



TEAM NAME: WVU-UTV
ADDRESS: WEST VIRGINIA UNIVERSITY
395 EVANSDALE DRIVE
MORGANTOWN, WV 26506
CONTACT: HTTP://SOLAR.WVU.EDU

CONSULTANTS

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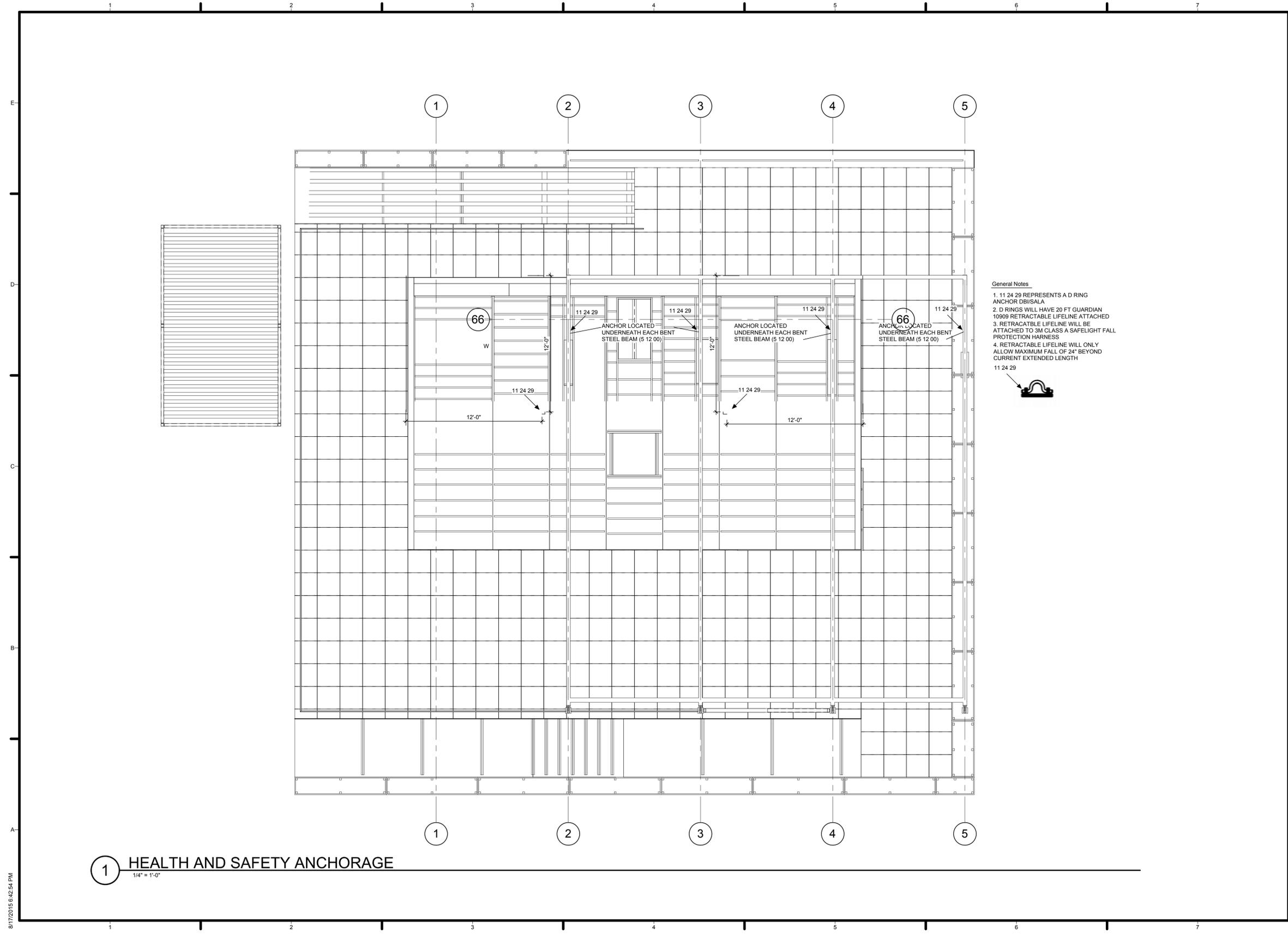


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SHEET TITLE
HEALTH AND SAFETY

1



General Notes
1. 11 24 29 REPRESENTS A D RING ANCHOR DBUSALA
2. D RINGS WILL HAVE 20 FT GUARDIAN 10909 RETRACTABLE LIFELINE ATTACHED
3. RETRACTABLE LIFELINE WILL BE ATTACHED TO 3M CLASS A SAFELIGHT FALL PROTECTION HARNESS
4. RETRACTABLE LIFELINE WILL ONLY ALLOW MAXIMUM FALL OF 24" BEYOND CURRENT EXTENDED LENGTH

8/17/2015 6:42:54 PM



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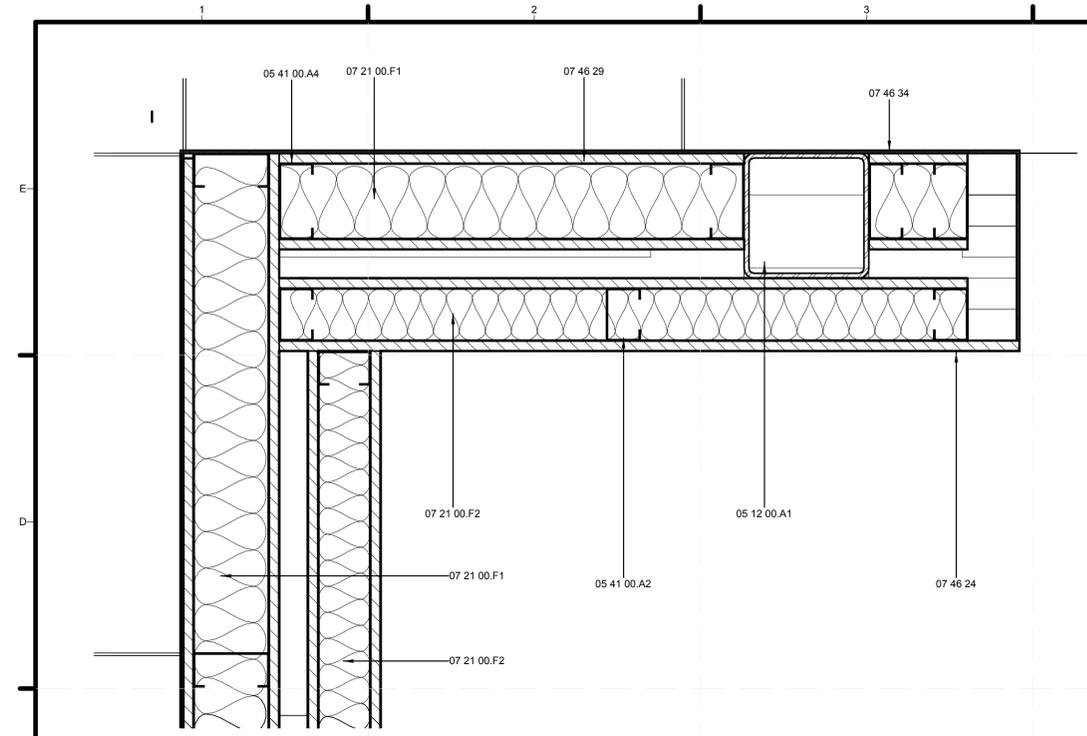
SHEET TITLE
PLAN DETAILS

