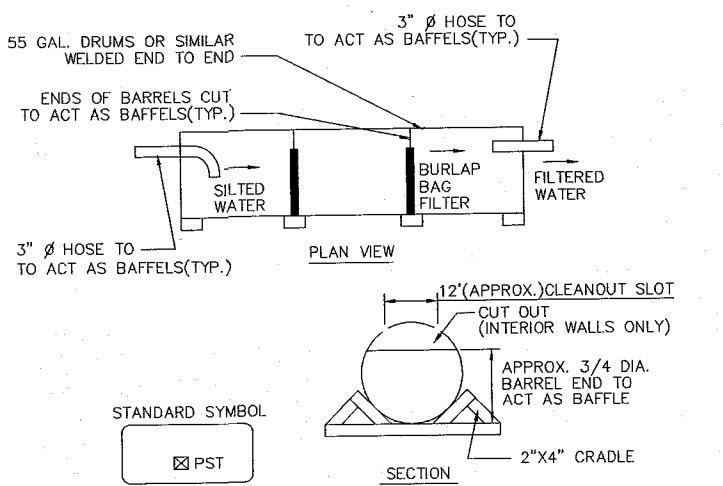


Board of Zoning Adjustment  
District of Columbia  
CASE NO.19242  
EXHIBIT NO.18B2

PORTABLE SEDIMENT TANK DETAIL



- CONSTRUCTION NOTES
- CLEAN OUT THE SEDIMENT TANK WHEN ONE THIRD (1/3) FILLED WITH SILT.
  - STEEL DRUMS ARE USED AS AN EXAMPLE DUE TO THEIR READY AVAILABILITY. ANY TANKS MAY BE USED, PROVIDING THAT THE VOLUME REQUIREMENTS ARE MET AND THE APPROVAL IS FROM THE APPROVING AGENCY.
  - ALL SEDIMENT COLLECTED IN THE TANK SHALL BE DISPOSED OF IN A SEDIMENT TRAPPING DEVICE OR AS APPROVED BY THE INSPECTOR.
  - TANK STORAGE VOLUME REQUIRED = 16 CUBIC FOOT OF STORAGE FOR EACH GALLON PER MINUTE OF PUMP DISCHARGE CAPACITY. MULTIPLE TANKS MAY BE USED.

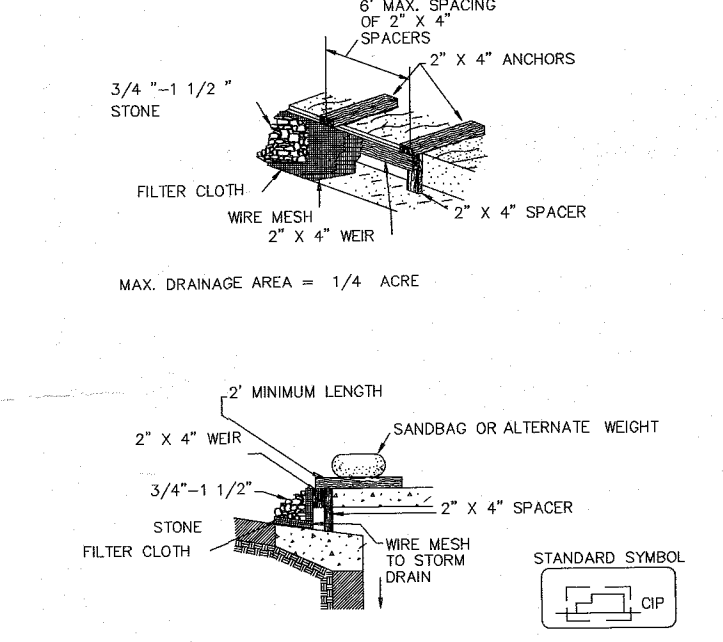
SILT FENCE

| SILT FENCE DESIGN CRITERIA |                        |                             |
|----------------------------|------------------------|-----------------------------|
| SLOPE STEEPNESS            | (MAXIMUM) SLOPE LENGTH | (MAXIMUM) SILT FENCE LENGTH |
| FLATTER THAN 50:1          | UNLIMITED              | UNLIMITED                   |
| 50:1 TO 10:1               | 125 FT.                | 1,000 FT.                   |
| 10:1 TO 5:1                | 100 FT.                | 750 FT.                     |
| 5:1 TO 3:1                 | 60 FT.                 | 500 FT.                     |
| 3:1 TO 2:1                 | 40 FT.                 | 250 FT.                     |
| 2:1 AND STEEPER            | 20 FT.                 | 125 FT.                     |

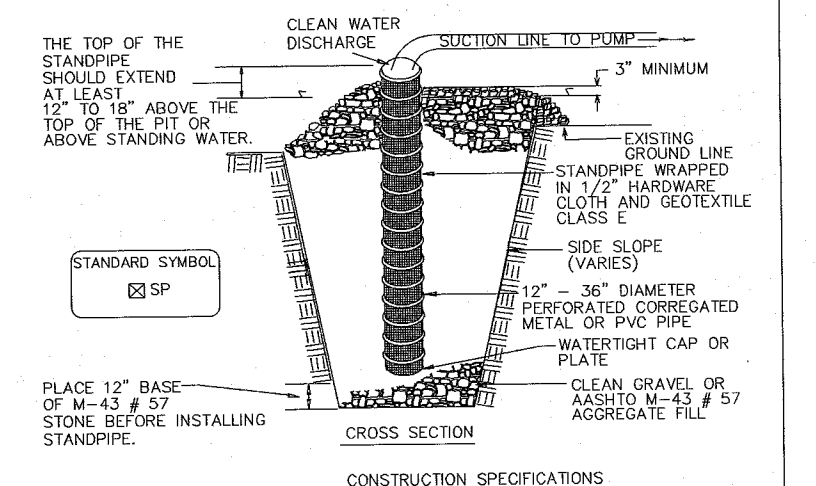
NOTE: IN AREAS OF LESS THAN 2% SLOPE AND SANDY SOILS (USDA GENERAL CLASSIFICATION SYSTEM, SOIL CLASS A) MAXIMUM SLOPE LENGTH AND SILT FENCE LENGTH WILL BE UNLIMITED. IN THESE AREAS SILT FENCE MAY BE THE ONLY PERIMETER CONTROL REQUIRED.

- CONSTRUCTION SPECIFICATIONS
- FENCE POST SHALL BE A MINIMUM OF 36" LONG DRIVEN 18" MINIMUM INTO THE GROUND. WOOD POST SHALL BE 1 1/2" SQUARE (MINIMUM) CUT, OR 1 3/4" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POST WILL BE STANDARD T OR U SECTION WEIGHING NOT LESS THAN 1.00 POUND PER LINEAR FOOT.
  - GEOTEXTILE SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:  
TENSILE STRENGTH 50 LBS/IN. (MIN.) TEST: MSMT 509  
TENSILE MODULUS 20 LBS/IN. (MIN.) TEST: MSMT 509  
FLOW RATE 0.3 GAL. FT./MIN. (MAX) TEST: MSMT 322  
FILTERING EFFICIENCY 75% (MIN.) TEST: MSMT 322
  - WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.
  - SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHES 50% OF THE FABRIC HEIGHT.

CURB INLET PROTECTION (COG OR COS INLETS)

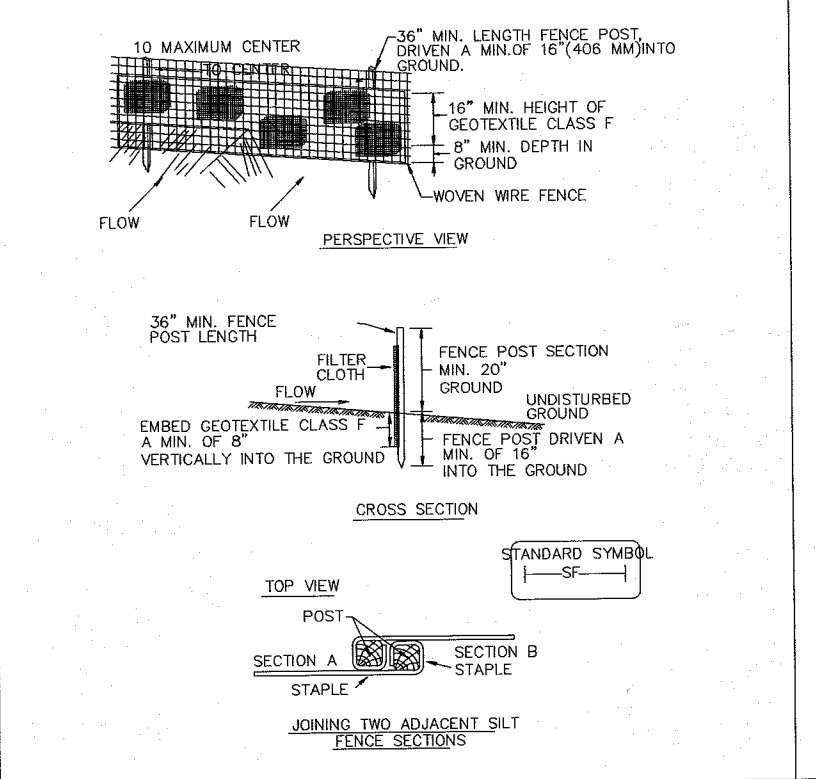


SUMP PIT DETAIL



- CONSTRUCTION SPECIFICATIONS
- PIT DIMENSIONS ARE VARIABLE, WITH THE MINIMUM DIAMETER BEING 2 TIMES THE STANDPIPE DIAMETER.
  - THE STANDPIPE SHOULD BE CONSTRUCTED BY PERFORATING A 12" TO 24" DIAMETER CORRUGATED OR PVC PIPE. THEN WRAPPING WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE CLASS E. THE PERFORATIONS SHALL BE 1/2" X 6" SLOTS OR 1" DIAMETER HOLES.
  - A BASE OF FILTER MATERIAL CONSISTING OF CLEAN GRAVEL OR #57 STONE SHOULD BE PLACED IN THE PIT TO A DEPTH OF 12". AFTER INSTALLING THE STANDPIPE, THE PIT SURROUNDING THE STANDPIPE SHOULD THEN BE BACKFILLED WITH THE SAME FILTER MATERIAL.
  - THE STANDPIPE SHOULD EXTEND 12" TO 18" ABOVE THE LIP OF THE PIT OR THE RISER CREST ELEVATION (BASIN DEWATERING ONLY) AND THE FILTER MATERIAL SHOULD EXTEND 3" MINIMUM ABOVE THE ANTICIPATED STANDING WATER ELEVATION.

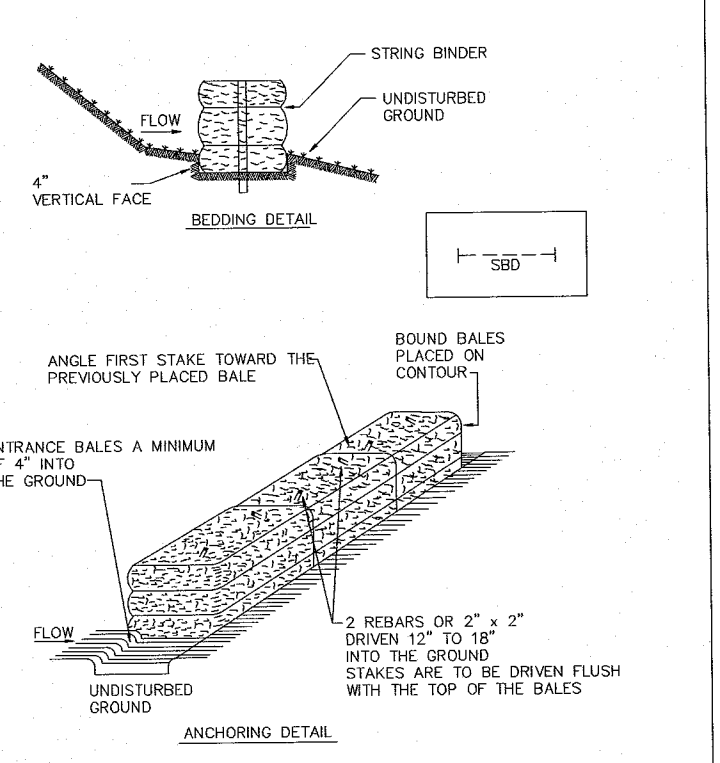
SILT FENCE DETAIL



CURB INLET PROTECTION NOTES

- CONSTRUCTION SPECIFICATIONS
- ATTACH A CONTINUOUS PIECE OF WIRE MESH 30" MIN. WIDTH BY THROAT LENGTH PLUS 4" TO THE 2"x4" WEIR (MEASURING THROAT LENGTH) PLUS 2" AS SHOWN ON THE STANDARD DRAWING.
  - PLACE A CONTINUOUS PIECE OF GEOTEXTILE CLASS E THE SAME DIMENSIONS AS THE WIRE MESH OVER THE WIRE MESH AND SECURELY ATTACH IT TO THE 2"x4" WEIR.
  - SECURELY NAIL THE 2"x4" WEIR TO A 9" LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAX. 4" APART).
  - PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL (MIN. 2" LENGTHS OF 2"x4" TO THE TOP OF THE WEIR AT SPACER LOCATIONS). THE 2"x4" ANCHORS SHALL EXTEND ACROSS THE INLET TOP AND BE HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHT.
  - THE ASSEMBLY SHALL BE PLACED SO THAT THE END SPACERS ARE A MIN. 1' (0.31 m) BEYOND BOTH ENDS OF THE THROAT OPENING.
  - FORM THE 1/2"x1/2" WIRE MESH AND THE GEOTEXTILE FABRIC TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 3/4"x1/2" STONE OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
  - THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE FILTER CLOTH AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.
  - ASSURE THAT STORM FLOW DOES NOT BYPASS THE INLET BY INSTALLING A TEMPORARY EARTH OR ASPHALT DIKE TO DIRECT FLOW TO THE INLET.

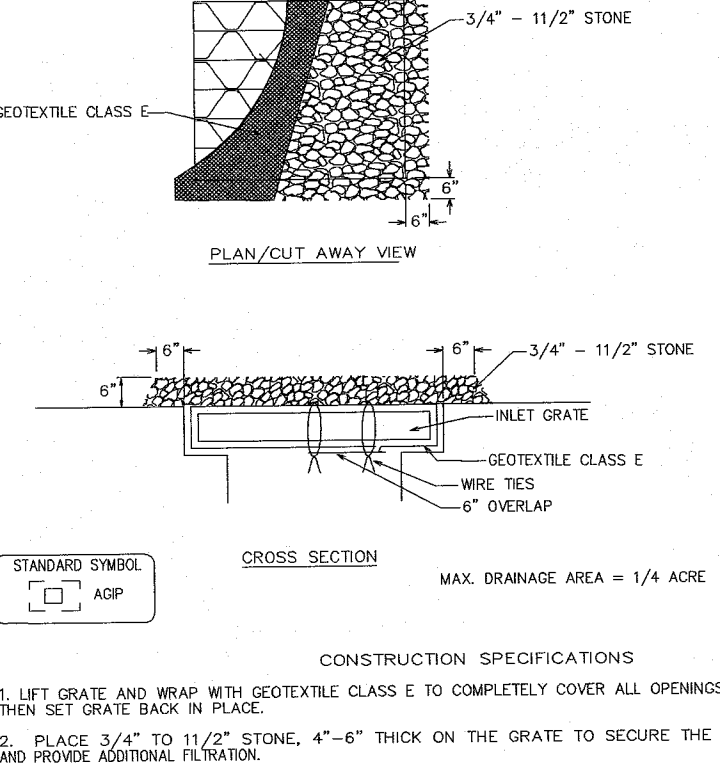
STRAW BALE DIKE DETAIL



SCE CONSTRUCTION SPECIFICATION

- LENGTH - MIN. OF 50' RAMP X 30' RAMP FOR SINGLE RESIDENCE LOT.
- WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE.
- STONE - CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
- SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND MIN. OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MIN. WILL BE REQUIRED.
- LOCATION - A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY WHEN WASHING IS REQUIRED. IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO A APPROVED SEDIMENT TRAPPING DEVICE.
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

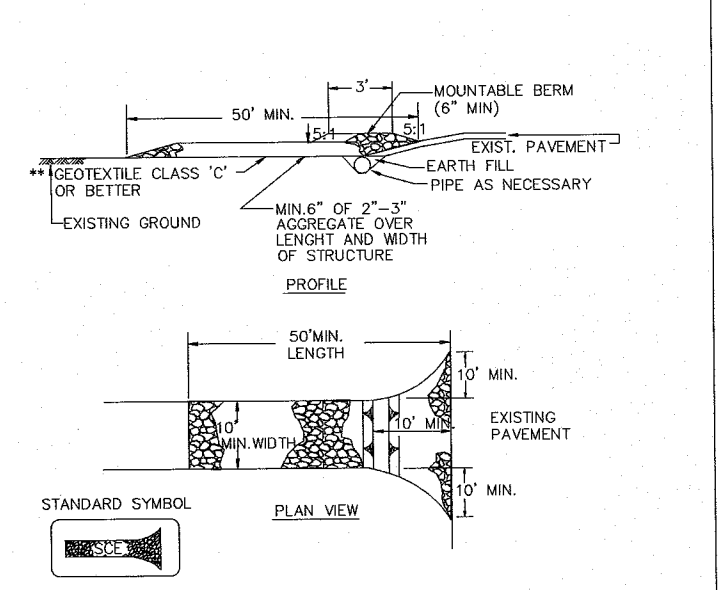
DETAIL 23B - AT GRADE INLET PROTECTION



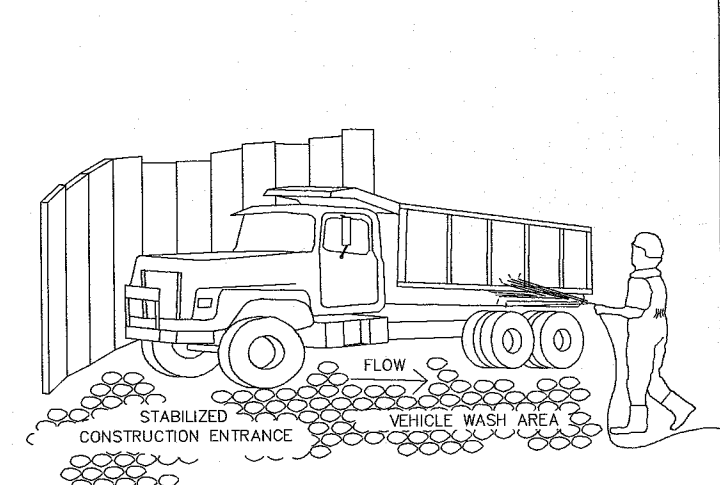
STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

- THE CONTRACTOR SHALL CONDUCT OPERATIONS AND MAINTAIN THE PROJECT SITE SO AS TO MINIMIZE THE CREATION AND DISPERSION OF DUST. DUST CONTROL SHALL BE USED THROUGHOUT THE WORK AT THE SITE.
- THE CONTRACTOR MUST PROVIDE CLEAN WATER, FREE FROM SALT, OIL AND OTHER DELETERIOUS MATERIAL TO BE USED FOR ON-SITE DUST CONTROL.
- THE CONTRACTOR SHALL SUPPLY WATER SPRAYING EQUIPMENT CAPABLE OF ACCESSING ALL WORK AREAS.
- THE CONTRACTOR SHALL IMPLEMENT STRICT DUST CONTROL MEASURES DURING ACTIVE CONSTRUCTION PERIODS ON-SITE. THESE CONTROL MEASURES WILL GENERALLY CONSIST OF WATER APPLICATIONS THAT SHALL BE APPLIED A MINIMUM OF ONCE PER DAY DURING DRY WEATHER OR MORE OFTEN AS REQUIRED TO PREVENT DUST EMISSIONS.
- FOR WATER APPLICATION TO UNDISTURBED SOIL SURFACES, THE CONTRACTOR SHALL:
  - APPLY WATER WITH EQUIPMENT CONSISTING OF TANK, SPRAY BAR, PUMP WITH DISCHARGE PRESSURE GAUGE.
  - ARRANGE SPRAY BAR HEIGHT, NOZZLE SPACING AND SPRAY PATTERN TO PROVIDE COMPLETE COVERAGE OF GROUND WITH WATER.
  - DISPERSE WATER THROUGH NOZZLES ON SPRAY BAR AT 20 PSI (137.8 kPa), MINIMUM. KEEP AREAS DAMP WITHOUT CREATING NUISANCE CONDITIONS SUCH AS PONDING.
- FOR WATER APPLICATION TO SOIL SURFACES DURING DEMOLITION AND/OR EXCAVATION, THE CONTRACTOR SHALL:
  - APPLY WATER WITH EQUIPMENT CONSISTING OF A TANK, PUMP WITH DISCHARGE GAUGE, HOSES AND MIST NOZZLES.
  - LOCATE TANK AND SPRAYING EQUIPMENT SO THAT THE ENTIRE EXCAVATION AREA CAN BE MISTED WITHOUT INTERFERING WITH DEMOLITION AND/OR EXCAVATION EQUIPMENT OR OPERATIONS. KEEP AREAS DAMP WITHOUT CREATING NUISANCE CONDITIONS SUCH AS PONDING.
  - APPLY WATER SPRAY IN A MANNER TO PREVENT MOVEMENT OF SPRAY BEYOND THE SITE BOUNDARIES.

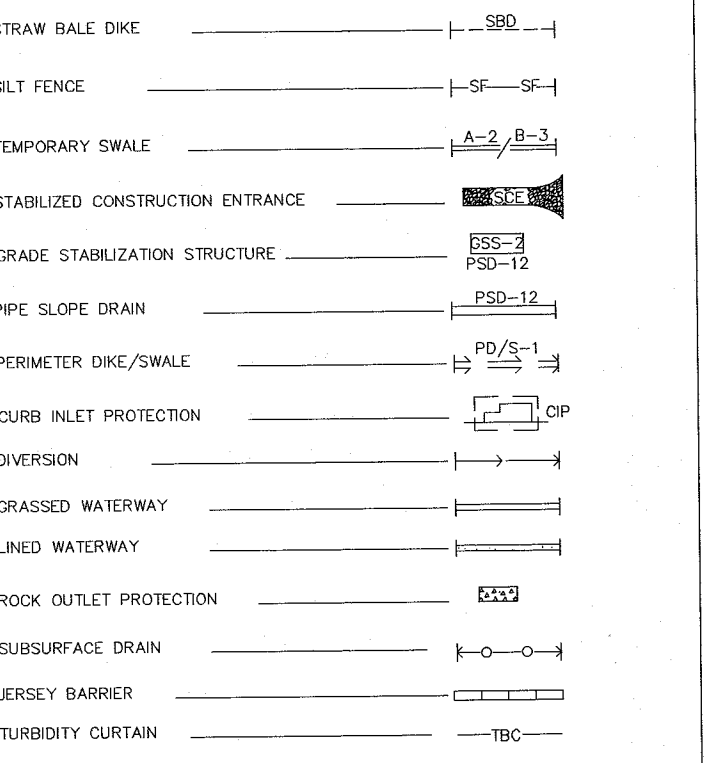
STABILIZED CONSTRUCTION ENTRANCE DETAIL



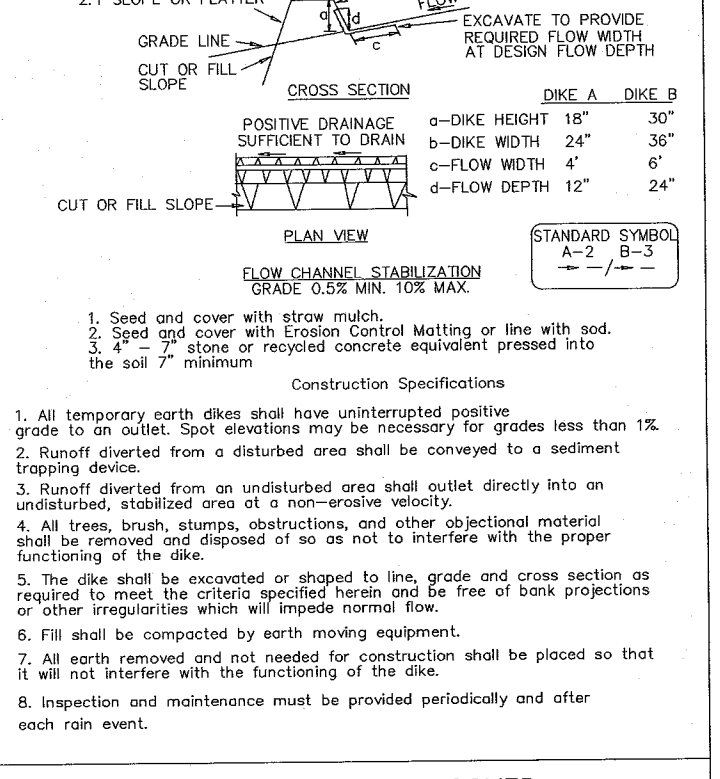
VEHICLE WASH DETAIL



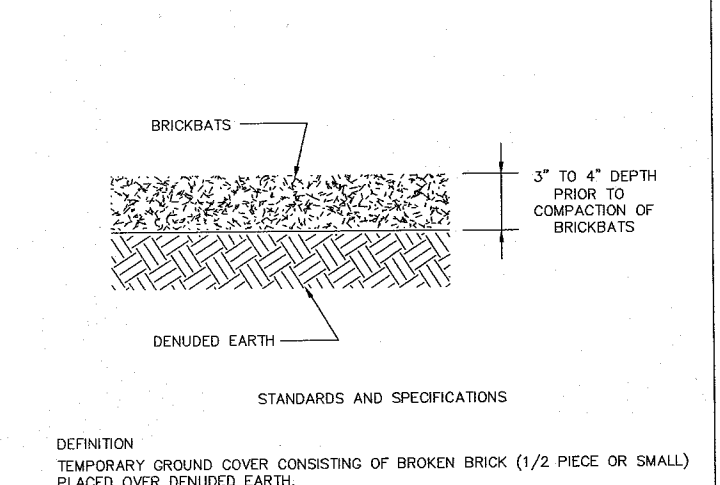
STANDARD SYMBOLS



DETAIL 1 - EARTH DIKE



BRICKBAT GROUND COVER



- DEFINITION  
TEMPORARY GROUND COVER CONSISTING OF BROKEN BRICK (1/2 PIECE OR SMALL) PLACED OVER DENUDED EARTH.
- PURPOSE  
BRICKBATS PROVIDE A TEMPORARY GROUND COVER OVER DENUDED URBAN EARTH TO PREVENT THE TRANSPORTATION OF SEDIMENT FROM THE SITE.
- CONDITIONS WHEN PRACTICE APPLIES  
BRICKBATS MAY BE USED ON ANY SITE IN NEED OF TEMPORARY GROUND COVER.
- DESIGN CRITERIA  
THE BRICKBATS SHALL BE PLACED TO A DEPTH OF 3 INCHES TO 4 INCHES, COVERING THE DENUDED EARTH ON THE SITE, THEN COMPACTED AND GRADED.

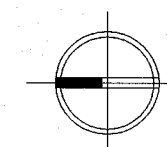
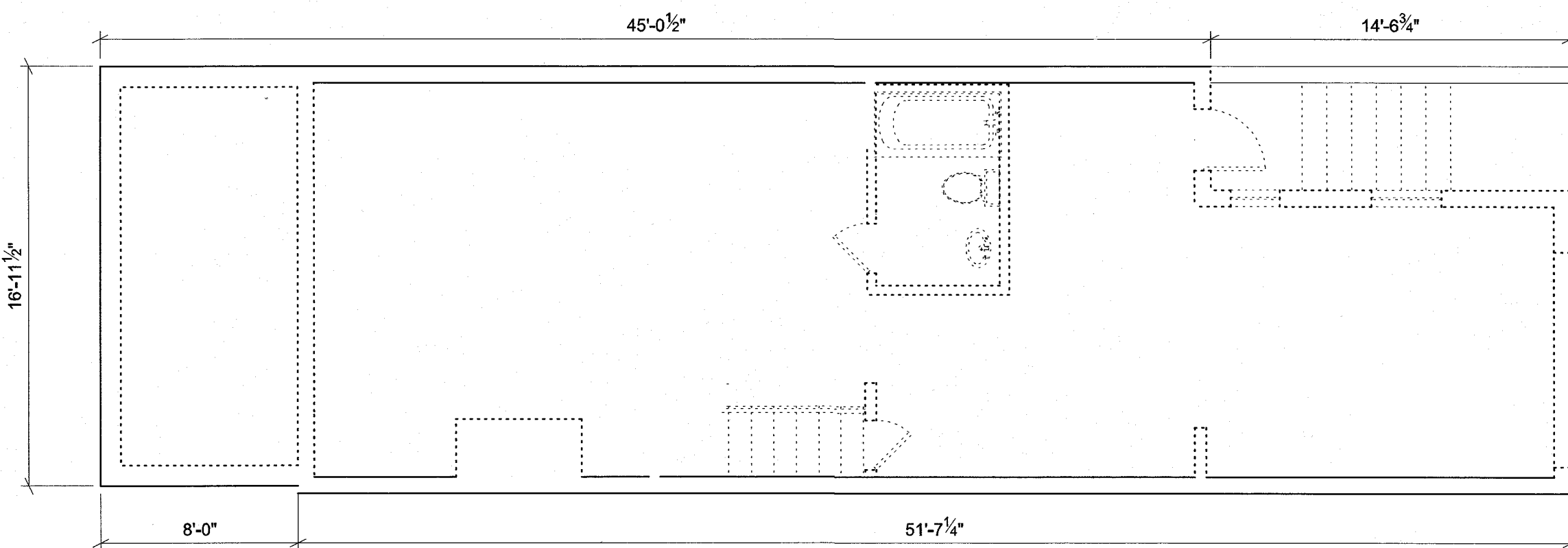
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LOT: 0438 SQUARE: 2583

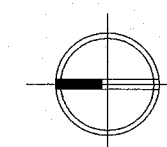
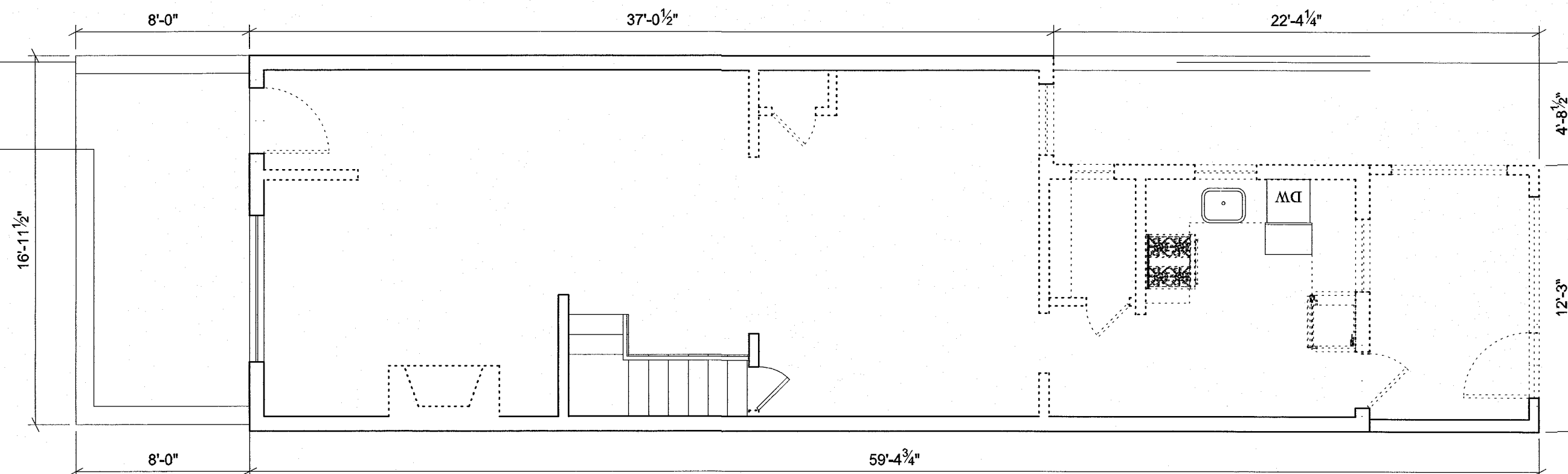
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DATE: 08/24/2014  
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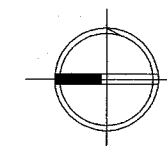
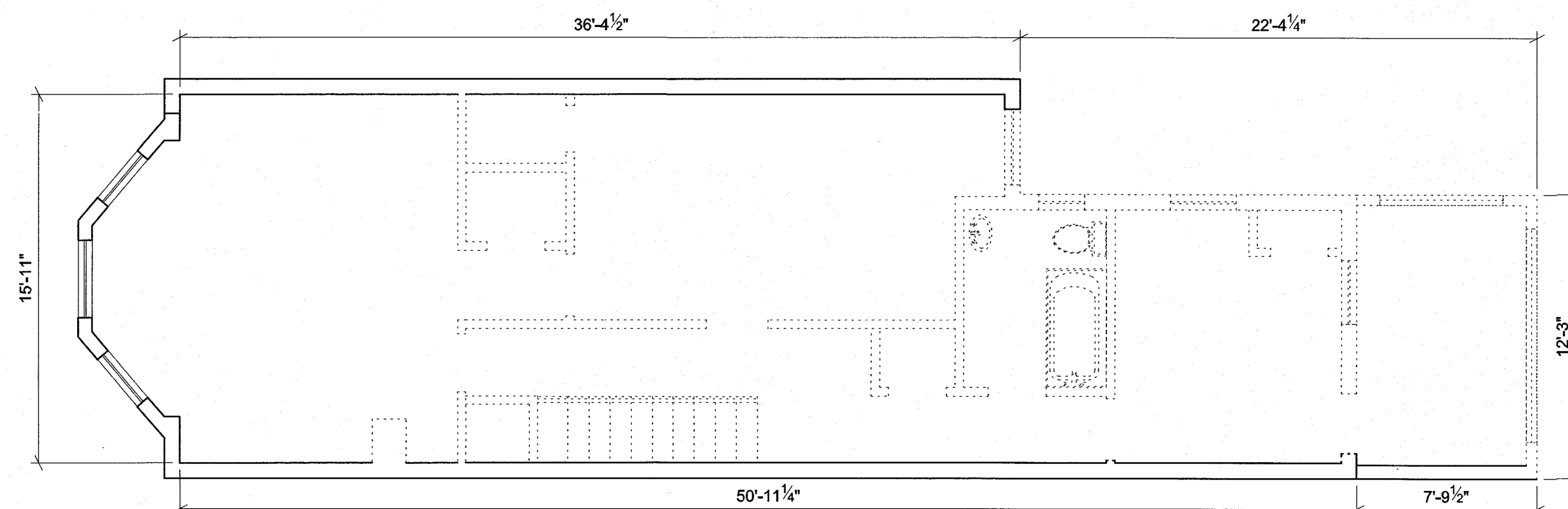




