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FAA AIP No. - 3-27-0024-48-10
RS&H PROJ. No. - 213.1882.091
CITY OF DULUTH BID No. - 10-4401

NEW PASSENGER TERMINAL
BID PACKAGE 1 - Sitework, Structure, Enclosure
ADDENDUM 1
JUNE 11, 2010

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Landscaping Consultants:
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Duluth MN 55812
TEL: (218) 591-5079

DRAWING LIST

G000 COVER SHEET
G101 DRAWING LIST & PROJECT DATA

ARCHITECTURAL

A001 ARCHITECTUAL ABBREIVATIONS AND GENERAL NOTES
A002 SYMBOLS AND ADA
A003 PARTITION TYPES

AS101 CONSTRUCTION PHASE SITE INFORMATION

A101 OVERALL FIRST FLOOR PLAN
A102 OVERALL SECOND FLOOR PLAN
A103 OVERALL THIRD FLOOR PLAN
A104 OVERALL ROOF PLAN
A110 FIRST FLOOR AREA A
A111 FIRST FLOOR AREA B
A112 SECOND FLOOR AREA A
A113 SECOND FLOOR AREA B
A114 THIRD FLOOR AREA A
A115 THIRD FLOOR AREA B

A301 EXTERIOR ELEVATIONS
A302 EXTERIOR ELEVATIONS

A310 BUILDING SECTIONS
A311 BUILDING SECTIONS

A401 WALL SECTIONS
A402 WALL SECTIONS
A403 WALL SECTIONS

A510 PLAN DETAILS
A511 PLAN DETAILS
A512 PLAN DETAILS
A520 SECTION DETAILS
1 A521 SECTION DETAILS
A522 SECTION DETAILS
A530 EXTERIOR SYSTEM SHEET – VERTICAL CIRCULATION
1 A530A EXTERIOR SYSTEM SHEET – VERTICAL CIRCULATION
A530B EXTERIOR SYSTEM SHEET – VERTICAL CIRCULATION
A532 INTERIOR SYSTEM SHEET – VERTICAL CIRCULATION
1 A540 INTERIOR SYSTEM SHEET – VERTICAL CIRCULATION DETAILS

A702 DOOR DETAILS
A710 EXTERIOR SYSTEM SHEET – LANDSIDE CURTAIN WALL
A711 EXTERIOR SYSTEM SHEET – LANDSIDE CURTAIN WALL
A712 EXTERIOR SYSTEM SHEET – AIRSIDE CURTAIN WALL
A713 EXTERIOR SYSTEM SHEET – AIRSIDE CURTAIN WALL
A714 EXTERIOR SYSTEM SHEET – ENTRY VESTIBULE
A716 EXTERIOR SYSTEM SHEET – CORE WALL
1 A723 EXTERIOR SYSTEM SHEET – CANOPY

LS101 FIRST FLOOR LIFE SAFETY
LS102 SECOND FLOOR LIFE SAFETY
LS103 THIRD FLOOR LIFE SAFETY

STRUCTURAL

S001 TITLE SHEET
S002 GENERAL STRUCTURAL NOTES
S003 GENERAL STRUCTURAL NOTES

S101 OVERALL FIRST LEVEL FLOOR PLAN
S102 OVERALL SECOND LEVEL FLOOR PLAN
S103 OVERALL THIRD LEVEL FLOOR PLAN
S104 OVERALL ROOF LEVEL FLOOR PLAN

S106 CANOPY FOUNDATION PLAN – AREA A
S107 CANOPY FOUNDATION PLAN – AREA B
S108 CANOPY ROOF FRAMING PLAN – AREA A
S109 CANOPY ROOF FRAMING PLAN – AREA B

S110 FOUNDATION PLAN – AREA A
S111 FOUNDATION PLAN – AREA B
S112 SECOND LEVEL FRAMING PLAN – AREA A
S113 SECOND LEVEL FRAMING PLAN – AREA B
S114 THIRD LEVEL FRAMING PLAN – AREA A
S115 THIRD LEVEL FRAMING PLAN – AREA B
S116 ROOF LEVEL FRAMING PLAN – AREA A
S117 ROOF LEVEL FRAMING PLAN – AREA B
S118 TUG ROAD FOUNDATION PLAN
S119 TUG ROAD ROOF FRAMING PLAN

S301 BRACING ELEVATIONS AND DETAILS
S302 BRACING ELEVATIONS AND DETAILS

S401 COLUMN SCHEDULE AND DETAILS

S501 STRUCTURAL DETAILS
S502 STRUCTURAL DETAILS
S503 STRUCTURAL DETAILS
S504 STRUCTURAL DETAILS
S505 STRUCTURAL DETAILS

S701 STRUCTURAL DETAILS
S702 STRUCTURAL DETAILS
S703 STRUCTURAL DETAILS
S704 STRUCTURAL DETAILS
S705 STRUCTURAL DETAILS
S706 STRUCTURAL DETAILS

MECHANICAL

M001 MECHANICAL LEGEND
M002 MECHANICAL SYMBOLS

M108 ENLARGED UNDERGROUND MECHANICAL PLAN – AREA A
M109 ENLARGED UNDERGROUND MECHANICAL PLAN – AREA B

M501 MECHANICAL DETAILS I

ELECTRICAL

E001 ELECTRICAL SYMBOLS

1 ~~E110 ENLARGED FIRST FLOOR ELECTRICAL PLAN AREA A~~
~~E111 ENLARGED FIRST FLOOR ELECTRICAL PLAN AREA A~~

E200 ENLARGED EQUIPMENT ROOMS
E201 GROUNDING PLAN

1 ~~E400 ELECTRICAL ABBREVIATIONS AND TABLES~~
~~E403 PANEL SCHEDULES~~
~~E404 PANEL SCHEDULES~~
~~E405 PANEL SCHEDULES~~
~~E406 PANEL SCHEDULES~~
~~E407 PANEL SCHEDULES~~

ET010 PARTIAL ELECTRICAL SITE PLAN & DETAILS

PLUMBING

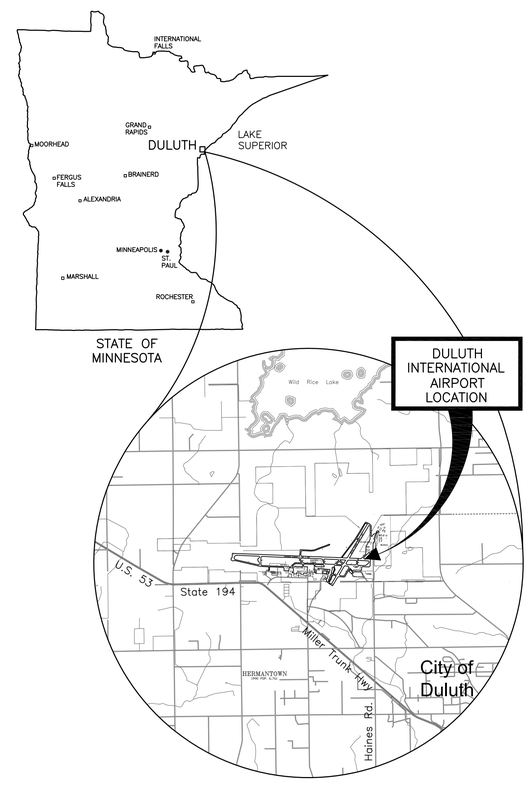
P001 PLUMBING SYMBOLS, ABBREVIATIONS AND DRAWING INDEX

P100 ENLARGED UNDERGROUND PLUMBING PLAN AREA A
P101 ENLARGED UNDERGROUND PLUMBING PLAN AREA B
P102 ENLARGED UNDERGROUND CANOPY PLUMBING PLAN AREA A
P103 ENLARGED UNDERGROUND CANOPY PLUMBING PLAN AREA B

P401 PLUMBING DETAILS

P501 PLUMBING SCHEDULES

GENERAL NOTE:
FOR ADA STANDARDS, PLUMBING FIXTURES' MOUNTING HEIGHTS AND CLEARANCES, SEE A002



N

1 LOCATION MAP
N.T.S.

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Print Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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SHEET TITLE
DRAWING LIST

SHEET NUMBER
G101

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

MATERIALS LEGEND

ITEM	DESCRIPTION
EARTH CRUSHED ROCK GRAVEL	
EARTH UNDISTURBED	
EARTHWORK COMPACTED FILL	
SAND	
BRICK COMMON/FACE	
CMU	
CONCRETE	
GRANITE STONE	
GROUT	
LIMESTONE	
MARBLE STONE	
STONE CAST	
TERRA COTTA GLAZED	
TERRA COTTA UNGLAZED	
ALUMINUM AND OTHER METALS	
BRONZE BRASS	
STEEL	
SHEET METAL AND ALL METALS	
PARTICLEBOARD WOODWORK ARCHITECTURAL	
PLYWOOD	
WOOD BLOCKING SHIM	
WOOD FINISH	
WOOD FRAMING CONTINUOUS	
GASKET FIREPROOFING	
INSULATION BATT.	
INSULATION RIGID BOARD	
SEALANT AND BACKER ROD	
WATERPROOFING MEMBRANE	
GLASS MIRRORS	
GLASS ELEVATION MIRRORS ELEVATION	
CARPET AND PAD	
GYPSUM BOARD FINISH	
PLASTER FINISH WITH METAL LATH	
TERRAZZO FINISH	
TILE ACOUSTICAL CEILING	
WOOD FLOORING	

SYMBOLS LEGEND

ITEM	SYMBOL
DRAWING TITLE	1 DWG_LABEL_1 X" = 1'-0
ROOM NUMBER	ROOM NAME XXX
ROOM NUMBER WITH KT/BT	ROOM NAME XXX XX XXX
MATERIAL CHANGE	XX XX FLR FLR
F F & E	XXX
ELEVATION CHANGE	
INTERIOR ELEVATION	CLG HT XX'-XX" AFF
SPOT ELEVATION	XX'-XX"
ELEVATION REFERENCE VERTICAL	FLOOR NAME EL XX'-XX"
DOOR NUMBER	XXX XX — ROOM NUMBER — DOOR IDENTIFIER
WINDOW/ GLAZING NUMBER	XXX
NOTE NUMBER	XX
WALL TYPE	XX
NORTH ARROW	N

ITEM	SYMBOL WITH SHEET DESIGNATION
PARTIAL BUILDING SECTION	1 AXXX
FULL BUILDING SECTION	1 AXXX
EXTERIOR ELEVATION	1 AXXX
INTERIOR ELEVATION	1 4 AXXX 2 3
DETAIL	1 AXXX

ACCESSIBILITY NOTES

A. GENERAL REQUIREMENTS

THIS PROJECT WILL COMPLY WITH ALL IAC 400.310 - NEW CONSTRUCTION.

1. THE ENTRANCE IS ACCESSIBLE PER IAC 400.310(k).

2. ALL PASSENGER ELEVATORS PROVIDED IN A BUILDING OR FACILITY SHALL BE ACCESSIBLE, SHALL SERVE ALL LEVELS OF A BUILDING OR FACILITY, SHALL BE ON AN ACCESSIBLE ROUTE AND SHALL COMPLY WITH THE ASME A 17.1-1996.

3. ALL DOORS LEADING TO REQUIRED ACCESSIBLE ROOMS AND SPACES SHALL BE A MINIMUM OF 3'-0" WIDE, HAVE LEVER OPERATED HARDWARE (OR EQUAL), HAVE A MININUM OPENING FORCE OF 5 LBF, AND FULLY COMPLY WITH IAC 400.310(j).

4. ALL DOORS LEADING TO HAZARDOUS ROOMS WILL COMPLY WITH THE ABOVE AND, IN ADDITION, WILL HAVE KNURLED OPERATING HARDWARE (I.E., ELECTRICAL/TELEPHONE ROOMS).

5. ALL ENVIRONMENTAL CONTROLS AND OPERATING MECHANISMS WILL COMPLY WITH IAC 400.310(r) (FRONT REACH BETWEEN 15" AND 48" AFF).

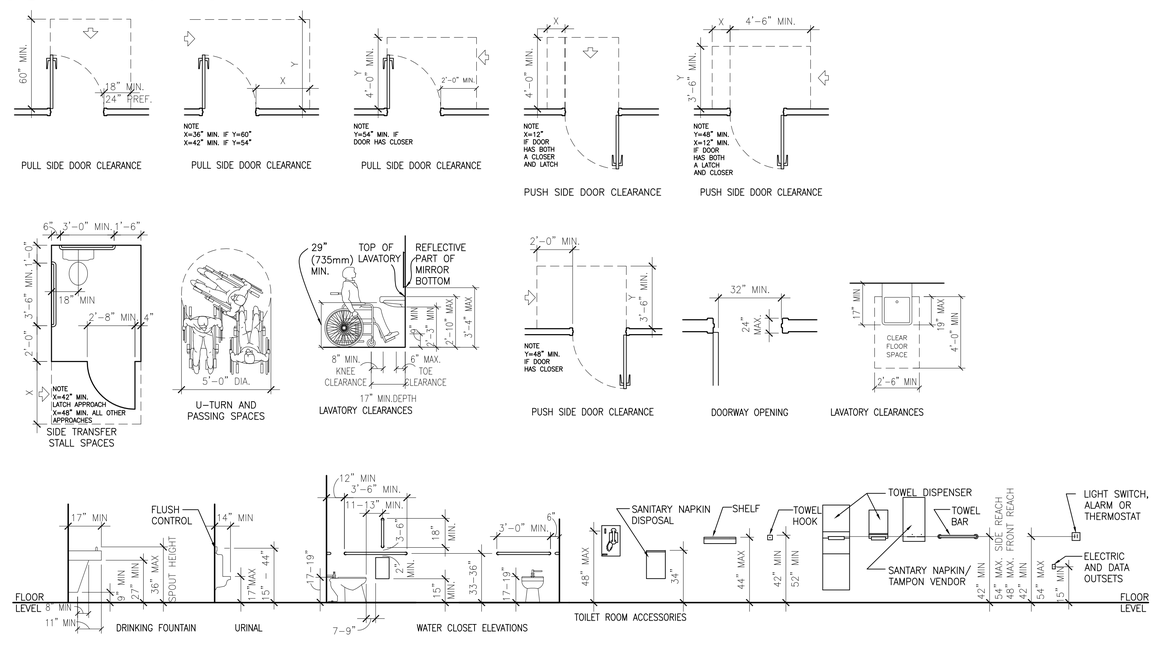
6. ALL EMERGENCY WARNING ALARMS, WHERE PROVIDED, SHALL BE BOTH AUDIBLE AND VISUAL AND COMPLY WITH IAC 400.310(s). THE VISUAL ALARMS WILL BE FLASHING TYPE WHERE THE FLASHING IS SYNCHRONIZED AND IN COMPLIANCE FOR INTENSITY AND FREQUENCY. ALL TENANT SPACES WILL BE WIRED FOR FUTURE INSTALLATION OF EMERGENCY WARNING ALARMS ON AN AS NEEDED BASIS (SEE SECURITY DRAWINGS).

7. ANY NEW REQUIRED SIGNAGE IN CONTRACT SHALL BE INSTALLED AS REQUIRED PER IAC 400.310(u).

8. TOILET ROOMS SERVING PUBLIC AREAS (I.E., LOBBIES, CONCOURSE, ETC.) WILL FULLY COMPLY WITH IAC 400.310(n).

1 9. REFER TO CHAPTER 1341 MN BUILDING CODE

1 ACCESSIBILITY CLEARANCES



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REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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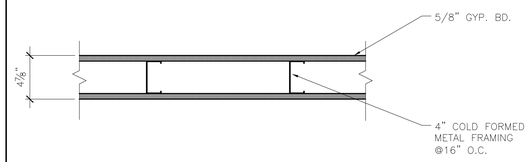
SHEET TITLE
SYMBOLS AND ACCESSIBILITY CLEARANCES

SHEET NUMBER
A002

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

PARTITION TYPES



1 TYPICAL AT INTERIOR PARTITIONS TO 6" ABOVE CEILING UNLESS OTHERWISE NOTED.

1A SIMILAR WITH GYP. BD. 1 SIDE ONLY

1B SIMILAR WITH 6" METAL FRAMING

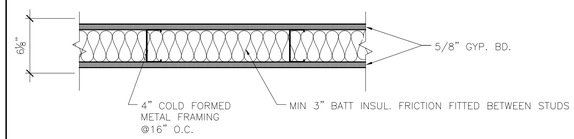
1C SIMILAR WITH 6" METAL FRAMING AND GYP. BD. 1 SIDE ONLY

1D SIMILAR WITH 8" METAL FRAMING

1E SIMILAR WITH 8" METAL FRAMING AND GYP. BD. 1 SIDE ONLY

1F SIMILAR WITH 8" METAL FRAMING AND GYP. BD. AND SOUND ATTENUATING BATT. INSUL.

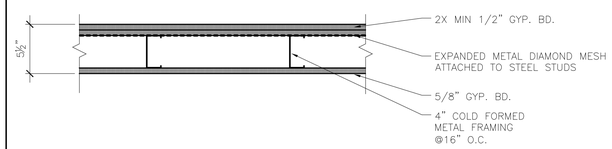
1



2 TYPICAL AT 1 HR FIRE RATED PARTITIONS TO UNDERSIDE OF STRUCTURAL DECK UNLESS OTHERWISE NOTED UL DESIGN NO. U404

2A SIMILAR WITH 8" FRAMING

2

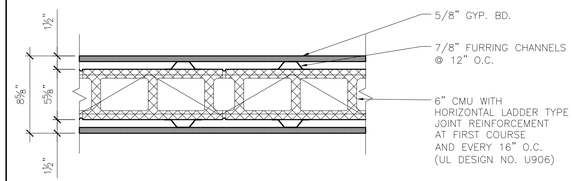


3 TYPICAL AT CBP SECURE ROOMS TO 6" ABOVE CEILING UNLESS OTHERWISE NOTED. STC RATING 50–55

3A SIMILAR WITH DOUBLE GYP. BD. AND EXPANDED METAL BOTH SIDES

NOTE: EXPANDED METAL MUST BE INSPECTED BY CPB PRIOR TO COVERING

3



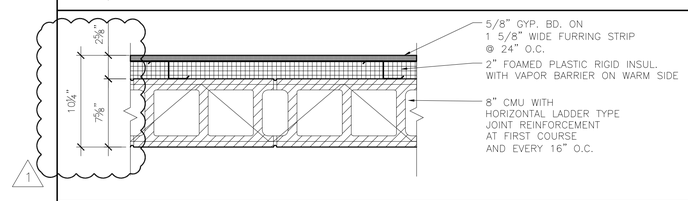
4 TYPICAL AT TOILET ROOMS TO 6" ABOVE CEILING UNLESS OTHERWISE NOTED.

4A SIMILAR WITH FURRING AND GYP. BD. ON ONE SIDE ONLY

4B SIMILAR WITH 8" CMU UL DESIGN NO. U907 MIN 1HR

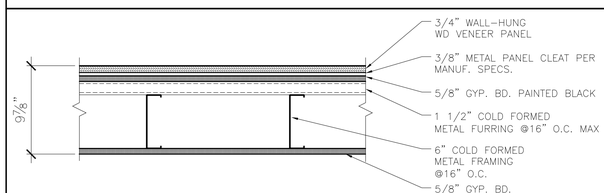
4C SIMILAR WITH 8" CMU AND FURRING AND GYP. BD. ON ONE SIDE ONLY UL DESIGN NO. U907 MIN 1HR

4



5 TYPICAL AT TUG TUNNEL WALL UL DESIGN NO. U912 3HR

5

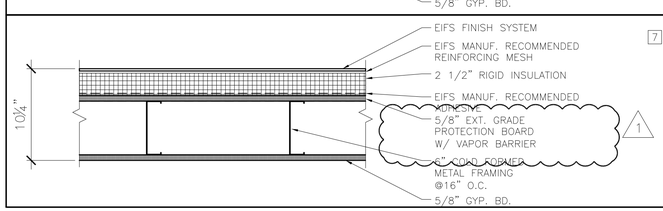


6 TYPICAL AT CORE WALL

6A SIMILAR WITH GYP. BD. ON PANEL SIDE ONLY

6B SIMILAR WITH 8" COLD FORMED METAL FRAMING INSTEAD OF 6" AND DELETE 1 1/2" FURRING.

6



7 TYPICAL AT INTERIOR WALL OF CHILLER ENCLOSURE

7

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SHEET TITLE
PARTITION TYPES

SHEET NUMBER
A003

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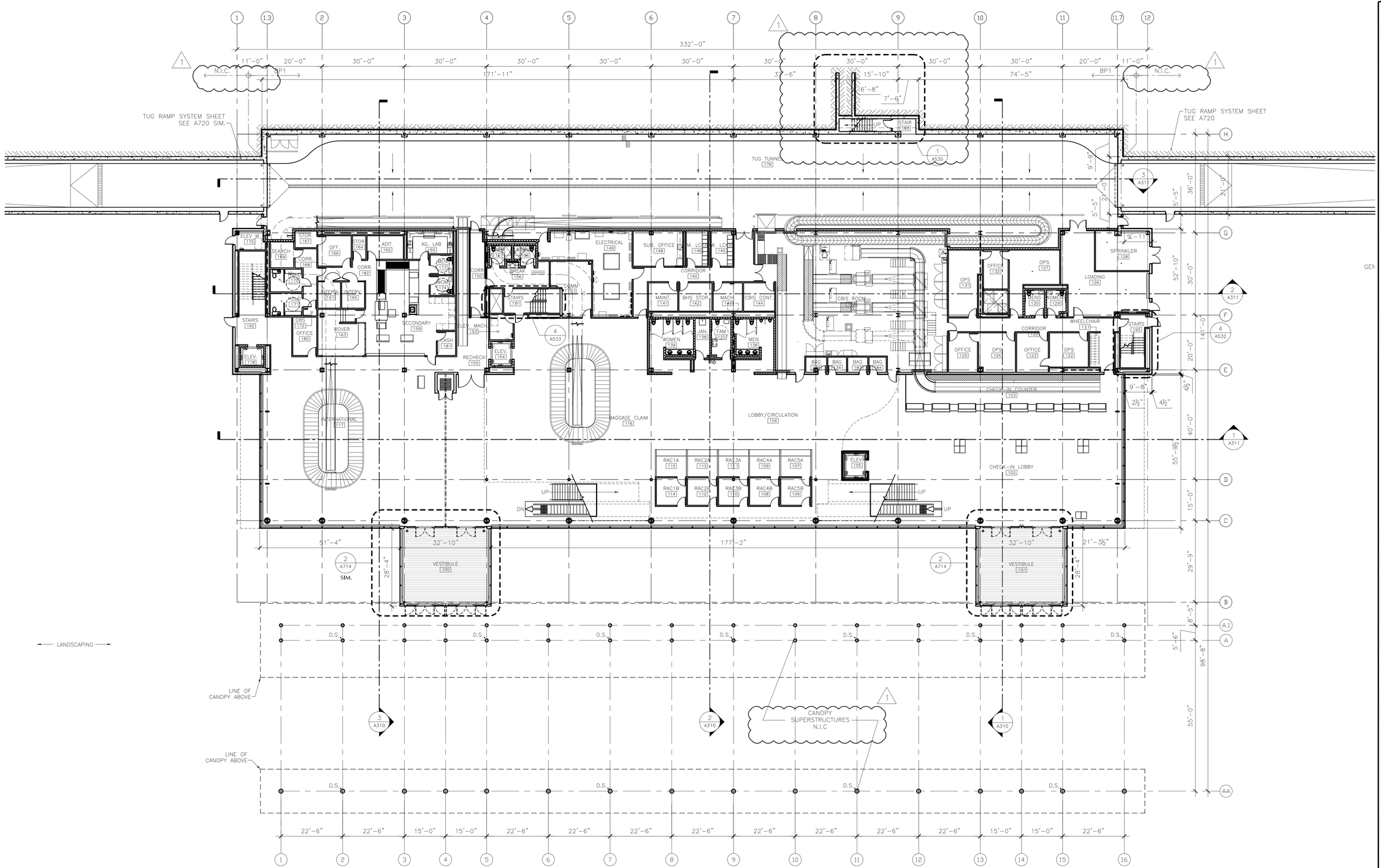

N

1 OVERALL FIRST FLOOR PLAN
1/16" = 1'-0"

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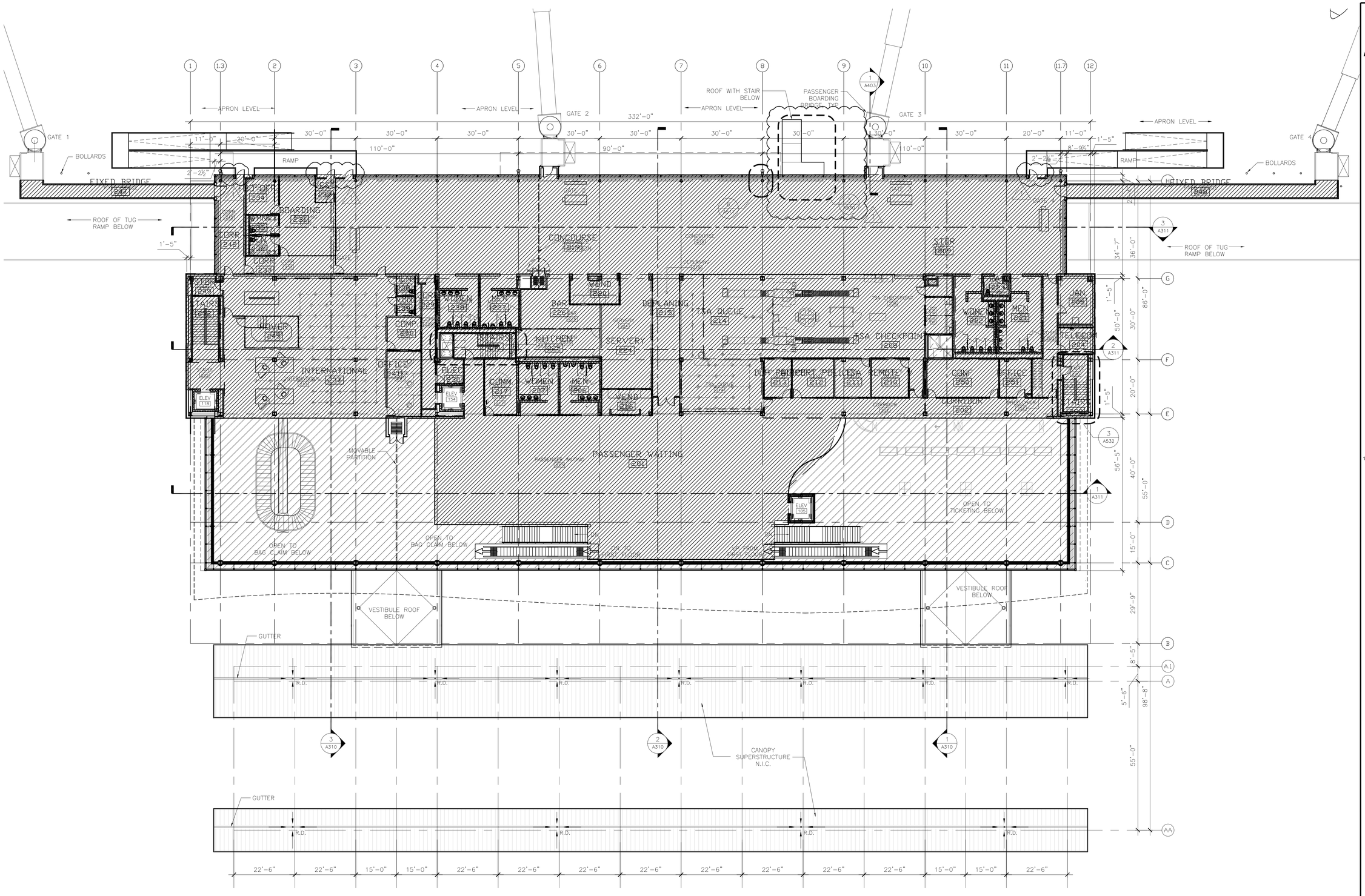
SHEET TITLE
OVERALL FIRST FLOOR PLAN

SHEET NUMBER
A101

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

Drawing: T:\P\2131882.091 Duluth New Terminal\Cad\A\Sheets\A101 Overall First Floor Plan.dwg Plotted on: 6/10/2010 3:16 PM Plotted by: Godzina, Marc



NOTE: IN FLOOR AIR DISTRIBUTION SYSTEM N.I.C.

N

1 SECOND LEVEL FLOOR PLAN
1/16" = 1'-0"

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DULUTH INTERNATIONAL AIRPORT DULUTH, MN

NEW PASSENGER TERMINAL

CONSULTANTS

Interior Architects:
SJA ARCHITECTS
11 E Superior Street Suite 340, Duluth MN 55802
TEL: (218) 724-8578 / FAX: (218) 724-8717

Structural Engineers:
MBJ CONSULTING ENG.
501 Lake Avenue South, Suite 300, Duluth MN 55802
TEL: (218) 722-1056 / FAX: (218) 722-9306

M/E/P/FP Engineers:
COSENTINI ASSOCIATES INC.
1 South Wacker Drive, 37th Floor, Chicago IL 60606
TEL: (312) 201-7408 / FAX: (312) 201-0031

Baggage Handling Systems Consultants:
BNP ASSOCIATES INC.
101 East Ridge Office Park, Suite 103, Danbury CT 06810
TEL: (203) 792-3000 / FAX: (203) 792-4900

Landscaping Consultants:
APPOLD DESIGN
2432 East First Street, Duluth MN 55812
TEL: (218) 591-5079

ARCHITECTURAL CERTIFICATION
I hereby certify that the architectural plans, specifications or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Architect under the laws of the State of Minnesota.

Print Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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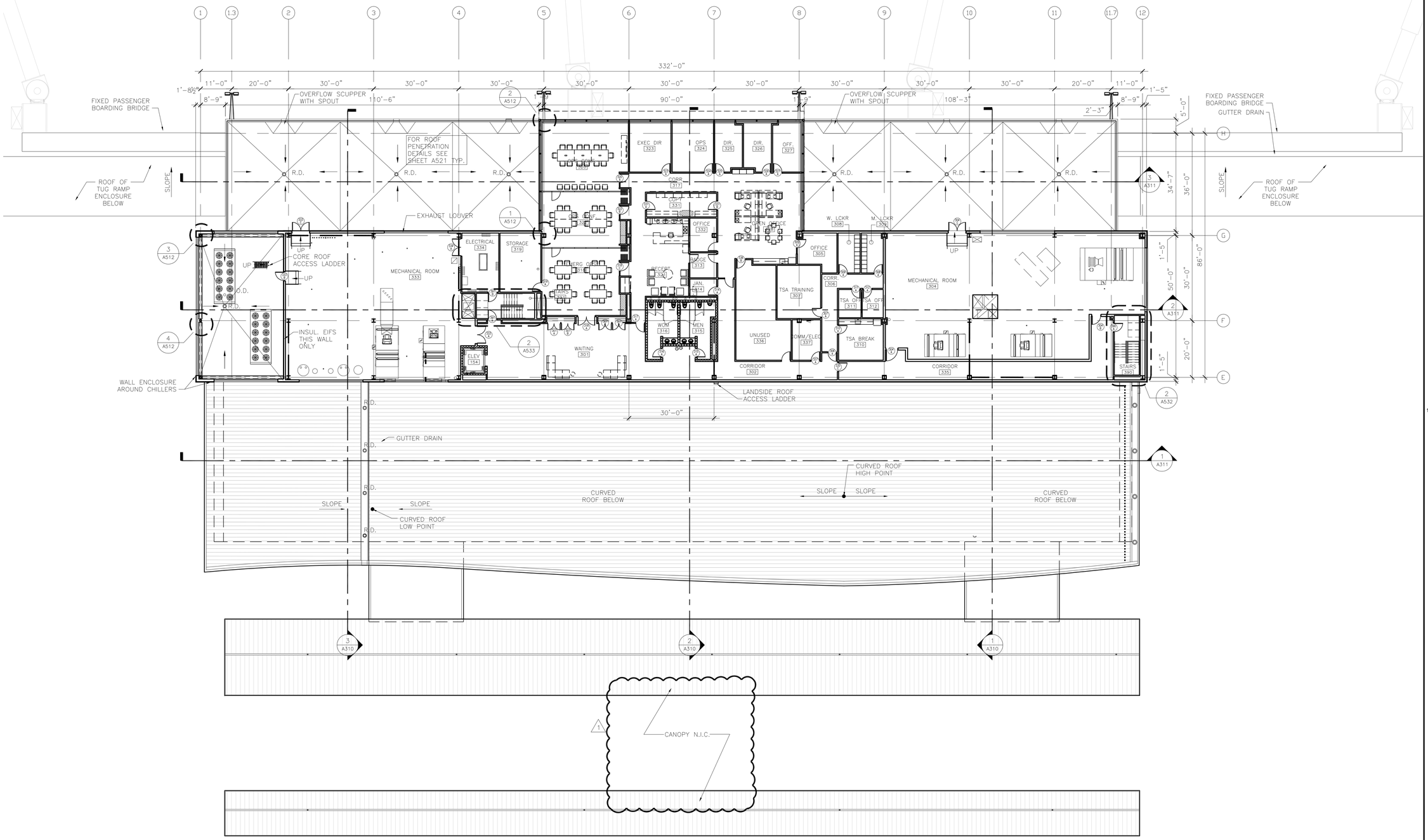
SHEET TITLE
OVERALL SECOND FLOOR PLAN

SHEET NUMBER
A102

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

Drawing: T:\P\2131882.091 Duluth New Terminal\Cad\A\Sheets\A102 Overall Second Floor Plan.dwg Plotted on: 6/10/2010 3:16 PM Plotted by: Godzina, Marc



N

1 THIRD LEVEL FLOOR PLAN
1/16" = 1'-0"

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DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
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AEP PROJECT NUMBER
213-1882-091

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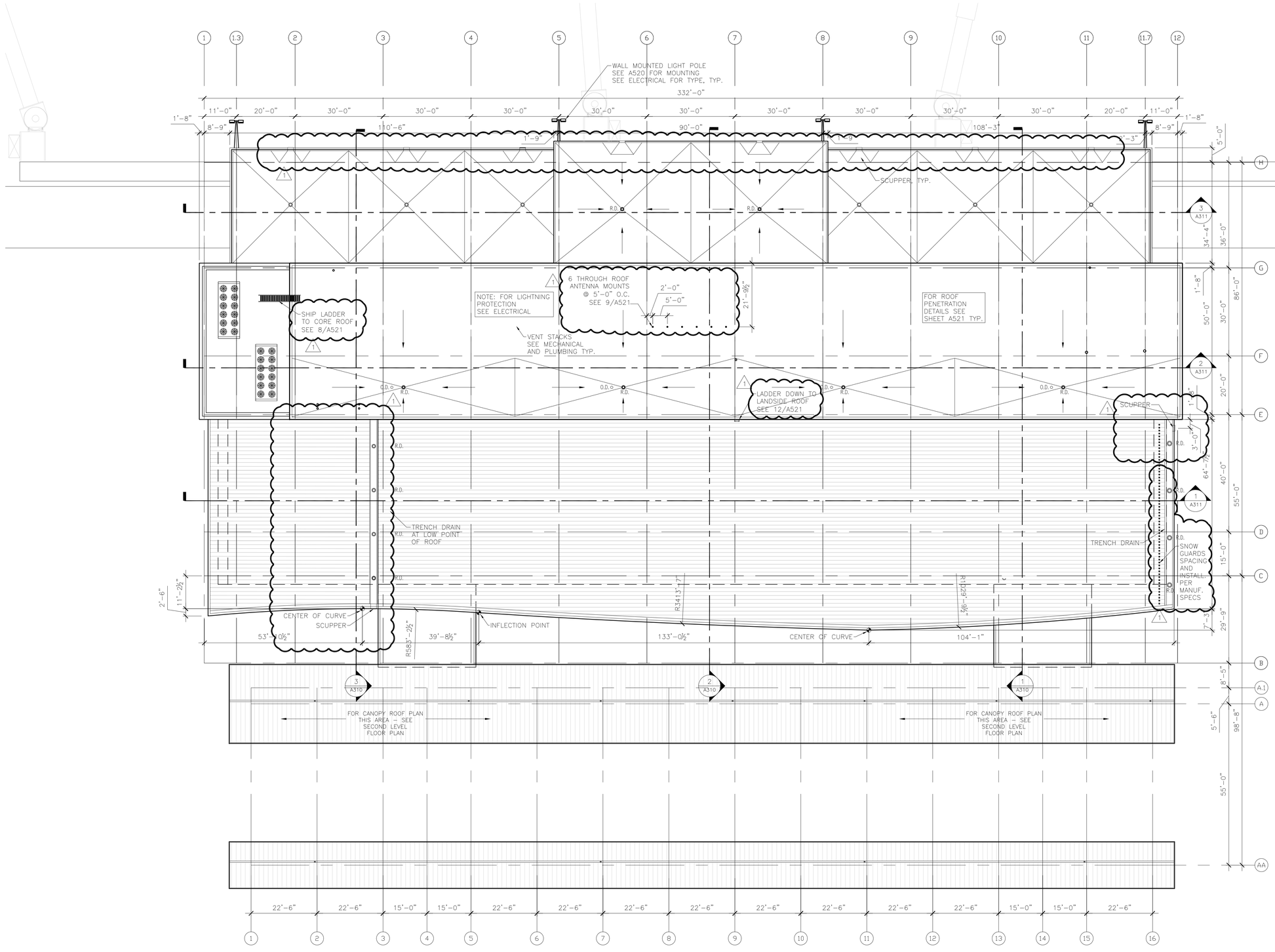
SHEET TITLE
OVERALL THIRD FLOOR PLAN

SHEET NUMBER
A103

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



N

1 ROOF PLAN
1/16" = 1'-0"

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REVIEWED BY: SBS/TC
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DESIGNED BY: SBS/TC

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213-1882-091

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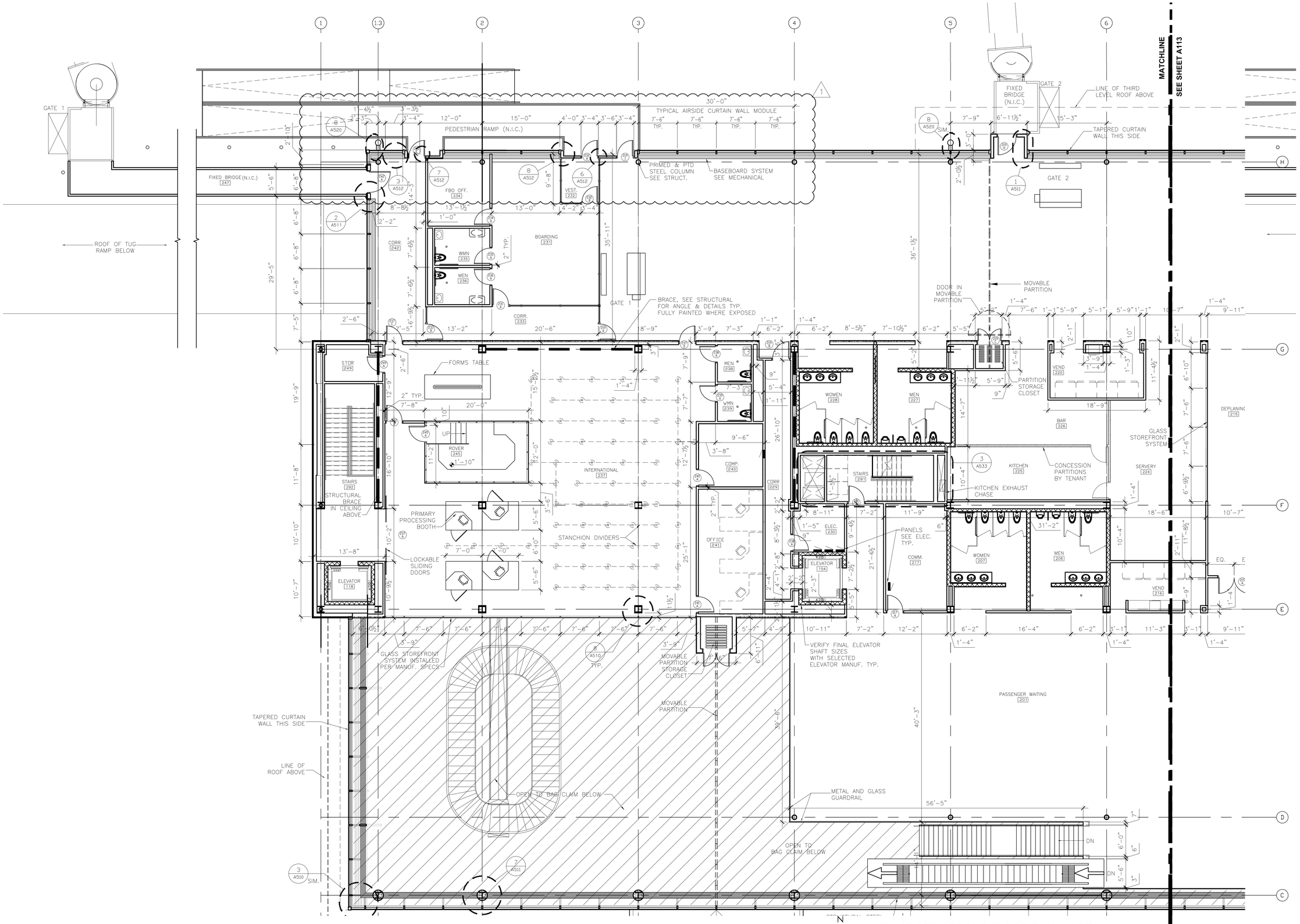
SHEET TITLE
OVERALL ROOF PLAN

