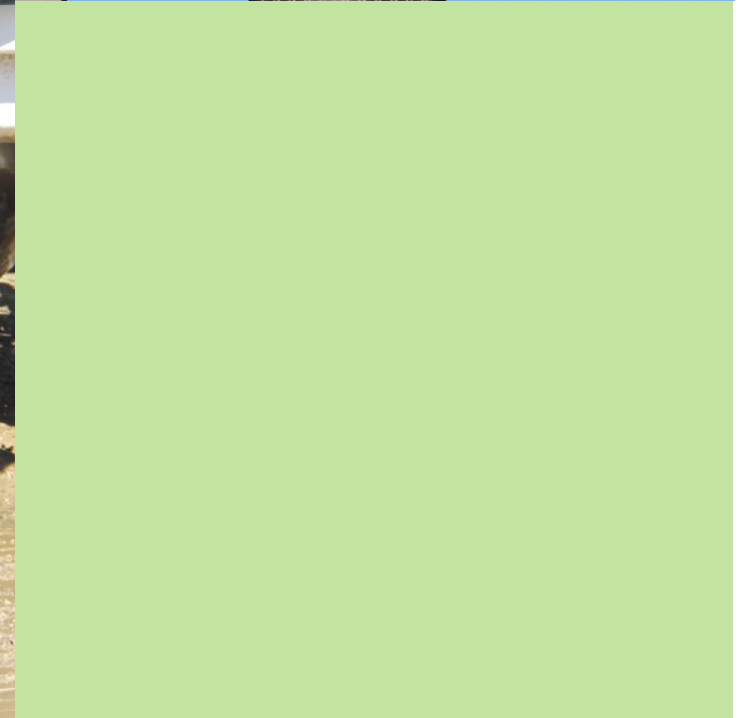




Redline Portfolio

HSPV 540 American Building Technology
Fall 2014

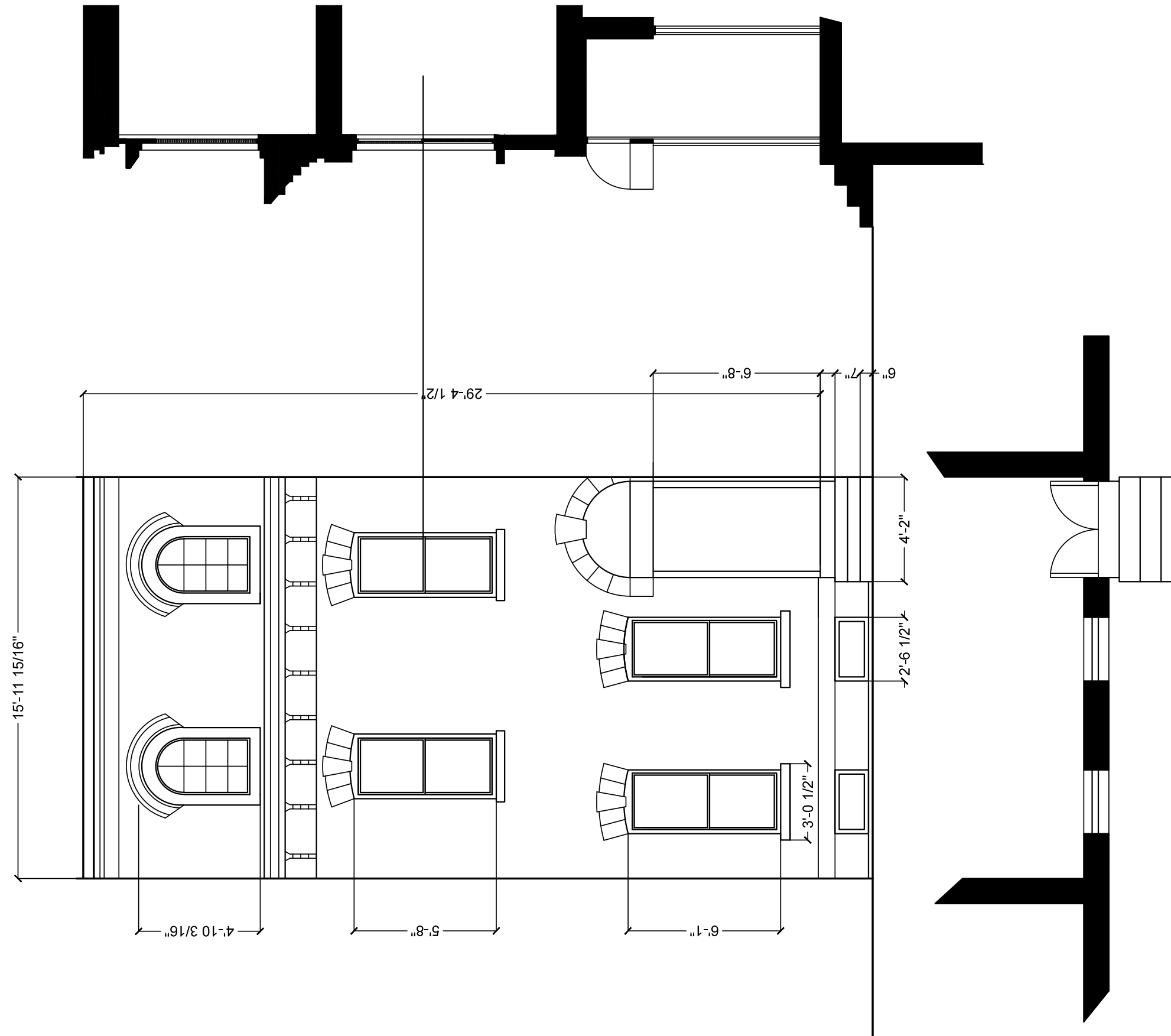
Chuhan Zheng



Final Portfolio

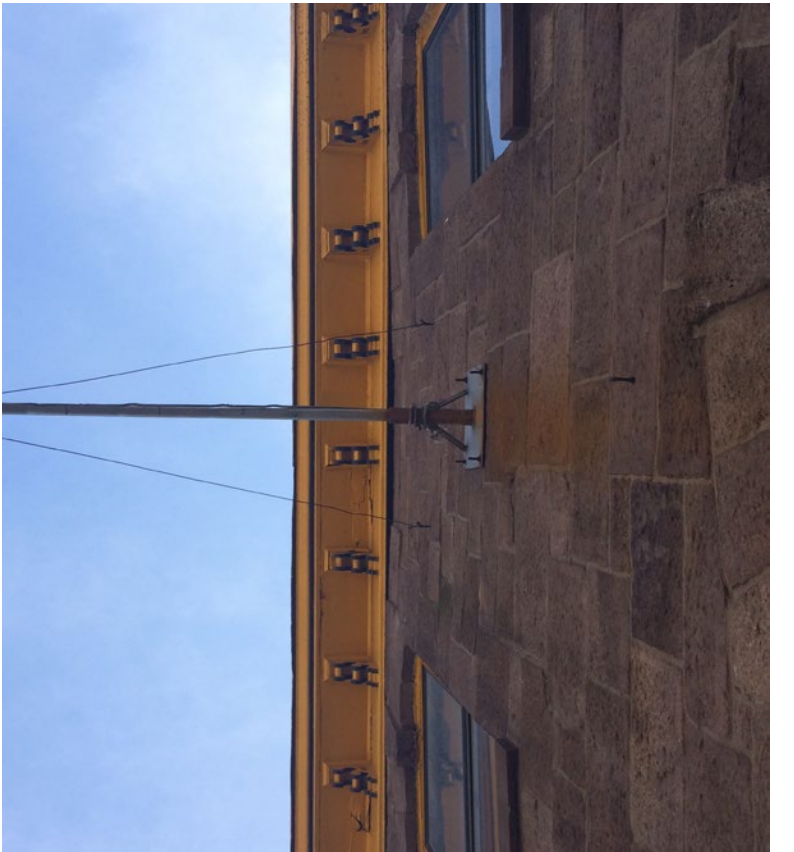
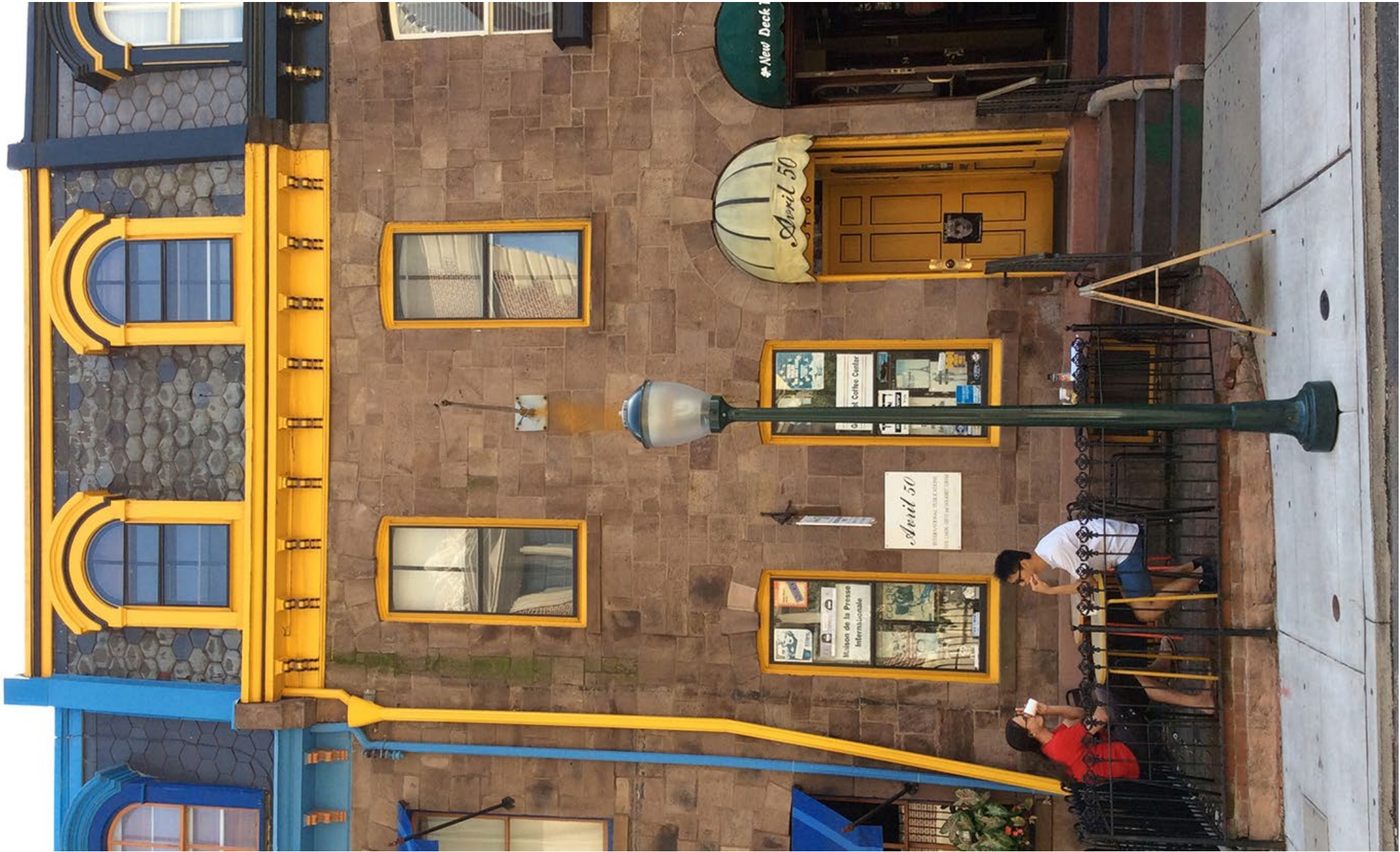
HSPV 540 American Building Technology