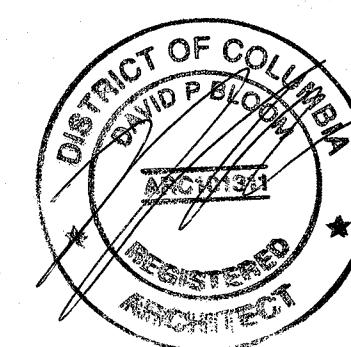
**1 EXISTING/DEMO CELLAR PLAN**  
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 SCALE: 3/32" = 1'-0" 11X17 LAYOUT



**2 EXISTING/DEMO 1ST FLOOR PLAN**  
 SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
 SCALE: 3/32" = 1'-0" 11X17 LAYOUT



**3 EXISTING/DEMO 2ND FLOOR PLAN**  
 SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
 SCALE: 3/32" = 1'-0" 11X17 LAYOUT



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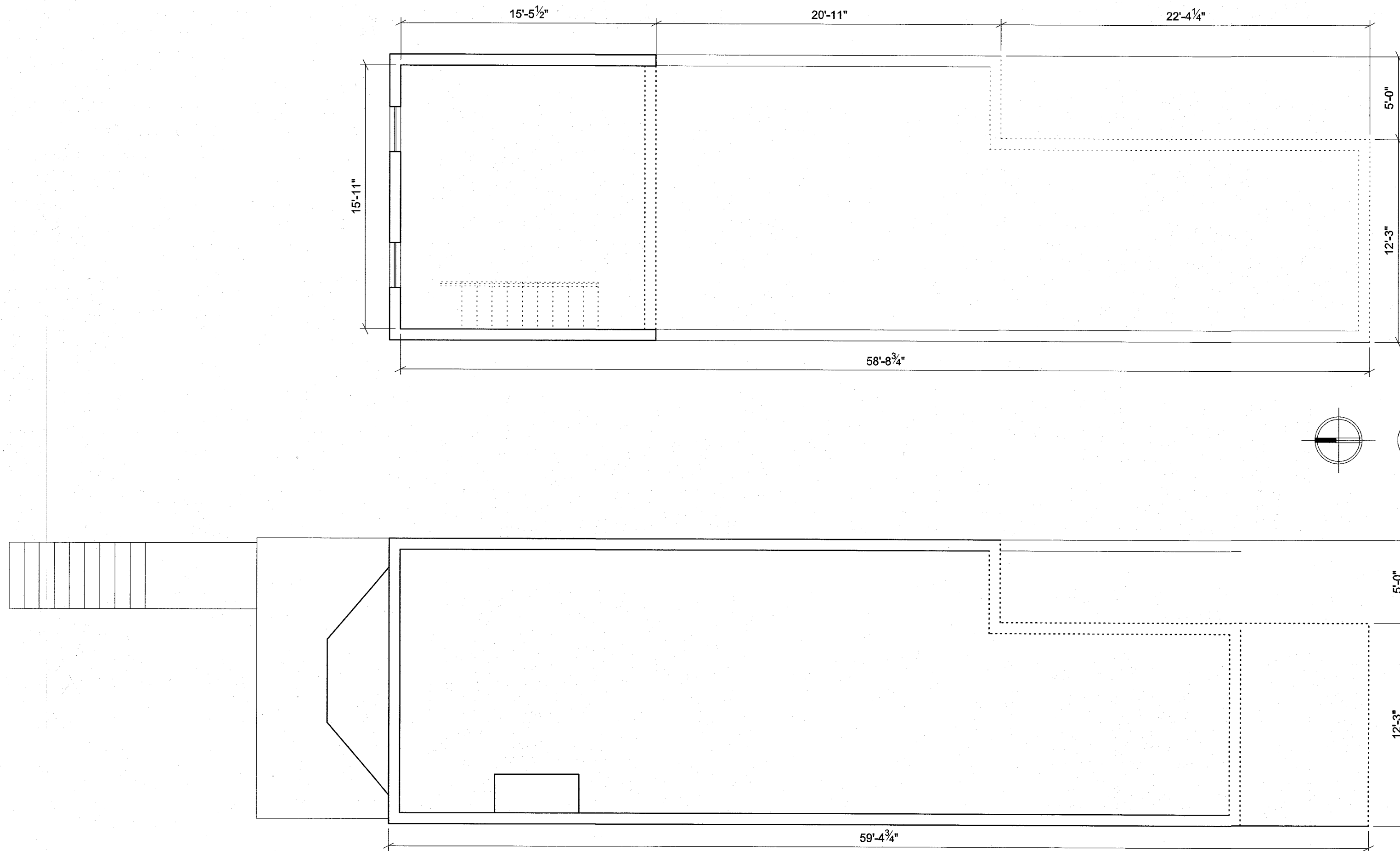
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**AD0101**

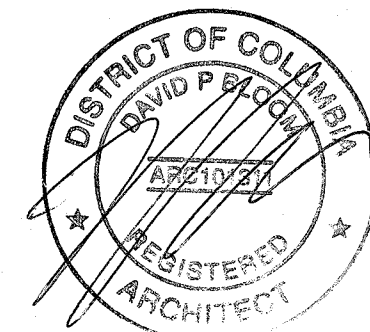


**1 3RD FLOOR PLAN**  
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**2 EXISTING/DEMO ROOF PLAN**  
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SCALE: 3/32" = 1'-0" 11X17 LAYOUT

DISTRICT OF COLUMBIA  
PERMIT OPERATIONS DIVISION  
STRUCTURAL WORK IN GENERAL  
APPROVED SUBJECT TO THE  
FURTHER APPROVAL OF CONSTRUCTION

JUL 08 2015



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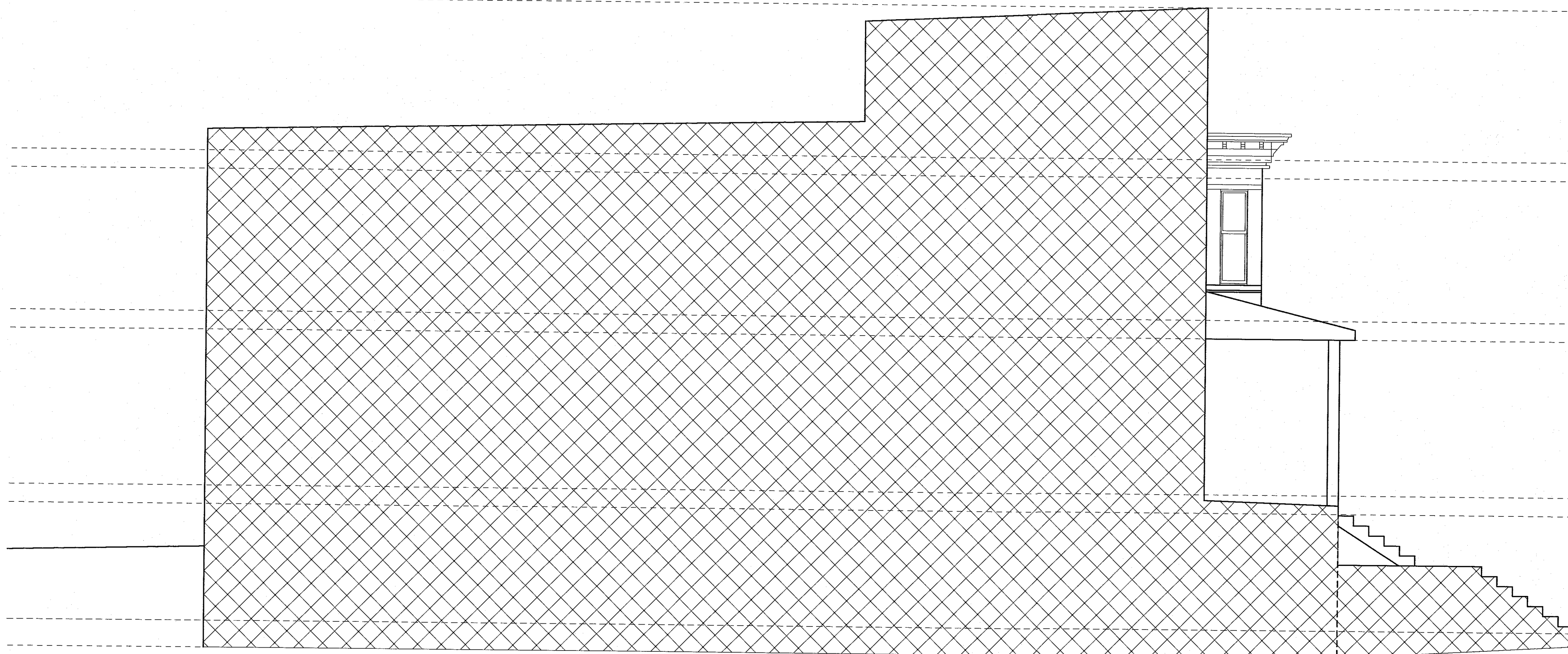
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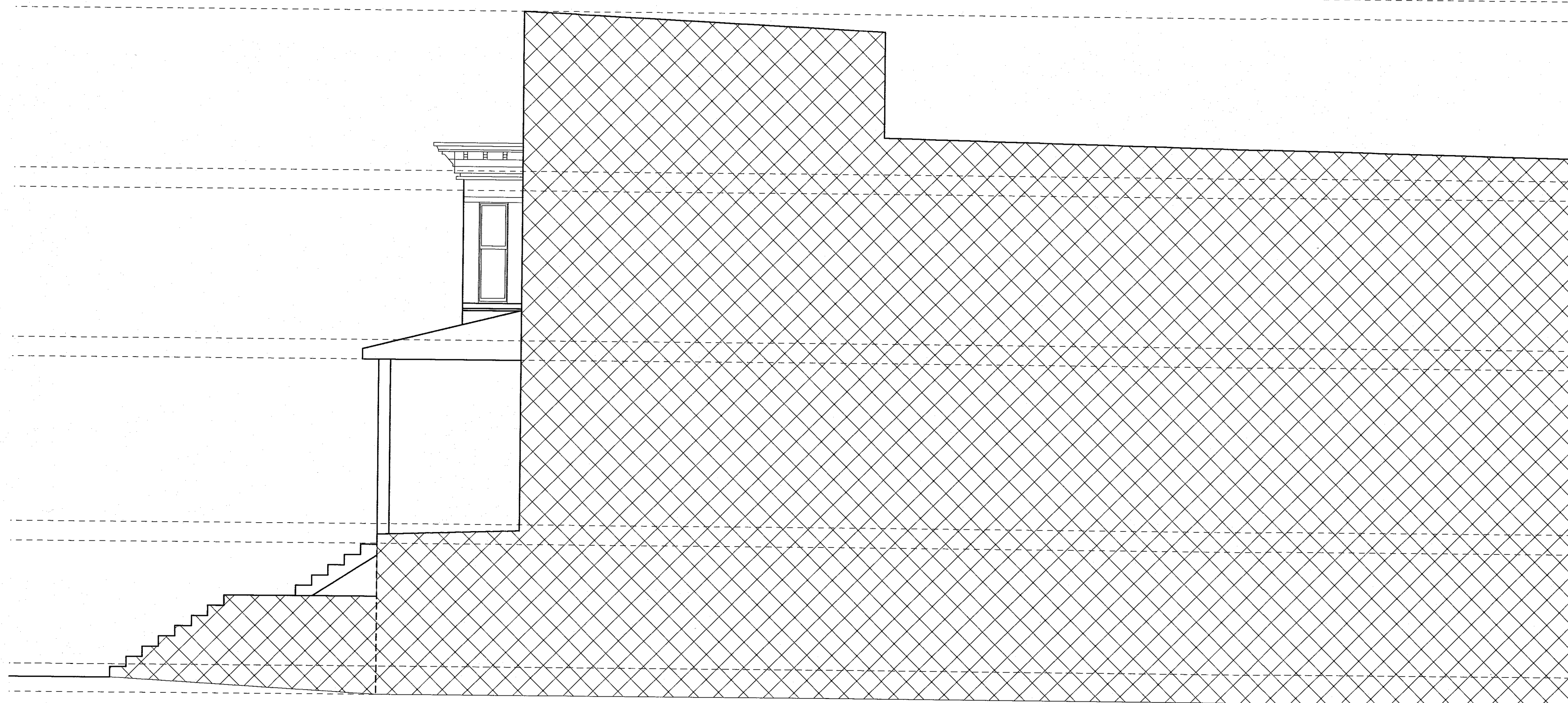
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**AD0201**



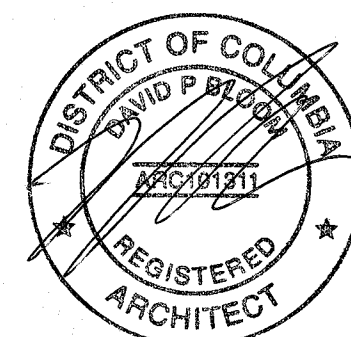
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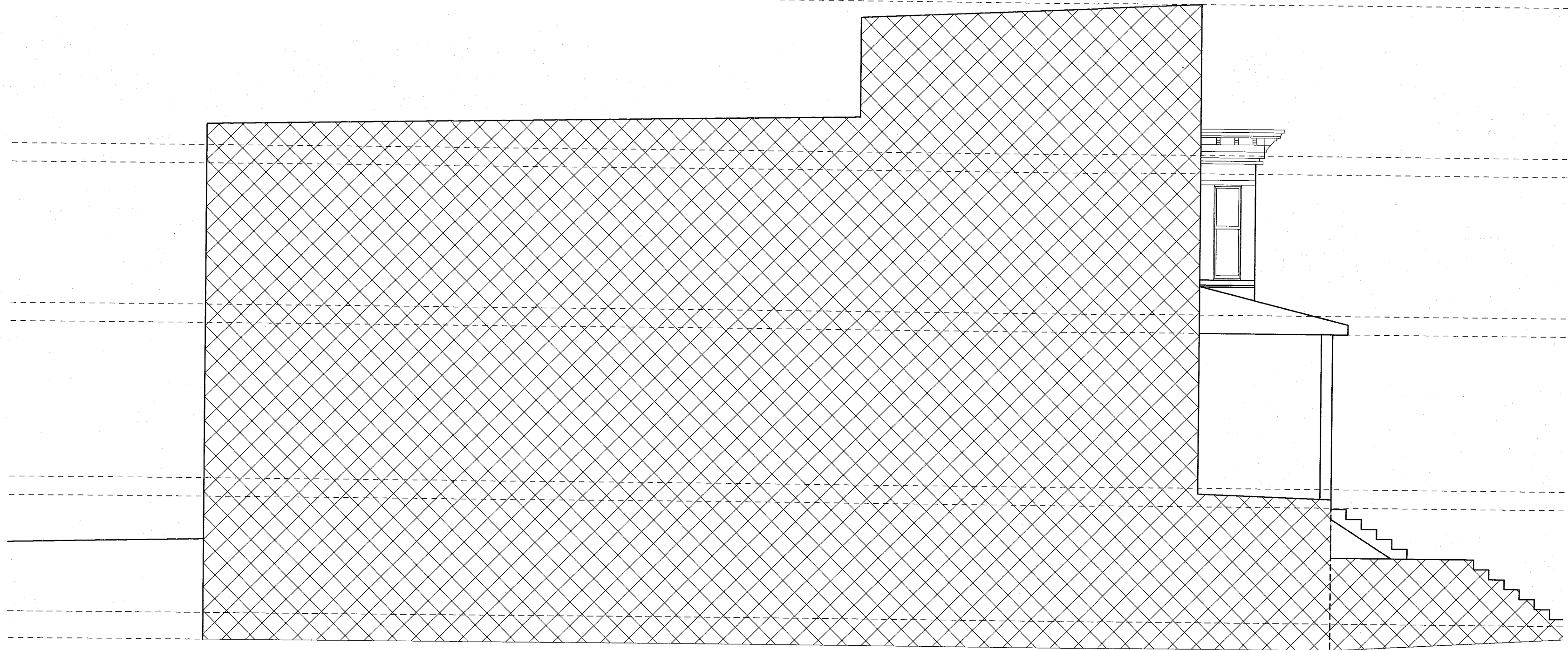
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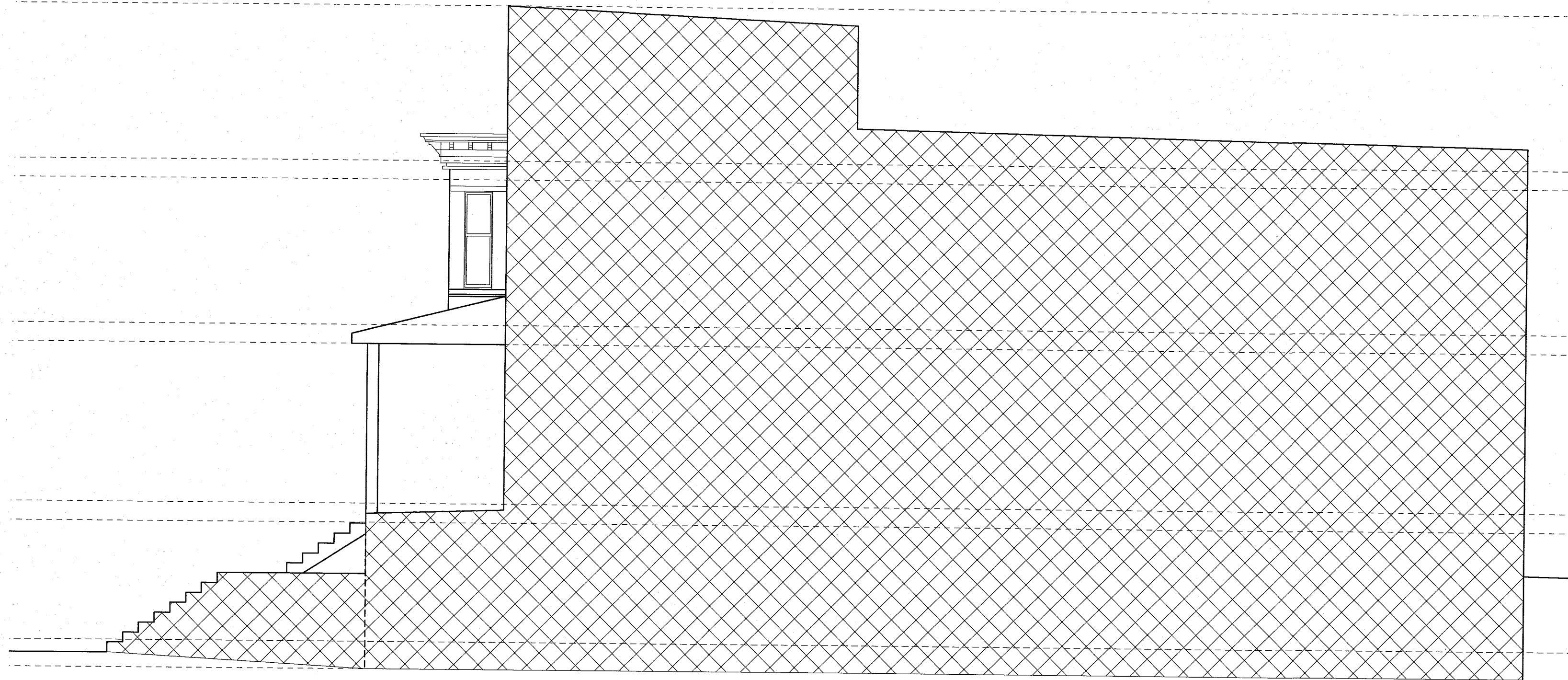
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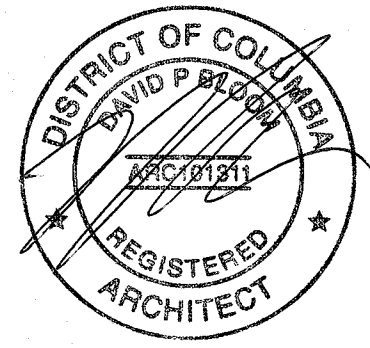




**1 EAST ELEVATION**  
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**2 WEST ELEVATION**  
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SCALE: AS NOTED  
DATE: 08/24/2014  
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LOT: 0438 SQUARE: 2583

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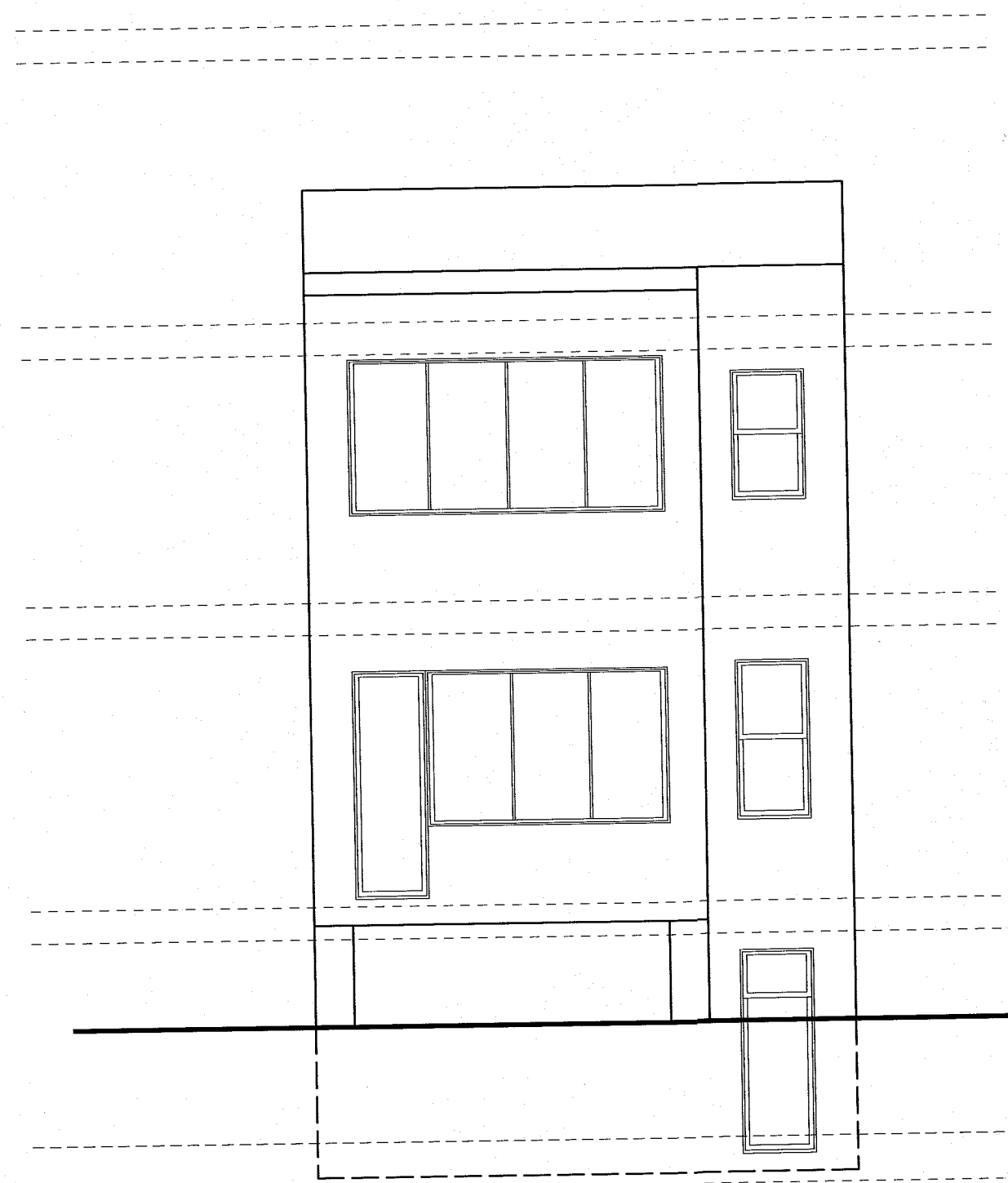
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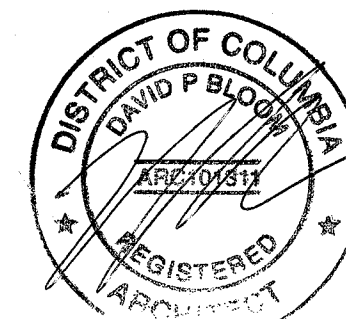
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**1 NORTH ELEVATION**  
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**1 SOUTH ELEVATION**  
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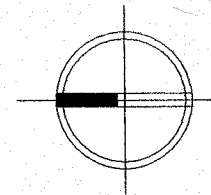
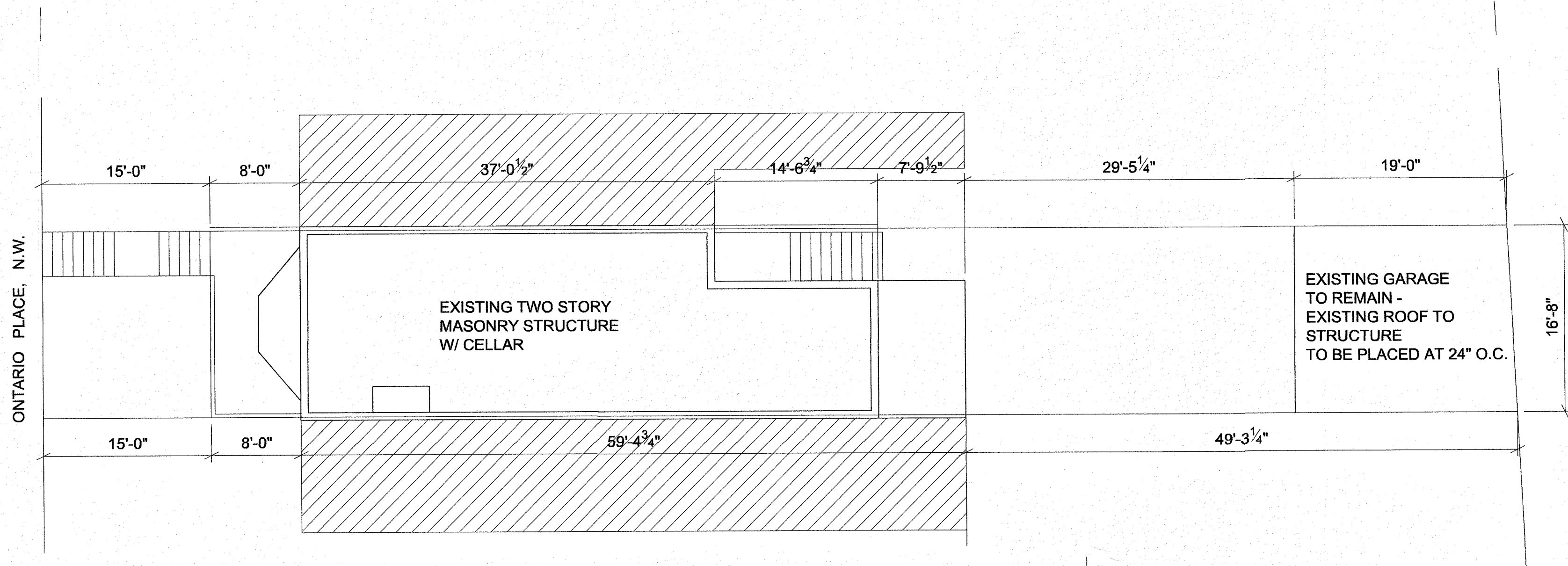


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 LOT: 0438 SQUARE: 2583

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**AD0201**

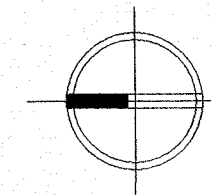
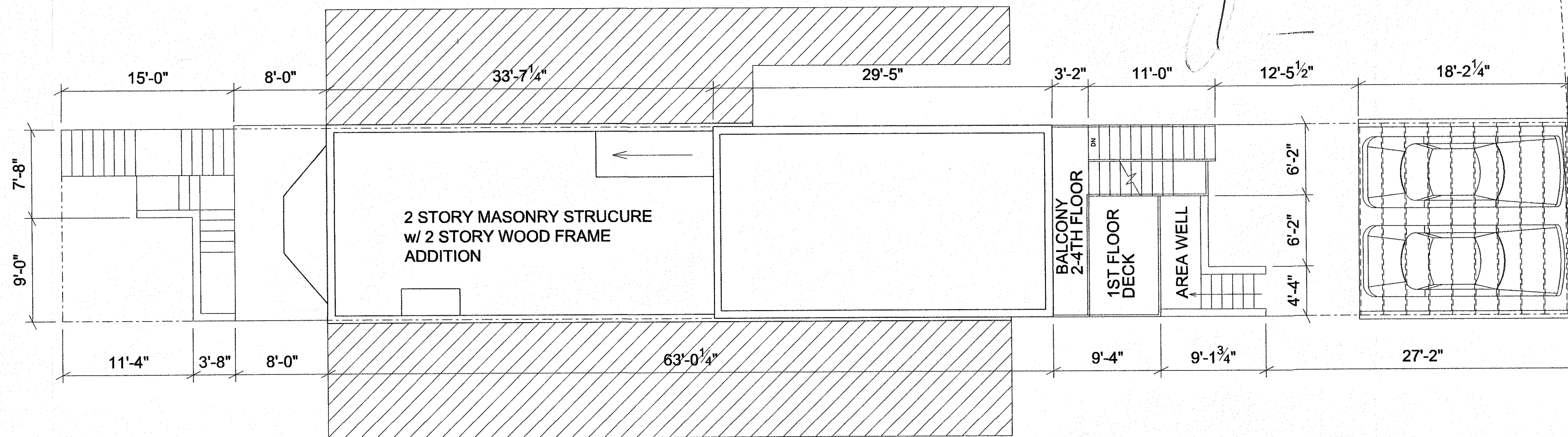


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### EXISTING SITE PLAN

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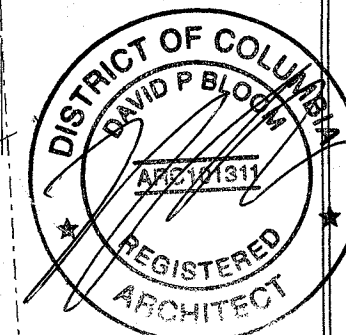
DISTRICT OF COLUMBIA  
PERMIT OPERATIONS DIVISION  
STRUCTURAL WORKING GENERAL  
APPROVED SUBJECT TO THE  
FURTHER APPROVAL OF THE CHIEF OF CONSTRUCTION  
DATE JUL 08 2015



2

### PROPOSED SITE PLAN

SCALE: 1/8" = 1'-0" 24X36 LAYOUT  
SCALE: 1/16" = 1'-0" 11X17 LAYOUT



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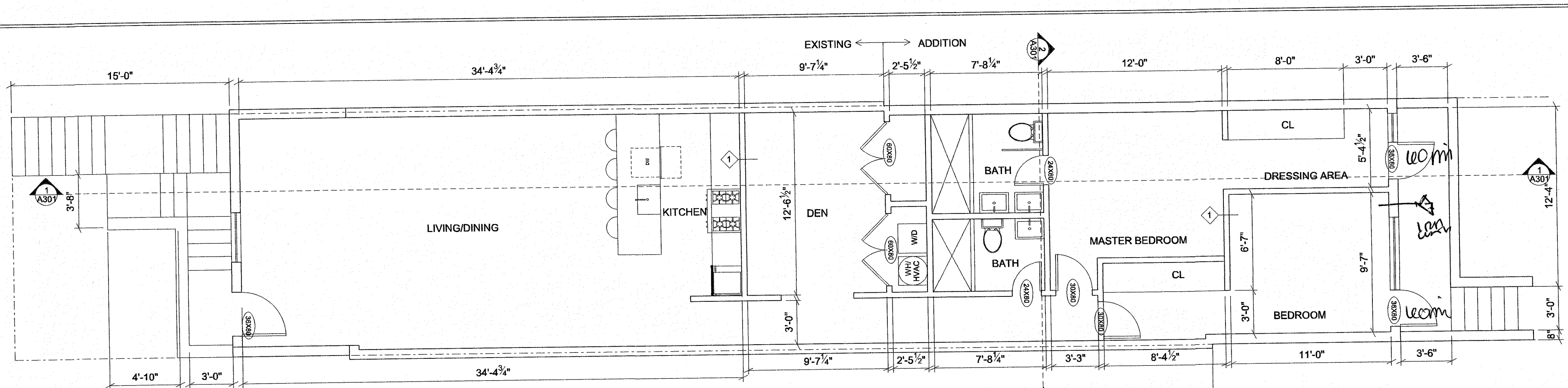
LOT: 0438 SQUARE: 2583

SCALE: AS NOTED

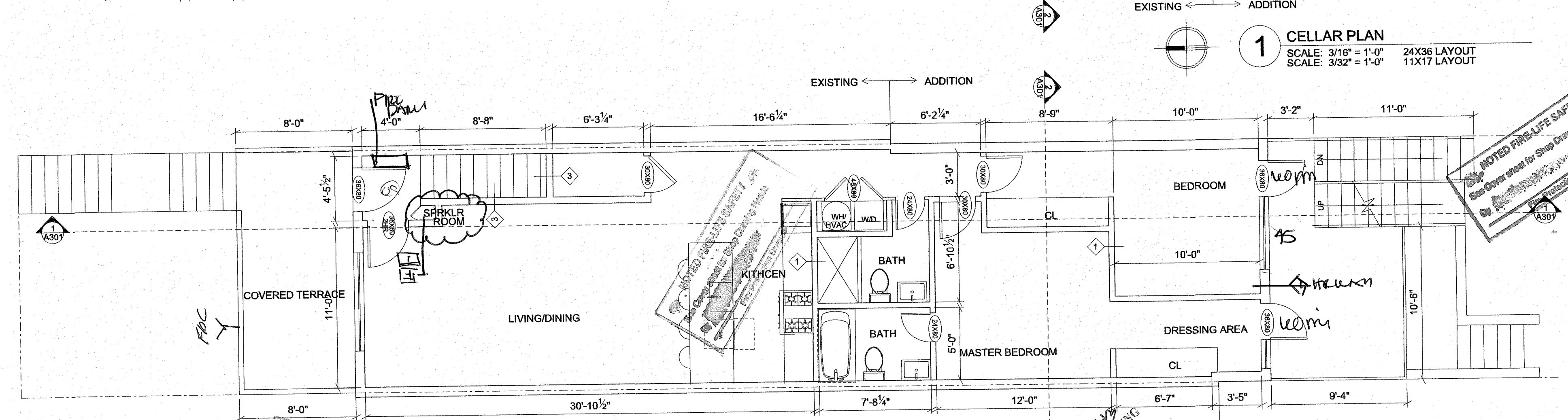
DATE: 08/24/2014

PROJECT NUMBER: 1828 ONTARIO

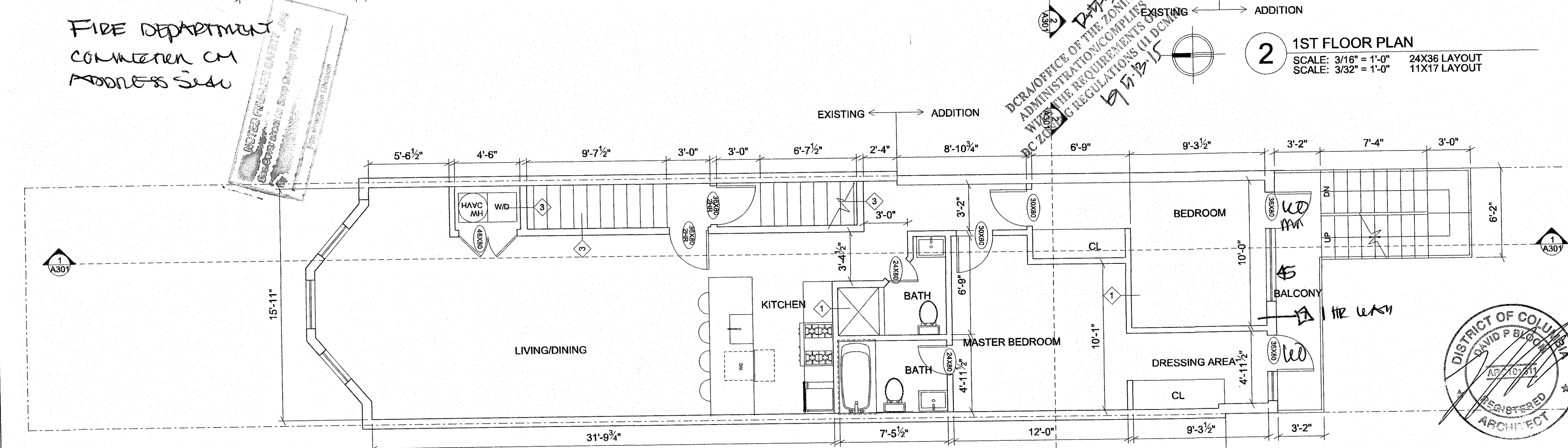
**A0100**



**1 CELLAR PLAN**  
 SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
 SCALE: 3/32" = 1'-0" 11X17 LAYOUT



**2 1ST FLOOR PLAN**  
 SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
 SCALE: 3/32" = 1'-0" 11X17 LAYOUT



**3 2ND FLOOR PLAN**  
 SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
 SCALE: 3/32" = 1'-0" 11X17 LAYOUT

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 1766 Florida Avenue NW Washington, DC 20009