A-503

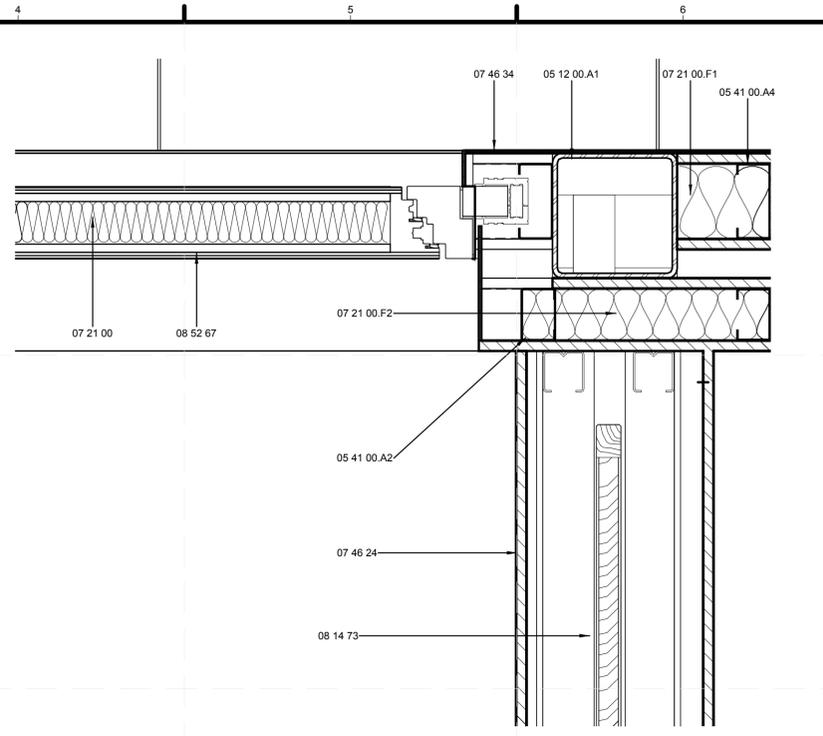
REFERENCE KEYNOTES

- 05 12 00.A1 2-1/2" METAL STUD
- 05 41 00.A2 3-1/2" METAL STUD
- 05 41 00.A4 THERMAL INSULATION
- 07 21 00 07 21 00.F1
- 07 21 00.F2
- 07 46 24 PLYWOOD SIDING
- 07 46 29 07 46 34 08 14 73 08 52 67 SLIDING WOOD DOORS

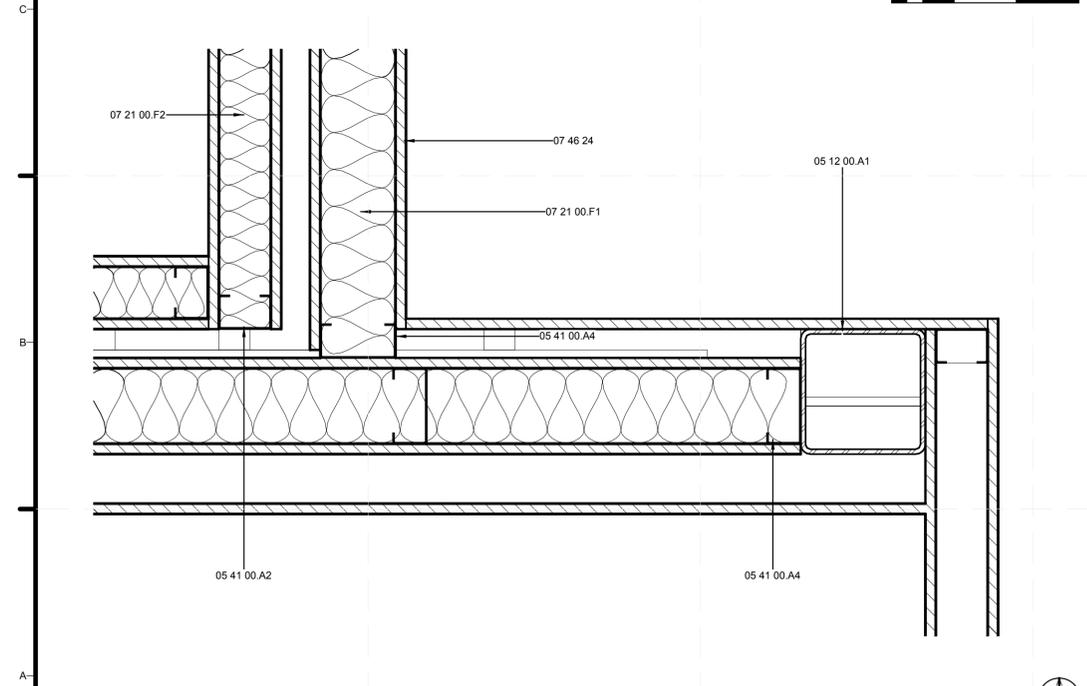
SHEET KEYNOTES



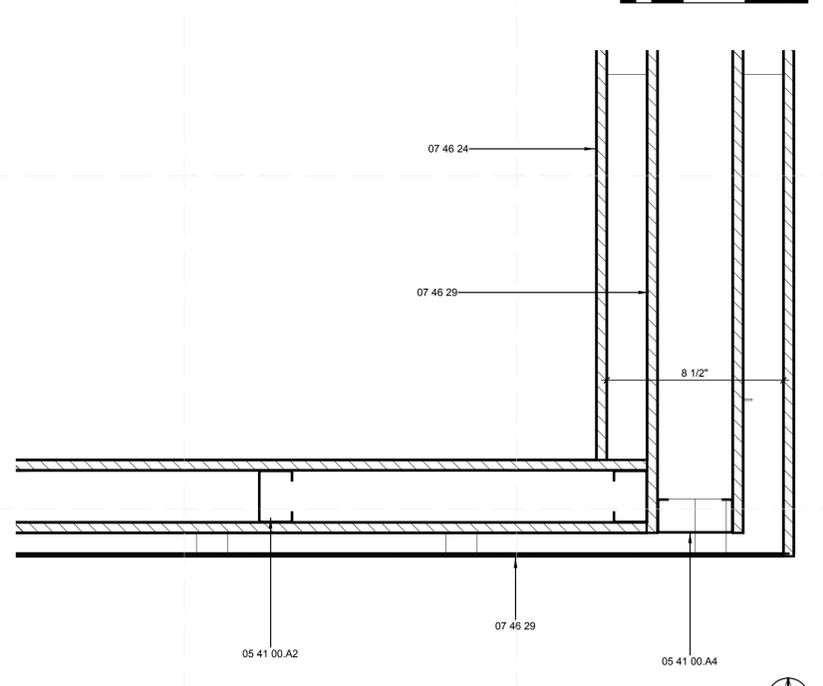
C1 EXTERIOR WALL CONNECTION
 3" = 1'-0"
 0 3" 6" 1"