Fall 2014

Chuhan Zheng



Assignment 1
 Bearing Wall Structures
 The Philadelphia Row House
 Drawings of Elevation, Section & Plan
 Scale: 1/4" = 1'-0"

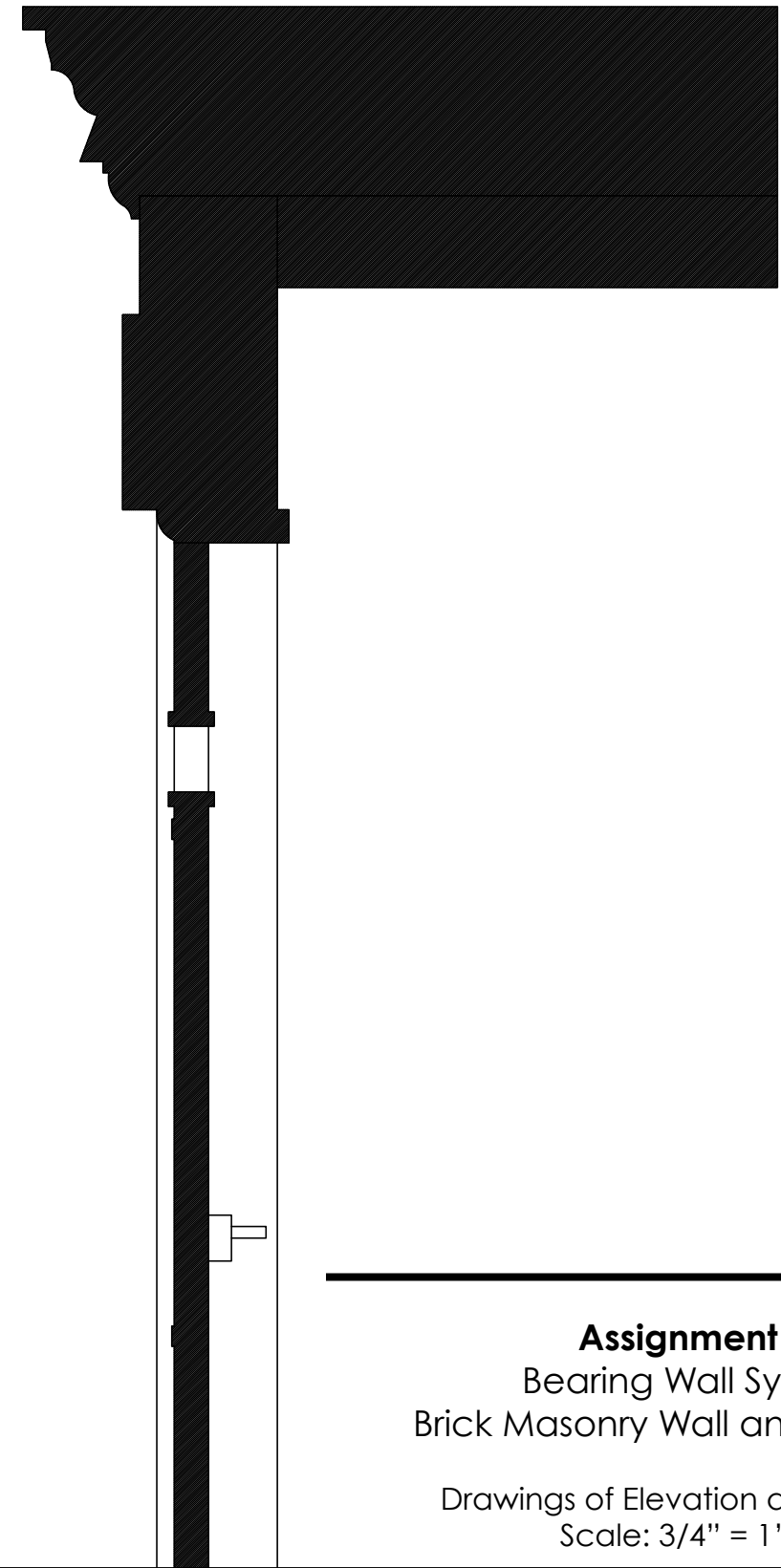
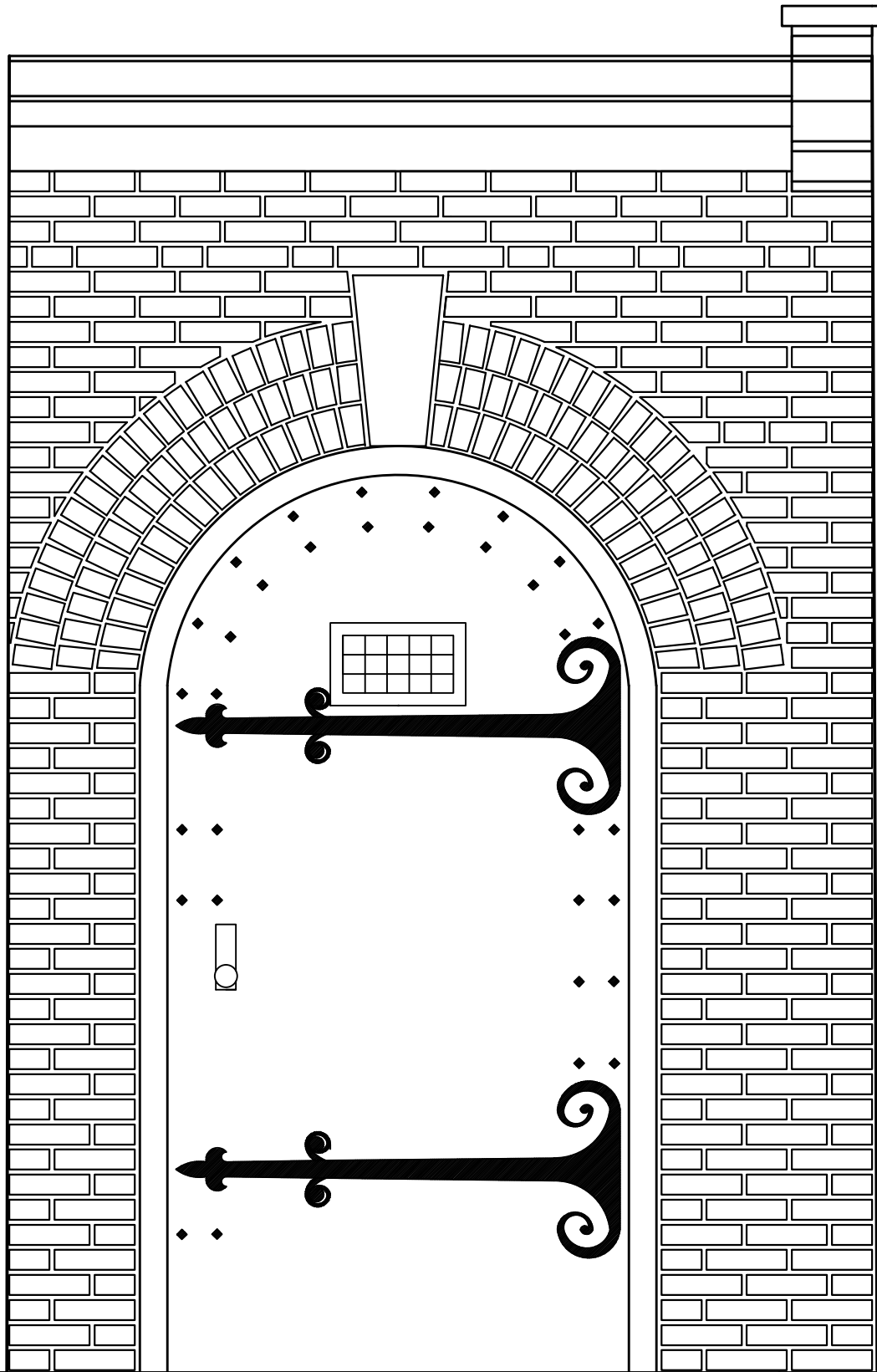
Avril 50, 3406 Sansom St., Philadelphia