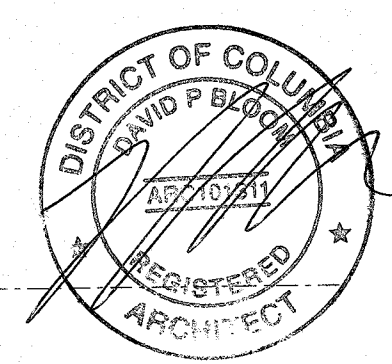
**1828 ONTARIO PLACE NW**

1828 ONTARIO PLACE, NW  
 WASHINGTON, DC 20009

LOT: 0438 SQUARE: 2583

|                 |              |
|-----------------|--------------|
| SCALE:          | AS NOTED     |
| DATE:           | 08/24/2014   |
| PROJECT NUMBER: | 1828 ONTARIO |

**A0101**



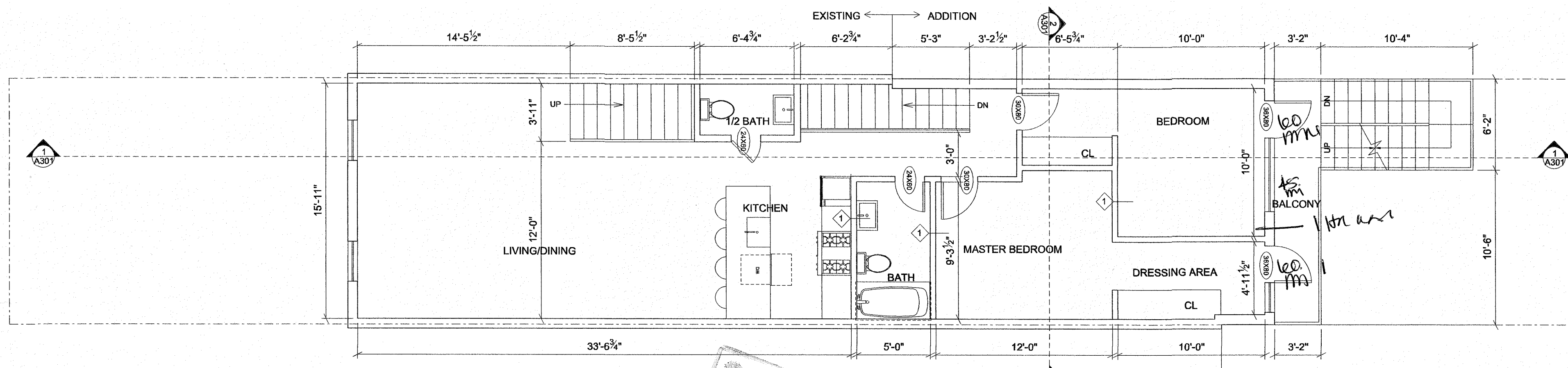
DCRA OFFICE OF THE ZONING  
 ADMINISTRATION COMPLIES  
 WITH THE REQUIREMENTS OF  
 DC ZONING REGULATIONS (11 DCMR)  
 6/15/15

**NOTED FIRE-LIFE SAFETY**  
 See Cover sheet for Shop Drawing Notes  
 Fire Protection Division

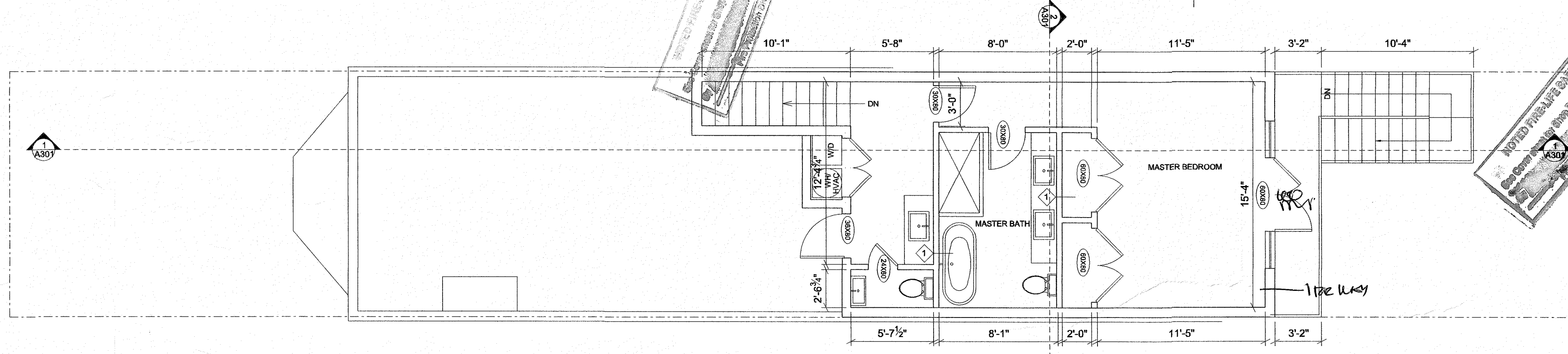
**NOTED FIRE-LIFE SAFETY**  
 See Cover sheet for Shop Drawing Notes  
 Fire Protection Division

**NOTED FIRE-LIFE SAFETY**  
 See Cover sheet for Shop Drawing Notes  
 Fire Protection Division

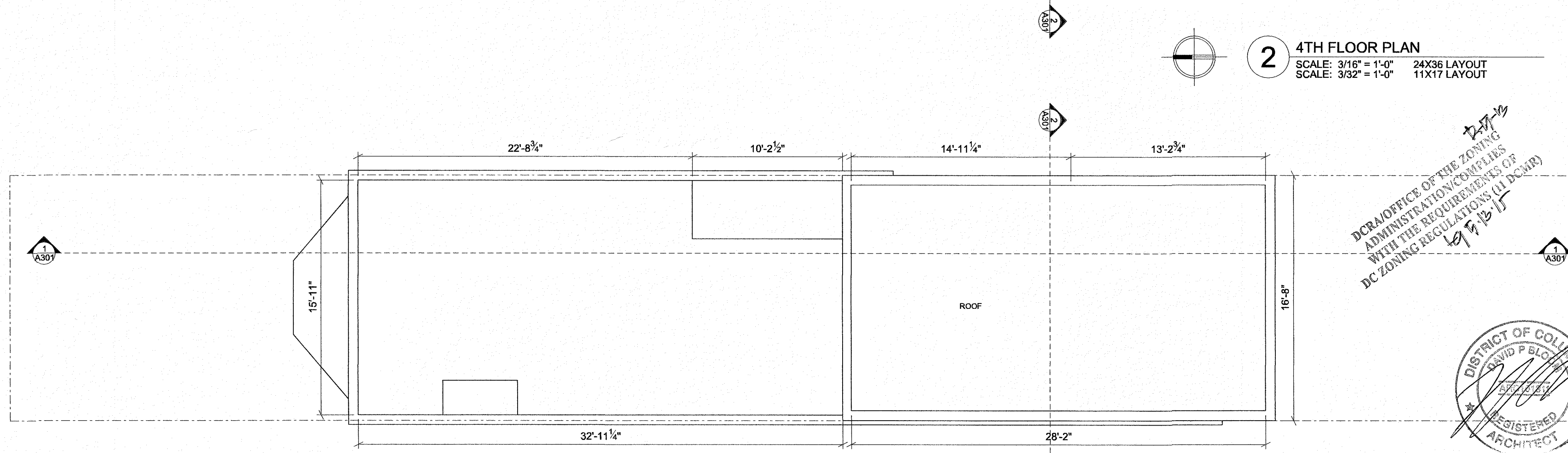
FIRE DEPARTMENT  
 CONNECTION ON  
 ADDRESS SIDE



**1 3RD FLOOR PLAN**  
 SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
 SCALE: 3/32" = 1'-0" 11X17 LAYOUT

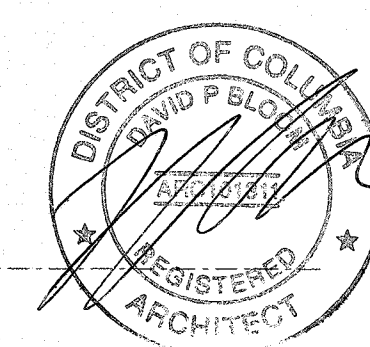


**2 4TH FLOOR PLAN**  
 SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
 SCALE: 3/32" = 1'-0" 11X17 LAYOUT



**3 ROOF PLAN**  
 SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
 SCALE: 3/32" = 1'-0" 11X17 LAYOUT

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 WITH THE REQUIREMENTS OF  
 DC ZONING REGULATIONS (H DCMR)  
 6/9/13/15

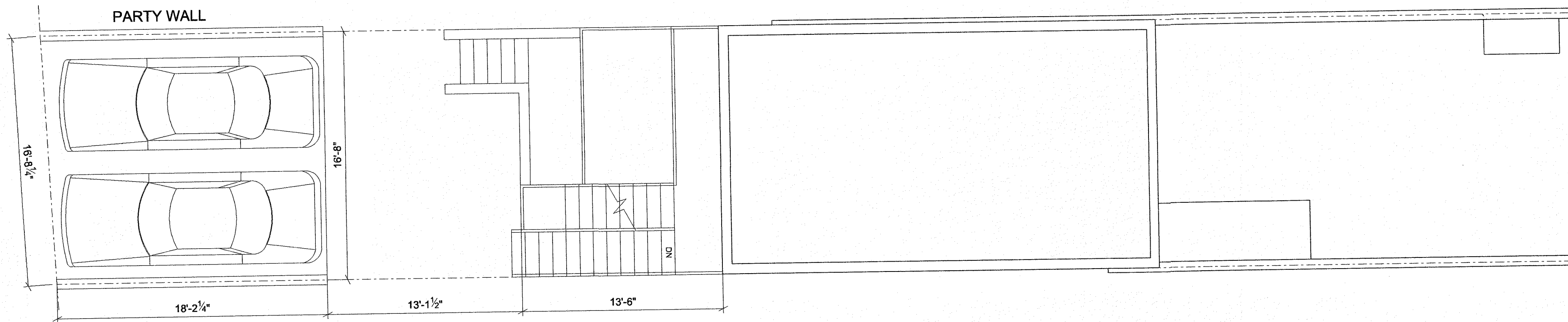


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 K@kcstudios.com  
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**1828 ONTARIO PLACE, NW**  
 1828 ONTARIO PLACE, NW  
 WASHINGTON, DC 20009  
 LOT: 0438 SQUARE: 2583

SCALE: AS NOTED  
 DATE: 08/24/2014  
 PROJECT NUMBER: 1828 ONTARIO

**A0102**

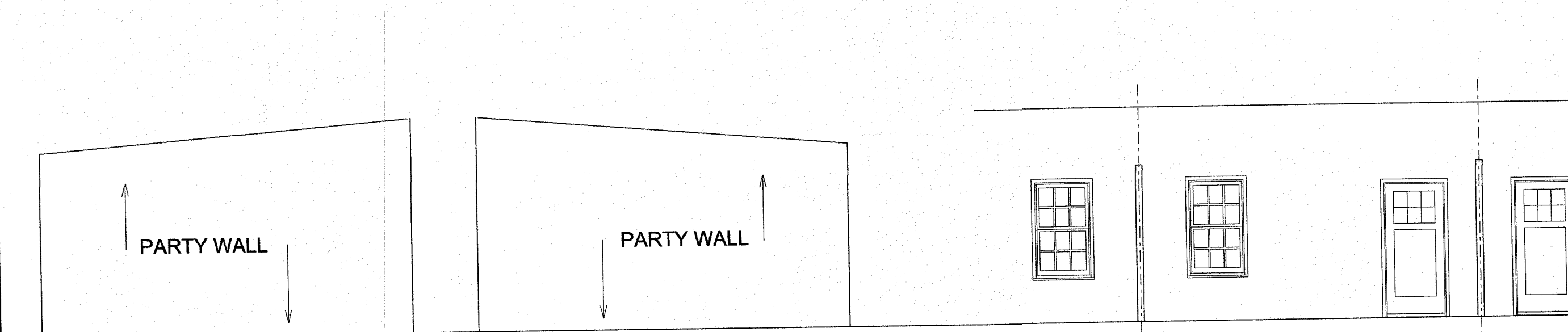


**1 GARAGE PLAN**  
SCALE: 3/16" = 1'-0" 24X36 LAYOUT



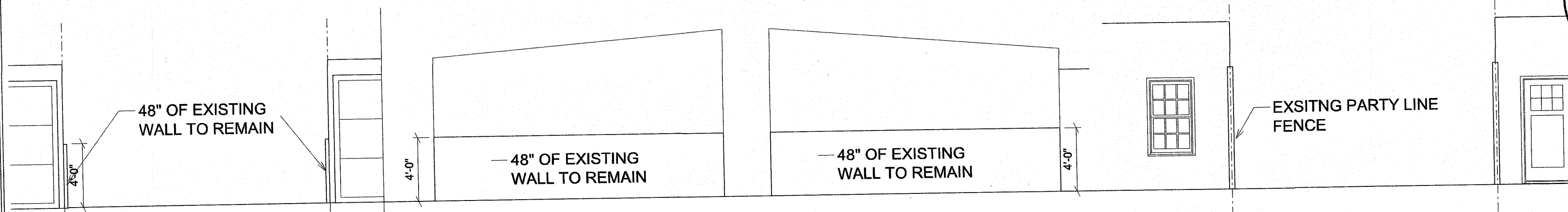
**2 EXISTING SOUTH ELEVATION**

PROVIDED MATT LEGRANTS CONVERSATION  
EXISTING PARKING SPACES WILL BE GRANDFATHERD  
IN SO LONG AS THEY ARE TO MAINTAIN THEIR ORIGINAL  
LOCATION. IF THEY ARE ALTERED IN LOCATION THEY WILL NO  
LONGER BE GRANDFATHERED IN AND WILL BE SUBJECT TO  
THE FULL PARKING REQUIREMENT SIZES OF 9FT BY 19FT.



**3 EXISTING EAST/WEST ELEVATION**  
SCALE: 3/16" = 1'-0" 24X36 LAYOUT

**4 EXISTING NORTH ELEVATION**  
SCALE: 3/16" = 1'-0" 24X36 LAYOUT

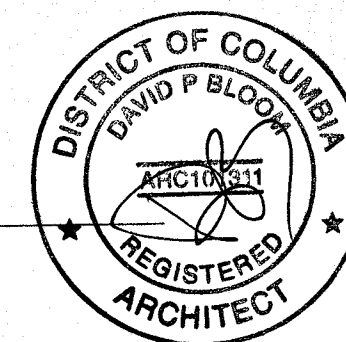


**5 PROPOSED SOUTH ELEVATION**  
SCALE: 3/16" = 1'-0" 24X36 LAYOUT

**6 PROPOSED EAST/WEST ELEVATION**  
SCALE: 3/16" = 1'-0" 24X36 LAYOUT

**7 PROPOSED NORTH ELEVATION**  
SCALE: 3/16" = 1'-0" 24X36 LAYOUT

DCRA/OFFICE OF THE ZONING  
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WITH THE REQUIREMENTS OF  
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8/13/15



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**1828 ONTARIO PLACE, NW**

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WASHINGTON, DC 20009

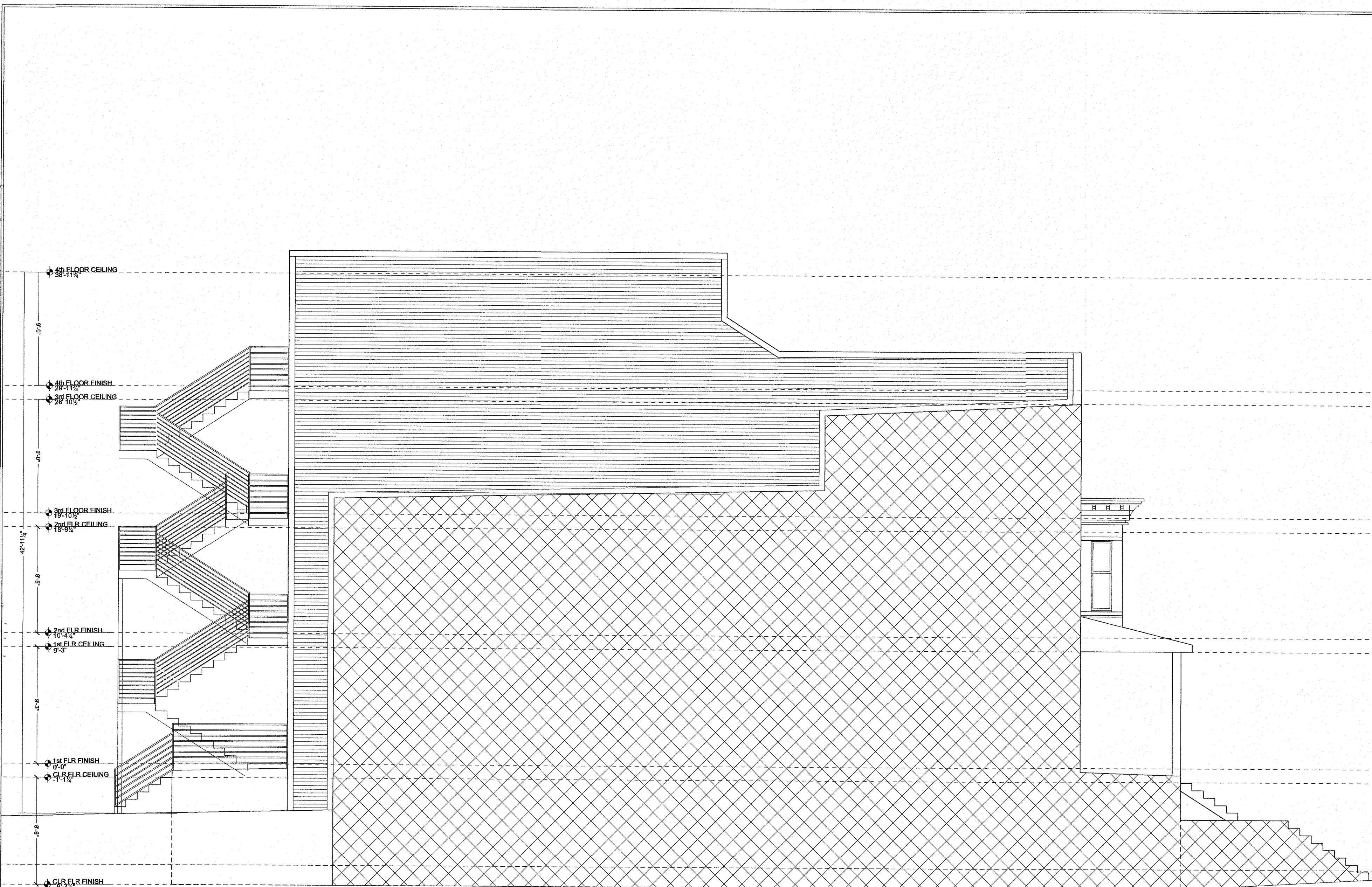
LOT: 0438 SQUARE: 2583

SCALE: AS NOTED

DATE: 08/24/2014

PROJECT NUMBER: 1828 ONTARIO

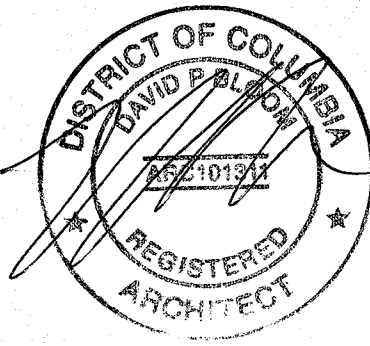
**A0200**



DISTRICT OF COLUMBIA  
PLANNING OPERATIONS DIVISION  
STRUCTURAL WORKS IN GENERAL  
APPROVED SUBJECT TO THE  
FURTHER APPROVAL OF CONSTRUCTION  
PERMITS CHIEF

JUL 08 2015

DCRA OFFICE OF THE ZONING  
ADMINISTRATION COMPLIES  
WITH THE REQUIREMENTS OF  
DC ZONING REGULATIONS (11 DCMR)  
19/10/15



1 EAST ELEVATION  
SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
SCALE: 3/32" = 1'-0" 11X17 LAYOUT

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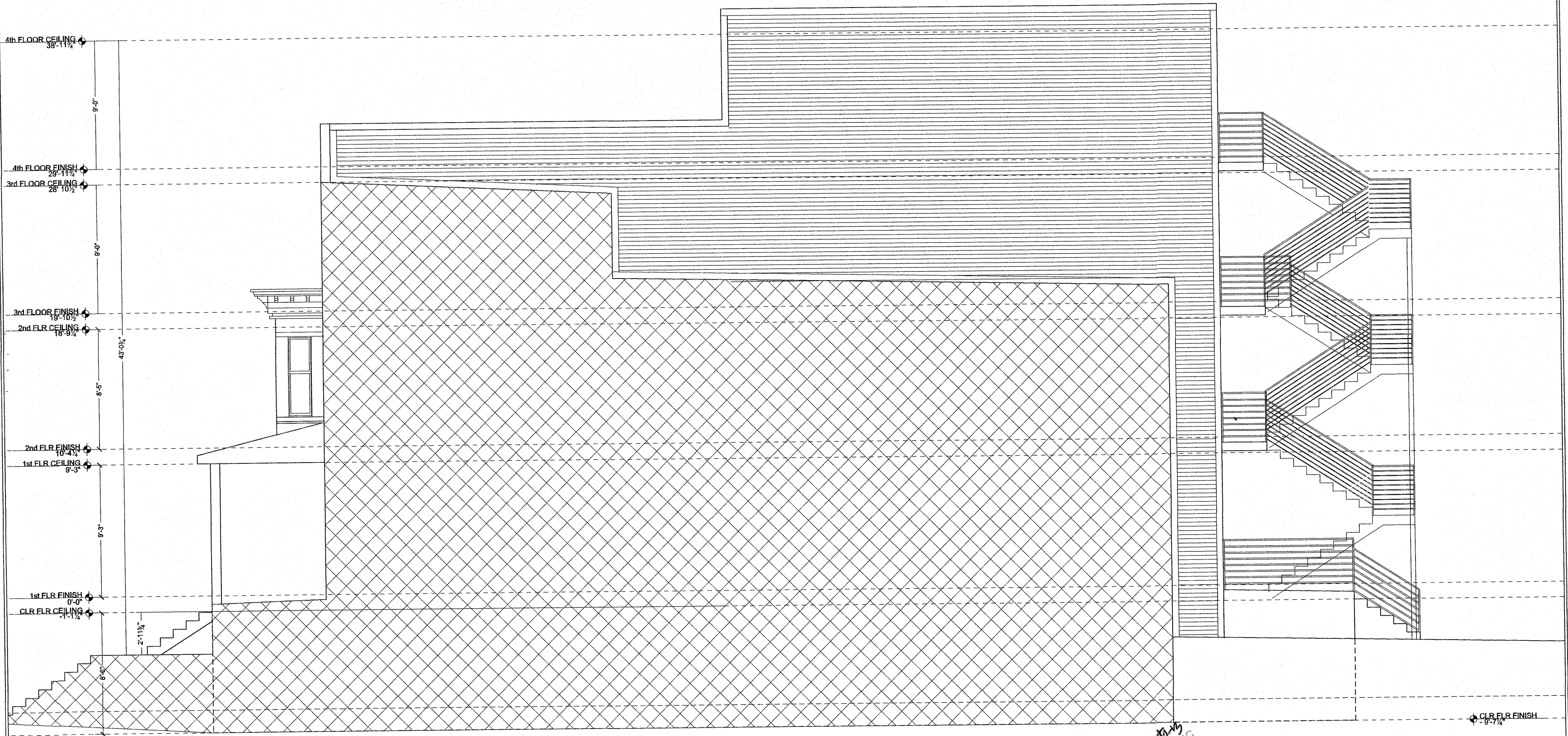
1828 ONTARIO PLACE, NW

1828 ONTARIO PLACE, NW  
WASHINGTON, DC 20009

LOT: 0438 SQUARE: 2583

SCALE: AS NOTED  
DATE: 08/24/2014  
PROJECT NUMBER: 1828 ONTARIO

A0201



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1828 ONTARIO PLACE, NW

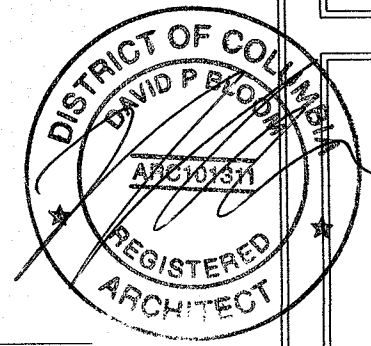
1828 ONTARIO PLACE, NW  
WASHINGTON, DC 20009

LOT: 0438 SQUARE: 2583

SCALE: AS NOTED

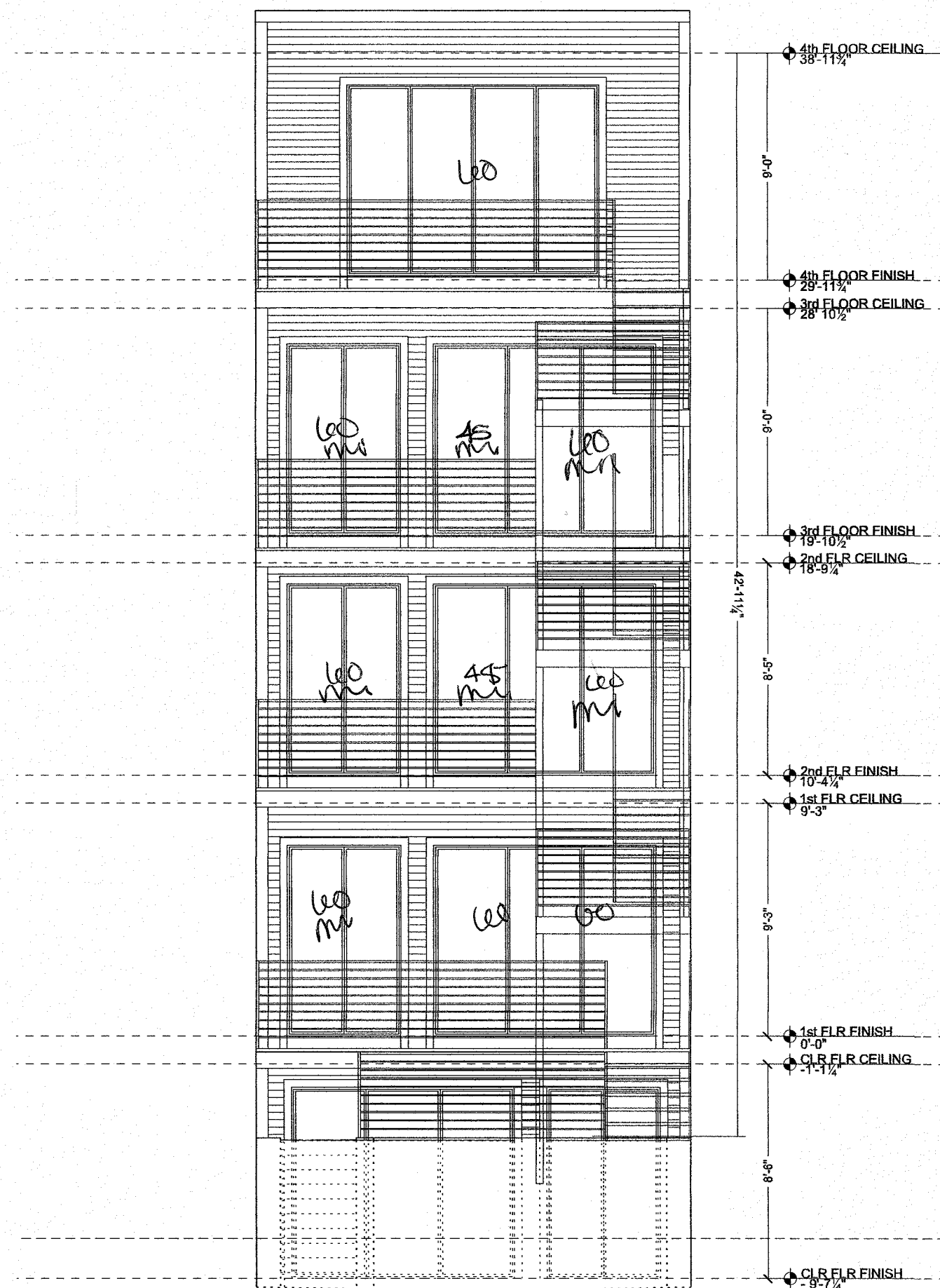
DATE: 08/24/2014

PROJECT NUMBER: 1828 ONTARIO



3 WEST ELEVATION  
SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
SCALE: 3/32" = 1'-0" 11X17 LAYOUT

A0202

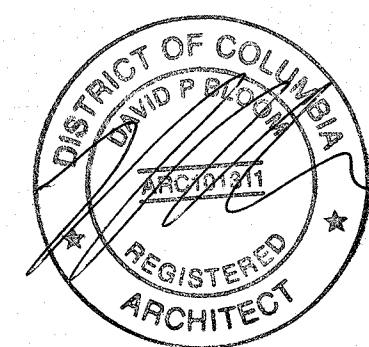


**1 SOUTH ELEVATION**  
 SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
 SCALE: 3/32" = 1'-0" 11X17 LAYOUT



**2 NORTH ELEVATION**  
 SCALE: 3/16" = 1'-0" 24X36 LAYOUT  
 SCALE: 3/32" = 1'-0" 11X17 LAYOUT

DCRA/OFFICE OF THE ZONING  
 ADMINISTRATION/COMPLIES  
 WITH THE REQUIREMENTS OF  
 DC ZONING REGULATIONS (H DCMR)  
 10/13/15

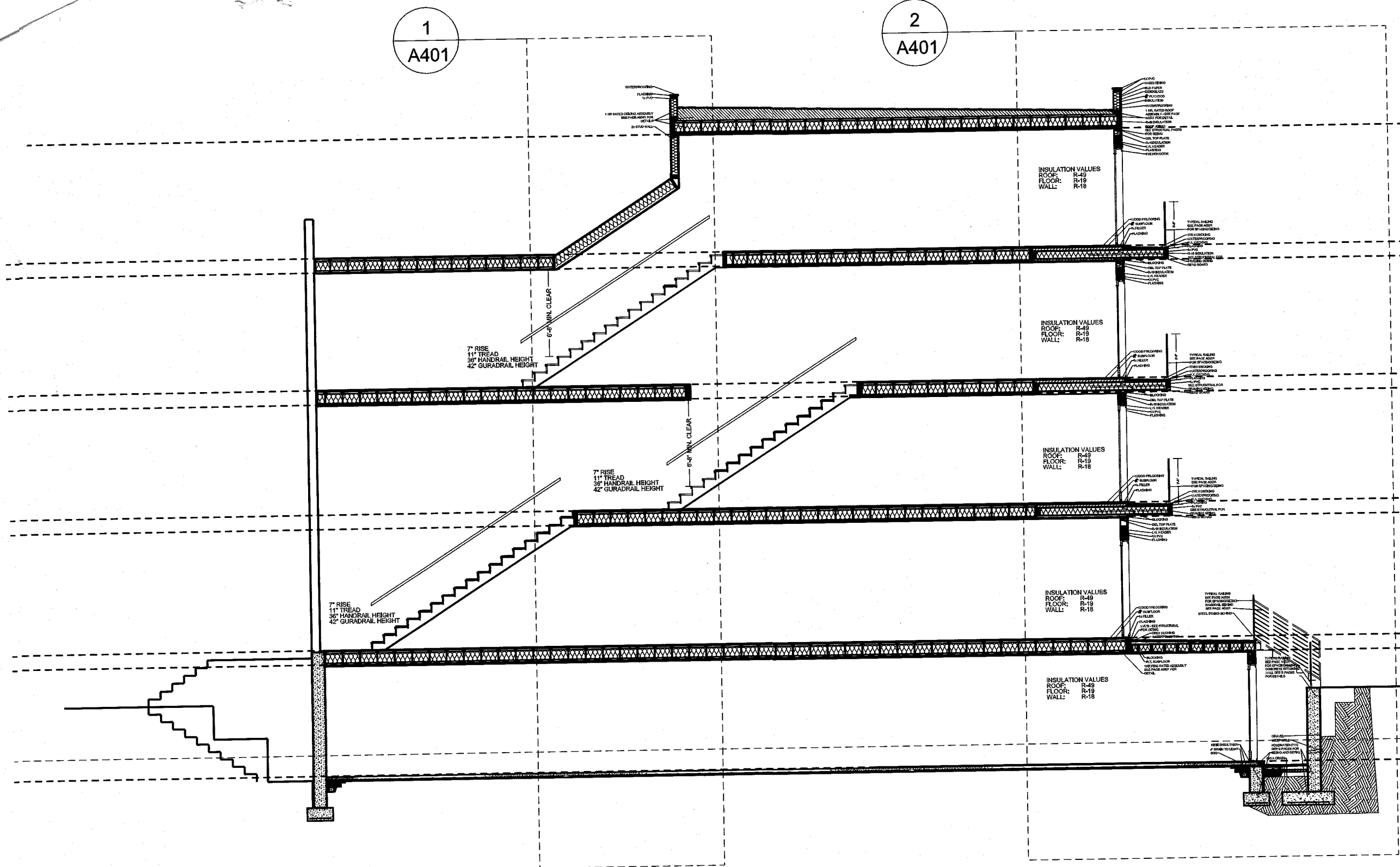


SCALE: AS NOTED  
 DATE: 08/24/2014  
 PROJECT NUMBER: 1828 ONTARIO

**1828 ONTARIO PLACE, NW**  
 1828 ONTARIO PLACE, NW  
 WASHINGTON, DC 20009  
 LOT: 0438 SQUARE: 2583

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 kdc@kcstudios.com  
 1766 florida avenue nw wasele 20008

