 7.6.1 table)

Plumbing fixture counts

Plumbing codes (IBC chapter 29 table 2902.1 and exception 2902.4.1 stalls can be distributed between two floors.):
Table 403.1 minimum plumbing fixtures required
Notes: Urinals are considered not more than 67% of the total stalls required
(IBC- Plumbing 400)
A unisex toilet shall be provided when there is an aggregate of six male and female water closets
Americans with Disabilities Act 4.22.4
At least 1 Accessible stall shall be provided with 6 stalls or more at least one 36" stall shall be provided as well.

Assembly drinking fountains
1 per 500 occupants
Total restroom fixtures two floors
Men= 3 stalls, 5 urinals, and 5 lavs

Women= 12 stalls and 5 lavs

Signage
Room Required for restrooms and egress components including exit directional signs
ACCESSIBILITY
Building shall meet minimum accessibility requirements for new construction (GAAC 120-3-20-.08)
Parking Assessable counts
Table 1106.1 occupancy between 501 to 1000 persons = 2% of total parking spaces required are to be Assessable.
ENERGY CONSERVATION
Commercial Building Type (IEC 101.3.2); building envelope meets applicable provisions of ASHRAE/ IES *Energy Code for Commercial and High-Rise Residential Buildings* (90.1-2004)

GENERAL NOTES LIFE SAFETY

1. DO NOT SCALE DRAWINGS
2. DIMENSIONS ON WALLS ARE GIVEN TO THE OUTSIDE FACE OF THE WALL FINISH UNLESS OTHERWISE NOTED.
5. PLEASE SEE SHEET A0.2 FOR PARTITION TYPES.
6. PARTITIONS ARE TO BE TYPE A3 UNLESS OTHERWISE NOTED.

SYMBOL LEGEND LIFE SAFETY

DENOTES RATED WALL SEE PLAN SHEETS FOR RATING

00 NUMBER OF OCCUPANTS EXITING

DIRECTIONAL EXIT SIGN

EXIT SIGN

KEY NOTES

0 2 4 8

STATE OF GEORGIA
JANICE K. WITTSCHIEBE
CERTIFICATE NO. 5507
REGISTERED ARCHITECT

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

LIFE SAFETY PLANS

PROJECT NUMBER:

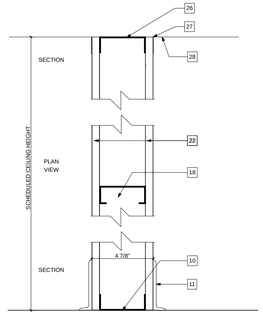
200614

DATE:

06/15/07

DRAWING NUMBER:

.A0.1



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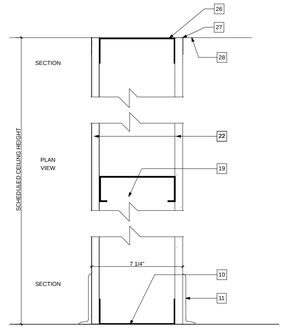
NOT TO SCALE



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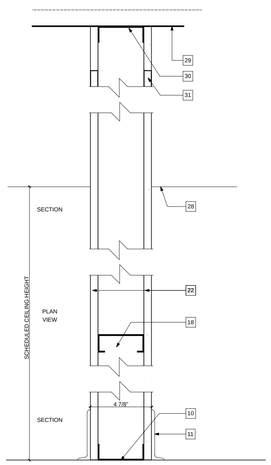

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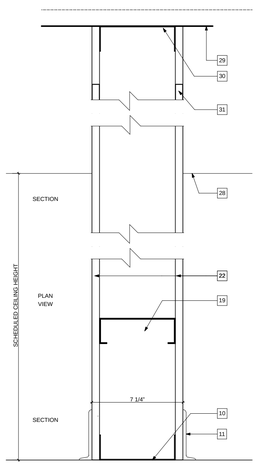

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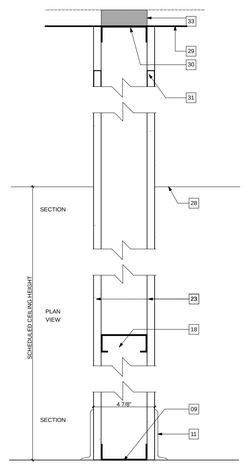

C1 Fire - Rated Partition Type
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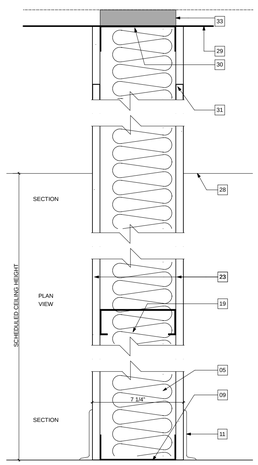
UL DESIGN: NO. U-419
I HOUR RATING



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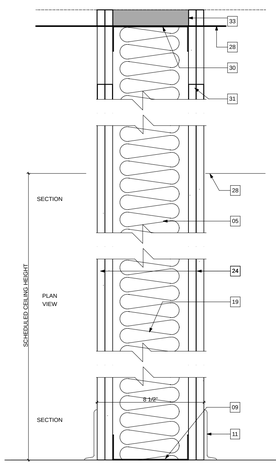

D4 Fire - Rated Partition Type
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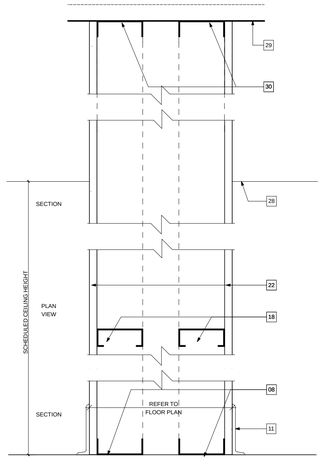
2-HOUR RATING



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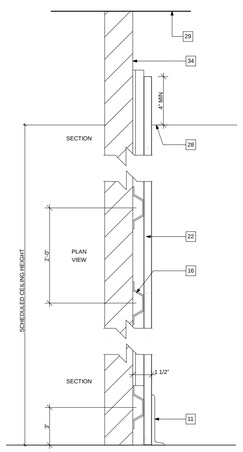

F1 Partition Type
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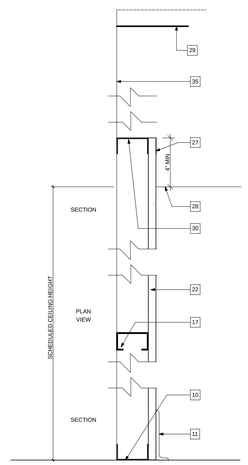

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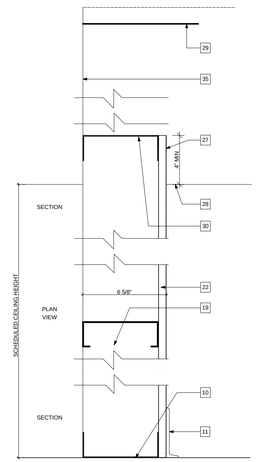
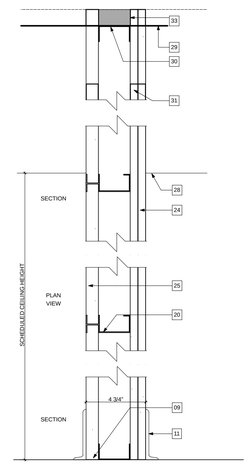
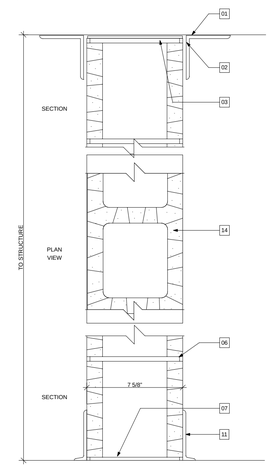


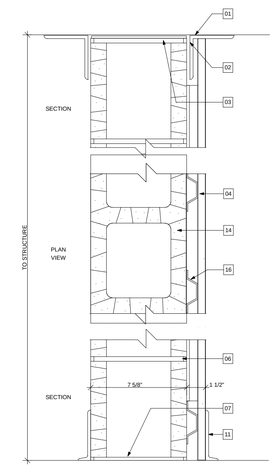
F5 Partition Type
NOT TO SCALE



G1 Fire - Rated Partition Type
NOT TO SCALE
UL-DESIGN: NO. U-415
2-HOUR RATING



H3 Partition Type
NOT TO SCALE
UL-DESIGN: NO. U-905: 2-HOUR RATING



H7 Partition Type
NOT TO SCALE
UL-DESIGN: NO. U-905: 2-HOUR RATING

GENERAL NOTES PART. TYPES

1. ALL KEYNOTES MAY NOT BE USED
2. PLACE STUDS AND FURRING CHANNELS AT A MINIMUM OF 2'-0" O.C., OR AS REQUIRED TO MEET STRUCTURAL LOADS, UL ASSEMBLY REQUIREMENTS, AND/ OR SPECIFIED GYPSUM WALL LEVEL OF FINISH.

KEY NOTES

01 UNDERSIDE OF STRUCTURE ABOVE. ANCHOR STEEL ANGLE TO STRUCTURE- SEE STRUCTURAL.
02 STEEL ANGLE- SEE STRUCTURAL.
03 SEAL TIGHT TO STRUCTURE WITH 1/2" COMPRESSIBLE FILLER.
04 5/8" GYPSUM WALLBOARD SECURED TO FURRING CHANNEL.
05 SOUND ATTENUATION BLANKET.
06 HORIZONTAL JOINT REINFORCEMENT.
07 1/2" THICK MORTAR TO BE USED ON BASE COURSE ONLY.
08 METAL RUNNER CHANNEL SET IN CONTINUOUS BED OF ACCOUSTICAL SEALANT.
09 METAL RUNNER CHANNEL SET IN CONTINUOUS BED OF FIRE SAFING.
10 METAL RUNNER CHANNEL.
11 SCHEDULED BASE REFER TO FINISH PLAN.
12 4" CONCRETE MASONRY UNIT- CLASSIFICATION D2 (2 HOUR) STAGGER VERTICAL JOINTS.
13 6" CONCRETE MASONRY UNIT- CLASSIFICATION D2 (2 HOUR) STAGGER VERTICAL JOINTS.
14 8" CONCRETE MASONRY UNIT- CLASSIFICATION D2 (2 HOUR) STAGGER VERTICAL JOINTS.
15 12" CONCRETE MASONRY UNIT- CLASSIFICATION D2 (2 HOUR) STAGGER VERTICAL JOINTS.
16 7/8" METAL FURRING CHANNEL MOUNTED PERPENDICULAR TO FLOOR WITH 1 CHANNEL MOUNTED PARALLEL TO THE FLOOR @3'-0" A.F.F.
17 2 1/2" METAL STUDS, FASTED TO RUNNER CHANNEL ABOVE WITH SLIP JOINT FOR VERTICAL DEFLECTION.
18 3 5/8" METAL STUDS, FASTED TO RUNNER CHANNEL ABOVE WITH SLIP JOINT FOR VERTICAL DEFLECTION.
19 6" METAL STUDS, FASTED TO RUNNER CHANNEL ABOVE WITH SLIP JOINT FOR VERTICAL DEFLECTION.
20 2 1/2" CH METAL STUDS, FASTEN TO RUNNER CHANNEL ABOVE WITH SLIP JOINT FOR VERTICAL DEFLECTION.
21 4" CH METAL STUDS, FASTEN TO RUNNER CHANNEL ABOVE WITH SLIP JOINT FOR VERTICAL DEFLECTION.
22 5/8" GYPSUM WALL BOARD SECURED TO VERTICAL FRAMING.
23 5/8" TYPE X GYPSUM WALL BOARD SECURED TO VERTICAL FRAMING.
24 TWO LAYERS OF 5/8" TYPE X GYPSUM WALL BOARD SECURED TO VERTICAL FRAMING.
25 1" TYPE X GYPSUM WALL BOARD SECURED TO VERTICAL FRAMING.
26 CONTINUOUS ACOUSTICAL TAPE.
27 CASING BEAD- FLOATED. TYP.
28 SCHEDULED CEILING- REFER TO REFLECTED CEILING PLAN.
29 UNDERSIDE OF STRUCTURE ABOVE.
30 METAL RUNNER CHANNEL. FASTEN AT 2'-0" O.C. MAX.
31 OPENING FOR MECHANICAL TRANSFER DUCT WHERE APLLICABLE. REFER TO MECHANICAL.
32 FILL ALL VOIDS TIGHTLY WITH INSULATION.
33 FILL ALL VOIDS TIGHTLY WITH FIRE RATED FIRESTOP MATERIAL.
34 EXISTING CONSTRUCTION- REFER TO FLOOR PLANS.
35 SUBSTRATE-REFER TO FLOOR PLANS.

STATE OF GEORGIA
JANICE K. WITTSCHIEBE
CERTIFICATE NO. 5507
REGISTERED ARCHITECT

RICHARD WITTSCHIEBE HAND

15 Simpson Street
Atlanta, Georgia 30308
V 404.688.2200
F 404.688.2400
www.rwhdesign.com

ASHRAE HEADQUARTERS ADDITION AND RENOVATION
1791 TULLIE CIRCLE
ATLANTA, GEORGIA 30329

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:
PARTITION TYPES

PROJECT NUMBER:
200614

DATE:
06/15/07

DRAWING NUMBER:
.A0.2

GENERAL NOTES

1. ALL CONSTRUCTION TO CONFORM TO COUNTY CONSTRUCTION STANDARDS.
2. VERTICAL REFERENCE DATUM IS MEAN SEA LEVEL.
3. THE BACKFILL OF ALL TRENCHES AND GRADED BUILDING PADS SHALL BE COMPACTED TO A DENSITY OF 95% OF THE THEORETICAL MAXIMUM DENSITY. BACKFILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS OR OTHER FOREIGN DEBRIS & AND SHALL BE PLACED AT OR NEAR OPTIMUM MOISTURE, THE TOP 12"s SHALL BE COMPACTED TO A DENSITY OF 98%.
4. TOPSOIL SHALL BE STORED IN AREAS DESIGNATED FOR THAT PURPOSE.
5. THE PROPERTY IS NOT INSIDE THE FLOOD HAZARD AREA, COMMUNITY PANEL # 13089C0054H, DATED MAY 7, 2001.
6. THE COUNTY INSPECTORS SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY WASTEWATER OUTFALL CONSTRUCTION ON THIS SITE.
7. CONTACT FOR THE ENGINEER IS:
   CHRISTOPHER J. FINKE P.E.
   AEC, INC.
   8995 ROSWELL RD., SUITE 200
   ATLANTA, GA 30350
   (770) 641-1942
8. CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BEFORE CONSTRUCTION STARTS. EXISTING UTILITIES ARE SHOWN USING THE BEST AVAILABLE INFORMATION. CONTRACTOR IS EXPECTED TO COORDINATE ALL WORK WITH OWNER AND UTILITY COMPANIES TO MINIMIZE DISRUPTION AND DAMAGE TO PROPERTY.
9. ALL LANDSCAPING AND OTHER IMPROVEMENTS SHALL BE REPLACED IN A CONDITION SIMILAR TO THAT WHICH EXISTED ON THE SITE BEFORE CONSTRUCTION.
10. ALL WASTEWATER PIPE SHALL BE AS SPECIFIED ON THE PLANS AND SHALL MEET COUNTY CONSTRUCTION SPECIFICATIONS.
11. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION, CALL "UTILITIES PROTECTION CENTER" @ 1-800-282-7411.
12. EIGHT (8") INCH OR LARGER PIPE LINES SHALL BE TV INSPECTED AND A VHS TAPE SENT TO THE WATER & SEWER INSPECTOR
13. SEDIMENT & EROSION CONTROL APPROVAL BY COUNTY.
14. INSPECTION BY COUNTY ARBORIST TO BE MADE PRIOR TO LAND DISTURBANCE & ISSUANCE OF CERTIFICATE OF OCCUPANCY FOR COMPLIANCE WITH TREE ORD.
15. COUNTY INSPECTORS SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CONSTRUCTION ON THIS SITE.
16. ALL REVISIONS TO THESE PLANS MUST BE SUBMITTED TO COUNTY AND APPROVED PRIOR TO CONTINUING CONSTRUCTION
17. ALL SILT BARRIERS MUST BE PLACED AS ACCESS IS OBTAINED DURING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION AND DETENTION FACILITIES ARE CONSTRUCTED.
18. SILT BARRIERS TO BE PLACED AS SHOWN AND/OR AS DIRECTED BY PROJECT ENGINEER AND/OR DEKALB COUNTY INSPECTOR.
19. AS-BUILT DRAWINGS OF ROADWAYS, STORM DRAINS, SEWERS AND WATER; FIELD APPROVALS BY THE INSPECTOR; AND ALL APPLICABLE BONDS REQUIRED PRIOR TO ACCEPTANCE OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
20. WEEKLY EROSION AND SEDIMENT CONTROL REPORTS SHALL BE SUBMITTED TO THE DEVELOPMENT DEPARTMENT. REPORTS SHALL START WITH THE ISSUANCE OF THE DEVELOPMENT PERMIT AND END WHEN PROJECT IS RELEASED BY THE INSPECTOR.
21. PRIOR TO THE ACCEPTANCE AND APPROVAL OF ANY ASPHALTIC CONCRETE BINDER AND/OR TOPPING WHICH IS INSTALLED FOR THE PURPOSE OF DEKALB COUNTY MAINTENANCE, A REPRESENTATIVE OF THIS DEPARTMENT MAY REQUIRE ONE OR ALL OF THE FOLLOWING TESTS: 1)CORING, 2)EXTRACTION, 3)COMPACTION, 4)DENSITY. THE FREQUENCY AND LOCATION OF THESE TESTS WILL BE LEFT TO THE DISCRETION OF THE INSPECTOR.
22. ALL EROSION AND SEDIMENTATION CONTROLS, AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO GRADING.
23. IT IS UNDERSTOOD THAT THE APPROVAL OF A LAND DISTURBANCE PERMIT, IN ITSELF, DOES NOT CONSTITUTE VESTING OF ZONING. IN ORDER FOR ZONING TO BE VESTED BY VIRTUE OF THE ISSUANCE OF A LAND DISTURBANCE PERMIT, IT IS NECESSARY THAT SUBSTANTIAL PROGRESS SHALL HAVE BEEN MADE TOWARD THE COMPLETION OF A DESIGNATED PHASE OF THE PROJECT, AS DEPICTED ON THE SITE PLAN APPROVED AS A CONDITION FOR THE REZONING. SUBSTANTIAL PROGRESS IS DEFINED AS WHEN, IN THE OPINION OF THE DIRECTOR OF THE DEVELOPMENT SERVICES DEPARTMENT, ADHERENCE TO THE CONSTRUCTION SCHEDULE PREVIOUSLY APPROVED INDICATES A MINIMUM OF FIFTY PERCENT (50%) OF THE PUBLIC IMPROVEMENTS SPECIFIED FOR ONE PHASE, HAS BEEN ACHIEVED, BY ACCEPTANCE OF THIS LAND DISTURBANCE PERMIT, THE APPLICANT ACKNOWLEDGES AND ACCEPTS THE CONSTRUCTION SCHEDULE INCORPORATED HEREIN.
24. WATER SERVICE IS TO BE PROVIDED BY COUNTY.
25. NO EXISTING GIS MONUMENTS ARE LOCATED ON SITE.
26. OFF-STREET PARKING SHALL BE PROVIDED AND MAINTAINED DURING CONSTRUCTION.
27. ALL FILL AREAS MUST BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR. A REPORT FROM A GEOTECHNICAL ENGINEER MAY BE REQUIRED BY THE CONSTRUCTION INSPECTOR FOR ALL FILL AREAS WITHIN THE RIGHT-OF-WAY.
28. NOTIFY WATER & SEWER INSPECTOR AT 404-508-3643 PRIOR TO START OF CONSTRUCTION.
29. DEKALB COUNTY ROADS AND DRAINAGE UTILITY PERMIT REQUIRED: CONTACT UTILITY COORDINATOR (404-508-3622) FOR ROADS AND DRAINAGE INFORMATION.
30. REMOVE ALL EXISTING SEPTIC TANKS PER HEALTH DEPT. REQUIREMENTS.
31. THIS SITE WILL HAVE NO INERT WASTE BURY PIT.
32. CONTACT AT&T @ 770-391-2810 BEFORE STARTING CONSTRUCTION.
33. ALL CORRUGATED METAL PIPE ARE TO BE FULLY ASPHALT COATED WITH PAVED INVERTS.
34. ALL CATCH BASINS ARE TO BE FLUSH-MOUNTED PER STD. 402 AND 403 (ALTERNATE PLAN). SHOW ONE FOOT LID OFFSET IN CUL-DE-SACS.
35. DETENTION FACILITIES AND EROSION CONTROL MEASURES ARE TO BE ACCOMPLISHED PRIOR TO ANY OTHER CONSTRUCTION ON THE SITE AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
36. DEKALB COUNTY SANITATION DEPARTMENT IS NOT RESPONSIBLE FOR GARBAGE PICKUP ON PRIVATE STREETS.
37. COMPACTION OF ALL FILL MATERIAL BETWEEN THE FRONT AND REAR BUILDING LINES TO 95% STANDARD PROCTOR MUST BE CERTIFIED BY GEORGIA REGISTERED PROFESSIONAL SOILS ENGINEER PRIOR TO THE INSTALLATION OF CURB. THE CERTIFICATION WILL BE SUBMITTED TO THE CHIEF OF DEVELOPMENT INSPECTIONS. LOTS WITH 2' OF FILL OR GREATER, AS DELINEATED ON THE CONSTRUCTION PLANS. WILL REQUIRE A COMPACTION CERTIFICATIONS PRIOR TO ISSUANCE OF BUILDING PERMITS. THE ENGINEER WILL ALSO PROVIDE A LETTER LISTING THOSE LOTS THAT REQUIRE COMPACTION CERTIFICATION. THOSE LOTS THAT REQUIRE COMPACTION CERTIFICATION WILL BE INDICATED ON THE FINAL RECORDED PLAT.
38. WATER & SEWER DEPARTMENT APPROVAL REQUIRED PRIOR TO THE ISSUANCE OF DEVELOPMENT PERMIT.
39. ALL ELEVATIONS ARE TO BE FIELD-VERIFIED.
40. EXISTING UTILITIES ARE BASED ON BOUNDARY AND TOPOGRAPHICAL SURVEY DONE BY: TERRAMARK PROFESSIONAL LAND SURVEYING, DATED 11-29-06.

STANDARD FIRE PREVENTION CODE – 2000 EDITION

603.1.3.2 Location. The location and number of hydrants shall be designated by the fire offiHlal, but in no case shall distance between installed fire hydrants exceed 1,000 ft (305m). Maximum distance from the nearest hydrant to the most remote exterior point of any building shall be 500 ft (152m). The distance shall be measured on a roadway surface meeting the fire department access requirements of 602.6

Prior to connecting to any underground water mains that are N.I.C. or installed by "Others", sprinkler system contractor shall obtain documentation of DEKALB COUNTY FMO approval of Testing and Flushing Certification, per NFPA 20: 11-1.3 and/or NFPA 24: 9-2.1

Fire Department connections for sprinkler systems shall be located within 50 feet of a fire hydrant. Refer to 1990 NFPA 1141, 3-6.2.2. Field Verify.

For average conditions, hydrants shall be placed at least 40 ft. from the building protected. refer to 95 NFPA 24, 4-2.2.

No pipe smaller than a nominal 8 inches in diameter shall be used to supply one hydrant and automatic extinguishing system. refer to 95 NFPA 24, GSFC modification 7-6.4 (b).

Pipe shall not be run under buildings. Refer to 95 NFPA 24, 8-3.1.

No pipe smaller than 6 inches in diameter shall be installed as a private service main. Refer to 99 NFPA 13, 9-1.3.

CAUTION

THE UTILITIES SHOWN ARE SHOWN FOR THE CONTRACTOR'S CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE PREPARER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

IF YOU DIG GEORGIA...
CALL US FIRST!
1-800-282-7411
770-623-4344
(METRO ATLANTA ONLY)
UTILITIES PROTECTION CENTER
IT'S THE LAW

THIS IS AN EFFORT TO STOP THE DISPOSAL OF CONSTRUCTION WASTE (DEBRIS, TRASH, BUILDING MATERIALS, ORGANIC, AND INORGANIC MATERIAL) ON DEVELOPMENT PROJECTS AND VACANT PROPERTIES. AS DEFINED IN CHAPTER 14-1 AND COMPLYING WITH CHAPTER 14-37(b) OF THE DEKALB COUNTY LAND DEVELOPMENT ORDINANCE THE FOLLOWING NOTARIZED STATEMENT SHALL BE SIGNED BY THE PROPERTY OWNER OR HIS ASSIGNED, AND PRESENTED TO THE ENVIRONMENTAL SECTION OF THE DEKALB COUNTY DEVELOPMENT DEPARTMENT AT THE PRE-CONSTRUCTION MEETING OR AT THE ISSUANCE OF A DEVELOPMENT OR BUILDING PERMIT.

ENFORCEMENT ON VACANT LOTS SHALL BE AS IF A PERMIT WERE BEING ISSUED.

FAILURE TO COMPLY WITH THIS POLICY MAY RESULT IN AN ENGINEERING REPORT BEING PREPARED THAT MAY INCLUDE TEST PITS OR BORING OF SUSPECTED SITES.

EXISTING CONDITIONS: THE SITE IS CURRENTLY DEVELOPED WITH AN EXISTING BUILDING AND PARKING LOT LOCATED ON TULLIE CIRCLE NEAR THE INTERSECTION WITH I-85 ACCESS ROAD NORTH.

PROPOSED CONDITIONS: THE PROPOSED CHANGES TO THE SITE INCLUDE AN ADDITION TO THE EXISTING BUILDING (3,334 SF TOTAL), RESTORING IMPERVIOUS AREAS TO LANDSCAPE AREAS, AND RESTRIPING THE REMAINING PARKING AREAS. WATER QUALITY, CHANNEL PROTECTION AND DETENTION ARE PROVIDED FOR IN AN ONSITE DETENTION POND.

UTILITY PROVIDERS
POWER: GEORGIA POWER
PHONE: AT&T
GAS: ATLANTA GAS LIGHT CO.
WATER & SEWER: DEKALB COUNTY

CONDITIONS FOR P.V.C.
1. PIPE SHALL BE ASTM-3034, SDR35 IN 12.5 FOOT LAYING LENGTHS WITH ELASTOMERIC SEALED JOINTS IN ACCORDANCE WITH ASTM-D3212.
2. PIPE BEDDING SHALL BE #57, SHARP, ANGULAR, CRUSHED STONE, BEDDING SHALL EXTEND A MINIMUM OF 4" BELOW THE PIPE AND EXTEND TO THE TOP OF THE PIPE. THE BEDDING SHALL BE COMPACTED BY "SLIHING WITH A FLAT SHOVEL". THE WIDTH OF THE DITCH AT THE TOP OF THE PIPE SHALL BE A MAXIMUM OF 3 FEET.
3. INITIAL BACKFILL: AFTER BEDDING, COMPLETE INITIAL BACKFILL WITH #57 STONE. IF NO ROCK IS ENCOUNTERED, INITIAL BACKFILL SHALL EXTEND TO A HEIGHT OF 6" ABOVE THE TOP OF THE PIPE, OTHERWISE INITIAL BACKFILL SHALL EXTEND TO 12" ABOVE THE TOP OF THE PIPE.
4. FITTING FOR LATERAL CONNECTIONS SHALL BE 45 DEGREES AND BENDS. PROVIDE P.V.C. PIPE STOPPERS FOR EACH LATERAL. PROVIDE SPEHIAL WATERTIGHT CONNECTIONS AT MANHOLES AND TRANSITIONS TO DUCTILE IRON PIPE AS RECOMMENDED BY THE PIPE MANUFACTURER.
5. AFTER INSTALLATION A DEFLECTION TEST IS REQUIRED, INITIAL DEFLECTION SHALL BE LIMITED TO 3% OF THE UNDEFLECTED DIAMETER. A SECOND TEST SHALL BE MADE AT LEAST 8 MONTHS AFTER THE INSTALLATION BUT BEFORE FINAL ACCEPTANCE. AT THAT TIME DEFECTION SHALL BE LIMITED TO 5% OF THE UNDEFLECTED DIAMETER.

Per the State of Georgia Department of Natural Resources Environmental Protection Division, the subject site is not eligible for an NPDES GAR 10000! Permit because the proposed land disturbance is less than (1) one acre. Therefore no storm water runoff monitoring is proposed. I certify that sediment and erosion control documents were prepared under my supervision and conform to the requirements outlined in the "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted.

Signature: Date: _____.
CSWCC LEVEL II CERTIFIED DESIGN PROFESSIONAL # 29494 _____.

SITE VISIT CERTIFICATION STATEMENT
I, _____, HAVE VISITED THE PROJECT SITE PRIOR TO THE DEVELOPMENT OF THESE CONSTRUCTION DOCUMENTS.

SIGNED _____ DATED _____

DEKALB COUNTY #

SITE DEVELOPMENT PLANS
for
BUILDING ADDITION AND RENOVATION
ASHRAE HEADQUARTERS
1791 TULLIE CIRCLE
ATLANTA, GA 30329

Located in Land Lot 156 of the 18th District of DeKalb County, Georgia.

OWNER/DEVELOPER
ASHRAE, INC.
1791 TULLIE CIRCLE
ATLANTA, GA 30329
CONTACT: JEFF LITTLETON
PHONE: (678) 539-1100

AEC, inc.
CIVIL ENGINEERING | LANDSCAPE ARCHITECTURE
LAND PLANNING | ENVIRONMENTAL ENGINEERING
8995 Roswell Road ▪ Suite 200
Atlanta ▪ Georgia ▪ 30350-1850
(770) 641-1942 ▪ Fax (770) 998-6924 ▪ www.aecatl.com

ENGINEER
AEC CONTACT: CHRISTOPHER J. FINKE, P.E.
(770) 641-1942

AEC JOB # 06-2534.20

JUNE 15, 2007
REVISION: JUNE 26, 2007
REVISION: JULY 12, 2007

WASTEWATER NOTES:
1. ALL WASTEWATER PIPE CONSTRUCTION MUST CONFORM TO COUNTY'S STANDARDS AND SPEHIFICATIONS.
2. ALL WASTEWATER EASEMENTS MUST BE DRESSED AND GRASSED TO CONTROL EROSION IN ACCORDANCE WITH EASEMENT PLATS PRIOR TO ACCEPTANCE.
3. AS-BUILT AND MAINTENANCE BONDS ARE REQUIRED PRIOR TO INSPECTION AND ACCEPTANCE.
4. NEOPRENE COUPLINGS WITH STAINLESS STEEL BAND AND SHEAR RINGS ARE REQUIRED FOR JOINING DIFFERENT TYPES OF WASTEWATER PIPES.
5. POOLS CANNOT DRAIN INTO WASTEWATER SYSTEMS.
6. LOW PRESSURE AIR TESTING REQUIRED FOR ALL WASTEWATER SYSTEMS. THIS TEST MUST MEET ALL REQUIREMENTS AS OUTLINED IN ASTM C-828-80 OR CURRENT REVISION.
7. COMPACTION OF THE BACKFILL OF ALL TRENCHES SHALL BE COMPACTED TO THE DENSITY OF 96% OF THE THEORETICAL MAXIMUM DENSITY. BACKFILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, OR OTHER FOREIGN DEBRIS, AND SHALL BE REPLACED AT OR NEAR OPTIMUM MOISTURE. CORRECTION OF ANY TRENCH SETTLEMENT WITHIN A YEAR FROM THE DATE OF APPROVAL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. ISSUANCE OF THIS PERMIT DOES NOT IN ANY WAY IMPLY THAT THE WASTEWATER TAPS FOR BUILDING PERMITS WILL BE ISSUED. CONTACT THE DEPARTMENT OF PUBLIC WORKS FOR FURTHER INFORMATION.
9. CONTRACTOR TO FIELD VERIFY LOCATION AND INVERT OF EXISTING WASTEWATER SYSTEM FOR CONNECTION TO THAT SYSTEM.
10. COMPLETE CONSTRUCTION SCHEDULE INCLUDING STANDARD TEMPORARY AND PERMANENT STABILIZATION METHODS. AS SHOWN ON SEDIMENT AND EROSION CONTROL PLAN.
11. IF OPEN PUMPING IS USED, THEN FURTHER EROSION CONTROL MEASURES SHALL BE REQUIRED, AS PER COUNTY STANDARDS.
12. FOR ALL CONSTRUCTION ALONG AND/OR ACROSS WATERWAYS, BANK PROTECTION AND STABILIZATION SHALL BE REQUIRED AS PER COUNTY EROSION CONTROL LAWS.
13. EIGHT (8") INCH OR LARGER PIPE LINES SHALL BE TV INSPECTED. A VHS TAPE SHALL PROVIDED TO THE WATER & SEWER INSPECTOR.
14. SANITARY SEWER EASEMENT TO BE DEDICATED PRIOR TO FINAL INSPECTION.

CONSTRUCTION SCHEDULE

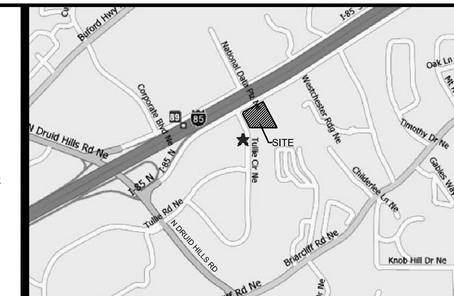
ANTICIPATED STARTING DATE: AUGUST 2007
ANTICIPATED COMPLETION DATE: MAY 2008

1. CONSTRUCT SILT FENCE, CONSTRUCTION EXIT/ENTRANCE (CO), AND CONSTRUCT TEMPORARY SEDIMENT BASIN(S) AND/OR DETENTION BASIN.
2. CLEAR AND GRADE.
3. INSTALL STORM DRAIN LINES, STRUCTURES AND OTHER UTILITY STRUCTURES.
4. BEFORE SOUTH WALL IS POURED, INSTALL HAY BALES.
5. BEGIN BUILDING CONSTRUCTION.
6. GRASS OR LANDSCAPE ALL DISTURBED AREAS NOT TO RECEIVE PAVING OR OTHER IMPERVIOUS MATERIALS.
7. CLEAN SILT TRAPS AND REMOVE ANY SILT FROM BASIN.
8. REMOVE SILT BARRIERS ONLY UPON COMPLETION OF FINISHED SURFACES AND LANDSCAPE.

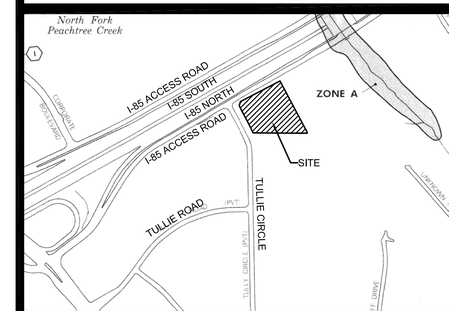
SITE WORK CONSTRUCTION SCHEDULE

ACTIVITY	WEEK STARTING DATE: 1	2	3	4	5	6	7	8	9	10	11	12	END OF PROJECT
INSTALL & MAINTAIN EROSION CONTROL	X	X	X	X	X	X	X	X	X	X	X	X	
INSTALLATION OF TEMP SEDIMENT BASIN	X	X											
INSTALLATION OF DETENTION FACILITY			X	X	X	X							
GRADE SITE	X	X	X	X	X	X	X						
FINE GRADING							X	X	X	X	X		
TEMP. GRASSING	X		X		X		X	X		X		X	
PERM. GRASSING													X
UTILITIES		X	X	X	X	X	X						
PAVING							X	X	X	X			
PERMANENT VEGETATION													X
REMOVE TEMP. BARRIERS												X	

–NOTE: INSTALLATION OF WATER QUALITY DEVICE SHALL BE CONCURRENT WITH FINAL STABILIZATION.
–THIS SCHEDULE MAY VARY ACCORDING TO THE CONTRACTOR, HOWEVER THE SEQUENCE OF EVENTS SHOULD NOT BE ALTERED. MORE SPECIFICALLY, THE SEQUENCE OF SEDIMENT AND EROSION CONTROL AND GRASSING SCHEDULES.



LOCATION MAP SCALE: 1" = 1000'



FLOOD MAP SCALE: 1" = 500'
NO PORTION OF THIS SITE IS LOCATED WITHIN A FLOOD HAZARD AREA AS DEFINED BY F.I.R.M. COMMUNITY PANEL NUMBER 13089C0054H EFFECTIVE MAY 7, 2001 FOR DEKALB COUNTY, GEORGIA.

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L1.0	TREE ORDINANCE PLAN

SITE DATA
Zoning – M (Industrial)
Site Area– 2.48 AC
Disturbed Area – 1.39 AC
Ex Impervious Area – 82.0% (2.03 AC)
Prop Impervious Area – 71.5% (1.78 AC)

BUILDING DATA
Existing Building Area – 30,236 sf
Proposed Addition Area – 3,334 sf
Building Height – 26 ft
Number of Stories –
Existing Building – 2 stories
Proposed Addition – 1 story

PARKING DATA
Total Parking Required = 1 space/250 sf = 134 spaces
Existing Parking = 137 spaces
Proposed Parking = 137 spaces
Required HC Parking = 5 spaces
Proposed HC Parking = 6 spaces
Proposed Carpool Spaces = 5% of total = 7 spaces
Proposed Fuel Efficient Vehicle Spaces = 5% of total = 7 spaces

PARCEL ID: 1642892

RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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1	6-26-07	PERMIT REVISIONS
2	7-12-07	OWNER COMMENTS

DRAWING TITLE:
COVER SHEET

PROJECT NUMBER:
06-2534.20

DATE:
06/15/07

DRAWING NUMBER:
C1.0

SURVEY NOTES

EQUIPMENT USED:
A TOPCON 223 TOTAL STATION WAS USED TO OBTAIN ANGULAR MEASUREMENTS AND DISTANCE MEASUREMENTS.

CLOSURE STATEMENT:
THIS PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS ACCURATE WITHIN ONE FOOT IN 118,342 FEET.

THE FIELD DATA UPON WHICH THIS PLAT IS BASED HAD A CLOSURE OF ONE FOOT IN 30,041 FEET AND AN ANGULAR ERROR OF 2" PER ANGLE POINT AND WAS ADJUSTED USING THE COMPASS RULE.

THE BEARINGS SHOWN ON THIS SURVEY ARE COMPUTED ANGLES BASED ON A GRID BEARING BASE (GA. WEST ZONE).

INFORMATION REGARDING THE REPUTED PRESENCE, SIZE, CHARACTER, AND LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES IS SHOWN HEREON. THERE IS NO CERTAINTY OF THE ACCURACY OF THIS INFORMATION AND IT SHALL BE CONSIDERED IN THAT LIGHT BY THOSE USING THIS DRAWING. THE LOCATION AND ARRANGEMENT OF UNDERGROUND UTILITIES AND STRUCTURES SHOWN HEREON MAY BE INACCURATE AND UTILITIES AND STRUCTURES NOT SHOWN MAY BE ENCOUNTERED. THE OWNER, HIS EMPLOYEES, REPRESENTATIVES AND CONTRACTORS, AND/OR HIS AGENTS SHALL HEREBY ACKNOWLEDGE AND ASSUME THAT THE SURVEYOR IS NOT RESPONSIBLE FOR THE CORRECTNESS OR SUFFICIENCY OF THIS INFORMATION SHOWN HEREON AS TO SUCH UNDERGROUND INFORMATION.

THIS PLAT WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSON, PERSONS, OR ENTITY NAMED HEREON. THIS PLAT DOES NOT EXTEND TO ANY UNNAMED PERSON, PERSONS OR ENTITY WITHOUT THE EXPRESS CERTIFICATION BY THE SURVEYOR NAMING SAID PERSON, PERSONS OR ENTITY.

TERRAMARK LAND SURVEYING, INC. DOES NOT WARRANT THE EXISTENCE OR NON-EXISTENCE OF ANY WETLANDS OR HAZARDOUS WASTE IN THE SURVEY AREA.

FIELD WORK FOR THIS PROPERTY WAS COMPLETED ON NOVEMBER 28, 2006

CONTOURS ARE SHOWN AT TWO FOOT INTERVALS

ELEVATIONS ARE BASED ON STATE GLOBAL POSITIONING SYSTEMS OBSERVATION AND ARE RELATIVE TO NAVD 88 DATUM.

TITLE NOTES

ACCORDING TO THE "FIRM" (FLOOD INSURANCE RATE MAP) OF DEKALB COUNTY, PANEL NUMBERS 13089C0054 H , DATED MAY 2, 2001, NO PORTION OF THIS PROPERTY LIES WITHIN A SPECIAL FLOOD HAZARD AREA.

THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT, WHICH COULD REVEAL ENCUMBRANCE NOT SHOWN ON THIS SURVEY.

SUBJECT PROPERTY HAS ACCESS TO APPARENT RIGHT OF WAY OF TULLIE CIRCLE AND I-85 ACCESS ROAD AS OF DATE OF SURVEY.

AREA TABLE

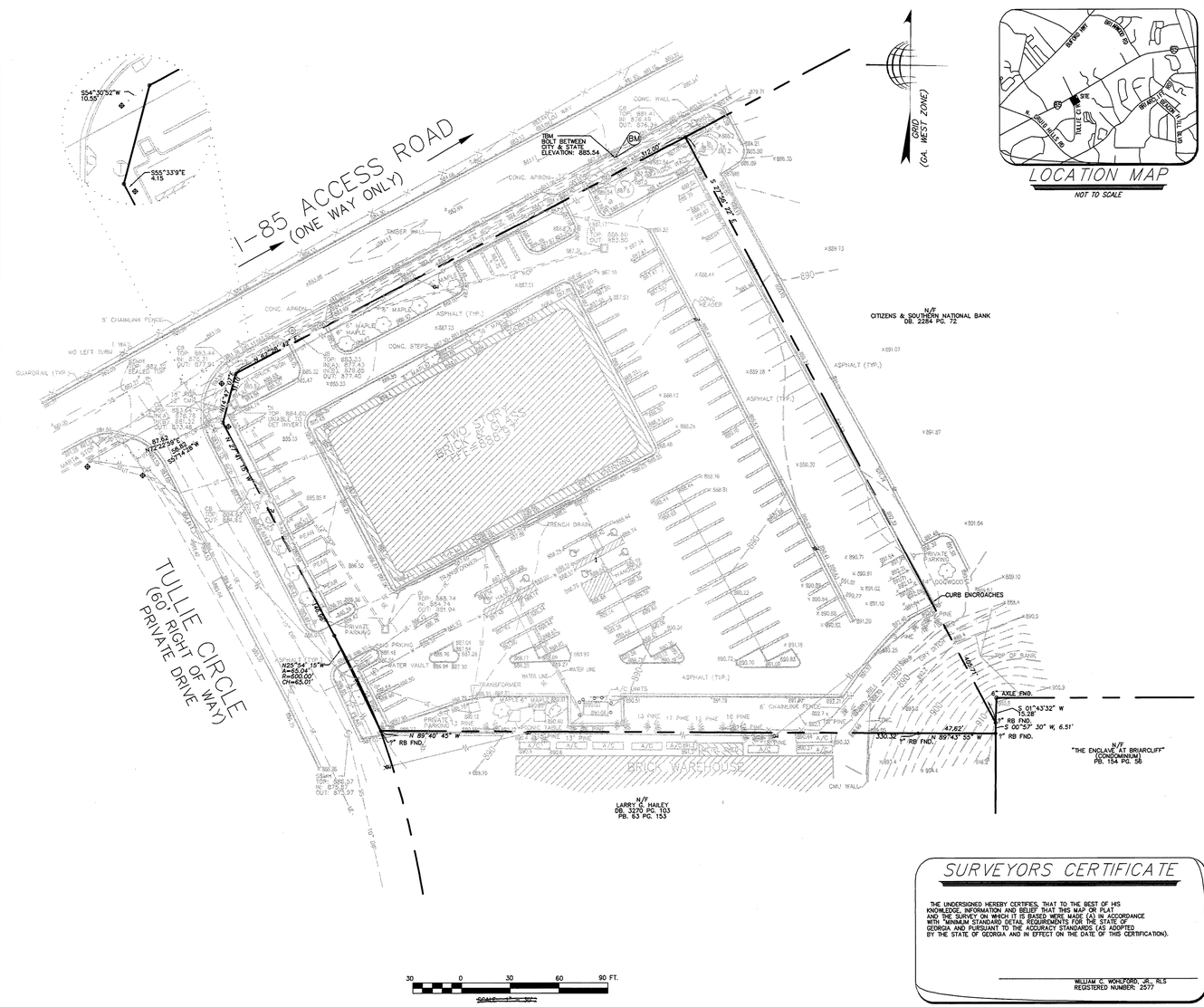
108,073 SF
2.4810 AC
ZONED: (M) LIGHT INDUSTRIAL

LEGEND

FENCE	TRANSFORMER BOX (TX)
STORM DRAIN LINE	BOLLARD (BO)
SANITARY SEWER	R/W MONUMENT
FIRE MAIN	FIRE HYDRANT (FH)
WATER LINE	WATER VALVE (WV)
GAS LINE	WATER METER (WM)
UNDERGROUND POWER LINE	LIGHT POLE (LP)
OVERHEAD POWER LINE	GAS METER (GM)
UNDERGROUND TELEPHONE	GAS VALVE (GV)
FIBER OPTIC	HEAD WALL (HW)
CABLE TELEVISION	CURB AND GUTTER (C&G)
TOPOGRAPHIC CONTOUR	SPOT ELEVATION
PROPERTY LINE	ELECTRIC METER (EM)
CATCH BASIN (DWCB)	POWER POLE (PP)
CATCH BASIN (SWCB)	SIGN
DROP INLET (DI)	BENCHMARK
JUNCTION BOX (JB)	CLEANOUT (CO)
SS MANHOLE (MH)	ELECTRIC MANHOLE

REFERENCE MATERIAL

1. WARRANTY DEED FOR AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEER, INC. RECORDED IN DB. 4413 PG. 408 DEKALB COUNTY RECORDS
2. SECURE DEBT FOR CITIZENS & SOUTHERN NATIONAL BANK RECORDED IN DB. 2284 PG. 72 DEKALB COUNTY RECORDS
3. WARRANTY DEED FOR LARRY G. HAILEY RECORDED IN DB. 3270 PG. 103 DEKALB COUNTY RECORDS
4. SURVEY FOR CENTURY CENTER INVESTORS PREPARED BY GEORGIA LAN ENGENEERING COMPANY, INC. RECORDED IN PB. 72 PG. 70 DEKALB COUNTY RECORDS
5. GEORGIA DEPARTMENT OF TRANSPORTATION PLANS PROJECT # I-85-3(24) DATED: 2/3/78



SURVEYORS CERTIFICATE

THE UNDERSIGNED HEREBY CERTIFIES, THAT TO THE BEST OF HIS KNOWLEDGE, INFORMATION AND BELIEF THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE (A) IN ACCORDANCE WITH "MINIMUM STANDARD DETAIL REQUIREMENTS FOR THE STATE OF GEORGIA AND PURSUANT TO THE ACCURACY STANDARDS (AS ADOPTED BY THE STATE OF GEORGIA AND IN EFFECT ON THE DATE OF THIS CERTIFICATION).

WILLIAM C. WOHLFORD, JR., RLS
REGISTERED NUMBER: 2577

SHEET NO.
DRAWING# TM24-376

40 0 40 80
Scale 1" = 40'

TerraMark Land Surveying, Inc.
1890-C COBB INTERNATIONAL BLVD.
KENNESAW, GEORGIA 30152
Phone No. (770) 421-1927
Fax. No. (770) 421-0352
TerraMark Professional Land Surveying

Revision	Date
1	5/24/07
2	5/30/07
3	6/15/07
4	6/15/07
5	6/15/07
6	6/15/07
7	6/15/07
8	6/15/07
9	6/15/07
10	6/15/07

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN (ESPCP)

General Note: All measures outlined in this plan are to be in accordance with the "Manual for Erosion and Sediment Control in Georgia," latest edition.

Project Name: ASHRAE HEADQUARTERS Additions and Renovations
Location: Land Lot 156
18th District, 2nd Section
Dekalb, Georgia
Latitude: 33° 50' 3" N
Longitude: 84°17' 45" W

Owner-Primary Permittee
ASHRAE, Inc.
1791 Tulie Circle
Atlanta, Georgia 30329
Contact: Jeff Littleton
(678) 539-1100

Operator-Primary Permittee
Gay Construction Company, Inc.
2907 Log Cabin Drive
Smyrna, Georgia 30080
(404) 873-4941

Secondary Permittee: To be determined.

I. Project Description

A. Nature of the construction activity:
A renovation and addition to an existing building. The removal of a portion of the parking lot and insallation of storm water management infrastructure.

B. Project schedule: The following is a general description of the intended sequence of major activities that disturb soils.
Sequence I: Prior To Clearing
Install construction entrance [Co], Install Silt Fence [Sd1-Type C] around perimeter of disturbance, install Inlet Sediment Traps [Sd-2] at grate inlets, and install Haybales [Sd-1].
Sequence II: During Initial Grading Activity
Install outlet structure with retrofit [Rt], Spread temporary mulching [Ds1], Spread temporary seeding [Ds2], Maintain silt fence [Sd1] around perimeter of
disturbance, Maintain construction entrance [Co]. Install Inlet Sediment Traps [Sd-2] at grate and curb inlets. Construct a temporary
sediment basin [Sd3] in the Bioretention Area. Apply Dust Control [Du] on disturbed areas.
Sequence III: During Full Grading Activity
Install additional necessary silt fence [Sd1], Construct driveway and building, Maintain silt fence [Sd1] around perimeter of disturbance, Maintain and Install rip-rap [Rp] and [St] at all storm water discharge points, Spread permanent seeding [Ds3], Maintain Inlet Sediment Traps [Sd2], Remove construction entrance [Co] and silt in the temporary sediment pond [Sd3] and restore Bioretention to the original volume.

SEDIMENT & EROSION CONTROL SCHEDULE:

PHASE/STAGE 1: CLEARING & GRUBBING
-INSTALL CONSTRUCTION EXIT (Co)
-INSTALL SILT FENCE TYPE 'C' (Sd1-C)
-INSTALL SEDIMENT TRAPS (Sd2-D)

PHASE/STAGE 2: MASS GRADING
-INSTALL PHASE 2 SILT FENCE TYPE 'C' (Sd1-C)
-BUILD TEMPORARY SEDIMENT BASINS (Sd3)
-INSTALL RETROFIT (Rt)
-INSTALL SEDIMENT TRAPS (Sd2-D)
-PLACE RIP-RAP FOR OUTLET PROTECTION APRONS (St)
-SPREAD TEMPORARY SEEDING (Ds2)
-APPLY DUST CONTROL (Du)
-MAINTAIN ALL APPLICABLE PHASE 1 EROSION CONTROL DEVICES

PHASE 3: FINAL GRADING & STABILIZATION
-REMOVE RETROFIT* (Rt)
-REMOVE SILT FENCE TYPE 'C'* (Sd1-C)
-REMOVE CONSTRUCTION EXIT* (Co)
-APPLY PERMANENT SEEDING (Ds3)
-MAINTAIN RIP-RAP OUTLET PROTECTION APRONS (St)

*AFTER FINAL STABILIZATION HAS OCCURRED

SITE WORK CONSTRUCTION SCHEDULE

ACTIVITY	WEEK STARTING DATE: 1	2	3	4	5	6	7	8	9	10	11	12	END OF PROJECT
INSTALL & MAINTAIN EROSION CONTROL	X	X	X	X	X	X	X	X	X	X	X	X	
INSTALLATION OF TEMP SEDIMENT BASIN	X	X											
INSTALLATION OF DETENTION FACILITY			X	X	X	X							
GRADE SITE	X	X	X	X	X	X	X						
FINE GRADING								X	X	X	X	X	
TEMP. GRASSING	X		X		X		X	X		X		X	
PERM. GRASSING													X
UTILITIES		X	X	X	X	X	X						
PAVING								X	X	X	X		
PERMANENT VEGETATION													X
REMOVE TEMP. BARRIERS												X	

C. Estimated Total Site Area
2.48Acres (The overall drainage basin is less than 5.0 square miles)
Per Appendix B of the permit, turbidity limits shall not exceed 50 NTU.

D. Total Disturbed Area Development
1.39 Acres

E. Soil description or quality of any discharge from the site (See Attached). Based on the USDA Soils Survey, the soils are:

Symbol	Name
Ud	Urban land

* The composition of these units is more variable than that of other units in the survey area but has been controlled well enough to interpret for the expected use of the soils.

F. Runoff coefficient or peak discharge flow of the site prior to and after construction (Detention provided on-site).

Basin	Area (*Acres*)	CN	25-Year Runoff (*cfs*)
Total Pre-Developed Basins	2.51	92	22.94
Total Post-Developed Basins	2.51	88	19.77

G. Upstream Conditions
The majority of upstream property is multi family residences.

H. Downstream Conditions
Immediately downstream are existing office buildings.

I. Name of Receiving Water (See Panel 13089C0054H)
1. Unnamed Tributary to North Fork Peachtree Creek

J. Extent of Wetlands Acreage
0.00 Acres Total / No Impact

K. Site Map: See Attached

L. This project has 1 monitoring points located at the underground detention outlets (see location on attached drawings).

II. Pollution Controls

A. Cut and Fill
1. Operations shall be kept to a minimum, phase if possible.
2. Shall not endanger adjoining properties.
3. Fills shall not encroach upon natural watercourses. Channels shall not be constructed in a manner so as to adversely affect other property owners.
4. Minimize damage from surface water to the cut face of excavations or the sloping surfaces of fills.

B. State Water Banks
1. Activities shall not be conducted within twenty-five (25) feet of the banks of any State waters, as measured from the point where vegetation has been wrested by normal stream flow or wave action, except when approved by the Director for alternate buffer requirements.
2. Activities shall not be conducted within fifty (50) horizontal feet, as measured from the point where vegetation has been wrested by normal stream flow or wave action, of the banks of any State waters classified as "trout stream" flow unless approved by the Director for alternate buffer requirements.

C. Stabilization Practices
1. Vehicle areas - Fill in eroded areas when found.
2. Temporary Mulching - When an area will be left open more than 14 days with no construction.
3. Sod stabilization - Used in higher velocity channel flows.
4. Permanent vegetation - This is to be established once final grade is achieved.
5. Surface roughening: Texturing of soil surfaces to reduce sheet flow and improve surface water impoundment.
6. Sediment Basins - Shall be inspected to insure stable side slopes.

D. Structural Controls to be Used - Silt fence
E. Schedule of Erosion and Sediment Control - See Attached.
F. Storm Water Management - Hydrology Study prepared by AEC, Inc., Dated June 26, 2007.
G. Development Plans are to Conform to Topography and Soil Type
H. Other Controls
1. Off-site vehicle tracking
A stabilized construction entrance will be provided to help reduce vehicle tracking of sediments. The paved streets adjacent to the site will be swept and scraped regularly to remove any excess mud, dirt, or rock tracked from the construction area. A source of fresh water for washing sediment from trucks, especially during periods of wet weather, may be provided in order to minimize the amount of street sweeping and scraping required. Any wastewater resulting from this operation will be directed into a sediment trap.
2. Waste materials
All trash and construction debris from the site will be hauled to an approved landfill. No construction waste material will be buried on-site. All personnel will receive instructions regarding the correct procedure for waste disposal. Notices describing these practices will be posted in the construction office. The site superintendent will be responsible for seeing that these procedures are followed. Employee waste and other loose materials will be collected so as to prevent the release of "floatables" during runoff events.
3. Hazardous waste
No hazardous waste is expected to be generated or encountered in this project. In the event that hazardous waste is encountered, all hazardous waste materials will be disposed of in the manner specified by local or state regulation or by the manufacturer. The site superintendent will be responsible for seeing that these practices are followed.
4. Sanitary waste
All workers, throughout the life of the project will provide portable sanitary units, for use. A licensed sanitary waste management contractor will regularly collect all sanitary waste from the portable units.
5. Grading equipment
Grading Equipment shall cross-flowing streams by the means of bridges or culverts, except when such methods are not feasible, provided in any case that such crossings should be kept to a minimum.

III. Materials and Safety

Note: This section is provided for informational purposes only. All Material Safety and Spill Prevention Control Contingency (SPCC) plans are to be in accordance with policies and procedures already in place.

A. Significant Materials Expected at Site Inventory:
- Lime
- Concrete mix
- Steel reinforcing bars and related materials
- Lumber
- Diesel fuel and lubricating oils
- Reinforced concrete pipe
- Ductile iron pipe
- Steel pipe
- Paints
- Fertilizers

B. Spill Prevention and Response Procedures
Spill prevention and response includes "Good Housekeeping" as well as specific practices for certain products and established procedures for responding to spills which do occur.

C. Practices for Products, "Good Housekeeping"
1. Materials - An effort will be made to store only enough material required to do the job.
2. Storage - All materials stored on-site will be stored in a neat, orderly manner in their appropriate containers and stored in a covered area. If storage in a covered area is not possible the materials will be covered with polyethylene or polypropylene sheeting to protect them from the elements.
3. Mixing - Substances will not be mixed with one another unless recommended by the manufacturer.
4. Labeling - Products will be kept in their original containers with the original manufacturer's label affixed to each container.
5. Disposal - Whenever possible, all of a product will be used before disposing of the container. Manufacturer recommendations for proper use and disposal will be followed.
6. Inspections - The site superintendent will inspect the site regularly to ensure proper use and disposal of materials on-site.
7. Spoil materials - Any excavated earth that will not be used for fill material and all demolished pavement will be hauled off site immediately and disposed of properly.

D. Specific Product Practices
1. Petroleum Products - All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. If petroleum products will be present at the site, they will be stored in tightly sealed containers, which are clearly labeled. Any asphalt substances used on-site will be applied according to the manufacturer recommendations.
2. Concrete Trucks - Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water at the site.
3. Paints - All containers will be tightly sealed and stored when not required for use. Excess paint will not be poured into the storm sewer system but will be properly disposed of according to manufacturer instructions or State and local regulations.
4. Fertilizers - Fertilizers used will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. The fertilizer will be stored in a covered area and any partially used bags will be transferred to a sealable plastic bin to avoid spills.

E. Spill Control and Response Practices
The owner or the site superintendent will designate a spill prevention and response team. In addition, the following practices will be followed for spill cleanup.
1. Information - Manufacturers recommended methods for spill cleanup will be clearly posted, and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
2. Equipment - Materials and equipment necessary for spill cleanup will be present on the site at all times. Equipment and materials will include but not be limited to brooms, shovels, rags, gloves, goggles, absorbent materials (sand, sawdust, etc.) and plastic or metal trash containers specifically for this purpose. The materials and equipment necessary for spill cleanup will be dependent upon the nature and quantity of the material stored on-site.
3. Response - All spills will be cleaned up immediately upon discovery.
4. Safety - The spill area will be kept well ventilated, and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
5. Reporting - Spills of toxic of hazardous material (if present on site) will be reported to the appropriate state or local government agency, regardless of the size.
6. Record keeping - The spill prevention plan will be modified to include measures to prevent this type of spill from reoccurring as will as improved methods for cleaning up future spills should they occur. A description of each spill, what caused it, and the cleanup measures used will be maintained with the plan.

The following information shall comply with the NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY INTO THE WATERS OF THE STATE OF GEORGIA.

Specifically the NPDES General Permit No. GAR100001, Authorization To Discharge Under The National Pollutant Discharge Elimination System Storm Water Discharges Associated With Construction Activity For Stand Alone Construction Projects, further referred to as the general permit or the permit.

Deadlines for Notification (to be filed by Primary Permitee)
1. Owners or Operators or both who intend to obtain coverage under this general permit for storm water discharges from a construction site (where construction activities begin after issuance of this permit), shall submit a Notice of Intent (NOI) in accordance with the requirements of this Part at least fourteen (14) days prior to the commencement of construction activities.
2. For sites where construction activities, subject to this permit, are occuring on the effective date of this permit, the Owner or Operator or both shall submit an NOI in accordance with the requirements of this part no later than sixty (60) days after the effective date of this permit.

See General Permit No. 100001 for further deadlines and exemptions

The Notice of Intent Shall be Submitted by the following procedure (to be filed by Primary Permitee)
NOIs are to be submitted by return receipt certified mail (or similar service) to both the appropriate District office of the EPD and to the local Issuing Authority in jurisdictions authorized to issue a Land Disturbance Activity permit for the permitted's construction site pursuant to O.C.G.A. 12-7-1, et seq. If an electronic submittal service is provided by EPD then the NOI may be submitted electronically so long as a paper copy is also submitted by return receipt or similar service.

Applicable Fees (to be paid by Primary Permitee)
Any applicable fees shall be submitted by the Primary Permittee in accordance with Rules and Regulations for Water Quality Control (Rules) promulgated by the Board of Natural Resources. By submitting an NOI for coverage under this permit the primary permittee agrees to pay any fees required, now or in the future, by such Rules authorized under O.C.G.A. Section 12-5-23(a)(5)(A), which allows the Board of Natural Resources to establish a fee system. Fees may be assessed on land disturbing activity proposed to occur on or after the effective date of this permit and shall be paid in accordance with such Rules.

Stormwater Sampling Shall be Conducted (to be completed by Primary Permitee)
This permit requires the monitoring of nephelometric turbidity in receiving water(s) or outfalls in accordance with this permit.

The Following Sample Methods are Permitted
All sampling shall be collected by "grab samples" and the analysis of these samples must be conducted in accordance with methodology and test procedures established by 40 CFR Part 136 (unless other test procedures have been approved); the guidance document titled "NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001" and guidance documents that may be prepared by the EPD.
(1). Sample containers should be labeled prior to collecting the samples.
(2). Samples should be well mixed before transferring to a secondary container.
(3). Large mouth, well cleaned and rinsed glass or plastic jars should be used for collecting samples. The jars should be cleaned thoroughly to avoid contamination.
(4). Manual, automatic or rising stage sampling may be utilized. Samples required by this permit should be analyzed immediately, but in no case later than 48 hours after collection. However, samples from automatic samplers must be collected no later than the next business day after their accumulation, unless flow through automated analysis is utilized. Dilution of samples is not required. Samples may be analyzed directly with a properly calibrated turbidimeter. Samples are not required to be cooled.
(5). Sampling and analysis of the receiving water(s) or outfalls beyond the minimum frequency stated in this permit must be reported to EPD as specified in Part IV.E of the permit.

Stormwater Sampling Points

Stormwater sampling shall be conducted at the point (outfall) as indicated within this ESPCP.

Sampling Frequency (to be completed by Primary Permittee
(1). The primary permittee must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, samples must be taken within forty-five (45) minutes of:
(a) the accumulation of the minimum amount of rainfall for the qualifying event, if the storm water discharge to a monitored receiving water or from a monitored outfall has begun at or prior to the accumulation, or
(b) the beginning of any storm water discharge to a monitored receiving water or from a monitored outfall, if the discharge begins after the accumulation of the minimum amount of rainfall for the qualifying event.
(2). However, where manual and automatic sampling are impossible (as defined in this permit), or are beyond the permittee's control, the permittee shall take samples as soon as possible, but in no case more than twelve (12) hours after the beginning of the storm water discharge.
(3). Sampling by the permittee shall occur for the following events:
(a). For each area of the site that discharges to a receiving stream, the first rain event that reaches or exceeds 0.5 inch and allows for monitoring during normal business hours* (Monday thru Friday, 8:00 AM to 5:00 PM and Saturday 8:00 AM to 5:00 PM when construction activity is being conducted by the Primary permittee) that occurs after all clearing and grubbing operations have been completed in the drainage area of the location selected as the representative sampling location;
(b). In addition to (a) above, for each area of the site that discharges to a receiving stream, the first rain event that reaches or exceeds 0.5 inch and allows for monitoring during normal business hours* that occurs either 90 days after the first sampling event or after all mass grading operations have been completed in the drainage area of the location selected as the representative sampling location, whichever comes first;
(c). At the time of sampling performed pursuant to (a) and (b) above, if BMPs are found to be properly designed, installed and maintained, no further action is required. If BMPs in any area of the site that discharges to a receiving stream are not properly designed, installed and maintained, corrective action shall be defined and implemented within 2 business days, and turbidity samples shall be taken from discharges from that area of the site for each subsequent rain event that reaches or exceeds 0.5 inch during normal business hours* until the selected turbidity standard is attained, or until post-storm event inspections determine that BMPs are properly designed, installed and maintained; and
(d). Existing construction activities, i.e., those that are occurring on or before the effective date of this permit, that have met the sampling required by (a) above shall sample in accordance with (b). Those existing construction activities that have met the sampling required by (b) above shall not be required to conduct additional sampling other than as required by (c) above.

*Note that the Permittee may choose to meet the requirements of (a) and (b) above by collecting turbidity samples from any rain event that reaches or exceeds 0.5 inch and allows for monitoring as required at any time of the day or week.

Reporting (to be completed by (to be completed by Owner or Operator or both)
1. The applicable permittees are required to submit a summary of the monitoring results to the EPD by the fifteenth day of the month following the reporting period. Reporting periods are months during which samples are taken in accordance with this permit. Sampling results shall be in a clearly legible format. Upon written notification, EPD may require the applicable permittee to submit the sampling results on a more frequent basis.
2. Each permittee must retain copies of all monitoring results reported by that permittee. In addition to other record keeping requirements, the monitoring information shall include:
a. The date, exact place, and time of sampling or measurements;
b. The name(s) of the individual(s) who performed the sampling and measurements;
c. The date(s) analyses were performed;
d. The time(s) analyses were initiated;
e. The name(s) of the individual(s) who performed the analyses;
f. References and written procedures, when available, for the analytical techniques or methods used;
g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results; and
h. Results which exceed 1000 NTU shall be reported as "exceeds 1000 NTU."
3. Retention of Records.
a. Each primary permittee shall retain a copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit at the construction site or the Plan shall be readily available at a designated alternate location from the date of project initiation to the date of final stabilization. Primary permittees are encouraged to post copies of their NOI, Erosion, Sedimentation & Pollution Control Plan, sampling results, inspection reports, etc. on or in a permit ed and board at the beginning of each phase to facilitate inspections by EPD.
b. Copies of all Notices of Intent, Notices of Termination, reports, plans, monitoring reports, monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, Erosion, Sedimentation and Pollution Control Plans, records of all data used to complete the Notice of Intent to be covered by this permit and all other records required by this permit shall be retained by the permittee who either produced or used it for a period of at least three years from the date that the site is finally stabilized. These records must be maintained at the permittee's primary place of business once the construction activity has ceased at the permitted site. This period may be extended by request of the EPD at any time upon written notification to the permittee.

Report Submittal (to be completed by (to be completed by Primary Permittee)
All written correspondence required by this permit shall be submitted by return receipt certified mail (or similar service) to the appropriate District Office of the EPD.

Inspections (to be completed by Primary Permittee)
(A) Permittee requirements.
(1). Each day when any type of construction activity has taken place at a primary permittee's site, qualified personnel provided by the primary permittee shall inspect: (a) all areas at the primary permittee's site where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment; (b) all locations at the primary permittee's site where vehicles enter or exit ime of the site for evidence of off-site sediment tracking; and (c) measure rainfall once each twenty-four hour period at the site. These inspections must be conducted until a Notice of Termination is submitted.
(2). Qualified personnel (provided by the primary permittee) shall inspect at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches or greater the following:
(a) disturbed areas of the primary permittee's construction site that have not undergone final stabilization;
(b) areas used by the primary permittee for storage of materials that are exposed to precipitation that have not undergone final stabilization; and
(c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the primary permittee's site shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s). These inspections must be conducted until a Notice of Termination is submitted.
(3). Qualified personnel (provided by the primary permittee) shall inspect at least once per month during the term of this permit (i.e., until a Notice of Termination is received by EPD) the areas of the site that have undergone final stabilization. These areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and the receiving water(s). Erosion and sediment control measures identified in the Plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s).
(4). Based on the results of each inspection, the site description and the pollution prevention and control measures identified in the Erosion, Sedimentation and Pollution Control Plan, the Plan shall be revised as appropriate not later than seven (7) calendar days following each inspection. Implementation of such changes shall be made as soon as practical but in no case later than seven (7) calendar days following each inspection.
(5). A report summarizing the scope of each inspection and the name(s) of personnel making each inspection, the date(s) of each inspection, major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan and actions taken shall be made and retained at the site or be readily available at a designated alternate location until the entire site or that portion of a construction project that has been phased has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall identify any incidents of non-compliance. Where the report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the Erosion, Sedimentation and Pollution Control Plan and the permit.

Maintenance
A description of procedures to ensure the timely maintenance of vegetation, erosion and sediment control measures and other protective measures identified in the site plan in good and effective operating condition.

Notice of Termination Eligibility

1. For construction activities projects, by the permittee where the entire stand alone development has undergone final stabilization and all storm water discharges associated with construction activity that are authorized by this permit have ceased. Provided, however, that the permittee may submit a Notice of Termination after a phase(s) of the stand alone development has undergone final stabilization and all storm water discharges associated with construction activity for that phase(s) that are authorized by this permit have ceased.
2. By the Owner or Operator or both when the Owner or Operator or both of the site changes. Where storm water discharges will continue after the identity of the Owner or Operator or both changes, the permittee must, prior to filing the Notice of Termination, notify any subsequent Owner or Operator or both of the permitted site as to the requirements of this permit.

The Notice of Termination Shall be Submitted by the following procedure (to be completed Primary Permittee)
All Notices of Termination by this permit shall be submitted by return receipt certified mail (or similar service) to the appropriate District Office of the EPD and to the local Issuing Authority in jurisdictions authorized to issue a Land Disturbance Activity permit for the permittee's construction site pursuant to O.C.G.A. 12-7-1, et seq.

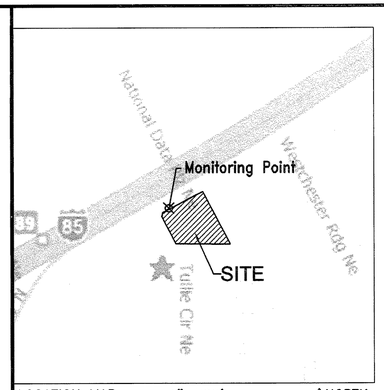
"I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for an appropriate and comprehensive system of best management practices required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted, provides for the sampling of the receiving water(s) or the sampling of the storm water outfalls and that the designed system of best management practices and sampling methods is expected to meet the requirements contained in the Georgia NPDES Permit No. GAR 100001."

Signature: _____ **Date:** 06-26-07

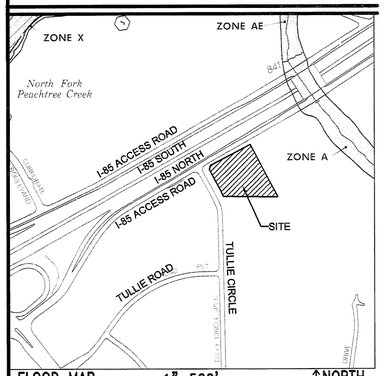
"I certify under penalty of law that this Plan was prepared after a site visit to the locations described herein by myself or my authorized agent, under my direct supervision.."

Signature: _____ **Date:** 06-26-07

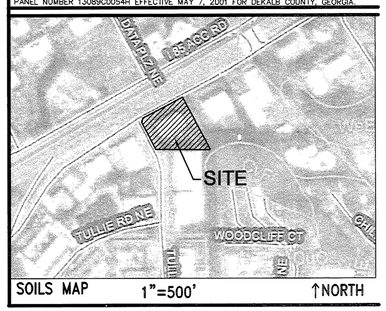
CSWCC LEVEL II CERTIFIED DESIGN PROFESSIONAL #29494 Exp: 12-19-2009



LOCATION MAP 1"=500' ↑NORTH



FLOOD MAP 1"=500' ↑NORTH
PANEL NUMBER 13089C0054H EFFECTIVE MAY 7, 2001 FOR DEKALB COUNTY, GEORGIA.



SOILS MAP 1"=500' ↑NORTH

ENGINEER
AEC, INC.
8995 ROSWELL ROAD
ATLANTA, GEORGIA 30350
CONTACT: CHRISTOPHER FINK
(770) 641-1942

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GEORGIA REGISTERED 06-26-07 No. 29494 PROFESSIONAL ENGINEER CHRISTOPHER M. FINK

RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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1	6-26-07	PERMIT REVISIONS

DRAWING TITLE:
ESPCP

PROJECT NUMBER:
06-2534.20

DATE:
06/15/07

DRAWING NUMBER:
C1.2

H:\2006\06\06\06-2534 ASHRAE\06-2534 T02.dwg, 6/26/2007 9:43:40 AM, kwc, 1:1

24 HOUR CONTACT
CONTACT: JEFF LITTLETON
PHONE: (678) 539-1100

NOTES:
1)SEE TREE ORDINANCE PLAN FOR TREE REMOVAL.
2) ALL DEBRIS TO BE REMOVED FROM SITE.
3) REFER TO SHEET C6.0 FOR DEMOLITION BMPs.

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CALL US FIRST!
1-800-282-7411
404-325-5000
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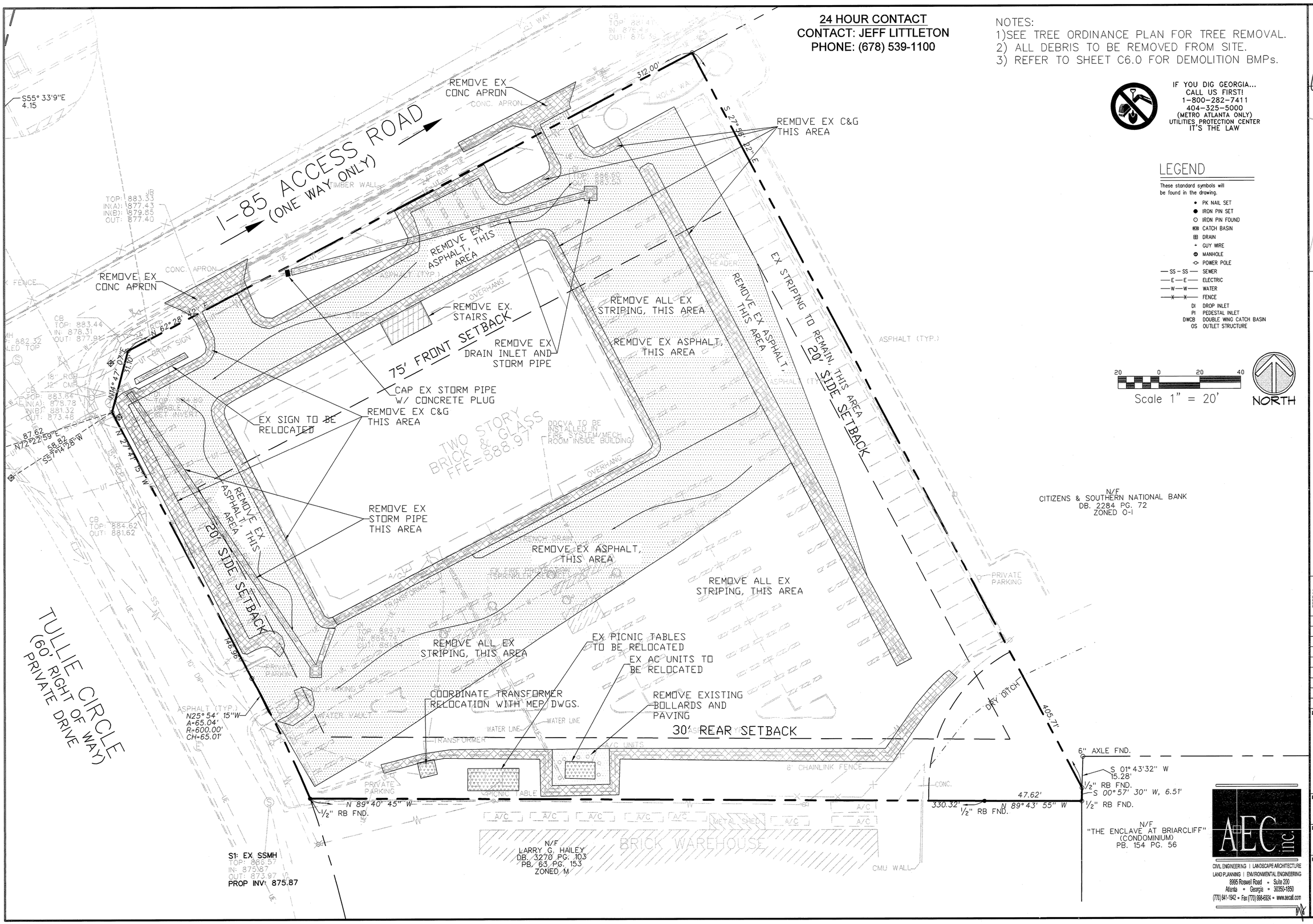

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1	6-26-07	PERMIT REVISIONS

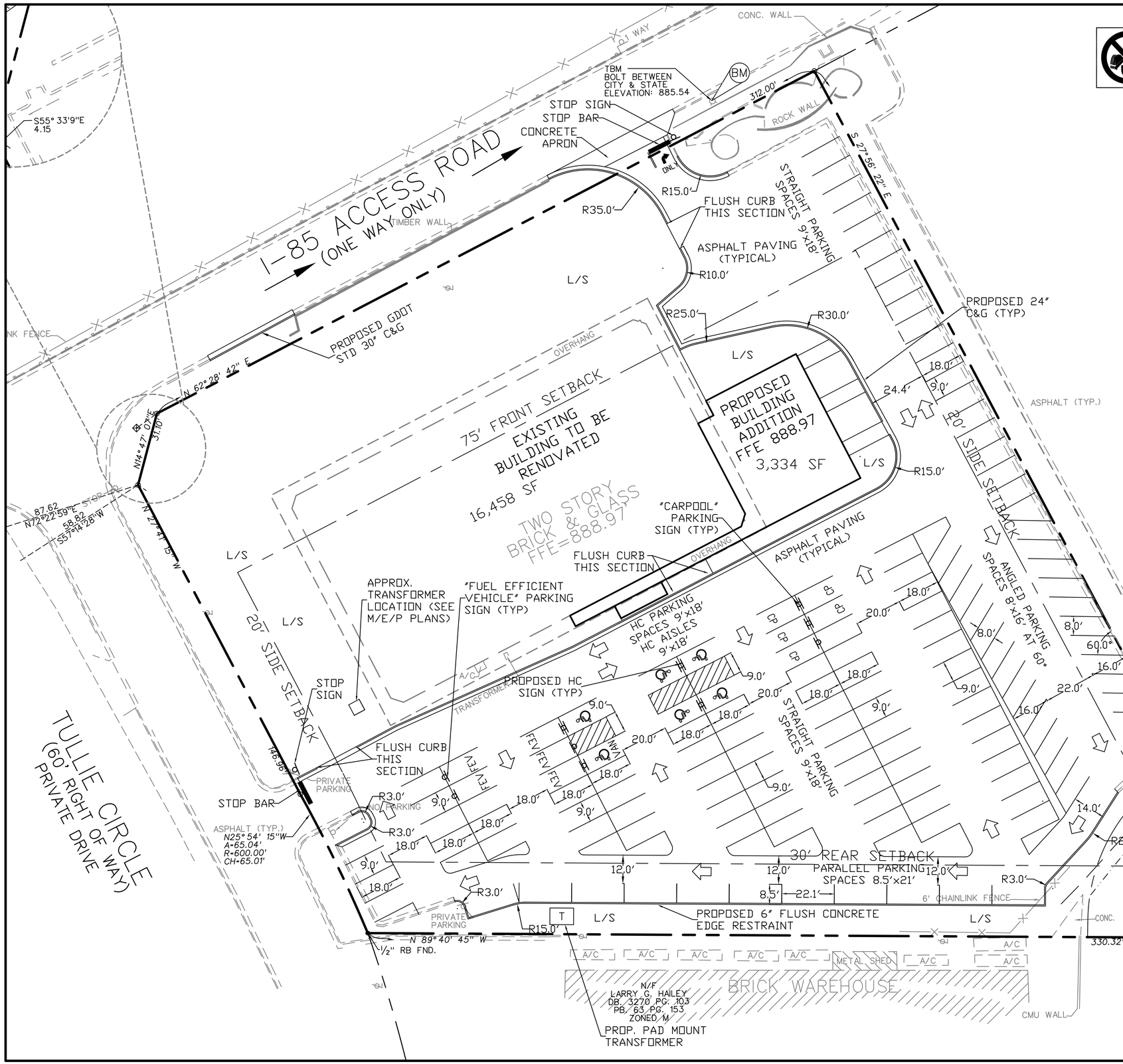
DRAWING TITLE:
SITE DEMOLITION PLAN

PROJECT NUMBER:
06-2534.20

DATE:
06/15/07

DRAWING NUMBER:
C2.0

d:\2006\06185\06-2534 ASHRAE\06-2534 C04.dwg, Demo, 6/26/2007 9:32:18 AM, mdh, 1:1, user defined field



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CAUTION

THE UTILITIES SHOWN HEREON ARE FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

NOTES:
1. ALL TEMPORARY AND PERMANENT SIGNS TO BE PERMITTED SEPARATELY.
2. ALL RETAINING WALLS GREATER THAN 4 FEET IN HEIGHT MUST OBTAIN A BUILDING PERMIT.
3. PAVEMENT AND BASE TO BE PER DEKALB COUNTY STANDARDS. SEE SHEET C8.0.
4. L/A = LANDSCAPED AREA.
5. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED.
6. ALL RADII ARE 3' UNLESS NOTED.

PARKING DATA
TOTAL PARKING REQUIRED = 1 SPACE/250 SF = 80 SPACES
EXISTING PARKING = 137 SPACES
PROPOSED PARKING = 127 SPACES
REQUIRED HC PARKING = 5 SPACES
PROPOSED HC PARKING = 6 SPACES
PROPOSED CARPOOL SPACES = 5% OF TOTAL = 7 SPACES
PROPOSED FUEL EFFICIENT VEHICLE SPACES = 5% OF TOTAL = 7 SPACES

BOUNDARY AND TOPOGRAPHICAL SURVEY DONE BY: TERRAMARK PROFESSIONAL LAND SURVEYING, DATED 11-29-06.

20 0 20 40
Scale 1" = 20'
NORTH

PARKING STALL DESIGNATIONS
FEV - FUEL EFFICIENT VEHICLE PARKING SPACE
CP - CARPOOL VEHICLE PARKING SPACE

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1	6-26-07	PERMIT REVISIONS
2	7-12-07	OWNER COMMENTS

DRAWING TITLE:
SITE LAYOUT PLAN

PROJECT NUMBER:
06-2534.20

DATE:
06/15/07

DRAWING NUMBER:
C3.0

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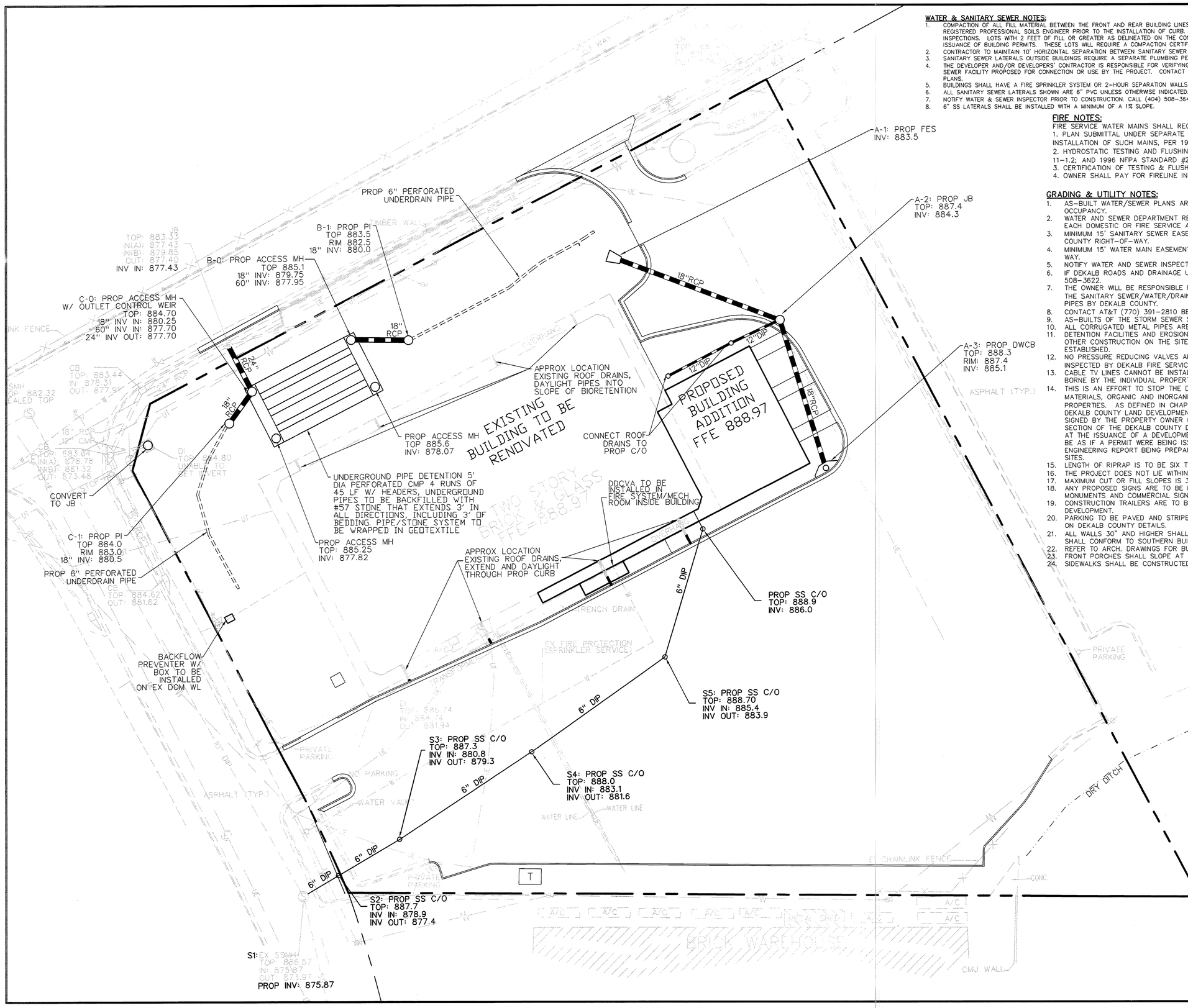

WATER & SANITARY SEWER NOTES:

1. COMPACTION OF ALL FILL MATERIAL BETWEEN THE FRONT AND REAR BUILDING LINES TO BE 95% STANDARD PROCTOR, AND MUST BE CERTIFIED BY A GEORGIA REGISTERED PROFESSIONAL SOILS ENGINEER PRIOR TO THE INSTALLATION OF CURB. THIS CERTIFICATION WILL BE SUBMITTED TO THE CHIEF OF DEVELOPMENT INSPECTIONS. LOTS WITH 2 FEET OF FILL OR GREATER AS DELINEATED ON THE CONSTRUCTION PLANS, WILL REQUIRE A COMPACTION CERTIFICATION PRIOR TO ISSUANCE OF BUILDING PERMITS. THESE LOTS WILL REQUIRE A COMPACTION CERTIFICATION PRIOR TO POURING FOOTINGS.
2. CONTRACTOR TO MAINTAIN 10' HORIZONTAL SEPARATION BETWEEN SANITARY SEWER AND WATER LINES.
3. SANITARY SEWER LATERALS OUTSIDE BUILDINGS REQUIRE A SEPARATE PLUMBING PERMIT.
4. THE DEVELOPER AND/OR DEVELOPERS' CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION, SIZE, AND MATERIAL OF ANY EXISTING WATER OR SEWER FACILITY PROPOSED FOR CONNECTION OR USE BY THE PROJECT. CONTACT THE DESIGN ENGINEER IMMEDIATELY IF FIELD CONDITIONS VARY FROM THE PLANS.
5. BUILDINGS SHALL HAVE A FIRE SPRINKLER SYSTEM OR 2-HOUR SEPARATION WALLS.
6. ALL SANITARY SEWER LATERALS SHOWN ARE 6" PVC UNLESS OTHERWISE INDICATED.
7. NOTIFY WATER & SEWER INSPECTOR PRIOR TO CONSTRUCTION. CALL (404) 508-3643.
8. 6" SS LATERALS SHALL BE INSTALLED WITH A MINIMUM OF A 1% SLOPE.

FIRE NOTES:

FIRE SERVICE WATER MAINS SHALL REQUIRE EACH OF THE FOLLOWING:
1. PLAN SUBMITTAL UNDER SEPARATE PERMIT AND D.K. CO. FMO APPROVAL OF SAME PRIOR TO THE INSTALLATION OF SUCH MAINS, PER 1994 SFPC (SEC 603.15).
2. HYDROSTATIC TESTING AND FLUSHING PER 1996 NFPA STANDARD #20 (FIRE PUMPS) SEC. 11-11.1 & 11-1.2; AND 1996 NFPA STANDARD #24 (UNDERGROUND PROTECTION SYSTEMS) SEC. 9-1.1 & 9-2.3.
3. CERTIFICATION OF TESTING & FLUSHING, PER NFPA #20: 11-1.3 & NFPA #24: 9-2.1.
4. OWNER SHALL PAY FOR FIRELINE INSTALLATION.

GRADING & UTILITY NOTES:

1. AS-BUILT WATER/SEWER PLANS ARE REQUIRED PRIOR TO ISSUANCE OF CERTIFICATE(S) OF OCCUPANCY.
2. WATER AND SEWER DEPARTMENT REQUIRES THAT A BACKFLOW PREVENTOR DEVICE BE INSTALLED ON EACH DOMESTIC OR FIRE SERVICE AND ANY OTHER TYPE WATER SERVICE CONNECTION.
3. MINIMUM 15' SANITARY SEWER EASEMENT REQUIRED FOR COUNTY-MAINTAINED LINES NOT WITHIN COUNTY RIGHT-OF-WAY.
4. MINIMUM 15' WATER MAIN EASEMENT FOR COUNTY-MAINTAINED LINES NOT WITHIN COUNTY RIGHT OF WAY.
5. NOTIFY WATER AND SEWER INSPECTOR 404-508-3643 PRIOR TO START OF CONSTRUCTION.
6. IF DEKALB ROADS AND DRAINAGE UTILITY PERMIT IS REQUIRED, CONTACT UTILITY COORDINATOR (404) 508-3622.
7. THE OWNER WILL BE RESPONSIBLE FOR ANY REPAIR OR REPLACEMENT OF ANY IMPROVEMENTS WITHIN THE SANITARY SEWER/WATER/DRAINAGE EASEMENT(S) DUE TO MAINTENANCE OF SEWER/WATER/STORM PIPES BY DEKALB COUNTY.
8. CONTACT AT&T (770) 391-2810 BEFORE STARTING CONSTRUCTION.
9. AS-BUILTS OF THE STORM SEWER SYSTEM ARE TO BE PROVIDED TO DEKALB COUNTY.
10. ALL CORRUGATED METAL PIPES ARE TO BE FULLY ASPHALT-COATED WITH PAVED INVERTS.
11. DETENTION FACILITIES AND EROSION CONTROL MEASURES ARE TO BE ACCOMPLISHED PRIOR TO ANY OTHER CONSTRUCTION ON THE SITE AND MAINTAINED UNTIL THE PERMANENT GROUND COVER IS ESTABLISHED.
12. NO PRESSURE REDUCING VALVES ARE TO BE INSTALLED ON FIRELINES. ALL FIRELINES ARE TO BE INSPECTED BY DEKALB FIRE SERVICES PRIOR TO COVERING. CALL: (404) 294-2348 FOR INSPECTIONS.
13. CABLE TV LINES CANNOT BE INSTALLED WITHIN PRIVATE STREET DEVELOPMENTS UNLESS THE COST IS BORNE BY THE INDIVIDUAL PROPERTY OWNERS.
14. THIS IS AN EFFORT TO STOP THE DISPOSAL OF CONSTRUCTION WASTE (DEBRIS, TRASH, BUILDING MATERIALS, ORGANIC AND INORGANIC MATERIAL) ON DEVELOPMENT PROJECTS AND VACANT PROPERTIES. AS DEFINED IN CHAPTER 14-1 AND COMPLYING WITH CHAPTER 14-37(B) OF THE DEKALB COUNTY LAND DEVELOPMENT ORDINANCE THE FOLLOWING NOTARIZED STATEMENT SHALL BE SIGNED BY THE PROPERTY OWNER OR HIS ASSIGNED, AND PRESENTED TO THE ENVIRONMENTAL SECTION OF THE DEKALB COUNTY DEVELOPMENT DEPARTMENT AT THE PRE-CONSTRUCTION MEETING OR AT THE ISSUANCE OF A DEVELOPMENT OR BUILDING PERMIT. ENFORCEMENT ON VACANT LOTS SHALL BE AS IF A PERMIT WERE BEING ISSUED. FAILURE TO COMPLY WITH THIS POLICY MAY RESULT IN AN ENGINEERING REPORT BEING PREPARED THAT MAY INCLUDE TEST PITS OR BORING OF SUSPECTED SITES.
15. LENGTH OF RIPRAP IS TO BE SIX TIMES THE DIAMETER OF THE STORM PIPE.
16. THE PROJECT DOES NOT LIE WITHIN 2000' OF THE CHATTAHOOCHEE RIVER CORRIDOR.
17. MAXIMUM CUT OR FILL SLOPES IS 3 HORIZONTAL TO 1 VERTICAL.
18. ANY PROPOSED SIGNS ARE TO BE PERMITTED THROUGH THE PERMITTING SECTION, ENTRANCE SIGNS MONUMENTS AND COMMERCIAL SIGNS.
19. CONSTRUCTION TRAILERS ARE TO BE PERMITTED THROUGH THE ZONING DIVISION OF COMMUNITY DEVELOPMENT.
20. PARKING TO BE PAVED AND STRIPED IN ACCORDANCE WITH DEKALB COUNTY STANDARDS AS SHOWN ON DEKALB COUNTY DETAILS.
21. ALL WALLS 30" AND HIGHER SHALL HAVE 42" SAFETY HANDRAILS ALONG WALL TOP. HANDRAILS SHALL CONFORM TO SOUTHERN BUILDING CODE.
22. REFER TO ARCH. DRAWINGS FOR BUILDING AND FRONT PORCH DIMENSIONS.
23. FRONT PORCHES SHALL SLOPE AT A MIN. 2% AWAY FROM BUILDING.
24. SIDEWALKS SHALL BE CONSTRUCTED WITH CROSS SLOPES OF 2% OR LESS.

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ADDITION AND RENOVATION

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1	6-26-07	PERMIT REVISIONS
2	7-12-07	OWNER COMMENTS

DRAWING TITLE:

SITE UTILITY PLAN

PROJECT NUMBER: 06-2534.20

DATE: 06/15/07

DRAWING NUMBER: C4.0

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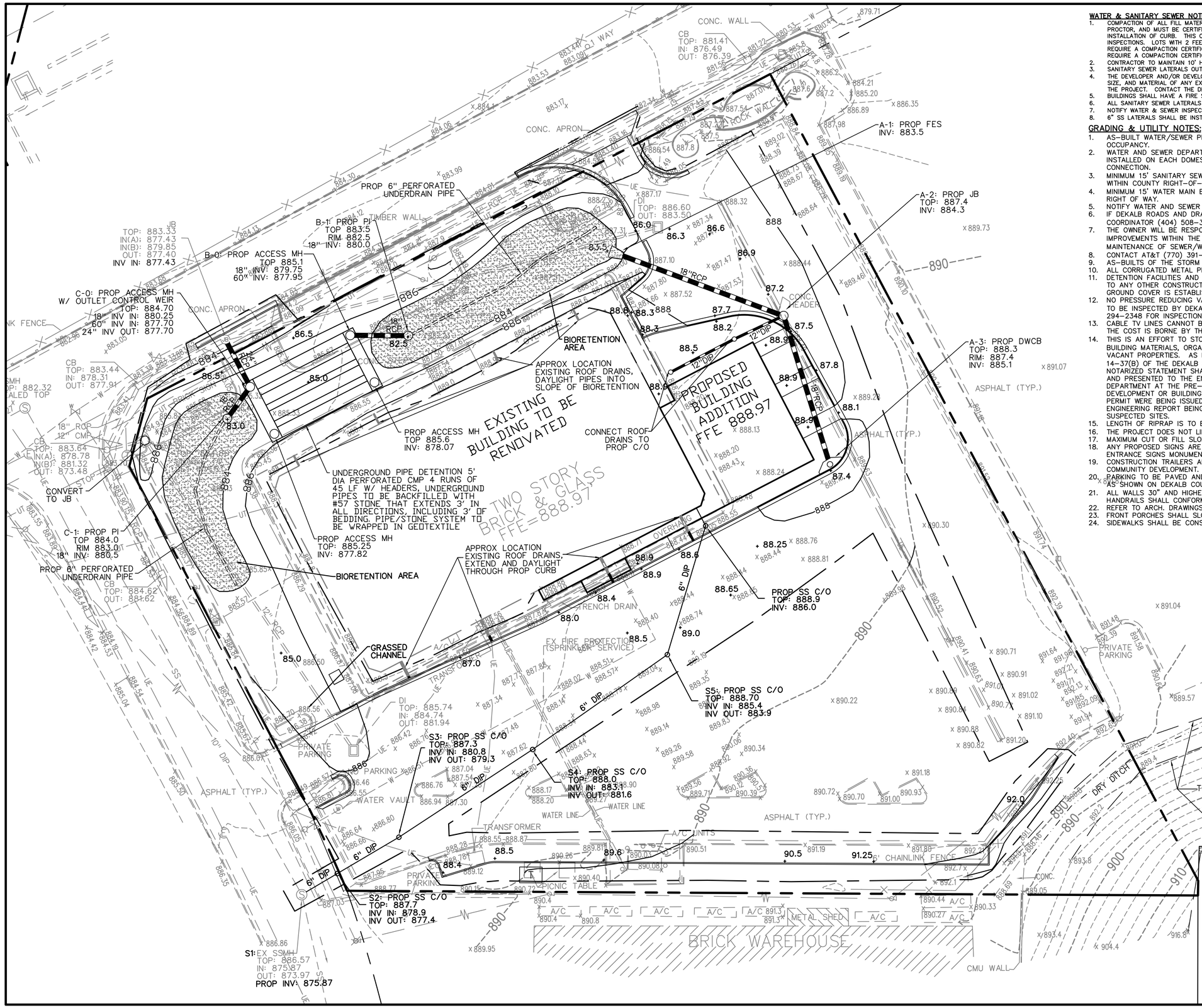

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ADDITION AND RENOVATION

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1	6-26-07	PERMIT REVISIONS
2	7-12-07	OWNER COMMENTS

DRAWING TITLE:

SITE GRADING AND DRAINAGE PLAN

PROJECT NUMBER:
06-2534.20

DATE:
06/15/07

DRAWING NUMBER:
C5.0

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Atlanta ▪ Georgia ▪ 30350-1850
(770) 641-1942 ▪ Fax (770) 959-8924 ▪ www.aecinf.com

TREE SAVE FENCE FOR ENTIRE SITE MUST BE INSTALLED, INSPECTED AND APPROVED PRIOR TO INSTALLATION OF EROSION CONTROL MEASURES. NO LAND DISTURBANCE IS ALLOWED BEFORE TREE SAVE FENCING HAS BEEN APPROVED. ALL TREE SAVE FENCE TO BE WIRE-BACKED WITH METAL STAKES.

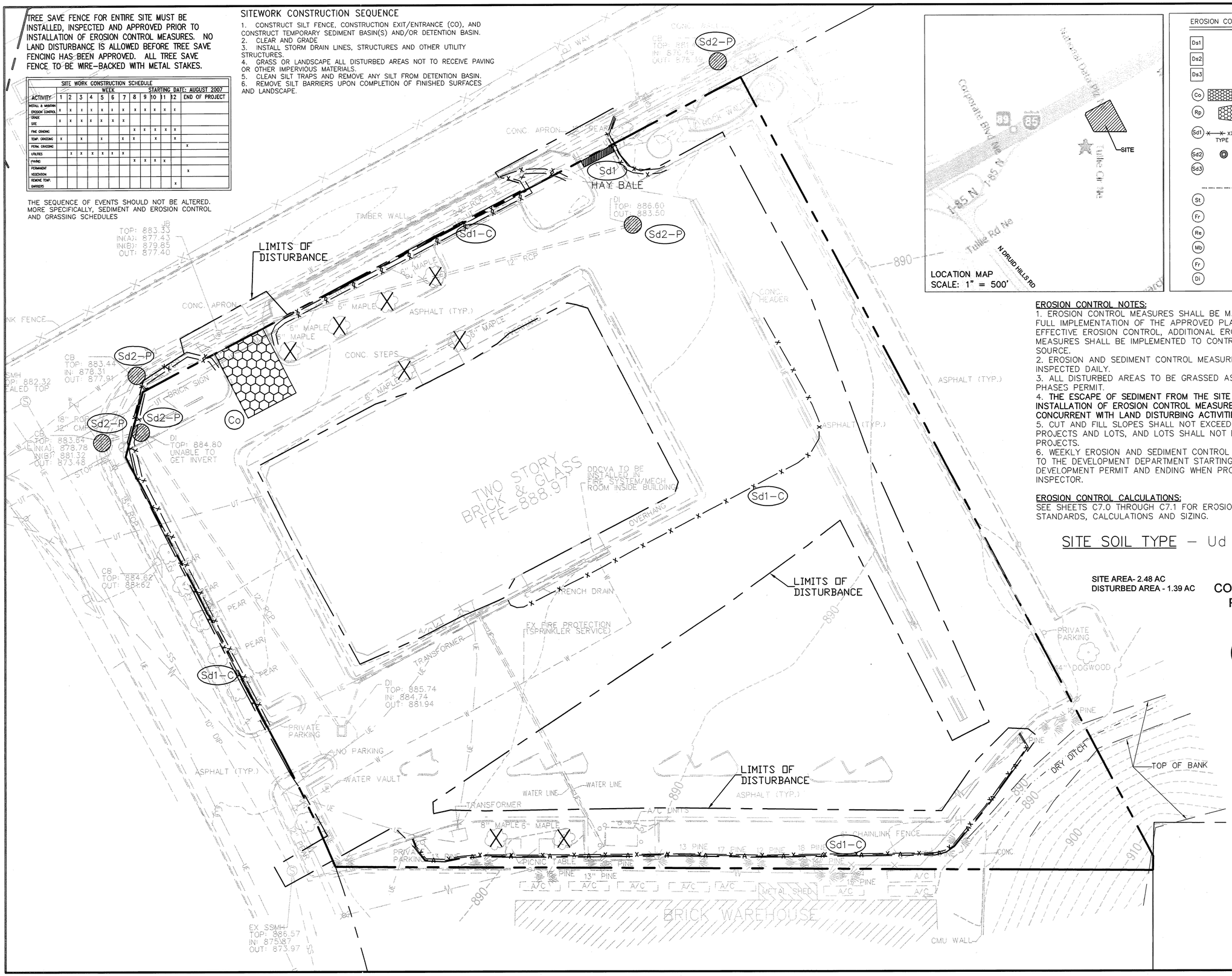
SITE WORK CONSTRUCTION SCHEDULE

ACTIVITY	WEEK 1	2	3	4	5	6	7	8	9	10	11	12	END OF PROJECT
STARTING DATE: AUGUST 2007													
INSTALL & MAINTAIN EROSION CONTROL	X	X	X	X	X	X	X	X	X	X	X	X	
GRADE SITE	X	X	X	X	X	X	X						
FINE GRADING								X	X	X	X	X	
TEMP. GRASSING	X		X		X		X	X		X		X	
PERM. GRASSING													X
UTILITIES		X	X	X	X	X	X						
PAVING								X	X	X	X		
PERMANENT VEGETATION													X
REMOVE TEMP. EMPROVES												X	

THE SEQUENCE OF EVENTS SHOULD NOT BE ALTERED. MORE SPECIFICALLY, SEDIMENT AND EROSION CONTROL AND GRASSING SCHEDULES

SITEWORK CONSTRUCTION SEQUENCE

1. CONSTRUCT SILT FENCE, CONSTRUCTION EXIT/ENTRANCE (CO), AND CONSTRUCT TEMPORARY SEDIMENT BASIN(S) AND/OR DETENTION BASIN.
2. CLEAR AND GRADE
3. INSTALL STORM DRAIN LINES, STRUCTURES AND OTHER UTILITY STRUCTURES.
4. GRASS OR LANDSCAPE ALL DISTURBED AREAS NOT TO RECEIVE PAVING OR OTHER IMPERVIOUS MATERIALS.
5. CLEAN SILT TRAPS AND REMOVE ANY SILT FROM DETENTION BASIN.
6. REMOVE SILT BARRIERS UPON COMPLETION OF FINISHED SURFACES AND LANDSCAPE.



LOCATION MAP
SCALE: 1" = 500'

EROSION CONTROL LEGEND – BOTH PHASES

Ds1	MULCH
Ds2	DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)
Ds3	DISTURBED AREA STABILIZATION (PERMANENT SEEDING)
Co	CONSTRUCTION EXIT
Rp	RIP-RAP
Sd1	TYPE C WIRE BACKED SILT FENCE (TYPE C)
Sd2	SEDIMENT TRAP TEMPORARY
Sd3	TEMPORARY SEDIMENT POND
	ACTIVE TREE PROTECTION FENCE
St	STORM DRAIN OUTLET PROTECTION
Fr	FILTER RING
Re	RETAINING WALL
Mb	MATTING & BLANKETS
Fr	FILTER RING
Di	DIVERSION DIKE

EROSION CONTROL NOTES:

1. EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
2. EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES TO BE INSPECTED DAILY.
3. ALL DISTURBED AREAS TO BE GRASSED AS SOON AS CONSTRUCTION PHASES PERMIT.
4. **THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.**
5. CUT AND FILL SLOPES SHALL NOT EXCEED 3H:1V ON RESIDENTIAL PROJECTS AND LOTS, AND LOTS SHALL NOT EXCEED 2H:1V ON ALL OTHER PROJECTS.
6. WEEKLY EROSION AND SEDIMENT CONTROL REPORTS SHALL BE SUBMITTED TO THE DEVELOPMENT DEPARTMENT STARTING WITH THE ISSUANCE OF THE DEVELOPMENT PERMIT AND ENDING WHEN PROJECT IS RELEASED BY THE INSPECTOR.

EROSION CONTROL CALCULATIONS:

SEE SHEETS C7.0 THROUGH C7.1 FOR EROSION CONTROL DETAILS, STANDARDS, CALCULATIONS AND SIZING.

SITE SOIL TYPE – Ud – URBAN LAND

SITE AREA- 2.48 AC
DISTURBED AREA - 1.39 AC

24 HOUR CONTACT
CONTACT: JEFF LITTLETON
PHONE: (678) 539-1100

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GEORGIA REGISTERED PROFESSIONAL ARCHITECT No. 23053 04-26-07

RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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1	6-26-07	PERMIT REVISIONS

DRAWING TITLE:

EROSION CONTROL PLAN - PHASE 1

PROJECT NUMBER: 06-2534.20

DATE: 06/15/07

DRAWING NUMBER: C6.0

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TREE SAVE FENCE FOR ENTIRE SITE MUST BE INSTALLED, INSPECTED AND APPROVED PRIOR TO INSTALLATION OF EROSION CONTROL MEASURES. NO LAND DISTURBANCE IS ALLOWED BEFORE TREE SAVE FENCING HAS BEEN APPROVED. ALL TREE SAVE FENCE TO BE WIRE-BACKED WITH METAL STAKES.

SITE WORK CONSTRUCTION SCHEDULE

ACTIVITY	WEEK 1	2	3	4	5	6	7	8	9	10	11	12	END OF PROJECT
	STARTING DATE: AUGUST 2007												
INSTALL & MAINTAIN EROSION CONTROL	x	x	x	x	x	x	x	x	x	x	x	x	
GRADE SITE	x	x	x	x	x	x	x						
FINE GRADING								x	x	x	x	x	
TEMP. GRASSING	x		x		x		x	x		x		x	
PERM. GRASSING													x
UTILITIES		x	x	x	x	x	x						
PAVING								x	x	x	x		
PERMANENT VEGETATION													x
REMOVE TEMP. BARRIERS												x	

THE SEQUENCE OF EVENTS SHOULD NOT BE ALTERED. MORE SPECIFICALLY, SEDIMENT AND EROSION CONTROL AND GRASSING SCHEDULES

SITEWORK CONSTRUCTION SEQUENCE

1. CONSTRUCT SILT FENCE, CONSTRUCTION EXIT/ENTRANCE (CO), AND CONSTRUCT TEMPORARY SEDIMENT BASIN(S) AND/OR DETENTION BASIN.
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3. INSTALL STORM DRAIN LINES, STRUCTURES AND OTHER UTILITY STRUCTURES.
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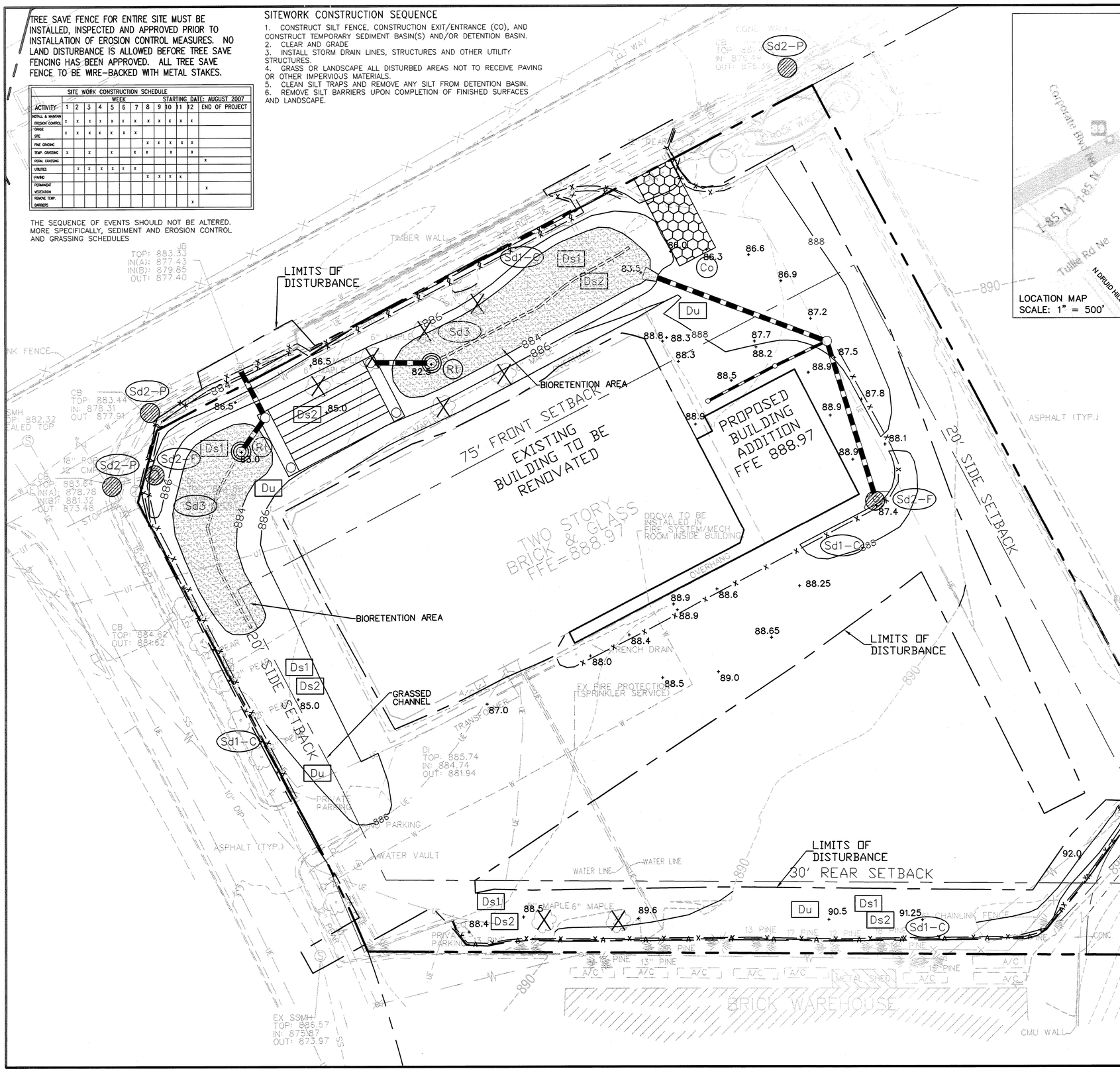
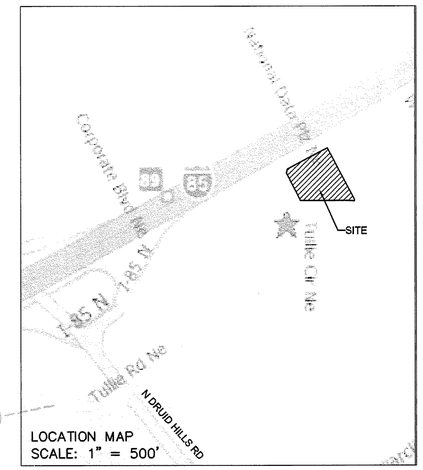
6. REMOVE SILT BARRIERS UPON COMPLETION OF FINISHED SURFACES AND LANDSCAPE.