Assignment 1
Bearing Wall Structures
The Philadelphia Row House

Photographs

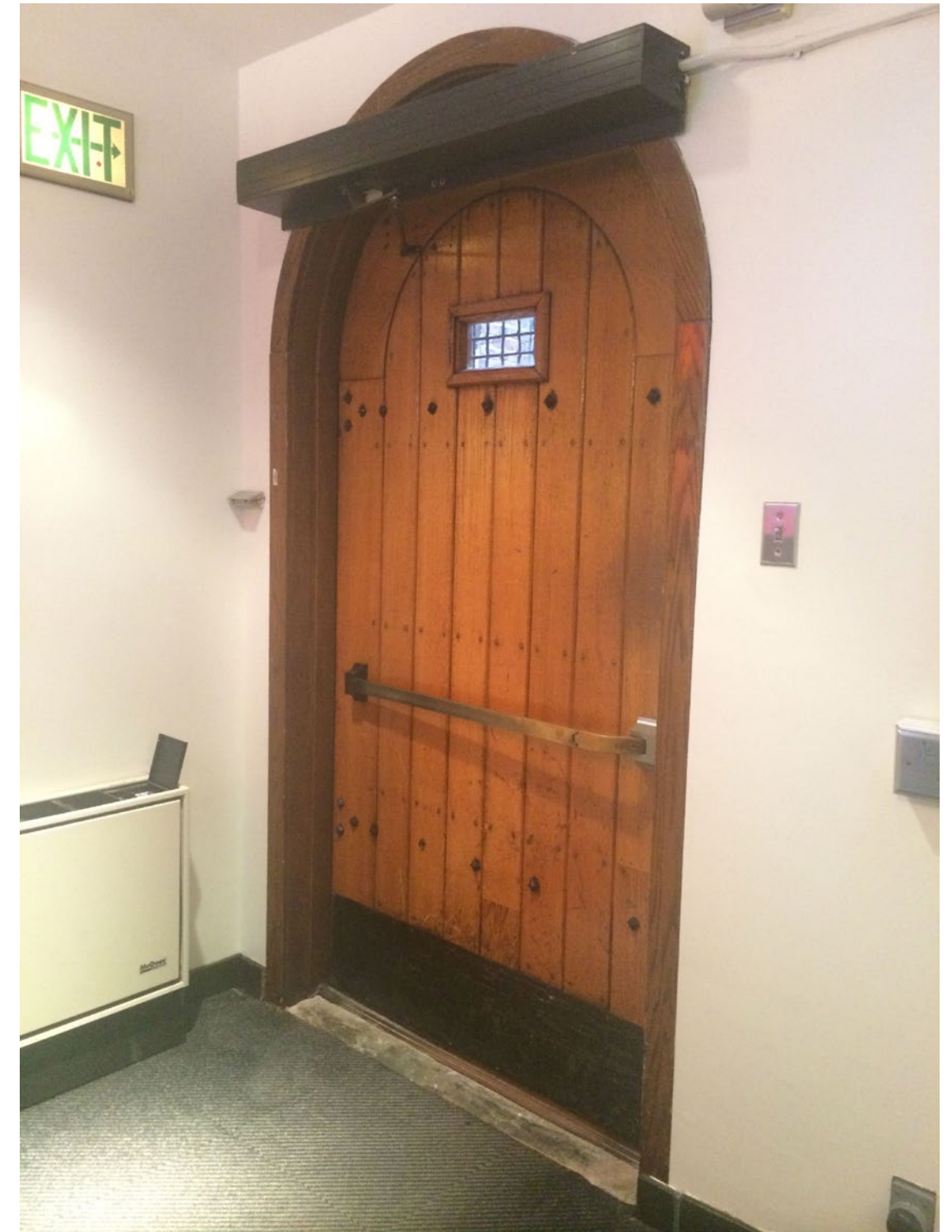
Avril 50, 3406 Sansom St., Philadelphia



Assignment 2
Bearing Wall System
Brick Masonry Wall and Opening

Drawings of Elevation and Section
Scale: 3/4" = 1'-0"