**A0203**



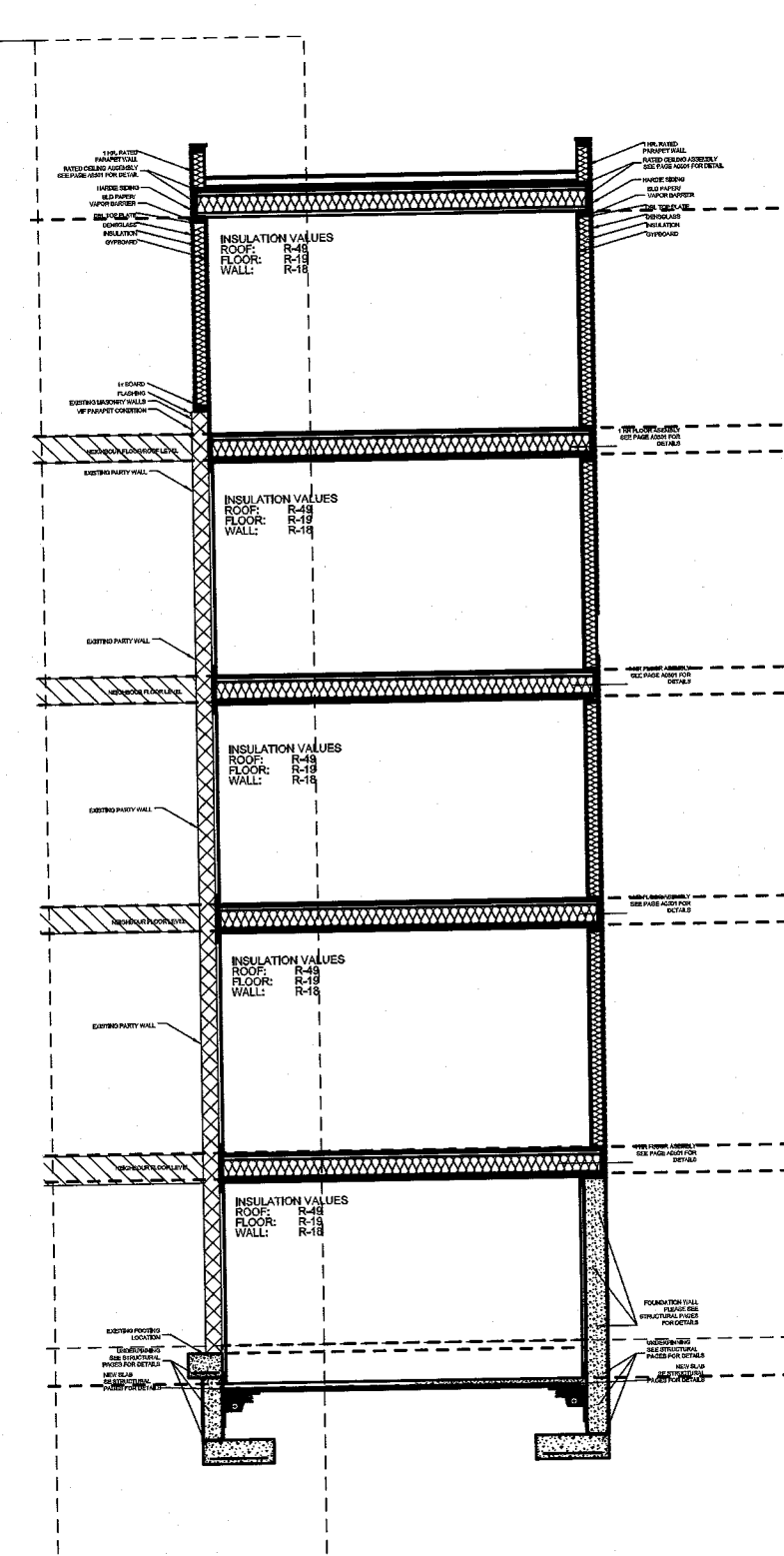
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# SECTION 1

SCALE: 1/8" = 1'-0"  
SCALE: 1/16" = 1'-0"

24X36 LAYOUT  
11X17 LAYOUT

3  
A402



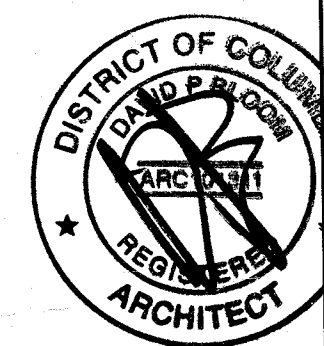
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# SECTION 2

SCALE: 1/8" = 1'-0"  
SCALE: 1/16" = 1'-0"

24X36 LAYOUT  
11X17 LAYOUT

DISTRICT OF COLUMBIA  
DEPARTMENT OF GENERAL SERVICES  
STANDARD WORKSHEET  
APPROVED SUBJECT TO THE  
FURTHER APPROVAL OF THE  
CONSTRUCTION DIVISION  
JUL 08 2015



SCALE: AS NOTED

DATE: 08/24/2014

PROJECT NUMBER: 1829 ONTARIO

1828 ONTARIO PLACE, NW

1828 ONTARIO PLACE, NW  
WASHINGTON, DC 20009

LOT: 0438 SQUARE: 2583

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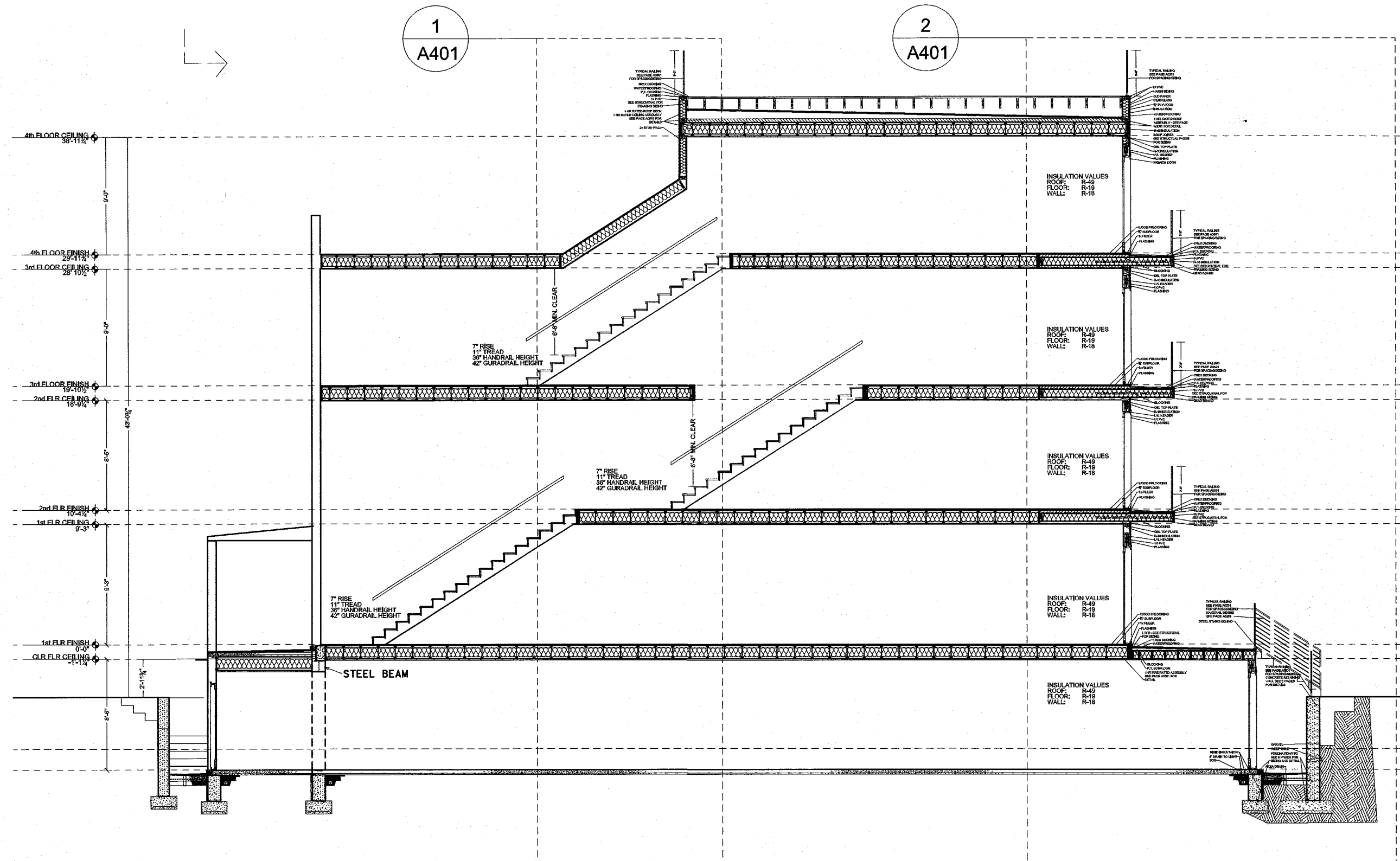
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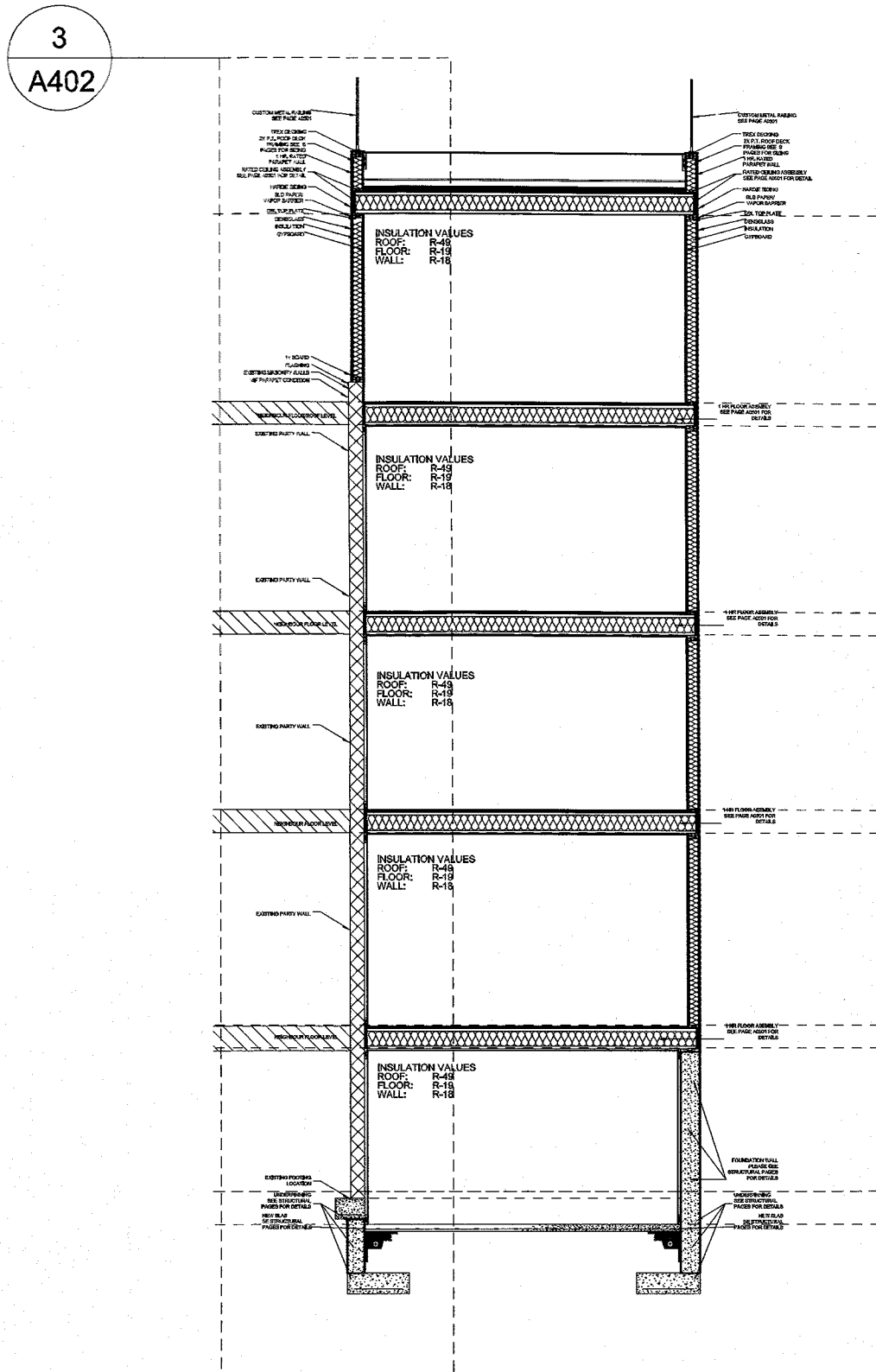
F. 811.604.8951

1756 florida avenue nw waldc 20009

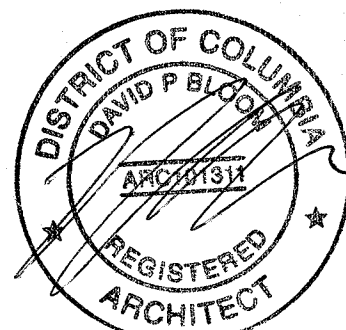
A0301



**1 SECTION 1**  
 SCALE: 1/8" = 1'-0"  
 SCALE: 1/16" = 1'-0"  
 24X36 LAYOUT  
 11X17 LAYOUT



**1 SECTION 2**  
 SCALE: 1/8" = 1'-0"  
 SCALE: 1/16" = 1'-0"  
 24X36 LAYOUT  
 11X17 LAYOUT

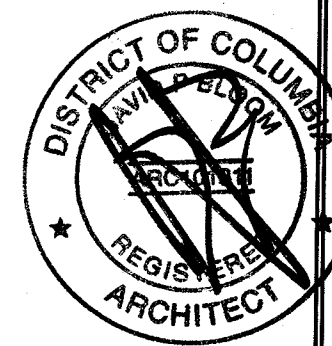
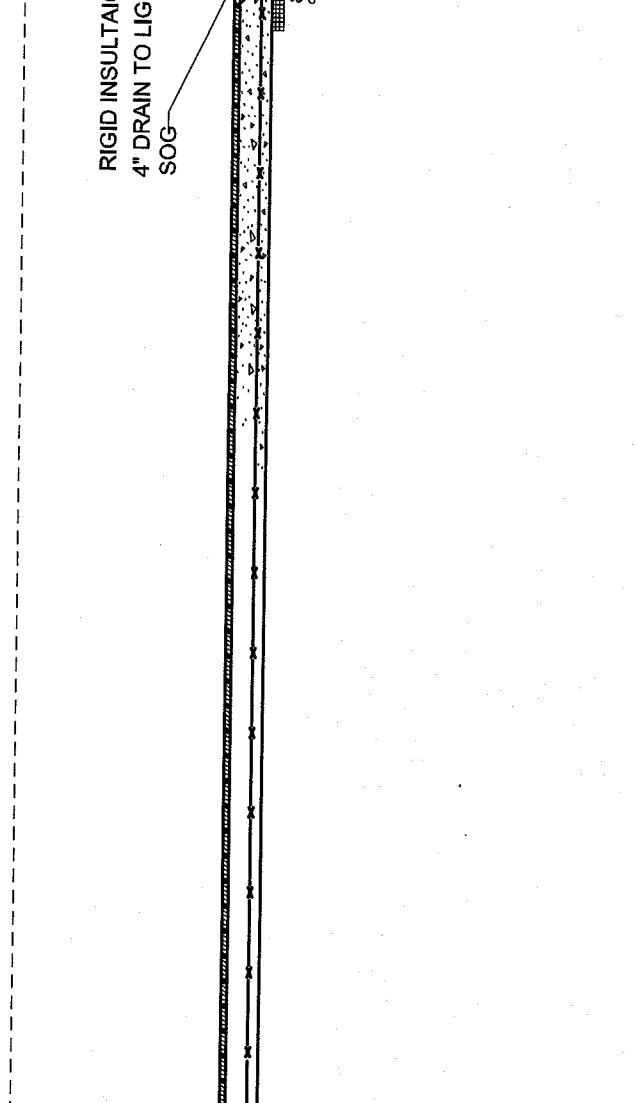
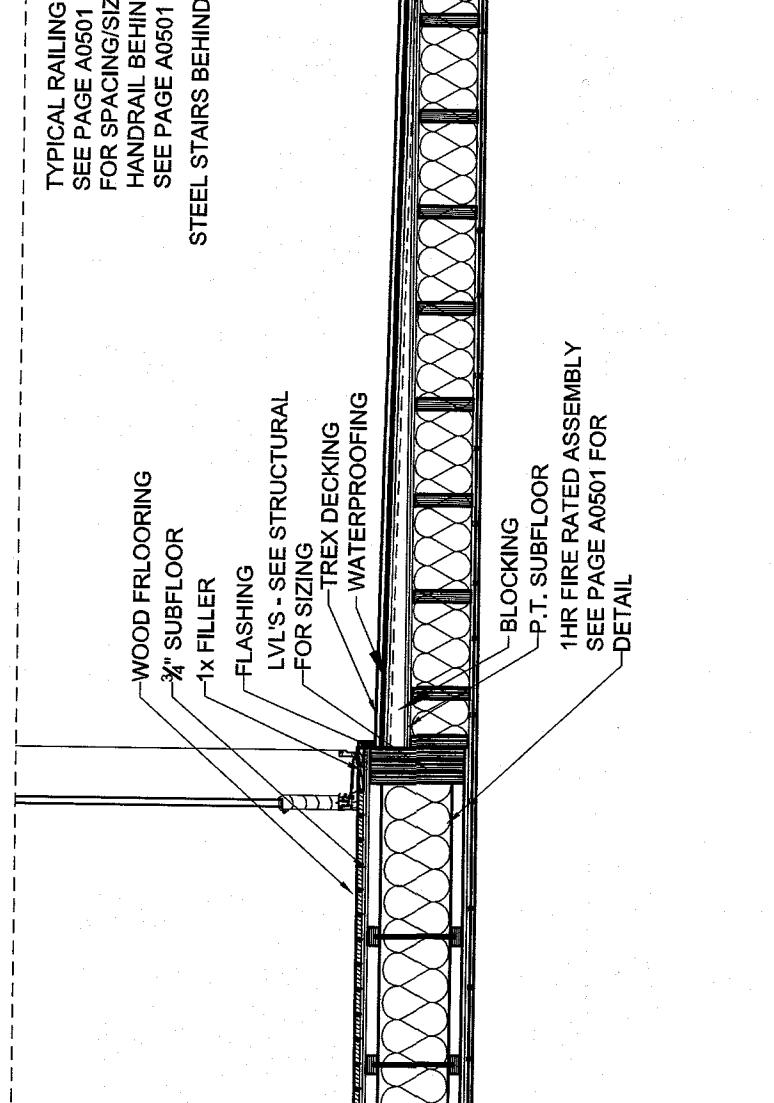
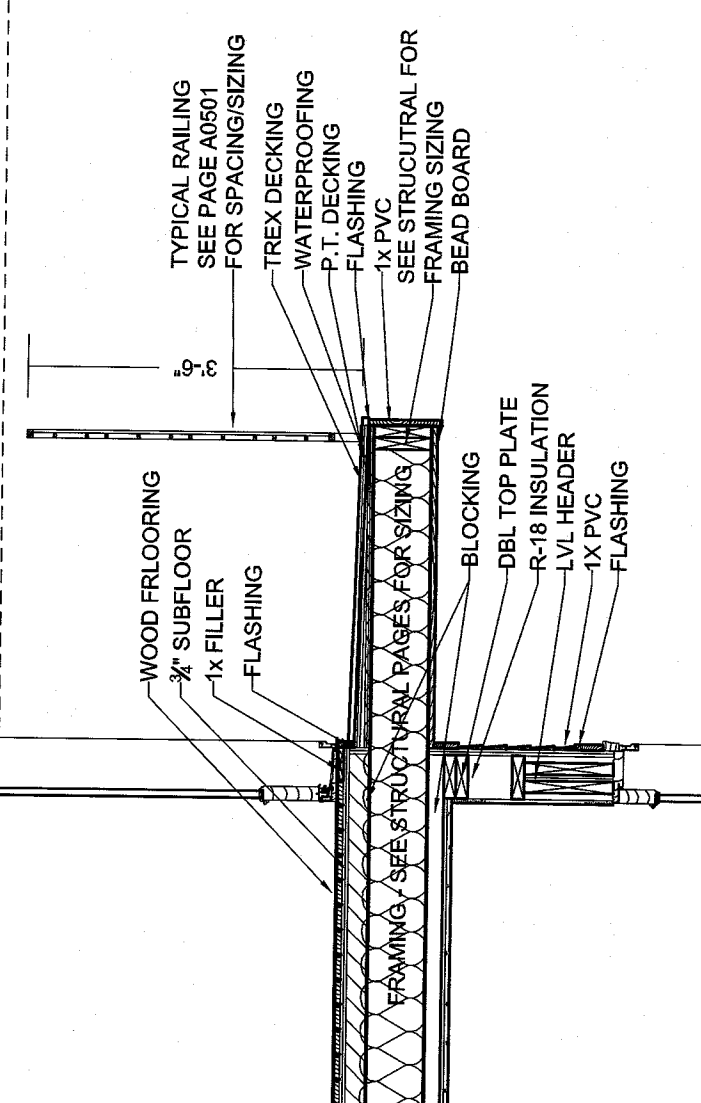
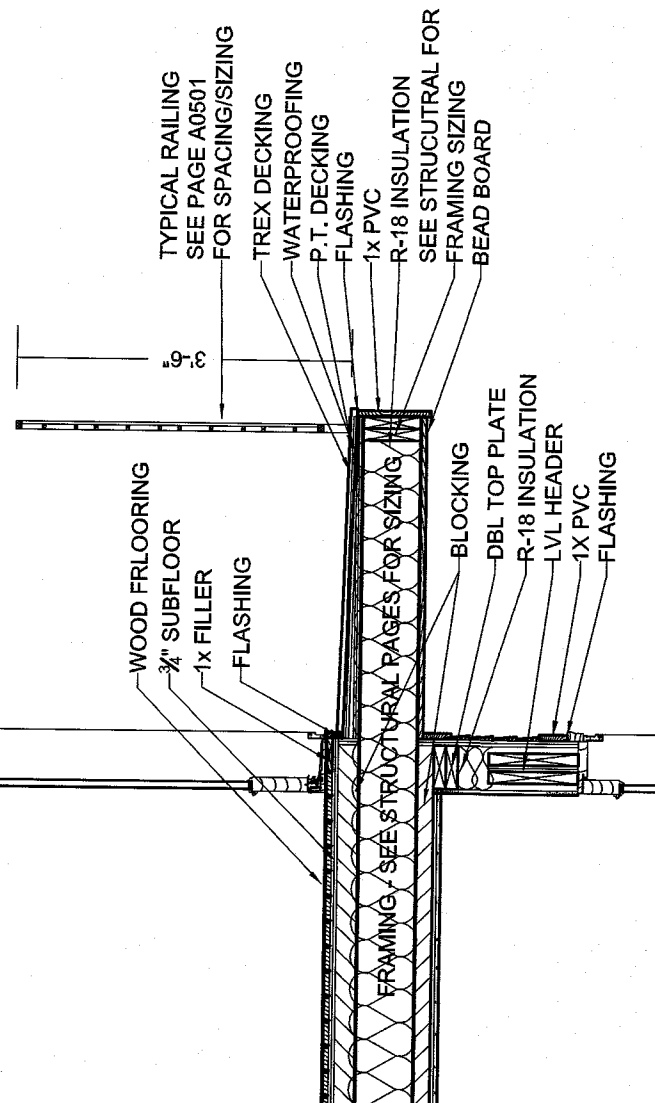
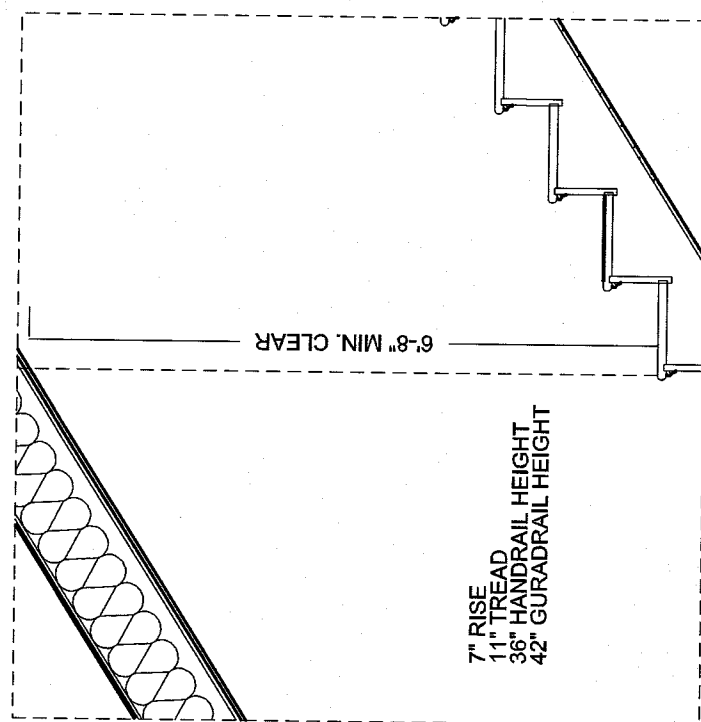
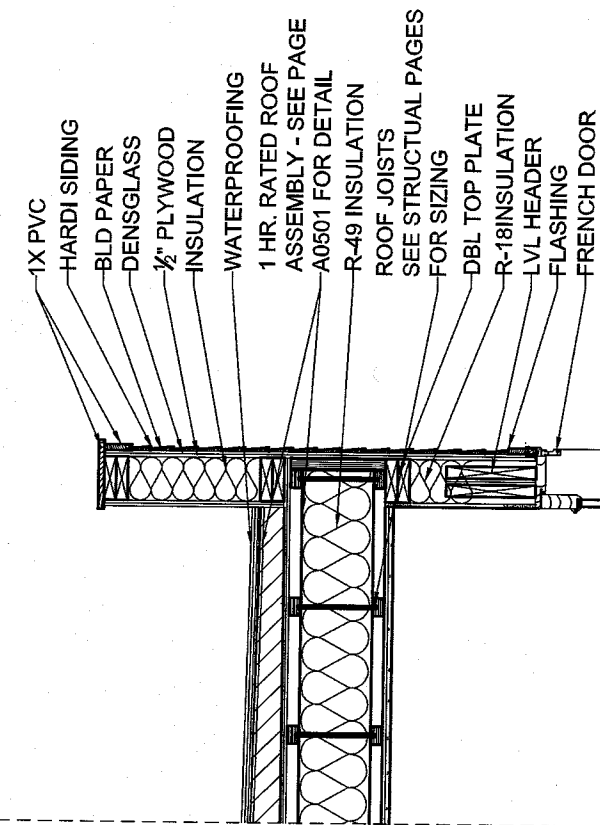
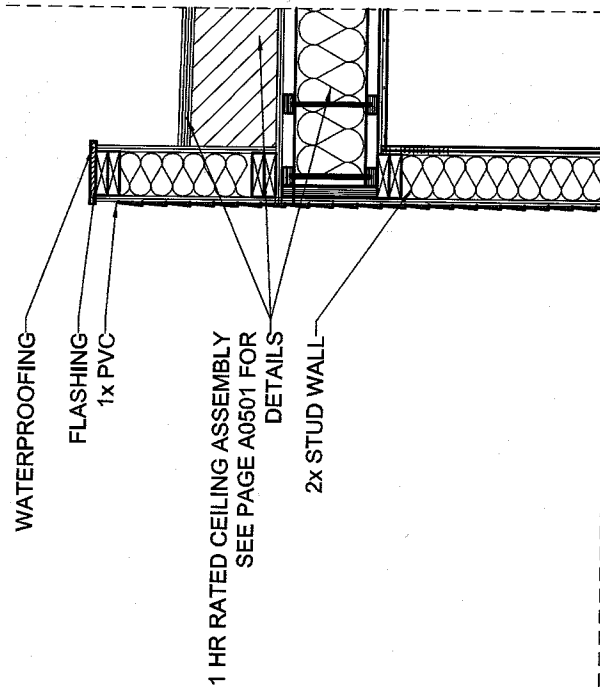


**1828 ONTARIO PLACE, NW**  
 1828 ONTARIO PLACE, NW  
 WASHINGTON, DC 20009  
 LOT: 0438 SQUARE: 2583

SCALE: AS NOTED  
 DATE: 08/24/2014  
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**A0301**