LOCATION MAP
SCALE: 1" = 500'

EROSION CONTROL LEGEND – BOTH PHASES

Ds1	MULCH
Ds2	DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)
Ds3	DISTURBED AREA STABILIZATION (PERMANENT SEEDING)
Co	CONSTRUCTION EXIT
Rp	RIP-RAP
Sd1	TYPE C WIRE BACKED SILT FENCE (TYPE C)
Sd2	SEDIMENT TRAP TEMPORARY
Sd3	TEMPORARY SEDIMENT POND
	ACTIVE TREE PROTECTION FENCE
St	STORM DRAIN OUTLET PROTECTION
Fr	FILTER RING
Re	RETAINING WALL
Mb	MATTING & BLANKETS
Fr	FILTER RING
Di	DIVERSION DIKE

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EROSION CONTROL CALCULATIONS:

SEE SHEETS C7.0 THROUGH C7.1 FOR EROSION CONTROL DETAILS, STANDARDS, CALCULATIONS AND SIZING.

SITE SOIL TYPE – Ud – URBAN LAND

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GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 21058 CHRISTOPHER A. TIMM 11-26-07

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ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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1	6-26-07	PERMIT REVISIONS

DRAWING TITLE:

EROSION CONTROL PLAN - PHASE 2

PROJECT NUMBER: 06-2534.20

DATE: 06/15/07

DRAWING NUMBER: C6.1

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SITE WORK CONSTRUCTION SCHEDULE

ACTIVITY	WEEK 1	2	3	4	5	6	7	8	9	10	11	12	END OF PROJECT
STARTING DATE: AUGUST 2007													
INSTALL & MAINTAIN EROSION CONTROL	X	X	X	X	X	X	X	X	X	X	X	X	
GRADE SITE	X	X	X	X	X	X	X						
FINE GRADING								X	X	X	X	X	
TEMP. GRASSING	X		X		X		X	X		X		X	
FINAL GRASSING													X
UTILITIES		X	X	X	X	X	X						
PAVING								X	X	X	X		
PERMANENT VEGETATION													X
REMOVE TEMP. BARRIERS												X	

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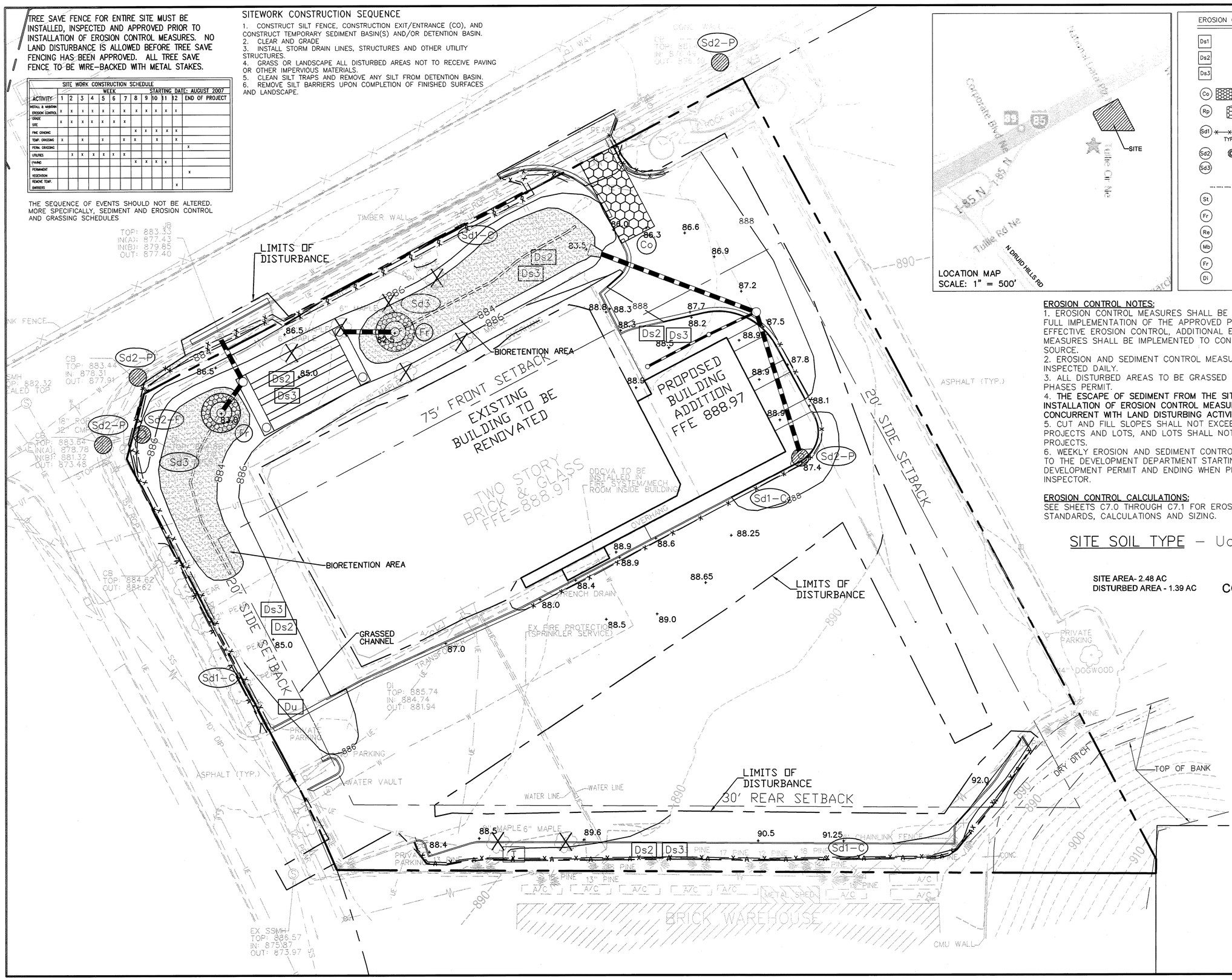

EROSION CONTROL LEGEND – BOTH PHASES

Ds1	MULCH
Ds2	DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)
Ds3	DISTURBED AREA STABILIZATION (PERMANENT SEEDING)
Co	CONSTRUCTION EXIT
Rp	RIP-RAP
Sd1	TYPE C WIRE BACKED SILT FENCE TYPE C
Sd2	SEDIMENT TRAP TEMPORARY
Sd3	TEMPORARY SEDIMENT POND
	ACTIVE TREE PROTECTION FENCE
St	STORM DRAIN OUTLET PROTECTION
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EROSION CONTROL CALCULATIONS:

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SITE SOIL TYPE – Ud – URBAN LAND

SITE AREA- 2.48 AC
DISTURBED AREA - 1.39 AC

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GEORGIA REGISTERED PROFESSIONAL ENGINEER 06-26-07 NO. 26068 CHRISTOPHER A. WITTSCHIEBE

RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS ADDITION AND RENOVATION

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1	6-26-07	PERMIT REVISIONS

DRAWING TITLE:

EROSION CONTROL PLAN - PHASE 3

PROJECT NUMBER: 06-2534.20

DATE: 06/15/07

DRAWING NUMBER: C6.2

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SOIL EROSION AND SEDIMENTATION CONTROL NOTES

A. SILT FENCE MUST MEET THE REQUIREMENTS OF SECTION 171–TEMPORARY FENCE OF THE DEPARTMENT OF TRANSPORTATION, STATE OF GEORGIA, STANDARD SPECIFICATIONS, 1983 EDITION.
B. ADDITIONAL EROSION CONTROL MEASURES WILL BE EMPLOYED WHERE DETERMINED NECESSARY BY ACTUAL SITE CONDITIONS.
C. PROVISIONS TO PREVENT EROSION OF SOIL FROM SITE SHALL BE, AS MINIMUM, IN CONFORMANCE WITH THE REQUIREMENTS OF THE COUNTY EROSION AND SEDIMENTATION ORDINANCE AND THE COUNTY CODE OF LAWS DEALING WITH EROSION AND SEDIMENTATION.
D. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE.
E. THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS WELL AS REPAIR AND/OR CLEAN OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT AS CONDITIONS DEMAND. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE OR SITE ONTO PUBLIC ROADWAY OR INTO STORM DRAIN SYSTEM MUST BE REMOVED IMMEDIATELY.
F. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR INSIDE THE APPROVED LIMITS INDICATED ON THE APPROVED PLANS.
G. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORMWATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
H. OWNER AGREES TO PROVIDE AND MAINTAIN OFF-STREET PARKING ON THE SUBJECT PROPERTY DURING THE ENTIRE CONSTRUCTION PERIOD.
I. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE.
J. THE CONSTRUCTION OF THE SITE WILL COMMENCE AFTER THE GRADING OR LDP HAS BEEN OCQUIRED. CONSTRUCTION SHALL COMMENCE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UPSTREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAYS HAVE BEEN PAVED.
K. EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
L. ALL SILT BARRIERS MUST BE PLACED AS ACCESS IS OBTAINED DURING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION IS COMPLETE AND SEDIMENT STORAGE FACILITIES ARE CONSTRUCTED.
M. CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED. CONTRACTOR SHALL CLEAN OUT ALL SEDIMENT PONDS WHEN REQUIRED BY ENGINEER OR COUNTY INSPECTOR. CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AT THE END OF EACH WORKING DAY TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
N. THE GENERAL CONTRACTOR SHALL REMOVE ACCUMULATED SILT ONCE THE SILT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER UTILIZED FOR EROSION CONTROL. IN THE DETENTION POND, SILT SHALL BE REMOVED WHEN A DEPTH HAS ACCUMULATED AS SHOWN ON THE MARKER LOCATED AT THE OUTLET CONTROL STRUCTURE AND ALL SILT SHALL BE REMOVED AT THE END OF THE PROJECTS SITEWORK CONSTRUCTION AND AFTER ALL LANDSCAPED AREAS HAVE BEEN ESTABLISHED WITH GROUNDCOVER (GRASSED OR MULCHED). ALL SILT SHALL BE REMOVED FROM ANY TEMPORARY SEDIMENT TRAPS WHEN SEDIMENT HAS ACCUMULATED TO ONE-HALF OF THE HEIGHT OF THE TRAP. RESPONSIBILITY FOR THESE ACTIONS MUST BE DETERMINED BY THE GENERAL CONTRACTOR PRIOR TO ANY CLEARING AND GRADING.
O. FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA OR LOCAL REQUIREMENTS, WHICHEVER ARE MORE STRINGENT; WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED IN ACCORDANCE WITH STATE AND/OR LOCAL STANDARDS.
P. ALL CONSTRUCTION SHALL CONFORM TO DEKALB COUNTY STANDARDS AND SPECIFICATIONS.
Q. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
R. ALL SEWER EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION.
S. ALL OPEN SWALES MUST BE GRASSED, AND RIP-RAP MUST BE PLACED AS REQUIRED TO CONTROL EROSION. A MINIMUM OF 4.5 SQ YDS OF 50 LB STONES SHALL BE PLACED AT ALL DOWNSTREAM HEADWALLS IMMEDIATELY UPON THE INSTALLATION OF PIPES AND DRAINAGE DITCHES.
T. SILT BARRIERS SHALL BE PLACED AT DOWNSTREAM TOE OF ALL CUT AND FILL SLOPES.
U. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING.
THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH LAND-DISTURBING ACTIVITIES.
W. EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT INCLUDE PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
X. ALL AREAS TO RECEIVE STRUCTURAL FILL TO BE CLEARED, STRIPPED AND FREE OF TOPSOIL, ROOTS, STUMPS, AND ALL OTHER DELETERIOUS MATERIAL. STRUCTURAL FILL TO BE CLEAN FROM ORGANICS AND ALL OTHER DELETERIOUS MATERIAL. FILL TO BE PLACED IN MAXIMUM 8" LIFTS AND COMPACTED TO AT LEAST 95% STANDARD PROCTOR MAXIMUM DENSITY AND TO WITHIN 3% OF THE OPTIMUM MOISTURE CONTENT, UNLESS OTHERWISE SPECIFIED IN THE PROJECT GEOTECHNICAL REPORT OR BY THE PROJECT GEOTECHNICAL ENGINEER. ALL FILL SOILS TO BE PLACED UNDER THE OBSERVATION OF THE PROJECT GEOTECHNICAL ENGINEER. DOCUMENTATION OF COMPACTION TESTING SHALL BE PROVIDED TO LAND DISTURBANCE ACTIVITY INSPECTOR FOR ALL ROADWAY CONSTRUCTION IN RIGHT-OF-WAY. (INCLUDING DECELERATION LANE) CONTACT LAND DISTURBANCE ACTIVITY INSPECTOR PRIOR TO CONSTRUCTION FOR FURTHER TESTING REQUIREMENTS.
Y. ANY DISTURBED AREA LEFT EXPOSED FOR 14 DAYS SHALL BE TEMPORARILY STABILIZED WITH SEED OR MULCH.
Z. ALL SILT FENCE SHALL BE TYPE C.
AA. THE OWNER WILL MAINTAIN STORM WATER RUNOFF CONTROLS AT ALL TIMES. ADDITIONAL CONTROLS WILL BE INSTALLED IF DETERMINED NECESSARY BY DEKALB COUNTY INSPECTION.
BB. MAINTENANCE OF ALL SOIL EROSION AND SEDIMENTATION CONTROL PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE THE RESPONSIBILITY OF THE OWNER.
CC. ALL DISTURBED AREAS MUST BE VEGETATED WITH PERMANENT VEGETATION WITHIN 14 DAYS OF FINAL GRADE.
DD. ALL FILL SLOPES SHALL HAVE SILT FENCE PLACED 10 FEET BEYOND THE TOE OF THE SLOPE.
EE. MAXIMUM CUT OF FILL SLOPES ARE 3HOR.:1VERT.
FF. CONCENTRATED FLOW AREAS, ALL SLOPES STEEPER THAN 2.5:1 AND WITH A HEIGHT OF TEN FEET OR GREATER AND CUTS AND FILLS WITHIN STREAM BUFFERS SHALL BE STABILIZED WITH THE APPROPRIATE EROSION CONTROL MATTING OR BLANKETS (Mb).
GG. ALL SLOPES STEEPER THAN 3:1 REQUIRE SURFACE ROUGHENING IF THEY ARE TO BE STABILIZED WITH VEGETATION. HOWEVER, IF THE SLOPE IS TO BE STABILIZED WITH EROSION CONTROL BLANKETS OR SOIL REINFORCEMENT, THE SOIL SURFACE SHOULD NOT BE ROUGHENED.
HH. THIS SITE DOES NOT CONTAIN ANY STATE WATERS OR WETLANDS.
II. THIS SITE IS NOT LOCATED WITHIN 200 FEET OF STATE WATERS.
JJ. WHEN ANY CONSTRUCTION BORDERS A DRAINAGE COURSE:
1. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY BUILDING OR OTHER EXCAVATION SPOILED DI CONSTRUCTION TRASH OR DEBRIS, ETC., FROM THE DRAINAGE AREA SHOWN HEREON IN AN EXPEDITIOUS MANNER AS CONSTRUCTION PROGRESSES.
2. THE CONTRACTOR HEREBY AGREES TO STOP ALL WORK AND RESTORE THESE AREAS IMMEDIATELY UPON NOTIFICATION BY THE FULTON COUNTY INSPECTOR AND/OR THE PROJECTS PROFESSIONAL ENGINEER.
3. UPON COMPLETION OF RESTORATION, A PROFESSIONAL ENGINEER SHALL CERTIFY IN WRITING TO THE PROJECT ARCHITECT, OWNER OR GOVERNING MUNICIPALITY THAT ALL CLEAN-UP IS COMPLETE AND THE DRAINAGE COURSE RESTORED TO ORIGINAL CONDITION AND GRADE.
KK. IRRIGATION SYSTEMS ARE NOT ALLOWED WITHIN THE PUBIC RIGHT-OF-WAY.
LL. GENERAL CONTRACTOR SHALL FLUSH OUT ANY SILT WITHIN THE STORM DRAINAGE SYSTEM AT END OF PROJECT & CLEAN OUT ALL SILT CONTROL STORM STRUCTURES.
MM. PROVIDE THE DEKALB COUNTY STANDARD 201 – TYPE #1 SILT GATES AT ALL INLET HEADWALLS. PROVIDE THE FULTON COUNTY STANDARD 201 – TYPE #3 SILT GATES AT ALL CATCH BASINS, JUNCTION BOXES, MANHOLES, AND DROP INLETS.

GSWCC EROSION AND SEDIMENT CONTROL PLAN CHECKLIST

PLAN PAGE	INCLUDED: Y/N	SITE PLAN:
2.0-6.0	Y	1. SHOW GRAPHIC SCALE AND NORTH ARROW.
6.0-6.2	Y	2. PROVIDE VICINITY MAP SHOWING SITE'S RELATION TO SURROUNDING AREA, INCLUDING DESIGNATION OF SPECIFIC PHASE, IF NECESSARY.
5.0	Y	3. PROVIDE BOTH EXISTING AND PLANNED CONTOURS WITH CONTOUR LINES DRAWN AT AN INTERVAL IN ACCORDANCE WITH THE FOLLOWING: MAP SCALE GROUND SLOPE CONTOUR INTERVAL, FT. 1 INCH = 100 FT. OR LARGER SCALE FLAT 0–2% 0.5 OR 1 ROLLING 2–8% 1 OR 2 STEEP 8% + 2, 5 OR 10
HYDRO	ATTACHED	4. DELINEATE CONTRIBUTING DRAINAGE AREAS, WITH ACREAGE, BOTH ON AND OFF SITE. INCLUDE HYDROLOGY STUDY AND MAPS OF DRAINAGE BASINS FOR BOTH THE PRE-AND POST-DEVELOPED CONDITIONS.
N/A	N/A	5. DELINEATE ALL STATE WATERS LOCATED ON OR WITHIN 200 FEET OF THE PROJECT SITE.
6.0-6.2	Y	6. SHOW LOCATION OF EROSION AND SEDIMENT PRACTICES USING UNIFORM CODING SYMBOLS FROM THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, CHAPTER 6, WITH LEGEND.
N/A	N/A	7. DELINEATE 25-FOOT UNDISTURBED BUFFERS OF STATE WATERS AND 50-FOOT BUFFERS ALONG DESIGNATED TROUT STREAMS. CLEARLY NOTE AREAS OF IMPACT.
6.0-6.2	Y	8. INCLUDE SOIL SERIES AND THEIR DELINEATION.
6.0-6.2	Y	9. IDENTIFY THE PROJECT RECEIVING WATERS AND DESCRIBE ADJACENT AREAS – NEIGHBORING AREAS SUCH AS STREAMS, LAKES, RESIDENTIAL AREAS, ETC., WHICH MIGHT BE AFFECTED.
6.0-6.2	Y	10. PHASE E&SC PLANS INTO AN INITIAL PERIMETER CONTROL E&SC PLAN, INTERMEDIATE E&SC PLAN FOR GRADING AND DRAINAGE AND A FINAL PHASE E&SC PLAN.
N/A	N/A	11. PROVIDE AN E&SC PLAN FOR A TYPICAL LOT AND EACH SITUATIONAL LOT.
6.0-6.2	Y	12. SHOW LIMITS OF DISTURBANCE ON E&SC PLAN.

NARRATIVE NOTES AND OTHER INFORMATION: (NOTES OR NARRATIVE SHOULD BE LOCATED ON THE SITE PLAN UNDER GENERAL NOTES OR UNDER EROSION AND SEDIMENT CONTROL NOTES.)

6.0-6.2	Y	1. PROVIDE REVISION AND/OR INITIAL DATE ON E&SC PLANS.
1.0	Y	2. PROVIDE DESCRIPTION OF EXISTING LAND USE AT PROJECT SITE AND DESCRIPTION OF PROPOSED PROJECT. INCLUDE LAND LOT AND DISTRICT NUMBERS FOR SITE LOCATION. DESCRIBE CRITICAL AREAS AND WHAT EXTRA MEASURES WILL BE UTILIZED FOR THESE AREAS.
1.0	Y	3. PROVIDE NAME, ADDRESS AND PHONE NUMBER OF DEVELOPER/OWNER.
6.0-6.2	Y	4. PROVIDE NAME AND PHONE NUMBER OF 24-HOUR LOCAL EROSION AND SEDIMENT CONTROL CONTACT.
1.0	Y	5. SHOW CERTIFICATION NUMBER, SIGNATURE AND SEAL OF QUALIFIED PLAN DESIGNER.
1.0	Y	6. NOTE TOTAL AND DISTURBED ACREAGE (THE DISTURBED AREA SHALL BE THE TOTAL ESTIMATED DISTURBED AREA OF THE PRIMARY AND SECONDARY PERMITTEES) OF THE PROJECT OR PHASE UNDER CONSTRUCTION.
6.0-6.2	Y	7. PROVIDE DETAILED CONSTRUCTION ACTIVITY SCHEDULE – SHOW ANTICIPATED STARTING AND COMPLETION DATES FOR PROJECT EVENTS. INCLUDE VEGETATION AND MULCHING TIMELINE.
6.0-6.2	Y	8. CLEARLY NOTE THIS STATEMENT IN BOLD LETTERS– **"THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES."**
7.2	Y	9. PROVIDE 67 CUBIC YARDS PER ACRE SEDIMENT STORAGE. INCLUDE SPECIFIC DESIGN INFORMATION AND CALCULATIONS FOR STRUCTURAL MEASURES ON SITE. SITES WITH MORE THAN 10 TOTAL ACRES MUST HAVE A TEMPORARY SEDIMENT BASIN.
11.1	Y	10. SHOW STORM-DRAIN PIPE AND WEIR VELOCITIES AND PROVIDE APPROPRIATE OUTLET PROTECTION TO ACCOMMODATE DISCHARGES WITHOUT EROSION.
6.0-6.2	Y	11. PROVIDE VEGETATIVE PLAN, NOTING ALL TEMPORARY AND PERMANENT VEGETATIVE PRACTICES. INCLUDE SPECIES, PLANTING DATES AND SEEDING, FERTILIZER, LIME AND MULCHING RATES. VEGETATIVE PLAN SHALL BE SITE SPECIFIC FOR APPROPRIATE TIME OF YEAR THAT SEEDING WILL TAKE PLACE AND FOR THE APPROPRIATE GEOGRAPHIC REGION OF GEORGIA.
6.0-6.2	Y	12. PROVIDE DETAILED DRAWINGS FOR ALL STRUCTURAL PRACTICES. SPECIFICATIONS MUST, AT A MINIMUM, MEET GUIDELINES SET FORTH IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.
6.0-6.2	Y	13. CLEARLY NOTE MAINTENANCE STATEMENT – **"EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE."**
7.0	Y	14. CLEARLY NOTE THE STATEMENT: **"ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING."**
1.0	Y	15. PROVIDE CERTIFICATION STATING THAT THE PLAN DESIGNER HAS VISITED THE SITE PRIOR TO THE DESIGN OF THE E&SC PLANS.

REVISED JUNE 2005

CONDITIONS:

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON AND OFF-SITE DAMAGE MAY OCCUR WITHOUT TREATMENT.

METHOD AND MATERIALS:

TEMPORARY METHODS:

MULCHES. SEE STANDARD (Ds1) – DISTURBED AREA STABILIZATION (WITH MULCHING ONLY. SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT BY BIND MULCH MATERIAL. REFER TO STANDARD Tb TACKIFIERS AND BINDERS. RESINS SUCH AS CURASOL OR TERRATACK SHOULD BE USED ACCORDING TO MANUFACTURE'S RECOMMENDATIONS.
VEGETATIVE COVER: SEE STANDARD (Ds2) – DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).
SPRAY-ON ADHESIVES: THESE ARE USED ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS) KEEP TRAFFIC OFF THESE AREAS. REFER TO STANDARD (Tb) TACKIFIERS AND BINDERS.
TILLAGE: THIS PRACTICE IS DESIGNED TO ROUGHEN AND BIND CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE WIND EROSION STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
IRRIGATION: THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.
BARRIERS: SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.
CALCIUM CHLORIDE: APPLY AT A RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT

PERMANENT METHODS:

PERMANENT VEGETATION: SEE STANDARD (Ds3) – DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION). EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
TOP SOILING: THIS ENTAILS COVERING THE SURFACE WITH LESS EROSIVE SOIL MATERIAL. SEE STANDARD Tp – TOP SOILING.
STONE: COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. SEE STANDARD Cr–CONSTRUCTION ROAD STABILIZATION.

Du DUST CONTROL ON DISTURBED AREAS

EXISTING CONDITIONS EROSION CONTROL NARRATIVE:

1. DESCRIPTION OF THE NATURE OF CONSTRUCTION ACTIVITY: **REDEVELOPMENT OF 2.48 ACRE SITE WITH A 3,334 SF BUILDING ADDITION AND RECONFIGURING ASSOCIATED PARKING.**
2. **THE SITE IS CURRENTLY DEVELOPED WITH A 16,458 SF BUILDING AND ASSOCIATED PARKING.**
3. CRITICAL AREAS: THE SITE **IS NOT** LOCATED WITHIN 200 FEET OF STATE WATERS.

PHASE 1 EROSION CONTROL NARRATIVE:

- CONTRACTOR SHALL CONFIRM THREE WEEKS PRIOR TO BEGINNING CONSTRUCTION THAT THE N.O.I. HAS BEEN FILED AND ASSOCIATED FEES PAID. THE NOI AND FEES MUST BE SUBMITTED TO E.P.D. AND/OR THE LOCAL ISSUING AUTHORITY AT LEAST 14 DAYS PRIOR TO BEGINNING CONSTRUCTION.
- INSTALL ALL SILT FENCE (Sd1) AND CONSTRUCTION EXIT(S) (Co) SHOWN ON THE PHASE 1 PLAN.
- LAYOUT CONSTRUCTION ROADS, STAGING AREA PADS, HAZARDOUS WASTE CONTAINMENT AREAS AND TOPSOIL STOCKPILE AREAS.
- **INSTALL THE TEMPORARY SEDIMENT BASIN(S) (Ss3) PER THE PLAN.**
- **SET CLEANOUT ELEVATION MARKER ON RISER AT PROPER ELEVATION.**
- **INSTALL OUTLET PROTECTION (St) AT THE TEMPORARY SEDIMENT BASIN OUTLET(S).**
- **CLEAR THE REMAINING SITE AND INSTALL DIVERSION DIKE(S) AND DOWNDRAIN(S).**
- **REMOVE ACCUMULATED SEDIMENT FROM TEMPORARY SEDIMENT BASIN(S) WHEN SEDIMENT REACHES THE DEPTH SHOWN ON THE MARKER(S).**
- INSTALL AND MAINTAIN ALL BMP'S SHOWN ON THE PHASE I PLAN IN ACCORDANCE WITH THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA (LATEST EDITION).
- CALL ENGINEER AT 770-641-1942 FOR INSPECTION WITHIN SEVEN (7) DAYS AFTER THE INITIAL CONSTRUCTION ACTIVITIES COMMENCE.
- SETUP A MONITORING PROGRAM IN ACCORDANCE WITH THE PLANS AND PERMIT.

PHASE 2 EROSION CONTROL NARRATIVE:

- PRACTICE DUST CONTROL (Du) AND APPLY MULCH (Ds1) AND TEMPORARY SEEDING (Ds2) AS REQUIRED.
- CONTINUE MAINTENANCE OF BMP'S INSTALLED IN PHASE I.
- MANIPULATE THE GRADES AS SHOWN AND INSTALL ALL STORM DRAINAGE STRUCTURES AS SHOWN.
- **INSTALL ALL TEMPORARY SEDIMENT TRAPS (Ss2) AS SHOWN.**
- **INSTALL DETENTION POND(S) WITH RETROFIT (Rt).**
- INSTALL STORM OUTLET PROTECTION AT ALL HEADWALLS PER PLANS.
- SET CLEANOUT ELEVATION MARKER ON OUTLET CONTROL STRUCTURE AT PROPER ELEVATION.
- REMOVE ACCUMULATED SEDIMENT FROM DETENTION BASIN WHEN SEDIMENT REACHES THE DEPTH SHOWN ON THE MARKER.
- INSTALL AND MAINTAIN ALL BMP'S SHOWN ON THE PHASE II PLAN IN ACCORDANCE WITH THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA (LATEST EDITION).
- CONTINUE MONITORING PROGRAM IN ACCORDANCE WITH THE PLANS AND PERMIT.

PHASE 3 EROSION CONTROL NARRATIVE:

- CONTINUE MAINTENANCE OF BMP'S THAT ARE CURRENTLY INSTALLED ON SITE.
- CONTINUE MONITORING PROGRAM IN ACCORDANCE WITH THE PLANS AND PERMIT.
- CONSTRUCT BUILDINGS AND PARKING.
- PLANT TREES AND SHRUBS, SPREAD TOPSOIL AND GRASS ALL DISTURBED AREAS UPON COMPLETION OF FINE GRADING AND CURB BACKFILLING.
- **REMOVE ALL ACCUMULATED SILT FROM DETENTION POND AND TEMPORARY SEDIMENT TRAPS. SEE FINAL GRADING PLAN FOR DETENTION POND ELEVATIONS.**
- **EXCAVATE SEDIMENT FOREBAYS AND MICROPOOL. INSTALL RIP RAP AT POND INLETS.**
- PLANT PERMANENT VEGETATION.
- ACHIEVE FINAL STABILIZATION OF ALL AREAS.
- REMOVE ALL SEDIMENT STORAGE DEVICES INCLUDING RETROFIT AND SILT FENCES.
- FILE N.O.T. WITH GEORGIA EPD.

Ds1 MULCHING ONLY

MULCHING BY ITSELF MAY BE USED AS TEMPORARY STABILIZATION (MULCHING ONLY) WHEN SEED WILL NOT HAVE A SUITABLE GROWING SEASON. STABILIZATION MAY BE ACCOMPLISHED WITH STRAW – 2 TONS/ACRE OR HAY-2.5 TONS/ACRE PROVIDED THAT THE APPROPRIATE DEPTH (2-4") IS ACHEIVED. ALL HAY OR STRAW SHALL BE ANCHORED WITH A TACKIFIER (Tb) (EMULSIFIED ASPHALT, GRADE AE-S OR SS-1, AT A RATE OF 100 GAL. OF EMULSIFIED ASPHALT AND 100 GAL. OF WATER PER TON OF MULCH). AND PROVIDED THAT A CONTINUOUS COVERAGE OF 90% OR GREATER OF THE SOIL SURFACE IS MAINTAINED. OTHER ACCEPTABLE MULCHES ARE WOOD WASTE, BARK, OR SAWDUST SPREAD 2-3" DEEP. WHEN MULCH IS USED WITH SEED, FOLLOW THE SPECIFICATIONS FOR TEMPORARRY SEEDING (Ds2) OR PERMANENT SEEDING (Ds3).

Ds2 TEMPORARY GRASSING

TEMPORARY GRASSING SHALL CONSIST OF SOWING A QUICK GRASS SUCH AS RYE, BROWN TOP MILLET, OR A GRASS SUITABLE TO THE AREA AND SEASON. MULCH, LIME AND FERTILIZER MAY BE OMITTED UNLESS LOCAL CONDITIONS OR SOIL TESTS INDICATE OTHERWISE. TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL AND EFFECTIVE STABILIZATION. FOR ADDITIONAL OPTIONS OR IF THE AREA IS EXPECTED TO BE UNDISTURBED FOR LONGER THAN SIX MONTHS, PERMANENT PERENNIAL VEGETATION (Ds3) SHALL BE USED. REFER TO THE COMPANION PLANTING SCHEDULE UNDER PERMANENT GRASSING (Ds3).

Ds2 GRASSING SCHEDULE

(FOR TEMPORARY)

SPECIES	PLS RATE	DATES	LIME
RYEGRASS (ANNUAL)	40 LBS./AC.	8/15 – 4/1	1 TON/ACRE
WEEPING LOVEGRASS (PERENNIAL)	4 LBS./AC.	3/15 – 6/15	1 TON/ACRE
SUDANGRASS	60 LBS./AC.	4/1 – 8/15	1 TON/ACRE

Ds3 PERMANENT GRASSING

PERMANENT GRASSING SHALL BE APPLIED AND REAPPLIED IF NECESSARY UNTIL FINAL STABILIZATION IS ACHEIVED. FINAL STABILIZATION MEANS THAT ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND THAT FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, AT LEAST 70% OF THE SOIL SURFACE IS UNIFORMLY COVERED BY PERENNIAL VEGETATION WITHIN THE GROWING SEASON (OR OTHER EQUIVALENT PERMANENT STABILIZATION MEASURES. MULCHING IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER (25% UNCOVERED) WITHIN 24 HOURS AFTER SEEDING (3). REFER TO THE FERTILIZATION REQUIREMENTS CHART FOR TYPES AND RATES OF FERTILIZER APPLICATION.

Ds3 GRASSING SCHEDULE

(FOR PERMANENT)

SPECIES	PLS RATE	DATES	LIME
HULLED BERMUDA (2)	10 LBS./AC.	3/1 – 7-1	1 TON/ACRE
WEEPING LOVEGRASS	4 LBS./AC.	3/15 – 6/15	1 TON/ACRE
FESCUE	50 LBS./AC.	8/15 – 11/1	1 TON/ACRE

(FOR COMPANION PLANTING)

TARGET SPECIES	PLS RATE	COMPANION SPECIES	PLS RATE	DATES	LIME
SERICEA LESPEDEZA (4)	60 LBS./AC.	WEEPING LOVEGRASS	2 LBS./AC.	3/1 – 5/30	1 TON/ACRE
UNHULLED BERMUDA (2)	10 LBS./AC.	BROWNTOP MILLET	2 LBS./AC.	10/1 – 3/1	1 TON/ACRE
TALL FESCUE	30 LBS./AC.	RYEGRASS, ANNUAL	28 LBS./AC.	10/15 – 1/30	1 TON/ACRE
HULLED BERMUDA	6 LBS./AC.	WILMINGTON BAHIA(1)	30 LBS./AC.	7/1 – 8/15	1 TON/ACRE

NOTES:
1. ALL SEEDING RATES ARE EXPRESSED AS PURE LIVE SEED (PLS).
2. MATTING BLANKETS (MB) AND HYDROSEED ARE REQUIRED ON SLOPES STEEPER THAN 2:1V.
3. THE LANDSCAPE PLANS, IF ANY WILL SUPERCEDE THIS DETAIL FOR PERMANENT VEGETATION.
4. MULCHING ONLY (Ds1) OR TEMPORARY GRASSING (Ds2) SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE AND WHEN ROUGH GRADED DISTURBANCE WILL LAST FOR LESS THAN SIX MONTHS. IF ROUGH GRADED AREAS WILL BE UNDISTURBED FOR LONGER THAN SIX MONTHS OR AREA IS AT FINAL GRADE, THEN PERMANENT VEGETATION (DS3) SHALL BE USED.
5. BLOCK SOD (Ss4) PROVIDES IMMEDIATE COVER AND IS ESPECIALLY EFFECTIVE IN CONTROLLING EROSION ADJACENT TO CONCRETE FLUMES AND OTHER STRUCTURES.
6. THE CONTRACTOR SHALL SELECT A BMP SUITABLE TO THE SEASON OF THE YEAR AND THE GRADING STATUS OF THE AREA TO BE STABILIZED.
7. CONSTRUCTION SPECIFICATIONS FOR EACH BMP SHALL BE AS PUBLISHED IN THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA, LATEST EDITION.

(1) SUBSTITUTE PENSACOLA BAHIA IN THE COASTAL MAJOR RESOURCE AREA OF GEORGIA.
(2) BERMUDA SHOULD NOT BE PLANTED IN THE M-L MAJOR RESOURCE AREA OF GEORGIA.
(3) MULCH FOR HYDROSEED
500 LB. OF WOOD CELLULOSE MULCH OR EQUIVALENT PER ACRE, THEN APPLY STRAW @ 2 TON/AC. OR HAY @ 2.5 TONS/AC.
STRAW OR HAY SHALL BE DRY, NOT CAKED, AND FREE OF WEED SEED.
(4) SERICEA LESPEDEZA SHALL BE SCARIFIED AND INNOCULATED WITH "EL" BACTERIA USE DOUBLE THE RECOMMENDED RATE OF INOCULUM FOR CONVENTIONAL SEEDING AND 4X THE RECOMMENDED RATE FOR HYDROSEEDING. OTHERWISE FOLLOW THE SUPPLIER'S INSTRUCTIONS WHEN INNOCULATING LEGUMES.

DESIGN CRITERIA:

GRADED AREAS WITH SMOOTH, HARD SURFACES GIVE A FALSE IMPRESSION OF "FINISHED GRADE" AND A JOB WELL DONE. IT IS DIFFICULT TO ESTABLISH VEGETATION ON SUCH SURFACES DUE TO REDUCED WATER INFILTRATION AND THE POTENTIAL FOR EROSION. ROUGH SLOPE SURFACES WITH UNEVEN SOIL AND ROCKS LEFT IN PLACE MAY APPEAR UNATTRACTIVE OR UNFINISHED AT FIRST, BUT ENCOURAGE WATER INFILTRATION, SPEED THE ESTABLISHMENT OF VEGETATION, AND DECREASE RUNOFF VELOCITY. ROUGH, LOOSE SOIL SURFACES GIVE LIME, FERTILIZER AND SEED SOME NATURAL COVERAGE. NICHES IN THE SURFACE PROVIDE MICRO CLIMATES WHICH GENERALLY PROVIDE A COOLER AND MORE FAVORABLE MOISTURE LEVEL THAN HARD FLAT SURFACES. THIS AIDS SEED GERMINATION. THERE ARE DIFFERENT METHODS OF ACHIEVING A ROUGHENED SOIL SURFACE ON A SLOPE, AND THE SELECTION OF AN APPROPRIATE METHOD DEPENDS UPON THE TYPE OF SLOPE. ROUGHENING METHODS INCLUDE STAIR STEP GRADING, GROOVING, AND TRACKING. FACTORS TO BE CONSIDERED IN CHOOSING A METHOD ARE SLOPE STEEPNESS MOWING REQUIREMENTS, AND WHETHER THE SLOPE IS FORMED BY CUTTING OR FILLING.

CONSTRUCTION SPECIFICATIONS:

CUT SLOPES STEEPER THAN 3:1:

CUT SLOPES WITH A GRADIENT STEEPER THAN 3:1 SHOULD NOT BE MOWED. THEY SHALL BE STAIR STEPPED GRADED OR GROOVED.

1) STAIR STEP GRADING MAY BE CARRIED OUT ON ANY MATERIAL SOFT ENOUGH TO BE RIPPED WITH A BULLDOZER. SLOPES CONSISTING OF SOFT ROCK WITH SOME SUBSOIL ARE PARTICULARLY SUITED TO STAIR STEP GRADING. THE RATIO OF THE VERTICAL CUT DISTANCE TO THE HORIZONTAL DISTANCE SHALL BE LESS THAN 1:1 AND THE HORIZONTAL PORTION OF THE "STEP" SHALL SLOPE TOWARDS THE VERTICAL WALL. INDIVIDUAL VERTICAL CUTS SHALL NOT BE MORE THAN 30 INCHES ON SOFT SOIL MATERIAL AND NOT MORE THAN 40 INCHES IN ROCKY MATERIAL.
2) GROOVING CONSISTS OF USING MACHINERY TO CREATE A SERIES OF RIDGES AND DEPRESSIONS WHICH RUN PERPENDICULAR TO THE SLOPE (ON THE CONTOUR). GROOVES MAY BE MADE WITH ANY APPROPRIATE IMPLEMENT WHICH CAN BE SAFELY OPERATED ON THE SLOPE AND WHICH WILL NOT CAUSE UNDUE COMPACTION. SUGGESTED IMPLEMENTS INCLUDE DISCS, TILLERS, SPRING HARROWS, AND THE TEETH ON A FRONT END LOADER BUCKET. SUCH GROOVES SHALL NOT BE LESS THAN 3 INCHES DEEP NOR FURTHER THAN 15 INCHES APART.

FILL SLOPES STEEPER THAN 3:1:

FILL SLOPES WITH A GRADIENT STEEPER THAN 3:1 SHOULD NOT BE MOWED. THEY SHALL BE GROOVED OR ALLOWED TO REMAIN ROUGH AS THEY ARE CONSRUCTED. METHOD (1) OR (2) BELOW MAY BE USED.

1) GROOVE ACCORDING TO # 2 OF "CUT SLOPES STEEPER THAN 3:1".
2) AS LIFTS OF THE FILL ARE CONSTRUCTED, SOIL AND ROCK MATERIAL MAY BE ALLOWED TO FALL NATURALLY ONTO THE SLOPE SURFACE.

COLLUVIAL MATERIALS (SOILS DEPOSITS AT THE BASE OF SLOPES OR FORM OLD STREAM BEDS) SHALL NOT BE USED IN FILLS AS THEY FLOW WHEN SATURATED.

CUTS, FILLS AND GRADED AREAS WHICH WILL BE MOWED (LESS THAN 3:1):

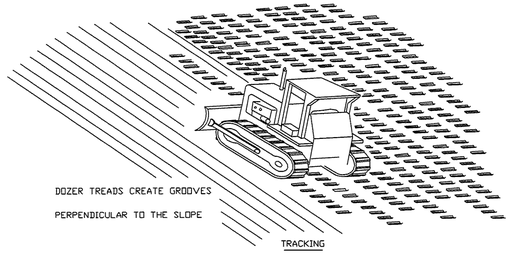
MOWED SLOPES SHOULD NOT BE STEEPER THAN 3:1. EXCESSIVE ROUGHNESS IS UNDESIRABLE WHERE MOWING IS PLANNED. THESE AREAS MAY BE ROUGHENED WITH SHALLOW GROOVES SUCH AS REMAIN AFTER TILLING, DISCING, HARROWING, RAKING, OR USE OF A MULTIPACKER SEDER. THE FINAL PASS OF ANY SUCH TILLAGE IMPLEMENT SHALL BE ON THE CONTOUR (PERPENDICULAR TO THE SLOPE). GROOVES FORMED BY SUCH IMPLEMENTS SHALL BE NOT LESS THAN ONE INCH DEEP AND NOT FURTHER THAN 12 INCHES APART. FILL SLOPES WHICH ARE LEFT ROUGH AS CONSTRUCTED MAY BE SMOOTHED WITH A DRAG LINE OR PICK CHAIN TO FACILITATE MOWING.

ROUGHENING WITH TACKED MACHINERY:

ROUGHENING WITH TRACKED MACHINERY ON CLAYED SOILS IS NOT RECOMMENDED UNLESS NO ALTERNATIVES ARE AVAILABLE. UNDUE COMPACTION OF SURFACE SOIL RESULTS FROM THIS PRACTICE. SANDY SOILS DO NOT COMPACT SEVERELY AND MAY BE TRACKED. IN NO CASE IS TRACKING AS EFFECTIVE AS THE OTHER ROUGHENING METHODS DESCRIBED. WHEN TACKING IS THE CHOSEN SURFACE ROUGHENING TECHNIQUE, IT SHALL BE DONE BY OPERATING TRACKED MACHINERY UP AND DOWN THE SLOPE TO LEAVE HORIZONTAL DEPRESSIONS IN THE SOIL. AS FEW PASSES OF THE MACHINERY AS POSSIBLE SHOULD BE MADE TO MINIMIZE COMPACTING.

SEEDING:

ROUGHENED AREAS SHALL BE SEEDED AND MULCHED AS SOON AS POSSIBLE TO OBTAIN OPTIMUM SEED GERMINATION AND SEED GROWTH. REFER TO SPECIFICATIONS **Ds1, Ds2, Ds3, AND Ds4– DISTURBED AREA STABILIZATION (WITH MULCHING ONLY, TEMPORARY SEEDING, PERMANENT VEGETATION, AND SODDING, RESPECTIVELY.)**



Su SURFACE ROUGHENING
NOT TO SCALE

INSTALLATION:

1. INSTALL WHERE SHEET FLOW CONDITIONS EXIST.
2. WHERE NO SEDIMENT TRAP/STORMWATER DISPOSAL SYSTEM IS PRESENT, MAXIMUM SLOPE SHALL NOT EXCEED THOSE IN THE TABLE. ALSO, THE DRAINAGE AREA IS NOT TO EXCEED 1/4 ACRE PER 100 FEET OF SILT FENCE.
3. APPROVED SILT FENCE FABRICS ARE LISTED IN THE GEORGIA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST #36 (QPL–36). VERIFY FABRIC BY INSPECTION OF FABRIC NAME PRINTED EVERY 100 FEET OF SILT FENCE.
4. INSTALL ACCORDING TO APPROVED PLAN, AS SHOWN.
5. INSTALL ALONG CONTOURS WITH ENDS POINTING UPHILL.
6. DO NOT PLACE IN WATERWAYS OR AREAS OF CONCENTRATED FLOW.
7. INSTALL WHERE SHEET FLOW CONDITIONS EXIST.
8. DRAINAGE AREA NOT TO EXCEED 1/4 ACRE PER 100 FT OF SILT FENCE.
9. VERIFY FABRIC BY INSPECTION OF FABRIC NAME PRINTED EVERY 100 FT. OF SILT FENCE.
10. START POST INSTALLATION AT THE CENTER OF THE LOWEST POINT WITH REMAINING POSTS SPACED ACCORDING TO FIGURE.
11. PROVIDE A RIPRAP SPLASH PAD OR OTHER OUTLET PROTECTION DEVICE FOR ANY POINT WHERE FLOW MAY TOP THE SEDIMENT FENCE. ENSURE THAT THE MAXIMUM HEIGHT OF THE FENCE AT A PROTECTED, REINFORCED OUTLET DOES NOT EXCEED 1 FT. AND THAT SUPPORT POST SPACING DOES NOT EXCEED 4 FT.
12. USE MINIMUM 18" OVERLAP AT FABRIC ENDS.
13. USE A DOUBLE ROW OF TYPE "C" SILT FENCE ALONG STREAM BUFFERS AND OTHER SENSITIVE AREAS.
14. A TRENCH 6 INCHES IN DEPTH SHALL BE EXCAVATED WITH EQUIPMENT SUCH AS A TRENCHING MACHINE OR MOTOR GRADER; OR, IF EQUIPMENT CANNOT BE OPERATED ON THE SITE, BY HAND.
15. POST INSTALLATION SHALL START AT THE CENTER OF THE LOW POINT (IF APPLICABLE) WITH THE REMAINING POSTS SPACED A MAXIMUM OF 4 FEET APART. POSTS SHALL BE INSTALLED WITH AT LEAST 18 INCHES IN THE GROUND. WHERE AN 18 INCH DEPTH IS IMPOSSIBLE TO ACHIEVE, THE POSTS SHALL BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT LOADING.
16. FILTER FABRIC SHALL BE ATTACHED TO THE POST BY WIRE, CORD, POCKETS, STAPLES, NAILS, OR OTHER ACCEPTABLE MEANS. THE FILTER FABRIC SHALL BE INSTALLED IN SUCH A MANNER THAT 8 INCHES OF FABRIC IS LEFT AT THE BOTTOM TO BE BURIED AND A MINIMUM OVERLAP OF 18 INCHES IS PROVIDED AT ALL SPLICE JOINTS. THE FABRIC SHALL BE INSTALLED IN THE TRENCH SUCH THAT 4 TO 6 INCHES OF FABRIC IS AGAINST THE SIDE OF THE TRENCH WITH 2 TO 4 INCHES OF FABRIC ACROSS THE BOTTOM IN THE UPSTREAM DIRECTION.

POSTS AND WOVEN WIRE SUPPORT:

POSTS SHALL BE STEEL AND HAVE A MINIMUM LENGTH OF 5 FEET. POSTS SHALL BE "U", "T", OR "C" SHAPED AND HAVE A MINIMUM WEIGHT OF 1.3 POUNDS PER FOOT. THE POSTS SHALL HAVE PROJECTIONS FOR FASTENING THE WOVEN WIRE AND FILTER FABRIC. MAXIMUM POSTS SPACING SHALL BE 4 FEET. A WOVEN WIRE SUPPORT FENCE SHALL BE USED WITH TYPE "C" FENCE. THE WIRE FENCE FABRIC SHALL BE AT LEAST 36 INCHES HIGH AND SHALL HAVE AT LEAST 6 HORIZONTAL WIRES. VERTICAL WIRES SHALL HAVE A MAXIMUM SPACING OF 12 INCHES. THE TOP AND BOTTOM WIRES SHALL BE AT LEAST 10 GAUGE AND ALL OTHER WIRES SHALL BE AT LEAST 12 1/2 GAUGE.

FILTER FABRICS FOR TYPE "C" FENCES:

APPROVED SILT FENCE FABRICS ARE LISTED IN THE GEORGIA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST #36 (QPL–36).

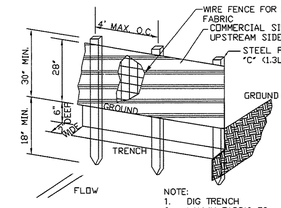
Sd1-C SILT FENCE SEDIMENT BARRIER
NOT TO SCALE TYPE C ONLY

CRITERIA FOR SILT FENCE PLACEMENT

LAND SLOPE (PERCENT)	MAX. SLOPE LENGTH BEHIND FENCE (FEET)
< 2	100
2 TO 5	75
5 TO 10	50
10 TO 20	25
> 20*	15

* IN AREAS WHERE THE SLOPE IS GREATER THAN 20%, A FLAT AREA LENGTH OF 10 FEET BETWEEN THE TOE OF THE SLOPE TO THE FENCE SHOULD BE PROVIDED.

NOTE: USE A DOUBLE ROW OF SILT FENCE AS SHOWN ON PLANS AND ALONG STREAM BUFFERS AND OTHER SENSITIVE AREAS.



Sd1 – SEDIMENT BARRIER (SILT FENCE)

NOTE:
1. DIG TRENCH
2. LAY IN FABRIC TO BOTTOM OF TRENCH
3. BACKFILL TRENCH, COVERING FABRIC.

MAINTENANCE:

1. INSPECT BARRIERS AT THE END OF EACH WORKING DAY, OR AFTER EACH RAIN, AND REPAIR OR CLEAN AS NECESSARY.
2. REMOVE SEDIMENT FROM BARRIER ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER.
3. PROPERLY DISPOSE OF SEDIMENT AND STABILIZE IT WITH VEGETATION
4. REPLACE FILTER FABRIC WHEN DETERIORATED.
5. DESIGN LIFE OF A SYNTHETIC SILT FENCE IS APPROXIMATELY 6 MONTHS.
6. MAINTAIN UNTIL THE PROJECT IS VEGETATED OR OTHERWISE STABILIZED.
7. REMOVE BARRIERS AND ACCUMULATED SEDIMENT AND STABILIZE THE EXPOSED AREA WHEN THE PROJECT IS STABILIZED.

THE FABRIC SHALL MEET THE FOLLOWING PHYSICAL OR DIMENSIONAL REQUIREMENTS.

FABRIC REQUIREMENTS FOR TYPE-C	
TENSILE STRENGTH (LBS. MIN.) (1) (ASTM D-4632)	WRAP-120 FILL-180
ELONGATION (%MAX.) (ASTM D-4632)	40
AOS (APPARENT OPENING SIZE) (MAX. SIEVE SIZE) (ASTM D-4751)	NO. 30
FLOW RATE, GAL/MIN/FT2 (GDT-87)	70
ULTRAVIOLET STABILITY (2) (ASTM D-4632 AFTER 300 HOURS. WEATHERING IN ACCORDANCE WITH ASTM D-4355)	80
BURSTING STRENGTH, (PSI MIN) (ASTM D-3786 DIAPHRAGM BURSTING STRENGTH TESTER)	175
MINIMUM FABRIC WIDTH (IN)	36

(1) MINIMUM ROLL AVERAGE OF FIVE SPECIMENS.
(2) PERCENT OF REQUIRED INITIAL MINIMUM TENSILE STRENGTH.

MATERIALS:

ALL BLANKET AND MATTING MATERIALS SHALL BE ON THE GEORGIA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST (QPL # 52 FOR BLANKETS, QPL # 49 FOR MATTING). ALL BLANKETS SHALL BE NON–TOXIC TO VEGETATION AND TO THE GERMINATION OF SEED AND SHALL NOT BE INJURIOUS TO THE UNPROTECTED SKIN OF HUMANS. AT A MINIMUM, THE PLASTIC NETTING SHALL BE INTERTWINED WITH THE MULCHING MATERIAL / FIBER TO MAXIMIZE STRENGTH AND PROVIDE FOR EASE OF HANDLING.

TEMPORARY BLANKETS: MACHINE PRODUCED TEMPORARY COMBINATION BLANKETS SHALL HAVE A CONSISTENT THICKNESS WITH THE ORGANIC MATERIAL EVENLY DISTRIBUTED OVER THE ENTIRE BLANKET AREA. ALL COMBINATION BLANKETS SHALL HAVE A MINIMUM WIDTH OF 48 INCHES. MACHINE PRODUCED COMBINATION BLANKETS INCLUDE THE FOLLOWING:

STRAW BLANKETS: COMBINATION BLANKETS THAT CONSIST OF WEED–FREE STRAW FROM AGRICULTURAL CROPS FORMED INTO A BLANKET. BLANKETS WITH A TOPSIDE OF PHOTO DEGRADABLE PLASTIC MESH WITH A MAXIMUM MESH SIZE OF 1/2 X 1/2 INCH AND SEWN TO THE STRAW WITH BIODEGRADABLE THREAD IS APPROPRIATE FOR SLOPES. THE BLANKET SHALL HAVE A MINIMUM THICKNESS OF 3/4 INCH AND MINIMUM DRY WEIGHT OF 0.5 POUNDS PER SQUARE YARD.

EXCELSIOR BLANKETS: COMBINATION BLANKETS THAT CONSIST OF CURLED WOOD EXCELSIOR (80% OF FIBERS ARE SIX INCHES OR LONGER) FORMED INTO A BLANKET. THE BLANKET SHALL HAVE CLEAR MARKINGS INDICATING THE TOP SIDE OF THE BLANKET AND BE SMOLDER RESISTANT. BLANKETS SHALL HAVE PHOTO DEGRADABLE PLASTIC MESH HAVING A MAXIMUM MESH SIZE OF 1 1/2 X 3 INCHES. THE BLANKET SHALL HAVE A MINIMUM THICKNESS OF 1/2 OF AN INCH AND A MINIMUM DRY WEIGHT OF 0.8 POUNDS PER SQUARE YARD. SLOPES REQUIRE EXCELSIOR MATTING WITH THE TOP SIDE OF THE BLANKET COVERED IN THE PLASTIC MESH, AND FOR WATERWAYS, BOTH SIDES OF THE BLANKET REQUIRE PLASTIC MESH.

COCONUT FIBER BLANKETS: COMBINATION BLANKETS THAT CONSIST OF 100% COCONUT FIBER FORMED INTO A BLANKET. THE MINIMUM THICKNESS OF THE BLANKET SHALL BE 1/2 OF AND INCH WITH A MINIMUM DRY WEIGHT OF 0.5 POUNDS PER SQUARE YARD. BLANKETS SHALL HAVE PHOTO DEGRADABLE PLASTIC MESH, WITH A MAXIMUM MESH SIZE OF 1/2 X 1/2 INCH AND SEWN TO THE FIBER WITH A BREAKDOWN RESISTANT SYNTHETIC YARN. PLASTIC MESH IS REQUIRED ON BOTH SIDES OF THE BLANKET IF USED IN WATERWAYS. A MAXIMUM OF TWO INCHES IS ALLOWABLE FOR THE STITCH PATTERN AND ROW SPACING.

WOOD FIBER BLANKETS: COMBINATION BLANKEST THAT CONSIST OF REPROCESSED WOOD FIBERS THAT DO NOT POSSESS OR CONTAIN ANY GROWTH OR GERMINATION INHIBITING FACTORS. THE BLANKET SHALL HAVE A PHOTO DEGRADABLE PLASTIC MESH, WITH A MAXIMUM MESH SIZE OF 1/2 X 1/2 INCH, SECURELY BONDED TO THE TOP OF THE MAT. THE BLANKET SHALL HAVE A MINIMUM DRY WEIGHT OF 0.35 POUNDS PER SQUARE YARD. A MAXIMUM OF TWO INCHES IS ALLOWABLE FOR THE STITCH PATTERN AND ROW SPACING. THIS PRACTICE SHALL BE APPLIED ONLY TO SLOPES.

JUTE MESH: CAN BE APPLIED TO SLOPES. JUTE MESH WITH A 48 INCH WIDTH SHALL SHOW BETWEEN 76 AND 80 WARPINGS AND A ONE YARD LENGTH SHALL SHOW BETWEEN 39 TO 43 WEFTINGS. THE WOVEN MESH SHALL BE AT LEAST 45 INCHES WIDE. YARN SHALL HAVE A UNIT WEIGHT OF AT LEAST 0.9 POUNDS PER SQUARE YARD, BUT NOT MORE THAN 1.5 POUNDS PER SQUARE YARD.

PERMANENT MATTING: PERMANENT MATTING SHALL CONSIST OF A LOFTY WEB OF MECHANICALLY OR MELT BONDED POLYMER NETTING'S, MONOFILAMENTS OR FIBERS WHICH ARE ENTANGLED TO FORM A STRONG AND DIMENSIONALLY STABLE MATRIX. POLYMER WELDING, THERMAL OR POLYMER FUSION, OR THE PLACEMENT OF FIBERS BETWEEN TWO HIGH STRENGTH, BIAXIALLY ORIENTED NETS BOUND SECURELY TOGETHER BY PARALLEL STRENGTH, BIAXIALLY ORIENTED NETS BOUND SECURELY TOGETHER BY PARALLEL LOCK STITCHING WITH POLYOLEFIN, NYLON OR POLYESTER THREADS ARE ALL APPROPRIATE BONDING METHODS. MATS SHALL MAINTAIN THEIR SHAPE BEFORE, DURING, AND AFTER INSTALLATION, UNDER DRY OR WATER SATURATED CONDITIONS. MATS MUST BE STABILIZED AGAINST ULTRAVIOLET DEGRADATION AND SHALL BE INERT TO CHEMICALS NORMALLY ENCOUNTERED IN AN NATURAL SOIL ENVIRONMENT. THE MAT SHALL CONFORM TO THE FOLLOWING PHYSICAL PROPERTIES.

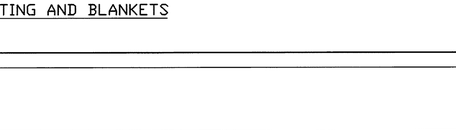
PERMANENT MAT PHYSICAL PROPERTY REQUIREMENTS

PROPERTY	MINIMUM VALUE
THICKNESS	0.5 INCHES
WEIGHT	0.6 PSY
ROLL WIDTH	38 IN.
TENSILE STRENGTH:	
LENGTH (50% ELONGATION)	15 LBS/IN
LENGTH (ULTIMATE)	20 LBS/IN
WIDTH (50% ELONGATION)	5 LBS/IN
WIDTH (ULTIMATE)*	10 LBS/IN
ULTRAVIOLET STABILITY	80%

(1000 HOURS IN AN ATLAS ARC WEATHEROMETER. ASTM G 23, TYPE D, IN ACCORDANCE WITH ASTM D 822)

*ASTM D 1682 – 6" STRIP

CONCENTRATED FLOW AREAS, ALL SLOPES STEEPER THAN 2.5:1 AND WITH A HEIGHT OF TEN FEET OR GREATER AND CUTS AND FILLS WITHIN STREAM BUFFERS SHALL BE STABILIZED WITH THE APPROPRIATE EROSION CONTROL MATTING OR BLANKETS (Mb).



PICTORIAL VIEW OF TRANSVERSE SLOT

Mb EROSION CONTROL MATTING AND BLANKETS
NOT TO SCALE

SITE PREPARATION:

AFTER THE SITE HAS BEEN SHAPED AND GRADED TO THE APPROVED DESIGN, PREPARE A FRIABLE SEED BED RELATIVELY FREE FROM CLODS AND ROCKS MORE THAN ONE INCH IN DIAMETER, AND ANY FOREIGN MATERIAL THAT WILL PREVENT CONTACT OF THE SOIL STABILIZATION MAT WITH THE SOIL SURFACE. SURFACE MUST BE SMOOTH TO ENSURE PROPER CONTACT OF BLANKETS OR MATTING TO THE SOIL TO THE SOIL SURFACE. IF NECESSARY, REDIRECT ANY RUNOFF FROM THE DITCH OR SLOPE DURING INSTALLATION.

STAPLES:

THE FOLLOWING ARE CONSIDERED APPROPRIATE STAPLING AND STAKING MATERIALS.

TEMPORARY BLANKETS: THIS INCLUDES STRAW, EXCELSIOR, COCONUT FIBER, AND WOOD FIBER BLANKETS. STAPLES SHALL BE USED TO ANCHOR TEMPORARY BLANKETS. U–SHAPED WIRE (11 GAUGE OR GREATER) STAPLES WITH LEGS AT LEAST 6 INCHES IN LENGTH AND A CROWN OF ONE INCH OR APPROPRIATE BIODEGRADABLE STALE CAN BE USED. STAPLES SHALL BE OF SUFFICIENT THICKNESS FOR SOIL PENETRATION WITHOUT UNDUE DISTORTION.

PERMANENT MATTING: SOUND WOOD STAKES, 1 X 3 INCHES STOCK SAWN IN A TRIANGULAR SHAPE, SHALL BE USED. DEPENDING ON THE COMPACTION OF THE SOIL, SELECT STAKES WITH A LENGTH FROM 12 TO 18 INCHES. U–SHAPED STAPLES SHALL BE 11 GAUGE STEEL OR GREATER, WITH LEGS AT A MINIMUM OF 8 INCHES LENGTH WITH A 2 INCH CROWN.

PLANTING:

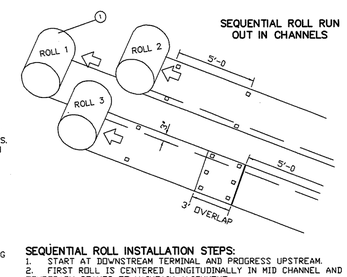
LIME, FERTILIZER, AND SEED SHALL BE APPLIED IN ACCORDANCE WITH SEEDING OR OTHER TYPE OF PLANTING PLAN COMPLETED PRIOR TO INSTALLATION OF TEMPORARY COMBINATION BLANKETS OR JUTE MESH. FOR PERMANENT MATS, THE AREA MUST BROUGHT TO FINAL GRADE, PLOWED, LIMED, AND FERTILIZED. AFTER THE PERMANENT MAT HAS BEEN INSTALLED AND BACKFILLED THE ENTIRE AREA SHALL BE GRASSED. REFER TO SPECIFICATION Ds3

INSTALLATION:

SEE FIGURE FOR TYPICAL INSTALLATION GUIDELINES. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR LAYING AND STAPLING.

MAINTENANCE:

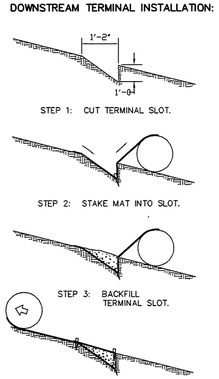
ALL EROSION CONTROL BLANKETS AND MATTING SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER REPAIRING DAMAGE TO THE SLOPE OR DITCH. CONTINUE TO MONITOR THESE AREAS UNTIL THEY BECOME PERMANENTLY STABILIZED.



SEQUENTIAL ROLL INSTALLATION STEPS:

1. START AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT
3. SUBSEQUENT ROLLS FOLLOW IN STAGGERED SEQUENCE BEHIND FIRST ROLL. USE CENTER ROLL FOR ALIGNMENT TO CHANNEL CENTER.
4. WORK OUTWARDS FROM CHANNEL CENTER TO EDGE.
5. USE 3" OVERLAP AND STAKE AT 5' INTERVAL ALONG SEAMS
6. USE 3" OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT LINING AT ROLL ENDS.

DOWNSTREAM TERMINAL INSTALLATION:



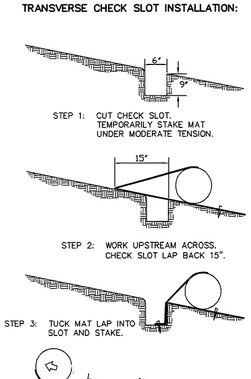
STEP 1: CUT TERMINAL SLOT.

STEP 2: STAKE MAT INTO SLOT.

STEP 3: BACKFILL TERMINAL SLOT.

STEP 4:
A. ROLL MAT UP STREAM OVER REFILLED TERMINAL.
B. STAKE MAT DOWN TO ANCHOR TERMINAL.
C. PROGRESS UPSTREAM WITH ROLL.

TRANSVERSE CHECK SLOT INSTALLATION:



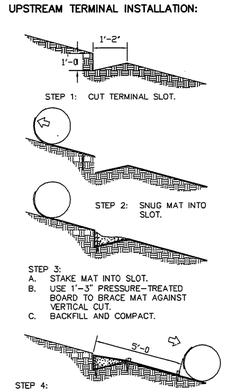
STEP 1: CUT CHECK SLOT. TEMPORARILY STAKE MAT UNDER MODERATE TENSION.

STEP 2: WORK UPSTREAM ACROSS. CHECK SLOT LAP BACK 15".

STEP 3: TUCK MAT LAP INTO SLOT AND STAKE.

STEP 4: BACKFILL AND PROGRESS UPSTREAM. PULL OUT TEMPORARY STAKES WHEN NO LONGER NEEDED FOR TENSIONING.

UPSTREAM TERMINAL INSTALLATION:



STEP 1: CUT TERMINAL SLOT.

STEP 2: SNUG MAT INTO SLOT.

STEP 3:
A. STAKE MAT INTO SLOT.
B. USE 1'–3" PRESSURE–TREATED BOARD TO BRACE MAT AGAINST VERTICAL CUT.
C. BACKFILL AND COMPACT.

STEP 4:
A. REVERSE MAT ROLL DIRECTION TO OVERLAY CHECK SLOT.
B. STAKE MAT TO ANCHOR TERMINAL.

GEORGIA REGISTERED 06-15-07 No. 25059 PROFESSIONAL ENGINEER CHRISTOPHER J. PRICE

RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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EROSION CONTROL DETAILS

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STORM DRAIN OUTLET PROTECTION

DESIGN CRITERIA:
STRUCTURALLY LINED APRONS AT THE OUTLETS OF PIPES AND PAVED CHANNEL SECTIONS SHALL BE DESIGNED ACCORDING TO THE FOLLOWING CRITERIA:

CAPACITY
PEAK STORMFLOW FROM THE 25–YEAR, 24 HOUR FREQUENCY STORM OR THE STORM SPECIFIED IN THE TITLE 12–7–1 OF THE OFFICIAL CODE OF GEORGIA ANNOTATED OR THE DESIGN DISCHARGE OF THE WATER CONVEYANCE STRUCTURE, WHICHEVER IS GREATER.

TAILWATER DEPTH
THE DEPTH OF THE TAILWATER IMMEDIATELY BELOW THE PIPE OUTLET MUST BE DETERMINED FOR THE DESIGN CAPACITY OF THE PIPE. MANNING'S EQUATION MAY BE USED TO DETERMINE TAILWATER DEPTH. IF THE TAILWATER DEPTH IS LESS THAN HALF THE DIAMETER OF THE OUTLET PIPE, IT SHALL BE CLASSIFIED AS A MINIMUM TAILWATER CONDITION. IF THE TAILWATER DEPTH IS GREATER THAN HALF THE PIPE DIAMETER, IT SHALL BE CLASSIFIED AS A MAXIMUM TAILWATER CONDITION. PIPES WHICH OUTLET ONTO FLAT AREAS WITH NO DEFINED CHANNEL MAY BE ASSUMED TO HAVE A MINIMUM TAILWATER CONDITION.

APRON WIDTH
IF THE PIPE DISCHARGES DIRECTLY INTO A WELL–DEFINED CHANNEL, THE APRON SHALL EXTEND ACROSS THE CHANNEL BOTTOM AND UP THE CHANNEL BANKS TO AN ELEVATION ONE FOOT ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK (WHICHEVER IS LESS). IF THE PIPE DISCHARGES ONTO A FLAT AREA WITH NO DEFINED CHANNEL, THE WIDTH OF THE APRON SHALL BE DETERMINED AS FOLLOWS:
A. THE UPSTREAM END OF THE APRON, ADJACENT TO THE PIPE, SHALL HAVE A WIDTH THREE TIMES THE DIAMETER OF THE OUTLET PIPE.
B. FOR THE MINIMUM TAILWATER CONDITION, THE DOWNSTREAM END OF THE APRON SHALL HAVE A WIDTH EQUAL TO THE PIPE DIAMETER PLUS THE LENGTH OF THE APRON. REFER TO FIGURE 6–24.1.
C. FOR A MAXIMUM TAILWATER CONDITION, THE DOWN STREAM END SHALL HAVE A WIDTH EQUAL TO THE PIPE DIAMETER PLUS 0.4 TIMES THE LENGTH OF THE APRON. REFER TO FIGURE 6–24.2.

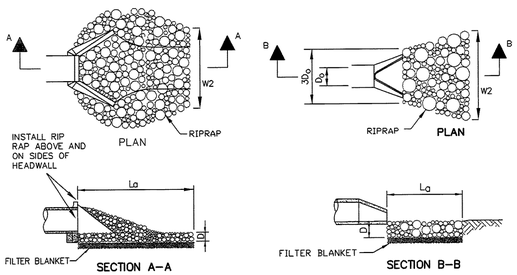
BOTTOM GRADE
THE APRON SHALL BE CONSTRUCTED WITH NO SLOPE ALONG ITS LENGTH (0.0% GRADE). THE INVERT ELEVATION OF THE DOWNSTREAM END OF THE APRON SHALL BE EQUAL TO THE ELEVATION OF THE INVERT OF THE RECEIVING CHANNEL. THERE SHALL BE NO OVERFALL AT THE END OF THE APRON.

SIDE SLOPE
IF THE PIPE DISCHARGES INTO A WELL–DEFINED CHANNEL, THE SIDE SLOPES OF THE CHANNEL SHALL NOT BE STEEPER THAN 2:1.

ALIGNMENT
THE APRON SHALL BE LOCATED SO THAT THERE ARE NO BENDS IN THE HORIZONTAL ALIGNMENT.

GEOTEXTILE
GEOTEXTILES SHOULD BE USED AS A SEPARATOR BETWEEN THE GRADED STONE, THE SOIL BASE, AND THE ABUTMENTS. THE GEOTEXTILES WILL PREVENT THE MIGRATION OF SOIL PARTICLES FROM THE SUBGRADE INTO THE GRADED STONE. THE GEOTEXTILE SHALL BE SPECIFIED ON ACCORDANCE WITH AASHTO M288–96 SECTION 7.5, PERMANENT EROSION CONTROL RECOMMENDATIONS. THE GEOTEXTILE SHOULD BE PLACED IMMEDIATELY ADJACENT TO THE SUBGRADE WITHOUT ANY VOIDS.

MATERIALS
THE APRON MAY BE LINED WITH RIPRAP, GROUTED RIPRAP, OR CONCRETE. THE MEDIAN SIZED STONE FOR RIPRAP, D50, SHALL BE DETERMINED FROM THE CURVES, FIGURE 6–24.1 AND 6–24.2, ACCORDING TO THE TAILWATER CONDITION. THE GRADATION, QUALITY AND PLACEMENT OF RIPRAP SHALL CONFORM TO APPENDIX C.



PIPE OUTLET TO WELL–DEFINED CHANNEL:

PIPE OUTLET TO FLAT AREA – NO WELL–DEFINED CHANNEL:

DESIGN SPECIFICATIONS TABLE

CONSTRUCTION SPECIFICATIONS:
1. ENSURE THAT THE SUBGRADE FOR THE FILTER AND RIPRAP FOLLOWS THE REQUIRED LINES AND GRADES SHOWN IN THE PLAN. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL. LOW AREAS IN THE SUBGRADE ON UNDISTURBED SOIL MAY ALSO BE FILLED BY INCREASING THE RIPRAP THICKNESS.
2. THE RIPRAP AND GRAVEL FILTER MUST CONFORM TO THE SPECIFIED GRADING LIMITS SHOWN ON THE PLANS.
3. GEOTEXTILE MUST MEET DESIGN REQUIREMENTS AND BE PROPERLY PROTECTED FROM PUNCHING OR TEARING DURING INSTALLATION. REPAIR ANY DAMAGE BY REMOVING THE RIPRAP AND PLACING ANOTHER PIECE OF FILTER FABRIC OVER THE DAMAGED AREA. ALL CONNECTING JOINTS SHOULD OVERLAP A MINIMUM OF 1 FT. IF THE DAMAGE IS EXTENSIVE, REPLACE THE ENTIRE FILTER FABRIC.
4. RIPRAP MAY BE PLACED BY EQUIPMENT, BUT TAKE CARE TO AVOID DAMAGING THE FILTER.
5. THE MINIMUM THICKNESS OF THE RIPRAP SHOULD BE 1.5 TIMES THE MAXIMUM STONE DIAMETER.
6. CONSTRUCT THE APRON ON ZERO GRADE WITH NO OVERFALL AT THE END. MAKE THE TOP OF THE RIPRAP AT THE DOWNSTREAM END LEVEL WITH THE RECEIVING AREA OR SLIGHTLY BELOW IT.
7. ENSURE THAT THE APRON IS PROPERLY ALIGNED WITH THE RECEIVING STREAM AND PREFERABLY STRAIGHT THROUGHOUT ITS LENGTH. IF A CURVE IS NEEDED TO FIT SITE CONDITIONS, PLACE IT IN THE UPPER SECTION OF THE APRON.
8. IMMEDIATELY AFTER CONSTRUCTION, STABILIZE ALL DISTURBED AREAS WITH VEGETATION.
9. STONE QUALITY – SELECT STONE FOR RIPRAP FROM FIELD STONE OR QUARRY STONE. THE STONE SHOULD BE HARD, ANGULAR, AND HIGHLY WEATHER–RESISTANT. THE SPECIFIC GRAVITY OF THE INDIVIDUAL STONES SHOULD BE AT LEAST 2.5.
10. FILTER – INSTALL A FILTER TO PREVENT SOIL MOVEMENT THROUGH THE OPENINGS IN THE RIPRAP. THE FILTER SHOULD CONSIST OF A GRADED GRAVEL LAYER OR A SYNTHETIC FILTER CLOTH. SEE APPENDIX C; P. C–1.

MAINTENANCE:
INSPECT RIPRAP OUTLET STRUCTURES AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

NOTES:
1. LENGTH (La) IS THE RIPRAP LENGTH (AS SHOWN IN THE CHART).
2. DEPTH (D) IS THE RIPRAP DEPTH (1.5 TIMES THE MAXIMUM STONE DIAMETER, OR AS SHOWN ON DRAWINGS BUT NOT LESS THAN 12").
3. INSTALL A 6" MINIMUM DEEP FILTER STONE BLANKET (#57 STONE) OR FILTER FABRIC (AASHTO M288–96 SECTION 7.5) BETWEEN RIPRAP AND SOIL FOUNDATION.
4. IN A WELL–DEFINED CHANNEL, EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH, OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
5. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.
6. FOR VELOCITIES UP TO 6.5 FPS, USE GDOT TYPE 3 WITH #57 FILTER BEDDING STONE.
7. FOR VELOCITIES OVER 6.5 FPS, CONSULT TABLE C–1.

TABLE C–1
GRADED RIP–RAP STONE

FLOW VELOCITY (FT./SEC.)	N.S.A. NO.[1]	SIZE INCHES (SQ. OPENING) MAX.	AVG.[2]	MIN.	FILTER STONE N.S.A. NO.[1]
2.5	R-1	1 1/2	3/4	No. 8	FS-1
4.5	R-2	3	1 1/2	1	FS-1
6.5	R-3	6	3	2	FS-2
9.0	R-4	12	6	3	FS-2
11.5	R-5	18	9	5	FS-2
13.0	R-6	24	12	7	FS-3
14.5	R-7	30	15	12	FS-3

TABLE C–2
FILTER BEDDING STONE

N.S.A. NO.[1]	SIZE INCHES (SQ. OPENING) MAX.	AVG.[2]	MIN.[3]
FS-1	3/8	#30 MESH	#100 MESH
FS-2	2	#4	#100 MESH
FS-3	6 1/2	2 1/2	#16

TABLE C–4
FILTER BEDDING STONE

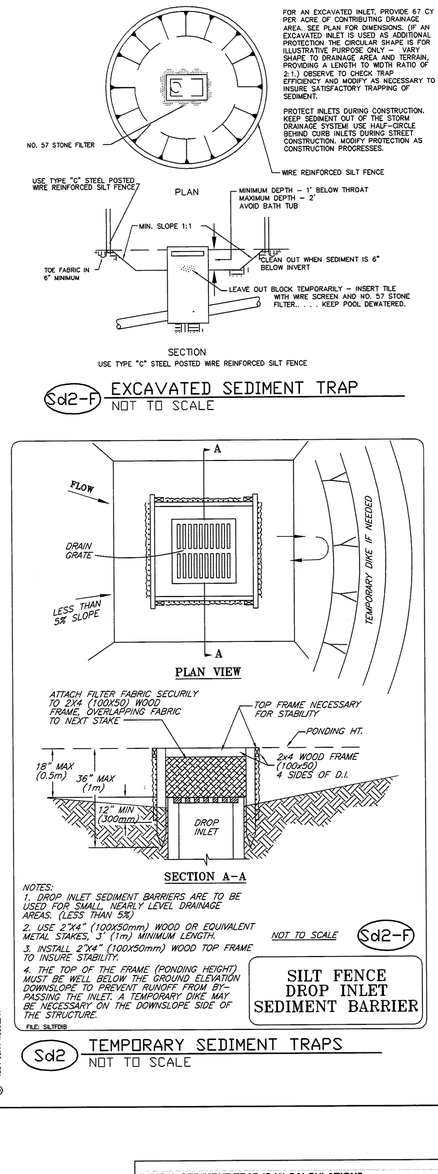
G.D.O.T. NO.[4]	NOMINAL SIZE (INCHES)
3	2" - 1"
4	1 1/2" - 3/4"
5	1" - 1/2"
6	3/4" - 3/8"
57	1" - No. 4

TABLE C–3
GRADED RIP–RAP STONE

G.D.O.T. NO.[4]	SIZE INCHES (SQ. OPENING) MAX.	AVG.[2]	MIN.[3]	COMMON USES
TYPE3	12	9	5	CREEK BANKS, PIPE OUTLETS
TYPE1	24	12	7	LAKES, SHORELINES, RIVERS

1. NATIONAL STONE ASSOCIATION
2. AT LEAST 50% OF THE INDIVIDUAL STONE PARTICLES MUST BE EQUAL OR LARGER THAN LISTED SIZE.
3. 85–100% OF THE INDIVIDUAL STONE PARTICLES MAYBE LESS THAN LISTED SIZE.
4. GEORGIA DEPARTMENT OF TRANSPORTATION

(St) STORM DRAIN OUTLET PROTECTION
NOT TO SCALE



(Sd2-P) EXCAVATED SEDIMENT TRAP
NOT TO SCALE

(Sd2) TEMPORARY SEDIMENT TRAPS
NOT TO SCALE

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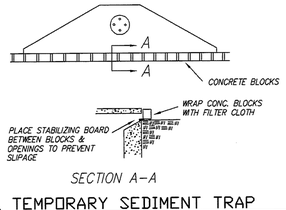


(Sd2-P) TEMPORARY SEDIMENT TRAP
NOT TO SCALE

DESIGN CRITERIA:
MANY SEDIMENT FILTERING DEVICES CAN BE DESIGNED TO SERVE AS TEMPORARY SEDIMENT TRAPS. SEDIMENT TRAPS MUST BE SELF–DRAINING UNLESS THEY ARE OTHERWISE PROTECTED IN AN APPROVED FASHION THAT WILL NOT PRESENT A SAFETY HAZARD. *THE DRAINAGE AREA ENTERING THE INLET SEDIMENT TRAP SHALL BE NO GREATER THAN ONE ACRE.*

IF RUNOFF MAY BYPASS THE PROTECTED INLET, A TEMPORARY DIKE SHOULD BE CONSTRUCTED ON THE DOWN SLOPE SIDE OF THE STRUCTURE. ALSO, A STONE FILTER RING MAY BE USED ON THE UP SLOPE SIDE OF THE INLET TO SLOW RUNOFF AND FILTER LARGER SOIL PARTICLES. REFER TO **PR – STONE FILTER RING**.

EXCAVATED INLET SEDIMENT TRAP
AN EXCAVATION MAY BE CREATED AROUND THE INLET SEDIMENT TRAP TO PROVIDE ADDITIONAL SEDIMENT STORAGE. THE TRAP SHALL BE SIZED TO PROVIDE A MINIMUM STORAGE FOR SEDIMENT STORAGE SHOULD BE PROVIDED. SIDE SLOPES SHALL NOT BE STEEPER THAN 2:1.

CONSTRUCTION SPECIFICATIONS:
SEDIMENT TRAPS MAY BE CONSTRUCTED ON NATURAL GROUND SURFACE, ON AN EXCAVATED SURFACE, OR ON MACHINE COMPACTED FILL PROVIDED THEY HAVE A NONERODIBLE OUTLET.

FILTER FABRIC WITH SUPPORTING FRAME (Sd2–F)
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) AND SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS. AS SHOWN IN FIGURE 6–21. L, TYPE C SILT FENCE SUPPORTED BY STEEL POSTS SHALL BE USED. THE STAKES SHALL BE SPACED EVENLY AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3 FEET APART, AND SECURELY DRIVEN INTO THE GROUND, APPROXIMATELY 18 INCHES DEEP. THE FABRIC SHALL BE ENTRENCHED 12 INCHES AND BACKFILLED WITH CRUSHED STONE OR COMPACTED SOIL. FABRIC AND WIRE SHALL BE SECURELY FASTENED TO THE POSTS, AND FABRIC ENDS MUST BE OVERLAPPED A MINIMUM OF 18 INCHES OR WRAPPED TOGETHER AROUND A POST TO PROVIDE A CONTINUOUS FABRIC BARRIER AROUND THE INLET.

BAFFLE BOX (Sd2–B)
FOR INLETS RECEIVING RUNOFF WITH A HIGHER VOLUME OR VELOCITY, A BAFFLE BOX INLET SEDIMENT TRAP SHOULD BE USED. AS SHOWN IN FIGURE 6–21.2, THE BAFFLE BOX SHALL BE CONSTRUCTED OF 2 X 4 BOARDS SPACED A MAXIMUM OF 1 INCH APART OR OF PLYWOOD WITH WEP HOLES 2 INCHES IN DIAMETER. THE WEEP HOLES SHALL BE PLACED APPROXIMATELY 6 INCHES ON CENTER VERTICALLY AND HORIZONTALLY. GRAVEL SHALL BE PLACED OUTSIDE THE BOX, ALL AROUND THE INLET, TO A DEPTH OF 2 TO 4 INCHES. THE ENTIRE BOX IS WRAPPED IN TYPE C FILTER FABRIC THAT SHALL BE ENTRENCHED 12 INCHES AND BACKFILLED.

BLOCK AND GRAVEL DROP INLET PROTECTION (Sd2–Bg)
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE. ONE BLOCK IS PLACED ON EACH SIDE OF THE STRUCTURE ON ITS SIDE IN THE BOTTOM ROW TO ALLOW POOL DRAINAGE. THE FOUNDATION SHOULD BE EXCAVATED AT LEAST 2 INCHES BELOW THE CREST OF THE STORM DRAIN. THE BOTTOM ROWS OF BLOCKS ARE PLACED AGAINST THE EDGE OF THE STORM DRAIN FOR LATERAL SUPPORT AND TO AVOID WASHOUTS WHEN OVERFLOW OCCURS. IF NEEDED, LATERAL SUPPORT MAY BE GIVEN TO SUBSEQUENT ROWS BY PLACING 2" X 4" WOOD STUDS THROUGH BLOCK OPENINGS. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2 INCH OPENINGS SHALL BE FITTED OVER ALL BLOCK OPENINGS TO HOLD GRAVEL IN PLACE. CLEAN GRAVEL SHOULD BE PLACED 2 INCHES BELOW THE TOP OF THE BLOCK ON A 2:L SLOPE OR FLATTER AND SMOOTHED TO AN EVEN GRADE. DOT #57 WASHED STONE IS RECOMMENDED.

GRAVEL DROP INLET PROTECTION (Sd2–G)
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED. AS SHOWN IN FIGURE 6–21.4, STONE AND GRAVEL ARE USED TO TRAP SEDIMENT. THE SLOPE TOWARD THE INLET SHALL BE NO STEEPER THAN 3:L. A MINIMUM 1 FOOT WIDE LEVEL STONE AREA SHALL BE LEFT BETWEEN THE STRUCTURE AND AROUND THE INLET TO PREVENT GRAVEL FROM ENTERING THE INLET. ON THE SLOPE TOWARD THE INLET, STONE 3 INCHES IN DIAMETER AND LARGER SHOULD BE USED. ON THE SLOPE AWAY FROM THE INLET, ½ TO 3/4 INCH GRAVEL (#57 WASHED STONE) SHOULD BE USED AT A MINIMUM THICKNESS OF 1 FOOT.

SOD INLET PROTECTION (Sd2–S)
THIS METHOD OF INLET PROTECTION IS APPLICABLE ONLY AT THE TIME OF PERMANENT SEEDING, TO PROTECT THE INLET FROM SEDIMENT AND MULCH MATERIAL UNTIL PERMANENT VEGETATION HAS BECOME ESTABLISHED. AS SHOWN IN FIGURE 6–21.6, THE SOD SHALL BE PLACED TO FORM A TURF MAT COVERING THE SOIL FOR A DISTANCE OF 4 FEET FROM EACH SIDE OF THE INLET STRUCTURE. SOD STRIPS SHALL BE STAGGERED SO THAT ADJACENT STRIP ENDS ARE NOT ALIGNED.

EXCAVATED INLET SEDIMENT TRAP (Sd2)
THE SEDIMENT TRAP SHALL BE PLACED IMMEDIATELY AROUND THE INLET. THE EXCAVATION SHALL BE CONSTRUCTED IMMEDIATELY OUTSIDE OF THE SEDIMENT TRAP AND PROVIDE A MINIMUM DEPTH OF 1.5 FEET FOR SEDIMENT STORAGE.

CURB INLET PROTECTION (Sd2–P)
ONCE PAVEMENT HAS BEEN INSTALLED, A CURB INLET FILTER SHALL BE INSTALLED ON INLETS RECEIVING RUNOFF FROM DISTURBED AREAS. **THIS METHOD OF INLET PROTECTION SHALL BE REMOVED IF A SAFETY HAZARD IS CREATED**.
- ONE METHOD OF CURB INLET PROTECTION USES "PIGS–IN–A–BLANKET" – 8–INCH CONCRETE BLOCKS RAPPED IN FILTER FABRIC. SEE FIGURE. ANOTHER METHOD USES GRAVEL BAGS CONSTRUCTED BY WRAPPING DOT #57 STONE WITH FILTER FABRIC, WIRE, PLASTIC MESH, OR EQUIVALENT MATERIAL. ONE EXAMPLE IS THE SS–300 CURB INLET FILTER BY SILT SAVER, INC.
- A GAP OF APPROXIMATELY 4 INCHES SHALL BE LEFT THE INLET FILTER AND THE INLET TO ALLOW FOR OVERFLOW AND PREVENT HAZARDOUS PONDING IN THE ROADWAY. *PROPER INSTALLATION AND MAINTENANCE ARE CRUCIAL DUE TO POSSIBLE PONDING IN THE ROADWAY, RESULTING IN A HAZARDOUS CONDITION.*

ALTERNATIVE PROTECTION
SEVERAL OTHER METHODS ARE AVAILABLE TO PREVENT THE ENTRY OF SEDIMENT INTO STORM DRAIN INLETS. ONE SUCH ALTERNATIVE WOULD BE THE SILT SAVER FILTER AND FRAME (SS–100A AND SS–200A).

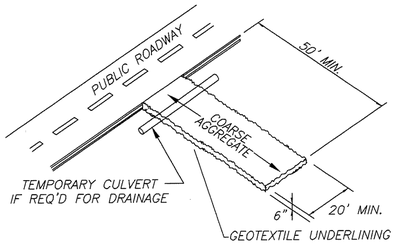
MAINTENANCE:
- THE TRAP SHALL BE INSPECTED DAILY AND AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
- SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE–HALF THE HEIGHT OF THE TRAP. SEDIMENT SHALL BE REMOVED FROM CURB INLET PROTECTION IMMEDIATELY. FOR EXCAVATED INLET SEDIMENT TRAPS, SEDIMENT SHALL BE REMOVED WHEN ONE–HALF OF THE SEDIMENT STORAGE CAPACITY HAS BEEN LOST TO SEDIMENT ACCUMULATION. SOD INLET PROTECTION SHALL BE MAINTAINED AS SPECIFIED IN **DS4 – DISTURBED AREA STABILIZATION (WITH SODDING)**.
- **SEDIMENT SHALL NOT BE WASHED INTO THE INLET**. IT SHALL BE REMOVED FROM THE SEDIMENT TRAP AND DISPOSED OF AND STABILIZED SO THAT IT WILL NOT ENTER THE INLET, AGAIN.
- WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, ALL MATERIALS AND ANY SEDIMENT SHALL BE REMOVED, AND EITHER SALVAGED OR DISPOSED OF PROPERLY. THE DISTURBED AREA SHALL BE BROUGHT TO PROPER GRADE, THEN SMOOTHED AND COMPACTED. APPROPRIATELY STABILIZE ALL DISTURBED AREAS AROUND THE INLET.

TYPICAL SEDIMENT TRAP (Sd2) CALCULATIONS

If the **EXCAVATED INLET SEDIMENT TRAP** is used, show the following information:

1. **Drainage area** = 0.71 ac
2. Required sediment storate = 67cy/ac * drainage area
   Required sediment storage = 67 cy/ac * 0.71 ac
   Required sediment storage = 47.57 cy = 1,284 cf
3. Assume excavation **depth** (minimum of 1.5 ft.) = 1.5 ft
4. Assumed **slope of sides** (shall not be steeper that 2:1) = 3 :1
5. Determine required surface area
   SA min = Required sediment storage / excavation depth
   SA min = 1,284 cf / 1.5 ft
   SA min = 856.26 sf
6. Assumed shape of excavation and determine dimensions.
   (A rectangle shape with 2:1 length to width ratio is recommended.)
   Shape: CIRCLE
   Dimensions: l = ft w= ft diameter *(if applicable)* = 34 ft

Provide a detail showing the depth, length and width, or diameter *(if applicable)* , and side slope of the excavation.



(Co) CONSTRUCTION EXIT
NOT TO SCALE

DESIGN CRITERIA:
FORMAL DESIGN IS NOT REQUIRED. THE FOLLOWING STANDARDS SHALL BE USED.

AGGREGATE SIZE:
STONE WILL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R–2 (1.5 TO 3.5 INCH STONE).

PAD THICKNESS:
THE GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.

PAD WIDTH:
AT A MINIMUM, THE WIDTH SHOULD EQUAL FULL WIDTH OF ALL POINTS OF VEHICULAR EGRESS, BUT NOT LESS THAN 20 FEET WIDE.

WASHING:
IF THE ACTION OF THE VEHICLE TRAVELING OVER THE GRAVEL PAD DOES NOT SUFFICIENTLY REMOVE THE MUD, THE TIRES SHOULD BE WASHED PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND PROVISIONS THAT INTERCEPT THE SEDIMENT–LADEN RUNOFF AND DIRECT IT INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

CONSTRUCTION SPECIFICATIONS:
IT IS RECOMMENDED THAT THE ENTRANCE AREA BE EXCAVATED TO A DEPTH OF 3 INCHES AND BE CLEARED OF ALL VEGETATION AND ROOTS.

DIVERSION RIDGE:
ON SITES WHERE THE GRADE TOWARD THE PAVED AREA IS GREATER THAN 2%, A DIVERSION RIDGE 6 TO 8 INCHES HIGH WITH 3:1 SIDE SLOPES SHALL BE CONSTRUCTED ACROSS THE FOUNDATION APPROXIMATELY 15 FEET ABOVE THE ROAD.

GEOTEXTILE:
THE GEOTEXTILE UNDER LINER MUST BE PLACED THE FULL LENGTH AND WIDTH OF THE ENTRANCE. GEOTEXTILE SELECTION SHALL BE BASED ON AASHTO M288–98 SPECIFICATIONS:
1) FOR SUB–GRADES WITH A CBR GREATER THAN OR EQUAL TO 3 OR SHEAR STRENGTH GREATER THAN 90 kPa, GEOTEXTILE MUST MEET REQUIREMENTS OF SECTION AASHTO M288–96 SECTION 7.3, STABILIZATION REQUIREMENTS.
2) FOR SUB–GRADES WITH A CBR BETWEEN 1 AND 3 OR SHEER STRENGTH BETWEEN 30 AND 90 kPa, GEOTEXTILE MUST MEET REQUIREMENTS OF SECTION AASHTO M299–96 SECTION 7.4, STABILIZATION REQUIREMENTS.

MAINTENANCE:
THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 1.5 – 3.5 INCH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN OUT OF ANY STRUCTURES TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES OR SITE ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 25053 CHRISTOPHER J. FRINK 06-15-07

RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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DRAWING TITLE:
EROSION CONTROL DETAILS

PROJECT NUMBER:
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DATE:
06/15/07

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CONDITIONS:

FLOC LOGS

THIS TEMPORARY PRACTICE IS NOT INTENDED FOR APPLICATION TO SURFACE WATER OF THE STATE. IT IS INTENDED FOR APPLICATION WITHIN CONSTRUCTION STORM WATER DITCHES AND STORM DRAINAGES WHICH FEED INTO PRE-CONSTRUCTED SEDIMENT PONDS OR BASINS.

DUST CONTROL

THIS TEMPORARY PRACTICE IS INTENDED FOR DIRECT SOIL SURFACE APPLICATION TO SITES WHERE THE TIMELY ESTABLISHMENT OF VEGETATION MAY NOT BE FEASIBLE OR WHERE VEGETATIVE COVER IS ABSENT OR INADEQUATE.

FEDERAL, STATE AND LOCAL LAW.
ANIONIC PAM APPLICATION SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS RULES OR REGULATIONS GOVERNING ANIONIC PAM. THE OPERATOR IS RESPONSIBLE FOR SECURING REQUIRED PERMITS. **THIS STANDARD DOES NOT CONTAIN THE TEXT OF THE FEDERAL, STATE OR LOCAL LAWS GOVERNING ANIONIC PAM.**

PLANNING CONSIDERATIONS

ANIONIC PAM IS AVAILABLE IN EMULSIONS, POWDERS, AND GEL BARS OR LOGS. IT IS REQUIRED THAT OTHER BEST MANAGEMENT PRACTICES BE USED IN COMBINATION WITH ANIONIC PAM.

THE USE OF SEED AND MULCH FOR ADDITIONAL EROSION PROTECTION BEYOND THE LIFE OF THE ANIONIC PAM IS RECOMMENDED. REPEAT APPLICATION IF DISTURBANCE OCCURS TO TARGET AREA.

THE FOLLOWING ARE ADDITIONAL RECOMMENDATIONS RELATING TO DESIGN WHICH MAY ENHANCE THE USE OF OR AVOID PROBLEMS WITH THE PRACTICE.

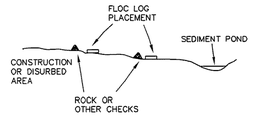
1. USE SETBACKS WHEN APPLYING ANIONIC PAM NEAR NATURAL WATERBODIES.
2. CONSIDER THAT DECREASED PERFORMANCE CAN OCCUR DUE TO ULTRAVIOLET LIGHT AND TIME AFTER MIXING WHEN APPLYING ANIONIC PAM.
3. IN FLOW CONCENTRATION CHANNELS, THE EFFECTIVENESS OF ANIONIC PAM FOR STABILIZATION DECREASES.
4. MULCH TO PROTECT SEED IF SEED IS APPLIED WITH ANIONIC PAM.
5. NEVER ADD WATER TO PAM, ADD PAM SLOWLY TO WATER. IF WATER IS ADDED TO PAM, "GLOBS" CAN FORM WHICH CAN CLOG DISPENSERS. THIS SIGNIFIES INCOMPLETE DISSOLUTION OF THE PAM AND THEREFORE INCREASES THE RISK OF UNDER-APPLICATION.
6. **NOT ALL POLYMERS ARE PAM**

OPERATION AND MAINTENANCE

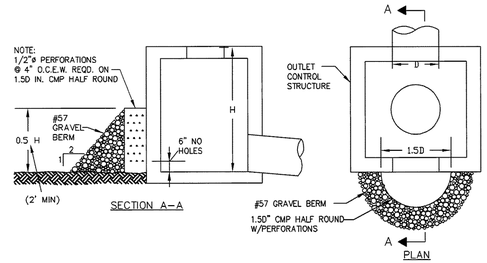
MAINTENANCE WILL CONSIST OF REAPPLYING ANIONIC PAM TO DISTURBED AREAS, INCLUDING HIGH TRAFFIC AREAS WHICH INTERFERE IN THE PERFORMANCE OF THIS PRACTICE.

CRITERIA:

1. APPLICATION RATES SHALL CONFORM TO MANUFACTURER'S GUIDELINES FOR APPLICATION.
2. ONLY THE ANIONIC FORM OF PAM SHALL BE USED. CATIONIC PAM IS TOXIC AND SHALL NOT BE USED.
3. PAM AND PAM MIXTURES SHALL BE ENVIRONMENTALLY BENIGN, HARMLESS TO FISH, WILDLIFE, AND PLANTS. PAM AND PAM MIXTURES SHALL BE NON-COMBUSTIBLE.
4. ANIONIC PAM, IN PURE FORM, SHALL HAVE LESS THAN OR EQUAL TO 0.05% ACRYLAMIDE MONOMER BY WEIGHT, AS ESTABLISHED BY THE FOOD AND DRUG ADMINISTRATION AND THE ENVIRONMENTAL PROTECTION AGENCY.
5. TO MAINTAIN LESS THAN OR EQUAL TO 0.05% OF ACRYLAMIDE MONOMER, **THE MAXIMUM APPLICATION RATE OF PAM IN PURE FORM SHALL NOT EXCEED 200 POUNDS PER/ACRE/YEAR.** DO NOT OVER APPLY PAM. EXCESSIVE APPLICATION OF PAM CAN LOWER INFILTRATION RATE OR SUSPEND SOILS IN WATER, RATHER THAN PROMOTING SETTLING.
6. USERS OF ANIONIC PAM SHALL OBTAIN AND FOLLOW ALL MATERIAL SAFETY DATA SHEET REQUIREMENTS AND MANUFACTURER'S RECOMMENDATIONS.
7. ADDITIVES SUCH AS FERTILIZERS, SOLUBILITY PROMOTERS OR INHIBITORS, ETC. TO PAM SHALL BE NON-TOXIC.
8. THE MANUFACTURER OR SUPPLIER SHALL PROVIDE WRITTEN APPLICATION METHODS FOR PAM AND PAM MIXTURES. THE APPLICATION METHOD SHALL INSURE UNIFORM COVERAGE TO THE TARGET AND AVOID DRIFT TO NON-TARGET AREAS INCLUDING WATERS OF THE STATE. THE MANUFACTURER OF SUPPLIER SHALL ALSO PROVIDE WRITTEN INSTRUCTIONS TO INSURE PROPER SAFETY, STORAGE, AND MIXING OF THE PRODUCT.
9. GEL BARS OR LOGS OF ANIONIC PAM MIXTURES MAY BE USED IN DITCH SYSTEMS. THIS APPLICATION SHALL MEET THE SAME TESTING REQUIREMENTS AS ANIONIC PAM EMULSIONS AND POWDERS.
10. TO PREVENT EXCEEDING THE ACRYLAMIDE MONOMER LIMIT IN THE EVENT OF A SPILL, THE ANIONIC PAM IN PURE FORM SHALL NOT EXCEED 200 POUNDS PER BATCH AT 0.05% ACRYLAMIDE MONOMER (ADM) OR 400 POUNDS PER BATCH AT 0.025% AMD.



(Pm) POLYACRYLAMIDE (PAM)
NOT TO SCALE



CONDITIONS

THIS STANDARD APPLIES UNDER THE FOLLOWING CONDITIONS:

1. **SHALL NOT BE USED IN DETENTION BASINS ON LIVE STREAMS** OR IN BASINS WITH A TOTAL CONTRIBUTING DRAINAGE AREA OF 30 ACRES OR MORE.
2. SHALL ONLY BE USED IN DETENTION BASINS LARGE ENOUGH TO STORE 67 CUBIC YARDS OF SEDIMENT PER ACRE OF DISTURBED AREA IN THE PROJECT.
3. SHALL BE CONSIDERED A TEMPORARY STRUCTURE AND WILL BE REMOVED AS SOON AS PROJECT IS PERMANENTLY STABILIZED. ALL ACCUMULATED SEDIMENT SHALL BE REMOVED, AND THE POND SHALL BE BROUGHT TO FINAL GRADE (IF POSSIBLE), PRIOR TO THE REMOVAL OF THE RETROFIT.

DESIGN CRITERIA

1. THE HEIGHT OF THE RETROFIT SHOULD BE APPROXIMATELY ONE-HALF THE HEIGHT OF THE STORMWATER MANAGEMENT OUTLET STRUCTURE.
2. **THE POND MUST BE CAPABLE OF STORING THE REQUIRED VOLUME OF SEDIMENT IN ADDITION TO THE REQUIRED STORMWATER VOLUME.** THE REQUIRED SEDIMENT STORAGE VOLUME SHALL BE ACHIEVED BY EITHER EXCAVATING THE BASIN OR RAISING THE OUTLET STRUCTURE'S INVERT TO ACHIEVE 67 CUBIC YARDS PER ACRE OF SEDIMENT STORAGE. REMOVE SEDIMENT WHEN ONE-THIRD OF THE SEDIMENT STORAGE CAPACITY, NOT TOTAL POND CAPACITY, IS LOST TO SEDIMENT ACCUMULATION. THIS VOLUME SHALL BE MARKED ON THE RISER OR BY SETTING A MARKED POST NEAR THE RISER.
3. FOR EFFECTIVE TRAPPING EFFICIENCY, THE SEDIMENT DELIVERY INLETS SHOULD BE AT THE UPPER END OF THE BASIN.
4. FOR EFFECTIVE TRAPPING EFFICIENCY, THE LENGTH-WIDTH RATIO OF THE BASIN SHALL BE AT LEAST 2:1. IF THE LENGTH-WIDTH RATIO IS NOT AT LEAST 2:1, THE FLOW LENGTH SHALL BE INCREASED WITH THE USE OF BAFFLES INSTALLED WITHIN THE BASIN.

CONSTRUCTION SPECIFICATIONS

A. **SHOULD BE USED ONLY IN DETENTION PONDS WITH LESS THAN 30 ACRE TOTAL DRAINAGE AREA.**
B. NEVER TO BE USED ON EXPOSED PIPE END OR WINGED HEADWALL.
C. DIAMETER OF HALF-ROUND PIPE SHOULD BE 1.5 TIMES THE DIAMETER OF THE PRINCIPAL PIPE OUTLET OR WIDER THAN THE GREATEST WIDTH OF THE CONCRETE WEIR.
D. PERFORATIONS AND STONE SIZES ARE SHOWN IN FIGURE.
E. SHALL BE FIXED BY SPECIFIED MEANS (BOLTS, ETC.) TO CONCRETE OUTLET STRUCTURE.

ALL DISTURBED AREAS SHALL BE VEGETATED IMMEDIATELY AFTER CONSTRUCTION WITH PERMANENT VEGETATION. REFER TO **Ds3 AND Ds4 – DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION) AND DISTURBED AREA STABILIZATION (WITH SODDING) AND Mb – MATTING AND BLANKETS.**

MAINTENANCE

RETROFIT STRUCTURES SHALL BE KEPT CLEAR OF TRASH AND DEBRIS. THIS WILL REQUIRE CONTINUOUS MONITORING AND MAINTENANCE, WHICH INCLUDES SEDIMENT REMOVAL WHEN ONE-THIRD OF THE SEDIMENT STORAGE CAPACITY HAS BEEN LOST. **STRUCTURES ARE TEMPORARY AND SHALL BE REMOVED WHEN DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.**

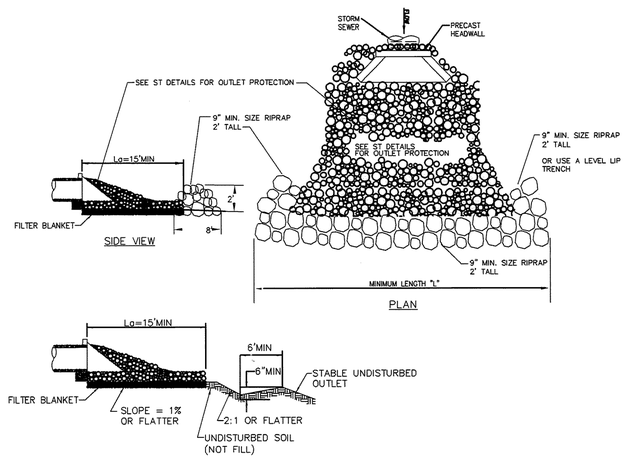
(Rt-P) PERFORATED HALF-ROUND PIPE WITH STONE FILTER (RETROFIT)
NOT TO SCALE

POND C RETROFIT STORAGE CALCULATIONS
TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

Storage Calculations

1. Required stormwater storage = 1,250.00 cf
(as determined by local ordinance)
2. Required sediment storage 21.44 cy = 578.88 cf
(67 cy/ac * 0.32 ac disturbed area)
3. Total required storage 1,250.00 + 578.88 = 1,828.88 cf
(1) + (2) = (3)
4. Available storage = 740.36 cf
5. Is the available storage (4) greater than the total required storage (3)?
____ Yes x No
6. If no, the sediment storage capacity of the pond must be increased. Choose the medthod to be used:
____ Raise the invert of the outlet structure ____ inches
x Undercut the pond 1.00 feet
____ Other
7. Clean-Out Elevation = 982.40 ft
8. Is the length-width ratio 2:1 or greater?
x Yes ____ No
9. If "No", the length of the flow must be increased. Choose the method to be used:
____ Baffles (Type of Baffle: ____ L= ____
____ Other

Note: The CMP Diameter and height if a half-round CMP Retrofit is to be used:
Diameter= 36 inches Height= 2.00 feet



(Lv) LEVEL SPREADER
NOT TO SCALE

DESIGN CRITERIA:

LENGTH:

A SPECIFIC DESIGN FOR LEVEL SPREADERS WILL NOT BE REQUIRED. HOWEVER, SPREADER LENGTH WILL BE DETERMINED BY ESTIMATING THE PEAK STORM FLOW FORM THE 10 YEAR, 24 HOUR STORM OR THE STORM SPECIFIED IN TITLE 12 OF THE OFFICIAL CODE OF GEORGIA ANNOTATED AND SELECTING THE APPROPRIATE LENGTH FROM THE TABLE 6-17.1.

DESIGNED Q10/24 (CFS)	MINIMUM LENGTH "L" (FEET)
UP TO 10	10
11 TO 20	20
21 TO 30	30
31 TO 40	40
41 TO 50	50

LENGTH:

FINAL DISCHARGE WILL BE OVER THE LEVEL LIP ONTO AN UNDISTURBED, STABILIZED AREA. THE OUTLET SHALL BE GENERALLY SMOOTH TO CREATE UNIFORM SHEET FLOW. SEE PLAN FOR LENGTH.

CONSTRUCTION SPECIFICATIONS:

THE MINIMUM ACCEPTABLE WIDTH SHALL BE 6 FEET. THE DEPTH OF THE LEVEL SPREADER AS MEASURED FROM THE LIP SHALL BE AT LEAST 6 INCHES AND THE DEPTH SHALL BE UNIFORM ACROSS THE ENTIRE LENGTH OF THE MEASURE.

THE GRADE OF THE CHANNEL FOR THE LAST 15 FEET OF THE DIKE OR DIVERSION ENTERING THE LEVEL SPREADER SHALL BE LESS THAN OR EQUAL TO 1%.