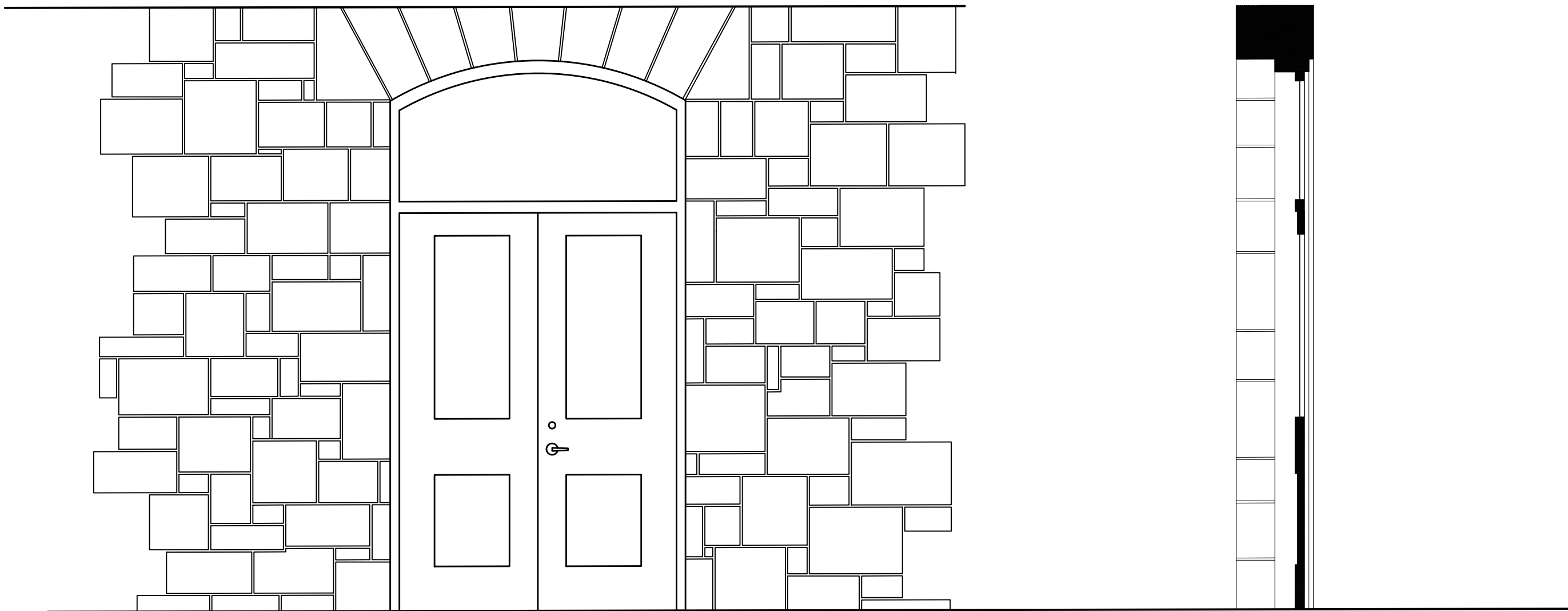
3615 Locust Walk., Philadelphia



Assignment 2
Bearing Wall System
Brick Masonry Wall and Opening

Photographs

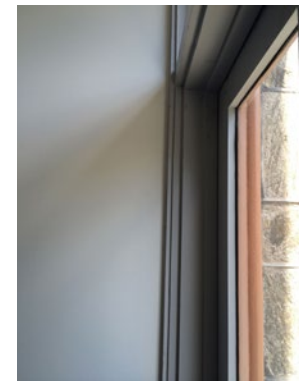
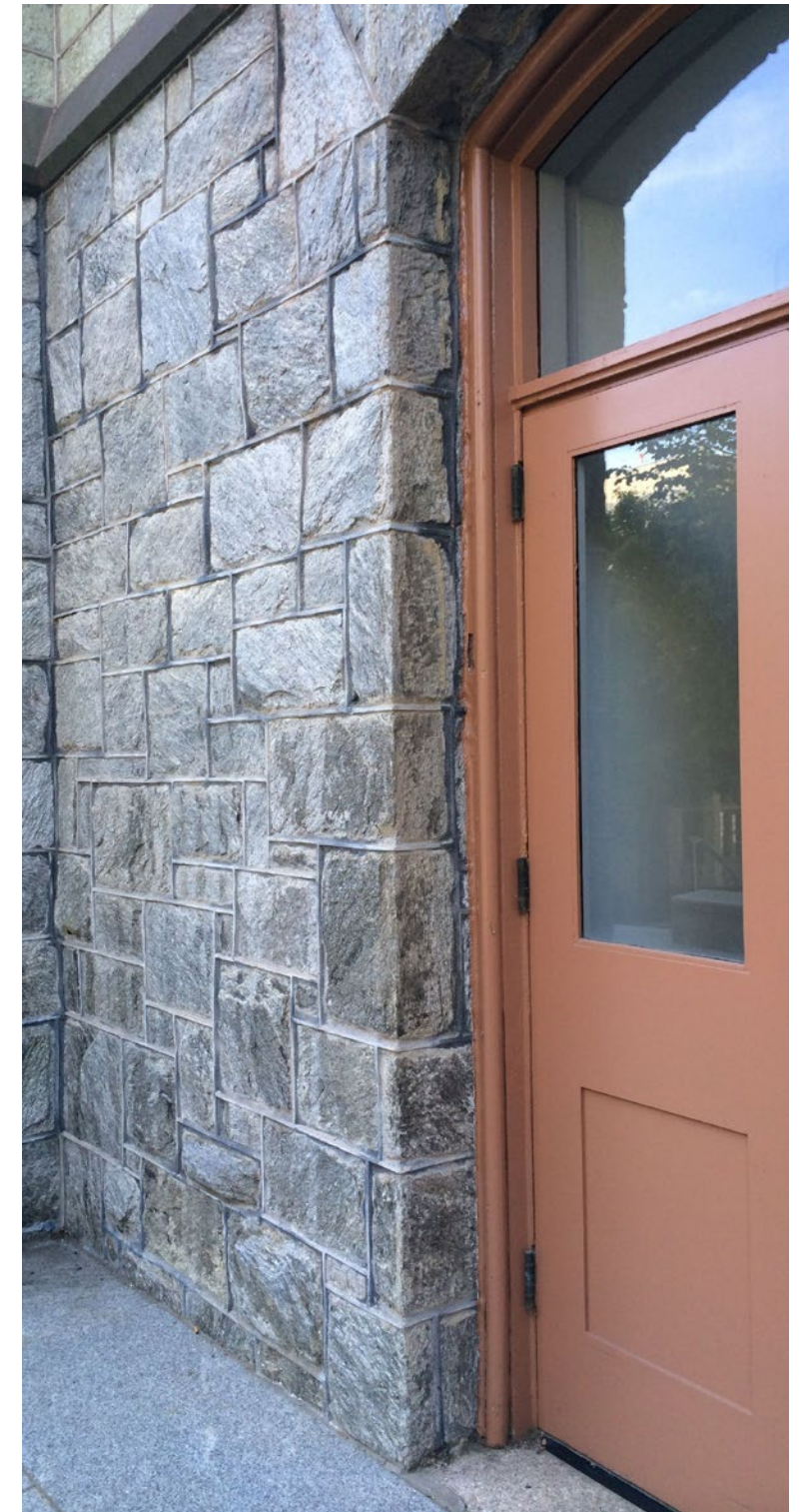
3615 Locust Walk., Philadelphia



Assignment 3
Bearing Wall Structures
Random Course Ashlar Masonry

Drawings of Elevation and Section
Scale: 1/2"=1'-0"