SHEET NUMBER
A104

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



1 ENLARGED SECOND FLOOR PLAN - AREA A
1/8" = 1'-0"

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DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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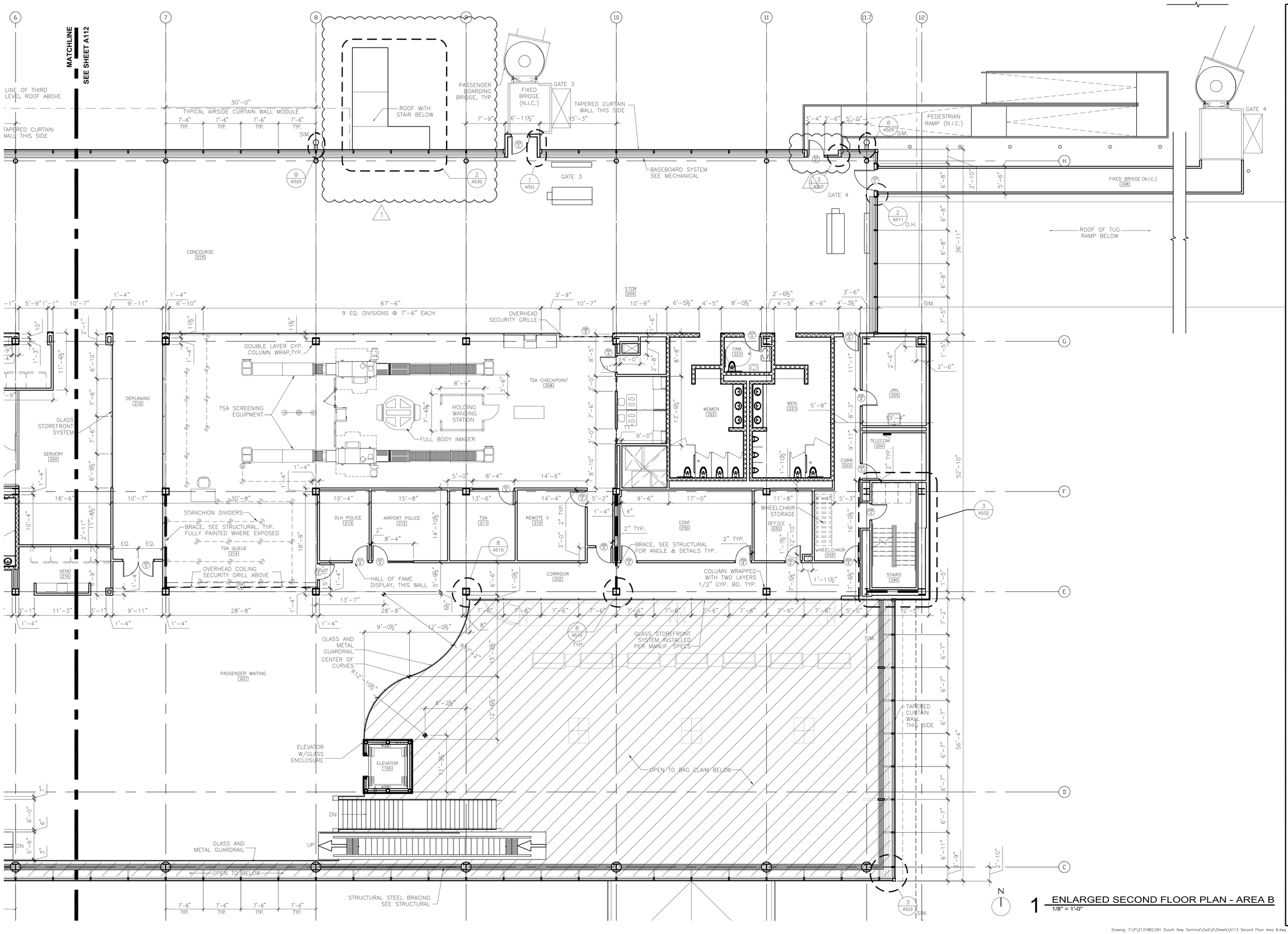
SHEET TITLE
ENLARGED SECOND FLOOR PLAN AREA A

SHEET NUMBER
A112

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

Drawing: T:\P\2131882.091 Duluth New Terminal\Cad\A\Sheets\A112 Second Floor Area A.dwg Plotted on: 6/10/2010 3:18 PM Plotted by: Godzina, Marc



1 ENLARGED SECOND FLOOR PLAN - AREA B
1/8" = 1'-0"

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Date: 06-03-10 Reg. No.: 46001

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1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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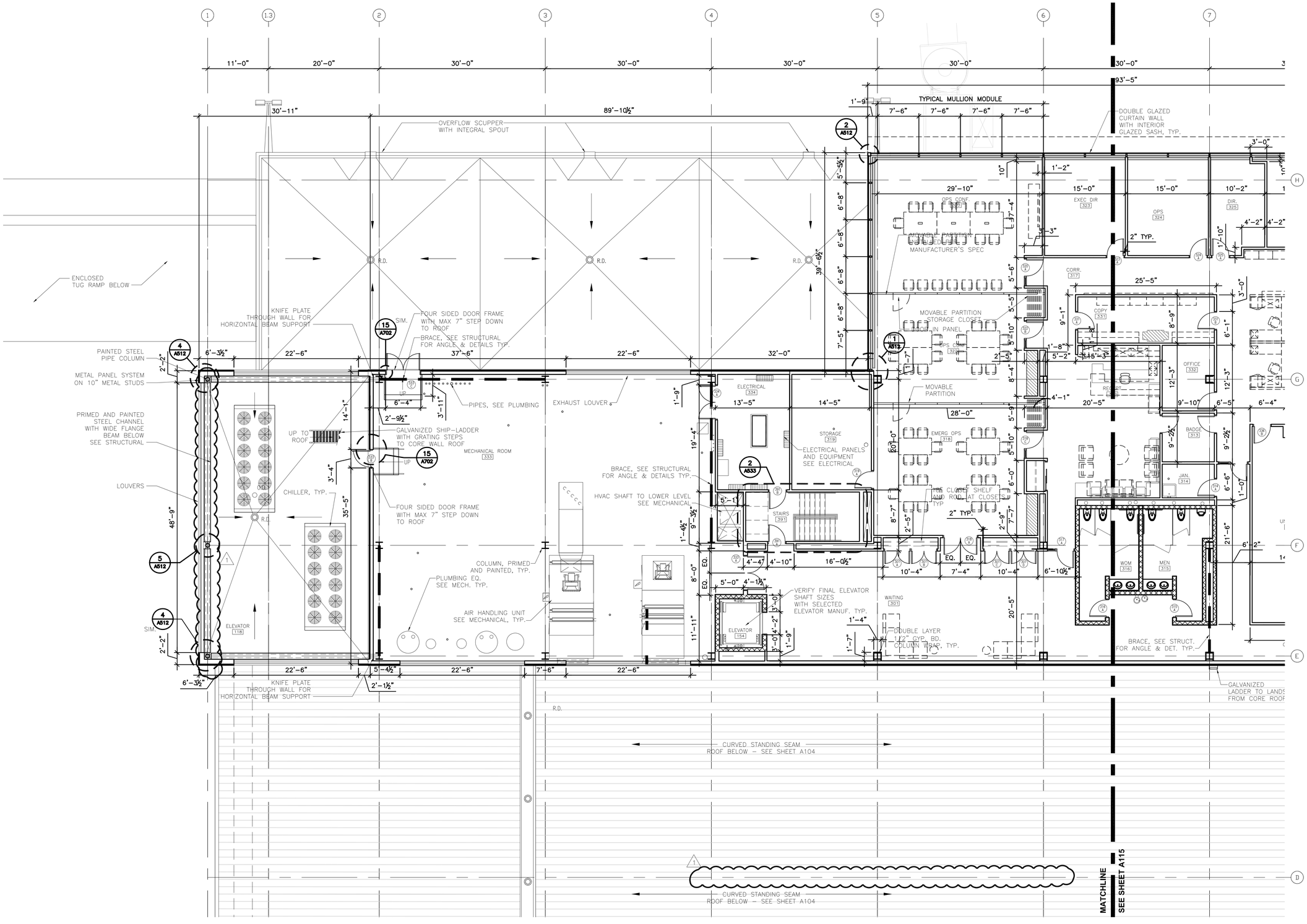
SHEET TITLE
ENLARGED SECOND FLOOR PLAN AREA B

SHEET NUMBER
A113

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

Drawing: T:\P\2131882.091 Duluth New Terminal\Cad\A\Sheets\A113 Second Floor Area B.dwg Plotted on: 6/10/2010 3:18 PM Plotted by: Godzina, Marc



1 ENLARGED THIRD LEVEL FLOOR PLAN - AREA A
1/8" = 1'-0"

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Date: 06-03-10 Reg. No.: 46001

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NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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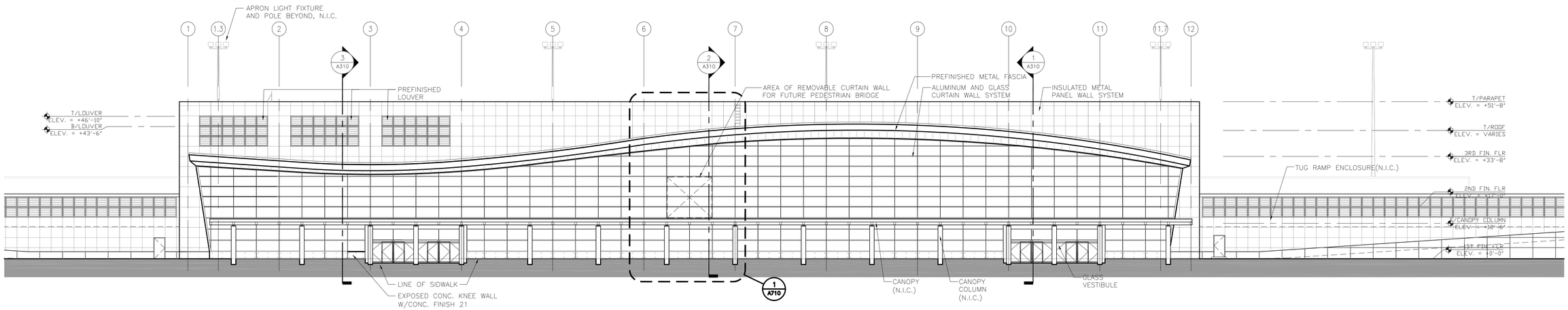
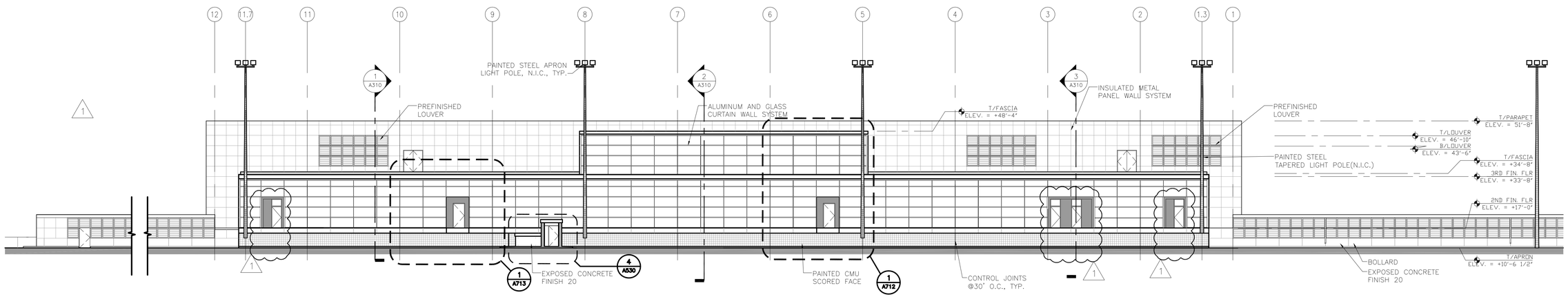
SHEET TITLE
ENLARGED THIRD FLOOR PLAN AREA A

SHEET NUMBER
A114

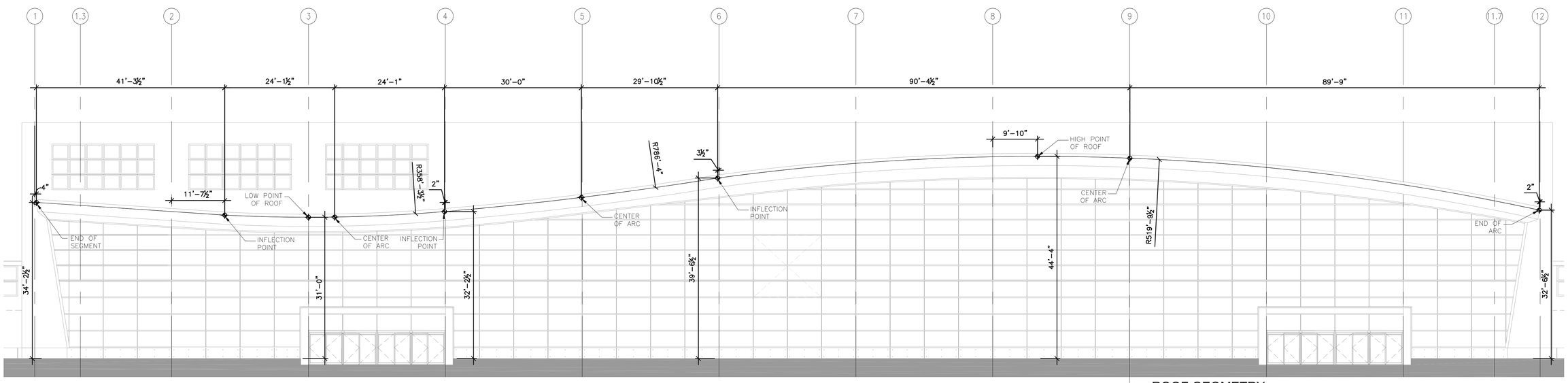
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



1 SOUTH ELEVATION - LANDSIDE
1/16" = 1'-0"



2 NORTH ELEVATION - AIRSIDE
1/16" = 1'-0"



3 ROOF GEOMETRY
3/32" = 1'-0"

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AEP PROJECT NUMBER
213-1882-091

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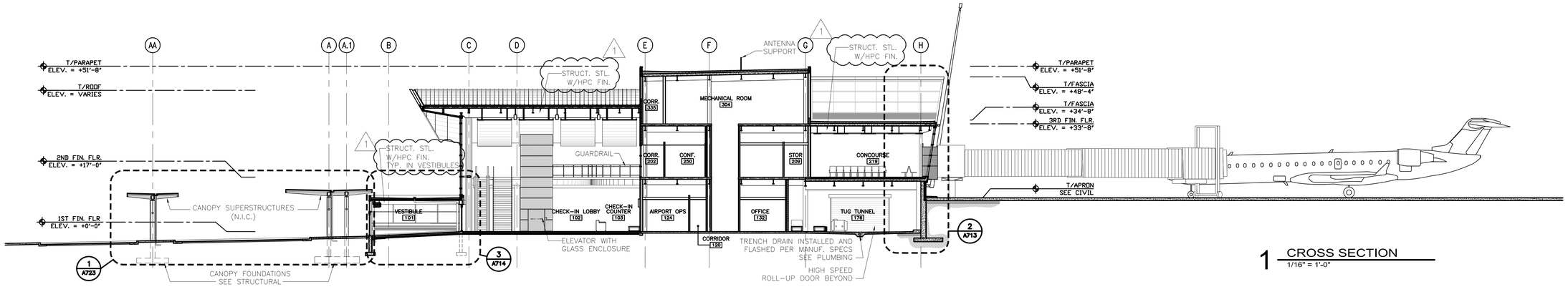
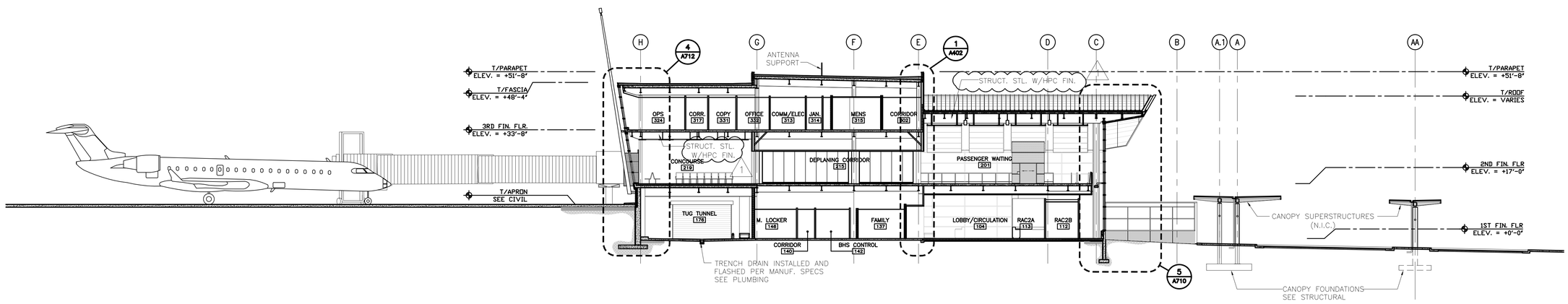
SHEET TITLE
EXTERIOR ELEVATIONS

SHEET NUMBER
A301

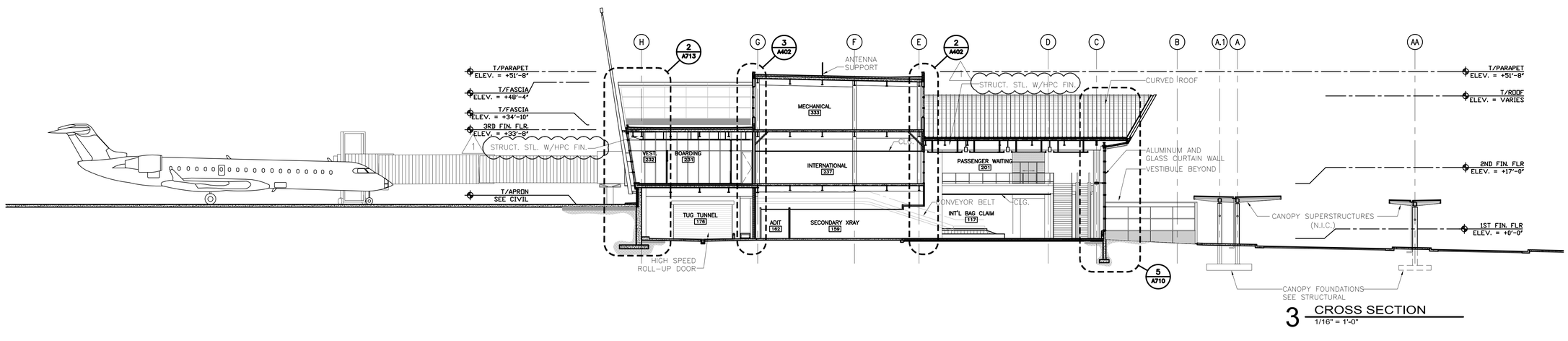
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



1 CROSS SECTION
1/16" = 1'-0"



2 CROSS SECTION
1/16" = 1'-0"



3 CROSS SECTION
1/16" = 1'-0"

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AEP PROJECT NUMBER
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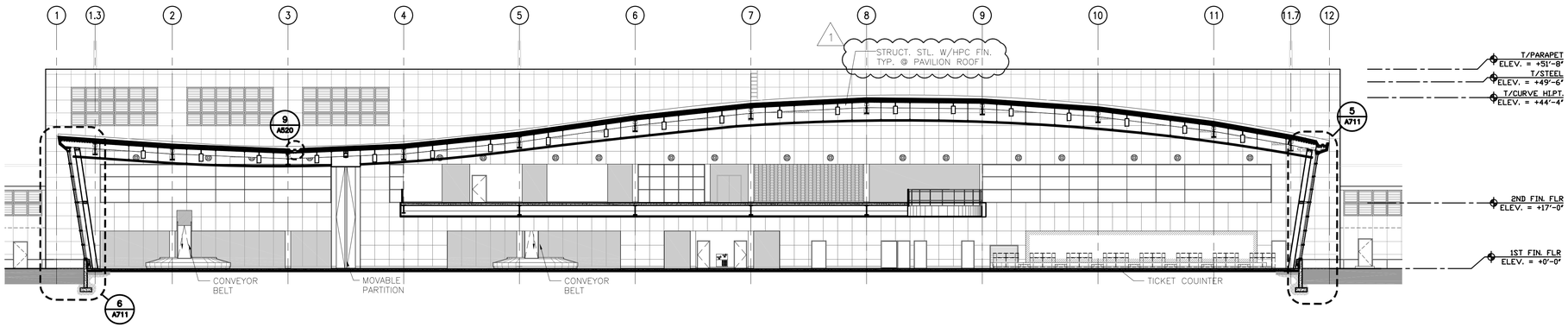
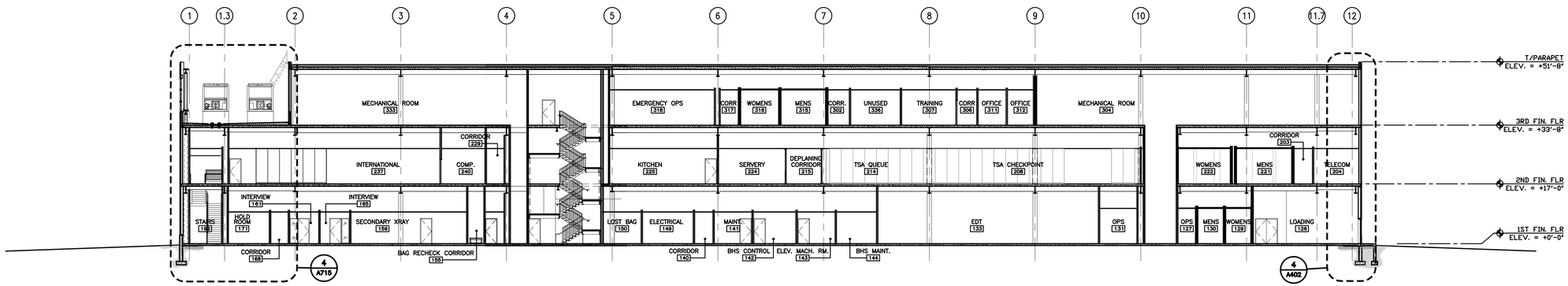
SHEET TITLE
BUILDING SECTIONS

SHEET NUMBER
A310

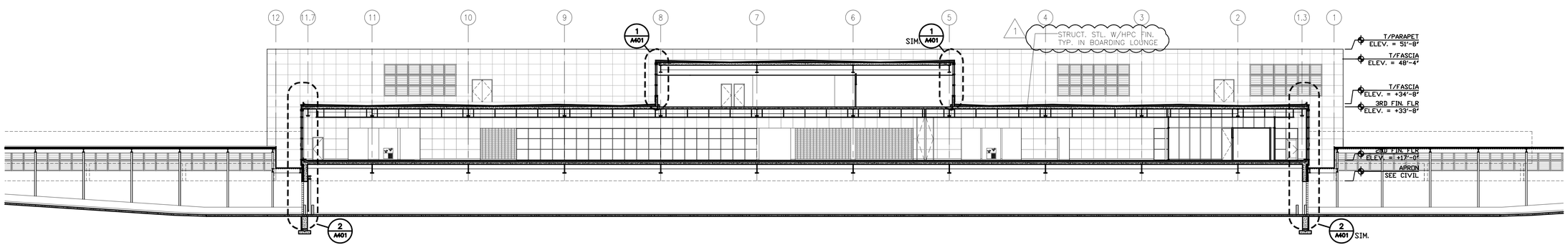
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



1 LONGITUDINAL SECTION
1/16" = 1'-0"



2 LONGITUDINAL SECTION
1/16" = 1'-0"



3 LONGITUDINAL SECTION
1/16" = 1'-0"

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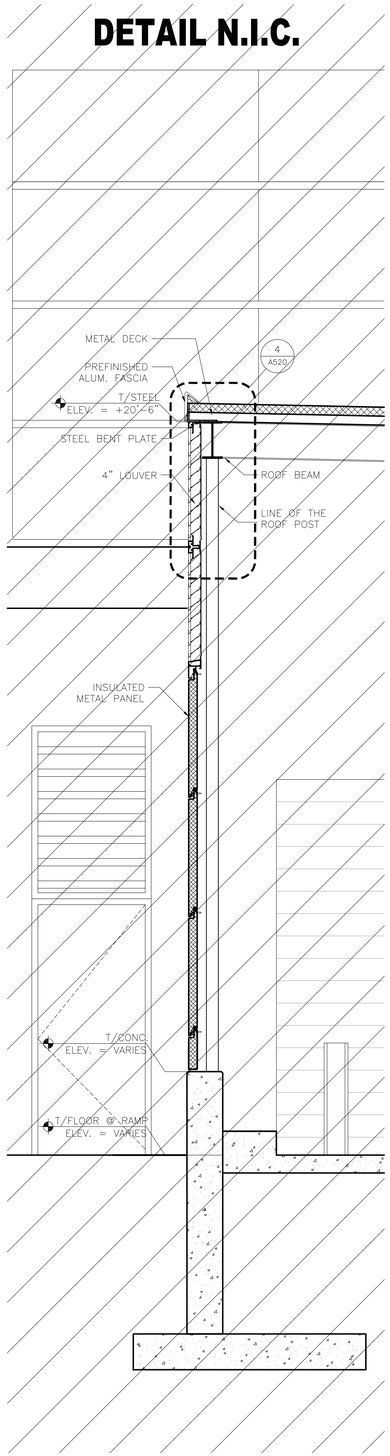
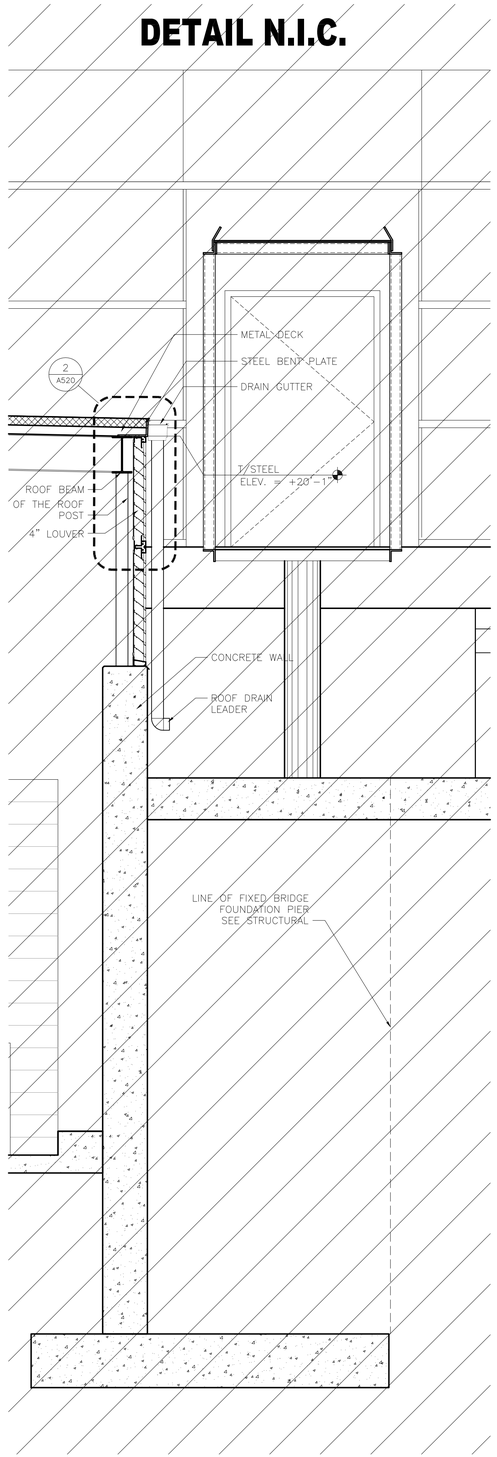
SHEET TITLE
BUILDING SECTIONS

SHEET NUMBER
A311

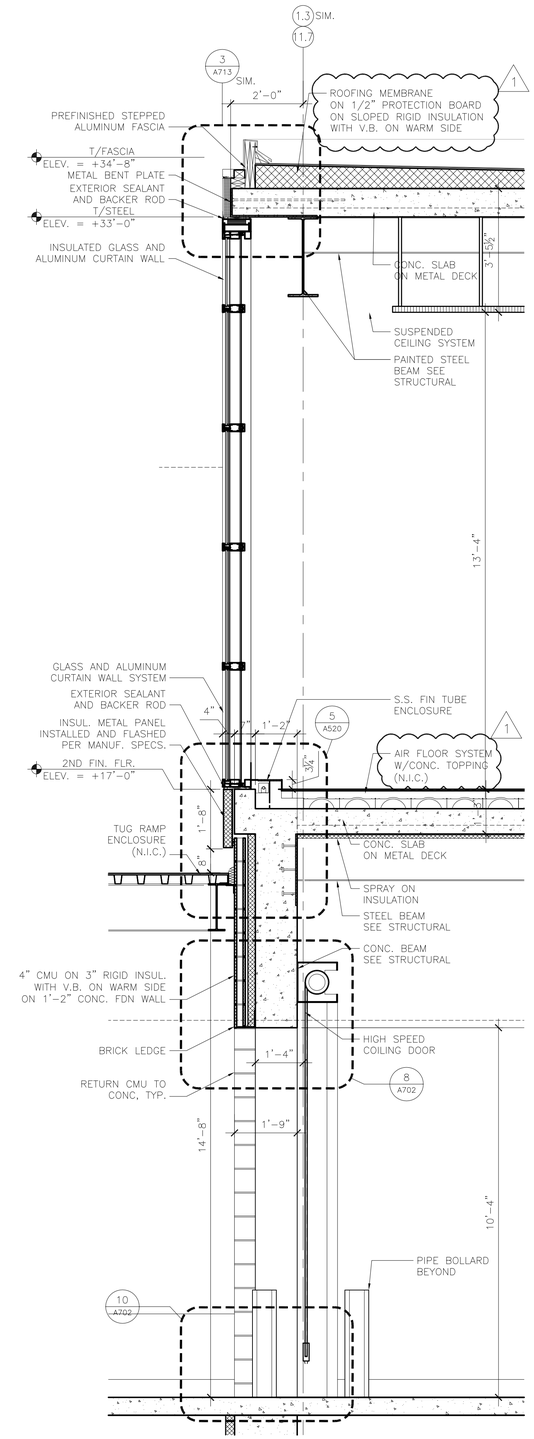
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



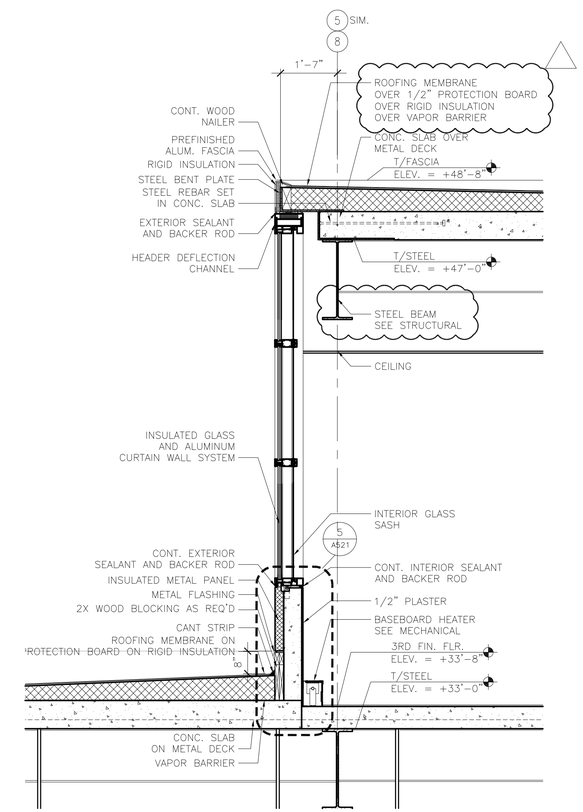
4 WALL SECTION @ TUG TUNNEL
1/2" = 1'-0"



3 WALL SECTION @ TUG TUNNEL
1/2" = 1'-0"



2 WALL SECTION @ CONCOURSE CURTAIN WALL
1/2" = 1'-0"



1 WALL SECTION @ ADMIN CURTAIN WALL
1/2" = 1'-0"

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DULUTH INTERNATIONAL AIRPORT
DULUTH, MN

NEW PASSENGER TERMINAL

CONSULTANTS

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TEL: (218) 591-5079

ARCHITECTURAL CERTIFICATION
I hereby certify that the architectural plans, specifications or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Architect under the laws of the State of Minnesota.

Print Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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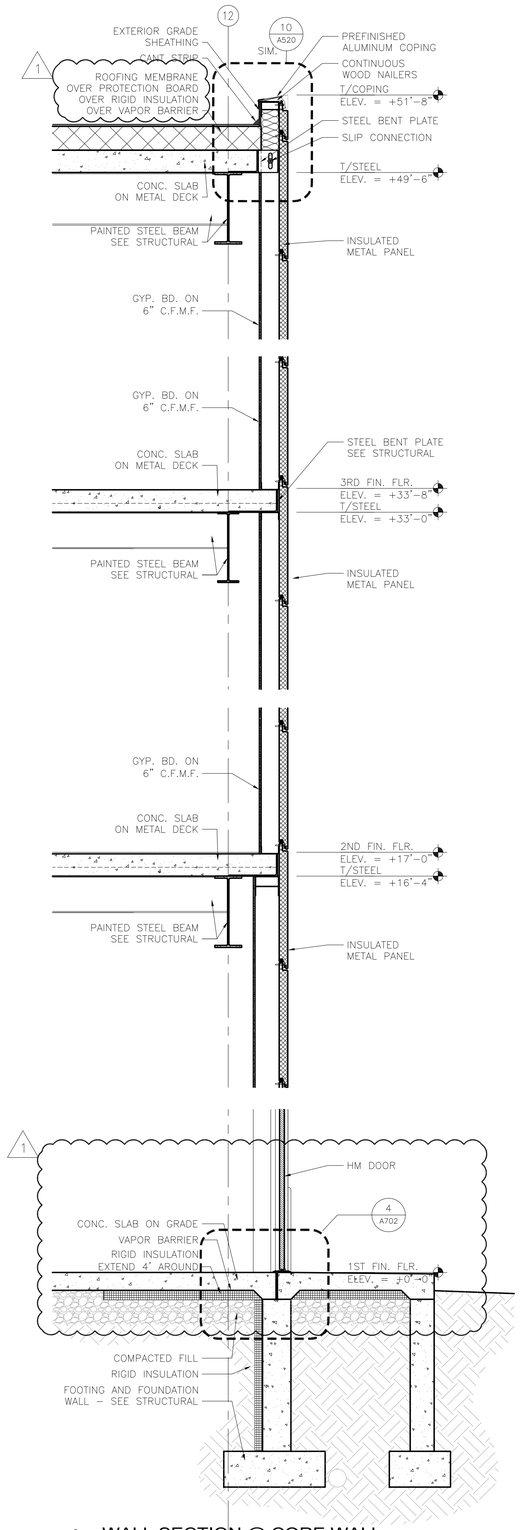
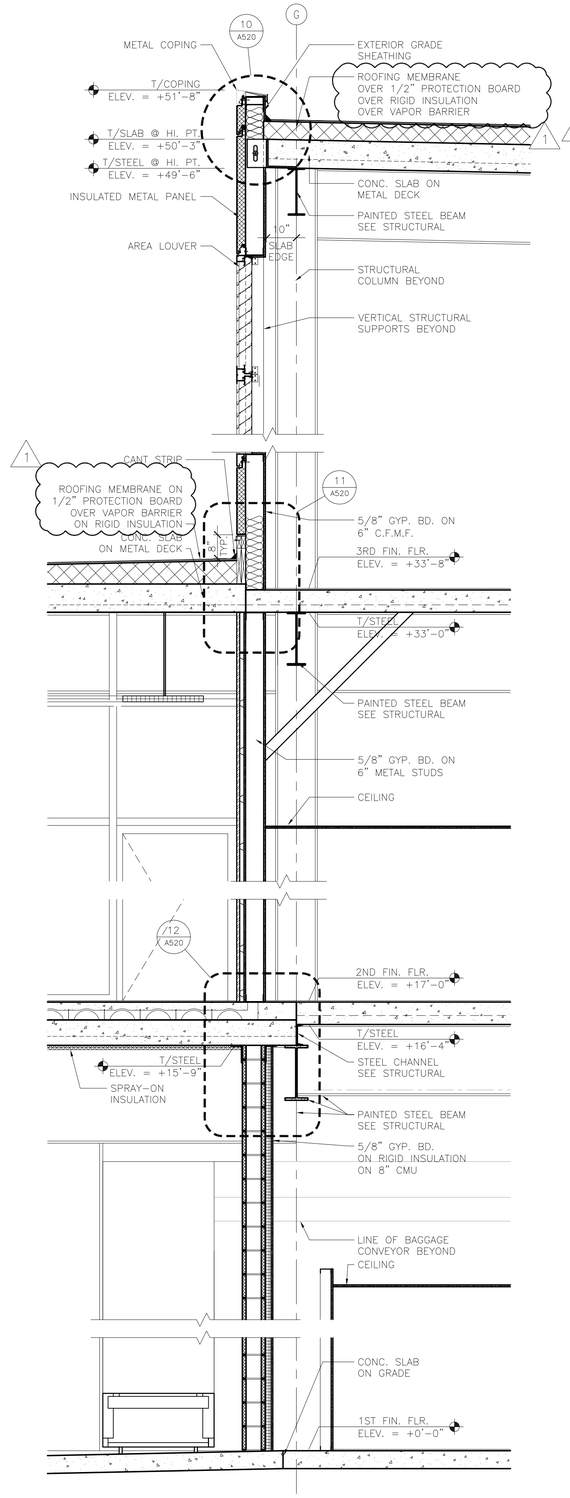
SHEET TITLE
WALL SECTIONS

SHEET NUMBER
A401

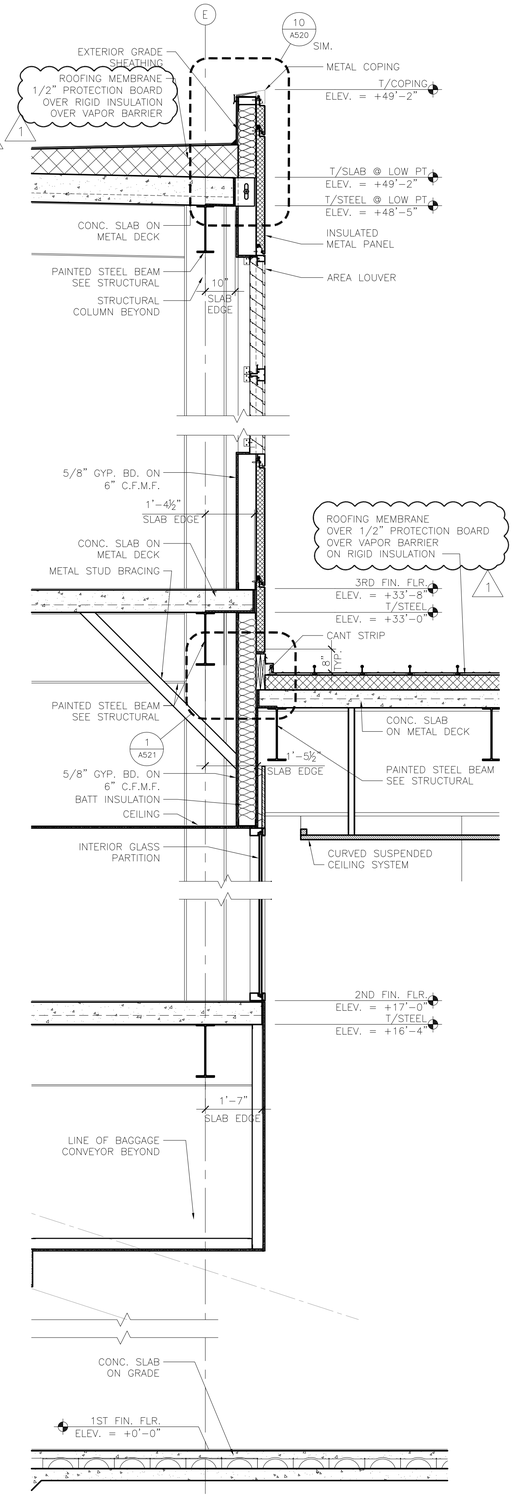
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



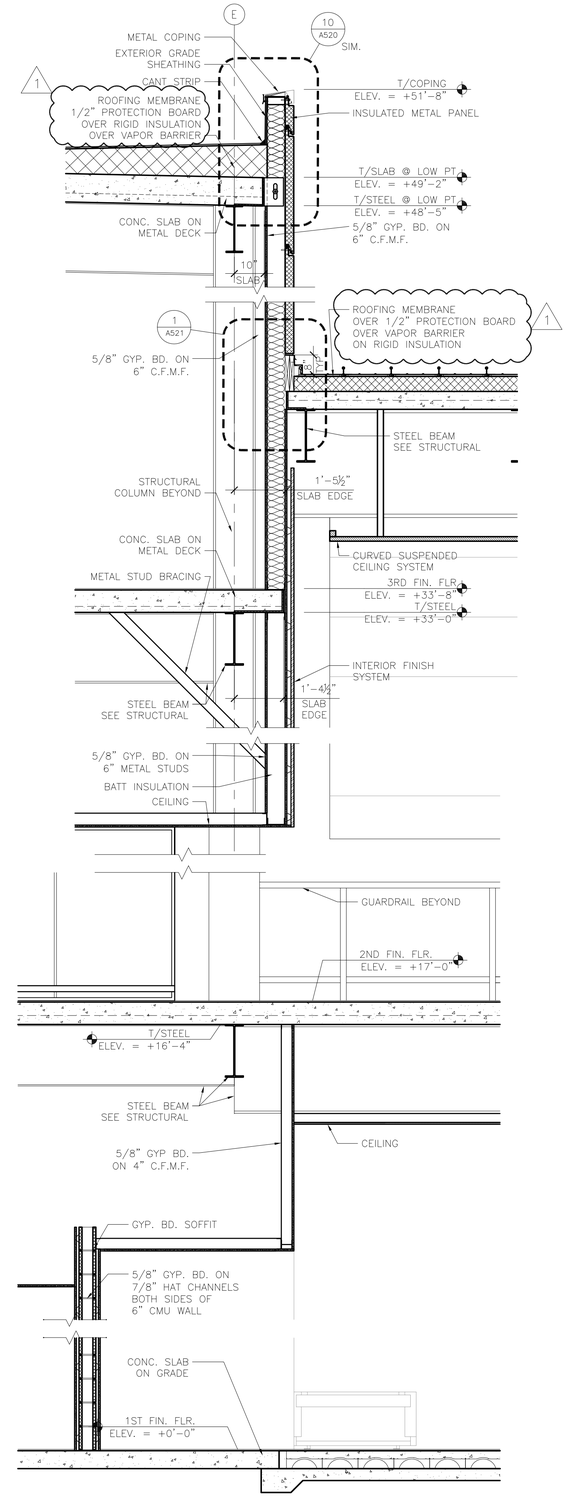
4 WALL SECTION @ CORE WALL
1/2" = 1'-0"



3 WALL SECTION @ CORE WALL
1/2" = 1'-0"



2 WALL SECTION @ CORE WALL
1/2" = 1'-0"



1 WALL SECTION @ CORE WALL
1/2" = 1'-0"

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Signature:

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REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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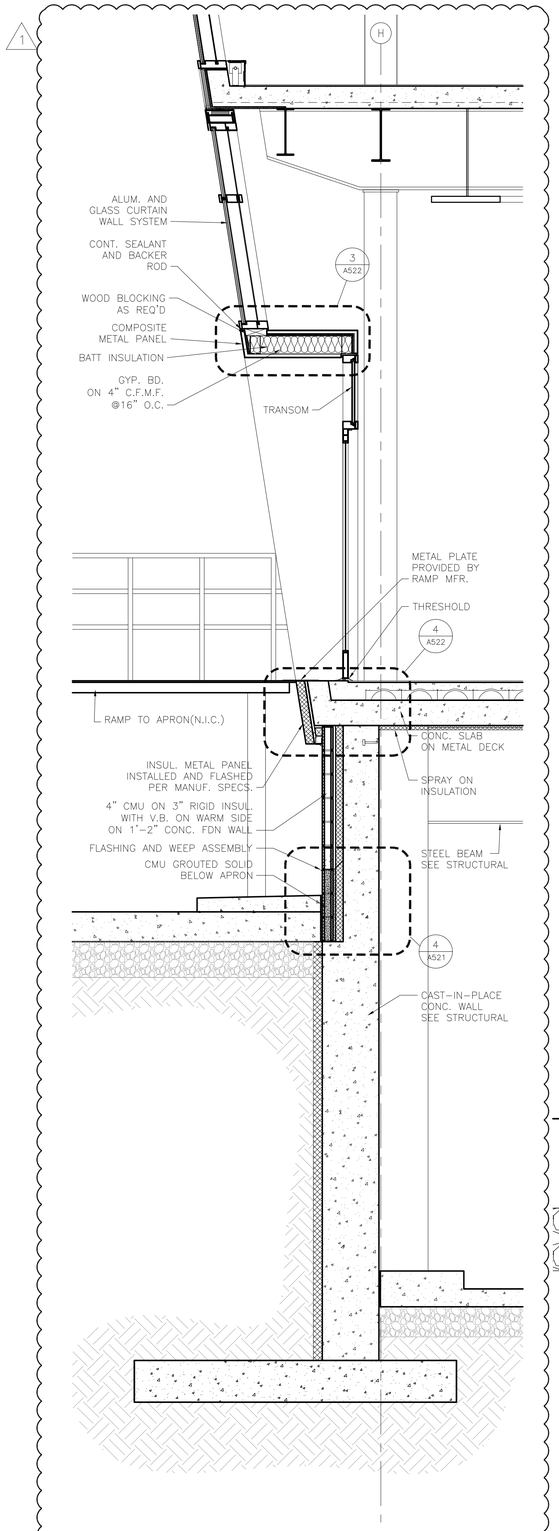
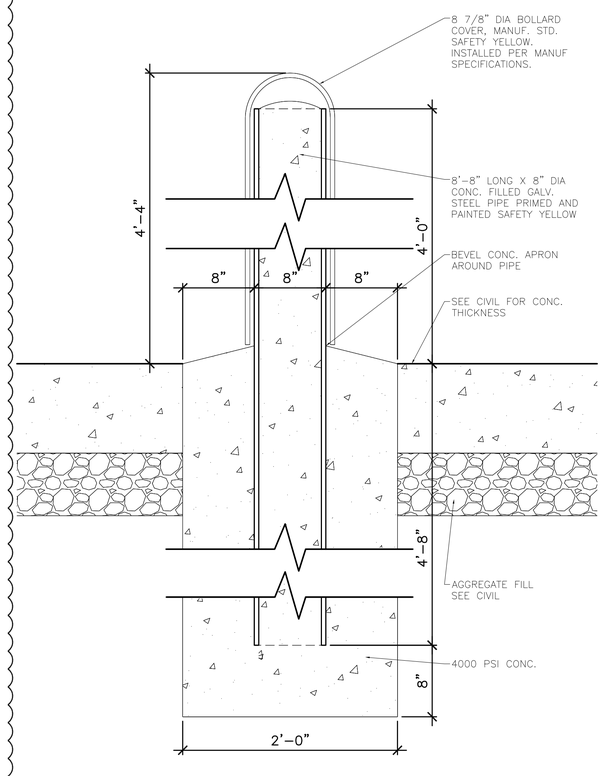
SHEET TITLE
WALL SECTIONS

SHEET NUMBER
A402

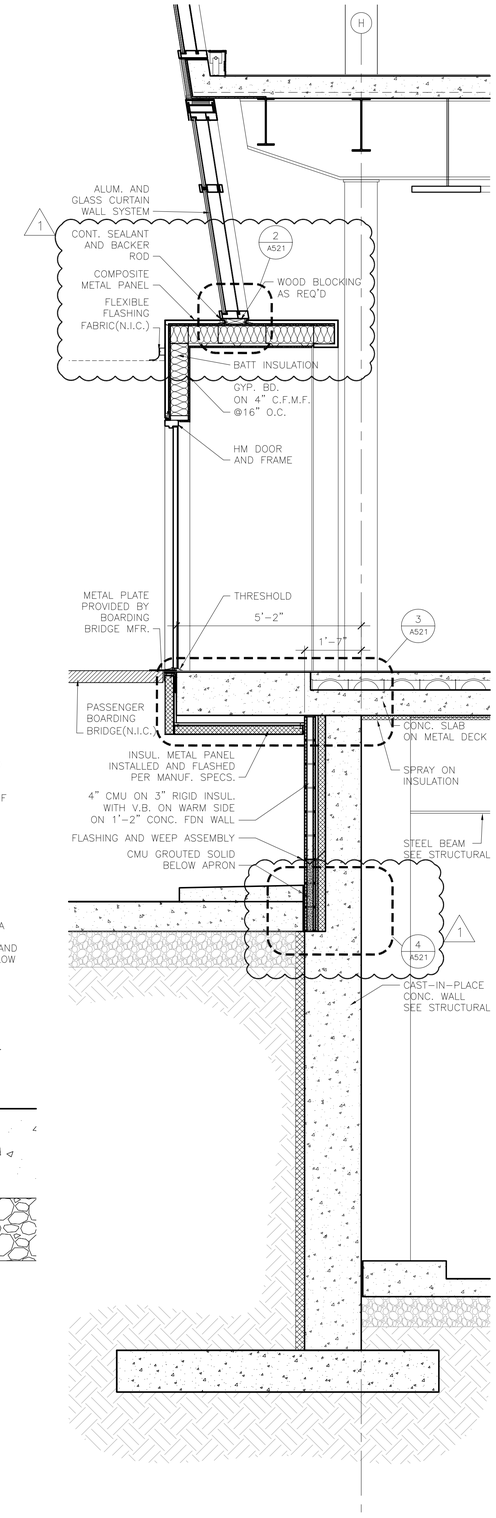
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



3 WALL SECTION @ DOOR PORTAL
1/2" = 1'-0"



2 PIPE BOLLARD DETAIL
1/2" = 1'-0"



1 WALL SECTION @ PBB PORTAL
1/2" = 1'-0"

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Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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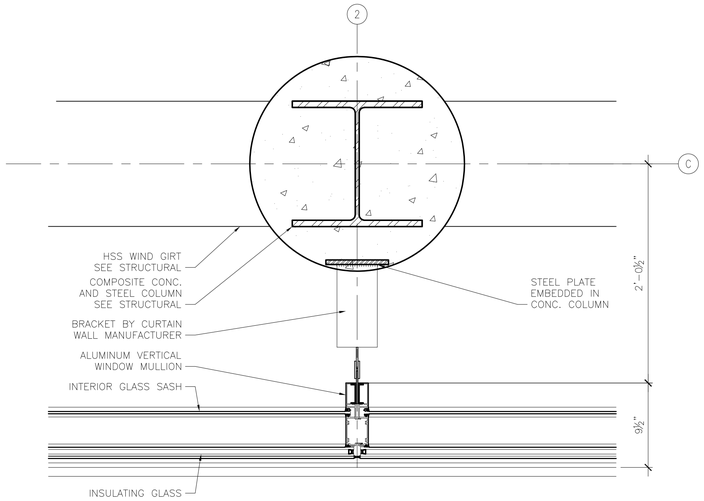
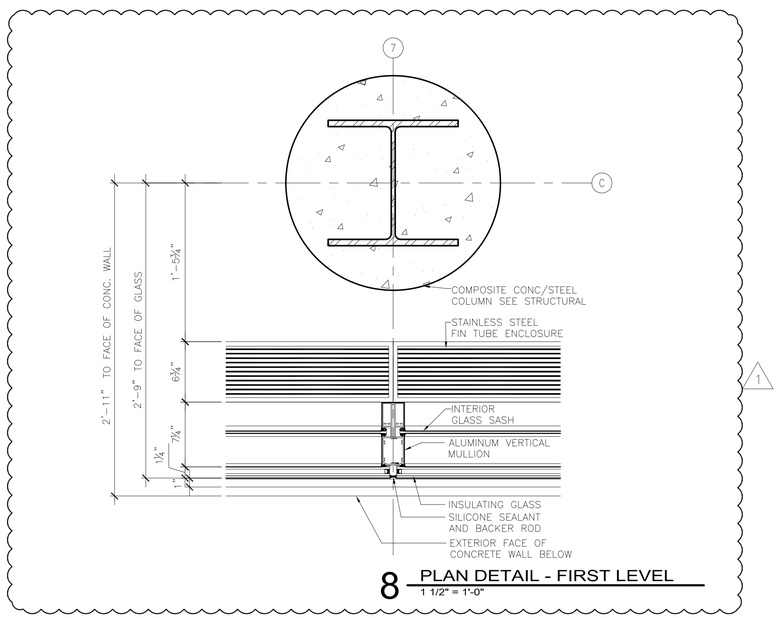
SHEET TITLE
WALL SECTIONS

SHEET NUMBER
A403

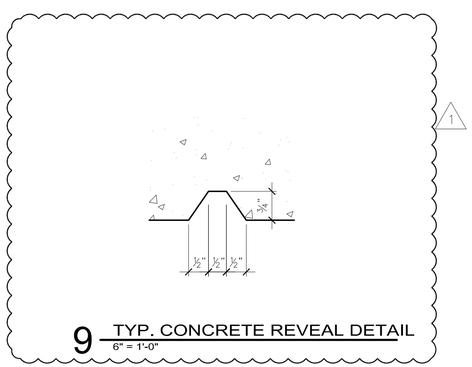
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



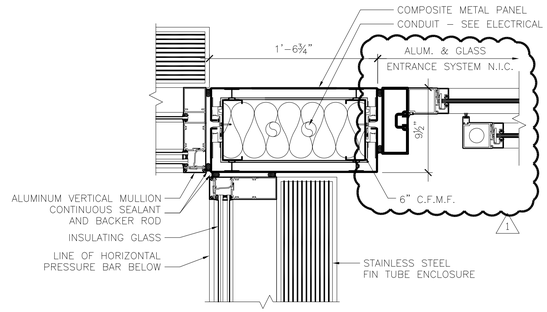
7 PLAN DETAIL - SECOND LEVEL
1 1/2" = 1'-0"



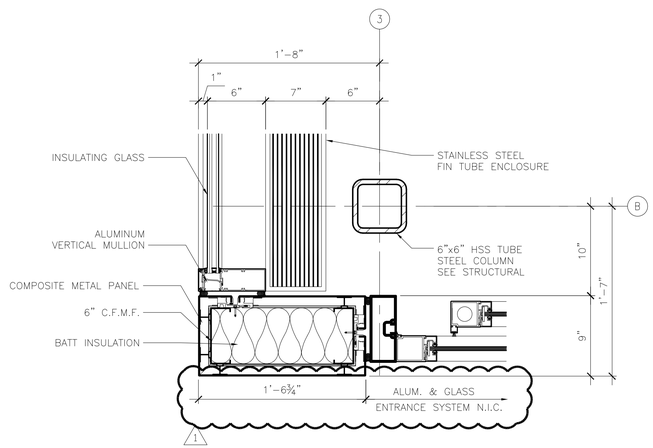
8 PLAN DETAIL - FIRST LEVEL
1 1/2" = 1'-0"



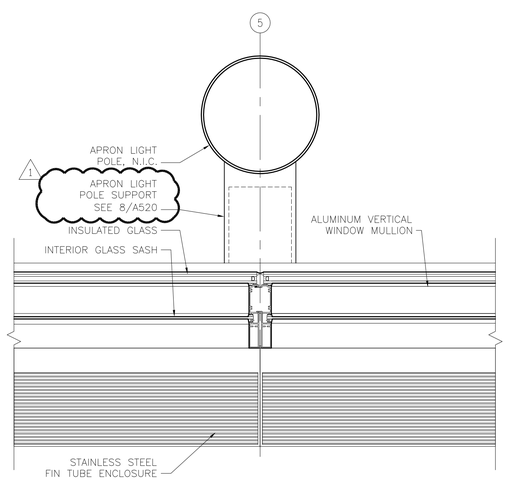
9 TYP. CONCRETE REVEAL DETAIL
6" = 1'-0"



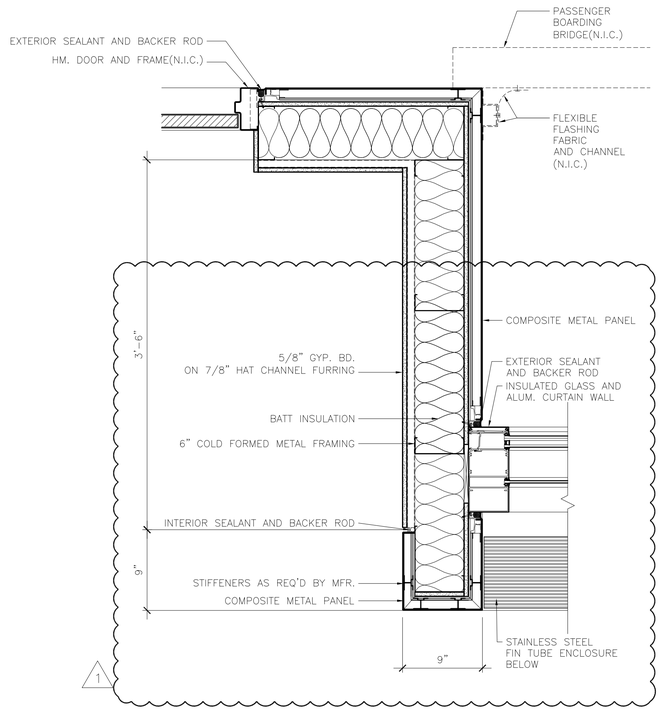
4 PLAN DETAIL @ VESTIBULE
1 1/2" = 1'-0"



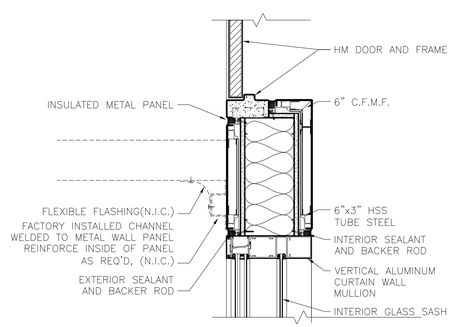
5 PLAN DETAIL @ VESTIBULE
1 1/2" = 1'-0"



6 PLAN DETAIL - SECOND LEVEL
1 1/2" = 1'-0"



1 PLAN DETAIL @ PBB PORTAL
1 1/2" = 1'-0"



2 PLAN DETAIL @ FIXED BRIDGE
1 1/2" = 1'-0"

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Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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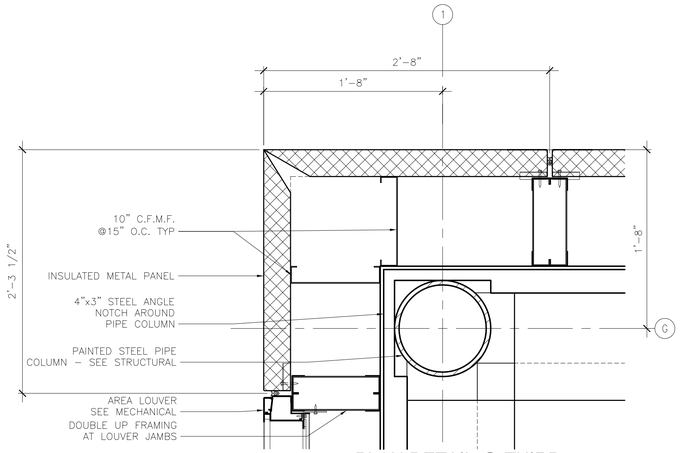
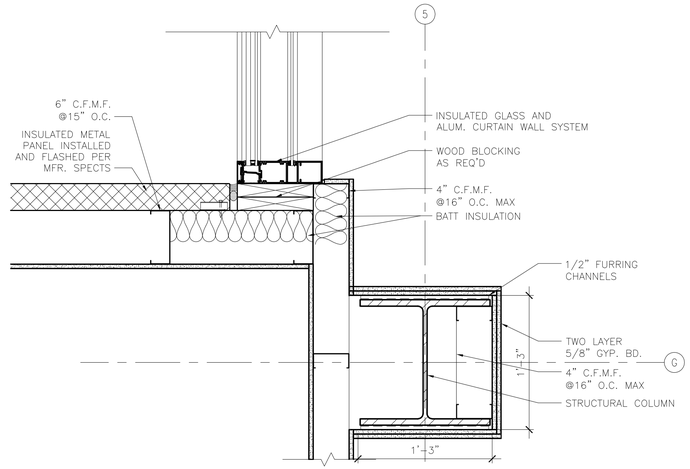
SHEET TITLE
PLAN DETAILS

SHEET NUMBER
A511

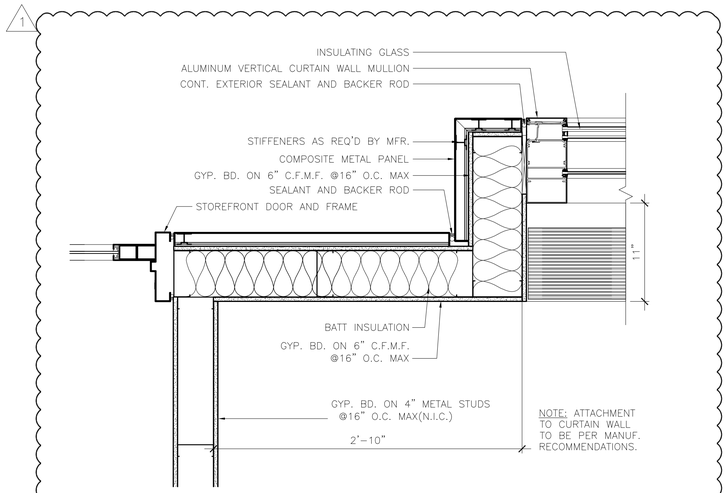
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



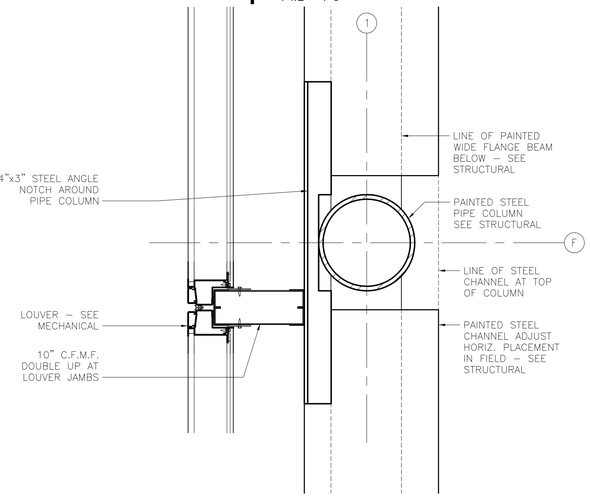
4 PLAN DETAIL @ THIRD LEVEL MECHANICAL SCREEN
1 1/2" = 1'-0"



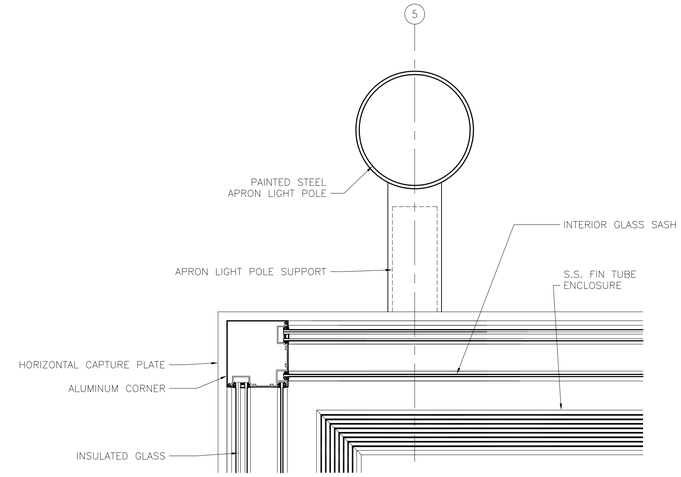
1 PLAN DETAIL @ THIRD LEVEL
1 1/2" = 1'-0"



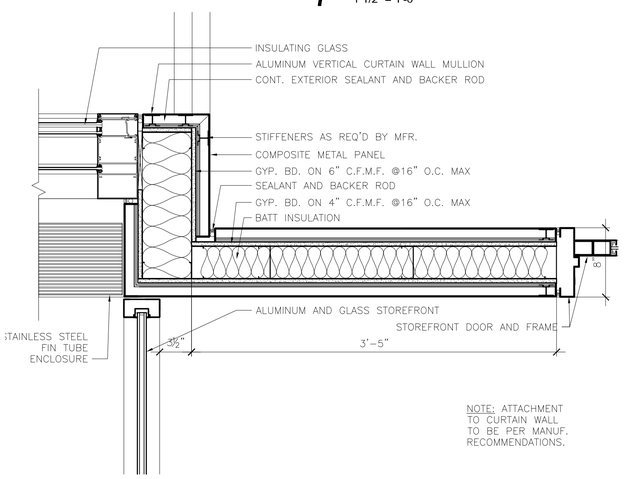
7 PLAN DETAIL @ SECOND LEVEL DOOR PORTAL
1 1/2" = 1'-0"



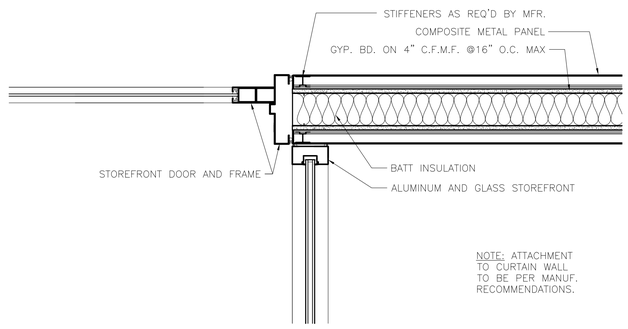
5 PLAN DETAIL @ THIRD LEVEL MECHANICAL SCREEN
1 1/2" = 1'-0"



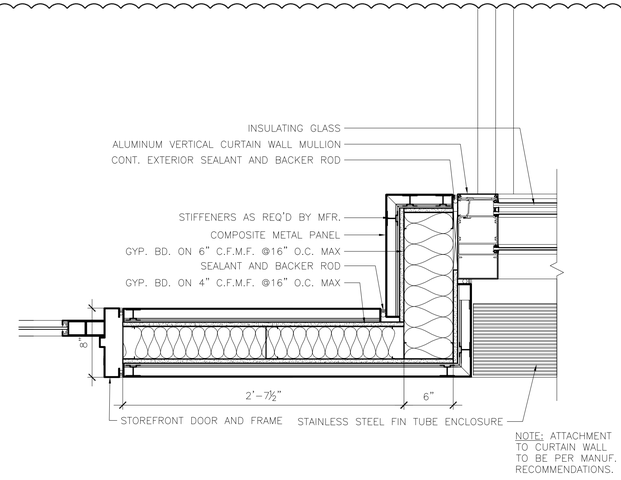
2 PLAN DETAIL @ THIRD LEVEL
1 1/2" = 1'-0"



8 PLAN DETAIL @ SECOND LEVEL DOOR PORTAL
1 1/2" = 1'-0"



6 PLAN DETAIL @ SECOND LEVEL DOOR PORTAL
1 1/2" = 1'-0"



3 PLAN DETAIL @ SECOND LEVEL DOOR PORTAL
1 1/2" = 1'-0"

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Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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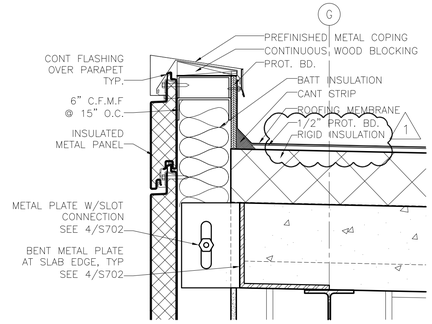
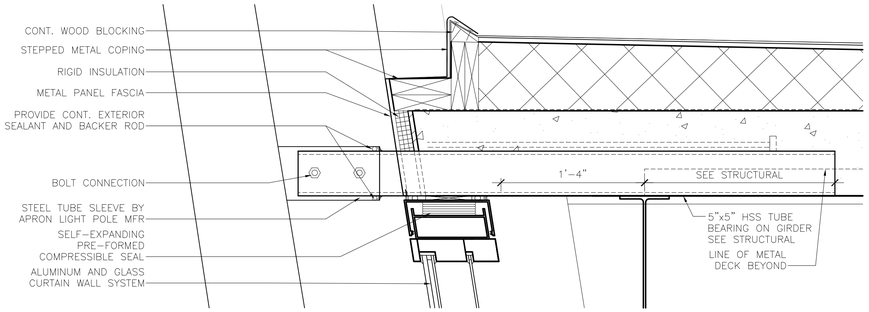
SHEET TITLE
PLAN DETAILS

SHEET NUMBER
A512

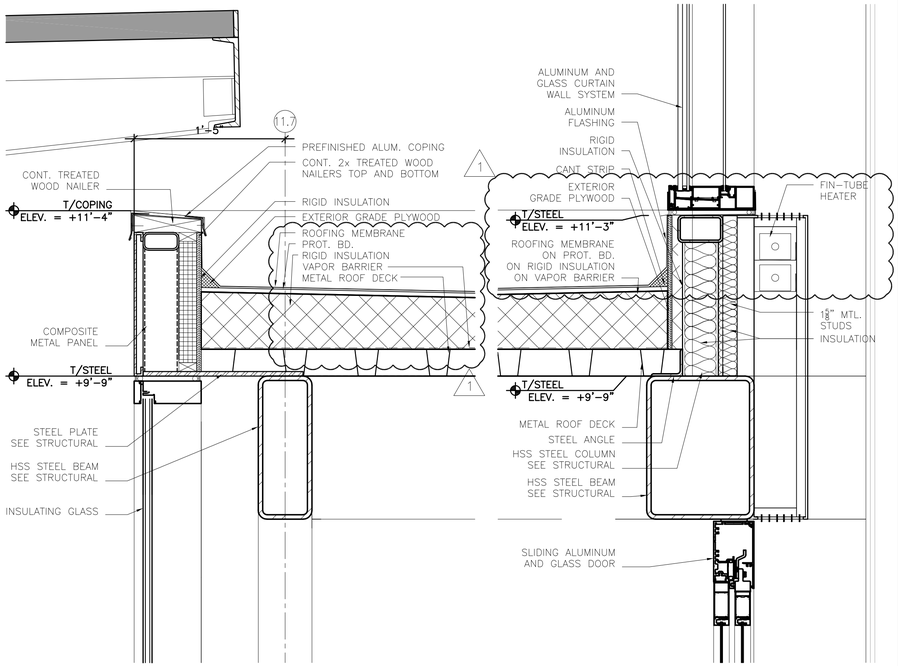
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



10 SECTION DETAIL @TYP. CORE ROOF PARAPET
1 1/2" = 1'-0"

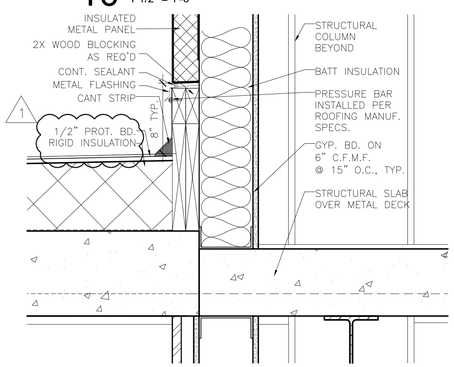


6 SECTION DETAIL @ APRON LIGHT POLE - CONCOURSE ROOF
1 1/2" = 1'-0"

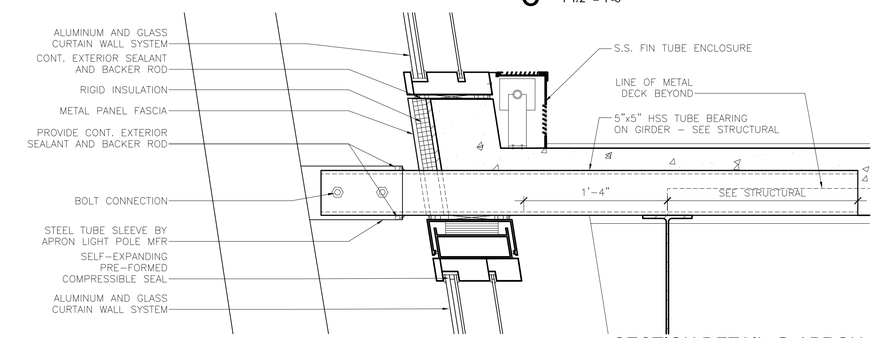


3 SECTION DETAIL @ VESTIBULE
1 1/2" = 1'-0"

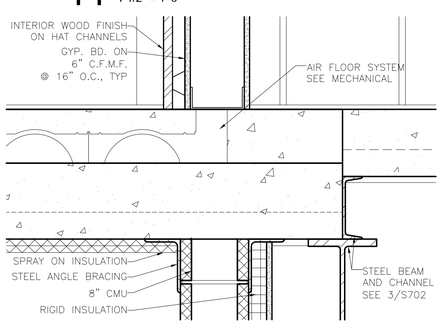
1 SECTION DETAIL @ VESTIBULE
1 1/2" = 1'-0"



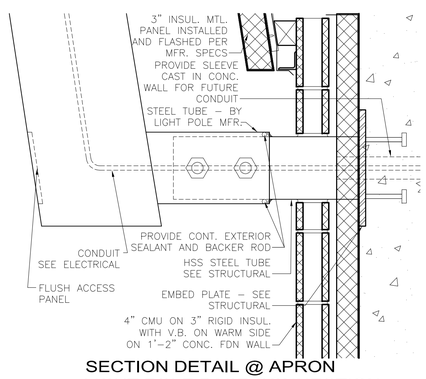
11 SECTION DETAIL @ CORE WALL TO CONCOURSE ROOF
1 1/2" = 1'-0"



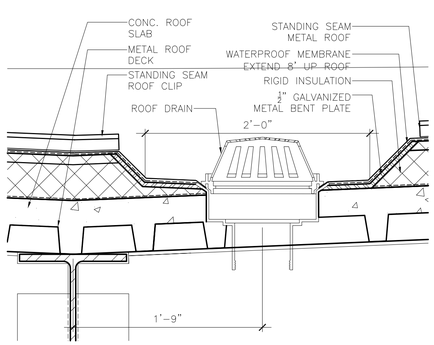
7 SECTION DETAIL @ APRON LIGHT POLE - THIRD FLOOR
1 1/2" = 1'-0"



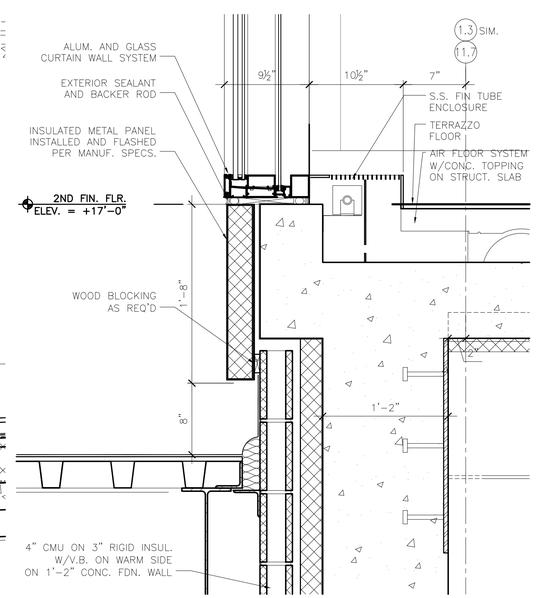
12 SECTION DETAIL @ SECOND FLOOR SLAB TRANSITION
1 1/2" = 1'-0"



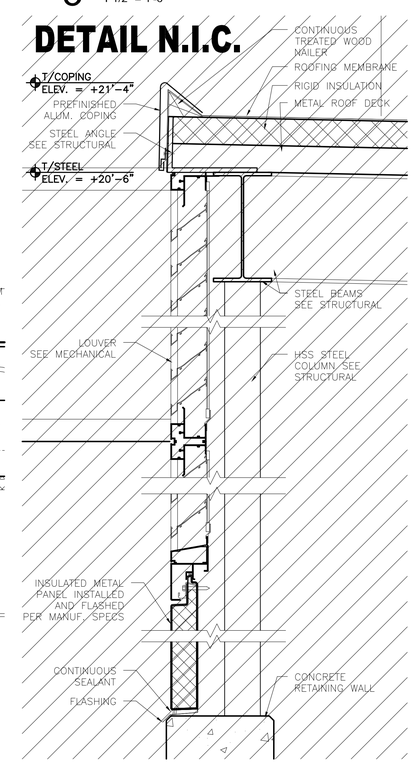
8 SECTION DETAIL @ APRON LIGHT POLE BASE CONNECTION
1 1/2" = 1'-0"



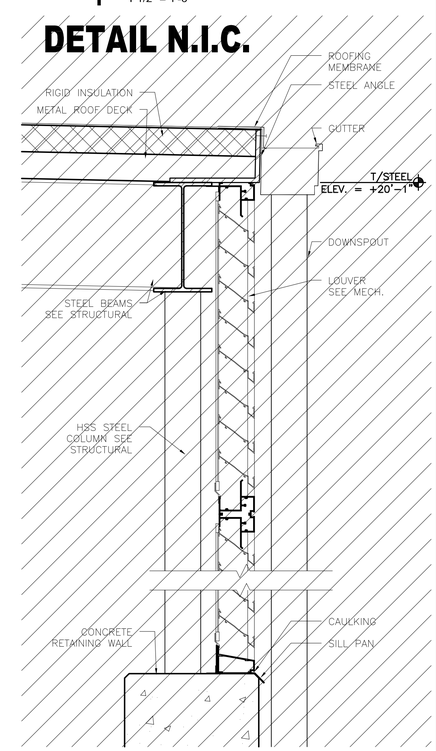
9 SECTION DETAIL @CURVED ROOF TRENCH DRAIN
1 1/2" = 1'-0"



5 EXPANSION JOINT DETAIL @ TUG DRIVE & CONCOURSE
1 1/2" = 1'-0"



4 SECTION DETAIL @ TUG RAMP
1 1/2" = 1'-0"



2 SECTION DETAIL @ TUG RAMP
1 1/2" = 1'-0"

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ARCHITECTURAL CERTIFICATION
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Print Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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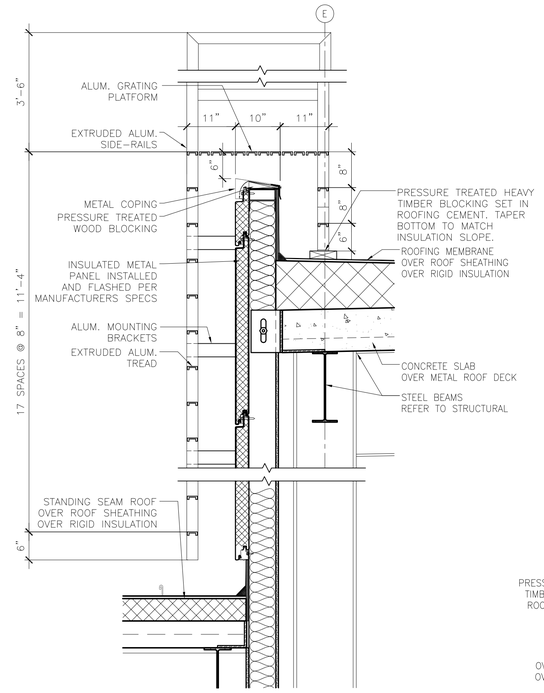
SHEET TITLE
SECTION DETAILS

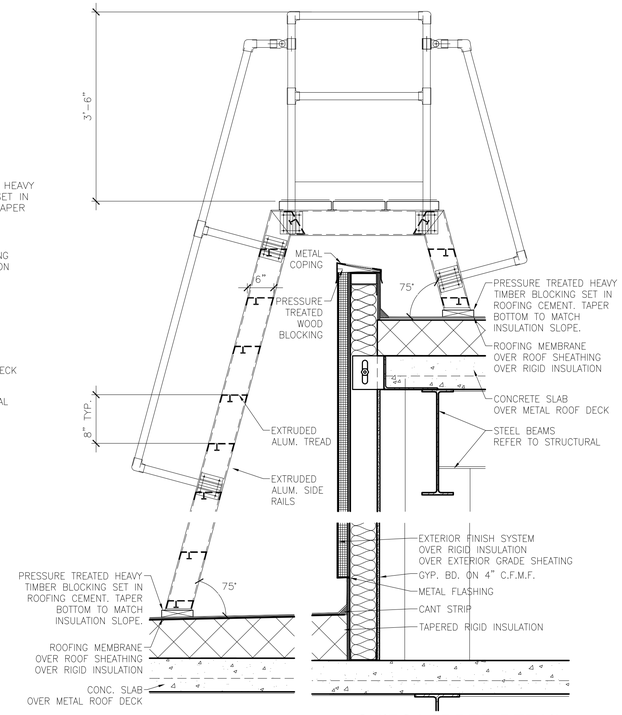
SHEET NUMBER
A520

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

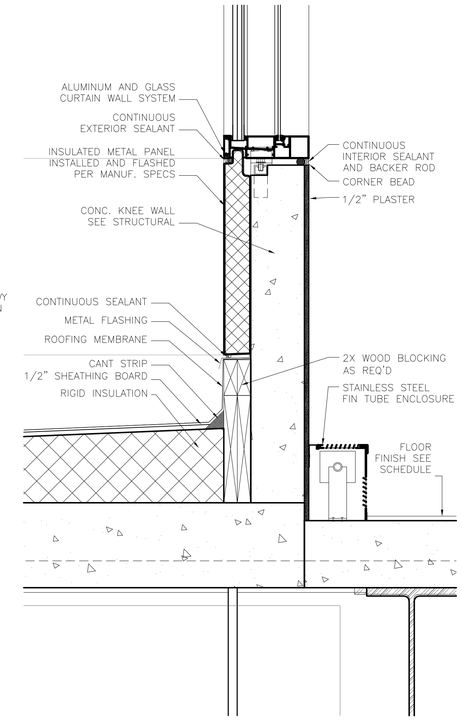
Drawing: T:\P\2131882.091 Duluth New Terminal\Cad\A\Sheets\A520 Section Details.dwg Plotted on: 6/10/2010 3:42 PMPlotted by: Kolodziej, Magdalena



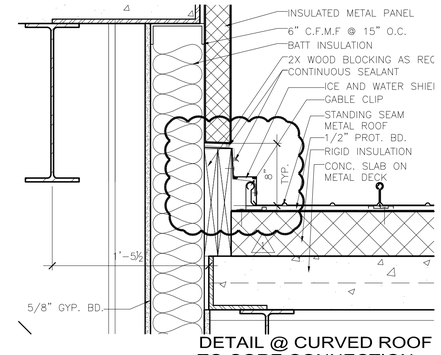
12 LADDER DETAIL
NOT TO SCALE



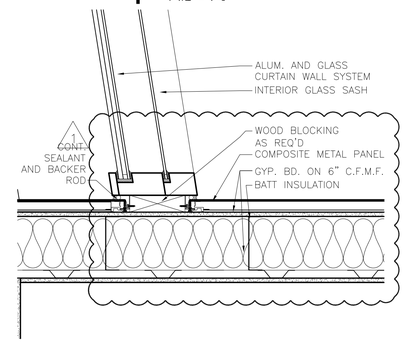
8 SHIPS LADDER DETAIL
NOT TO SCALE



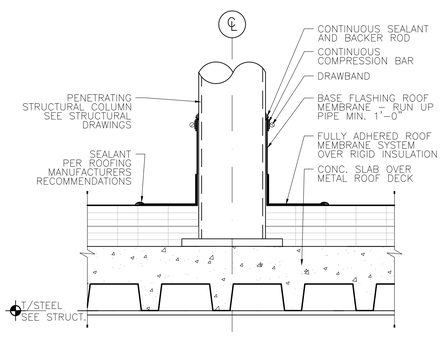
5 DETAIL @ 3RD FLOOR
1 1/2" = 1'-0"



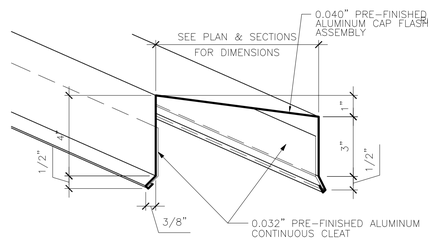
1 DETAIL @ CURVED ROOF TO CORE CONNECTION
1 1/2" = 1'-0"



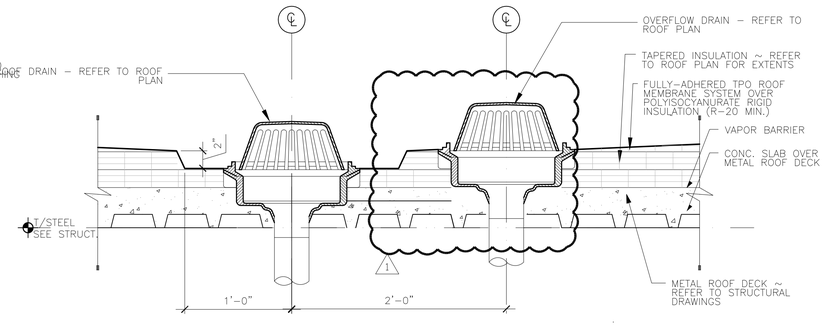
2 DETAIL @ PBB PORTAL
1 1/2" = 1'-0"



