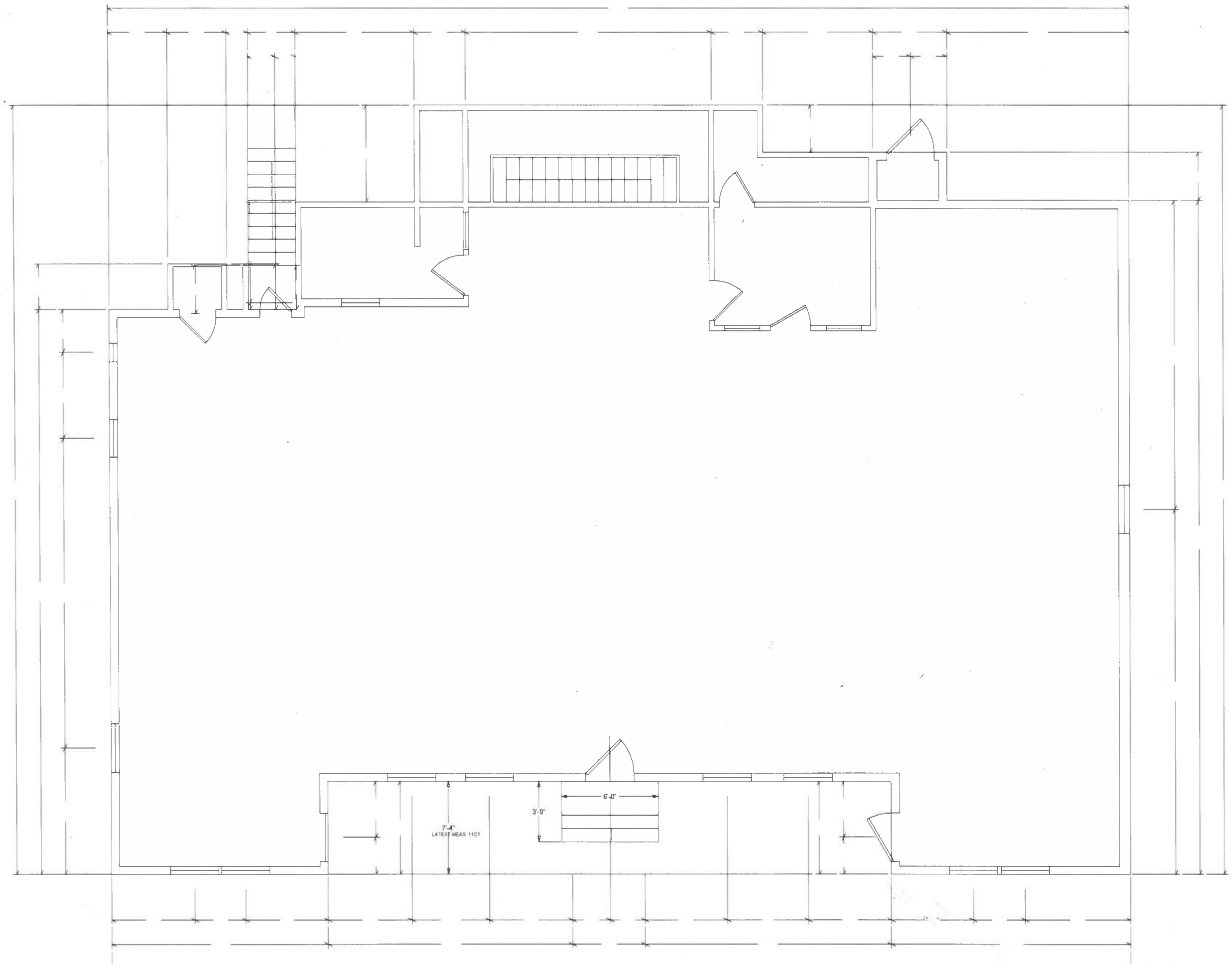


ADE

DESIGNERS & ENGINEERS

STAMP

REGISTERED PROFESSIONAL ENGINEER

PROJECT

LOCATION

NO. 86 HIGHLAND AVE.
SOMERVILLE, MA

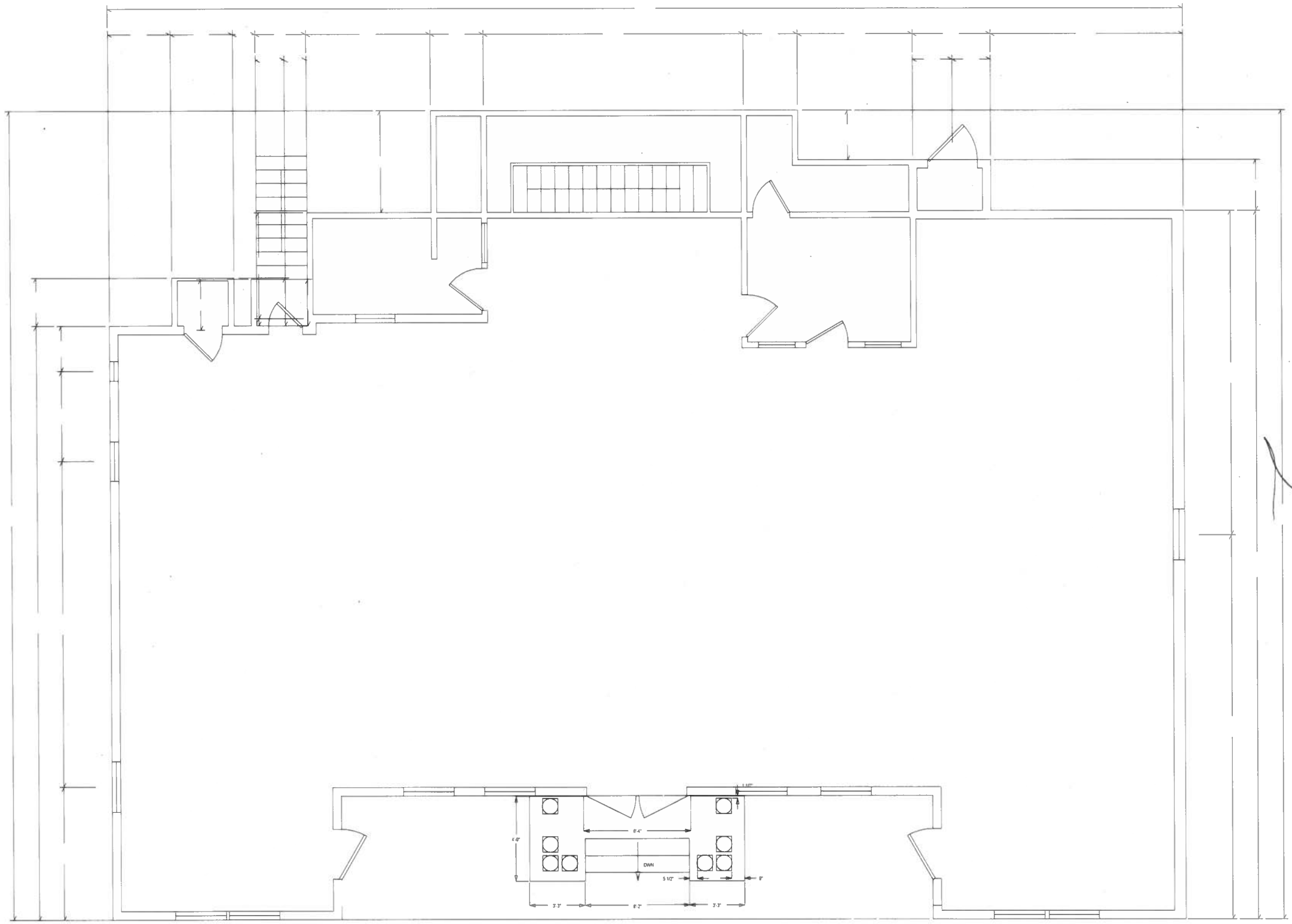
DRAWING

REVISIONS 7/A/12

SCALE:	[illegible]
DATE:	[illegible]
DRAWN BY:	[illegible]