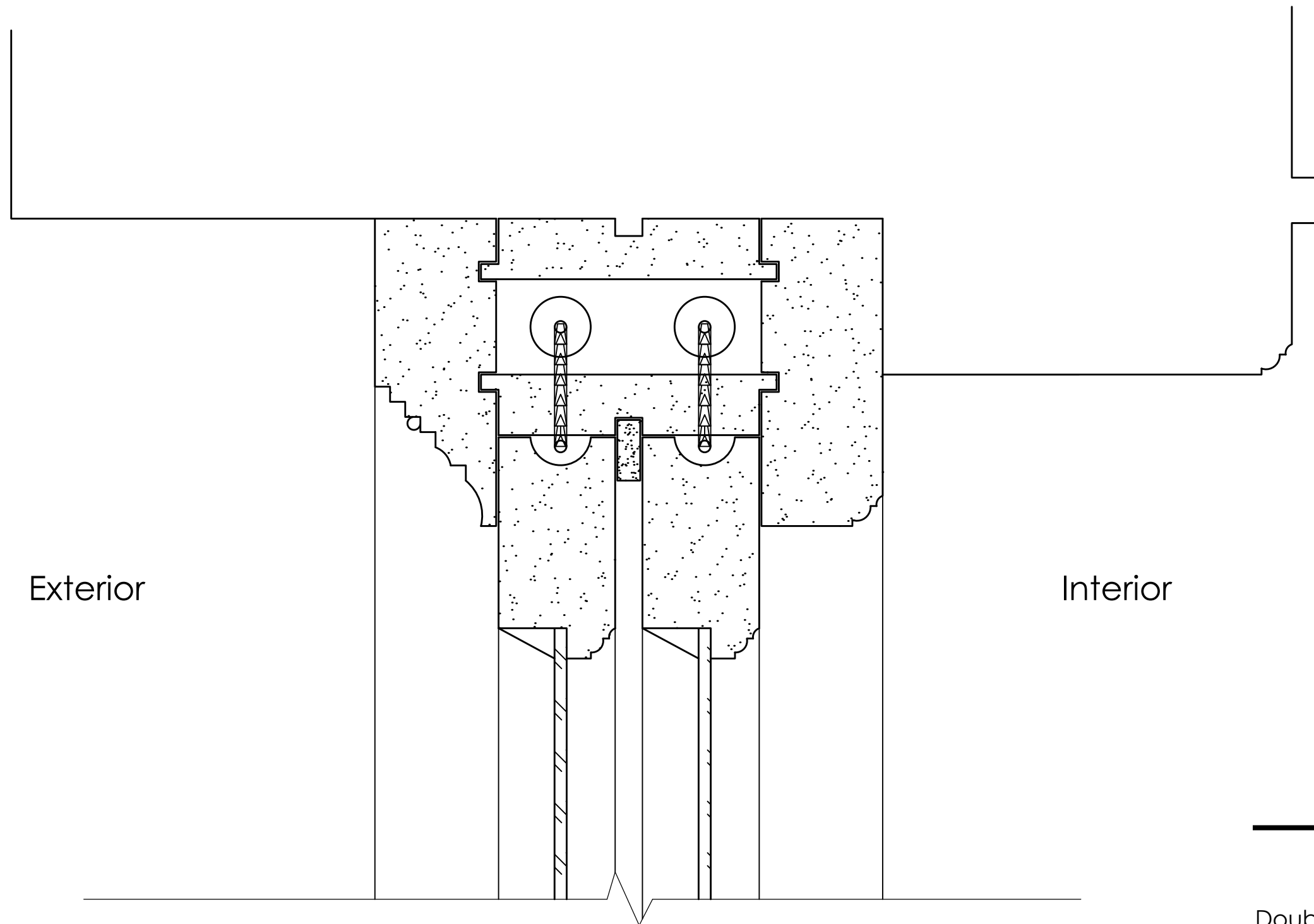
249 South 36th St., Philadelphia



Assignment 3
Bearing Wall Structures
Random Course Ashlar Masonry

Photographs

249 South 36th St., Philadelphia

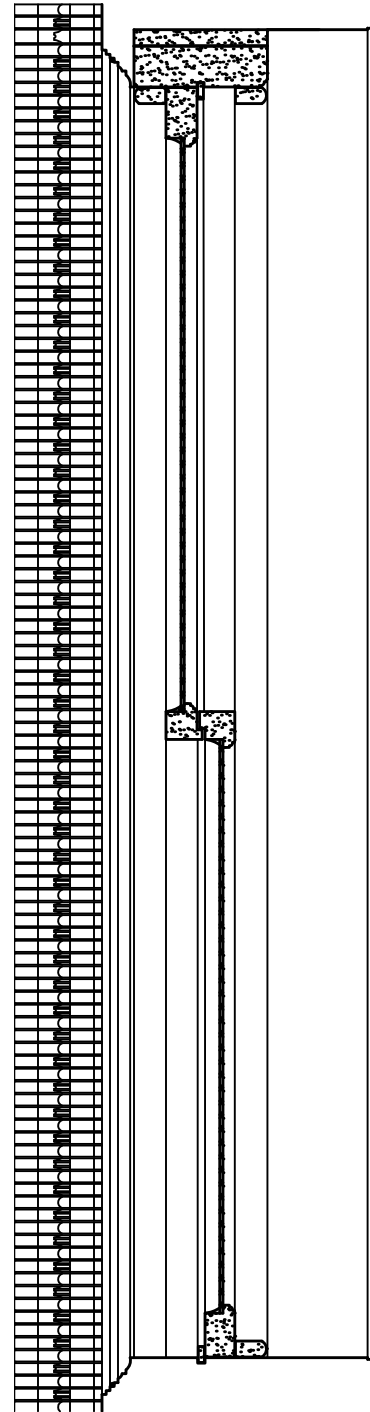


Assignment 4
External Joinery
Double-Hung Vertical Sliding Sash Window

Drawings of Plan
Scale: 6"=1'-0"

201 S 34th St., Philadelphia

Exterior

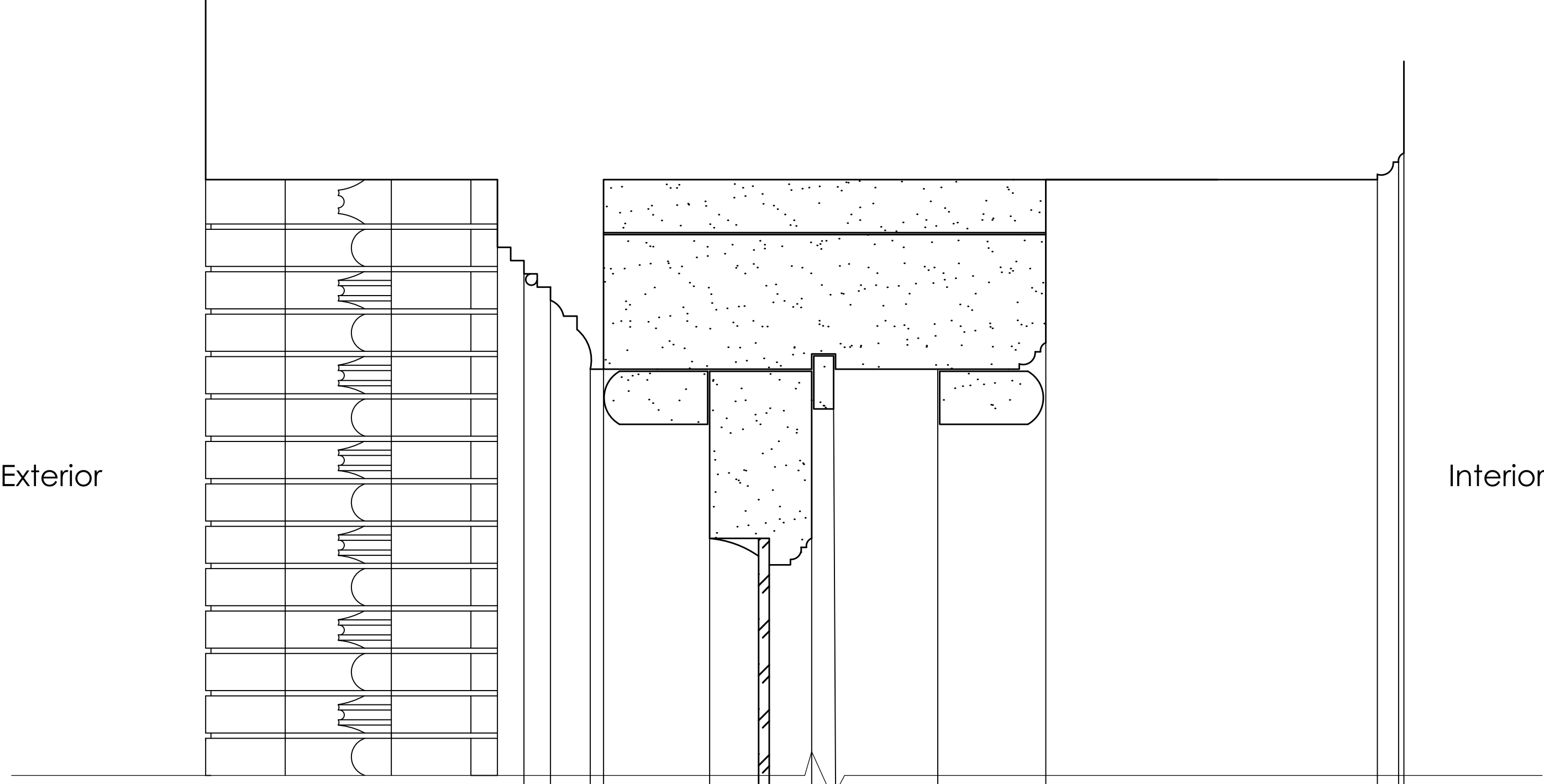


Interior

Assignment 4
External Joinery
Double-Hung Vertical Sliding Sash Window

Drawings of Section
Scale: 1"=1'-0"