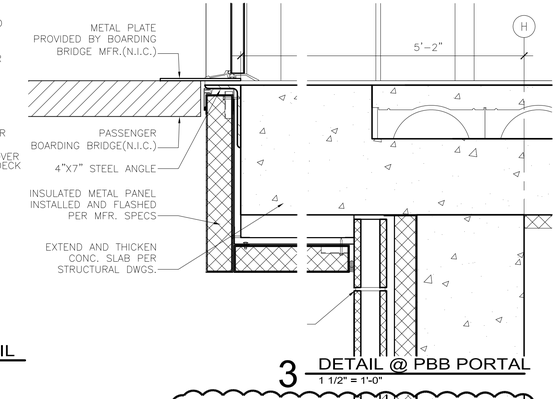
13 ROOFTOP COLUMN DETAIL
NOT TO SCALE



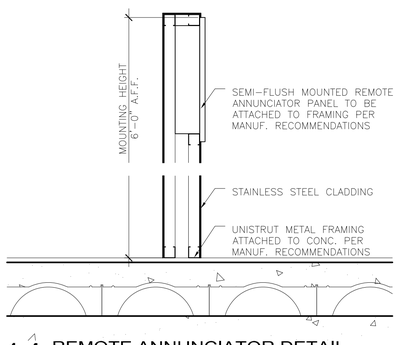
10 TYP. COPING DETAIL
NOT TO SCALE



6 TYP. ROOF DRAIN DETAIL
NOT TO SCALE



3 DETAIL @ PBB PORTAL
1 1/2" = 1'-0"



14 REMOTE ANNUNCIATOR DETAIL
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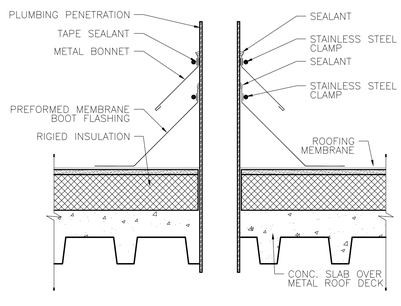
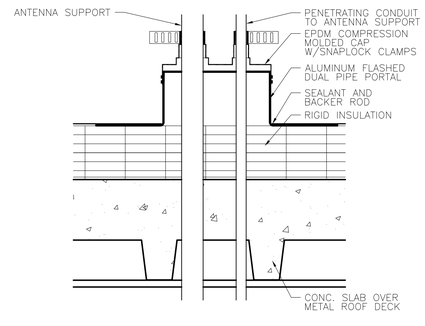
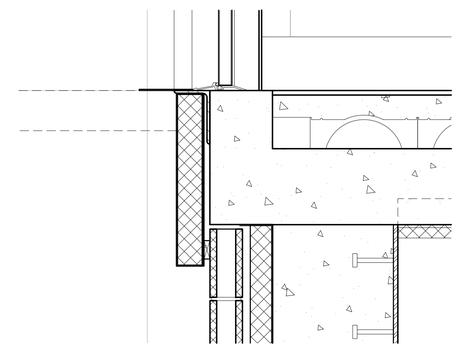


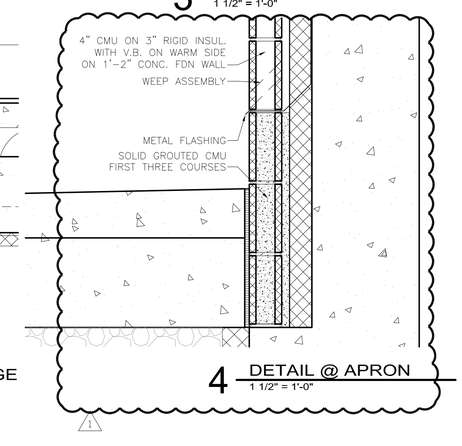
11 PLUMBING PENETRATION DETAIL
NOT TO SCALE



9 ANTENNA SUPPORT DETAIL
NOT TO SCALE



7 DETAIL @ FIXED BRIDGE
1 1/2" = 1'-0"



4 DETAIL @ APRON
1 1/2" = 1'-0"

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Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No: 46001

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 05-26-10
REVIEWED BY: TC/SBS
DRAWN BY: MG/MI
DESIGNED BY: TC/SBS

AEP PROJECT NUMBER
213-1882-091

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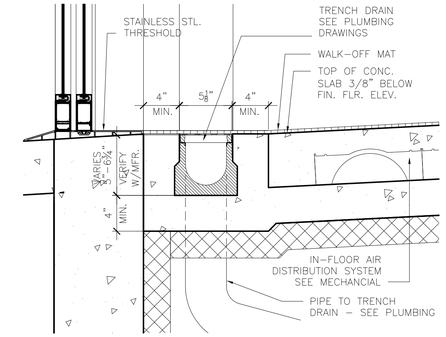
SHEET TITLE
SECTION DETAILS

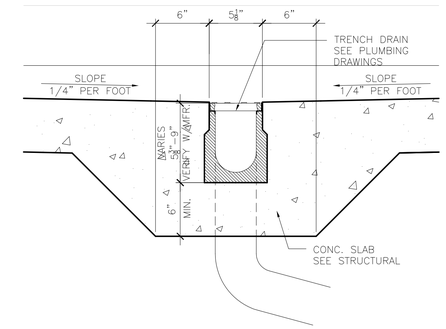
SHEET NUMBER
A521

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

Drawing: T:\P\2131882.091 Duluth New Terminal\Cad\A\Sheets\A521 Section Details.dwg Plotted on: 6/10/2010 3:47 PMPlotted by: Kolodziej, Magdalena



1 DETAIL @ VESTIBULE TRENCH DRAIN
1 1/2" = 1'-0"



2 DETAIL @ TUG TUNNEL TRENCH DRAIN
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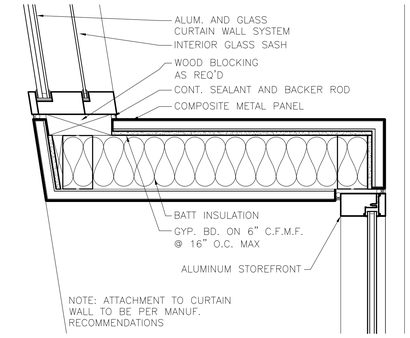
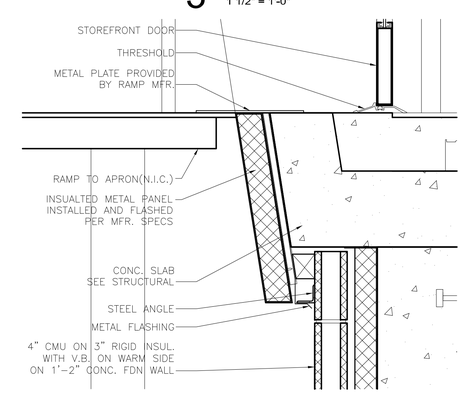


3 DETAIL @ DOOR PORTAL
1 1/2" = 1'-0"



4 DETAIL @ DOOR PORTAL
1 1/2" = 1'-0"

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Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No: 46001

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 05-26-10
REVIEWED BY: TC/SBS
DRAWN BY: MG/MI
DESIGNED BY: TC/SBS

AEP PROJECT NUMBER
213-1882-091

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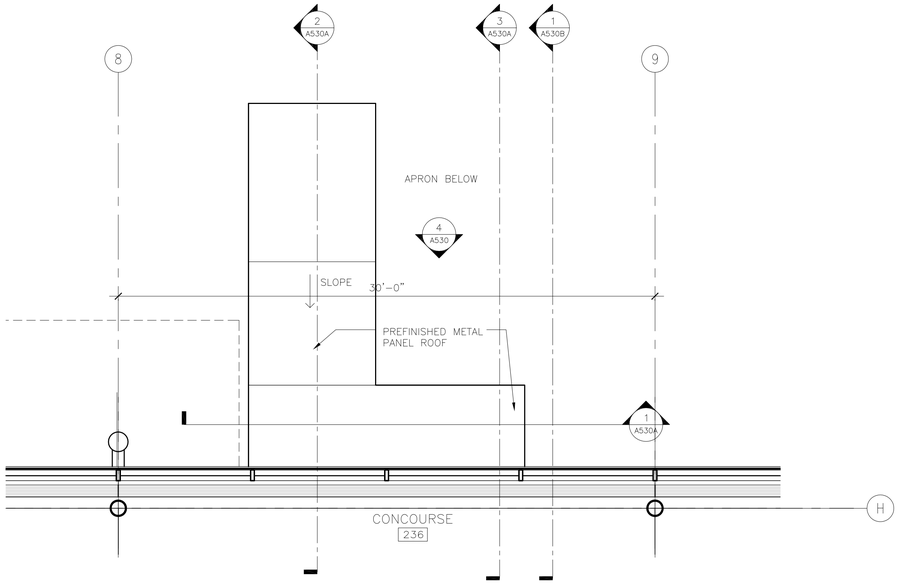
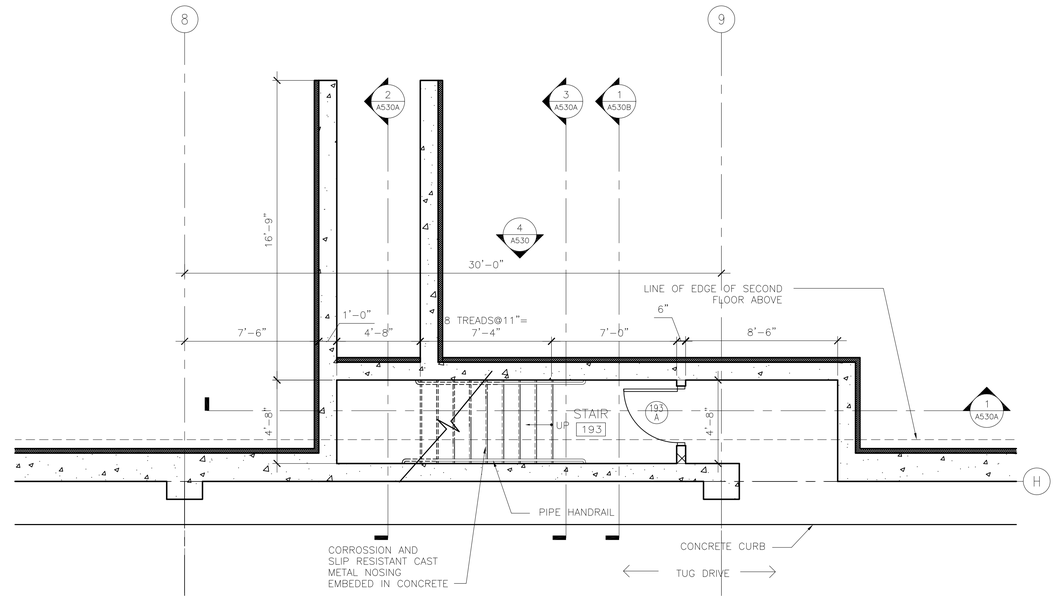
SHEET TITLE
SECTION DETAILS

SHEET NUMBER
1
A522

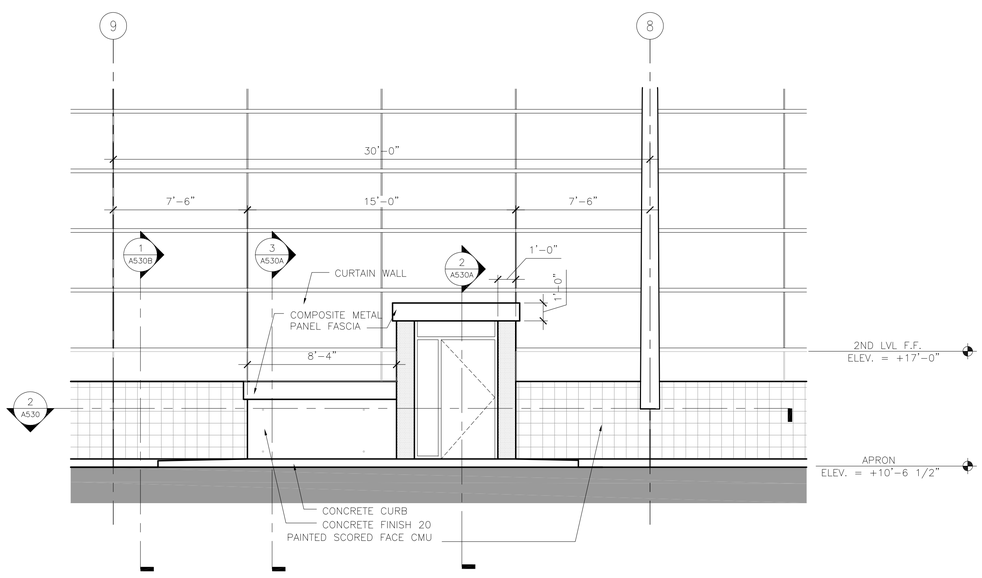
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



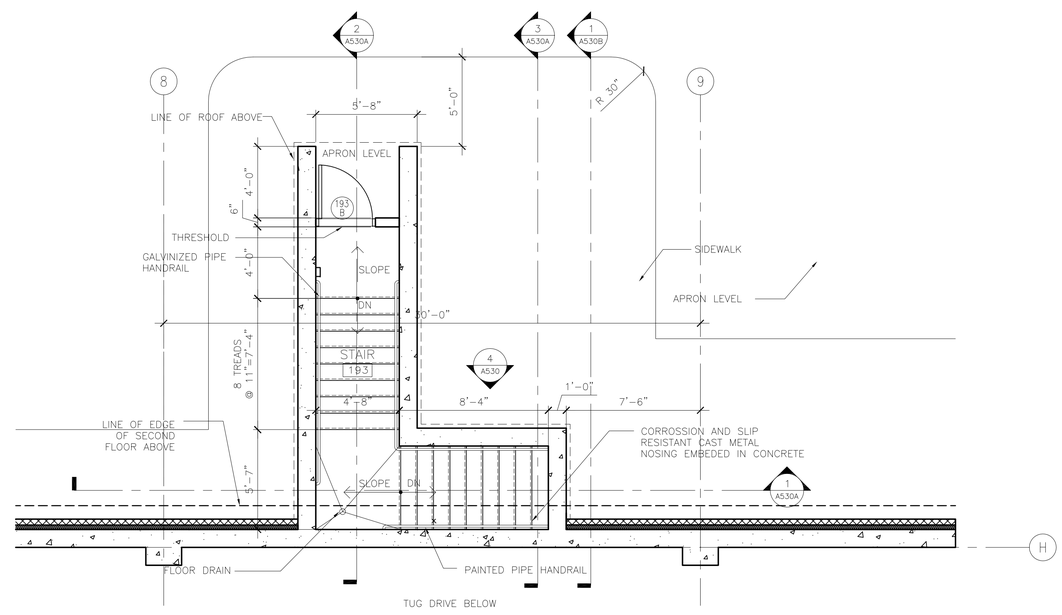
3 SECOND LEVEL PARTIAL FLOOR PLAN AND STAIR ROOF PLAN
1/4" = 1'-0"



1 STAIR PLAN @ FIRST LEVEL
1/4" = 1'-0"



4 PARTIAL NORTH ELEVATION
1/4" = 1'-0"



2 STAIR PLAN @ APRON LEVEL
1/4" = 1'-0"

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Signature:

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REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: TC
DRAWN BY: MK
DESIGNED BY: SBS

AEP PROJECT NUMBER
213-1882-091

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SHEET TITLE

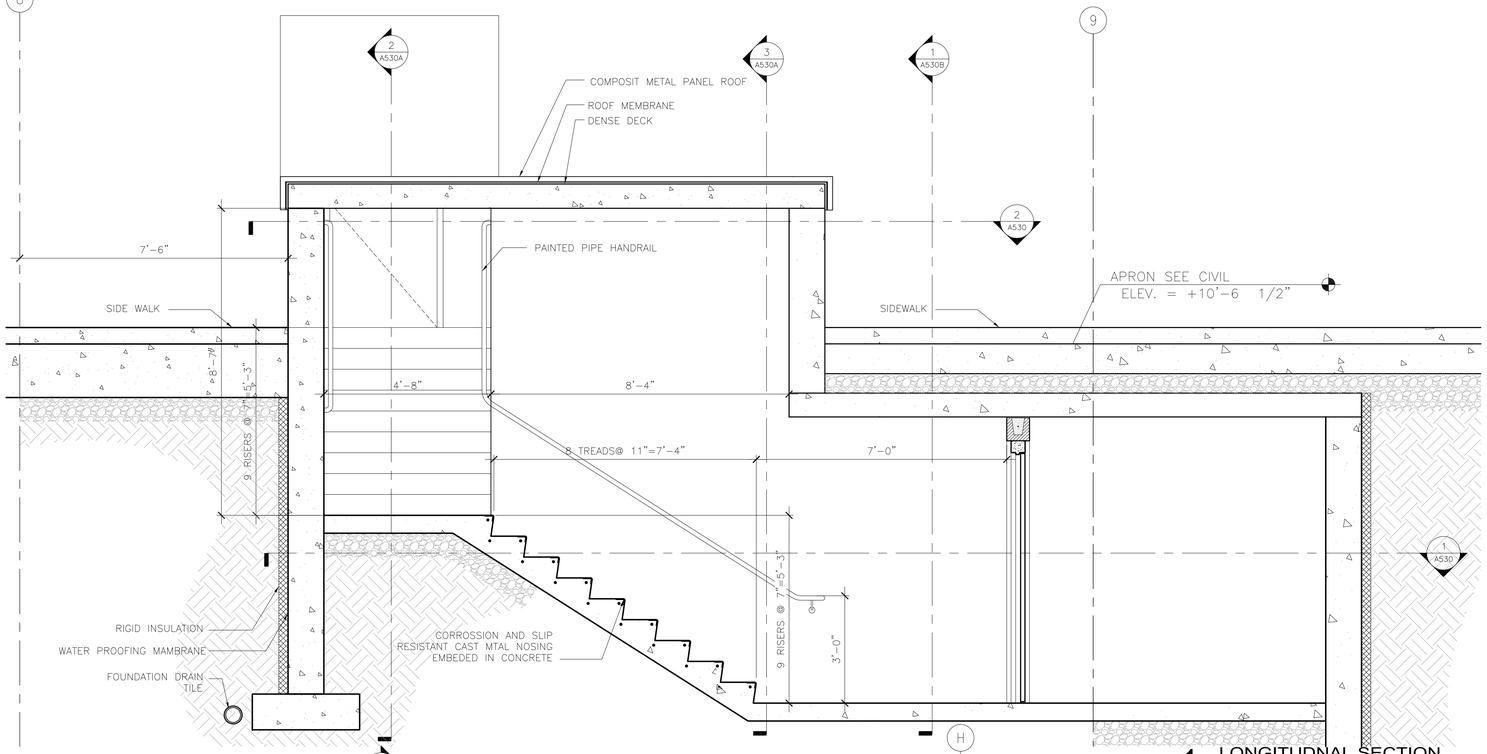
EXTERIOR SYSTEMS VERTICAL CIRCULATION

SHEET NUMBER

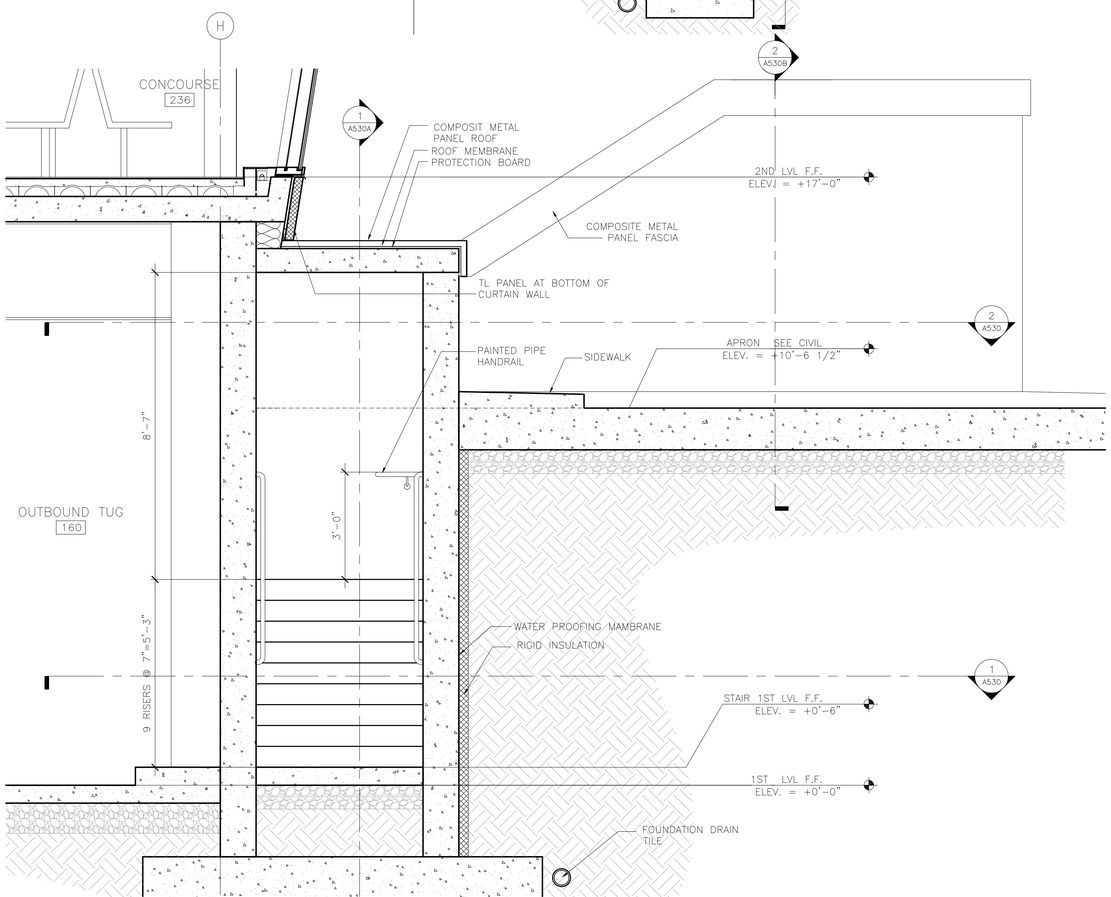
A530

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

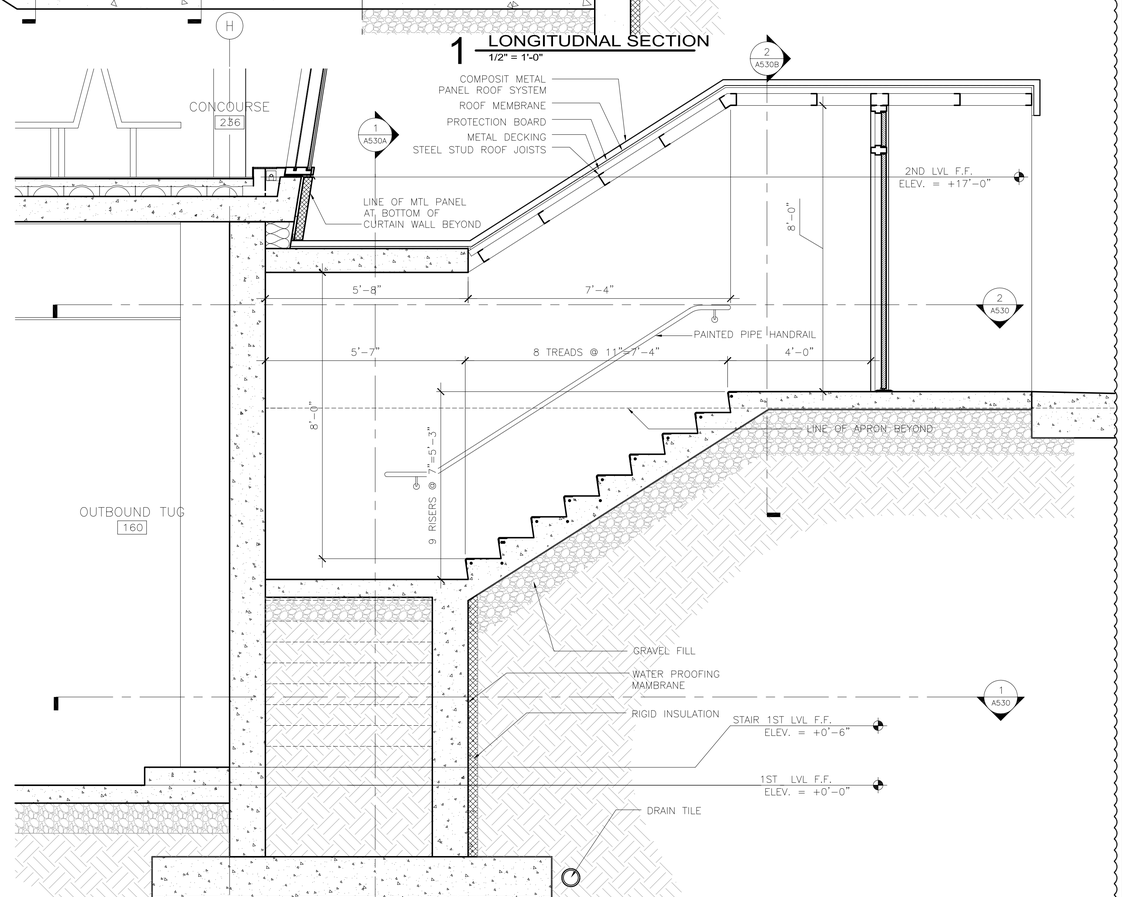
Drawing: T:\P\2131882.091 Duluth New Terminal\Cad\A\Sheets\A530 Exterior System Sheet-Vertical Circulation.dwg Plotted on: 6/10/2010 3:51 PMPlotted by: Kolodziej, Magdalena



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



3 LATITUDNAL SECTION
1/2" = 1'-0"



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

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1 South Wacker Drive, 37th Floor, Chicago IL 60606
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Baggage Handling Systems Consultants:
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TEL: (203) 792-3000 / FAX: (203) 792-4900

Landscaping Consultants:
APPOLD DESIGN
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TEL: (218) 591-5079

ARCHITECTURAL CERTIFICATION
I hereby certify that the architectural plans, specifications or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Architect under the laws of the State of Minnesota.

Print Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: TC
DRAWN BY: MK
DESIGNED BY: SBS

AEP PROJECT NUMBER
213-1882-091

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SHEET TITLE

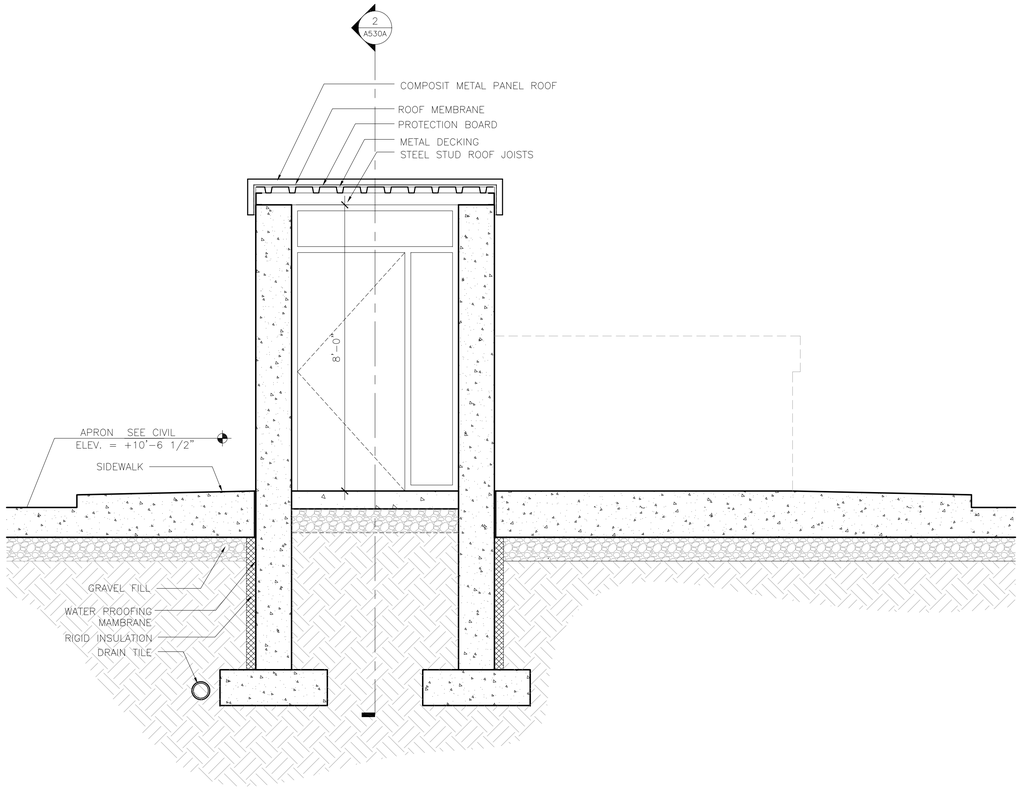
EXTERIOR SYSTEMS VERTICAL CIRCULATION

SHEET NUMBER

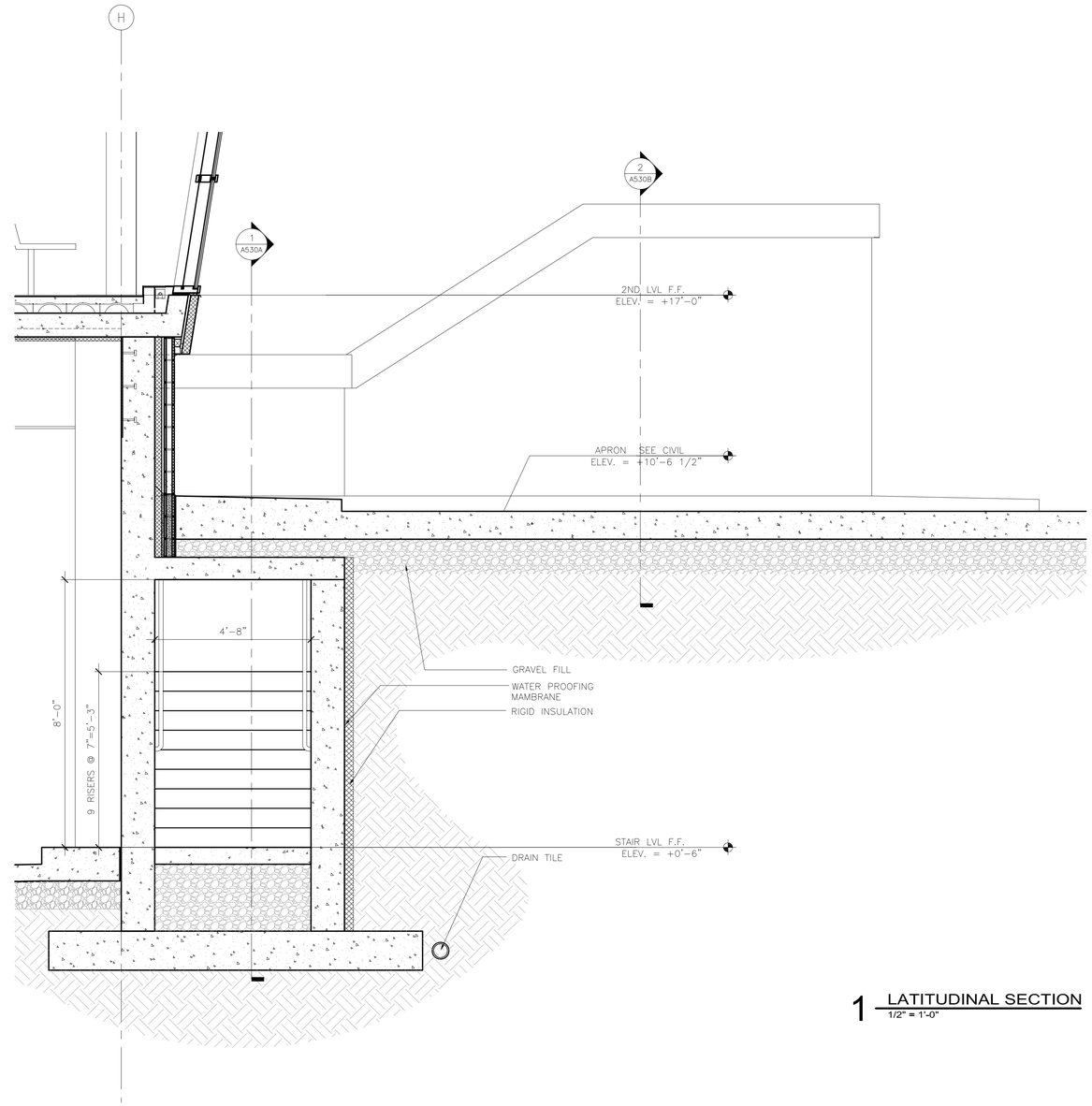
A530A

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

Drawing: T:\P\213188 2.091 Duluth New Terminal\Cad\A\Sheets\A530A Exterior System Sheet-Vertical Circulation.dwg Plotted on: 6/10/2010 3:52 PMPlotted by: Kolodziej, Magdalena



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



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

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DULUTH INTERNATIONAL AIRPORT DULUTH, MN

NEW PASSENGER TERMINAL

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Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: TC
DRAWN BY: MK
DESIGNED BY: SBS

AEP PROJECT NUMBER
213-1882-091

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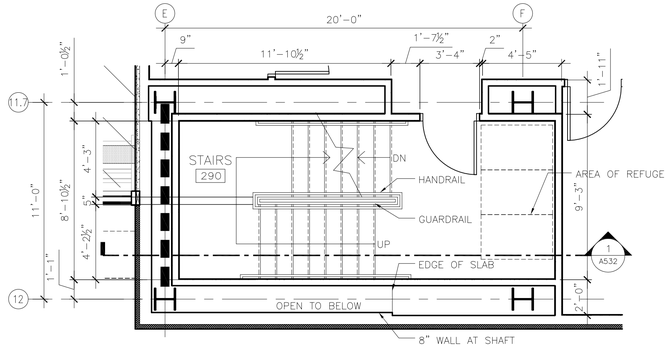
SHEET TITLE
EXTERIOR SYSTEMS VERTICAL CIRCULATION

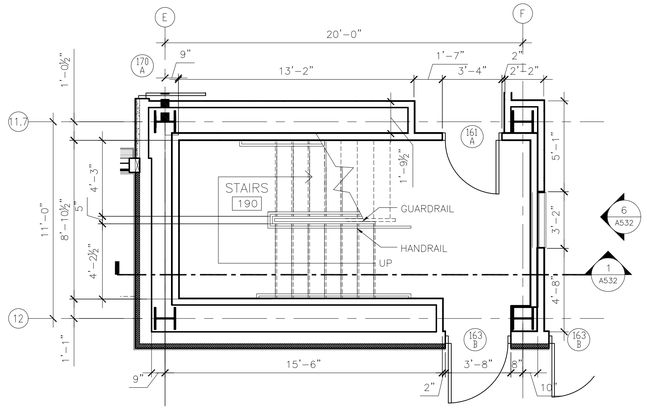
1

SHEET NUMBER
A530B

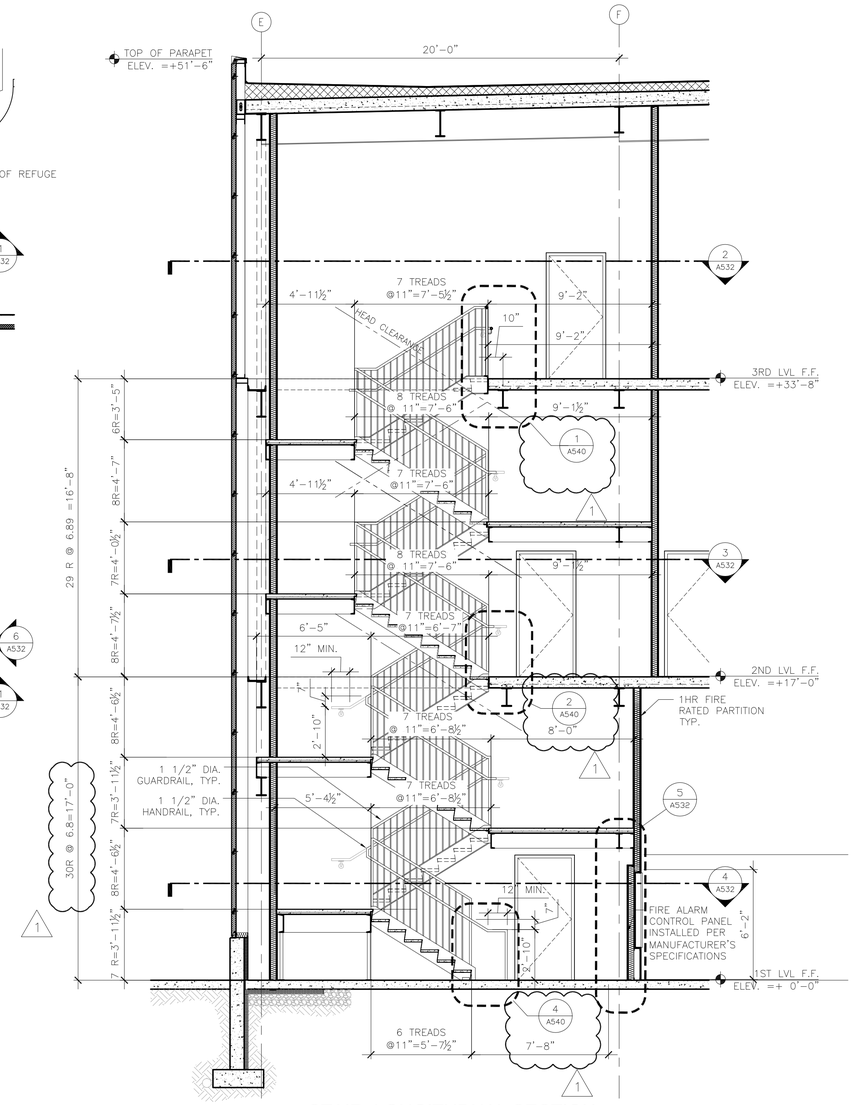
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



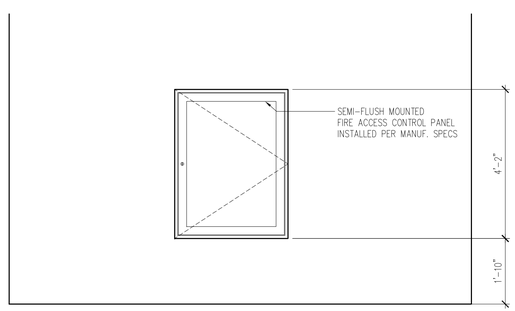
3 STAIR PLAN @ SECOND LEVEL
1/4" = 1'-0"



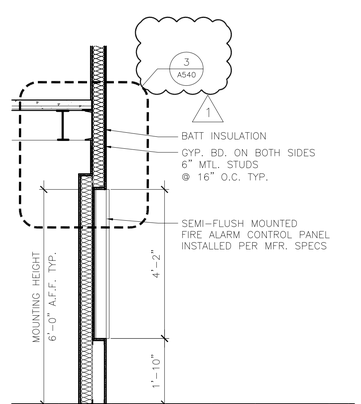
4 STAIR PLAN @ FIRST LEVEL
1/4" = 1'-0"



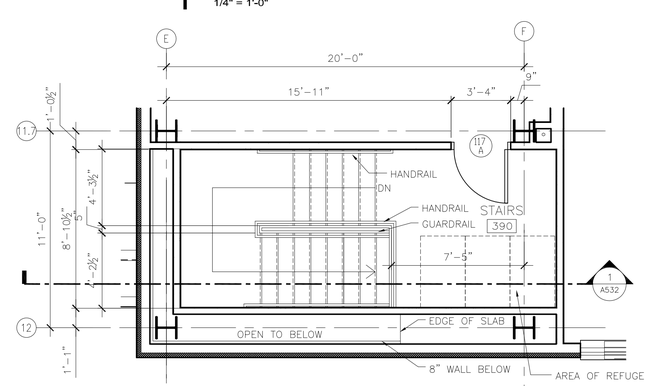
1 STAIR LONGITUDNAL SECTION
1/4" = 1'-0"



6 INTERIOR ELEVATION
1/2" = 1'-0"



5 WALL SECTION
1/2" = 1'-0"



2 STAIR PLAN @ THIRD LEVEL
1/4" = 1'-0"

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Print Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: TC
DRAWN BY: MK/MIP
DESIGNED BY: TC/SBS

AEP PROJECT NUMBER
213-1882-091
XXX.DWG XXXXXXXX-00 12:00p

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SHEET TITLE

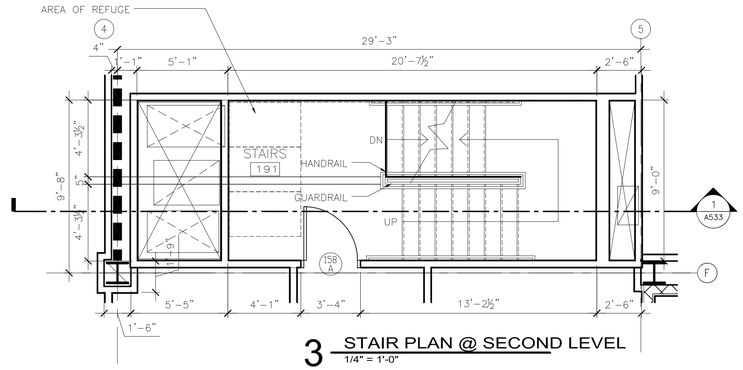
INTERIOR SYSTEMS VERTICAL CIRCULATION

SHEET NUMBER

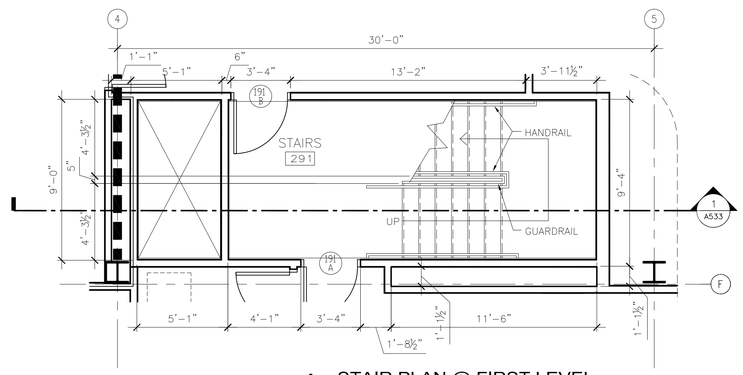
A532

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

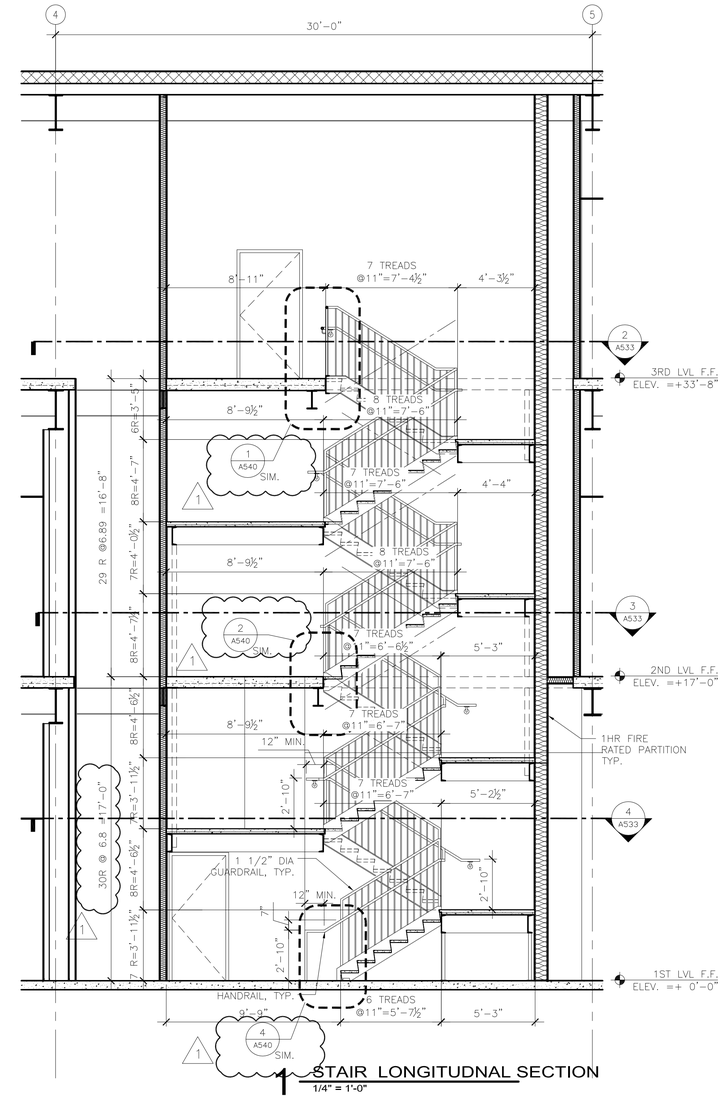
Drawing: T:\P\2131882.091 Duluth New Terminal\Cad\A\Sheets\A532 Interior System Sheet-Vertical Circulation.dwg Plotted on: 6/10/2010 4:50 PMPlotted by: Kolodziej, Magdalena