THE LEVEL LIP SHALL BE CONSTRUCTED ON ZERO PERCENT GRADE TO INSURE UNIFORM SPREADING OF STORM RUNOFF (CONVERTING CHANNEL FLOW TO SHEET FLOW). FOR CALCULATION PURPOSES, A GRADE OF 0.1% MAY BE NEEDED, HOWEVER, THE LEVEL SPREADER SHALL BE INSTALLED AT ZERO PERCENT GRADE.

LEVEL SPREADERS MUST BE CONSTRUCTED ON UNDISTURBED SOIL (NOT FILL).

THE ENTRANCE TO SPREADER SHALL BE GRADED IN A MANNER TO ENSURE THAT RUNOFF ENTERS DIRECTLY ONTO THE ZERO PERCENT GRADED CHANNEL.

STORM RUNOFF CONVERTED TO SHEET FLOW MUST DISCHARGE ONTO UNDISTURBED STABILIZED AREAS.

ALL DISTURBED AREAS SHALL BE VEGETATED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETED. REFER TO SPECIFICATIONS **Ds3 AND Ds4 – DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION AND SODDING),** RESPECTIVELY AND **Mb – MATTING AND BLANKETS.**

MAINTENANCE:

PERIODIC INSPECTION AND MAINTENANCE MUST BE PROVIDED.

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GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 26068 CHRISTOPHER J. FRINK

RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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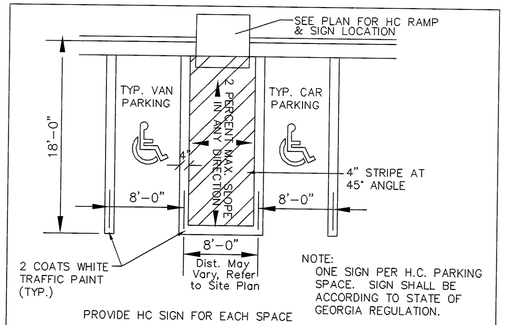
DRAWING TITLE:
EROSION CONTROL DETAILS

PROJECT NUMBER: 06-2534

DATE: 06/15/07

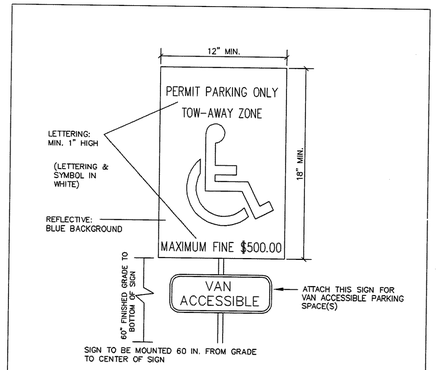
DRAWING NUMBER: **C7.3**

5/15/2007 11:01:23 AM, bill, Xerox Wide Format Print System 721p, 1:1



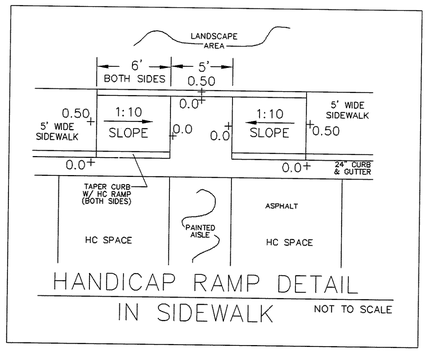
TYPICAL H/C PARKING PAVEMENT STRIPING DETAIL

N.T.S.



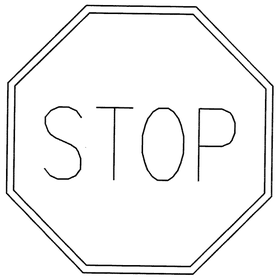
HANDICAP SIGN DETAIL

NOT TO SCALE



HANDICAP RAMP DETAIL IN SIDEWALK

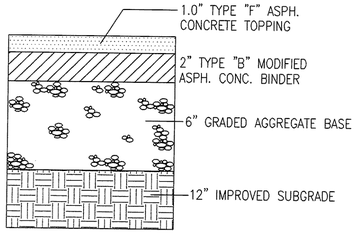
NOT TO SCALE



R1-1
18" x 18"

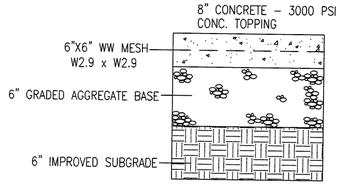
STOP SIGN DETAIL

N.T.S.



TYPICAL ASPHALT PAVING SECTION

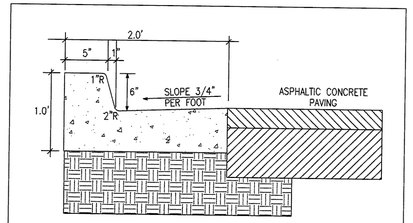
(HEAVY DUTY @ DRIVE AREAS) N.T.S.



8" CONCRETE PAVING SECTION

CONCRETE PAVEMENT NOTES
1. PROVIDE THICKENED EDGE ABUTTING OTHER SURFACES.
2. REFER TO LAYOUT PLAN FOR JOINT LOCATIONS AND FINISH DETAILS.

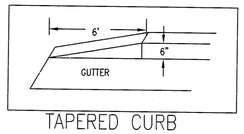
PAVEMENT NOTES:
1. THE GRADED AGGREGATE BASE SHALL BE COMPACTED TO 100% OF STANDARD PROCTOR DENSITY (ASTM D698).
2. ALL CONSTRUCTION METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES", DEPARTMENT OF TRANSPORTATION, STATE OF GEORGIA. THE APPLICABLE GEORGIA D.O.T. SPECIFICATIONS FOR THE MATERIALS AND METHODS USED ARE AS FOLLOWS:
   GRADED AGGREGATE BASE – 815/310
   ASPHALTIC CONCRETE – 828/400
   PORTLAND CEMENT CONCRETE – 800/801/830/430
3. ALL SOIL AND STONE SUBGRADES SHOULD BE EVALUATED BY THE GEOTECHNICAL ENGINEER PRIOR TO STONE AND ASPHALT PLACEMENT.
4. REFER TO SPECIFICATIONS AND DRAWINGS.
5. ALL SITE WORK AND PAVING MUST BE IN ACCORDANCE WITH OR SURPASS RECOMMENDATIONS OF SOILS REPORT. IF SOILS REPORT CONFLICTS WITH DRAWINGS AND SPECIFICATIONS, THE MORE PROHIBITIVE OF THE TWO SHALL TAKE PRECEDENCE AND BE CONSIDERED TO BE THE INTENT OF THE BID DOCUMENTS.
6. ALL FILL ON THE PROPERTY SHALL BE ADEQUATELY COMPACTED BY ROLLING TO PRODUCE A SURFACE SATISFACTORY FOR THE PROPER INSTALLATION OF BASE COURSE AND PAVING. BEFORE PAVING WORK, THE PAVING CONTRACTOR MUST BE CERTAIN THAT THE SURFACES TO BE COVERED ARE IN PROPER CONDITIONS. SURFACE NOT ACCEPTABLE SHALL BE REPORTED TO THE OWNER IMMEDIATELY. THE APPLICATION OF PAVING MATERIALS SHALL BE HELD AS ACCEPTANCE OF THE SURFACES AND WORKING CONDITIONS BY THE PAVING CONTRACTOR WHO WILL BE HELD RESPONSIBLE FOR PRODUCING THE REASONABLE RESULTS EXPECTED.
7. THESE NOTES REPRESENT MINIMUM SPECIFICATIONS, FOLLOW CITY STANDARDS AND SOILS INVESTIGATION FOR ALL PAVEMENT WORK.



CONCRETE CURB & GUTTER

N.T.S.

NOTE: 1. ON UPHILL SIDE SLOPE OF GUTTER TO FOLLOW PAVEMENT GRADE.
2. .5" PREFORMED EXPANSION JOINTS REQUIRED AT ALL STRUCTURES & RADIUS POINTS.
3. MAXIMUM DISTANCE BETWEEN EXPANSION JOINTS = 40.0'
4. DISTANCE BETWEEN DUMMY JOINTS = 10.0'
5. CONCRETE STRENGTH = 3000 P.S.I., SLUMP = 2" MAX. FINISH SHALL BE SMOOTHED & EVENED WITH WOODEN FLOAT.



TAPERED CURB

N.T.S.

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GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 25058 06-15-07 CHRISTOPHER J. FINK

RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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DRAWING TITLE:

CONSTRUCTION DETAILS

PROJECT NUMBER:

06-2534

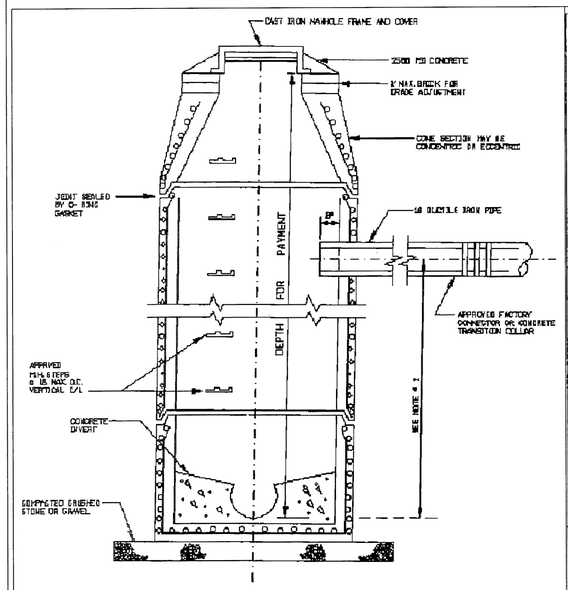
DATE:

06/15/07

DRAWING NUMBER:

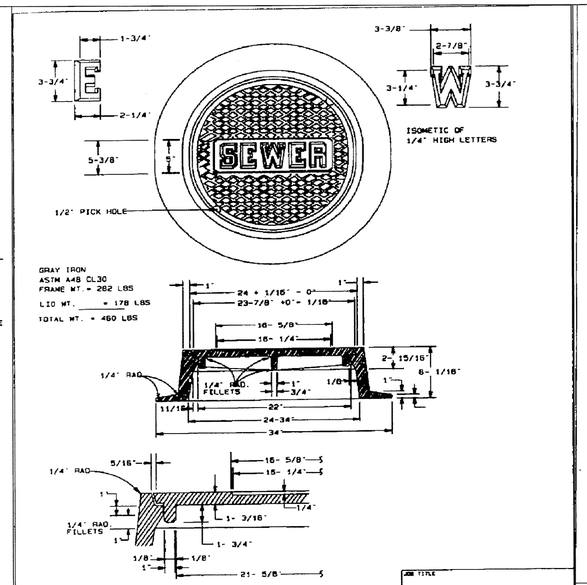
C8.0

9/15/2007 11:00:43 AM, bf, Xerox Wide Format Print System 721p, 1:1



NOTES:
1. WHERE NECESSARY TO CONSTRUCT MANHOLE OVER EXISTING SEWER, 9" THICK CONCRETE POURED-IN-PLACE FOOTING MAY BE USED IN LIEU OF PRECAST BOTTOM SECTION
2. WHERE DROP FROM INVERT OF MANHOLE TO INVERT OF INFLUENT PIPES EXCEEDS 2'-0", AN OUTSIDE DROP SHALL BE REQUIRED EXCEPT WHEN ENGINEER SPECIFICALLY APPROVES ITS ELIMINATION.

STANDARD PRECAST MANHOLE

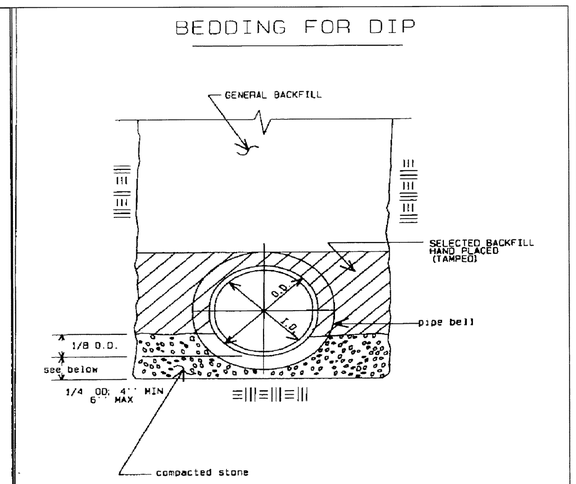


TYPICAL "A" MANHOLE RING & COVER

DEKALB COUNTY PUBLIC WORKS DEPARTMENT - 1580 ROADHAVEN DR - STN. MTN, GA 30083

WATER & SEWER	C.L.	DIST.	ACCOUNT NUMBER	BOND/PROJECT NUMBER	SCALE NTS	DATE 3-17-97	DRAWN CAM	CHK'D	APPROVED

JOB TITLE
SHEET TITLE: TYPICAL "A" MANHOLE RING & COVER

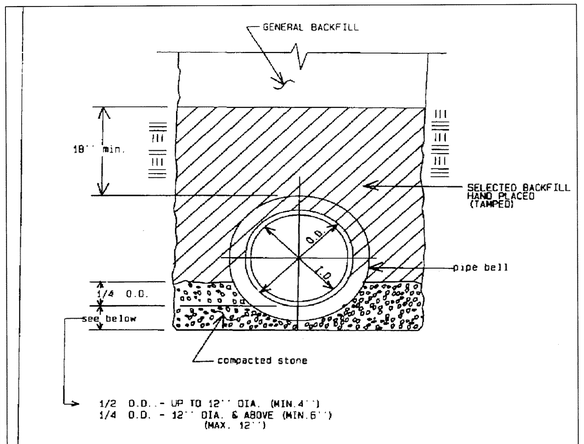


TYPE 4 BEDDING (MINIMUN REQUIRED)

DEKALB COUNTY PUBLIC WORKS DEPARTMENT - 1580 ROADHAVEN DR - STN. MTN, GA 30083

WATER & SEWER	C.L.	DIST.	ACCOUNT NUMBER	BOND/PROJECT NUMBER	SCALE NTS	DATE 3-17-97	DRAWN CAM	CHK'D	APPROVED

JOB TITLE
SHEET TITLE: TYPE 4 BEDDING (MINIMUM REQUIRED)



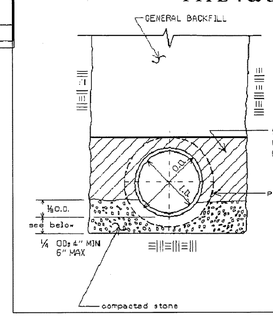
CLASS "C" BEDDING

DEKALB COUNTY PUBLIC WORKS DEPARTMENT - 1580 ROADHAVEN DR - STN. MTN, GA 30083

WATER & SEWER	C.L.	DIST.	ACCOUNT NUMBER	BOND/PROJECT NUMBER	SCALE NTS	DATE 3-17-97	DRAWN CAM	CHK'D	APPROVED

JOB TITLE
SHEET TITLE: CLASS "C" BEDDING

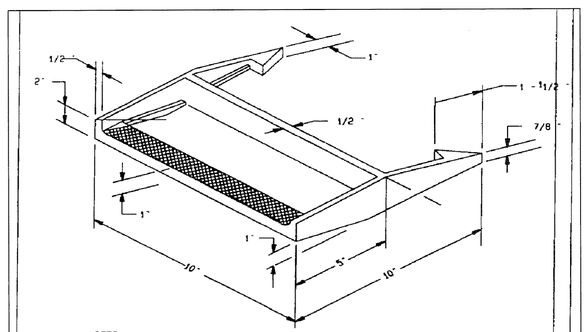
TYPE 4 & 5 BEDDING D.I.P.



BEDDING FOR DIP

TYPE 4 BEDDING (MINIMUM REQUIRED)

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY NORMAL AND SELECTED BACKFILL MATERIALS INCLUDING SUBGRADE AT NO ADDITIONAL COST TO THE COUNTY. ALL COSTS ASSOCIATED WITH THE WORK ARE INCLUDED IN THE PRICE BID FOR OTHER ITEMS. NO CLAIMS WILL BE CONSIDERED FOR EXTRA COMPENSATION.



NOTES:
1. STEPS MAY BE CAST IRON, PLASTIC OR ALUMINUM.
2. MINIMUM DESIGN LIVE LOAD SHALL BE A SINGLE CONCENTRATED LOAD OF 300LBS.
3. STEPS SHALL BE A MINIMUM OF 10" WIDE, EMBEDDED A MINIMUM OF 3" AND PROJECT MINIMUM CLEAR DISTANCE OF 4".
4. MAXIMUM VERTICAL SPACING SHALL BE 16" IN THE COMPLETED MANHOLE.

TYPICAL MANHOLE STEP

DEKALB COUNTY PUBLIC WORKS DEPARTMENT - 1580 ROADHAVEN DR - STN. MTN, GA 30083

WATER & SEWER	C.L.	DIST.	ACCOUNT NUMBER	BOND/PROJECT NUMBER	SCALE NTS	DATE 3-17-97	DRAWN CAM	CHK'D	APPROVED

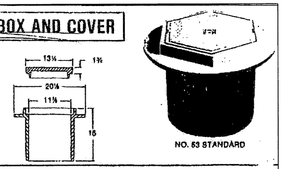
JOB TITLE
SHEET TITLE: TYPICAL MANHOLE STEP

USF 7635 SEWER VALVE BOX AND COVER

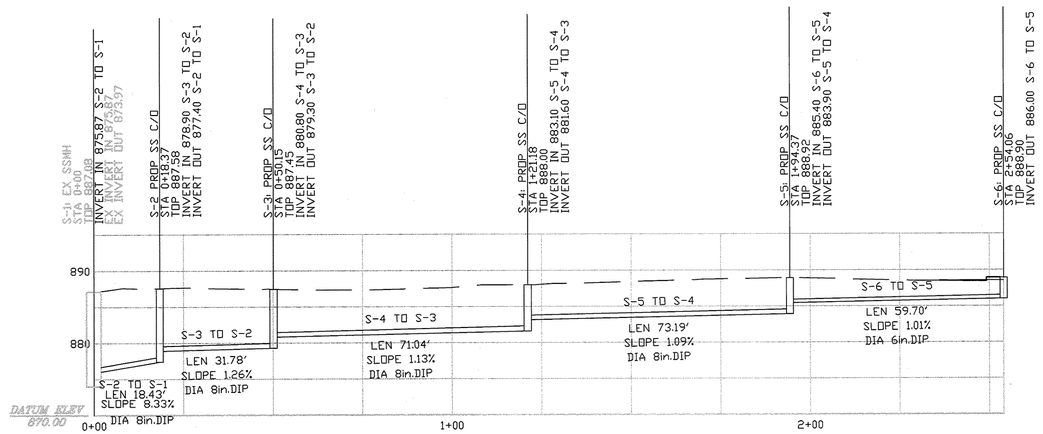
STANDARDS AND SPECIFICATIONS:
1. Cover is marked "S".

TO ORDER:
1. Specify USF number and cover type.

COVER TYPE	LOAD RATING	COVER WEIGHT	TOTAL WEIGHT
F2	HEAVY DUTY	55	230



—ALWAYS SPECIFY USF NUMBER—



SANITARY SEWER S

GEORGIA REGISTERED PROFESSIONAL ENGINEER 06-26-07 No. 22055 CHRISTOPHER M. WITTSCHIEBE

RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS ADDITION AND RENOVATION

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1	6-26-07	PERMIT REVISIONS

DRAWING TITLE:
SANITARY SEWER DETAILS

PROJECT NUMBER:
06-2534

DATE:
06/15/07

DRAWING NUMBER:
C9.0

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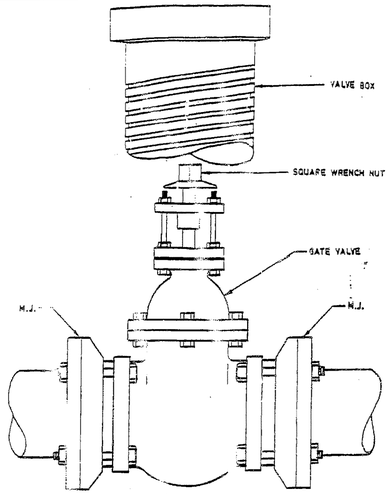
4:\2006\03BS\06-2534 ASHRAE\B\06-2534 D01.dwg, SEWER, 6/26/2007 8:05:24 AM, mth, 1:1, user defined field1



DEKALB COUNTY DEPARTMENT OF PUBLIC WORKS
WATER & SEWER
1580 ROADHAVEN DRIVE • STONE MOUNTAIN, GA. 30083

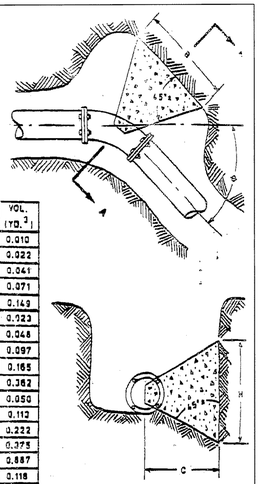
STANDARD DRAWING

TYPICAL GATE VALVE INSTALLATION

DRAWING NUMBER 7 | N/A | N/A | N.T.S. | 11-10-97

REVISED 8-24-92

NOTE:
DIMENSIONS OF THRUST BLOCKS WERE CALCULATED ASSUMING A STATIC PRESSURE OF 250 PSI AND A SOIL BEARING PRESSURE OF 2,000 PSF.



Φ	DIA.	B (FT.)	H (FT.)	C (FT.)	VOL. (YD.³)
11-1/4	6	0.9	0.3	0.45	0.010
	8	1.2	1.1	0.60	0.022
	10	1.5	1.3	0.75	0.041
	12	1.8	1.8	0.90	0.071
	16	2.3	2.2	1.15	0.149
22-1/2	6	1.0	1.1	0.55	0.023
	8	1.5	1.6	0.80	0.048
	10	2.1	1.9	1.05	0.097
	12	2.5	2.3	1.25	0.165
	16	3.3	3.0	1.65	0.362
45	6	1.7	1.6	0.85	0.050
	8	2.2	2.2	1.10	0.112
	10	2.8	2.7	1.40	0.222
	12	3.3	3.3	1.65	0.375
	16	4.5	4.3	2.25	0.887
90	6	2.3	2.2	1.15	0.118
	8	3.1	2.9	1.55	0.278
	10	3.8	3.7	1.90	0.530
	12	4.6	4.4	2.30	0.921
	16	6.1	5.9	3.05	2.142
TEES	6	2.1	1.8	1.00	0.072
	8	2.6	2.5	1.30	0.170
	10	3.2	3.1	1.60	0.319
	12	3.9	3.7	1.95	0.565
	16	5.1	5.0	2.55	1.333

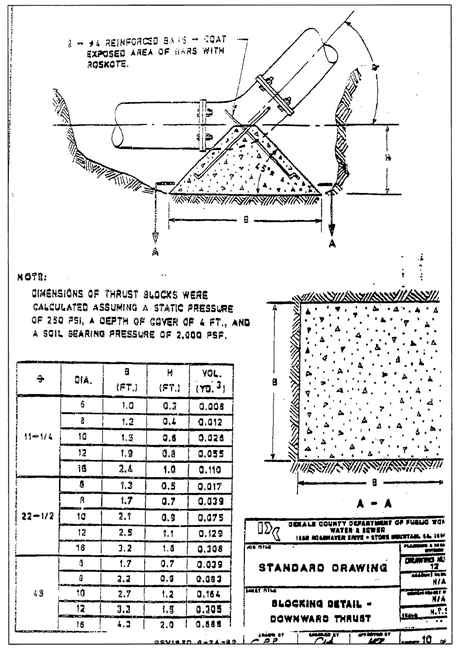
REVISED 8-24-92

DEKALB COUNTY DEPARTMENT OF PUBLIC WORKS
WATER & SEWER
1580 ROADHAVEN DRIVE • STONE MOUNTAIN, GA. 30083

STANDARD DRAWING

BLOCKING DETAIL - HORIZONTAL THRUST

DRAWING NO. 9 | N/A | N/A | N.T.S. | 9



NOTE:
DIMENSIONS OF THRUST BLOCKS WERE CALCULATED ASSUMING A STATIC PRESSURE OF 250 PSI, A DEPTH OF COVER OF 4 FT., AND A SOIL BEARING PRESSURE OF 2,000 PSF.

Φ	DIA.	B (FT.)	H (FT.)	VOL. (YD.³)
11-1/4	6	1.0	0.3	0.006
	8	1.2	0.4	0.012
	10	1.3	0.6	0.024
	12	1.9	0.8	0.055
	16	2.4	1.0	0.110
22-1/2	6	1.3	0.5	0.017
	8	1.7	0.7	0.039
	10	2.1	0.9	0.075
	12	2.5	1.1	0.129
	16	3.2	1.4	0.308
45	6	1.7	0.7	0.039
	8	2.2	0.9	0.083
	10	2.7	1.2	0.164
	12	3.3	1.5	0.305
	16	4.3	2.0	0.688

DEKALB COUNTY DEPARTMENT OF PUBLIC WORKS
WATER & SEWER
1580 ROADHAVEN DRIVE • STONE MOUNTAIN, GA. 30083

STANDARD DRAWING

BLOCKING DETAIL - DOWNWARD THRUST

DRAWING NO. 10 | N/A | N/A | N.T.S. | 10

REVISED 8-24-92

DEKALB COUNTY
DEPARTMENT OF PUBLIC WORKS
WATER AND SEWER
BACKFLOW PREVENTION
"a community environmental health protection program"

MINIMUM CONTAINMENT PROTECTION REQUIREMENT
NEW CONSTRUCTION and RETROFIT INSTALLATIONS
METER SIZES: through 2" ** SERVICE SIZE: through 2"
DOUBLE CHECK VALVE (DCV) ASSEMBLY

SPECIFICATIONS: The CUSTOMER/OWNER shall furnish and install a DOUBLE CHECK VALVE (DCV) BACKFLOW PREVENTER (BFP) in a size to match that of the required service meter. The DCV BFP assembly shall include a full port ball valve on the inlet and outlet sides with a union or swivel coupling nut between the device and each valve. The device shall have three ball valve test cocks in the vertical position fitted with brass or plastic plugs. A fourth test cock shall be provided on the upstream side of the inlet shut-off valve. All components of the assembly shall be equivalent to bronze or stainless steel construction and assembled with bolts that are resistant to electrolysis. Access to both checking devices shall be by top and/or side entry for maintenance and repair of all interior parts. Valve handles shall turn up to close and inboard (90 degrees) to open.

NOTE: All components of the assembly shall be certified by a nationally recognized testing laboratory. The DCV device shall have current approval from the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USC-FCCCHR). Assembly to be individually factory tested, shipped and installed as a unit.

INSTALLATION INSTRUCTIONS: The DCV BFP assembly shall not be buried in earth but installed in a utility box adjacent to or as close as practical to the outlet side of the meter installation. This assembly must be centered in the enclosure. Under NO circumstances will any connection be allowed between the service meter and a BFP used for system containment unless this connection is protected by an approved BFP. On the reverse side of these instructions you will find an excerpt from the Georgia State Plumbing Code on Thermal Expansion.

APPROVED UTILITY BOXES: (or equivalent)
Carson Industries. . . . . Model No. 1324CP2PGWL
CDR Systems Corp . . . . . Model No. WA101324-18
Brooks Products, Inc . . . . . Model No. 1324

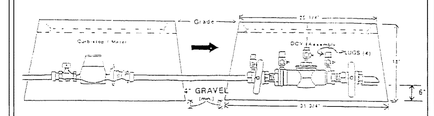
DEVICE TESTING: All DCV assemblies shall be tested at time of installation and at least ANNUALLY thereafter. Contact Richard Davies, Cross-Connection Control Specialist, at 770-936-5400 for installation inspections and device tests.

APPROVED DEVICES: (or equivalent)

Conbraco:	40-100 3/4",1", 1 1/2", 2" (with unions)
Febco:	805Y 3/4" - 1", 1 1/2", 2" (with unions)
Hersey:	FDC - 3/4", 1", 1 1/2", 2" (with unions)
Watts:	U-007-QT - 3/4", 1", 1 1/2", 2"
Wilkens:	950XLY - 3/4", 1", 1 1/2", 2"

Instructions and illustrations continued on reverse side.

TYPICAL UTILITY BOX INSTALLATION



Note: For final approval assembly must be centered in utility box.

*** SPECIAL CAUTION ***

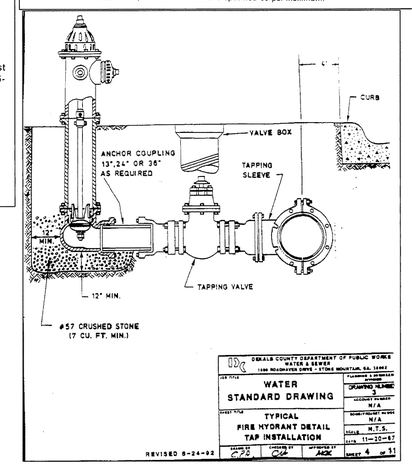
GEORGIA STATE PLUMBING CODE

Section 1112.8 Thermal Expansion

(a) When water is heated in a distribution system or branch of the system that has been closed by the installation of a backflow preventer, a pressure reducing valve, or any other checking device, an approved auxiliary relief valve shall be installed at an accessible location downstream from the check device to limit thermal expansion of the heated water to not more than 80 psi no-flow pressure at any fixture on the system. A discharge line not less than 1/4 inch inside diameter shall be piped to an approved location where no water damage would result from the discharge, and any water in the discharge pipe would drain by gravity, and be protected from freezing.

(b) The auxiliary relief valve shall be in addition to the water heater safety relief valve. This thermal expansion control device shall be designed and trimmed for repeated operation. The valve shall be a minimum 1/2 inch pipe size, shall be adjustable and calibrated, and shall include a tag describing its function. The maximum adjustable range of the thermal expansion valve shall be not more than 125 pounds (psi). The maximum setting of the calibrated relief valve shall provide not more than 80 pounds static (no-flow) pressure at any fixture in the system, but in no case shall the setting be less than 25 pounds below that of the water heater safety relief valve.

EXCEPTION: In lieu of the above auxiliary relief valve, an approved precharged expansion chamber that is permanently separated from the water may be used. The chamber shall have a rated working pressure not less than the pressure setting of the water heater safety relief valve, and a corresponding temperature rating not less than 210° F. The chamber shall have the capacity to limit thermal expansion pressure to the above specified 80 psi maximum.



DEKALB COUNTY DEPARTMENT OF PUBLIC WORKS
WATER & SEWER
1580 ROADHAVEN DRIVE • STONE MOUNTAIN, GA. 30083

WATER STANDARD DRAWING

TYPICAL FIRE HYDRANT DETAIL TAP INSTALLATION

DRAWING NUMBER 3 | N/A | N/A | N.T.S. | 11-10-97 | SHEET 4 OF 11

REVISED 8-24-92

FIG. 1 COMPLETED JOINT BEFORE OFFSET

FIG. 2 COMPLETED JOINT AFTER OFFSET

TYPE JOINT	PIPE SIZE	PIPE LENGTH	MAXIMUM ANGLE DEFLECTION	MAXIMUM OFFSET	RADIUS OF CURVATURE
SLIP	6"	18'	5°	19.0"	229'
MJ	6"	18'	5°	19.0"	229'
SLIP	16"	12'	4°	10.0"	179'
SLIP	16"	18'	4°	15.0"	269'

NOTE:
ALL JOINTS MUST BE ASSEMBLED AS SHOWN IN FIG. 1 BEFORE MAKING OFFSETS.

DEKALB COUNTY DEPARTMENT OF PUBLIC WORKS
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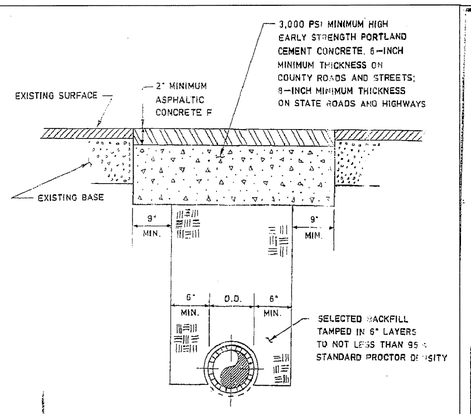
WATER STANDARD DRAWING

MAXIMUM ALLOWABLE OFFSETS AND DEFLECTIONS

DRAWING NO. 2 | N/A | N/A | N.T.S. | 11-10-97

REVISED 8-24-92



NOTES:
1. SAW CUT EXISTING PAVEMENT TO PROVIDE STRAIGHT VERTICAL JOINTS.
2. SURFACES TO BE CLEANED AND BITUMINOUS TACK COAT APPLIED BEFORE PLACEMENT OF ASPHALTIC TOP.
3. ON LONGITUDINAL CUTS EXCEEDING 150 FEET, THE CONCRETE IN THE TRENCH SHALL BE BROUGHT FLUSH WITH THE EXISTING PAVEMENT AND THE ENTIRE WIDTH OF ROADWAY RESURFACED WITH A 1-1/2"-INCH MINIMUM THICKNESS OF ASPHALTIC CONCRETE TYPE "F".

DEKALB COUNTY DEPARTMENT OF PUBLIC WORKS
WATER & SEWER
1580 ROADHAVEN DRIVE • STONE MOUNTAIN, GA. 30083

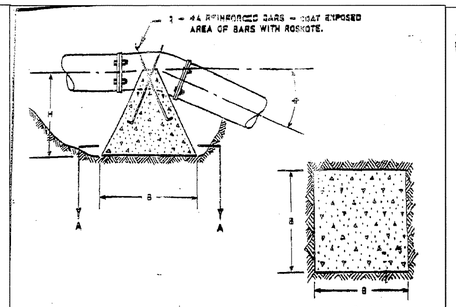
STANDARD DRAWING

TYPICAL PAVEMENT PATCH

LAND LOT N/A | DISTRICT N/A | DRAWING NUMBER 11 | SCALE N.T.S. | DATE 10-27-97

DRAWN BY BR | CHECKED BY GRM | APPROVED BY HEC | SHEET 1 OF 1

REV. 10-27-97



Φ	DIA.	B (FT.)	H (FT.)	VOL. (YD.³)
11-1/4	6	3.0	2.2	0.4
	8	3.5	2.4	0.6
	10	4.0	3.2	1.0
	12	4.5	3.5	1.4
	16	5.0	4.0	2.4
22-1/2	6	3.5	2.9	0.7
	8	4.0	3.9	1.2
	10	4.5	4.8	1.9
	12	5.5	4.8	2.7
	16	6.5	5.9	4.8
45	6	4.5	3.4	1.3
	8	5.0	4.6	2.2
	10	5.0	5.1	3.5
	12	6.5	5.2	5.0
	16	8.0	7.2	8.8

NOTES:
1. VOLUME WAS CALCULATED NEGLECTING WEIGHT OF FITTING, WATER, AND BACKFILL, AND A STATIC PRESSURE OF 250 PSI.
2. DIMENSIONS OF BLOCK WERE CALCULATED ASSUMING A SOIL BEARING PRESSURE OF 2,000 POUNDS PER SQUARE FOOT.
3. DIMENSIONS SHOWN CAN BE VARIED AS FIELD CONDITIONS DICTATE, BUT IT IS IMPORTANT THAT THE CORRECT VOLUME AS SHOWN IN THE TABLE BE USED AND THAT ALLOWABLE SOIL BEARING PRESSURE NOT BE EXCEEDED.

DEKALB COUNTY DEPARTMENT OF PUBLIC WORKS
WATER & SEWER
1580 ROADHAVEN DRIVE • STONE MOUNTAIN, GA. 30083

STANDARD DRAWING

BLOCKING DETAIL - UPWARD THRUST

DRAWING NO. 11 | N/A | N/A | N.T.S. | 11-10-97

DEKALB COUNTY
DEPARTMENT OF PUBLIC WORKS
WATER AND SEWER
BACKFLOW PREVENTION
"a community environmental health protection program"

MINIMUM CONTAINMENT PROTECTION REQUIREMENT
NEW CONSTRUCTION and RETROFIT INSTALLATIONS
NONHAZARDOUS (DEDICATED) FIRE LINE SERVICE CONNECTION
DOUBLE DETECTOR CHECK (DDC) VALVE ASSEMBLY

SPECIFICATIONS: The CUSTOMER/OWNER shall furnish and install a DOUBLE DETECTOR CHECK (DDC) BACKFLOW PREVENTER (BFP) assembly in a size to match that of the required fire line service connection. The device shall have a metered 3/4" by-pass line as shown on the illustration. The DDC BFP assembly shall be provided with a resilient seated outside stem and yoke flanged gate valve near the inlet and outlet sides of the device. The device shall be provided with three brass ball valve test cocks fitted with brass or plastic threaded plugs. A fourth test cock shall also be provided on the upstream side of the inlet shut-off valve. The metered by-pass line on the assembly shall include a bronze detector meter and a double check valve (DCV) BFP. The device and valve bodies shall be equivalent to cast iron, coated inside and out with FDA approved fused epoxy coating and assembled with bolts that are resistant to electrolysis. All interior components of the checking devices shall be equivalent to bronze or stainless steel construction and be accessible by top entry for maintenance and repair.

NOTE: All components of the assembly shall be classified or listed by the Underwriters Laboratories and Factory Mutual Insurance. The checking devices shall have approvals and conform to all current requirements of the University of Southern California, Foundation for Cross Connection Control and Hydraulic Research (USC-FCCCHR), be individually factory tested, shipped and installed as a unit.

INSTALLATION INSTRUCTIONS: The DDC BFP assembly shall not be buried in earth but installed below ground as in a concrete vault and as close as practical to the property line of the premises.
Note: Under NO circumstances will any connection be allowed on the system other than for fire fighting or fire protection purposes.

DEVICE TESTING: All DDC assemblies shall be tested at time of installation and at least annually thereafter.

APPROVED DEVICES: (or equivalent)

Ames:	3000 SE DCDA	3", 4", 6", 8"
Conbraco:	40-500 DCDA	3", 4", 6", 8", 10"
Febco:	856 DCDA	3", 4", 6", 8"
Hersey:	DDC-II	3", 4", 6", 8", 10"
Watts Regulator:	709 DCDA	3", 4", 6", 8", 10"
Wilkens:	950DA	3", 4", 6", 8", 10"

Instructions and illustrations continued on reverse side.

PERMITS, PLAN APPROVALS and INSPECTIONS: Must be obtained and scheduled prior to work through DeKalb County, Department of Public Works. Contact Richard Davies, Cross-Connection Control Specialist, at 770-936-5400 for installation inspection and device testing.

VAULT SPECIFICATIONS

(1) VAULT SHALL BE PRECAST REINFORCED CONCRETE WITH A MINIMUM THICKNESS OF AT LEAST 6".

(2) VAULT BOTTOM 4" POURED CONCRETE SLAB, SLOPED TO GRAVEL SUMP (4"X4"). SLAB TO BE POURED ON 12" OF NO.57 COMPACTED STONE.

(3) VAULT TOP SHALL BE REINFORCED CONCRETE WITH 36"X36" ACCESS OPENING, OFFSET TO ONE SIDE.

(4) ACCESS LADDER DOWELED TO WALL AND CENTERED AT ACCESS OPENING.

(5) HATCH COVER: BILCO-ALUMINUM SINGLE MODEL KJ-4AL OR EQUIVALENT.

(6) VAULT INLET/OUTLET PIPE OPENINGS TO BE SEALED WITH GROUT OR MORTAR; PIPE MUST NOT SUPPORT VAULT.

(7) BFP DEVICE TO BE SUPPORTED AT TWO POINTS WITH PIPE STAND.

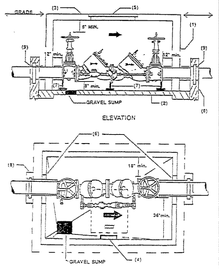
(8) THRUST BLOCKING (as required) SHALL BE IN ACCORDANCE WITH COUNTY SPECIFICATIONS.

(9) THRUST TIE RODS SHALL BE BITUMASTIC COATED AND ALL PIPE AND FITTINGS OF DUCTILE IRON.

(10) VAULT TO BE INSTALLED ON OWNER'S PRIVATE PROPERTY.

(11) ALL MATERIALS TO BE FURNISHED BY THE CUSTOMER/OWNER.

TYPICAL VAULT INSTALLATION
(Minimum clearance dimensions)



GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 22058 CHRISTOPHER J. PRIME

RICHARD • WITTSCHIEBE

ASHRAE HEADQUARTERS ADDITION AND RENOVATION

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DRAWING TITLE:
WATERLINE DETAILS

PROJECT NUMBER:
06-2534

DATE:
06/15/07

DRAWING NUMBER:
C10.0

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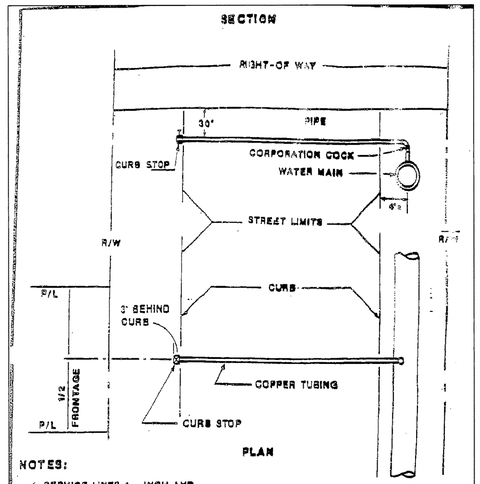


NOTES:

1. SERVICE LINES 1 INCH AND SMALLER WILL NORMALLY BE INSTALLED USING COPPER TUBING WITH FLARED JOINT FITTINGS.
2. 1 1/2 INCH SERVICE LINES WILL NORMALLY BE INSTALLED USING GALVANIZED PIPE WITH SCREWED JOINT.
3. LARGER SERVICE LINE MATERIAL WILL BE AS SPECIFIED ON THE DRAWINGS.

DEKALB COUNTY PUBLIC WORKS DEPARTMENT
WATER AND SEWER
1580 ROADHAVEN DRIVE - STONE MOUNTAIN, GA. 30083

JOB TITLE: STANDARD DRAWING
DRAWING NUMBER: 9
SHEET TITLE: TYPICAL SERVICE LINE INSTALLATION
SCALE: N=T=S
DATE: 11-4-88
SHEET 8 OF 11

DEKALB COUNTY
DEPARTMENT OF PUBLIC WORKS
WATER AND SEWER
BACKFLOW PREVENTION

"a community environmental health protection program"

CONTAINMENT PROTECTION REQUIREMENT

NEW CONSTRUCTION and RETROFIT INSTALLATIONS
HAZARDOUS

METER SIZES 3/4" Through 2" " SERVICE SIZE through 2"

REDUCED PRESSURE ZONE BACKFLOW PREVENTER

SPECIFICATIONS: The CUSTOMER/OWNER shall furnish and install a REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTER (BFP) assembly in a size to match that of the water service line. The RPZ BFP assembly shall include a full port ball valve on the inlet and outlet sides with a union between the device and each ball valve. The device shall have three ball valve test cocks in an accessible position fitted with brass or plastic plugs. A fourth test cock shall be provided on the upstream side of the inlet shut-off valve. A strainer shall be installed immediately upstream of the BFP, unless the BFP is directly downstream of the meter. All components of the assembly shall be equivalent to bronze or stainless steel construction and assembled with bolts that are resistant to electrolysis.

NOTE: All components of the assembly shall be certified by a nationally recognized testing laboratory. The RPZ BFP shall have current approval from the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USC-FCCCHR). Assembly to be individually factory tested, shipped and installed as a unit.

INSTALLATION INSTRUCTIONS: The RPZ BFP assembly shall not be installed below ground. If installed outdoors, an above ground enclosure must be provided for protection from freezing temperatures. Indoor installations shall be readily accessible for testing and maintenance and may not be installed any higher than six feet from the floor. Where relief zone discharge could cause water damage an approved drain with air gap may be installed. No connection will be allowed between the service meter and a BFP used for system containment unless this connection is protected by an approved BFP.

CAUTION: Section, 1112.8 of the Georgia State Plumbing Code on thermal expansion (combined 1984 and 1987 amendments), should be incorporated in the design of installations and duly noted on all applicable drawings prior to the installation of any inline checking device(s).

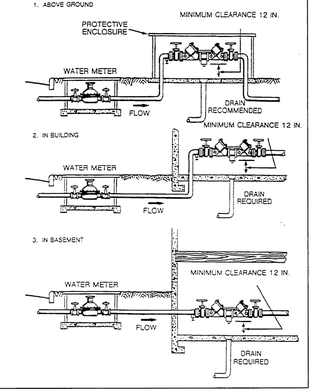
DEVICE TESTING: All RPZ assemblies shall be tested at the time of installation and at least annually thereafter. Contact Richard Davies, Cross-Connection Control Specialist, at 770-936-5400 for installation inspections and device tests.

Approved devices and illustrations continued on reverse side.

APPROVED DEVICES: (or equivalent)

Conbraco:	40-200 - 3/4", 1", 1 1/2", 2"
Febco:	825Y, 825YA - 3/4", 1", 1 1/2", 2"
Hersey:	FRP2 - 3/4", 1", 1 1/2", 2"
Watts:	U009QT - 3/4", 1", 1 1/2", 2" U909QT - 3/4", 1", 1 1/2", 2"
Wilkens:	975XLU - 3/4", 1", 1 1/2", 2"

Approved Installation of Reduced-Pressure-Principle Device



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GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 26058 CHRISTOPHER L. HUNT

RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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DRAWING TITLE:

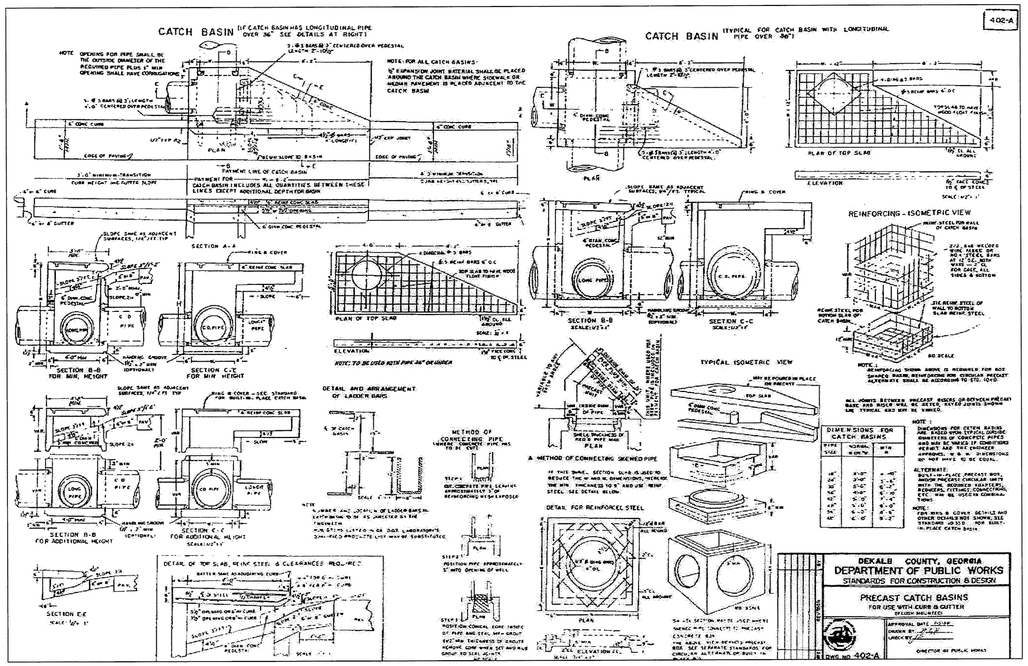
WATERLINE DETAILS

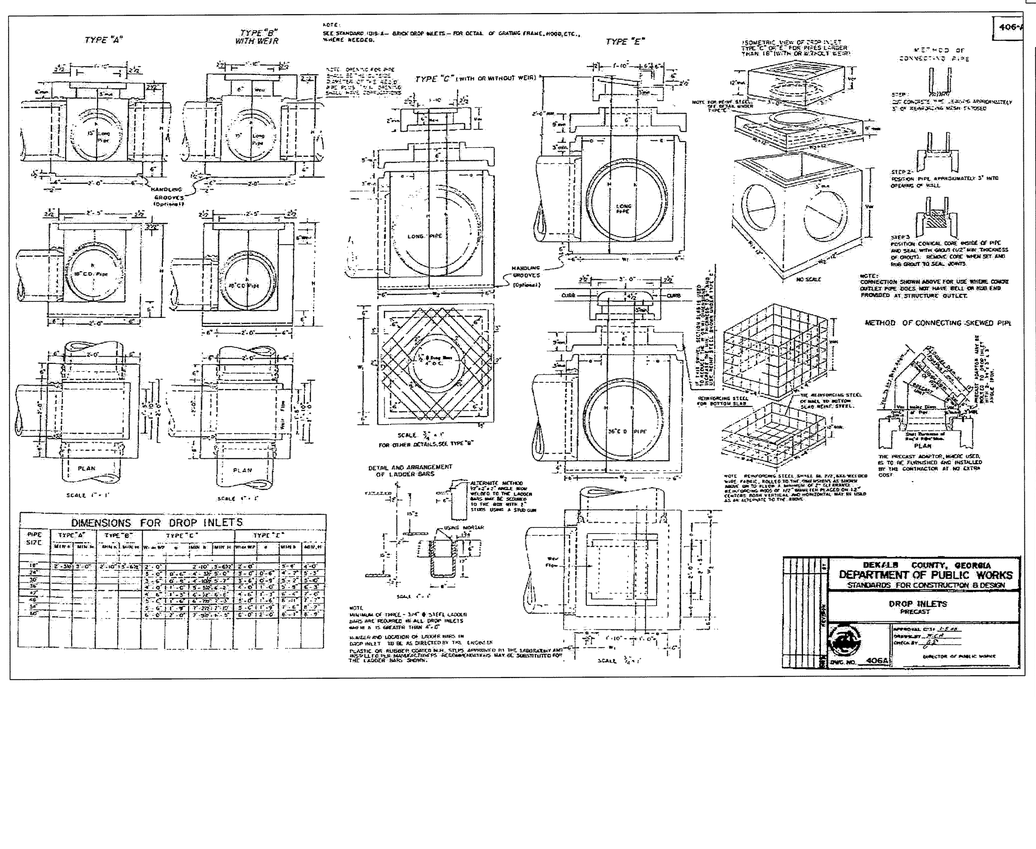
PROJECT NUMBER: 06-2534

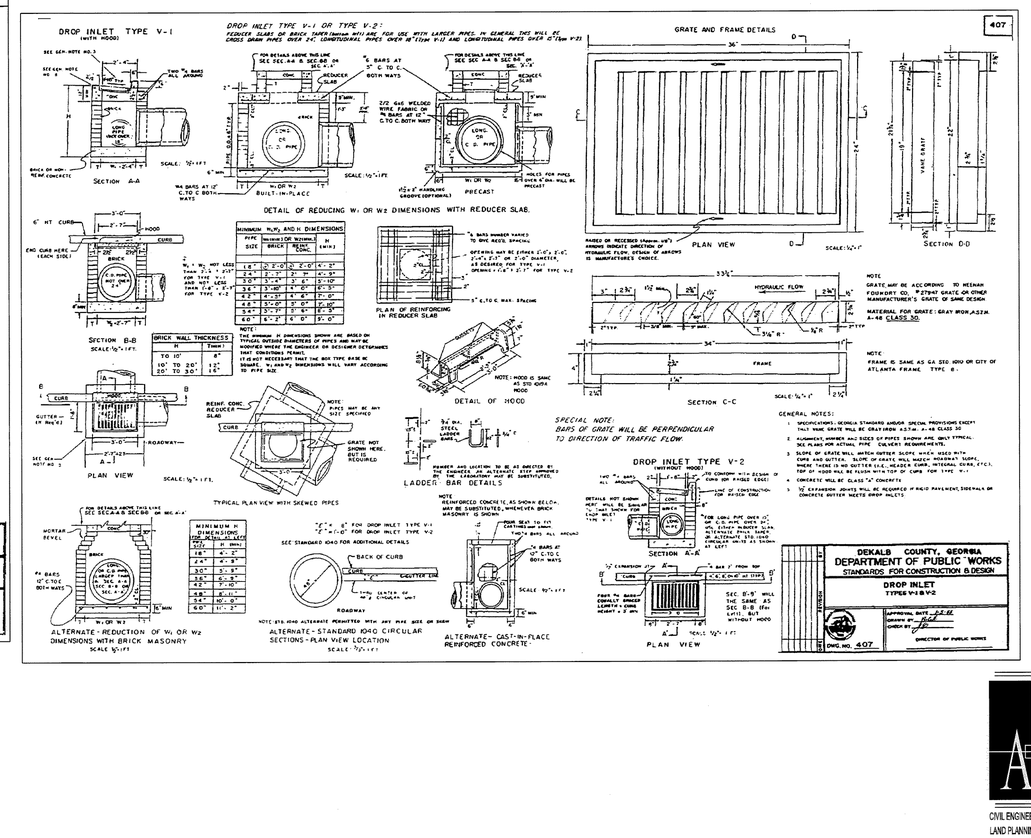
DATE: 06/15/07

DRAWING NUMBER:

C10.1







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ASHRAE HEADQUARTERS ADDITION AND RENOVATION

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NO.	DATE	REVISION

DRAWING TITLE:

STORM DRAINAGE DETAILS

PROJECT NUMBER: 06-2534

DATE: 06/15/07

DRAWING NUMBER:

C11.0

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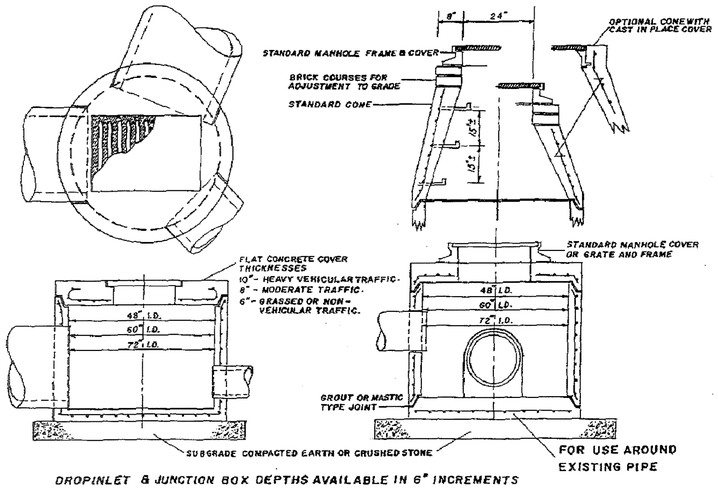
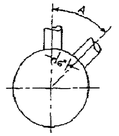
408

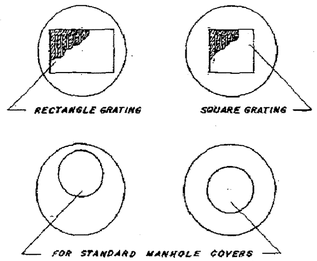


DROPINLET & JUNCTION BOX DEPTHS AVAILABLE IN 6" INCREMENTS

METHOD OF PIPE LAYOUT



ANGLE A					
4'-0" BASE		5'-0" BASE		6'-0" BASE	
PIPE SIZE	A	PIPE SIZE	A	PIPE SIZE	A
12	43°	12	40°		
15	52°	15	47°		
18	60°	18	55°		
21	67°	21	63°		
24	75°	24	70°		
		27	79°		
		30	86°		
		36	115°		
		42	140°	42	90°
				48	115°



STANDARD PRECAST FLAT TOPS

NOTE:

SUBGRADE TO BE COMPACTED TO 95% STANDARD PROCTOR

REINFORCEMENT STEEL TO BE PLACED TO ALLOW A MINIMUM OF 2" CLEARENCE, EXCEPT WHERE NOTED.

REINFORCEMENT STEEL SHALL BE OF INTERMEDIATE GRADE AND SHALL BE 0.12 SQ.IN. PER FT. IN BOTH DIRECTIONS IN ACCORDANCE WITH A.S.T.M. C 478-67 MANHOLE SPECIFICATIONS

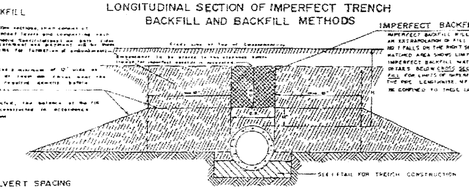
ALL CONCRETE SHALL BE 4,000 P.S.I.

REVISIONS		DEPTS. of ROADS & DRAINAGE and DEVELOPMENT DEKALB COUNTY, GEORGIA
DATE	BY	CONSTRUCTION & DESIGN STANDARDS
6-62	D.P.	STANDARD ROUND PRECAST DROP INLET & JUNCTION BOX SYSTEMS
		DWG. NO. 408 SHEET 1 OF 1 SHEETS
		DRAWN BY C.M. / APPD. DATE 10-21-69
		CHECKED BY RDW / James F. Tate
		SCALE: NONE / DIRECTOR OF PUBLIC WORKS

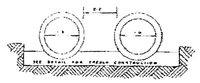
300

NORMAL BACKFILL

LONGITUDINAL SECTION OF IMPERFECT TRENCH BACKFILL AND BACKFILL METHODS

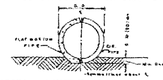


MULTIPLE PIPE CULVERT SPACING



CROSS SECTIONS OF IMPERFECT TRENCH BACKFILL

TRENCH CONSTRUCTION FOR SIDE DRAIN



NOTE: CROSS HATCHED AREA IN ABOVE DETAILS SHOWS LIMITS CONSTRUCTION AND MEASUREMENT, FOR STRUCTURE EXCAVATION AND IMPERFECT TRENCH BACKFILL MATERIAL, TYPE III.

DETAIL SHOWING MINIMUM COVER FOR PIPE CULVERTS

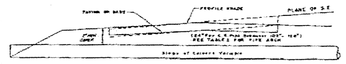
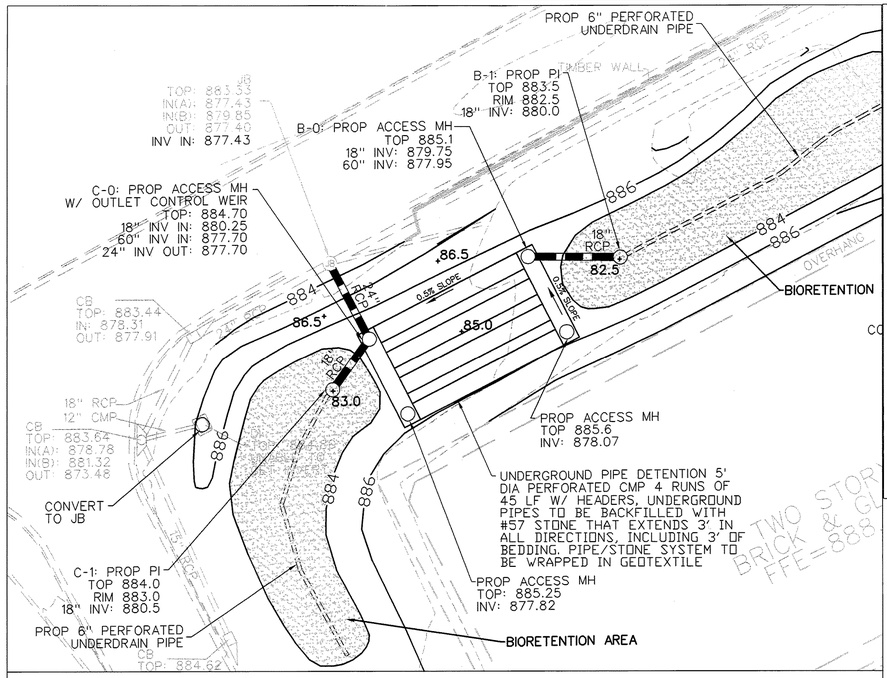


TABLE NO 1

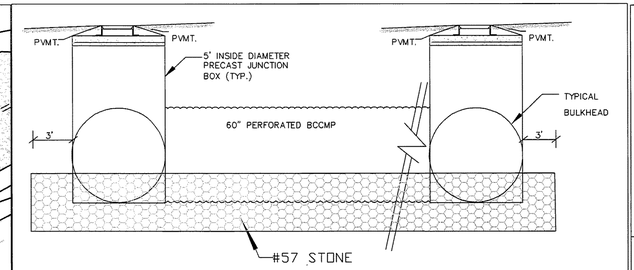
TABLE SHOWING MIN. CLASSES OF CONCRETE PIPE AND THICKNESS IN INCHES OF CORRUGATED STEEL PIPE AND CORRUGATE ALUMINUM PIPE FOR VARIOUS HEIGHTS OF FILL ABOVE TOP OF PIPE

| PIPE DIAMETER (INCHES) | PIPE CHARACTERISTIC | | | | |



POND UNDERGROUND DETENTION
SCALE: 1"=20'

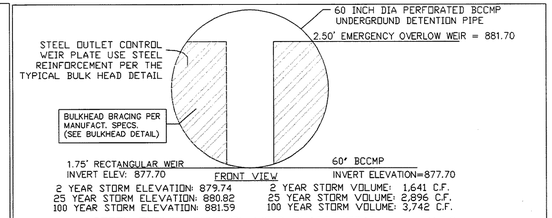
NOTES:
1. UNDERGROUND DETENTION PIPE TO BE PERFORATED BITUMINOUS-COATED CORRUGATED METAL PIPE.
2. UNDERGROUND DETENTION PIPE TO BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.



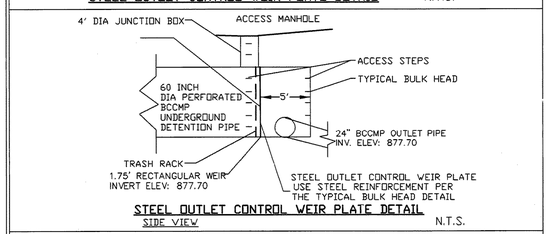
POND A TYPICAL DETENTION SIDE VIEW
NTS

DETENTION INSTALLATION NOTES:
1. PROVIDE COMPACTION TO 95% COMPACTION STD. PROCTOR.
2. INSTALL PER MANUFACTURERS SPECIFICATION. ALL WELDS ARE TO MEET MANUFACTURERS STANDARDS FOR STRUCTURAL STABILITY.
3. RECOMMENDED FABRICATOR – CONTECH CONSTRUCTION PRODUCTS, INC., 770-409-0814.

NOTE: CONTRACTOR TO PREVENT ANY SILT ACCUMULATION IN UNDERGROUND CHAMBER. ANY SILT BUILD-UP TO BE REMOVED COMPLETELY PRIOR TO CLOSING THE CHAMBER, AND AFTER PAVEMENT INSTALLATION.

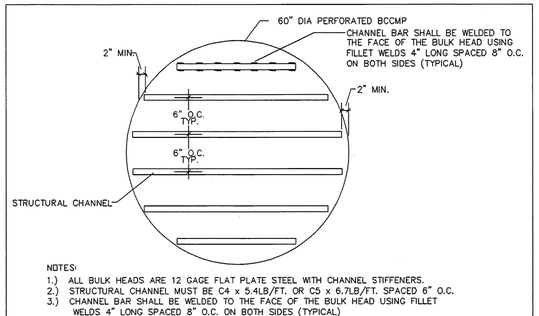


STEEL OUTLET CONTROL WEIR PLATE DETAIL
N.T.S.



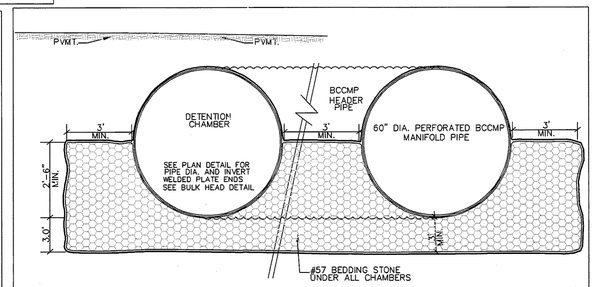
STEEL OUTLET CONTROL WEIR PLATE DETAIL
SIDE VIEW
N.T.S.

POND A



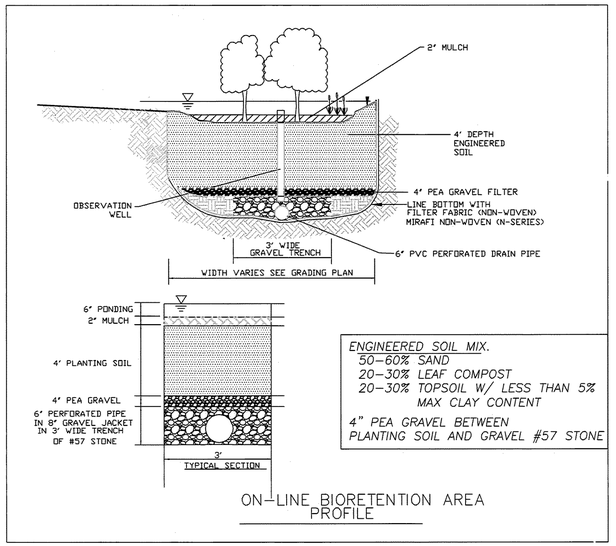
NOTES:
1.) ALL BULK HEADS ARE 12 GAGE FLAT PLATE STEEL WITH CHANNEL STIFFENERS.
2.) STRUCTURAL CHANNEL MUST BE C4 x 5.4LB/FT. OR C5 x 6.7LB/FT. SPACED 6" O.C.
3.) CHANNEL BAR SHALL BE WELDED TO THE FACE OF THE BULK HEAD USING FILLET WELDS 4" LONG SPACED 8" O.C. ON BOTH SIDES (TYPICAL)

POND A TYPICAL BULK HEAD DETAIL
NTS



NOTES:
1. ALL STORM DRAINAGE STRUCTURES ABOVE DETENTION CHAMBERS ARE TO CONFORM TO DEKALB COUNTY STANDARDS AND ARE TO BE INSTALLED ON A CONCRETE TOP (SEE SHEET D4)
2. ALL RISERS ARE TO HAVE MH STEPS 16" O.C.
3. INSTALL ALL PIPE PER MANUFACT. SPECS. USE ONLY 12 GAUGE STEEL

POND A TYPICAL DETENTION CHAMBER
NTS



ENGINEERED SOIL MIX.
50-60% SAND
20-30% LEAF COMPOST
20-30% TOPSOIL W/ LESS THAN 5% MAX CLAY CONTENT

4" PEA GRAVEL BETWEEN PLANTING SOIL AND GRAVEL #57 STONE

ON-LINE BIORETENTION AREA PROFILE

UNDERGROUND PIPE NOTES:
- HEADER AND MANIFOLD SYSTEM TO BE BUILT PER PIPE MANUFACTURER SPECIFICATIONS.
- ALL PIPES TO HAVE RE-ROLLED ENDS
- ALL JOINTS TO HAVE 'O' RING GASKETS AND AND HUGGER BANDS PER MANUFACTURERS SPECS.
- UNDERGROUND PIPE TO BE MINIMUM 12 GAGE (D.O.T. SPEC.)
- CONTRACTOR TO PROVIDE ENGINEER WITH SHOP DRAWING AND REINFORCEMENT DRAWINGS FOR APPROVAL.
- UNDERGROUND PIPE TO HAVE WATER TIGHT GASKETS WHERE APPLICABLE.

CONTRACTOR NOTES:
1. ALL SOIL CONDITIONS ARE TO BE CONFIRMED BY A REGISTERED GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION.

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LAND PLANNING | ENVIRONMENTAL ENGINEERING
8995 Roswell Road • Suite 200
Atlanta • Georgia • 30350-1850
(770) 641-1942 • Fax (770) 936-8924 • www.aecatl.com

GEORGIA REGISTERED PROFESSIONAL ENGINEER
06-26-07
RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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1	6-26-07	PERMIT REVISIONS

DRAWING TITLE:
BIORETENTION DETAILS

PROJECT NUMBER:
06-2534

DATE:
06/15/07

DRAWING NUMBER:
C11.2

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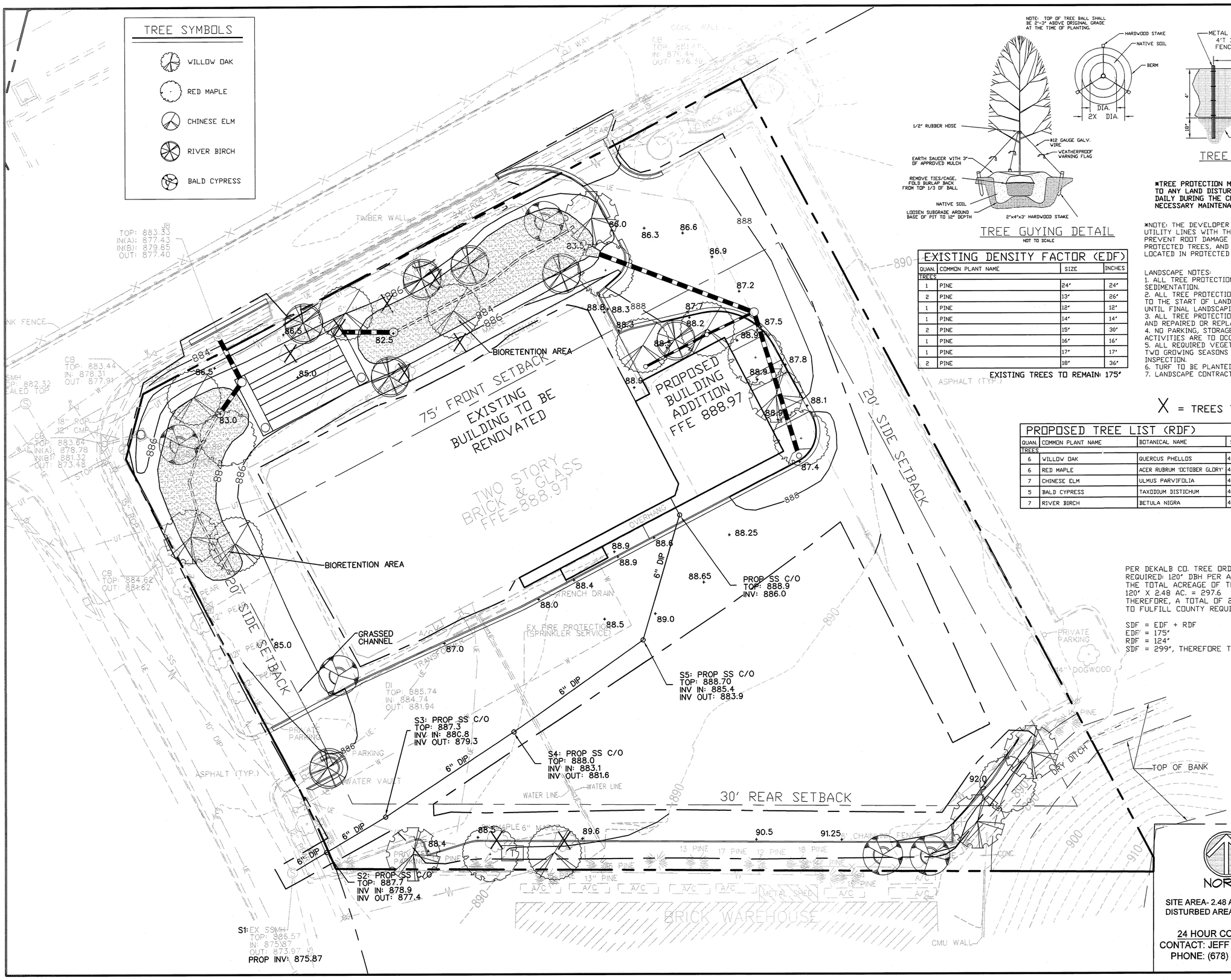
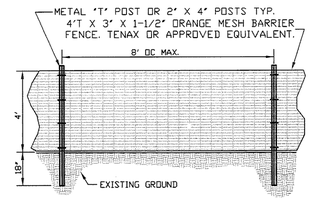


TREE GUYING DETAIL

NOT TO SCALE



TREE PROTECTION FENCE

NOT TO SCALE

***TREE PROTECTION MEASURES ARE TO BE INSTALLED PRIOR TO ANY LAND DISTURBANCE. THEY SHALL BE INSPECTED DAILY DURING THE CONSTRUCTION PHASE AND ANY NECESSARY MAINTENANCE WILL BE COMPLETED AS NEEDED.**

*NOTE: THE DEVELOPER SHALL COORDINATE THE LOCATION OF UTILITY LINES WITH THE UTILITY COMPANIES IN ORDER TO PREVENT ROOT DAMAGE WITHIN THE CRITICAL ROOT ZONES OF PROTECTED TREES, AND TO MINIMIZE DAMAGE TO TREES LOCATED IN PROTECTED ZONES.

LANDSCAPE NOTES:
1. ALL TREE PROTECTION AREAS TO BE PROTECTED FROM SEDIMENTATION.
2. ALL TREE PROTECTION DEVICES TO BE INSTALLED PRIOR TO THE START OF LAND DISTURBANCE, AND MAINTAINED UNTIL FINAL LANDSCAPING.
3. ALL TREE PROTECTION FENCING TO BE INSPECTED DAILY, AND REPAIRED OR REPLACED AS NEEDED.
4. NO PARKING, STORAGE OR OTHER CONSTRUCTION ACTIVITIES ARE TO OCCUR WITHIN TREE PROTECTION AREAS.
5. ALL REQUIRED VEGETATION MUST BE MAINTAINED FOR TWO GROWING SEASONS AFTER THE DATE OF FINAL INSPECTION.
6. TURF TO BE PLANTED IN INTERIOR OF DETENTION POND
7. LANDSCAPE CONTRACTOR TO VERIFY ALL PLANT COUNTS.

EXISTING DENSITY FACTOR (EDF)

QUAN.	COMMON PLANT NAME	SIZE	INCHES
TREES			
1	PINE	24'	24'
2	PINE	13'	26'
1	PINE	12'	12'
1	PINE	14'	14'
2	PINE	15'	30'
1	PINE	16'	16'
1	PINE	17'	17'
2	PINE	18'	36'

EXISTING TREES TO REMAIN: 175'

X = TREES TO BE REMOVED

PROPOSED TREE LIST (RDF)

QUAN.	COMMON PLANT NAME	BOTANICAL NAME	SIZE	SPACING	REMARKS	INCHES
TREES						
6	WILLOW OAK	QUERCUS PHELLOS	4" CAL.	AS SHOWN	B&B	24"
6	RED MAPLE	ACER RUBRUM 'OCTOBER GLORY'	4" CAL.	AS SHOWN	B&B	24"
7	CHINESE ELM	ULMUS PARVIFOLIA	4" CAL.	AS SHOWN	B&B	28"
5	BALD CYPRESS	TAXODIUM DISTICHUM	4" CAL.	AS SHOWN	B&B	20"
7	RIVER BIRCH	BETULA NIGRA	4" CAL.	AS SHOWN	B&B	28"

TOTAL INCHES: 124"

PER DEKALB CO. TREE ORDINANCE, REVISED OCT. 26, 1999
REQUIRED: 120" DBH PER ACRE
THE TOTAL ACREAGE OF THIS SITE IS 2.48 AC.
120" X 2.48 AC. = 297.6
THEREFORE, A TOTAL OF 297.6 INCHES IS REQUIRED IN ORDER TO FULFILL COUNTY REQUIREMENTS FOR TREE PRESERVATION.

SDF = EDF + RDF
EDF = 175"
RDF = 124"
SDF = 299", THEREFORE THE COUNTY REQUIREMENT IS MET.

CALL BEFORE YOU DIG!
IF YOU DIG GEORGIA...
CALL US FIRST!
1-800-282-7411
(770) 623-4344
(METRO ATLANTA ONLY)
UTILITIES PROTECTION CENTER
IT'S THE LAW !

SITE AREA- 2.48 AC
DISTURBED AREA - 1.39 AC

24 HOUR CONTACT
CONTACT: JEFF LITTLETON
PHONE: (678) 539-1100

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GEORGIA REGISTERED 06-26-07 No. 22505 PROFESSIONAL ENGINEER METROPOLITAN N.J.

RICHARD + WITTSCHIEBE

ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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1	6-26-07	PERMIT REVISIONS

DRAWING TITLE:
TREE ORDINANCE PLAN

PROJECT NUMBER: 06-2534.20

DATE: 06/15/07

DRAWING NUMBER: L1.0

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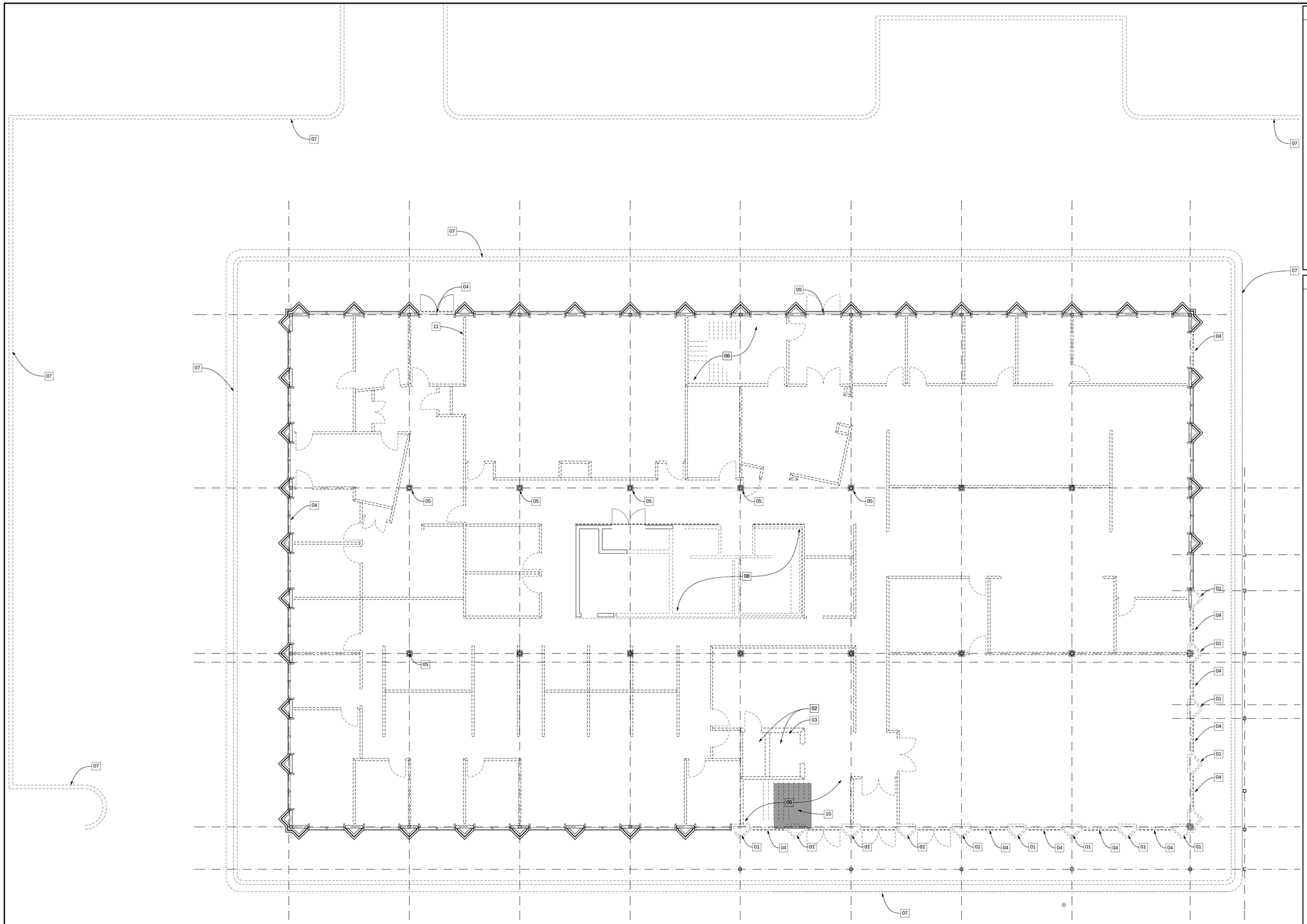

1 LEVEL 1 DEMOLITION PLAN 1/8" = 1'-0"

GENERAL NOTES DEMO PLAN

1. DO NOT SCALE DRAWINGS
2. THIS PROJECT REQUIRES THAT DEMOLITION WASTE BE SEPERATED FOR RE-USE AND RECYCLING. A MINIMUM OF 50% OF ALL DEMOLITION MATERIALS ARE TO BE RECYCLED FOR A LEED CREDIT. SEE THE WASTE MANAGEMENT SPECIFICATION FOR ADDITIONAL INFORMATION.
3. SELECTED DOORS, FRAMES, AND HARDWARE ARE TO BE SALVAGED FOR RE-USE. SEE DOOR HARDWARE SPECIFICATIONS AND DOOR DETAILS SHEET FOR ADDITIONAL INFORMATION.
4. ALL ITEMS NOTED TO BE DEMOLISHED ARE TO BE REMOVED IN THEIR ENTIRITY, ALL FASTENERS, ADHESIVES, SECONDARY SUPPORT HANGERS, AND RESIDUES USED IN THE ATTACHMENT OF, OR LEFT BY THE DEMOLITION OF, IDENTIFIED ASSEMBLIES ARE TO BE REMOVED.
5. ALL INTERIOR FINISH CEILINGS ARE TO BE DEMOLISHED
6. ALL INTERIOR WALLS SHOWN WITH DASHED LINES ARE TO BE DEMOLISHED
7. ALL ELECTRICAL WIRE, DATA CABLE, CONDUIT, PLUMBING LINES, AND CONTROL WIRING, WITH THE EXCEPTION OF ITEMS SPECIFICALLY NOTED FOR REUSE IN OTHER DRAWINGS AND SPECIFICATIONS, ARE TO BE REMOVED AT THE NEAREST REMAINING DEVICE CONNECTION.
8. COORDINATE EXTENT OF STRUCTURAL DEMOLITION WITH STRUCTURAL DEMOLITION AND REPLACEMENT DRAWINGS.

KEY NOTES

01 DEMOLISH EXISTING TRIANGULAR EXTERIOR MASONRY WALL AND 4" CMU BACKUP WALL. REMOVE ALL SUPPORT TIES FROM REMAINING 6" CMU WALL STRUCTURE.

02 DEMOLISH EXISTING ELEVATOR AND ELEVATOR MACHINE ROOM EQUIPMENT.

03 REMOVE EXISTING ELEVATOR PIT LADDER- CLEAN AND REPAINT FOR RE-USE.

04 DEMOLISH EXISTING CURTAINWALL SYSTEM TO SOFFIT ABOVE LEVEL 2 FLOOR ABOVE/BELOW.

05 DEMOLISH EXISTING COLUMN COVER. REMOVE ALL HANGERS AND ATTACHMENTS FROM STEEL SUPPORT COLUMN.

06 DEMOLISH EXISTING STEEL PAN STAIR SYSTEM.

07 DEMOLISH EXISTING CONCRETE CURB AND GUTTER. COORDINATE WITH PAVEMENT REMOVAL AND IMPROVEMENT WORK SHOWN ON SITE PLANS.

08 DEMOLISH EXISTING RESTROOM FINISHES AND FACILITIES. REMOVE ALL WETWALL AND UNDERSLAB SANITARY LINES TO PRIMARY LINE LOCATION.

09 DEMOLISH EXISTING STOREFRONT FRAME AND DOOR TO LEVEL 2 FLOOR ABOVE. PROVIDE NEW STEEL SUPPORT/ CLOSURE ANGLES FOR STOREFRONT ABOVE, DOORS AND FRAME THAT ARE REMOVED ARE TO BE RE USED. SEE BUILDING ELEVATIONS FOR LOCATION.

10 REMOVE EXISTING FLOOR SLAB WHERE INDICATED TO PROVIDE NEW ELEVATOR PIT.

11 REMOVE EXISTING FLOOR SLAB WHERE INDICATED TO PROVIDE ACCESS FOR NEW REFRIGERANT LINES.

STATE OF GEORGIA
JANICE K. WITTSCHIEBE
CERTIFICATE NO. 5507
REGISTERED ARCHITECT

RICHARD WITTSCHIEBE HAND

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

LEVEL 1 DEMOLITION PLAN

PROJECT NUMBER:

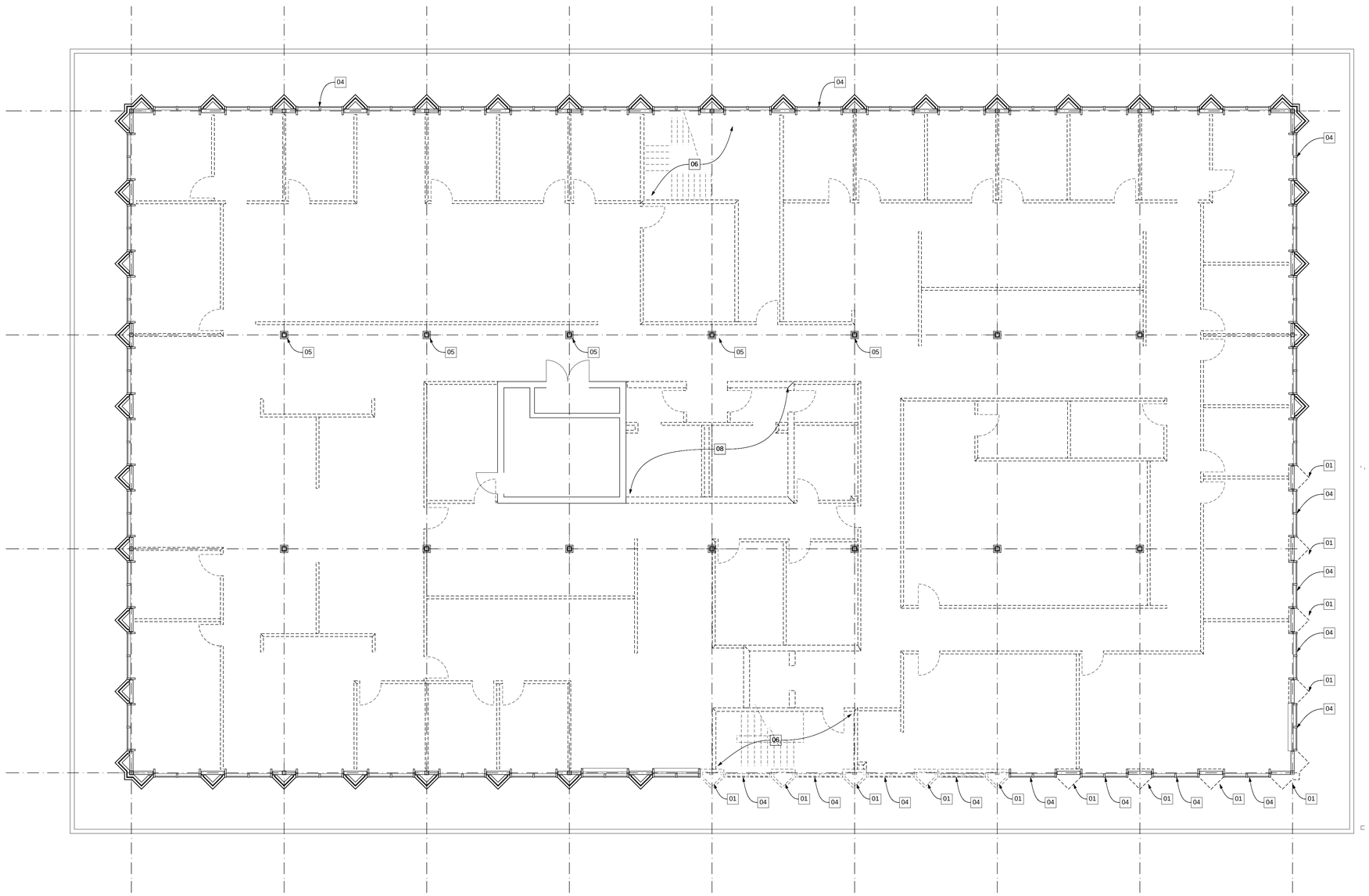
200614

DATE:

06/15/07

DRAWING NUMBER:

.A1.1



1 LEVEL 2 DEMOLITION PLAN 1/8" = 1'-0"

GENERAL NOTES DEMO PLAN

1. DO NOT SCALE DRAWINGS
2. THIS PROJECT REQUIRES THAT DEMOLITION WASTE BE SEPERATED FOR RE-USE AND RECYCLING. A MINIMUM OF 50% OF ALL DEMOLITION MATERIALS ARE TO BE RECYCLED FOR A LEED CREDIT. SEE THE WASTE MANAGEMENT SPECIFICATION FOR ADDITIONAL INFORMATION.
3. SELECTED DOORS, FRAMES, AND HARDWARE ARE TO BE SALVAGED FOR RE-USE. SEE DOOR HARDWARE SPECIFICATIONS AND DOOR DETAILS SHEET FOR ADDITIONAL INFORMATION.
4. ALL ITEMS NOTED TO BE DEMOLISHED ARE TO BE REMOVED IN THEIR ENTIRITY. ALL FASTENERS, ADHESIVES, SECONDARY SUPPORT HANGERS, AND RESIDUES USED IN THE ATTACHMENT OF, OR LEFT BY THE DEMOLITION OF, IDENTIFIED ASSEMBLIES ARE TO BE REMOVED.
5. ALL INTERIOR FINISH CEILINGS ARE TO BE DEMOLISHED
6. ALL INTERIOR WALLS SHOWN WITH DASHED LINES ARE TO BE DEMOLISHED
7. ALL ELECTRICAL WIRE, DATA CABLE, CONDUIT, PLUMBING LINES, AND CONTROL WIRING, WITH THE EXCEPTION OF ITEMS SPECIFICALLY NOTED FOR REUSE IN OTHER DRAWINGS AND SPECIFICATIONS, ARE TO BE REMOVED AT THE NEAREST REMAINING DEVICE CONNECTION.
8. COORDINATE EXTENT OF STRUCTURAL DEMOLITION WITH STRUCTURAL DEMOLITION AND REPLACEMENT DRAWINGS.

KEY NOTES

01 DEMOLISH EXISTING TRIANGULAR EXTERIOR MASONRY WALL AND 4" CMU BACKUP WALL. REMOVE ALL SUPPORT TIES FROM REMAINING 6" CMU WALL STRUCTURE.

02 DEMOLISH EXISTING ELEVATOR AND ELEVATOR MACHINE ROOM EQUIPMENT.

03 REMOVE EXISTING ELEVATOR PIT LADDER- CLEAN AND REPAINT FOR RE-USE.

04 DEMOLISH EXISTING CURTAINWALL SYSTEM TO SOFFIT ABOVE LEVEL 2 FLOOR ABOVE/BELOW.

05 DEMOLISH EXISTING COLUMN COVER. REMOVE ALL HANGERS AND ATTACHMENTS FROM STEEL SUPPORT COLUMN.

06 DEMOLISH EXISTING STEEL PAN STAIR SYSTEM.

07 DEMOLISH EXISTING CONCRETE CURB AND GUTTER. COORDINATE WITH PAVEMENT REMOVAL AND IMPROVEMENT WORK SHOWN ON SITE PLANS.

08 DEMOLISH EXISTING RESTROOM FINISHES AND FACILITIES. REMOVE ALL WETWALL AND UNDERSLAB SANITARY LINES TO PRIMARY LINE LOCATION.

09 DEMOLISH EXISTING STOREFRONT FRAME AND DOOR TO LEVEL 2 FLOOR ABOVE. PROVIDE NEW STEEL SUPPORT/ CLOSURE ANGLES FOR STOREFRONT ABOVE, DOORS AND FRAME THAT ARE REMOVED ARE TO BE RE USED. SEE BUILDING ELEVATIONS FOR LOCATION.

10 REMOVE EXISTING FLOOR SLAB WHERE INDICATED TO PROVIDE NEW ELEVATOR PIT.

11 REMOVE EXISTING FLOOR SLAB WHERE INDICATED TO PROVIDE ACCESS FOR NEW REFRIGERANT LINES.

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

LEVEL 2 DEMOLITION PLANS

PROJECT NUMBER:

200614

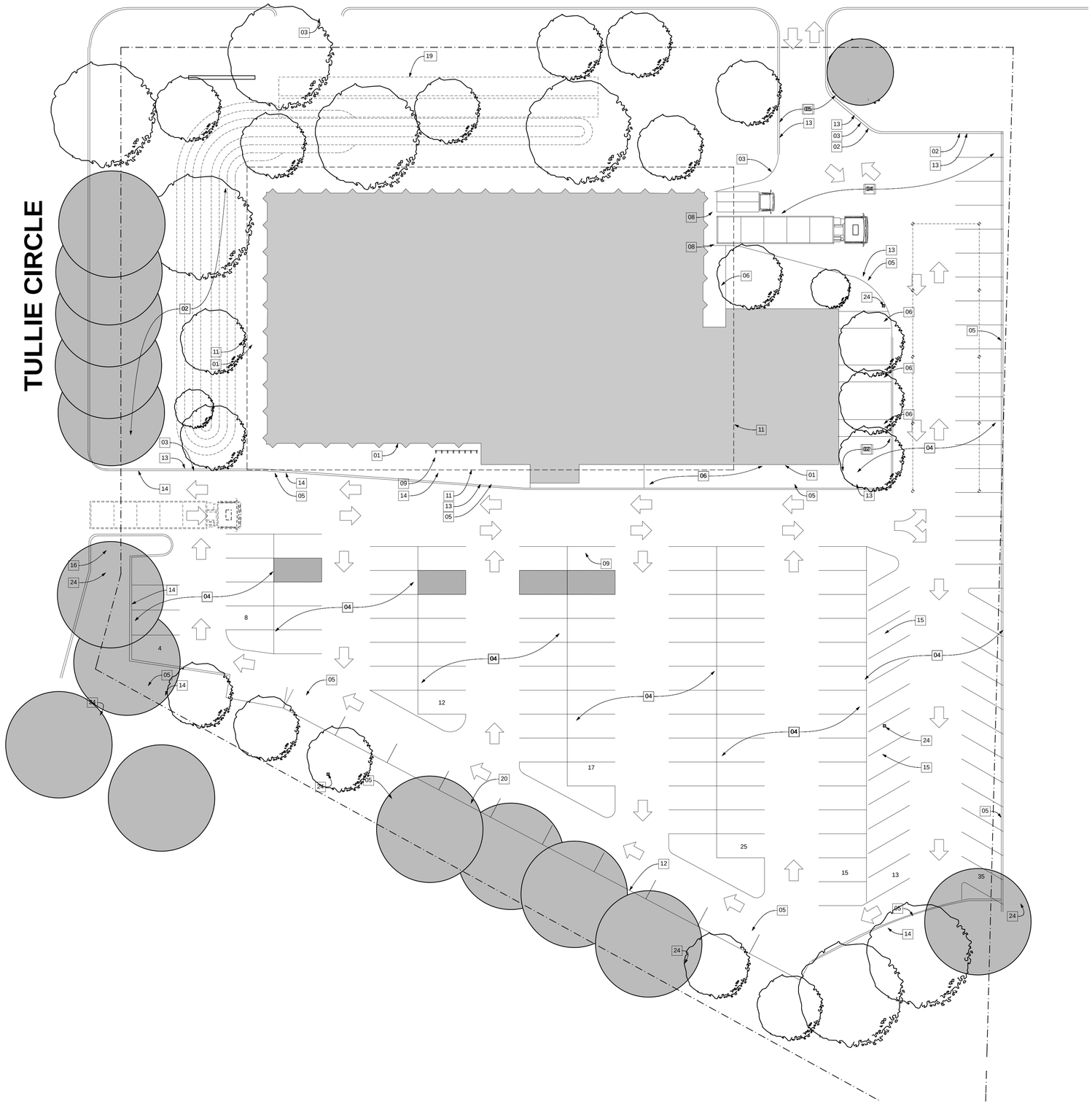
DATE:

06/15/07

DRAWING NUMBER:

.A1.2

I-85 ACCESS ROAD



1 SITE PLAN 1" = 20'

GENERAL NOTES SITE PLAN

1. DO NOT SCALE DRAWINGS
2. ALL WORK SHOWN IS ASSUMED TO BE NEW UNLESS NOTED OTHERWISE.
3. EXISTING BUILDING AND SITE IMPROVEMENTS SHALL BE PROTECTED FROM DAMAGE BY CONSTRUCTION OPERATIONS. IMPROVEMENTS DAMAGED DURING THE COURSE OF CONSRUCTION SHALL BE REPAIRED OR REPLACED TO THE OWNERS SATISFACTION.
4. SEE CIVIL AND LANDSCAPE PLANS FOR TREE REPLACEMENT REQUIREMENTS.
5. SEE CIVIL PLANS FOR PARKING LAYOUT AND REQUIREMENTS.

KEY NOTES

01 EXTENT OF BUILDING FOOTPRINT
02 REMOVE EXISTING ASPHALT PAVING TO EXTENT INDICATED IN KEYNOTE #3. REMOVE HARDPACK SOILS AND GRAVEL PAVING BED MATERIALS. TILL OR AERATE SOILS TO ALLOW WATER PERCOLATION. COVER WITH 8" OF TOPSOIL AND VEGETATION.
03 EXTENT OF ASHALT REMOVED IN KEYNOTE #2.
04 RESTRIPE EXISTING ASPHALT PAVING TO EXTENT INDICATED IN KEYNOTE #5.
05 EXTENT OF ASHALT RESTRIPED IN KEYNOTE #4.
06 NEW PAVED SIDEWALK
07 NOT USED
08 NEW CONCRETE TRUCK UNLOADING PAD. EVEN WITH INTERIOR FLOOR.
09 NEW ALUMINUM BIKE RACK. 8 BIKE CAPACITY.
10 NOT USED.
11 LINE OF EXISTING ROOF ABOVE
12 REMOVE EXISTING CURB AND GUTTER ALONG SOUTH EDGE OF PARKING LOT. EXTEND ASPHALT PAVING 8' FOR NEW PARALLEL PARKING SPACES.
13 NEW CURB AND GUTTER
14 EXISTING CURB AND GUTTER
15 RELOCATE EXISTING WHEEL STOPS
16 EXISTING WATER SERVICE TAP AND METER- SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION
17 EXISTING STORM SEWER INLET LOCATION. PROTECT FROM DAMAGE.
18 NOT USED
19 NEW DETENTION STRUCTURE. SEE CIVIL DRAWINGS FOR DETAILS.
20 EXISTING CHILLER AND PAD TO BE REMOVED. ABANDON EXISTING CHILLER LINES AND POWER SUPPLY IN PLACE. REPAIR ASPHALT PAVEMENT.
21 NOT USED
22 NOT USED
23 NOT USED
24 EXISTING LIGHT POLE AND FIXTURE. PROTECT FROM DAMAGE DURING SITE OPERATIONS.

SYMBOL LEGEND

NEW SPECIMEN TREE
EXISTING SPECIMEN TREE
PERVIOUS PAVING AREA
TRAFFIC ISLAND AREA
PREFINISHED STEEL SECURITY FENCE
ASSUMED PROPERTY LINE. TO BE DEFINED BY SURVEY.

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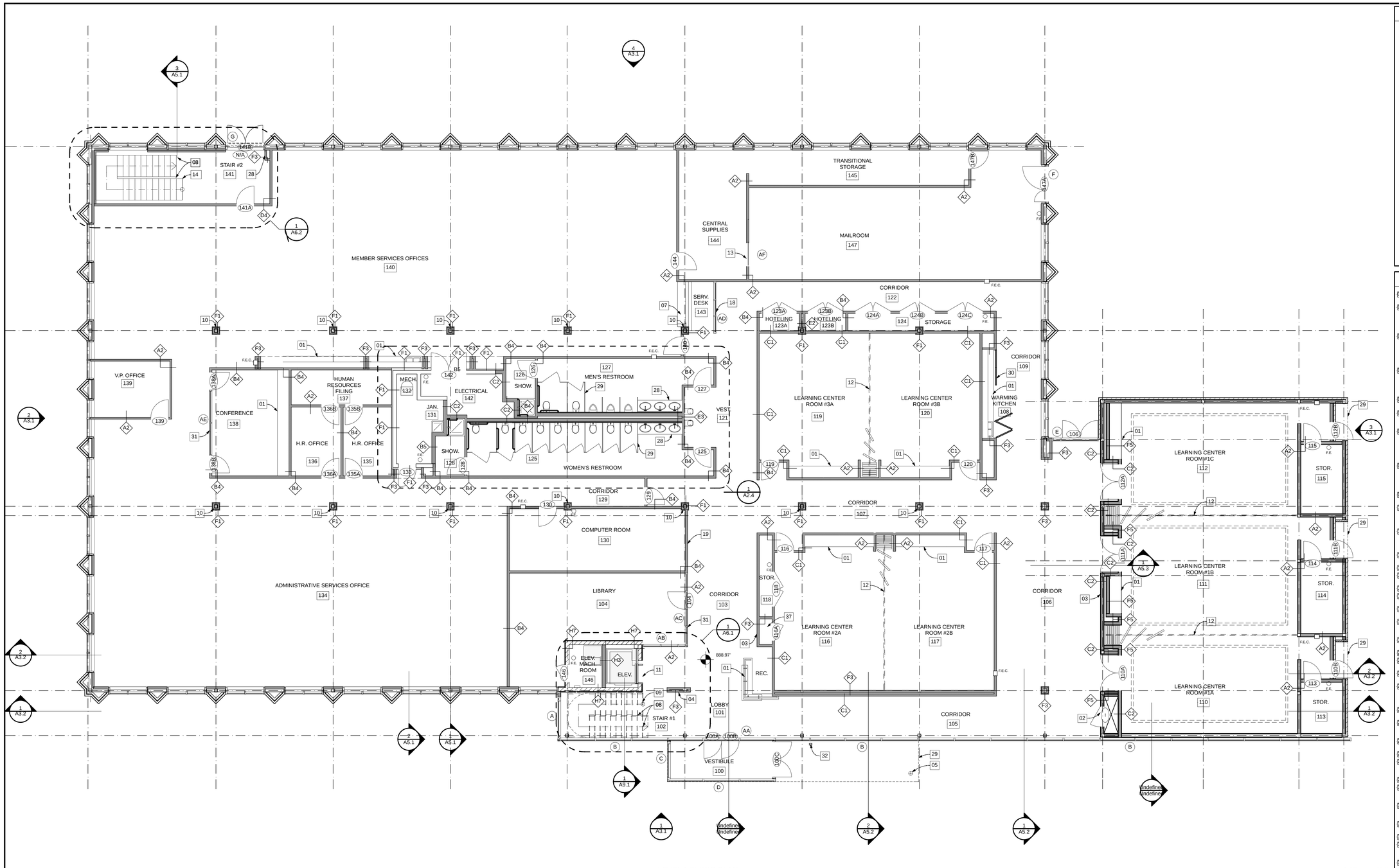
1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:
SITE PLAN

PROJECT NUMBER:
200614

DATE:
06/15/07

DRAWING NUMBER:
.A2.0



1. LEVEL 1 FLOOR PLAN 1/8" = 1'-0"

GENERAL NOTES FLOOR PLAN

1. DO NOT SCALE DRAWINGS
2. DIMENSIONS ON WALLS ARE GIVEN TO THE OUTSIDE FACE OF THE WALL FINISH UNLESS OTHERWISE NOTED.
3. PLEASE SEE SHEET A8.1 FOR DOOR INFORMATION.
4. PLEASE SEE SHEET A8.2 AND A 8.3 FOR WINDOW INFORMATION
5. PLEASE SEE SHEET A0.2 FOR PARTITION TYPES.
6. PARTITIONS ARE TO BE TYPE A3 UNLESS OTHERWISE NOTED.
7. RECAULK SEALANT JOINTS BETWEEN EXISTING EXTERIOR MASONRY WALLS AND EXISTING STOREFRONT SYSTEM. EXISTING WALLS AND EXISTING EXTERIOR SOFFIT, AND ALL MISCILLANEOUS UTILITY PENETRATIONS.
8. JAMBS FOR DOORS LOCATED ADJACENT TO A PERPINDICULAR WALL ARE 4" FROM THE PERPINDICULAR WALL FACE UNLESS SPECIFICALLY NOTED OTHERWISE.
9. PROVIDE CRICKETS AS REQUIRED FOR PROPER DRAINAGE AT ALL ROOF CURB LOCATIONS.
10. ARROWS ON ROOF SURFACES INDICATE DOWNWARD SLOPE OF ROOF.

KEY NOTES

- 01 MILLWORK- SEE MILLWORK DRAWINGS
- 02 PROVIDE FRONT OPENING, LOCKING, ALUMINUM AND GLASS DISPLAY CASE DOOR IN WALL. SIZE IS 3' WIDE AND 5' TALL. MOUNT 2' A.F.F..
- 03 20" LCD DISPLAY SCREEN MOUNTED IN WALL FACE WITH PROTECTIVE GLASS COVER. PROVIDE ACTIVATION SWITCH IN STAINLESS STEEL COVER PLATE ADJACENT TO SCREEN.
- 04 PREMANUFACTURED ALUMINUM DIRECTORY WITH 4 COLOR SILKSCREENED GRAPHICS. DIRECTORY SIZE TO BE 18" WIDE AND 30" TALL.
- 05 PREFINISHED PREFABRICATED ALUMINUM COLUMN COVER.
- 06 PROVIDE GWB TRIMMED OPENINGS FOR ACCESS TO RECYCLED MATERIAL BINS.
- 07 PROVIDE BUILT IN RECEPTION DESK. WOOD VENEER FINISH. WORKING SURFACE TO BE PLASTIC LAMINATE. TRANSACTION COUNTER TO BE LAMINATED GLASS.
- 08 PAINTED STEEL GUARDRAIL WITH PAINTED STEEL MESH INFILL AND PAINTED STEEL TOP RAIL. MESH TO BE 2X2 X 1/4" AS MANUFACTURED BY AMETCO
- 09 PAINTED STEEL STAIRS WITH WOOD TREADS.
- 10 EXISTING GWB COLUMN SURROUND TO REMAIN. INSTALL FURRED WALL PARTITION SHOWN OVER EXISTING SURROUND.
- 11 NEW HYDRAULIC TWO STOP ELEVATOR, CAB, AND SHAFT. CAB FINISHES TO BE MANUFACTURER STANDARD
- 12 ACOUSTICAL FOLDING PARTITION WITH FABRIC FACES.
- 13 SLIDING TRANSACTION WINDOW.
- 14 PAINTED STEEL STAIRS WITH RUBBER TREADS
- 15 NOT USED
- 16 PAINTED STEEL ROOF ACCESS LADDER.
- 17 PAINTED STEEL ELEVATOR PIT ACCESS LADDER.
- 18 DEMOUNTABLE GLASS INFILL PARTITION SYSTEM. SYSTEM BY ALLSOURCE INC. LAMINATED
- 19 ENERGY SYSTEM MANAGEMENT FLAT PANEL DISPLAY MONITORS.
- 20 NEW ROOF HATCH
- 21 ELEVATOR OVERIDE. SEE STRUCTURAL FOR DETAILS.
- 22 PROVIDE 2" RIGID INSULATION OVER ENTIRE DECK.
- 23 PROVIDE HIGH EMISSIVITY TPO MECHANICALLY ATTACHED ROOF MEMBRANE OVER ENTIRE DECK. 60 MIL THICKNESS MINIMUM.
- 24 PROVIDE PREFORMED ALUMINUM ROOF COPING.
- 25 ROOFTOP MECHANICAL UNIT. SEE MECHANICAL DOCUMENTS FOR ADDITIONAL INFORMATION.
- 26 LOCATION OF ROOFTOP PV SYSTEM- OWNER PROVIDED ITEM.
- 27 ROOF SCUPPER.
- 28 RECESSED LOCKABLE ACCESS PANEL IN WALL FOR FIRE PROTECTION PIPING.
- 29 LINE ABOVE
- 30 9' TALL WOOD VENEER FOLDING DOOR SYSTEM WITH CONTINOUS HINGES.
- 31 9' DEMOUNTABLE GLASS INFILL PARTITION SYSTEM. SYSTEM BY ALLSOURCE INC.
- 32 DOOR ACCESS CARD READER PEDESTAL LOCATION.
- 33 LINE BELOW
- 34 PLASTIC LAMINATE BREAK COUNTER. MOUNT TO KNEE WALL AT 34" A.F.F..
- 35 ALUMINUM AND GLASS GUARDRAIL SYSTEM.
- 36 ROOF MEMBRANE WALKWAY MEMBRANE.
- 37 PROVIDE 8" CONCRETE CURB AROUND FULL PERIMETER OF CHASE AREA INDICATED. SLOPE FLOOR TO DRAIN. SEE PLUMBING DRAWINGS.