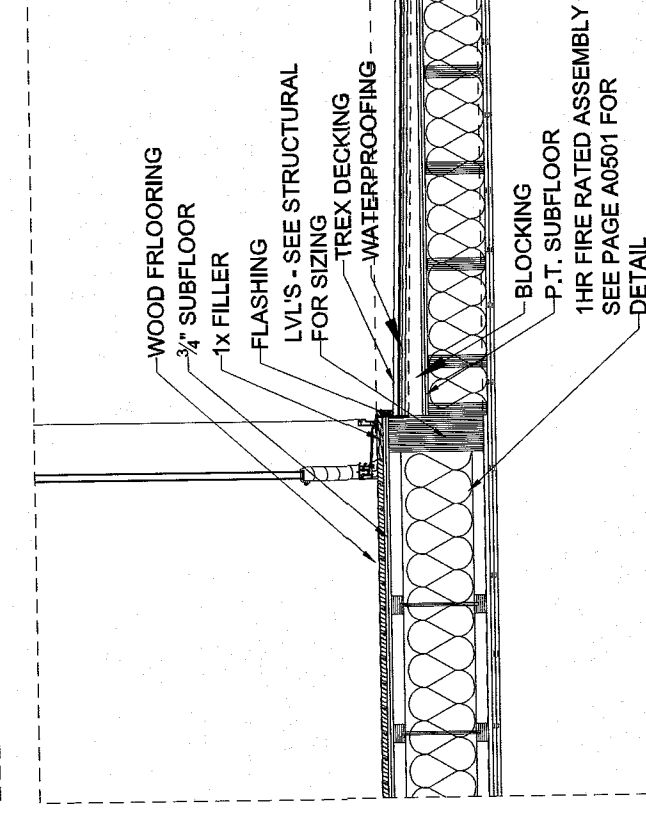
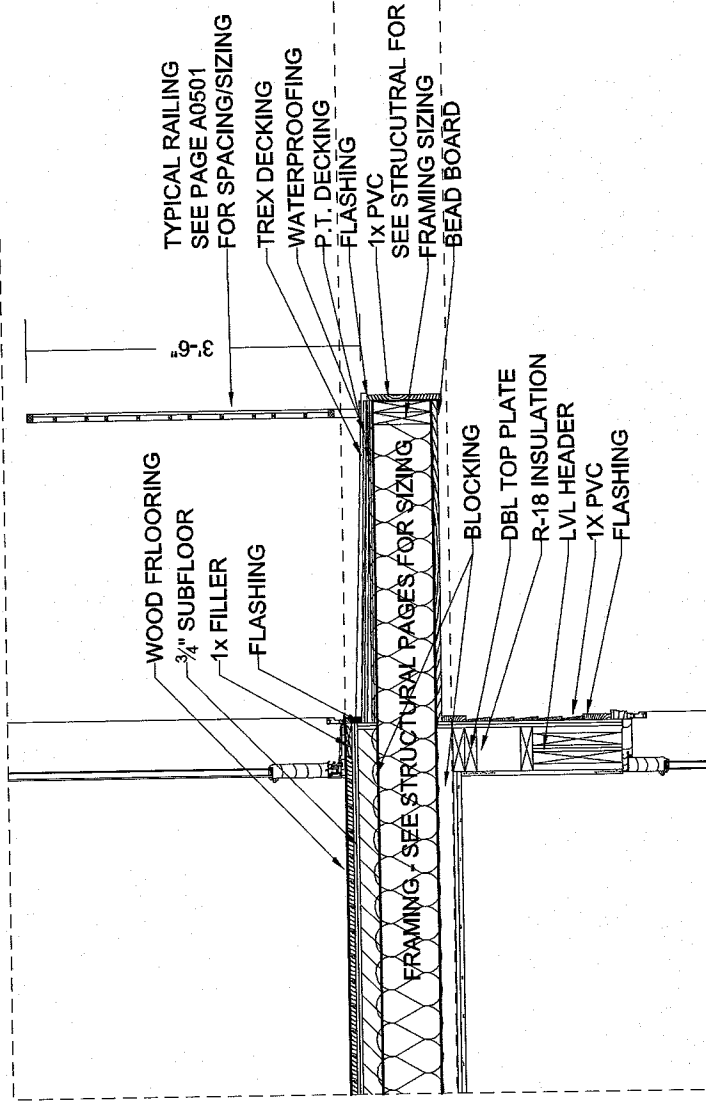
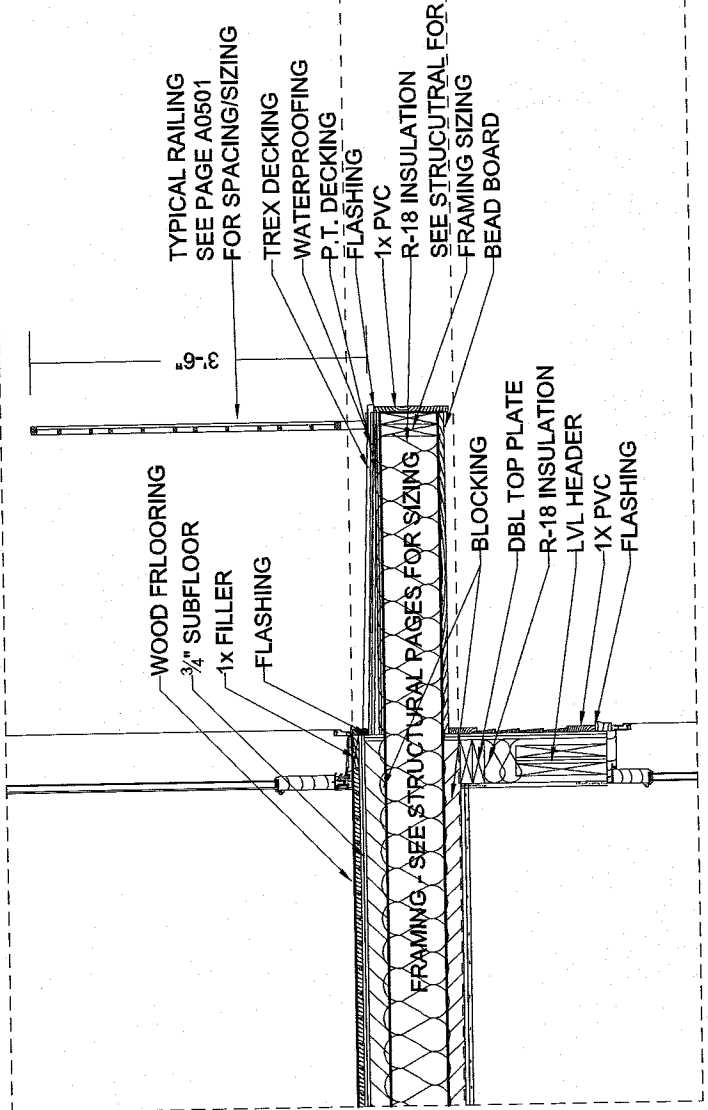
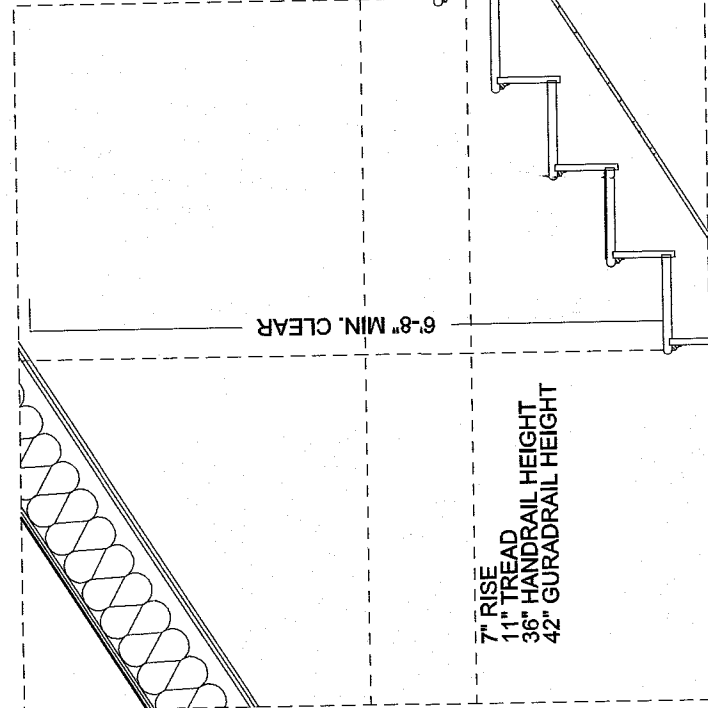
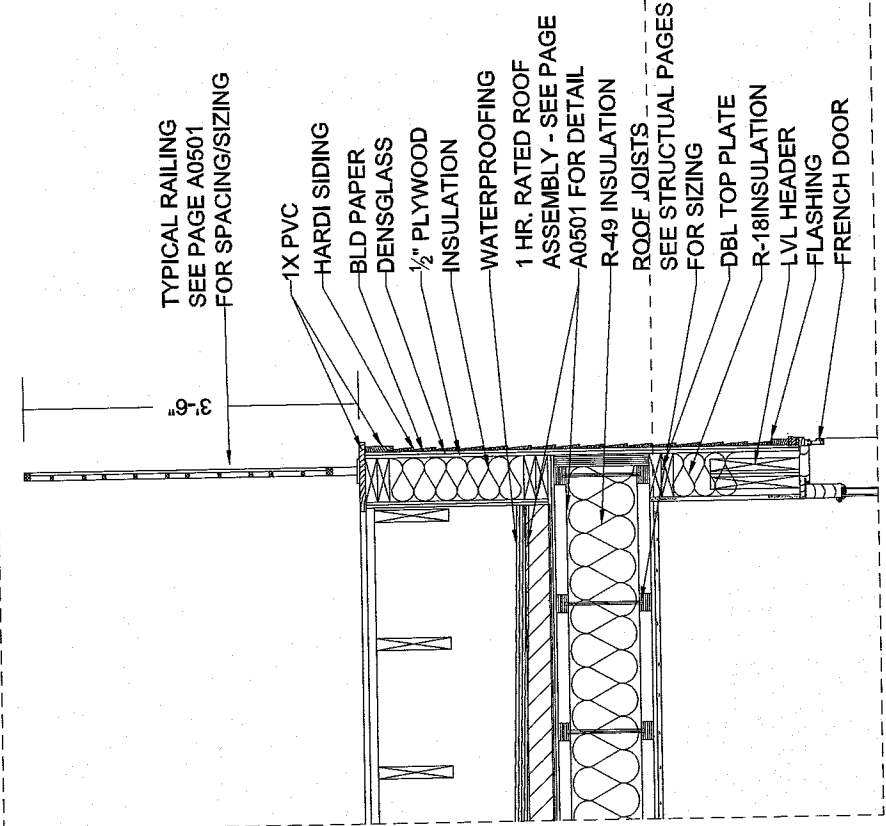
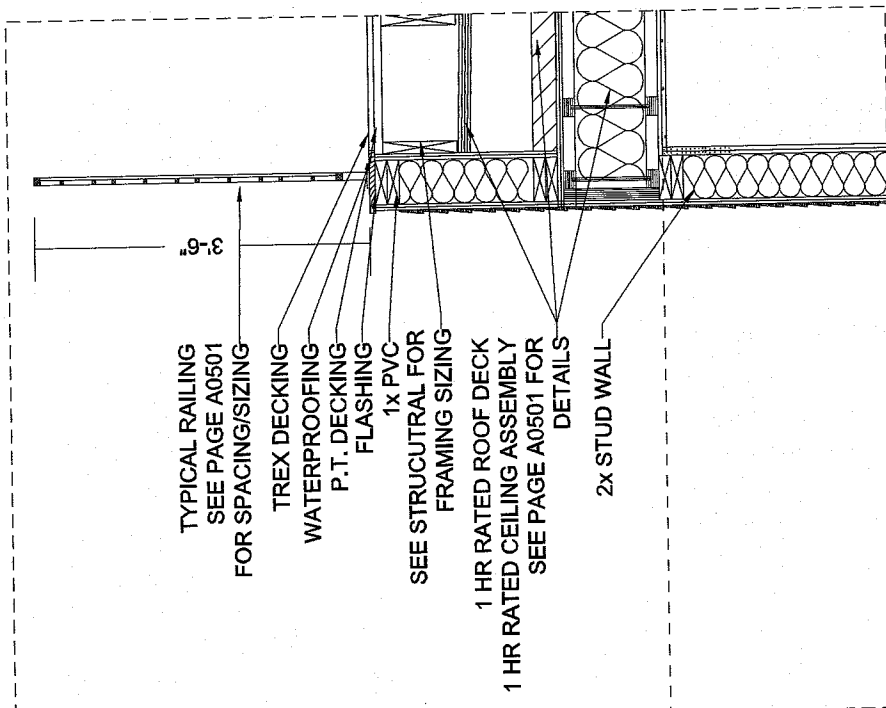
APPROVED FOR CONSTRUCTION  
DATE: JUL 08 2005

SCALE: AS NOTED  
DATE: 08/24/2014  
PROJECT NUMBER: 1829 ONTARIO

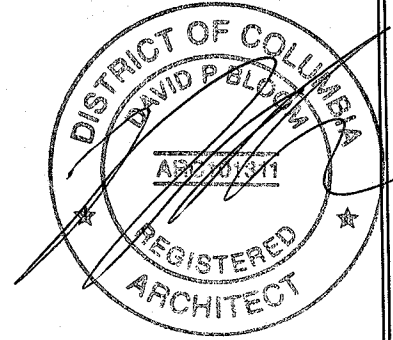
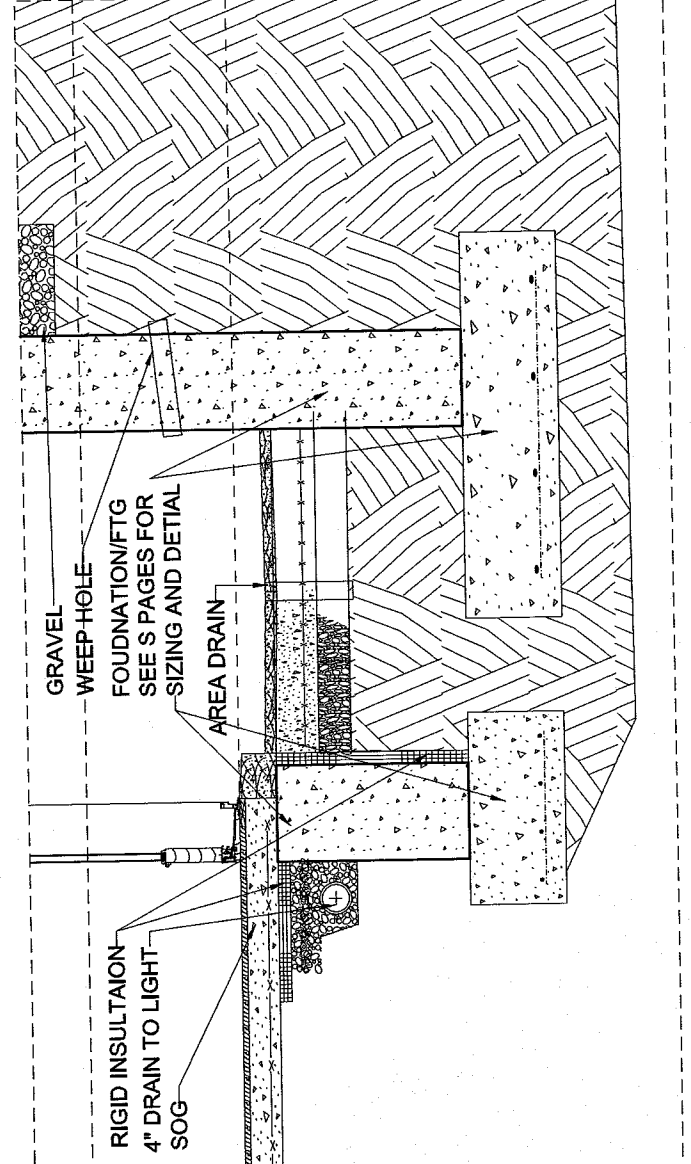
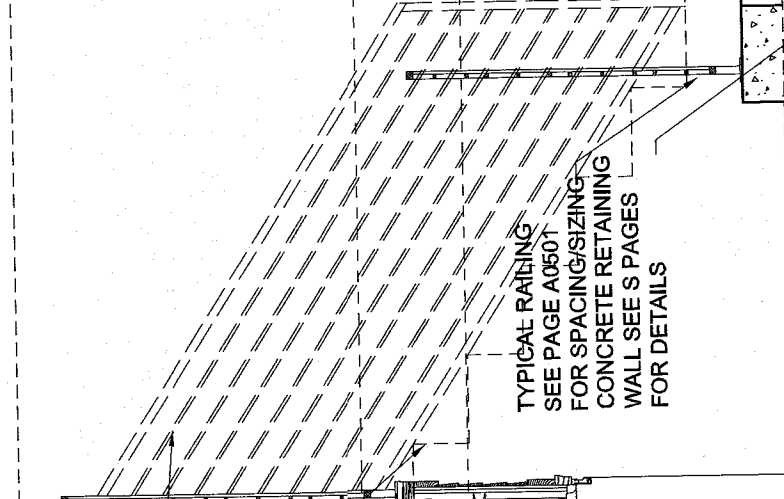
1828 ONTARIO PLACE, NW  
1828 ONTARIO PLACE, NW  
WASHINGTON, DC 20009  
LOT: 0438 SQUARE: 2583

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1766 Florida Avenue NW Suite 20009

A0401



TYPICAL RAILING  
SEE PAGE A0501  
FOR SPACING/SIZING  
HANDRAIL BEHIND  
SEE PAGE A0501  
STEEL STAIRS BEHIND



1828 ONTARIO PLACE, NW

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LOT: 0438 SQUARE: 2583

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kc@kcdsstudios.com  
1786 florida avenue nw wdc 20009

A0401

ROOF DECK

1 HR. RATED  
PARAPET WALL  
RATED CEILING ASSEMBLY  
SEE PAGE A0501 FOR DETAIL

HARDIE SIDING  
BLD PAPER/  
VAPOR BARRIER  
DBL TOP PLATE  
DENSEGLASS  
INSULATION  
GYPSBOARD

1 HR. RATED  
PARAPET WALL  
RATED CEILING ASSEMBLY  
SEE PAGE A0501 FOR DETAIL

HARDIE SIDING  
BLD PAPER/  
VAPOR BARRIER  
DBL TOP PLATE  
DENSEGLASS  
INSULATION  
GYPSBOARD

1 HR FLOOR ASSEMBLY  
SEE PAGE A0501 FOR  
DETAILS

4TH FLOOR

1x BOARD  
FLASHING  
EXISTING MASONRY WALLS  
VIF PARAPET CONDITION

NEIGHBOUR FLOOR/ROOF LEVEL

EXISTING PARTY WALL

1 HR FLOOR ASSEMBLY  
SEE PAGE A0501 FOR  
DETAILS

3RD FLOOR

EXISTING PARTY WALL

NEIGHBOUR FLOOR LEVEL

1 HR FLOOR ASSEMBLY  
SEE PAGE A0501 FOR  
DETAILS

2ND FLOOR

NEIGHBOUR FLOOR LEVEL

1 HR FLOOR ASSEMBLY  
SEE PAGE A0501 FOR  
DETAILS

1ST FLOOR

NEIGHBOUR FLOOR LEVEL

JUL 08 2015

FOUNDATION WALL  
PLEASE SEE  
STRUCTURAL PAGES  
FOR DETAILS

UNDERPINNING  
SEE STRUCTURAL  
PAGES FOR DETAILS

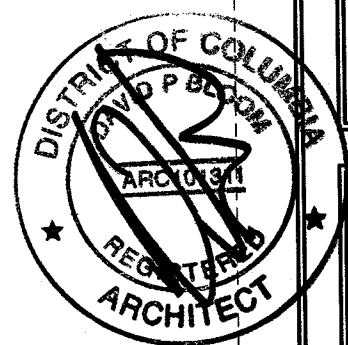
NEW SLAB  
SEE STRUCTURAL  
PAGES FOR DETAILS

EXISTING FOOTING  
LOCATION

UNDERPINNING  
SEE STRUCTURAL  
PAGES FOR DETAILS

NEW SLAB  
SEE STRUCTURAL  
PAGES FOR DETAILS

CELLAR FLOOR



1828 ONTARIO PLACE, NW

1828 ONTARIO PLACE, NW  
WASHINGTON, DC 20009

LOT: 0438 SQUARE: 2583

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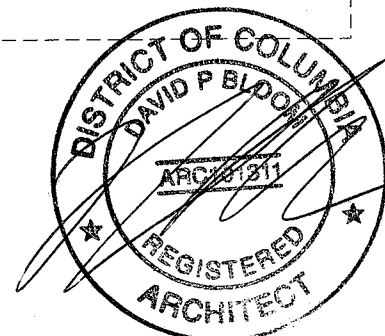
PROJECT NUMBER: 1829 ONTARIO

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kc@kcstudios.com  
1765 florida avenue nw wdc 20009

A0402



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WASHINGTON, DC 20009

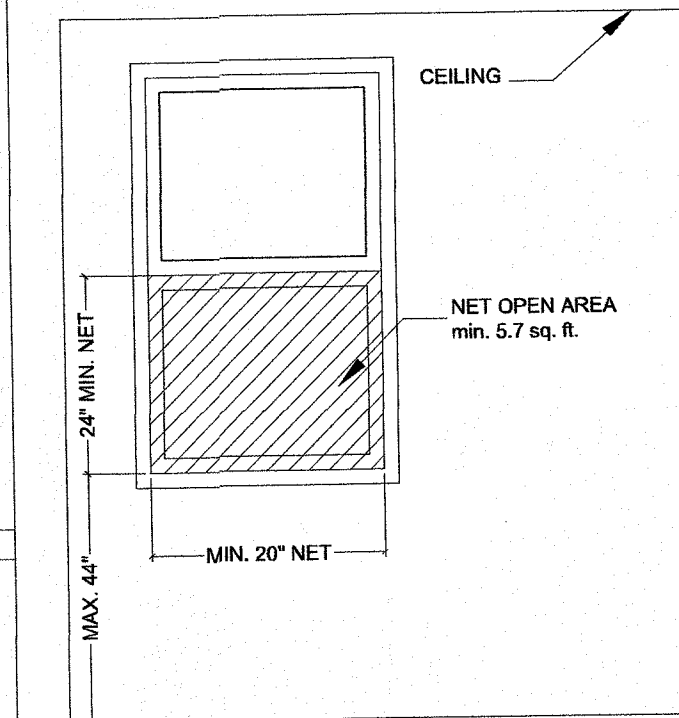
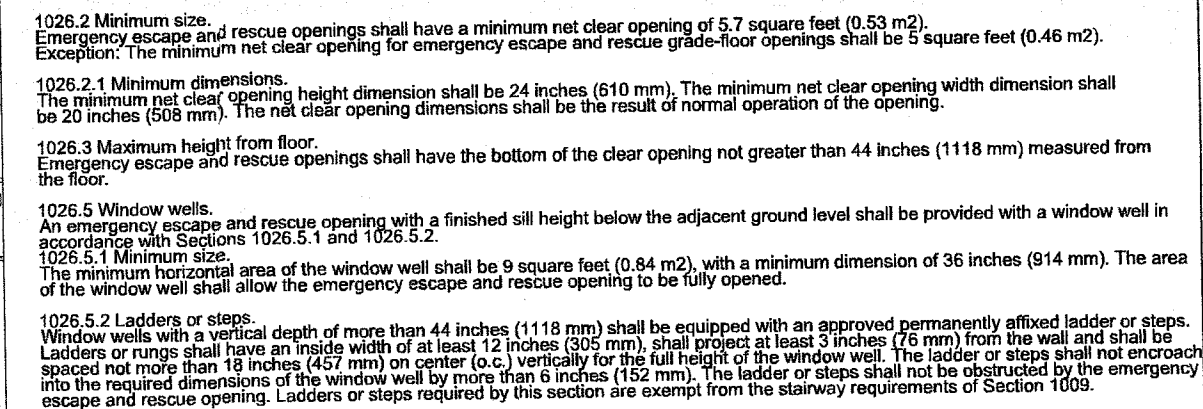
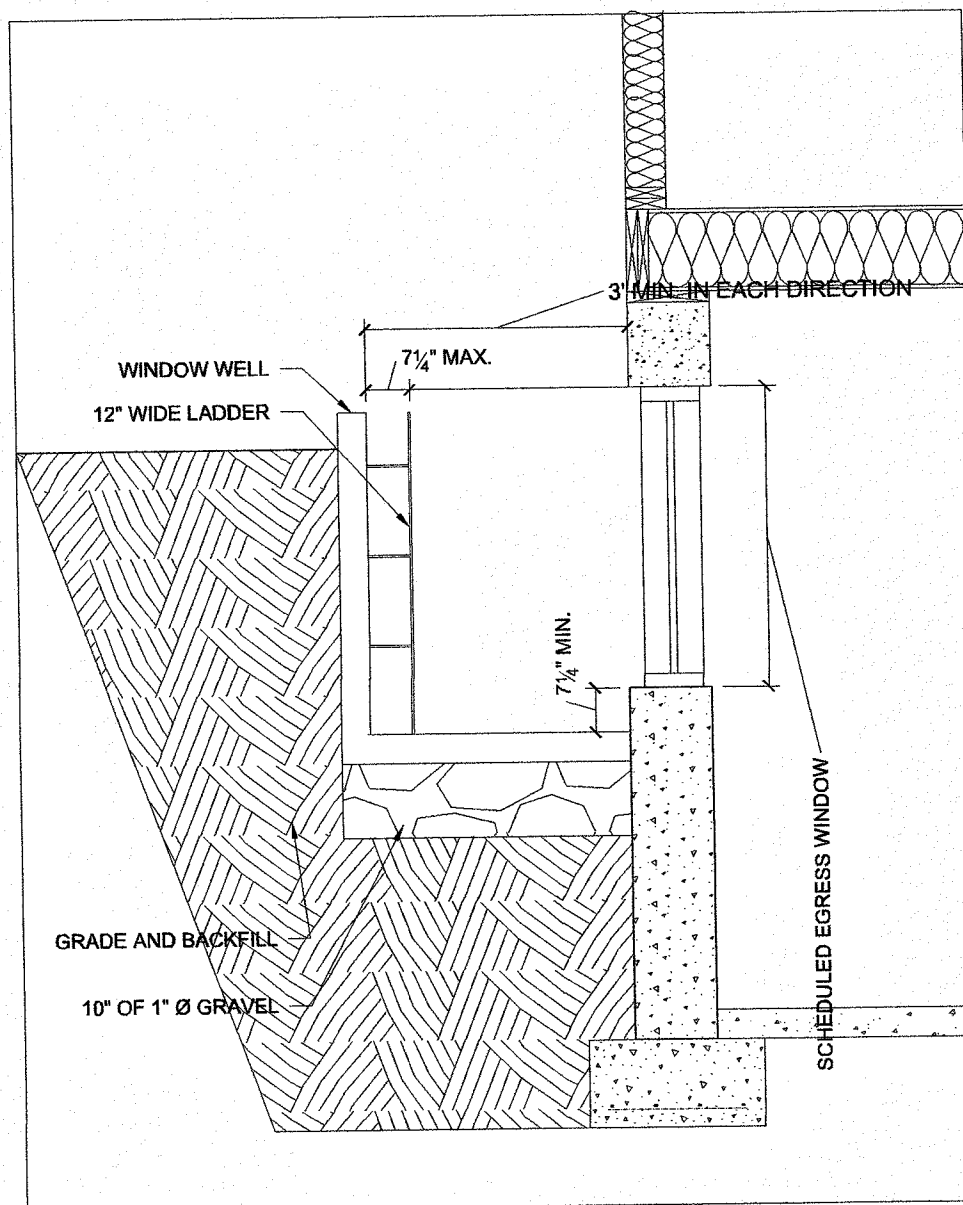
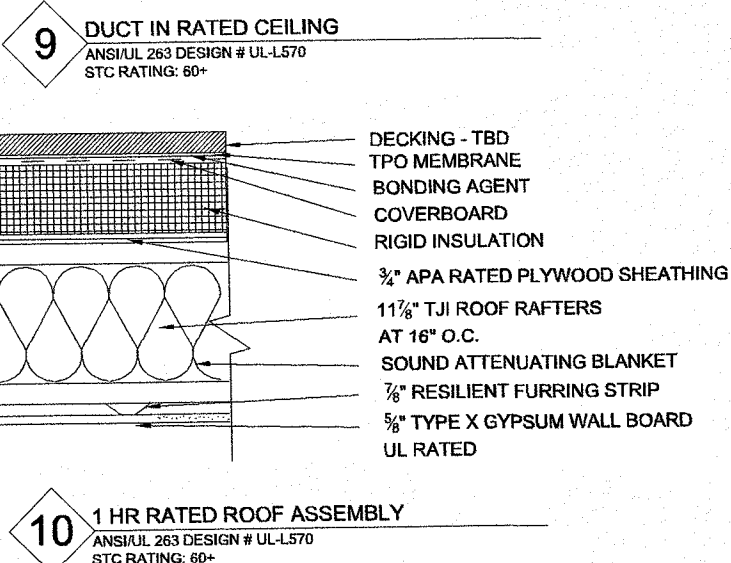
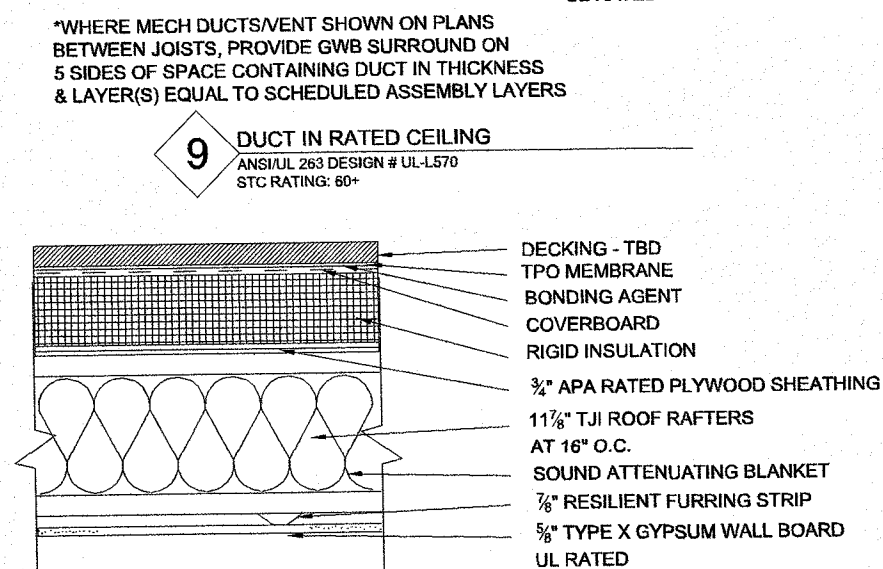
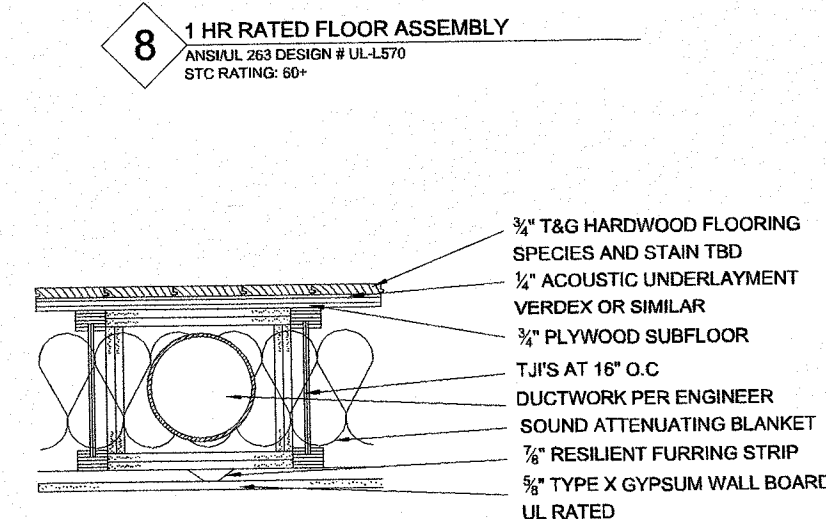
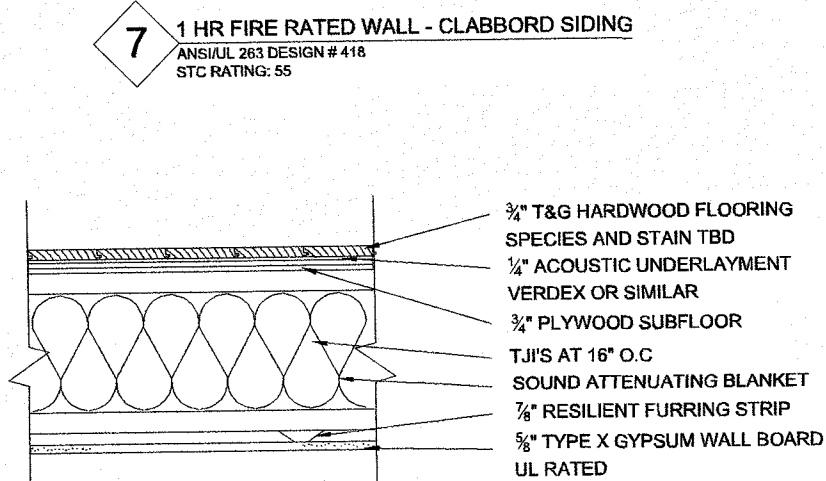
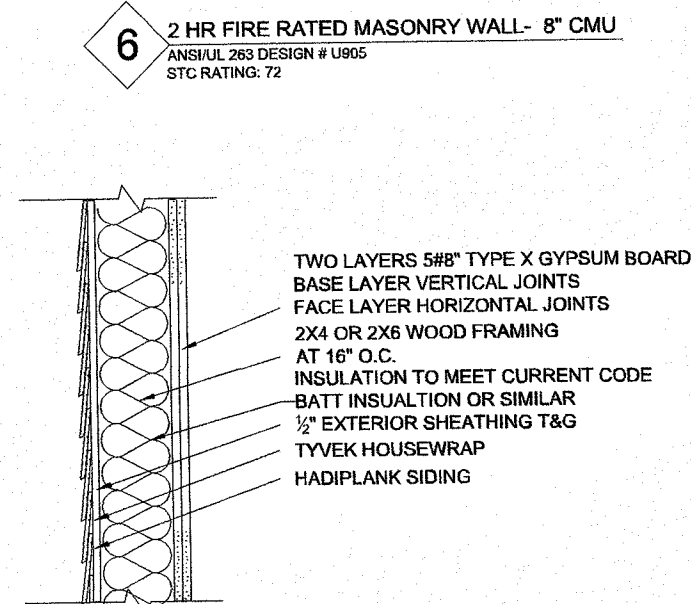
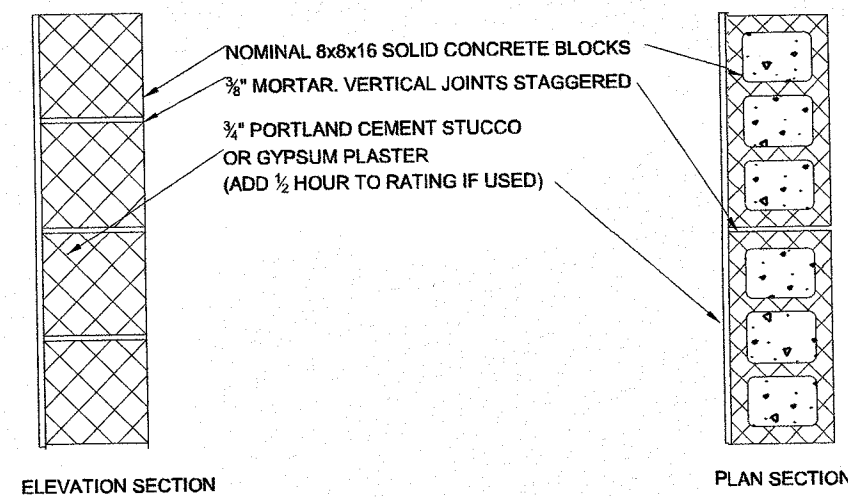
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architecture - design - construction management

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PROJECT NUMBER: 1828 ONTAR

A0402



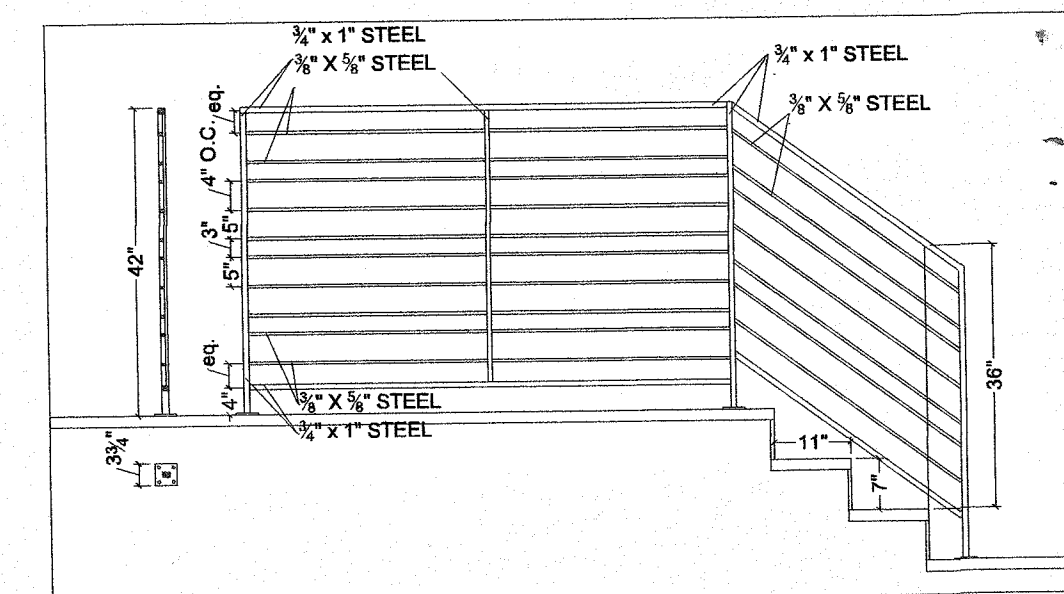
**1012.2 Height.**  
Handrail height, measured above stair tread nosings, or finish surface of ramp slope shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm).

1013.2 Height.  
Guards shall form a protective barrier not less than 42 inches (1067 mm) high, measured vertically above the leading edge of the tread, adjacent walking surface or adjacent seatboard.

**1013.3 Opening limitations.**  
Open guards shall have balusters or ornamental patterns such that a 4-inch-diameter (102 mm) sphere cannot pass through any opening up to a height of 34 inches (864 mm). From a height of 34 inches (864 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.

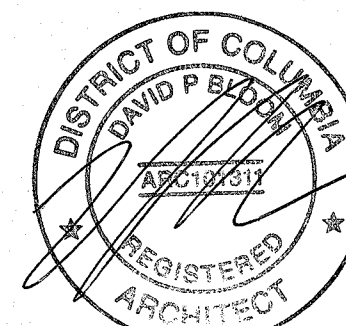
1607.7.1 Handrails and guards. Handrail assemblies and guards shall be designed to resist a load of 50 plf (0.73 kN/m) applied in any direction at the top and to transfer this load through the supports to the structure.

1607.7.1.1 Concentrated load.  
Handrail assemblies and guards shall be able to resist a single concentrated load of 200 pounds (0.89 kN), applied in any direction at any point along the top, and have attachment devices and supporting structure to transfer this loading to appropriate structural elements of the building. This load need not be assumed to act concurrently with the loads specified in the preceding paragraph.