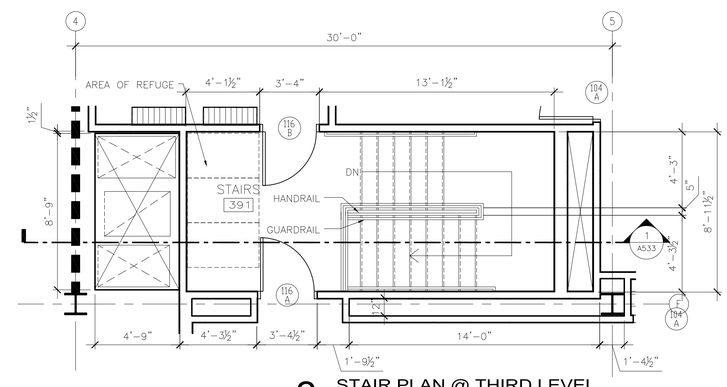
3 STAIR PLAN @ SECOND LEVEL
1/4" = 1'-0"



4 STAIR PLAN @ FIRST LEVEL
1/4" = 1'-0"



1 STAIR LONGITUDNAL SECTION
1/4" = 1'-0"



2 STAIR PLAN @ THIRD LEVEL
1/4" = 1'-0"

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REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: TC
DRAWN BY: MI/MK
DESIGNED BY: SBC/TC

AEP PROJECT NUMBER
213-1882-091
XXX.DWG 06-11-10 12:00p

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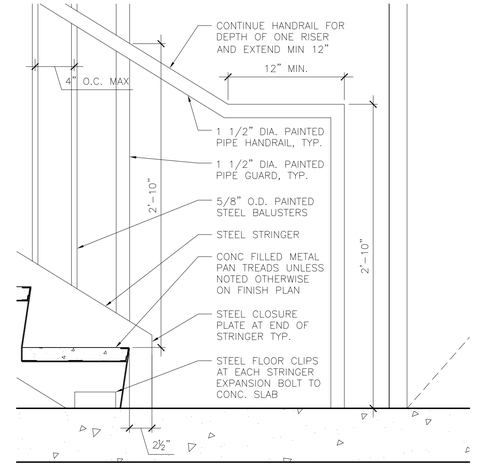
SHEET TITLE

INTERIOR SYSTEMS VERTICAL CIRCULATION

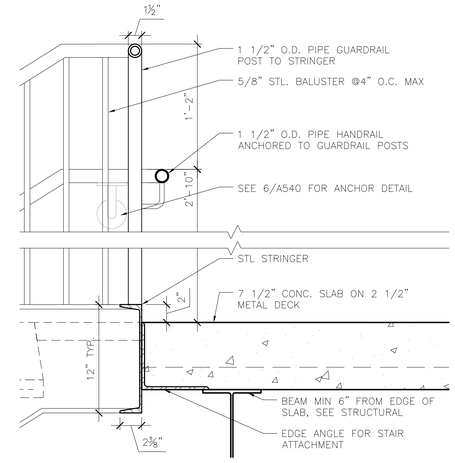
SHEET NUMBER

A533

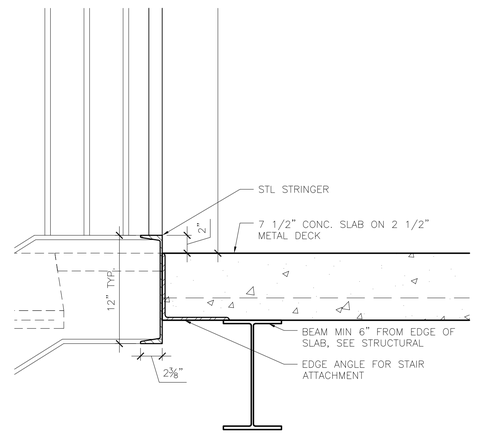
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



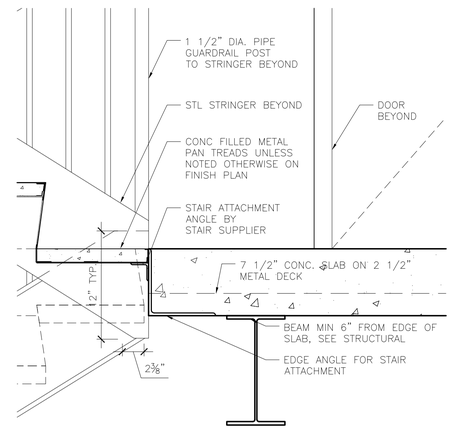
4 STAIR STRINGER @ FIRST LEVEL
1 1/2" = 1'-0"



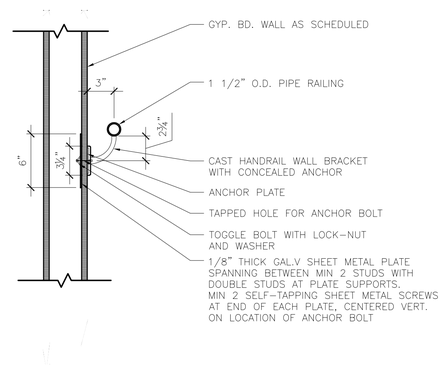
1 DETAIL AT TOP LANDING
1 1/2" = 1'-0"



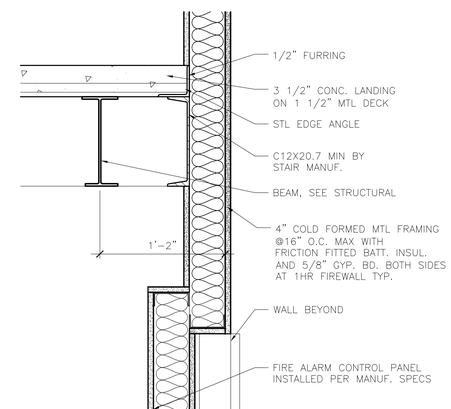
5 RAIL TERMINATION DETAIL
1 1/2" = 1'-0"



2 DETAIL AT INTERMEDIATE LANDING
1 1/2" = 1'-0"



6 HANDRAIL DETAIL AT GYP. BD.
1 1/2" = 1'-0"



3 DETAIL AT FIRE ALARM ALCOVE
1 1/2" = 1'-0"

1

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Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: XX
DRAWN BY: XX
DESIGNED BY: XX

AEP PROJECT NUMBER
XXX.DWG **213-1882-091** 06-03-10 12:00p

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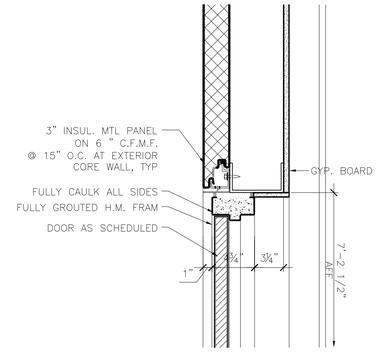
SHEET TITLE

VERTICAL CIRCULATION DETAILS

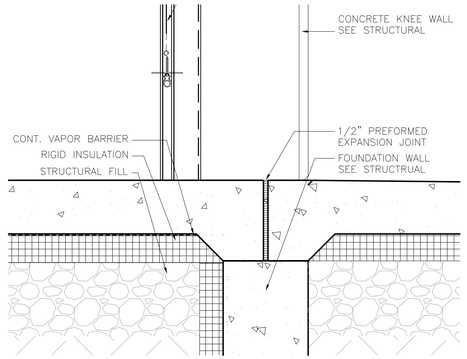
SHEET NUMBER

A540

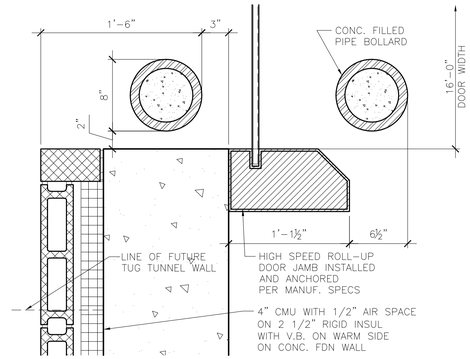
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



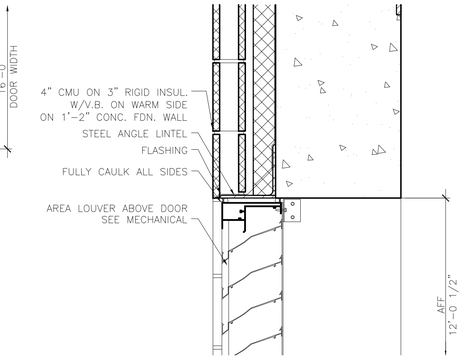
17 TYP. HEAD @ 3RD FLOOR NORTH WALL DOOR
1 1/2" = 1'-0"



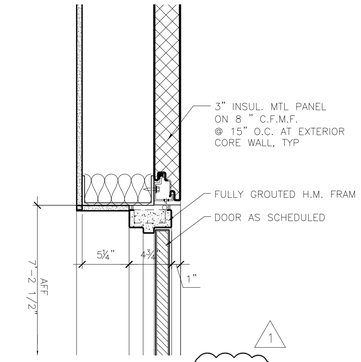
13 TYP. SILL @ EXT. COILING DOOR
1 1/2" = 1'-0"



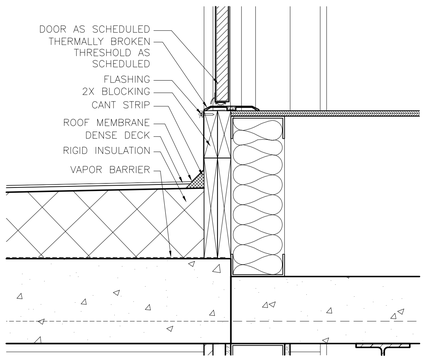
9 TYP. JAMB @ HIGH SPEED O.H. DOOR
1 1/2" = 1'-0"



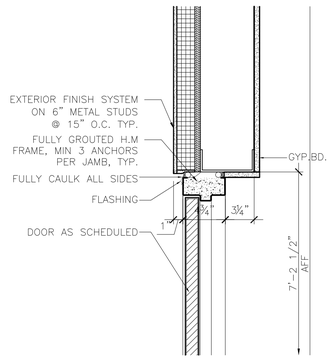
5 TYP.HEAD @ EXT. TUG TUNNEL DOOR LOUVER
1/16" = 1'-0"



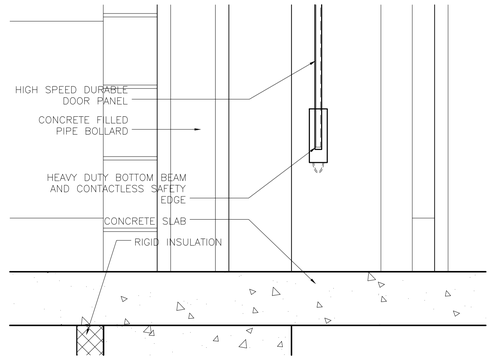
1 TYP. HEAD @EXT.CORE DOOR
1 1/2" = 1'-0"



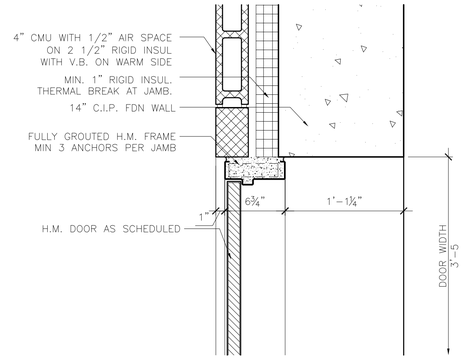
18 TYP.SILL @ 3RD FLOOR NORTH WALL DOOR
1 1/2" = 1'-0"



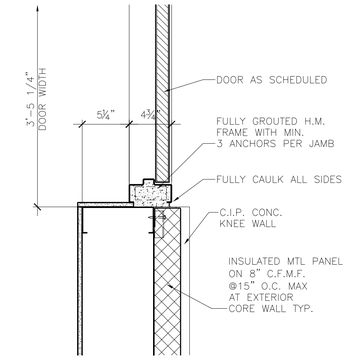
14 HEAD @ CHILLER ENCLOSURE
1 1/2" = 1'-0"



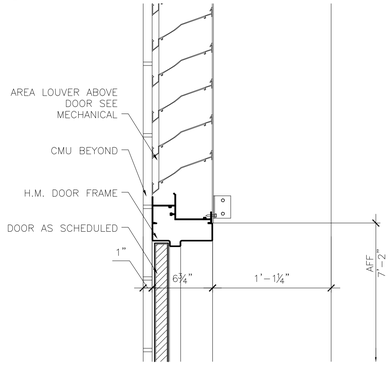
10 TYP. SILL @ HIGH SPEED O.H. DOOR
1 1/2" = 1'-0"



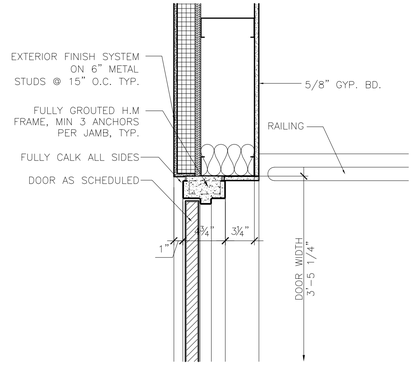
6 TYP. JAMB @ EXT. TUG TUNNEL DOOR
1 1/2" = 1'-0"



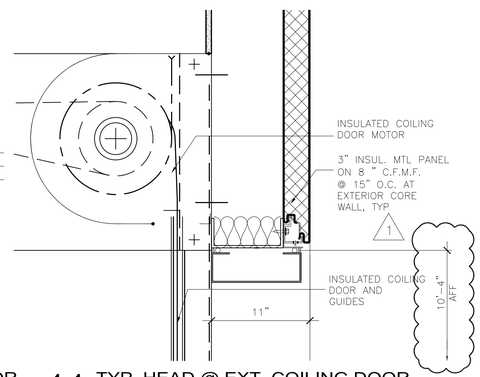
2 TYP. JAMB @ EXT. CORE WALL
1 1/2" = 1'-0"



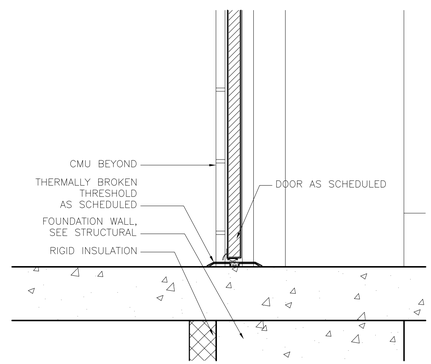
19 TRANSOM @ TUG TUNNEL DOOR
1 1/2" = 1'-0"



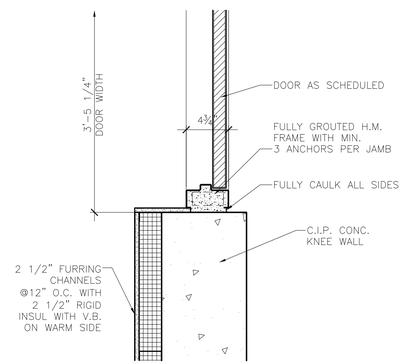
15 JAMB @ CHILLER ENCLOSURE DOOR
1 1/2" = 1'-0"



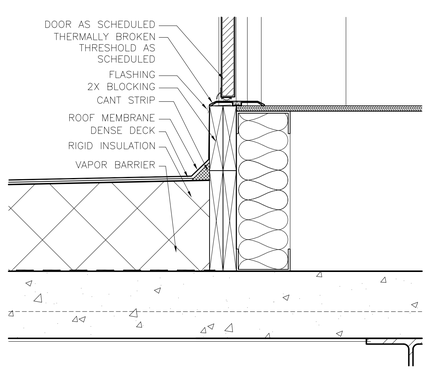
11 TYP. HEAD @ EXT. COILING DOOR
1 1/2" = 1'-0"



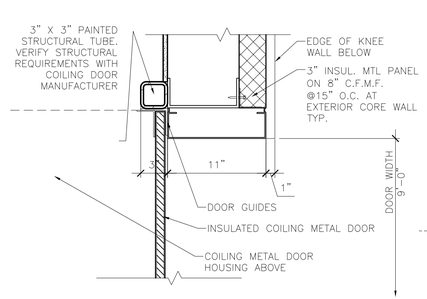
7 TYP. SILL @ EXT. TUG TUNNEL DOOR
1 1/2" = 1'-0"



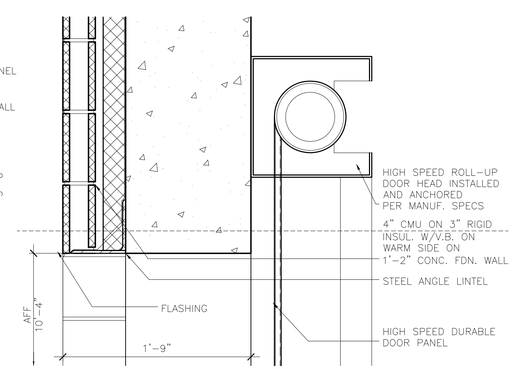
3 TYP. JAMB @ EXT. CORE WALL BASE
1 1/2" = 1'-0"



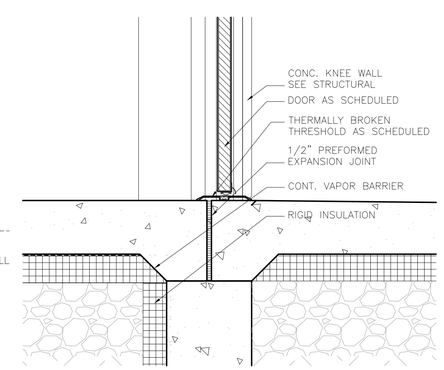
16 SILL @ CHILLER ENCLOSURE DOOR
1 1/2" = 1'-0"



12 TYP. JAMB @ EXT. COILING DOOR
1 1/2" = 1'-0"



8 TYP. HEAD @ TUG DRIVE HIGH SPEED O.H. DOOR
1 1/2" = 1'-0"



4 TYP. SILL @ EXT. CORE
1 1/2" = 1'-0"

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Print Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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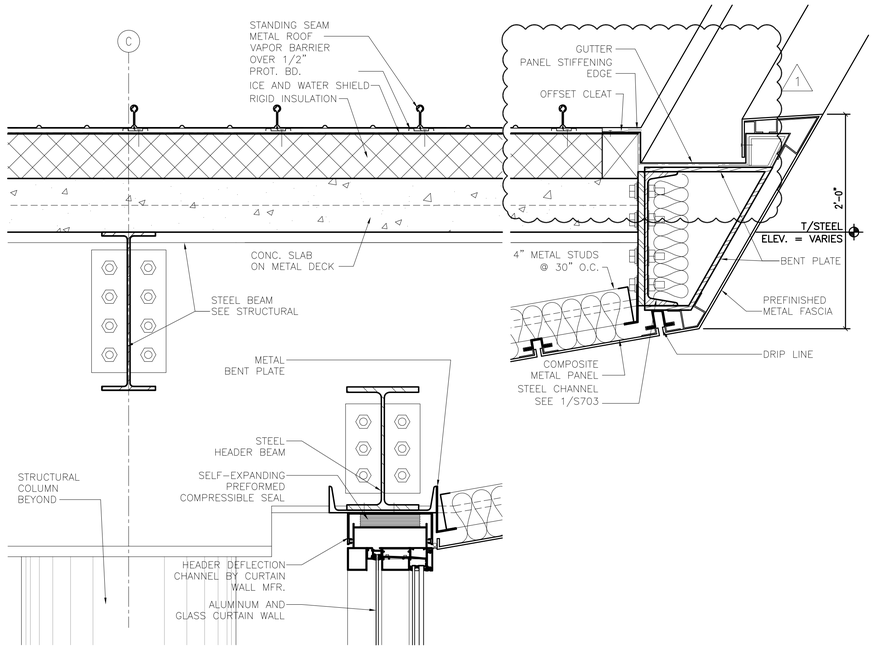
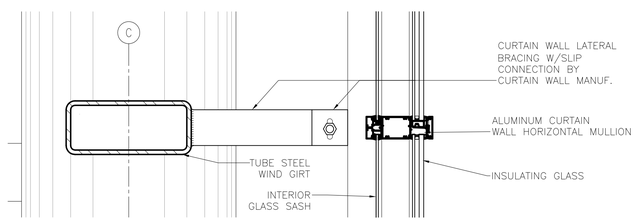
SHEET TITLE
DOOR DETAILS

SHEET NUMBER
A702

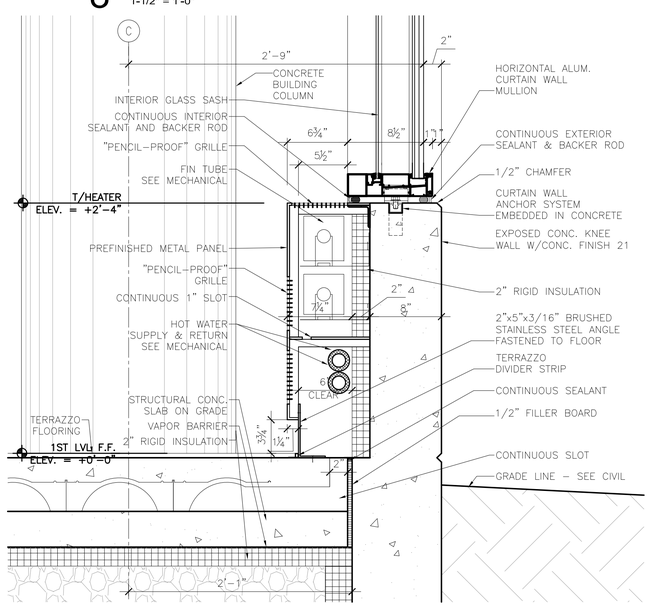
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



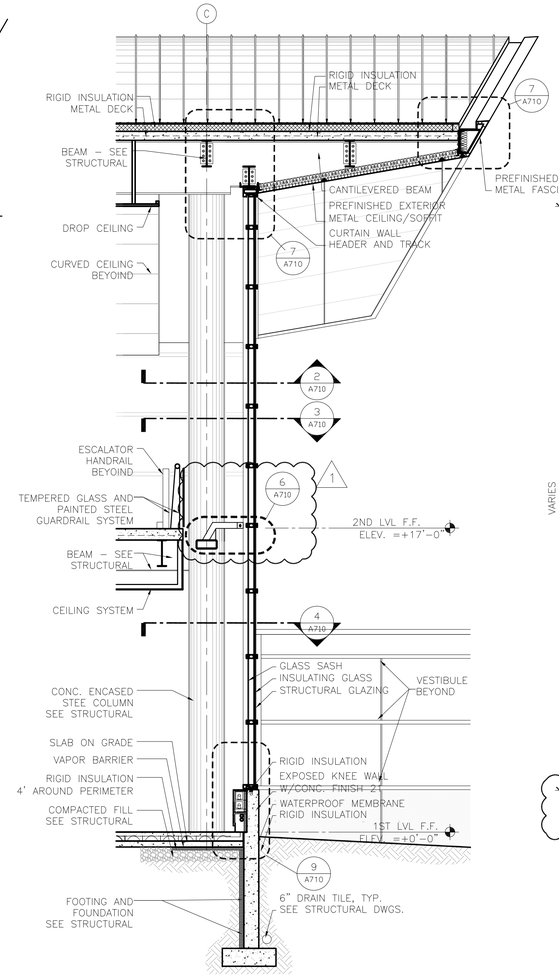
7 CURTAIN WALL HEAD DETAIL
1-1/2" = 1'-0"



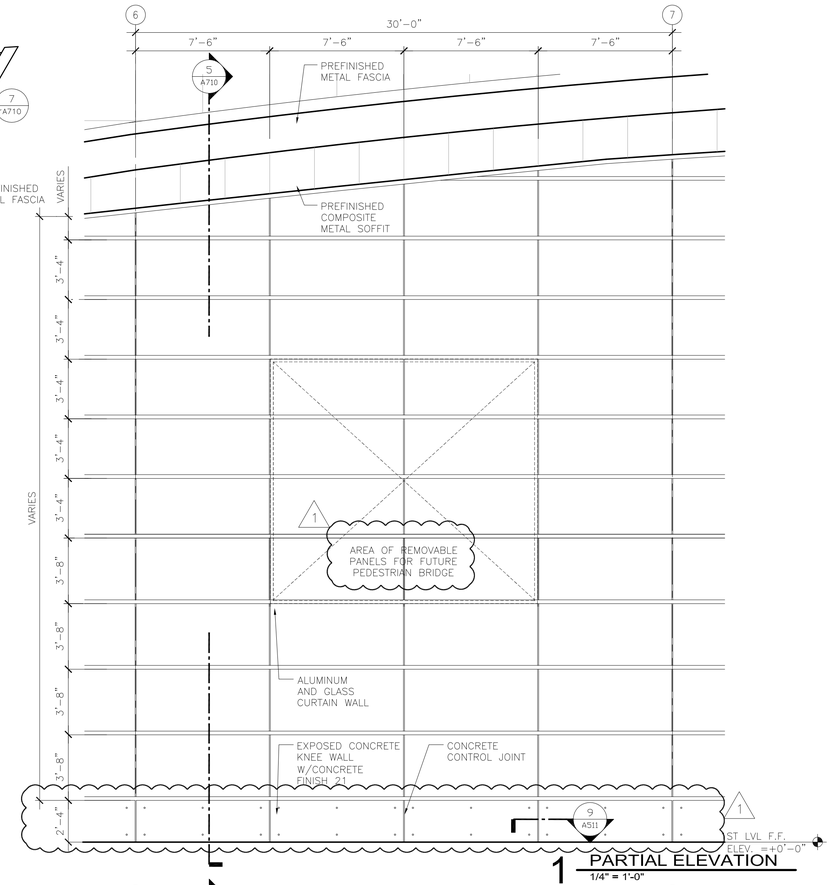
8 CURTAIN WALL WIND BRACE DETAIL - TYP.
1-1/2" = 1'-0"



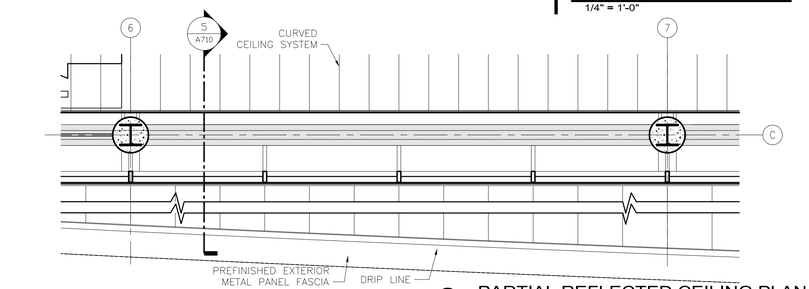
9 CURTAIN WALL SILL DETAIL
1-1/2" = 1'-0"



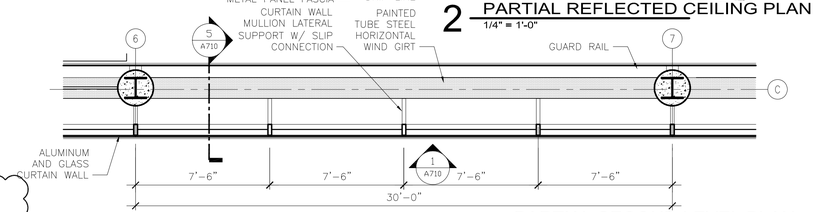
5 WALL SECTION
1/4" = 1'-0"



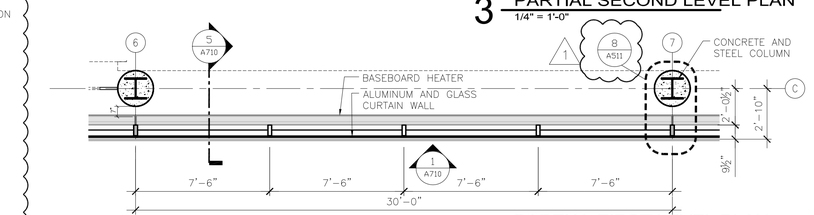
1 PARTIAL ELEVATION
1/4" = 1'-0"



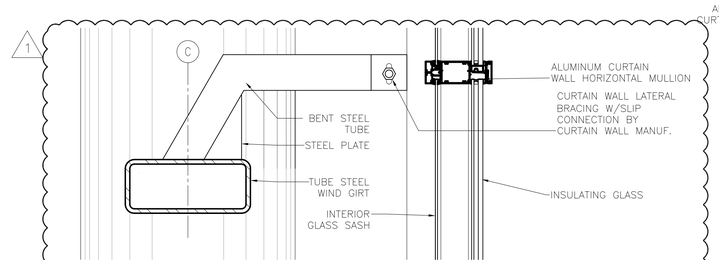
2 PARTIAL REFLECTED CEILING PLAN
1/4" = 1'-0"



3 PARTIAL SECOND LEVEL PLAN
1/4" = 1'-0"



4 PARTIAL FIRST LEVEL PLAN
1/4" = 1'-0"



6 WIND BRACE DETAIL BETWEEN COL. LINES 6 & 7
1 1/2" = 1'-0"

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Print Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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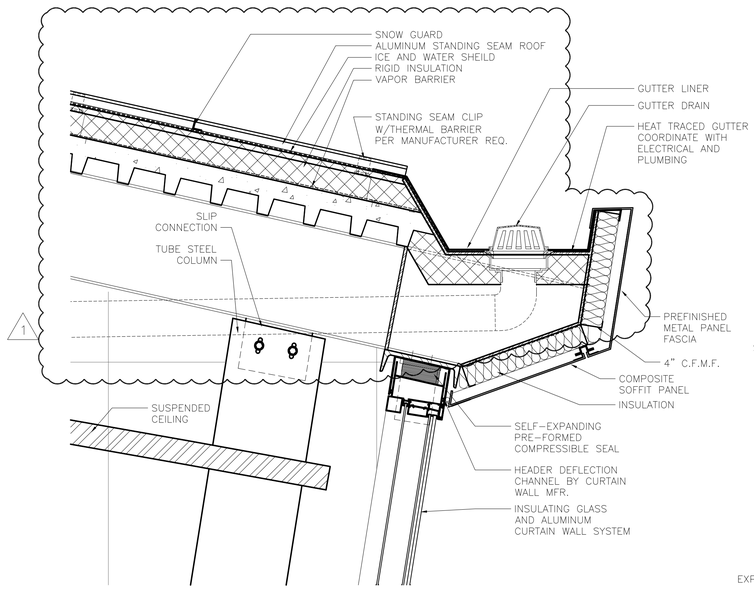
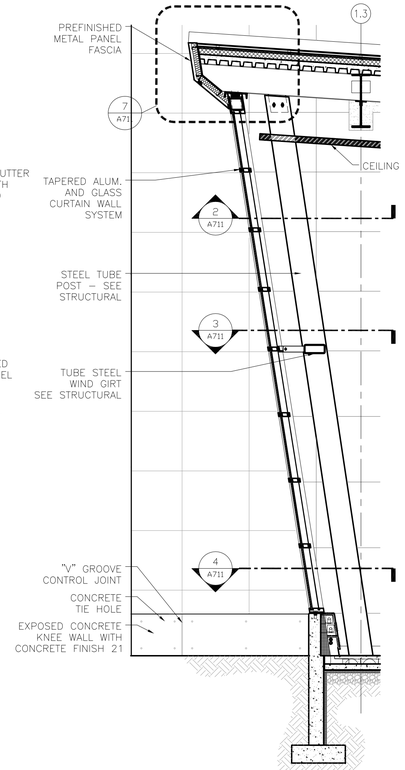
SHEET TITLE
EXTERIOR SYSTEMS LANDSIDE CURTAIN WALL

SHEET NUMBER
A710

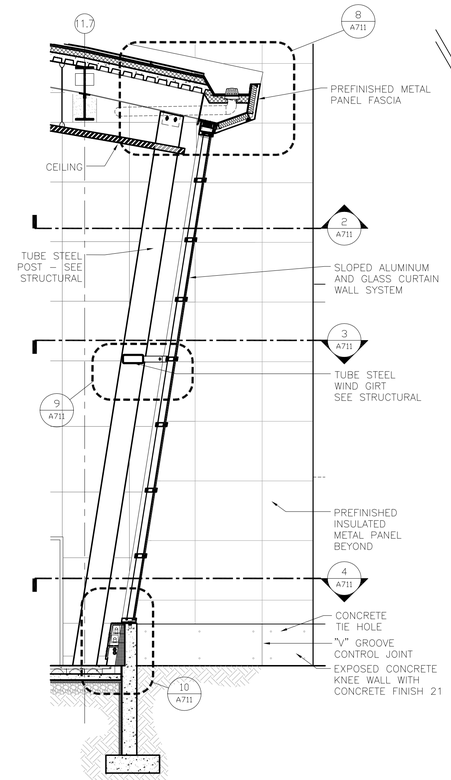
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



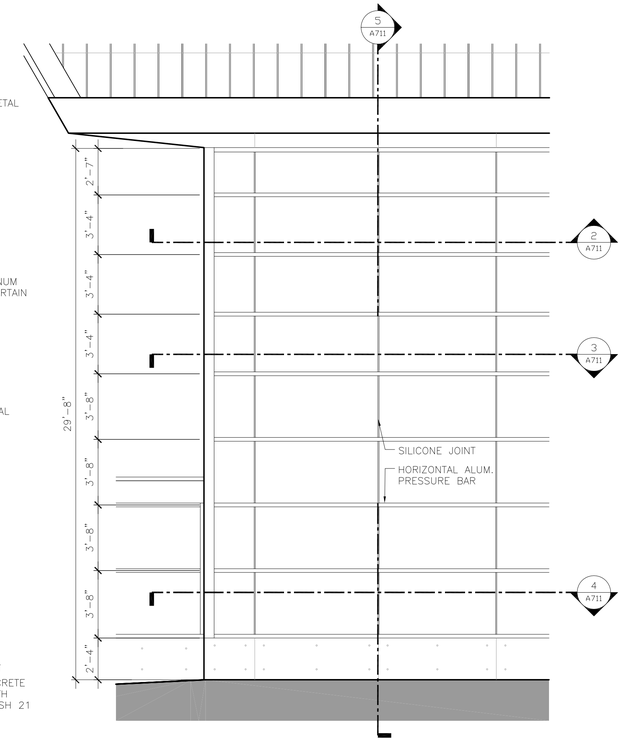
8 CURTAIN WALL HEAD DETAIL @ EAST END OF LOBBY
1" = 1'-0"



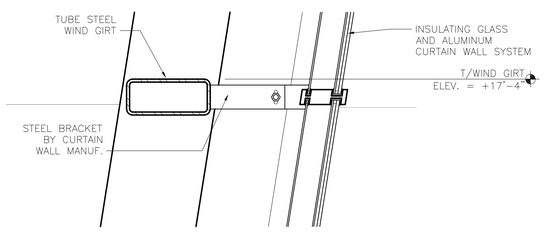
6 WEST CURTAIN WALL SECTION
1/4" = 1'-0"



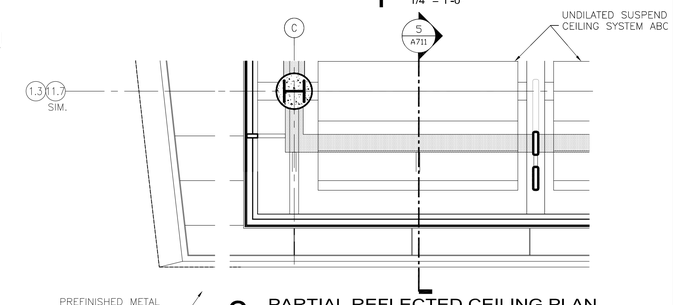
5 EAST CURTAIN WALL SECTION
1/4" = 1'-0"



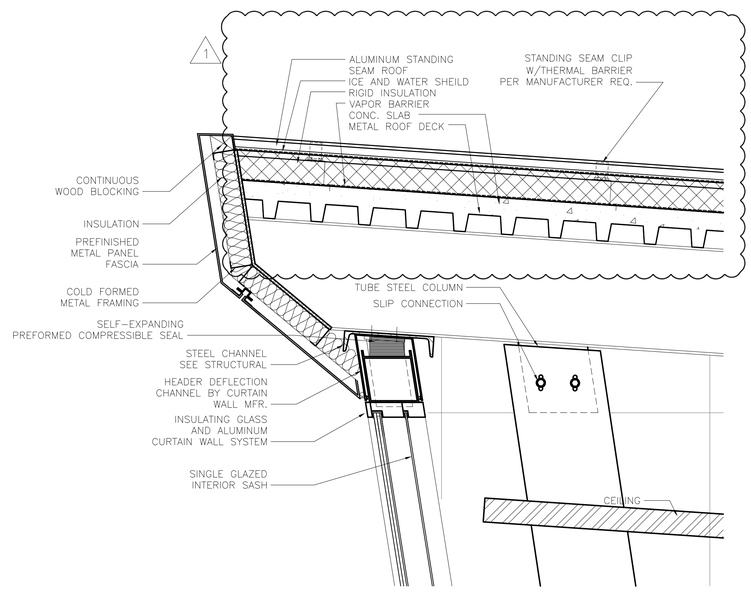
1 PARTIAL EAST ELEVATION
1/4" = 1'-0"



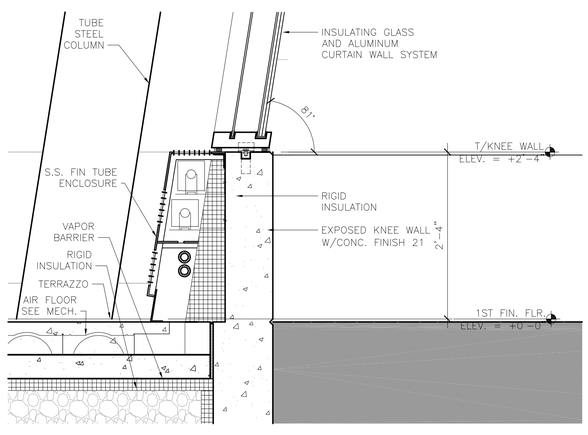
9 CURTAIN WALL HORIZONTAL DETAIL
1" = 1'-0" WEST SIDE SIMILAR



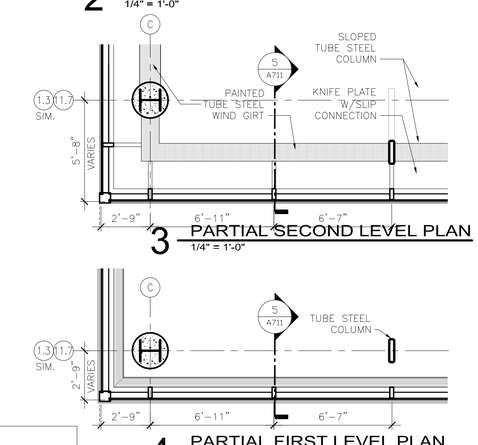
2 PARTIAL REFLECTED CEILING PLAN
1/4" = 1'-0"



7 CURTAIN WALL HEAD DETAIL @ WEST END OF LOBBY
1" = 1'-0"



10 CURTAIN WALL SILL DETAIL
1" = 1'-0" WEST SIDE SIMILAR



3 PARTIAL SECOND LEVEL PLAN
1/4" = 1'-0"

4 PARTIAL FIRST LEVEL PLAN
1/4" = 1'-0"

NOTE: IN FLOOR AIR DISTRIBUTION SYSTEM N.I.C.