0 2 4 8

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JANICE K. WITTSCHIEBE
CERTIFICATE NO. 5507
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RICHARD WITTSCHIEBE HAND

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1	07/12/07	FINAL SYSTEMS DESIGN

DRAWING TITLE:

LEVEL 1 FLOOR PLAN

PROJECT NUMBER:

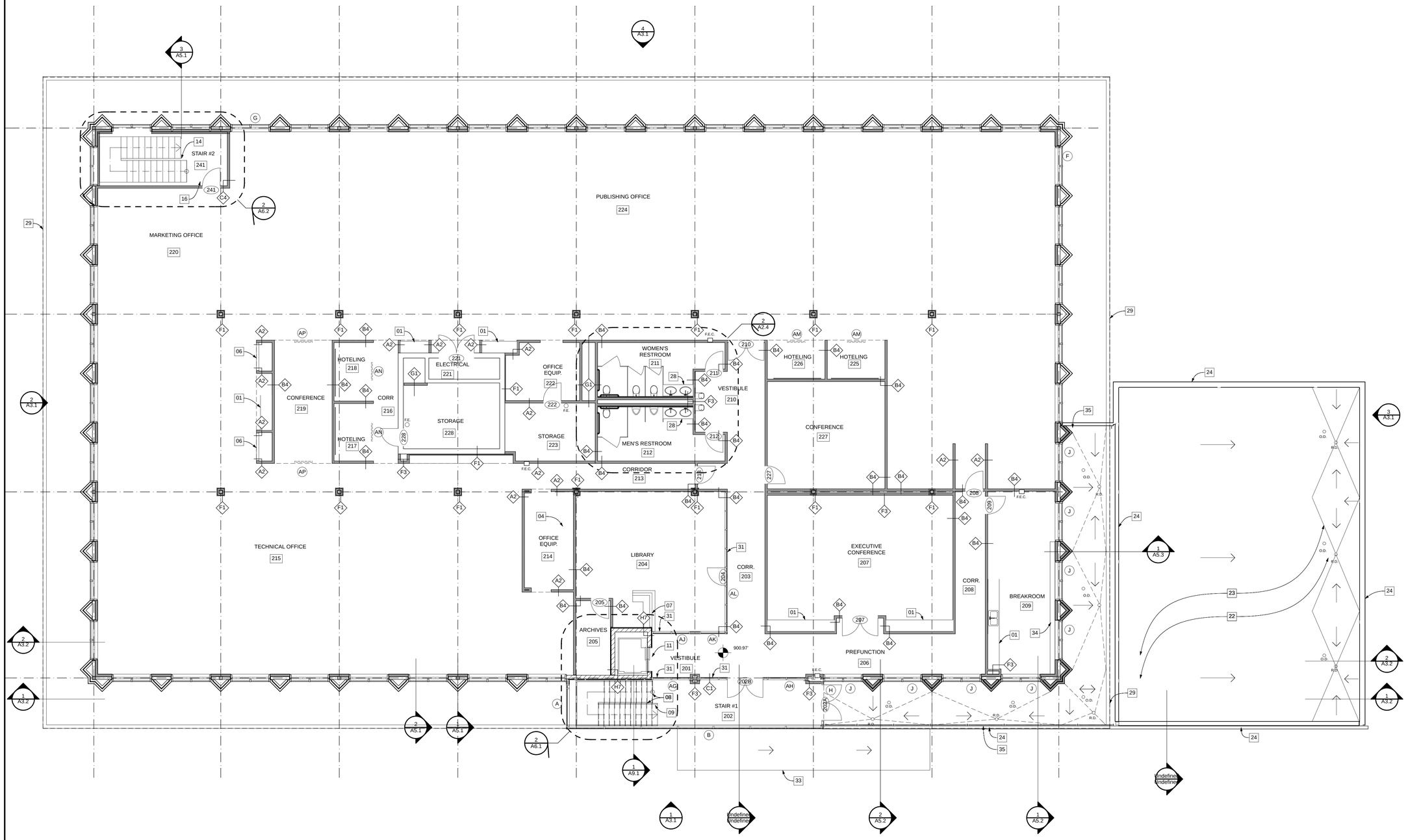
200614

DATE:

06/15/07

DRAWING NUMBER:

.A2.1



LEVEL 2 FLOOR PLAN

1/8" = 1'-0"

GENERAL NOTES FLOOR PLAN

1. DO NOT SCALE DRAWINGS
2. DIMENSIONS ON WALLS ARE GIVEN TO THE OUTSIDE FACE OF THE WALL FINISH UNLESS OTHERWISE NOTED.
3. PLEASE SEE SHEET A8.1 FOR DOOR INFORMATION.
4. PLEASE SEE SHEET A8.2 AND A 8.3 FOR WINDOW INFORMATION
5. PLEASE SEE SHEET A0.2 FOR PARTITION TYPES.
6. PARTITIONS ARE TO BE TYPE A3 UNLESS OTHERWISE NOTED.
7. RECAULK SEALANT JOINTS BETWEEN EXISTING EXTERIOR MASONRY WALLS AND EXISTING STOREFRONT SYSTEM. EXISTING WALLS AND EXISTING EXTERIOR SOFFIT, AND ALL MISCILLANEOUS UTILITY PENETRATIONS.
8. JAMBS FOR DOORS LOCATED ADJACENT TO A PERPINDICULAR WALL ARE 4" FROM THE PERPINDICULAR WALL FACE UNLESS SPECIFICALLY NOTED OTHERWISE.
9. PROVIDE CRICKETS AS REQUIRED FOR PROPER DRAINAGE AT ALL ROOF CURB LOCATIONS.
10. ARROWS ON ROOF SURFACES INDICATE DOWNWARD SLOPE OF ROOF.

KEY NOTES

01 MILLWORK- SEE MILLWORK DRAWINGS

02 PROVIDE FRONT OPENING, LOCKING, ALUMINUM AND GLASS DISPLAY CASE DOOR IN WALL. SIZE IS 3' WIDE AND 5' TALL. MOUNT 2' A.F.F.

03 20" LCD DISPLAY SCREEN MOUNTED IN WALL FACE WITH PROTECTIVE GLASS COVER. PROVIDE ACTIVATION SWITCH IN STAINLESS STEEL COVER PLATE ADJACENT TO SCREEN.

04 PREMANUFACTURED ALUMINUM DIRECTORY WITH 4 COLOR SILKSCREENED GRAPHICS. DIRECTORY SIZE TO BE 18" WIDE AND 30" TALL.

05 PREFINISHED PREFABRICATED ALUMINUM COLUMN COVER.

06 PROVIDE GWB TRIMMED OPENINGS FOR ACCESS TO RECYCLED MATERIAL BINS.

07 PROVIDE BUILT IN RECEPTION DESK. WOOD VENEER FINISH. WORKING SURFACE TO BE PLASTIC LAMINATE. TRANSACTION COUNTER TO BE LAMINATED GLASS.

08 PAINTED STEEL GUARDRAIL WITH PAINTED STEEL MESH INFILL AND PAINTED STEEL TOP RAIL. MESH TO BE 2X2 X 1/4" AS MANUFACTURED BY AMETCO

09 PAINTED STEEL STAIRS WITH WOOD TREADS.

10 EXISTING GWB COLUMN SURROUND TO REMAIN. INSTALL FURRED WALL PARTITION SHOWN OVER EXISTING SURROUND.

11 NEW HYDRAULIC TWO STOP ELEVATOR, CAB, AND SHAFT. CAB FINISHES TO BE MANUFACTURER STANDARD

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14 PAINTED STEEL STAIRS WITH RUBBER TREADS

15 NOT USED

16 PAINTED STEEL ROOF ACCESS LADDER.

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18 DEMOUNTABLE GLASS INFILL PARTITION SYSTEM. SYSTEM BY ALLSOURCE INC. LAMINATED

19 ENERGY SYSTEM MANAGEMENT FLAT PANEL DISPLAY MONITORS.

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21 ELEVATOR OVERIDE. SEE STRUCTURAL FOR DETAILS.

22 PROVIDE 2" RIGID INSULATION OVER ENTIRE DECK.

23 PROVIDE HIGH EMISSIVITY TPO MECHANICALLY ATTACHED ROOF MEMBRANE OVER ENTIRE DECK. 60 MIL THICKNESS MINIMUM.

24 PROVIDE PREFORMED ALUMINUM ROOF COPING.

25 ROOFTOP MECHANICAL UNIT. SEE MECHANICAL DOCUMENTS FOR ADDITIONAL INFORMATION.

26 LOCATION OF ROOFTOP PV SYSTEM- OWNER PROVIDED ITEM.

27 ROOF SCUPPER.

28 RECESSED LOCKABLE ACCESS PANEL IN WALL FOR FIRE PROTECTION PIPING.

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30 9' TALL WOOD VENEER FOLDING DOOR SYSTEM WITH CONTINOUS HINGES.

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33 LINE BELOW

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36 ROOF MEMBRANE WALKWAY MEMBRANE.

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1	07/12/07	FINAL SYSTEMS DESIGN

DRAWING TITLE:

LEVEL 2 FLOOR PLAN

PROJECT NUMBER:

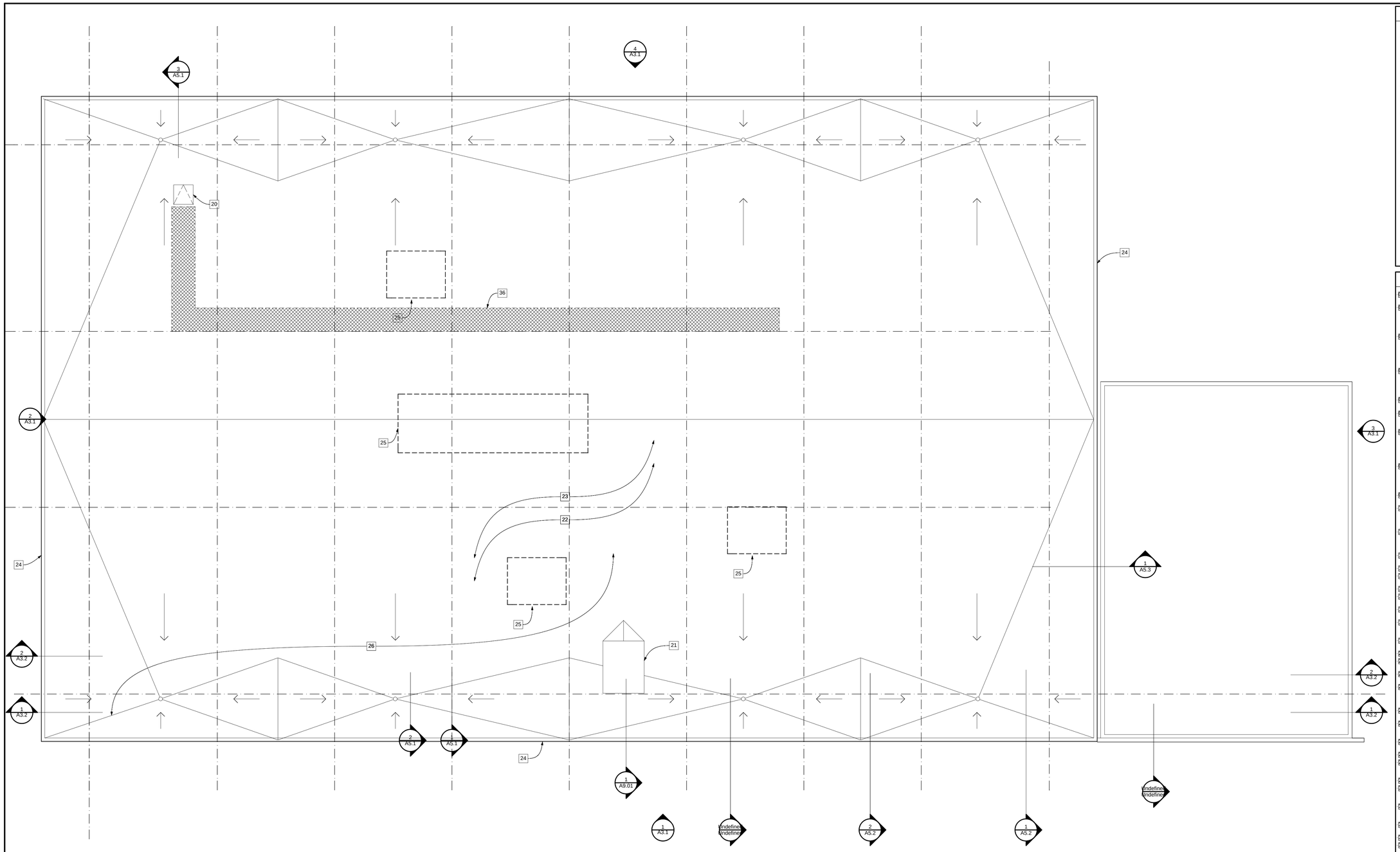
200614

DATE:

06/15/07

DRAWING NUMBER:

.A2.2



1 3. ROOF PLAN 1/8" = 1'-0"

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35 ALUMINUM AND GLASS GUARDRAIL SYSTEM.

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

ROOF PLAN

PROJECT NUMBER:

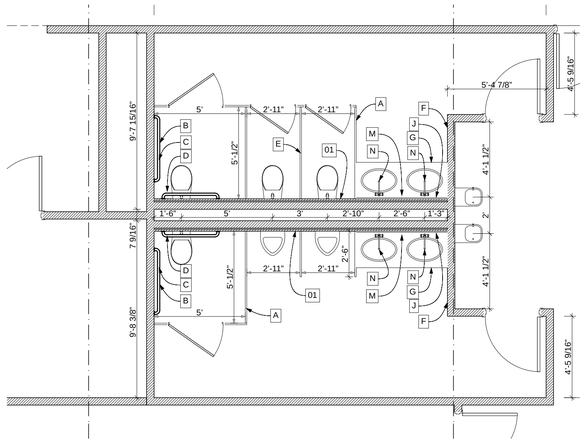
200614

DATE:

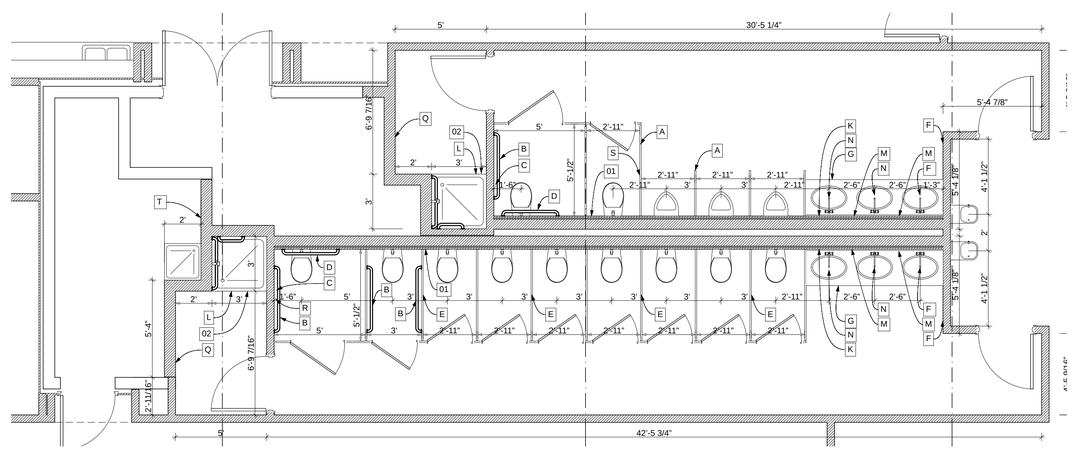
06/15/07

DRAWING NUMBER:

.A2.3



2 ENLARGED PLAN LEVEL 2 RESTROOMS 1/4" = 1'-0"



1 ENLARGED PLAN LEVEL 1 RESTROOMS 1/4" = 1'-0"

GENERAL NOTES PLAN DETAIL

1. DO NOT SCALE DRAWINGS
2. DIMENSIONS ON WALLS ARE GIVEN TO THE OUTSIDE FACE OF THE WALL FINISH UNLESS OTHERWISE NOTED.
3. PLEASE SEE SHEET A8.1 FOR DOOR INFORMATION.
4. PLEASE SEE SHEET A8.2 AND A 8.3 FOR WINDOW INFORMATION
5. PLEASE SEE SHEET A0.2 FOR PARTITION TYPES.
6. PARTITIONS ARE TO BE TYPE A3 UNLESS OTHERWISE NOTED.
7. JAMBS FOR DOORS LOCATED ADJACENT TO A PERPINDICULAR WALL ARE 4" FROM THE PERPINDICULAR WALL FACE UNLESS SPECIFICALLY NOTED OTHERWISE.

KEY NOTES

01 1" THICK MARBLE PANELS. APPROXIMATE SIZE 84" TALL X 20" WIDE. SUPPORT FROM STUD WALL WITH WIRE AND PLASTER DAUB METHOD. JOINTS TO BE 1/8" MAX. MARBLE MATERIAL TO BE PROVIDED BY OWNER. INSTALLATION SHALL BE BY CONTRACTOR. SHEATHING ON STUD WALL BEHIND MARBLE SLABS TO BE CEMENT BOARD.

02 SHEATHING ON STUD WALL BEHIND SHOWER UNITS TO BE CEMENT BOARD.

EQUIPMENT LEGEND

A SOLID PHENOLIC TOILET PARTITION SYSTEM

B 42" LONG STAIN FINISH STAINLESS STEEL GRAB BAR. 1 1/2" DIAMETER. CONCEALED MOUNTING. MOUNT AT 34" A.F.F.. BOBRICK 6806 SERIES.

C SATIN FINISH STAINLESS STEEL SEMI RECESSED TOILET PAPER DISPENSER- BOBRICK B-669

D 36" LONG STAIN FINISH STAINLESS STEEL GRAB BAR. 1 1/2" DIAMETER. CONCEALED MOUNTING. MOUNT AT 34" A.F.F.. BOBRICK 6806 SERIES.

E PARTITION MOUNTED TOILET PAPER DISPENSER AND SANITARY NAPKIN DISPENSER. BOBRICK B-357.

F WALL MOUNTED SEMI RECESSED TOWEL DISPENSER AND WASTE RECEPTICLE. BOBRICK B-36903.

G SOLID SURFACE COUNTERTOP WITH INTEGRAL SINK BASIN IN CONTRASTING COLOR. MANUFACTURED BY HI MACS SOLID SURFACE COMPANY. SIZE AND NUMBER OF BASINS AS SHOWN ON PLANS.

H WALL MOUNTED WATER FOUNTAIN- SEE PLUMBING DRAWINGS.

J WALL MOUNTED MIRROR ABOVE COUNTERTOP. 5' WIDE X 48" TALL

K WALL MOUNTED MIRROR ABOVE COUNTERTOP. 7'-6" WIDE X 48" TALL.

L PREFABRICATED ADA FIBERGLASS SHOWER UNIT. PROVIDE ADA SEAT, GRAB BARS, SOAP DISPENSER, AND SHOWER CURTAIN WITH ROD.

M WALL MOUNTED SOAP DISPENSER. MOUNT AT 40" AFF. BOBRICK B-2112.

N INSULATED PIPE BURN PROTECTION BOOT.

P PREFABRICATED FLOOR MOUNTED JANITOR'S SINK. 2' WIDE X 2' LONG X 10" DEEP.

Q SURFACE MOUNTED SHELF AND TOWEL BAR. MOUNT AT 42" A.F.F.. BOBRICK B-7676.

R SURFACE MOUNTED FEMININE NAPKIN DISPOSAL BOBRICK B-254.

S SURFACE MOUNTED TOILET TISSUE DISPENSER. BOBRICK B-XXX.

T JANITOR'S SHELF WITH MOP AND BRROM HOLDERS. MOUNT AT 78" A.F.F.. BOBRICK B-239.

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

DETAIL PLANS

PROJECT NUMBER:

200614

DATE:

06/15/07

DRAWING NUMBER:

.A2.4

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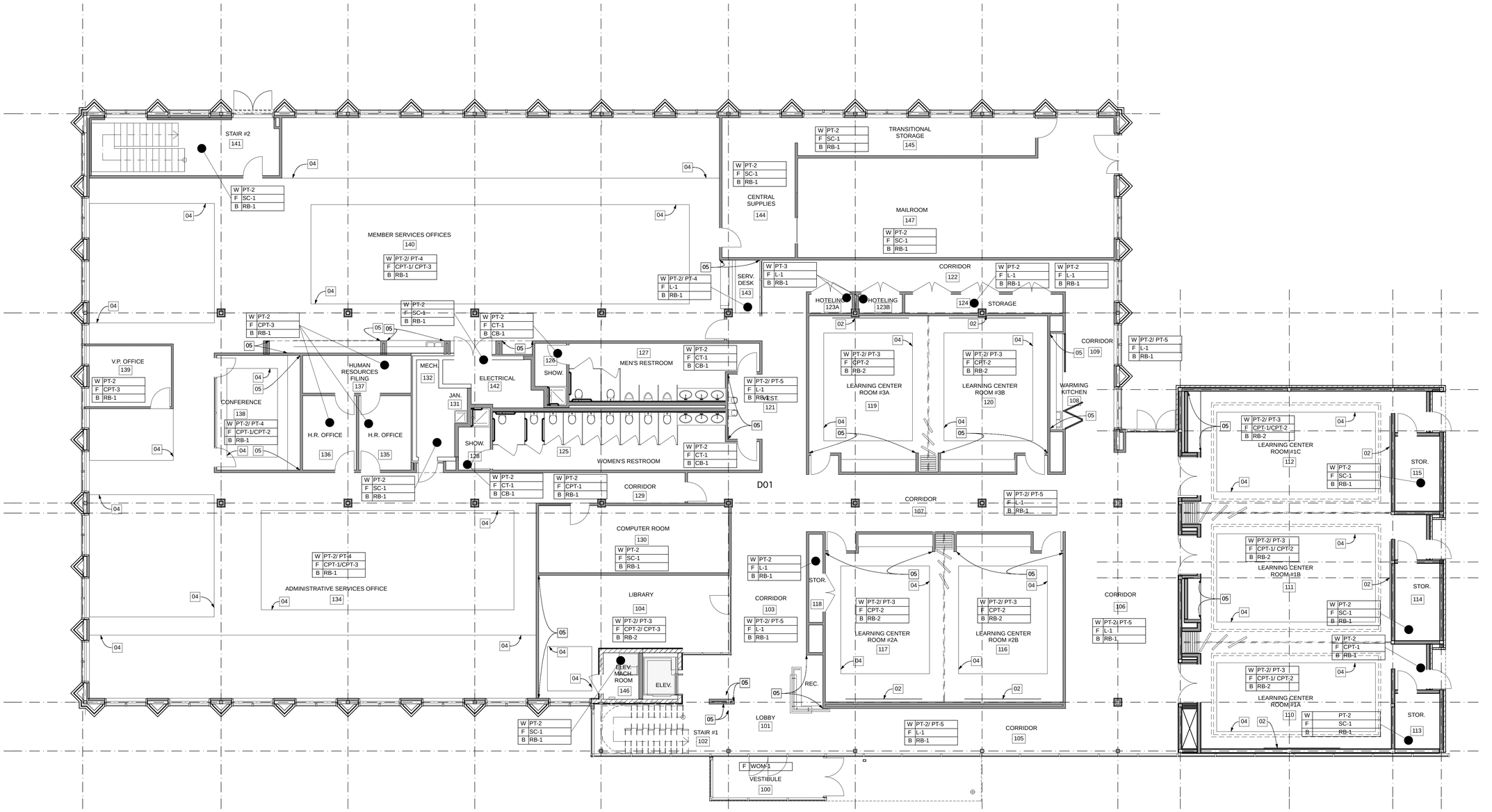

1 Level 1 Finish Floor Plan 1/8" = 1'-0"

GENERAL NOTES FINISH PLAN

1. DO NOT SCALE DRAWINGS
2. REFER TO SPECIFICATIONS FOR ADDITIONAL FINISH MATERIAL AND INSTALLATION INFORMATION.
3. WHERE MORE THAN ONE FINISH COLOR OR MATERIAL IS INDICATED FOR ONE ROOM OR SPACE, THE FINISH LISTED FIRST IN THE TAG IS INTENDED TO BE THE PRIMARY FINISH OR COLOR. NOTES WILL BE PLACED IN THE ROOM OR SPACE TO INDICATE THE EXTENT OF THE ACCENT COLOR OR FINISH.
4. THRESHOLDS SEPERATING FLOOR FINISHES IN ADJACENT ROOMS OR SPACES SHOULD BE PLACED AT THE DOOR OR OPENING BETWEN THE TWO SPACES. IF NO DOOR EXISTS BETWEEN SPACES, THE CHANGE WILL BE INDICATED BY NOTE ON THE DRAWING. IN NO CASE SHOULD THE ADJOINING ROOM FLOOR FINISH BE VISIBLE UNDER THE CLOSED DOOR.
5. NO CONDUIT, DUCTWORK, OR PIPING SHOULD BE VISIBLE TO OCCUPIED SPACES UNLESS SPECIFICALLY NOTED OTHERWISE ON THIS PLAN.
6. ALL WALLS AND SURFACES SHALL RECIEVE FINAL FINISH PRIOR TO INSTALLATION OF MARKERBOARDS, SHELVING UNITS, OR OTHER FIXED EQUIPMENT.
7. ALL HOLLOW METAL WINDOW AND DOOR FRAMES ARE TO BE PAINTED PT-1 ON INTERIOR AND EXTERIOR SURFACES UNLESS SPECIFICALLY NOTED OTHERWISE.
8. SEE RCP PLANS FOR CIELING FINISHES
9. SEE MILLWORK DRAWINGS FOR MILLWORK FINISHES.
10. EXISTING HORIZONTAL BLINDS WILL BE CLEANED AND RE-INSTALLED IN THE ORIGINAL OPENINGS.
11. FLUSH WOOD DOOR FINISH TO BE NATURAL BIRCH VENEER.

KEY NOTES

01 PROVIDE BLOCKING IN WALL FOR 4 x 8' PORCALAIN FRONT MARKERBOARD IN ANODIZED ALUMINUM FRAME MARKERBOARD IS NIC.

02 PROVIDE BLOCKING AND CONDUIT STUB FOR MOTORIZED RETRACTABLE PROJECTION SCREEN-MIN. 8' X 10' VIEWING AREA. SCREEN NIC.

03 CLOTHES SHELF AND ROD

04 FLOORING MATERIAL SEPERATION LINE

05 EXTENT OF ACCENT COLOR ON WALL

06 WOOD STAIR TREADS. MATCH DOOR FINISH.

FINISH LEGEND

FINISH TAG SYMBOLOGY

W	WALL FINISH
F	FLOOR MAT.
B	BASE MAT.

WALL FINISHES

PT-1 MATCH SW-XXX "COLOR NAME"
PT-2 MATCH SW-XXX "COLOR NAME"
PT-3 MATCH SW-XXX "COLOR NAME"
PT-4 MATCH SW-XXX "COLOR NAME"
PT-5 MATCH SW-XXX "COLOR NAME"
PT-6 MATCH SW-XXX "COLOR NAME"
PT-7 MATCH SW-XXX "COLOR NAME"
PT-8 MATCH SW-XXX "COLOR NAME"
PT-9 MATCH SW-XXX "COLOR NAME"
WT-1 CERAMIC TILE "COLOR NAME"

FLOOR FINISHES

CPT-1 CARPET TILE-MONOLITHIC STRIPE PATTERN
CPT-2 CARPET TILE-ASHLAR GEOMETRIC PATTERN
CPT-3 CARPET TILE-MONOLITHIC CIRCULAR PATTERN
CPT-4 CARPET TILE-MONOLITHIC CIRCULAR AND STRIPE PATTERN
CPT-5 ROLLED CARPET-SOLID COLOR
WOM-1 WALK OFF MAT SYSTEM
L-1 LINOLEUM SHEET
L-2 LINOLEUM SHEET
L-3 LINOLEUM SHEET
L-4 LINOLEUM SHEET
L-5 LINOLEUM SHEET
CT-1 CERAMIC TILE
SC SEALED CONCRETE

FLOOR FINISHES

RB-1 RUBBER BASE
CB-1 CERAMIC TILE BASE

0 2 4 8

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

LEVEL 1 FINISH PLAN

PROJECT NUMBER:

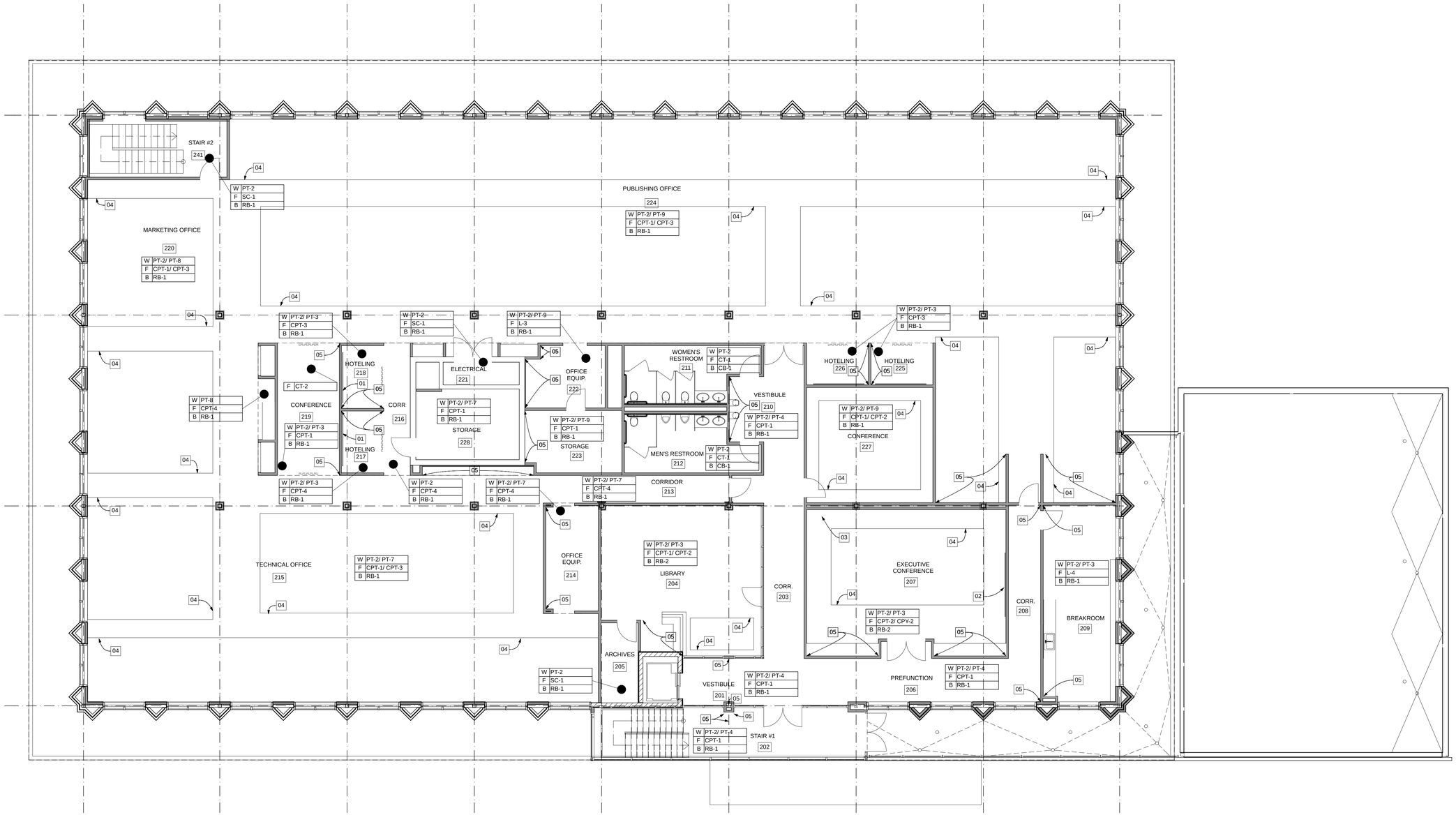
200614

DATE:

06/15/07

DRAWING NUMBER:

.A2.6



1 Level 2 Finish Floor Plan 1/8" = 1'-0"

GENERAL NOTES FINISH PLAN

1. DO NOT SCALE DRAWINGS
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PT-2 MATCH SW-XXX "COLOR NAME"
PT-3 MATCH SW-XXX "COLOR NAME"
PT-4 MATCH SW-XXX "COLOR NAME"
PT-5 MATCH SW-XXX "COLOR NAME"
PT-6 MATCH SW-XXX "COLOR NAME"
PT-7 MATCH SW-XXX "COLOR NAME"
PT-8 MATCH SW-XXX "COLOR NAME"
PT-9 MATCH SW-XXX "COLOR NAME"
WT-1 CERAMIC TILE "COLOR NAME"

FLOOR FINISHES

CPT-1 CARPET TILE-MONOLITHIC STRIPE PATTERN
CPT-2 CARPET TILE-ASHLAR GEOMETRIC PATTERN
CPT-3 CARPET TILE-MONOLITHIC CIRCULAR PATTERN
CPT-4 CARPET TILE-MONOLITHIC CIRCULAR AND STRIPE PATTERN
CPT-5 ROLLED CARPET-SOLID COLOR
WOM-1 WALK OFF MAT SYSTEM
L-1 LINOLEUM SHEET
L-2 LINOLEUM SHEET
L-3 LINOLEUM SHEET
L-4 LINOLEUM SHEET
L-5 LINOLEUM SHEET
CT-1 CERAMIC TILE
SC SEALED CONCRETE

FLOOR FINISHES

RB-1 RUBBER BASE
CB-1 CERAMIC TILE BASE

0 2 4 8

STATE OF GEORGIA
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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

LEVEL 2 FINISH PLAN

PROJECT NUMBER:

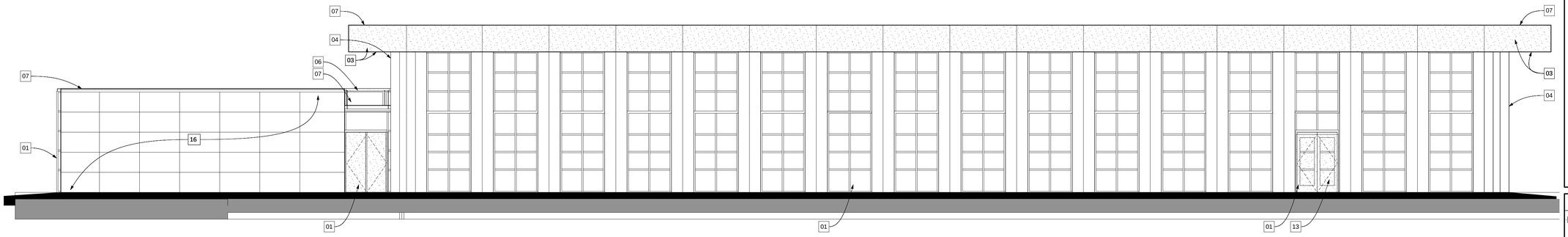
200614

DATE:

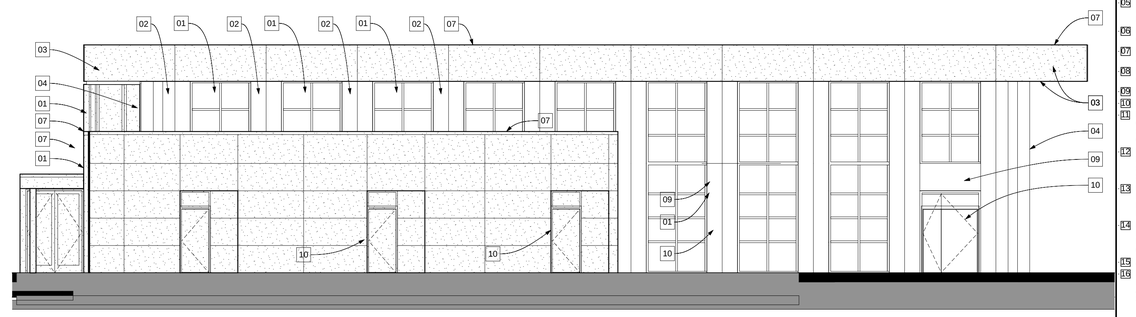
06/15/07

DRAWING NUMBER:

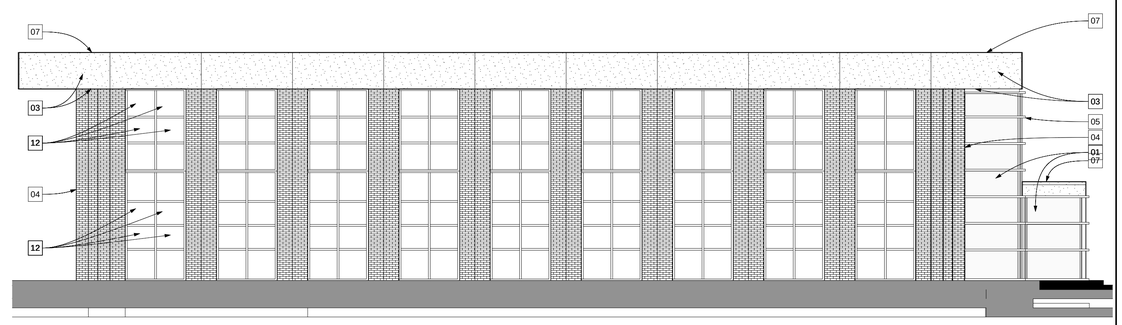
.A2.7



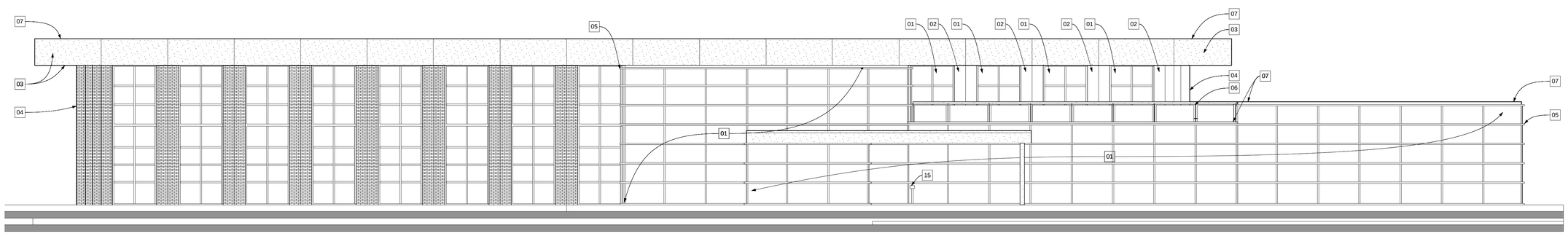
4 EL 1/8" = 1'-0"



3 EAST ELEVATION EL 1/8" = 1'-0"



2 WEST ELEVATION EL 1/8" = 1'-0"



1 SOUTH ELEVATION 1/8" = 1'-0"

GENERAL NOTES BLDG ELEV.

1. DO NOT SCALE DRAWINGS
2. GLAZING IN EXISTING STOREFRONT FRAMES IS EXISTING TO REMAIN EXCEPT WHERE GLAZING TYPE KEYS SPECIFICALLY CALL FOR NEW PANELS.
3. GLAZING PANELS PLACED IN EXISTING STOREFRONT SHOULD BE EXISTING PANELS REMOVED FROM OTHER AREAS OF THE BUILDING AFFECTED BY DEMOLITION TO THE GREATEST EXTENT POSSIBLE.
4. SEE GLAZING SPECIFICATION FOR GLASS TYPES SHOWN ON ELEVATIONS.
5. EXISTING BRICK PIERS SHALL BE REPOINTED AS REQUIRED TO MATCH NEW BRICK MORTAR CONDITION.

KEY NOTES

01 NEW 6" ALUMINUM STOREFRONT GLAZING SYSTEM. BASIS OF DESIGN IS KAWNEER.
02 NEW BRICK VENEER WALL.
03 REPAINT EXISTING SOFFIT AND FACIA
04 LINE OF EXISTING BUILDING BEYOND
05 HORIZONTAL CURTAINWALL EXTENSION- TYPICAL NEW SOUTH FACADE CURTAINWALL.
06 NEW ALUMINUM AND GLASS GUARDRAIL SYSTEM.
07 PREFORMED PREFINISHED ALUMINUM COPING SYSTEM.
08 ROOFTOP PV SYSTEM LOCATION. OWNER PROVIDED ITEM.
09 PAINTED CANOPY STRUCTURE
10 NEW DOOR AND DOOR FRAME.
11 REPLACE EXISTING SPANDREL GLASS IN EXISTING STOREFRONT SYSTEM WITH SALVAGED VISION GLASS PANEL.
12 REPLACE EXISTING VISION GLASS PANEL IN EXISTING STOREFRONT SYSTEM WITH SALVAGED SPANDREL GLASS PANEL.
13 RELOCATE EXISTING DEMOLISHED ALUMINUM DOOR FROM EXISTING LOCATION TO LOCATION INDICATED.
14 REMOVE EXISTING STOREFRONT DOOR AND CURTAINWALL FRAME. REPLACE WITH NEW CURTAINWALL AND GLAZING.
15 ACCESS CARD READER.
16 PREMANUFACTURED PREFINISHED INSULATED ALUMINUM PANEL RAINSCREEN SYSTEM.

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

BUILDING ELEVATIONS

PROJECT NUMBER:

200614

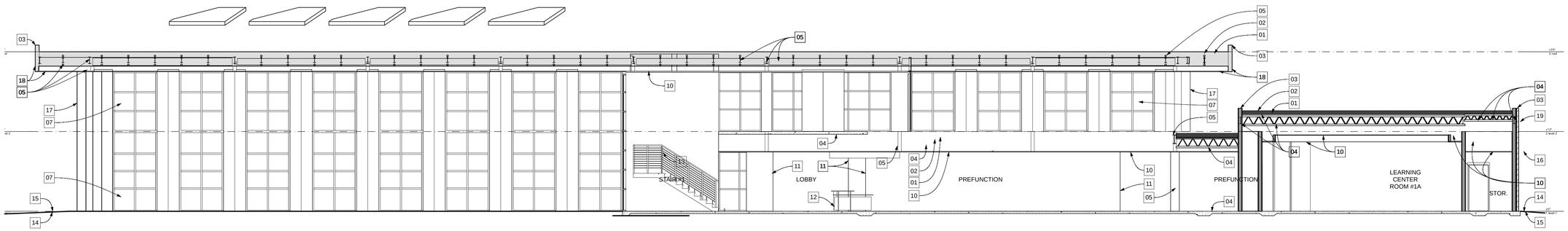
DATE:

06/15/07

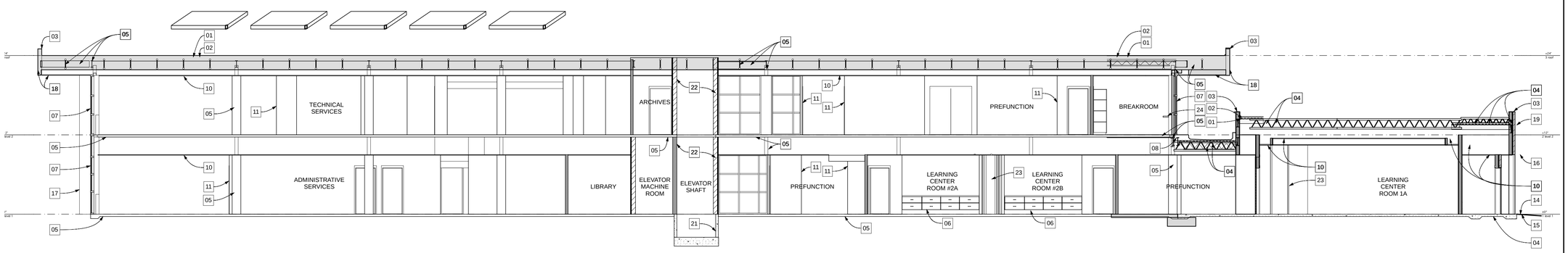
DRAWING NUMBER:

.A3.1

0 2 4 8



1 east west lobby section- sect 1/8" = 1'-0"



2 east west building section sect 1/8" = 1'-0"

GENERAL NOTES BLDG SECT.

1. DO NOT SCALE DRAWINGS
2. SLABS AND WALL SECTIONS THAT ARE NOT HATCHED ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
3. EXISTING GWB FURRING ON ALL EXTERIOR WALL IS TO BE REMOVED AND REPLACED. INSULATION WITH A MINIMUM R-VALUE OF 13 IS TO BE ADDED TO THE FURRING CAVITY.

KEY NOTES

- 01 MINIMUM OF 2" RIGID INSULATION OVER ROOF DECK. TAPER TO SLOPE AS SHOWN ON PLANS.
- 02 ROOF MEMBRANE-SEE ROOF PLAN FOR ADDITIONAL INFORMATION.
- 03 PREFABRICATED PREFINISHED ALUMINUM ROOF COPING.
- 04 STRUCTURAL STEEL JOIST AND DECK SYSTEM- SEE STRUCTURAL DRAWINGS.
- 05 EXISTING BUILDING STRUCTURE TO REMAIN
- 06 CREDENZA-SEE PLANS FOR ADDITIONAL INFORMATION.
- 07 EXISTING CURTAINWALL AND GLAZING TO REMAIN.
- 08 BUILDING EXPANSION JOINT.
- 09 ALUMINUM AND GLASS GUARDRAIL SYSTEM.
- 10 FINISH CEILING-SEE RCP FOR ADDITIONAL INFORMATION.
- 11 EDGE OF WALL BEYOND
- 12 RECEPTION DESK-SEE PLANS FOR ADDITIONAL INFORMATION.
- 13 NEW STEEL STAIR SYSTEM.
- 14 GRADE-EXISTING
- 15 GRADE-NEW
- 16 PAINTED CANOPY STRUCTURE.
- 17 EXTERIOR FACE OF BUILDING BEYOND.
- 18 REPAINT EXISTING SOFFIT AND FACIA.
- 19 METAL PANEL SYSTEM.
- 20 REPLACE EXISTING JOISTS AND DECK IN THIS AREA TO MOVE EXISTING ELEVATOR SHAFT.-SEE STRUCTURAL.
- 21 NEW ELEVATOR PIT
- 22 NEW CMU ELEVATOR SHAFT
- 23 FOLDING PARTITION BEYOND.
- 24 WALL MOUNTED COUNTERTOP WTH PLASTIC LAMINATE FINISH.

0 2 4 8

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

BUILDING SECTIONS

PROJECT NUMBER:

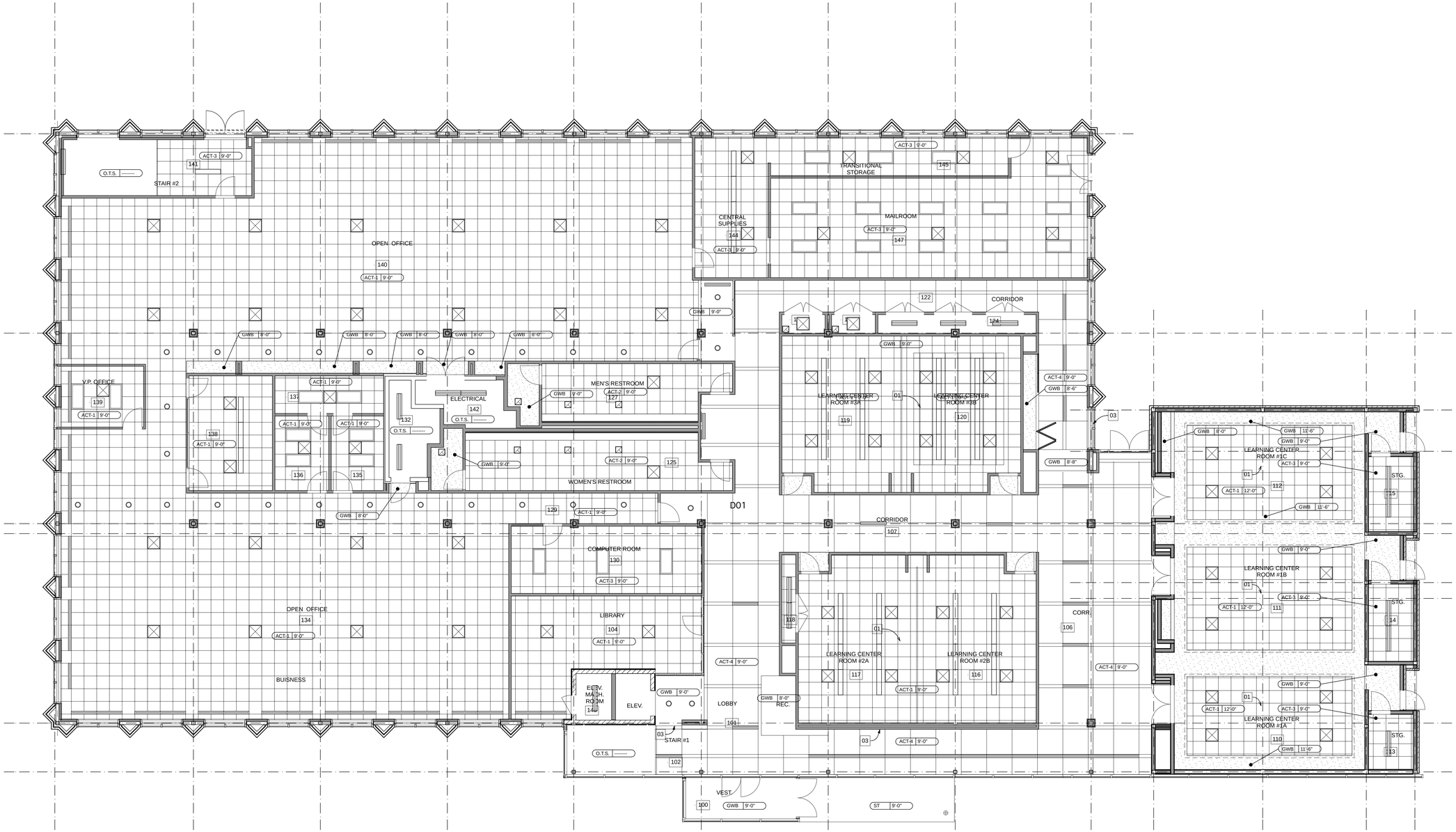
200614

DATE:

06/15/07

DRAWING NUMBER:

.A3.2



1. level 1 1/8" = 1'-0"

SYMBOL LEGEND RCP

- RETURN AIR GRILL
- SUPPLY AIR DIFFUSER
- 2X4 LAY-IN FLUORESCENT
- 1X4 LAY-IN FLUORESCENT
- 2X2 LAY-IN FLUORESCENT
- SUSPENDED ACOUSTICAL TILE CEILING
- 6" DIA. DOWNLIGHT
- 10" DIA. DOWNLIGHT
- GYPSUM CEILING
- SUSP. LINEAR FLUORESCENT FIXTURE
- DIMENSION STRING (5")
- CIELING TAG (ACT-1 9'-0") — INSTALLATION EL. / MATERIAL TYPE
- SECTION MARKER — DETAIL NUMBER / SHEET NUMBER
- ENLARGED DETAIL MARKER — DETAIL NUMBER / SHEET NUMBER
- 00 KEY NOTE
- REVISION CLOUD — REVISION NUMBER

GENERAL NOTES RCP

1. DO NOT SCALE DRAWINGS
2. INSTALLATION HEIGHT FOR CEILING MATERIALS IS GIVEN AS THE ELEVATION ABOVE THE FINISH FLOOR. FOR LEVEL 1 THE CEILING HEIGHT IS MEASURED FROM THE EXISTING FIRST FLOOR SLAB FINISH FLOOR ELEVATION.
3. REFER TO SPECIFICATIONS FOR ADDITIONAL FINISH MATERIAL AND INSTALLATION INFORMATION.
4. NO CONDUIT, DUCTWORK, OR PIPING SHOULD BE VISIBLE TO OCCUPIED SPACES UNLESS SPECIFICALLY NOTED OTHERWISE ON THIS PLAN.
5. GWB CEILINGS IN SHOWERS AND RESTROOMS SHALL BE MOISTURE RESISTANT.

KEY NOTES RCP

- 01 FUTURE PROJECTOR LOCATION. PLACE OUTLET AND JUNCTION BOX IN CIELING IN THIS LOCATION, FLUSH TO FINISH CEILING SURFACE. WITH APPROPRIATE DEVICE COVER.
- 02 LINE OF EXISTING CEILING FEATURE FOR REFERENCE ONLY.
- 03 GWB EXPANSION JOINT

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

LEVEL 1 RCP

PROJECT NUMBER:

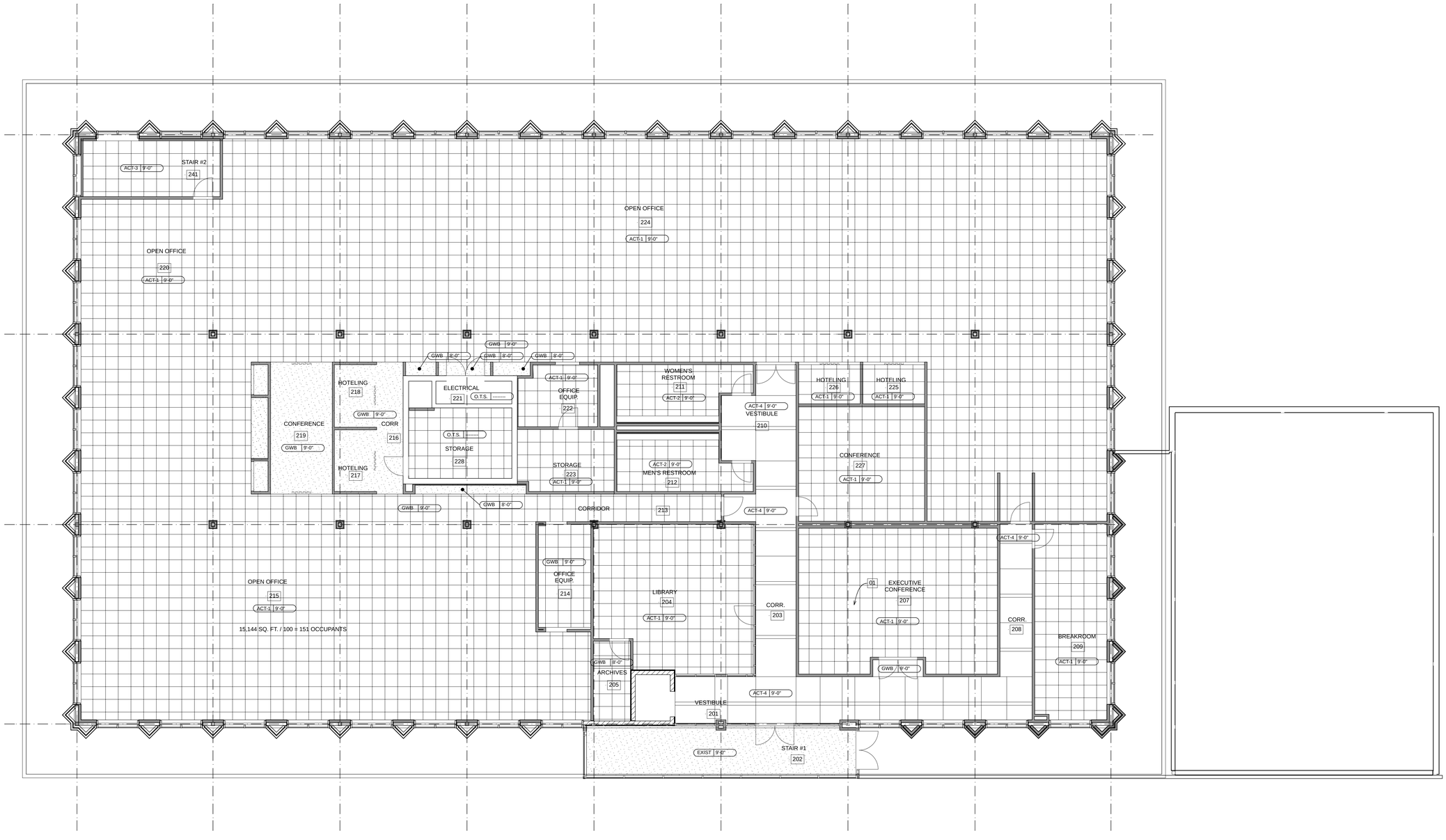
200614

DATE:

06/15/07

DRAWING NUMBER:

.A4.1



2. level 2 1/8" = 1'-0"

SYMBOL LEGEND RCP

- RETURN AIR GRILL
- SUPPLY AIR DIFFUSER
- 2X4 LAY-IN FLUORESCENT
- 1X4 LAY-IN FLUORESCENT
- 2X2 LAY-IN FLUORESCENT
- SUSPENDED ACOUSTICAL TILE CEILING
- 6" DIA. DOWNLIGHT
- 10" DIA. DOWNLIGHT
- GYPSUM CEILING
- SUSP. LINEAR FLUORESCENT FIXTURE
- 5" DIMENSION STRING
- ACT-1 9'-0" CIELING TAG — INSTALLATION EL. — MATERIAL TYPE
- X SECTION MARKER — DETAIL NUMBER — AX.XX SHEET NUMBER
- X ENLARGED DETAIL MARKER — DETAIL NUMBER — AX.XX SHEET NUMBER
- 00 KEY NOTE
- X REVISION CLOUD — REVISION NUMBER

GENERAL NOTES RCP

1. DO NOT SCALE DRAWINGS
2. INSTALLATION HEIGHT FOR CEILING MATERIALS IS GIVEN AS THE ELEVATION ABOVE THE FINISH FLOOR. FOR LEVEL 1 THE CEILING HEIGHT IS MEASURED FROM THE EXISTING FIRST FLOOR SLAB FINISH FLOOR ELEVATION.
3. REFER TO SPECIFICATIONS FOR ADDITIONAL FINISH MATERIAL AND INSTALLATION INFORMATION.
4. NO CONDUIT, DUCTWORK, OR PIPING SHOULD BE VISIBLE TO OCCUPIED SPACES UNLESS SPECIFICALLY NOTED OTHERWISE ON THIS PLAN.
5. GWB CEILINGS IN SHOWERS AND RESTROOMS SHALL BE MOISTURE RESISTANT.

KEY NOTES RCP

- 01 FUTURE PROJECTOR LOCATION. PLACE OUTLET AND JUNCTION BOX IN CIELING IN THIS LOCATION, FLUSH TO FINISH CEILING SURFACE. WITH APPROPRIATE DEVICE COVER.
- 02 LINE OF EXISTING CEILING FEATURE FOR REFERENCE ONLY.
- 03 GWB EXPANSION JOINT

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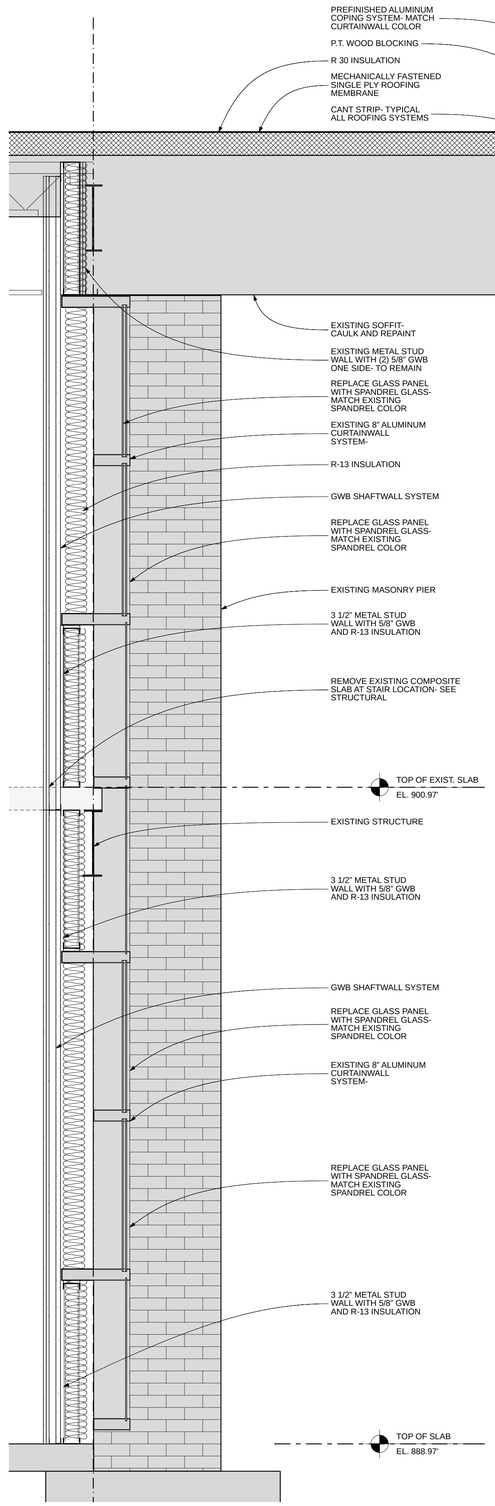
1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:
LEVEL 2 RCP

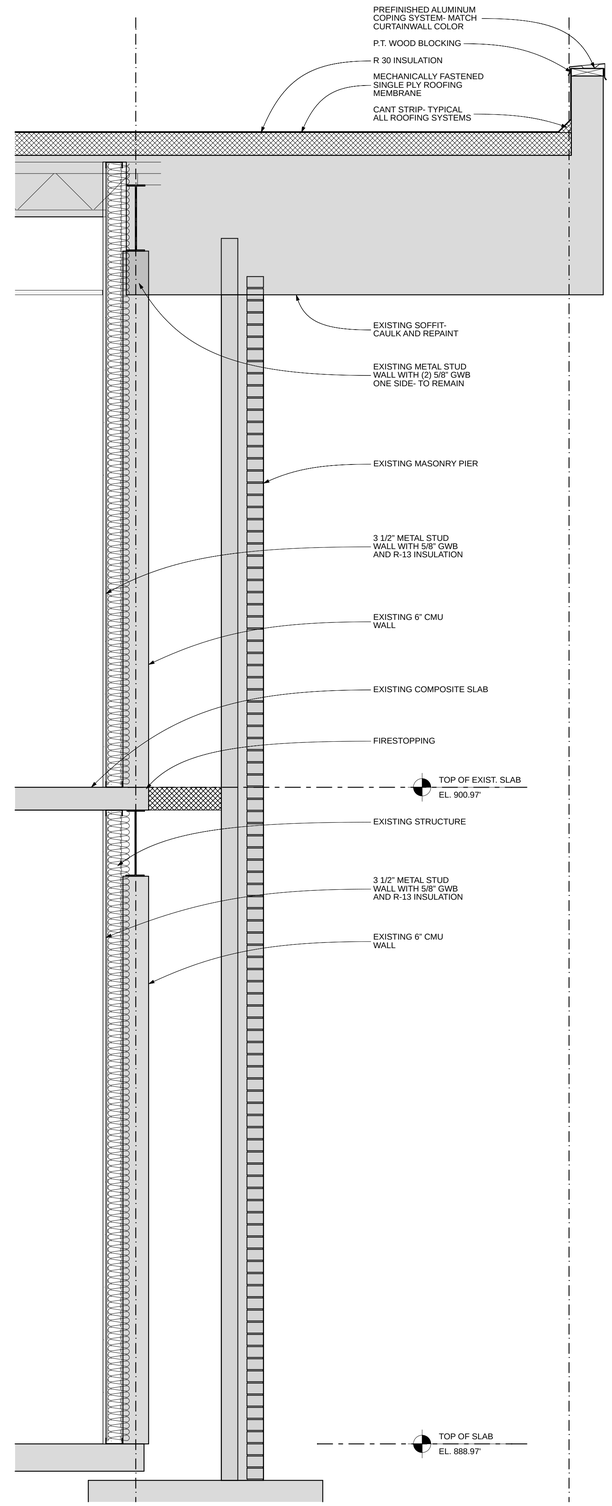
PROJECT NUMBER:
200614

DATE:
06/15/07

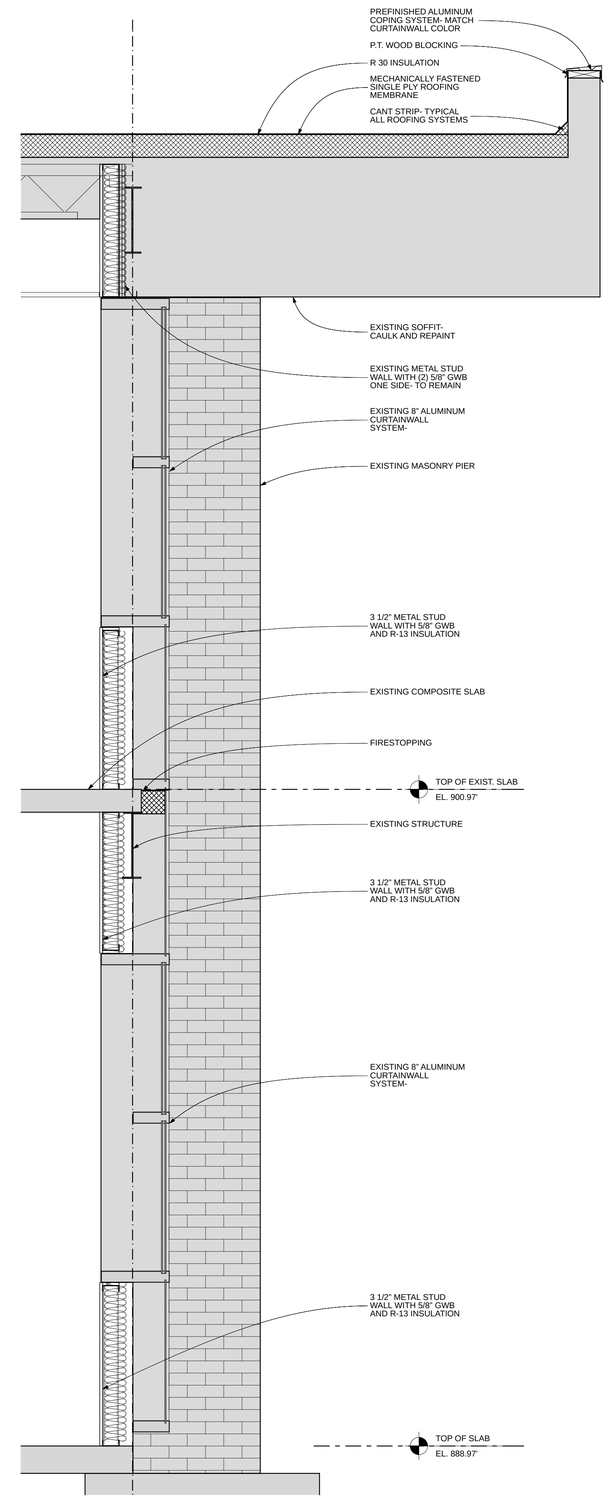
DRAWING NUMBER:
.A4.2



3 WALL SECTION STAIR #2 -2 HOUR WALL 3/4" = 1'-0"



1 WALL SECTION TYPICAL WALL AT BRICK PIER 3/4" = 1'-0"



2 WALL SECTION TYPICAL WALL AT CURTAINWALL 3/4" = 1'-0"

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

WALL SECTIONS

PROJECT NUMBER:

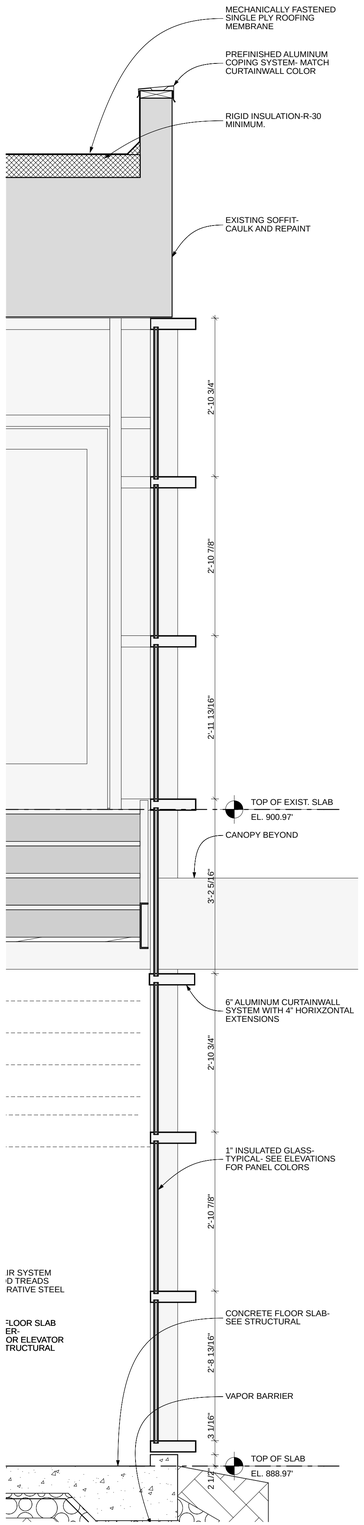
200614

DATE:

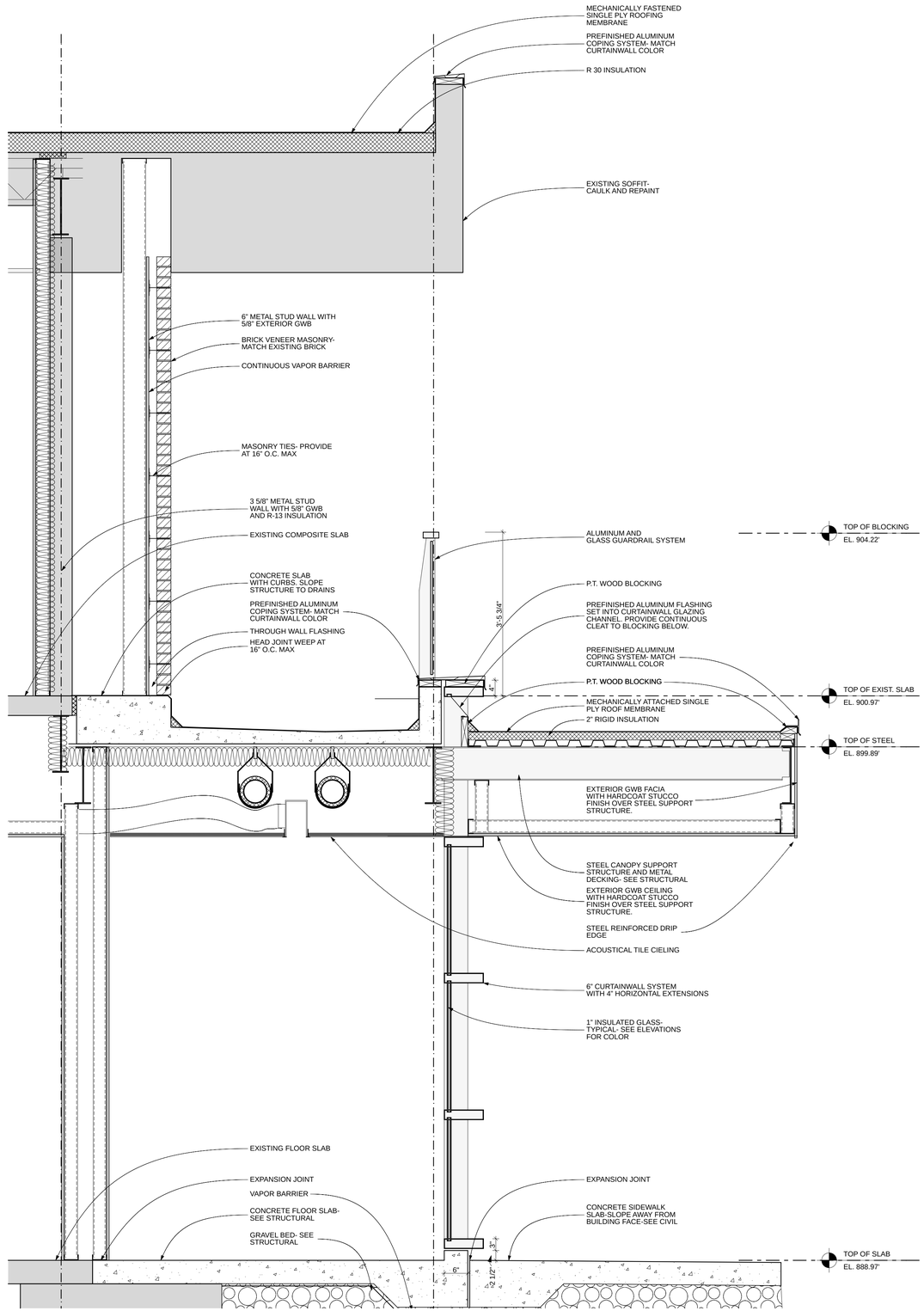
06/15/07

DRAWING NUMBER:

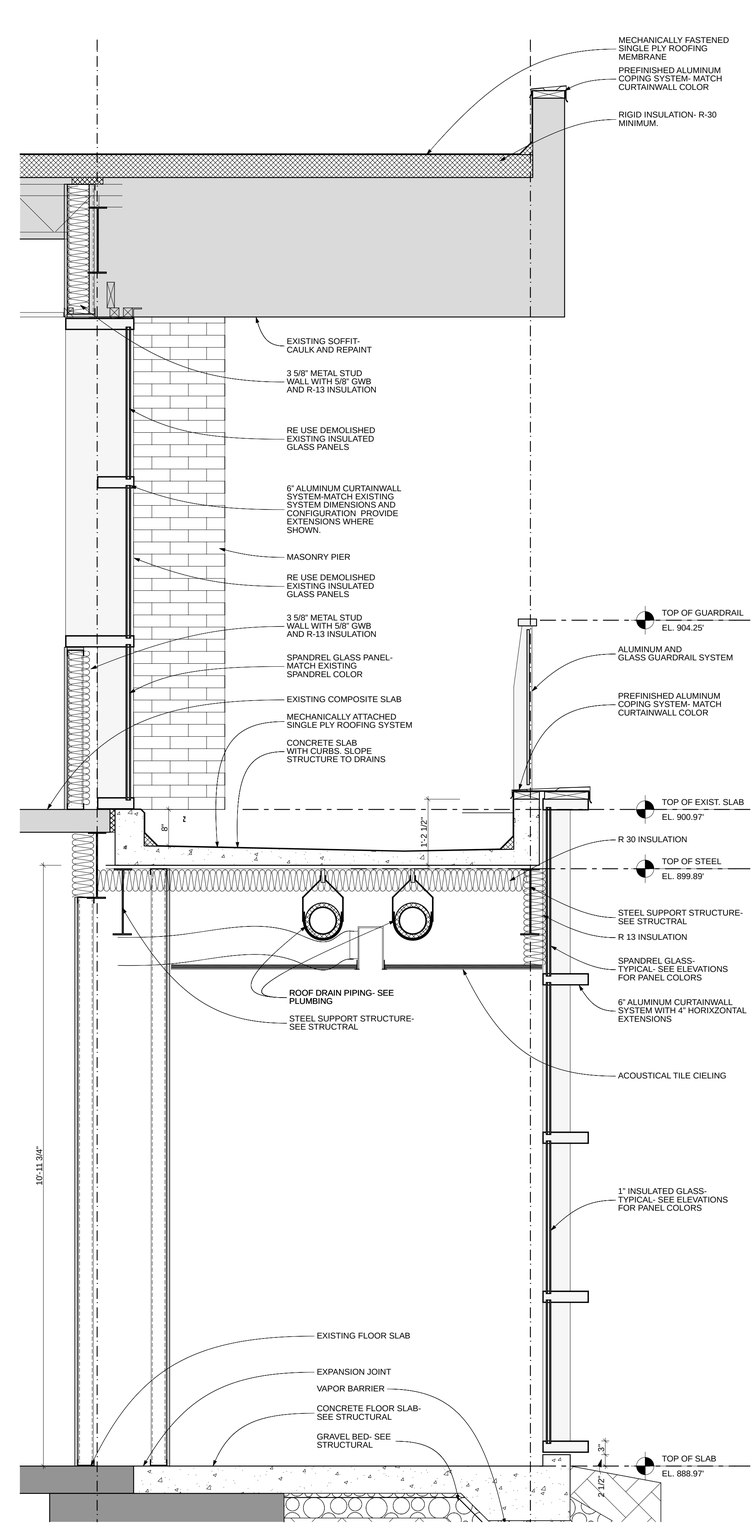
.A5.1



3 WALL SECTION AT SOUTH STAIR CURTAINWALL 3/4" = 1'-0"



2 WALL SECTION AT CANOPY 3/4" = 1'-0"



1 WALL SECTION TYPICAL AT SOUTH FACADE 3/4" = 1'-0"

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

WALL SECTIONS

PROJECT NUMBER:

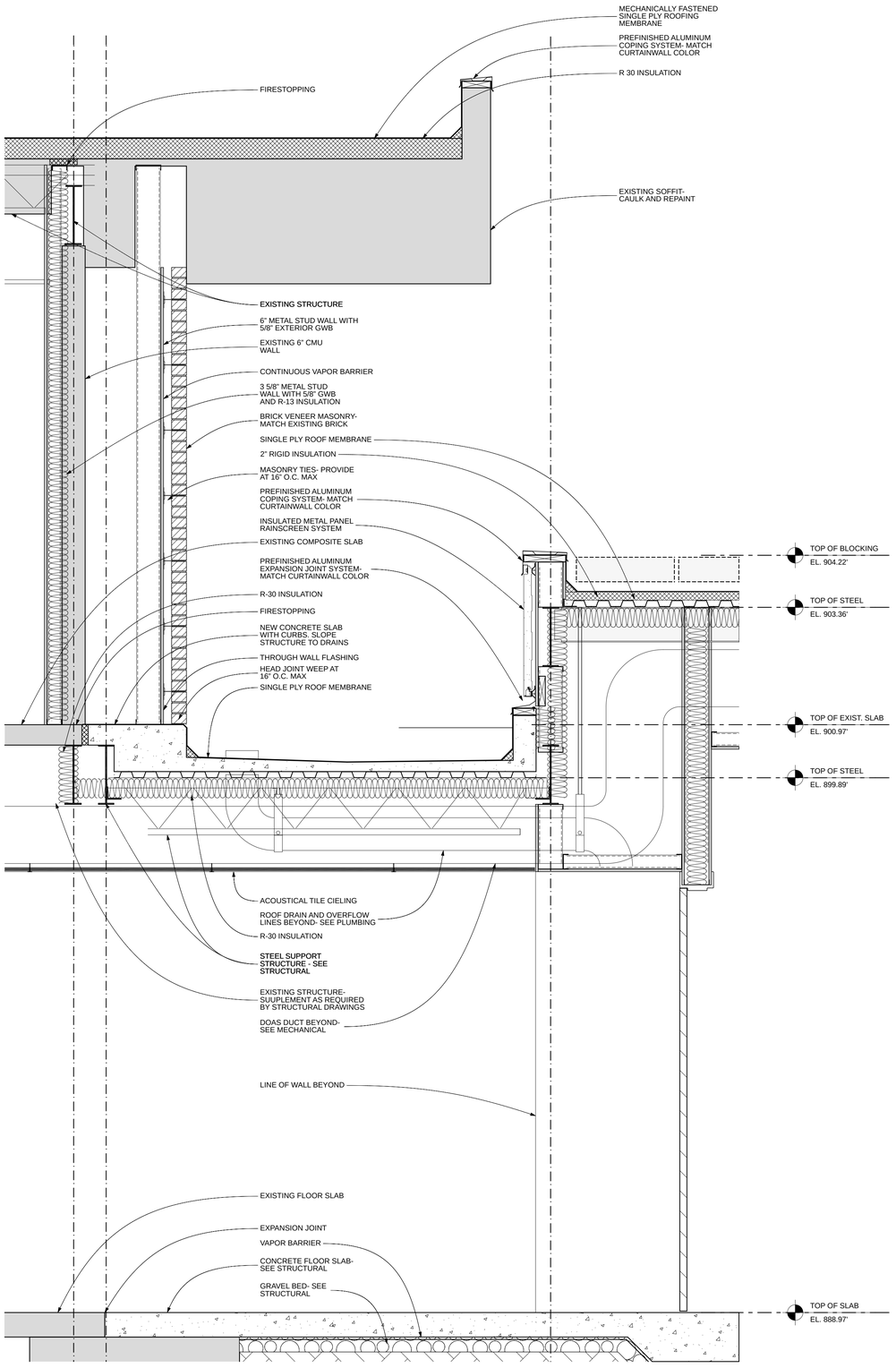
200614

DATE:

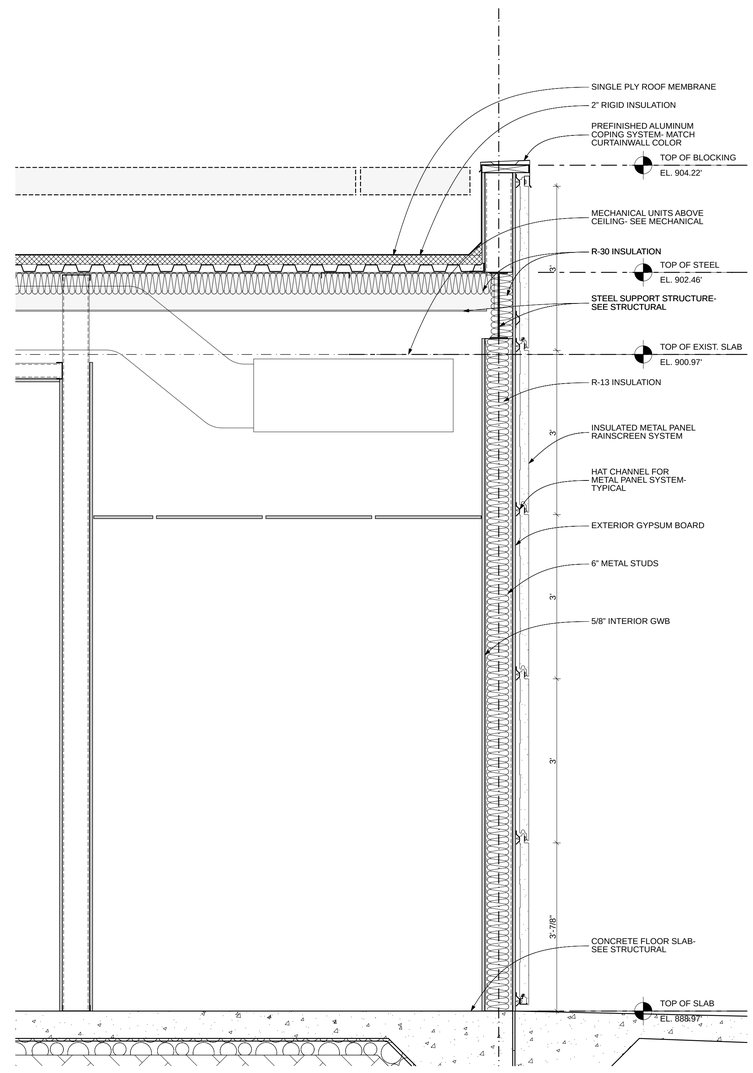
06/15/07

DRAWING NUMBER:

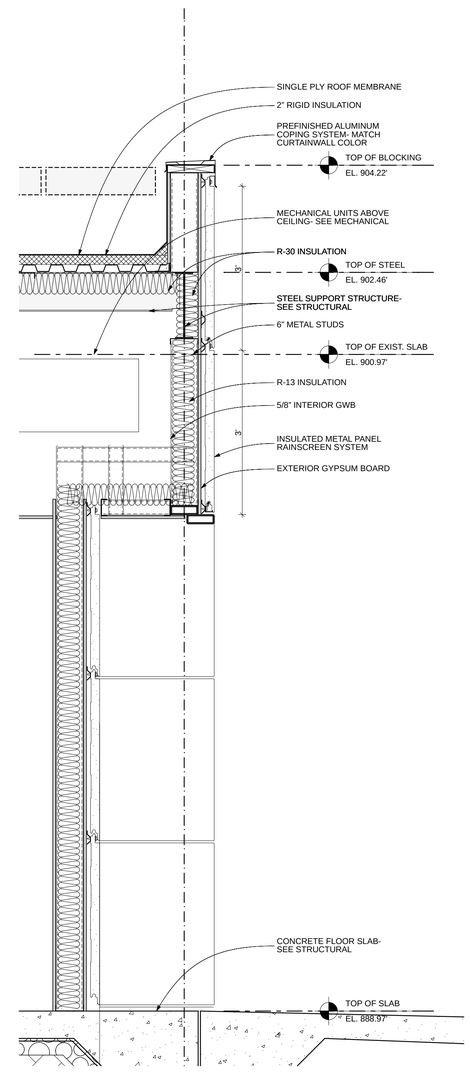
.A5.2



1 WALL SECTION PREFUNCTION EAST 3/4" = 1'-0"



2 WALL SECTION LEARNING CENTER WALL-TYPICAL 3/4" = 1'-0"



3 WALL SECTION LEARNING CENTER VESTIBULE 3/4" = 1'-0"

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

WALL SECTIONS

PROJECT NUMBER:

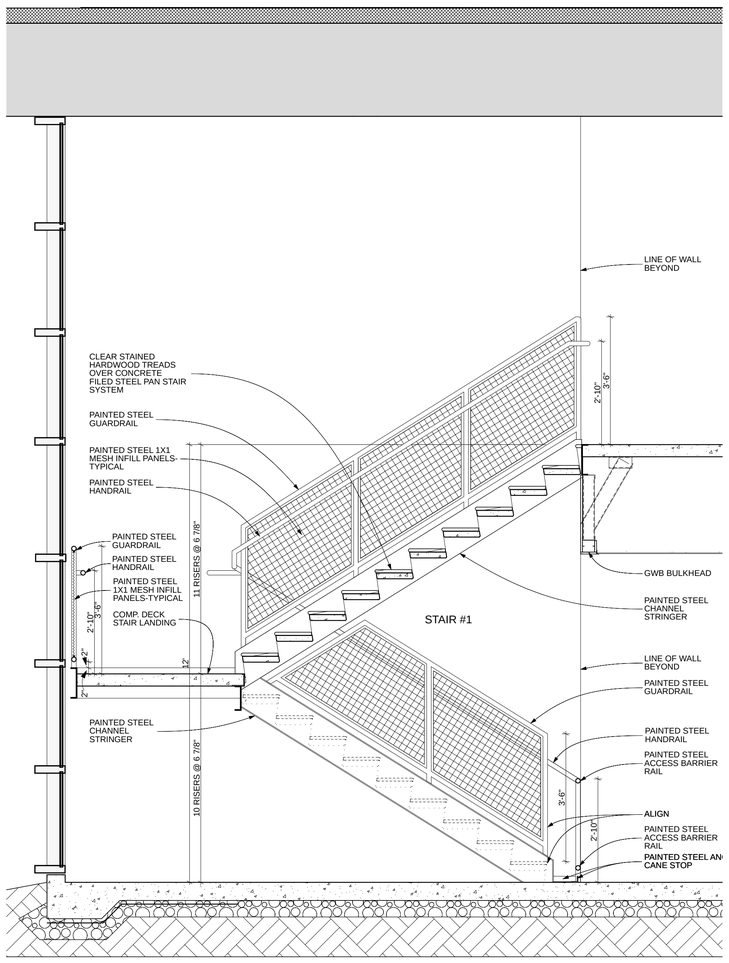
200614

DATE:

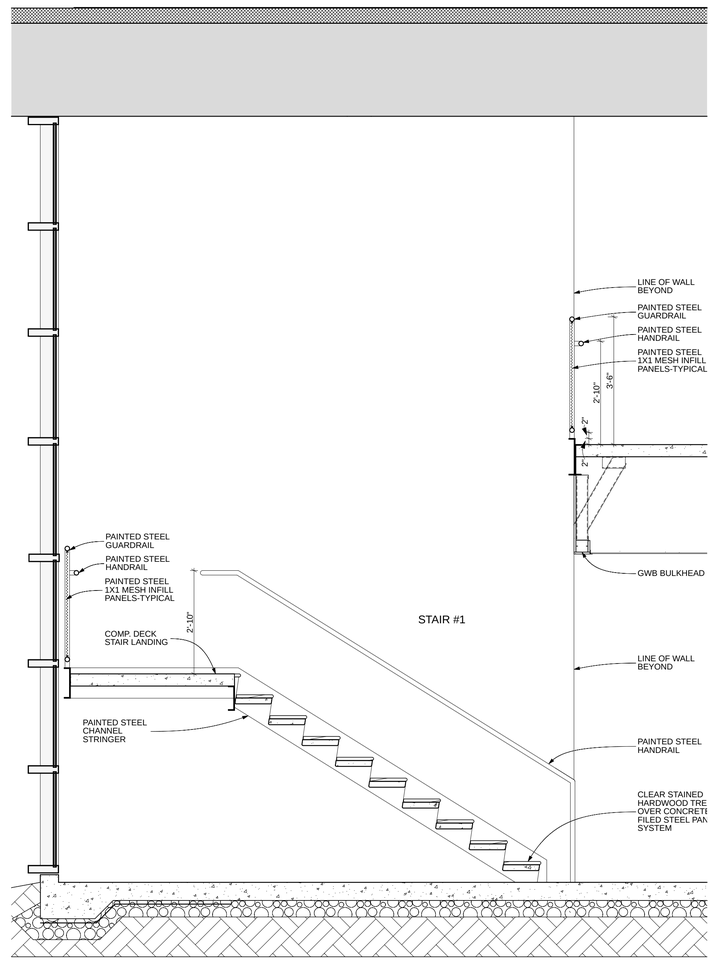
06/15/07

DRAWING NUMBER:

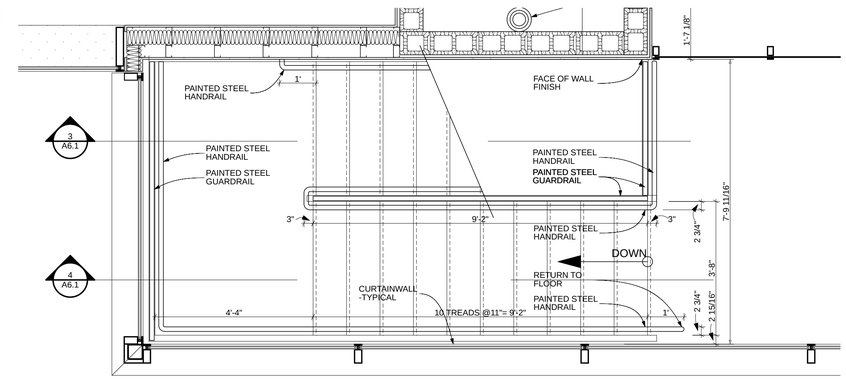
.A5.3



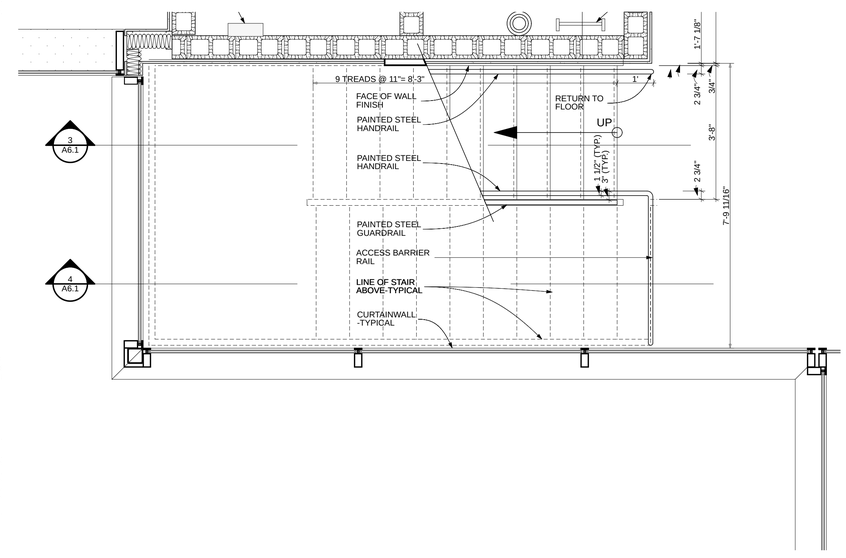
4 STAIR #1 SECTION LANDING TO LEVEL 2 1/2" = 1'-0"



3 STAIR #1 SECTION LEVEL 1 TO LANDING 1/2" = 1'-0"



2 STAIR #1 LEVEL 2 PLAN 1/2" = 1'-0"



1 STAIR #1 LEVEL 1 PLAN 1/2" = 1'-0"

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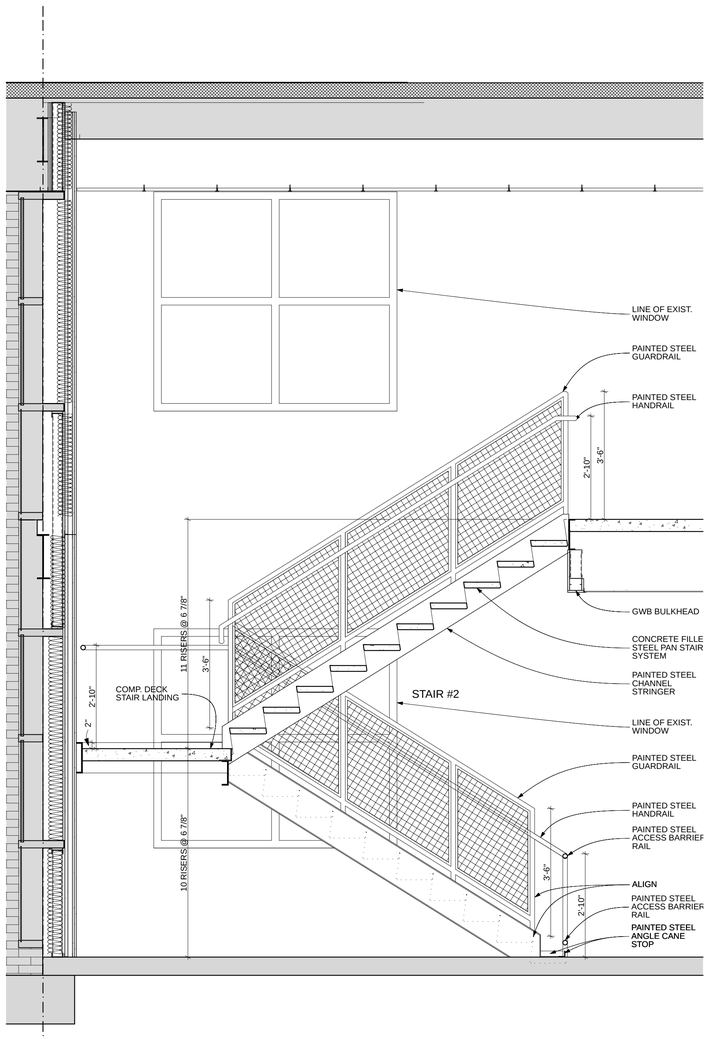
1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:
STAIR #1

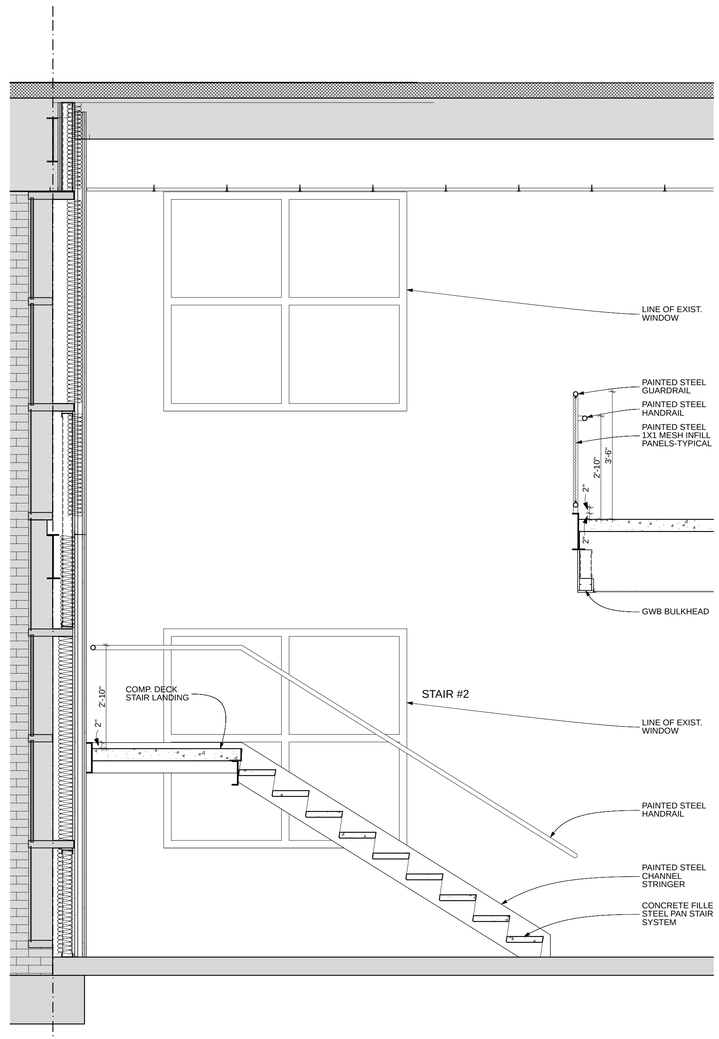
PROJECT NUMBER:
200614

DATE:
06/15/07

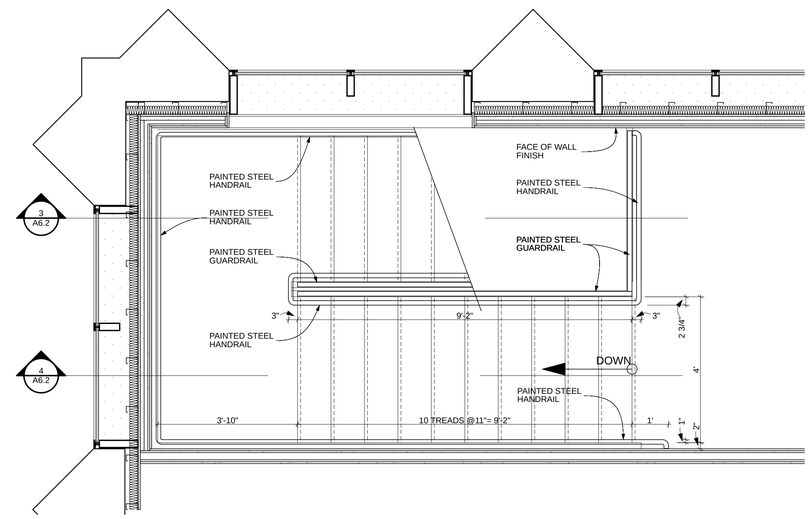
DRAWING NUMBER:
.A6.1



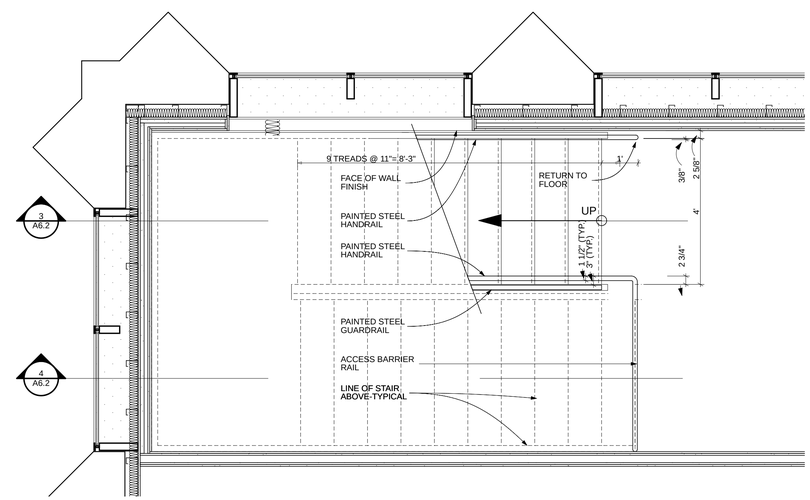
4 STAIR #2 SECTION LANDING TO LEVEL 2 1/2" = 1'-0"



3 STAIR #2 SECTION LEVEL 1 TO LANDING 1/2" = 1'-0"



2 STAIR #2 LEVEL 2 PLAN 1/2" = 1'-0"



1 STAIR #2 LEVEL 1 PLAN 1/2" = 1'-0"

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

STAIR #2

PROJECT NUMBER:

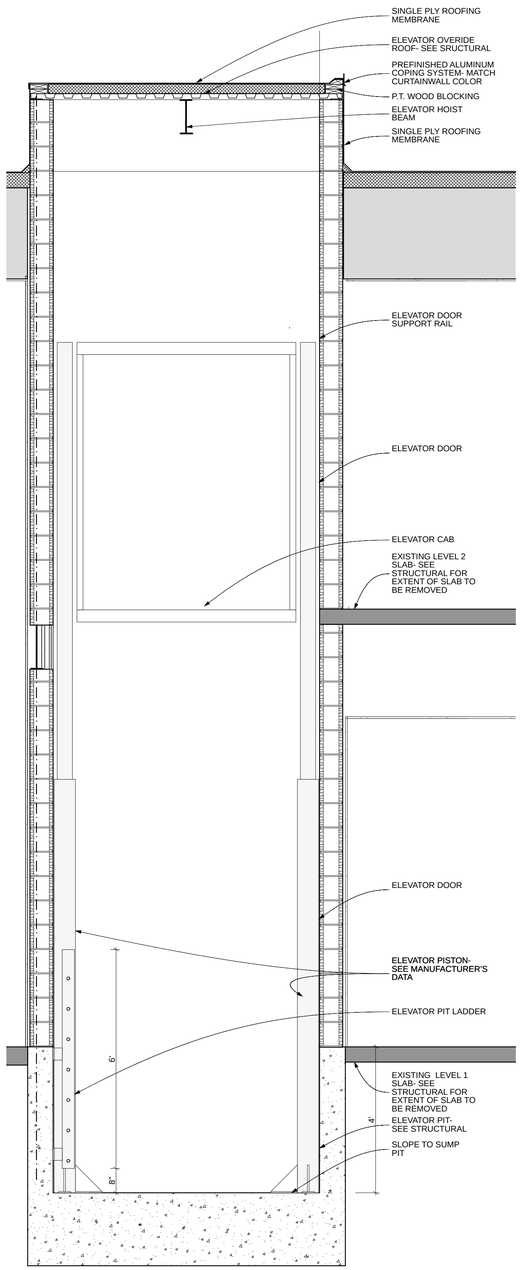
200614

DATE:

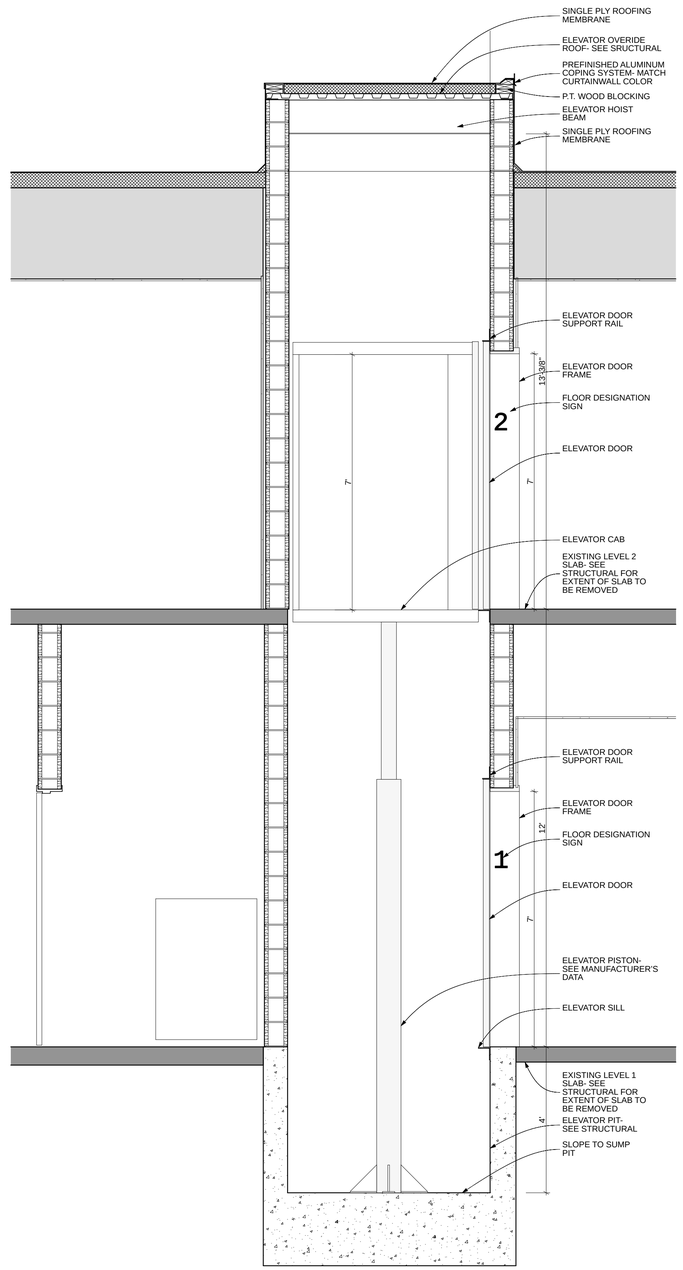
06/15/07

DRAWING NUMBER:

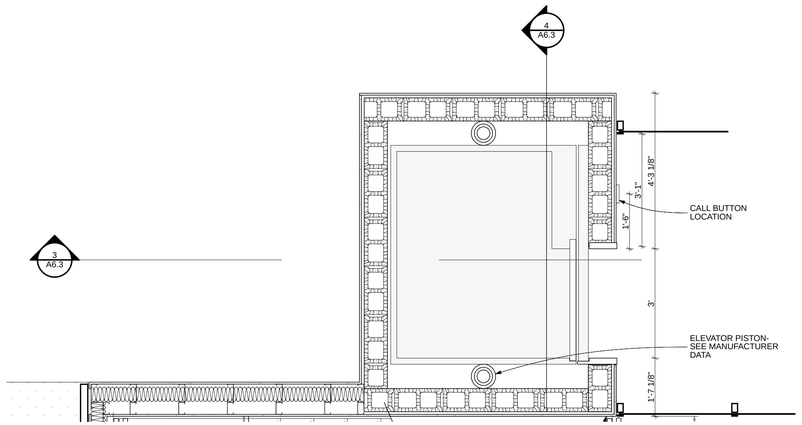
.A6.2



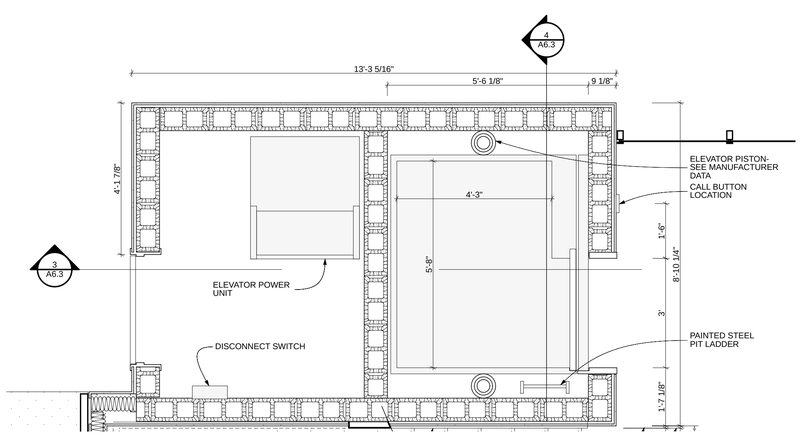
4 ELEVATOR SHAFT ACCROSS HOISTWAY 1/2" = 1'-0"



3 ELEVATOR SHAFT THROUGH DOORWAY 1/2" = 1'-0"



2 ELEVATOR LEVEL 2 PLAN 1/2" = 1'-0"



1 ELEVATOR LEVEL 1 PLAN 1/2" = 1'-0"

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

ELEVATOR DETAILS

PROJECT NUMBER:

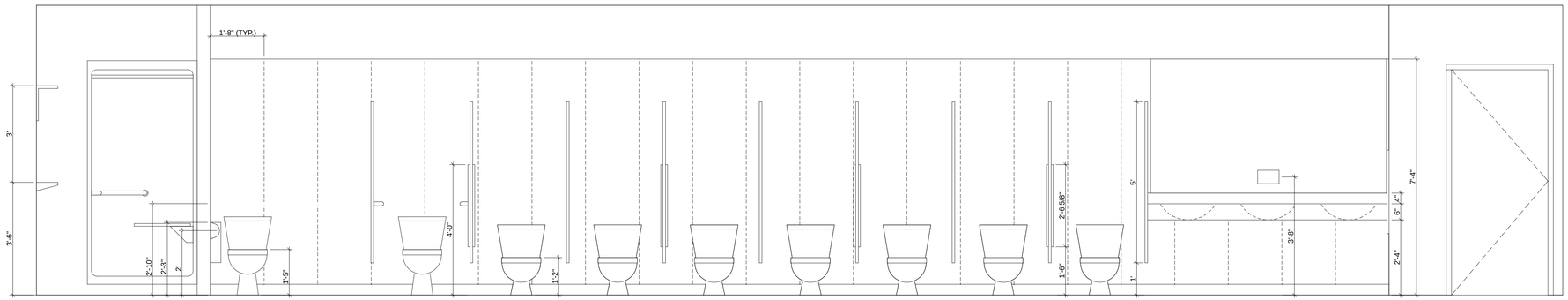
200614

DATE:

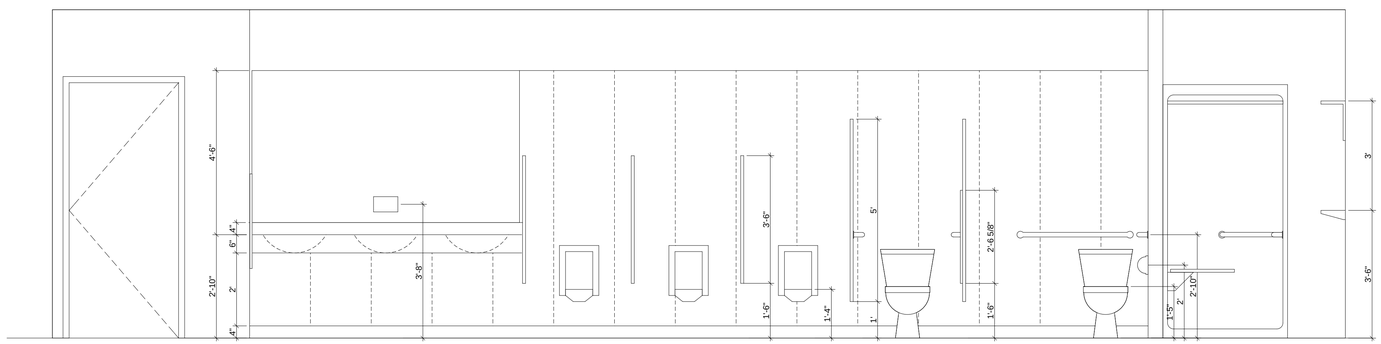
06/15/07

DRAWING NUMBER:

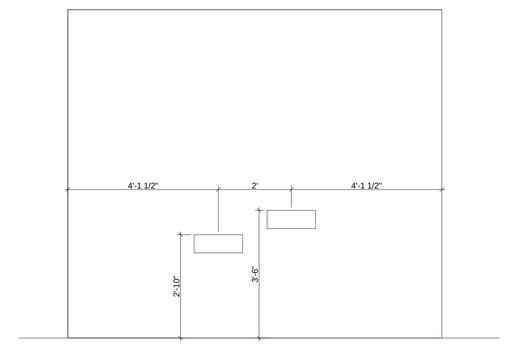
.A6.3



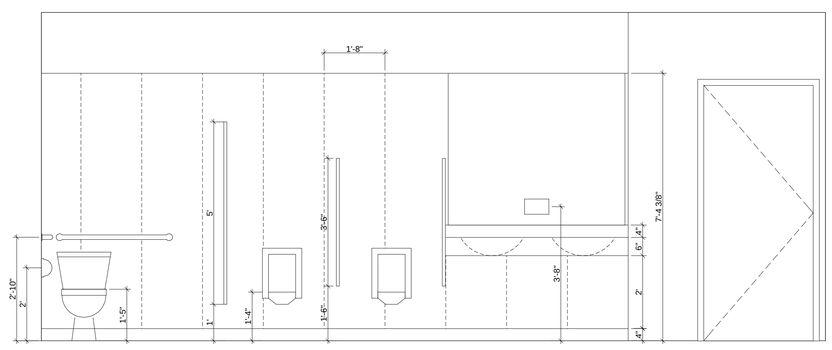
1 WOMENS RESTROOM 125 1/2" = 1'-0"



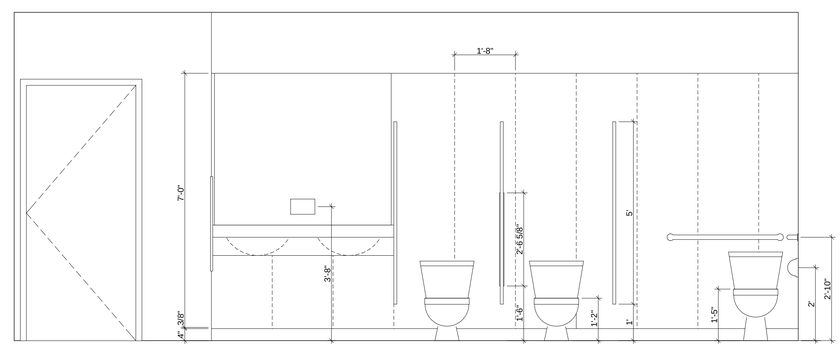
2 MENS RESTROOM 127 1/2" - 1'-0"