C4 RIGHT MOVABLE PANEL-WALL CONNECTION
 3" = 1'-0"
 0 3" 6" 1"



A1 INSULATING INTERIOR WALL CONNECTION
 3" = 1'-0"
 0 3" 6" 1"



A4 INTERIOR WALL CONNECTION
 3" = 1'-0"
 0 3" 6" 1"

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SHEET TITLE
 SOLAR ENVELOPE
 COPMLIANCE
 ELEVATIONS

G-202

C1 SHADED SOUTH ELEVATION - 12 AM
 1/4" = 1'-0"



A1 SHADED WEST ELEVATION - 14 PM
 1/4" = 1'-0"



8/17/2015 6:44:49 PM



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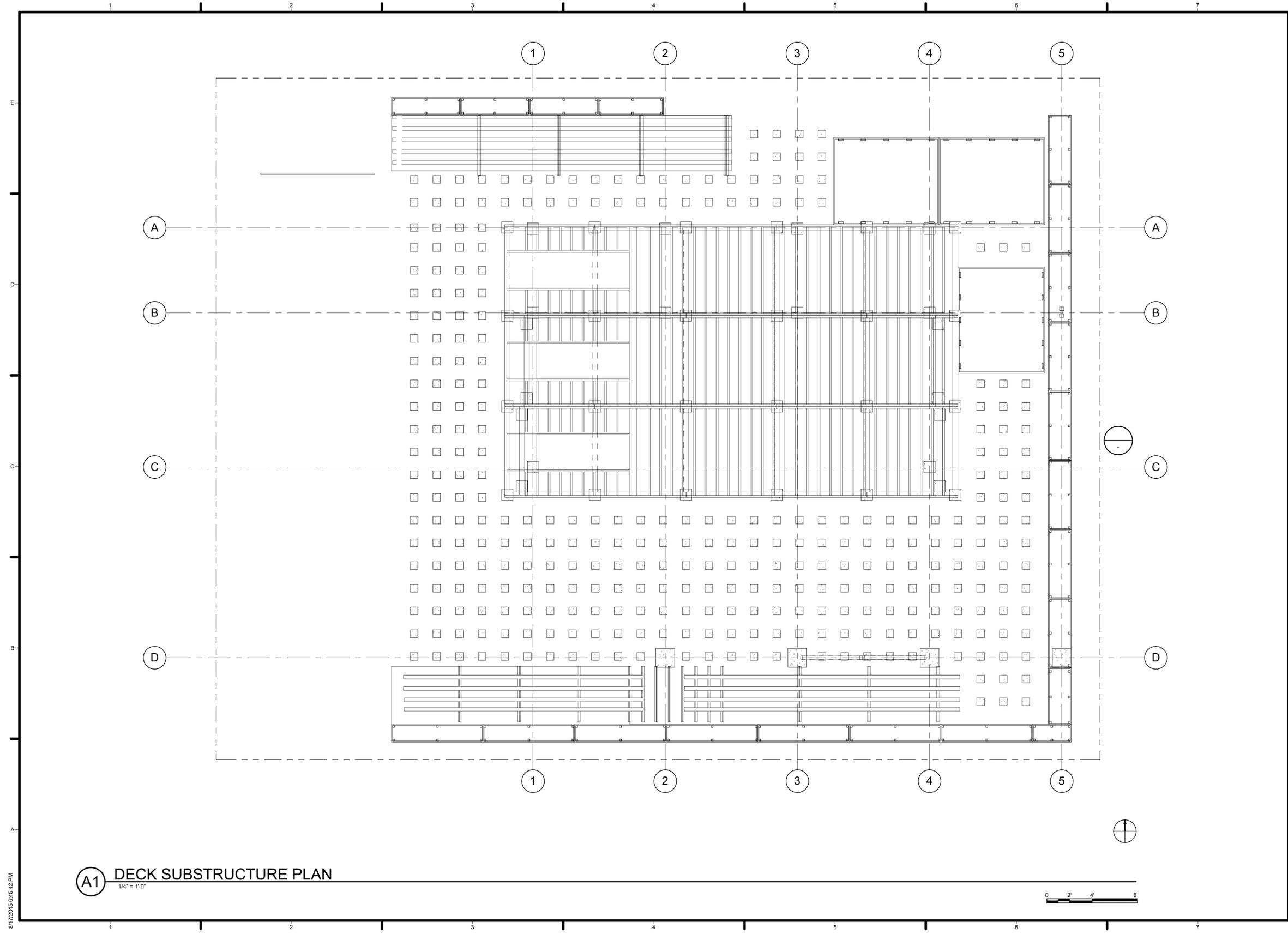


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SHEET TITLE
DECK SUBSTRUCTURE PLAN