CHECKED BY:	[illegible]
PROJECT NO:	[illegible]

SHEET NO:

E-1



ADE
DESIGNERS & ENGINEERS

STAMP

COMMONWEALTH OF MASSACHUSETTS
REGISTERED
PROFESSIONAL ENGINEER

LOCATION:
NO. 86 HIGHLAND AVE.
SOMERVILLE, MA

DRAWN

REVISIONS:

SCALE:

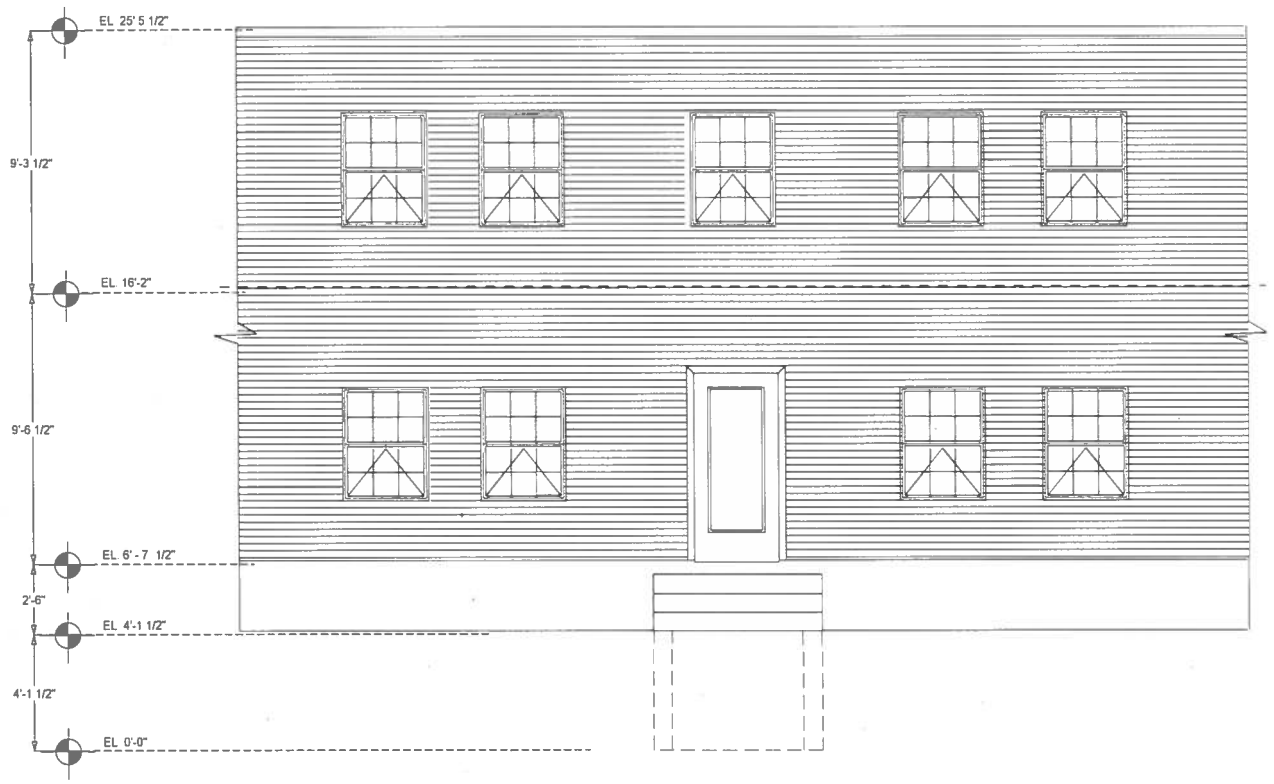
DATE:

DRAWN BY:

CHKD BY:

PROJECT NO:

SHEET NO:



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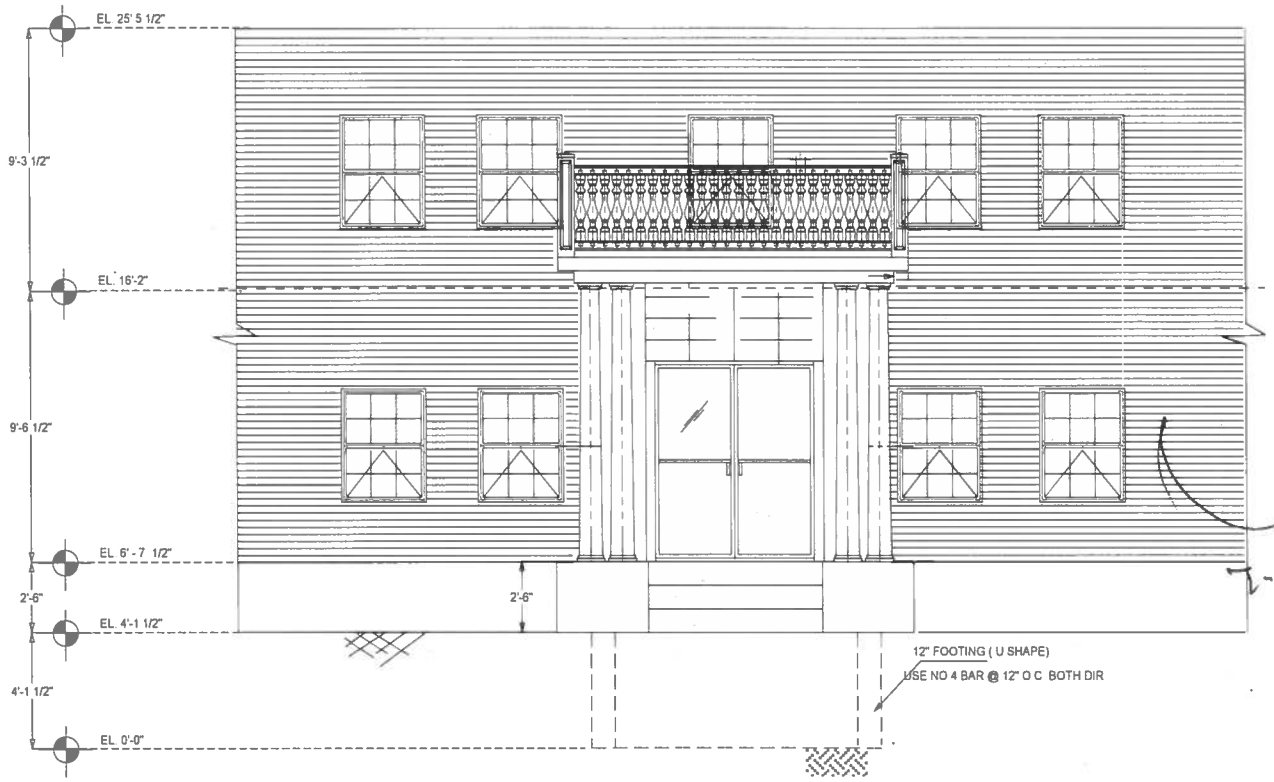


PROP. ELEV.

N.T.S.

ADE
DESIGNERS & ENGINEERS

REGISTERED PROFESSIONAL ENGINEER

LOCATION:

NO. 86 HIGHLAND AVE.
SOMERVILLE, MA

REVISIONS

SCALE:

DATE:

DRAWN BY:

CHECKED BY:

PROJECT NO:

SHEET NO:

E-3

STRUCTURAL SPEC.

DESGIN
1-ALL DESIGN ARE IN ACCORDANCE WITH THE CODE
STANDARDS AND SPECIFICATIONS LIST BELOW,
1.1 STATE OF MASS. BUILDING CODE
1.2 MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS
DESIGN, 9TH EDITION
1.3 UNIFORM BUILDING CODE
1.4 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318-2

2-THE ALLOWABLE STRESS DESIGN METHOD IN ACCORDANCE WITH
REQUIREMENTS OF AISC, MANUAL OF STEEL CONSTRUCTION IS USED FOR
STRUCTURAL STEEL MEMBERS. LOAD FACTOR DESIGN METHOD IN ACCOR
DANCE WITH REQUIREMENTS OF ACI 318-02 IS USED FOR CONCRETE ELEMENTS.

3-DESIGN LOAD:
A. LIVE LOAD
1. ON FIRST FLOOR: 40 PSF
2. ON 2ND FLOOR: 30 PSF
3. ON ATTIC ((UNINHABITABLE): 20 PSF.
4. ON ROOF (SNOW LOAD): 30 PSF.

B. WIND LOAD: 90 MPH.

SCALES:
SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS.

ANCHOR BOLTS:
ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATE BEFORE THE CONCRETE IS PLACED.

REINFORCEMENTS:
REINFORCING STEEL SHALL CONFIRM TO THE REQUIREMENTS OF ASTM A615, GRADE 60.

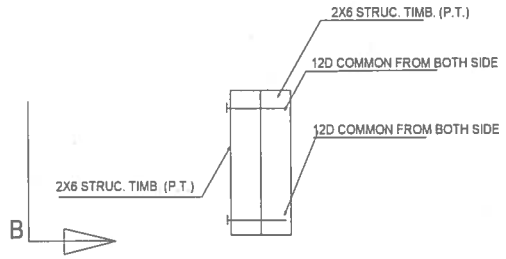
STRUCTURAL STEEL:
ALL STRUCTURAL STEEL SHALL BE FY=36 KSI FOR THE BEAMS & PLATES
AND FY=46 KSI FOR THE COLUMNS.
WELDED FABRICATION SHALL BE IN ACCORDANCE WITH THE WELDING CODE ANSI/AWSD1.5
ALL BOLTS SHALL BE 3/4" DIAMETER OF 1/2" DIAMETER AND CONFORM TO THE
REQUIREMENTS OF ASTM DESIGNATION A325 , UNLESS OTHERWISE NOTED.