201 S 34th St., Philadelphia



Exterior

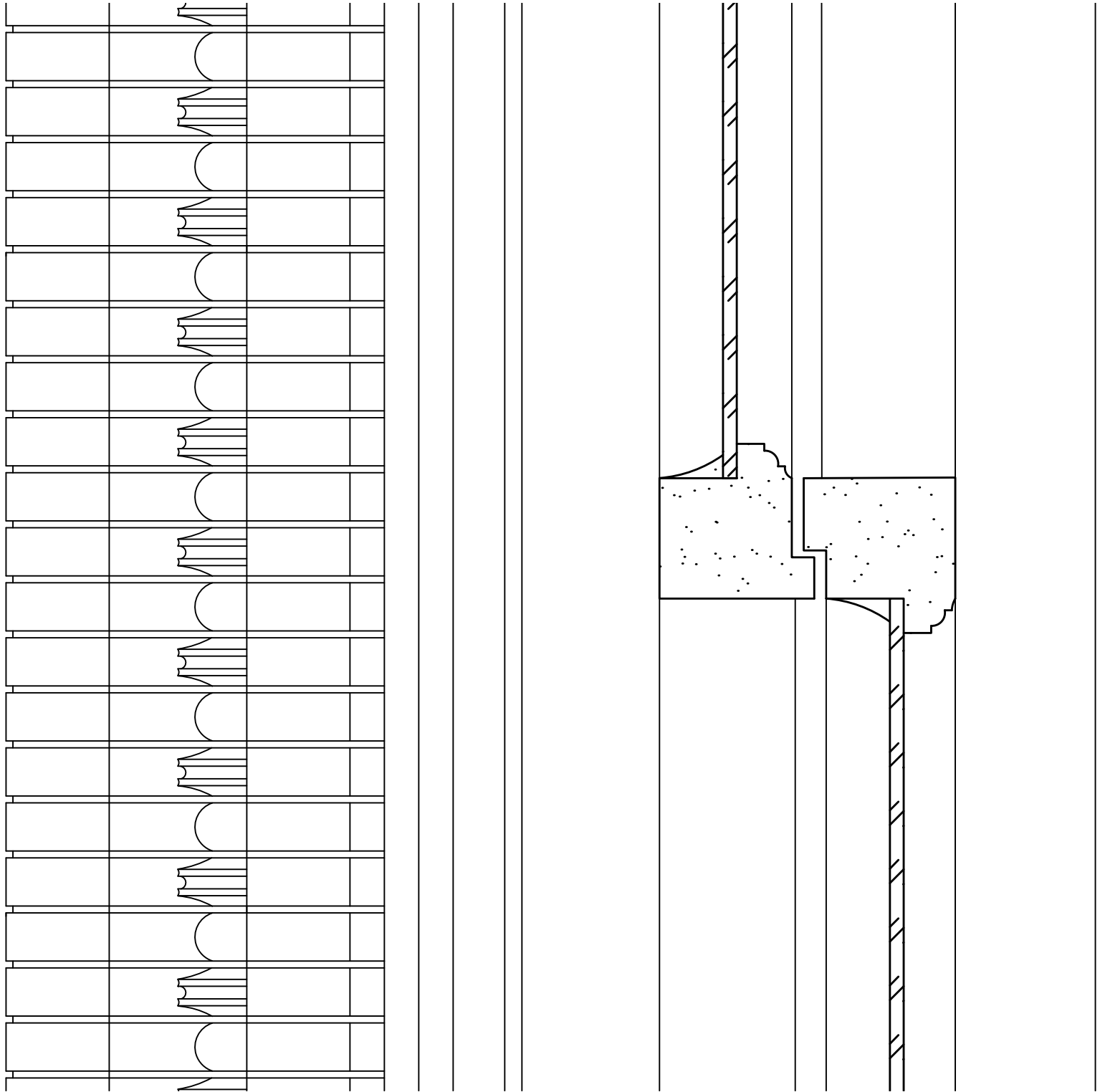
Interior

Assignment 4
External Joinery
Double-Hung Vertical Sliding Sash Window

Drawings of Section at Top
Scale: 6"=1'-0"

201 S 34th St., Philadelphia

Exterior



Interior

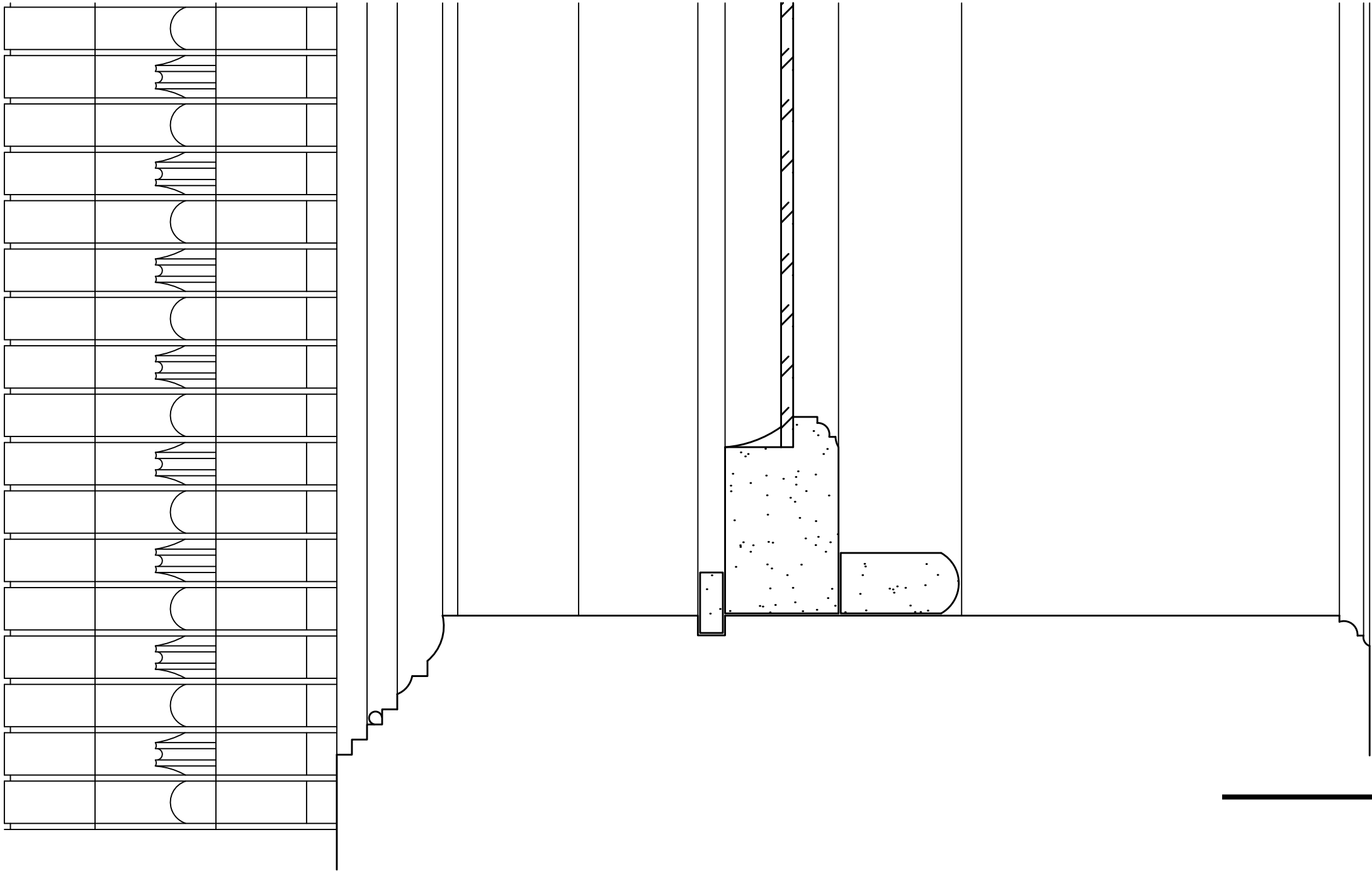
Assignment 4
External Joinery- Double-Hung Vertical
Sliding Sash Window

Drawings of Section at Center
Scale: 6"=1'-0"

201 S 34th St., Philadelphia

Exterior

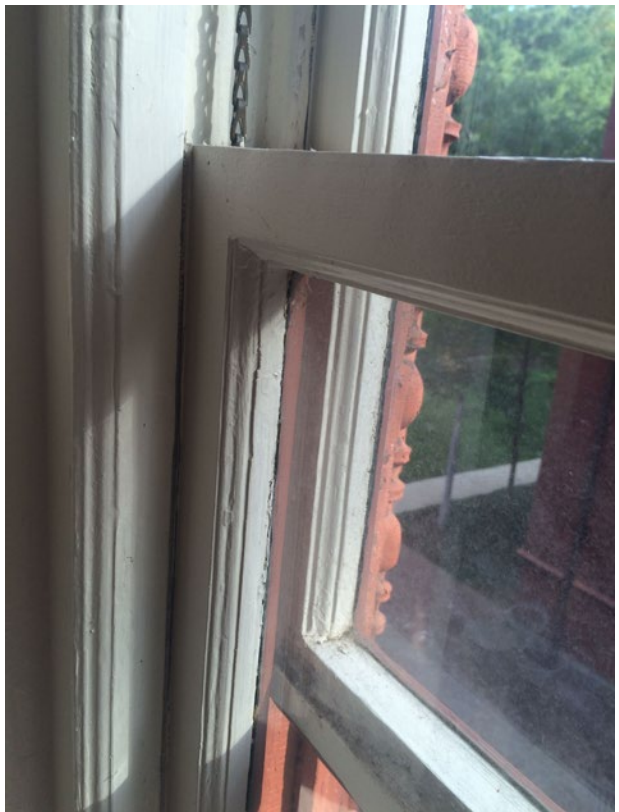
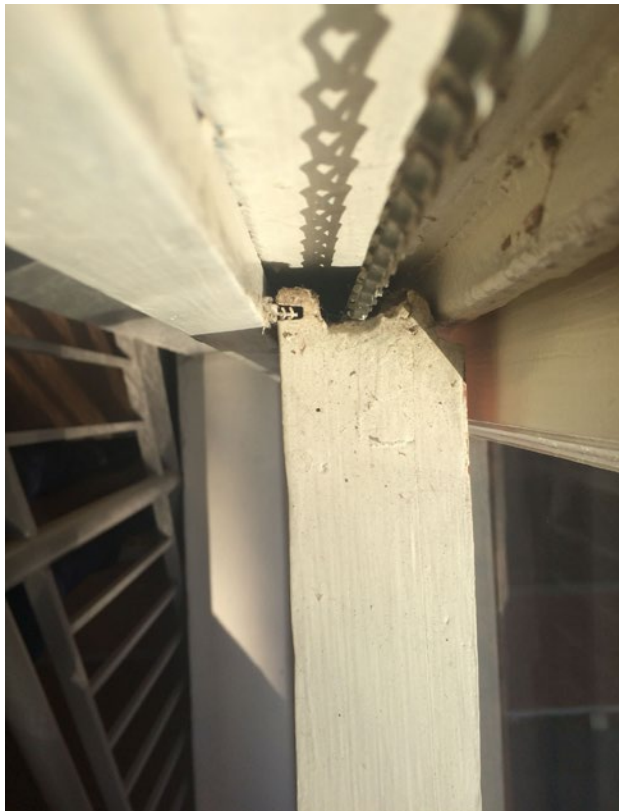
Interior