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Print Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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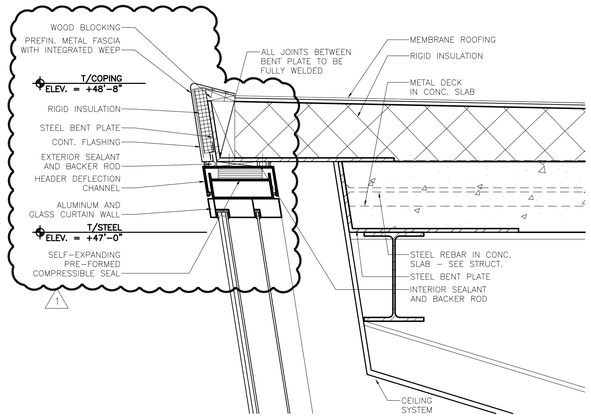
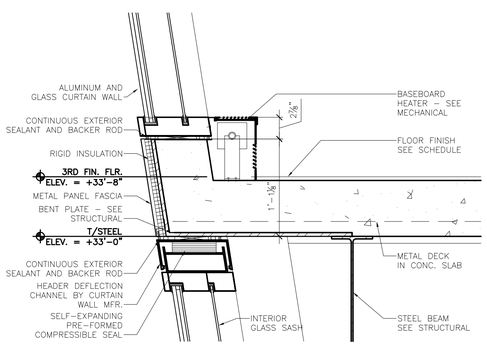
SHEET TITLE
EXTERIOR SYSTEMS LANDSIDE CURTAIN WALL

SHEET NUMBER
A711

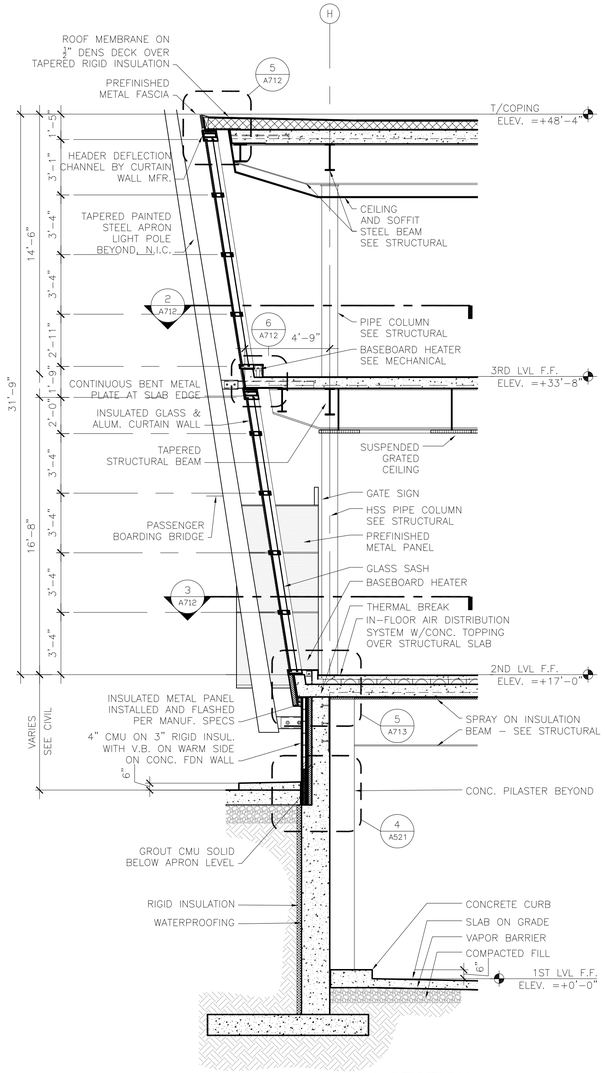
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



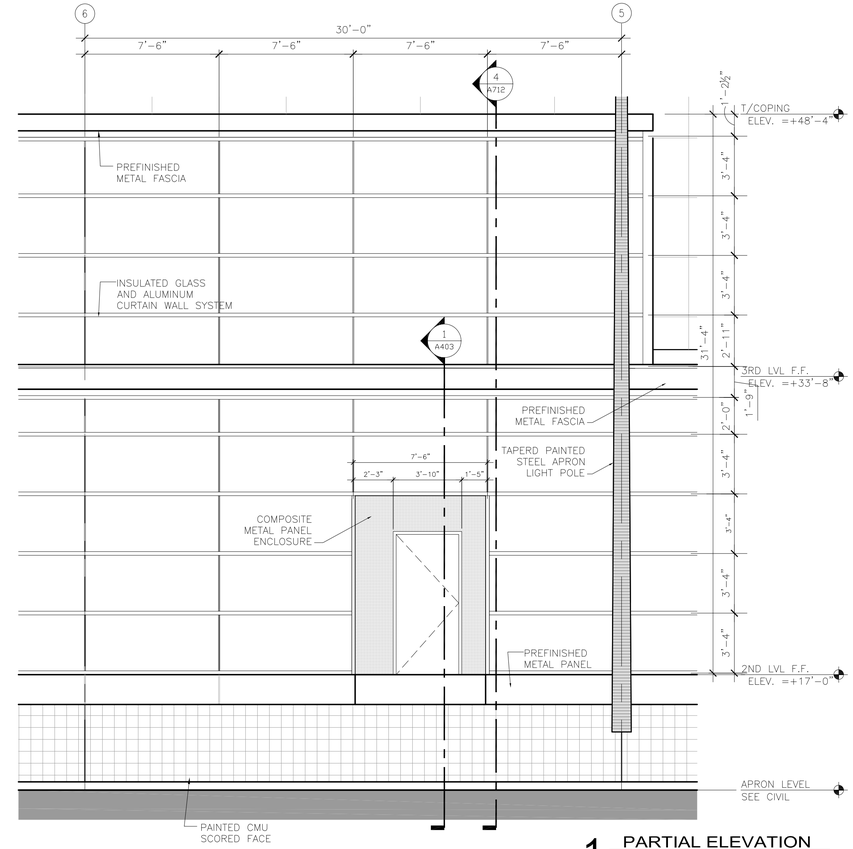
5 CURTAIN WALL HEAD DETAIL
1 1/2" = 1'-0"



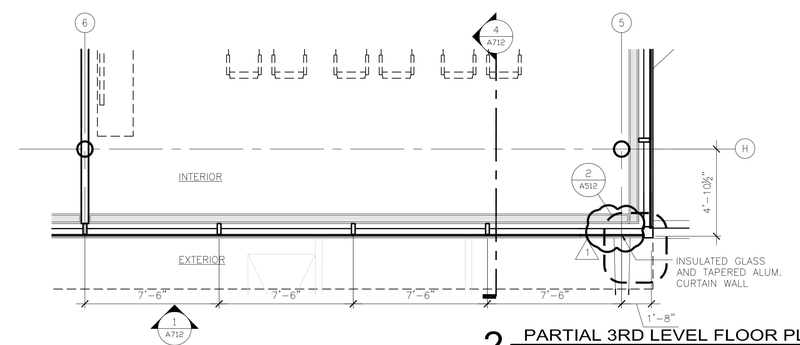
6 CURTAIN WALL HORIZONTAL MULLION DETAIL @ 2ND LEVEL
1 1/2" = 1'-0"



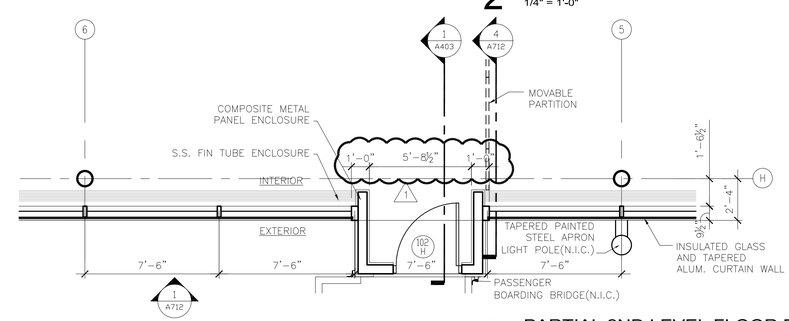
4 WALL SECTION
1/4" = 1'-0"



1 PARTIAL ELEVATION
1/4" = 1'-0"



2 PARTIAL 3RD LEVEL FLOOR PLAN
1/4" = 1'-0"



3 PARTIAL 2ND LEVEL FLOOR PLAN
1/4" = 1'-0"

NOTE: IN FLOOR AIR DISTRIBUTION SYSTEM N.I.C.

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Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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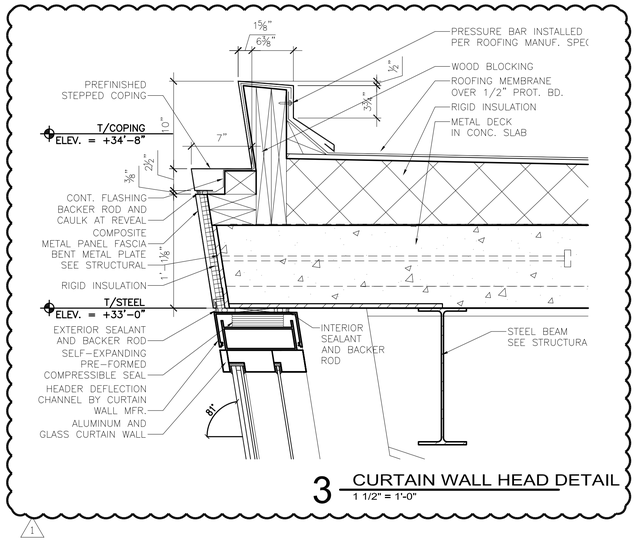
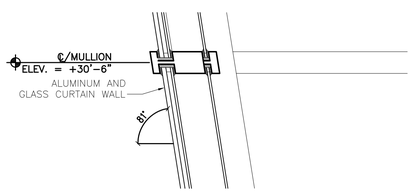
SHEET TITLE
EXTERIOR SYSTEMS AIRSIDE CURTAIN WALL

SHEET NUMBER
A712

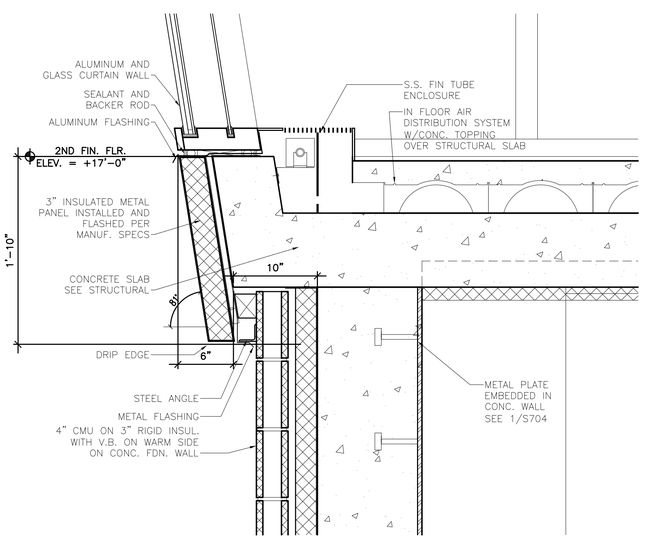
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



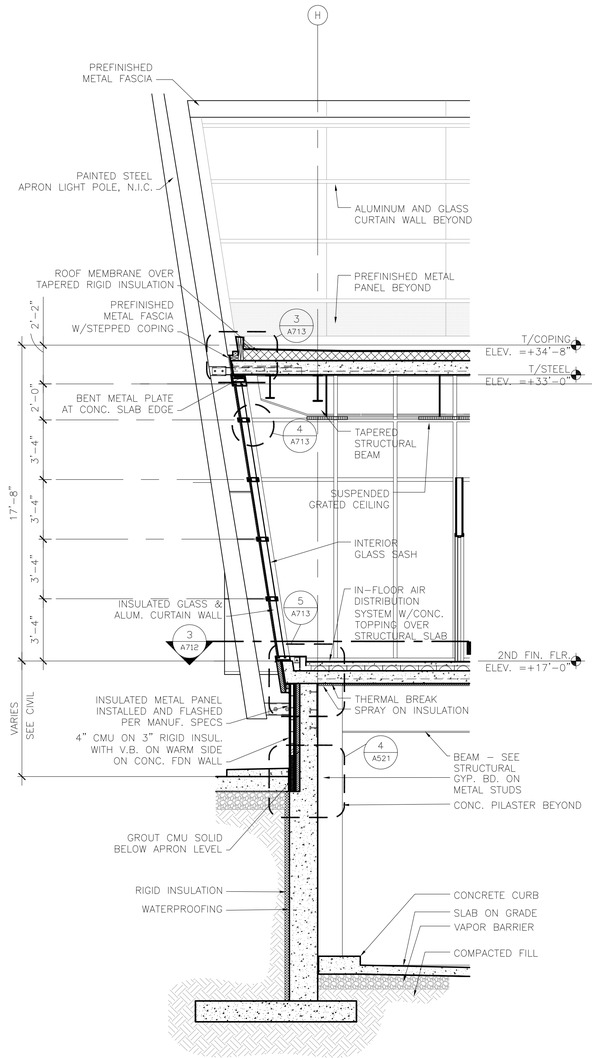
3 CURTAIN WALL HEAD DETAIL
1 1/2" = 1'-0"



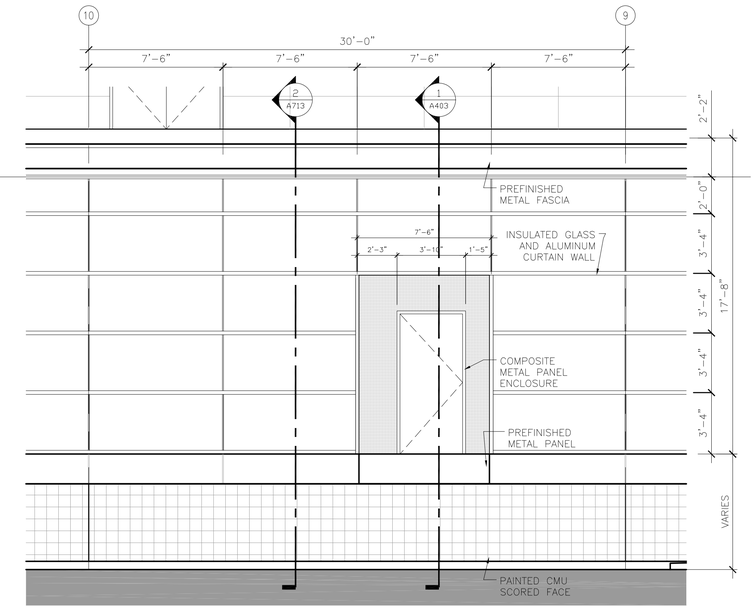
4 CURTAIN WALL MULLION DETAIL
1 1/2" = 1'-0"



5 CURTAIN WALL SILL DETAIL
1 1/2" = 1'-0"



2 WALL SECTION
1/4" = 1'-0"



1 PARTIAL CONCOURSE NORTH ELEVATION
1/4" = 1'-0"

NOTE: IN FLOOR AIR DISTRIBUTION SYSTEM N.I.C.

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NEW PASSENGER TERMINAL

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ARCHITECTURAL CERTIFICATION
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Print Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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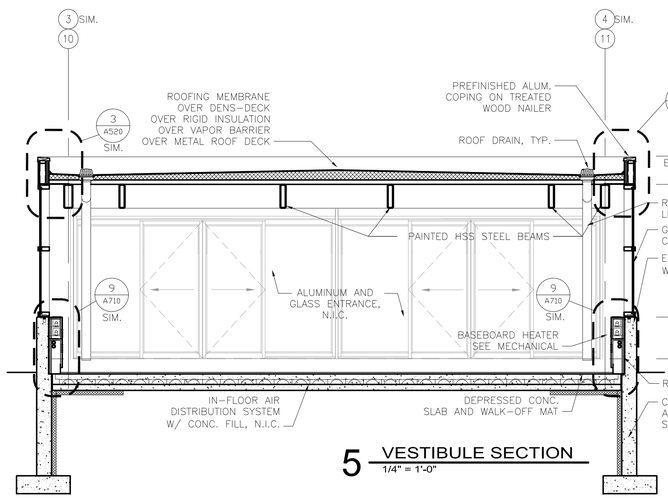
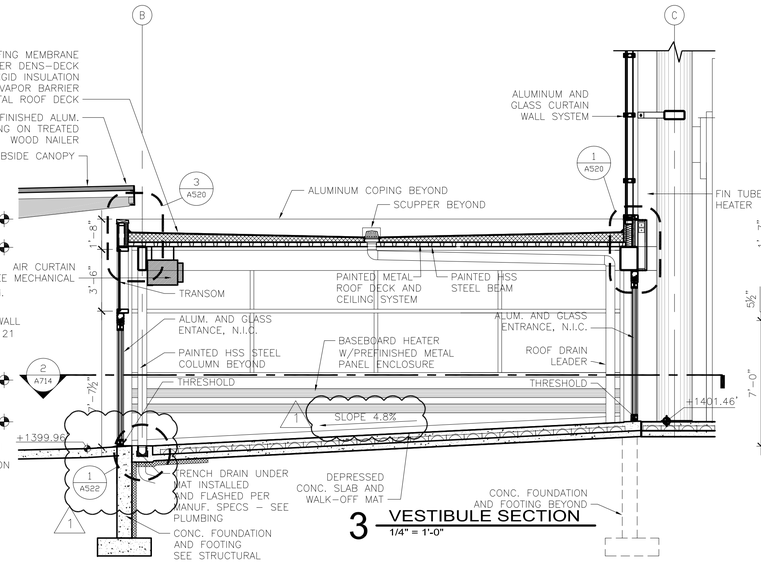
SHEET TITLE
EXTERIOR SYSTEMS AIRSIDE CURTAIN WALL

SHEET NUMBER
A713

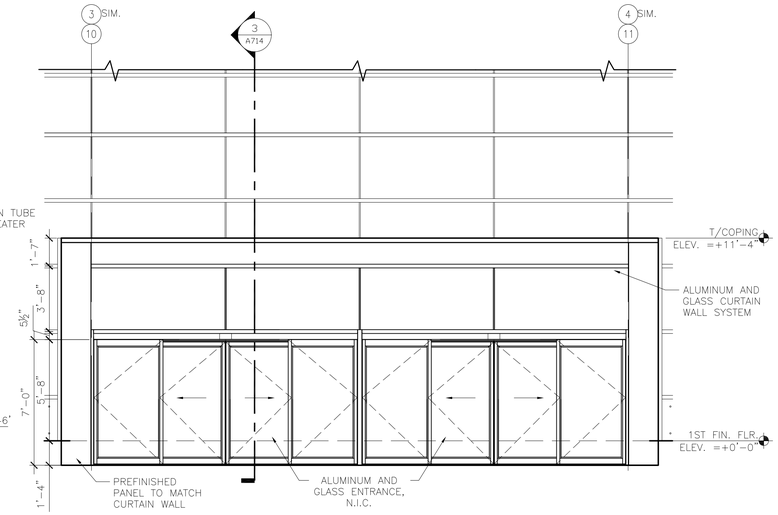
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



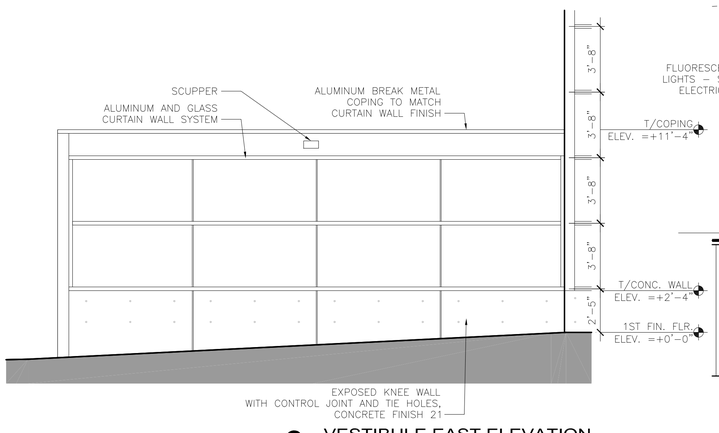
5 VESTIBULE SECTION
1/4" = 1'-0"



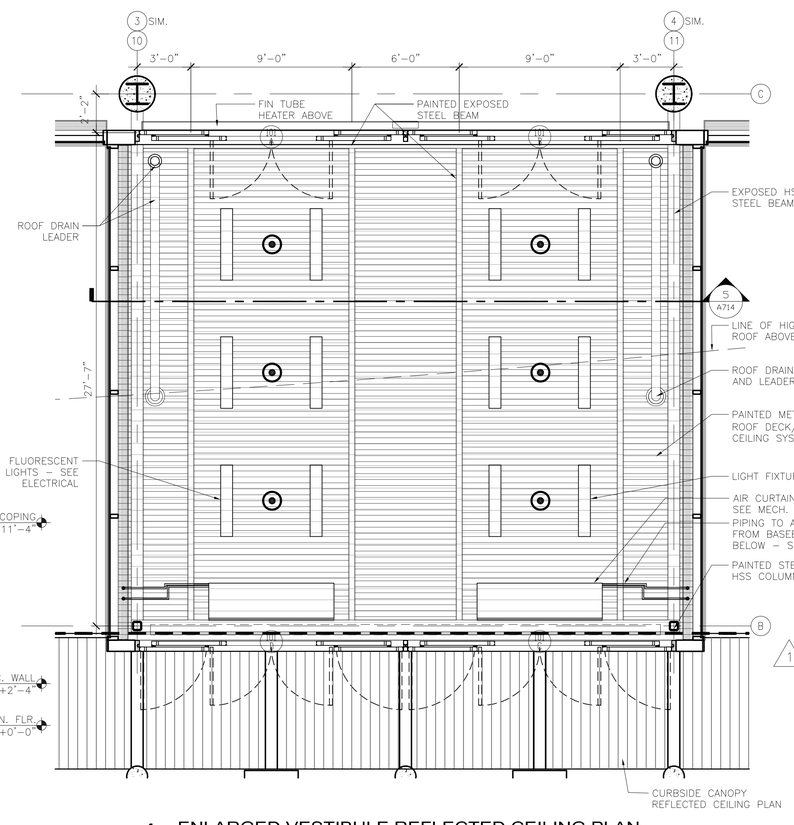
3 VESTIBULE SECTION
1/4" = 1'-0"



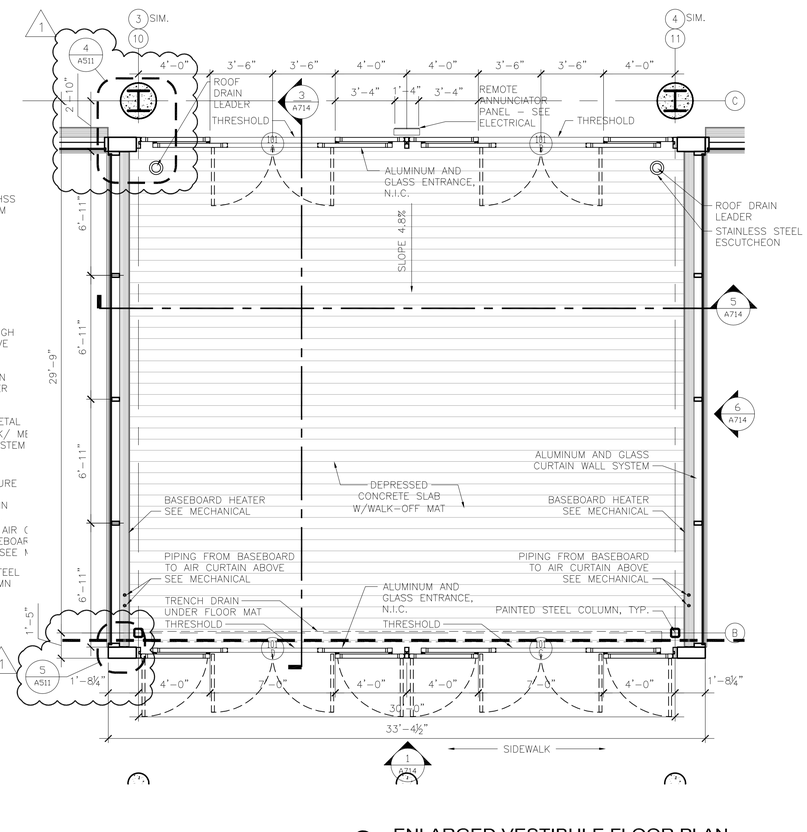
1 VESTIBULE SOUTH ELEVATION
1/4" = 1'-0"



6 VESTIBULE EAST ELEVATION
1/4" = 1'-0"



4 ENLARGED VESTIBULE REFLECTED CEILING PLAN
1/4" = 1'-0"



2 ENLARGED VESTIBULE FLOOR PLAN
1/4" = 1'-0"

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Print Name: Mark Ip

Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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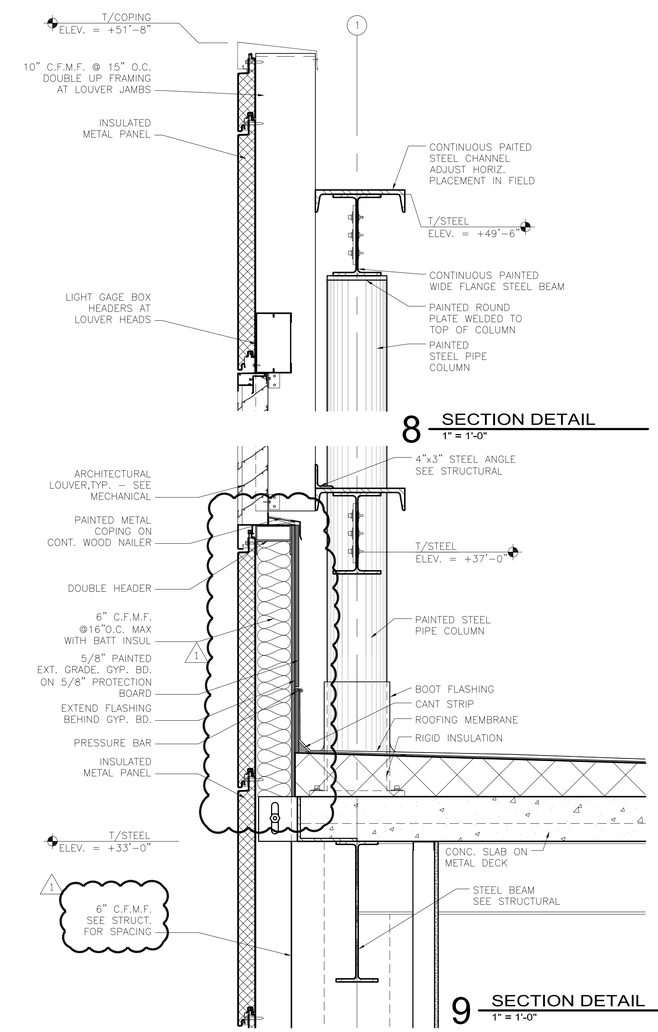
SHEET TITLE
EXTERIOR SYSTEMS ENTRY VESTIBULE

SHEET NUMBER
A714

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

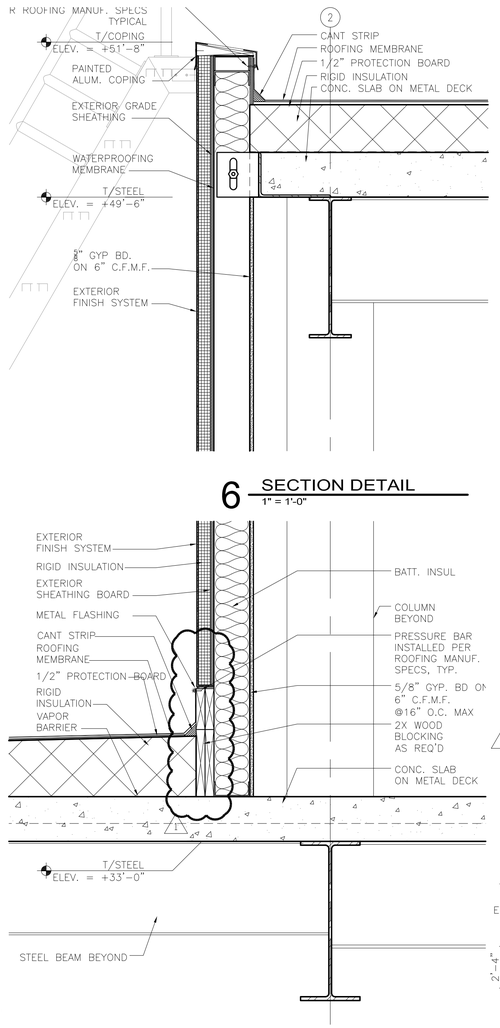


8 SECTION DETAIL
1" = 1'-0"

9 SECTION DETAIL
1" = 1'-0"

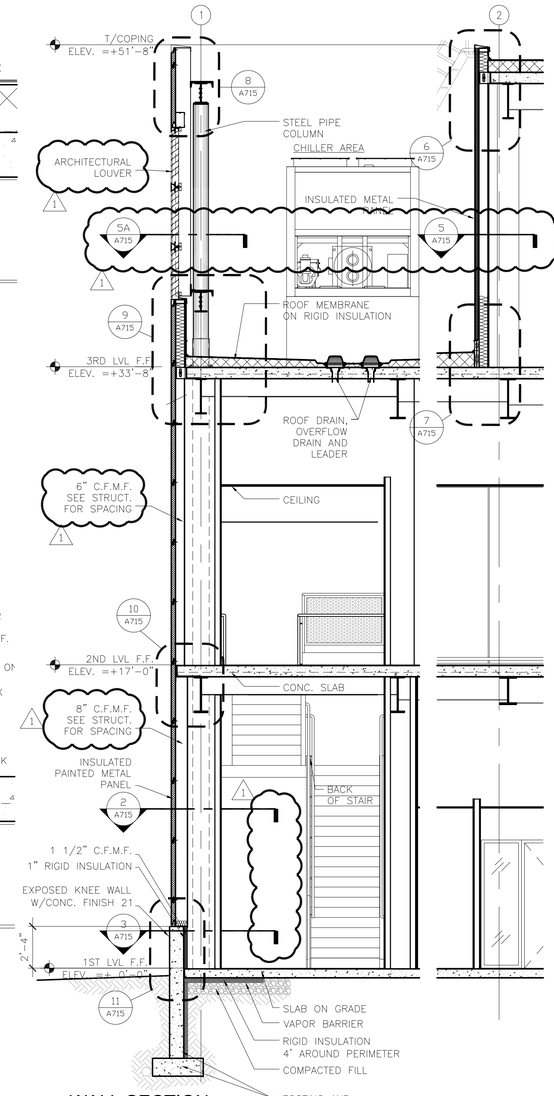
10 SECTION DETAIL
1" = 1'-0"

11 SECTION DETAIL
1" = 1'-0"

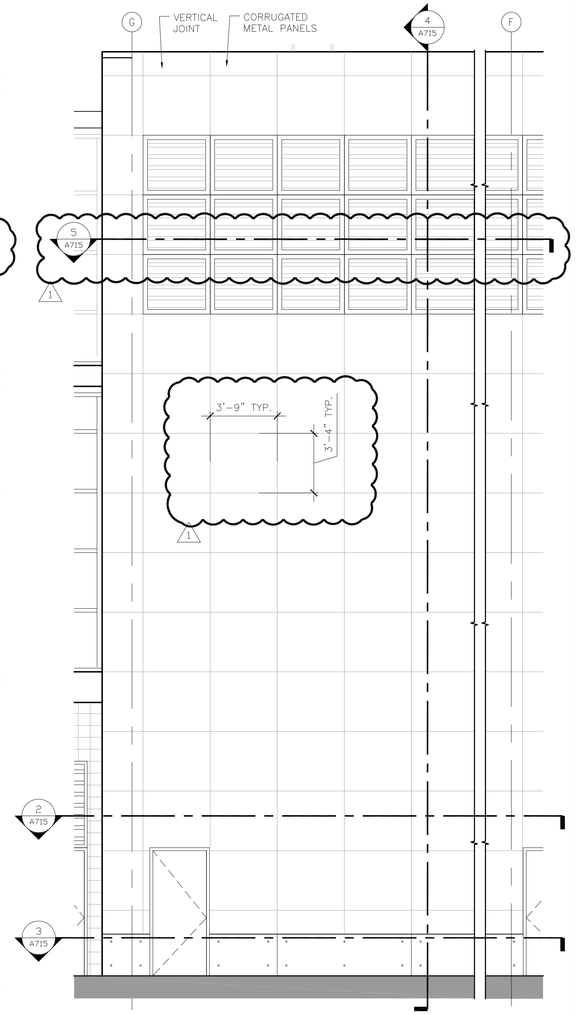


6 SECTION DETAIL
1" = 1'-0"

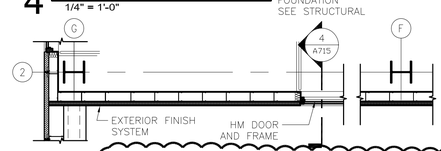
7 SECTION DETAIL
1" = 1'-0"



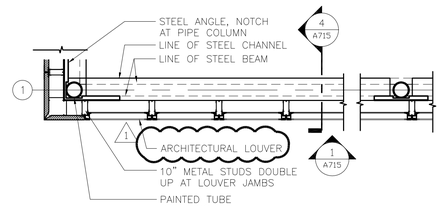
4 WALL SECTION
1/4" = 1'-0"



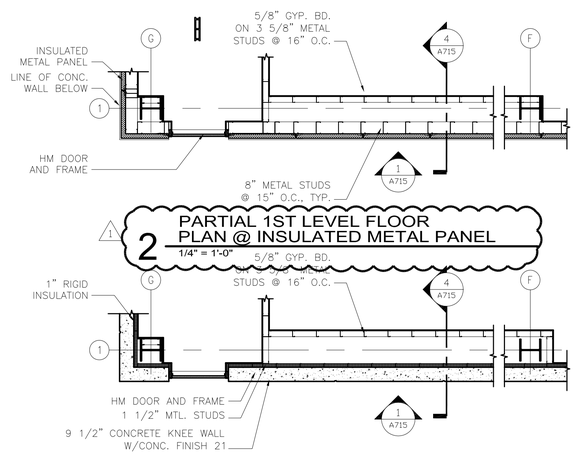
1 PARTIAL WEST ELEVATION
1/4" = 1'-0"



5 PARTIAL 3RD LEVEL FLOOR PLAN
1/4" = 1'-0"



5A PARTIAL 3RD LEVEL FLOOR PLAN
1/4" = 1'-0"



2 PARTIAL 1ST LEVEL FLOOR PLAN @ INSULATED METAL PANEL
1/4" = 1'-0"

3 PARTIAL 1ST LEVEL FLOOR PLAN @ STONE
1/4" = 1'-0"

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Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: SBS/TC
DRAWN BY: MKG/MI
DESIGNED BY: SBS/TC

AEP PROJECT NUMBER
213-1882-091

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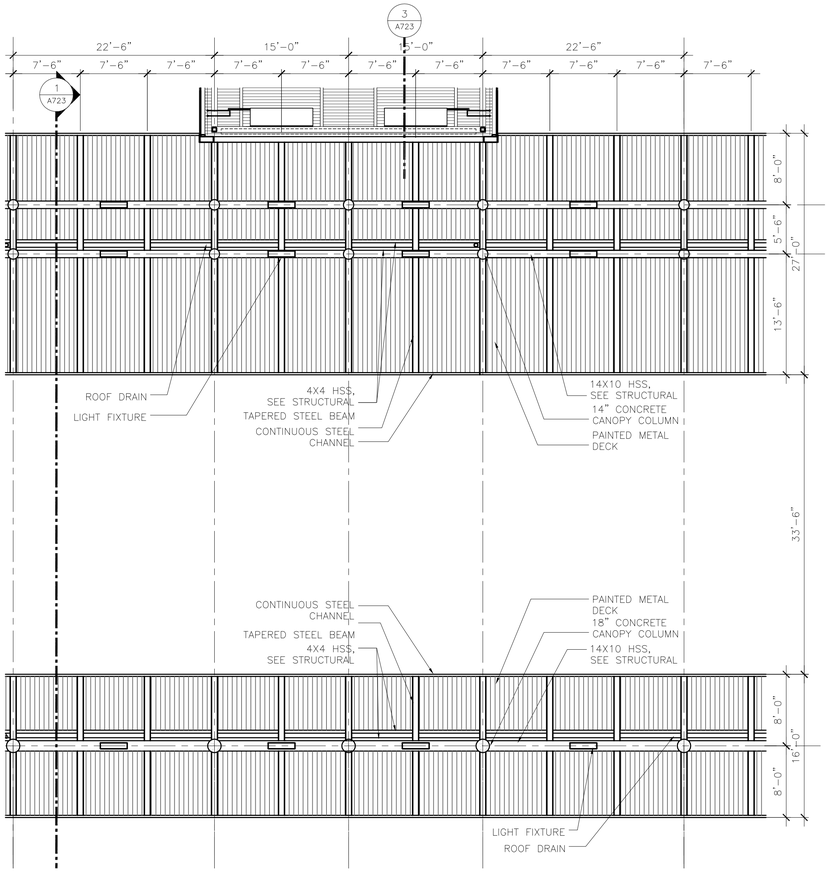
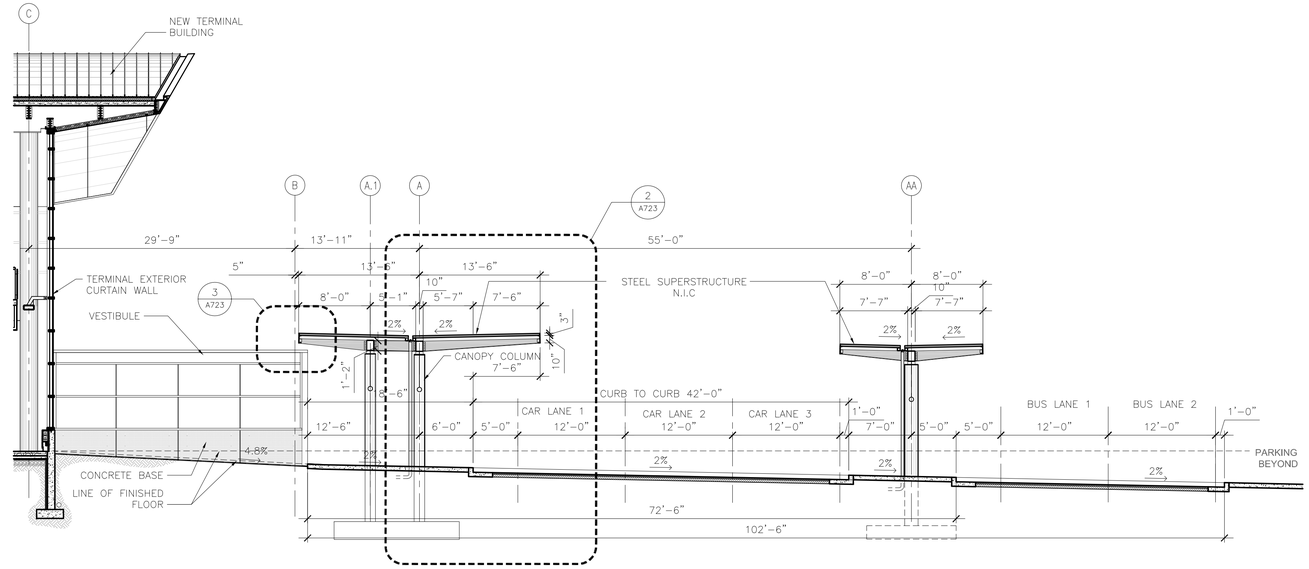
SHEET TITLE
EXTERIOR SYSTEMS CORE WALL

SHEET NUMBER
A715

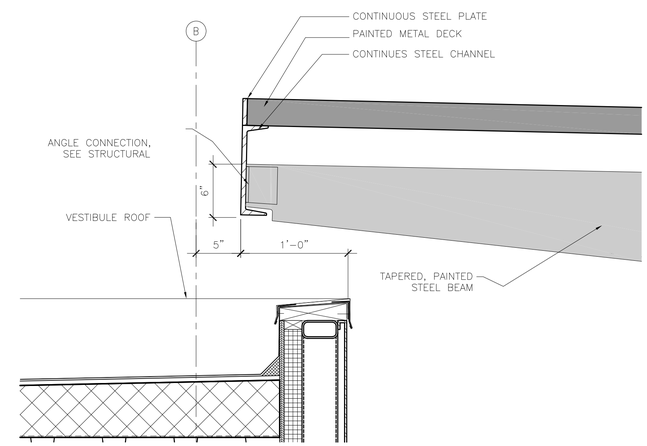
BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION



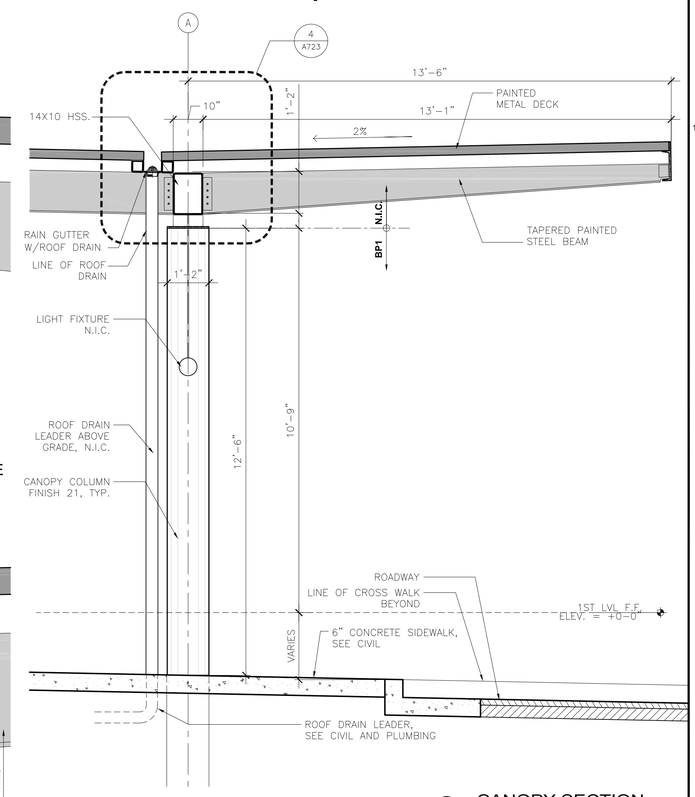
5 PARTIAL REFLECTED CEILING PLAN
1/8" = 1'-0"



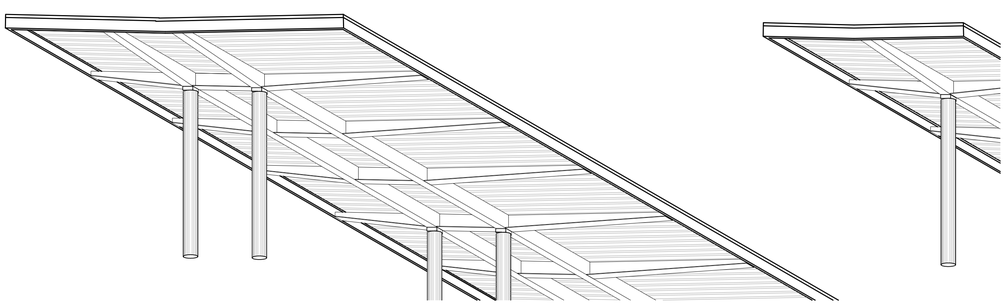
1 OVERALL CANOPY CROSS SECTION
1/8" = 1'-0"



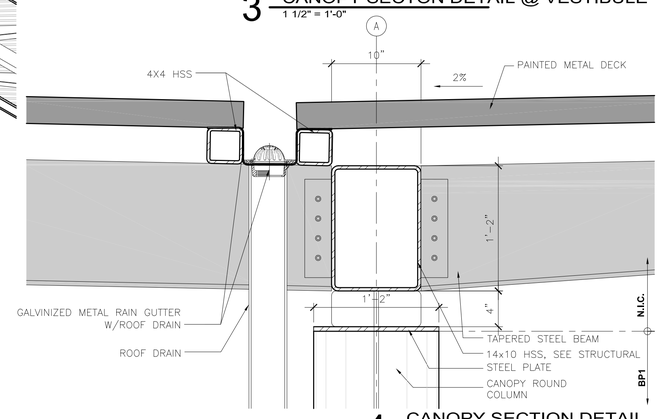
3 CANOPY SECTON DETAIL @ VESTIBULE
1 1/2" = 1'-0"



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



6 CANOPY ISOMETRIC LOOKING UP
N.T.S.



4 CANOPY SECTION DETAIL
1 1/2" = 1'-0"

GENERAL NOTE:
ALL STRUCTURE EXPOSED TO PUBLIC VIEW TO BE PAINTED WITH A HIGH PERFORMANCE COATING

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Signature:

Date: 06-03-10 Reg. No.: 46001

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10

DATE ISSUED: 05-26-10
REVIEWED BY: XX
DRAWN BY: MK
DESIGNED BY: TC

AEP PROJECT NUMBER
XXX.DWG 06-03-00 12:00p
213-1882-091

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SHEET TITLE
EXTERIOR SYSTEM SHEET- CANOPY

1

SHEET NUMBER
A723

BID PACKAGE 1
ADDENDUM 1
NOT FOR CONSTRUCTION

TYPICAL NOTES:
These notes specify the requirements for the design represented in these documents. The construction and materials shall comply with all the pertinent codes and references, plans, and details, including (but not limited to) those shown in architectural, civil, mechanical and electrical drawings.