CEMENT CONCRETE:
ALL CONCRETE COMPRESIVE STRENGHT SHALL BE MINIMUM OF 3000 PSI

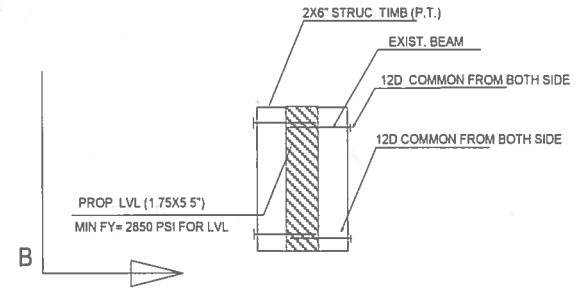
SOIL:
THE BEAING CAPCITY OF THE SOIL MUST BE MINIMUM OF 5.0 KSF.

STRUCTURAL TIMBER:
DOUGLAS FIR W/ MIN. FB=1200 PSI & VH =95 PSI.
GLUE LAMINATED TIMBER W/ MIN. FB=2850 PSI & MINIMUM VH=285 PSI.

GENERAL:
THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE
DURING CONSTRUCTION.



SECTION D-D
NTS



SECTION C-C
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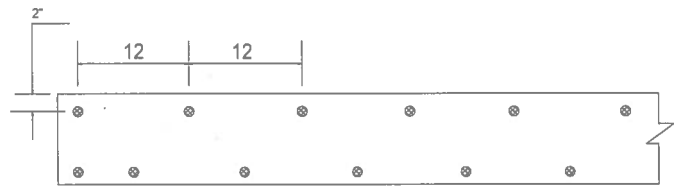

SECTION B-B
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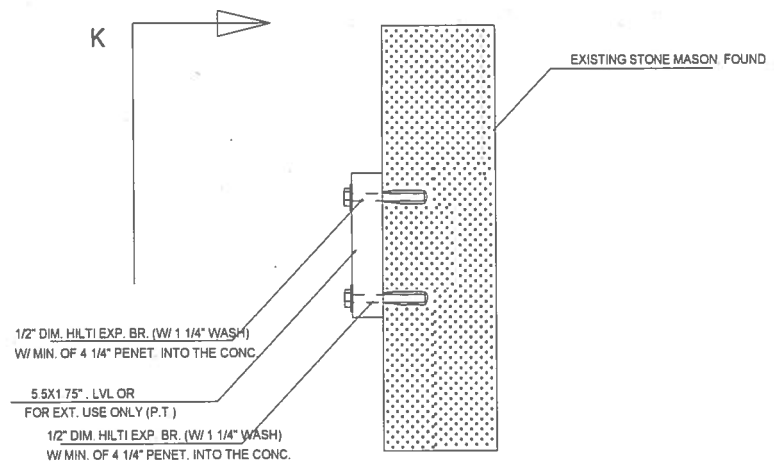

SECTION X-X
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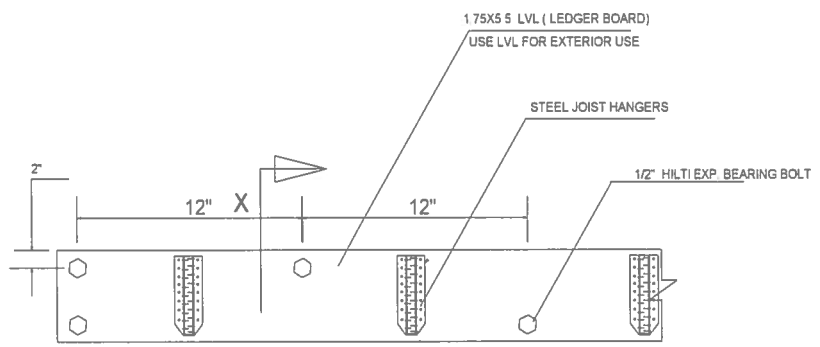

SECTION K-K
NTS

ADE
DESIGNERS & ENGINEERS

STAMP

COMMONWEALTH OF MASSACHUSETTS
REGISTERED PROFESSIONAL ENGINEER

7/5/12

LOCATION:
NO. 86 HIGHLAND AVE.
SOMERVILLE, MA

DRAWING:

REVISIONS: 7/5/12

SCALE:
DATE:
DRAWN BY:
CHECKED BY:
PROJECT NO:
SHEET NO:

S-2

STRUCTURAL SPEC

DESGIN
1-ALL DESIGN ARE IN ACCORDANCE WITH THE CODE
STANDARDS AND SPECIFICATIONS LIST BELOW;
1.1 STATE OF MASS. BUILDING CODE
1.2 MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS
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1.3 UNIFORM BUILDING CODE
1.4 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318-2

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B. WIND LOAD: 90 MPH

SCALES
SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS

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ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATE BEFORE THE CONCRETE IS PLACED