Assignment 4
External Joinery
Double-Hung Vertical Sliding Sash Window

Drawings of Section at Bottom
Scale: 6"=1'-0"

201 S 34th St., Philadelphia



Assignment 4
External Joinery
Double-Hung Vertical Sliding Sash Window
Photographs

201 S 34th St., Philadelphia



A reinforced concrete column after removal of the formwork



A "column to beam" connection with formwork attached



A "column to slab" connection

Assignment 5
Reinforced Concrete and
Reinforced Concrete Frame Construction

Photographs

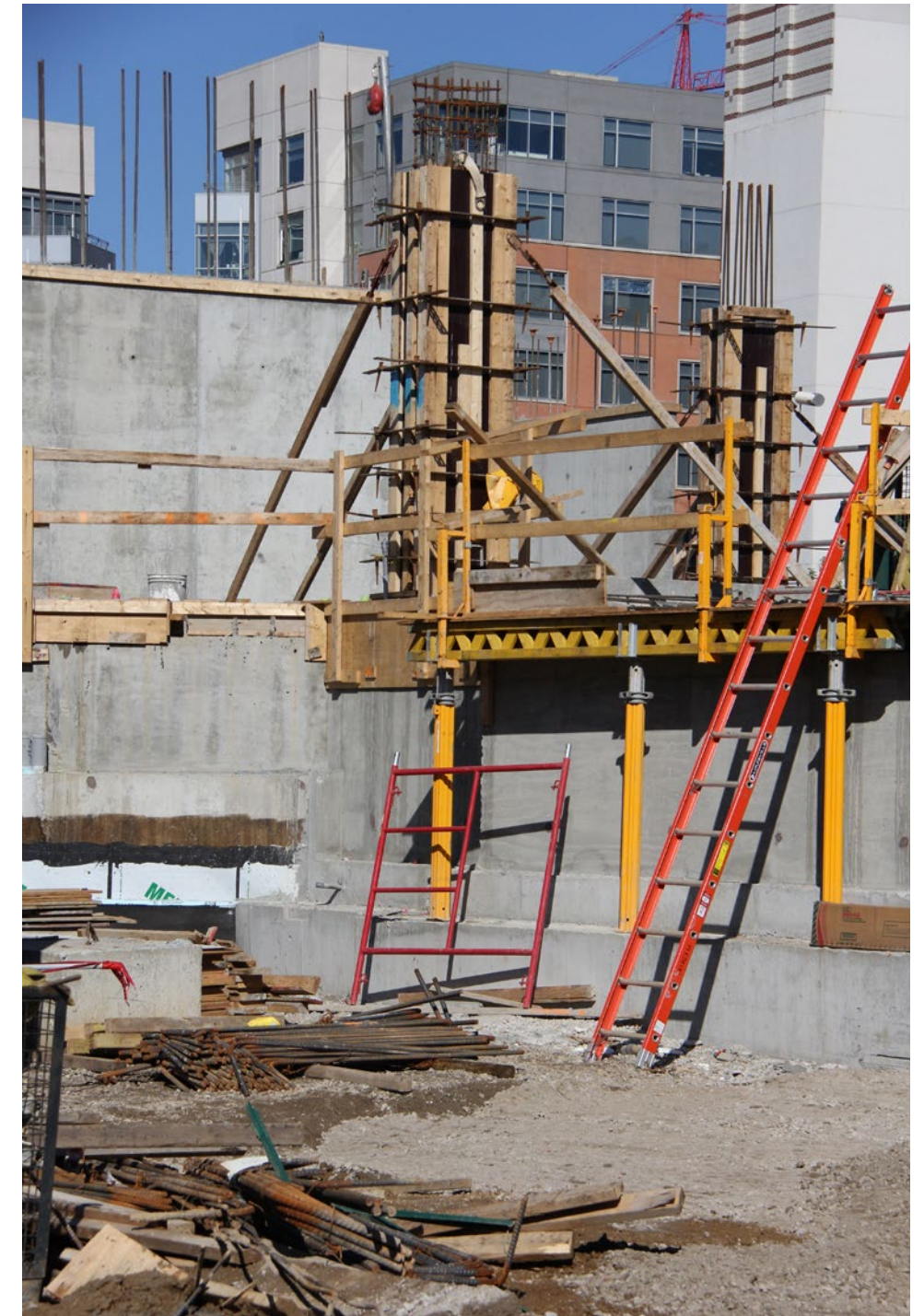
34th St. and Chestnut St., Philadelphia



Strip Foundation
with continuity steel reinforcement bars projecting



A "pad" foundation for a reinforced concrete column
with continuity steel projecting



Formwork for a reinforced concrete column

Assignment 5
Reinforced Concrete and
Reinforced Concrete Frame Construction

Photographs

34th St. and Chestnut St., Philadelphia



A reinforced concrete retaining wall after removal of the formwork
(on the left hand side)



A “flat slab” construction



A bush hammered
concrete wall frame
(At Skirkanish Hall, 210 South
33rd St., Philadelphia)

Assignment 5
Reinforced Concrete and
Reinforced Concrete Frame Construction

Photographs

34th St. and Chestnut St., Philadelphia



Formwork for a reinforced retaining wall



A reinforced concrete shear wall after removal of formwork

Assignment 5
Reinforced Concrete and
Reinforced Concrete Frame Construction

Photographs

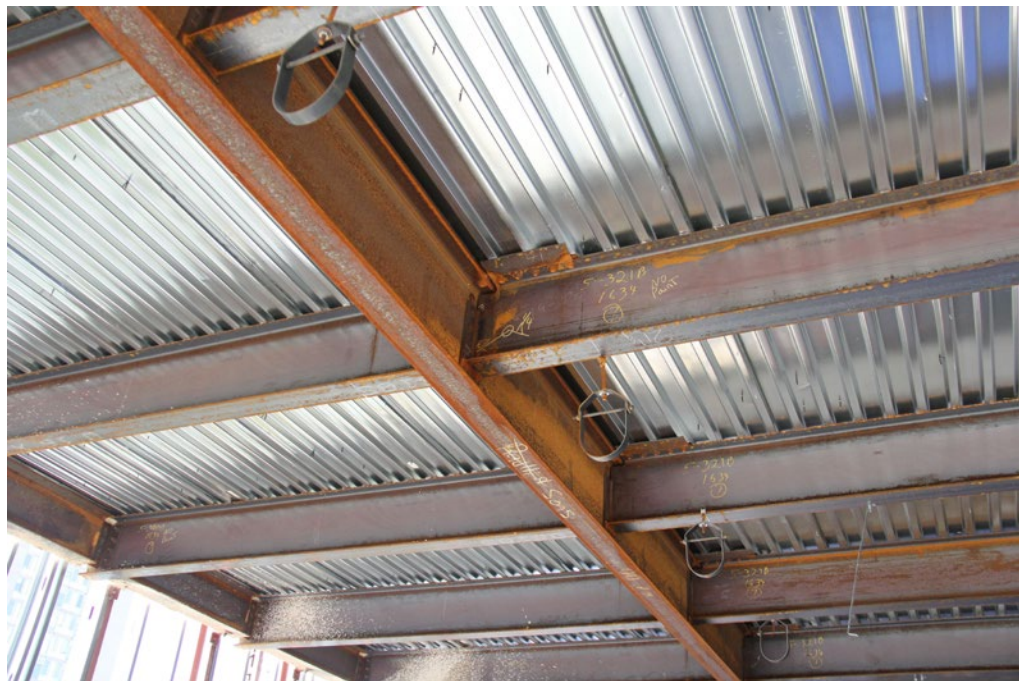
34th St. and Chestnut St., Philadelphia



Column and baseplate to concrete foundation junction, with fireproof spray-on compound on column



Main girder to column junction with fireproof spray-on compound



Secondary "floor support beams" to main girder junction



Secondary "floor support beams" to main girder junction, with fireproof spray-on compound

Assignment 6

Steel Frame Construction

Photographs

39th St. and Walnut St., Philadelphia



Steel floor decking to support beam junctions,
from bottom of the deck



Closer view to the steel floor decking and
support beam junction with fireproofing applied



Steel edge angles welded on to top of edge beams to contain
the concrete floor slab, from top of decking