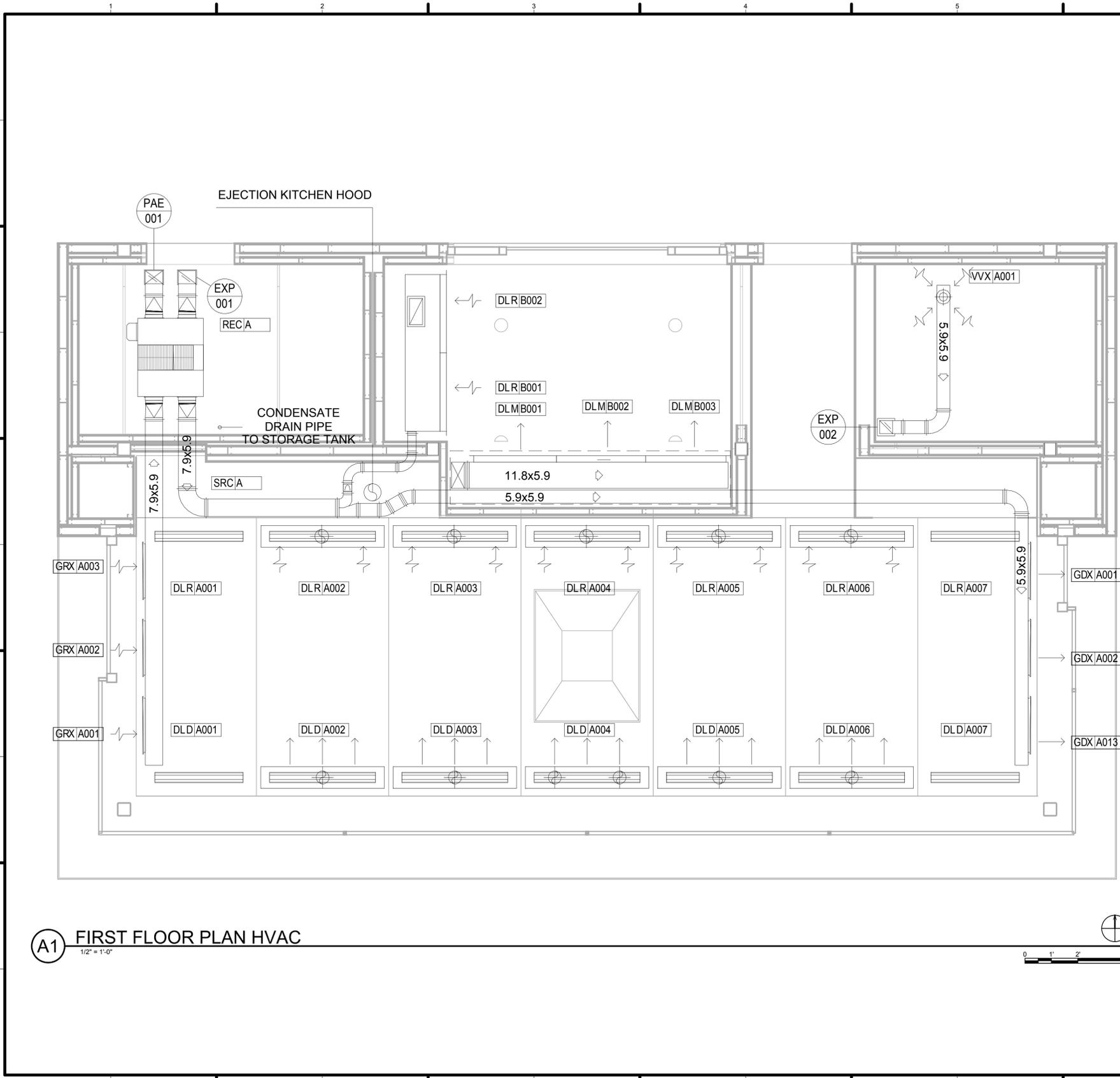
L-105



A1 DECK SUBSTRUCTURE PLAN
1/4" = 1'-0"



8/17/2015 6:46:42 PM



A1 FIRST FLOOR PLAN HVAC
1/2" = 1'-0"

GENERAL SHEET NOTES

	<p>OUTDOOR UNIT 38GJQF36 3</p> <p>COOLING RATED CAPACITY: 34000 Btu/h HEATING RATED CAPACITY: 42500 Btu/h DIMENSIONS (WxHxD): 42.8 X 43.4 X 17.3 In. WEIGHT: 198.4 Lbs.</p>
	<p>INDOOR UNIT 40GJQ9</p> <p>AIRFLOW (LOWEST TO HIGHEST): 76/235/323 CFM DIMENSIONS (WxHxD): 24.2 X 7.9 X 27.6 In. WEIGHT: 50.7 Lbs.</p>
	<p>HEAT RECOVERY VENTILATOR HRVXXLHB1250</p> <p>AIRFLOW: 250 ft³/min DIMENSIONS (WxHxD): 16.5 X 30.25 X 17.25 In.</p>
	MANUAL AIR FLOW REGULATOR
	CENTRIFUGAL ASSIAL VENTILATOR
	<p>LG PIPE(GAS) LL PIPE(LIQUID) SCX PIPE(SUCTION)</p>
	<p>SLIT LINEAR DIFFUSER FOR DELIVERING RETURNING AIR WITH SLIDING DAMPER</p> <p>AIRFLOW: 29.4-111.8 ft³/min SLIT NUMBER: 2 DIMENSIONS (WxH): 47.2x4.7 In.</p> <p>AIRFLOW: 29.4-111.8 ft³/min SLIT NUMBER: 1 DIMENSIONS (WxH): 39.4x3.1 In.</p> <p>AIRFLOW: 29.4-70.6 ft³/min SLIT NUMBER: 1 DIMENSIONS (WxH): 23.6x3.1 In.</p>
	<p>GRID FOR DELIVERING AND RETURNING AMBIENT AIR</p> <p>AIRFLOW: 29.4-88.3 ft³/min DIMENSIONS: 27.6x3.9 In.</p>
	<p>STEEL INTAKE VALVE</p> <p>AIRFLOW: 0-58.9 ft³/min DIMENSIONS: Ø 3.9 In.</p>
	<p>CANALIZATION TO EXPEL AIR</p> <p>CANALIZATION AMBIENT AIR INTAKE</p>



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SHEET TITLE
HVAC EQUIPMENT AND DISTRIBUTION PLAN

M-101

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GENERAL SHEET NOTES

	SIGN: [Symbol] SIZE: [Symbol] OUTDOOR UNIT 38GJQF36 3
	COOLING RATED CAPACITY: 34000 Btu/h HEATING RATED CAPACITY: 42500 Btu/h DIMENSIONS (WxHxD): 42.8 x 43.4 x 17.3 In. WEIGHT: 198.4 Lbs.
	SIGN: [Symbol] SIZE: [Symbol] INDOOR UNIT 40GJQ9
	AIRFLOW (LOWEST TO HIGHEST): 76/235/323 CFM DIMENSIONS (WxHxD): 24.2 X 7.9 X 27.6 In. WEIGHT: 50.7 Lbs.
	SIGN: [Symbol] SIZE: [Symbol] HEAT RECOVERY VENTILATOR HRVXXLHB1250
	AIRFLOW: 250 ft³/min DIMENSIONS (WxHxD): 16.5 X 30.25 X 17.25 In.
	MANUAL AIR FLOW REGULATOR
	CENTRIFUGAL ASSIAL VENTILATOR
	LG PIPE(GAS) LL PIPE(LIQUID) SCX PIPE(SUCTION)
	SIGN: [Symbol] LENGTH: [Symbol] D-DELIVERY R-RETURN SLIT LINEAR DIFFUSER FOR DELIVERING RETURNING AIR WITH SLIDING DAMPER
	AIRFLOW: 29.4+111.8 ft³/min SLIT NUMBER: 2 DIMENSIONS (WxH): 47.2x4.7 In.
	AIRFLOW: 29.4+111.8 ft³/min SLIT NUMBER: 1 DIMENSIONS (WxH): 39.4x3.1 In.
	AIRFLOW: 29.4+70.6 ft³/min SLIT NUMBER: 1 DIMENSIONS (WxH): 23.6x3.1 In.
	SIGN: [Symbol] SEQUENTIAL NUMBER: [Symbol] SIZE: [Symbol] GRID FOR DELIVERING AND RETURNING AMBIENT AIR
	AIRFLOW: 29.4+88.3 ft³/min DIMENSIONS: 27.6x3.9 In.
	SIGN: [Symbol] SEQUENTIAL NUMBER: [Symbol] SIZE: [Symbol] STEEL INTAKE VALVE
	AIRFLOW: 0+58.9 ft³/min DIMENSIONS: Ø 3.9 In.
	CANALIZATION TO EXPEL AIR CANALIZATION AMBIENT AIR INTAKE