REINFORCEMENTS
REINFORCING STEEL SHALL CONFIRM TO THE REQUIREMENTS OF ASTM A615, GRADE 60

STRUCTURAL STEEL
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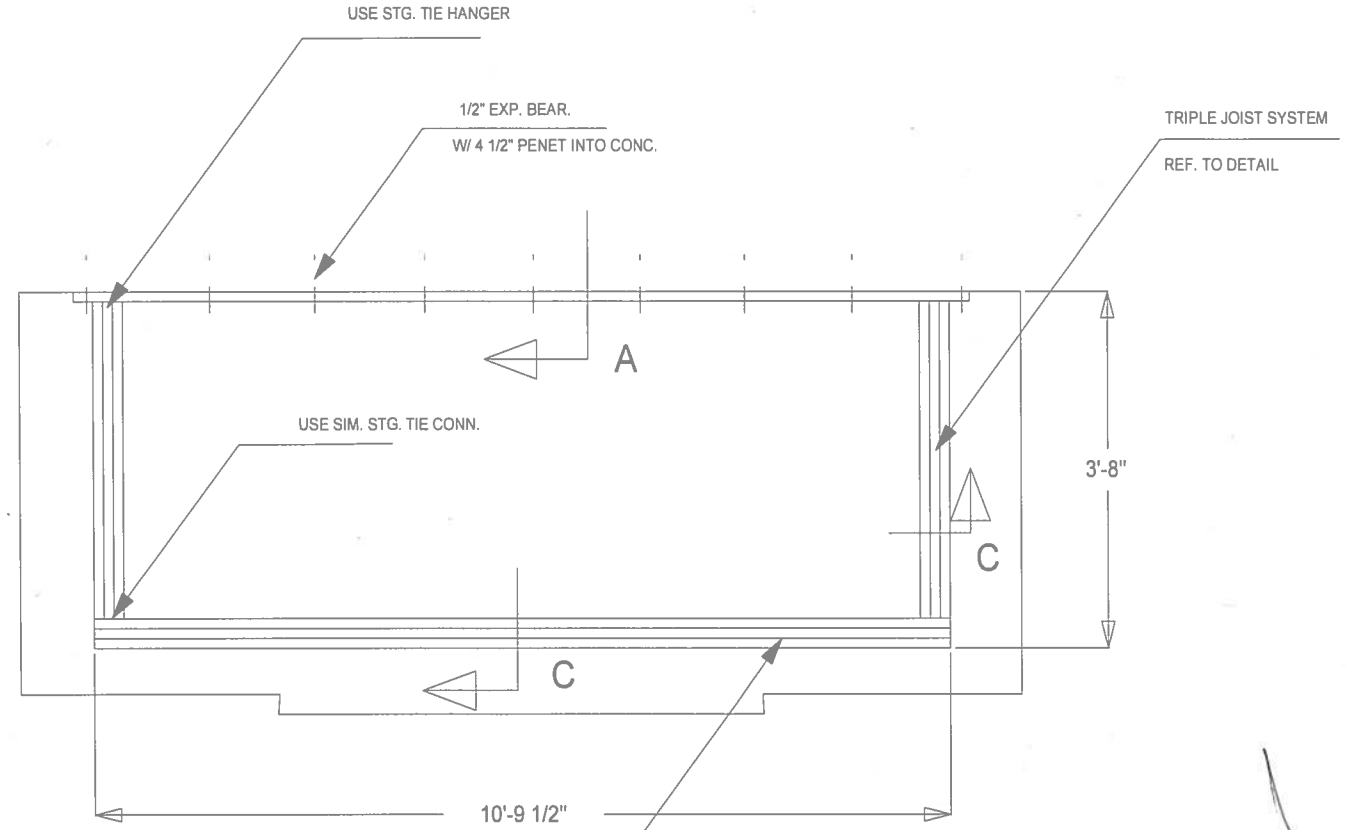
ALL BOLTS SHALL BE 3/4" DIAMETER OF 1/2" DIAMETER AND CONFORM TO THE
REQUIREMENTS OF ASTM DESIGNATION A325 , UNLESS OTHERWISE NOTED

CEMENT CONCRETE
ALL CONCRETE COMPRESIVE STRENGHT SHALL BE MINIMUM OF 3000 PSI

SOIL
THE BEAING CAPCITY OF THE SOIL MUST BE MINIMUM OF 5.0 KSF.

STRUCTURAL TIMBER
DOUGLAS FIR W/ MIN. FB=1200 PSI & VH =95 PSI
GLUE LAMINATED TIMBER W/ MIN. FB=2850 PSI & MINIMUM VH=285 PSI

GENERAL:
THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE
DURING CONSTRUCTION



LOWER FRAMING
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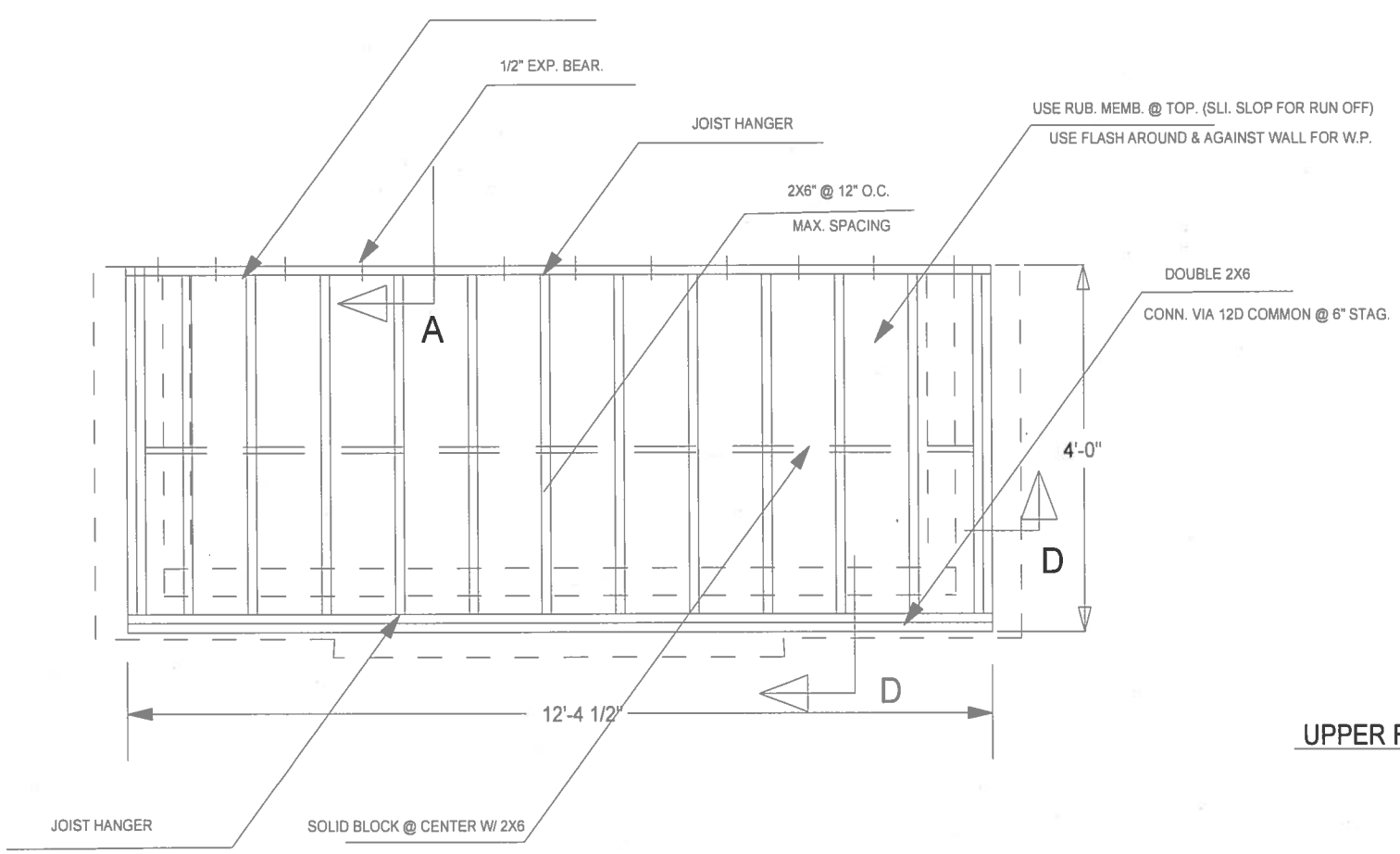