DISTRICT OF COLUMBIA  
PERMIT OPERATIONS DIVISION  
STRUCTURAL WORK SECTION  
APPROVED SUBJECT  
FURTHER APPROVAL

JUL 08 2012



KC/DC STUDIOS  
architecture • design • construction management

architecture - design - construction management

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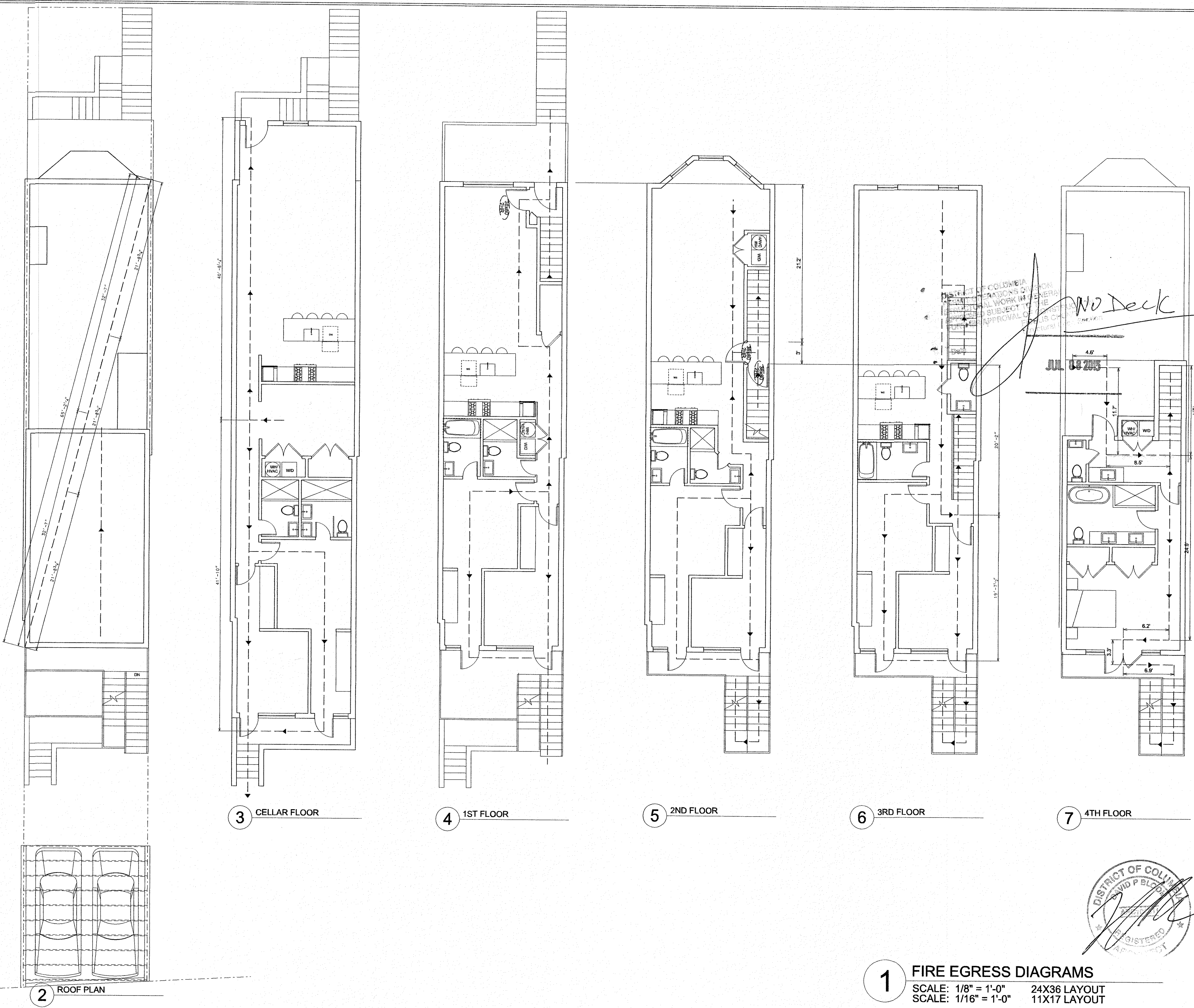
LOT: 0438      SQUARE: 2583

SCALE: AS NOTED

DATE: 08/24/2014

PROJECT NUMBER: 1828 ONTARIO

**A0501**



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**1828 ONTARIO PLACE, NW**

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LOT: 0438 SQUARE: 2583

SCALE: AS NOTED  
DATE: 08/24/2014  
PROJECT NUMBER: 1828 ONTARIO

**A0502**

**1 FIRE EGRESS DIAGRAMS**  
SCALE: 1/8" = 1'-0"  
SCALE: 1/16" = 1'-0"  
24X36 LAYOUT  
11X17 LAYOUT

MECHANICAL SPECIFICATIONS

GENERAL

1. ALL WORK SHALL CONFORM WITH ALL LOCAL AND STATE CODES, RULES AND REGULATIONS.
2. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND TAXES.
3. MAKE NO CHANGES WITHOUT THE WRITTEN PERMISSION FROM THE ARCHITECT.
4. ALL MATERIAL AND EQUIPMENT INDICATED ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS SHALL BE PROVIDED BY THE CONTRACTOR NEW AND THE BEST PRODUCTS OF REPUTABLE MANUFACTURERS AND SHALL BE IN NEW CONDITION AT ACCEPTANCE OF WORK.
5. THIS CONTRACTOR SHALL GUARANTEE ALL MATERIALS, LABOR AND EQUIPMENT FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE. CONTRACTOR SHALL PAY FOR ANY REPAIRS OR REPLACEMENTS CAUSED BY DEFECTIVE WORKMANSHIP OR FAULTY MATERIALS AS CONSTRUED HEREIN WITHIN THE PERIOD COVERED BY THE GUARANTEE.
6. CONTRACTOR SHALL MAKE AN ON-SITE INSPECTION TO DETERMINE FULLY THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION.
7. CONTRACTOR SHALL VERIFY SITE EFORE PURCHASING NEW MATERIALS AND EQUIPMENT OR FABRICATING NEW DUCTWORK.
8. LOCATION OF EQUIPMENT, PIPING, AND OTHER MECHANICAL WORK IS INDICATED DIAGRAMMATICALLY BY THE DRAWINGS. DETERMINE EXACT LOCATIONS ON THE JOB SITE, SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF OTHER CONTRACTORS.
9. CONTRACTOR ASSUMES RESPONSIBILITY FOR PROPER ARRANGEMENT OF PIPES, DUCTS, ETC., TO CONNECT APPROVED EQUIPMENT IN A PROPER AND APPROVED MANNER. FOLLOW EQUIPMENT MANUFACTURER'S DETAILED INSTRUCTIONS AND THE CONTRACT DOCUMENTS. NOTIFY THE ARCHITECT BEFORE PROCEEDING. NO EQUIPMENT INSTALLATION OR CONNECTIONS SHALL BE MADE IN A MANNER THAT VOIDS THE MANUFACTURER'S WARRANTY.
10. INSTALL EACH ITEM OF EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
11. INSTALL ALL WORK IN A NEAT AND WORKMANLIKE MANNER, USING ONLY WORKMEN THOROUGHLY QUALIFIED IN THE TRADE OF DUTIES THEY ARE TO PERFORM. ROUGH WORK WILL BE REJECTED.
12. CUTTING AND PATCHING SHALL BE DONE BY THE APPROPRIATE TRADE UNLESS OTHERWISE REQUIRED BY TRADE CUSTOM OR SPECIFIED UNDER ANOTHER SECTION OF THE SPECIFICATIONS. CONTRACTOR SHALL FURNISH SKETCHES SHOWING THE LOCATIONS AND SIZES OF ALL OPENINGS, CHASES, ETC. REQUIRED. CONTRACTOR IS LIABLE FOR CUTTING OR PATCHING MADE NECESSARY BY HIS FAILURE TO MAKE PROPER ARRANGEMENTS IN THIS RESPECT.
13. DO NOT CUT STRUCTURAL MEMBERS WITHOUT THE APPROVAL OF THE ARCHITECT[ENGINEER AND ALL SUCH CUTTING SHALL BE DONE IN A MANNER AS DIRECTED BY HER OR HIM.
14. MAINTAIN WORK AREA CLEAN AT ALL TIMES DURING CONSTRUCTION. AFTER COMPLETING INSTALLATIONS OF DUCTWORK, CONTRACTOR SHALL CLEAN ENTIRE SYSTEM OF RUBBISH, PLASTER, DIRT AND AY OTHER DEBRIS.
15. TEST ALL SYSTEMS. SYSTEMS SHALL OPERATE SATISFACTORILY AS DESIGNED AND INTENDED. REPORT ANY DEFICIENCIES TO ENGINEER.

SHOP DRAWINGS

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE FOLLOWING MATERIALS AND EQUIPMENT:

- A. ALL HEATING AND COOLING EQUIPMENT  
B. VIBRATION ISOLATORS  
C. PIPE AND DUCT INSULATION  
D. FANS  
E. AIR DEVICES  
F. TEMPERATURE CONTROLS  
G. TESTING AND BALANCING REPORTS  
H. OPERATION AND MAINTENANCE MANUALS

2. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF MECHANICAL EQUIPMENT ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR. CONTRACTOR ORIGINATED MODIFICATIONS TO THE MECHANICAL EQUIPMENT ELECTRICAL INSTALLATION, DUE TO DEVIATIONS FROM THE MECHANICAL EQUIPMENTS "BASIS OF DESIGN" OR "PROTOTYPE" ELECTRICAL DATA, SHALL BE AT A COST TO THE MECHANICAL CONTRACTOR.

CHANICAL ABBREVIATIONS

|                          |     |                         |
|--------------------------|-----|-------------------------|
| ABOVE                    | FT  | FEET                    |
| NR CONDITIONER           | GD  | GRAVITY DAMPER          |
| ABOVE FINISHED FLOOR     | GPM | GALLONS PER MINUTE      |
| NR HANDLING UNIT         | H   | HUMIDIFIER              |
| NR PRESSURE DROP         | HP  | HORSEPOWER              |
| ARCHITECTURAL            | IN  | INCHES                  |
| BETWEEN JOISTS           | KW  | KILOWATTS               |
| BRITISH THERMAL UNITS    | LAT | LEAVING AIR TEMPERATURE |
| PER HOUR                 | LF  | LINEAR FEET             |
| CUBIC FEET PER MINUTE    | MCA | MINIMUM CIRCUIT AMPS    |
| CEILING                  | MBH | THOUSAND BTU PER HOUR   |
| CONCRETE                 | OBD | OPPOSED BLADE DAMPER    |
| CONDENSATE               | PH  | PHASE                   |
| CONTINUATION             | RA  | RETURN AIR              |
| CONDENSATE PUMP          | RLA | RUN BETWEEN JOISTS      |
| CONDENSING UNIT          | SA  | SUPPLY AIR              |
| RY BULB                  | SF  | SUPPLY FAN              |
| DOWN                     | SL  | SOUND LINING            |
| DRAWING                  | SP  | STATIC PRESSURE         |
| ACH                      | SQ  | SQUARE                  |
| ENTERING AIR TEMPERATURE | TYP | TYPICAL                 |
| XHAUST FAN               | V   | VOLTS                   |
| EXTERNAL STATIC PRESSURE | VTR | VENT THRU ROOF          |
| XHAUST                   | W/  | WITH                    |
| EGREES FAHRENHEIT        | WB  | WET BULB                |
| LOOR                     | WG  | WATER GAUGE             |
| ULL LOAD AMPS            | FSR | FLOOR SUPPLY REGISTER   |
| EET PER MINUTE           | CSR | CEILING SUPPLY          |
| LOOR REGISTER            | WG  | WALL                    |

PIPING

1. CONDENSATE PIPING: TYPE "M" COPPER TUBING WITH SWEAT TYPE FITTINGS. SLOPE ALL CONDENSATE PIPING TOWARDS DRAINS AT 1/8 PER FOOT.

VIBRATION ISOLATORS

1. PROVIDE DOUBLE DEFLECTION NEOPRENE ISOLATION HANGERS FOR SUSPENDED FANS AND EQUIPMENT LESS THAN 100 LBS.
2. QUANTITY AND LOCATION OF ISOLATORS SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
3. AFTER INSTALLATION AND START-UP, CONTRACTOR SHALL THOROUGHLY CHECK EACH ITEM OF EQUIPMENT FOR VIBRATION TRANSMISSION TO THE STRUCTURE OR EXCESSIVE NOISE, AND IF EITHER OCCURS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING THE FAULTY SITUATION IMMEDIATELY.

INSULATION

1. ALL DUCT AND PIPE INSULATION AND COVERINGS SHALL HAVE A FIRE AND SMOKE HAZARD RATING AS TESTED UNDER PROCEDURE ASTM-E-84, NFPA 255 AND UL 723 NOT EXCEEDING A FLAME SPREAD RATING OF 25 AND A SMOKE DEVELOPED RATING OF 50.
2. AIR CONDITIONING DUCTS: INSULATE ALL NEW SUPPLY AIR & RETURN AIR AND DUCTS WITH A 1-1/2" THICK, 3 / 4 LB. DENSITY FIBERGLASS, FLEXIBLE BLANKET INSULATION AND EXESTING UNINSULATED, FACED WITH A FIRE RESISTIVE VAPOR BARRIER JACKET WITH A 2" TAB ON ONE EDGE. INSULATION SHALL BE WRAPPED ON DUCTS ON DUCTS WITH FACING OVERLAPPING ALL JOINTS AT LEAST 2" AND HELD IN PLACE WITH 1/2"OUTWARD CLINCHING STAPLES ON 4" CENTERS. STAPLES AND SEAMS ARE TO BE SEALED WITH A BRUSH COAT OF VAPOR BARRIER MASTIC.
3. REFRIGERANT SUCTION, CONDENSATE DRAIN PIPING: INSULATE WITH 1/2" THICK ARMAFLEX FIRE RATED INSULATION OR APPROVED ON EQUAL, WITH ALL JOINTS SEALED WITH ARMAFLEX ADHESIVE #520. WHERE POSSIBLE, INSULATION SHALL BE SLIPPED OVER THE TUBING AS FULL CYLINDER. INSULATION OF PIPING SHALL BE VAPOR TIGHT AND CONTINUOUS THROUGH HANGERS, WALLS, ETC. PROVIDE GALVANIZED SHEET METAL SADDLES AT HANGERS.
4. REFRIGERANT LIQUID , HOT GAS PIPING AND CONDENSATE DRAIN WITHIN THE BUILDING: INSULATE WITH 1/2" THICK ARMAFLEX FIRE RATED INSULATION OR APPROVED EQUAL

DUCTWORK

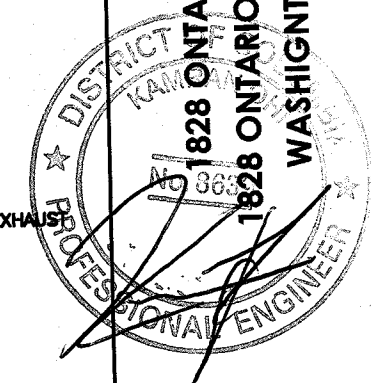
1. GENERAL: CONSTRUCT ALL DUCTWORK AND ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS FOR 2" PRESSURE CLASS AND SEAL CLASS B.
2. METAL DUCTWORK: FABRICATE ALL DUCTWORK, HOUSING, DAMPERS, AND ALL OTHER DUCT RELATED ACCESSORIES FROM GALVANIZED STEEL SHEETS UNLESS OTHERWISE NOTED.
3. INSTALL ALL DUCTWORK BELOW CEILING AND HOLD TIGHT TO UNDERSIDE OF STRUCTURE ABOVE UNLESS OTHERWISE INDICATED.
4. CHANGES TO DUCT DUE TO FIELD CONDITIONS SHALL BE MADE ONLY IF THE DUCT SIZE FREE AREA IS MAINTAINED AND SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL
5. FLEXIBLE CONNECTORS: PROVIDE FLEXIBLE CONNECTORS AT THE INLET AND OUTLET CONNECTION FOR EACH FAN AND AIR HANDLING UNIT. EACH FLEXIBLE CONNECTOR SHALL ALLOW 1" OF FREE MOVEMENT AND SHALL BE COMPLETELY AIR TIGHT. PROVIDE NEOPRENE COATED GLASS FABRIC MATERIAL, MINIMUM 30 OZ. PER SQUARE YARD. CONTRACTOR SHALL BRACE DUCTWORK (AS REQUIRED) AT ALL FLEXIBLE CONNECTORS TO ENSURE THAT DUCTWORK IS KEPT IN ALIGNMENT.
6. LEAKAGE  
A. ALL DUCT JOINTS SHALL BE SEALED WITH HARDCAST 601.  
B. LEAKAGE TESTING FOR ALL DUCTWORK SHALL BE BY PHYSICAL SENSATION AND SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.  
C. PERFORM ALL TESTING AFTER THE SEALS HAVE CURED COMPLETELY AND BEFORE COVERING WITH INSULATION OR CONCEALING IN MASONRY.

MECHANICAL SYMBOLS

|  |                                   |  |                                      |
|--|-----------------------------------|--|--------------------------------------|
|  | SUPPLY AIR DEVICE                 |  | DRAIN                                |
|  | RETURN AIR DEVICE                 |  | FUEL OIL SUPPLY                      |
|  | EXHAUST AIR DEVICE                |  | PITCH PIPING DOWN IN DIRECTION SHOWN |
|  | FLEXIBLE CONNECTION               |  | LOW WALL REGISTER                    |
|  | ELBOW WITH TURNING VANES          |  | GATE VALVE                           |
|  | CONICAL TAP                       |  | GLOBE VALVE                          |
|  | DUCTWORK W/1" EXTERNAL INSULATION |  | BALANCING VALVE                      |
|  | NEW WORK                          |  | UNION                                |
|  | BDD                               |  | CHECK VALVE                          |
|  | VD                                |  | STRAINER WITH BLOWDOWN VALVE         |
|  | ELECTRICAL WALL HEATER            |  | THERMOSTAT                           |
|  | FLOW OF AIR                       |  | WALL MOUNTED SWITCH                  |
|  | REFRIGERANT SUCTION               |  | ROUND                                |
|  | REFRIGERATION LIQUID              |  | EXISTING                             |

GENERAL NOTES

1. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SUPPORT DETAILS OF ALL ROOF MOUNTED EQUIPMENT AND FOR THE LOCATION OF DUCTS THROUGH ROOF.
2. CONTRACTOR SHALL MOUNT AND CONNECT EACH ITEM OF EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. CONTRACTOR SHALL MAKE AN ON-SITE INSPECTION TO DETERMINE FULLY THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION.
4. LOCATION OF EQUIPMENT, PIPING, AND OTHER MECHANICAL WORK IS INDICATED DIAGRAMMATICALLY BY THE DRAWINGS. DETERMINE EXACT LOCATIONS ON THE JOB SITE, SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF OTHER CONTRACTORS.
5. CONTRACTOR SHALL, AFTER INSTALLATION AND START-UP, THOROUGHLY CHECK EACH ITEM OF EQUIPMENT FOR VIBRATION TRANSMISSION TO THE STRUCTURE OR EXCESSIVE NOISE. IF EITHER OCCURS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING THE FAULTY SITUATION IMMEDIATELY.
6. STANDARDS. MINIMUM SIZE OF ACCESS PANELS SHALL BE 12" X 12" EXCEPT WHERE DUCT IS LESS THAN 14" WIDE IN WHICH CASE ONE DIMENSION SHALL BE 12" AND THE OTHER SHALL BE 2" LESS THAN THE DUCT WIDTH. ACCESS DOORS SHALL BE ACCESSIBLE.
7. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF MECHANICAL EQUIPMENT'S ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR. CONTRACTOR ORIGINATED MODIFICATIONS TO THE MECHANICAL EQUIPMENT'S ELECTRICAL INSTALLATION, DUE TO DEVIATIONS FROM THE MECHANICAL EQUIPMENTS "BASIS OF DESIGN" OR "PROTOTYPE" ELECTRICAL DATA, SHALL BE AT A COST TO THE MECHANICAL CONTRACTOR.
8. SIZES AND LOCATIONS OF EXISTING DUCTWORK AND PIPING SHOWN ON THESE DRAWINGS ARE TAKEN FROM AVAILABLE DRAWINGS OF EXISTING BUILDING. CONTRACTOR SHALL VERIFY SIZES AND LOCATIONS OF EXISTING DUCTWORK AND PIPING BEFORE PURCHASING NEW MATERIALS AND EQUIPMENT OR FABRICATING NEW DUCTWORK.
9. RUN, SIZE, AND TRAP REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS.
10. CONTRACTOR SHALL PROVIDE EXTERNAL TRAPS FOR CONDENSATE DRAIN LINES WHICH ARE NOT INTERNALLY TRAPPED.
11. RUN CONDENSATE DRAIN LINE FROM INDOOR UNIT ONTO SPLESH PAD ON GRADE.
12. ALL INDOOR HEAT PUMP UNITS SHALL BE FACTORY WIRED FOR SINGLE SOURCE POWER CONNECTION. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TROUGH, WIRES, AND FUSED SAFETY SWITCHES IF UNITS ARE SUPPLIED OTHERWISE. UNITS SHALL BE FUSED AS REQUIRED BY EQUIPMENT MANUFACTURER.
13. ALL MAIN DUCT RUN OUTS SHALL BE OF SHEETMETAL CONSTRUCTION (NO FLEX ALLOWED).
14. INSULATE ALL NEW SUPPLY AND RETURN DUCTWORK. DUCTWORK INDICATED TO BE SOUND LINED SHALL NOT BE EXTERNALLY INSULATED IN ADDITION TO SOUND LINING.
15. PROVIDE VOLUME DAMPERS AT EACH BRANCH TAKE-OFF FROM MAIN SUPPLY, RETURN AND EXHAUST DUCT SERVING TWO OR MORE AIR DEVICES.
16. ANY CHANGES TO DUCT DUE TO FIELD CONDITIONS SHALL BE MADE ONLY IF THE DUCT SIZE FREE AREA IS MAINTAINED AND SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL
17. SOUNDS LINE MAIN SUPPLY AND RETURN AIR DUCTS 6'-0" FROM UNITS, AS SPECIFIED AND SHOWN ON DRAWINGS. LINING SHALL MEET THE LIFE SAFETY STANDARDS AS ESTABLISHED BY NFPA 90A.
18. CONNECT MAIN DUCTWORK TO AHU/FANS WITH FLEXIBLE CONNECTIONS.
19. MECHANICAL CONTRACTOR SHALL COORDINATE DUCTWORK LAYOUTS WITH PLUMBING WORK.
20. THERMOSTAT & REGISTER LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE COORDINATED W/ARCHITECTURAL DRAWINGS. MOUNT THERMOSTATS 4'-0" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.

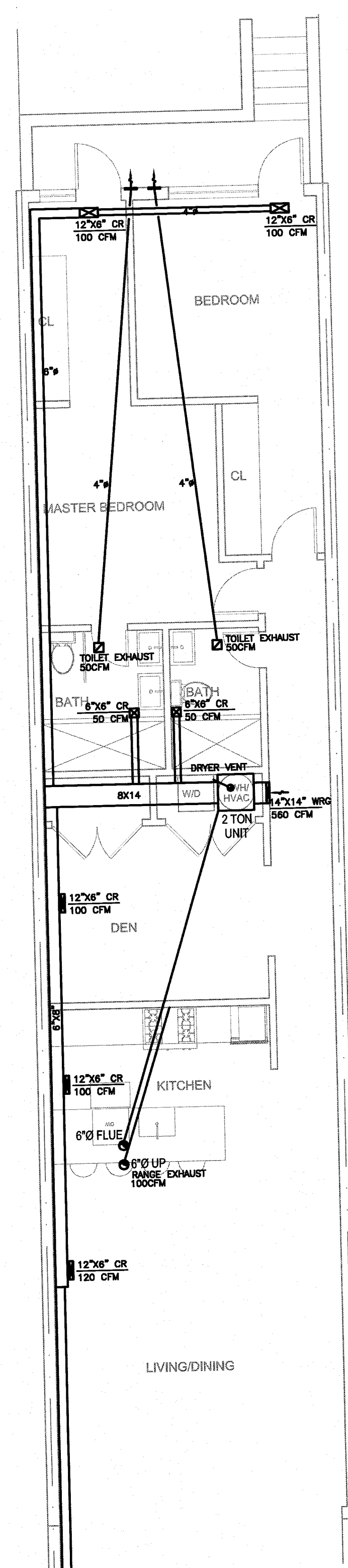


REVISIONS

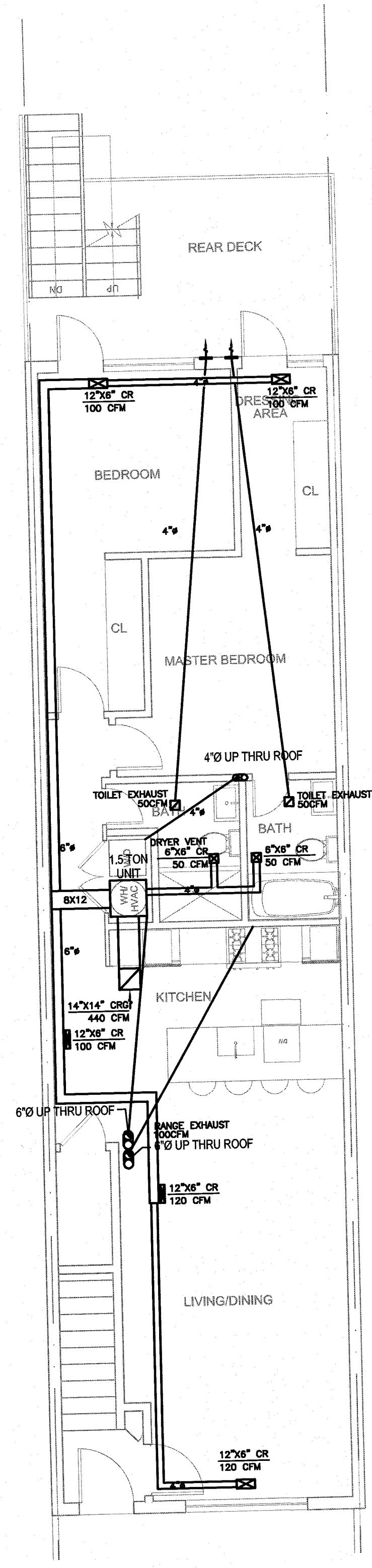
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SCALE: AS SHOWN

MECHANICAL  
PLANS

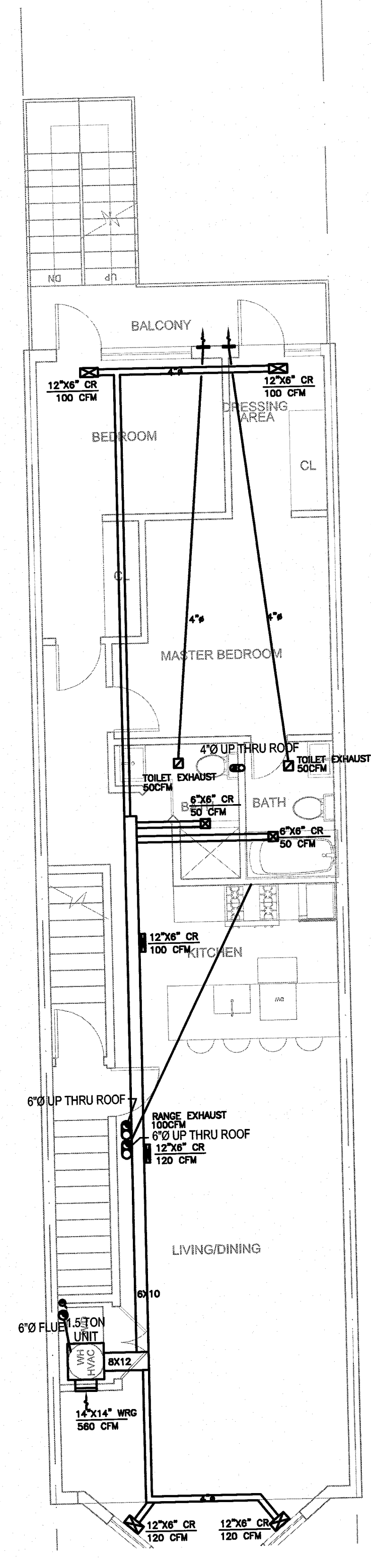
M102



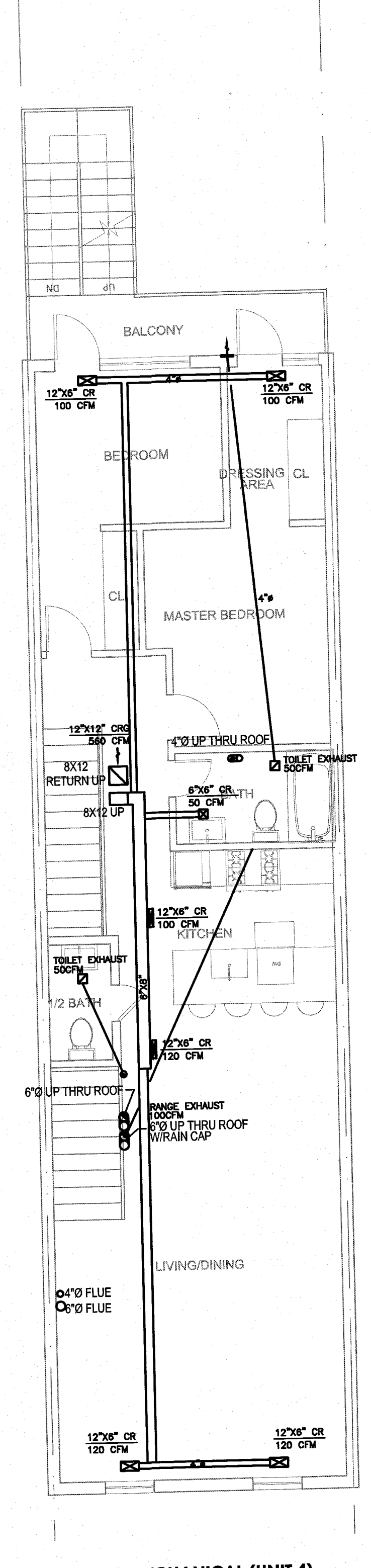
**1 CELLAR MECHANICAL (UNIT 1)**  
M101 scale: 3/16" = 1'-0"



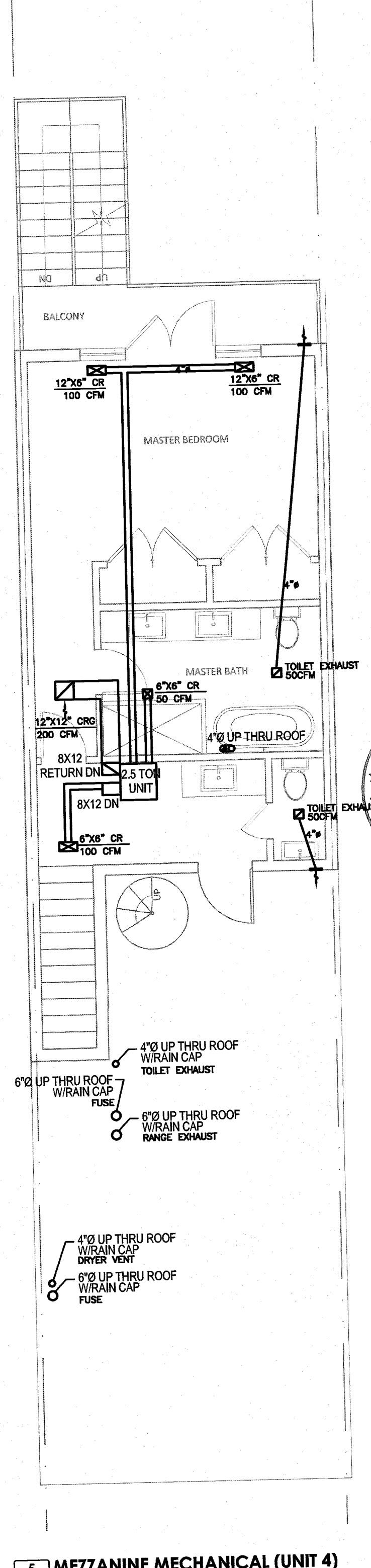
**2 1ST FLR MECHANICAL (UNIT 2)**  
M101 scale: 3/16" = 1'-0"



**3 2ND FLR MECHANICAL (UNIT 3)**  
M101 scale: 3/16" = 1'-0"



**4 3RD FLR MECHANICAL (UNIT 4)**  
M101 scale: 3/16" = 1'-0"



**5 MEZZANINE MECHANICAL (UNIT 4)**  
M101 scale: 3/16" = 1'-0"

ELECTRICAL SPECIFICATIONS

1. THE WORK SHALL INCLUDE ALL DEMOLITION, FURNISHING AND INSTALLING ALL ELECTRICAL SYSTEMS AND EQUIPMENT AS SHOWN ON THE PLANS AND AS SPECIFIED HEREIN.
2. THE CONTRACTOR SHALL EXAMINE THE DRAWINGS, AND THE JOB SITE AND FULLY INFORM HIMSELF OF ALL EXISTING CONDITIONS AND WORK REQUIRED BY THE DRAWINGS AND BEFORE SUBMITTING HIS BID. WAIVER OF RESPONSIBILITY OR REQUEST FOR ADDITIONAL PAYMENT BASED ON LACK OF KNOWLEDGE OF CONDITIONS AT THE SITE WILL NOT BE ACCEPTED DR CONSIDERED.
3. THE ENTIRE ELECTRICAL INSTALLATION SHALL CONFORM TO THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE, LOCAL JURISDICTION REQUIREMENT, AND LOCAL CODE REQUIREMENTS.
4. ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR ELECTRICAL WORK.
5. ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UNDERWRITER'S LABORATORIES LABEL.
6. PROVIDE SHOP DRAWINGS FOR THE FOLLOWING ITEMS:  
A. LIGHTING FIXTURES, SWITCHES, RECEPTACLES, PANELBOARDS, AND DISCONNECT SWITCHES.
7. ALL EQUIPMENT SUCH AS PANELBOARDS AND DISCONNECTS SWITCHES SHALL BE AS MANUFACTURED BY GENERAL ELECTRIC, SQUARE-D, CUTLER-HAMMER OR SIEMENS.
8. PROVIDE TEMPORARY SERVICE AS NECESSARY FOR LIGHTING AND POWER EQUIPMENT, DRILLS, SAWS, ETC.). VERIFY TEMPORARY REQUIREMENTS WITH GENERAL CONTRACTOR. TEMPORARY LIGHTING AND POWER SHALL MEET OSHA REQUIREMENTS AND LOCAL CODES.
9. ADVANCE NOTICE SHALL BE GIVEN TO THE OWNER BEFORE COMMENCEMENT OF WORK, WHETHER OR NOT AN OUTAGE IS REQUIRED.
10. ALL CIRCUITRY, EQUIPMENT, DEVICES, ETC., SHALL BE NEW UNLESS SPECIFICALLY NOTED ON THE PLANS.
11. THE FOLLOWING TERMINOLOGY AND MEANINGS WILL BE USED IN THESE SPECIFICATIONS:  
A. PANELBOARDS 'EQUIPPED SPACE' DR 'SPACE': INCLUDE ALL NECESSARY BUS, DEVICE SUPPORTS AND CONNECTIONS FDR INSERTION OF A FUTURE DEVICE.  
B. 'PROVIDE': FURNISH AND INSTALL.
12. ALL WORK SHALL BE PERFORMED DURING NORMAL WORKING HOURS, MONDAY THROUGH FRIDAY, 7 AM – 5 PM. IF WORK CANNOT BE PERFORMED DURING NORMAL WORKING HOURS THE OWNER SHALL BE NOTIFIED.
13. FINAL TESTING: AT THE TIME OF FINAL INSPECTION AND TEST, ALL CONNECTIONS AT PANELBOARDS, DEVICES AND EQUIPMENT, AND ALL SPLICES MUST BE COMPLETED. EACH BRANCH CIRCUIT AND ITS RESPECTIVE CONNECTED EQUIPMENT MUST TEST FREE OF SHORT CIRCUITS. UPON COMPLETION OF THE WORK, CLEAN AND POLISH ALL EXPOSED SURFACES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

PANELBOARDS

1. BEFORE ORDERING PANELBOARDS, COORDINATE ALL MOTOR CIRCUIT BREAKER TRIPS WITH MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE CONDUCTOR SIZE WITH ACTUAL MOTORS AND OTHER MECHANICAL AND ARCHITECTURAL EQUIPMENT FURNISHED BEFORE INSTALLING CIRCUITRY.
2. ALL PANELBOARDS SHALL HAVE COMMON KEYED LOCKS. PROVIDE A MINIMUM OF TWO KEYS PER PANEL. PANELBOARDS SHALL BE COMPLETE WITH COVER AND TRIM AND SHALL CONTAIN A GROUND BUS.
3. SURFACE MOUNTED PANELBOARD CABINETS SHALL BE INSTALLED ON AN APPROVED STEEL FRAMEWORK TO DISTRIBUTE THE WEIGHT EVENLY TO THE WALL OR FLOOR AND TD PROVIDE A 1-INCH AIR SPACE BETWEEN WALL AND CABINET.
4. RECESSED PANELBOARDS, INSTALL ONE 3/4" CONDUIT FROM TOP OF PANEL 6" INTO CEILING SPACE FOR EVERY 3 SPARE CIRCUIT BREAKERS OR SPACES. PANELBOARDS IN UNITS SHALL BE COMPLETELY RECESSED AND BE PROVIDED WITH A FLUSH MANUFACTURER COVER.
5. PROVIDE ARC FAULT CIRCUIT BREAKERS FOR ALL CIRCUITS SERVING UNIT BEDROOMS.