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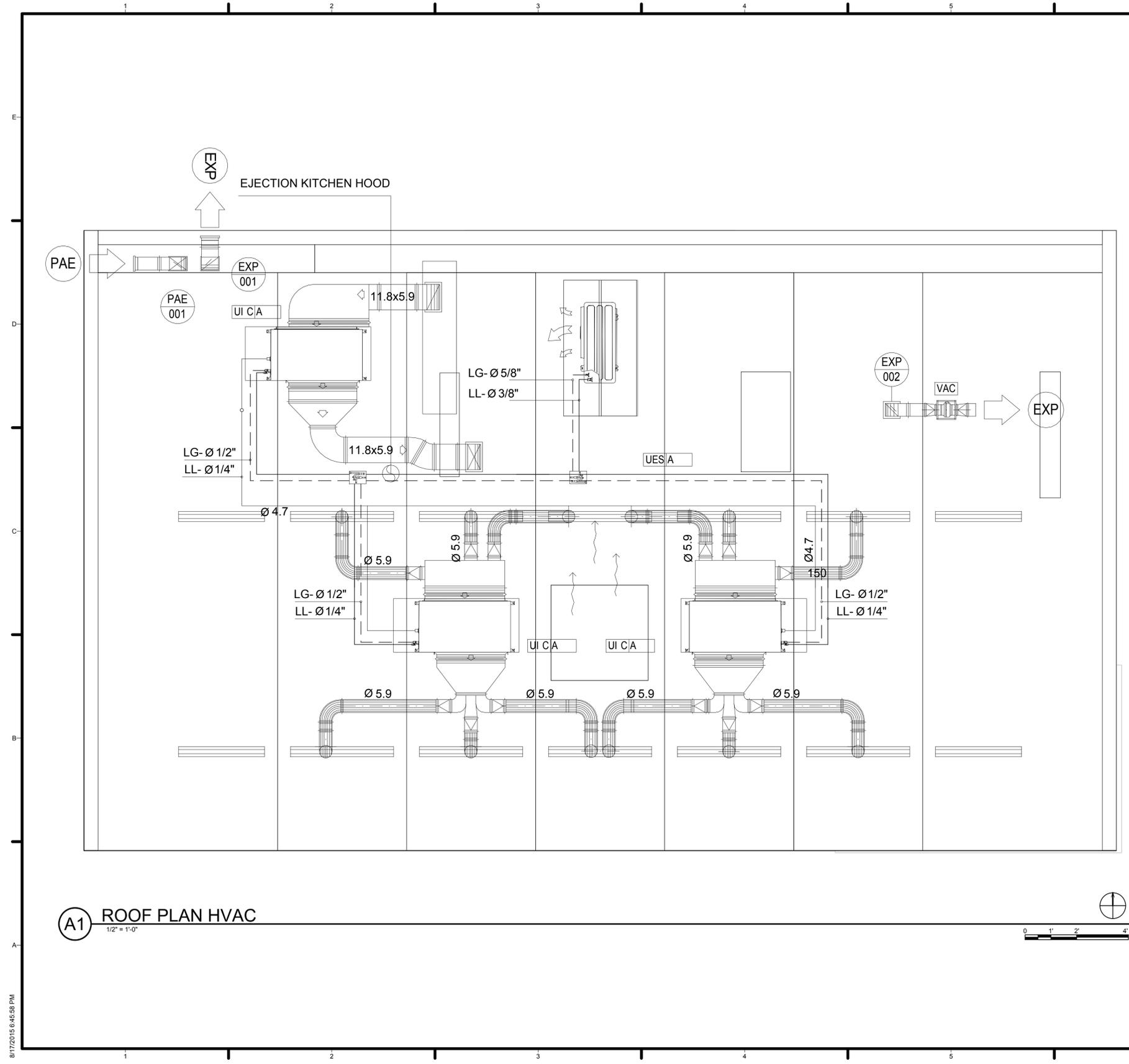
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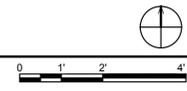
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SHEET TITLE
 HVAC EQUIPMENT AND DISTRIBUTION PLAN

M-102



A1 ROOF PLAN HVAC
 1/2" = 1'-0"



8/17/2015 6:45:58 PM

GENERAL STRUCTURAL NOTES:

1. SEE PROJECT MANUAL FOR:

- A. QUALITY OF CONSTRUCTION REQUIRED.
B. PERFORMANCE LEVELS OF WORKMANSHIP.
C. MANUFACTURING AND INDUSTRY STANDARDS.
D. STRENGTH AND PHYSICAL REQUIREMENTS OF MATERIALS.
E. CONFORMANCE TO CODES AND REGULATIONS.
F. WARRANTY REQUIREMENTS.

2. SHOULD A DISCREPANCY OCCUR BETWEEN THE CONSTRUCTION DRAWINGS AND THE PROJECT TECHNICAL SPECIFICATIONS IN THE PROJECT MANUAL, THE SPECIFICATIONS (INCLUDING GEOTECHNICAL REPORT) WILL GOVERN TO THE EXTENT OF CONFLICT.
3. DESIGN CODE: IBC 2012, RISK CATEGORY II
4. NO PROVISIONS HAVE BEEN MADE FOR FUTURE HORIZONTAL OR VERTICAL EXPANSION.