UPPER FRAM. (JOIST SYSTEM)
N.T.S.

ADE
DESIGNERS & ENGINEERS

STAMP:
COMMONWEALTH OF MASSACHUSETTS
HAMID ATTARHA
NO.
REGISTERED PROFESSIONAL ENGINEER

7/5/12

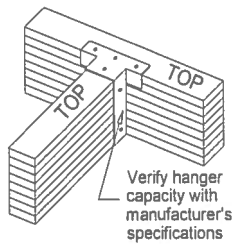
LOCATION:
NO. 86 HIGHLAND AVE.
SOMERVILLE, MA

REVISIONS: 7/5/12

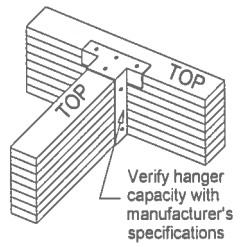
SCALE:
DATE:
DRAWN BY:
CHECKED BY:
PROJECT NO.:
SHEET NO.:

S1

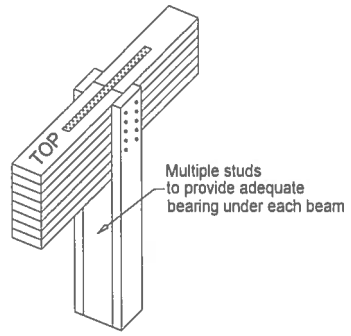
Beam to Beam Connection



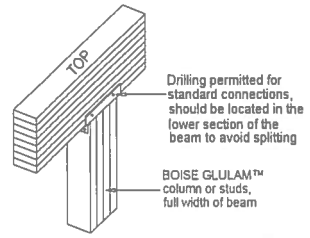
Beam to Beam Connection



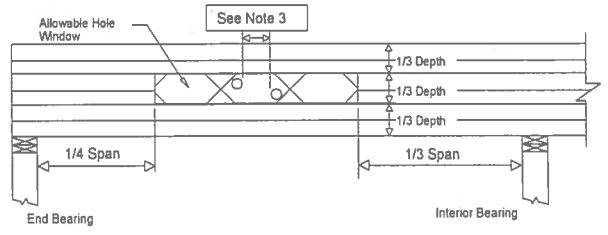
Beam Depth Change at Intermediate Support



Beam to Column Connection

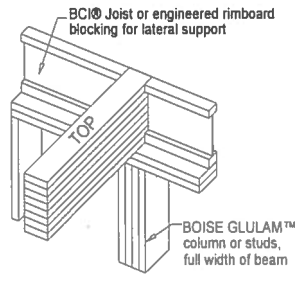


Allowable Horizontal Holes in Glulam Beams

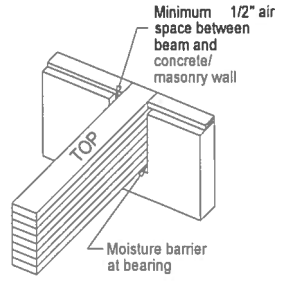


1) Square and rectangular holes not permitted
2) Circular hole may be cut anywhere in the shaded area
3) The horizontal distance between adjacent holes shall be at least two times the diameter of the larger hole
4) Do not drill more than three access holes in any four foot long section of the beam
5) The maximum round hole diameter permitted is 1" for beams 7-1/2" or less in depth. 2" holes for beams deeper than 7-1/2".
6) These limitations apply to holes drilled for plumbing or wiring access only. The size and location of holes drilled for fasteners are governed by the provisions of the National Design Specification for wood construction
7) Beams deflect under load. Size holes to provide clearance where required
8) This hole chart in valid for BOISE GLULAM beams supporting uniform load only. For beams supporting concentrated loads or for beams with larger or vertical holes, contact BOISE EWP Engineering.