The contractor shall verify all dimensions and existing conditions in the field that affect construction prior to commencing work on the affected element or shop drawing submittals. Resolve any discrepancies with the architect prior to construction.

The contract structural drawings and specifications represent the completed structure. The contractor is responsible for bracing and shoring (without overstressing) all structural elements as necessary at any stage of construction until completion of the project. The Structural Engineer is not responsible for the contractor's means, methods, sequences or procedures of construction. Contractor shall recognize and consider effects of thermal movements of structural elements during construction period.

The contractor is solely responsible for site safety including all temporary precautionary measures and safety programs. Site observation visits by the Structural Engineer do not include review of the contractor's safety precautions.

Refer to architectural, mechanical and electrical drawings for locations, elevations, dimensions, and details of sleeves, inserts, openings, recesses, curbs, housekeeping pads, etc. that are not shown on the structural drawings and do not damage structural members.

Information shown in the structural drawings regarding existing conditions represents the current and general field conditions related to the new work, to the best of our knowledge. Report all discrepancies to the Architect for resolution prior to performing related new work.

Requests for information shall be submitted in writing and shall reference the part of the construction documents that is in question.

SPECIAL INSPECTIONS:
Contractor shall read and understand their duties in the specification and under the building code for special inspections and coordinate as necessary the owner's responsibilities.

The special inspectors shall be provided and shall only use approved shop drawings.

Special inspection reports are to be submitted immediately to the SER, Architect, and Contractor daily when inspections are performed.

The general contractor shall provide timely notice to the special inspector and sufficient time for the inspector to perform their inspection.

SHOP DRAWINGS:
All engineering design provided by others and submitted for review shall bear the certification stamp and signature of a qualified professional engineer who is licensed in the state of Minnesota.

Submit shop drawing schedule with construction schedule that includes consideration for review period. See specification for additional information.

DEFERRED SUBMITTALS:
The following items shall be issued as deferred submittals per IBC:
Steel Connections

Light gage metal framing

All items issued as deferred submittals shall be issued a minimum of 30 days prior to installation and shall not be installed until their design and submittal documents have been reviewed for general conformance to the drawings by the general contractor, the engineer of record and the building official. A copy of the deferred submittal shall be forwarded to the city after the engineer of record has reviewed the documents and prior to erection of the deferred submittal items.

DESIGN CODES AND STANDARDS:
Minnesota State Building Code, MSBC 2007

2006 International Building Code, as amended and adopted by the MSBC 2007

ACI 318-05 Building Code Requirements for Reinforced Concrete

ACI 530-05 Building Code Requirements for Masonry Structures, Allowable Stress Design

ACI 530.1-05 Masonry Structures

AISC 360-05 Specification for Structural Steel Buildings

AISI NAS-01 North American Specification for the design of Cold-Formed Steel Structural Members including 2004 supplement.

ASCE 7-05 Minimum design loads for buildings and other structures including supplement NO. 1 and excluding Chapter 14 and Appendix 11A.

ASCE 3-01 Structural Design of Composite Slabs

MATERIAL PROPERTIES:
Reinforcing Steel (Fy):

Typical	60,000 psi	ATSM A615 Grade 60
Weldable	60,000 psi	ASTM A706 Grade 60

Cast-in-Place Concrete (f'c) at 28 days, UNO:

Controlled Low	1,200 psi (at 5 days)	Maximum
Strength Material (CLSM)	500 psi (at 5 days)	Minimum
Footings	4,000 psi	
Piers and Walls	4,000 psi	
Columns	4,000 psi	
Concrete placed over Metal Floor Deck	4,000 psi	
Slabs on Grade	4,000 psi	
Exterior Concrete	4,000 psi	
Masonry Corefill Concrete	3,000 psi	
All Concrete not otherwise noted	4,000 psi	

Concrete Masonry- Prism (f'm):
Typical Units: 2,000 psi

Structural Steel (Fy):

Wide Flanges	50,000 psi	ASTM A992
Angles, Channels	36,000 psi	ASTM A36
Grade B Rectangular HSS	46,000 psi	ASTM A500
Grade B Round HSS	42,000 psi	ASTM A500
Grade B Steel Pipe	35,000 psi	ASTM A53
Plates, Bars	50,000 psi	ASTM A572 or A36 as indicated

Structural Fasteners:

Typical High-Strength Bolts	92,000 psi	ASTM A325
High-Strength Bolts as noted on plan	150,000 psi	ASTM A490
Grade 36 Anchor Rods, UNO	36,000 psi	ASTM F1554
Threaded Rods	36,000 psi	ASTM A36
Direct -Tension Indicator Washers as noted on plan		ASTM F959

Cold-formed Light Gauge Metal Framing (Fy):

Studs, Joists, Braces-16 ga. and heavier	50,000 psi	ASTM A653
Studs, Joists, Braces-18 ga. and lighter	33,000 psi	ASTM A653
Track, Channels and Accessories	33,000 psi	ASTM A653

DESIGN LOADS:
LATERAL LOADS:
Primary Frame Wind Data:

Basic Wind Speed:	90 mph
Wind Importance Factor:	1.15
Exposure:	C

Primary Seismic Data: No design required

Component Loads:
Exterior Component/Cladding: Supplier to develop based on MSBC 2007 and to indicate on shop drawings.

GRAVITY LOADS:
Roof Snow Load:

Ground Snow Load, Pg:	60 psf
Flat-Roof Snow Load, Pf:	46 psf
Snow Exposure Factor, Ce:	0.70
Snow Load Importance Factor, I:	1.1
Unbalanced/Drift Snow Load:	As required by ASCE 7

Floor Loads:

Live Load:	100 psf (not reducible)
Hanging loads at underside of 2nd floor:	40 psf superimposed
Stairs, Corridors and Lobbies:	100 psf (not reducible)
Stair Tread Concentrated Load:	300 lbs
Mechanical Rooms:	150 psf (not reducible)

Exterior Site Surcharge Loads:

Fire Trucks:	250 psf
Sidewalk:	250 psf
North terminal retaining wall and north tug tunnel retaining wall:	HS20-44 axle load as defined by IBC 2006 table 1607.6 at a distance of 5 feet from the north wall edge.

Provisions For Future Expansion:
Design for additional 30' bay (3 story) between grids "E" and "G", east of grid 12 and west of grid 1.

Design for one story expansion of 3rd floor office space north of grid "G".

FOUNDATIONS:
Refer to Geotechnical report number AET #07-04216.2 by American Engineering Testing, Inc., dated October 14, 2009 and the subsequent addendum (AET project #07-04216.3) dated January 29, 2010.

The contractor shall verify the location of all existing and new underground utilities and tanks prior to beginning excavation and contact Gopher State One Call.

The minimum dimension from exterior grade to bottom of footing and foundation shall be 72" in unheated areas.

For underground utilities adjacent to foundations and through foundations reference drawings for detail showing step footings below utilities as required to avoid undermining of structure by utilities.

See geotechnical report for water table elevations. Contractor to make adequate provisions for dewatering as required.

CONVENTIONAL FOOTINGS:
Footings are designed for a maximum allowable soil bearing pressure of 8000 pounds per square foot on undisturbed native soil or lean mix concrete/controlled low strength material fill. Soil bearing pressure is to be verified in the field during construction by a qualified Geotechnical Engineer.

All topsoil, fill, organic swamp deposits, and/or other unsuitable bearing material shall be removed below the footings and/or within the building area to the depths indicated in the geotechnical engineering report and extent of removal shall be field verified by the Geotechnical Engineer.

All excavations shall be observed by a qualified geotechnical engineer to verify removal of unsuitable material and confirm the proper preparation of bearing conditions.

For footings that do not bear on natural undisturbed soil, extend engineered fill laterally beyond bottom edge of footing for a distance equal to the depth of engineered fill. Reference drawings for details.

Foundation and retaining walls shall be back filled with free draining fill approved by the Geotechnical Engineer. Provide drain tile required by the contract documents and verify with architect and civil engineer.

Backfill equally on both sides of foundation walls to prevent overturning or lateral wall movement, or temporarily brace as necessary until permanent bracing elements are complete and cured to design strength.

All temporary bracing, cribbing, shoring or underpinning not fully designed or detailed on these drawings shall be designed by a licensed specialty engineer engaged directly by the contractor.

For stepping of wall footings reference drawings for detail.

REINFORCED CONCRETE:
The detailing, fabrication and erection of all reinforcing shall be done in accordance with the latest edition of ACI-315, "Manual of Standard Practice for Detailing Reinforced Concrete Structures and ACI-318, "Building Code Requirements for Structural Concrete."

All reinforcing bars are deformed and continuous, unless noted otherwise. Refer to drawings for reinforcing lap length schedule.

Provide suitable wire spacers, chairs, etc. for support of reinforcing steel in proper position while placing concrete. All bars shall be tied to prevent displacement while placing concrete. All chairs and slab bolsters shall be plastic or steel with plastic tips. When reinforcing steel is epoxy coated or p/t tendons are fully encapsulated, all chairs and slab bolsters shall be epoxy coated or plastic and all support bars shall be epoxy coated. Chairs are to be stable and resist tipping. Acceptable products are GTI or approved equal.

The fabricator shall submit a complete list of accessories and placing details with the shop drawings.

No horizontal construction joints shall be placed in beams, joists, or slabs, unless shown on drawings.

Locate vertical construction joints in beams and slabs at central one third of span. Refer to drawings for details. Submit proposed construction joint locations to the Structural Engineer of Record for review prior to placement of concrete. Where new concrete is placed against existing concrete, the existing concrete shall be roughened to a minimum 1/4" amplitude.

Refer to drawings and ACI 318 Chapter 6 for placement guidelines of embedded pipes, sleeves, and conduits. Conduits are not permitted in slabs 3 inches or less in thickness. The maximum size of conduits within any slab shall be 1 1/4" outside diameter and shall be spaced no closer (to each other or any reinforcing steel) than 4" unless prior approval is obtained from the structural engineer. Additional reinforcing steel and chairs may be required to support embedded conduit. All conduit shall be placed in the middle 1/3 of the slab thickness above the metal deck, typical. Conduit may not be tied to parallel reinforcing steel. Conduit may not be paced in deck flutes. Conduit may not cross within slabs 5" or less in thickness. Conduit placement drawings may be required in areas of high conduit concentricity.

Provide a 3/4 inch chamfer for all exposed concrete corners. See Architectural drawings for details and additional requirements.

The general contractor shall notify the Special Inspector a sufficient period in advance of placing concrete to allow required inspections and testing to occur in a timely fashion.

Formwork and all shoring for flatwork shall be left in place until the concrete reaches at least 75 percent of the 28-day compressive strength. Design of shoring and reshoring is the responsibility of the contractor and shall conform to ACI 347R-88.

Aluminum conduit, aluminum sleeves and aluminum embeds are not permitted in concrete.

Exterior concrete to have 6% +/- 1% entrained air.

Calcium chloride is not permitted as a concrete additive.

Concrete Cover on Reinforcing:

Topping Slab: 3/4" clear top. See drawings for cover at composite slabs
Slab on Grade: 3" bottom

Footings: 3" clear bottom and sides
2" clear top
Walls: #5 and smaller 1 1/2" clear earth or weather face
#6 and greater 2" clear earth or weather face
3/4" interior face
Columns and Beams: 1 1/2" clear to ties or stirrups

CONCRETE SLABS ON GRADE:
Slabs on grade shall be place in lane fashion.

The control or construction joints shall be placed as shown on the drawings. The joints shall align with the column grids and be spaced as noted below:

Exterior slabs	24 times slab thickness, maximum;
Interior slabs	36 times slab thickness, maximum;
Interior slabs	48 times slab thickness, maximum, with carpeting

The panels formed by control or construction joints shall not be "L" shaped and a rectangular panel's aspect ratio shall not exceed 1.5.

Refer to the drawings for the typical slab on grade construction and saw cut control joint detail. Control and construction joints must be continuous and not offset.

Refer to drawings for detail of isolation diamonds or circles at columns.

Refer to drawings for reinforcing at re-entrant corners. Bend bars as necessary at obstructions.

Refer to the specification for the existence, type, and thickness of interior ground vapor retarder. Locate a vapor retarder directly beneath the slab on grade on top of a 6 inch compactable granular base. Refer to the specification for requirements for the compactable granular base.

Mechanically vibrate concrete around trench drains, floor ducts, construction joint dowels, loading docks, architectural features and other embedded items.

Refer to the specification for slab on grade pre-placement meeting.

Refer to the specification for acceptable methods of curing the concrete.

Refer to flooring manufacturer's specification for levelness, flatness and curing of concrete slabs on grade to receive special architectural floor finishes.

REINFORCED MASONRY:
All masonry units are placed in running bond fashion. Corners shall have a standard bond by overlapping units.

Special shapes shall be provided for jambs, columns, pilasters, control joints, corners, and lintels.

All masonry walls shall have horizontal joint reinforcing spaced at 16" o.c. Horizontal joint reinforcing shall be truss style and fabricated with galvanized nine-gauge wire and shall include corner and intersecting wall pieces. Provide minimum 6" laps at all splices.

Vertical reinforcing shall be held in place by rebar positioners, crossties, chairs, or tying to every other layer of horizontal reinforcing steel. Refer to the detail in the drawings for vertical reinforcing bar location in a core.

Provide concrete cover of minimum 1/2" to face shell.

Refer to detail in the drawings for reinforcing bar lap lengths.

Extend vertical reinforcing from footings to 2" clear top of wall or to beam bearing. Extend vertical reinforcing into the next level of construction and lap in accordance with the lap schedule.

When typical vertical wall reinforcing is interrupted by long wall openings, provide typical vertical wall reinforcing above and below opening, and extend into horizontal bond beams. Refer to the schedule on the drawings, for masonry wall opening lintels. Refer to the detail in the drawings for masonry openings minimum jamb reinforcing.

Provide vertical reinforcing at the ends of walls and at wall intersections to match specified reinforcing. Run reinforcing full height of walls.

All masonry units shall be placed with full face shell mortar coverage on horizontal and vertical face shells. Webs shall also have full mortar coverage around all grouted cells.

Fill block core at vertical reinforcing (8" minimum length along wall) with concrete grout. Filling cores with mortar is not allowed. Vibrate in place. Rodding and puddling are not allowed.

Maximum lift height is four feet. For concrete core fill pour height up to maximum 8'-0", provide cleanouts if pour height exceeds 5'-0".

Masonry cement mortar is not allowed.

Calcium chloride or admixtures containing chloride shall not be used in mortar or grout.

For reinforced masonry bond beams, provide bent corner bars at corners and intersections that match reinforcing. Step bond beams as necessary to match roof slopes. Lap reinforcing bars per schedule.

For construction of masonry control joints refer to detail in drawings.

Unless noted otherwise on the drawings place control joints in masonry walls such that no straight run of wall exceeds 24'-0" and within 4'-0" of corners. Do not place control joints within 48 inches of a masonry opening jamb or a steel bearing plate.

Place bond beam reinforcing continuously through control joints. Do not splice bond beam reinforcing within 6'-0" of a control joint.

Provide bond beam with reinforcing at all floor lines, roof lines, and top of walls. Refer to details in the drawings.

Grout below steel bearing plate and refer to the drawings for additional information.

Refer to drawings for reinforcing schedule, top of wall bracing, thickened bearing slab and lintel schedule for non-bearing masonry walls. Refer to Architectural drawings for location and extent.

MASONRY BEAMS (HIGH-LOW BOND BEAMS):
For all masonry beams use lintel blocks.

Masonry beams are to bear 8" minimum at jambs. Extend vertical reinforcing through masonry beam bearing.

Extend horizontal reinforcing full length.

Grout masonry beams solid. Mechanically vibrate grout in place.

EXPANSION AND ADHESIVE ANCHORS:
Anchors in concrete or concrete masonry when not exposed to earth, weather, or corrosive environment shall be as noted below:

Expansion anchors shall be stud type with a single piece three section wedge and zinc plated in accordance with ASTM B633.

Threaded anchor rod for adhesive anchors in concrete shall be ASTM A193, Grade B7, or ASTM A36, as noted in the drawings. The adhesive used for anchors shall be a structural grade, two part epoxy or acrylic material that meets the requirement of ASTM C-881 Types I, II, IV, and V, Grade 3, Classes B and C as noted on plans.

Holes shall be drilled with a bit and cleaned using a method that complies with the manufacturer's guidelines, and specifications. Do not cut or damage reinforcing steel or P-T tendons.

Upon the request of the structural engineer the anchors shall be proof tested by the manufacturer to verify capacity of anchors that do not meet the conditions in the construction documents.

Minimum embedment depths in concrete and concrete masonry for expansion and adhesive anchors shall be as noted below:

Concrete base material:
For 1/2", 5/8", and 3/4" diameter expansion anchors provide 4 3/4"embed, UNO on plan.

For 1/2"and 5/8" diameter adhesive anchors provide 5" embed. For 3/4" diameter adhesive anchors provide 7" embed, UNO on plan.

Grouted solid concrete masonry unit material:
For 1/2", 5/8", and 3/4" diameter expansion anchors provide 4 3/4"embed, UNO on plan.

For adhesive anchors refer to the product's ICBO Report.

Pre-approved manufacturer are as follows: HILTI, ITWR Ramset/Redhead, Powers Fasteners, and Simpson Strong-Tie. For review of alternate products, submit manufacture's product data and product's current ICBO report prior to construction.

Anchors in concrete or concrete masonry when exposed to earth, weather, or corrosive environment shall be manufactured from AISI 304/316 Stainless Steel.

STRUCTURAL STEEL:
Structural steel shall be detailed, fabricated and erected in compliance with AISC Specification for the design, fabrication, erection of structural steel for building, and Code of standard practice, and OSHA steel erection standards.

All beams and girders shall be cambered at mid-span as indicated on the structural drawings. The cambers indicated shall be present in the beam in its erected position after completion of the end connections and shall be verified prior to placing concrete. Cambering tolerances shall be (-0", +1/4"). No center point cambering allowed.

Splicing structural members where not detailed on the drawings is prohibited without prior approval of the structural engineer.

Modification of structural steel members in the field is not allowed without written approval by the structural engineer.

All composite beams using the concrete slab as a compression flange are designed for unshored construction unless noted otherwise.

Anchor rods shall be minimum 3/4" diameter or as detailed in drawings.

STRUCTURAL STEEL CONNECTIONS:
All steel connections shall be designed by the steel fabricator for the criteria indicated on the drawings unless noted or detailed otherwise. Connection design shall conform to the requirements of the AISC Specifications for the design, fabrication, erection of structural and OSHA regulations. Submit calculations certified by a Professional Engineer who is licensed in the state of Minnesota. All loads indicated on the drawings are unfactored, working loads.

Non-composite beams: Unless noted otherwise, design simple beam shear connections per the AISC Manual connection tables. The required end reaction shall be based on the reactions indicated on the plans. Design connections for the reactions indicated on plan or for the minimum connection requirements indicated in the Connection Schedule, whichever provides the greater capacity.

Composite beams: Design simple composite beam shear connections per the AISC Manual connection tables UNO. Design connections for the reactions indicated on the plans or the minimum connection requirements indicated in the Connection Schedule, whichever provides the greater capacity.

Unless detailed otherwise, beam shop connections may be welded or bolted and field connections are to be bolted. Bolts shall be a minimum 3/4" diameter for connections specified or detailed in the drawings. The fabricator may submit an alternate connection with the calculations that is certified by a professional engineer who is licensed in the state of Minnesota.

All beam web copes must be made to a 1 inch minimum radius.

Welded connections shall be made in accordance with ANSI/AWS D1.1 Structural Welding Code using E70XX electrodes unless noted otherwise. Weld sizes not shown or controlled by the required forces shall be AWS code minimum size. Welds shall be visually inspected for compliance with the AWS code visual inspection criteria. Welders shall be qualified in accordance with ANSI/AWS D1.1 and shall be experienced in weld in structural steel.

Full penetration welds shall be tested using NDT methods such as ultrasonic, magnetic particle or other methods referenced in the AWS code. Welds subject to NDT methods shall also have been found compliant with the AWS visual inspection criteria.

1 STRUCTURAL STEEL STAIRS:
Structural steel stair stringers, components, railings, posts, hangers, and connections to be designed by the fabricator's Qualified Professional Engineer for the loads indicated in the specifications. Configuration of stringers and railings shall be as indicated on the architectural drawings. Channel stringers to have a minimum 12" depth and a minimum 1 1/2" flange width.

STEEL ROOF DECK:
Manufacturer shall be a current member of the Steel Deck Institute (SDI).

Detail, manufacture and install steel roof deck and accessories in accordance with the SDI specifications and codes and OSHA requirements.

Steel roof deck shall be as noted on plan.

Welding shall be in accordance with AWS D1.3. Welders shall be qualified in accordance with AWS D1.3.

Where spray-on fireproofing of the deck is required, the contractor shall verify that the deck finish is compatible with the proposed fireproofing material to ensure proper bonding of the fireproofing. Coordinate fireproofing locations and requirements with the architect.

All steel deck shall span a minimum of three spans, unless otherwise approved by the engineer. Deck ends are to be lapped over supports.

Contractor shall verify the location and extent of acoustical steel deck with the architectural drawings.

Reference drawings for detail on steel roof deck fastening requirements unless noted otherwise. Powder actuated or pneumatically driven fasteners are not allowed.

Provide reinforcement or frames for deck openings as indicated on the drawings.

LIMITATIONS ON M/E SUPPORT FROM PRIMARY STRUCTURE:
All M/E systems shall be supported from the primary structural frame, unless noted otherwise. Do not connect to roof deck, floor slabs, or secondary members unless specifically allowed on the structural construction documents.

All M/E support systems, hangers, brackets and connections to the primary structural frame shall be designed, provided and installed by the M/E contractor, unless noted otherwise on the structural construction documents.

All M/E supports and connections for loads in excess of 300 lbs shall be designed by a structural engineer licensed in the state of Minnesota and engaged by the M/E contractor.

COMPOSITE STEEL FLOOR DECK:
Manufacturer shall be a current member of the Steel Deck Institute (SDI).
Composite steel floor deck shall be as noted on plan.

Detail, manufacture and install composite steel floor deck and accessories in accordance with the SDI specifications, codes and OSHA steel erection standards.

Refer to drawings for composite steel floor deck fastening requirements unless noted otherwise. Powder actuated or pneumatically driven fasteners are not allowed.

Provide and install pour stops, column closures, end closures, cover plates and girder fillers and other accessories as required by the SDI unless otherwise indicated or detailed.

Where spray-on fireproofing of the deck is required, the contractor shall verify that the deck finish is compatible with the proposed fireproofing material to ensure proper bonding of the fireproofing. Coordinate fireproofing locations and requirements with the architect.

Provide reinforcement or frames for deck openings as indicated on the drawings.

Do not cut control joints in structural slabs on metal deck.

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DULUTH INTERNATIONAL AIRPORT
DULUTH, MN

NEW TERMINAL DESIGN

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TEL: (218) 591-5079

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Paul A. Johnson

Signature: Paul A. Johnson

Date: June 3, 2010 Reg. No.: 20379

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	06-10-10

DATE ISSUED: 05-17-10
REVIEWED BY: PAJ / CWB
DRAWN BY: SJL
DESIGNED BY: CWB

AEP PROJECT NUMBER
213-1882-091

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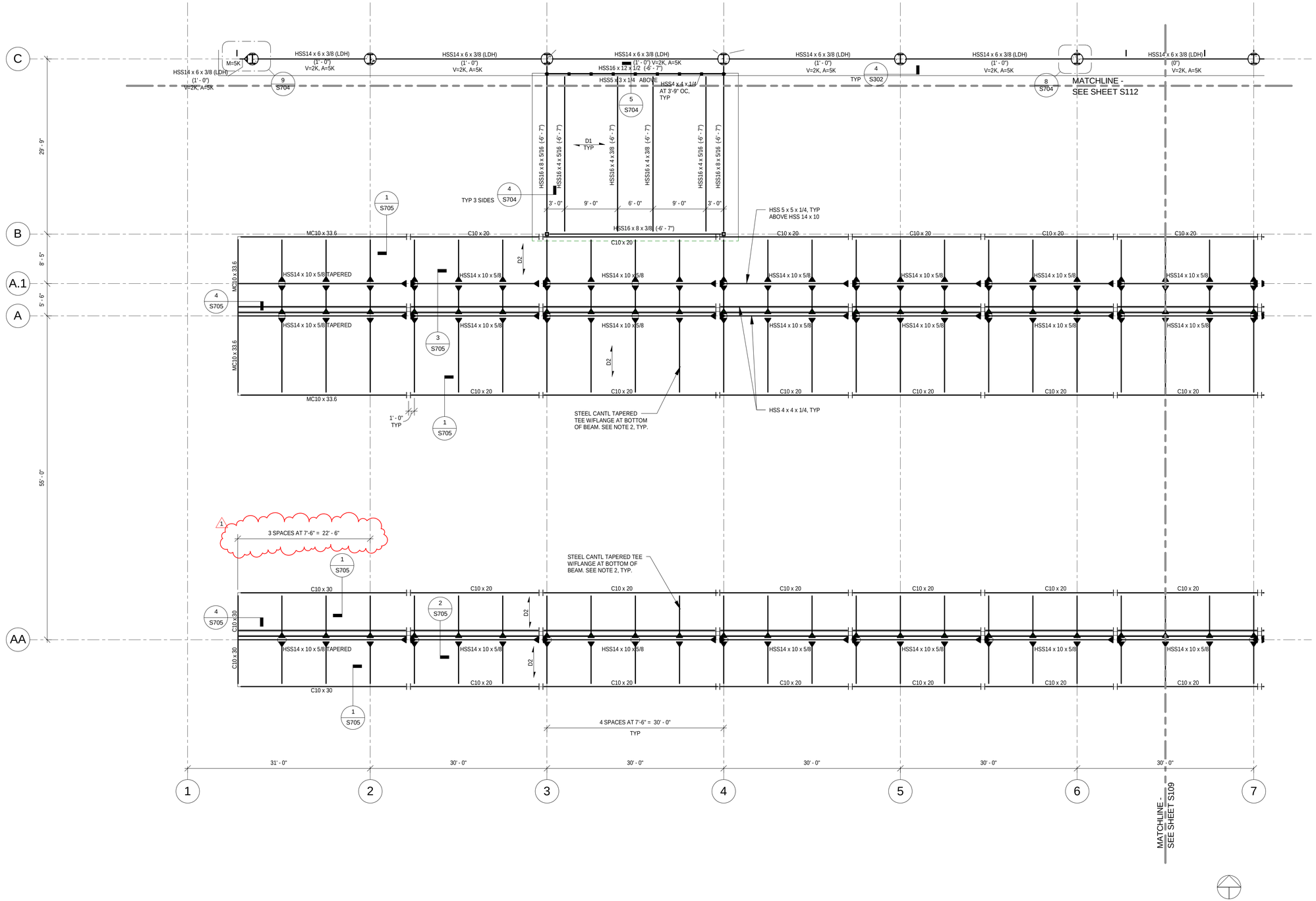
SHEET TITLE
GENERAL STRUCTURAL NOTES

SHEET NUMBER
S002

SITE WORK AND FNDN PERMIT



1 CANOPY ROOF PLAN - AREA A

1/8" = 1'-0"

NOTES:

1. REFER TO S115 FOR TYPICAL PLAN NOTES.
2. FABRICATOR TO PROVIDE SECTION (BUILT UP PLATE SECTION OR CUT WT OR CUT WIDE FLANGE) WITH THE FOLLOWING DIMENSIONAL PROPERTIES:
   - d max = 14"
   - d min = 6"
   - bf = 12"
   - tf = 1 3/8"
   - tw = 3/4"
   - Fy = 50 ksi

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DRAWN BY: SJL
DESIGNED BY: CWB

AEP PROJECT NUMBER
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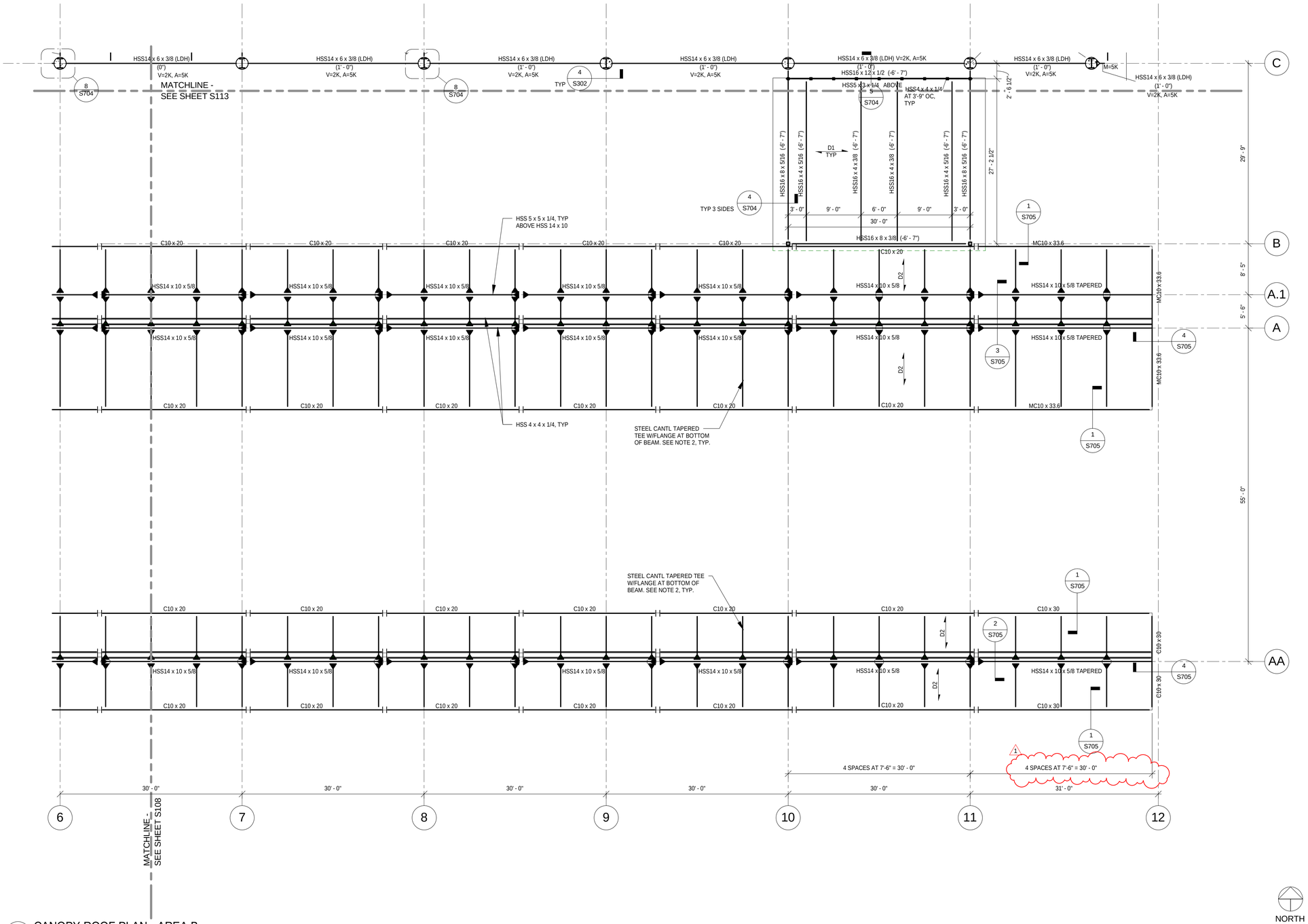
SHEET TITLE
CANOPY ROOF FRAMING PLAN - AREA A

SHEET NUMBER
S108

SITE WORK AND FNDN PERMIT



1 CANOPY ROOF PLAN - AREA B

1/8" = 1'-0"

NOTES:

1. REFER TO S115 FOR TYPICAL PLAN NOTES.
2. FABRICATOR TO PROVIDE SECTION (BUILT UP PLATE SECTION OR CUT WT OR CUT WIDE FLANGE) WITH THE FOLLOWING DIMENSIONAL PROPERTIES:
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1	Addendum 1	06-10-10

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AEP PROJECT NUMBER
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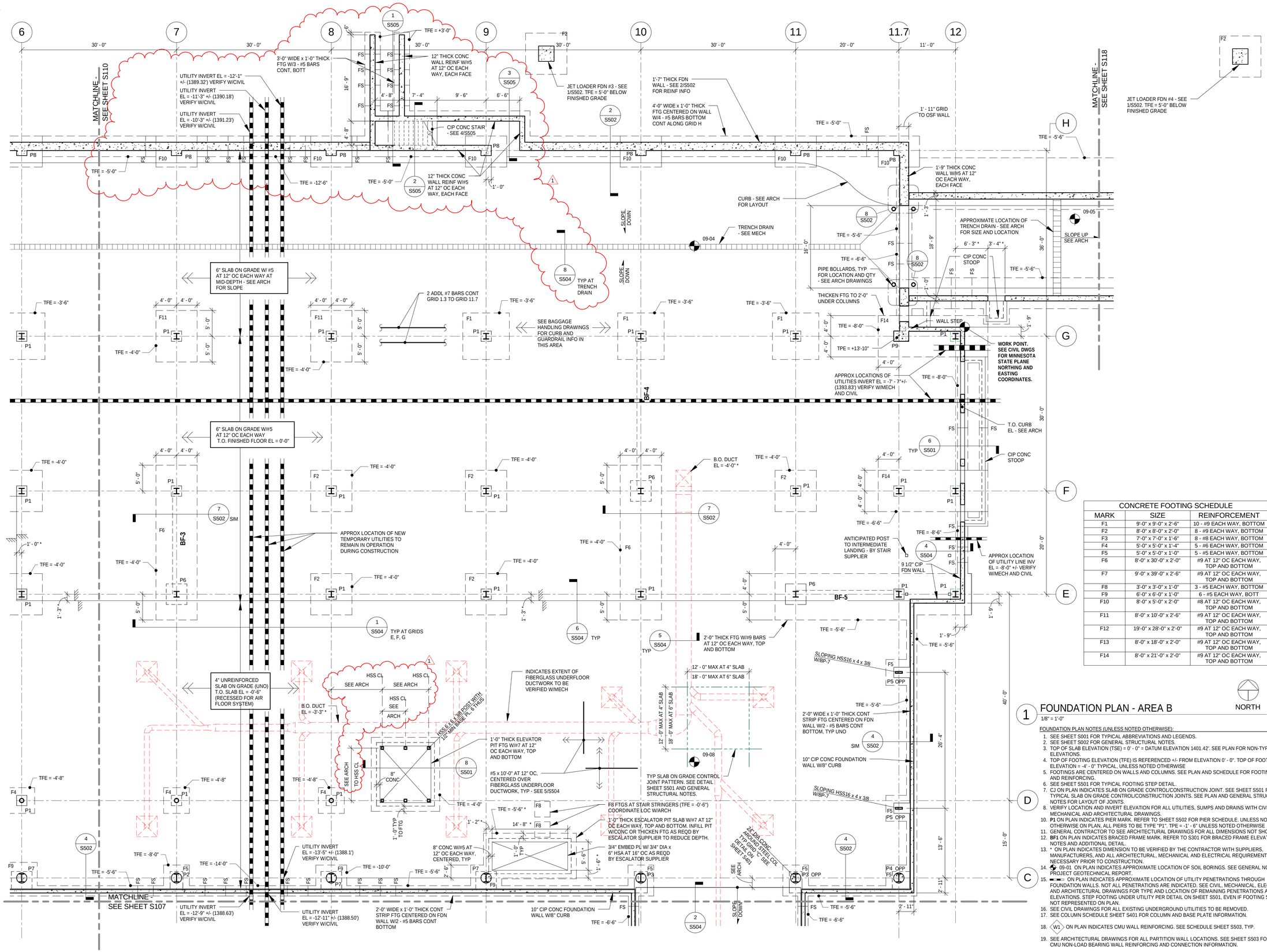
SHEET TITLE
CANOPY ROOF FRAMING PLAN - AREA B

SHEET NUMBER
S109

SITE WORK AND FNDN PERMIT



1 FOUNDATION PLAN - AREA B

1/8" = 1'-0"

FOUNDATION PLAN NOTES (UNLESS NOTED OTHERWISE):

1. SEE SHEET S001 FOR TYPICAL ABBREVIATIONS AND LEGENDS.
2. SEE SHEET S002 FOR GENERAL STRUCTURAL NOTES.
3. TOP OF SLAB ELEVATION (TSE) = 0' - 0" = DATUM ELEVATION 1401.42'. SEE PLAN FOR NON-TYPICAL ELEVATIONS.
4. TOP OF FOOTING ELEVATION (TFE) IS REFERENCED +/- FROM ELEVATION 0' - 0". TOP OF FOOTING ELEVATION = -4' - 0" TYPICAL, UNLESS NOTED OTHERWISE
5. FOOTINGS ARE CENTERED ON WALLS AND COLUMNS. SEE PLAN AND SCHEDULE FOR FOOTING SIZE AND REINFORCING.
6. SEE SHEET S501 FOR TYPICAL FOOTING STEP DETAIL.
7. CJ ON PLAN INDICATES SLAB ON GRADE CONTROL/CONSTRUCTION JOINT. SEE SHEET S501 FOR TYPICAL SLAB ON GRADE CONTROL/CONSTRUCTION JOINTS. SEE PLAN AND GENERAL STRUCTURAL NOTES FOR LAYOUT OF JOINTS.
8. VERIFY LOCATION AND INVERT ELEVATION FOR ALL UTILITIES, SUMPS AND DRAINS WITH CIVIL, MECHANICAL AND ARCHITECTURAL DRAWINGS.
10. **P1** ON PLAN INDICATES PIER MARK. REFER TO SHEET S502 FOR PIER SCHEDULE. UNLESS NOTED OTHERWISE ON PLAN, ALL PIERS TO BE TYPE "P1". TPE = -1' - 6" UNLESS NOTED OTHERWISE
11. GENERAL CONTRACTOR TO SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN.
12. **BF1** ON PLAN INDICATES BRACED FRAME MARK. REFER TO S301 FOR BRACED FRAME ELEVATIONS, NOTES AND ADDITIONAL DETAIL.
13. * ON PLAN INDICATES DIMENSION TO BE VERIFIED BY THE CONTRACTOR WITH SUPPLIERS, MANUFACTURERS, AND ALL ARCHITECTURAL, MECHANICAL AND ELECTRICAL REQUIREMENTS AS NECESSARY PRIOR TO CONSTRUCTION.
14. 09-01 ON PLAN INDICATES APPROXIMATE LOCATION OF SOIL BORINGS. SEE GENERAL NOTES AND PROJECT GEOTECHNICAL REPORT.
15. ON PLAN INDICATES APPROXIMATE LOCATION OF UTILITY PENETRATIONS THROUGH FOUNDATION WALLS. NOT ALL PENETRATIONS ARE INDICATED. SEE CIVIL, MECHANICAL, ELECTRICAL AND ARCHITECTURAL DRAWINGS FOR TYPE AND LOCATION OF REMAINING PENETRATIONS AND INVERT ELEVATIONS. STEP FOOTING UNDER UTILITY PER DETAIL ON SHEET S501, EVEN IF FOOTING STEP IS NOT REPRESENTED ON PLAN.
16. SEE CIVIL DRAWINGS FOR ALL EXISTING UNDERGROUND UTILITIES TO BE REMOVED.
17. SEE COLUMN SCHEDULE SHEET S401 FOR COLUMN AND BASE PLATE INFORMATION.
18. W1 ON PLAN INDICATES CMU WALL REINFORCING. SEE SCHEDULE SHEET S503, TYP.
19. SEE ARCHITECTURAL DRAWINGS FOR ALL PARTITION WALL LOCATIONS. SEE SHEET S503 FOR ALL CMU NON-LOAD BEARING WALL REINFORCING AND CONNECTION INFORMATION.