3 VESTIBULE 121, 210 1/2" - 1'-0"



4 MENS RESTROOM 212 1/2" - 1'-0"



5 WOMENS RESTROOM 211 1/2" - 1'-0"

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1	XXXXXX	ADDENDUM #1

DRAWING TITLE:

INTERIOR ELEVATIONS

PROJECT NUMBER:

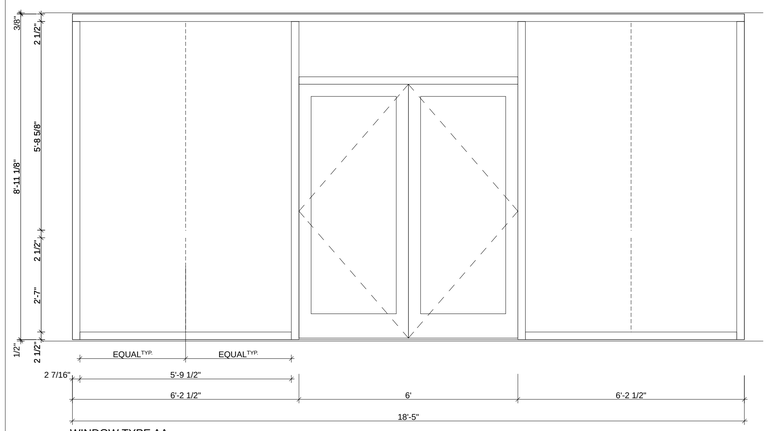
200614

DATE:

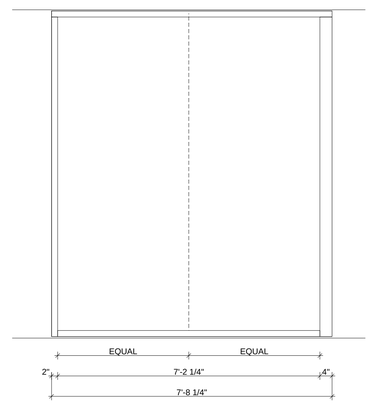
06/15/07

DRAWING NUMBER:

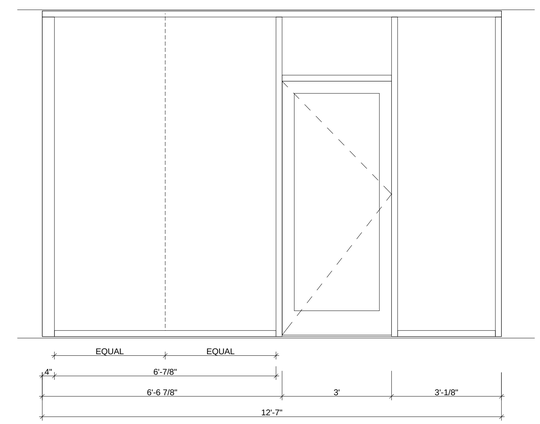
.A8.1



WINDOW TYPE AA

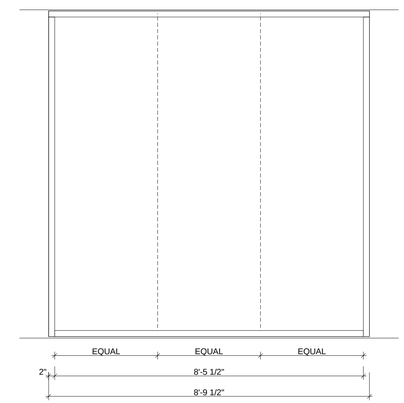


WINDOW TYPE AB



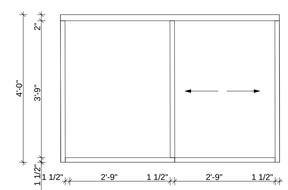
WINDOW TYPE AC

WINDOW TYPE AD

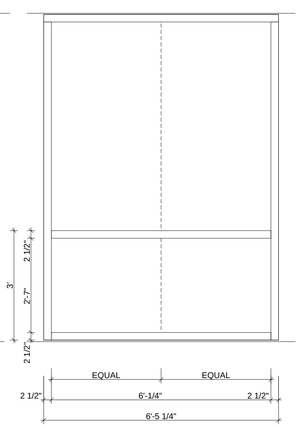


WINDOW TYPE AE

WINDOW TYPE AF



WINDOW TYPE AG



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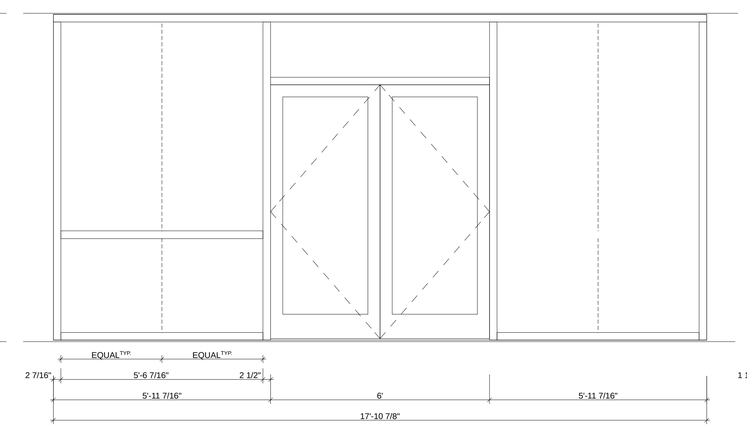
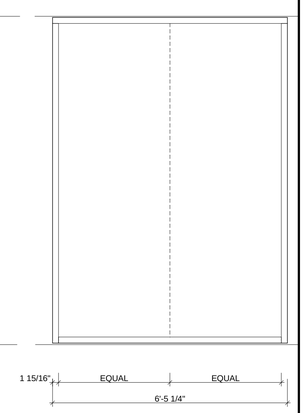
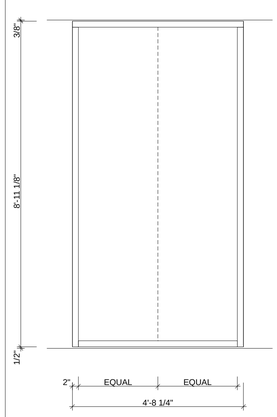


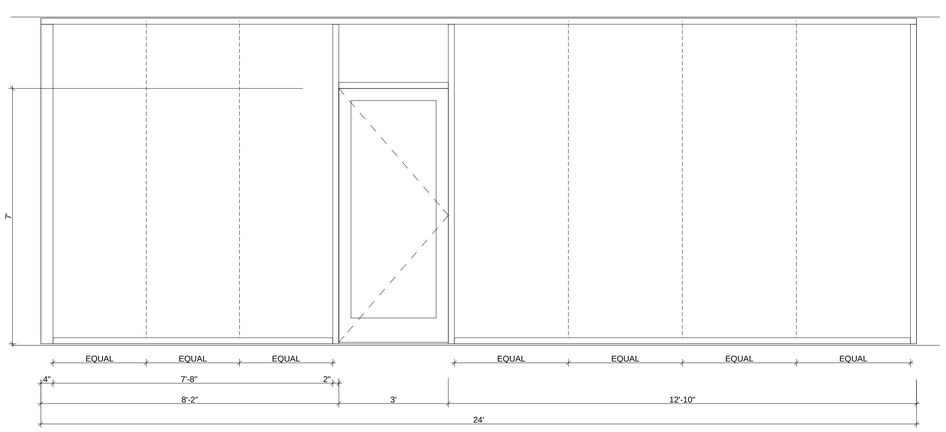
WINDOW TYPE AJ



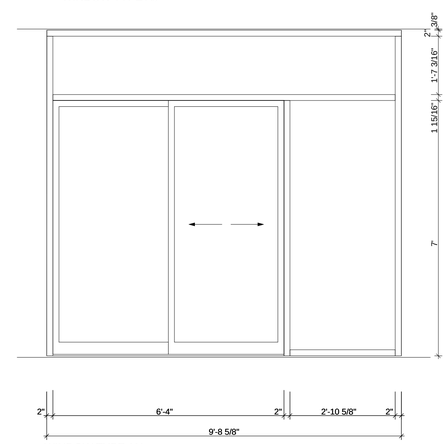
WINDOW TYPE AK



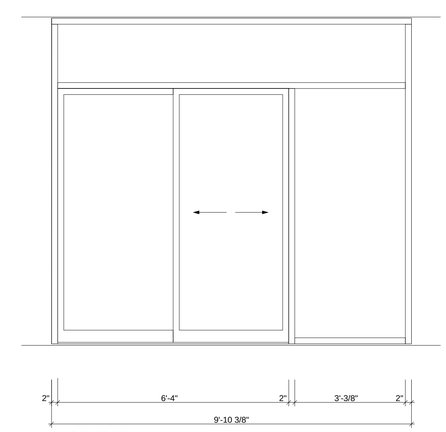
WINDOW TYPE AL



WINDOW TYPE AM



WINDOW TYPE AN



WINDOW TYPE AM

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

WINDOW SCHEDULES

PROJECT NUMBER:

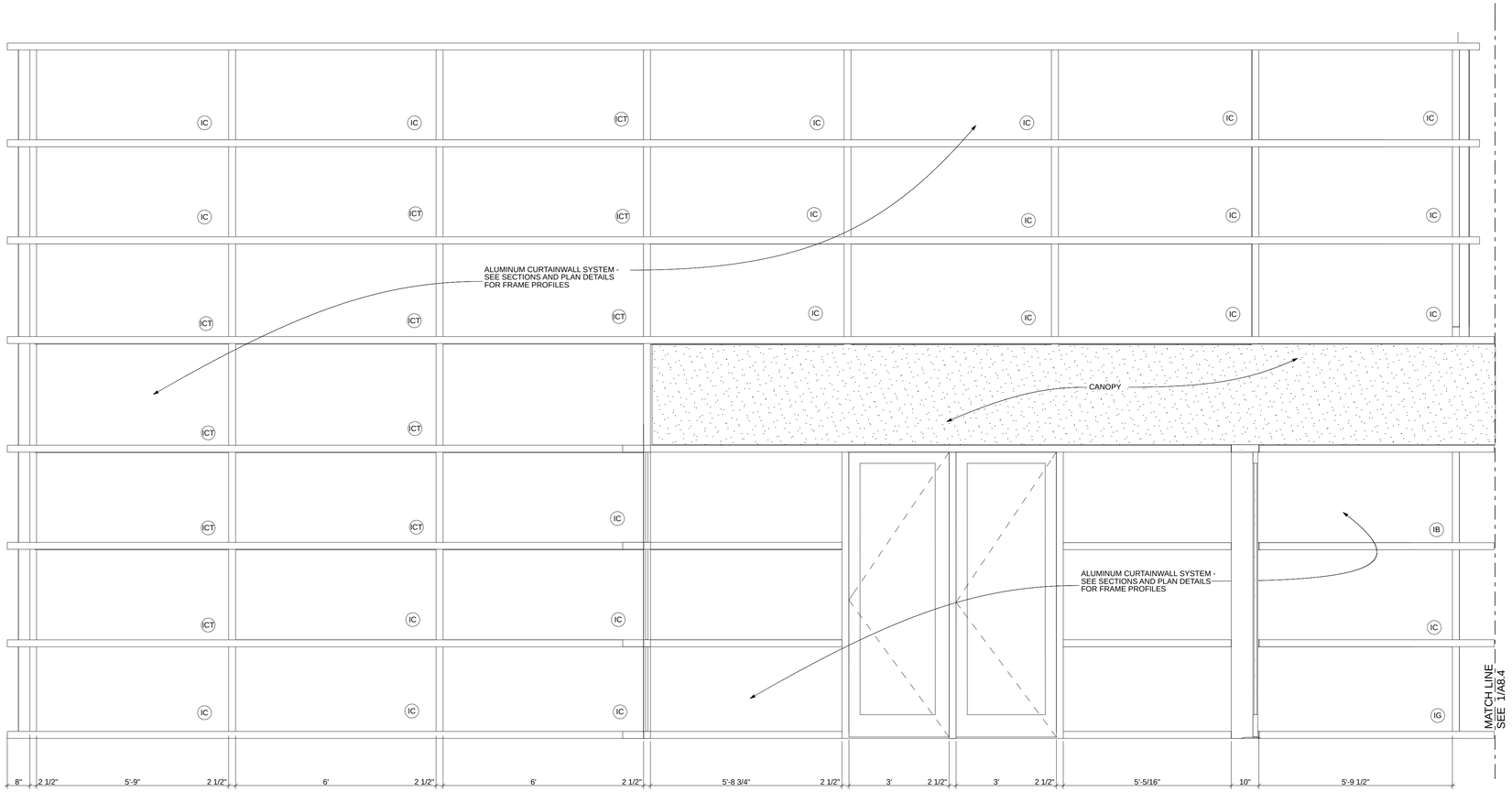
200614

DATE:

06/15/07

DRAWING NUMBER:

.A8.2



1 **WINDOW TYPE B** 1/2" - 1'-0"

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

CURTAIN WALL ELEVATIONS

PROJECT NUMBER:

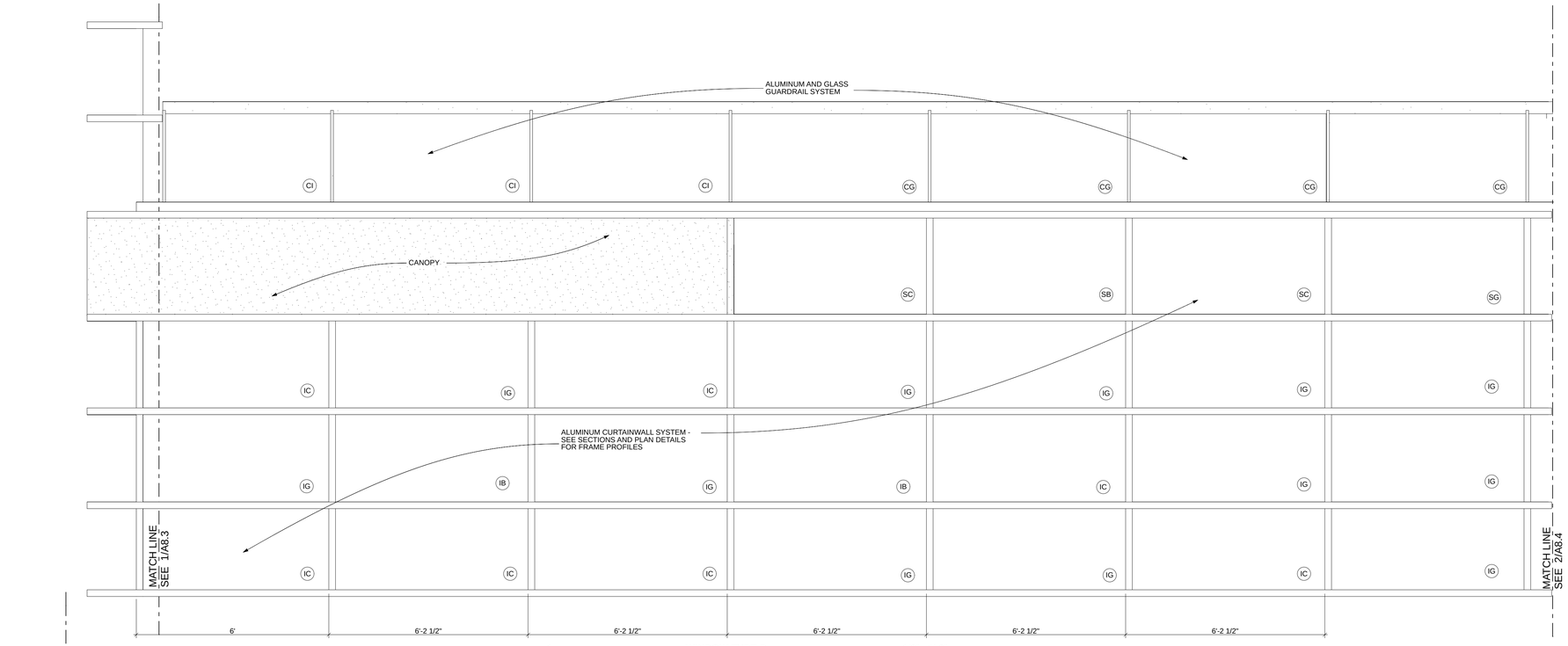
200614

DATE:

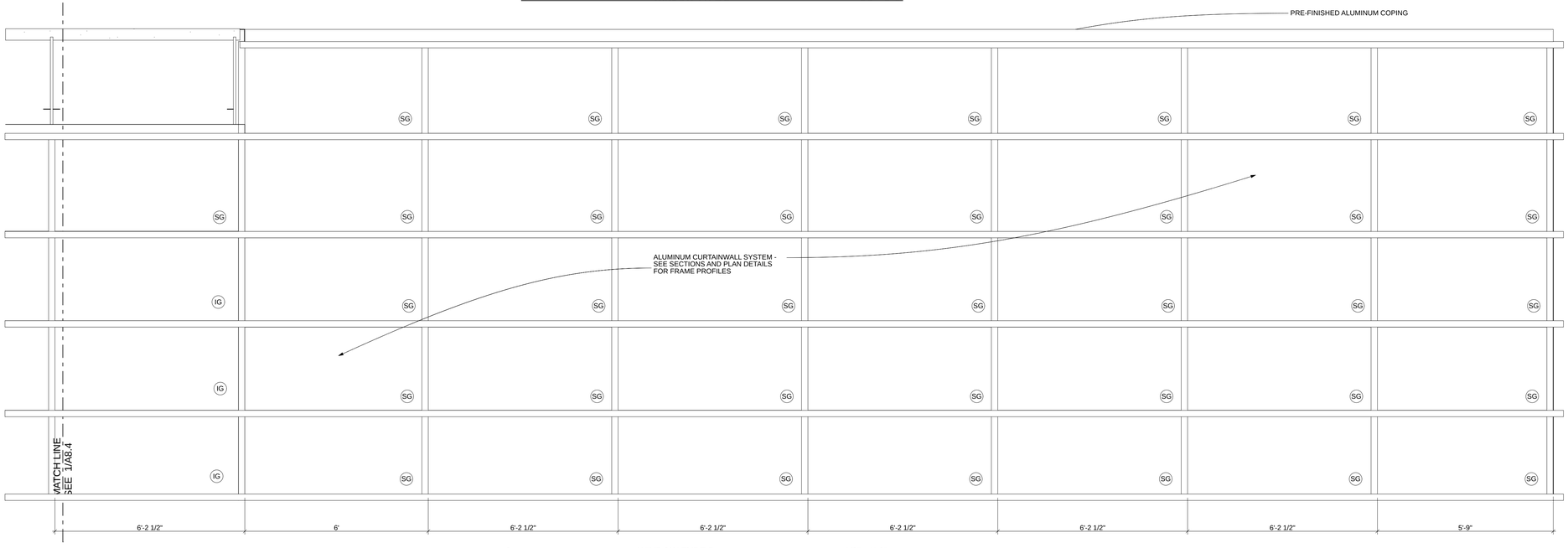
06/15/07

DRAWING NUMBER:

.A8.3



1 **WINDOW TYPE B** 1/2" - 1'-0"



2 **WINDOW TYPE B** 1/2" - 1'-0"

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

CURTAINWALL ELEVATIONS

PROJECT NUMBER:

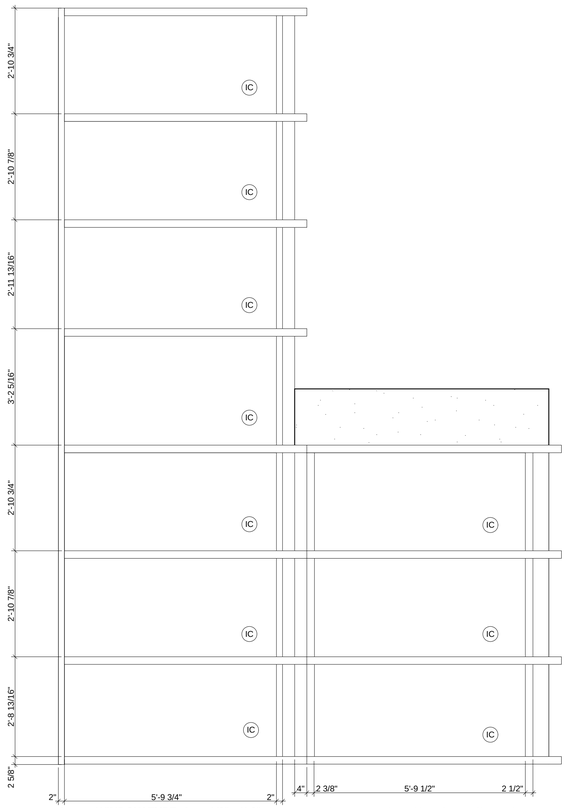
200614

DATE:

06/15/07

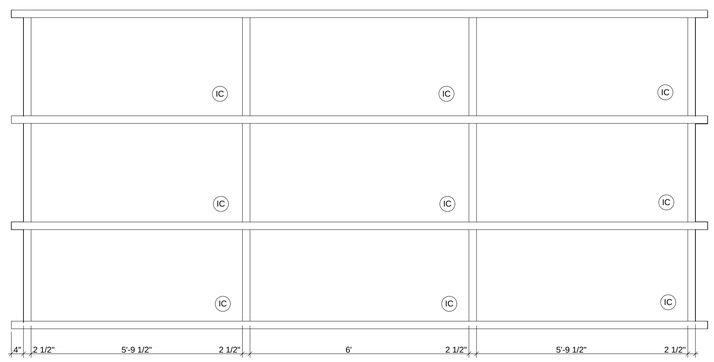
DRAWING NUMBER:

.A8.4

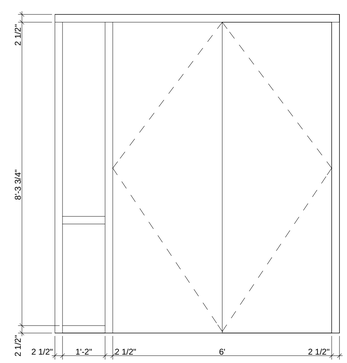


1 WINDOW TYPE A 1/2" - 1'-0"

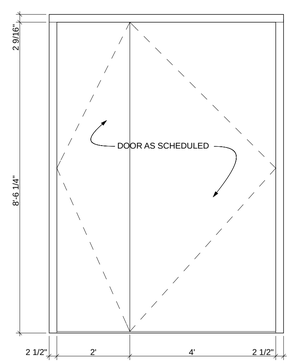
2 WINDOW TYPE C 1/2" - 1'-0"



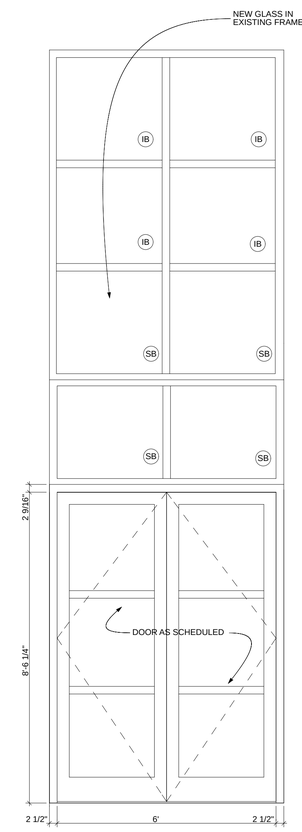
3 WINDOW TYPE D 1/2" - 1'-0"



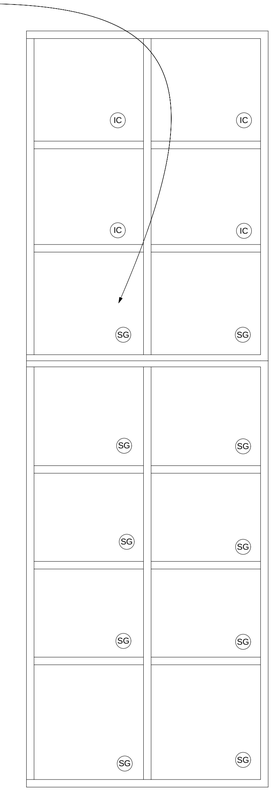
4 WINDOW TYPE E 1/2" - 1'-0"



5 WINDOW TYPE F 1/2" - 1'-0"



6 WINDOW TYPE G 1/2" - 1'-0"



7 WINDOW TYPE H 1/2" - 1'-0"

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

CURTAINWALL ELEVATIONS

PROJECT NUMBER:

200614

DATE:

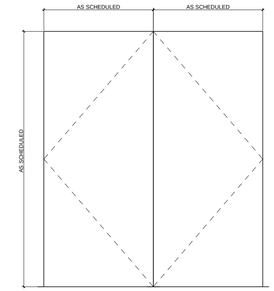
06/15/07

DRAWING NUMBER:

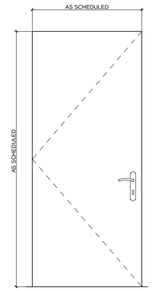
.A8.5

DOOR AND FRAME SCHEDULE

MARK	SIZE W	SIZE HT	Leaf Mate...	Door Type	Frame Ma...	Frame El.	Sill	FIRE RAT...	SET NO	NOTES
--	3'-6"	5'	Gl/AL		Alumini...	with system			N/A	display case door
100A	3'	9'	Gl/AL	A8.2-A8.5	HM	with system			1	Curtain wall system panic hardware
100B	3'	9'	Gl/AL	A8.2-A8.5	HM	with system			1	Curtain wall system panic hardware
100C	6'	9'	Gl/AL	A8.2-A8.5	HM	with system			2	Curtain wall system panic hardware
104	3'	7'	Gl/AL	A8.2-A8.5	HM	with system			3	Storefont system
106	6'	9'	Gl/AL	A8.2-A8.5	HM	with system			2	Curtain wall system panic hardware
110A	6'	7'	WD	B/A8.6	HM	CC/A8.6		45 min	4	1 hour partition
110B	3'	7'	Mtl	B/A8.6	HM	Exterior			5	Exterior wall condition
111A	6'	7'	WD	A/A8.6	HM	CC/A8.6		45 min	4	1 hour partition
111B	3'	7'	Mtl	B/A8.6	HM	Exterior			5	Exterior wall condition
112A	6'	7'	WD	A/A8.6	HM	CC/A8.6		45 min	4	1 hour partition
112B	3'	7'	Mtl	B/A8.6	HM	Exterior			5	Exterior wall condition
113	3'	7'	WD	B/A8.6	HM	BB/A8.6			6	
114	3'	7'	WD	B/A8.6	HM	BB/A8.6			6	
115	3'	7'	WD	B/A8.6	HM	BB/A8.6			6	
116	3'	7'	WD	B/A8.6	HM	BB/A8.6		45 min	7	1 hour partition
116A	3'	7'	WD	B/A8.6	HM	BB/A8.6		45 Min...	7	1 Hour Rated Wall
117	3'	7'	WD	B/A8.6	HM	BB/A8.6		45 min	7	1 hour partition
118	6'	7'	WD	A/A8.6	HM	AA/A8.6			8	
119	3'	7'	WD	B/A8.6	HM	BB/A8.6		45 min	7	1 hour partition
120	3'	7'	WD	B/A8.6	HM	BBA8.6		45 min	7	1 hour partition
123A	6'	7'	WD	A/A8.6	HM	AA/A8.6			10	
123B	6'	7'	WD	A/A8.6	HM	AA/A8.6			10	
124A	6'	7'	WD	A/A8.6	HM	AA/A8.6			8	
124B	6'	7'	WD	A/A8.6	HM	AA/A8.6			8	
124C	6'	7'	WD	A/A8.6	HM	AA/A8.6			8	
125	3'	7'	WD	B/A8.6	HM	BB/A8.6			11	
126	3'	7'	Mtl	C/A8.6	HM	BB/A8.6			12	
127	3'	7'	WD	B/A8.6	HM	BB/A8.6			11	
128	3'	7'	Mtl	C/A8.6	HM	BB/A8.6			12	
129	3'	7'	WD	D/A8.6	HM	BB/A8.6			9	
130	3'	7'	WD	B/A8.6	HM	BB/A8.6			6	
133	3'	7'	WD	B/A8.6	HM				13	Existing wall
135A	3'	7'	WD	B/A8.6	HM	BB/A8.6			9	
135B	3'	7'	WD	B/A8.6	HM	BB/A8.6			9	
136A	3'	7'	WD	B/A8.6	HM	BB/A8.6			9	
136B	3'	7'	WD	B/A8.6	HM	BB/A8.6			9	
138A	3'	7'	Gl/AL	A8.2-A8.5	HM	with system			22	Storefront system
138B	3'	7'	Gl/AL	A8.2-A8.5	HM	with system			22	Storefront system
139	3'	7'	WD	B/A8.6	HM	BB/A8.6			9	
140	3'	7'	WD	D/8.6	HM	BB/A8.6			9	
141A	3'	7'	WD	B/A8.6	HM	HH/A8.6		90 min	14	2 hour partition
141B	6'	9'	Gl/AL	A8.2-A8.5	HM	with system			2	Curtain wall system panic hardware
142	6'	7'	WD	A/A8.6	HM				15	Existing wall
144	3'	7'	WD	B/A8.6	HM	BB/A8.6			6	
146	3'	7'	Mtl	B/A8.6	HM	FF/A86		90 Min	13	2 hour partition
147A	6'	7'	Mtl	F/A8.6	HM	Exterior			21	Exterior wall condition
147B	3'	7'	WD	B/A8.6	HM	BB/A8.6			6	
202A	6'	9'	Gl/AL	A8.2-A8.5	AL	with system			16	Curtain wall system panic hardware
202B	6'	9'	Gl/AL	A8.2-A8.5	AL	with system			17	Curtain wall system panic hardware
204	3'	7'	Gl/AL	A8.2-A8.5	AL	with system			3	Storefront system
205	3'	7'	WD	B/A8.6	HM	BB/A8.6			6	
207	6'	7'	WD	A/A8.6	HM	AA/A8.6			18	
208	3'	7'	WD	D/A8.6	HM	BB/A8.6			9	
209	3'	7'	WD	D/A8.6	HM	BB/A8.6			19	
210	6'	7'	WD	E/A8.6	HM	BB/A8.6			20	
211	3'	7'	WD	B/A8.6	HM	BB/A8.6			11	
212	3'	7'	WD	B/A8.6	HM	BB/A8.6			11	
213	3'	7'	WD	D/A8.6	HM	BB/A8.6			9	
221	6'	7'	WD	A/A8.6	HM				15	Existing wall
222	3'	7'	Mtl	B/A8.6	HM	BB/A8.6			6	
227	3'	7'	WD	B/A8.6	HM	BB/A8.6			9	
228	3'	7'	WD	B/A8.6	HM				13	Existing wall
241	3'	7'	WD	B/A8.6	HM	HH/A8.6		90 min	14	2 hour partition



A DOOR TYPE
SCALE: 3/4" = 1' - 0"



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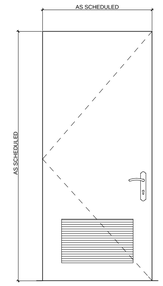

C DOOR TYPE
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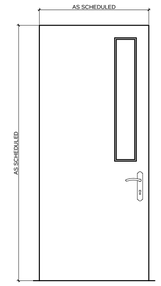
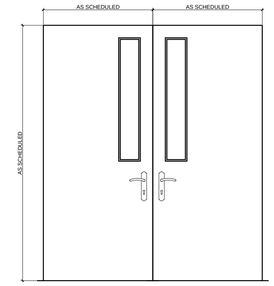


D DOOR TYPE
SCALE: 3/4" = 1' - 0"



E DOOR TYPE
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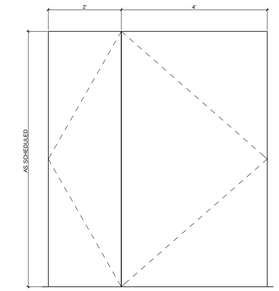

F DOOR TYPE
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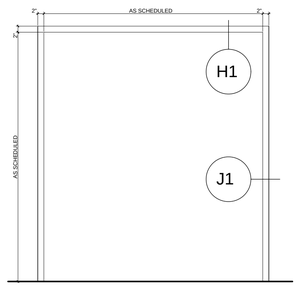

AA FRAME TYPE
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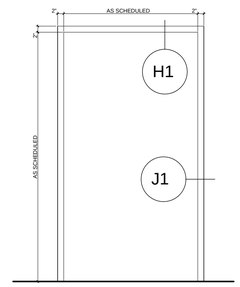

BB FRAME TYPE
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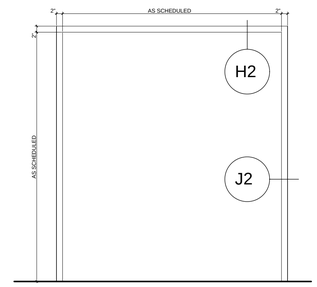

CC FRAME TYPE
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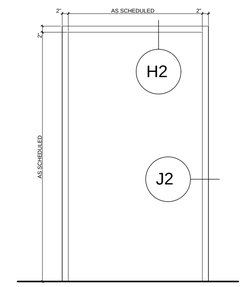

DD FRAME TYPE
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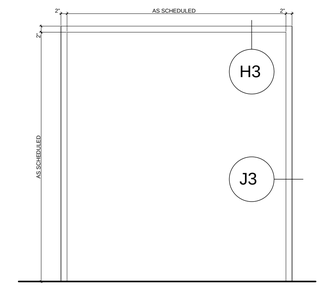

EE FRAME TYPE
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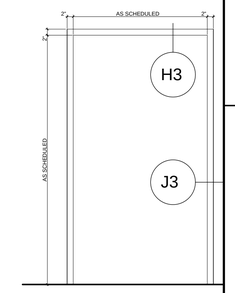

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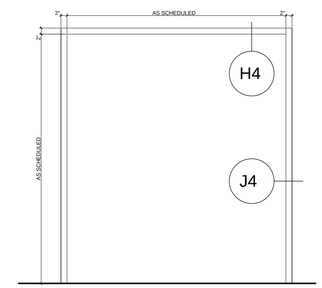

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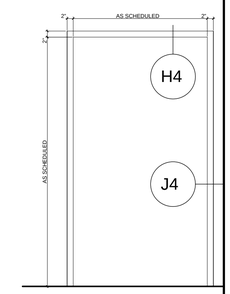

HH FRAME TYPE
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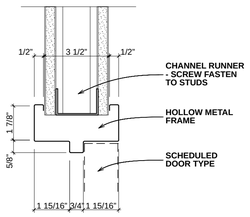
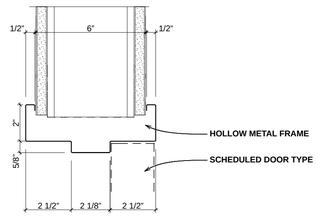
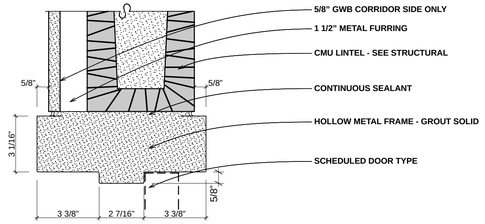


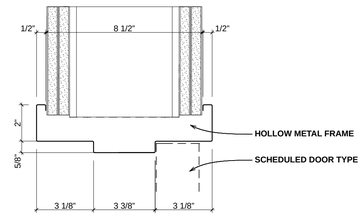
H1 HEAD DETAIL
SCALE : 3" = 1'-0"



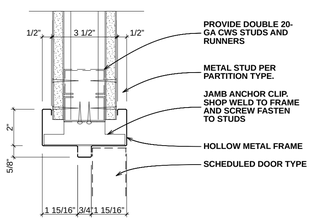
H2 HEAD DETAIL
SCALE : 3" = 1'-0"



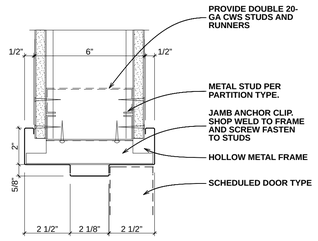
H3 HEAD DETAIL WITHOUT TRIM
SCALE : 3" = 1'-0"



H4 HEAD DETAIL
SCALE : 3" = 1'-0"



J1 JAMB DETAIL
SCALE : 3" = 1'-0"



J2 JAMB DETAIL
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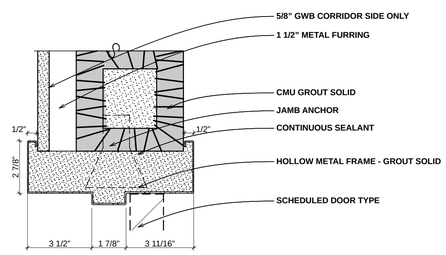

J3 JAMB DETAIL
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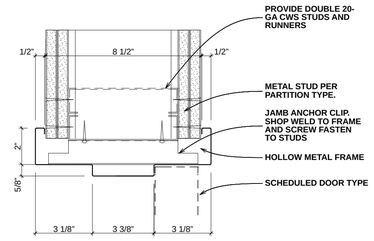

J4 JAMB DETAIL
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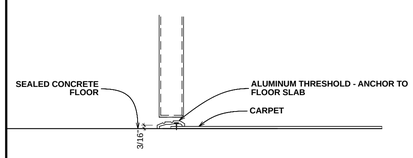
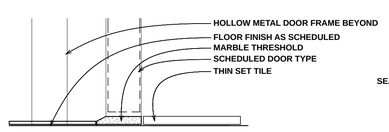


S1 SILL DETAIL
SCALE : 3" = 1'-0"



S2 SILL DETAIL
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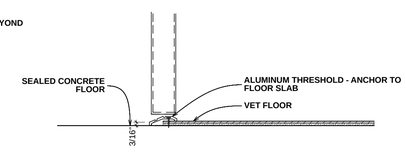

S3 SILL DETAIL
SCALE : 3" = 1'-0"

STATE OF GEORGIA
JANICE K. WITTSCHIEBE
CERTIFICATE NO. 5107
REGISTERED ARCHITECT

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1	07/12/07	FINAL SYSTEMS DESIGN

DRAWING TITLE:

DOOR SCHEDULE

PROJECT NUMBER:

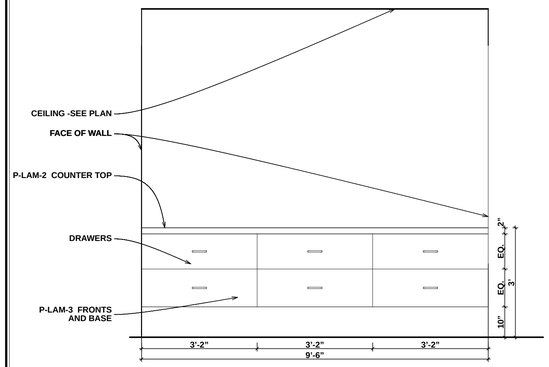
200614

DATE:

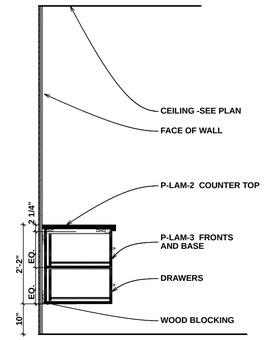
06/15/07

DRAWING NUMBER:

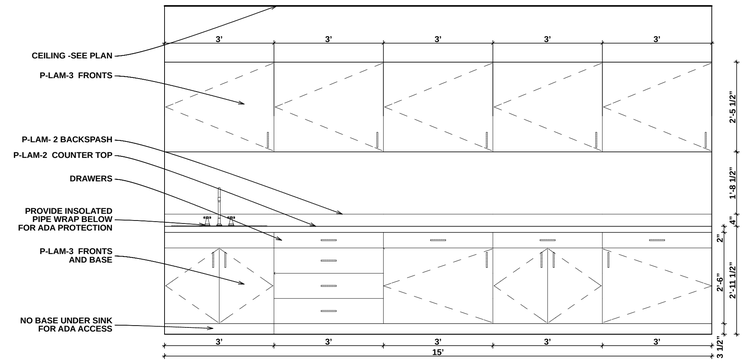
.A8.6



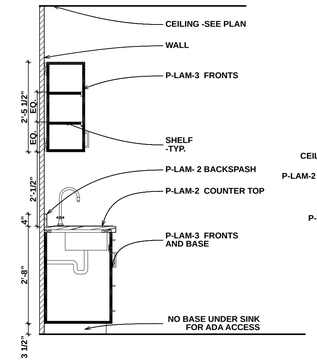
1 MILL WORK ELEV. RM 112
SCALE: 1/2" = 1' - 0"



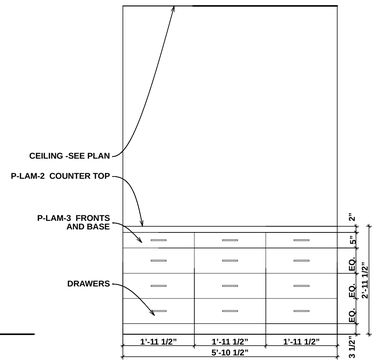
2 MILL WORK SECT. RM 112
SCALE: 1/2" = 1' - 0"



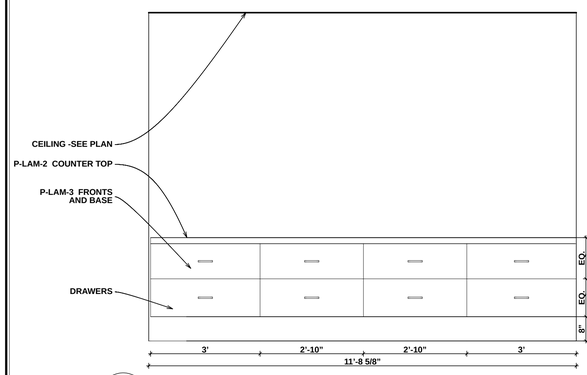
3 MILL WORK ELEV. RM 108
SCALE: 1/2" = 1' - 0"



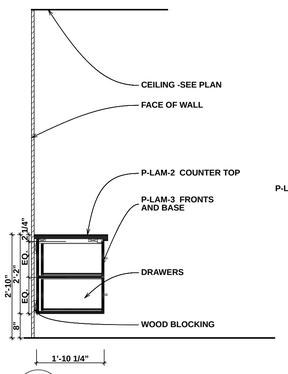
4 MILL WORK SECT. RM 108
SCALE: 1/2" = 1' - 0"



5 MILL WORK ELEV. RM 219
SCALE: 1/2" = 1' - 0"



6 MILL WORK ELEV. RM 116
SCALE: 1/2" = 1' - 0"



7 MILL WORK SECT. RM 116
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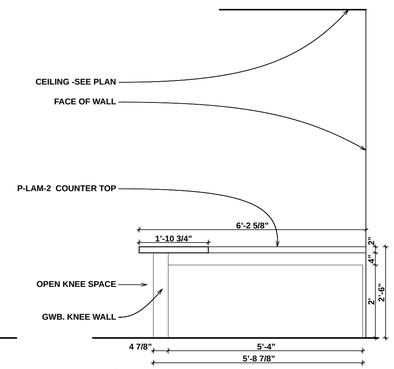
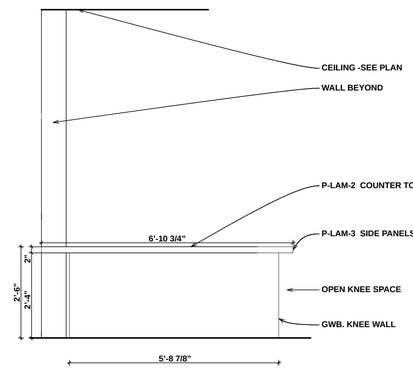
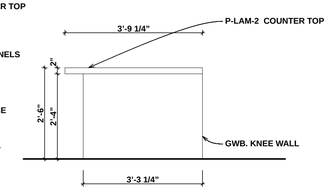


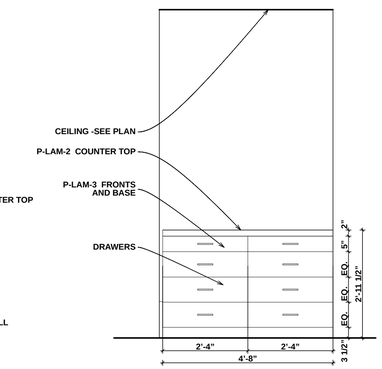
8 MILL WORK ELEV. RM 143
SCALE: 1/2" = 1' - 0"



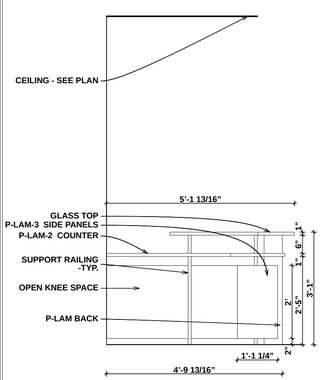
9 MILL WORK ELEV. RM 143
SCALE: 1/2" = 1' - 0"



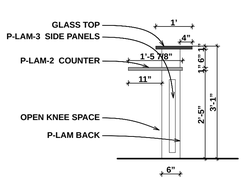
10 MILL WORK ELEV. RM 143
SCALE: 1/2" = 1' - 0"



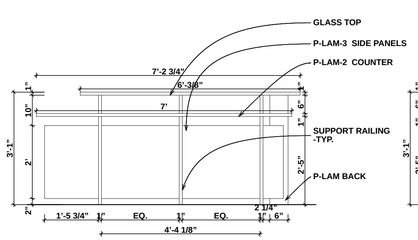
11 MILL WORK ELEV. RM 221
SCALE: 1/2" = 1' - 0"



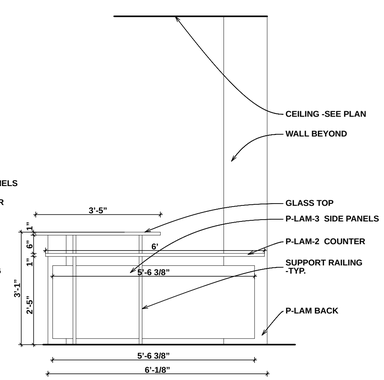
12 MILL WORK ELEV. REC DESK
SCALE: 1/2" = 1' - 0"



13 MILL WORK SECT REC DESK
SCALE: 1/2" = 1' - 0"



14 MILL WORK ELEV. REC DESK
SCALE: 1/2" = 1' - 0"



15 MILL WORK ELEV. REC DESK
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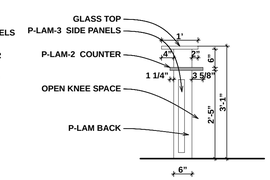

16 MILL WORK SECT REC DESK
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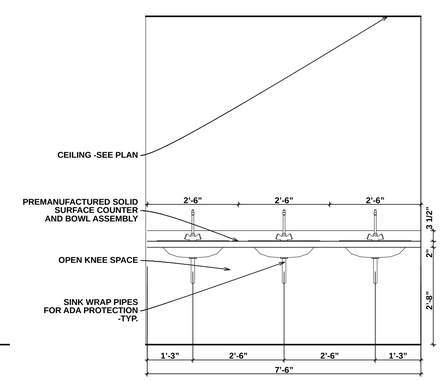
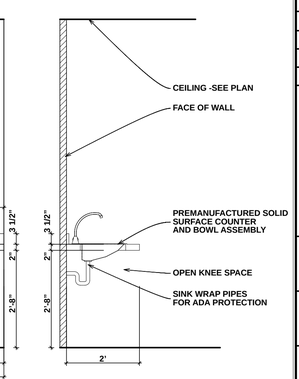


17 MILL WORK ELEV. RM 125
SCALE: 1/2" = 1' - 0"



18 MILL WORK SECT. RM 125
SCALE: 1/2" = 1' - 0"

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REGISTERED ARCHITECT

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ASHRAE HEADQUARTERS
ADDITION AND RENOVATION
1791 TULLIE CIRCLE
ATLANTA, GEORGIA 30329

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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

Mill Work

PROJECT NUMBER:

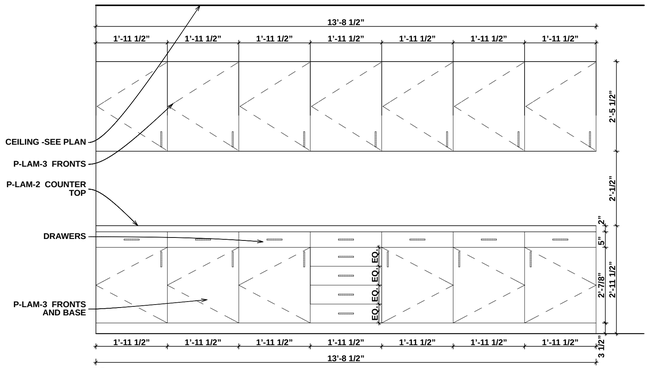
200614

DATE:

06/15/07

DRAWING NUMBER:

.A9.1



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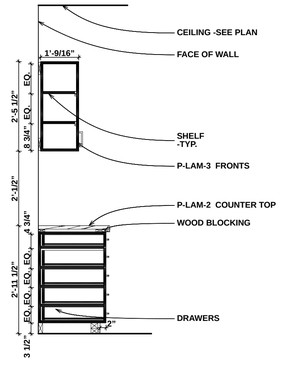

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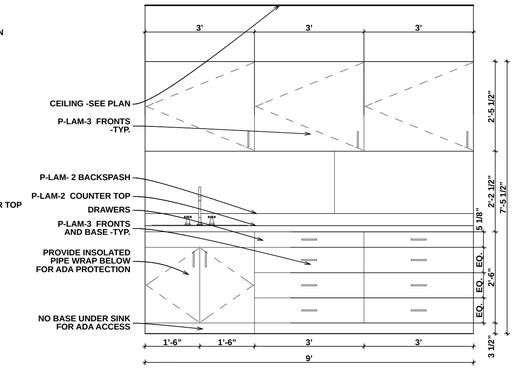

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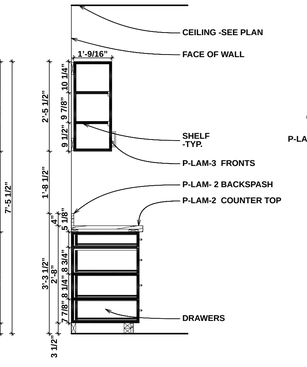

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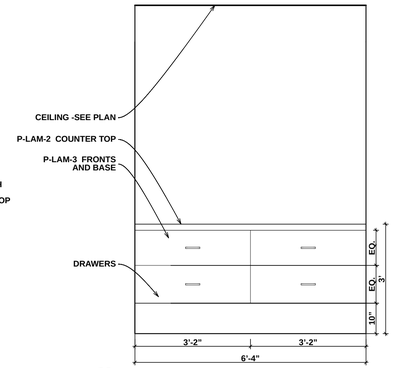

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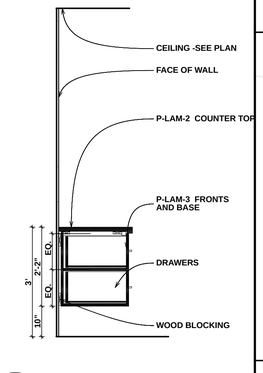

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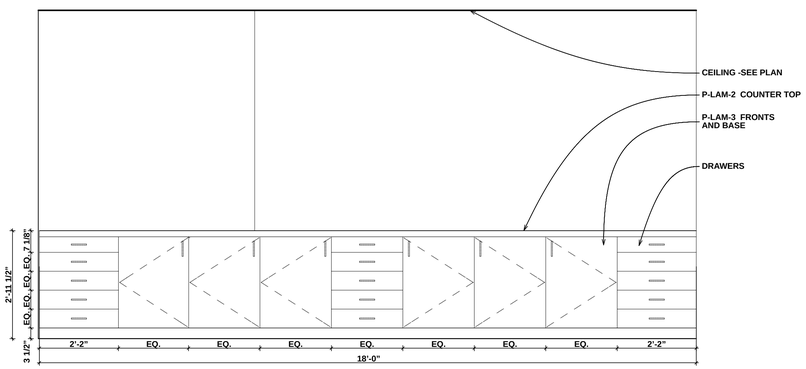

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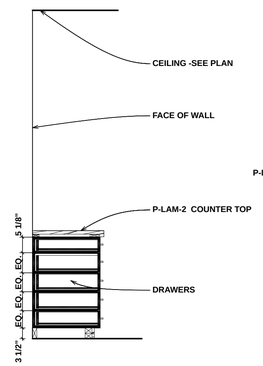

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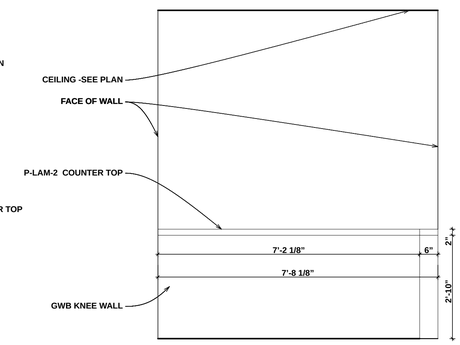

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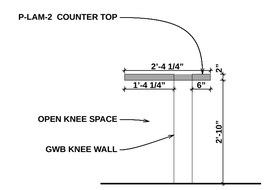

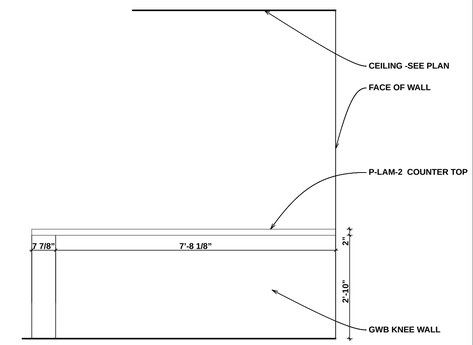

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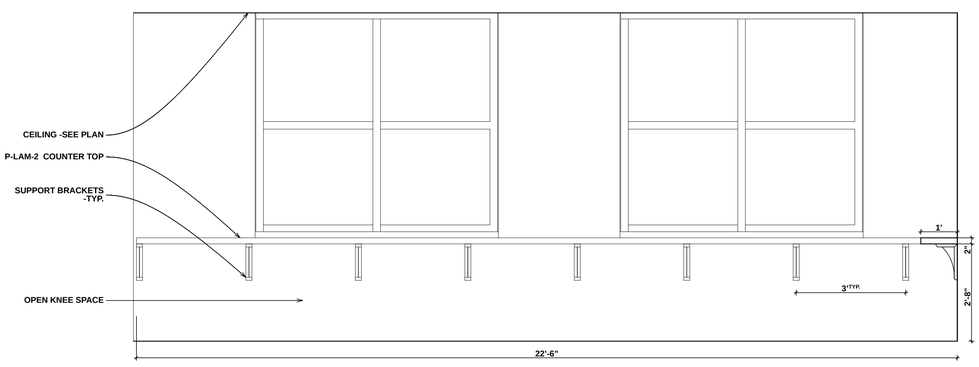

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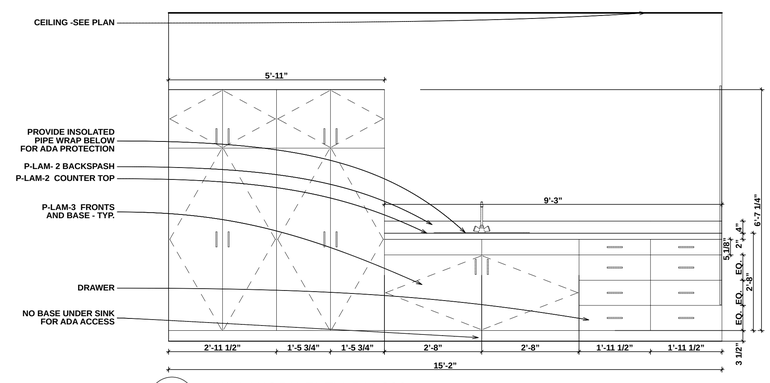

13 MILL WORK ELEV. RM 209
SCALE: 1/2" = 1' - 0"

STATE OF GEORGIA
JANICE K. WITTSCHIEBE
CERTIFICATE NO. 5507
REGISTERED ARCHITECT

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	XXXXXX	ADDENDUM #1

DRAWING TITLE:
Mill Work

PROJECT NUMBER:
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DRAWING NUMBER:
.A9.2

STRUCTURAL NOTES

A. GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS (INCLUDING FIELD VERIFICATIONS OF EXISTING CONDITIONS AND DIMENSIONS) BEFORE STARTING WORK OR FABRICATING ANY REINFORCING STEEL OR STRUCTURAL STEEL. THE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES FOUND.

2. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF WALL, ROOF AND FLOOR FLOOR OPENINGS, SLEEVES AND CONCRETE PADS UNDER EQUIPMENT. THE CONTRACTOR SHALL VERIFY EXACT SIZE AND LOCATION WITH THE EQUIPMENT FURNISHED.

3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE SHORING AND BRACING OF THE STRUCTURE FOR ALL LOADS THAT MAY BE IMPOSED DURING CONSTRUCTION.

B. FOUNDATIONS

1. FOUNDATION INVESTIGATION HAS NOT BEEN MADE. ASSUMED ALLOWABLE BEARING PRESSURES ARE LISTED BELOW.

2. ALLOWABLE SOIL PRESSURE:
SPREAD FOOTINGS 3000 PSF (DL + LL)
CONTINUOUS FOOTINGS 3000 PSF (DL + LL)

3. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SHORING NECESSARY TO LATERALLY SUPPORT ALL BASEMENT AND RETAINING WALLS.

4. ALL FOOTING EXCAVATIONS SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION OF THE FOOTINGS.

C. UNDERPINNING

1. EXISTING WALLS TO BE UNDERPINNED ARE SO INDICATED ON THE DRAWINGS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DESIGN AND INSTALL ALL SUCH CONSTRUCTION. UNDERPINNING SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF GEORGIA TO PERMANENTLY RESIST ALL VERTICAL LOADS AS WELL AS TEMPORARILY RESIST LATERAL LOADS UNTIL COMPLETION OF THE NEW BUILDING.

2. THE METHOD OF UNDERPINNING SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL SUBMIT DETAILED PLANS AND PROCEDURES TO THE ARCHITECT FOR REVIEW SHOWING THE PROPOSED METHOD OF EXCAVATION AND SHORING. REVIEW BY THE ARCHITECT SHALL NOT RELIEVE THE CONTRACTOR FROM FULL RESPONSIBILITY FOR PROTECTING EXISTING STRUCTURES FROM DAMAGE RESULTING FROM THE CONSTRUCTION.

3. ADJACENT STRUCTURES SHALL BE CAREFULLY OBSERVED THROUGH THE CONSTRUCTION PERIOD FOR SIGNS OF MOVEMENT OR DISTRESS. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IF ANY SUCH MOVEMENT OR DISTRESS OCCURS.

D. REINFORCED CONCRETE

1. ALL STRUCTURAL CONCRETE SHALL BE NORMAL WEIGHT (UNLESS OTHERWISE NOTED) WITH A SPECIFIED COMPRESSIVE STRENGTH AS FOLLOWS:

LOCATION	F'c
SLAB ON GRADE, FOOTING, GRADE BEAMS	3,000 PSI
WALLS AND COLUMNS	4,000 PSI
ELEVATED SLABS	3,500 PSI (LIGHTWEIGHT)

2. PROVIDE 3/4 INCH CHAMFER ON ALL EXPOSED CONCRETE CORNERS EXCEPT WHERE MASONRY WALLS ARE LAID FLUSH WITH COLUMN OR BEAM FACE.

3. MINIMUM CONCRETE PROTECTION FOR REINFORCEMENT SHALL CONFORM WITH ACI 318–89 UNLESS DETAILED OTHERWISE.

4. EXPANSION BOLTS SHALL BE "WEDGE" TYPE (HILTI "KWIK–BOLT") OR "DROP–IN" TYPE (HILTI "DROP–IN ANCHOR"), WITH TYPE AND SIZE AS NOTED IN THE DRAWINGS.

5. CONSTRUCTION JOINTS SHALL BE AS INDICATED ON THE PLANS, BUT IN ANY CASE SHOULD NOT EXCEED AN AREA OF APPROXIMATELY 20 X 20 SQUARE.

6. THE LATEST EDITION OF THE "MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES" ACI 315 SHALL BE FOLLOWED, UNLESS OTHERWISE SHOWN.

E. CONCRETE REINFORCING

1. ALL REINFORCING STEEL BARS SHALL BE ASTM A–615 GRADE 60.

2. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A–185.

3. PROVIDE LAP SPLICES IN ACCORDANCE WITH ACI 318–89, UNLESS NOTED OTHERWISE.

4. CLEARANCES BETWEEN BARS SHALL NOT BE LESS THAN 1 INCH NOR THE NOMINAL BAR DIAMETER. NON–CONTACT LAP SPLICES SHALL HAVE THE ABOVE MINIMUM CLEARANCE BETWEEN THE BARS AND DOWEL.

5. REINFORCING STEEL, BOLTS, AND OTHER INSERTS SHALL BE POSITIVELY SECURED IN PLACE BEFORE POURING CONCRETE. BAR PLACEMENT AND SUPPORTS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE CRSI.

6. REINFORCEMENT IN WALLS AND COLUMNS SHALL BE DOWELLED INTO SUPPORTING FOOTINGS, BEAMS, COLUMNS OR WALLS WITH BARS OF THE SIZE AND SPACING AS VERTICAL AND HORIZONTAL BARS, UNLESS SHOWN OTHERWISE.

7. ALL CONCRETE SHALL BE CURED FOR A MINIMUM OF SEVEN CONSECUTIVE DAYS IMMEDIATELY AFTER POURING. SEE SPECIFICATIONS FOR CURING OF VERTICAL SURFACES.

F. REINFORCED MASONRY

1. CONCRETE MASONRY UNITS SHALLCONFORM TO ASTM C–90, WITH A MINIMUM PRISM STRENGTH OF F'm=1500 PSI.

2. MORTAR SHALL CONFORM TO ASTM C–270, TYPE M OR S.

3. GROUT FOR REINFORCED MASONRY SHALL CONFORM TO ASTM C–476.

4. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SHORING NECESSARY TO LATERALLY SUPPORT ALL MASONRY WALLS AS REQUIRED.

5. ALL MASONRY WALLS SHALL HAVE A BOND BEAM AT EACH FLOOR LEVEL AND AT 8'–0" ABOVE F.F.E. WITH 2 CONTINUOUS NO. 5 BARS, UNLESS DETAILED OTHERWISE.

6. PROVIDE HORIZONTAL LADUR JOINT REINFORCING IN ALL WALLS EVERY 16 INCHES IN HEIGHT.

7. GROUT ALL CELLS FULL UNDER STEEL BEAMS AND JOISTS BEARING ON MASONRY, DOWN TO FOUNDATION.

8. REINFORCE ALL WALLS WITH NO. 4 VERTICAL REINFORCING AT 32 INCHES ON CENTER IN GROUTED CELLS. LAP ACORDING TO ACI 318–89.

9. SEE DETAIL 10/S2.3 FOR WALL CORNER REINFORCING AND 11/S2.3 FOR JAMB REINFORCING.

G. STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL BE A572, GRADE 50, UNLESS OTHERWISE NOTED.

2. STRUCTURAL STEEL SHALL BE DESIGNED IN ACCORDANCE WITH "AISC, SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, 1989".

3. ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4 INCH DIAMETER A–325N BOLTS (BEARING TYPE CONNECTION) UNLESS OTHERWISE NOTED, AND TIGHTENED BY THE "TURN–OF–NUT" METHOD.

4. STRUCTURAL TUBING SHALL CONFORM TO ASTM A–500, GRADE B, WITH A MINIMUM YEILD STRENGTH OF 46,000 PSI.

5. STEEL PIPE COLUMNS SHALL CONFORM TO ASTM A–53, TYPE E OR S, GRADE B.

6. ALL ANCHOR BOLTS SHALL BE ASTM A–307 UNLESS OTHERWISE NOTED.

7. ALL WELDING SHALL BE DONE WITH E70 ELECTRODES IN CONFORMANCE WITH THE AMERICAN WELDING SOCIETY AWS D1.1 "STRUCTURAL WELDING CODE".

H. OPEN WEB STEEL JOISTS

1. STEEL JOISTS SHALL BE DESIGNED FOR A BASIC ALLOWABLE FLEXURAL STRESS OF 30,000 PSI.

2. STEEL JOISTS AND BRIDGING SHALL COMPLY WITH "STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS" FROM THE STEEL JOIST INSTITUTE.

3. STEEL JOISTS SHALL BE DESIGNED FOR A NET UPLIFT EQUAL TO 20 PSF.

J. METAL DECK

1. METAL DECK SHALL BE DESIGNED FOR A BASIC ALLOWABLE STRESS OF 20,000 PSI.

2. ROOF DECK SHALL BE 1 1/2 INCH, 20 GAGE WIDE RIB METAL DECK. ACCEPTABLE MANUFACTURERS ARE VULCRAFT, USD AND WHEELING.

3. FORM DECK SHALL BE 0.6 INCH, 26 GAGE METAL DECK WITH 2 1/2 INCHES MINIMUM CONCRETE FILL AND 6X6–W1.4XW1.4 REINFORCING AT MID–DEPTH. ACCEPTABLE TYPES AND MANUFACTURERS ARE VULCRAFT, USD AND WHEELING.

4. DIAPHRAGM ACTION SHALL BE PROVIDED IN ALL AREAS WITH WELDING PATTERN IN ACCORDANCE WITH ICBO RESEARCH TO PROVIDE 250 PLF SHEAR CAPACITY AT ROOF DECK AND 250 PLF SHEAR CAPACITY AT FLOOR DECK.

5. ROOF DECK SHALL BE DESIGNED FOR A NET UPLIFT OF10 PSF AT INTERIOR AREAS,23 PSF AT 10 FT PERIMETER EDGE STRIPS, AND 40 PSF AT 10 FT X 10 FT CORNERS.

K. DESIGN CRITERIA

1A. DEAD LOADS: 20 PSF PARTITION LOAD.

1B. LIVE LOADS:

40 PSF CLASSROOMS (NOT INCLUDING PARTITIONS)
50 PSF OFFICES (NOT INCLUDING PARTITIONS)
80 PSF CORRIDORS ABOVE THE FIRST LEVEL
100 PSF STAIRWAYS, LOBBIES, ASSEMBLY AREAS
20 PSF ROOF

LIVE LOAD REDUCTIONS APPLIED AS PER STANDARD BUILDING CODE

2. GROUND SNOW LOAD

Pg = 5 psf

3. INTERIOR WALLS

5 PSF – IN THE ABSENCE OF ANY WIND LOAD EFFECTS.

4. WIND LOADS. APPLIED IN ACCORDANCE WITH IBC 2000.

MWFRS (2a = 10 FT)
V(3s) = 90 mph
Iw = 1.00
EXPOSURE C

ROOF (END) p = 20.8 psf
ROOF (INTERIOR) p = 14.5 psf

WALL (END) p = 17.3 psf
WALL (INTERIOR) p = 11.5 psf

COMPONENTS & CLADDING (a = 5 FT)
ROOF (CORNER) p =19.7 psf
ROOF (EDGE STRIP) p = 32.9 psf
ROOF (INTERIOR) p =50.0 psf

WALL (END) p = 20.4 psf
WALL (INTERIOR) p = 24.6 psf

5. SEISMIC LOADS. APPLIED IN ACCORDANCE WITH IBC 2000.

SDS = 0.312g
SD1 = 0.20g
SEISMIC USE GROUP I
SEISMIC DESIGN CATEGORY C
SITE CLASS D
ORDINARY STEEL BRACED FRAME SYSTEM
EQUIVILENT LATERAL FORCE PROCEDURE

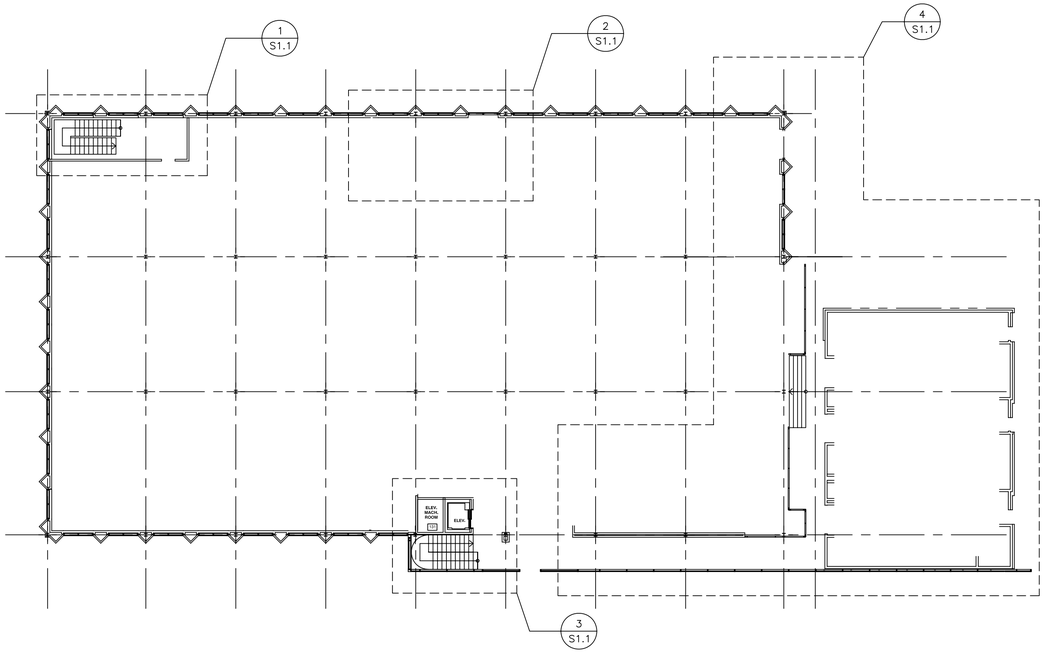
DESIGN BASE SHEAR = 14.1 K

L. BASIS FOR DESIGN

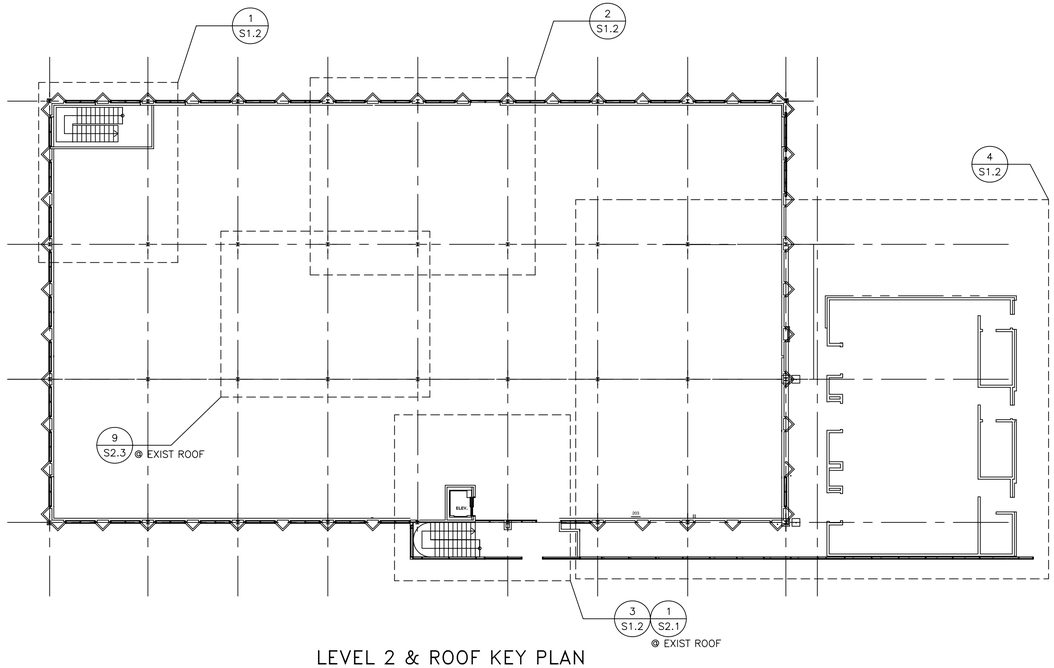
1. SBCCI STANDARD BUILDING CODE (INTERNATIONAL BUILDING CODE), 2000 EDITION.

2. ACI 318–89 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.

3. AISC 9TH EDITION – MANUAL OF STEEL CONSTRUCTION (ALLOWABLE STRESS DESIGN).



LEVEL 1 KEY PLAN
SCALE: 1/16" = 1'–0"



LEVEL 2 & ROOF KEY PLAN
SCALE: 1/16" = 1'–0"

ASHARES01
1/8" = 1'–0"

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ASHRAE HEADQUARTERS
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REVISIONS

#	DATE	DESCRIPTION
1	7.12.07	FINAL SYSTEM DESIGN

General Notes & Key Plans

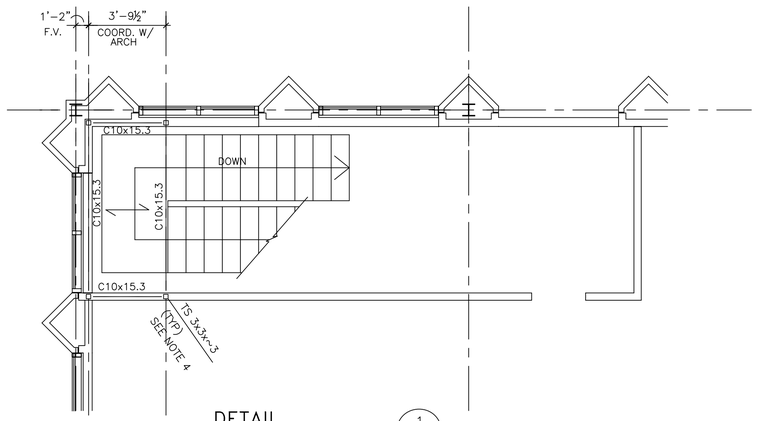
JOB NUMBER
200614

DATE
6-15-07

SHEET NUMBER
S0.1

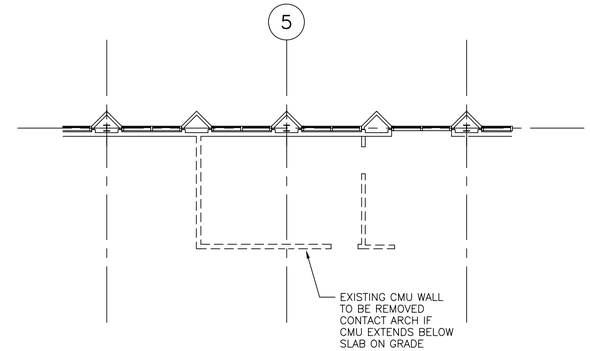
FOOTING SCHEDULE			
MARK	SIZE	REINFORCEMENT	REMARKS
F2.5	2'–6" x 2'–6" x 1'–0"	3– #5 E.W.B.B.	
F3.0	3'–0" x 3'–0" x 1'–0"	4– #5 E.W.B.B.	
F4.0	4'–0" x 4'–0" x 1'–3"	5– #5 E.W.B.B.	* INDICATES T.B. REQUIRED E.W. TO MATCH B.B.
F5.0	5'–0" x 5'–0" x 1'–6"	6– #5 E.W.B.B.	* INDICATES T.B. REQUIRED E.W. TO MATCH B.B.
F6.25	6'–0" x2 '–6" x 1'–0"	3– #5 L.W.B.B. 7– #5 S.W.B.B.	

COLUMN SCHEDULE		
MARK	SIZE	BASE PLATE
C1	4 x 4 x 1/4	3/4" x 10 x 0'–10
C2	5 x 5 x 1/4	1" x 11" x 0'–11
C3		



DETAIL 1 / S1.1

SCALE: 1/4" = 1'–0"



DETAIL 2 / S1.1

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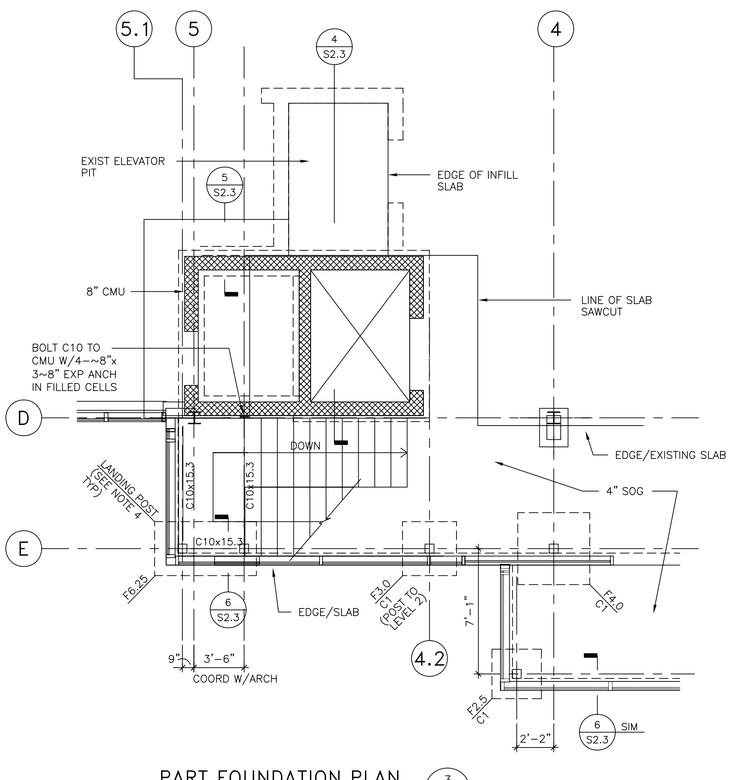
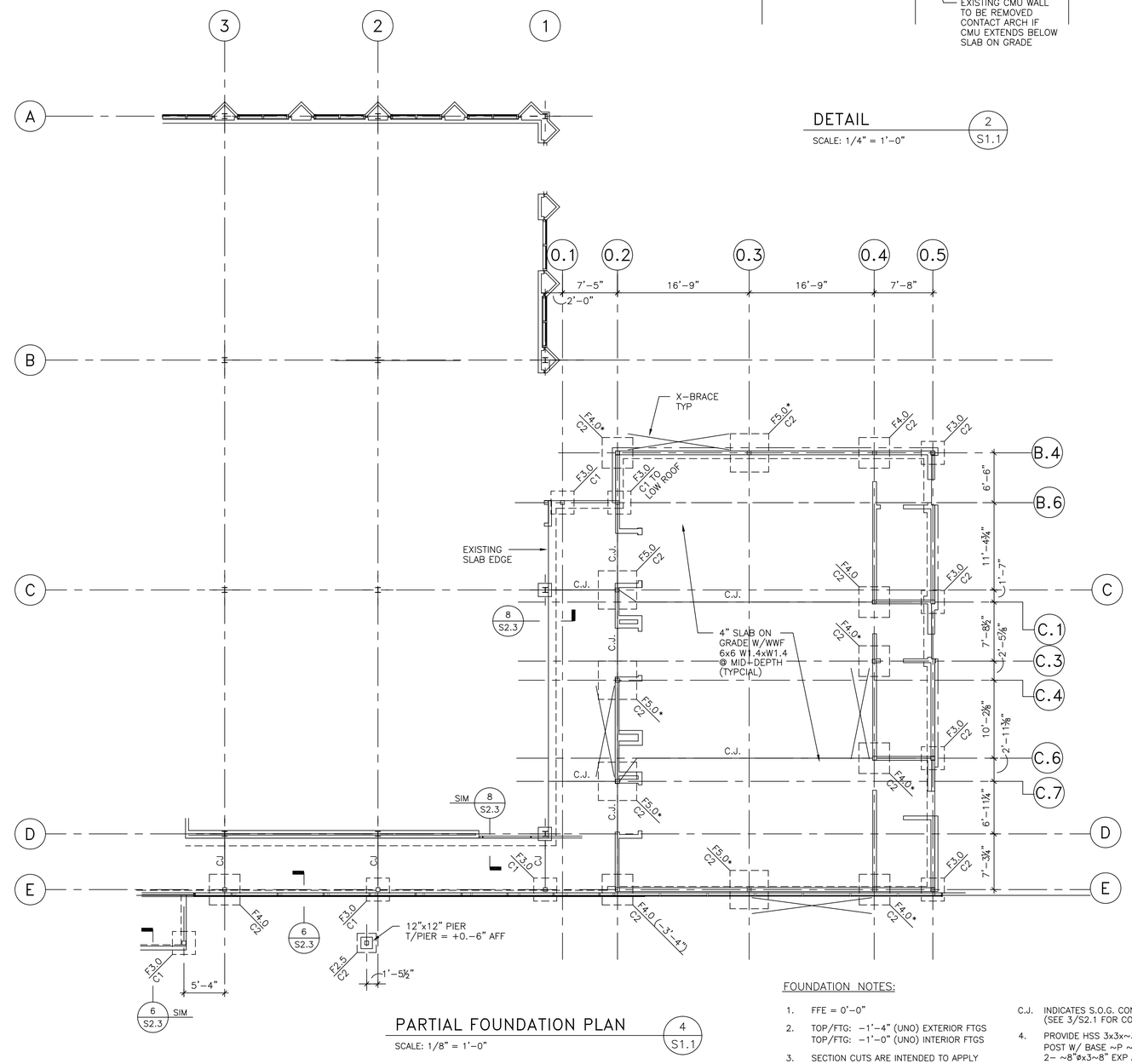


PART FOUNDATION PLAN 3 / S1.1

SCALE: 1/4" = 1'–0"



PARTIAL FOUNDATION PLAN 4 / S1.1

SCALE: 1/8" = 1'–0"

FOUNDATION NOTES:

1. FFE = 0'–0"
2. TOP/FTG: –1'–4" (UNO) EXTERIOR FTGS
   TOP/FTG: –1'–0" (UNO) INTERIOR FTGS
3. SECTION CUTS ARE INTENDED TO APPLY TYPICALLY TO SIMILAR CONDITIONS UNLESS NOTED OTHERWISE

C.J. INDICATES S.O.G. CONSTRUCTION JOINT (SEE 3/S2.1 FOR COL JOINT INFO)

4. PROVIDE HSS 3x3x~3 LANDING POST W/ BASE ~P ~8x4x8 W/ 2– ~8"Øx3~8" EXP ANCHORS

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REVISIONS

#	DATE	DESCRIPTION
1	7.12.07	FINAL SYSTEM DESIGN

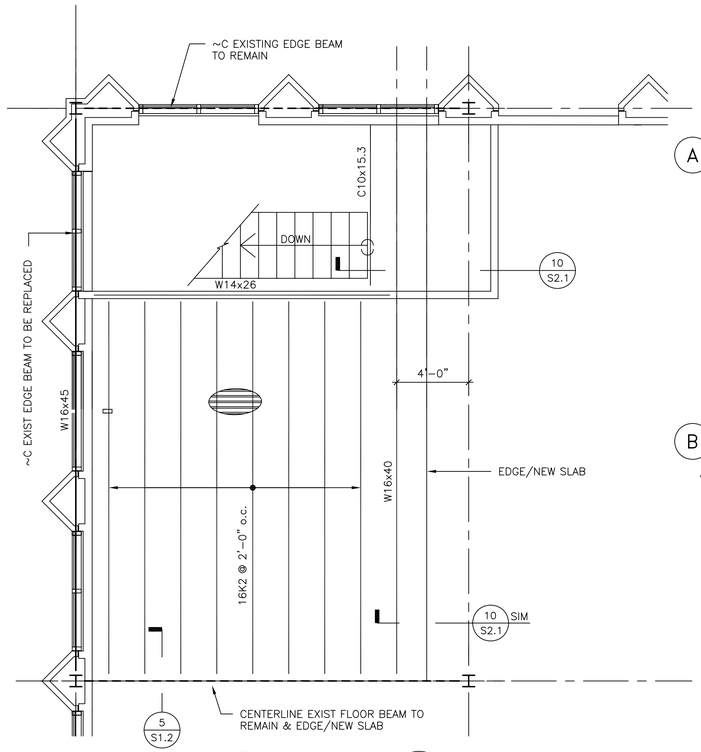
First Floor Framing Plans & Details

JOB NUMBER
200614

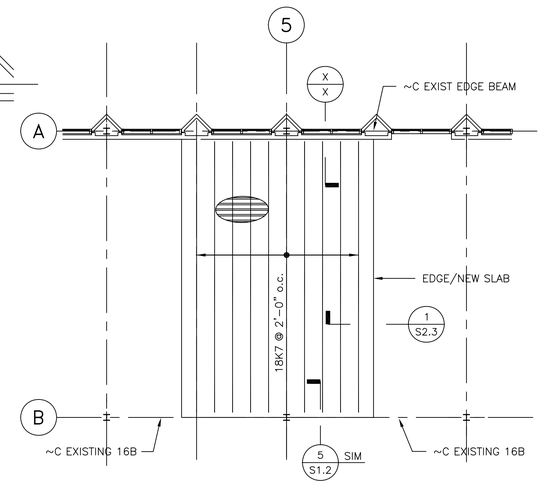
DATE
6-15-07

SHEET NUMBER
S1.1

ASHARES11
1/8" = 1'–0"



DETAIL 1 S1.2
SCALE: 1/4" = 1'-0"



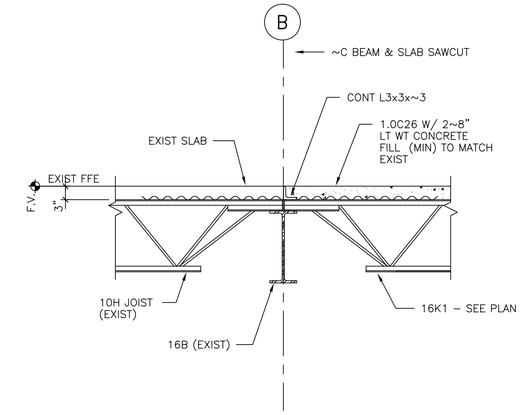
PART FLOOR FRAMING PLAN 2 S1.2
SCALE: 1/8" = 1'-0"

FLOOR AND ROOF FRAMING NOTES

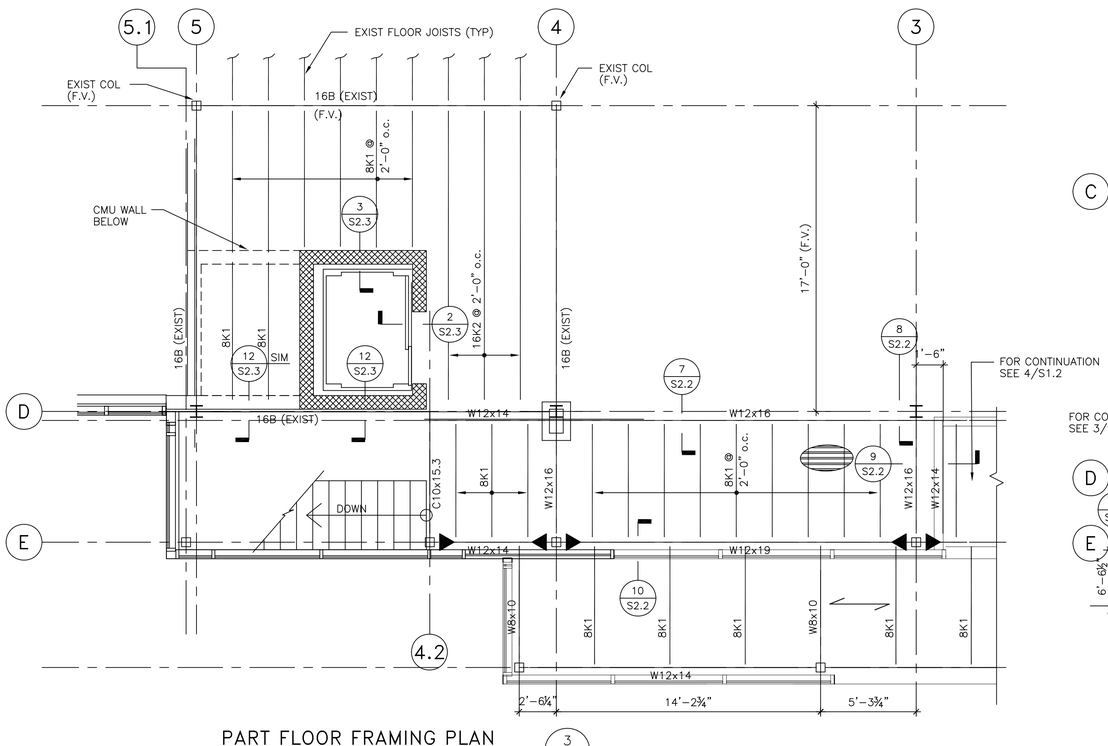
1. 2~8" CONCRETE SLAB ON ~9" DEEP, 26 GAGE GALVANIZED FORM DECK (TOTAL THICKNESS = 3") REINFORCED WITH 6x6 W1.4xW1.4 W.W.F. AT MID-DEPTH.

   INDICATES 1 1/2" DEEP, 20 GAGE WIDE RIB GALVANIZED METAL DECK (MIN. 3 SPANS). WELD DECK TO SUPPORTS WITH 5/8" DIA. WELDS AT 12" o.c. AT INTERIOR AREAS AND 6" o.c. AT 12'-0" WIDE PERIMETER STRIPS. SIDELAPS SHALL BE 4- #10 TEK SCREWS PER SPAN.
2. CONTRACTOR TO COORDINATE ALL FLOOR OPENINGS WITH ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATIONS.
3. FINISHED FLOOR ELEVATION = + 900.97' (MATCH EXISTING)
4. F.V. INDICATES G.C. TO FIELD VERIFY AND NOTIFY ARCHITECT OF ANY DISCREPANCIES.

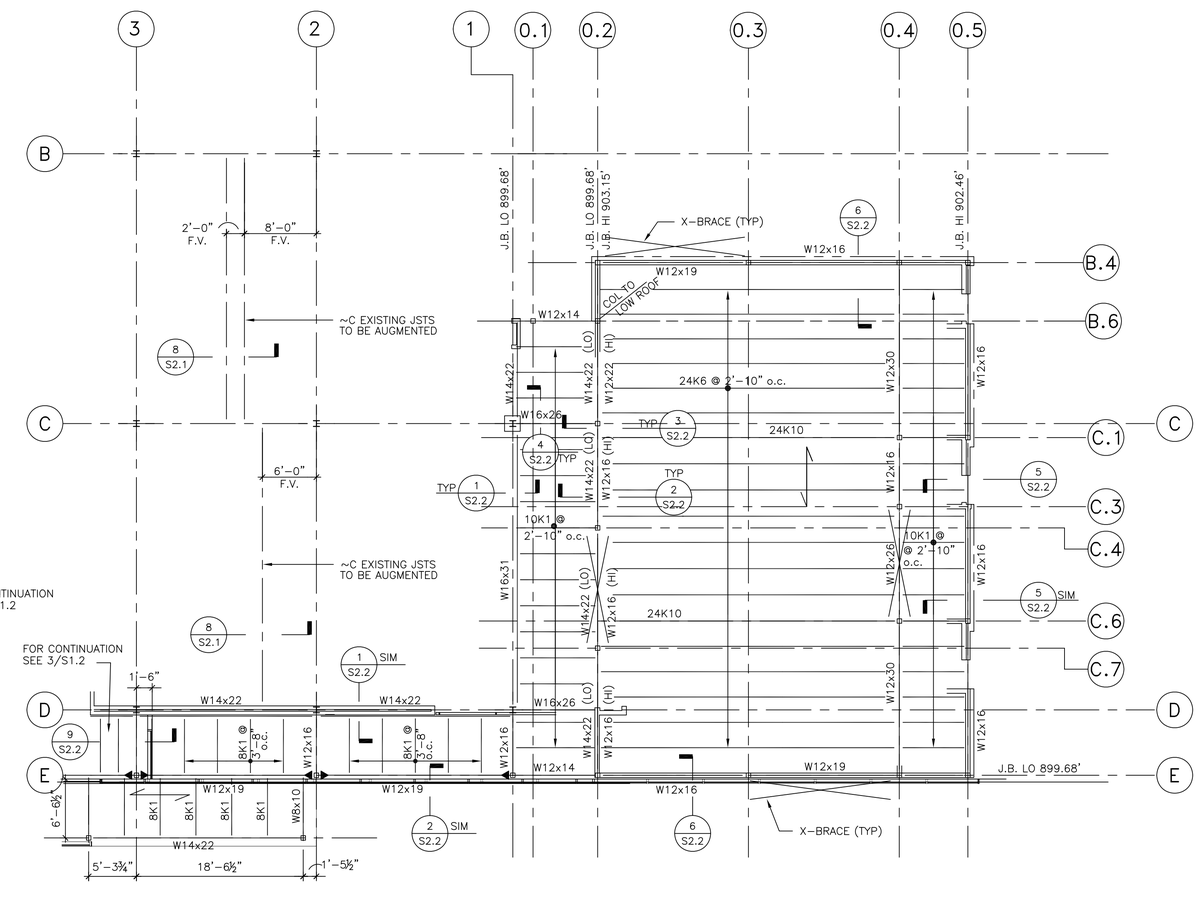
   INDICATES MOMENT CONNECTION. SEE DETAIL 11/S2.2
5. COORDINATE DIMENSIONS W/ ARCHITECTURAL DRAWINGS.
6. JOIST BRIDGING AND CAMBER TO BE PROVIDED PER SJI.
7. ROOF JOISTS SHALL BE DESIGNED FOR A NET WIND UPLIFT PRESSURE = 20 PSF. NO INCREASE IN ALLOWABLE STRESS IS PERMITTED.
8. J.B. = JOIST BEARING ELEVATION. ROOF BEAMS RUNNING PARALLEL TO JOISTS SHALL BE LOCATED +2~8" TO DECK BEARING ELEVATIONS U.N.O.
9. SEE DETAIL 12/S2.2 FOR LINTEL SCHEDULE.



SECTION 5 S2.1
SCALE: 3/4" = 1'-0"



PART FLOOR FRAMING PLAN 3 S1.2
SCALE: 1/4" = 1'-0"



PARTIAL ROOF FRAMING PLAN 4 S1.2
SCALE: 1/8" = 1'-0"

ASHARES12
1/8" = 1'-0"

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ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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REVISIONS

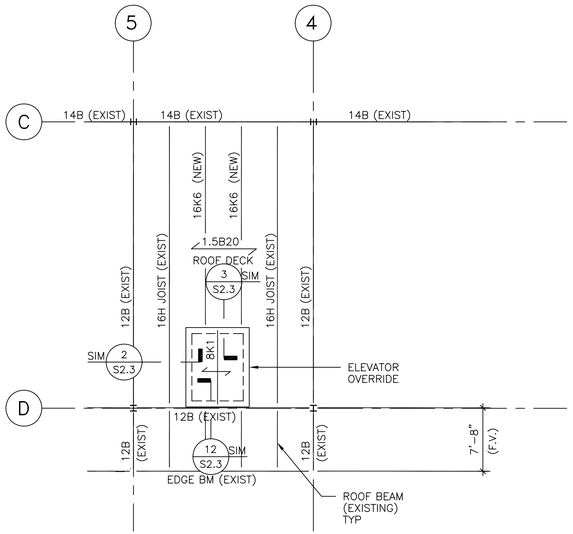
#	DATE	DESCRIPTION
1	7.12.07	FINAL SYSTEM DESIGN

Second Floor Framing Plan & Details

JOB NUMBER
200614

DATE
6-15-07

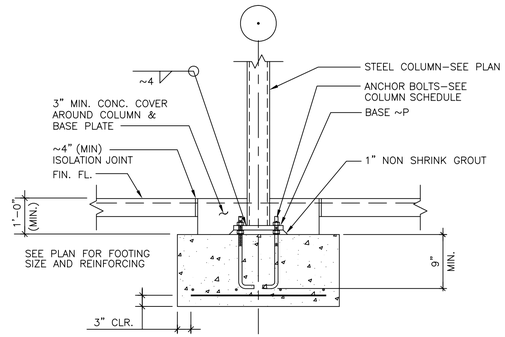
SHEET NUMBER
S1.2



PART HIGH ROOF FRAMING PLAN

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

1 / S2.1

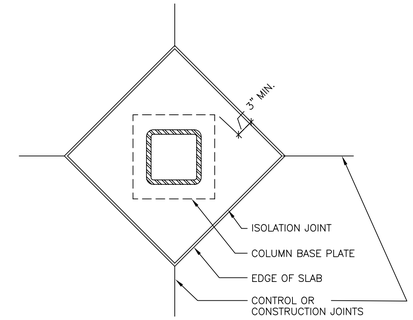


TYPICAL INTERIOR COLUMN & FOOTING DETAIL

NOT TO SCALE

2 / S2.1

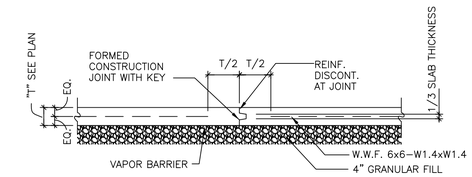
NOTE: 1. CONTRACTOR SHALL PROVIDE LEVEL AND TRUE POSITION FOR BASE PLATE.



TYPICAL INTERIOR SLAB ISOLATION JOINT

NOT TO SCALE

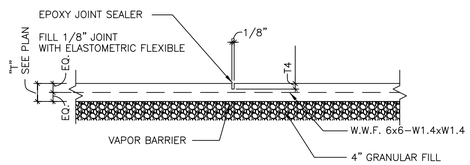
3 / S2.1



TYPICAL CONSTRUCTION JOINT SLABS ON GRADE

NOT TO SCALE

4 / S2.1

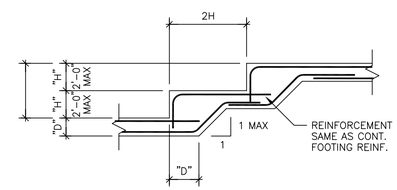


SLAB SHALL BE SAWN AS SOON AS THE CONCRETE WILL SAFELY SUPPORT MEN AND EQUIPMENT.

TYPICAL CONTROL JOINT SLABS ON GRADE

NOT TO SCALE

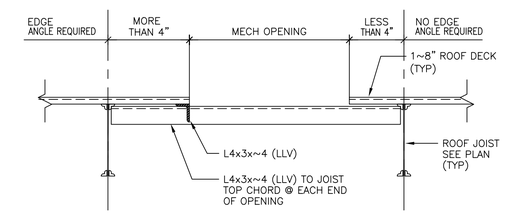
5 / S2.1



TYPICAL STEPPED FOOTING DETAIL

NOT TO SCALE

6 / S2.1

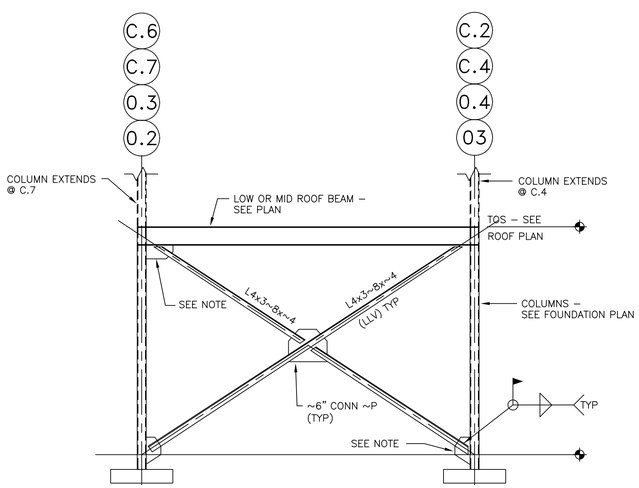


NOTE: COORD DIMENSIONS & LOCATIONS W/ ARCH & MECH DWGS

TYP MECH OPENING DETAIL

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

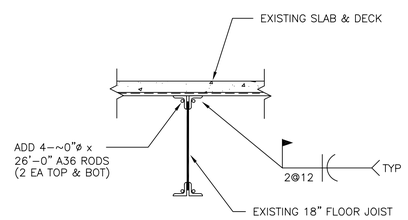
7 / S2.1



NOTE: OFFSET CONN ~P'S @ COLS C.3, C.4, C.6, & C.7 BY 1" TO THE EAST.