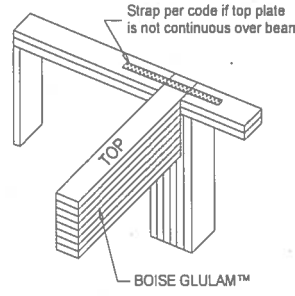
Beam to Wall with Lateral Support



Beam to Concrete/Masonry Wall



Beam Framing to Wall



7/5/18

ADE
DESIGNERS & ENGINEERS
[illegible]

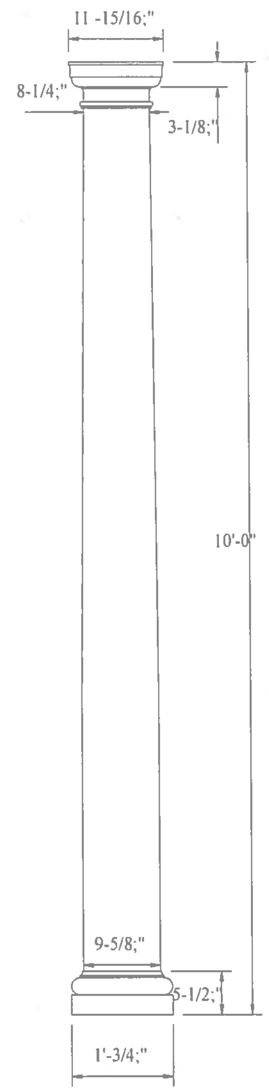
COMMONWEALTH OF MASSACHUSETTS
HAMID ATTARHA
NO. 34036
REGISTERED PROFESSIONAL ENGINEER

PROJECT

LOCATION:
NO. 86 HIGHLAND AVE.
SOMERVILLE, MA

REVISIONS: 7/5/18

SCALE: [illegible]
DATE: [illegible]
DRAWN BY:
PROJECT NO: [illegible]



COLUMN DETAIL
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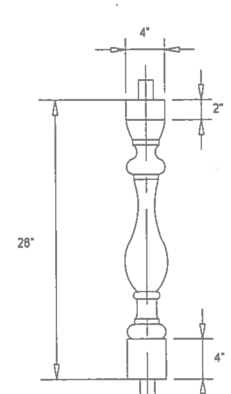
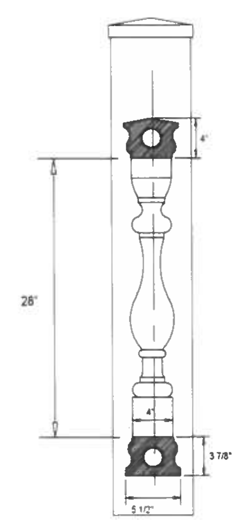


BALUSTER FOR 5-1/2" BALUSTRADE SYSTEM
NTS



BALUSTER
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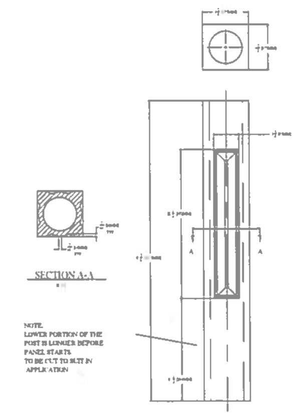
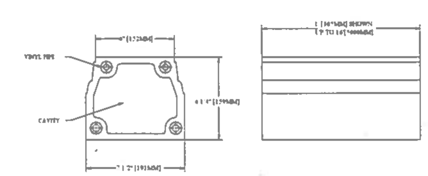
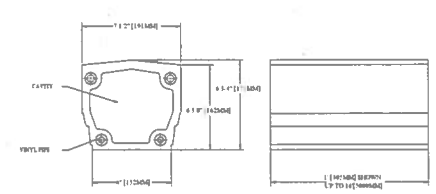


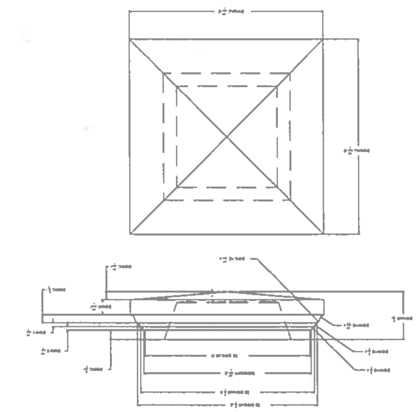
POST
NTS



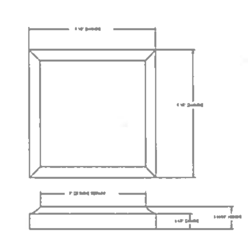
DWG TITLE: BOTTOM RAIL
NTS



DWG TITLE: TOP RAIL
NTS



N. CAP
NTS



CAP
N.T.S.