5. WIND DESIGN DATA:

ULTIMATE 3-SECOND GUST DESIGN WIND SPEED: 115 MPH
NOMINAL 3-SECOND GUST DESIGN WIND SPEED: 85 MPH
WIND EXPOSURE CLASSIFICATION: C
INTERNAL PRESSURE COEFFICIENT: +/-0.18 COMPONENTS AND CLADDING
DESIGN WIND PRESSURE FOR EXTERIOR COMPONENTS: 25 PSF

6. EARTHQUAKE DESIGN DATA:

SEISMIC IMPORTANCE FACTOR: Ie = 1.00
MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:
SS = 1.404, S1 = 0.503
DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS:
SDS = 0.936, SD1 = 0.503
SEISMIC SITE CLASS: D
SEISMIC DESIGN CATEGORY: D

BASIC SEISMIC FORCE RESISTING SYSTEM:
ORDINARY STEEL BRACED AND MOMENT FRAMES

DESIGN BASE SHEAR:
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE

7. LIVE LOAD DATA:

Table with 2 columns: UNIFORM FLOOR LIVE LOADS, LOCATION, LOAD. Row 1: RESIDENTIAL, 40 PSF

CONCENTRATED FLOOR LIVE LOADS (DISTRIBUTED OVER AN AREA 1/2 SQ. FT., UNLESS NOTED OTHERWISE): OFFICE BUILDINGS 2000 LBS

HANDRAIL:
TOP RAIL: 200 LB. OR 50 LB/FT APPLIED NON-CONCURRENTLY IN ANY DIRECTION.

8. SNOW LOAD DATA:

GROUND SNOW LOAD, PG = 20 PSF
FLAT ROOF SNOW LOAD, PF = 20 PSF (MIN)
SNOW EXPOSURE FACTOR, Ce = 1.0
THERMAL FACTOR, Ct = 1.1
SNOW LOAD IMPORTANCE FACTOR, Is = 1.0

9. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS RELATED TO EXISTING CONSTRUCTION, EXISTING SERVICES, AND THE SITE.

10. CONSTRUCTION LOADS SHALL NOT EXCEED DESIGN LIVE LOADS. SHORING AND RE-SHORING IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

PERFORMANCE REQUIREMENTS:

1. NO PROVISION OF ANY REFERENCED STANDARD SPECIFICATION, MANUAL OR CODE (WHETHER OR NOT SPECIFICALLY INCORPORATED BY REFERENCE IN THE CONTRACT DOCUMENTS) SHALL BE EFFECTIVE TO CHANGE THE DUTIES AND RESPONSIBILITIES OF OWNER, CONTRACTOR, ENGINEER, SUPPLIER, OR ANY OF THEIR CONSULTANTS, AGENTS, OR EMPLOYEES FROM THOSE SET FORTH IN THE CONTRACT DOCUMENTS. NOR SHALL IT BE EFFECTIVE TO ASSIGN TO THE STRUCTURAL ENGINEER OF RECORD OR ANY OF THE STRUCTURAL ENGINEER OF RECORD'S CONSULTANTS, AGENTS, OR EMPLOYEES ANY DUTY OR AUTHORITY TO SUPERVISE OR DIRECT THE FURNISHING OR PERFORMANCE OF THE WORK OR ANY DUTY OR AUTHORITY TO UNDERTAKE RESPONSIBILITIES CONTRARY TO THE PROVISIONS OR THE CONTRACT DOCUMENTS.

2. CONTRACT DOCUMENTS INCLUDE, BUT ARE NOT LIMITED TO, THE STRUCTURAL DOCUMENTS (DRAWINGS AND SPECIFICATIONS), BUT DO NOT INCLUDE SHOP DRAWING, VENDOR DRAWINGS, OR MATERIALS PREPARED AND SUBMITTED BY THE CONTRACTOR.

3. REFERENCE TO STANDARD SPECIFICATIONS OR ANY TECHNICAL SOCIETY, ORGANIZATION, OR ASSOCIATION OR TO CODES OF LOCAL OR STATE AUTHORITIES, SHALL MEAN THE LATEST STANDARD, CODE, SPECIFICATION OR TENTATIVE SPECIFICATION ADOPTED AT THE DATE OF TAKING BIDS, UNLESS SPECIFICALLY STATED OTHERWISE.

4. CONTRACT DOCUMENTS SHALL GOVERN IN THE EVENT OF A CONFLICT WITH THE CODE OF PRACTICE OR SPECIFICATIONS OF ACI, PCI, AISC, SJI, OR OTHER STANDARDS, WHERE A CONFLICT OCCURS WITHIN THE CONTRACT DOCUMENTS, THE STRICTEST REQUIREMENT SHALL GOVERN.

5. CONTRACTOR SHALL OBTAIN AND COORDINATE EDGE OF SLAB AND ROOF DECK EDGE DIMENSIONS, OPENING LOCATIONS AND DIMENSIONS, DEPRESSED SLAB LOCATIONS AND EXTENTS, SLAB SLOPES, CURB LOCATIONS, AND CMU WALL LOCATION. ARCHITECT/STRUCTURAL ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY OR OMISSION. IN THE EVENT OF DISCREPANCIES, THE NON-STRUCTURAL ARCHITECTURAL DETAILS SHALL GOVERN.

6. CONTRACTOR SHALL VERIFY EXISTING DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS BEFORE STARTING WORK. ARCHITECT/STRUCTURAL ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY.

7. CONTRACTOR SHALL VERIFY THE STRUCTURALLY SUPPORTED MECHANICAL EQUIPMENT WEIGHTS, OPENING SIZES, AND LOCATIONS IDENTIFIED ON THE STRUCTURAL DRAWING WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.

8. CONTRACTOR SHALL VERIFY THAT MISCELLANEOUS FRAMING SHOWN ON THE STRUCTURAL DRAWINGS FOR MECHANICAL EQUIPMENT, OWNER-FURNISHED ITEMS, PARTITIONS, ETC. IS CONSISTENT WITH THE REQUIREMENTS OF SUCH ITEMS.

9. CONTRACTOR HAS RESPONSIBILITY FOR MEANS, METHODS, SAFETY, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.

10. THE STRUCTURE IS STABLE ONLY IN ITS COMPLETED FORM. TEMPORARY SUPPORTS REQUIRED FOR STABILITY DURING ALL INTERMEDIATE STAGES OF CONSTRUCTION SHALL BE DESIGNED, FURNISHED, AND INSTALLED BY THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTIBILITY ANALYSIS, AND ERECTION PROCEDURES, INCLUDING DESIGN AND ERECTION OF FRAMEWORK, TEMPORARY BRACING, ETC.

11. CONTRACTOR HAS SOLE RESPONSIBILITY TO COMPLY WITH ALL OSHA REGULATIONS.

12. REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.

13. ELECTRONIC DRAWING FILES WILL NOT BE PROVIDED TO THE CONTRACTOR.

14. STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR THE DESIGN OF STEEL STAIRS, HANDRAILS, CURTAIN WALL/WINDOW SYSTEMS, COLD-FORMED METAL FRAMING, TOILET PARTITION SUPPORTS, SHELF SYSTEMS, OR OTHER SYSTEMS NOT SHOWN IN THE STRUCTURAL DOCUMENTS. SUCH SYSTEMS SHALL BE DESIGNED, FURNISHED, AND INSTALLED BY OTHERS AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS.

15. STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR SPECIFYING ALL WATERPROOFING DETAILS AND ELEMENTS ON THE SUPERSTRUCTURE AND BELOW GRADE STRUCTURES.

16. GENERAL CONTRACTOR SHALL REVIEW AND COORDINATE ELEVATOR RAIL AND HOIST REQUIREMENTS WITH STRUCTURAL DRAWINGS. NOTIFY STRUCTURAL ENGINEER IMMEDIATELY IF CHANGES ARE REQUIRED.

CONSTRUCTION MEANS AND METHODS

1. CONTRACTOR AGREES THAT CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE WORK, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD OWNER AND STRUCTURAL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF OWNER OR STRUCTURAL ENGINEER.

2. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INCLUDE THE METHOD OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO: PROTECTION OF SUBGRADE FROM FREEZING CONDITIONS, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, TEMPORARY STRUCTURES, AND PARTIALLY COMPLETED WORK. OBSERVATION VISITS TO THE SITE BY STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.

3. ADS CONSULTING ENGINEERS SHALL NOT HAVE CONTROL OVER OR CHARGE OF AND SHALL NOT BE RESPONSIBLE IN ANY WAY FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR SAFETY OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH ANY CONSTRUCTION ACTIVITIES, SINCE THESE ARE SOLELY CONTRACTOR'S RESPONSIBILITY UNDER THE CONTRACT.

4. ADS CONSULTING ENGINEERS SHALL NOT BE RESPONSIBLE FOR CONTRACTOR'S SCHEDULE OR FAILURES TO CARRY OUT ANY CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ADS CONSULTING ENGINEERS SHALL NOT HAVE CONTROL OVER OR CHARGE OF ACTIONS OF CONTRACTOR, SUBCONTRACTOR, OR ANY OF THEIR AGENTS, OR EMPLOYEES, OR ANY OTHER PERSONS PERFORMING PORTIONS OF ANY CONSTRUCTION ACTIVITIES.

5. THE STRUCTURE IS STABLE ONLY IN ITS COMPLETED FORM. TEMPORARY SUPPORTS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL INTERMEDIATE STAGES OF CONSTRUCTION SHALL BE DESIGNED AND PROVIDED BY CONTRACTOR.

STEEL DECK:

1. DESIGN OF STEEL DECK SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE REQUIREMENTS OF THE STEEL DECK INSTITUTE (SDI) AND THE CONTRACT DOCUMENTS. SUBMIT SHOP DRAWINGS WITH DESIGN LOAD DATA SEALED BY AN ENGINEER LICENSED IN THE PROJECT STATE. REVIEW OF SHOP DRAWINGS SHALL BE FOR CONTRACTOR'S INTERPRETATION OF DESIGN LOADS AND CONTRACT DOCUMENT DETAILS. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THE FULL RESPONSIBILITY FOR THE DESIGN OF THE STEEL DECK. DECK SHOWN ON DESIGN DRAWINGS ARE FOR ESTIMATING PURPOSES ONLY.

2. COMPOSITE STEEL DECK SHALL BE CAPABLE OF SUPPORTING THE LOADS DESCRIBED IN THE SPECIFICATIONS, CORRESPONDING TO THE NUMBER OF SPANS AND THE SPAN LENGTH.
A. COMPOSITE FLOOR DECK IS DESIGNED TO BE UNSHORED UNLESS NOTED OTHERWISE.
B. COMPOSITE FLOOR SLABS ARE TO BE FINISHED LEVEL. THE WEIGHT OF THE WET CONCRETE WILL CAUSE DEFLECTIONS OF THE STEEL FRAMING. THIS CONCRETE OVERRUNS ARE TO BE ANTICIPATED AND INCLUDED IN THE CONTRACTOR'S BASE BID.
C. COORDINATE EMBEDDED ITEMS REQUIRED FOR ARCHITECTURAL, STRUCTURAL AND MECHANICAL ELEMENTS.

STRUCTURAL STEEL:

1. ALL STRUCTURAL STEEL WORK SHALL BE IN ACCORDANCE WITH THE "SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL BUILDINGS" (13TH EDITION) OF THE AISC. MAINTAIN COPY OF EACH ON JOB SITE DURING CONSTRUCTION.

2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:

- A. WIDE FLANGE SHAPES AND WTS - ASTM A 992 WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI.
B. CHANNELS, ANGLES, PLATES, AND MISCELLANEOUS CONNECTION MATERIAL - ASTM A 36 WITH A MINIMUM YIELD STRENGTH OF 36,000 PSI UNLESS NOTED OTHERWISE.
C. PIPES - ASTM A 501 WITH A MINIMUM YIELD STRENGTH OF 36,000 PSI OR ASTM A 53 TYPE E OR S WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI.
D. TUBES - ASTM A 500, GRADE B WITH A MINIMUM YIELD STRENGTH OF 46,000 PSI.

3. ALL BOLTS SHALL BE 3/4" DIA. UNLESS NOTED OTHERWISE ASTM A 325 H.S. BOLT OF EITHER FRICTION OR BEARING TYPE. USE SLIP CRITICAL CONNECTIONS FOR ALL WIND BRACING CONNECTIONS. THREADS SHALL BE INCLUDED IN THE SHEAR PLANE.

4. ALL BOLTED CONNECTIONS SHALL BE MADE ACCORDING TO AISC TABLE II OR III FRAMED BEAM CONNECTIONS. THE MINIMUM DEPTH OF CONNECTION MUST BE MORE THAN ONE HALF THE DEPTH OF THE BEAM EXCEPT THAT BEAMS FRAMING TO COLUMNS SHALL HAVE FULL DEPTH CONNECTIONS USING 3/8" CONNECTION ANGLES OR PLATES. CONTRACTOR SHALL PROVIDE CERTIFIED DESIGN FOR ALL SHEAR CONNECTIONS BY A PROFESSIONAL ENGINEER IN THE STATE IN WHICH THE PROJECT IS LOCATED. SUBMIT CALCULATIONS FOR MOMENT CONNECTIONS USING BRACED MEMBER CAPACITY U.N.O. ON PLANS. MINIMUM END REACTION OF BEAMS:

- W8'S = 10 KIPS
W10'S = 12 KIPS
W12'S = 16 KIPS
W14'S = 18 KIPS
W16'S = 20 KIPS
W18'S = 22 KIPS
W21'S = 24 KIPS
W24'S = 26 KIPS

6. ALL WELDING SHALL BE IN STRICT ACCORDANCE WITH THE STANDARDS OF THE AWS AND THE AISC. USE E70XX ELECTRODES.

7. DO NOT PAINT STEEL WHERE ENCASED IN CONCRETE OR AT FIELD WELD AREAS.

8. NO SHOP OR FIELD HOLES OR CUTS ARE TO BE PLACED IN STRUCTURAL MEMBERS UNLESS INDICATED ON THE CONTRACT OR SHOP DRAWINGS.