CONCRETE FOOTING SCHEDULE

MARK	SIZE	REINFORCEMENT
F1	9'-0" x 9'-0" x 2'-6"	10 - #9 EACH WAY, BOTTOM
F2	8'-0" x 8'-0" x 2'-0"	8 - #9 EACH WAY, BOTTOM
F3	7'-0" x 7'-0" x 1'-6"	8 - #8 EACH WAY, BOTTOM
F4	5'-0" x 5'-0" x 1'-4"	5 - #6 EACH WAY, BOTTOM
F5	5'-0" x 5'-0" x 1'-0"	5 - #5 EACH WAY, BOTTOM
F6	8'-0" x 30'-0" x 2'-0"	#9 AT 12" OC EACH WAY, TOP AND BOTTOM
F7	9'-0" x 39'-0" x 2'-6"	#9 AT 12" OC EACH WAY, TOP AND BOTTOM
F8	3'-0" x 3'-0" x 1'-0"	3 - #5 EACH WAY, BOTTOM
F9	6'-0" x 6'-0" x 1'-0"	6 - #5 EACH WAY, BOTT
F10	8'-0" x 5'-0" x 2'-0"	#8 AT 12" OC EACH WAY, TOP AND BOTTOM
F11	8'-0" x 10'-0" x 2'-6"	#9 AT 12" OC EACH WAY, TOP AND BOTTOM
F12	19'-0" x 28'-0" x 2'-0"	#9 AT 12" OC EACH WAY, TOP AND BOTTOM
F13	8'-0" x 18'-0" x 2'-0"	#9 AT 12" OC EACH WAY, TOP AND BOTTOM
F14	8'-0" x 21'-0" x 2'-0"	#9 AT 12" OC EACH WAY, TOP AND BOTTOM

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Print Name: Paul A. Johnson

Signature: Paul A. Johnson

Date: June 3, 2010 Reg. No.: 20379

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	06-10-10

DATE ISSUED: 05-17-10
REVIEWED BY: PAJ / CWB
DRAWN BY: SJL
DESIGNED BY: CWB

AEP PROJECT NUMBER
213-1882-091

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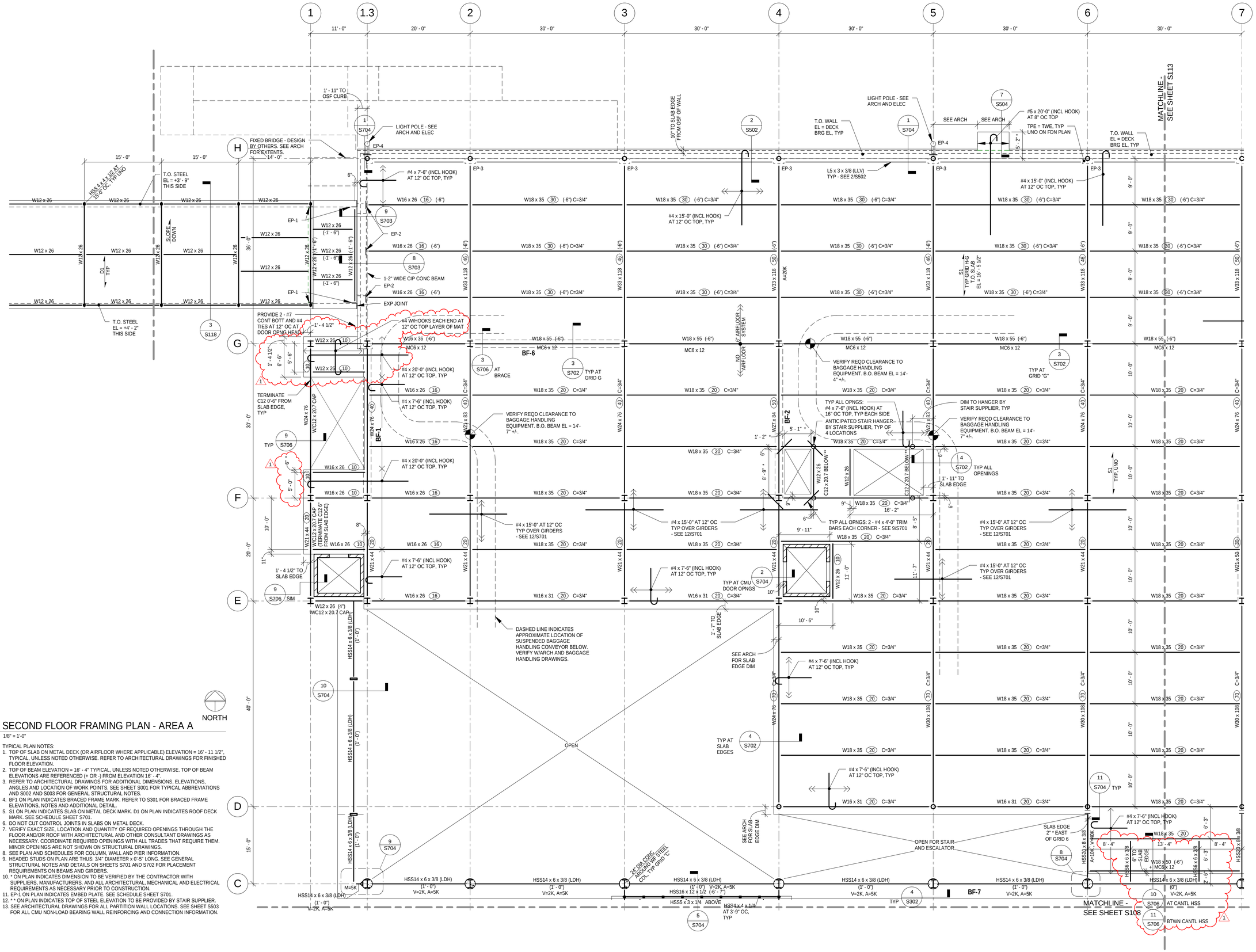
SHEET TITLE
FOUNDATION PLAN - AREA B

SHEET NUMBER
S111

SITE WORK AND FNDN PERMIT



1 SECOND FLOOR FRAMING PLAN - AREA A

1/8" = 1'-0"

TYPICAL PLAN NOTES:

1. TOP OF SLAB ON METAL DECK (OR AIRFLOOR WHERE APPLICABLE) ELEVATION = 16' - 11 1/2", TYPICAL, UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR ELEVATION.
2. TOP OF BEAM ELEVATION = 16' - 4" TYPICAL, UNLESS NOTED OTHERWISE. TOP OF BEAM ELEVATIONS ARE REFERENCED (+ OR -) FROM ELEVATION 16' - 4".
3. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS, ELEVATIONS, ANGLES AND LOCATION OF WORK POINTS. SEE SHEET S001 FOR TYPICAL ABBREVIATIONS AND S002 AND S003 FOR GENERAL STRUCTURAL NOTES.
4. BF1 ON PLAN INDICATES BRACED FRAME MARK. REFER TO S301 FOR BRACED FRAME ELEVATIONS, NOTES AND ADDITIONAL DETAIL.
5. S1 ON PLAN INDICATES SLAB ON METAL DECK MARK. D1 ON PLAN INDICATES ROOF DECK MARK. SEE SCHEDULE SHEET S701.
6. DO NOT CUT CONTROL JOINTS IN SLABS ON METAL DECK.
7. VERIFY EXACT SIZE, LOCATION AND QUANTITY OF REQUIRED OPENINGS THROUGH THE FLOOR AND/OR ROOF WITH ARCHITECTURAL AND OTHER CONSULTANT DRAWINGS AS NECESSARY. COORDINATE REQUIRED OPENINGS WITH ALL TRADES THAT REQUIRE THEM. MINOR OPENINGS ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
8. SEE PLAN AND SCHEDULES FOR COLUMN, WALL AND PIER INFORMATION.
9. HEADED STUDS ON PLAN ARE THUS: 3/4" DIAMETER x 0'-5" LONG. SEE GENERAL STRUCTURAL NOTES AND DETAILS ON SHEETS S701 AND S702 FOR PLACEMENT REQUIREMENTS ON BEAMS AND GIRDERS.
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11. EP-1 ON PLAN INDICATES EMBED PLATE. SEE SCHEDULE SHEET S701.
12. ** ON PLAN INDICATES TOP OF STEEL ELEVATION TO BE PROVIDED BY STAIR SUPPLIER.
13. SEE ARCHITECTURAL DRAWINGS FOR ALL PARTITION WALL LOCATIONS. SEE SHEET S503 FOR ALL CMU NON-LOAD BEARING WALL REINFORCING AND CONNECTION INFORMATION.

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Signature: Paul A. Johnson

Date: June 3, 2010 Reg. No.: 20379

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	06-10-10

DATE ISSUED: 05-17-10
REVIEWED BY: PAJ / CWB
DRAWN BY: SJL
DESIGNED BY: CWB

AEP PROJECT NUMBER
213-1882-091

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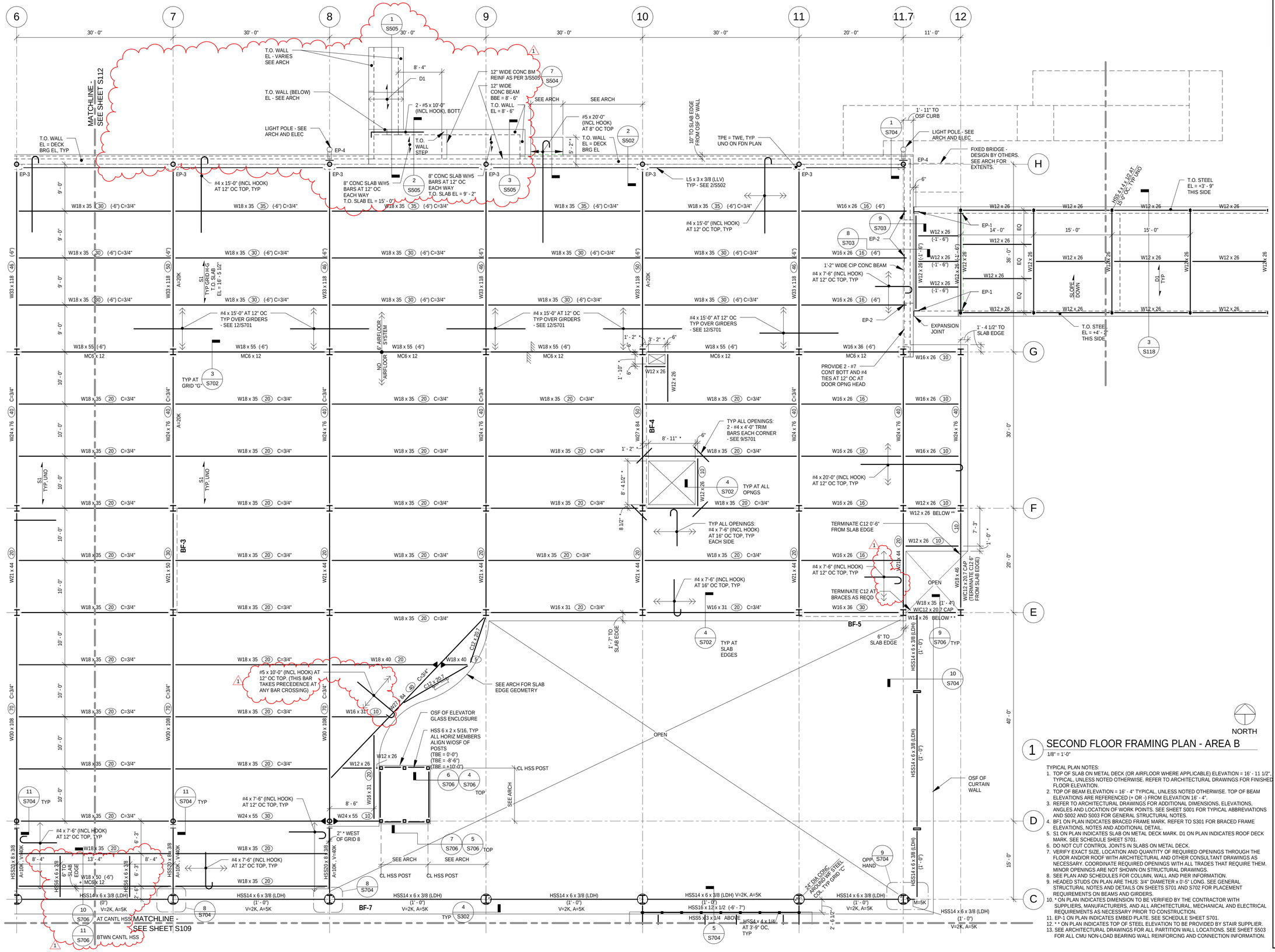
SHEET TITLE
SECOND LEVEL FRAMING PLAN - AREA A

SHEET NUMBER
S112

SITE WORK AND FNDN PERMIT



1 SECOND FLOOR FRAMING PLAN - AREA B

1/8" = 1'-0"

TYPICAL PLAN NOTES:

1. TOP OF SLAB ON METAL DECK (OR AIRFLOOR WHERE APPLICABLE) ELEVATION = 16' - 11 1/2", TYPICAL, UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR ELEVATION.
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8. SEE PLAN AND SCHEDULES FOR COLUMN, WALL AND PIER INFORMATION.
9. HEADED STUDS ON PLAN ARE THUS: 3/4" DIAMETER x 0'-5" LONG. SEE GENERAL STRUCTURAL NOTES AND DETAILS ON SHEETS S701 AND S702 FOR PLACEMENT REQUIREMENTS ON BEAMS AND GIRDERS.
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DRAWN BY:	SJL
DESIGNED BY:	CWB

AEP PROJECT NUMBER

213-1882-091

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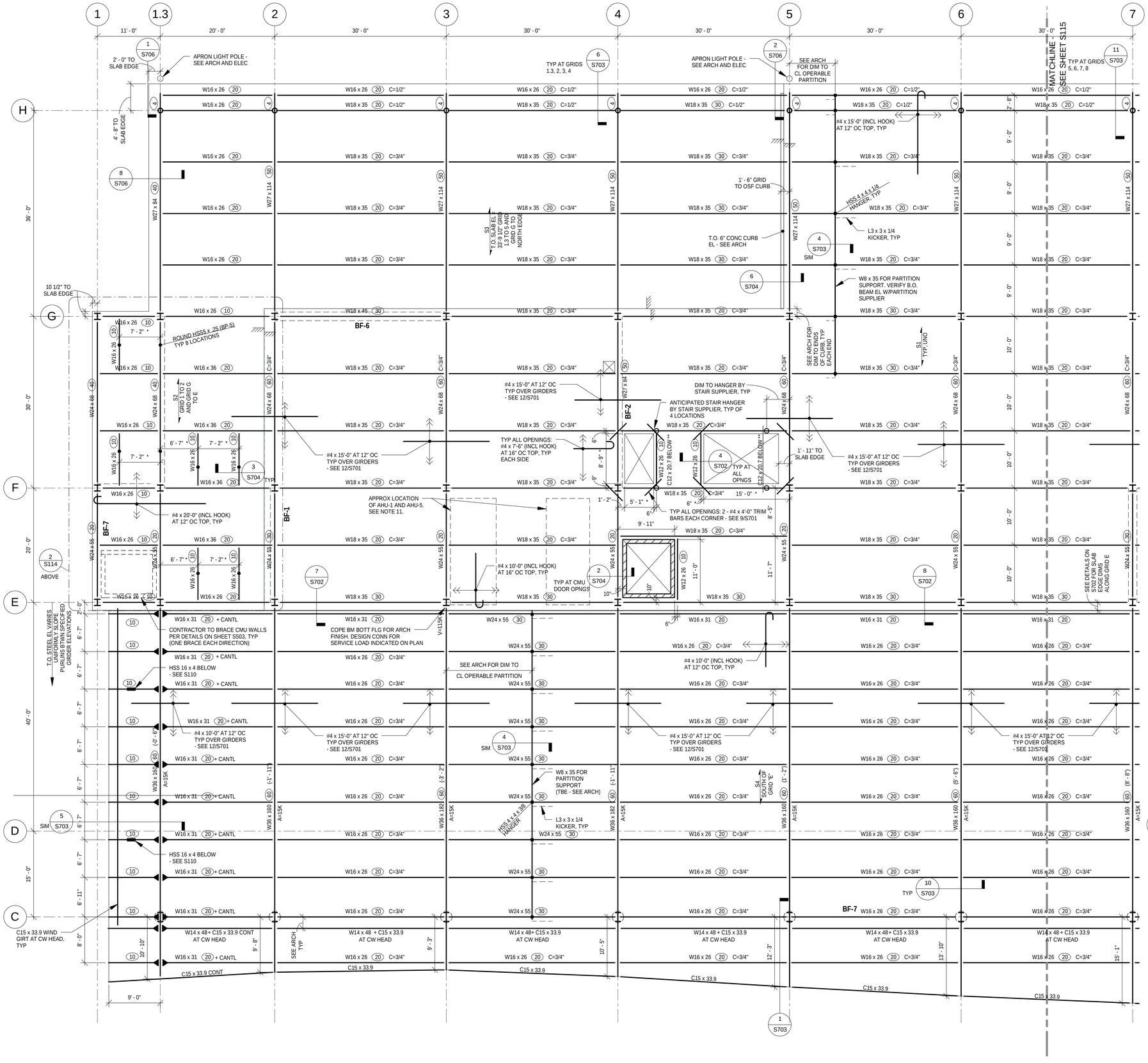
SHEET TITLE

SECOND LEVEL FRAMING PLAN - AREA B

SHEET NUMBER

S113

SITE WORK AND FNDN PERMIT



2 PARTIAL THIRD FLOOR FRAMING PLAN

1/8" = 1'-0"

NOTES:
1. TOP OF CHILLER SUPPORT BEAM EL = 37'-0" *, TYP. SEE NOTE 10 ON 1/S120.
2. ASSUMED APPROXIMATE CHILLER SELF-WEIGHT = 13,000 LBS. SEE MECHANICAL EQUIPMENT SCHEDULES.

1

APPROXIMATE AHU WEIGHTS (VERIFY W/MECH)	
MARK	WEIGHT (POUNDS)
AHU-1	5,000
AHU-2	12,000
AHU-3	6,200
AHU-4	6,200
AHU-5	5,000

1 THIRD LEVEL FRAMING PLAN - AREA A

1/8" = 1'-0"

TYPICAL PLAN NOTES:
1. TOP OF SLAB ELEVATION = 33' - 7 1/2", UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR ELEVATION.
2. TOP OF BEAM ELEVATION = 33' - 0" TYPICAL, UNLESS NOTED OTHERWISE. TOP OF BEAM ELEVATIONS ARE REFERENCED (+ OR -) FROM ELEVATION 33' - 0".
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11. PROVIDE HOUSEKEEPING PADS FOR MECHANICAL EQUIPMENT AS INDICATED (MAXIMUM 6" THICKNESS) ON MECHANICAL DRAWINGS. REINFORCE PADS WITH #4 BARS AT 12" OC EACH WAY, CENTERED IN SLAB.
12. SEE ARCHITECTURAL DRAWINGS FOR ALL PARTITION WALL LOCATIONS. SEE SHEET S503 FOR ALL CMU NON-LOAD BEARING WALL REINFORCING AND CONNECTION INFORMATION.

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Date: June 3, 2010 Reg. No.: 20379

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1	Addendum 1	06-10-10

DATE ISSUED:	05-17-10
REVIEWED BY:	PAJ / CWB
DRAWN BY:	SJL
DESIGNED BY:	CWB

AEP PROJECT NUMBER
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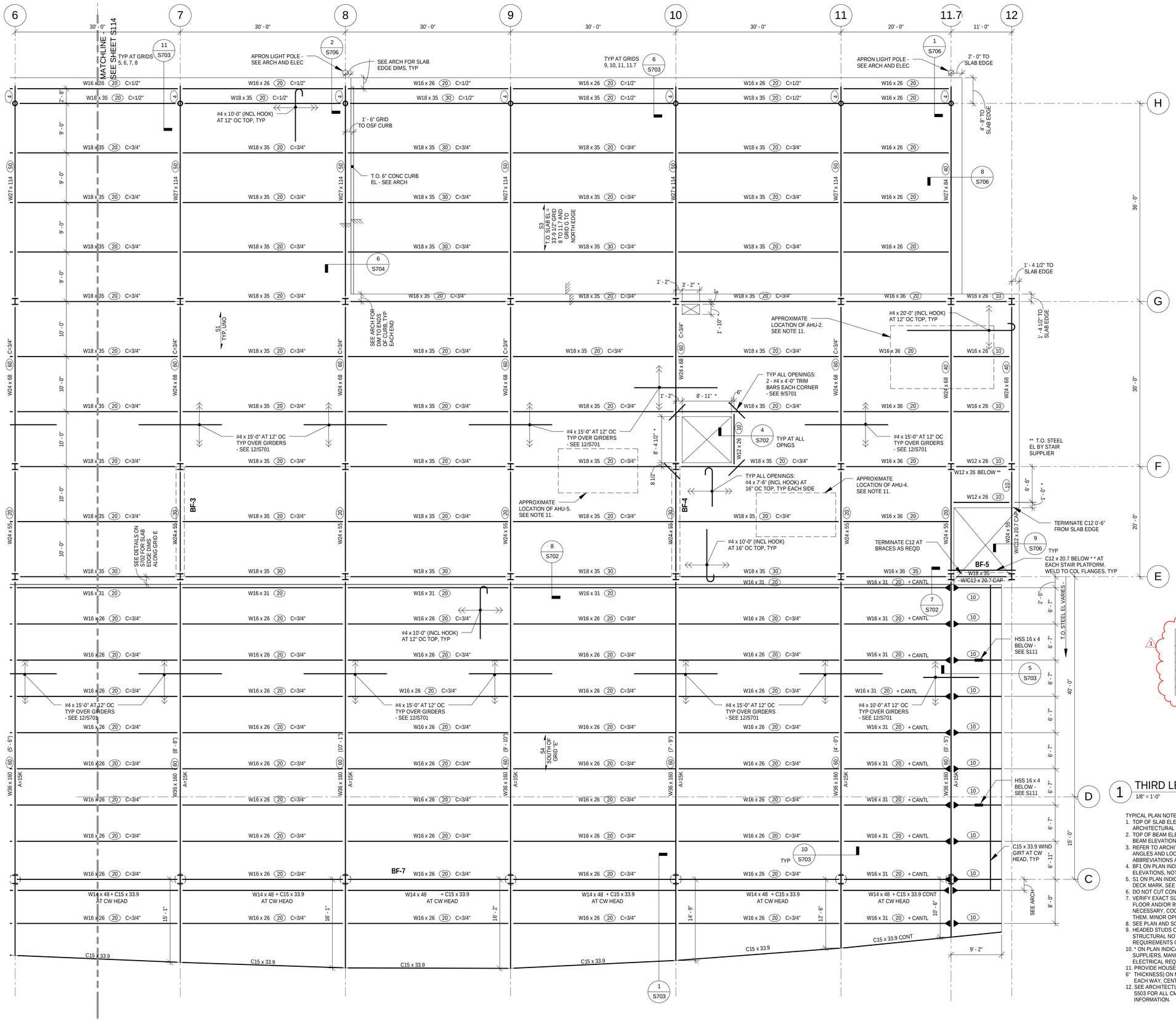
SHEET TITLE
THIRD LEVEL FRAMING PLAN - AREA A

SHEET NUMBER
S114

SITE WORK AND FNDN PERMIT



APPROXIMATE AHU WEIGHTS (VERIFY W/MECH)	
MARK	WEIGHT (POUNDS)
AHU-1	5,000
AHU-2	12,000
AHU-3	6,200
AHU-4	6,200
AHU-5	5,000

1 THIRD LEVEL FRAMING PLAN - AREA B

1/8" = 1'-0"

TYPICAL PLAN NOTES:

1. TOP OF SLAB ELEVATION = 33' - 7 1/2", UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR ELEVATION.
2. TOP OF BEAM ELEVATION = 33' - 0" TYPICAL, UNLESS NOTED OTHERWISE. TOP OF BEAM ELEVATIONS ARE REFERENCED (+ OR -) FROM ELEVATION 33' - 0".
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12. SEE ARCHITECTURAL DRAWINGS FOR ALL PARTITION WALL LOCATIONS. SEE SHEET S503 FOR ALL CMU NON-LOAD BEARING WALL REINFORCING AND CONNECTION INFORMATION.

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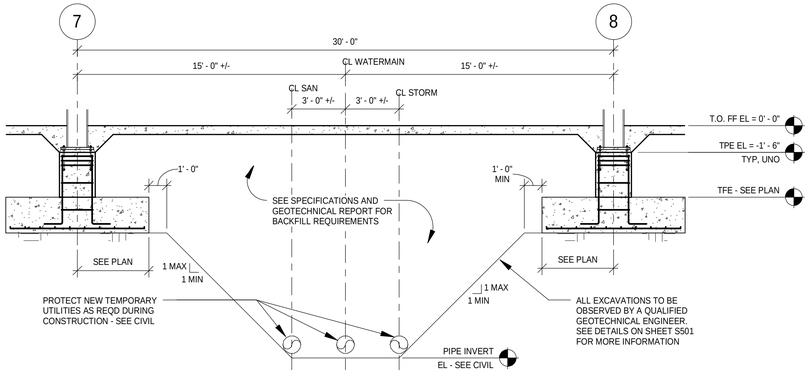
SHEET TITLE
THIRD LEVEL FRAMING PLAN - AREA B

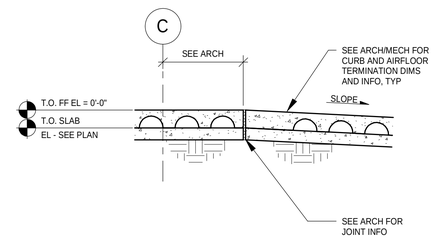
SHEET NUMBER
S115

SITE WORK AND FNDN PERMIT

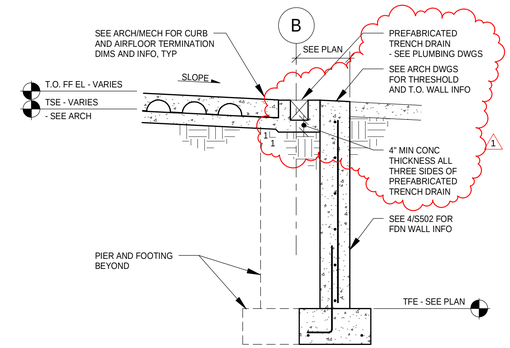


NOTES:
1. SEE GEOTECHNICAL REPORT FOR WATER TABLE ELEVATIONS. CONTRACTOR TO MAKE ADEQUATE PROVISIONS FOR DEWATERING AS REQUIRED.
2. PIPE INVERT LOCATION SHOWN SCHEMATICALLY REPRESENT LOCATIONS AT GRID E.
3. CONTRACTOR TO NOTIFY A/E IMMEDIATELY IF ACTUAL FIELD CONDITIONS VARY FROM LOCATIONS/SLOPES INDICATED.

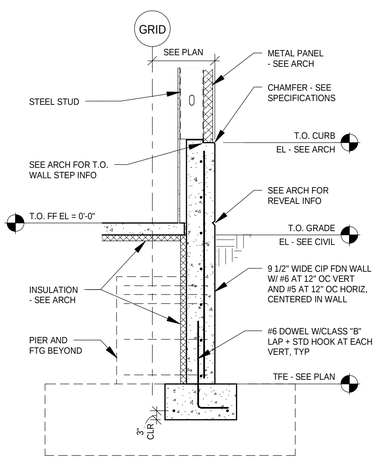
1 SECTION
1/4" = 1'-0"



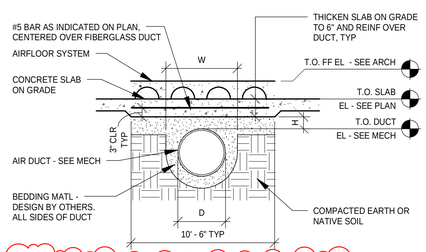
2 SECTION
1/2" = 1'-0"



3 SECTION AT VESTIBULE DOOR
1/2" = 1'-0"

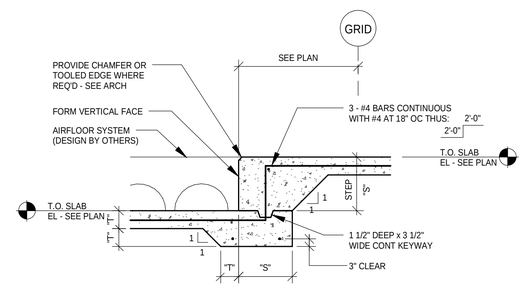


4 SECTION
1/2" = 1'-0"

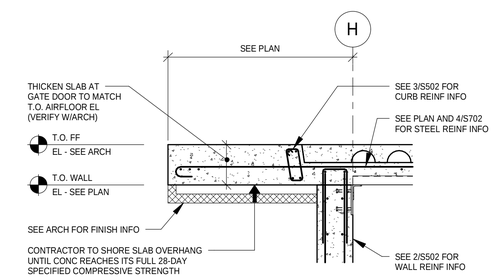


NOTE:
1. "H" AND "W" DIMENSIONS AND SPECIFICATIONS FOR BEDDING MATERIAL TO BE VERIFIED WITH UNDERGROUND DUCT SUPPLIER PRIOR TO CONSTRUCTION.

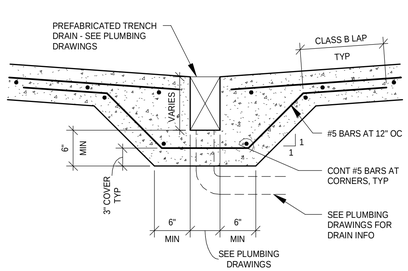
5 UNDERGROUND DUCTWORK DETAIL
1/2" = 1'-0"



6 SLAB STEP DETAIL
3/4" = 1'-0"



7 SECTION AT GATE DOOR SLAB
1/2" = 1'-0"



8 SECTION AT TRENCH DRAIN
1" = 1'-0"

1

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DULUTH INTERNATIONAL AIRPORT DULUTH, MN

NEW TERMINAL DESIGN

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SJA ARCHITECTS
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Structural Engineers:
MBJ CONSULTING ENG.
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TEL: (218) 722-1056 / FAX: (218) 722-9306

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TEL: (203) 792-3000 / FAX: (203) 792-4900

Landscape Consultants:
APPOLD DESIGN
2432 East First Street, Duluth MN 55812
TEL: (218) 591-5079

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Paul A. Johnson

Signature:

Date: June 3, 2010 Reg. No.: 20379

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	06-10-10

DATE ISSUED: 05-17-10
REVIEWED BY: PAJ / CWB
DRAWN BY: SJL
DESIGNED BY: CWB

AEP PROJECT NUMBER
213-1882-091

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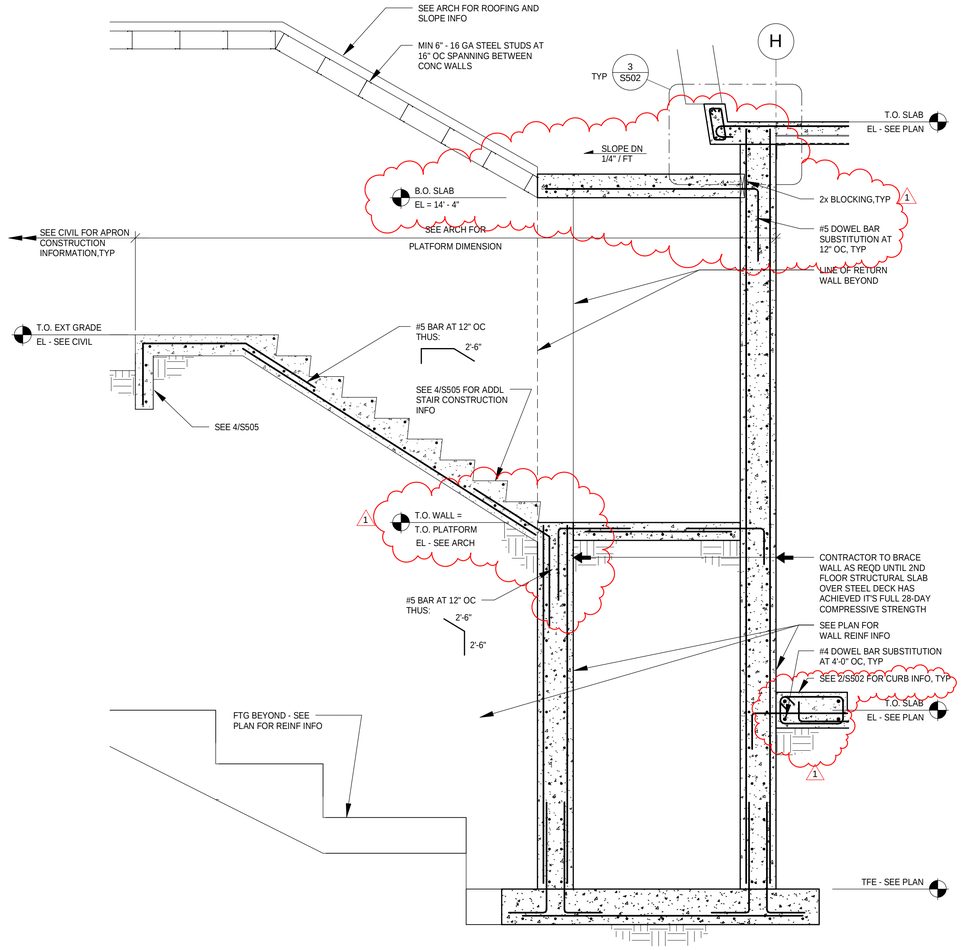
SHEET TITLE
STRUCTURAL DETAILS

SHEET NUMBER
S504

SITE WORK AND FNDN PERMIT



1 SECTION
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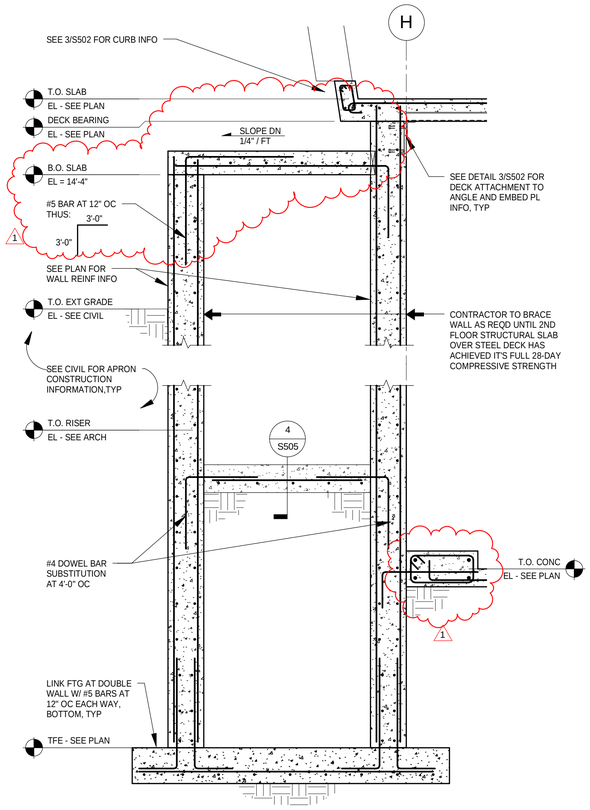

2 SECTION
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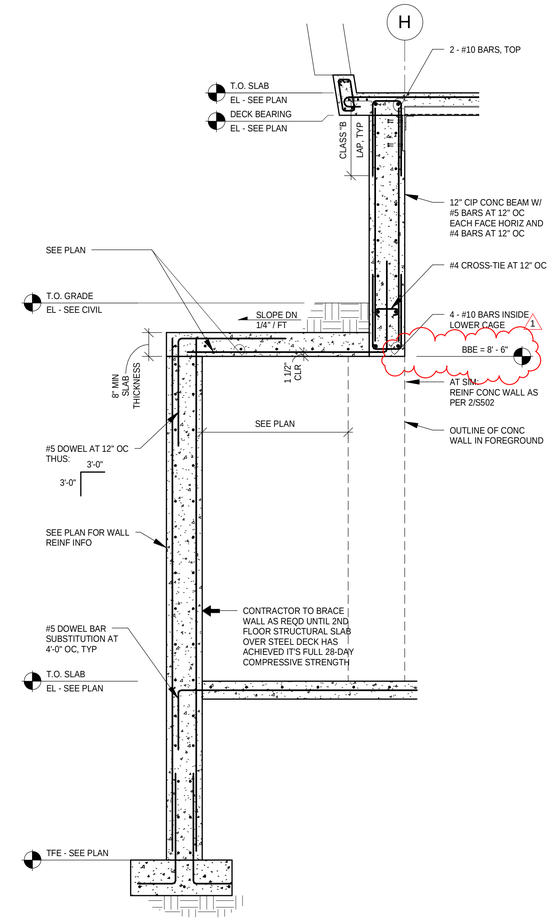

3 SECTION
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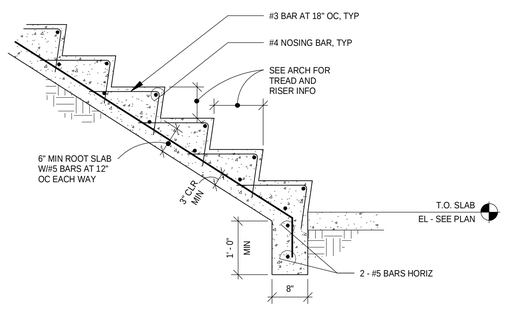

4 STAIR SECTION
3/4" = 1'-0"

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SHEET TITLE
STRUCTURAL DETAILS

SHEET NUMBER
S505

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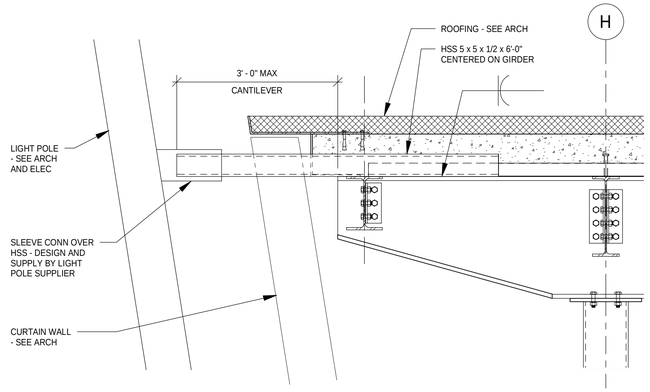
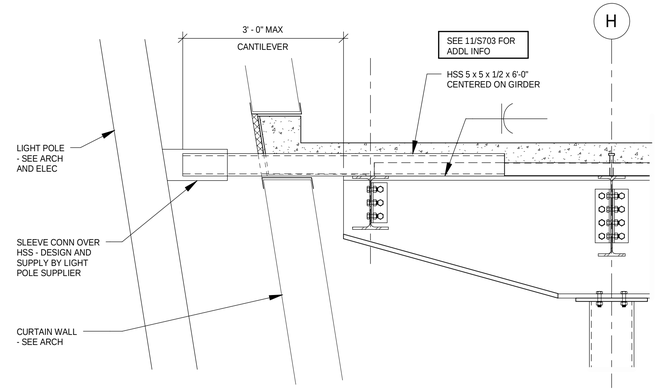
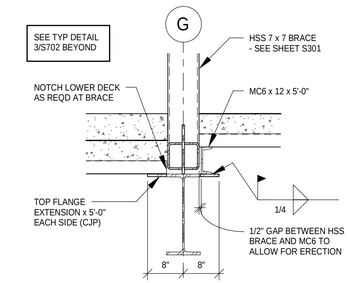


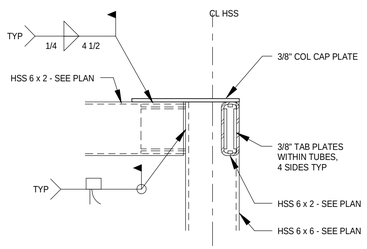
1 SECTION
3/4" = 1'-0"



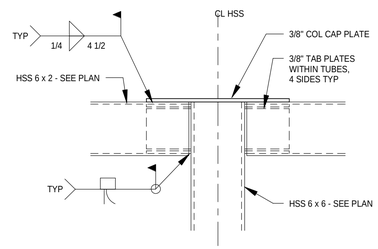
2 SECTION
3/4" = 1'-0"



3 SECTION AT BF-6 AT LEVEL 2
3/4" = 1'-0"



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



5 SECTION
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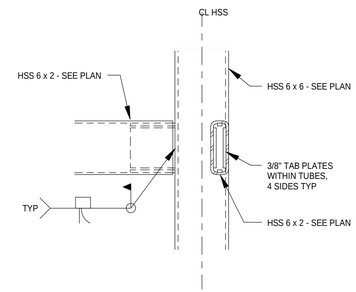

6 SECTION
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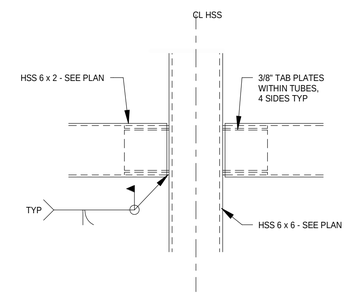
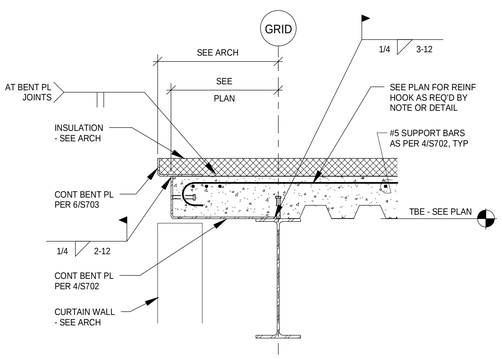
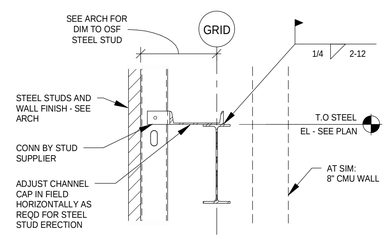


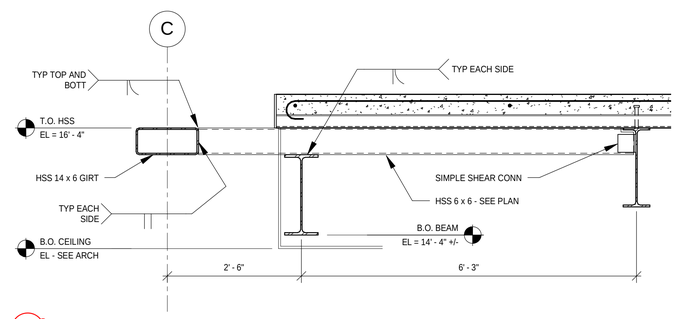
7 SECTION
1 1/2" = 1'-0"



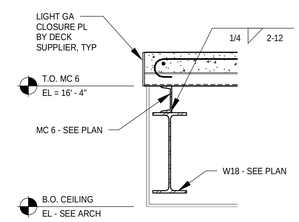
8 SECTION
3/4" = 1'-0"



9 SECTION
3/4" = 1'-0"



10 SECTION AT HSS CANTILEVER
3/4" = 1'-0"



11 SECTION BETWEEN HSS CANTILEVER
3/4" = 1'-0"

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SHEET TITLE
STRUCTURAL DETAILS

SHEET NUMBER
S706

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