ADE
DESIGNERS & ENGINEERS

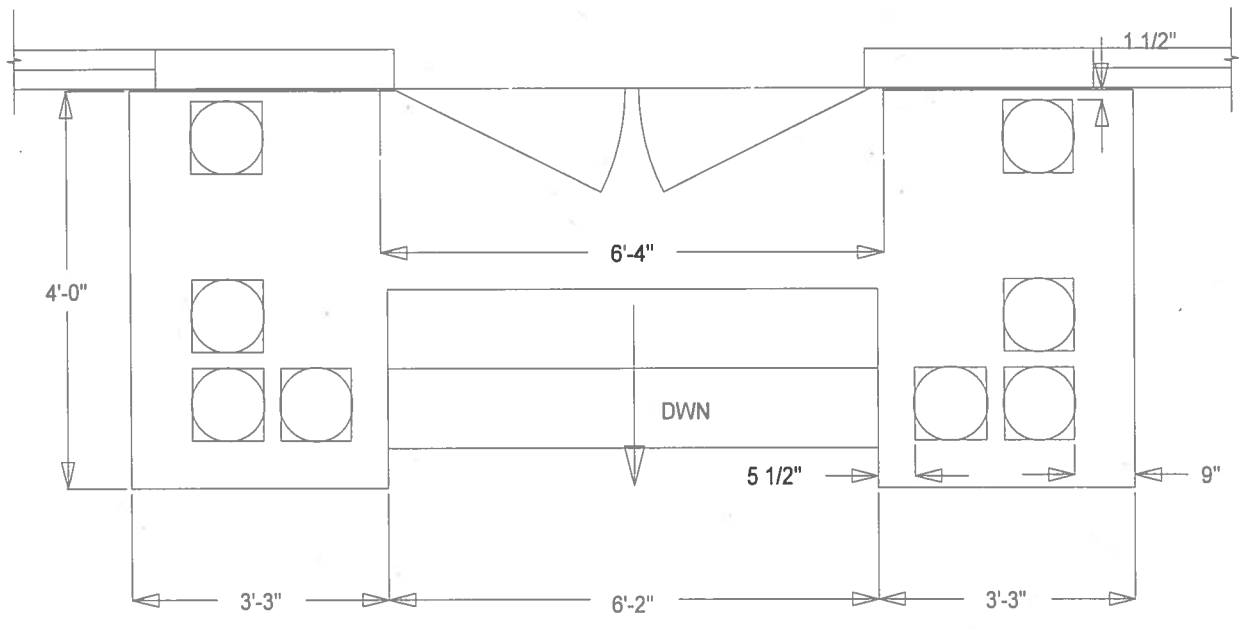
STAMP

LOCATION
NO. 86 HIGHLAND AVE.
SOMERVILLE, MA

DRAWING

REVISIONS

SCALE
DATE
DRAWN BY
CHECKED BY
PROJECT NO.
SHEET NO.



FRONT PLAN (NO.4)
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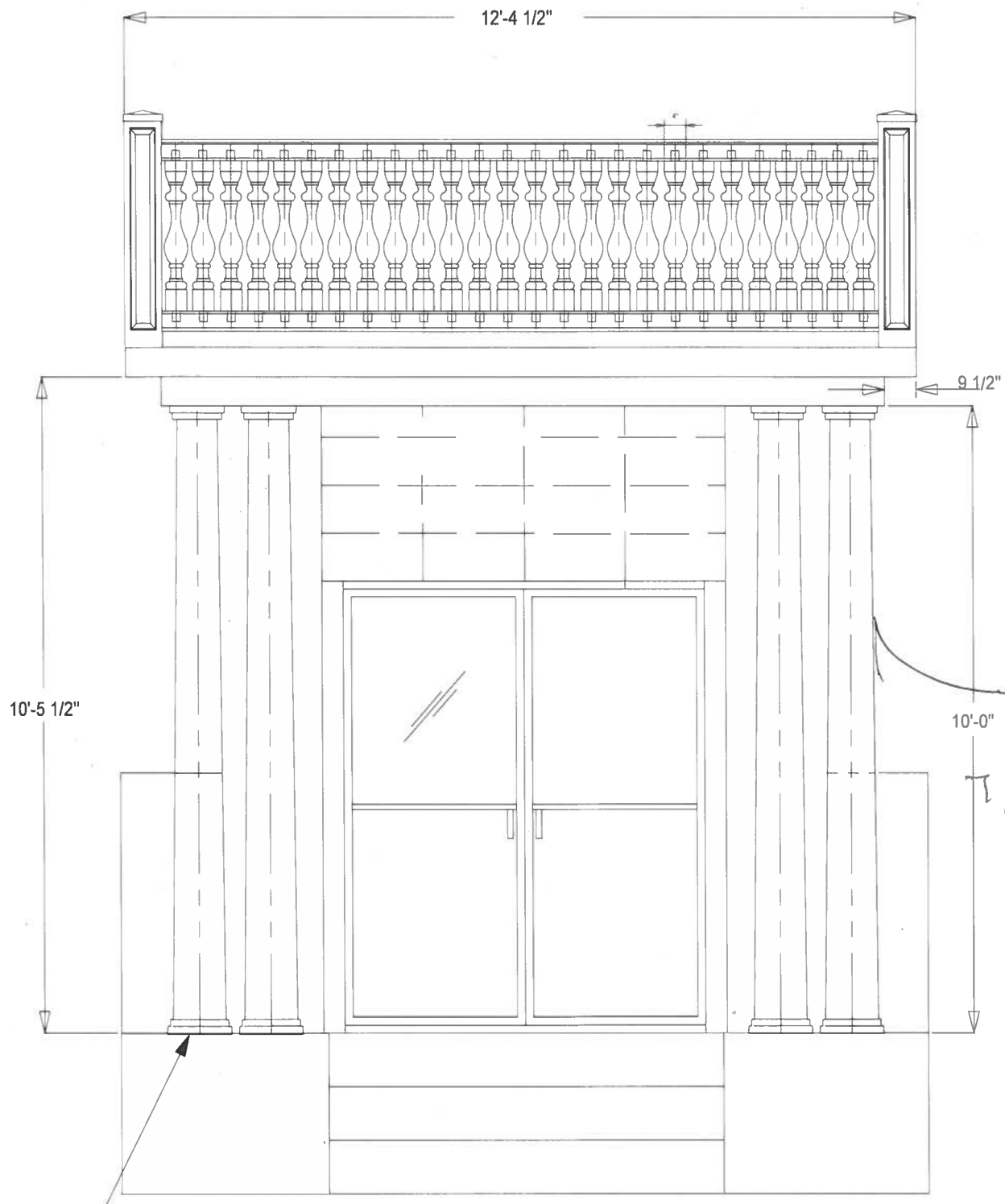

FRONT PROFILE (NO.4)
N.T.S.

ADE
DESIGNERS & ENGINEERS

STAMP:

COMMONWEALTH OF MASSACHUSETTS
HAMID ATTARHA
NO.
REG:
PROFESSIO

LOCATION:
NO. 86 HIGHLAND AVE.
SOMERVILLE, MA

DRAWING:

REVISIONS: 7/5/12

SCALE:
DATE:
DRAWN BY:
CHECKED BY:
PROJECT NO:
SHEET NO:

A-1