Concrete floor slab cast on to steel decking

Assignment 6

Steel Frame Construction

Photographs

39th St. and Walnut St., Philadelphia



Fireproofing of columns with spray-on compound



Fireproofing of columns with spray-on compound at the stairs



Steel floor decking with steel main girders
and steel supporting beams



Steel main girders with riveted joint

Assignment 6

Steel Frame Construction

Photographs

39th St. and Walnut St., Philadelphia



General condition of a Large deep basement excavation (view to northeast direction)

Assignment 7
Site Investigation
Deep Excavations

Large Excavation
Photographs

Arch St. and 18th St., Philadelphia



General condition of a Large deep basement excavation (view to south direction)

Assignment 7
Site Investigation
Deep Excavations

Large Excavation
Photographs

38th St. and Walnut St., Philadelphia



Temporary support system - Shoring



Temporary support system - H Piles



Temporary support system - Raker Bracing



Temporary support system - Soil Nailing

Assignment 7
Site Investigation
Deep Excavations

Large Excavation
Photographs

Arch St. and 18th St., Philadelphia



General conditions of a Small excavation site

Assignment 7
Site Investigation
Deep Excavations

Small Excavation
Photographs

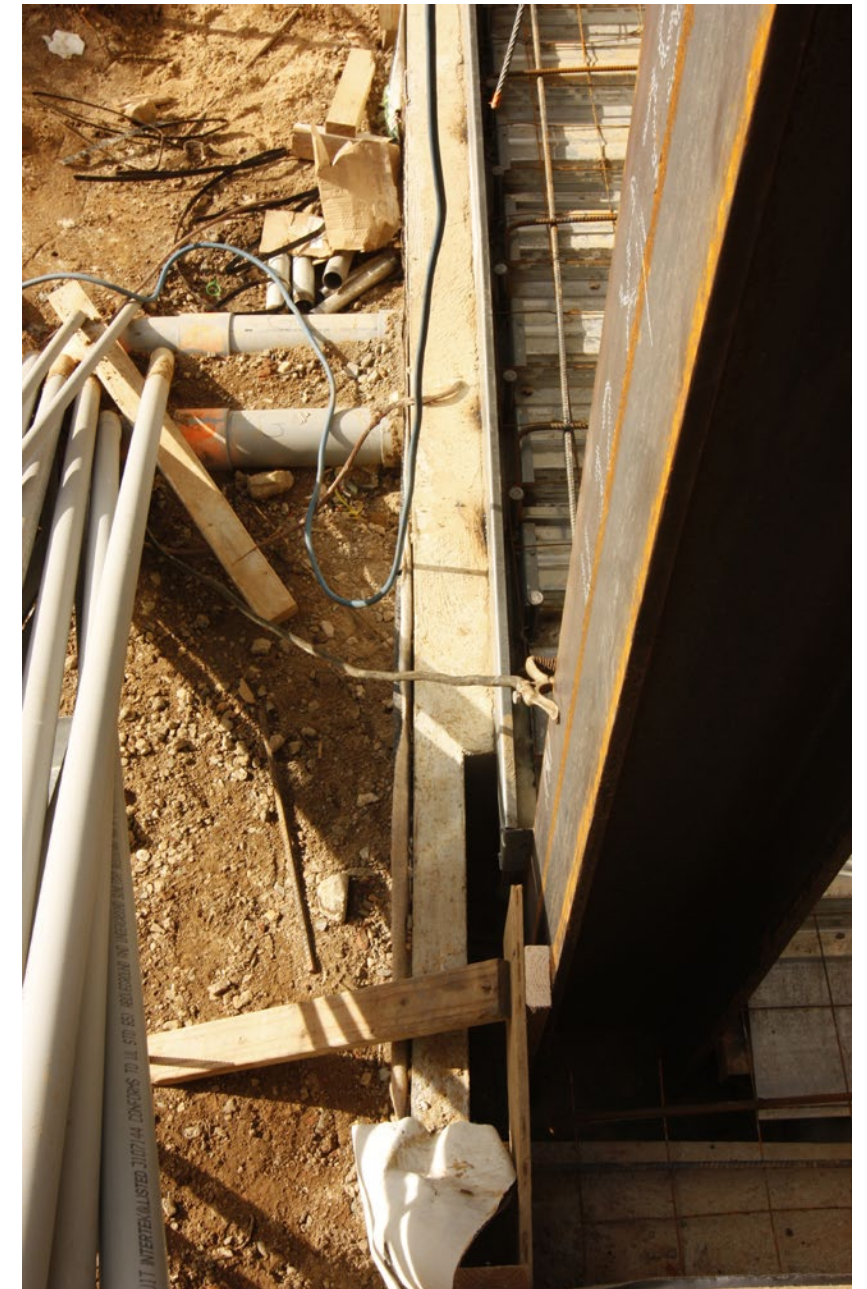
Chestnut St. and 40th St., Philadelphia



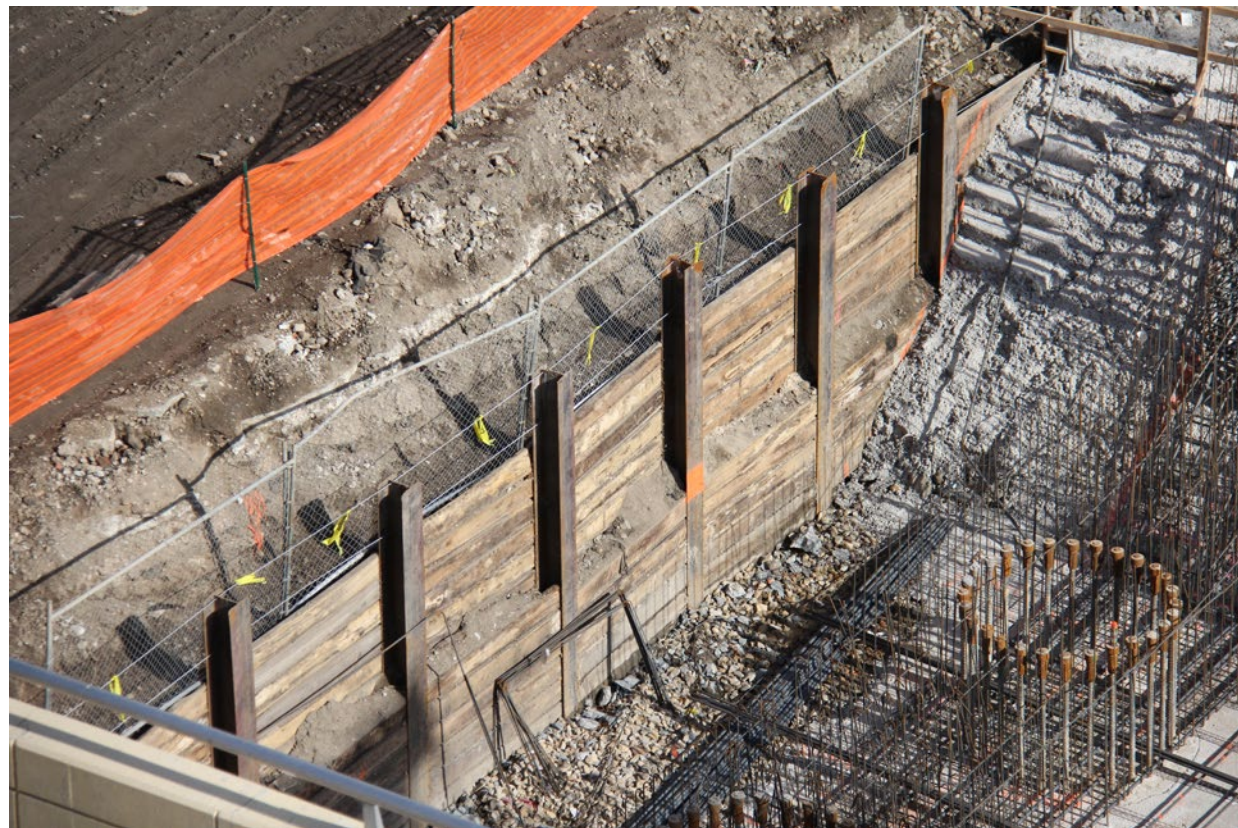
Temporary support system - Shoring (in the back)



Temporary support system -
Weak concrete retaining wall



Temporary support system -
shoring structure burrie



Temporary support system - H Piles (At Walnut St. & 30th St., Philadelphia)

Assignment 7
Site Investigation
Deep Excavations

Small Excavation
Photographs

Chestnut St. and 40th St., Philadelphia



Overall view of large caisson foundation



Caisson Foundation



Caisson Foundation

Assignment 7
Site Investigation
Deep Excavations

Caisson Foundation
Photographs

Walnut St. and 30th St., Philadelphia



Reinforced concrete retaining wall to a deep basement

Assignment 7
Site Investigation
Deep Excavations

Large Excavation Deep Basement
Photographs

38th St. and Walnut St., Philadelphia