B-1 BRACE

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

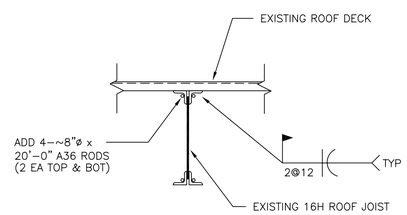


NOTE: CENTER RODS ON JOIST BAY

FLOOR JOIST RETROFIT DETAIL

NOT TO SCALE

8 / S2.1

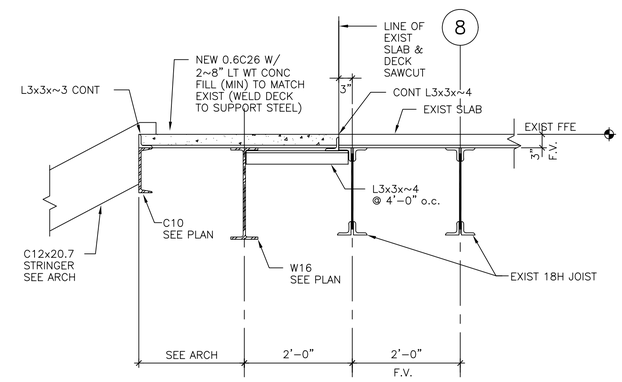


NOTE: CENTER RODS UNDER HRCU-1 & HRCU-2 UNITS PROVIDE REINF. @ 2 ADJACENT JOISTS PER UNIT (MIN)

ROOF JOIST RETROFIT DETAIL

NOT TO SCALE

9 / S2.1



SECTION

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

10 / S2.1

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REVISIONS

#	DATE	DESCRIPTION
1	7.12.07	FINAL SYSTEM DESIGN

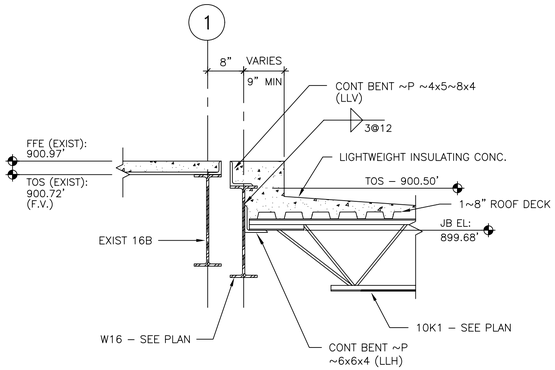
Partial Roof Framing Plan & Details

JOB NUMBER
200614

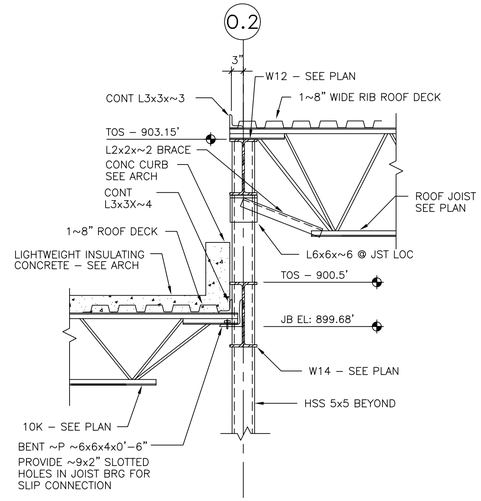
DATE
6-15-07

SHEET NUMBER
S2.1

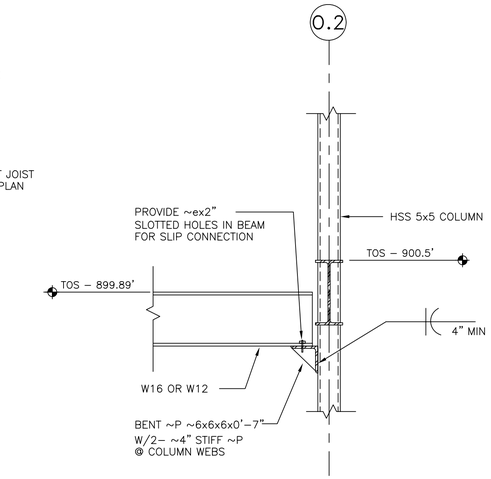
ASHARES21
1/8" = 1'-0"



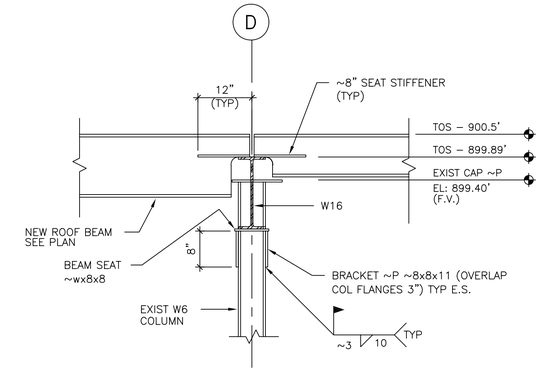
SECTION 1 / S2.2
SCALE: 3/4" = 1'–0"



SECTION 2 / S2.2
SCALE: 3/4" = 1'–0"

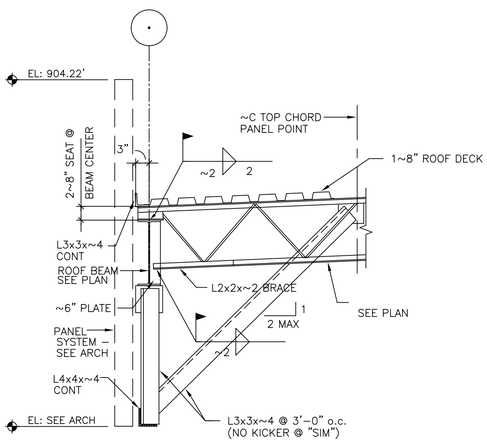


SECTION 3 / S2.2
SCALE: 3/4" = 1'–0"

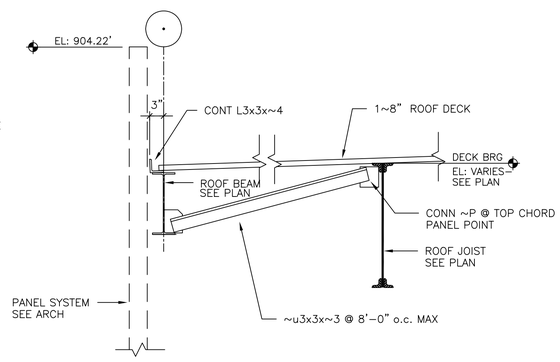


NOTE: ROOF DECK & JOIST BRG ANGLE NOT SHOWN FOR CLARITY

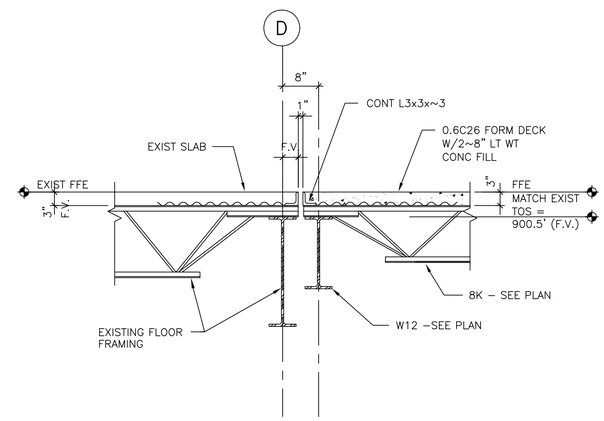
SECTION 4 / S2.2
SCALE: 3/4" = 1'–0"



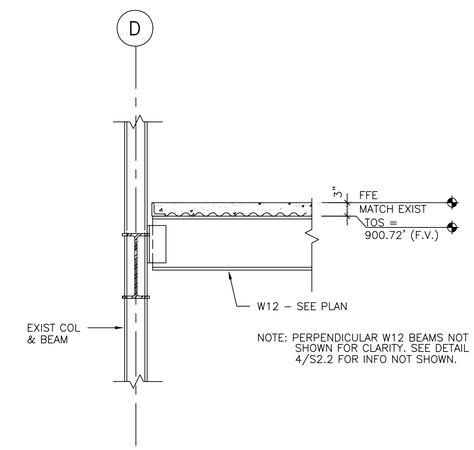
SECTION @ DOORWAY 5 / S2.2
SCALE: 3/4" = 1'–0"



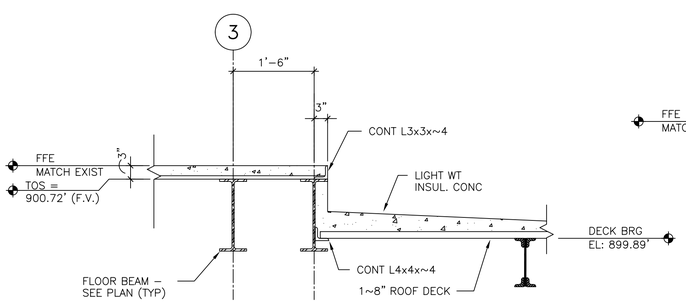
SECTION 6 / S2.2
SCALE: 3/4" = 1'–0"



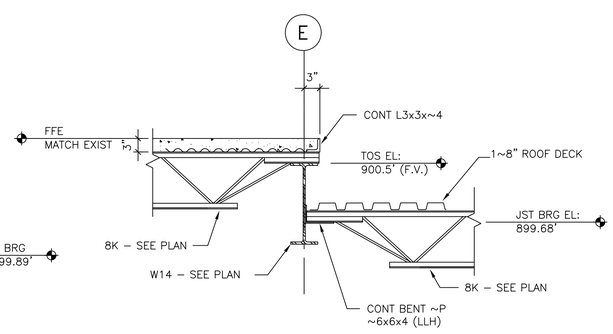
SECTION 7 / S2.2
SCALE: 3/4" = 1'–0"



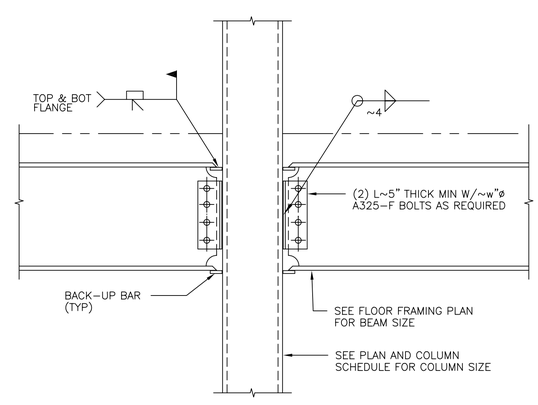
SECTION 8 / S2.2
SCALE: 3/4" = 1'–0"



SECTION 9 / S2.2
SCALE: 3/4" = 1'–0"



SECTION 10 / S2.2
SCALE: 3/4" = 1'–0"



TYP MOMENT CONNECTION DETAIL 11 / S2.2
SCALE: 3/4" = 1'–0"

LINTEL SCHEDULE

MATERIAL	SHAPE	END BRG EACH END	REMARKS	MARK
8" BOND BEAM W/ 2 #5 BOT FILL W/ CONCRETE		8"	OPENING IN 8" CMU WALLS UP TO 4'–0" WIDE	L1
16" BOND BEAM W/ 2 #6 BOT FILL W/ CONCRETE		8"	OPENING IN 8" CMU WALLS 4'–1" TO 6'–0" WIDE	L2
16" BOND BEAM W/ 2 #7 BOT FILL W/ CONCRETE		1'–4"	OPENING IN 8" CMU WALLS 6'–1" TO 9'–0" WIDE	L3

LINTEL SCHEDULE 12 / S2.2
NOT TO SCALE

ASHARES22
1/8" = 1'–0"

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REVISIONS

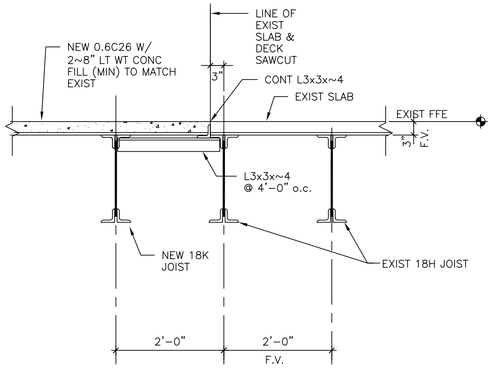
#	DATE	DESCRIPTION
1	7.12.07	FINAL SYSTEM DESIGN

Partial Roof Framing Plan & Details

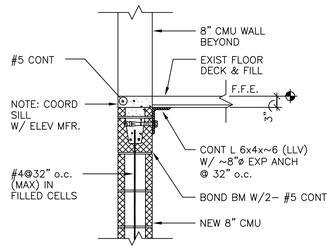
JOB NUMBER 200614

DATE 6-15-07

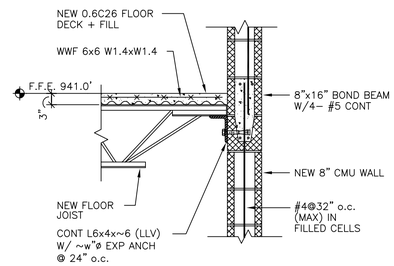
SHEET NUMBER S2.2



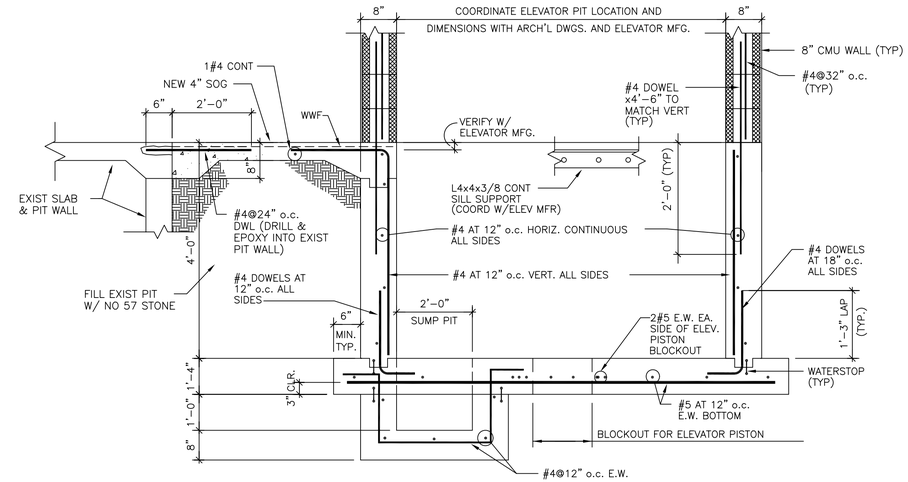
SECTION 1 S2.3
SCALE: 3/4" = 1'-0"



SECTION 2 S2.3
SCALE: 3/4" = 1'-0"

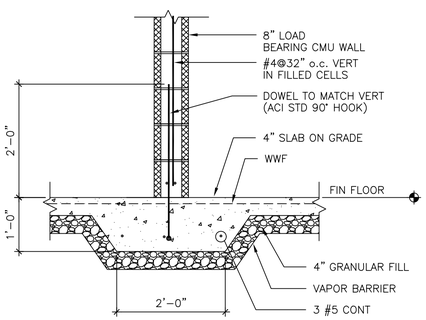


SECTION 3 S2.3
SCALE: 3/4" = 1'-0"

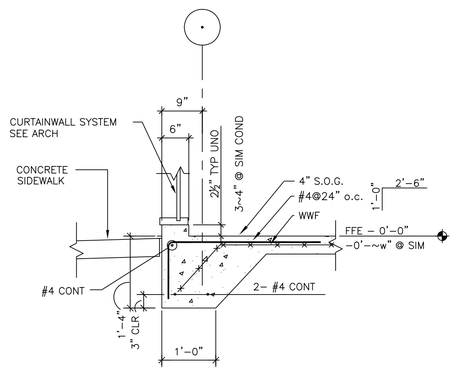


NOTE: SEE GENERAL NOTES FOR ADD'L CMU REINF INFO

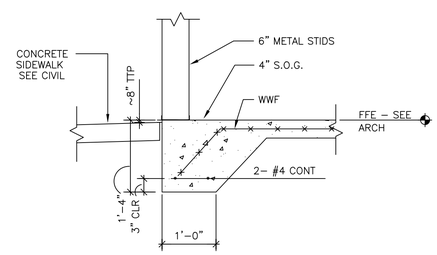
SECTION 4 S2.3
SCALE: 3/4" = 1'-0"



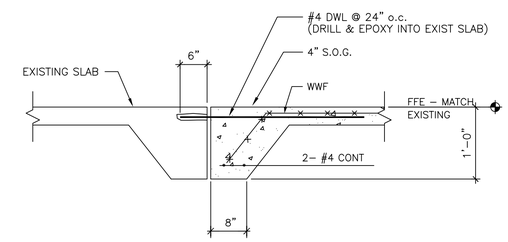
SECTION 5 S2.3
SCALE: 3/4" = 1'-0"



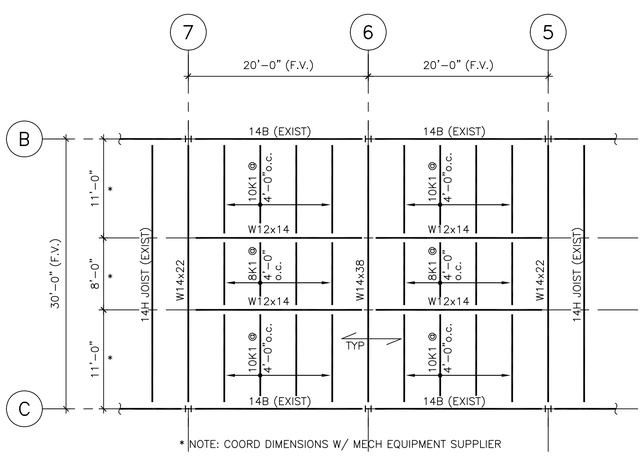
SECTION 6 S2.3
SCALE: 3/4" = 1'-0"



SECTION 7 S2.3
SCALE: 3/4" = 1'-0"

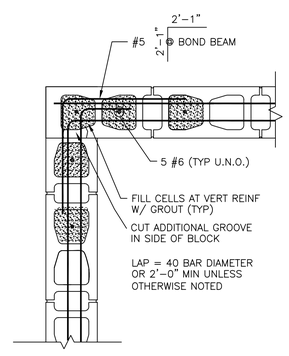


SECTION 8 S2.3
SCALE: 3/4" = 1'-0"

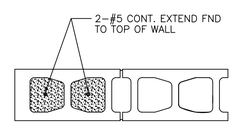


* NOTE: COORD DIMENSIONS W/ MECH EQUIPMENT SUPPLIER

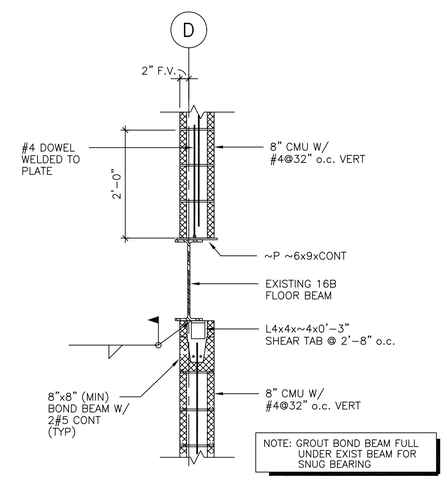
PARTIAL ROOF FRAMING PLAN 9 S2.3
SCALE: 1/8" = 1'-0"



TYPICAL CMU WALL CORNERS 10 S2.3
NOT TO SCALE



REINFORCING AT JAMBS OF OPENINGS 11 S2.3
NOT TO SCALE



SECTION 12 S2.3
SCALE: 3/4" = 1'-0"

ASHARES23
1/8" = 1'-0"

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REVISIONS

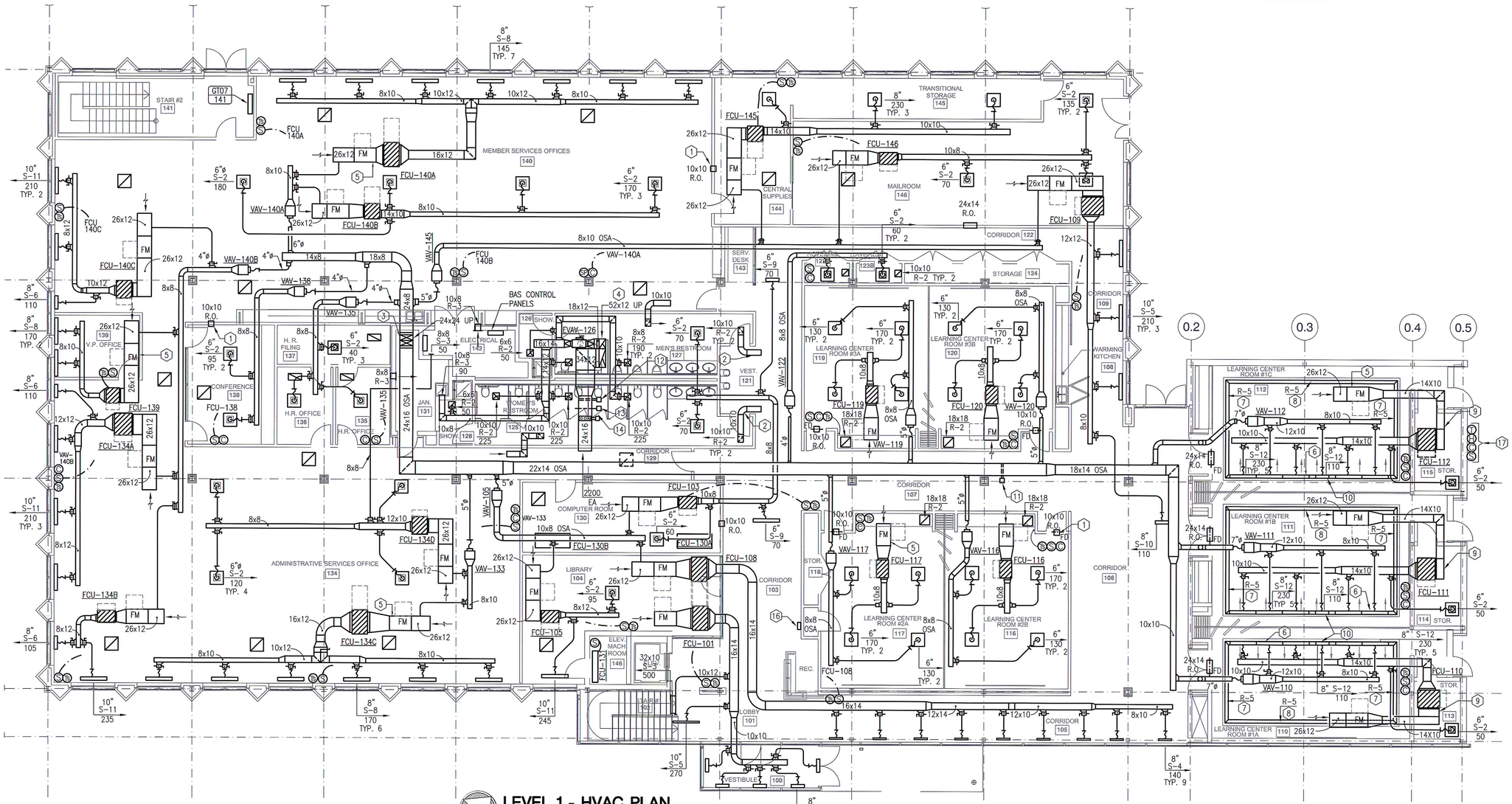
#	DATE	DESCRIPTION
1	7.12.07	FINAL SYSTEM DESIGN

Partial Roof Framing Plan & Details

JOB NUMBER 200614

DATE 6-15-07

SHEET NUMBER S2.3



LEVEL 1 - HVAC PLAN

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

FCU OSA SCHEDULE		
WSHP #	OSA	
	CFM	DUCT SIZE
FCU-103	170	8"ø
FCU-105	85	6"ø
FCU-108	95	6"ø
FCU-109	180	8"ø
FCU-134A	40	6"ø
FCU-134B	40	6"ø
FCU-134C	95	6"ø

NOTE 1: SEE FCU SCHEDULE ON SHEET M4.1

FCU OSA SCHEDULE		
WSHP #	OSA	
	CFM	DUCT SIZE
FCU-134D	180	8"ø
FCU-139	40	6"ø
FCU-140A	190	8"ø
FCU-140B	200	8"ø
FCU-140C	55	6"ø
FCU-145	85	6"ø
FCU-146	80	6"ø

GENERAL NOTES

1. PROVIDE FIRE DAMPER IN DUCTWORK AT FLOOR SLAB PENETRATION AND 2 HOUR RATED WALLS.
2. ALL SUPPLY AIR REGISTERS TO BE TYPE S-1 AND ALL RETURN AIR GRILLES TO BE TYPE R-1, 24x24 OR 24x12, SIZE AS SHOWN, UNLESS OTHERWISE NOTED.
3. WALL-MOUNTED SENSORS AND THERMOSTATS SHALL BE MOUNTED AT 48" AFF.
4. MAXIMUM FLEXIBLE DUCT RUN TO DIFFUSERS SHALL NOT EXCEED 7 FEET. WHERE LENGTH EXCEEDS 7 FEET, PROVIDE INSULATED GALVANIZED STEEL RUNOUTS. FLEXIBLE DUCTWORK ONLY ALLOWED OVER ACCESSIBLE LAY IN CEILING.
5. RUNOUTS TO DIFFUSERS TO BE SAME SIZE AS DIFFUSER NECK SIZE. PROVIDE SCOOP, SPIN-IN, AND SINGLE BLADE DAMPER AT ALL DIFFUSER TAKE OFFS.
6. COORDINATE LOCATION OF ALL DIFFUSERS AND RETURN AIR GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
7. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS SO THAT ACCESS IS PROVIDED AS REQUIRED BY INSTALLATION MANUAL.
8. SEE DRAWING SHEETS M4.1 AND M5.1 FOR HVAC SCHEDULES AND LEGEND.
9. ALL DUCTWORK AND PIPING TO BE INSTALLED ABOVE CEILING UNLESS OTHERWISE NOTED. COORDINATE DUCTWORK AND PIPING TO AVOID CONFLICTS WITH STRUCTURE, LIGHTING FIXTURES AND ELECTRICAL CONDUIT/CABLING.
10. PROTECT ALL MATERIALS AND EQUIPMENT FROM DAMAGE. SEAL ENDS OF OPEN DUCTWORK AND PIPIING DURING CONSTRUCTION TO PREVENT ENTRY OF DUST & DEBRIS.

KEY NOTES

1. RETURN OPENING IN WALL ABOVE CEILING. SIZE AS SHOWN, TYPICAL.
2. TRANSFER DUCT ABOVE CEILING. SIZE AS SHOWN.
3. 24x24 OUTSIDE AIR FROM DOAS-1 TRANSITION UP TO 30x20. SEE M2.2 FOR CONTINUATION. PROVIDE FIRE DAMPER AT SECOND FLOOR SLAB PENETRATION
4. EXHAUST UP TO DOAS-1. SEE M2.2 FOR CONTINUATION. PROVIDE FIRE DAMPER AT SECOND FLOOR SLAB PENETRATION.
5. V-BANK FILTER MODULE WITH MERV 13 ELEMENTS. TYPICAL EACH FAN COIL UNIT.
6. CONTINUOUS LINEAR DIFFUSER WITH MITERED CORNERS. SEE ARCHITECTURAL DRAWINGS FOR EXACT LENGTH. BLANK OFF UNUSED PORTIONS.
7. CONTINUOUS LINEAR RETURN WITH MITERED CORNERS. SEE ARCHITECTURAL DRAWINGS FOR EXACT LENGTH.
8. CONTINUOUS LINEAR BLANKED OFF RETURN WITH MITERED CORNERS. SEE ARCHITECTURAL DRAWINGS FOR EXACT LENGTH.
9. RETURN PLENUM FULL HEIGHT AND WIDTH OF FAN COIL UNIT.
10. TWO FOOT PLENUM.
11. SUPPLY DUCT STATIC PRESSURE SENSOR.
12. EXHAUST DUCT STATIC PRESSURE SENSOR.
13. GENERAL EXHAUST DAMPER, GED-1.
14. FIRST FLOOR EXHAUST AIRFLOW METER.
15. 10x10 RETURN AIR OPENING ABOVE CEILING.
16. HVAC EMERGENCY SHUT-DOWN, SEE DETAIL 3/M5.3.
17. LOCATION OF EXTERIOR TEMP, HUMIDITY, CO2 AND PRESSURE SENSOR.

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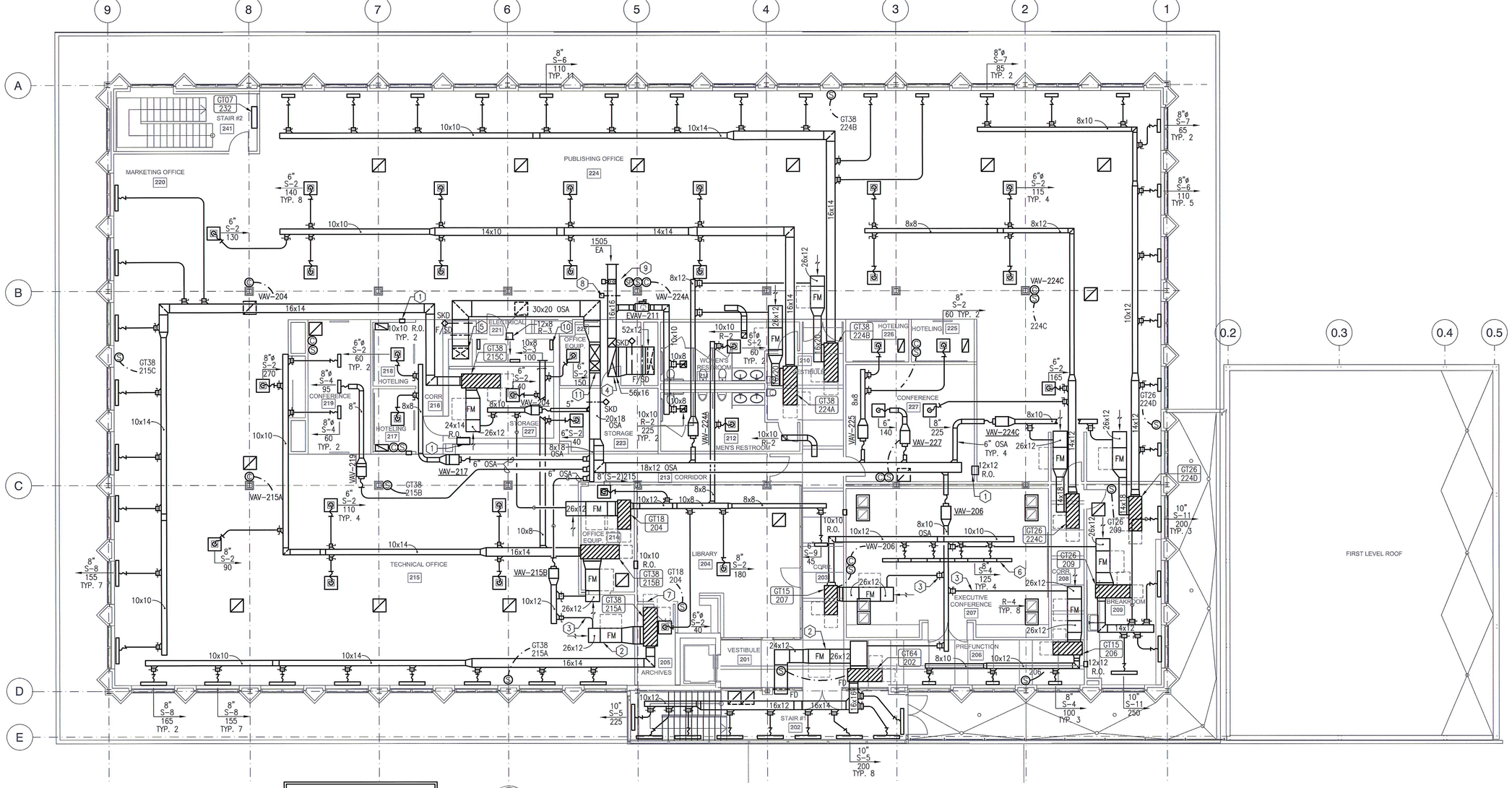
	7/12/07	Final System Design

DRAWING TITLE:
LEVEL 1 HVAC PLAN

PROJECT NUMBER:
200614

DATE:
6/15/07

DRAWING NUMBER:
M2.1



LEVEL 2 - HVAC PLAN

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

GLHP OSA SCHEDULE

WSHP #	OSA	
	CFM	DUCT SIZE
GT38-215A	115	6"ø
GT38-215B	320	10"ø
GT38-215C	115	6"ø
GT18-204	180	8"ø
GT38-224A	300	10"ø
GT38-224B	180	8"ø
GT26-224C	225	8"ø
GT26-224D	120	6"ø
GT26-209	190	8"ø
GT15-206	50	6"ø
GT64-202	30	6"ø
GT15-207	185	8"ø
TOTAL	2010	

NOTE 1: SEE GLHP SCHEDULE ON SHEET M4.1

GENERAL NOTES

1. PROVIDE FIRE DAMPER IN DUCTWORK AT FLOOR SLAB PENETRATION AND 2 HOUR RATED WALLS.
2. ALL SUPPLY AIR REGISTERS TO BE TYPE S-1 AND ALL RETURN AIR GRILLES TO BE TYPE R-1, 24x24 OR 24x12, SIZE AS SHOWN, UNLESS OTHERWISE NOTED.
3. WALL-MOUNTED SENSORS AND THERMOSTATS SHALL BE MOUNTED AT 48" AFF.
4. MAXIMUM FLEXIBLE DUCT RUN TO DIFFUSERS SHALL NOT EXCEED 7 FEET. WHERE LENGTH EXCEEDS 7 FEET, PROVIDE INSULATED GALVANIZED STEEL RUNOUTS. FLEXIBLE DUCTWORK ONLY ALLOWED OVER ACCESSIBLE LAY IN CEILING ONLY.
5. RUNOUTS TO DIFFUSERS TO BE SAME SIZE AS DIFFUSER NECK SIZE. PROVIDE SCOOP, SPIN-IN, AND SINGLE BLADE DAMPER AT ALL DIFFUSER TAKE OFFS.
6. COORDINATE LOCATION OF ALL DIFFUSERS AND RETURN AIR GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
7. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS SO THAT ACCESS IS PROVIDED AS REQUIRED BY INSTALLATION MANUAL.
8. SEE DRAWING SHEETS M4.1 AND M5.1 FOR HVAC SCHEDULES AND LEGEND.
9. ALL DUCTWORK AND PIPING TO BE INSTALLED ABOVE CEILING UNLESS OTHERWISE NOTED. COORDINATE DUCTWORK AND PIPING TO AVOID CONFLICTS WITH STRUCTURE, LIGHTING FIXTURES AND ELECTRICAL CONDUIT/CABLING.
10. PROTECT ALL MATERIALS AND EQUIPMENT FROM DAMAGE. SEAL ENDS OF OPEN DUCTWORK AND PIPING DURING CONSTRUCTION TO PREVENT ENTRY OF DUST & DEBRIS.

KEY NOTES

1. RETURN AIR OPENING IN WALL ABOVE CEILING. SIZE AS SHOWN TYPICAL.
2. V-BANK FILTER MODULE WITH MERV 13 ELEMENTS. TYPICAL EACH HEAT PUMP.
3. VENTILATION AIR FROM DOAS UNIT. EXTEND DUCT SIZE SHOWN TO HEAT PUMP RETURN IN CEILING PLENUM. SET AIRFLOW TO SCHEDULED CFM.
4. COMBINED 72x16 EXHAUST UP (56x16 AND 16x16) TRANSITION TO 15"x 83" UNIT CONNECTION IN RISE.
5. 30x20 TRANSITION DOWN TO 24x24. SEE M2-1 FOR CONTINUATION.
6. CONTINUOUS LINEAR DIFFUSER WITH END CAPS. SEE ARCHITECTURAL DRAWINGS FOR EXACT LENGTH. BLANK OFF UNUSED PORTIONS.
7. INSTALL FULL UNIT HEIGHT AND WIDTH ACCESS PANEL IN WALL ABOVE CEILING.
8. GENERAL EXHAUST DAMPER, GED-2.
9. SECOND FLOOR GENERAL EXHAUST AIR FLOW METER
10. BAS CONTROL PANEL, TYPICAL OF 3.
11. COMBINED 48x20 SUPPLY UP (30x20 AND 18x20) TRANSITION TO 15"x 73 UNIT CONNECTION IN RISE.

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DRAWING TITLE:

LEVEL 2 HVAC PLAN

PROJECT NUMBER:

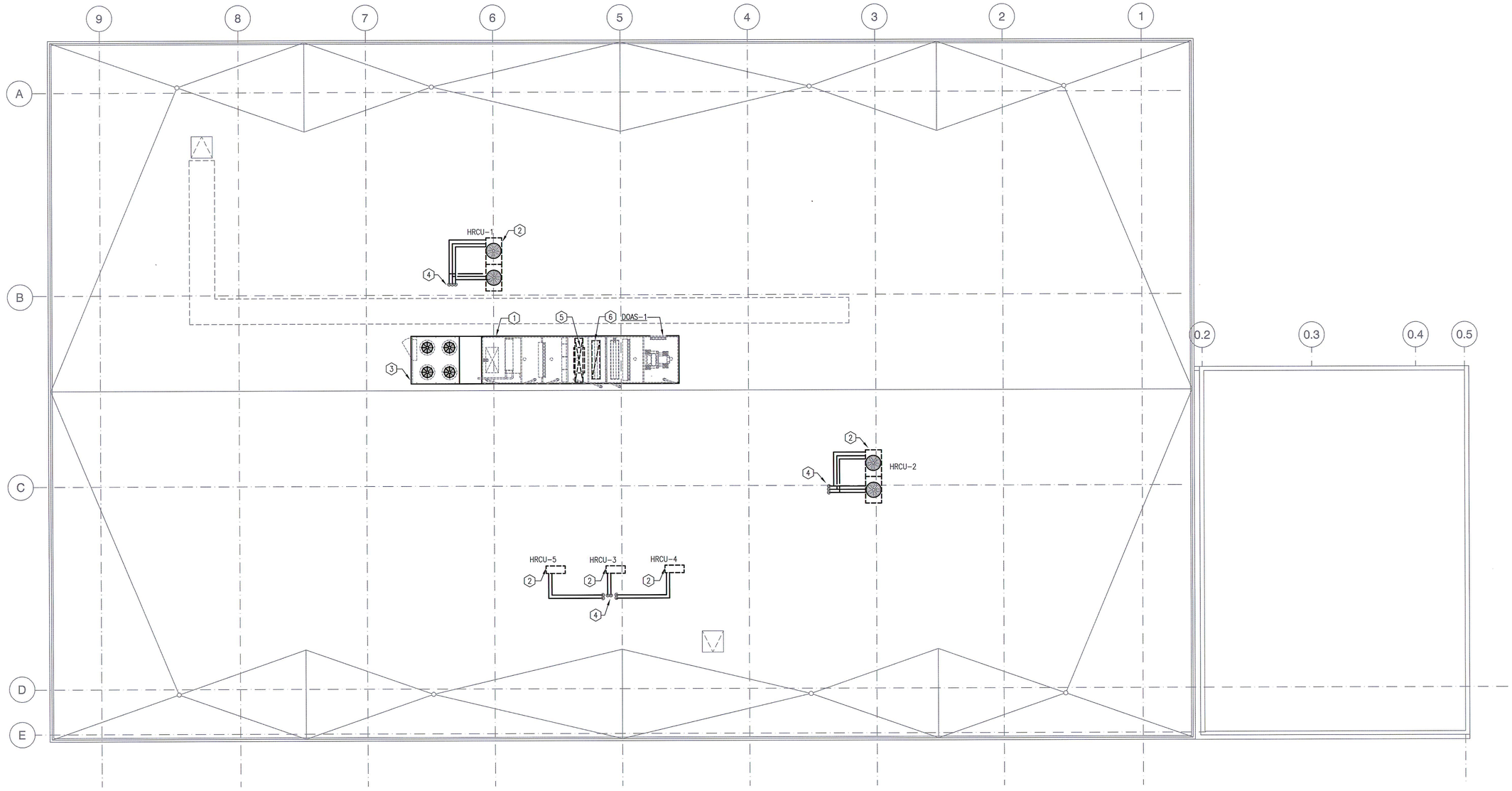
200614

DATE:

6/15/07

DRAWING NUMBER:

M2.2



ROOF - HVAC PLAN

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

GENERAL NOTES

1. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. PROTECT ALL MATERIALS AND EQUIPMENT FROM DAMAGE.
3. SEE SHEET M4.1 FOR SCHEDULE AND CAPACITIES.
4. EXTEND REFRIGERANT PIPING FROM CONDENSING UNITS TO ROOF CAP. SUPPORT ALL REFRIGERANT ON EQUIPMENT SUPPORT CURBS. REFRIGERANT PIPING SHALL BE A MINIMUM OF 18" ABOVE ROOF.
5. SIZE REFRIGERANT PIPING IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
6. ALL ROOF MOUNTED EQUIPMENT SHALL BE SECURED TO SUPPORTS. SUPPORTS SHALL BE FASTENED TO ROOF.
7. ALL ROOF MOUNTED EQUIPMENT SHALL BE INSTALLED TO ALLOW REROOFING WITHOUT REMOVAL OF EQUIPMENT.

KEY NOTES

1. DEDICATED OUTSIDE AIR SYSTEM (DOAS) UNIT ON ROOF CURB.
2. OUTDOOR VRF HEAT RECOVERY UNIT ON ROOF EQUIPMENT RAILS.
3. REMOTE CONDENSING UNIT ASSOCIATED WITH DOAS-1 ON ROOF EQUIPMENT RAILS.
4. REFRIGERANT PIPING THROUGH PENETRATION IN ROOF SLAB. SEE DRAWING M2.5 FOR CONTINUATION.
5. 15"x 83" RETURN/EXHAUST DUCT (UNIT OPENING) THROUGH OPENING IN ROOF SLAB. SEE DRAWING M2.2 FOR CONTINUATION.
6. 15"x 73" SUPPLY DUCT (UNIT OPENING) THROUGH OPENING IN ROOF SLAB. SEE DRAWING M2.2 FOR CONTINUATION.

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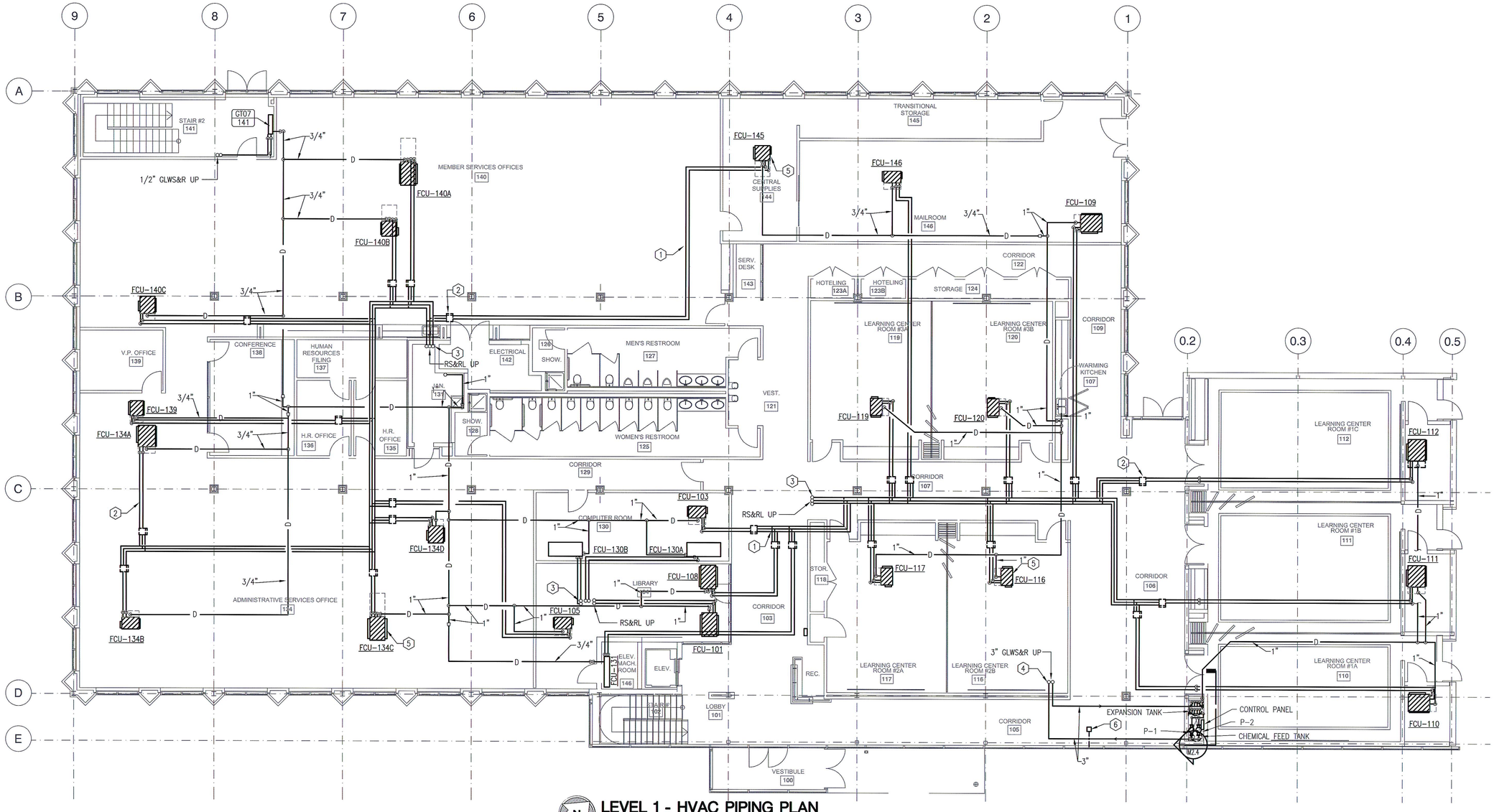
	7/12/07	Final System Design

DRAWING TITLE:
ROOF HVAC PLAN

PROJECT NUMBER:
200614

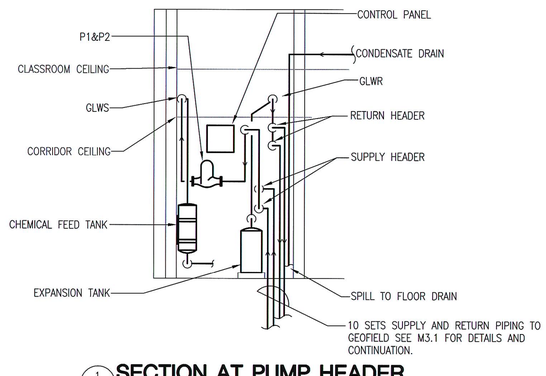
DATE:
6/15/07

DRAWING NUMBER:
M2.3



LEVEL 1 - HVAC PIPING PLAN

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



1/M2.4 SECTION AT PUMP HEADER

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

GENERAL NOTES

1. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS SO THAT ACCESS IS PROVIDED AS REQUIRED BY INSTALLATION MANUAL.
2. SEE DRAWING SHEETS M4.1 AND M5.1 FOR HVAC SCHEDULES AND LEGEND.
3. ALL PIPING TO BE INSTALLED ABOVE CEILING. COORDINATE PIPING TO AVOID CONFLICTS WITH STRUCTURE, LIGHTING FIXTURES AND ELECTRICAL CONDUIT/CABLING.
4. PROTECT ALL MATERIALS AND EQUIPMENT FROM DAMAGE. SEAL ENDS OF OPEN PIPIING DURING CONSTRUCTION TO PREVENT ENTRY OF DUST & DEBRIS.

KEY NOTES

1. VRV REFRIGERANT PIPING IN CEILING. EXTEND LIQUID LINE, HOT GAS AND VAPOR RETURN FROM OUTDOOR UNITS ON ROOF TO BRANCH SELECTORS. PROVIDE TWO REFRIGERANT LINES TO FAN COIL UNIT. SIZES PER MANUFACTURER.
2. BRANCH SELECTOR UNIT (TYPICAL).
3. REFRIGERANT PIPING UP THROUGH PENETRATION IN SECOND LEVEL FLOOR SLAB. SEE SHEET M2.5 FOR CONTINUATION OF PIPING.
4. GROUND LOOP WATER PIPING ABOVE CEILING. EXTEND PIPING UP TO SECOND FLOOR. SEE SHEET M2.5 FOR CONTINUATION OF PIPING.
5. VRV FAN COIL UNIT ABOVE CEILING (TYPICAL). EXTEND CONDENSATE DRAIN PIPING TO CLOSEST PLUMBING HUB DRAIN OR JANITOR CLOSET.
6. FLOW METER, SEE DETAIL 3/M5.2.

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LEVEL 1 HVAC PIPING PLAN

PROJECT NUMBER:

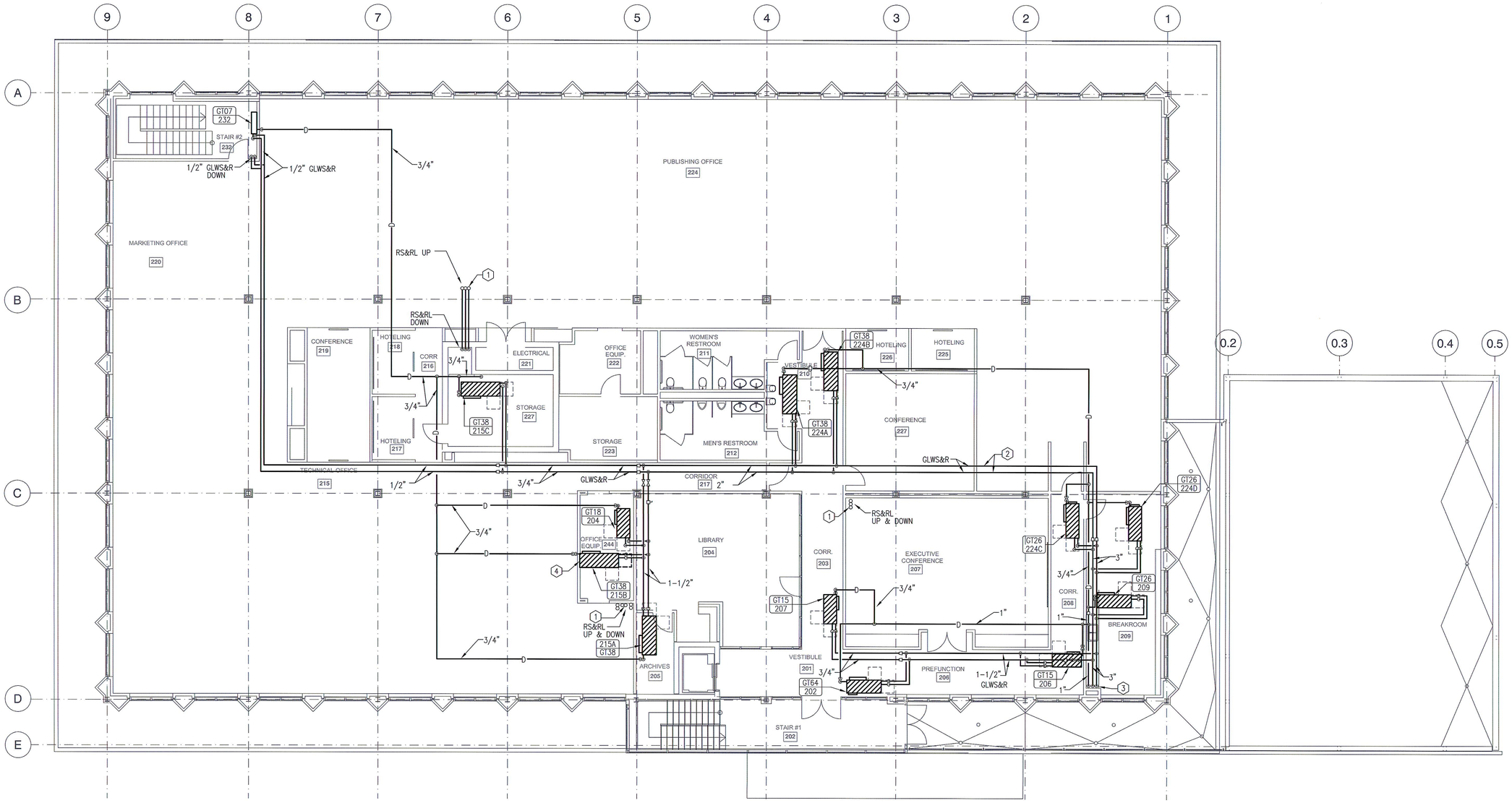
200614

DATE:

6/15/07

DRAWING NUMBER:

M2.4



LEVEL 2 - HVAC PIPING PLAN

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

GENERAL NOTES

1. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS SO THAT ACCESS IS PROVIDED AS REQUIRED BY INSTALLATION MANUAL.
2. SEE DRAWING SHEETS M4.1 AND M5.1 FOR HVAC SCHEDULES AND LEGEND.
3. ALL PIPING TO BE INSTALLED ABOVE CEILING. COORDINATE PIPING TO AVOID CONFLICTS WITH STRUCTURE, LIGHTING FIXTURES AND ELECTRICAL CONDUIT/CABLING.
4. PROTECT ALL MATERIALS AND EQUIPMENT FROM DAMAGE. SEAL ENDS OF OPEN PIPING DURING CONSTRUCTION TO PREVENT ENTRY OF DUST & DEBRIS.

KEY NOTES

1. REFRIGERANT PIPING UP THROUGH PENETRATION IN ROOF DECK. SEE SHEET M2.3 FOR CONTINUATION OF PIPING.
2. GROUND LOOP WATER PIPING ABOVE CEILING. EXTEND PIPING UP TO HEAT PUMP UNITS.
3. GROUND LOOP WATER PIPING UP FROM LEVEL 1. SEE SHEET M2.4 FOR CONTINUATION OF PIPING.
4. HORIZONTAL HEAT PUMP UNIT ABOVE CEILING (TYPICAL). EXTEND CONDENSATE DRAIN PIPING TO CLOSEST PLUMBING HUB DRAIN OR JANITOR CLOSET.

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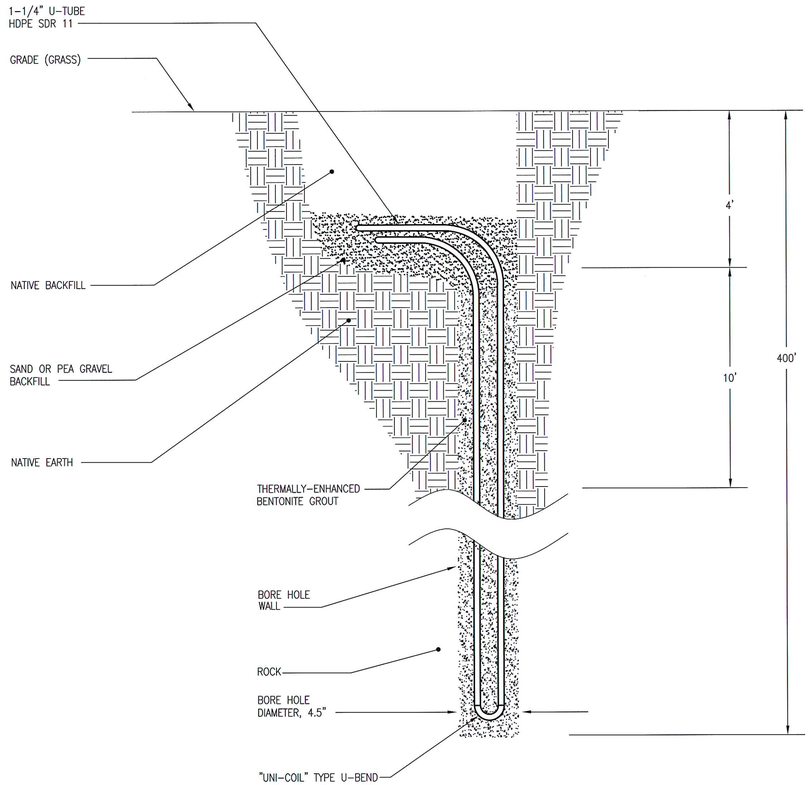
LEVEL 2 HVAC PIPING PLAN

PROJECT NUMBER:
200614

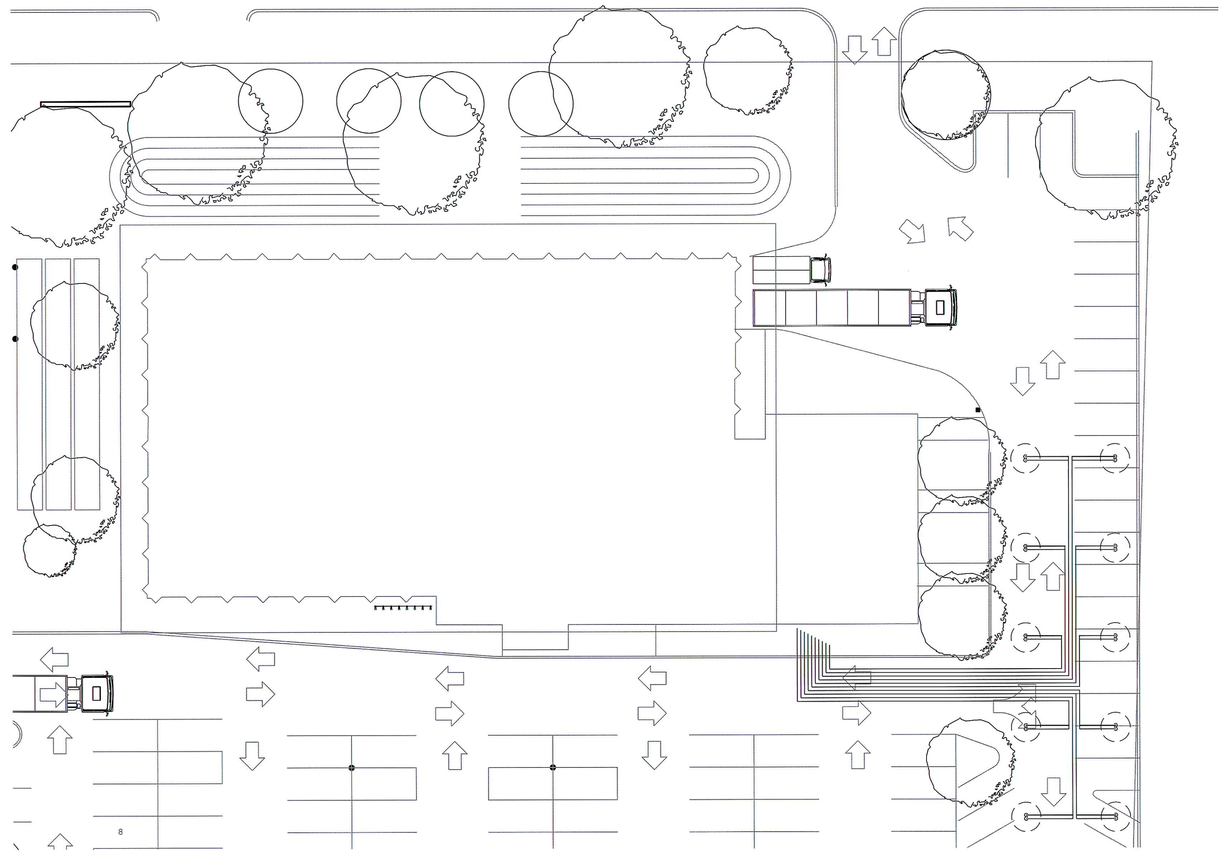
DATE:
6/15/07

DRAWING NUMBER:
M2.5



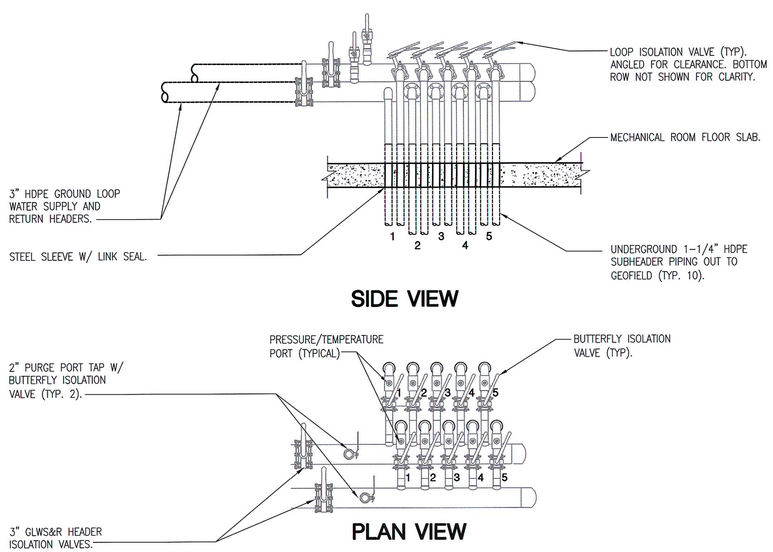
2 / M3-1 BORE HOLE DETAIL

SCALE: NONE



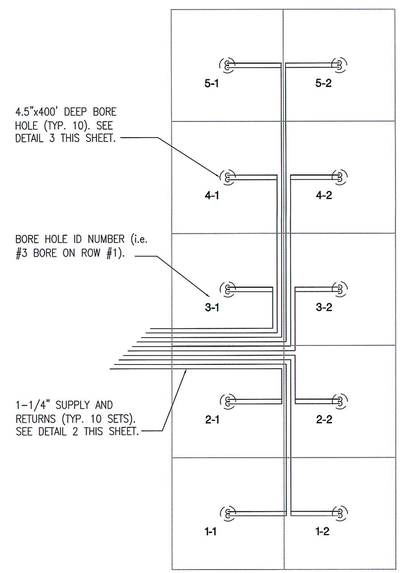
N GROUND LOOP HEAT EXCHANGER PART SITE PLAN

SCALE: 1"=20'



3 / M3-1 PIPING ENTRY DETAIL

SCALE: NONE



1 / M3-1 GROUND LOOP PIPING SCHEMATIC

SCALE: 1/16" = 1'-0"

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DRAWING TITLE:

HVAC GROUND LOOP LAYOUT AND DETAILS

PROJECT NUMBER:

200614

DATE:

6/15/07

DRAWING NUMBER:

M3.1

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

MARK	DESCRIPTION	FINISH
S-1	24x24 STEEL SQUARE PLAQUE DIFFUSER, FLANGE FRAME, 4 WAY THROW, FULL FACE, O.B. DAMPER, WITH ROUND NECK, FACE PANEL, BACK CONE, NECK SIZE AS SHOWN. PRICE SPD.	BAKED OFF WHITE ENAMEL
S-2	SAME AS S-1, 12x12 DIFFUSER, 24x24 PANEL SIZE.	BAKED OFF WHITE ENAMEL
S-3	STEEL DOUBLE DEFLECTION SUPPLY DIFFUSER, ADJUSTABLE PATTERN, 3/4" SPACING BETWEEN BLADES, FLANGE FRAME, SIZE AS SHOWN, FRONT BLADES PARALLEL TO SHORT DIMENSION O.B. DAMPER. PRICE 520D.	BAKED OFF WHITE ENAMEL
S-4	EXTRUDED ALUMINUM SLOT DIFFUSER, TWO 2" SLOTS, 2 FOOT LENGTH UNLESS OTHERWISE NOTED, PLENUM, STEEL 180° PATTERN CONTROLLER, FLANGE FRAME AROUND PERIMETER WITH BORDER TYPE 21, END CAPS. PRICE AS220	ANODIZED ALUMINUM
S-5	EXTRUDED ALUMINUM SLOT DIFFUSER, TWO 2-1/2" SLOTS, 4 FOOT LENGTH, PLENUM, STEEL 180° PATTERN CONTROLLER, FLANGE FRAME AROUND PERIMETER WITH BORDER TYPE 21, END CAPS. PRICE AS225	ANODIZED ALUMINUM
S-6	EXTRUDED ALUMINUM SLOT DIFFUSER, TWO 2" SLOTS, 2 FOOT LENGTH, PLENUM, STEEL 180° PATTERN CONTROLLER, FACTORY INSTALLED T-BAR ON INLET SIDE, CLIP ON OPPOSITE SIDE. PRICE AST220	BAKED OFF WHITE ENAMEL
S-7	EXTRUDED ALUMINUM SLOT DIFFUSER, TWO 1-1/2" SLOTS, 2 FOOT LENGTH, PLENUM, STEEL 180° PATTERN CONTROLLER, FACTORY INSTALLED T-BAR ON INLET SIDE, CLIP ON OPPOSITE SIDE. PRICE AST215	BAKED OFF WHITE ENAMEL
S-8	EXTRUDED ALUMINUM SLOT DIFFUSER, TWO 2" SLOTS, 4 FOOT LENGTH, PLENUM, STEEL 180° PATTERN CONTROLLER, FACTORY INSTALLED T-BAR ON INLET SIDE, CLIP ON OPPOSITE SIDE. PRICE AST220	BAKED OFF WHITE ENAMEL
S-9	EXTRUDED ALUMINUM SLOT DIFFUSER, ONE 1" SLOT, 2 FOOT LENGTH, PLENUM, STEEL 180° PATTERN CONTROLLER, FLANGE FRAME AROUND PERIMETER WITH BORDER TYPE 21, END CAPS. PRICE AS110	ANODIZED ALUMINUM
S-10	EXTRUDED ALUMINUM SLOT DIFFUSER, TWO 1" SLOTS, 2 FOOT LENGTH, PLENUM, STEEL 180° PATTERN CONTROLLER, FLANGE FRAME AROUND PERIMETER WITH BORDER TYPE 21, END CAPS. PRICE AS210	ANODIZED ALUMINUM
S-11	EXTRUDED ALUMINUM SLOT DIFFUSER, TWO 2-1/2" SLOTS, 4 FOOT LENGTH, PLENUM, STEEL 180° PATTERN CONTROLLER, FACTORY INSTALLED T-BAR ON INLET SIDE, CLIP ON OPPOSITE SIDE. PRICE AST225	BAKED OFF WHITE ENAMEL
S-12	EXTRUDED ALUMINUM SLOT DIFFUSER, ONE 2" SLOT, 4 FOOT LENGTH UNLESS OTHERWISE NOTED, PLENUM, STEEL 180° PATTERN CONTROLLER, FLANGE FRAME AROUND PERIMETER WITH BORDER TYPE 21, END CAPS. PRICE AS110	ANODIZED ALUMINUM
R-1	24x24 OR 24x12 EGG CRATE RETURN GRILLE. 1/2"x 1/2"x 1/2" GRID CORE, ALL-ALUMINUM, NON-DUCTED/PLENUM RETURN. PRICE 80 SERIES.	BAKED OFF WHITE ENAMEL
R-2	EGG CRATE RETURN GRILLE. 1/2"x 1/2"x 1/2" GRID CORE, ALL-ALUMINUM, SURFACE MOUNTED FRAME, SIZE AS SHOWN, PRICE 80 SERIES.	BAKED OFF WHITE ENAMEL
R-3	STEEL SIDE WALL RETURN GRILLE, 3/4" BLADE SPACING, FLANGE FRAME, 45° FIXED DEFLECTION, FRONT BLADES HORIZONTAL. PRICE 530.	BAKED OFF WHITE ENAMEL
R-4	EXTRUDED ALUMINUM SLOT RETURN, ONE 1" SLOT, 24x24 SQUARE, NON-DUCTED. PRICE ASMR210	BAKED OFF WHITE ENAMEL
R-5	EXTRUDED ALUMINUM SLOT RETURN, ONE 2" SLOT, LENGTH AS SHOWN, FLANGE FRAME AROUND PERIMETER WITH BORDER TYPE 21. PRICE AS110	ANODIZED ALUMINUM

PUMP SCHEDULE

MARK	TYPE	SERVES	GPM	DEV. HEAD	HP	RPM	VOLTAGE	DESIGN BASIS	REMARKS
P-1	INLINE	SECOND FLOOR	60	75	3	1750	460	B&G 80	(1)(2)
P-2	INLINE	SECOND FLOOR	60	75	3	1750	460	B&G 80	(1)(2)

(1) 460V/3ø HIGH EFFICIENCY MOTOR
(2) 50% PUMP EFFICIENCY MINIMUM

VRV AIR COOLED CONDENSING UNIT SCHEDULE

MARK	REFRIGERANT TYPE	SERVES	COMPRESSOR QUANTITY	LOCATION	COOLING CAPACITY	HEATING CAPACITY	VOLTAGE	DESIGN BASIS	REMARKS
HRCU-1	410A	FIRST FLOOR WEST	4	ROOF	123.8 MBH	69 MBH	208/3ø	DAIKIN REYQ168	(1)(2)
HRCU-2	410A	FIRST FLOOR EAST	4	ROOF	125.5 MBH	95 MBH	208/3ø	DAIKIN REYQ168	(1)(2)
HRCU-3	410A	COMPUTER ROOM	1	ROOF	36 MBH	–	208/1ø	DAIKIN RZQ36MVJU	(1)(2)
HRCU-4	410A	ENTRANCE LOBBY	1	ROOF	34.8 MBH	15.7 MBH	208/1ø	DAIKIN RXYMQ48	(1)(2)
HRCU-5	410A	COMPUTER ROOM	1	ROOF	36 MBH	–	208/1ø	DAIKIN RZQ36MVJU	(1)(2)

(1) COOLING CAPACITY BASED ON SUMMER AMBIENT 95°F DB, 75°F WB. HEATING CAPACITY BASED ON 18°F DB AMBIENT.
(2) VFD FAN, SCROLL COMPRESSOR, PATE ROOFTOP EQUIPMENT SUPPORTS.

VARIABLE REFRIGERANT VOLUME FAN COIL UNIT

MARK	TYPE	COOLING CAPACITY		FAN				HEATING CAPACITY	DESIGN BASIS	REMARKS
		TOTAL MBH	SENSIBLE MBH	CFM	E.S.P.	WATTS	VOLTAGE	MBH		
FCU-109	CONCEALED CEILING	13.3	10.8	740	0.51	127	208v/3ø	9.8	FXSQ24	(1)(2)(4)(5)
FCU-101	CONCEALED CEILING	34.8	33.7	1270	1.0	433	208v/1ø	15.7	FXMQ48	(1)(2)(3)(5)
FCU-103	CONCEALED CEILING	4.8	4.1	340	0.37	52	208v/3ø	3.5	FXSQ12 (09)	(1)(2)(4)(5)
FCU-105	CONCEALED CEILING	6.5	5.3	340	0.37	52	208v/3ø	3.2	FXSQ12 (09)	(1)(2)(4)(5)
FCU-108	CONCEALED CEILING	33.0	33.0	1270	1.0	433	208v/3ø	12.9	FXMQ48	(1)(2)(3)(5)
FCU-110	CONCEALED CEILING	15.8	11.3	740	0.51	127	208v/3ø	15.6	FXSQ24	(1)(2)(4)(5)
FCU-111	CONCEALED CEILING	15.7	10.0	740	0.51	127	208v/3ø	12.0	FXSQ24	(1)(2)(4)(5)
FCU-112	CONCEALED CEILING	16.0	11.6	740	0.51	127	208v/3ø	15.7	FXSQ24	(1)(2)(4)(5)
FCU-116	CONCEALED CEILING	7.2	5.1	340	0.37	52	208v/3ø	4.8	FXSQ12 (09)	(1)(2)(4)(5)
FCU-117	CONCEALED CEILING	7.4	5.1	340	0.37	52	208v/3ø	4.6	FXSQ12 (09)	(1)(2)(4)(5)
FCU-119	CONCEALED CEILING	7.2	5.0	340	0.37	52	208v/3ø	4.6	FXSQ12 (09)	(1)(2)(4)(5)
FCU-120	CONCEALED CEILING	7.2	5.0	340	0.37	52	208v/3ø	4.6	FXSQ12 (09)	(1)(2)(4)(5)
FCU-130A	CEILING SUSPENDED	24	24	890	–	130	208v/1ø	–	FXHQ36	(1)(2)(4)(5)
FCU-130B	CEILING SUSPENDED	24	24	890	–	130	208v/1ø	–	FXHQ36	(1)(2)(4)(5)
FCU-131	WALL CABINET	6.4	6.4	280	–	40	208v/1ø	–	FXAQ09	(1)(2)(3)(5)
FCU-134A	CONCEALED CEILING	15.4	14.7	740	0.51	127	208v/3ø	7.1	FXSQ24	(1)(2)(4)(5)
FCU-134B	CONCEALED CEILING	5.6	5.5	340	0.37	52	208v/3ø	3.9	FXSQ12 (09)	(1)(2)(4)(5)
FCU-134C	CONCEALED CEILING	24.5	22.9	1020	0.71	269	208v/3ø	12.7	FXMQ36	(1)(2)(3)(5)
FCU-134D	CONCEALED CEILING	13.9	11.9	530	0.38	82	208v/3ø	3.3	FXSQ18	(1)(2)(4)(5)
FCU-139	CONCEALED CEILING	6.2	6.0	340	0.37	52	208v/3ø	2.6	FXSQ12 (09)	(1)(2)(4)(5)
FCU-140A	CONCEALED CEILING	24.2	22.5	1020	0.71	269	208v/3ø	14.0	FXMQ36	(1)(2)(3)(5)
FCU-140B	CONCEALED CEILING	20.4	17.3	690	0.66	157	208v/3ø	4.9	FXMQ30	(1)(2)(3)(5)
FCU-140C	CONCEALED CEILING	10.9	10.4	530	0.38	82	208v/3ø	5.6	FXSQ18	(1)(2)(4)(5)
FCU-145	CONCEALED CEILING	19.8	19.1	690	0.66	157	208v/3ø	10.2	FXMQ30	(1)(2)(3)(5)
FCU-146	CONCEALED CEILING	8.1	7.4	340	0.37	52	208v/3ø	6.2	FXSQ12	(1)(2)(4)(5)

(1) COOLING CAPACITY AT SUMMER ROOM TEMPERATURE: 75°F DB/ 50% RH. HEATING CAPACITY AT WINTER ROOM TEMPERATURE: 70°F DB.
(2) R-410A REFRIGERANT
(3) PROVIDE CONDENSATE PUMP.
(4) INTEGRAL CONDENSATE PUMP.
(5) SEE OSA SCHEDULE ON PLAN SHEETS FOR OSA DESIGN CFM. OUTSIDE AIR TEMPERATURE SUPPLIED TO UNIT: 55°F DB/ 54°F WB SUMMER, 60°F DB WINTER.

VARIABLE VOLUME TERMINAL SCHEDULE

MARK	SERVES	MAXIMUM CFM	MINIMUM CFM	MAXIMUM STATIC PRESS. DROP	ELECTRIC HEAT			REMARKS
					RESISTANCE KW	STEPS	VOLTAGE	
VAV-105	FCU VARIOUS	350	350	0.2" WC	–	–	24	–
VAV-110	LEARNING CENTER 110	570	115	0.2" WC	–	–	24	–
VAV-111	LEARNING CENTER 111	570	115	0.2" WC	–	–	24	–
VAV-112	LEARNING CENTER 112	570	115	0.2" WC	–	–	24	–
VAV-116	LEARNING CENTER 116	260	0	0.2" WC	–	–	24	–
VAV-117	LEARNING CENTER 117	260	0	0.2" WC	–	–	24	–
VAV-119	LEARNING CENTER 119	260	50	0.2" WC	–	–	24	–
VAV-120	LEARNING CENTER 120	260	50	0.2" WC	–	–	24	–
VAV-122	HOTELING	120	0	0.2" WC	–	–	24	–
VAV-133	FCU ADMIN. SERVICES	275	80	0.2" WC	–	–	24	–
VAV-135	H.R. OFFICE	120	40	0.2" WC	–	–	24	–
VAV-138	CONFERENCE	190	0	0.2" WC	–	–	24	–
VAV-140A	FCU MEMBER SERVICES	390	120	0.2" WC	–	–	24	–
VAV-140B	FCU MEMBER SERVICES	175	90	0.2" WC	–	–	24	–
VAV-145	FCU VARIOUS	345	345	0.2" WC	–	–	24	–
VAV-206	FCU VARIOUS	455	135	0.2" WC	–	–	24	–
VAV-227	CONFERENCE	140	0	0.2" WC	–	–	24	–
VAV-215B	FCU TECH OFFICE	435	130	0.2" WC	–	–	24	–
VAV-204	FCU TECH OFFICE	295	90	0.2" WC	–	–	24	–
VAV-217	HOTELING	120	0	0.2" WC	0.5	SCR	208/3ø	(1)
VAV-225	HOTELING	120	0	0.2" WC	0.5	SCR	208/3ø	(1)
VAV-219	CONFERENCE	95	0	0.2" WC	–	–	24	–
VAV-224C	FCU PUBLISHING	345	105	0.2" WC	–	–	24	–
VAV-224A	FCU PUBLISHING	460	140	0.2" WC	–	–	24	–

(1) MINIMUM 70 CFM HEATING.

EXHAUST TERMINAL SCHEDULE

MARK	SERVES	MAXIMUM CFM	MINIMUM CFM	MAXIMUM STATIC PRESS. DROP	ELECTRIC HEAT			REMARKS
					RESISTANCE KW	STEPS	VOLTAGE	
EVAV-126	FIRST FLOOR EXHAUST	1245	1245	0.2" WC	–	–	24	–
EVAV-211	SECOND FLOOR EXHAUST	450	450	0.2" WC	–	–	24	–

GROUND LOOP (GEOTHERMAL) HEAT PUMP SCHEDULE

SIZE	CONFIGURATION	NOMINAL TONS	CFM	EXT. S.P.	FAN H.P.	COOLING CAPACITY		HEATING CAPACITY MBH	GPM	TWS&R PIPE	VOLTAGE/ø	MAX WPD	DRAIN PIPE	DESIGN BASIS	REMARKS
						TOTAL MBH	SENSIBLE MBH								
GT07	WALL CABINET	0.5	350	–	1/20	6.5	6.5	9.4	1.6	1/2"	208/1ø	1.5'	3/4"	CLIMATEMASTER TRC09	(1)(4)
GT15	HORIZONTAL	1.5	500	.50"	1/2	14.1	10.5	16.3	3.5	3/4"	208/1ø	15.0'	3/4"	CLIMATEMASTER TTH026	(1)(2)(3)(4)
GT18	HORIZONTAL	2	600	.50"	1/2	17.4	12.6	20.9	3.5	3/4"	208/1ø	15.0'	3/4"	CLIMATEMASTER TTH026	(1)(2)(3)(4)
GT26	HORIZONTAL	2.5	850	.50"	1/2	21.2	16.1	25.7	8	3/4"	208/1ø	15.0'	3/4"	CLIMATEMASTER TTH026	(1)(2)(3)(4)
GT38	HORIZONTAL	3	1250	.50"	1/2	30.5	24.1	36.7	9	3/4"	208/1ø	15.0'	3/4"	CLIMATEMASTER TTH038	(1)(2)(3)(4)
GT64	HORIZONTAL	5	1825	.70"	1	51.8	39.8	59.6	15	1"	208/3ø	15.0'	3/4"	CLIMATEMASTER TTH064	(1)(2)(3)(4)

(1) COOLING CAPACITY AT 64°F EWT. SUMMER ROOM TEMPERATURE: 75°F DB/ 50% RH, OUTSIDE AIR TEMPERATURE SUPPLIED TO UNIT: 55°F DB/ 54°F WB.
HEATING CAPACITY AT WINTER ROOM TEMPERATURE: 70°F DB.
(2) R-410A REFRIGERANT
(3) ECM VARIABLE SPEED FAN MOTOR (BRUSHLESS-DC)
(4) CONDENSATE PUMP WITH MINIMUM 25 FT HEAD.

DEDICATED OUTSIDE AIR SYSTEM SCHEDULE

MARK	SERVES	NOMINAL UNIT SIZE (TONS)		SUPPLY FAN				COOLING COIL (DX)				ENERGY RECOVERY WHEEL (TOTAL ENTHALPY)					CONDENSER		HEATING SECTION			AIR FILTERS		ELECTRICAL VOLTAGE	DESIGN BASIS	REMARKS
				CFM		ESP	HP	REFRIGERANT TYPE	MIN. TOTAL CAPACITY (MBH)	MIN. SENSIBLE CAPACITY (MBH)	STAGES	EXHAUST FAN		WHEEL DESIGN PERFORMANCE			TYPE	COMPRESSOR QUANTITY	HEAT TYPE	INPUT	HEAT STAGES	PRE-FILTER	FINAL FILTER			
		UNIT	WHEEL	MAX.	MIN.							ESP	HP	SUPPLY	EXHAUST	EFFICIENCY										
DOAS-1	1ST AND 2ND FLOOR	20	15	6000	4600	2.3"	15	R-410A	391	225	2	1.0	7.5	6000	5400	75% MIN.	AIR COOLED	4	ELECTRIC	40 KW	SCR	1" THROWAWAY	MERV 13	208/3ø	TRANE CDQ	(1)(2)(3)(4)(5)(6)

(1) SUMMER 95°F DB/75°F WB AMBIENT, WINTER 18°F DB AMBIENT.
(2) SUPPLY AIR TEMP 55°F DB/46°F DEWPOINT SUMMER, 60°F DB/46°F DEWPOINT WINTER.
(3) SEE SPECIFICATION FOR OPTIONS.
(4) VFD MOTOR CONTROLLERS SUPPLY AND EXHAUST.
(5) EXHAUST AIR: 80°F DB/ 67°F WB SUMMER, 75°F DB/ 62.5°F WB WINTER.
(6) MODULATING HOT GAS REHEAT COIL.

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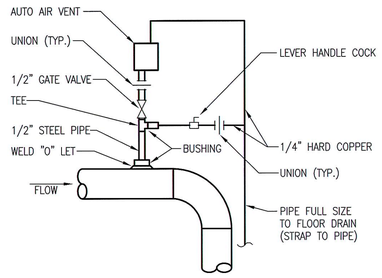
7/12/07	Final System Design	

DRAWING TITLE:
HVAC SCHEDULES

PROJECT NUMBER:
200614

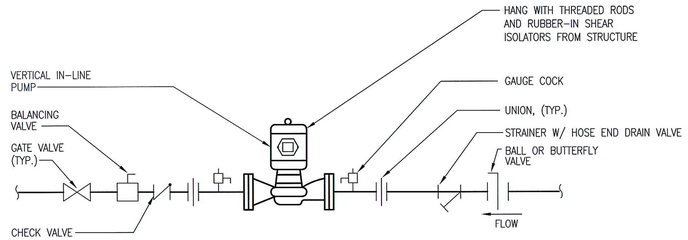
DATE:
6/15/07

DRAWING NUMBER:
M4.1



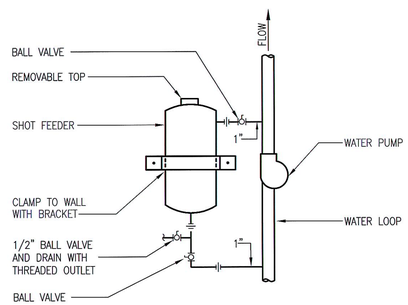
AUTOMATIC AIR VENT INSTALLATION

6 / M5.1 SCALE: NO SCALE



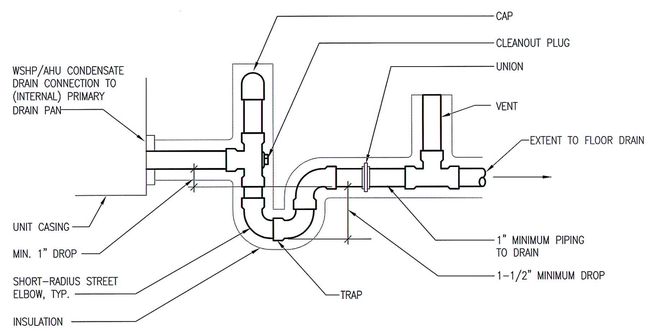
VERTICAL IN-LINE PUMP DETAIL

3 / M5.1 SCALE: NOT TO SCALE



SHOT FEEDER DIAGRAM

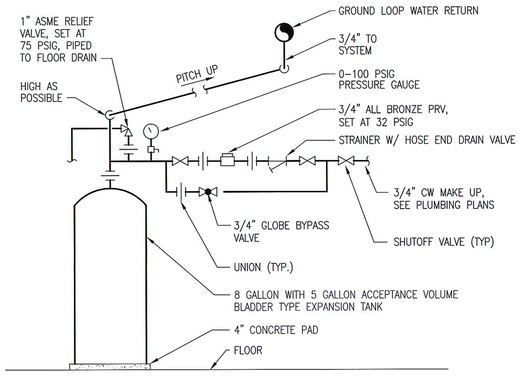
5 / M5.1 SCALE: NO SCALE



CONDENSATE TRAP DETAIL

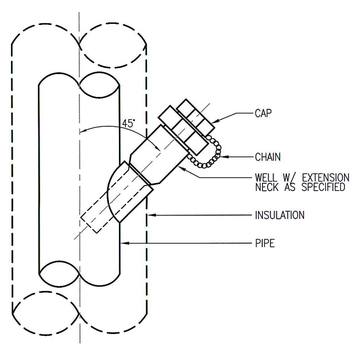
2 / M5.1 SCALE: NOT TO SCALE

DRAIN LINE SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" PER LINEAR FOOT.



GROUND LOOP WATER MAKE-UP/ EXPANSION TANK PIPING DETAIL

4 / M5.1 SCALE: NO SCALE



THERMOMETER WELL DIAGRAM

1 / M5.1 SCALE: NOT TO SCALE

HVAC LEGEND & ABBREVIATIONS

SYMBOL	DESCRIPTION
	THERMOMETER
	PRESSURE GAUGE
	DRIP LEG
	THERMOMETER WELL
	PIPE FLOW ARROW
GLWR	GROUND LOOP WATER RETURN
GLWS	GROUND LOOP WATER SUPPLY
D	CONDENSATE DRAIN
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
OR	ECCENTRIC REDUCER FLAT SIDE ON BOTTOM OR FLAT SIDE ON TOP
	CONCENTRIC REDUCER
	PIPE UNION
	PIPE RISE
	PIPE DROP
	CAP ON END OF LINE
	GATE VALVE
	BUTTERFLY VALVE
	BALANCING VALVE
	CHECK VALVE
	METERING VALVE
	SOLENOID VALVE
	GLOBE VALVE
	NEEDLE VALVE
	TWO WAY MODULATING MOTORIZED CONTROL VALVE
	BALL VALVE
	PRESSURE REDUCING VALVE
	RELIEF VALVE
	STRAINER
	SIGHT GLASS
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	TEST PLUG
	GAUGE COCK

HVAC LEGEND & ABBREVIATIONS

SYMBOL	DESCRIPTION
00x00	RECTANGULAR AIR DUCT – FIRST DIMENSION IS SIDE SHOWN
	ROUND DUCT (A"ø) OR FLAT OVAL (AxB)
	LINED DUCTWORK, DIMENSIONS ARE OUTER METAL TO OUTER METAL
	AIR DUCT FLEXIBLE CONNECTOR
OR	SUPPLY AIR RECTANGULAR DUCT RISE OR DROP
OR	RETURN OR OUTSIDE AIR RECTANGULAR DUCT RISE OR DROP
OR	EXHAUST AIR RECTANGULAR DUCT RISE OR DROP
	45° BRANCH TAKE-OFF WITH SPLITTER DAMPER AND CONTROL ROD
	DOUBLE ELBOW WITH SPLITTER DAMPER WITH CONTROL ROD
F.D.	FIRE DAMPER
SD	SMOKE DAMPER
F/SD	COMBINATION FIRE/SMOKE DAMPER
	MOTOR OPERATED DAMPER SAME SIZE AS DUCT UNLESS OTHERWISE NOTED
	DUCT-MOUNTED STATIC PRESSURE SENSOR
MD	MANUAL VOLUME DAMPER
SKD	SMOKE DETECTOR FURNISHED UNDER ANOTHER DIVISION. MOUNT IN DUCTWORK.
	BACKDRAFT DAMPER
	SQUARE ELBOW WITH TURNING VANES
	DUCT TRANSITION, RECTANGULAR TO ROUND OR OVAL
	DUCT TRANSITION, RECTANGULAR TO RECTANGULAR
	RADIUS ELBOW TAKE-OFF
G	FLEX DUCT AT DIFFUSER
	SINGLE LINE DUCT TRANSITION
UP OR DN	GRADE ARROW-INDICATES RISE OR DROP IN DUCT OR PIPE
	REFRIGERANT BRANCH SELECTOR SWITCH
S	DDC TEMPERATURE SENSOR (TEMPERATURE & HUMIDITY)
SP	SPACE STATIC PRESSURE SENSOR
TS	REMOTE THERMISTOR
C	CARBON DIOXIDE SENSOR
E	EMERGENCY FAN SHUTDOWN SWITCH
R.O.	RETURN AIR OPENING IN WALL ABOVE CEILING
AFF	ABOVE FINISHED FLOOR
BOS	BOTTOM OF STRUCTURE
MOD	MOTOR OPERATED DAMPER
OSA	OUTSIDE VENTILATION SUPPLY AIR
FM	FILTER MODULE (AT FAN COILS)

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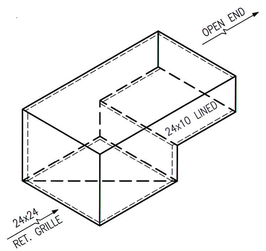
7/12/07	Final System Design	

DRAWING TITLE:
HVAC DETAILS & LEGEND

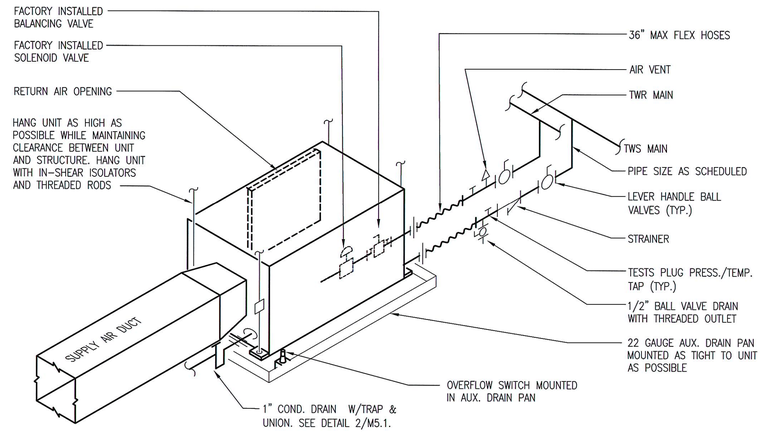
PROJECT NUMBER: 200614

DATE: 6/15/07

DRAWING NUMBER: M5.1



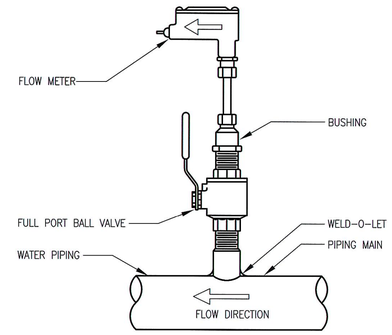
8 / M5.2 LINED ELBOW
SCALE: NO SCALE



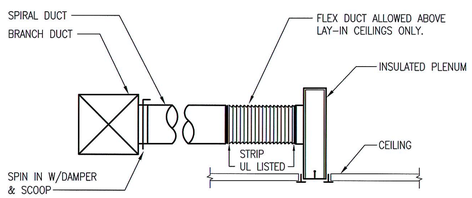
NOTES
1: MAINTAIN MANUFACTURERS REQUIRED CLEARANCES ON ALL SIDES AND DO NOT LOCATE UNIT OVER CEILING FIXTURES, LIGHTS, SPRINKLERS, AND PIPING.
2: SEE PLAN FOR RIGHT HAND/LEFT HAND DUCT CONFIGURATION.
3: COORDINATE WITH OTHER TRADES TO KEEP SERVICE ACCESS CLEAR.

5 / M5.2 HORIZONTAL GROUND LOOP HEAT PUMP PIPING
SCALE: NO SCALE

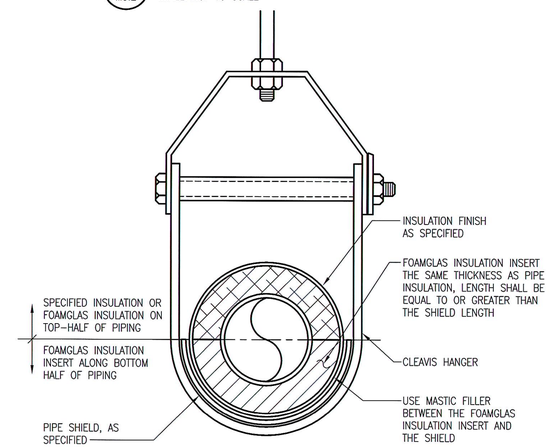
ALL HEAT PUMPS LOCATED ABOVE LAY-IN CEILINGS SHALL BE ACCESSIBLE WITHOUT HAVING TO CUT MAIN CEILING RUNNERS. HEAT PUMP INSTALLER SHALL COORDINATE WITH THE CEILING INSTALLER TO ACHIEVE THIS RESULT BY SPECIAL PLACEMENT OF THE MAIN RUNNERS.



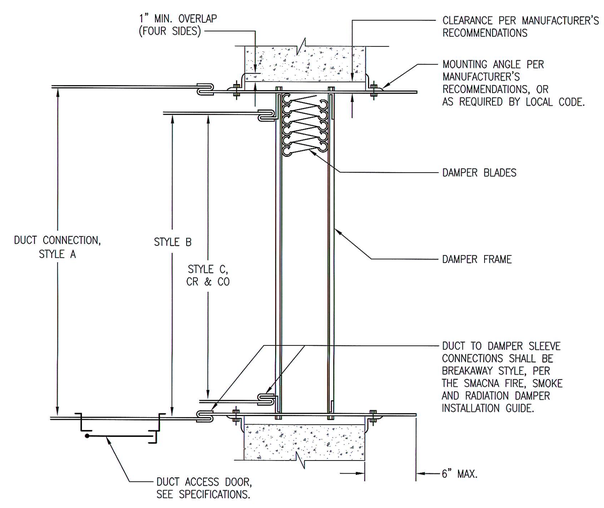
3 / M5.2 FLOW METER PIPING
SCALE: NOT TO SCALE



7 / M5.2 LINEAR DIFFUSER DIAGRAM
SCALE: NOT TO SCALE
SEE SPECS FOR MAX. FLEX DUCT LENGTH

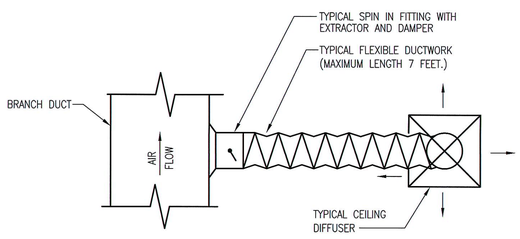


2 / M5.2 WATER PIPING SUPPORT DETAIL: FOAMGLAS INSERT
SCALE: NOT TO SCALE
FOR ALL WATER PIPING 2" AND LARGER.

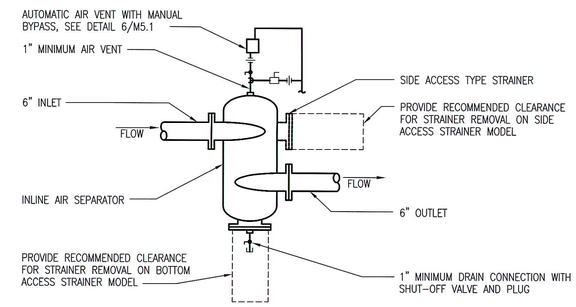


4 / M5.2 FIRE DAMPER DETAIL
SCALE: NOT TO SCALE

NOTE: SINGLE DAMPER SECTION SHOWN, SEE MANUFACTURER'S REQUIREMENTS FOR INSTALLATION OF MULTIPLE DAMPER SECTIONS.



6 / M5.2 FLEXIBLE DUCT TAKE-OFF DETAIL
SCALE: NO SCALE



1 / M5.2 INLINE AIR SEPARATOR DETAIL
SCALE: NO SCALE

NOTE: PROVIDE UNION AT INLET AND OUTLET TO SEPARATOR IF SEPARATOR IS NOT PROVIDED WITH FLANGED CONNECTIONS.

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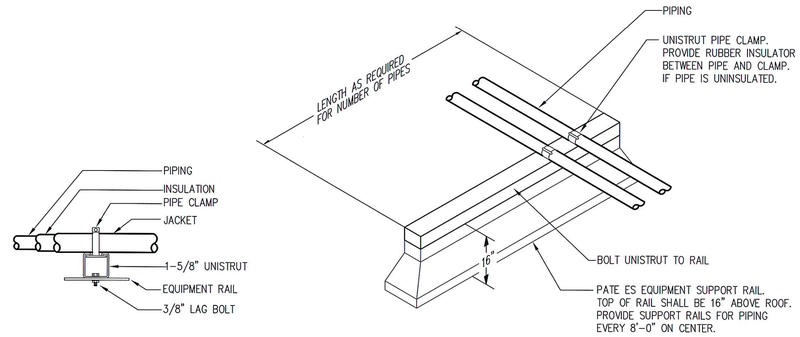
DRAWING TITLE:
HVAC DETAILS

PROJECT NUMBER:
200614

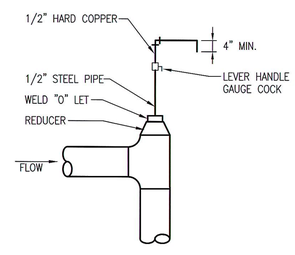
DATE:
6/15/07

DRAWING NUMBER:
M5.2



1 / M5.3 REFRIGERANT PIPING SUPPORT DETAIL

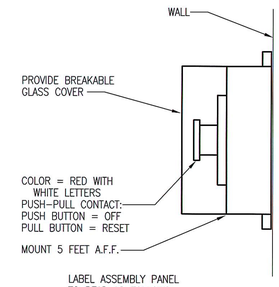
SCALE: NO SCALE



2 / M5.3 MANUAL AIR VENT INSTALLATION

SCALE: NO SCALE

NOTE: IF MAIN BRANCH OF PIPING IS COPPER, ALL VENT SUBSEQUENT PIPING SHALL BE COPPER.



LABEL ASSEMBLY PANEL TO READ AS FOLLOWS:
"EMERGENCY HVAC STOP SWITCH"
LABEL BUTTON TO READ AS FOLLOWS:
"PULL TO RESET"

3 / M5.3 EMERGENCY HVAC STOP SWITCH DETAIL

SCALE: NO SCALE

COMPLETE EMERGENCY "POWER OFF" PUSH BUTTON PILLA MODEL SERIES ST120SL

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ADDITION AND RENOVATION

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	7/12/07	Final System Design

DRAWING TITLE:
HVAC DETAILS

PROJECT NUMBER:
200614

DATE:
6/15/07

DRAWING NUMBER:
M5.3

SEQUENCE OF OPERATIONS

DEDICATED OUTSIDE AIR UNIT: DOAS-1

1. Unit shall be normally started/stopped by the DDC system.
2. The supply fan and exhaust fan shall be manually started and stopped from the HAND and OFF positions of the HAND-OFF-AUTO switch on the Variable Frequency Drive (VFD) and automatically started and stopped by the DDC system when the switch is in the AUTO position. All safety devices of the VFD shall operate with the switch in the HAND or AUTO position. DDC system shall monitor the HOA position and alarm if the switch is in the HAND or OFF position. The DDC system shall initiate an alarm on the VFD failure as indicated by the VFD alarm.
3. DOAS shall operate based on an occupied/unoccupied schedule as designated by the owner.
4. DOAS unit shall remian off durning morning warm-up or cool down.
5. Upon start-up, the outside air and exhaust air dampers shall open and the supply fan and exhaust fan shall slowly ramp up to static pressure setpoint.
6. In the event of a power interruption of fan shutdown, the outside air and exhaust air dampers shall close. DOAS shall automatically restart after a power failure.
7. Supply air fan speed and exhaust air fan speed shall be modulated via the variable frequency drive to maintain associated duct static pressures based on signals from the associated duct mounted static pressure sensors. Initial static pressure setpoint shall be set at (+) 0.5 w.g. (adjustable) for supply and (-) 0.5 w.g. (adjustable) for exhaust. Final setpoint shall be determined by the test and balance contractor. Variable frequency drive shall be normally stopped. Upon failure of static pressure sensor, the associated fan shall remain at its previous setting and an alarm shall be initiated.
8. The units own internal controls shall modulate to maintain discharge air temperature as follows:
   a. When ambient temperature is below 60°F (adjustable): heat wheel shall stop/operate and the electric shall energize/modulate based on the SCR controller only during heat wheel operation (applicable to non-failure of the heat wheel) to maintain a discharge temperature between 50°F and 70°F (adjustable). Discharge temperature shall be reset based on a call for heating from any DX fan coil or heat pump. On a call for heat dsicharge temperature shall reset upwards 5°F every 10 minutes until there are no space heating calls. Provide a 30 minute time delay before temperature reset is made unless there is a call for space heating. Discahrge air supply shall then be reset down 5°F every 10 minutes.
   b. When ambient temperature is between 60°F (adjustable) and 75°F (adjustable), the heat wheel shall stop.
   c. When ambient temperature us above 75°F (adjustable), the heat wheel shall operate, first stage of mechanical cooling shall energize, and DDC shall modulate hot gas reheat coil face and bypass dampers to maintain a discharge temperature between 55°F and 75°F (adjustable). Hot gas reheat coil face and bypass shall be in full bypass until or unless a zone temperautre drops to or is below 72°F (adjustable). If a space temperature is at or below 72°F, the hot gas reheat coil face bypass dampers shall modulate to raise the discharge air temperature 5°F every 10 minutes. Provide a 30 minute time delay before reseting the discharge temperature. If all space temperatures are above 74°F the hot gas reheat coil face and bypass dampers shall modulatee dropping the discharge temperature 5°F every 15 minutes. If discharge temperature cannot be maintained with the first stage of cooling, the second stage of mechanical cooling shall energize. If both stages of mechanical cooling are energized and the hot gas reheat valve is 90% (adjustable) opening, the second stage of mechanical cooling shall de-energize.
   d. On a rise in space humidity as sensed by a minimum of two space humidity sensors (as applicable) in the occupied area above 60% RH (adjustable), dehumidification mode shall energize; heat wheel shall operate, cooling shall energize to maintain a 55°F cooling coil leaving air temperature and hot gas reheat coil face and bypass dampers shall modulate to maintain discharge air temperature subject to "c" above. On a drop in humidity below 50% RH (adjustable) dehumidification mode shall stop.
9. A smoke detector in the supply and exhaust duct will signal fire alarm for unit shut down.
10. Supply and exhaust duct static pressures shall be reset upwards/downwards in 0.15" increments based on associated supply air VAV's or exhaust dampers. If a terminal unit or damper is 95% open or greater, the static pressure shall be reset up. If the worst-case terminal unit or damper is between 85% and 95% static pressure, setpoint shall remain constant. If the worst-case terminal unit or damper is less than 85% open static pressure, setpoint shall reset down. Provide a 5 minute (adjustable) time delay between each incremental step.
11. Activation of the Emergency Fan Stop switch shall stop the supply and exhaust fans.
12. Activation of Fan Stop signal from the fire alarm panel shall stop the DOAS unit.
13. DDC shall monitor the units supply airflow and exhaust airflow.
14. DDC shall monitor the units supply and exhaust air temperastures and humidities as designated in the point list.
15. DDC shall monitor Amps and KWH and trend log results for the DOAS unit.
16. DDC shall calculate building leakage based on the difference between the outside supply airflow and the exhaust airflow.

OUTSIDE AIR SUPPLY VARIABLE VOLUME TERMINAL UNITS, VAV:

1. Units shall be enabled/disabled by the DDC system based on a time schedule.
2. Units shall provide airflows as scheduled.
3. VAV's shall modulate to maintain carbon dioxide concentration levels at 700 PPM above outdoor concentration levels as sensed by the associated carbon dioxide space sensor as applicable.
4. Outside airflow and temperature shall be monitored by the DDC system.

EXHAUST AIR MODULATING DAMPERS:

1. Exhaust VAV's (EVAV) serving the toilet area shall modulate based on input from the airflow station to maintain constant exhaust ariflow as scheduled.
2. General exhaust dampers (GED) serving the occupied space shall modulate based on space static pressure sensors to maintain a space static pressure of (+) 0.05" (adjustable) as sensed by the space static pressure sensors.

INPUT/ OUTPUT SUMMARY

	OUTPUTS						INPUTS														SOFTWARE						NOTES
	DIGITAL				ANALOG		DIGITAL					ANALOG									ALARM			ENERGY MANAGEMENT			
	START/STOP	OPEN/CLOSE	ENABLE/DISABLE	OCCUPIED/UNOCCUPIED	DDC MODULATION	SETPOINT ADJUST	DIFF. PRESS. SWITCH	CURRENT SWITCH	ON/OFF	OPEN/CLOSE CONTACT	MANUAL OVERRIDE	AIRFLOW (CFM)	STATIC PRESSURE	GPM	%SPEED/HZ/CURRENT	TEMPERATURE	HUMIDITY/DEWPOINT	POWER (AMPS/KW/KWH)	CO2 LEVEL (PPM)	DIFFERENTIAL PRESSURE	EQUIPMENT FAILURE	HI/LO LIMIT	TEMPERATURE	TIME SCHEDULE	RUN TIME	OVERRIDE PROGRAM	DAY/NIGHT SETBACK	
DEDICATED OUTSIDE AIR UNIT	X																				X			X		X		
SUPPLY AIR FAN (VFD)					X										X						X							
SUPPLY FAN VFD HOA POSITION										X																		TOTAL OF THREE POSITIONS
SUPPLY FAN STATUS							X																					
EXHAUST FAN (VFD)					X										X						X							
EXHAUST FAN VFD HOA POSITION										X																		TOTAL OF THREE POSITIONS
EXHAUST FAN STATUS							X																					
SUPPLY DUCT STATIC PRESSURE													X								X							
EXHAUST DUCT STATIC PRESSURE													X								X							
SPACE STATIC PRESSURE													X								X							3
SUPPLY AIR TEMPERATURE																X						X						DISCHARGE FROM UNIT
COOLING STAGES (VARIES)			X																									4 5
COOLING COIL SUPPLY AIR TEMPERATURE																X												
RECOVERY WHEEL #1 OPERATION			X																									
RECOVERY WHEEL #1 STATUS							X														X							
RECOVERY WHEEL #1 BYPASS DAMPERS		X																										TOTAL OF TWO
RECOVERY WHEEL #2 OPERATION			X																									
RECOVERY WHEEL #2 STATUS							X														X							
RECOVERY WHEEL #2 BYPASS DAMPERS		X																										TOTAL OF TWO
OSA/EXHAUST DAMPERS		X																										TOTAL OF TWO
BYPASS DAMPER EXHAUST TO SUPPLY		X																										
SMOKE DETECTOR										X																		6
AIR FILTER DIFFERENTAL PRESSURE																				X		X						7
AIR FILTER DIFFERENTAL PRESSURE																				X		X						8
AIR FILTER DIFFERENTAL PRESSURE																				X		X						9
OUTSIDE AIR SUPPLY VAV					X							X																3
GEMERAL EXHAUST AIR DAMPERS (GED)					X																							3
GEMERAL EXHAUST AIRFLOW												X																
TOILET EXHAUST VALVES (EVAV)					X							X																3
SPACE STATIC PRESSURE SENSORS													X															3
DEDICATED OUTSIDE AIR UNIT ENCHANCED POINTS																												1
OUTSIDE AIR FLOW									X			X																UNIT INTAKE
EXHAUST AIR FLOW									X			X																UNIT EXHAUST
SUPPLY AIR TEMPERATURE UP																X												10
SUPPLY AIR HUMIDITY UP																	X											10
SUPPLY AIR TEMPERATURE DOWN																X												11
SUPPLY AIR HUMIDITY DOWN																	X											11
SUPPLY AIR HUMIDITY UP																	X											12
SUPPLY AIR HUMIDITY DOWN																	X											13
EXHAUST AIR TEMPERATURE UP																X												10
EXHAUST AIR HUMIDITY UP																	X											10
EXHAUST AIR TEMPERATURE DOWN																X												11
EXHAUST AIR HUMIDITY DOWN																	X											11
AMPS																		X										
KWH																		X										
BUILDING LEAKAGE												X																2
OUTSIDE AIR VAV SUPPLY AIR TEMPERATURE																X												3

1. ENHANCED POINTS ASSOCIATED WITH THE LIVING LAB
2. BASED ON THE DIFFERENCE BETWEEN THE SUPPLY AIRFLOW AND EXHAUST AIRFLOW
3. SEE PLANS FOR QUANTITY AND LOCATION
4. MONITORING ONLY BY THE DDC SYSTEM, UNIT CONTROLS FUNCTION
5. PROVIDE SERIAL INTERFACE FROM THE DDC SYSTEM TO DOAS-1 FOR FULL MONITORING MONITORING OF UNIT INCLUDING OPERATION OF THE 5 ASSOCIATED CONDENSING UNITS.
6. TWO IN THE SUPPLY DUCT, ONE IN THE EXHAUST DUCT.
7. SUPPLY AIR PRE-FILTER.
8. SUPPLY AIR FINAL FILTER.
9. EXHAUST AIR FILTER.
10. UPSTREAM OF TOTAL ENERGY RECOVERY WHEEL #1.
11. DOWNSTREAM OF TOTAL ENERGY RECOVERY WHEEL #1.
12. UPSTREAM OF CDQ WHEEL #2.
13. DOWNSTREAM OF CDQ WHEEL #2.
14. DOWNSTREAM OF COOLING COIL.

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	7/12/07	GMR System Design

DRAWING TITLE:

DOAS-1 CONTROL SEQUENCE & POINTS LIST

PROJECT NUMBER:

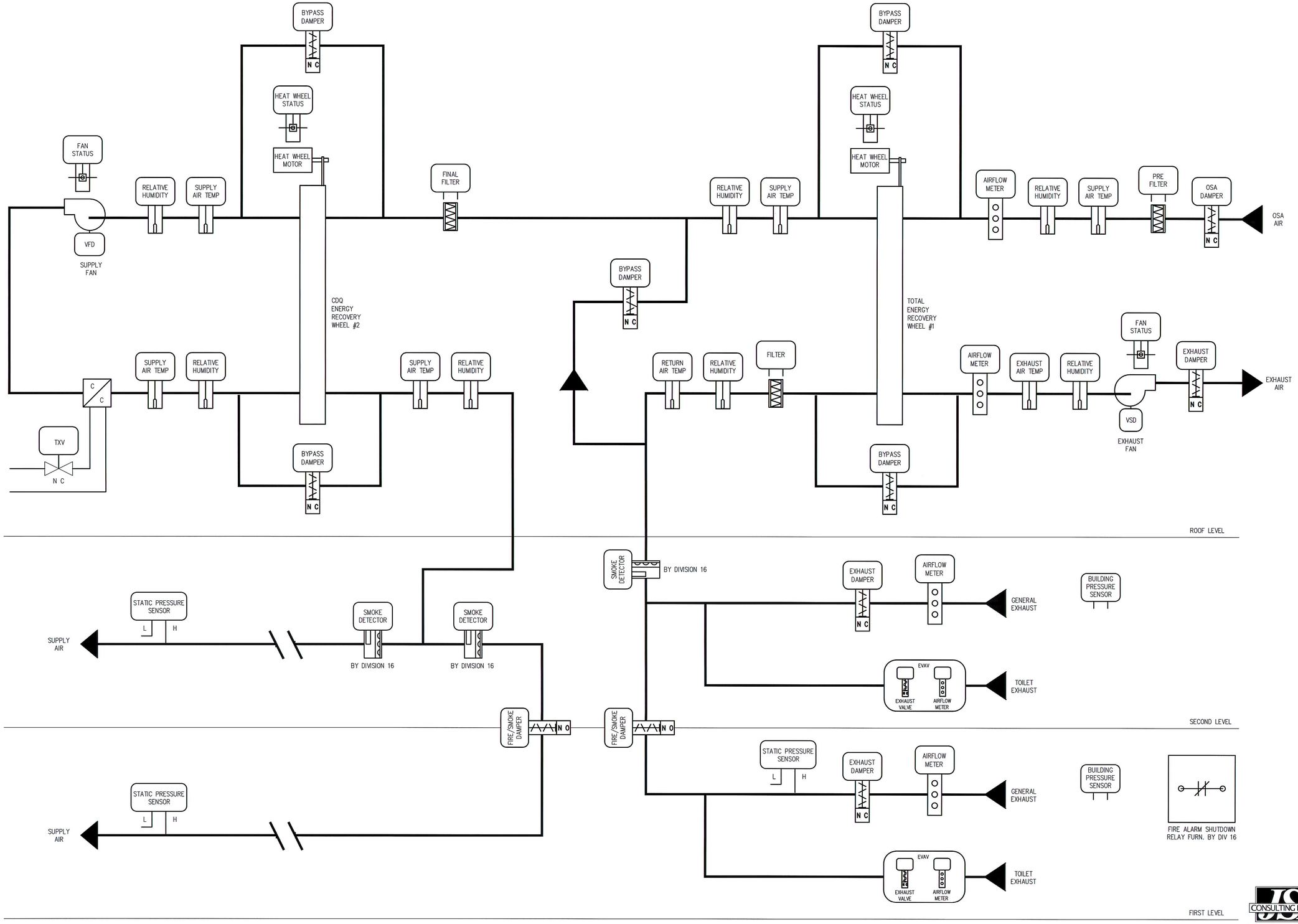
200614

DATE:

6/15/07

DRAWING NUMBER:

M6.1



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7/12/07	Final System Design	

DRAWING TITLE:

DOAS-1 CONTROL SCHEMATIC

PROJECT NUMBER:

200614

DATE:

6/15/07

DRAWING NUMBER:

M6.1A

SEQUENCE OF OPERATIONS

VARIABLE REFRIGERANT FLOW (DAIKIN) SYSTEM:

1. The variable refrigerant flow system, including the outdoor condening units, indoor fan coil units, and refrigerant controllers, shall operate under their internal controls. A serial interface is provide for remote changes through the DDC system and provide alarms for the Diakin control system. The Diakin control system will control all thermal expansion valves, compressor operation, etc. See the Input/Output Sumary list of available interface points and remote control options.

DDC MONITORING OF THE FIRST FLOOR:

1. DDC shall monitor space temperature, CO2 levels and humidity as shown per the floor plans.
2. DDC shall monitor each fan coil electronic filter module for differential pressure.

MORNING WARM-UP AND MORNING COOL DOWN:

1. Morning Warm-up and Cool Down – DDC shall enable the Diakin system to achieve Occupied heating/cooling setpoint at the start of Occupied hours. Software shall calculate unit start time based on indoor and outdoor temperatures.

INPUT/ OUTPUT SUMMARY

	OUTPUTS					INPUTS														SOFTWARE							NOTES
	DIGITAL			ANALOG		DIGITAL					ANALOG									ALARM			ENERGY MANAGEMENT				
	START/STOP	OPEN/CLOSE	ENABLE/DISABLE	OCCUPIED/UNOCCUPIED	DDC MODULATION	SETPOINT ADJUST	DIFF. PRESS. SWITCH	CURRENT SWITCH	ON/OFF	OPEN/CLOSE CONTACT	MANUAL OVERRIDE	AIRFLOW (CFM)	STATIC PRESSURE	GPM	%SPEED/HZ/CURRENT	TEMPERATURE	HUMIDITY/DEWPOINT	POWER (AMPS/KW/KWH)	CO2 LEVEL (PPM)	DIFFERENTIAL PRESSURE	EQUIPMENT FAILURE	HI/LO LIMIT	TEMPERATURE	TIME SCHEDULE	RUN TIME	OVERRIDE PROGRAM	DAY/NIGHT SETBACK	
DIAKIN VRV SYSTEM																											(1)
START/STOP (CONTROL)	X																							X		X	X	(2)
START/START (MONITORING)																												(2)
TRIP																					X							(2) (10)
MALFUNCTION CODE																					X							(2) (14)
AIR CONDITIONING MODE (SETTING)																												(2) (15)
AIR CONDITIONING MODE (MONITORING)																												(2)
AIR FLOW RATE (SETTING)																												(2) (4)
AIR FLOW RATE (MONITORING)																												(2) (4)
ROOM TEMPERATURE INDICATOR																X												(2) (3)
TEMPERATURE ADJUST						X																						(2) (3)
FILTER SIGN																												(2) (5)
FILTER SIGN RESET																												(2) (5)
REMOTE CONTROL MODE SETTING (START/STOP)	X																											(2)
REMOTE CONTROL MODE SETTING (A/C MODE)																												(2)
REMOTE CONTROL MODE SETTING (TEMP ADJUST)						X																						(2)
CENTRAL/LOCAL EQUIPMENT OPERATION																												(2) (5)
SYSTEM FORCED OFF																												(2) (9)
AIR DIRECTION (SETTING)																												(2) (5)
AIR DIRECTION (MONITORING)																												(2) (5)
FORCED THERMO OFF (SETTING)																												(2) (6)
FORCED THERMO OFF (MONITORING)																												(2) (6)
ENERGY EFFICIENCY (SETTING)																												(2) (7)
ENERGY EFFICIENCY (MONITORING)																												(2) (7)
THERMO OPERATION STATUS																												(2) (8)
COMPRESSOR OPERATION STATUS																												(2)
INDOOR FAN OPERATION STATUS																												(2)
HEATER OPERATION STATUS																												(2) (5)
SPACE TEMPERATURE																X												(11) (12)
SPACE HUMIDITY																	X											(11)
SPACE CO2 LEVEL																			X									(11)
FAN COIL FILTER MODULE																				X		X						(13)

(1) SEE FLOOR PLANS FOR THE LOCATION OF ALL FAN COILS AND CONDENSING UNITS.
(2) BACNET SERIAL INTERFACE POINTS FROM THE DIAKIN SYSTEM.
(3) DIAKIN GENERATES TEMPERATURES IN CELSIUS THEREFORE A CONVERTER WILL BY REQUIRED BY ALC.
(4) FAN SPEED
(5) NOT USED
(6) FAN ONLY – SHUT OFF OF AC OR HEAT
(7) SPACE TEMPERATURE RESET WITH NO CHANGE IN THE DISPLAY OF SPACE TEMPERATURE SET POINT
(8) CALL FOR HEATING OR COOLING
(9) FIRE ALARM TIE-IN
(10) FOR EACH FAN COIL AND CONDENSING UNIT
(11) SEE FLOOR PLANS FOR LOCATION. TEMPERATURE SENSOR/OVERRIDE SHALL BE PROVIDED FOR EACH FAN COIL.
(12) TEMPERATURE SENSOR FOR MONITORING SPACE TEMPERATURE
(13) FILTER DIFFERENTIAL PRESSURE SWITCH FOR DYNAMIC (ELECTRONIC) FILTER MODULE ASSOCIATED WITH EACH DIAKIN FAN COIL
(14) AN ALPHA NUMERIC CODE GENERATED BY THE DIAKIN SYSTEM
(15) COOLING/HEATING/STANDBY MODE

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	7/12/07	Final System Design

DRAWING TITLE:
DAIKIN VRV SYSTEM SEQUENCE & POINTS LIST

PROJECT NUMBER:
200614

DATE:
6/15/07

DRAWING NUMBER:
M6.2

1. BUILDING OCCUPANCY SCHEDULES:

   A. Provide occupancy schedules for the area served by the ground loop heat pump system. The dedicated outside air system (DOAS) unit shall be independently scheduled for occupancy such that the operator can change the DOAS operating schedule independently of the associated zone/floor it serves.

   B. The ground loop water pumps shall be operational when any heat pump is in the occupied mode.

   C. The DDC System shall transition from scheduled unoccupied to occupied mode (morning warm-up/cool down) with optimized unit start-up to reach occupied setpoint at the start of occupied time, based on historical trended data, in a minimal amount of time, and stager start-up to prevent low/high loop water supply temperatures.

2. GROUND LOOP WATER LOOP CONTROL:

   A. The DDC system shall maintain ground loop water supply (GLWS) setpoint for cooling and heating modes. The pumps shall be manually started and stopped from the HAND and OFF position of the HAND-OFF-AUTO switch on the variable frequency drive (VFD) and automatically started and stopped by the DDC system when the switch is in the AUTO position. All safety devices shall operate with the VFD in the HAND or AUTO position. DDC system shall monitor the HOA position and alarm if the switch is in the HAND or OFF position.

   B. The lead ground loop water pump shall run during the occupied mode and the stand-by pump shall be off. The lead pump VFD shall modulate pump speed to maintain the loop differential setpoint (20 psi, adjustable). Failure of the lead pump or VFD failure, as sensed by loss of current or alarm contact, shall start the stand-by pump and activate a pump fail alarm. The lead pump shall be automatically alternated every 30 days (adjustable). On a loop dp sensor failure, the pupm shall continue to operate at it's current speed and an alarm shall be initiated.

   C. TEMPERATURE/FLOW MONITORING. The BAS shall monitor the entering and leaving water temperatures of the ground loop water supply and return to the ground loop heat exchanger and to the connected building load (4 temperatures). DDC system shall measure ground loop water flow in GPM.

   D. SELF-TEMPERING MODE: When GLWS is between 60°F (adjustable) and 80°F (adjustable), the ground loop heat exchanger shall be bypassed by opening the ground loop loop recirculation valve. The lead ground loop water pump shall continue to run during the occupied mode.