SWITCHES, RECEPTACLES, & OUTLETS

1. CONTRACTOR SHALL VERIFY, WITH THE ARCHITECT, THE FINAL LOCATION OF TELEPHONE, TV AND RECEPTACLE OUTLETS PRIOR TO INSTALLATION. THE ARCHITECT MAY, AT HIS OPTION, RELOCATE ANY DEVICE WITHIN 5 FEET FROM THE LOCATION SHOWN ON THE DRAWINGS.
2. WHERE TWO OR MORE DEVICES OF THE SAME VOLTAGE ARE SHOWN TOGETHER ON THE PLANS, A GANGED PLATE SHALL BE USED. DEVICES OF DIFFERENT VOLTAGES SHALL BE SEPARATED HORIZONTALLY BY 6" AND SHALL BE HORIZONTALLY OR VERTICALLY ALIGNED.
3. ALL RECEPTACLES, TELEPHONE, AND DATA OUTLETS SHOWN ON A WALL BACK-TO-BACK SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY.
4. EXPOSED WALL PLATES AND DEVICES SHALL BE SMOOTH WHITE FINISH.
5. COORDINATE LIGHT SWITCHES SHOWN ON DRAWINGS WITH DOOR SWINGS. LOCATE LIGHT SWITCH ON LOCK SIDE OF DOOR.

LIGHTING FIXTURES

1. COORDINATE LOCATIONS OF LIGHTING FIXTURES WITH SPRINKLERS, MECHANICAL EQUIPMENT AND ARCHITECTURAL CEILING PLAN. LAYOUT ON PLANS IS APPROXIMATE, ADJUST AND COORDINATE LIGHTING FIXTURES IN FIELD PER ARCHITECTS/OWNERS DISCRETION.
2. LIGHTING FIXTURE TYPES SHALL BE COMPATIBLE WITH INSTALLATION. COORDINATE ALL FIXTURE TYPES WITH ARCHITECT PRIOR TO ORDERING FIXTURES. PROVIDE ALL MOUNTING ATACHMENTS FOR A COMPLETE INSTALLATION.
3. ALL NEW LIGHTING FIXTURES SHALL BE INSTALLED COMPLETE WITH LAMPS. SEE PLANS FOR SPECIFIC REQUIREMENTS.

DISCONNECT SWITCHES

1. LOCATE DISCONNECT SWITCH FOR MECHANICAL EQUIPMENT TO PERMIT SERVICING OF EQUIPMENT. PROVIDE FUSES IF REQUIRED BY MANUFACTURER OF EQUIPMENT FOR UL APPROVAL. CHECK MOTORS FOR PROPER ROTATION. CONNECT CONDUCTORS AS REQUIRED BY MANUFACTURER.

BRANCH CIRCUITRY

1. ALUMINUM CONDUIT IS NOT PERMITTED.
2. ALL CIRCUITRY RUNS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL DETERMINE IN FIELD THE MOST SUITABLE ROUTES.
3. MINIMUM SIZE CONDUIT SHALL BE 1/2".
4. NON-METALLIC CONDUIT SHALL NOT BE USED FDR BRANCH CIRCUIT WORK ABOVE GRADE.
5. CIRCUITRY SHALL BE RUN CONCEALED IN FINISHED AREAS.
6. CIRCUITRY SHALL BE RUN TIGHT TO THE UNDERSIDE OF THE FLOOR SLAB ABOVE IN A NEAT WORKMANLIKE MANNER. ALL RUNS SHALL BE PARALLEL OR PERPENDICULAR TO BUILDING WALLS.
7. ALL EMPTY RACEWAYS SHALL CONTAIN A DRAG WIRE. EMPTY RACEWAYS 2" OR LARGER IN SIZE SHALL HAVE A MAXIMUM OF 3-90 DEGREE BENDS.
8. MAKE FINAL CONNECTION TO ALL MOTORS AND VIBRATING EQUIPMENT WITH FLEXIBLE CONDUIT.
9. ALL CONDUIT/CABLE PENETRATIONS OF EXTERIOR WALLS, FIRE RATED WALLS AND FIRE RATED FLOORS, SHALL BE CAULKED AND SEALED WATERTIGHT. SEALS FOR FIRE-RATED PENETRATIONS SHALL BE SEALED WITH UL-LISTED PUTTY TYPE SEALING COMPOUND.
10. PROVIDE HACR TYPE CIRCUIT BREAKERS FOR ALL CIRCUIT BREAKERS SERVING HVAC EQUIPMENT.

INDOOR BRANCH CIRCUITRY

1. ARMORED CABLE (BX) IS PERMITTED TD SERVE LIGHTING LOAD. 'BX' IS PERMITTED TO RUN IN CONCEALED AREAS SUCH A AS CEILING SPACE ONLY. 'BX' IS NOT PERMITTED TO RUN EXPOSED. ALL HOMERUNS SHALL BE INSTALLED IN EMT.
2. METAL CLAD CABLE (MC CABLE) IS PERMITTED TO SERVE RECEPTACLES AND OTHER EQUIPMENT LOAD. METAL CLAD CABLE (MC) IS PERMITTED TO RUN IN CONCEALED AREAS SUCH AS CEILING SPACE AND FINISHED WALL AREAS ONLY. ALL HOMERUNS SHALL BE INSTALLED IN EMT.
3. INDOOR FEEDER CONDUITS INSTALLED INDOORS SHALL BE EMT OR HEAVY WALL RIGID STEEL.

4. EXPOSED RACEWAYS TD BE INSTALLED PARALLEL/PERPENDICULER TO WALL, CEILINGS ETC, SO AS TO BE AS NEAT AS POSSIBLE FOR THE PARTICULAR LOCATION.

OUTDOOR BRANCH CIRCUITRY

1. ALL CONDUIT SERVING LIGHTING RECEPTACLES AND EQUIPMENT LOCATED ON THE EXTERIOR OF THE BUILDING SHALL BE HEAVY WALL GALVANIZED RIGID STEEL CONDUIT.
2. OUTDOOR USE FEEDER CONDUIT SHALL BE HEAVY WALL GALVANIZED RIGID STEEL.
3. FEEDER FOR THE UNDERGROUND INCOMING ELECTRICAL AND TELEPHONE SERVICE SHALL BE IN PVC SCHEDULE 40.
4. LIQUID-TITE MAXIMUM LENGTH 6'-0"

WIRE AND CABLE

1. FEEDER SHALL BE COPPER. INSULATION SHALL BE THW OR THHN-THWN.
2. ALL WIRING SHALL BE COLOR CODED THROUGHOUT.
3. ALL CONDUCTORS TO BE COPPER, MINIMUM NO. 12-EXCEPT CONTROL CONDUCTOR AND LIGHTING TAPS AS PERMITTED BY N.E.C. CONDUCTORS FOR SWITCHING LIGHTS SHALL NOT BE CONSIDERED CONTROL CONDUCTORS. ALL SIZES #8 OR LARGER SHALL BE THW OR EQUIVALENT. THW OR EQUIVALENT SHALL BE REQUIRED FOR HEATERS OR OTHER UL LISTED DEVICES RATED AT 75 DEG. F. SUPPLY FEED.
4. ALL RECEPTACLES, LIGHTING FIXTURES, MOTORS, ETC., SHALL BE GROUNDED.
5. INSTALL MULTIPLE HOMERUNS TO ALTERNATNY NUMBERED PANELBOARD CIRCUITS (i.e. 1, 3, 5) SERVING LIGHTING, GENERAL RECEPTACLES, AND MOTORS.
6. ALL 120 VOLT. CIRCUIT HOMERUNS WHICH ARE OVER 100 LINEAR FEET SHALL BE A MINIMUM OF #10 CONDUCTORS UNLESS OTHERWISE INDICATED ON THE PLANS.

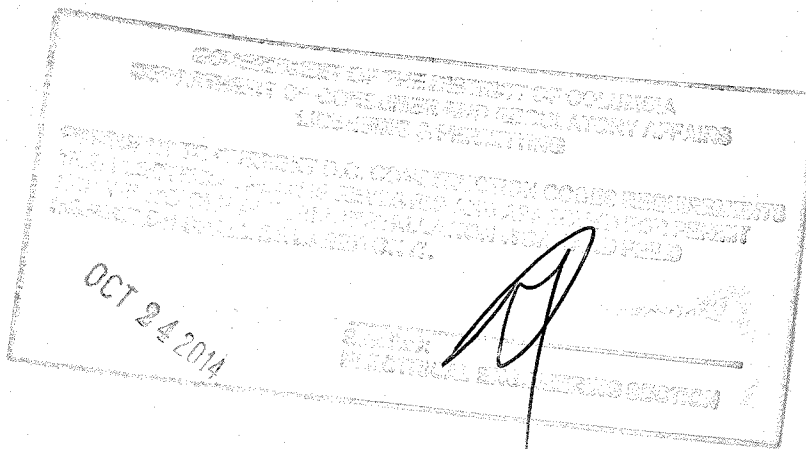
UTILITY COORDINATION

1. COORDINATE ELECTRICAL SERVICE AND INSTALLATION OF NEW SERVICES WITH PEPCO POWER COMPANY.
2. COORDINATE INSTALLATION OF NEW TELEPHONE SERVICE WITH THE LOCAL TELEPHONE COMPANY.
3. COORDINATE INSTALLATION OF CABLE TV SERVICE WITH THE LOCAL CABLE TV COMPANY.

GENERAL ELECTRICAL NOTES

- A. ALL ELECTRICAL MATERIALS AND EQUIPMENT INSTALLED IN LOCATIONS EXPOSED TO MOISTURE OR THE ELEMENTS SHALL BE WEATHERPROOF, WHETHER OR NOT SHOWN AND NOTED.
- B. ALL 120 VOLT BRANCH CIRCUITS EXTENDING 100 OR MORE FEET (200 FEET FOR 208V OR ABOVE) IN LENGTH FROM THAT CIRCUIT'S PANEL C/B TO THE LAST DEVICE DR CONNECTION ON THE RUN, SHALL BE PROVIDED WITH CONDUCTORS OF A.W.G. AMPACITY RATING MINIMUM ONE SIZE LARGER THAN THE AMPACITY OF THAT CIRCUIT'S C/B SIZE. i.e. 20A. C/B, 30A. WIRE SIZE, ETC., WHETHER OR NOT SHOWN AND NOTED.
- C. PROVIDE SEPARATE INSULATED GREEN GROUND CONDUCTOR WITH THE BRANCH CIRCUIT OR FEEDER WIRING FOR ALL SINGLE OR THREE-PHASE CIRCUITS, WHETHER OR NOT SHOWN AND NOTED
- D. PROVIDE ALL CONDUITS FOR COMMUNICATIONS WITH CAT 5 DATA/TELEPHONE CABLE. COORDINATE WITH OWNER FOR FINAL CONNECTIONS IN BASEMENT TELEPHONE ROOM.
- E. PROVIDE (2) 4" DIAMETER CONDUITS EXITING FROM TELE/COMM TV ROOM AT LOVER LEVEL THROUGH ALL FLOORS AND TERMINATING AT TOP OF CHASE ROOF AND/OR STAIR ROOF. PROVIDE DRAG AND PULL LINE IN CONDUITS. ASSUME LOCATION FOR CONDUITS WITHIN VERTICAL CHASE: PURPOSE OF THESE CONDUITS IS TO PROVIDE A VERTICAL PATH FOR FUTURE INSTALLATION OF SATELLITE TV AND/OR SIMILAR COMMUNICATION SYSTEMS TO INDIVIDUAL UNITS. ANY PENETRATIONS THROUGH SHAFT WALL INTO UNITS SHALL BE WITH Y OR SIMILAR SWEEPS; PENETRATIONS THROUGH SHAFT SHALL BY FULLY FIRE CAULKED.
- F. ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY, 240-VOLT RATED, NEMA 1 IN DRY LOCATIONS, NEMA 3R WHERE INSTALLED IN ANY LOCATION EXPOSED TO THE ELEMENTS. WHERE NUMBERS ARE SHOWN ADJACENT TO SYMBOL i.e.: 60/50 FIRST No.= SWITCH SIZE SECOND No.= FUSE (GENERALLY K5 CLASS). NF = NON-FUSE TYPE DISCONNECT SWITCH UNLESS OTHERWISE REQUIRED BY MECHANICAL EQUIPMENT WITH 'FUSE ONLY PROTECTION'. FOR THIS SITUATION, CONTRACTOR SHALL PROVIDE FUSED DISCONNECT SWITCH WITH FUSES AS RECOMMENDED BY EQUIPMENT SUPPLIERS.
- G. PROVIDE 1/2"x8'-0" HIGH PLYWOOD BACKBOARD FOR TELEPHONE EQUIPMENT. LOCATION OF BACKBOARD SHALL BE DETERMINED IN FIELD DR AS SHOWN ON DRAWINGS.
- H. CONTRACTOR SHALL EXTEND WIRE TO ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AND MAKE FINAL AND COMPLETE CONNECTIONS TO SAME. BEFORE ROUGHING-IN OUTLETS, THE LOCATION AND TYPE OF OUTLET SHALL BE VERIFIED FROM SHOP DRAWINGS OF THE EQUIPMENT. ALL OUTLETS AND CONNECTIONS TO EQUIPMENT SHALL BE MADE FROM THE WALLS EXCEPT WHERE SPECIAL FLOOR OUTLETS ARE INDICATED. PROVIDE A FLUSH JUNCTION BOX IN THE WALL BENEATH THE OPERATING LEVEL OF THE EQUIPMENT AND CONNECT TO THE EQUIPMENT WITH FLEXIBLE CONDUIT. DO NOT RUN ANY CONDUIT EXPOSED. EQUIPMENT HAVING BUILT-IN SWITCHES SHALL BE COMPLETELY WIRED AS REQUIRED. PLUGS AND CORDS ON THE EQUIPMENT SHALL BE REPLACED, SHORTENED, OR LENGTHENED AS REQUIRED BY THE CONTRACTOR TO SUIT THE OUTLETS FURNISHED. PROVIDE A SEPARATE GROUND WIRE AND CONNECTION FOR ALL EQUIPMENT. THE CONTRACTOR SHALL COORDINATE TO ENSURE THAT EACH PIECE OF EQUIPMENT IS SUITABLE FOR THE VOLTAGE CHARACTERISTIC AT THE POINT OF CONNECTION.
- I. ELECTRICAL CONTRACTOR SHALL INSTALL ALL MOTOR STARTERS/CONTROLLERS SHOWN OR NOT-SHOWN ON THE PLANS. PROVIDE DISCONNECT SWITCHES AS INDICATED ON THE PLANS OR AS REQUIRED. DO NOT INSTALL MOTOR STARTERS/CONTROLLERS SHOWN OR NOT-SHOWN IN THE CEILING SPACES, UNLESS OTHERWISE APPROVED.
- J. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TELE/CATV/OUTLET BOXES AND CONDUIT IN LOCATIONS AS SHOWN ON THE DRAWINGS. WHETHER SHOWN OR NOT SHOWN ON ELECTRICAL DRAWINGS. PROVIDE SLEEVES AS REQUIRED AND FIRE SEAL SLEEVES AFTER ALL CABLES ARE INSTALLED.
- K. ALL ABOVE-COUNTER RECEPTACLES LOCATED WITHIN 6'-6" (MEASURED HORIZONTALLY) OF A SINK, SHALL BE GFCH-TYPE (WHETHER OR NOT SHOWN AND NOTED)
- L. PROVIDE TOGGLE SWITCH FOR FAN CONTROL AND ALL ASSOCIATED INTERLOCK/INTERCONNECTIONS. VERIFY EXACT LOCATION OF CONNECTION AND SWITCH LOCATION IN FIELD.
- M. CONTRACTOR TO VERIFY THE SPECIAL SINGLE RECEPTACLES NEMA CONFIGURATION REQUIRED BY EQUIPMENT SUPPLIER PRIOR TD INSTALLATION.
- N. CONTRACTOR SHALL PROVIDE LABELS FOR DISCONNECTS COMPLYING WITH NEC 110.22 & 408.4. RELATIVE TO PANEL BOARD CIRCUIT DIRECTORY ENTRIES, SUFFICIENT DESCRIPTION SHALL BE GIVEN TO DETERMINE THE LOAD SERVED BY THE CIRCUIT. THIS DESCRIPTION SHALL BE UNIQUE AND ALLOW THE CIRCUIT TO BE DISTINGUISHED FROM ALL OTHER CIRCUITS SERVED BY THE PANEL.
- O. CONTRACTOR SHALL COMPLY WITH NEC 110.14 (C), (D), & (2).
- P. CONTRACTOR SHALL CONFIRM THAT THE CONSTRUCTION DOCUMENTS ARE COORDINATED WITH MECHANICAL AND PLUMBING DISCIPLINES AND COMPLIANCE WITH NEC 110.26 (F) IS ACHIEVED. CONFIRM SERVICE EQUIPMENT MOUNTING LOCATION PROVIDES COMPLIANCE WITH NEC 110.26 (A), (D), (E), & (F)(2).
- Q. CONTRACTOR SHALL COMPLY WITH 300.5(B), 300.7(A), 300.9, & 310.8(C) AS REQUIRED.

- ⬡ **ELECTRICAL DRAWING NOTES:**
- ① DISPOSAL: 120-VOLT, 1/3 HP, MANUAL MOTOR STARTER SWITCH. CONNECT TO RP\*/15, COORDINATE WITH ARCHITECT FOR LOCATION
- ② DISHWASHER RECEPTACLE, MH 2'-0" AFF. CONNECT TO RP\*/13, COORDINATE W/ ARCHITECT FOR LOCATION
- ③ RECEPTACLE FOR REFRIGERATOR, MH 3'-0" AFF. CONNECT TO RP\*/11, COORDINATE W/ARCHITECT FOR LOCATION
- ④ EXHAUST FAN F-\*, COORDINATE WITH MECHANICAL DRAWINGS FOR LOCATION
- ⑤ RECEPTACLE FOR MICROWAVE, CONNECT TO RP\*/21, COORDINATE WITH ARCHITECT FOR LOCATION
- ⑥ ELECTRIC RANGE, 50 A, 240 V, 3 #6 + 1/0 GROUND IN 3/4" CONDUIT, CONNECT TO RP\*/24,26. PROVIDE A RANGE RECEPTACLE WITH MATCHING CORD AND PLUG MOUNTED 24" AFF
- ⑦ WATER HEATER
- ⑧ RECEPTACLE FOR WASHER/DRYER, MH 24" AFF, 3 #6 + 1 #10 IN 3/4" CONDUIT, CONNECT TO RP\*/2,4. COORDINATE WITH ARCHITECT FOR COORDINATION AND REQUIREMENT
- ⑨ COORDINATE WITH ARCHITECT FOR RECEPTACLES, TELEPHONE, TV OUTLETS, AND LIGHTING SWITCH COVER PLATES.
- ⑩ ELECTRICAL PANEL, REFER TO ELECTRICAL PANEL SCHEDULE
- ⑪ AHU: COORDINATE W/ MECHANICAL DRAWINGS FOR LOCATION & UNIT NUMBER, PROVIDE DISCONNECT, FUSE PER REQUIREMENT OF MANUFACTURER. 60A, 240V, 3 #4 + 1 #10 GROUND IN 1-1/4" CONDUIT, CONNECT TO RP\*/5,7
- ⑫ COMBINED METER STACK & CIRCUIT BREAKERS, 240/120 V, 1Ø 3-WIRE. SEE ELECTRICAL RISER DIAGRAM.



REVISIONS

PROJECT No.  
DATE: October 9, 2014  
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ELECTRICAL  
NOTES



Professional Engineer Seal for Kamran Khan, No. 3650, District of Columbia, State of Washington.

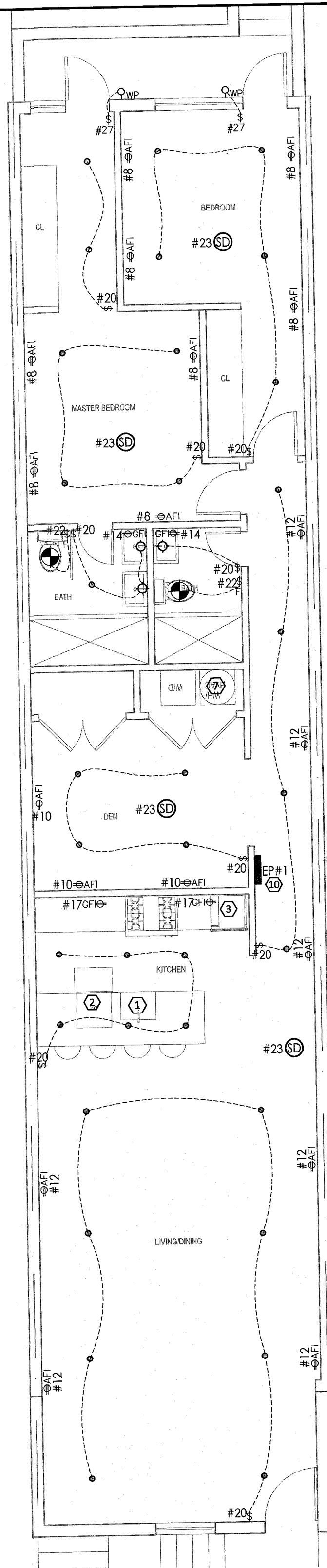
1828 ONTARIO LLC  
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WASHINGTON, DC

## REVISIONS

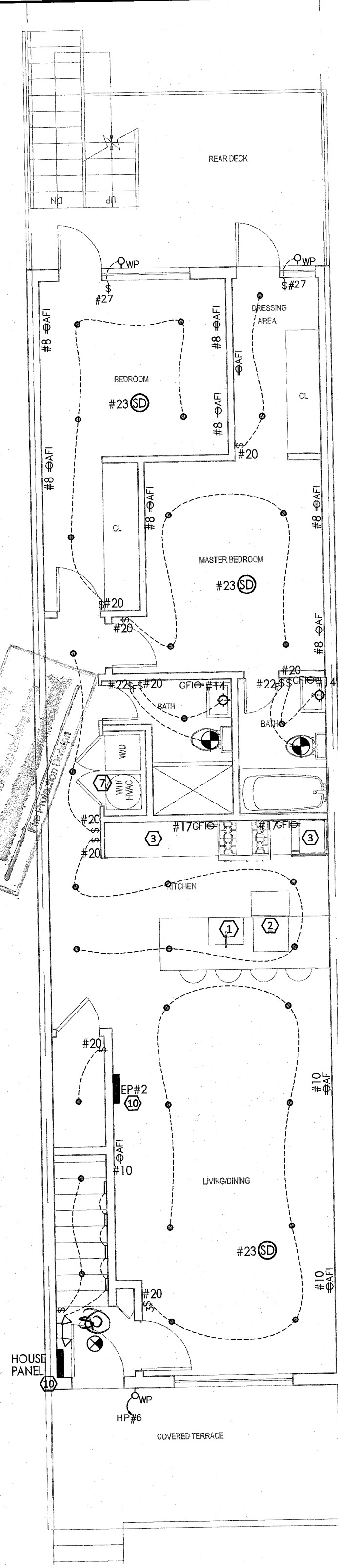
PROJECT No. \_\_\_\_\_  
DATE: October 9, 2014  
SCALE: AS SHOWN

## ELECTRICAL PLANS

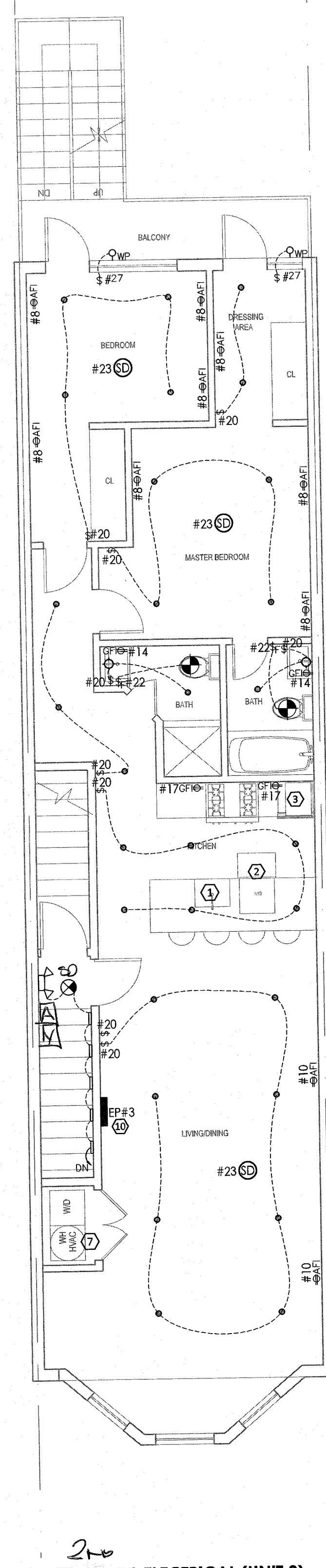
E10



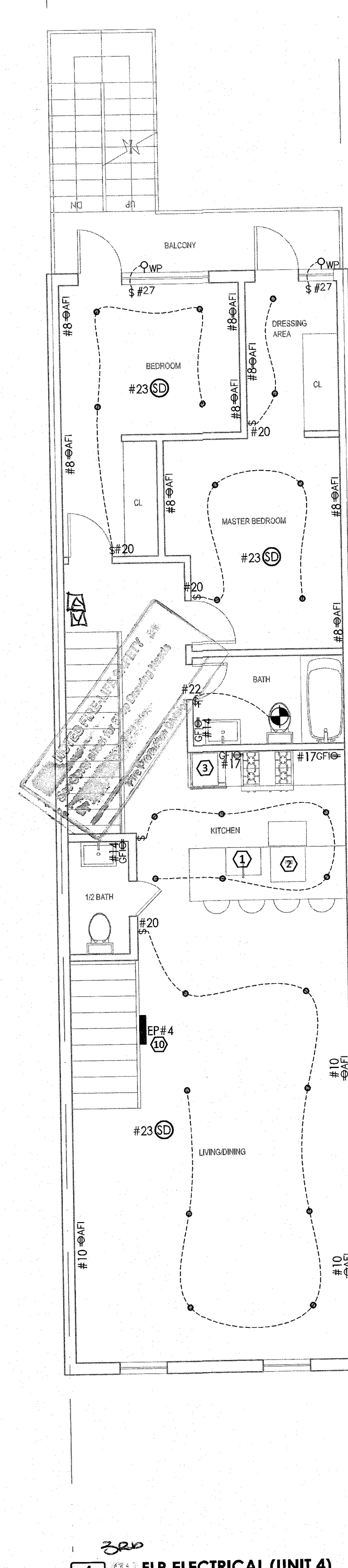
**1 CELLAR ELECTRICAL (UNIT 1)**  
 E101 scale: 3/16" = 1'-0"



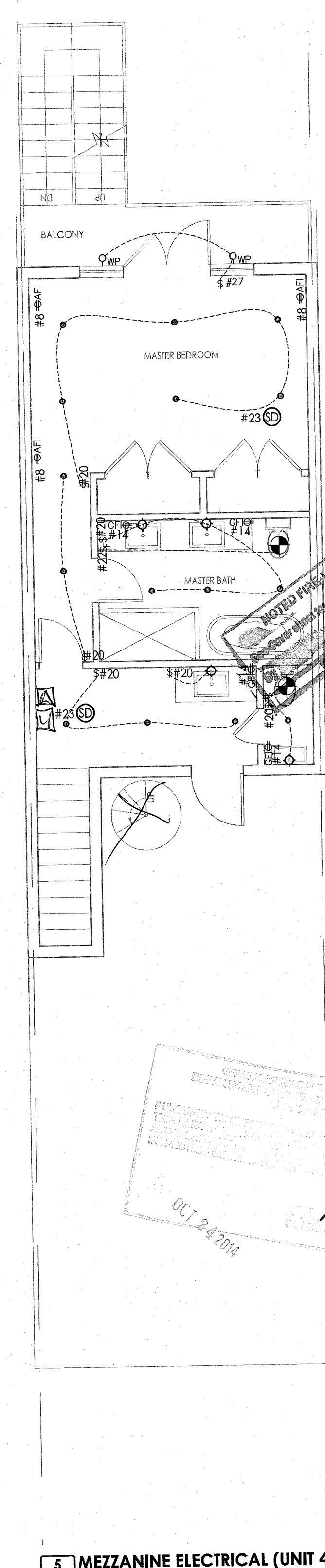
**2 1ST FLR ELECTRICAL (UNIT 2)**  
 E101 scale: 3/16" = 1'-0"



**3 2ND FLR ELECTRICAL (UNIT 3)**  
 E101 scale: 3/16" = 1'-0"



**4 3RD FLR ELECTRICAL (UNIT 4)**  
 E101 scale: 3/16" = 1'-0"



**5 MEZZANINE ELECTRICAL (UNIT 4)**  
 E101 scale: 3/16" = 1'-0"

NOTED FIRE/LIFE SAFETY  
 Review along the Shop Drawing Items

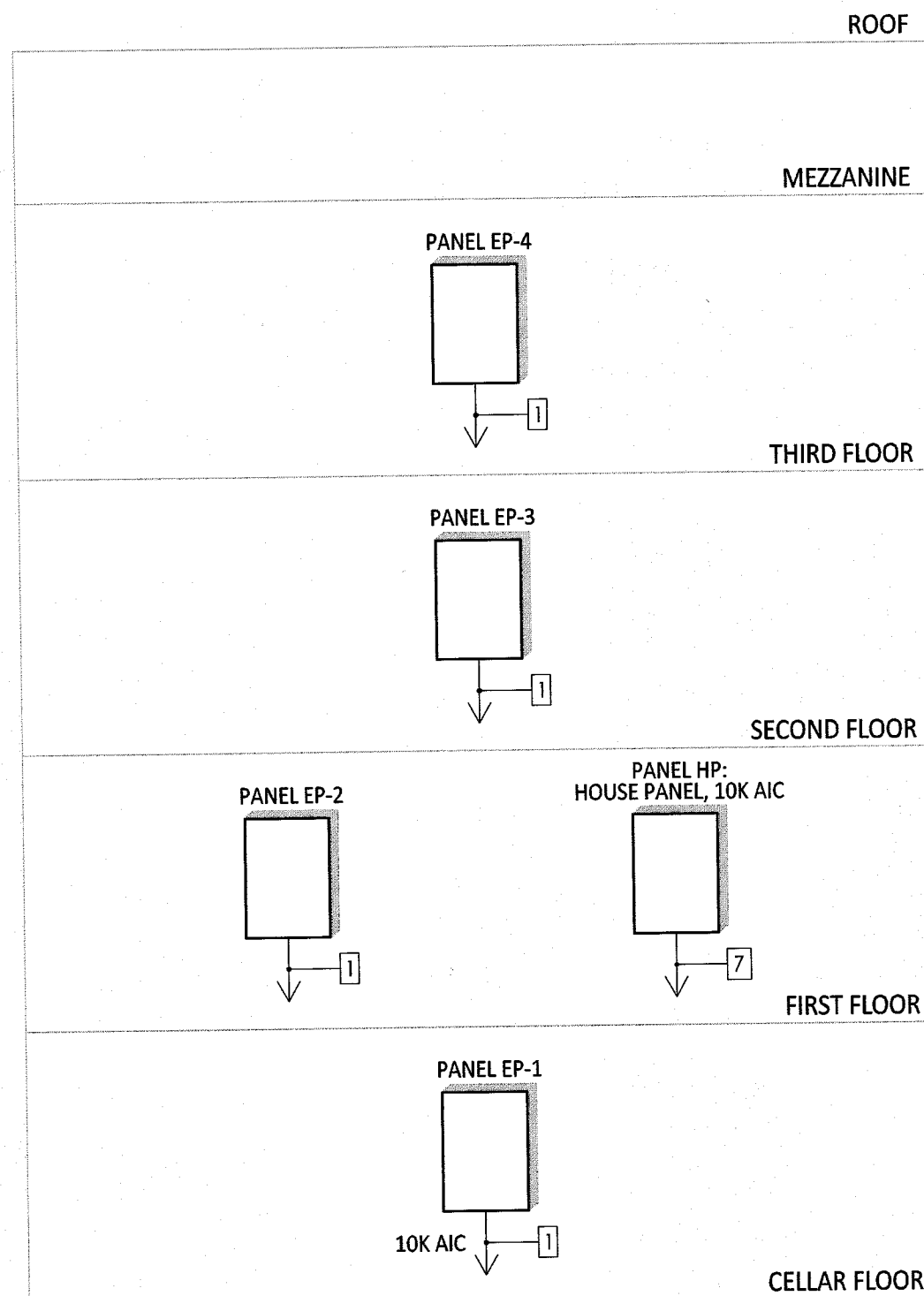
DISTRICT OF COLUMBIA  
 PROFESSIONAL ENGINEER  
 No. 3638  
 1828 ONTARIO PLACE NW  
 WASHINGTON, DC

| REVISIONS |
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ELECTRICAL  
 PLANS

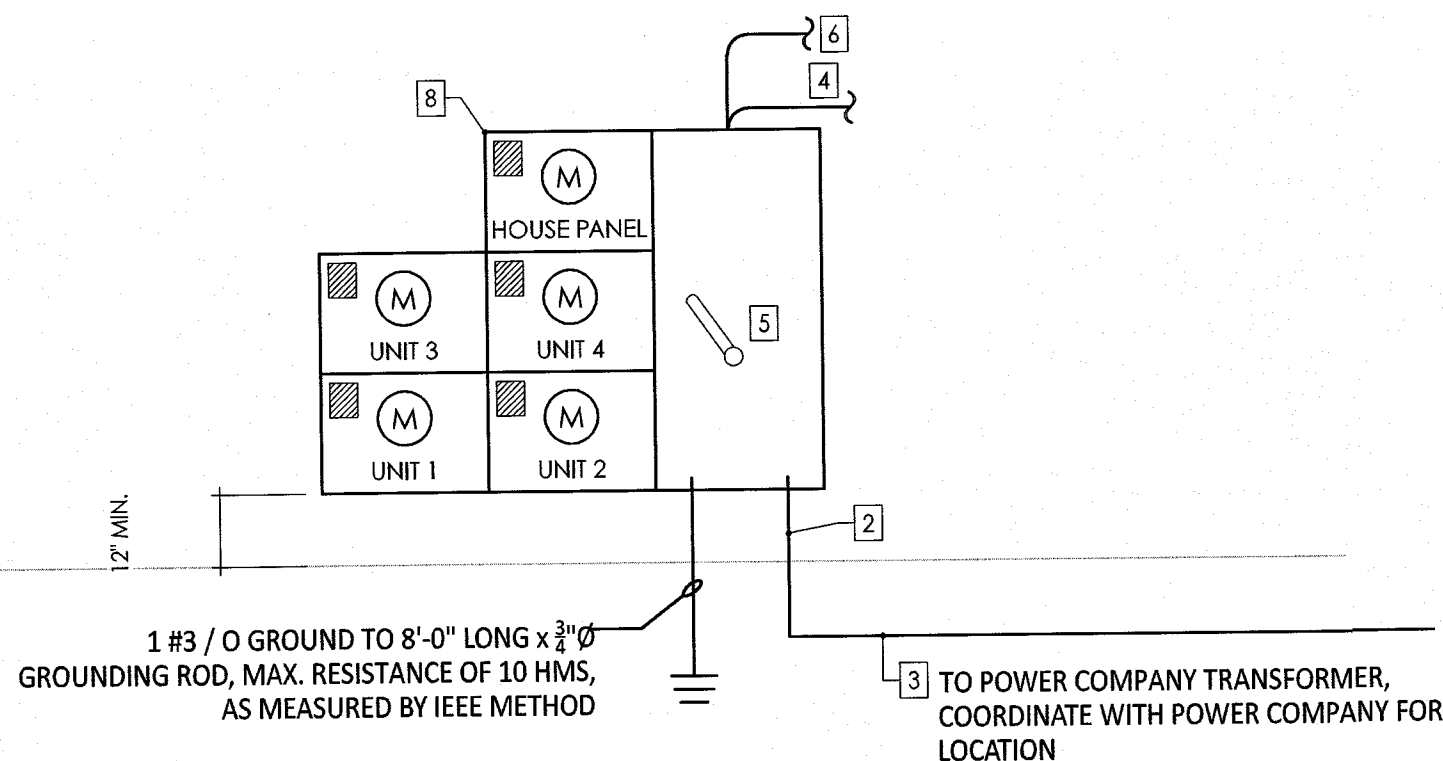
**E101**



**NOTE:** COORDINATE AIC RATING WITH POWER COMPANY PRIOR TO PURCHASING EQUIPMENT.  
ALL SERVICE EQUIPMENT AND METERS ARE TO BE APPROVED BY POWER COMPANY PRIOR TO PURCHASING.