9. THE STRUCTURAL STEEL FABRICATOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION, PARTICULARLY FOR STAIRS, HANDRAIL SYSTEMS, ETC.

10. THE STRUCTURAL STEEL FABRICATOR SHALL PROVIDE FOR VERTICAL AND HORIZONTAL ADJUSTMENT OF ALL SUPPORT ASSEMBLIES.

11. THE STRUCTURAL STEEL FABRICATOR AND/OR THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AT THE SITE. ALL DISCREPANCIES FOUND SHALL BE REPORTED TO THE ARCHITECT PRIOR TO PREPARATION OF SHOP DRAWINGS. SHOP DRAWINGS SHALL INCLUDE ALL FIELD MEASUREMENTS AND CONDITIONS.

12. EXPANSION BOLTS: USE EXPANSIVE ANCHORS OF THE DIAMETER INDICATED ON THE DRAWINGS AS MANUFACTURED BY HILTI FASTENING SYSTEMS OR APPROVED EQUAL.

- A. IN CONCRETE, USE HSL HEAVY DUTY ANCHORS.
B. IN BRICK AND CMU, USE SLEEVE AND FILL CMU CELLS AT ALL BOLT LOCATIONS.
13. ANCHOR BOLTS MUST MEET ASTM A 1554 GR. 36 SPECIFICATIONS AND BE 3/4" DIAMETER (UNLESS OTHERWISE INDICATED).

16. ALL GALVANIZING SHALL BE PER ASTM A 123 AND A 780. ALL STEEL EXPOSED TO THE ELEMENTS AND MASONRY SUPPORT MEMBERS SHALL BE GALVANIZED. BACKUP STEEL SUPPORTING MASONRY VENEER AND PRECAST SUPPORT ANGLES SHALL BE ZINC PRIMED AND PAINTED.

17. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR POSSIBLE MISCELLANEOUS STEEL. THIS STEEL SHALL ALSO CONFORM TO THE REQUIREMENTS IN THESE GENERAL NOTES AND THE STRUCTURAL STEEL SPECIFICATIONS.

18. STEEL FABRICATOR SHALL BE CERTIFIED UNDER THE AISC QUALITY CERTIFICATION PROGRAM.

20. STEEL FABRICATOR SHALL REVIEW ARCHITECTURAL DRAWINGS AND INCLUDE ALL MISCELLANEOUS STEEL IN THEIR BID. IF NOTES ON ARCHITECTURAL DRAWINGS REFER TO "SEE STRUCTURAL" AND THE STRUCTURAL DRAWINGS DO NOT ADDRESS THIS ITEM NOTIFY THE E.O.R. AT LEAST TWO WEEKS PRIOR TO BID OPENING TO ALLOW TIME FOR ISSUE OF ADDENDUM.

21. COLUMN SCHEDULE MAY NOT INCLUDE ALL COLUMNS ON THE PROJECT. REVIEW ALL DRAWINGS TO INSURE ALL COLUMNS ARE INCLUDED IN BID.

23. SUPPORT FOR RTU'S SHALL BE LIMITED TO FRAMED OPENING STEEL AROUND ROOF OPENINGS. ADDITIONAL STEEL REQUIRED FOR RTU SUPPORT SHALL BE DESIGNED AND PROVIDED BY THE GENERAL CONTRACTOR WITH COORDINATION WITH THE RTU MANUFACTURER.

LIGHTGAGE STEEL FRAMING (LSF):

1. ALL STRUCTURAL MEMBERS SHALL BE DESIGNED IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION). WIND LOAD DETERMINATION FOR COMPONENTS AND CLADDING SHALL BE PER ASCE STANDARD. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES

2. ALL STRUCTURAL STUD AND/OR JOIST FRAMING MEMBERS SHALL BE ENGINEERED BY THE MANUFACTURER. DESIGN CALCULATIONS AND SHOP DRAWINGS INDICATING ALL JAMBS, POSTS, HEADERS, BRACING, AND PIECES NECESSARY FOR CONSTRUCTION SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.

3. EXTERIOR STUD WALLS SHALL BE DESIGNED FOR A MINIMUM UNIFORM WIND PRESSURE AS PER IBC - 2012 FOR COMPONENTS AND CLADDING AND A MAXIMUM PERMISSIBLE HORIZONTAL DEFLECTION OF L/360 (L600 FOR UNREINFORCED VENEER).

4. MAXIMUM STUD SPACING SHALL BE 16" O.C.

5. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR AS REQUIRED FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS.
6. ALL FIELD CUTTING OF STUDS MUST BE DONE BY SAWING OR SHEARING. TORCH CUTTING OF COLD-FORMED MEMBERS IS UNACCEPTABLE.

7. FASTENING OF COMPONENTS SHALL BE WITH SELF-DRILLING SCREWS OR WELDING. SCREWS SHALL BE OF SUFFICIENT SIZE TO INSURE THE STRENGTH OF THE COMPONENT. WIRE TYING OF COMPONENTS SHALL NOT BE PERMITTED. ALL WELDS SHALL BE TOUCHED-UP WITH ZINC-RICH PAINT.

8. LSF MEMBERS SHALL BE SECURELY ATTACHED TO THE STRUCTURE WHERE INDICATED ON THE DRAWINGS OR APPROVED SHOP DRAWINGS. FASTENERS SHALL BE COMPATIBLE TO THE STRUCTURAL MEMBERS.

9. PROVIDE VERTICAL SLIDE TRACKS OR SLIDE CLIPS WHERE INDICATED ON THE DRAWINGS OR OTHERWISE REQUIRED TO ALLOW FOR VERTICAL STRUCTURAL MOVEMENTS. MAXIMUM EXPECTED STRUCTURE DEFLECTIONS ARE L/360 AT FLOORS AND L/240 AT ROOFS.

10. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION, SUCH AS SHEETING TYPE, FINISHES, OPENINGS, ETC.

11. FOR VERTICAL LOAD BEARING STUD WALLS, DO NOT LOAD OVERBEARING ROOF OR FLOORS WITH CONSTRUCTION EQUIPMENT AND/OR STORE BUILDING MATERIALS UNTIL BEARING STUDS ARE FULLY INSTALLED AND BRACED ACCORDINGLY. CONTRACTOR REMAINS RESPONSIBLE FOR MEANS AND METHODS AND CONSTRUCTION SITE SAFETY.



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SHEET TITLE
STRUCTURAL NOTES AND SYMBOLS

S-001