   E. HEATING MODE: Upon a drop in the ground loop water supply (GLWS) temperature below 60°F (adjustable), the ground loop loop recirculation valve shall modulate from 100% open to 50% closed. The valve shall fully closed at GLWS temperatures below 55°F (adjustable). Upon a fall in GLWS temperature to 45°F, the BAS shall disable 4 heating mode GLHP's for 15 minutes (adjustable). If after these 15 minutes the GLWS is still below 45°F, a second group of 4 heating mode GLHP's shall be disabled for 15 minutes, with the process repeated for a third or fourth group until the TWS is above 45°F. A drop in the GLWS temperature below 40°F (adjustable) shall activate a low loop water temperature alarm.

   F. COOLING MODE: Upon a rise in the ground loop water supply (GLWS) temperature above 80°F (adjustable), the ground loop loop recirculation valve shall modulate from 100% open to 50% closed. The valve shall fully closed at GLWS temperatures above 85°F (adjustable). A rise in the GLWS above 95°F (adjustable) shall activate a high loop water temperature alarm.

3. GROUND LOOP HEAT PUMP UNITS

   A. The ground loop heat pumps are packaged premium efficiency units, that include a variable speed supply fan, and two-stage compressor. Each unit is controlled by the DDC system using electric actuation and is scheduled for automatic operation on a time of day basis. Occupied, Unoccupied and Safety modes are as follows:

   B. Occupied:

      a. The supply fan operates continuously without cycling. The units ECM fan motor speed is automatically adjusted to maintain constant cfm over the static operating range of the fan.

      b. Zone space sensors provide feedback for maintaining the space temperature and humidity set points of 75°F/50%rh (adjustable) for cooling and 70°F (adjustable) for heating. Space temperature is controlled by the heat pump unitary controller based on requests for either cooling or heating from the DDC system as follows:

      c. COOLING: Upon a rise in space temperature of 1.5°F above the cooling setpoint, the unitary controller shall register a demand for cooling and energize the first stage of cooling. Upon a further rise in space temperature 2.5°F or greater than the cooling setpoint, the unitary controller shall execute a call for second stage cooling. If conditions are being satisfied with first stage only, based on the Optimized Staging conclusion, second stage shall be delayed until conditions are no longer being maintained by first stage. Upon a decline in demand to 1.0°F of setpoint, second stage cooling shall be released. Upon a further decline in demand to 0.4°F of setpoint, first stage cooling shall be released.

      d. HEATING: Upon a fall in space temperature of 1.5°F below the heating setpoint, the unitary controller shall register a call for first stage heating. Upon a further fall in space temperature of 2.5°F below the heating setpoint, the unitary controller shall execute a call for second stage heating. If conditions are being satisfied by first stage only based on the Optimized Staging conclusion, second stage shall be delayed until conditions are no longer being maintained by first stage. Upon a decline in demand to 1.0°F of the heating setpoint, second stage heating shall be released. Upon a further decline in demand to 0.4°F of the heating setpoint, first stage heating shall be released.

      e. DEHUMIDIFICATION: If room humidity increases above 60% relative humidity (adjustable), the unit controller starts first stage cooling and reduces the supply fan airflow by 25% until the humidity is reduced to below set point.

      f. Normally open ground loop water solenoid valve shall close when the compressor stops (both cooling and heating modes).

      g. See Input/Output Summary for the various status inputs to be monitored.

   C. Unoccupied:

      a. If space temperature increases to 85°F (adjustable) or drops to 55°F (adjustable), the unit supply fan will cycle with operation of the respective cooling or heating sections until the space temperature is satisfied.

      b. Upon activation of the override switch the DDC system shall change the system status to the occupied mode.

   D. Safety:

      a. The heat pumps are hard-wired from the factory with a 5-minute anti-short cycle delay timer for each compressor

      b. Upon activation of the override switch the DDC system shall change the system status to the occupied mode.

      c. A smoke detector in the supply duct will shut down the unit fan when activated (selected heat pumps).

      d. Each heat pump equipped with a duct-mounted smoke detector shall be provided with a fire alarm shutdown (hardwired, no DDC processing) interlocked with the fire alarm system to shut down upon activation. Extend wiring from unit connection to fire alarm relay and coordinate final connection with fire alarm contractor.

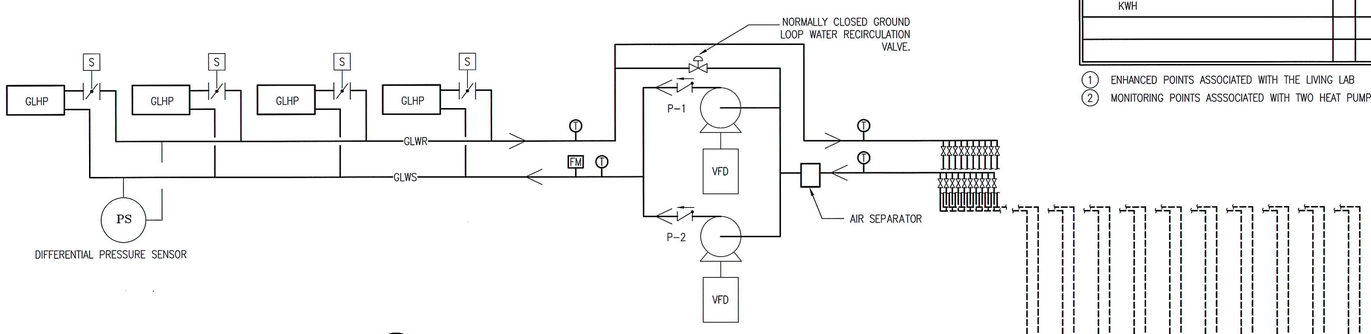
      e. Activation of the Emergency Fan Stop switch shall stop all heat pump supply fans.

      f. Activation of the overflow switch in the auxiliary drain pan shall stop the unit (where shown).

INPUT/ OUTPUT SUMMARY

	OUTPUTS						INPUTS													SOFTWARE							NOTES
	DIGITAL				ANALOG		DIGITAL					ANALOG								ALARM			ENERGY MANAGEMENT				
	START/STOP	OPEN/CLOSE	ENABLE/DISABLE	OCCUPIED/UNOCCUPIED	DDC MODULATION	SETPOINT ADJUST	DIFF. PRESS. SWITCH	CURRENT SWITCH	ON/OFF	OPEN/CLOSE CONTACT	MANUAL OVERRIDE	AIRFLOW (CFM)	STATIC PRESSURE	GPM	%SPEED/HZ/CURRENT	TEMPERATURE	HUMIDITY/DEWPOINT	POWER (AMPS/KW/KWH)	CO2 LEVEL (PPM)	DIFFERENTIAL PRESSURE	EQUIPMENT FAILURE	HI/LO LIMIT	TEMPERATURE	TIME SCHEDULE	RUN TIME	OVERRIDE PROGRAM	DAY/NIGHT SETBACK	
GROUND LOOP PLANT																								X		X		
GROUND LOOP WATER SUPPLY PUMPS (VFD)	X							X							X						X				X			TYPICAL OF 2
SUPPLY PUMP VFD POSITION										X											X							TOTAL OF THREE POSITIONS
GROUND LOOP WATER DP SENSOR																				X	X							
GROUND LOOP WATER RECIRCULATION VALVE					X																							
GROUND LOOP WATER SUPPLY TEMP.																X						X						GROUND LOOP & BUILDING LOOP
GROUND LOOP WATER RETURN TEMP.																X						X						GROUND LOOP & BUILDING LOOP
GROUND LOOP WATER FLOW														X														
GROUND LOOP HEAT PUMPS	X										X										X			X		X	X	SEE PLANS FOR LOCATIONS
SPACE TEMPERATURE																X						X						SEE PLANS FOR LOCATIONS
SPACE HUMIDITY																	X											SEE PLANS FOR LOCATIONS
SPACE CO2																			X									SEE PLANS FOR LOCATIONS
FAN OPERATION STATUS								X		X											X							
OPERATION MODE STATUS										X																		COOLING/HEATING/FAN ONLY
REVERSING VALVE POSITION										X																		
COMPRESSOR OPERATION COMMAND										X																		
DISCHARGE AIR TEMPERATURE																X						X						
RETURN AIR TEMPERTURE																X												
MIXED AIR TEMPERATURE																X												DOWNSTREAM OF O.A. TIE-IN
COOLING STAGES			X																									2 STAGES
HEATING STAGES			X																									2 STAGES
GROUND LOOP WATER SOLENOID VALVE		X																										
CONDENSATE OVERFLOW ALARM										X											X							
AIR FILTER DIFFERENTAL PRESSURE																				X		X						
GROUND LOOP HEAT PUMPS ENCHANCED POINTS																												(1) (2)
DISCHARGE AIR HUMIDITY																	X											
RETURN AIR HUMIDITY																	X											
MIXED AIR HUMIDITY																	X											
OUTSIDE AIR HUMIDITY																	X											
WATER FLOW														X														
EWT																X												
LWT																X												
DISCHARGE AIRFLOW												X																
RETURN AIRFLOW												X																
OUTSIDE AIRFLOW												X																
MIXED AIRFLOW												X																
OUTSIDE AIRFLOW												X																
AMPS																		X										
KWH																		X										

(1) ENHANCED POINTS ASSOCIATED WITH THE LIVING LAB
(2) MONITORING POINTS ASSSOCIATED WITH TWO HEAT PUMPS SERVING THE SECOND FLOOR



1 / M-6.3 GROUND LOOP PIPING SCHEMATIC
SCALE: NO SCALE

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	7/12/07	Final System Design

DRAWING TITLE:
GROUND LOOP HEAT PUMP SEQUENCE & POINTS LIST

PROJECT NUMBER: 200614

DATE: 6/15/07

DRAWING NUMBER: M6.3

LIGHTING

1. DDC system shall turn lights on/off based on the zoning floor plans, see sheet M6.4A and M6.4B. Lights shall be enabled and disabled base on a time schedule designated by the owner. During unoccupied hours lights can be overridden by the momentary light switch. All lights shall be turned off by the DDC system every 2 hours during the unoccupied mode.

2. The light on the exterior zone shall be turned off based input from the photo cell. Lights shall be zoned per the electrical drawings.

3. The lighting zones controlled by occupany sensors will have no DDC interface.

ENERGY CONSUMPTION

1. DDC system shall monitor and calculate electrical energy usage for each of the three main hvac systems; ground loop heat pump system serving the second floor, the variable refrigerant volume system (Diakin) serving the first floor and the outside air heat recovery system. DDC shall calculate energy use for the doas system a as whole. DDC system shall proportion energy use to each of the systems serving first floor and second floor based on airflows summarized from the vav's supplying outside airflow to the heat pumps or dx fan coils.

2. DDC system shall monitor and calculate electrical energy usage for each floor of the building.

3. DDC system shall monitor and calculate electrical energy usage for the domestic water system including the water heater and circulating pump.

4. DDC system shall monitor and calculate total building electrical energy useage.

WEATHER STATION

The on-site weather station shall have a serial interface to the ddc system. all points listed shall be monitored with log trending and all points hall be stored once at the top of the hour for a one year time period.

PDK WEATHER STATION

The DDC system shall monitor and trend points listed via the internet.

EMERGENCY STOP SWITCH

Provide wall mounted emergency stop switch, located as shown on the plans, to shut down all air moving equipment (all ahu's, fan coils, exhaust fans, etc.) upon activation.

FIRE ALARM SYSTEM

Provide fire alarm interlock with the fire alarm system to shut down all air handling units upon activation.

OUTDOOR AIR CONDITIONS

DDC system shall monitor outdoor temperature, pressure, CO2 levels and relative humidity independent of the weather station.

INPUT/ OUTPUT SUMMARY

	OUTPUTS					INPUTS														SOFTWARE							NOTES
	DIGITAL				ANALOG	DIGITAL					ANALOG									ALARM			ENERGY MANAGEMENT				
	START/STOP	OPEN/CLOSE	ENABLE/DISABLE	OCCUPIED/UNOCCUPIED	DDC MODULATION	SETPOINT ADJUST	DIFF. PRESS. SWITCH	CURRENT SWITCH	ON/OFF	OPEN/CLOSE CONTACT	MANUAL OVERRIDE	AIRFLOW (CFM)	STATIC PRESSURE	GPM	%SPEED/HZ/CURRENT	TEMPERATURE	HUMIDITY/DEWPOINT	POWER (AMPS/KW/KWH)	CO2 LEVEL (PPM)	DIFFERENTIAL PRESSURE	KWH/AMPS	EQUIPMENT FAILURE	HI/LO LIMIT	TEMPERATURE	TIME SCHEDULE	RUN TIME	OVERRIDE PROGRAM	DAY/NIGHT SETBACK	
LIGHTING																													
OCCUPANCY SENSOR										X																			
PHOTOCELL										X																			
FULL LIGHTING			X																										
PARTIAL LIGHTING			X																										
DOMECTIC WATER HEATER			X																										
DOMECTIC WATER CIRC. PUMP	X																												
ELECTRICAL																													
HEAT PUMP SYSTEM KWH																		X											
VRV SYSTEM KWH																		X											
ODAS SYSTEM KWH																		X											
FIRST FLOOR LIGHTING KWH																		X											
SECOND FLOOR LIGHTING KWH																		X											
DOMESTIC WATER HEATER & PUMP																		X											
TOTAL BUILDING ENERGY																		X											
FIRST FLOOR PLUG LOADS																		X											
SECOND FLOOR PLUG LOADS																		X											
WEATHER STATION																													(1)
WIND DIRECTION																													AS REPORTED
WIND SPEED																													AS REPORTED
OUTDOOR TEMPERATURE																X													AS REPORTED
DEW POINT																	X												AS REPORTED
RELATIVE HUMIDITY																	X												AS REPORTED
BAROMETRIC PRESSURE													X																AS REPORTED
SOLAR RADIATION																													AS REPORTED
UV RADIATION																													AS REPORTED
BACKGROUND LUMINANCE																													AS REPORTED
PDK WEATHER STATION INFORMATION																													(2)
WIND DIRECTION AND SPEED																													AS REPORTED
VISIBILITY																													AS REPORTED
SKY CONDITIONS																													AS REPORTED
WEATHER																													AS REPORTED
TEMPERATURE																X													AS REPORTED
DEW POINT																	X												AS REPORTED
RELATIVE HUMIDITY																	X												AS REPORTED
PRESURE													X																AS REPORTED
MAX AND MIN TELPERATURES																													PAST 6 HOURS
MAX AND MIN TEMPERATURES																													PAST 24 HOURS
24 HOUR SUMMARY																													PAST 24 HOURS
																													(3)
EMERGENCY STOP SWITCH										X																			
FIRE ALARM										X																			
OUTSIDE AIR TEMPERATURE																X													
OUTSIDE AIR PRESSURE													X																
OUTSIDE AIR CO2																			X										
OUTSIDE AIR HUMIDITY																	X												

(1) WEATHER STATION PROVIDE BY CONTRACTOR AND INSTALLED AS SHOWN ON THE PLANS
(2) PEACHTREE DEKALB AIRPORT WEATHER STATION DATA GATHERED THROUGH AN INTERNET INTERFACE AND REPORTED THROUGH THE DDC SYSTEM
(3) 24 HOUR SUMMARY INCLUDES TIME, TEMPERATURE, DEW POINT, PRESSURE, WIND (DIRECTION AND MPH), AND WEATHER

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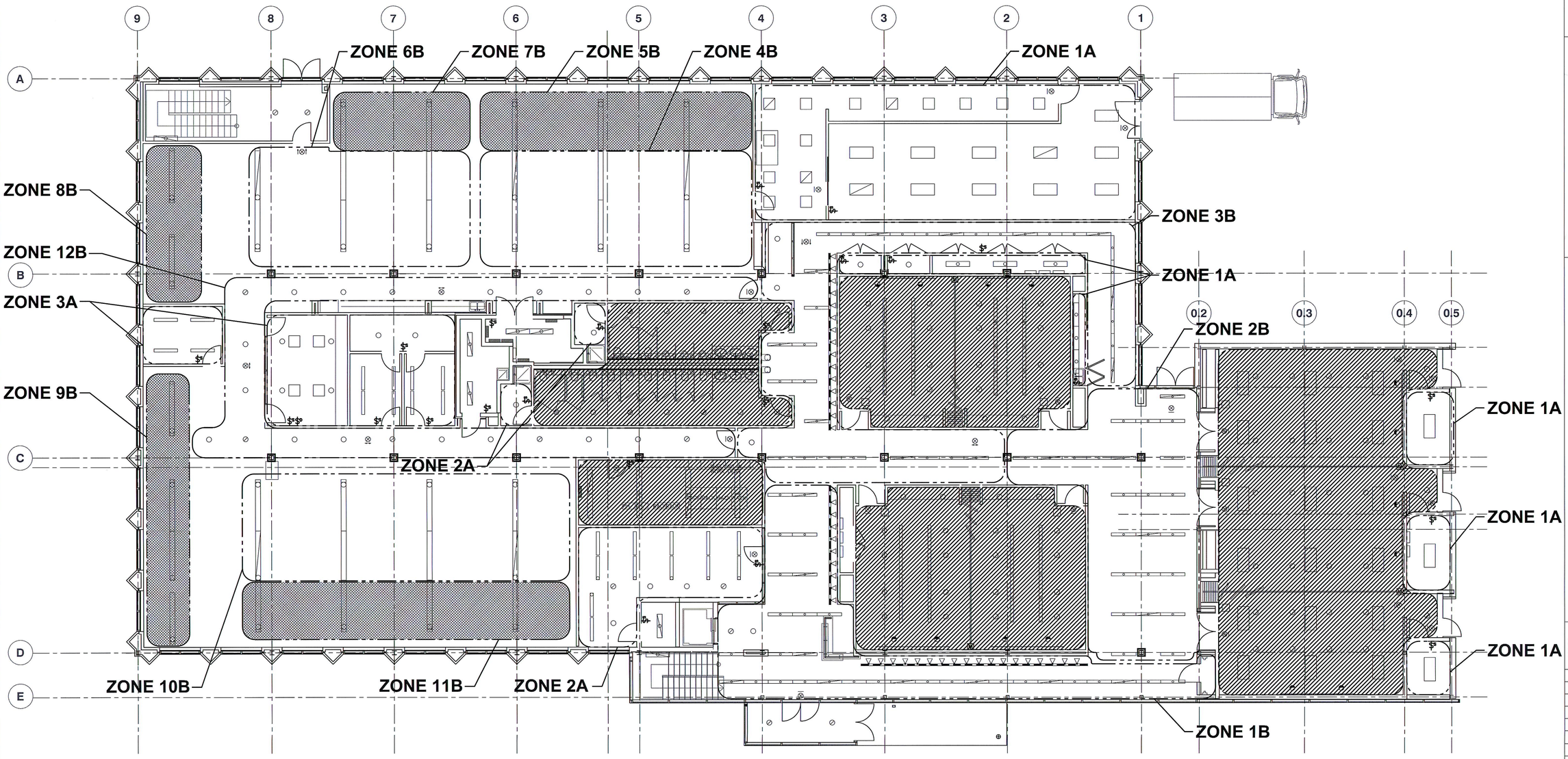
	7/12/07	RMB System Design

DRAWING TITLE:
MISCELLANEOUS SEQUENCES & POINTS LISTS

PROJECT NUMBER:
200614

DATE:
6/15/07

DRAWING NUMBER:
M6.4



ZONING LEGEND

(THIS SHEET ONLY)

PHOTOCELL CONTROLLED ZONES

OCCUPANCY SENSOR CONTROLED

SWEEP SWITCH CONTROLED (SWEEP OFF EVER 2 HOURS AFTER CLOSE OF BUISNESS)

- ZONE 1A
- ZONE 2A
- ZONE 3A

OPEN OFFICE WITH MANUAL OVERRIDE
(SWEEP OFF ONLY AFTER CLOSE OF BUISNESS AND 2 HOURS AFTER OVERRIDE)

- ZONE 1B
- ZONE 2B
- ZONE 3B
- ZONE 4B
- ZONE 5B (PHOTOCELL CONTROLLED)
- ZONE 6B
- ZONE 7B (PHOTOCELL CONTROLLED)
- ZONE 8B (PHOTOCELL CONTROLLED)
- ZONE 9B (PHOTOCELL CONTROLLED)
- ZONE 10B
- ZONE 11B (PHOTOCELL CONTROLLED)
- ZONE 12B

LEVEL 1 - LIGHTING ZONING PLAN

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

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	7/12/07	Final System Design

DRAWING TITLE:

LEVEL 1 LIGHTING ZONING PLAN

PROJECT NUMBER:

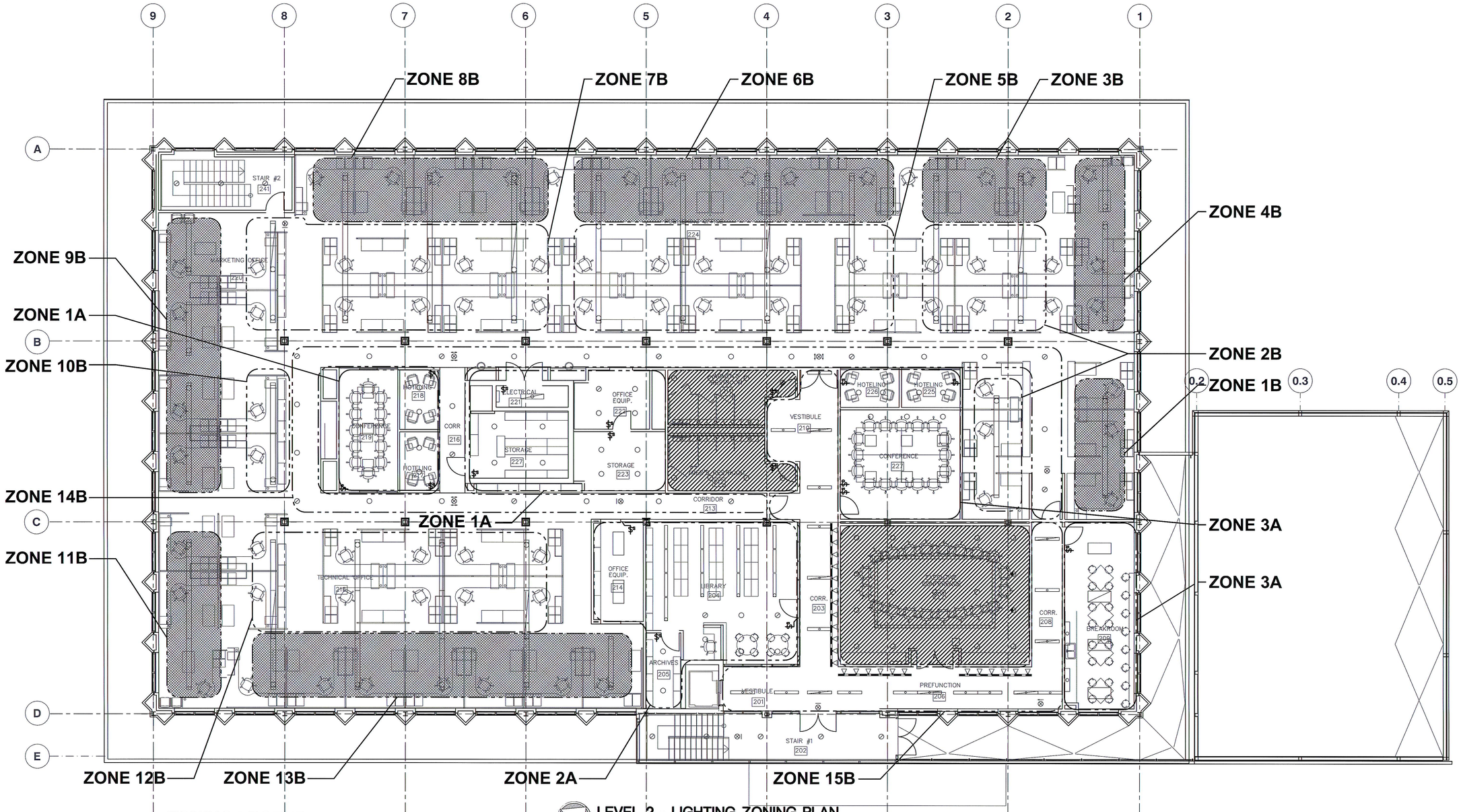
200614

DATE:

6/15/07

DRAWING NUMBER:

M6.4A



ZONING LEGEND

(THIS SHEET ONLY)

PHOTOCELL CONTROLLED ZONES

OCCUPANCY SENSOR CONTROLED

SWEEP SWITCH CONTROLED (SWEEP OFF EVER 2 HOURS AFTER CLOSE OF BUISNESS)

- ZONE 1A
- ZONE 2A
- ZONE 3A

OPEN OFFICE WITH MANUAL OVERRIDE
(SWEEP OFF ONLY AFTER CLOSE OF BUISNESS AND 2 HOURS AFTER OVERRIDE)

- ZONE 1B (PHOTOCELL CONTROLLED)
- ZONE 2B
- ZONE 3B (PHOTOCELL CONTROLLED)
- ZONE 4B (PHOTOCELL CONTROLLED)
- ZONE 5B
- ZONE 6B (PHOTOCELL CONTROLLED)
- ZONE 7B
- ZONE 8B (PHOTOCELL CONTROLLED)
- ZONE 9B (PHOTOCELL CONTROLLED)
- ZONE 10B
- ZONE 11B (PHOTOCELL CONTROLLED)
- ZONE 12B
- ZONE 13B (PHOTOCELL CONTROLLED)
- ZONE 14B
- ZONE 15B

LEVEL 2 - LIGHTING ZONING PLAN

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

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7/12/07	Final System Design

DRAWING TITLE:
LEVEL 2 LIGHTING ZONING PLAN

PROJECT NUMBER:
200614

DATE:
6/15/07

DRAWING NUMBER:
M6.4B

FIXTURE SCHEDULE

MARK	DESCRIPTION	PIPE SIZE(1) CW	PIPE SIZE(1) HW	MOUNTING HEIGHT
WC	WATER CLOSET	1/2"	–	15"
WCH	ADA WATER CLOSET	1/2"	–	17"
UR	URINAL	–	–	24"
URH	ADA URINAL	–	–	17"
L1	COUNTER LAVATORY	1/2"	1/2"	–
SHRH	ADA SHOWER	1/2"	1/2"	–
S1	TWO COMPARTMENT SINK	1/2"	1/2"	–
SS	SERVICE SINK	1/2"	1/2"	–
EDFD	DUAL DRINKING FOUNTAIN	1/2"	–	34"(2)

NOTES:
(1) 1/2" PIPE SIZE MAY SERVE ONLY ONE FIXTURE AND RUN A MAXIMUM OF 12 FEET IN LENGTH.
(2) HEIGHT OF SPOUT OUTLET AT LOWER UNIT.

ELECTRIC WATER HEATER SCHEDULE

MARK	LOCATION	SIZE	VOLTAGE	KW	REMARKS
WH1	MECHANICAL 132	80 GAL.	208V/3ø	18	(1)

(1) MOUNT WATER HEATER ON 4" CONCRETE PAD ON FLOOR.

SOLAR WATER HEATER SCHEDULE (ALTERNATE)

MARK	LOCATION	SIZE	AUX. HTG. ELEMENT	VOLTAGE	COLLECTOR BTU/DAY	REMARKS
WH1	MECHANICAL 132	120 GAL.	10 kW	280V/3ø	60,000	(1)

(1) MOUNT WATER HEATER ON 4" CONCRETE PAD ON FLOOR.

MIXING VALVE SCHEDULE

MARK	LOCATION	SERVES	TYPE	CAPACITY (GPM)	ALLOWABLE PRESSURE DROP (PSI)	DESIGN BASIS	REMARKS
MV1	MECHANICAL 132	BUILDING	SINGLE VALVE	20	10	POWERS 432	(1)
TMV	SEE SHEETS	LAVATORIES	SINGLE VALVE	5.5	10	POWERS LM490	

(1) PROVIDE WITH WALL MOUNTING BRACKET.

ABBREVIATIONS

CW	COLD WATER
HW	HOT WATER
HWC	HOT WATER CIRCULATING
S	SANITARY
V	VENT
W	WASTE
RW	RAINWATER
CO	FLOOR CLEANOUT
WCO	WALL CLEANOUT
FD	FLOOR DRAIN
HD	HUB DRAIN
WH	WALL HYDRANT
ABV	ABOVE
CLG	CEILING
BEL	BELOW
HB	HOSE BIBB
IE	INVERT ELEVATION
WHA	WATER HAMMER ARRESTOR
BFP	BACKFLOW PREVENTER
TYP	TYPICAL
WH	WATER HEATER
GA	GAUGE
GALV	GALVANIZED
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
VA.	VALVE
O.C.	ON CENTER
MAX	MAXIMUM
MIN	MINIMUM
PRV	PRESSURE REDUCING VALVE

PLUMBING SYMBOLS

	SOIL OR WASTE PIPING BELOW FLOOR SLAB
	SOIL OR WASTE PIPING ABOVE FLOOR
RW	RAINWATER PIPING
ERW	EMERGENCY RAINWATER PIPING
	VENT PIPING
	COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER CIRCULATING
	GATE VALVE
	CHECK VALVE
	UNION
	BALL VALVE
	BALANCING VALVE (GLOBE)
WHA	WATER HAMMER ARRESTOR (WHA)
WH	WALL HYDRANT (WH) OR HOSE BIBB (HB)
F.D.	FLOOR DRAIN (F.D.) OR HUB DRAIN (H.D.)
C.O.	FLOOR CLEANOUT
W.C.O.	WALL CLEANOUT (WCO)

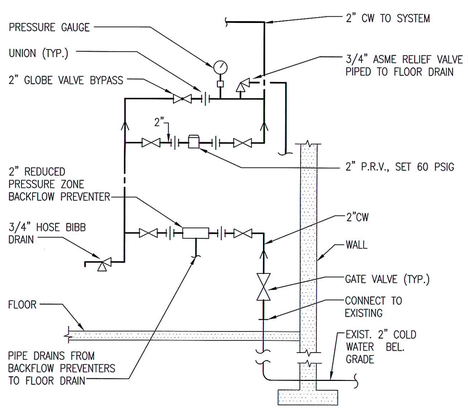
GENERAL NOTES

1. VERIFY LOCATIONS AND SIZING OF EXISTING PIPING AND FIXTURES PRIOR TO BEGINNING WORK.
2. COORDINATE PIPING WITH DUCTWORK, LIGHTING FIXTURES, STRUCTURE, AND ARCHITECTURAL CEILING HEIGHTS.
3. MAKE FINAL CONNECTIONS TO ALL FIXTURES AND EQUIPMENT, INCLUDING EQUIPMENT PROVIDED UNDER OTHER DIVISIONS.
4. ALL PIPING DROPS IN WALLS AND CHASES SHALL BE SECURED TO THE WALLS.
5. CAP ALL PIPING ENDS DURING CONSTRUCTION TO PREVENT ENTRY OF DEBRIS.
6. PIPING AND SYSTEMS NOT SHOWN TO BE REMOVED SHALL REMAIN.
7. REMOVE EXISTING FIXTURES AS SHOWN AND TURN FIXTURES OVER TO OWNER'S MAINTENANCE DEPARTMENT.
8. COORDINATE SHUTDOWN OF ALL SYSTEMS TO BE REMOVED WITH THE OWNER.
9. ALL FIXTURES WITH A HOSE CONNECTION OUTLET SHALL BE PROVIDED WITH AN INTEGRAL VACUUM BREAKER.
10. VERIFY EXACT LOCATIONS AND REQUIREMENTS OF FIXTURES AND EQUIPMENT PRIOR TO PROCEEDING WITH THE WORK.
11. CONCEAL ALL PIPING IN FINISHED PORTIONS OF THE BUILDING UNLESS NOTED OTHERWISE.
12. DRAWINGS ARE DIAGRAMMATIC ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS AND EXACT LOCATIONS AND ELEVATIONS OF ALL FIXTURES AND EQUIPMENT.
13. CONNECTIONS BETWEEN TWO DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS.
14. PROVIDE AND INSTALL NEW TEES, WYES, OR ELLS AT EACH WATER AND SEWER POINT OF CONNECTION.
15. PENETRATIONS OF RATED ASSEMBLIES SHALL BE FIRE STOPPED AS SPECIFIED.
16. WHERE STRUCTURE IS DAMAGED DURING CONSTRUCTION AND INSTALLATION OF EQUIPMENT OR FIXTURES, THE CONTRACTOR SHALL REPAIR THE DAMAGED AREA TO MATCH THE PROPOSED CONDITION.
17. THE COMPLETE WASTE SYSTEM SHALL BE RODDED–OUT AND FLUSHED CLEAN PRIOR TO FINAL INSPECTION OR TURNING THE BUILDING OVER TO THE OWNER.
18. FLUSH, CLEAN, AND DISINFECT THE ENTIRE DOMESTIC WATER PIPING SYSTEM AS SPECIFIED.
19. WHERE PIPING VISIBLY PENETRATES THE WALLS, INSTALL ESCUTCHEONS TO COVER SLEEVES AND/OR CAULKING THROUGHOUT FINISHED AREAS.
20. ALL FIXTURES AND EQUIPMENT SHALL BE KEPT CLEAN DURING ALL CONSTRUCTION AND NOT USED DURING CONSTRUCTION.
21. HOT AND COLD WATER PIPING SYSTEM SHALL BE INSULATED THROUGHOUT THE PROJECT.
22. SEISMIC RESTRAINTS ARE REQUIRED FOR ALL FIRE PROTECTION OTHER HAZARDOUS PIPING SYSTEMS REGARDLESS OF SIZE AND LOCATION. RESTRAINTS FOR THESE SYSTEMS SHALL BE INSTALLED PER THE SEISMIC RESTRAINT SUBMITTAL DATA, SEE SPECIFICATION SECTION 23 05 48

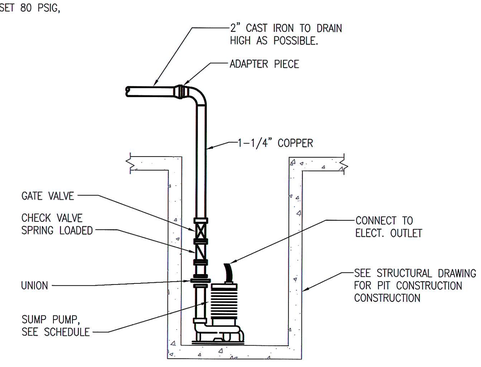
PUMP SCHEDULE

MARK	TYPE	SERVES	GPM	DEV. HEAD	HP	RPM	VOLTAGE	REMARKS
SP1	SUBMERSIBLE	ELEVATOR SUMP	15	20 FT.	1/3	1750	120v/1ø	(1)
HWCP1	IN–LINE	HOT WATER CIRCULATING	10	15 FT.	1/6	1750	120v/1ø	(1)

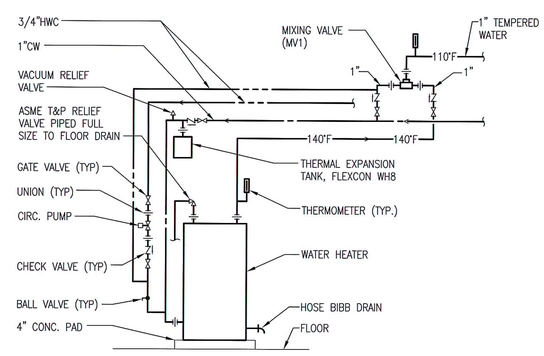
(1) SEE SPECIFICATION SECTION 22 11 25 FOR ADDITIONAL INFORMATION.



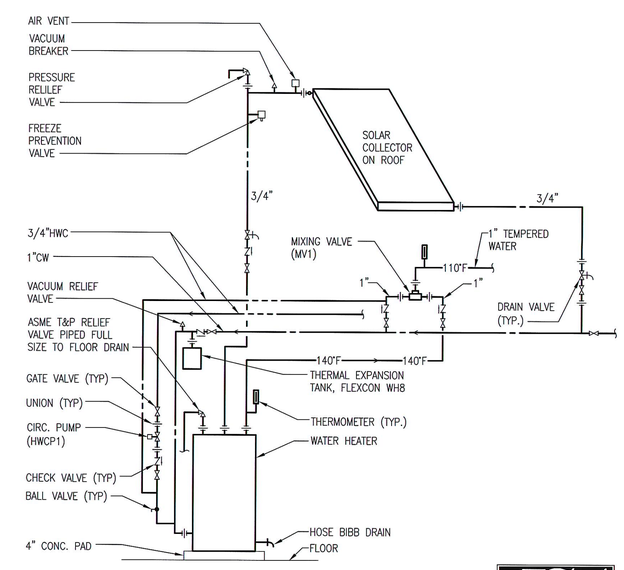
1 / P0.1 **PRESSURE REDUCING STATION**
SCALE: NONE



2 / P0.1 **SUMP PUMP SECTION**
SCALE: NONE



3 / P0.1 **WATER HEATER PIPING**
SCALE: NONE



4 / P0.1 **SOLAR WATER HEATER PIPING (ALTERNATE)**
SCALE: NONE

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7/12/07	Final System Design	

DRAWING TITLE:
PLUMBING NOTES, LEGEND AND SCHEDULES

PROJECT NUMBER:
200614

DATE:
6/15/07

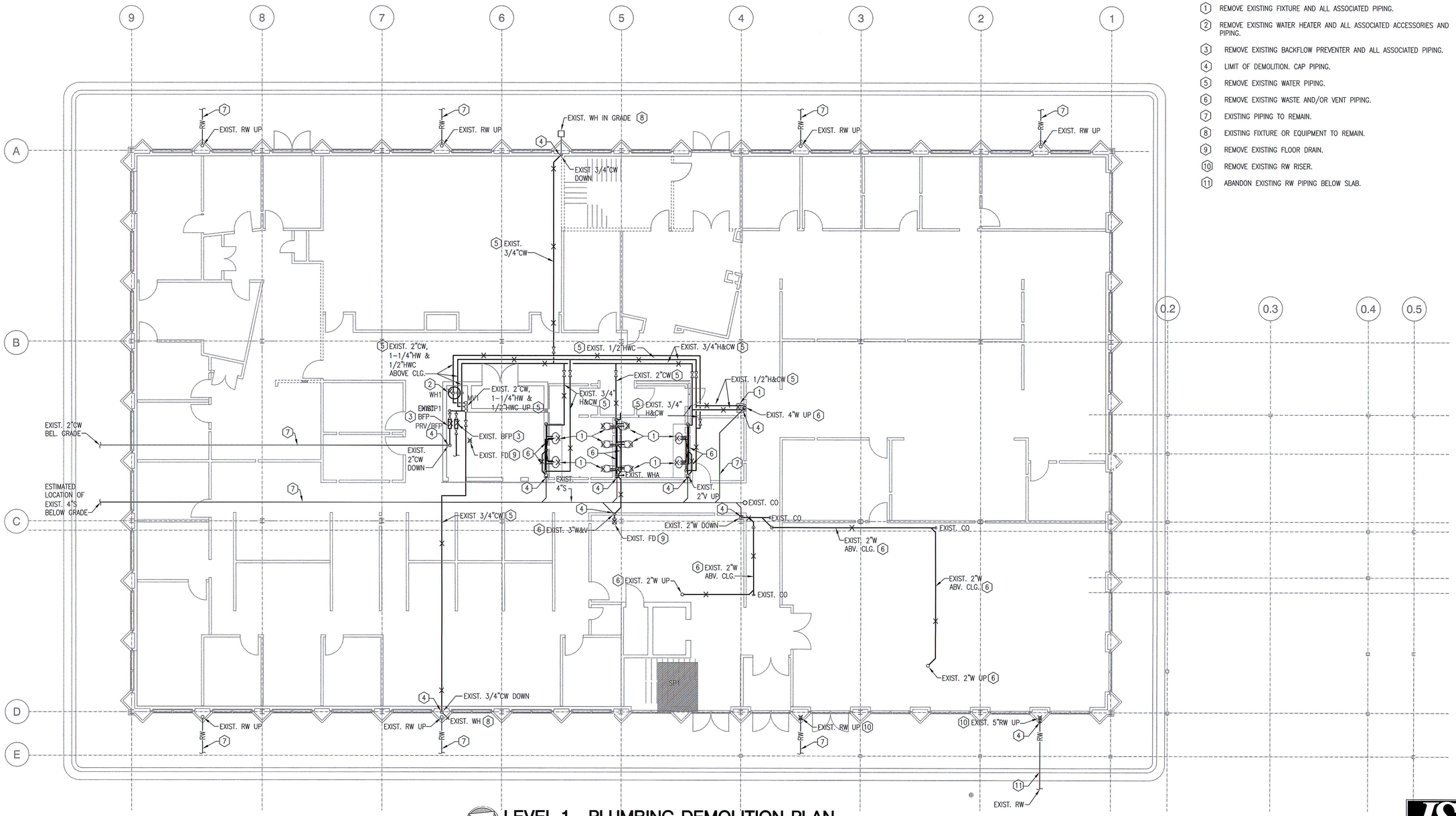
DRAWING NUMBER:
P0.1

GENERAL NOTES

1. SEE DRAWING P0.1 FOR PLUMBING GENERAL NOTES.

KEY NOTES

1. REMOVE EXISTING FIXTURE AND ALL ASSOCIATED PIPING.
2. REMOVE EXISTING WATER HEATER AND ALL ASSOCIATED ACCESSORIES AND PIPING.
3. REMOVE EXISTING BACKFLOW PREVENTER AND ALL ASSOCIATED PIPING.
4. LIMIT OF DEMOLITION. CAP PIPING.
5. REMOVE EXISTING WATER PIPING.
6. REMOVE EXISTING WASTE AND/OR VENT PIPING.
7. EXISTING PIPING TO REMAIN.
8. EXISTING FIXTURE OR EQUIPMENT TO REMAIN.
9. REMOVE EXISTING FLOOR DRAIN.
10. REMOVE EXISTING RW RISER.
11. ABANDON EXISTING RW PIPING BELOW SLAB.



LEVEL 1 - PLUMBING DEMOLITION PLAN

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

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	7/12/07	Final System Design

DRAWING TITLE:

LEVEL 1 PLUMBING DEMOLITION PLAN

PROJECT NUMBER:

200614

DATE:

6/15/07

DRAWING NUMBER:

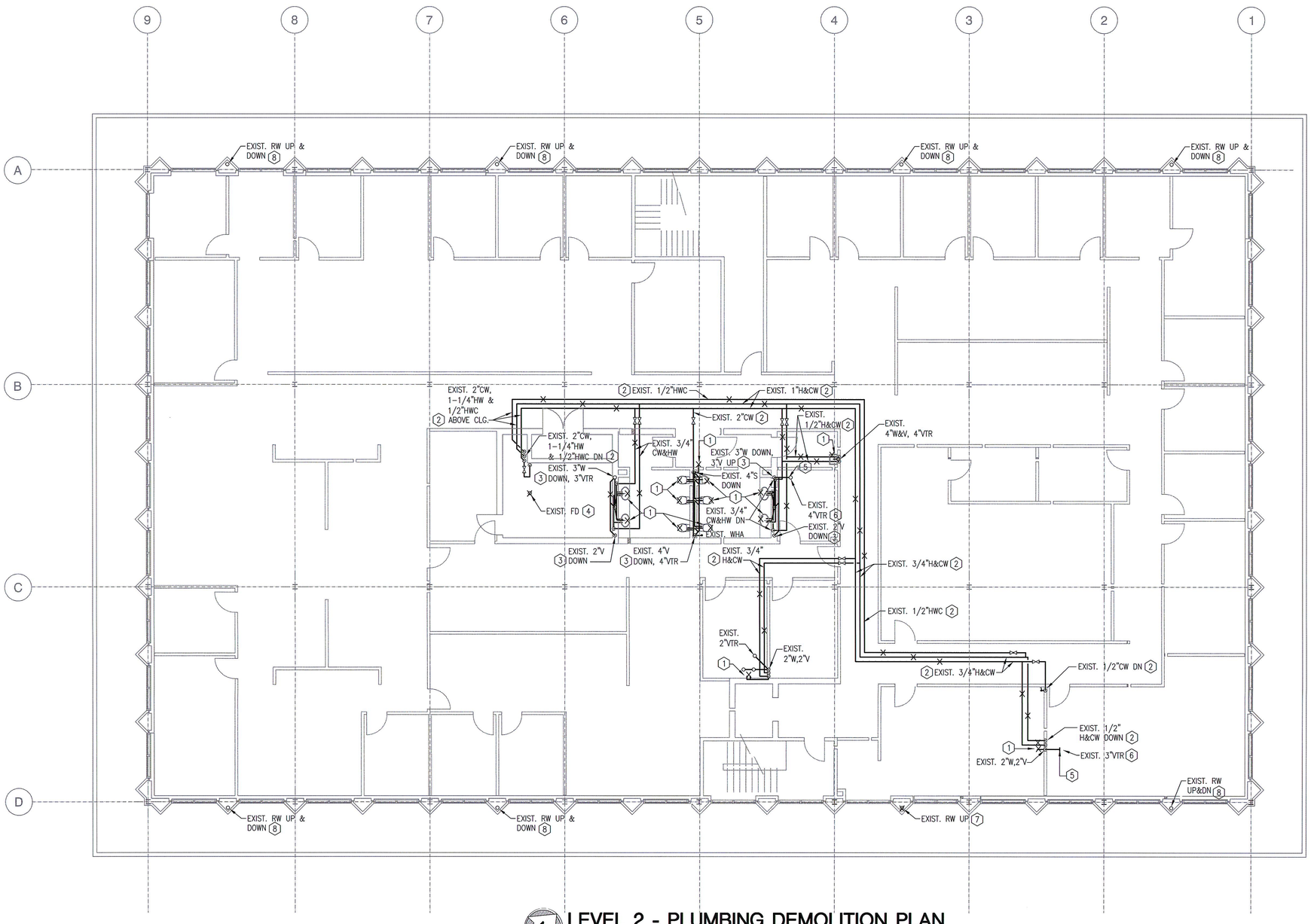
P1.1

GENERAL NOTES

1. SEE DRAWING P0.1 FOR PLUMBING GENERAL NOTES.

KEY NOTES

1. REMOVE EXISTING FIXTURE AND ALL ASSOCIATED PIPING.
2. REMOVE EXISTING WATER PIPING.
3. REMOVE EXISTING WASTE AND/OR VENT PIPING.
4. REMOVE EXISTING FLOOR DRAIN.
5. LIMIT OF DEMOLITION CAP PIPING.
6. EXISTING VENT THRU ROOF TO REMAIN.
7. REMOVE EXISTING RW RISER UP TO CONNECTION POINT WITH ROOF DRAIN.
8. EXISTING PIPING TO REMAIN.



LEVEL 2 - PLUMBING DEMOLITION PLAN

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DRAWING TITLE:

LEVEL 2 PLUMBING DEMOLITION PLAN

PROJECT NUMBER:

200614

DATE:

6/15/07

DRAWING NUMBER:

P1.2

GENERAL NOTES

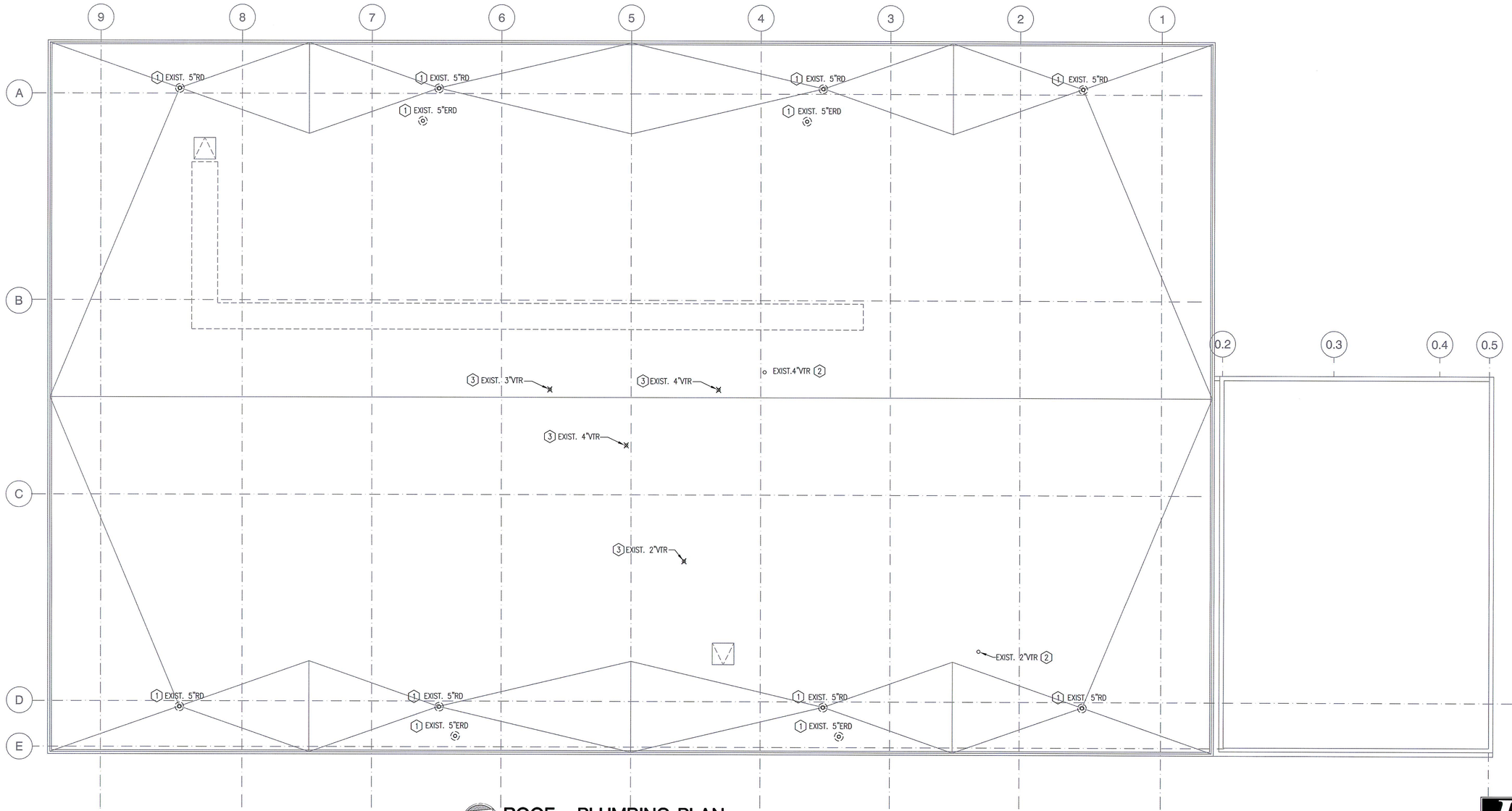
1. SEE DRAWING P0.1 FOR PLUMBING GENERAL NOTES.

KEY NOTES

(1) EXISTING ROOF DRAIN OR EMERGENCY ROOF DRAIN TO REMAIN.

(2) EXISTING VENT THRU ROOF TO REMAIN.

(3) REMOVE EXISTING VENT THRU ROOF AND PATCH HOLE.



ROOF - PLUMBING PLAN

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

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DRAWING TITLE:

ROOF
PLUMBING
DEMOLITION
PLAN

PROJECT NUMBER:

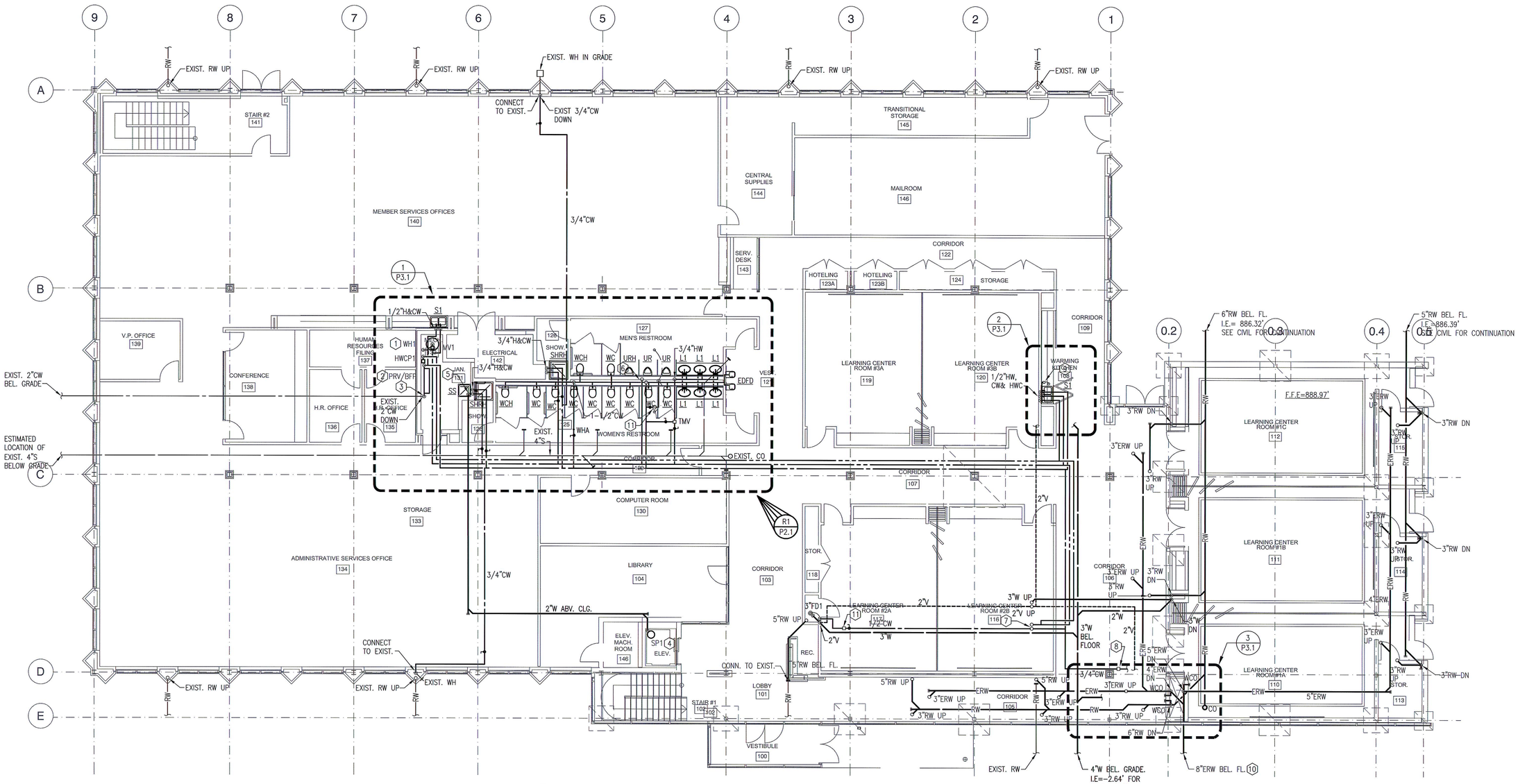
200614

DATE:

6/15/07

DRAWING NUMBER:

P1.3



LEVEL 1 - PLUMBING NEW WORK PLAN

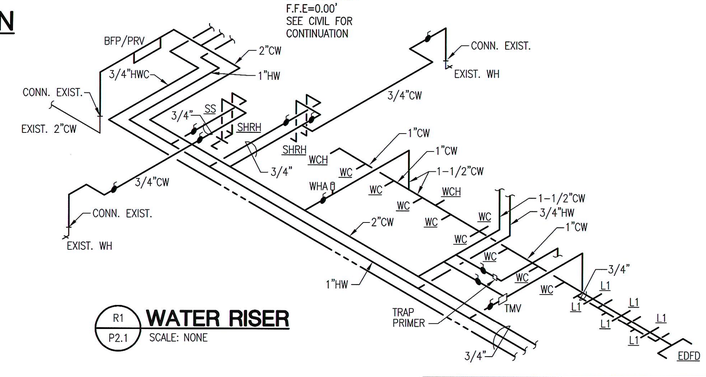
SCALE: 1/8"=1'-0"

GENERAL NOTES

1. SEE DRAWING P0.1 FOR PLUMBING GENERAL NOTES.

KEY NOTES

1. WATER HEATER, SEE DETAIL 3/P0.1 AND 4/P0.1.
2. PRESSURE REDUCING STATION, SEE DETAIL 1/P0.1.
3. CONNECT NEW 2"CW TO EXISTING 2"CW.
4. SUMP PUMP, SEE DETAIL 2/P0.1.
5. 2" WASTE DOWN ON WALL AND DISCHARGE INTO SERVICE SINK.
6. 1-1/2"CW AND 3/4"HW UP ABOVE FLOOR.
7. 3/4"H&CW UP ABOVE FLOOR.
8. 3/4" MAKE-UP WATER FOR HVAC EQUIPMENT. PROVIDE BACKFLOW PREVENTER WATTS 909 SERIES ABOVE CEILING IN ACCESSIBLE LOCATION PIPE BACKFLOW PREVENTER DRAIN INTO FLOOR DRAIN.
9. PROVIDE 1/2"CW TO TRAP PRIMER UNDER SINK IN ACCESSIBLE LOCATION. TRAP PRIMER DISCHARGE INTO HUB DRAIN.
10. EXTEND ERW BELOW SLAB AND UNDER SIDE WALK. TERMINATE ERW AT THE END OF SIDE WALK WITH STAINLESS STEEL SCREEN.
11. PROVIDE 1/2"CW TO TRAP PRIMER ABOVE CEILING IN ACCESSIBLE LOCATION. TRAP PRIMER DISCHARGE DOWN IN CHASE OR WALL AND BELOW FLOOR TO FLOOR DRAIN/S.



R1 P2.1 **WATER RISER**

SCALE: NONE

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	7/12/07	Final System Design

DRAWING TITLE:

LEVEL 1 PLUMBING NEW WORK PLAN

PROJECT NUMBER:

200614

DATE:

6/15/07

DRAWING NUMBER:

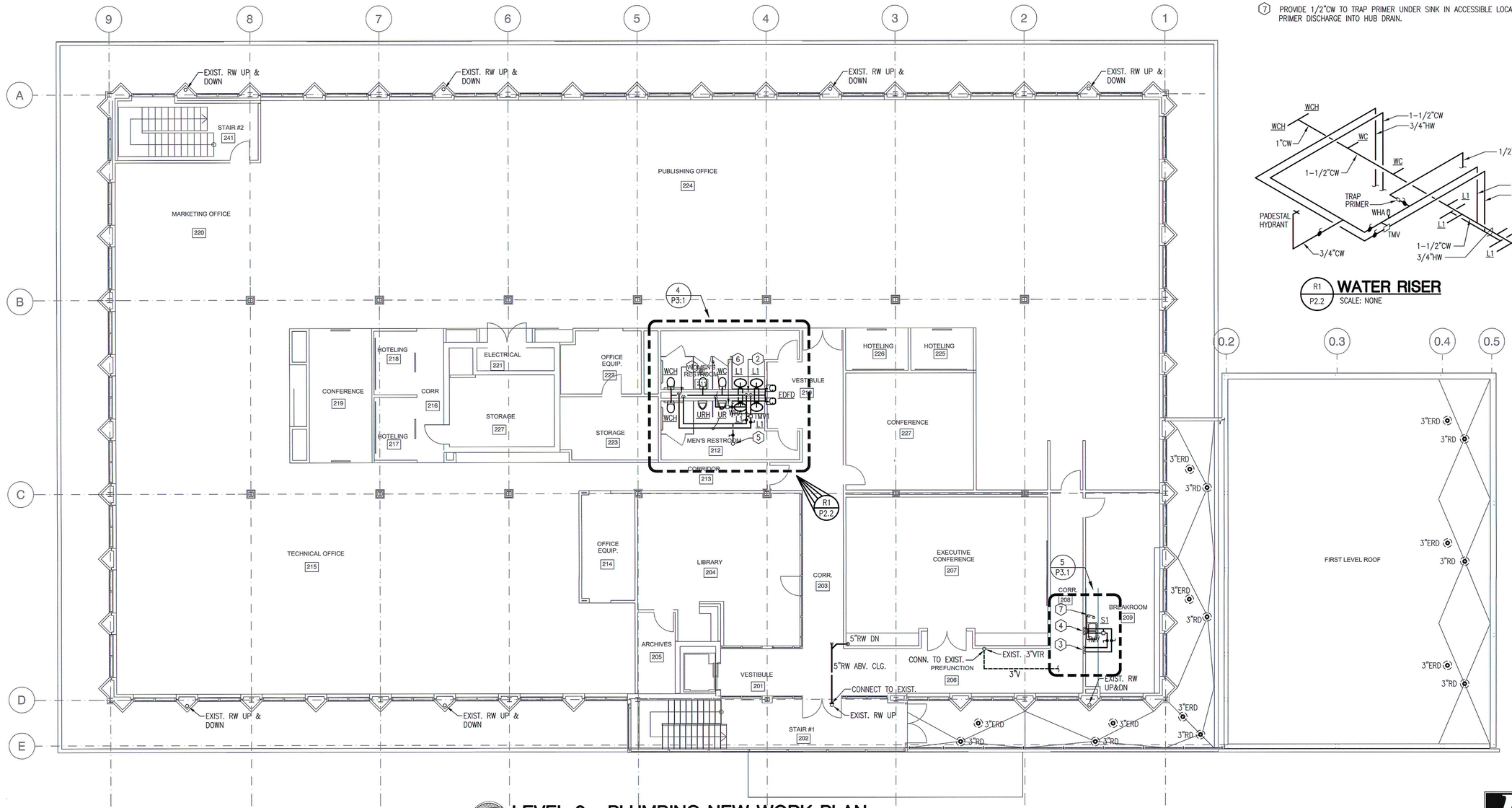
P2.1

GENERAL NOTES

1. SEE DRAWING P0.1 FOR PLUMBING GENERAL NOTES.

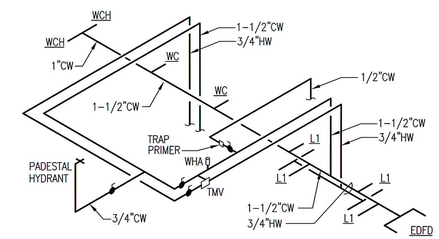
KEY NOTES

1. 1-1/2"CW AND 3/4"HW UP FROM FLOOR BELOW.
2. 1-1/2"CW AND 3/4"HW DOWN IN CHASE TO FIXTURES.
3. 3/4"H&CW UP FROM BELOW FLOOR.
4. 3/4"H&CW DOWN IN WALL TO FIXTURE.
5. 3/4"CW UP TO PEDESTAL HYDRANT ON ROOF FOR PANEL WASH DOWN. MAPA PRODUCTS MODEL MPH-24 WEATHER RESISTANT HYDRANT.
6. PROVIDE 1/2"CW TO RAP PRIMER IN ACCESSIBLE LOCATION. PIPE TRAP PRIMER DISCHARGE DOWN IN CHASE OR WALL AND BELOW FLOOR TO FLOOR DRAINS.
7. PROVIDE 1/2"CW TO TRAP PRIMER UNDER SINK IN ACCESSIBLE LOCATION. TRAP PRIMER DISCHARGE INTO HUB DRAIN.



LEVEL 2 - PLUMBING NEW WORK PLAN

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



R1 P2.2 **WATER RISER**

SCALE: NONE

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	7/12/07	Final System Design

DRAWING TITLE:

LEVEL 2 PLUMBING NEW WORK PLAN

PROJECT NUMBER: **200614**

DATE: **6/15/07**

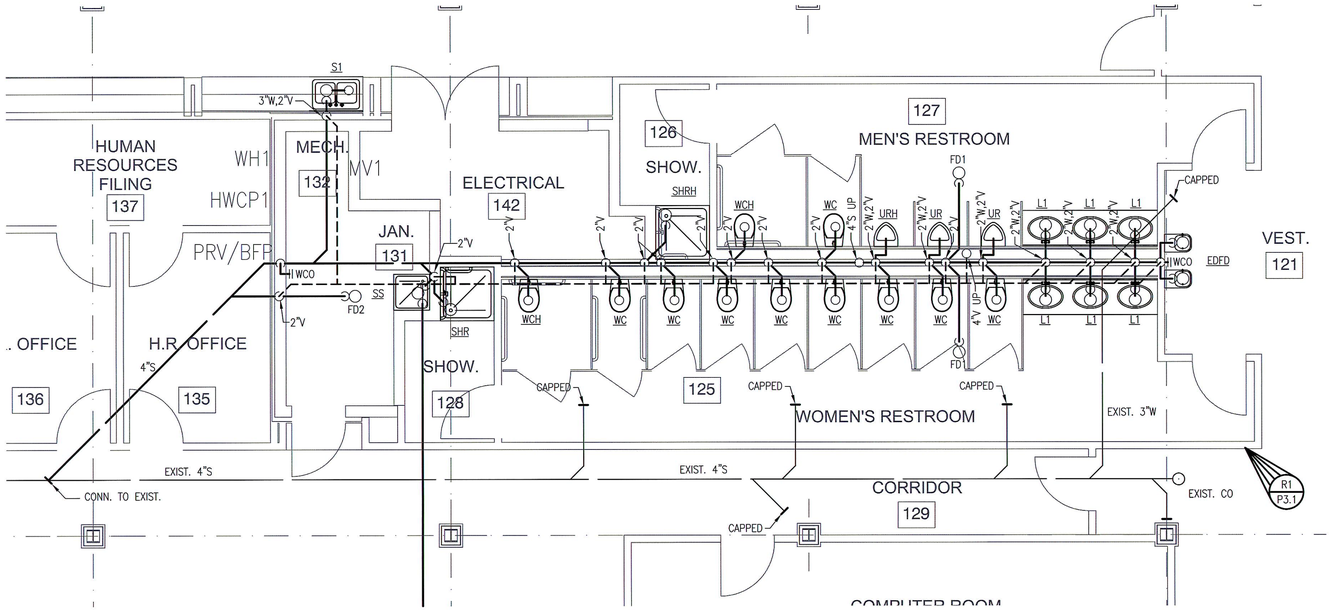
DRAWING NUMBER: **P2.2**

GENERAL NOTES

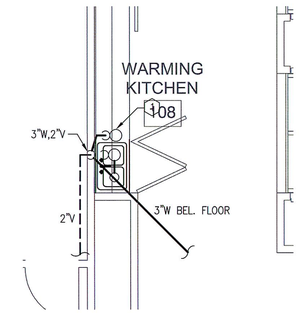
1. SEE DRAWING P0.1 FOR PLUMBING GENERAL NOTES.

KEY NOTES

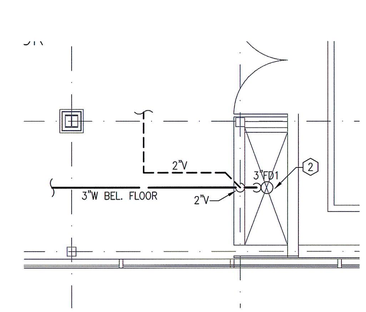
1. 3"HUB DRAIN LOCATED UNDER SINK FLUSH WITH FLOOR.
2. PROVIDE FLOOR DRAIN WITH DEEP SEAL TRAP.



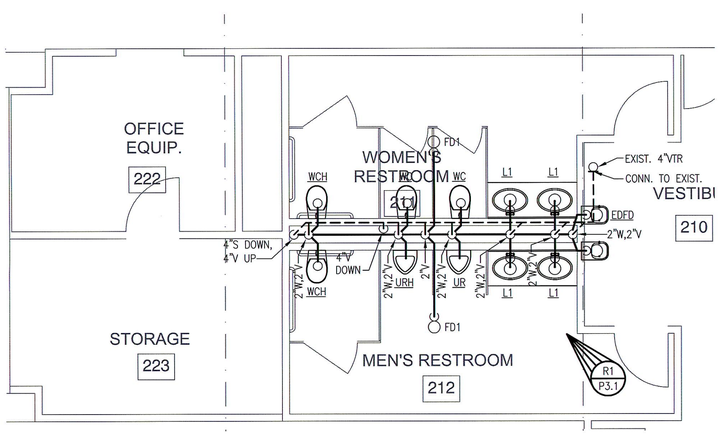
LEVEL 1
1 / P3.1 **S,W&V PART PLAN**
SCALE: 1/4"=1'-0"



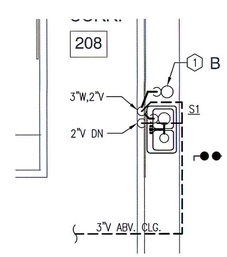
LEVEL 1
2 / P3.1 **S,W&V PART PLAN**
SCALE: 1/4"=1'-0"



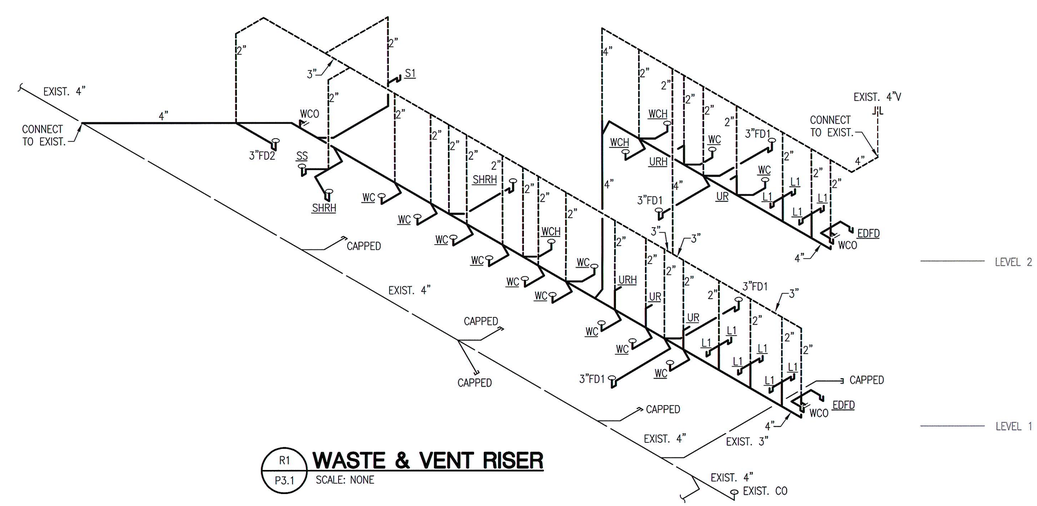
LEVEL 1
3 / P3.1 **S,W&V PART PLAN**
SCALE: 1/4"=1'-0"



LEVEL 2
4 / P3.1 **S,W&V PART PLAN**
SCALE: 1/4"=1'-0"



LEVEL 2
5 / P3.1 **S,W&V PART PLAN**
SCALE: 1/4"=1'-0"



R1 / P3.1 **WASTE & VENT RISER**
SCALE: NONE

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	7/12/07	Final System Design

DRAWING TITLE:
LEVEL 1 & 2 PLUMBING PART PLANS

PROJECT NUMBER:
200614

DATE:
6/15/07

DRAWING NUMBER:
P3.1

ABBREVIATIONS

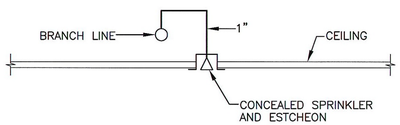
AHJ	AUTHORITY HAVING JURISDICTION
BFP	BACKFLOW PREVENTER
℄	CENTER LINE
C.V.	CHECK VALVE
PRV	PRESSURE REDUCING VALVE
EL.	ELEVATION
LP.	LOW POINT
DN.	DOWN
DWG.	DRAWING
CLG.	CEILING
FDC	FIRE DEPARTMENT CONNECTION
FE	FIRE EXTINGUISHER
FF.	FINISHED FLOOR
FHV	FIRE HOSE VALVE
FM	FIRE MAIN
F.W.	FIRE WATER
FL.	FLOOR
GALV.	GALVANIZED
G.V.	GATE VALVE (NORMALLY OPEN)
MW	MEGA WATT (10 WATTS)
NEC	NATIONAL ELECTRICAL CODE
OS&Y	OUTSIDE STEM AND YOKE VALVE
PT.	POINT
JP	JOCKEY PUMP
FP	FIRE PUMP

FIRE PROTECTION LEGEND

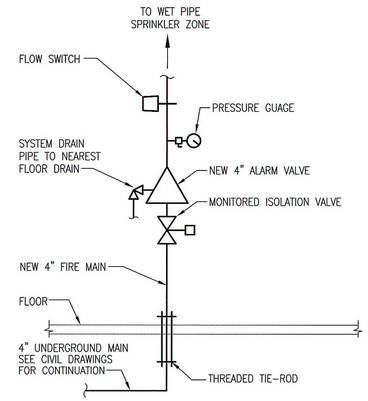
SYMBOL	DESCRIPTION
●	CONCEALED SPRINKLER
○	UPRIGHT SPRINKLER
⊙	SEMI-RECESSED SPRINKLER
△	SIDEWALL SPRINKLER
▲	EXTENDED COVERAGE SIDEWALL SPRINKLER
⊗	SPRINKLER LOCATED BENEATH DUCT
	ALARM VALVE
	ECCENTRIC REDUCER FLAT SIDE ON TOP
	CONCENTRIC REDUCER
	PIPE UNION
	PIPE RISE
	PIPE DROP
	CAP ON END OF LINE
	GATE VALVE
	OS&Y VALVE
	MONITORED OS&Y VALVE
	BUTTERFLY VALVE
	MONITORED BUTTERFLY VALVE
	FLOW SWITCH
	CHECK VALVE
	BALL DRIP CHECK VALVE
	FIRE DEPARTMENT CONNECTION

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH NFPA AND LOCAL CODES.
2. THIS CONSTRUCTION DOCUMENT REFLECTS NEW ARCHITECTURAL FLOOR PLANS. DO NOT ROUTE NEW PIPING UNDER HVAC UNITS OR WITHIN HVAC UNIT SERVICE ACCESS, COORDINATE WITH MECHANICAL CONTRACTOR FOR UNIT LOCATIONS PRIOR TO BEGINNING WORK.
3. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
4. SLEEVE ALL PIPING THROUGH CONCRETE/BLOCK WALLS.
5. CAP ALL OPEN PIPING ENDS DURING CONSTRUCTION TO PREVENT ENTRY OF DEBRIS.
6. ALL PIPING SHALL BE PARALLEL TO WALLS AND CEILINGS.
7. SEE CIVIL DRAWINGS FOR CONNECTION BETWEEN PROJECT BUILDING AND WATER MAIN.
8. CONCEAL ALL PIPING IN FINISHED PORTIONS OF THE BUILDING UNLESS NOTED OTHERWISE.
9. DRAWINGS ARE DIAGRAMMATIC ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS AND EXACT LOCATIONS AND ELEVATIONS OF ALL FIXTURES AND EQUIPMENT.
10. VERIFY ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK.
11. ALL EXPOSED GALVANIZED THREADS SHALL BE COATED WITH GALVANIC PAINT.
12. THESE DRAWINGS HAVE BEEN PREPARED FROM THE LATEST INFORMATION AVAILABLE, BUT VARIATIONS MAY OCCUR IN THE ACTUAL CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER PRIOR TO COMMENCING WORK EFFECTED.
13. PENETRATIONS OF RATED ASSEMBLIES SHALL BE FIRE STOPPED AS SPECIFIED.
14. WHERE PIPING VISIBLY PENETRATES THE WALLS, INSTALL ESCUTCHEONS TO COVER SLEEVES AND/OR CAULKING, THROUGHOUT FINISHED AREAS.
15. SPRINKLERS INSTALLED IN FINISHED CEILINGS SHALL BE SYMMETRICALLY ALIGNED.
16. SPRINKLERS INSTALLED IN AREAS WITH LAY-IN CEILINGS SHALL BE CENTERED IN TILES AND ASSOCIATED ESCUTCHEON MOUNTED FLUSH WITH CEILING.
17. PROVIDE ALL NECESSARY DRAINS AND PLUGS TO COMPLETELY DRAIN SYSTEM.
18. ALL SPRINKLER/STANDPIPE PIPING AND EQUIPMENT INSTALLED IN STAIRWELLS SHALL BE CLEANED AND PAINTED PRIOR TO TURNING BUILDING OVER TO OWNER.
19. SEAL ALL PIPING PENETRATIONS IN SMOKE PARTITIONS. SEE ARCHITECTURAL DRAWINGS FOR SMOKE PARTITION LOCATIONS. 20. PROVIDE SEISMIC RESTRAINTS PER SPECIFICATIONS.



1 FP0.01 **TYPICAL SPRINKLER DROP PIPING**
SCALE: NO SCALE



2 FP0.01 **SPRINKLER ZONE RISER**
SCALE: NONE

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	7/12/07	Final System Design

DRAWING TITLE:
FIRE PROTECTION NOTES, LEGENDS AND SCHEDULES

PROJECT NUMBER:
200614

DATE:
6/15/07

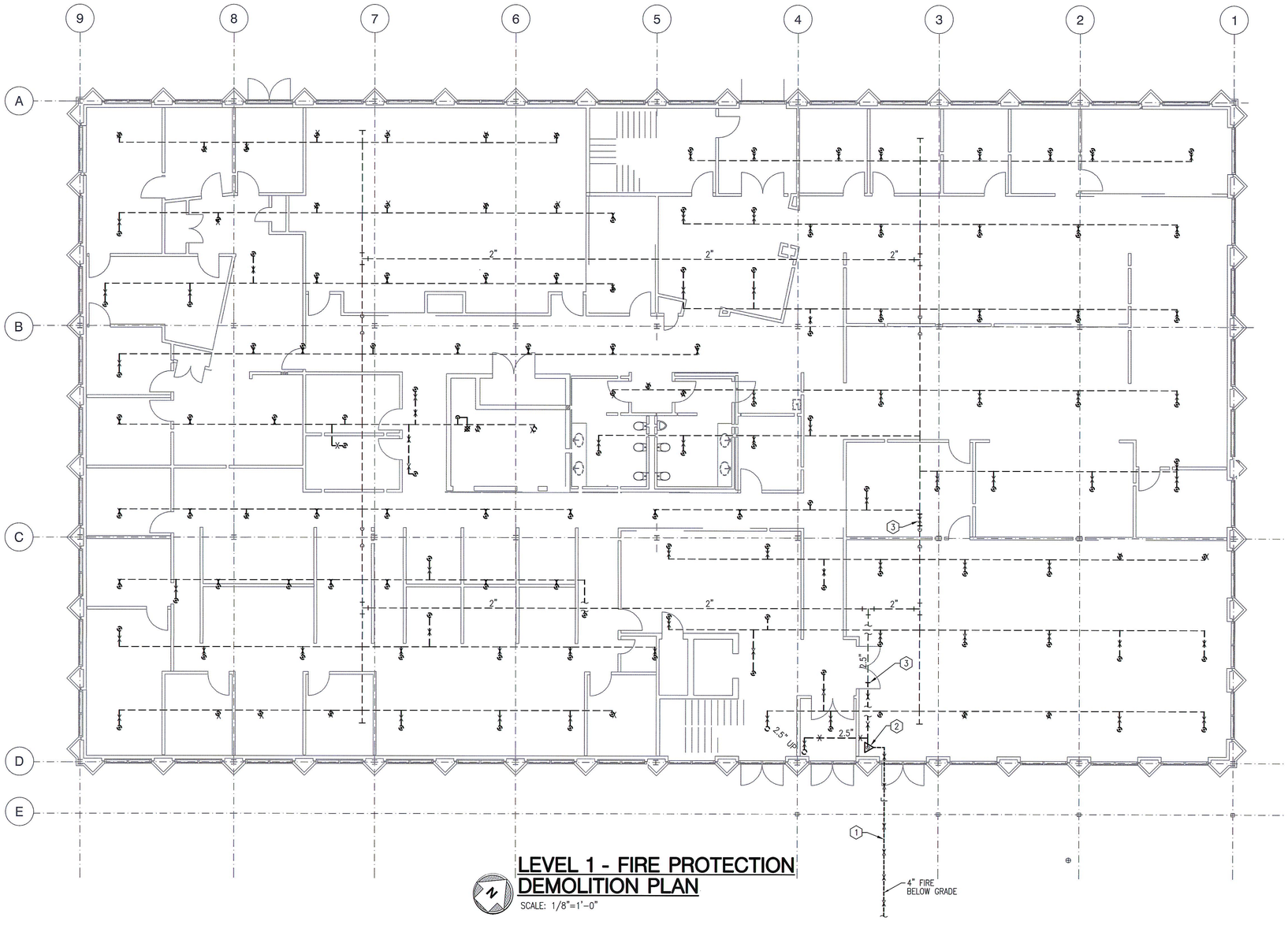
DRAWING NUMBER:
FP0.1

GENERAL NOTES

1. SEE DRAWING FP0.1 FOR FIRE PROTECTION GENERAL NOTES.
2. ALL SPRINKLERS AND DROPS SHALL BE REMOVED.

KEY NOTES

1. REMOVE EXISTING 4" UNDERGROUND FIRE MAIN.
2. REMOVE EXISTING ALARM VALVE AND ASSOCIATED PIPING.
3. NEW SPRINKLER MAIN WILL TIE-INTO THIS SECTION OF EXISTING SPRINKLER MAIN.



LEVEL 1 - FIRE PROTECTION DEMOLITION PLAN

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

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	7/12/07	Final System Design

DRAWING TITLE:

LEVEL 1
FIRE PROTECTION
DEMOLITION PLAN

PROJECT NUMBER:
200614

DATE:
6/15/07

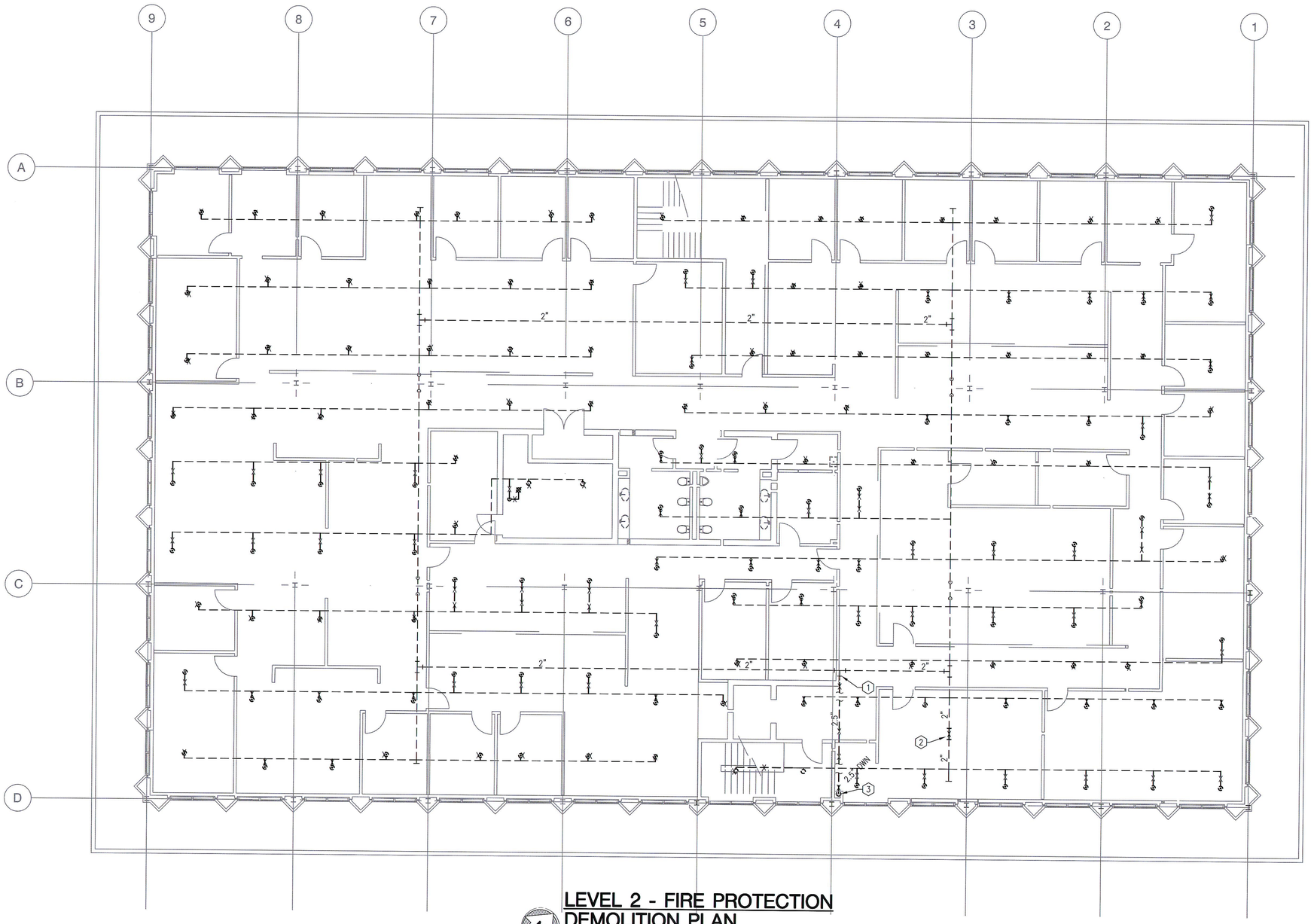
DRAWING NUMBER:
FP1.1

GENERAL NOTES

1. SEE DRAWING FP0.1 FOR FIRE PROTECTION GENERAL NOTES.
2. ALL SPRINKLERS AND DROPS SHALL BE REMOVED.

KEY NOTES

1. REMOVE 2.5" SPRINKLER MAIN UP TO EXISTING 2.5" TEE AS SHOWN.
2. NEW SPRINKLER MAIN WILL TIE-INTO THIS SECTION OF EXISTING SPRINKLER MAIN.
3. REMOVE 2.5" SPRINKLER RISER.



LEVEL 2 - FIRE PROTECTION DEMOLITION PLAN

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	7/12/07	Final System Design

DRAWING TITLE:

LEVEL 2
FIRE PROTECTION
DEMOLITION PLAN

PROJECT NUMBER:
200614

DATE:
6/15/07

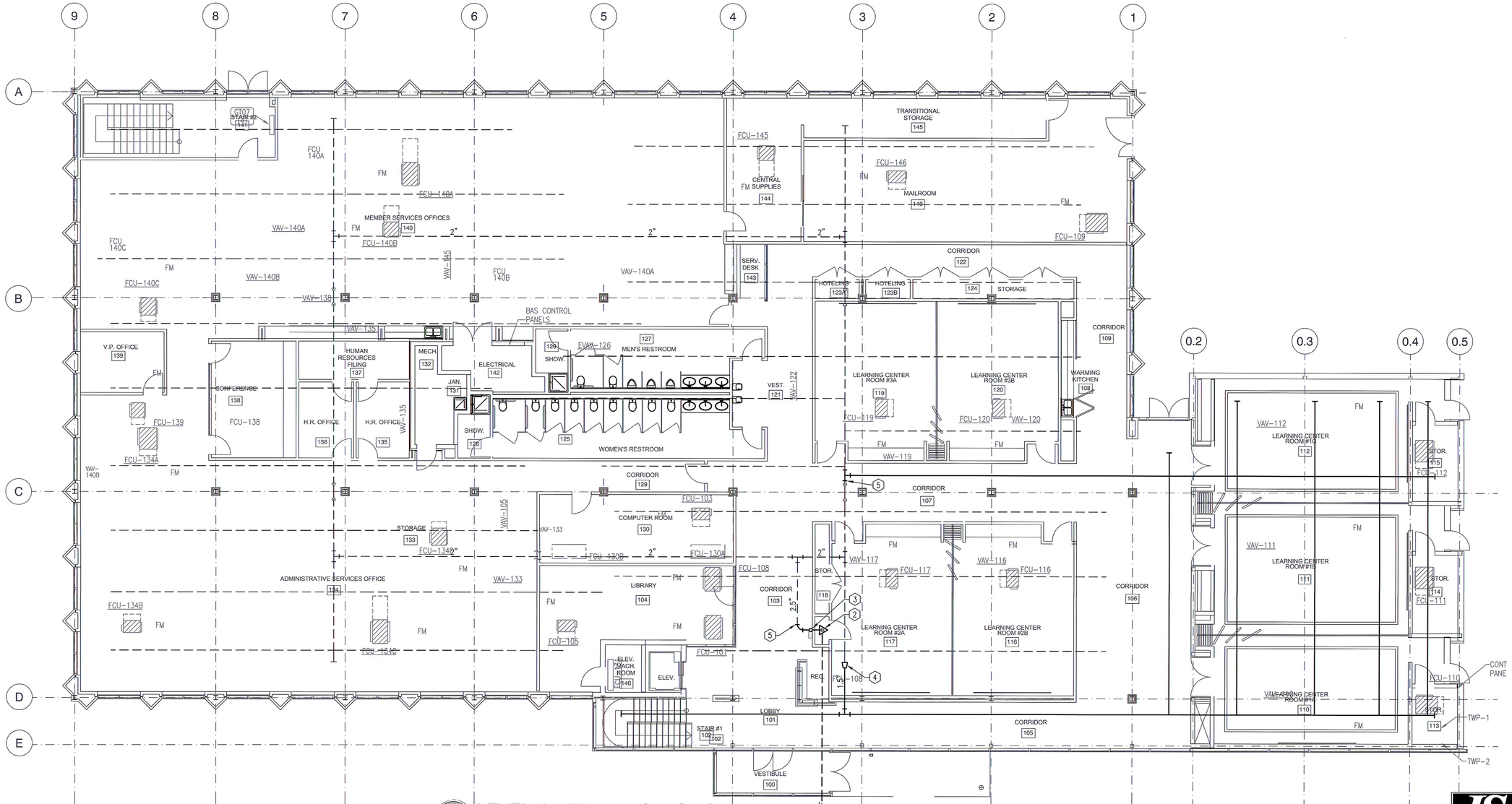
DRAWING NUMBER:
FP1.2

GENERAL NOTES

1. SEE DRAWING FP0.1 FOR FIRE PROTECTION GENERAL NOTES.
2. PROVIDE NEW/RELOCATED SPRINKLERS AND DROPS AS NECESSARY TO CONFORM WITH NEW ARCHITECTURAL FLOOR PLAN, DROP CEILING, AND NFPA 13 SPACING REQUIREMENTS.

KEY NOTES

1. NEW 6" UNDERGROUND FIRE MAIN. SEE CIVIL DRAWINGS FOR CONTINUATION.
2. NEW ALARM VALVE SIZED PER CONTRACTOR'S HYDRAULIC CALCULATIONS. SEE DETAIL 2 SHEET FP0.1.
3. NEW 2.5" SPRINKLER RISER UP TO SECOND FLOOR. SEE SHEET FP2.2 FOR CONTINUATION.
4. EXTEND NEW SPRINKLER BRANCH FROM EXISTING SPRINKLER MAIN AS SHOWN.
5. TIE NEW SPRINKLER MAIN INTO EXISTING SPRINKLER MAIN AS SHOWN.



LEVEL 1 - FIRE PROTECTION PLAN

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

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	7/12/07	Final System Design

DRAWING TITLE:

LEVEL 1
FIRE PROTECTION PLAN

PROJECT NUMBER:

200614

DATE:

6/15/07

DRAWING NUMBER:

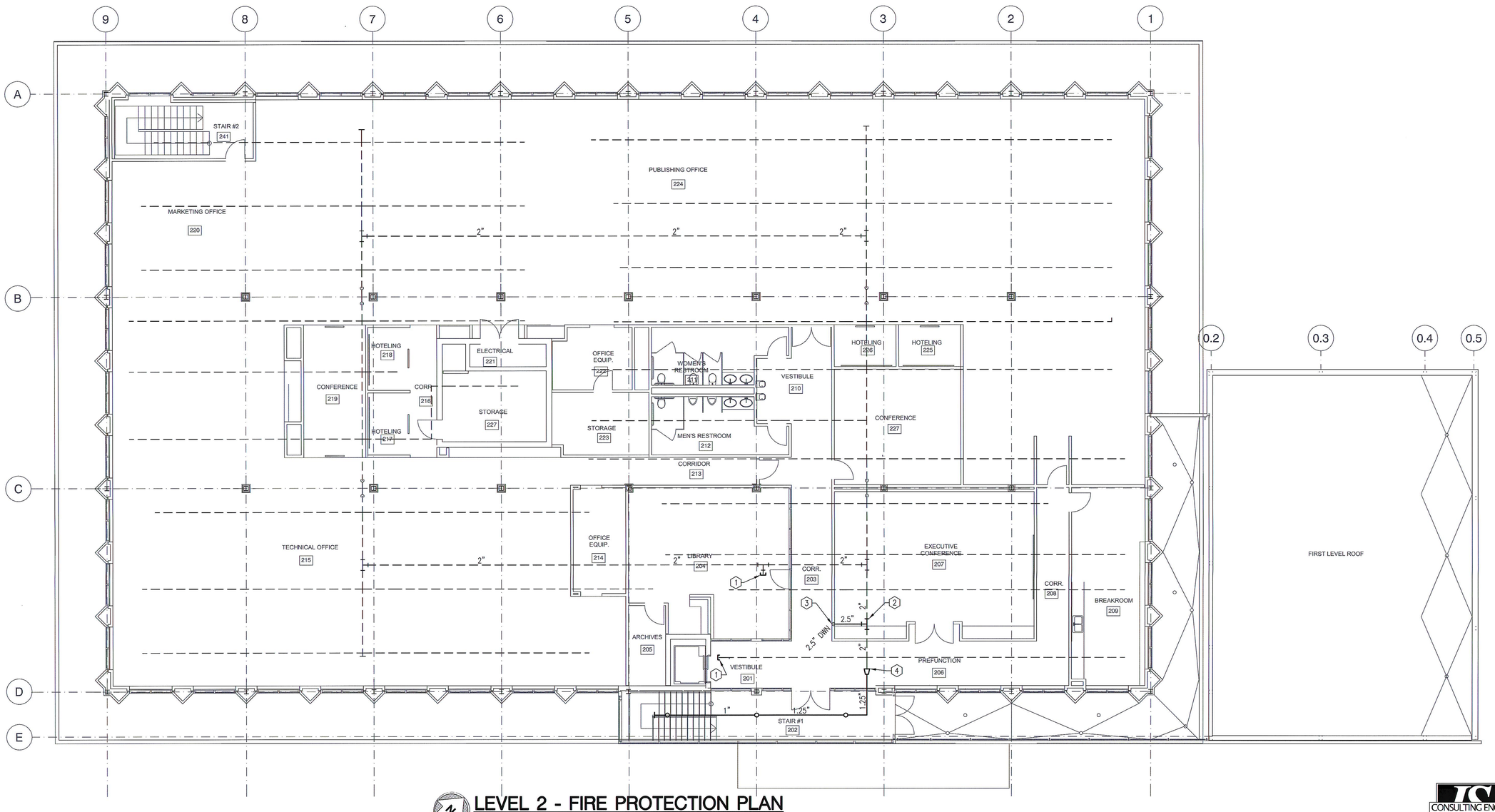
FP2.1

GENERAL NOTES

1. SEE DRAWING FP0.1 FOR FIRE PROTECTION GENERAL NOTES.
2. PROVIDE NEW/RELOCATED SPRINKLERS AND DROPS AS NECESSARY TO CONFORM WITH NEW ARCHITECTURAL FLOOR PLAN, DROP CEILING, AND NFPA 13 SPACING REQUIREMENTS.

KEY NOTES

1. CAP EXISTING SPRINKLER PIPING AS SHOWN.
2. TIE NEW SPRINKLER MAIN INTO EXISTING SPRINKLER MAIN AS SHOWN.
3. NEW 2.5" SPRINKLER RISER UP FROM FIRST FLOOR. SEE SHEET FP2.1 FOR CONTINUATION. RISER SHALL BE CONCEALED INSIDE WALL CAVITY AS SHOWN.
4. EXTEND SPRINKLER MAIN TO SERVE NEW STAIRWELL AS SHOWN.



LEVEL 2 - FIRE PROTECTION PLAN

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

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	7/12/07	Final System Design

DRAWING TITLE:

LEVEL 2
FIRE PROTECTION
PLAN

PROJECT NUMBER:

200614

DATE:

6/15/07

DRAWING NUMBER:

FP2.2

FIXTURE SCHEDULE

TYPE	DESCRIPTION	LENS/CELL/DIFFUSER	LAMP	NOTES	DESIGN STANDARD
F1	1'x4' GENERAL PURPOSE FLUORESCENT TURRENT FIXTURE WITH WIRE GUARD COLD WEATHER BALLAST AND 10% UPLIGHT	N/A	(2) F32T8		LUMAX# TR-2-32-48-EO-*-BA-TRWG4B
F1E	1'x4' GENERAL PURPOSE FLUORESCENT TURRENT FIXTURE WITH WIRE GUARD COLD WEATHER BALLAST, 10% UPLIGHT AND EMERGENCY BALLAST	N/A	(2) F32T8		LUMAX# TR-2-32-48-EO-*-BA-TRWG4B
F2	2'x4' RECESSED FLUORESCENT 3" DEEP PARABOLIC TROFFER	SEMI-SPECULAR, LOW IRIDESCENT, 18 CELL LOUVER	(2) F32T8		LUMAX# 3PG23224-EO*L18
F2E	2'x4' RECESSED FLUORESCENT 3" DEEP PARABOLIC TROFFER WITH EMERGENCY BATTERY BALLAST	SEMI-SPECULAR, LOW IRIDESCENT, 18 CELL LOUVER	(2) F32T8		LUMAX# 3PG23224-EO*L18
F3	4' LONG STRIP FIXTURE WITH ASYMMETRIC REFLECTOR FOR COVE MOUNTING	N/A	(1) F32T8	2	LUMAX# CS13248-EO*RE(48)
F4	FLUORESCENT UNDER COUNTER TASK LIGHTING FIXTURE	CLEAR LINEAR PRISM BOTTOM LENS AND WHITE DIFFUSER FRONT	(1) F32T8	2	LUMAX# UC132-EO*ST
F5	2'x2' RECESSED INDIRECT CENTER BASKET FLUORESCENT	N/A	(2) F32T8		LITECONTROL# G-D-TD22C22T8-CWM-ELB
F5A	2'x2' RECESSED INDIRECT CENTER BASKET FLUORESCENT FOR GYP BOARD CEILING	N/A	(2) F32T8		LITECONTROL# G-D-TD22C22T8-CWM-ELB
F6E	4' LONG FLUORESCENT STAIRWELL FIXTURE WITH EMERGENCY BALLAST	PRISMATIC ACRYLIC	(2) F32T8	3,4	LUMAX# BF23248-EO*SAWU/D
F7	3' LONG STRIP FIXTURE WITH ASYMMETRIC REFLECTOR FOR COVE MOUNTING	N/A	(1) F25T8	2	LUMAX# CS12536-EO*RE(36)
F8	4"X4' RECESSED FLUORESCENT WITH WHITE BLADE BAFFLE	WHITE BLADE BAFFLE	(1) F32T8		LITECONTROL# R-D-4414T8-BW
F9	1'X4' RECESSED OPEN FLUORESCENT TROFFER	N/A	(2) F32T8		LUMAX# CR23248-EO
F9E	1'X4' RECESSED OPEN FLUORESCENT TROFFER WITH EMERGENCY BALLAST	N/A	(2) F32T8	5	LUMAX# CR23248-EO
F10	6"x4' RECESSED LAY-IN FLUORESCENT PARABOLIC, ARMSTRONG TECH-ZONE COMPATIBLE	SEMI-SPECULAR, LOW IRIDESCENT	(1) F32T8		ZUMTOBEL #RB C 64 1328 U
F10E	6"x4' RECESSED LAY-IN FLUORESCENT PARABOLIC, ARMSTRONG TECH-ZONE COMPATIBLE WITH EMERGENCY BALLAST	SEMI-SPECULAR, LOW IRIDESCENT	(1) F32T8		ZUMTOBEL #RB C 64 1328 U
F11	2'x2' RECESSED FLUORESCENT 3" DEEP PARABOLIC TROFFER	SEMI-SPECULAR, LOW IRIDESCENT, 18 CELL LOUVER	(2) F17T8		LUMAX# 3PG21724-EO*L09
F11E	2'x2' RECESSED FLUORESCENT 3" DEEP PARABOLIC TROFFER WITH EMERGENCY BALLAST	SEMI-SPECULAR, LOW IRIDESCENT, 18 CELL LOUVER	(2) F17T8		LUMAX# 3PG21724-EO*L09
F12	6"x4' RECESSED LAY-IN FLUORESCENT PARABOLIC	SEMI-SPECULAR, LOW IRIDESCENT	(2) F32T8		ZUMTOBEL #RB C 64 2328 U
FC1	RECESSED LINEAR FLUORESCENT LENSED FIXTURE WITH CORNER PIECES	ACRYLIC LENS	N/A	2,4	SE'LUX# M6R1S-L90
FC2	RECESSED LINEAR FLUORESCENT LENSED FIXTURE WITH STAGGARD LAMPS	ACRYLIC LENS	(1) F28T5 PER 4'-0"	2,4	SE'LUX# M6R1S-1T5-SD-SH-008
FD1	RECESSED FLUORESCENT DOWNLIGHT WITH HORIZONTAL LAMP, SELF FLANGED CONE AND NOMINAL 6" APRETURE	MATTE CLEAR ALZAK REFLECTOR	(1) 26TRT		ZUMTOBEL# S5D6113U6113RMC

FIXTURE NOTES:

W1E	WALL MOUNTED COMPACT FLUORESCENT WALL BACK WITH EMERGENCY BALLAST
X1	EDGE LITE RECESSED EMERGENCY EXIT FIXTURE

FIXTURE SCHEDULE (CONT,)

TYPE	DESCRIPTION	LENS/CELL/DIFFUSER	LAMP	NOTES	DESIGN STANDARD
FD1E	RECESSED FLUORESCENT DOWNLIGHT WITH HORIZONTAL LAMP, SELF FLANGED CONE NOMINAL 6" APRETURE AND EMERGENCY BALLAST	MATTE CLEAR ALZAK REFLECTOR	(1) 26TRT	5	ZUMTOBEL# S5D6113U6113RMC
FD2	RECESSED FLUORESCENT DOWNLIGHT WITH HORIZONTAL LAMP, SELF FLANGED CONE AND NOMINAL 6" APRETURE	MATTE CLEAR ALZAK REFLECTOR	(1) 18QDT		ZUMTOBEL# S5D6103U6202RMC
FD4	RECESSED FLUORESCENT DOWNLIGHT WITH HORIZONTAL LAMP, SELF FLANGED CONE, NOMINAL 6" APRETURE AND DIMMABLE BALLAST	MATTE CLEAR ALZAK REFLECTOR	(1) 26TRT	5	ZUMTOBEL# S5D6103D26113RMC
FD5	RECESSED LENSED FLUORESCENT DOWNLIGHT WITH HORIZONTAL LAMP, SELF FLANGED CONE AND NOMINAL 7" APRETURE	MATTE CLEAR ALZAK REFLECTOR AND .110" THICK PRISMATIC ACRYLIC	(2) 18QDT		ZUMTOBEL# S5D7703U7703LMC
FD7	SEMI-RECESSED FLUORESCENT DOWNLIGHT WITH VERTICAL LAMP, SELF FLANGED CONE, NOMINAL 6" APRETURE AND BLUE SUSPENDED RING	MATTE CLEAR ALZAK REFLECTOR	(1) 32TRT		LOUIS PULSEN: AH SYSTEM 360
FD7E	SEMI-RECESSED FLUORESCENT DOWNLIGHT WITH VERTICAL LAMP, SELF FLANGED CONE, NOMINAL 6" APRETURE AND BLUE SUSPENDED RING	MATTE CLEAR ALZAK REFLECTOR	(1) 32TRT	5	LOUIS PULSEN: AH SYSTEM 360
FD8	SEMI-RECESSED FLUORESCENT DOWNLIGHT WITH VERTICAL LAMP, SELF FLANGED CONE, NOMINAL 6" APRETURE AND STAR SHAPED REFLECTOR	MATTE CLEAR ALZAK REFLECTOR	(1) 26TRT		LOUIS PULSEN: AH SYSTEM 300
FP1	8' LINEAR INDIRECT/DIRECT FLUORESCENT PENDANT FIXTURE	N/A	(2) F32T8	3,4	LITECONTROL# P-I-5948T8-TCWM-TW-ELB-1CWQ
FP1E	8' LINEAR INDIRECT/DIRECT FLUORESCENT PENDANT FIXTURE WITH EMERGENCY BALLAST	N/A	(2) F32T8	3,4	LITECONTROL# P-I-5948T8-TCWM-TW-ELB-1CWQ
FP2	4' LINEAR DIRECT FLUORESCENT PENDANT STACK LIGHT FIXTURE	BLADE BAFFLE, PERFORATED WITH (3) ROWS OF PERFORATIONS	(1) F32T8	3,4	LITECONTROL# P-D-0514T8-BWP-CWM-ELB-1CWQ
FP3	2'x4' INDIRECT FLUORESCENT PENDANT FIXTURE	N/A	(2) F32T8	3,4	ZUMTOBEL: OREA SERIES
S1	EXTERIOR POLE MOUNTED SITE LIGHTING FIXTURE WITH FULL CUT-OFF	N/A	(1) 400W M.H.	4,6	PROVIDE $1,500.00 ALLOWANCE

DEMOLITION NOTES: (THIS SHEET ONLY)

1. THE DRAWINGS SHOW THE GENERAL EXTENT OF THE DEMOLITION REQUIRED. THE DRAWINGS DO NOT NECESSARILY SHOW EVERYTHING TO BE REMOVED IN PREPARATION FOR NEW CONSTRUCTION.
2. CONTRACTOR TO VERIFY EXACT CONDITIONS AND EXTENT OF EXISTING CONSTRUCTION/FINISHES TO BE REMOVED DURING SITE INSPECTION.
3. ALL DEMOLITON/CONSTRUCTION IS TO BE DONE IN AN ORDERLY MANNER TO MINIMIZE DISTURBANCE TO EXISTING TENANTS AND PUBLIC SPACES.
4. DURING THE PROCESS OF DEMOLITION, CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXITS AND RATED CORRIDORS AS REQUIRED BY CODE FOR EMERGENCY EXITING.
5. ALL MEASURES NECESSARY TO ASSURE SAFE DEMOLITION OF THE AREAS INDICATED ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
6. REMOVE BRANCH CIRCUIT OUTLET DEVICES, CONDUCTORS AND RACEWAYS FROM WALLS AND FLOOR AT LOCATIONS SCHEDULED FOR DEMOLITION. SEE ARCHITECTURAL DRAWINGS.
7. CONTRACTOR IS RESPONSIBLE FOR INFORMING ARCHITECT AND/OR OWNER OF ANY HAZARDOUS MATERIAL ENCOUNTERED DURING DEMOLITION AND/OR CONSTRUCTION.
8. THE CONTRACTOR SHALL PROTECT THE EXISTING TO REMAIN OWNER'S PROPERTY INCLUDING BUT NOT LIMITED TO: CURTAIN WALL, FLOORS, CEILINGS, TOILETS, DOORS, FRAMES, ELECTRICAL, HVAC, PLUMBING, FIRE PROTECTION.
9. CONTRACTOR SHALL REPAIR ALL DAMAGE DUE TO DEMOLITON/CONSTRUCTION WORK.
10. CONTRACTOR SHALL TAKE MEASURES TO PROTECT EXISTING FIXTURES/EQUIPMENT TO BE RELOCATED.
11. MAINTAIN CONTINUITY OF CIRCUITS OUTSIDE AREAS OF DEMOLITION.
12. CONDUIT STUB-UPS REMAINING IN OPEN FLOOR AREAS AFTER WALL DEMOLITION SHALL BE CUT FLUSH WITH FLOOR SLAB, FIRE PROOFED AND FILLED WITH NON-SHRINK GROUT. CAP OFF ABANDONED CONDUITS AT PANEL AND TAG AS NON-REUSABLE.
13. REMOVE FEEDER CONDUITS AND CONDUCTORS SERVING OR ORIGINATING IN EQUIPMENT SHOWN TO BE DEMOLISHED.

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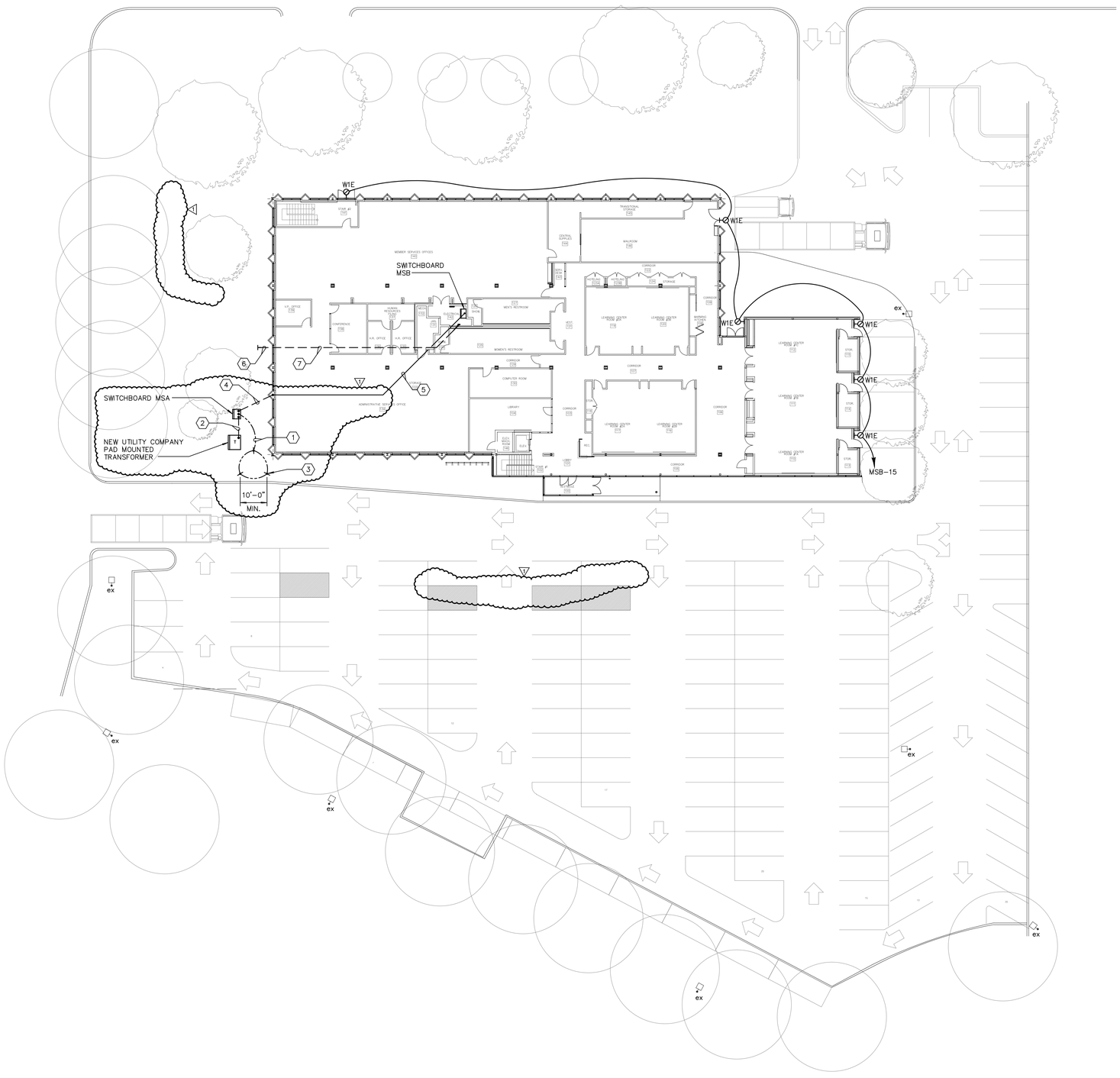
DRAWING TITLE:
FIXTURES SCHEDULE

PROJECT NUMBER: 200614

DATE: 06/15/07

DRAWING NUMBER: E0.01



KEYNOTES:

(THIS SHEET ONLY)

1. #4/0 BARE COPPER GROUNDING CONDUCTOR.
2. UTILITY SERVICE CONCRETE ENCASED. SEE ONE-LINE DIAGRAM FOR MORE INFORMATION.
3. 10'-0" LONG 3/4" DIAMETER COPPER ROD. CAD WELL TO GROUNDING CONDUCTOR.
4. UNDERGROUND BUILDING FEEDER, CONCRETE ENCASED - SEE ONE-LINE DIAGRAM FOR MORE INFORMATION.
5. BUILDING FEEDER TURNED UP PILASTER AND RUN ABOVE ACCESSIBLE CEILING.
6. (1) 4" CONDUIT WITH INNERDUCT AND PULLSTRINGS STUBBED OUT 5'-0" PAST BUILDING EXTERIOR.
7. (1) 4" CONDUIT WITH INNERDUCT AND PULLSTRING TURNED UP PILASTER AND RUN ABOVE ACCESSIBLE CEILING.

1 / E0.02

ELECTRICAL SITE PLAN

SCALE: 1"=20'

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DRAWING TITLE:

ELECTRICAL SITE PLAN

PROJECT NUMBER:

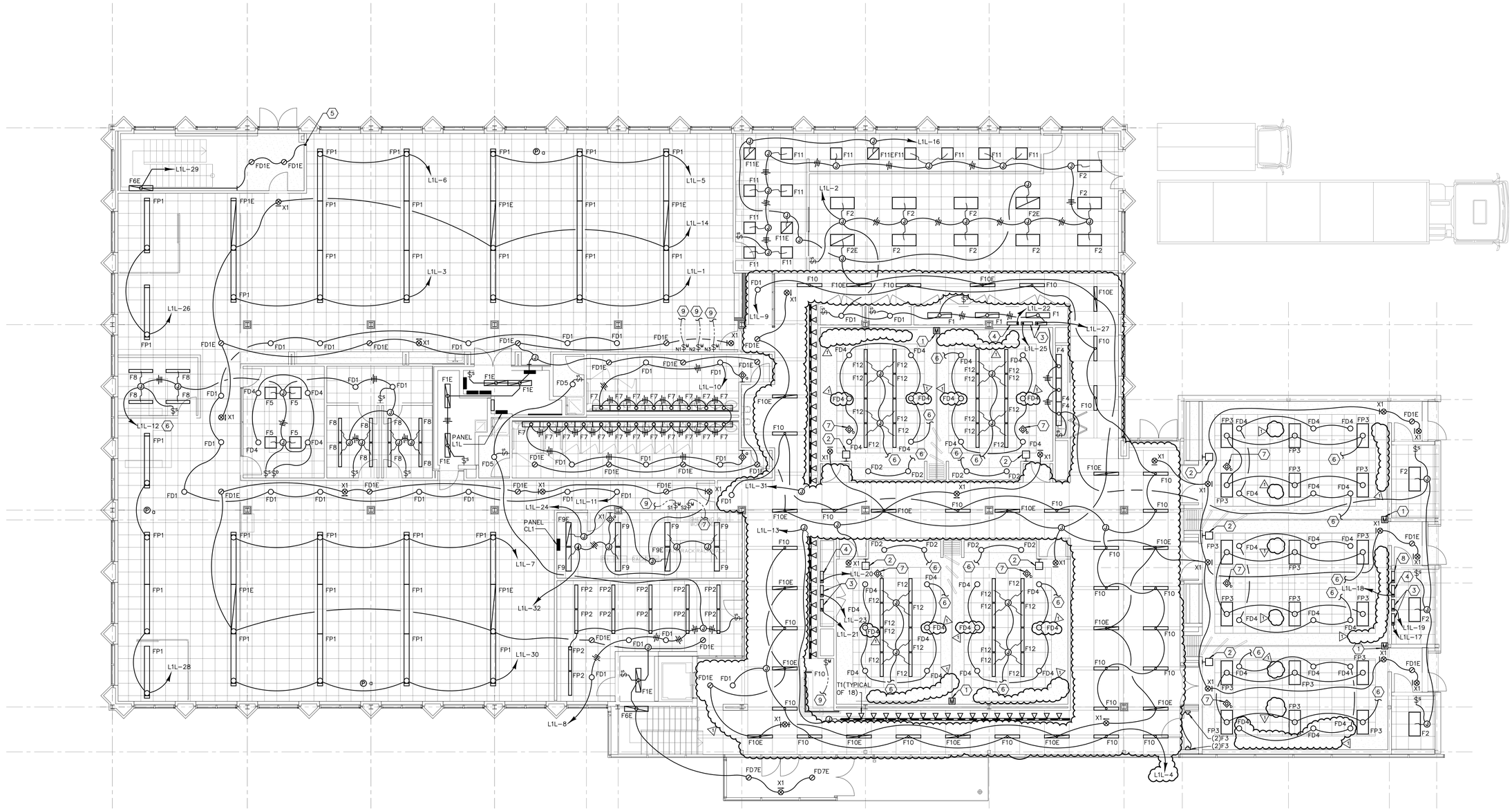
200614

DATE:

06/15/07

DRAWING NUMBER:

E0.02



GENERAL NOTES:

(THIS SHEET ONLY)

1. REFER TO ARCHITECTURAL DRAWNG FOR LOCATIONS OF DEVICES. IF CONFLICTING LOCATIONS ARE INDICATED, ARCHITECT LAYOUT TAKES PRECEDENCE.

1 / E2.10

FIRST FLOOR LIGHTING PLAN

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

KEYNOTES:

1. MAGNETIC POSITION SWITCH FOR DETECTION OF MOVABLE PARTITION POSITION.
2. (4) BUTTON CONTROL STATION – SEE DIMMING CONTROL DIAGRAM FOR MORE INFORMATION.
3. DIMMING CONTROL PANEL – SEE DIMMING CONTROL DIAGRAM FOR MORE INFORMATION.
4. AUTOMATION MINI CONTROL SYSTEM – SEE DIMMING CONTROL DIAGRAM FOR MORE INFORMATION.
5. UP TO FLOOR ABOVE.
6. TO DIMMING CONTROL PANEL – SEE DIMMING CONTROL DIAGRAM FOR MORE INFORMATION.
7. OCCUPANCY SENSOR CONNECTED TO AUTOMATION MINI CONTROL STATION – SEE DIMMING CONTROL DIAGRAM FOR MORE INFORMATION.
8. RELAY AND DIGITAL/ANALOG INPUT MODULE – SEE DIMMING CONTROL DIAGRAM FOR MORE INFORMATION.
9. LOW VOLTAGE WIRING BACK TO LIGHTING PANEL L1L.

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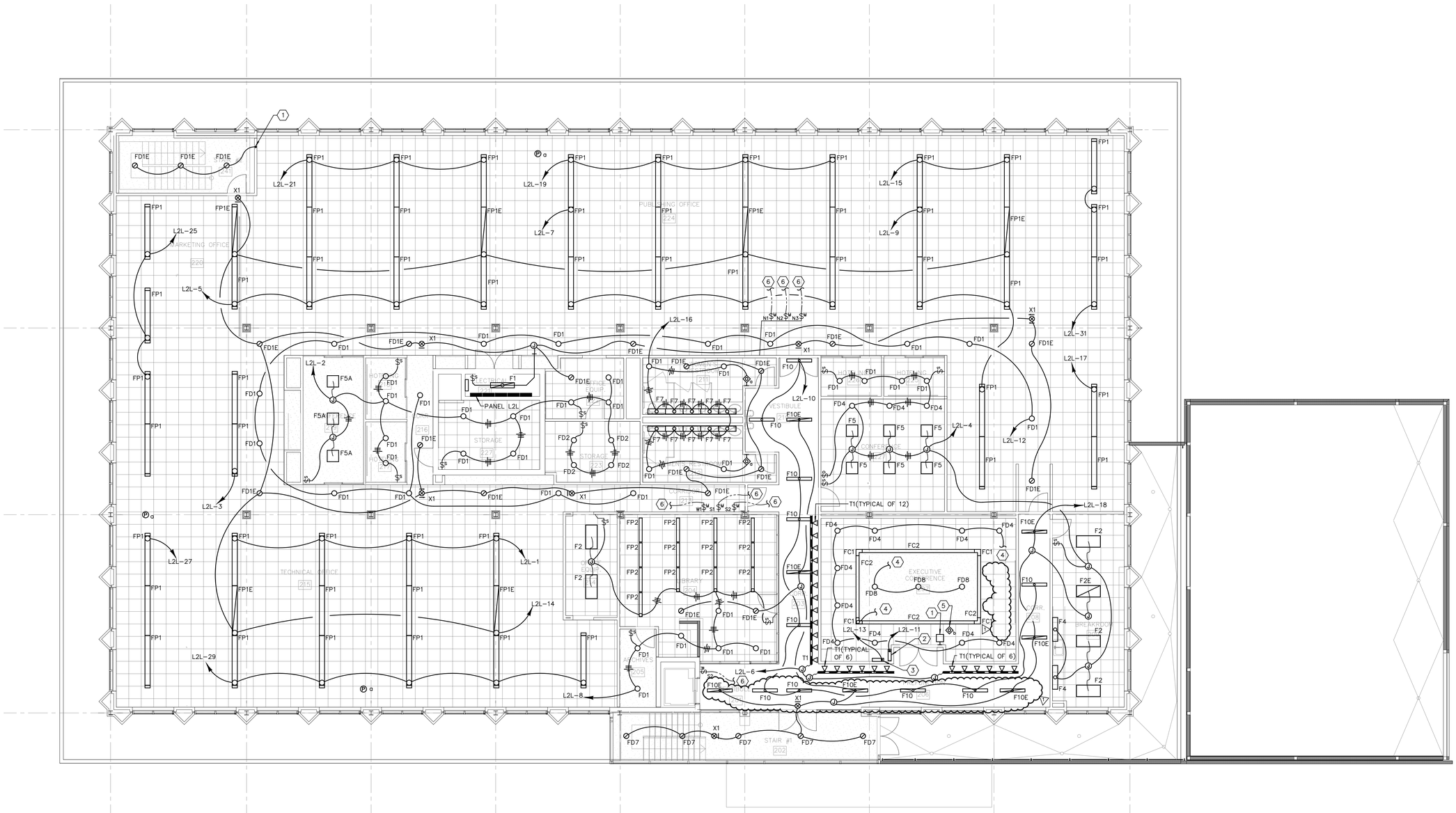
DRAWING TITLE:

FIRST FLOOR LIGHTING PLAN

PROJECT NUMBER: **200614**

DATE: **06/15/07**

DRAWING NUMBER: **E2.10**



GENERAL NOTES:

(THIS SHEET ONLY)

1. REFER TO ARCHITECTURAL DRAWING FOR LOCATIONS OF DEVICES. IF CONFLICTING LOCATIONS ARE INDICATED, ARCHITECT LAYOUT TAKES PRECEDENCE.

1 / E2.20

SECOND FLOOR LIGHTING PLAN

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

KEYNOTES:

1. (4) BUTTON CONTROL STATION – SEE DIMMING CONTROL DIAGRAM FOR MORE INFORMATION.
2. DIMMING CONTROL PANEL – SEE DIMMING CONTROL DIAGRAM FOR MORE INFORMATION.
3. AUTOMATION MINI CONTROL SYSTEM – SEE DIMMING CONTROL DIAGRAM FOR MORE INFORMATION.
4. TO DIMMING CONTROL PANEL – SEE DIMMING CONTROL DIAGRAM FOR MORE INFORMATION.
5. PHOTOCELL CONNECTED TO AUTOMOTION MINI CONTROL SYSTEM – SEE DIMMING DIAGRAM FOR MORE INFORMATION.
6. LOW VOLTAGE CABLING BACK TO PANEL L2L.

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DRAWING TITLE:

SECOND FLOOR LIGHTING PLAN

PROJECT NUMBER: **200614**

DATE: **06/15/07**

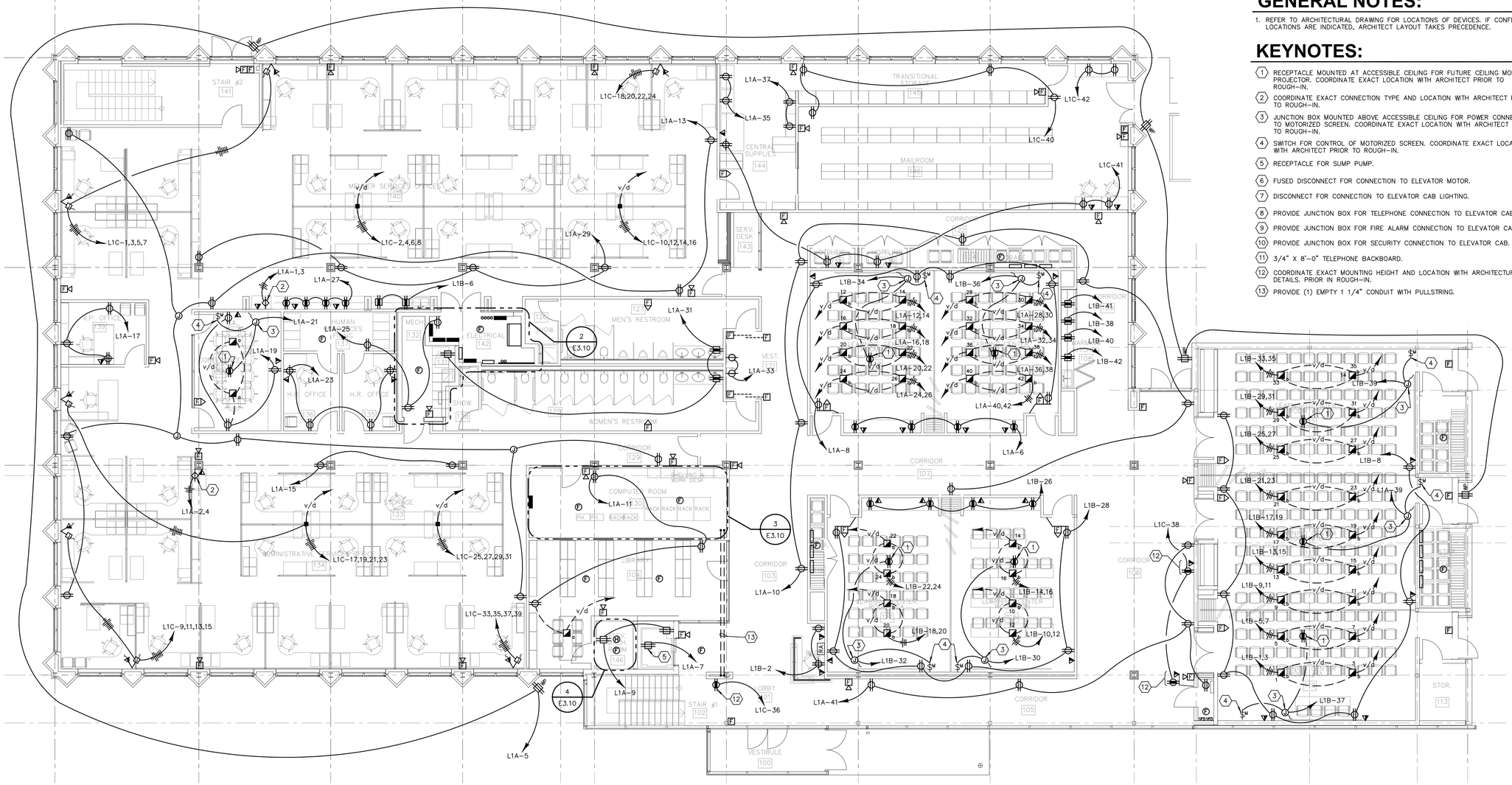
DRAWING NUMBER: **E2.20**

GENERAL NOTES:

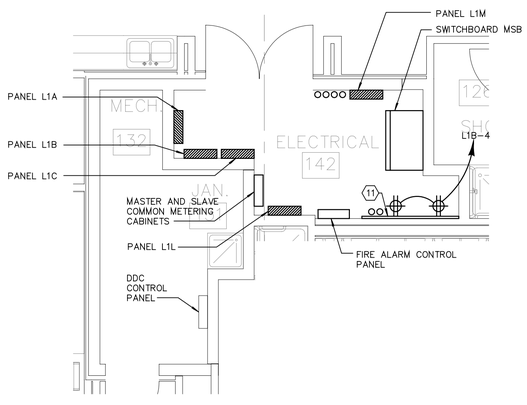
1. REFER TO ARCHITECTURAL DRAWING FOR LOCATIONS OF DEVICES. IF CONFLICTING LOCATIONS ARE INDICATED, ARCHITECT LAYOUT TAKES PRECEDENCE.

KEYNOTES:

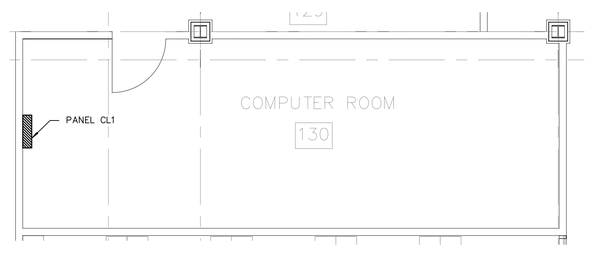
1. RECEPTACLE MOUNTED AT ACCESSIBLE CEILING FOR FUTURE CEILING MOUNTED PROJECTOR. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
2. COORDINATE EXACT CONNECTION TYPE AND LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
3. JUNCTION BOX MOUNTED ABOVE ACCESSIBLE CEILING FOR POWER CONNECTION TO MOTORIZED SCREEN. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
4. SWITCH FOR CONTROL OF MOTORIZED SCREEN. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
5. RECEPTACLE FOR SUMP PUMP.
6. FUSED DISCONNECT FOR CONNECTION TO ELEVATOR MOTOR.
7. DISCONNECT FOR CONNECTION TO ELEVATOR CAB LIGHTING.
8. PROVIDE JUNCTION BOX FOR TELEPHONE CONNECTION TO ELEVATOR CAB.
9. PROVIDE JUNCTION BOX FOR FIRE ALARM CONNECTION TO ELEVATOR CAB.
10. PROVIDE JUNCTION BOX FOR SECURITY CONNECTION TO ELEVATOR CAB.
11. 3/4" X 8'-0" TELEPHONE BACKBOARD.
12. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL DETAILS. PRIOR IN ROUGH-IN.
13. PROVIDE (1) EMPTY 1 1/4" CONDUIT WITH PULLSTRING.



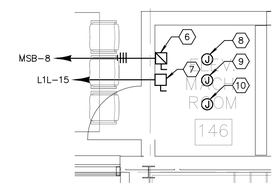
1 E3.10 **FIRST FLOOR POWER PLAN**
SCALE: 1/8" = 1'-0"



2 E3.10 **ENLARGED ELECTRICAL ROOM**
SCALE: 1/4" = 1'-0"



3 E3.10 **ENLARGED COMPUTER ROOM**
SCALE: 1/4" = 1'-0"



4 E3.10 **ENLARGED ELEVATOR MACHINE ROOM**
SCALE: 1/4" = 1'-0"

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DRAWING TITLE:
FIRST FLOOR POWER PLAN

PROJECT NUMBER:
200614

DATE:
06/15/07

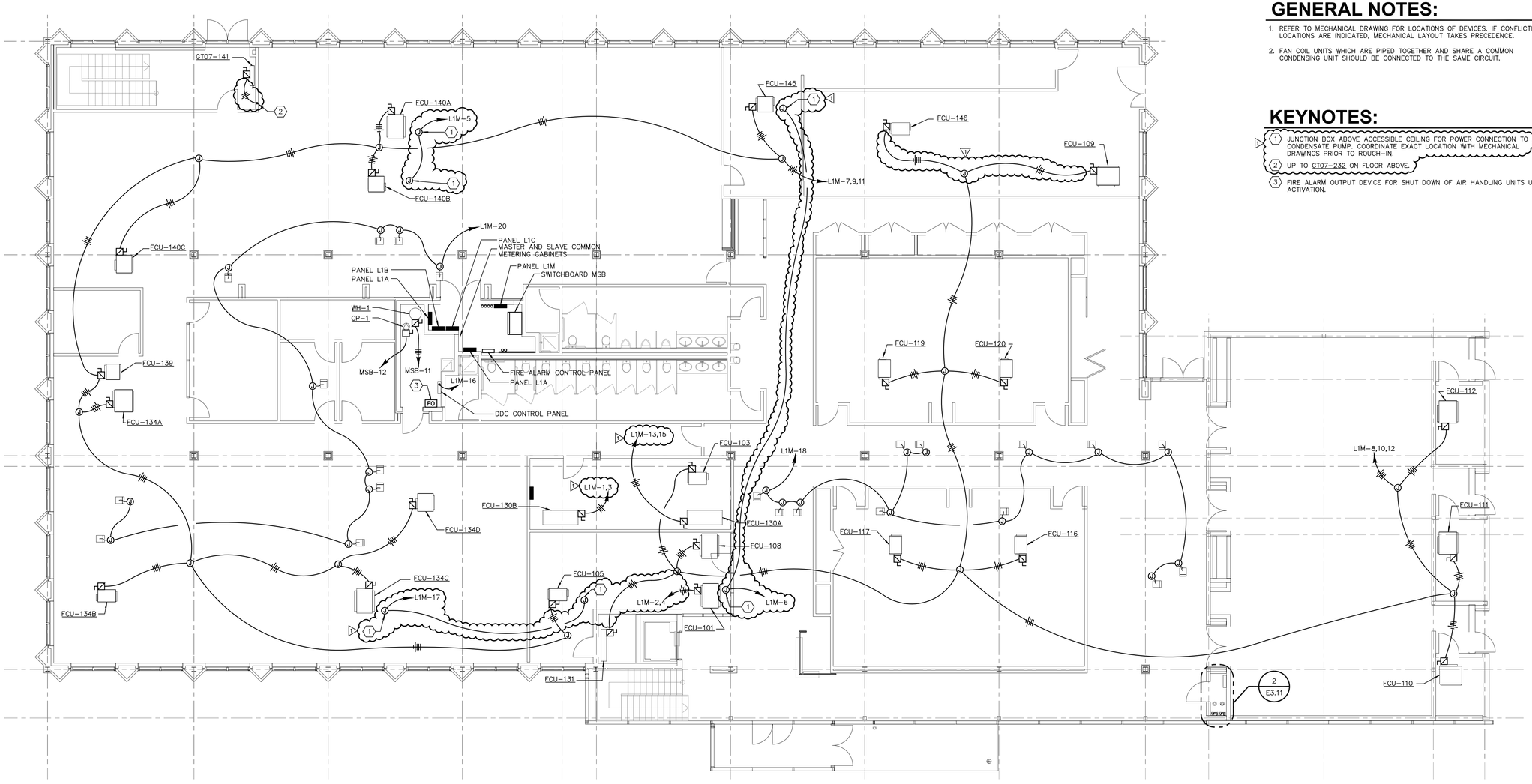
DRAWING NUMBER:
E3.10

GENERAL NOTES:

1. REFER TO MECHANICAL DRAWING FOR LOCATIONS OF DEVICES. IF CONFLICTING LOCATIONS ARE INDICATED, MECHANICAL LAYOUT TAKES PRECEDENCE.
2. FAN COIL UNITS WHICH ARE PIPED TOGETHER AND SHARE A COMMON CONDENSING UNIT SHOULD BE CONNECTED TO THE SAME CIRCUIT.

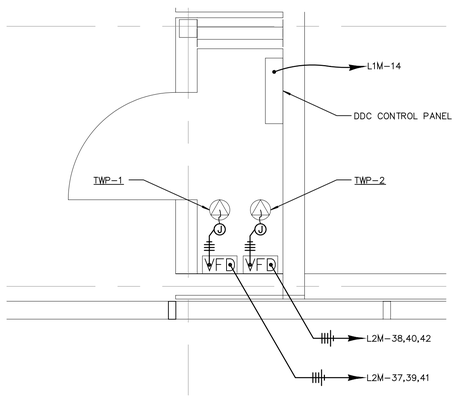
KEYNOTES:

1. JUNCTION BOX ABOVE ACCESSIBLE CEILING FOR POWER CONNECTION TO CONDENSATE PUMP. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS PRIOR TO ROUGH-IN.
2. UP TO GT07-232 ON FLOOR ABOVE.
3. FIRE ALARM OUTPUT DEVICE FOR SHUT DOWN OF AIR HANDLING UNITS UPON ACTIVATION.



1 E3.11 **FIRST FLOOR MECHANICAL POWER PLAN**

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



2 E3.11 **ENLARGED ELEVATOR MACHINE ROOM**

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

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7/12/07	FINAL SYSTEMS	
		DESIGN

DRAWING TITLE:

FIRST FLOOR MECHANICAL POWER PLAN

PROJECT NUMBER: **200614**

DATE: **06/15/07**

DRAWING NUMBER: **E3.11**

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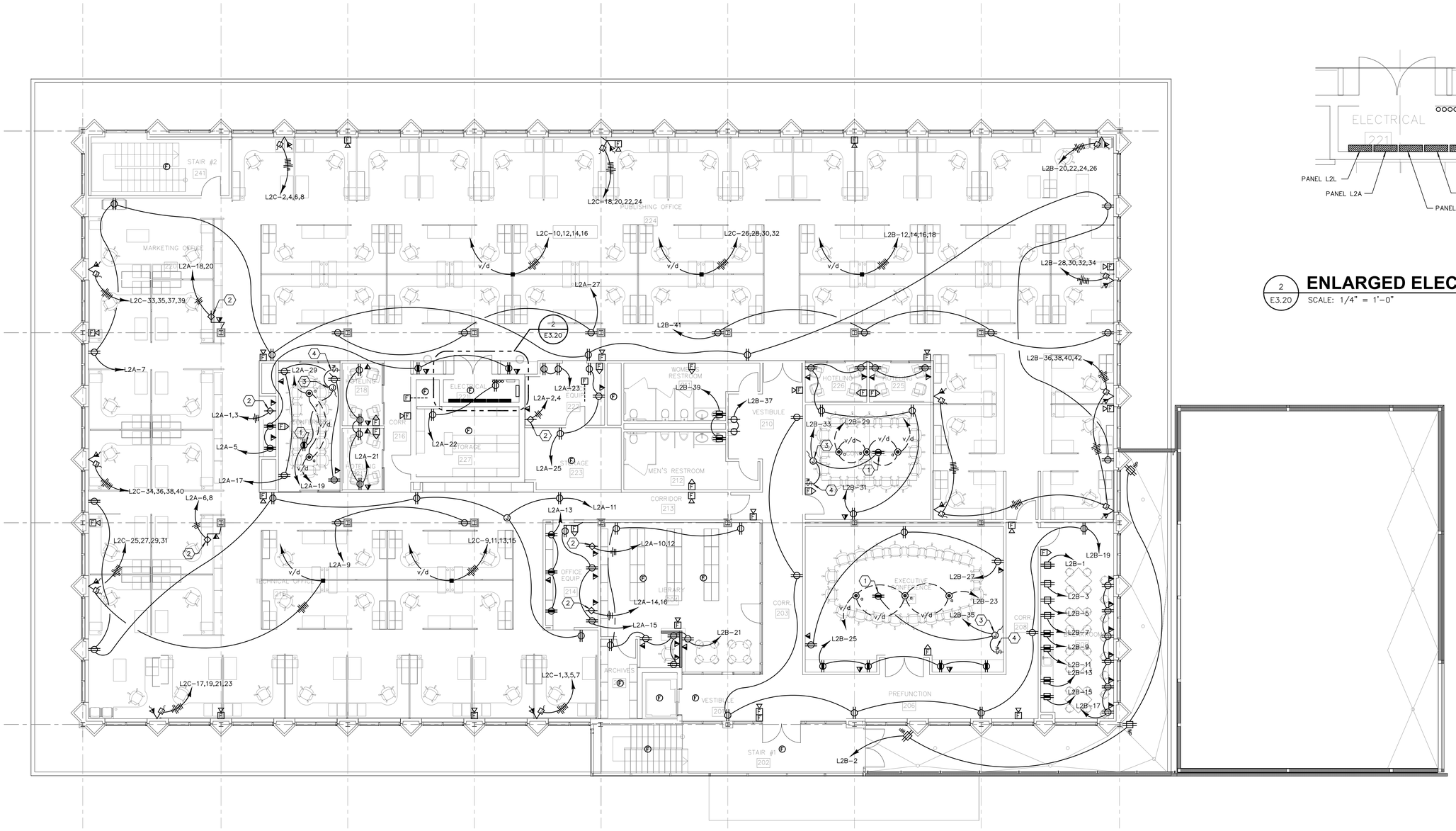
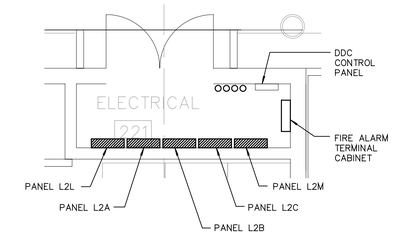


1 E3.20 **SECOND FLOOR POWER PLAN**

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



2 E3.20 **ENLARGED ELECTRICAL ROOM**

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

GENERAL NOTES:

1. REFER TO ARCHITECTURAL DRAWING FOR LOCATIONS OF DEVICES. IF CONFLICTING LOCATIONS ARE INDICATED, ARCHITECT LAYOUT TAKES PRECEDENCE.

KEYNOTES:

1. RECEPTACLE MOUNTED AT ACCESSIBLE CEILING FOR FUTURE CEILING MOUNTED PROJECTOR. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
2. COORDINATE EXACT CONNECTION TYPE AND LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
3. JUNCTION BOX MOUNTED ABOVE ACCESSIBLE CEILING FOR POWER CONNECTION TO MOTORIZED SCREEN. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
4. SWITCH FOR CONTROL OF MOTORIZED SCREEN. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.

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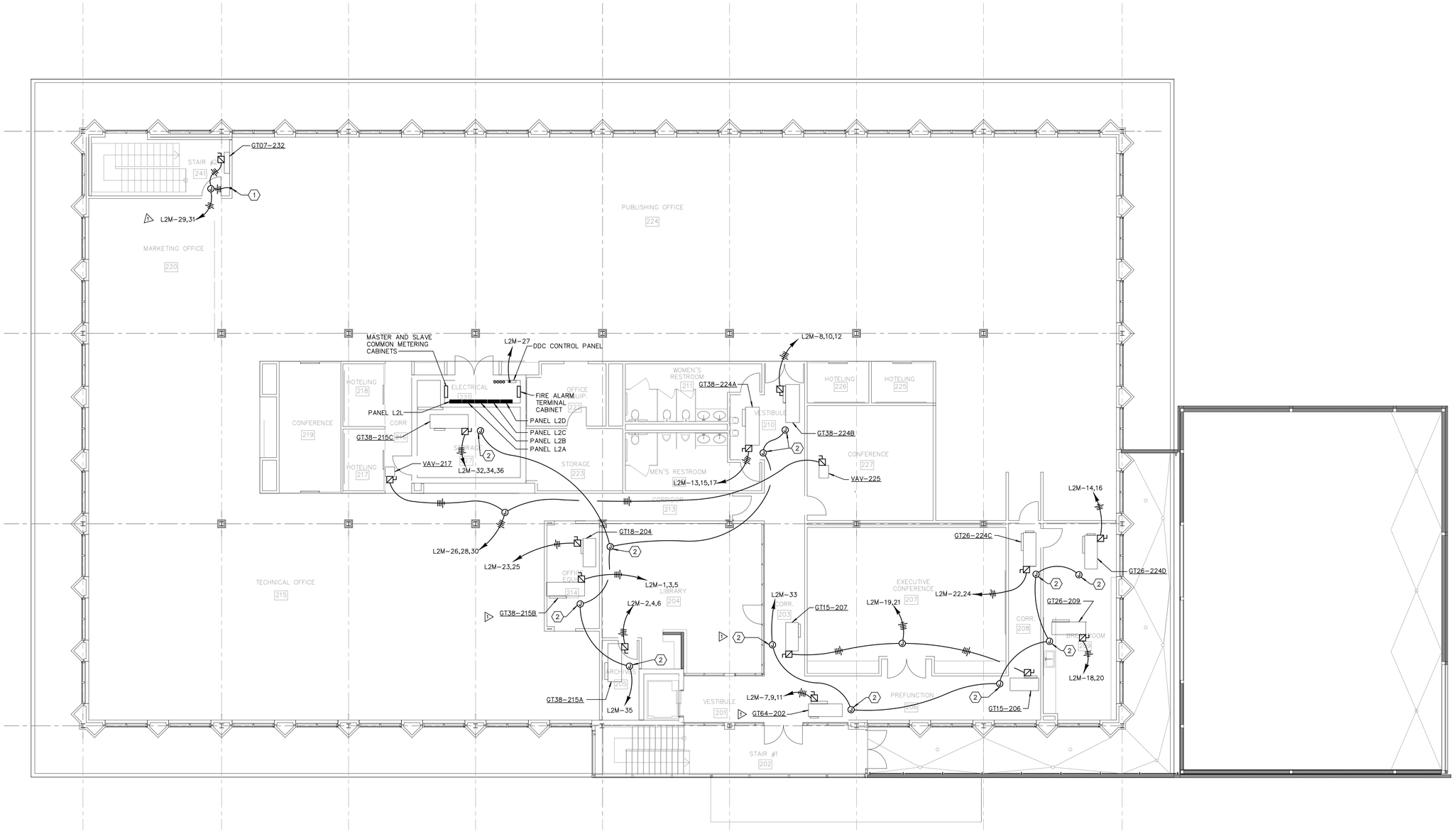
DRAWING TITLE:
SECOND FLOOR POWER PLAN

PROJECT NUMBER: 200614

DATE: 06/15/07

DRAWING NUMBER: E3.20



1
E3.21

SECOND FLOOR MECHANICAL POWER PLAN

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

GENERAL NOTES:

1. REFER TO MECHANICAL DRAWING FOR LOCATIONS OF DEVICES. IF CONFLICTING LOCATIONS ARE INDICATED, MECHANICAL LAYOUT TAKES PRECEDENCE.

KEYNOTES:

1. DOWN TO GT07-146 ON FLOOR BELOW.
2. JUNCTION BOX ABOVE ACCESSIBLE CEILING FOR POWER CONNECTION TO CONDENSATE PUMPS. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS PRIOR TO ROUGH-IN.

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1	7/12/07	FINAL SYSTEMS
		DESIGN

DRAWING TITLE:

SECOND FLOOR MECHANICAL POWER PLAN

PROJECT NUMBER: **200614**

DATE: **06/15/07**

DRAWING NUMBER: **E3.21**

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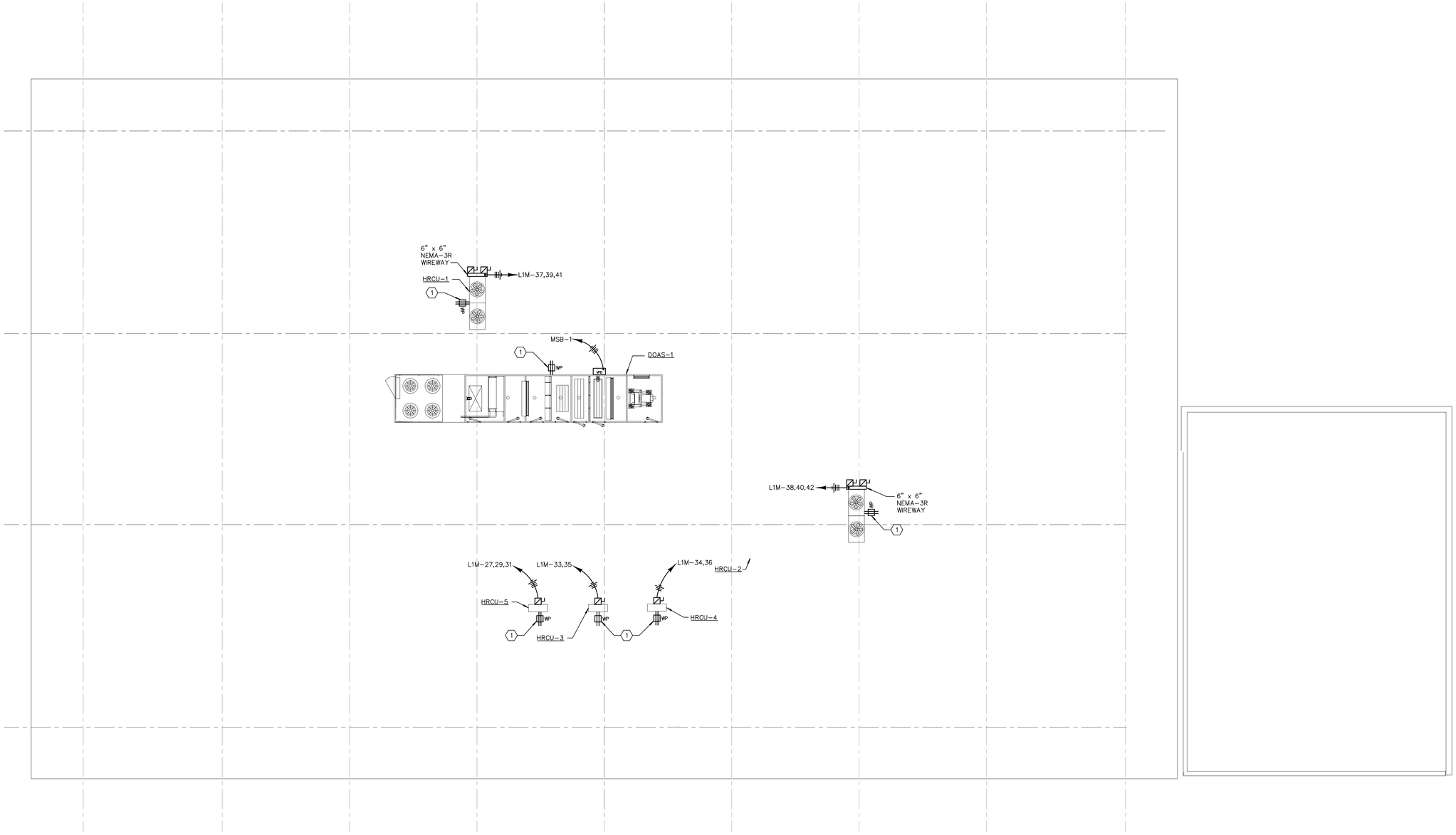

1
E3.30

ROOF MECHANICAL POWER PLAN

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

GENERAL NOTES:

1. REFER TO MECHANICAL DRAWING FOR LOCATIONS OF DEVICES. IF CONFLICTING LOCATIONS ARE INDICATED, MECHANICAL LAYOUT TAKES PRECEDENCE.

KEYNOTES:

(1) MECHANICAL UNIT SHALL BE SUPPLIED WITH INTEGRAL CONVIENCE RECEPTACLE WITH GROUND FAULT CIRCUIT – INTERRUPTER PROTECTION FOR PERSONAL. SEE MECHANICAL DRAWINGS FOR COORDINATION.

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DRAWING TITLE:

ROOF MECHANICAL POWER PLAN

PROJECT NUMBER:

200614

DATE:

06/15/07

DRAWING NUMBER:

E3.30

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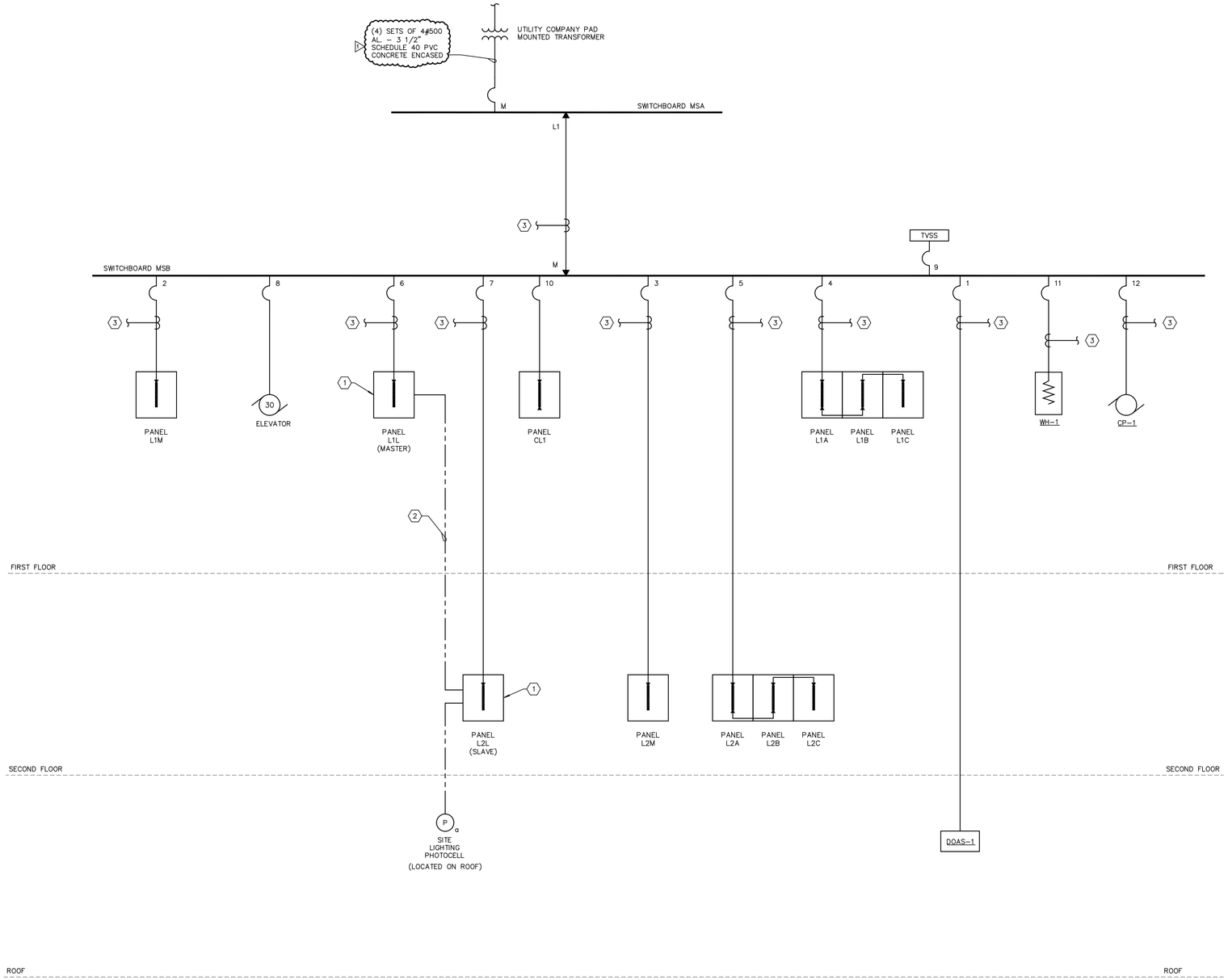

1 / E5.00 **ONELINE DIAGRAM**

N.T.S.

KEY NOTES:

(THIS SHEET ONLY)

1. PROVIDE SQUARE D POWER LINK CONTROL PANEL 2000 SERIES – PROVIDE (2) COPIES OF CONFIGURATION SOFTWARE AND ON-SITE TRAINING FROM MANUFACTURE REPRESENTATIVE.
2. PROVIDE A RS-485 NETWORK CABLE – BELDEN #9841 OR EQUIVALENT.
3. CONNECT TO MASTER & SLAVE COMMON METERING CUBINETS LOCATED IN MAIN ELECTRICAL ROOM.

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1	6/26/07	PERMIT REVISIONS

DRAWING TITLE:

ONELINE DIAGRAM

PROJECT NUMBER:

200614

DATE:

06/15/07

DRAWING NUMBER:

E5.00

SCHEDULE OF SWITCHBOARD

MSA

1 2

VOLTAGE: 120/208V PHASE/WIRE: 3ø/4W

MINIMUM DEVICE AIC: 35,000

MAINS: 1200A M.C.B. 1

NO.	EQUIPMENT	LOAD	WIRE	GND.	COND.	FRAME	SENSOR	RATING PLUG	LT	GF	POLES	NOTES
L1	SWITCHBOARD MSB	478.72	(4)SETS OF 4#500AL	#3/0	3 1/2"	1200	–	–			3	
			1			1						

NOTES:
1. PANEL BOARD SHALL BE SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT.
2. PROVIDE NEMA-3R WEATHER-PROOF ENCLOSURE.

SCHEDULE OF SWITCHBOARD

MSB

7

VOLTAGE: 120/208V PHASE/WIRE: 3ø/4W

MINIMUM DEVICE AIC: 35,000

MAINS: 1200A M.L.O.

NO.	EQUIPMENT	LOAD	WIRE	GND.	COND.	FRAME	SENSOR	RATING PLUG	LT	GF	POLES	NOTES
1	DOAS-1	50.00	4#3/0	#6	2 1 /2"	225	225	200			3	
2	PANEL L1M	76.53	4#600	#3	3 1/2"	400	400	400			3	
3	PANEL L2M	77.87	4#600	#3	3 1/2"	400	400	400			3	
4	PANEL L1	110.2	4#600	#3	3 1/2"	400	400	400			3	
5	PANEL L2	76.36	4#250	#4	2 1/2"	400	250	250			3	
6	PANEL L1L	24.81	4#3	#8	1 1/4"	225	200	100			3	
7	PANEL L2L	17.03	4#3	#8	1 1/4"	225	200	100			3	
8	ELEVATOR	31.70	4#1/0	#6	1 1/2"	225	225	150			3	1
9	TVSS	–	4#3	#8	1 1/4"	225	200	100			3	
10	PANEL CL1	–	4#1/0	#6	1 1/2"	225	225	150			3	
11	WH-1	18.00	4#4	#8	1 1/4"	225	100	70			3	
12	CP-1	0.58	2#12	#12	1/2"	100	60	20			1	
13	SPARE					100	60	20			3	2
14	SPARE					100	60	20			3	2
15	BUILDING EXTERIOR LIGHTING	0.50	2#12	#12	1/2"	225	60	20			3	2
16	SPARE					225	225	225			3	
17	SPARE					225	100	100			3	
18	SPARE					225	100	100			3	
19	SPACE					225						
20	SPACE					225						

NOTES:
1. PROVIDE SHUNT-TRIP MOLDED CASE CIRCUIT BREAKER.
2. CIRCUIT VIA PHOTOCELL LOCATED ON ROOF.

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6	6/26/07	PERMIT REVISIONS
7	7/12/07	FINAL SYSTEMS
		DESIGN

DRAWING TITLE:

PANEL SCHEDULES

PROJECT NUMBER:

200614

DATE:

06/15/07

DRAWING NUMBER:

6.00

SCHEDULE OF PANELBOARD L1A

VOLTAGE: ■ 120/208V., 3 PHASE, 4 WIRE ☐ 277/480V., 3 PHASE, 4 WIRE ☐ 208V., 3 PHASE, 3 WIRE ☐ 480V., 3 PHASE, 3 WIRE

MOUNTING: ☐ FLUSH ■ SURFACE | MAINS: ■ LUGS ONLY ☐ MAIN BREAKER 400 AMP. AMP. | SPECIAL: 1. PROVIDE FEED-THRU LUGS.

UNLESS OTHERWISE NOTED: ALL BRANCH BREAKERS SHALL BE 20 AMP 1 POLE; NEUTRAL BUS STRUCTURE SHALL BE RATED 200% OF PHASE BUS STRUCTURE; AND ALL BRANCH CIRCUITS SHALL BE #12 PHASE, #10 NEUTRAL, & #12 GROUND IN 1/2" CONDUIT; COVER SHALL BE HINGED TO BOX.
MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY: 22,000 RMS SYM. AMPS.

CONNECTED LOAD: TOTAL: 41.46 kW

FEEDS / LOCATION	CONDUCTORS PHASE	N	G	C.	kW	NO.	A B C	NO.	kW	C.	CONDUCTORS G	N	PHASE	FEEDS / LOCATION
COPIER	2#12	#12	#12	3/4"	2.00	1	20	2	2.00	3/4"	#12	#12	2#12	COPIER
						3		4						
OUTDOOR GFI RECEPTS					0.90	5		6	0.72					RECEPTS LEARN CTR 3A/3B
SUMP PUMPS 146					0.86	7		8	1.08					RECEPTS LEARN CTR 3A/3B
LIFT PIT RECEPTS					0.36	9		10	1.26					RECEPTS CORRIDOR 103
RECEPTS-104,130					0.90	11		12	1.20					FLOOR RECEPTS L.CTR 3A
RECEPTS-CONVIENCE					1.62	13		14	1.20					FLOOR RECEPTS L.CTR 3A
RECEPTS-134					0.36	15		16	1.20					FLOOR RECEPTS L.CTR 3A
RECEPTS-139					0.72	17		18	1.20					FLOOR RECEPTS L.CTR 3A
RECEPTS-138					1.26	19		20	1.20					FLOOR RECEPTS L.CTR 3A
RECEPTS-PROJECTOR 138					0.90	21		22	1.20					FLOOR RECEPTS L.CTR 3A
RECEPTS-135,136					1.08	23		24	1.20					FLOOR RECEPTS L.CTR 3A
RECEPTS-132,133,137,142					0.54	25		26	1.20					FLOOR RECEPTS L.CTR 3A
RECEPTS-KITCHEN					0.72	27		28	1.20					FLOOR RECEPTS L.CTR 3B
RECEPTS-CONVIENCE					0.72	29		30	1.20					FLOOR RECEPTS L.CTR 3B
REST ROOM GFI 125,127					0.54	31		32	1.20					FLOOR RECEPTS L.CTR 3B
WATER COOLERS 121					1.20	33		34	1.20					FLOOR RECEPTS L.CTR 3B
RECEPTS-144					0.36	35		36	1.20					FLOOR RECEPTS L.CTR 3B
RECEPTS-144					0.36	37		38	1.20					FLOOR RECEPTS L.CTR 3B
PROJECTOR LEARN CTR 1B					0.90	39		40	1.20					FLOOR RECEPTS L.CTR 3B
RECEPTS COORIDOR 105					0.90	41		42	1.20					FLOOR RECEPTS L.CTR 3B

SCHEDULE OF PANELBOARD L1B

VOLTAGE: ■ 120/208V., 3 PHASE, 4 WIRE ☐ 277/480V., 3 PHASE, 4 WIRE ☐ 208V., 3 PHASE, 3 WIRE ☐ 480V., 3 PHASE, 3 WIRE

MOUNTING: ☐ FLUSH ■ SURFACE | MAINS: ■ LUGS ONLY ☐ MAIN BREAKER 400 AMP. AMP. | SPECIAL: 1. PROVIDE FEED-THRU LUGS.

UNLESS OTHERWISE NOTED: ALL BRANCH BREAKERS SHALL BE 20 AMP 1 POLE; NEUTRAL BUS STRUCTURE SHALL BE RATED 200% OF PHASE BUS STRUCTURE; AND ALL BRANCH CIRCUITS SHALL BE #12 PHASE, #10 NEUTRAL, & #12 GROUND IN 1/2" CONDUIT; COVER SHALL BE HINGED TO BOX.
MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY: 22,000 RMS SYM. AMPS.

CONNECTED LOAD: TOTAL: 45.58 kW

FEEDS / LOCATION	CONDUCTORS PHASE	N	G	C.	kW	NO.	A B C	NO.	kW	C.	CONDUCTORS G	N	PHASE	FEEDS / LOCATION
FLOOR RECEPT L.CTR 1A					1.20	1		2	0.54					RECEPTS RECEPTION 101
FLOOR RECEPT L.CTR 1A					1.20	3		4	0.72					RECEPTS 142
FLOOR RECEPT L.CTR 1A					1.20	5		6	0.36					KITCHEN GFI
FLOOR RECEPT L.CTR 1A					1.20	7		8	1.44					LEARN CTR CONV.RECEPTS
FLOOR RECEPT L.CTR 1A					1.20	9		10	1.20					FLOOR RECEPTS L.CTR 2B
FLOOR RECEPT L.CTR 1A					1.20	11		12	1.20					FLOOR RECEPTS L.CTR 2B
FLOOR RECEPT L.CTR 1B					1.20	13		14	1.20					FLOOR RECEPTS L.CTR 2B
FLOOR RECEPT L.CTR 1B					1.20	15		16	1.20					FLOOR RECEPTS L.CTR 2B
FLOOR RECEPT L.CTR 1B					1.20	17		18	1.20					FLOOR RECEPTS L.CTR 2A
FLOOR RECEPT L.CTR 1B					1.20	19		20	1.20					FLOOR RECEPTS L.CTR 2A
FLOOR RECEPT L.CTR 1B					1.20	21		22	1.20					FLOOR RECEPTS L.CTR 2A
FLOOR RECEPT L.CTR 1B					1.20	23		24	1.20					FLOOR RECEPTS L.CTR 2A
FLOOR RECEPT L.CTR 1C					1.20	25		26	0.72					RECEPTS LEARN CTR 2A/2B
FLOOR RECEPT L.CTR 1C					1.20	27		28	1.08					RECEPTS LEARN CTR 2A/2B
FLOOR RECEPT L.CTR 1C					1.20	29		30	0.90					PROJECTOR LEARN CTR 2A
FLOOR RECEPT L.CTR 1C					1.20	31		32	0.90					PROJECTOR LEARN CTR 2B
FLOOR RECEPT L.CTR 1C					1.20	33		34	0.90					PROJECTOR LEARN CTR 3A
FLOOR RECEPT L.CTR 1C					1.20	35		36	0.90					PROJECTOR LEARN CTR 3B
PROJECTOR L.CTR 1A					0.90	37		38	1.10					KITCHEN GFI 108 (MICRO.)
PROJECTOR L.CTR 1C					0.90	39		40	0.92					KITCHEN GFI 108 (COFFEE)
KITCHEN GFI 108 (TOASTER)					0.50	41		42	1.60					KITCHEN GFI 108 (REFRIG.)

SCHEDULE OF PANELBOARD L1C

VOLTAGE: ■ 120/208V., 3 PHASE, 4 WIRE ☐ 277/480V., 3 PHASE, 4 WIRE ☐ 208V., 3 PHASE, 3 WIRE ☐ 480V., 3 PHASE, 3 WIRE

MOUNTING: ☐ FLUSH ■ SURFACE | MAINS: ■ LUGS ONLY ☐ MAIN BREAKER 400 AMP. AMP. | SPECIAL: 1. PROVIDE FEED-THRU LUGS.

UNLESS OTHERWISE NOTED: ALL BRANCH BREAKERS SHALL BE 20 AMP 1 POLE; NEUTRAL BUS STRUCTURE SHALL BE RATED 200% OF PHASE BUS STRUCTURE; AND ALL BRANCH CIRCUITS SHALL BE #12 PHASE, #10 NEUTRAL, & #12 GROUND IN 1/2" CONDUIT; COVER SHALL BE HINGED TO BOX.
MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY: 22,000 RMS SYM. AMPS.

CONNECTED LOAD: TOTAL: 23.16 kW

FEEDS / LOCATION	CONDUCTORS PHASE	N	G	C.	kW	NO.	A B C	NO.	kW	C.	CONDUCTORS G	N	PHASE	FEEDS / LOCATION
FURNITURE PARTITION					0.60	1		2	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	3		4	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	5		6	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	7		8	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	9		10	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	11		12	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	13		14	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	15		16	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	17		18	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	19		20	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	21		22	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	23		24	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	25		26						SPARE
FURNITURE PARTITION					0.60	27		28						SPARE
FURNITURE PARTITION					0.60	29		30						SPARE
FURNITURE PARTITION					0.60	31		32						SPARE
FURNITURE PARTITION					0.60	33		34						SPARE
FURNITURE PARTITION					0.60	35		36	0.60					LOBBY PLASMA
FURNITURE PARTITION					0.60	37		38	1.20					LOBBY PLASMA
FURNITURE PARTITION					0.60	39		40	0.72					RECEPTS-STORAGE 146
RECEPTS 123,144,146					1.08	41		42	0.36					RECEPTS-MAIL ROOM 146

SCHEDULE OF PANELBOARD L1M

VOLTAGE: ■ 120/208V., 3 PHASE, 4 WIRE ☐ 277/480V., 3 PHASE, 4 WIRE ☐ 208V., 3 PHASE, 3 WIRE ☐ 480V., 3 PHASE, 3 WIRE

MOUNTING: ☐ FLUSH ■ SURFACE | MAINS: ■ LUGS ONLY ☐ MAIN BREAKER 400 AMP. AMP. | SPECIAL:

UNLESS OTHERWISE NOTED: ALL BRANCH BREAKERS SHALL BE 20 AMP 1 POLE; NEUTRAL BUS STRUCTURE SHALL BE RATED 100% OF PHASE BUS STRUCTURE; AND ALL BRANCH CIRCUITS SHALL BE #12 PHASE, #10 NEUTRAL, & #12 GROUND IN 1/2" CONDUIT; COVER SHALL BE HINGED TO BOX.
MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY: 22,000 RMS SYM. AMPS.

CONNECTED LOAD: TOTAL: 76.53 kW

FEEDS / LOCATION	CONDUCTORS PHASE	N	G	C.	kW	NO.	A B C	NO.	kW	C.	CONDUCTORS G	N	PHASE	FEEDS / LOCATION
FCU-130B	3#10	#10	#10	3/4"	0.18	1	20	2	1.26	3/4"	#10	#10	3#10	FCU-101
						3		4						
ADDED CONDENSATE PUMPS					1.00	5		6	1.00					ADDED CONDENSATE PUMPS
FCU-WEST	3#10	#10	#10	3/4"	4.91	7	20	8	3.57	3/4"	#10	#10	3#10	FCU-EAST
						9		10						
						11		12						
FCU-130A	3#10	#10	#10	3/4"	0.54	13	20	14	0.50					DDC CONTROL PANEL
						15		16	0.50					DDC CONTROL PANEL
ADDED CONDENSATE PUMPS					1.00	17		18	1.00					EAST CONTROL VALVES
SPARE						19		20	1.00					WEST CONTROL VALVES
SPARE						21		22						SPARE
SPARE						23		24						SPARE
SPARE						25		26						SPARE
HRCU-5	2#8	#8	#10	3/4"	4.49	27	30	28						SPARE
						29		30						SPARE
						31		32						SPARE
HRCU-3	2#8	#8	#10	3/4"	4.49	33	30	34	4.49	3/4"	#10	#8	2#8	HRCU-4
						35		36						
HRCU-1	3#3	#3	#8	1 1/4"	23.3	37	100	38	23.3	1 1/4"	#8	#3	3#3	HRCU-2
						39		40						
						41		42						

SCHEDULE OF PANELBOARD L1L (1)(2)

VOLTAGE: ■ 120/208V., 3 PHASE, 4 WIRE ☐ 277/480V., 3 PHASE, 4 WIRE ☐ 208V., 3 PHASE, 3 WIRE ☐ 480V., 3 PHASE, 3 WIRE

MOUNTING: ☐ FLUSH ■ SURFACE | MAINS: ■ LUGS ONLY ☐ MAIN BREAKER 100 AMP. AMP. | SPECIAL:

UNLESS OTHERWISE NOTED: ALL BRANCH BREAKERS SHALL BE 20 AMP 1 POLE; NEUTRAL BUS STRUCTURE SHALL BE RATED 100% OF PHASE BUS STRUCTURE; AND ALL BRANCH CIRCUITS SHALL BE #12 PHASE, #10 NEUTRAL, & #12 GROUND IN 1/2" CONDUIT; COVER SHALL BE HINGED TO BOX.
MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY: 22,000 RMS SYM. AMPS.

CONNECTED LOAD: TOTAL: 23.14 kW

FEEDS / LOCATION	CONDUCTORS PHASE	N	G	C.	kW	NO.	A B C	NO.	kW	C.	CONDUCTORS G	N	PHASE	FEEDS / LOCATION
OPEN OFFICE LIGHTING (N1)					0.64	1		2	1.77					RM.123A,B,124,108,144-146
OPEN OFFICE LIGHTING (N2)					0.80	3		4	0.36					COORIDOR LIGHTING (L1)
OPEN OFFICE LIGHTING (N1)(3)					0.46	5		6	0.32					OPEN OFFICE LIGHTING (N2)(3)
OPEN OFFICE LIGHTING (S1)					0.96	7		8	0.67					RM. 104 & 130 LIGHTING
COORIDOR LIGHTING (L1)					0.79	9		10	0.59					RESTROOM LIGHTING 125,127
COORIDOR LIGHTING (N) or (S)					0.46	11		12	0.85					RM. 135-139 LIGHTING
TRACK LIGHTING (L1)					0.70	13		14	1.20					EMERGENCY LIGHTING
ELEVATOR LIGHTING					0.50	15		16	1.47					EMERGENCY LIGHTING
CRESTRON 114					1.80	17		18	0.20					PACZM 114
CRESTRON 114					0.90	19		20	0.20					PACZM 118
CRESTRON 118					0.90	21		22	0.20					PACZM 124
CRESTRON 118					0.90	23		24	0.96					EMERGENCY LIGHTING
CRESTRON 124					0.90	25		26	0.32					OPEN OFFICE LIGHTING (N3)(3)
CRESTRON 124					0.90	27		28	0.64					OPEN OFFICE LIGHTING (S2)(3)
EMERGENCY STAIR LIGHTING					0.24	29		30	0.64					OPEN OFFICE LIGHTING (S3)(3)
TRACK LIGHTING (L1)					0.38	31		32	0.48					COMPUTER ROOM LIGHTING
SPARE						33		34						SPARE
SPARE						35		36						SPARE
SPARE						37		38						SPARE
SPARE						39		40						SPARE
SPARE						41		42						SPARE

NOTES: (1) PROVIDE SQUARE D POWER LINK G3 LIGHTING CONTROL PANEL 200 SERIES.
(2) MASTER PANEL
(3) PHOTOCELL CONTROLLED VIA BUILDING AUTOMATION SYSTEM.

SCHEDULE OF PANELBOARD CL1 (2)

VOLTAGE: ■ 120/208V., 3 PHASE, 4 WIRE ☐ 277/480V., 3 PHASE, 4 WIRE ☐ 208V., 3 PHASE, 3 WIRE ☐ 480V., 3 PHASE, 3 WIRE

MOUNTING: ☐ FLUSH ■ SURFACE | MAINS: ■ LUGS ONLY ☐ MAIN BREAKER 150 AMP. AMP. | SPECIAL: 1. PROVIDE FEED-THRU LUGS. 2. PROVIDE SHUNT-TRIP MAIN BREAKER.

UNLESS OTHERWISE NOTED: ALL BRANCH BREAKERS SHALL BE 20 AMP 1 POLE; NEUTRAL BUS STRUCTURE SHALL BE RATED 100% OF PHASE BUS STRUCTURE; AND ALL BRANCH CIRCUITS SHALL BE #12 PHASE, #10 NEUTRAL, & #12 GROUND IN 1/2" CONDUIT; COVER SHALL BE HINGED TO BOX.
MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY: 22,000 RMS SYM. AMPS.

CONNECTED LOAD: TOTAL: kW

FEEDS / LOCATION	CONDUCTORS PHASE	N	G	C.	kW	NO.	A B C	NO.	kW	C.	CONDUCTORS G	N	PHASE	FEEDS / LOCATION
SPARE						1		2						SPARE
SPARE						3		4						SPARE
SPARE						5		6						SPARE
SPARE						7		8						SPARE
SPARE						9		10						SPARE
SPARE						11		12						SPARE
SPARE						13		14						SPARE
SPARE						15		16						SPARE
SPARE						17		18						SPARE
SPARE						19		20						SPARE
SPARE						21		22						SPARE
SPARE						23		24						SPARE
SPARE						25		26						SPARE
SPARE						27		28						SPARE
SPARE						29		30						SPARE
SPARE						31		32						SPARE
SPARE						33		34						SPARE
SPARE						35		36						SPARE
SPARE						37		38						SPARE
SPARE						39		40						SPARE
SPARE						41		42						SPARE

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ARCHITECTURE INTERIORS PLANNING

ASHRAE HEADQUARTERS
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1	6/26/07	PERMIT REVISIONS
2	7/12/07	FINAL SYSTEMS
		DESIGN

DRAWING TITLE:

PANEL SCHEDULES

PROJECT NUMBER: **200614**

DATE: **06/15/07**

DRAWING NUMBER: **6.01**

SCHEDULE OF PANELBOARD L2A

VOLTAGE: ■ 120/208V., 3 PHASE, 4 WIRE ☐ 208V., 3 PHASE, 3 WIRE ☐ 277/480V., 3 PHASE, 4 WIRE ☐ 480V., 3 PHASE, 3 WIRE

MOUNTING: ☐ FLUSH ■ SURFACE | MAINS: ■ LUGS ONLY 250 AMP. ☐ MAIN BREAKER AMP. | SPECIAL: 1. PROVIDE FEED-THRU LUGS.

UNLESS OTHERWISE NOTED: ALL BRANCH BREAKERS SHALL BE 20 AMP 1 POLE; NEUTRAL BUS STRUCTURE SHALL BE RATED 200% OF PHASE BUS STRUCTURE; AND ALL BRANCH CIRCUITS SHALL BE #12 PHASE, #10 NEUTRAL, & #12 GROUND IN 1/2" CONDUIT; COVER SHALL BE HINGED TO BOX.
MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY: 22,000 RMS SYM. AMPS.

CONNECTED LOAD: TOTAL: 21.36 kW

CONDUCTORS											CONDUCTORS			
FEEDS / LOCATION	PHASE	N	G	C.	kW	NO.	A B C	NO.	kW	C.	G	N	PHASE	FEEDS / LOCATION
COPIER	2#12	#12	#12	3/4"	2.00	1	20	2	2.00	3/4"	#12	#12	2#12	COPIER 222
						3		4						
RECEPTS					0.72	5	20	6	2.00	3/4"	#12	#12	2#12	COPIER 218
CONVIENCE RECEPTS					1.26	7		8						
RECEPTS					0.36	9	20	10	2.00	3/4"	#12	#12	2#12	COPIER-214
CONVIENCE RECEPTS					1.08	11		12						
RECEPTS-214					0.54	13	20	14	2.00	3/4"	#12	#12	2#12	COPIER-214
RECEPTS-214					0.54	15		16						
RECEPTS-219					0.72	17	20	18	2.00	3/4"	#12	#12	2#12	COPIER 220
PROJECTOR-219					0.90	19		20						
RECEPTS-217,218,221					0.72	21		22	0.36					RECEPTS 221,227
RECEPTS-222					0.36	23		24						SPARE
RECEPTS-222,223					0.54	25		26						SPARE
CONVIENCE RECEPTS 224					0.54	27		28						SPARE
FLOOR RECEPTS-219					0.72	29		30						SPARE
SPARE						31		32						SPARE
SPARE						33		34						SPARE
SPARE						35		36						SPARE
SPARE						37		38						SPARE
SPARE						39		40						SPARE
SPARE						41		42						SPARE

SCHEDULE OF PANELBOARD L2B

VOLTAGE: ■ 120/208V., 3 PHASE, 4 WIRE ☐ 208V., 3 PHASE, 3 WIRE ☐ 277/480V., 3 PHASE, 4 WIRE ☐ 480V., 3 PHASE, 3 WIRE

MOUNTING: ☐ FLUSH ■ SURFACE | MAINS: ■ LUGS ONLY 250 AMP. ☐ MAIN BREAKER AMP. | SPECIAL: 1. PROVIDE FEED-THRU LUGS.

UNLESS OTHERWISE NOTED: ALL BRANCH BREAKERS SHALL BE 20 AMP 1 POLE; NEUTRAL BUS STRUCTURE SHALL BE RATED 200% OF PHASE BUS STRUCTURE; AND ALL BRANCH CIRCUITS SHALL BE #12 PHASE, #10 NEUTRAL, & #12 GROUND IN 1/2" CONDUIT; COVER SHALL BE HINGED TO BOX.
MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY: 22,000 RMS SYM. AMPS.

CONNECTED LOAD: TOTAL: 31.00 kW

CONDUCTORS											CONDUCTORS			
FEEDS / LOCATION	PHASE	N	G	C.	kW	NO.	A B C	NO.	kW	C.	G	N	PHASE	FEEDS / LOCATION
RECEPTS 209 GFI (VENDING)					1.00	1		2	0.54					OUTDOOR RECEPTS GFI
RECEPTS 209 GFI (VENDING)					1.00	3		4						SPARE
RECEPTS 209 GFI (VENDING)					1.00	5		6						SPARE
RECEPTS 209 GFI (REFRIG.)					1.08	7		8						SPARE
RECEPTS 209 GFI (MICRO.)					1.80	9		10						SPARE
RECEPTS 209 GFI (COFFEE)					0.50	11		12	0.60					FURNITURE PARTITION
RECEPTS 209 GFI (COFFEE)					0.50	13		14	0.60					FURNITURE PARTITION
RECEPTS 209 GFI (MICRO.)					1.80	15		16	0.60					FURNITURE PARTITION
RECEPTS 209					1.08	17		18	0.60					FURNITURE PARTITION
CONVIENCE RECEPTS					1.26	19		20	0.60					FURNITURE PARTITION
RECEPTS-204					1.08	21		22	0.60					FURNITURE PARTITION
FLOOR RECEPT-207					1.08	23		24	0.60					FURNITURE PARTITION
RECEPTS-207					0.72	25		26	0.60					FURNITURE PARTITION
RECEPTS-207					0.54	27		28	0.60					FURNITURE PARTITION
FLOOR RECEPT-227					1.08	29		30	0.60					FURNITURE PARTITION
RECEPTS 225,226,227					1.26	31		32	0.60					FURNITURE PARTITION
PROJECTOR 227					0.90	33		34	0.60					FURNITURE PARTITION
PROJECTOR 207					0.90	35		36	0.60					FURNITURE PARTITION
WATER COOLERS 210					1.20	37		38	0.60					FURNITURE PARTITION
RESTROOM GFI 211,212					0.36	39		40	0.60					FURNITURE PARTITION
CONVIENCE RECEPTS 224					0.72	41		42	0.60					FURNITURE PARTITION

SCHEDULE OF PANELBOARD L2C

VOLTAGE: ■ 120/208V., 3 PHASE, 4 WIRE ☐ 208V., 3 PHASE, 3 WIRE ☐ 277/480V., 3 PHASE, 4 WIRE ☐ 480V., 3 PHASE, 3 WIRE

MOUNTING: ☐ FLUSH ■ SURFACE | MAINS: ■ LUGS ONLY AMP. ☐ MAIN BREAKER AMP. | SPECIAL:

UNLESS OTHERWISE NOTED: ALL BRANCH BREAKERS SHALL BE 20 AMP 1 POLE; NEUTRAL BUS STRUCTURE SHALL BE RATED 200% OF PHASE BUS STRUCTURE; AND ALL BRANCH CIRCUITS SHALL BE #12 PHASE, #10 NEUTRAL, & #12 GROUND IN 1/2" CONDUIT; COVER SHALL BE HINGED TO BOX.
MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY: 22,000 RMS SYM. AMPS.

CONNECTED LOAD: TOTAL: 24.00 kW

CONDUCTORS											CONDUCTORS			
FEEDS / LOCATION	PHASE	N	G	C.	kW	NO.	A B C	NO.	kW	C.	G	N	PHASE	FEEDS / LOCATION
FURNITURE PARTITION					0.60	1		2	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	3		4	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	5		6	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	7		8	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	9		10	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	11		12	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	13		14	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	15		16	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	17		18	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	19		20	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	21		22	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	23		24	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	25		26	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	27		28	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	29		30	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	31		32	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	33		34	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	35		36	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	37		38	0.60					FURNITURE PARTITION
FURNITURE PARTITION					0.60	39		40	0.60					FURNITURE PARTITION
SPARE						41		42						SPARE

SCHEDULE OF PANELBOARD L2M

VOLTAGE: ■ 120/208V., 3 PHASE, 4 WIRE ☐ 208V., 3 PHASE, 3 WIRE ☐ 277/480V., 3 PHASE, 4 WIRE ☐ 480V., 3 PHASE, 3 WIRE

MOUNTING: ☐ FLUSH ■ SURFACE | MAINS: ■ LUGS ONLY 400 AMP. ☐ MAIN BREAKER AMP. | SPECIAL:

UNLESS OTHERWISE NOTED: ALL BRANCH BREAKERS SHALL BE 20 AMP 1 POLE; NEUTRAL BUS STRUCTURE SHALL BE RATED 100% OF PHASE BUS STRUCTURE; AND ALL BRANCH CIRCUITS SHALL BE #12 PHASE, #10 NEUTRAL, & #12 GROUND IN 1/2" CONDUIT; COVER SHALL BE HINGED TO BOX.
MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY: 22,000 RMS SYM. AMPS.

CONNECTED LOAD: TOTAL: 77.87 kW

CONDUCTORS											CONDUCTORS			
FEEDS / LOCATION	PHASE	N	G	C.	kW	NO.	A B C	NO.	kW	C.	G	N	PHASE	FEEDS / LOCATION
GT38-215B	3#10	#10	#10	3/4"	7.17	1		2	7.17	3/4"	#10	#10	3#10	GT38-215A
						3	25 25	4						
						5		6						
GT64-202	3#10	#10	#10	3/4"	10.4	7		8	7.17	3/4"	#10	#10	3#10	GT38-224B
						9	45 25	10						
						11		12						
GT38-224A	3#10	#10	#10	3/4"	7.17	13		14	3.95	3/4"	#10	#10	2#10	GT26-224D
						15	25 20	16						
						17		18	3.95	3/4"	#10	#10	2#10	GT26-209
GT15-206 & 207	2#10	#10	#10	3/4"	4.25	19	20 20	20						
						21		22	3.95	3/4"	#10	#10	2#10	GT26-224C
GT18-204	2#10	#10	#10	3/4"	2.92	23		24						
						25	15 20	26	1.00	3/4"	#10	#10	3#10	VAV-222 & 225
DDC CONTROL PANEL					0.50	27		28						
GT07-146 & 232	2#10	#10	#10	3/4"	0.46	29		30						
						31	20	32	7.17	3/4"	#10	#10	3#10	GT38-215C
CONDENSATE PUMPS					1.50	33	25	34						
CONDENSATE PUMPS					1.50	35		36						
TWP-1	3#10	#10	#10	3/4"	3.82	37		38	3.82	3/4"	#10	#10	3#10	TWP-2
						39	20 20	40						
						41		42						

SCHEDULE OF PANELBOARD L2L (1)(2)

VOLTAGE: ■ 120/208V., 3 PHASE, 4 WIRE ☐ 208V., 3 PHASE, 3 WIRE ☐ 277/480V., 3 PHASE, 4 WIRE ☐ 480V., 3 PHASE, 3 WIRE

MOUNTING: ☐ FLUSH ■ SURFACE | MAINS: ■ LUGS ONLY 100 AMP. ☐ MAIN BREAKER AMP. | SPECIAL:

UNLESS OTHERWISE NOTED: ALL BRANCH BREAKERS SHALL BE 20 AMP 1 POLE; NEUTRAL BUS STRUCTURE SHALL BE RATED 100% OF PHASE BUS STRUCTURE; AND ALL BRANCH CIRCUITS SHALL BE #12 PHASE, #10 NEUTRAL, & #12 GROUND IN 1/2" CONDUIT; COVER SHALL BE HINGED TO BOX.
MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY: 22,000 RMS SYM. AMPS.

CONNECTED LOAD: TOTAL: 16.87 kW

CONDUCTORS											CONDUCTORS			
FEEDS / LOCATION	PHASE	N	G	C.	kW	NO.	A B C	NO.	kW	C.	G	N	PHASE	FEEDS / LOCATION
OPEN OFFICE LIGHTING (S2)					0.96	1		2	0.62					OFFICE LIGHTING
OPEN OFFICE LIGHTING (W)					0.36	3		4	0.80					RM. 209,225-227
OPEN OFFICE LIGHTING (N1)					0.96	5		6	0.60					TRACK LIGHTING (L1)
OPEN OFFICE LIGHTING (N2)					1.12	7		8	0.88					RM. 204,205,214 LIGHTING
OPEN OFFICE LIGHTING (N3)					0.80	9		10	0.36					COORIDORE LIGHTING (L1)
CRESTON 207					1.80	11		12	0.49					COORIDORE LIGHTING (N) or (S)
PACZM 207					0.20	13		14	1.59					EMERGENCY LIGHTING
OPEN OFFICE LIGHTING (N3)(3)					0.36	15		16	0.38					RESTROOM LIGHTING
OPEN OFFICE LIGHTING (N3)(3)					0.36	17		18	0.51					EMERGENCY LIGHTING
OPEN OFFICE LIGHTING (N2)(3)					0.64	19		20						SPARE
OPEN OFFICE LIGHTING (N1)(3)					0.48	21		22						SPARE
OPEN OFFICE LIGHTING (N1)(3)					0.36	23		24						SPARE
OPEN OFFICE LIGHTING (W)(3)					0.64	25		26						SPARE
OPEN OFFICE LIGHTING (S1)(3)					0.48	27		28						SPARE
OPEN OFFICE LIGHTING (S2)(3)					0.64	29		30						SPARE
OPEN OFFICE LIGHTING (N3)(3)					0.48	31		32						SPARE
SPARE						33		34						SPARE
SPARE						35		36						SPARE
SPARE						37		38						SPARE
SPARE						39		40						SPARE
SPARE						41		42						SPARE

NOTES: (1) PROVIDE SQUARE D POWER LINK G3 LIGHTING CONTROL PANEL 200 SERIES.
(2) SLAVE PANEL
(3) PHOTOCELL CONTROLLED VIA BUILDING AUTOMATION SYSTEM.

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▷	6/26/07	PERMIT REVISIONS
▷	7/12/07	FINAL SYSTEMS
		DESIGN

DRAWING TITLE:

PANEL SCHEDULES

PROJECT NUMBER: **200614**

DATE: **06/15/07**

DRAWING NUMBER: **6.02**

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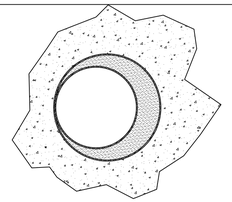
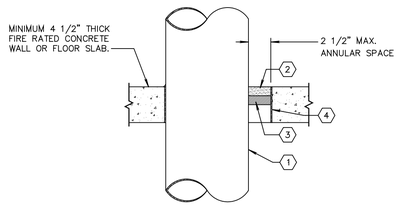


TOP VIEW



SECTION VIEW

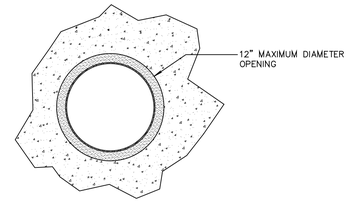
KEY NOTES:

(THIS DETAIL ONLY)

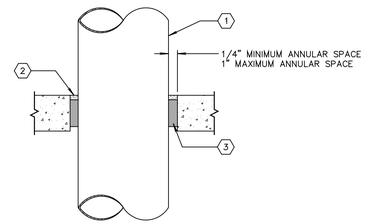
1. PENETRATING ITEM(S):
   - *NOMINAL 4" DIAMETER(OR SMALLER) CAST IRON PIPE OR STEEL EMT.
   - *NOMINAL 6" DIAMETER(OR SMALLER) RIGID STEEL CONDUIT OR TYPE L EMT.
   - *NOMINAL 20" DIAMETER(OR SMALLER) SCH. 10(OR HEAVIER) STEEL PIPE.
2. FILL, VOID OR CAVITY MATERIAL(S):
   - *CAULK INSTALLED FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SIDES OF WALL.
   - *CAULK INSTALLED FLUSH WITH BOTTOM SURFACE OF FLOOR ON ONE SURFACE OF WALL.
3. PACKING MATERIAL RECESSED MINIMUM OF 1/2" FROM BOTTOM SURFACE OF FLOOR OR FROM EITHER SIDE OF SOLID CONCRETE WALL.
4. OPTIONAL NOMINAL 12" DIAMETER(OR SMALLER) SCHEDULE 40(OR HEAVIER) STEEL PIPE SLEEVE CAST INTO CONCRETE FLOOR OR WALL. SLEEVE TO BE MAXIMUM OF 2" FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL.

1 PENETRATION DETAIL-UL# C-AJ-1001

E7.00 N.T.S. 3 HOUR FIRE RATING



TOP VIEW



SECTION VIEW

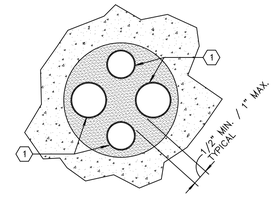
KEY NOTES:

(THIS DETAIL ONLY)

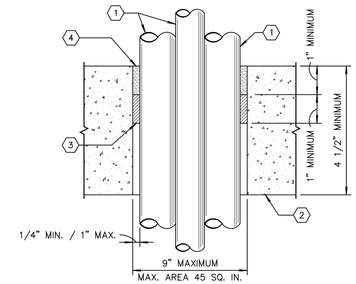
1. PENETRATING ITEM(S):
   - *NOMINAL 10" DIAMETER(OR SMALLER) SCH. 40(OR HEAVIER) STEEL PIPE.
   - *NOMINAL 6" DIAMETER(OR SMALLER) SCH. 10(OR HEAVIER) STEEL PIPE.
   - *NOMINAL 6" DIAMETER(OR SMALLER) RIGID STEEL CONDUIT.
   - *NOMINAL 4" DIAMETER(OR SMALLER) TYPE L(OR HEAVIER) COPPER TUBE.
   - *NOMINAL 4" DIAMETER(OR SMALLER) REGULAR(OR HEAVIER) COPPER PIPE.
2. CAULK – MINIMUM OF 1/2" THICKNESS FILL MATERIAL APPLIED FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SIDES OF WALL.
3. NOMINAL 3" THICKNESS OF MINERAL–WOOL BATT INSULATION OR CERAMIC FIBER BLANKET FIRMLY PACKED INTO OPENING.

2 PENETRATION DETAIL-UL# C-AJ-1017

E7.00 N.T.S. 3 HOUR FIRE RATING



TOP VIEW



SECTION VIEW

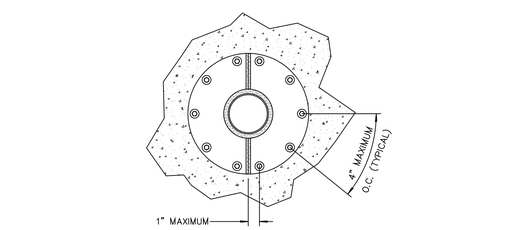
KEYNOTES:

(THIS DETAIL ONLY)

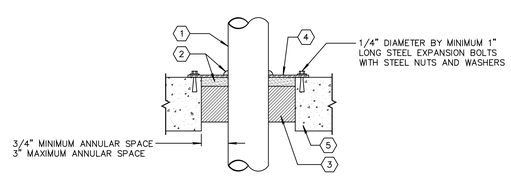
1. PENETRATING ITEM(S):
   - *NOMINAL 3" DIAMETER(OR SMALLER) TYPE L(OR HEAVIER) COPPER PIPE.
   - *NOMINAL 2 1/2" DIAMETER(OR SMALLER) SCHEDULE 10(OR HEAVIER) STEEL PIPE.
   - PIPES TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.
2. FLOOR OR WALL ASSEMBLY – LIGHTWEIGHT OR NORMAL WEIGHT(100–150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS.
3. PACKING MATERIAL – MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING. IN WALL ASSEMBLIES, FORMING MATERIAL TO BE FIRMLY PACKED INTO OPENING ON BOTH SIDES OF WALL.
4. CAULK – APPLIED TO FILL THROUGH OPENING. FILL MATERIAL TO BE INSTALLED FLUSH WITH TOP SURFACE OF FLOOR. IN WALL ASSEMBLIES, FILL MATERIAL TO BE INSTALLED FLUSH WITH WALL SURFACE ON BOTH SIDES OF WALL.

3 PENETRATION DETAIL-UL# C-AJ-1066

E7.00 N.T.S. 3 HOUR FIRE RATING



TOP VIEW



SECTION VIEW

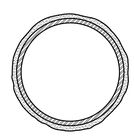
KEY NOTES:

(THIS DETAIL ONLY)

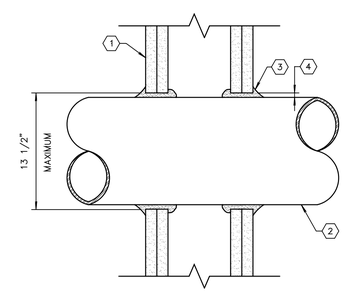
1. PENETRATING ITEM(S):
   - *NOMINAL 4" DIAMETER(OR SMALLER) SCH. 10(OR HEAVIER) STEEL PIPE.
   - *NOMINAL 4" DIAMETER(OR SMALLER) STEEL ELECTRICAL METALLIC TUBBING OR STEEL PIPE.
2. CAULK – MINIMUM OF 1" THICKNESS FILL MATERIAL APPLIED FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SIDES OF WALL. MINIMUM 1/2" DIAMETER BEAD FILL MATERIAL TO BE INSTALLED AT INTERFACE OF PIPE, CONDUIT OR TUBING AND METAL COVER PLATE AND OVER BUTTED SEAMS OF COVER PLATE.
3. MINIMUM 4" THICKNESS OF MINIMUM 4.0 pcf MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING.
4. TWO PIECE COVER PLATE OF MINIMUM 18 GAUGE STEEL WITH I.D. SAME AS O.D. OF PENETRATE. O.D. OF COVER PLATE MINIMUM 3" GREATER THAN SIZE OF OPENING.
5. FLOOR OR WALL ASSEMBLY – MINIMUM OF 5 1/2" THICK CONCRETE FLOOR OR MINIMUM OF 6" THICK CONCRETE WALL.

4 PENETRATION DETAIL-UL# C-BJ-1034

E7.00 N.T.S. 4 HOUR FIRE RATING



FRONT VIEW



SECTION VIEW

KEY NOTES:

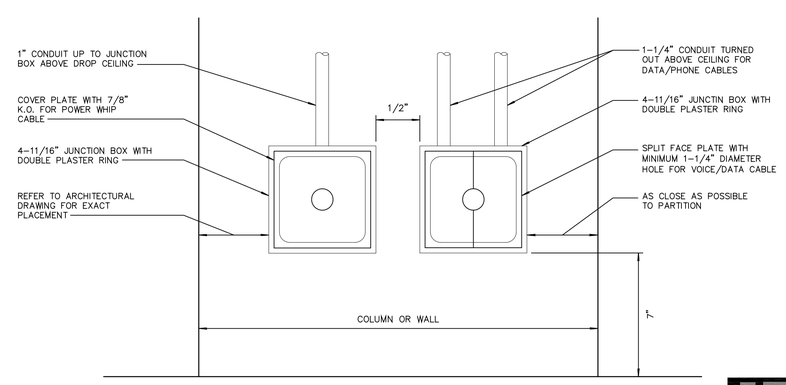
(THIS DETAIL ONLY)

1. 2 x 4 WOOD STUD WALLS WITH MINIMUM 1/3" THICK GYPSUM WALLBOARD; WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL V300 OR V400 SERIES DESIGN.
2. PENETRATING ITEM(S):
   - *NOMINAL 12" DIAMETER (OR SMALLER) SCHEDULE TEN (OR HEAVIER) STEEL PIPE.
   - *NOMINAL 12" DIAMETER (OR SMALLER) SERVICE WITH EIGHT (OR HEAVIER) CAST IRON SOIL PIPE.
   - *NOMINAL 12" DIAMETER (OR SMALLER) CLASS FIFTY (OR HEAVIER) DUCTILE IRON PRESSURE PIPE.
   - *NOMINAL 6" DIAMETER (OR SMALLER) STEEL CONDUIT.
   - *NOMINAL 4" DIAMETER (OR SMALLER) EMT.
   - *NOMINAL 6" DIAMETER (OR SMALLER) TYPE "L" OR (OR HEAVIER) COPPER TUBING.
   - *NOMINAL 1" DIAMETER (OR SMALLER) FLEXIBLE STEEL CONDUIT.
3. CAULK INSTALLED TO COMPLETELY FILL ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSUM WITH A MINIMUM OF 1/4" DIAMETER BEAD OF CAULK APPLIED TO PERIMETER OF PIPE OR CONDUIT.
4. ANNULAR SPACE AND FIRE RATING:

MAX. PIPE DIA.	ANNULAR SPACE	F–RATING (HR)	T–RATING (HR)
1"	0 TO 3/16"	1 OR 2	0+, 1 OR 2
1"	1/4" TO 1/2"	3 OR 4	3 OR 4
4"	0 TO 1/4"	1 OR 2	0
4"	0 TO 1 1/2"	1 OR 2	0
6"	1/4" TO 1/2"	3 OR 4	0
12"	3/16" TO 3/8"	1 OR 2	0

5 PENETRATION DETAIL - UL# W-L-1001

E7.00 N.T.S. 1–4 HOUR FIRE RATING



DETAIL - PARTITION POWER & VOICE/DATA FEED (✆) ROUGH-IN INSTALLATION

6 E7.00 N.T.S.

jeffers engineering associates
270 Scientific Drive
Norcross, Georgia 30092
(770) 447-0970
Technology Park/Atlanta

GEORGIA REGISTERED No. 12159 PROFESSIONAL ENGINEER WILLIAM D. JEFFERS

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ASHRAE HEADQUARTERS
ADDITION AND RENOVATION

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DRAWING TITLE:

DETAILS

PROJECT NUMBER:

200614

DATE:

06/15/07

DRAWING NUMBER:

E7.00

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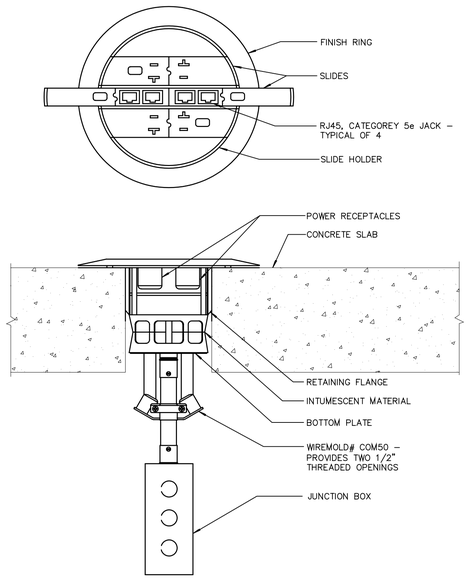
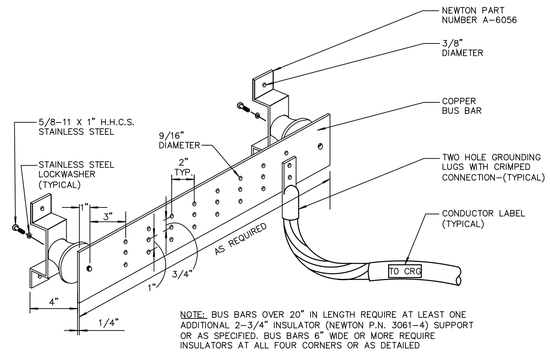


GENERAL NOTE: (THIS DETAIL ONLY)

1. DESIGN STANDARD: WALKER RC4 FLUSH QUAD POKE–THRU

1 / E7.01 FLUSH POKE THRU DETAIL

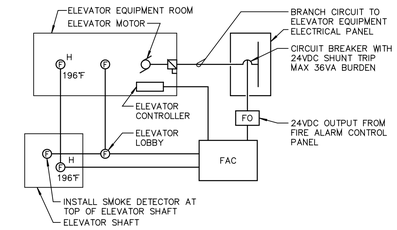
N.T.S.



NOTE: BUS BARS OVER 20" IN LENGTH REQUIRE AT LEAST ONE ADDITIONAL 2–3/4" INSULATOR (NEWTON P.N. 3061–4) SUPPORT OR AS SPECIFIED. BUS BARS 6" WIDE OR MORE REQUIRE INSULATORS AT ALL FOUR CORNERS OR AS DETAILED

2 / E7.01 TYPICAL BUS BAR CONSTRICTION

N.T.S.

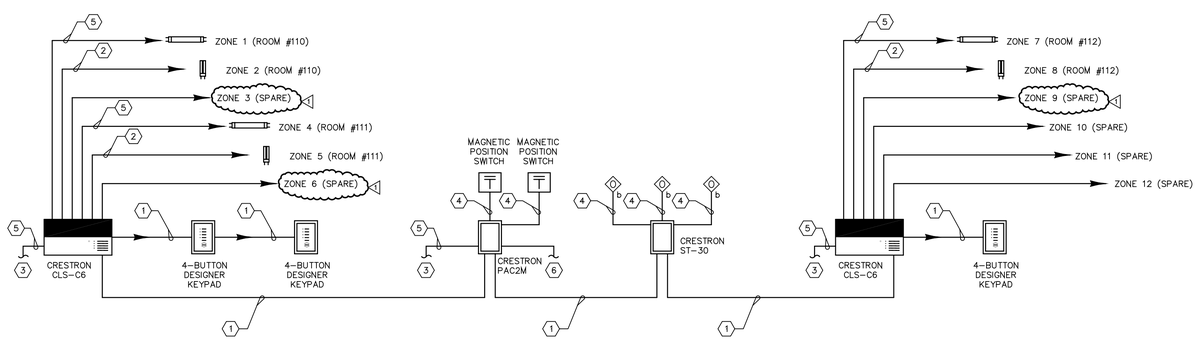


CONTROL SEQUENCES:

1. WHEN THERE IS AN ALARM INITIATING SIGNAL FROM THE HEAT DETECTORS, THE FAC WILL OPEN THE SHUNT TRIP CIRCUIT BREAKER PROTECTING THE ELEVATOR EQUIPMENT BRANCH CIRCUIT. THE ELEVATOR WILL DISCONTINUE OPERATION UNTIL THE SHUNT TRIP CIRCUIT BREAKER HAS BEEN MANUALLY RESET. THE HEAT DETECTOR SETTING IS BELOW NORMAL SPRINKLER HEAD MELT TEMP OF 286°F.
2. WHEN THERE IS AN ALARM INITIATING SIGNAL FROM THE SMOKE DETECTORS, THE FAC WILL SIGNAL THE ELEVATOR CONTROLLER TO RECALL THE ELEVATOR TO THE DESIGNATED FLOOR. THIS CONTROL SEQUENCE SHOULD OCCUR BEFORE THERE IS AN ALARM SIGNAL FROM THE HEAT DETECTORS.

3 / E7.01 FIRE ALARM/ELEVATOR CONTROL DIAGRAM

N.T.S.



ZONE	DESCRIPTION/FIXTURE TYPE	VOLTAGE	FEED TYPE	LOAD TYPE	FIXTURE LOAD	NO. OF FIXTURES	TOTAL LOAD* W/VA
1	FP3	120V, 20A	N	FLN	80	6	480
2	FD4	120V, 20A	N	FLN	26	8	208
3	SPARE						
4	FP3	120V, 20A	N	FLN	80	6	480
5	FD4	120V, 20A	N	FLN	26	8	208
6	SPARE						

CRESTRON

* NOTE: LOAD INCLUDES ANY TRANSFORMER LOSS ASSOCIATED WITH THE RESPECTIVE LOAD TYPE.

CRESTRON CLS–C6 LOAD SCHEDULE
DATE: 05/25/07
ROOM: 110 & 111

ZONE	DESCRIPTION/FIXTURE TYPE	VOLTAGE	FEED TYPE	LOAD TYPE	FIXTURE LOAD	NO. OF FIXTURES	TOTAL LOAD* W/VA
7	FP3	120V, 20A	N	FLN	80	6	480
8	FD4	120V, 20A	N	FLN	26	8	208
9	SPARE						
10	SPARE						
11	SPARE						
12	SPARE						

CRESTRON

* NOTE: LOAD INCLUDES ANY TRANSFORMER LOSS ASSOCIATED WITH THE RESPECTIVE LOAD TYPE.

CRESTRON CLS–C6 LOAD SCHEDULE
DATE: 05/25/07
ROOM: 112

KEY NOTES: (DIAGRAM 3/E7.02)

1. (1) CRESNET–P CONTROL CABLE (PLENUM RATED)
2. 4#12 IN 3/4" CONDUIT.
3. (1) 20A/1P, 120V BRANCH CIRCUIT.
4. (1) TWISTED/SHIELDED PAIR #18 BELDEN CABLE #88760
5. 3#12 IN 1/2" CONDUIT.
6. SYSTEM STATUS OUTPUT TO BUILDING AUTOMATION SYSTEM.

4 / E7.01 LIGHTING CONTROL DIAGRAM-ROOMS 110, 111, & 112

N.T.S.

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DRAWING TITLE:

DETAILS

PROJECT NUMBER:

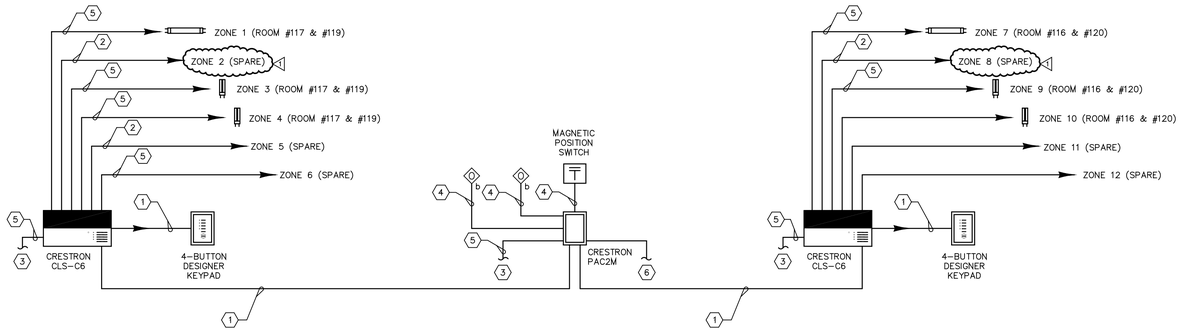
200614

DATE:

06/15/07

DRAWING NUMBER:

E7.01



ZONE	DESCRIPTION/FIXTURE TYPE	VOLTAGE	FEED TYPE	LOAD TYPE	FIXTURE LOAD	NO. OF FIXTURES	TOTAL LOAD* W/VA
1	F12	120V, 20A	N	FLN	80	8	480
2	SPARE						
3	FD4	120V, 20A	N	FLN	26	8	208
4	FD2	120V, 20A	N	FLN	22.5	2	45
5	SPARE						
6	SPARE						

CRESTRON

* NOTE: LOAD INCLUDES ANY TRANSFORMER LOSS ASSOCIATED WITH THE RESPECTIVE LOAD TYPE.

CRESTRON CLS-C6 LOAD SCHEDULE
DATE: 05/25/07
ROOM: 117 & 119

ZONE	DESCRIPTION/FIXTURE TYPE	VOLTAGE	FEED TYPE	LOAD TYPE	FIXTURE LOAD	NO. OF FIXTURES	TOTAL LOAD* W/VA
7	F12	120V, 20A	N	FLN	80	8	480
8	SPARE						
9	FD4	120V, 20A	N	FLN	26	8	208
10	FD2	120V, 20A	N	FLN	22.5	2	45
11	SPARE						
12	SPARE						

CRESTRON

* NOTE: LOAD INCLUDES ANY TRANSFORMER LOSS ASSOCIATED WITH THE RESPECTIVE LOAD TYPE.

CRESTRON CLS-C6 LOAD SCHEDULE
DATE: 05/25/07
ROOM: 116 & 120

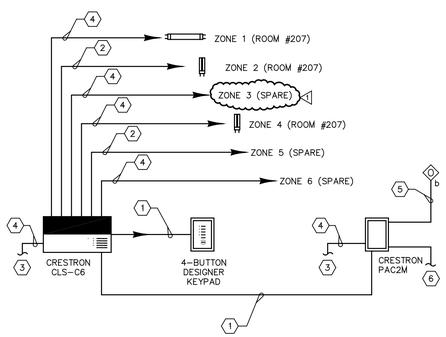
KEY NOTES:

(DIAGRAM 1/E7.02)

1. (1) CRESNET-P CONTROL CABLE (PLENUM RATED)
2. 4#12 IN 3/4" CONDUIT.
3. (1) 20A/1P, 120V BRANCH CIRCUIT.
4. (1) TWSTED/SHIELDED PAIR #18 BELDEN CABLE #88760
5. 3#12 IN 1/2" CONDUIT.
6. SYSTEM STATUS OUTPUT TO BUILDING AUTOMATION SYSTEM.

1 / E7.02 LIGHTING CONTROL DIAGRAM-ROOMS 116, 117, 119, & 120

N.T.S.



ZONE	DESCRIPTION/FIXTURE TYPE	VOLTAGE	FEED TYPE	LOAD TYPE	FIXTURE LOAD	NO. OF FIXTURES	TOTAL LOAD* W/VA
1	FC1/FC2	120V, 20A	N	FLN	40	16	640
2	FD4	120V, 20A	N	FLN	26	10	260
3	SPARE						
4	FD8	120V, 20A	N	FLN	26	8	208
5	SPARE						
6	SPARE						

CRESTRON

* NOTE: LOAD INCLUDES ANY TRANSFORMER LOSS ASSOCIATED WITH THE RESPECTIVE LOAD TYPE.

CRESTRON CLS-C6 LOAD SCHEDULE
DATE: 05/25/07
ROOM: 207

KEY NOTES:

(DIAGRAM 2/E7.02)

1. (1) CRESNET-P CONTROL CABLE (PLENUM RATED)
2. 4#12 IN 3/4" CONDUIT.
3. (1) 20A/1P, 120V BRANCH CIRCUIT.
4. 3#12 IN 1/2" CONDUIT.
5. (1) TWSTED/SHIELDED PAIR #18 BELDEN CABLE #88760
6. SYSTEM STATUS OUTPUT TO BUILDING AUTOMATION SYSTEM.

2 / E7.02 LIGHTING CONTROL DIAGRAM-ROOM 207

N.T.S.

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1	6/26/07	PERMIT REVISIONS

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PROJECT NUMBER:
200614

DATE:
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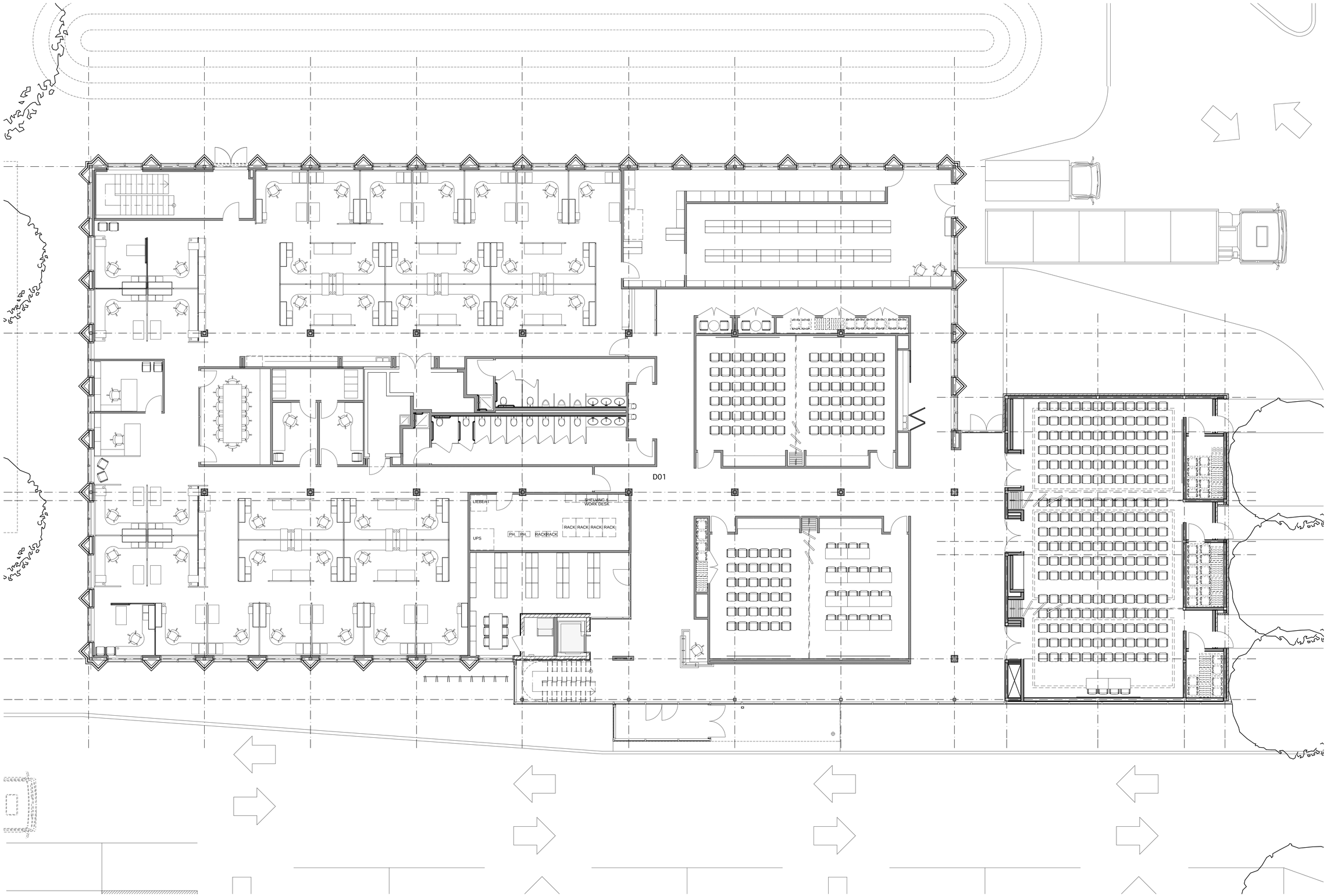
DRAWING NUMBER:
E7.02



RICHARD
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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

LEVEL 1 FURNITURE PLAN

PROJECT NUMBER:

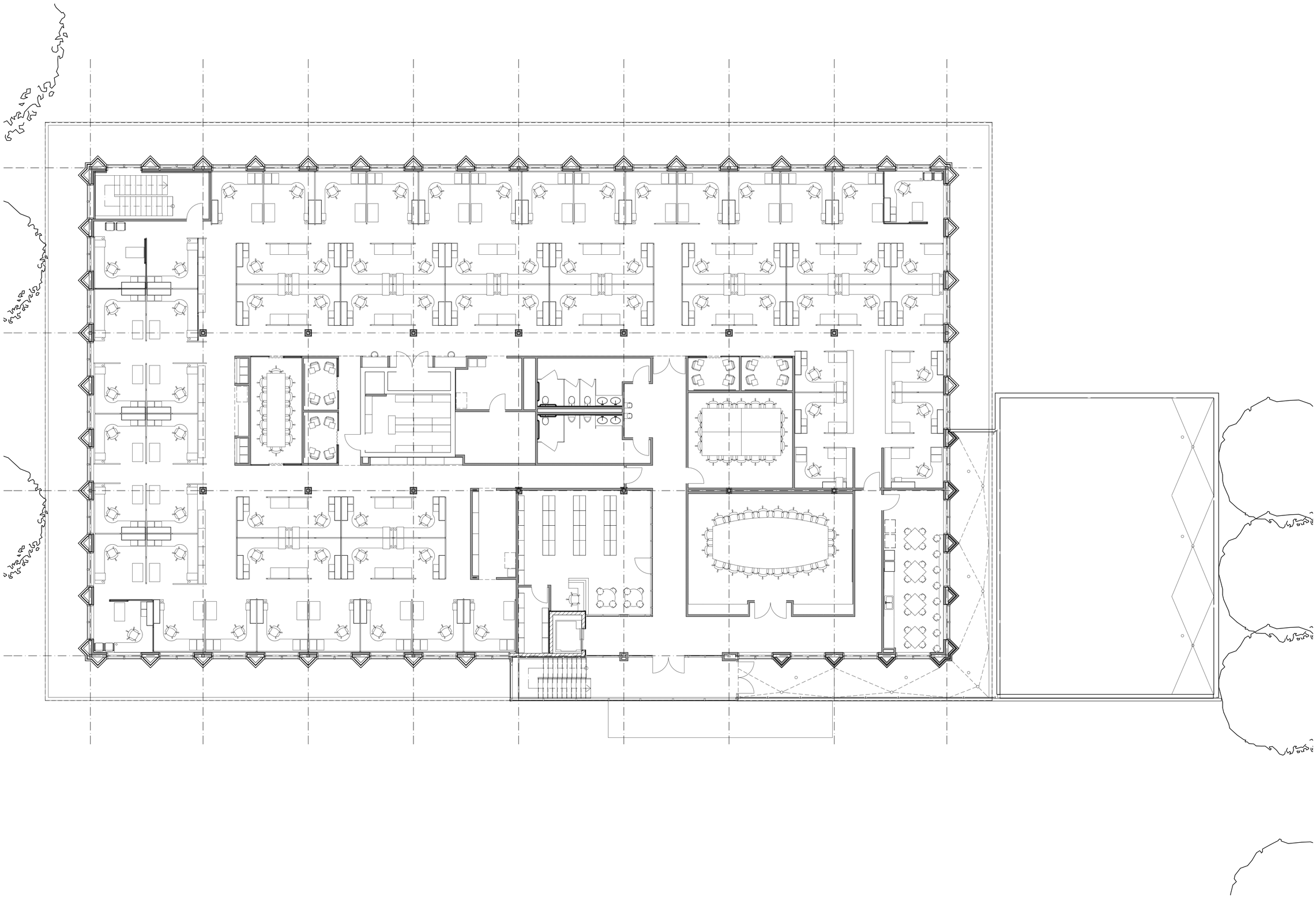
200614

DATE:

06/15/07

DRAWING NUMBER:

.F1.1



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1	XX/XX/XX	ADDENDUM #1

DRAWING TITLE:

LEVEL 2 FURNITURE PLAN

PROJECT NUMBER:

200614

DATE:

06/15/07

DRAWING NUMBER:

.F1.2