- RISER DIAGRAM NOTES**
- 3 #1/10 & 1 #6 GROUND IN 2" CONDUIT
  - 2 SETS OF (2-350KCMIL & 3/0 GROUND IN 3-3" CONDUITS).  
(SUBSCRIPT NUMBER INDICATES MINIMUM LUMINOUS INTENSITY OF STROBE LIGHT IN CANDELAS)
  - INCOMING 120/240 V 1PH, 3-WIRE SERVICE FROM PEPCO - SERVICE TRANSFORMER
  - 1 #1/0 INSULATED GROUND IN 1-1/4" C TO BUILDING COLD WATER PIPE, NEC 250
  - 600 AMP, 240V, 2P NEMA 3R, UTILITY COMPANY APPROVED SERVICE ENTRANCE RATED FUSED DISCONNECT SWITCH, FUSED AT 800 AMP.
  - 1 #1/0 INSULATED GROUND IN 1-1/4" C TO BUILDING STEEL, NEC 250
  - 3 #1 & 1 #8 GROUND IN 1-1/4" CONDUIT.
  - COMBINED METER STACK & CIRCUIT BREAKER 240/120 V 1PH, 3 WIRE. X? METER STACK EACH WITH X?-150 AMP, 2 POLE CIRCUIT BREAKERS AND 1 METER STACK EACH WITH 100 AMP, 2 POLE CIRCUIT BREAKERS.

- METER BANK LEGEND**
- (M) 3 #1/10 & 1 #6 GROUND IN 2" CONDUIT
- BASIS OF DESIGN CUTLER-HAMMER-3 MM METERING STACKS:  
COORDINATE WITH POWER COMPANY FOR RING/RINGLESS WITH 65,000 AIC RATING NEMA 3R REQUIREMENT.  
PROVIDE CIRCUIT BREAKERS AS INDICATED ON METER STACK ELEVATION
- MAIN SERVICE MODULE: WITH 65,000 AIC RATING.  
PROVIDE 65,000 AIC SERIES RATING FOR TENANT CIRCUIT BREAKERS.  
CUTLER-HAMMER POWER LINE TYPE-2 WITH UTILITY COMPARTMENT SERVICE APPROVED FOR PEPCO METERING.  
MAIN DEVICE TYPE SHALL BE ENTRANCE RATED, RATING AS INDICATED.  
DISTRIBUTION SECTION DEVICES SHALL BE CIRCUIT BREAKERS,  
PROVIDE PAD LOCKABLE COVER.



### THREE-BEDROOM APARTMENT

|                                                    |                        |
|----------------------------------------------------|------------------------|
| GENERAL LOAD                                       |                        |
| 1125 SF @ 3 VA                                     | 3,375 VA               |
| 2-20 A APPLIANCE OUTLET CIRCUITS @ 1500 VA EACH    | 3,000 VA               |
| MICROWAVE                                          | 1,500 VA               |
| LAUNDRY CIRCUIT                                    | 1,500 VA               |
| WATER HEATER                                       | 6,000 VA               |
| DISHWASHER                                         | 1,200 VA               |
| CLOTHES DRYER                                      | 5,000 VA               |
| ELECTRIC RANGE                                     | 8,000 VA               |
| LOAD INCLUDED @ 100%                               | 29,575 VA = ~30,000 VA |
| FIRST 10KVA @ 100%                                 | 10,000 VA              |
| REMAINDER OF GENERAL LOAD @ 40%                    |                        |
| → GENERAL LOAD (20,000 VA X 0.4)                   | 8,000 VA               |
| TOTAL NET GENERAL LOAD                             | 18,000 VA              |
| HEAT PUMP AND SUPPLEMENTARY HEAT*                  |                        |
| 240V X 18 AMP = 4300 VA                            |                        |
| 14.4 KW ELECTRIC HEAT: 4300 VA + (14,400 VA*65%) = |                        |
| 4300 VA + 9360 VA = 13,660 VA                      |                        |
| NET GENERAL LOAD                                   | 18,000 VA              |
| HEAT PUMP AND SUPPLEMENTARY HEAT                   | 13,660 VA              |
| TOTAL:                                             | 31,660 VA              |
| CALCULATED LOAD FOR SERVICE: 31,660 VA / 240 V =   | 130 AMP                |
| PANEL-SIZE REQUIRED = 150 AMP                      |                        |

### PANEL SCHEDULE: EP1, EP2, EP3, & EP4

| VOLTAGE: 120/240V, 1 Ø, 3W |     |        |     |      |     |        |     | BUS SIZE: 150 A             |  |
|----------------------------|-----|--------|-----|------|-----|--------|-----|-----------------------------|--|
| LOCATION: APARTMENT        |     |        |     |      |     |        |     | MAIN CIRCUIT BREAKER: 150 A |  |
| DESCRIPTION                | KVA | RATING | NO. | POLE | NO. | RATING | KVA | DESCRIPTION                 |  |
| ACCU-1*                    | 3.6 | 25/2   | 1   | A    | 2   | 35/2   | 5.0 | LAUNDRY/DRYER               |  |
| -                          | -   | -      | 3   | B    | 4   | -      | -   | -                           |  |
| AHU-1* ELECTRIC HEATER     | 9.6 | 60/2   | 5   | A    | 6   | 20/1   | -   | SPARE                       |  |
| -                          | -   | -      | 7   | B    | 8   | 20/1   | -   | RECEPTACLES                 |  |
| SPARE                      | -   | 20/1   | 9   | A    | 10  | 20/1   | -   | RECEPTACLES                 |  |
| REFRIGERATOR               | -   | 20/1   | 11  | B    | 12  | 20/1   | -   | RECEPTACLES                 |  |
| DISHWASHER                 | -   | 20/1   | 13  | A    | 14  | 20/1   | -   | GFI BATHROOM RECEPTACLES    |  |
| DISPOSAL                   | -   | 20/1   | 15  | B    | 16  | 20/1   | -   | WATER HEATER                |  |
| KITCHEN RECEPTACLES        | -   | 20/1   | 17  | A    | 18  | -      | -   | SPARE                       |  |
| KITCHEN RECEPTACLES        | -   | 20/1   | 19  | B    | 20  | 20/1   | -   | LIGHTING                    |  |
| MICROWAVE                  | -   | 20/1   | 21  | A    | 22  | 20/1   | -   | EXHAUST FAN                 |  |
| SMOKE DETECTOR             | -   | 20/1   | 23  | B    | 24  | 50/2   | 8.0 | RANGE                       |  |
| CEILING FAN                | -   | 20/1   | 25  | A    | 26  | -      | -   | -                           |  |
| LIGHTING                   | -   | 20/1   | 27  | B    | 28  | 15/2   | 0.6 | AHU-1* FAN                  |  |
| RECEPTACLES                | -   | 20/1   | 29  | A    | 30  | -      | -   | -                           |  |
| CEILING FAN                | -   | 20/1   | 31  | B    | 32  | -      | -   | SPARE                       |  |
| SPARE                      | -   | 20/1   | 33  | A    | 34  | -      | -   | SPARE                       |  |
| SPARE                      | -   | 20/1   | 35  | B    | 36  | -      | -   | SPARE                       |  |

### PANEL SCHEDULE: HOUSE PANEL

| VOLTAGE: 120/240V, 1 Ø, 3W |     |        |     |      |     |        |     | BUS SIZE: 150 AMP           |  |
|----------------------------|-----|--------|-----|------|-----|--------|-----|-----------------------------|--|
| LOCATION: HALL             |     |        |     |      |     |        |     | MAIN CIRCUIT BREAKER: 100 A |  |
| DESCRIPTION                | KVA | RATING | NO. | POLE | NO. | RATING | KVA | DESCRIPTION                 |  |
| LIGHTING                   | 0.4 | 20/1   | 1   | A    | 2   | 20/1   | 0.9 | RECEPTACLES                 |  |
| LIGHTING                   | 0.2 | -      | 3   | B    | 4   | 20/1   | -   | RECEPTACLES                 |  |
| SMOKE DETECTOR             | 0.1 | 60/2   | 5   | A    | 6   | 20/2   | -   | ELECTRICAL WATER HEATER     |  |
| ELECTRIC WATER HEATER      | 1   | -      | 7   | B    | 8   | -      | -   | -                           |  |
| EXHAUST FAN                | -   | 20/1   | 9   | A    | 10  | 20/1   | -   | FAACP                       |  |
| SPARE                      | -   | 20/1   | 11  | B    | 12  | 20/2   | 2.0 | ELECTRICAL WATER HEATER     |  |
| SPARE                      | -   | 20/1   | 13  | A    | 14  | -      | -   | -                           |  |
| SPARE                      | -   | 20/1   | 15  | B    | 16  | 20/1   | -   | SPARE                       |  |
| SPARE                      | -   | 20/1   | 17  | A    | 18  | 20/1   | -   | SPARE                       |  |

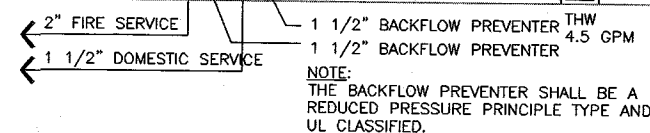
### ELECTRICAL LEGEND:

- RECESSED DOWNLIGHT
- RECESSED INCANDESCENT LIGHT FIXTURE
- ⊗ EXIT LIGHTING FIXTURE (W/INTEGRAL BATTERY AND CHARGER)
- Ⓢ SMOKE DETECTOR. HARD-WIRED INTERCONNECTED W BATTERY BACK-UP.
- Ⓜ JUNCTION BOX, JOINT AS SHOWN ON PLANS, SIZE AS REQUIRED
- S SINGLE POLE TOGGLE SWITCH, MOUNTED 4'-0" A.F.F., UON.
- S<sub>3</sub> THREE-WAY TOGGLE SWITCH, MOUNTED 4'-0" A.F.F., UON.
- S<sub>D</sub> DIMMER SWITCH, MOUNTED 4'-0" A.F.F., UON.
- S<sub>3D</sub> THREE-WAY DIMMER SWITCH, MOUNTED 4'-0" A.F.F., UON.
- S<sub>M</sub> MOTOR-RATED SWITCH WITH THERMAL OVERLOAD PROTECTION
- Ⓜ CONNECTION FOR CEILING EXHAUST FAN
- Ⓜ MOTOR CONNECTION
- BRANCH CIRCUIT, WIRING CONCEALED IN SLAB OR UNDERGROUND
- BRANCH CIRCUIT, HOMERUN TO PANELBOARD, NUMBER OF ARROWS DENOTE NUMBER OF CIRCUITS. NUMBER OF HASH MARKS DENOTE NUMBER OF WIRES WHEN MORE THAN TWO. TICK MARKS INDICATE GROUND CONDUCTOR. SEE PANEL SCHEDULE FOR WIRE SIZE.
- CONDUIT UP
- CONDUIT DOWN
- SURFACE WALL-MOUNTED EMERGENCY LIGHTING FIXTURE
- DISCONNECT SWITCH SIZE AS REQUIRED TO BE FUSED UNLESS OTHERWISE NOTED. 60 / 50 NUMERAL INDICATES SWITCH / FUSE SIZE
- Ⓜ AFCI DUPLEX RECEPTACLE. 20 AMPS - 18" AFF UON
- Ⓜ GFCI DUPLEX RECEPTACLE. 20 AMPS - 18" AFF UON
- Ⓜ WEATHER PROOF GFCI DUPLEX RECEPTACLE. 20 AMPS - 18" AFF UON
- Ⓜ QUAD RECEPTACLE. 20 AMPS - 18" AFF UON
- Ⓜ FLOOR RECEPTACLE OUTLET
- Ⓜ X=CIRCUIT NUMBERS INDICATE HOMERUN TO APARTMENT PANELS UON
- Ⓜ GROUND AS PER LOCAL AND NATIONAL ELECTRICAL CODES
- PANELBOARD
- TV OUTLET MOUNTED 18" AFF UON. PROVIDE COAXIAL CABLE WITHIN UNITS. TERMINATE AT MAIN TELEPHONE ROOM. COORDINATE WITH EQUIPMENT SUPPLIER FOR CABLE TYPE.
- TELEPHONE OUTLET MOUNTED 18" AFF UON. LOOP TOGETHER WITHIN UNITS AND TERMINATE AT MAIN TELEPHONE BOARD TERMINAL BLOCK PROVIDE CAT5 CABLE

### REVISIONS

PROJECT No.  
DATE: October 9, 2014  
SCALE: AS SHOWN

### ELECTRICAL NOTES



# 1 DOMESTIC WATER RISER DIAGRAM

THE GENERAL LAYOUT OF GAS PIPING AND/OR PLUMBING SYSTEMS (Water, Sanitary and Storm) SHOWN ON THESE DRAWINGS HAS BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE PROVISIONS OF THE D.C. CONSTRUCTION CODES AND IS APPROVED.

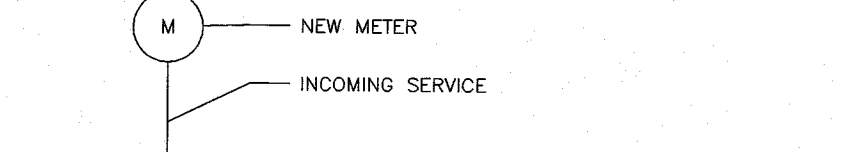
Date: OCT 2 1978 *g/j*

Mechanical Engineering Section

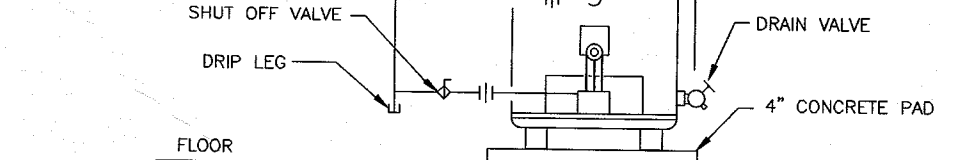


|      |                               |
|------|-------------------------------|
| 2    | <b>SANITARY RISER DIAGRAM</b> |
| P101 | scale: NTS                    |

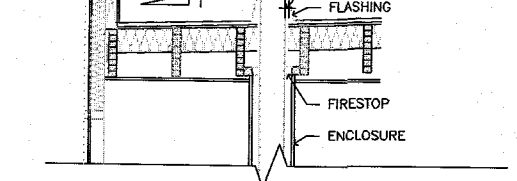
| PLUMBING FIXTURE SCHEDULE |                        |        |      |      |                            |
|---------------------------|------------------------|--------|------|------|----------------------------|
| ITEM                      | DESCRIPTION            | WASTE  | HW   | CW   | REMARKS                    |
| WC                        | WATER CLOSET           | 3"     | -    | 1/2" | FLOOR MOUNTED, TANK TYPE   |
| LAV                       | LAVATORY, BARRIER FREE | 1-1/2" | 1/2" | 1/2" | COUNTER TOP                |
| SH                        | SHOWER, BARRIER FREE   | 1-1/2" | 1/2" | 1/2" |                            |
| KS                        | KITCHEN SINK           | 1-1/2" | 1/2" | 1/2" | COUNTER TOP                |
| CS                        | CLOTHES WASHER         | 2"     | 1/2" | 1/2" | WASHER SUPPLY AND DRAIN BC |
| FD                        | FLOOR DRAIN            | 2"     | -    | -    | WITH TRAP, P/PMV           |



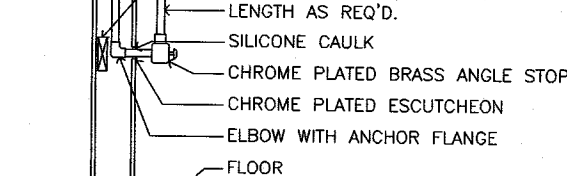
|      |                           |
|------|---------------------------|
| 3    | <b>FIRE RISER DIAGRAM</b> |
| P101 | scale: NTS                |



|      |                            |
|------|----------------------------|
| 4    | <b>WATER HEATER DETAIL</b> |
| P101 | scale: NTS                 |



|      |                         |
|------|-------------------------|
| 5    | <b>ROOF-VENT DETAIL</b> |
| P101 | scale: 1/4" = 1'-0"     |



|      |                       |
|------|-----------------------|
| 6    | SHUT-OFF VALVE DETAIL |
| P101 | scale: NTS            |

PLUMBING NOTES & SPECIFICATIONS

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH HE LATEST EDITIONS OF THE GOVERNING CODES AND REGULATIONS. WHERE ANY PORTION F THE SYSTEM SHOWN IS NOT IN ACCORDANCE WITH ALL APPLICABLE LAWS, ORDINANCES, REGULATIONS R CODES, THIS CONTRACTOR SHALL MAKE ALL CHANGES REQUIRED BY THE ENFORCING AUTHORITIES IN A MANNER APPROVED BY THE ENGINEER AND AT NO ADDITIONAL COST TO THE OWNER.
2. THE CONTRACTOR SHALL ORDER AND OBTAIN ALL NECESSARY TESTS, PERMITS AND CERTIFICATES OF APPROVAL AND PAY ANY REQUIRED FEES.
3. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
4. ALL EQUIPMENT REQUIRING ELECTRIC POWER SHALL BE SUITED FOR USE WITH HE POWER TO BE SUPPLIED. SEE ELECTRICAL DWGS. ALL ELECTRICAL REQUIREMENTS SHALL BE COORDINATED WITH HE ELECTRICAL CONTRACTOR.
5. SUB-CONTRACTORS SHALL COORDINATE WITH THE GENERAL CONTRACTOR FOR THE EXACT LOCATION OF CHASES, FURRING SPACES, DROPPED CEILINGS, STRUCTURE PENETRATIONS, PAINTING, ETC.
6. CONTRACTOR SHALL INSTRUCT OWNER IN THE OPERATION AND MAINTENANCE OF ALL COMPONENTS OF THE INSTALLATION. A ONE YEAR SERVICE CONTRACT SHALL BE INCLUDED.

BASIC MATERIAL AND PIPING

1. ALL PIPING CONNECTIONS TO EQUIPMENT SHALL BE MADE WITH GROUND JOINT UNIONS.
2. PIPE HANGER AND SUPPORTS: CLEVIS OR SPLIT RING TYPE SPACING AND ROD SIZE AS RECOMMENDED IN MSSSP-69, MECHANICAL CODE AND N ACCORDANCE WITH INDUSTRY STANDARD PRACTICE. SELECT TO FIT AROUND BARE PIPE OR AROUND INSULATION WITH INSULATION SADDLE/SHEILD FOR INSULATED PIPING. HANGERS FOR COPPER PIPING SHALL BE COPPER OR COPPER PLATED. BAND IRON HANGERS SHALL NOT BE USED. HANGERS AND ACCESSORIES SHALL BE F&M CORPORATION OR APPROVED EQUAL.
3. PIPE SUPPORTS: SUPPORTS TO BE PROVIDED IN ACCORDANCE WITH APPLICABLE CODES AND INDUSTRY STANDARDS. STEEL RISER CLAMPS WITH PLASTIC COATED OR COPPER PLATED OR COOPER PIPES. F&M CORPORATION OR EQUAL.

PIPING SPECIALTIES

1. PROVIDE FACTORY FABRICATED PIPING SPECIALTIES OF TYPES RECOMMENDED BY MANUFACTURER'S FOR SERVICES INDICATED.
2. PROVIDE ESCUTCHEON PLATES WHEREVER PIPES PASS THROUGH WALLS, FLOORS OR CEILINGS, OUTSIDE DIAMETER TO COVER ENTIRE PIPE PENETRATION HOLE OR PIPING SLEEVE, NICKEL OR CHROME FINISH FOR EXPOSED AREAS, PRIME PAINT FINISH FOR CONCEALED AREAS.
3. UNIONS: PROVIDE DIELECTRIC UNIONS AT CONNECTIONS BETWEEN FERROUS AND NON-FERROUS PIPING. EPCO, STOCKHAM OR EQUAL.

INSULATION

1. PROVIDE INSULATION FOR PIPING, AND EQUIPMENT OF TYPES AND THICKNESS SPECIFIED HEREIN. INSULATION SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50. INSTALL INSULATION N STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. A CONTINUOUS VAPOR BARRIER SHALL BE PROVIDED ON ALL COLD WATER PIPING AND COLD AIR DUCTWORK. INSULATION SHALL BE ARMSTRONG, CERTAINTED, OWENS-CORNING OR JOHNS-MANVILLE.
2. TYPE I - FLEXIBLE ELASTOMERIC THERMAL INSULATION, SUCH AS ARMSTRONG ARMAFLEX II.
3. FOR THE SERVICES INDICATED, USE INSULATIONS THICKNESS AND TYPE AS FOLLOWS:
- 3.1. DOMESTIC COLD WATER PIPE OF 2" DIA. OR LESS - 1/2" THICK.
- 3.2. DOMESTIC COLD WATER PIPE OF > 2" DIA: 1" THICK
- 3.3. DOMESTIC HOT WATER RECIRCULATING 1.5" THICK
- 3.4. DOMESTIC HOT WATER RUN-OUTS: 1" THICK

PIPING

1. INSTALL PIPE TUBE AND FITTING IN ACCORDANCE THE INDUSTRY PRACTICE WHICH WILL ACHIEVE PERMANENTLY LEAK PROOF PIPING SYSTEMS, CAPABLE OF PERFORMING EACH INDICATED SERVICE WITHOUT PIPING FAILURE. TEST PIPING FOR LEAKAGE. REPAIR PIPING SYSTEMS SECTIONS WHICH FAIL TEST BY DISASSEMBLY AND RE-INSTALLATION, USING NEW MATERIALS TO THE EXTENT REQUIRED TO OVERCOME LEAKAGE. UNDER NO CIRCUMSTANCE USE CHEMICALS, STOP-LEAK COMPOUNDS, MASTICS, TAPES OR OTHER TEMPORARY REPAIR METHODS
2. ALL SANITARY PIPING SHALL BE SLOPED AS NOTED ON PLANS WHERE NOT NOTED, SLOPE PIPING AT MINIMUM REQUIRED BY CODE.
3. ALL PIPING SHOWN ON THE FLOOR PLANS SHALL BE LOCATED ABOVE THE CEILING OR INSIDE CHASES UNLESS OTHERWISE NOTED
4. STORM, WASTE AND VENT PIPING SHALL BE SERVICE WEIGHT NO-HUB CAST IRON PIPE AND FITTING CISPI 301, HUB AND SPIGOT SOIL PIPE AND FITTINGS ASTM A-74, GALVANIZED STEEL PIPE WITH DRAINAGE PATTERN SCREWED GALVANIZED CAST IRON FITTINGS ANSI/ASTM A-74 OR DWV COPPER WITH WROUGHT COPPER FITTINGS, ASTM B306, OR SCHEDULE 40 PVC.
5. DOMESTIC WATER PIPING SHALL BE TYPE "L" HARD-DRAWN TEMPTER, WROUGHT COPPER FITTINGS, NON-LEAD SOLDERED JOINTS WITH NON-CORROSIVE FLUX, ANSI B-88.

CLEANOUTS

1. CLEANOUTS SHALL BE INSTALLED NOT MORE THAN 50 FT. APART IN HORIZONTAL DRAINAGE LINES. A CLEANOUT SHALL BE PROVIDED AT THE BASE OF EACH VERTICAL WASTE, SOIL STACK, OR RAINLEADER. THERE SHALL BE A CLEANOUT AT THE JUNCTION OF THE SANITARY BUILDING DRAINS AND BUILDING SEWERS, AND THE STORM.
2. CLEAN OUTS ON CONCEALED PIPING SHALL BE EXTENDED TO TERMINATE FLUSH WITH THE FINISHED WALL OR FLOOR AT WITH ACCESS COVER OVER SUFFICIENT SIZE TO PREVENT REMOVAL OF CLEANUP PLUG. CLEAN OUT SHE'LL NOT BE INSTALLED AREAS OF FLOORS TO RECEIVE TERRAZZO, CERAMIC TILE OR STONE FINISH.
3. CLEANOUTS SHALL BE INSTALLED SO THAT CLEANUP OPENS IN DIRECTION OF DREAM OR AT RIGHT ANGLES THERETO.
4. CLEAR I SHALL BE OF THE SAME NOMINAL SIZE AS PIPES THEY SERVE UP TO 4 INCHES AND NOT LESS THAN ONE NOMINAL PIPES I SMALLER FOR LARGER PIPE.
5. A FIXTURE TRAP FOR A FIXTURE WITH INTEGRAL TRAP READILY REMOVABLE WITHOUT DISTURBING CONCEALED PIPING, MAYBE ACCEPTED AS A CLEANUP EQUIPMENT.
6. CLEANOUTS SHALL BE "ZURN", "JAR R. SMITH", "WADE".
- A. EXPOSED CONCRETE FLOOR
- B. KITCHEN FLOOR: Z-14-HB
- C. TILE FLOORS: ZN-1400
- D. CARPET FLOORS: ZN-1400-CM
- E. FINISHED FLOORS: ZN-1400
- F. FINISHED WALLS: Z-1445-1468 ACCESS COVER AND PLUG
- G. EXPOSED PIPING: Z-1445
- H. EXTERIOR CONCRETE: Z-1449

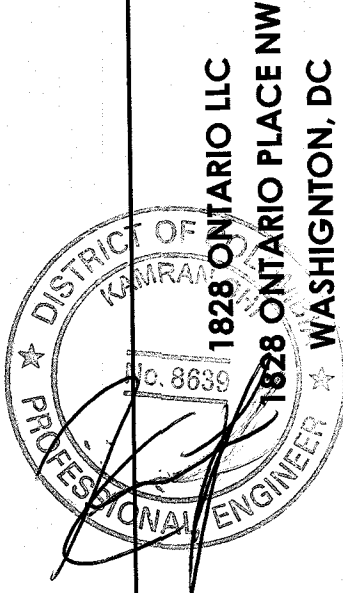
FIXTURES

1. FIXTURES, FITTINGS, TRIM AND ACCESSORIES SHALL BE SAME MANUFACTURER'S TO THE EXTENT POSSIBLE.
2. BARRIER FREE STANDARDS: COMPLY WITH APPLICABLE ANSI STANDARDS PERTAINING TO PLUMBING FIXTURES AND SYSTEMS INCLUDING ANSI A 117.1 STANDARDS PERTAINING TO PLUMBING FIXTURES FOR HANDICAPPED. COMPLY WITH THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT". FIXTURES DESIGNATED BARRIER FREE ARE INTENDED TO BE "USABLE BY PHYSICALLY HANDICAPPED PEOPLE". FIXTURES FOR USE BY HANDICAPPED PEOPLE SHALL BE INSTALLED WITH ANSI A117.1.
3. ENERGY CONSERVATION CODE COMPLIANCE: COMPLY WITH LOCAL AUTHORITY STANDARDS FOR PLUMBING FIXTURE FLOW CONTROLS. WHERE NO CODE OR STANDARD IS N USE, USE THE CURRENT BASIC ENERGY CONSERVATION CODE. WHEN A SPECIFIED DEVICE IS ORE RESTRICTIVE THAN THE LOCAL STANDARDS, THE SPECIFIED DEVICE SHALL BE INSTALLED EXCEPT WHERE PROHIBITED.
4. SUBMIT MANUFACTURERS' SPECIFICATIONS FOR PLUMBING FIXTURES AND TRIM, INCLUDING CATALOG LITERATURE AND MANUFACTURER'S NAME OR EACH FIXTURE TYPE AND TRIM ITEM FURNISHED, ROUGHING-IN DIMENSIONED DRAWINGS, FIXTURE CARRIERS, AND INSTALLATION INSTRUCTIONS. PROPOSED SUBSTITUTIONS SHALL BE INDICATED AND DRAWINGS, CATALOG LITERATURE, OR OTHER DATA SHALL BE FURNISHED FOR COMPARISON.
5. FIXTURES SHALL BE WHITE EXCEPT WHERE NOTED OTHERWISE OR WHERE FIXTURE IS PROVIDED IN A MANUFACTURED FINISH.
6. EXPOSED METAL FITTINGS, TRIM, AND ACCESSORIES SHALL HAVE POLISHED CHROME OR PLATED FINISH.
7. SUPPLIES: PROVIDE A STOP ON EACH WATER SUPPLY TO EACH FIXTURE. PROVIDE ACCESS PANELS FOR CONCEALED STOPS.
8. TRAPS: PROVIDE A TRAP ON EACH FIXTURE, EXCEPT WHERE FIXTURE SPILLS OVER A PROPERLY TRAPPED DRAIN OR OTHER RECEPTOR. ALL SINK AND LAVATORY TRAPS SHALL BE CHROME PLATED METAL.
9. ESCUTCHEONS: PROVIDE DEEP PATTERN ESCUTCHEONS FOR SUPPLIES AND TRAPS WHERE ROUGH-IN PIPING WOULD BE VISIBLE USING STANDARD ESCUTCHEONS.

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Date OCT 24 2014

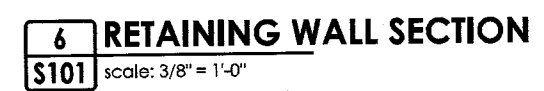
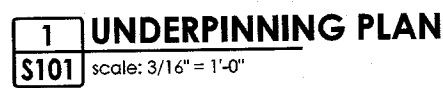
Mechanical Engineering Section



REVISIONS

PROJECT No.  
DATE: October 9, 2014  
SCALE: AS SHOWN

PLUMBING  
NOTES



1828 ONTARIO LLC  
1828 ONTARIO PLACE NW  
WASHINGTON, DC



STRUCTURAL PLANS CERTIFIED AS PROVIDED IN SECTION 106.1.4.1 OF THE DC CONSTRUCTION CODE.

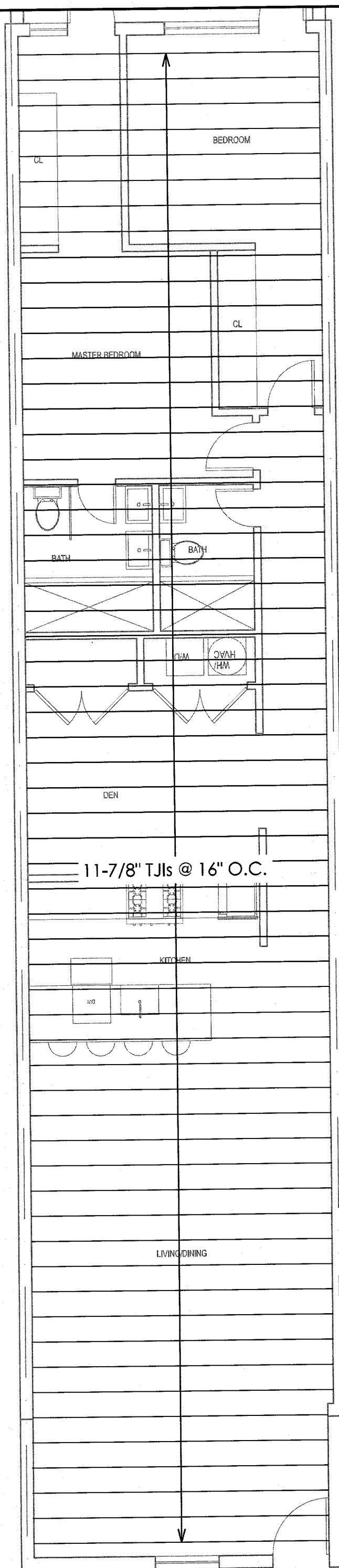
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REVISIONS

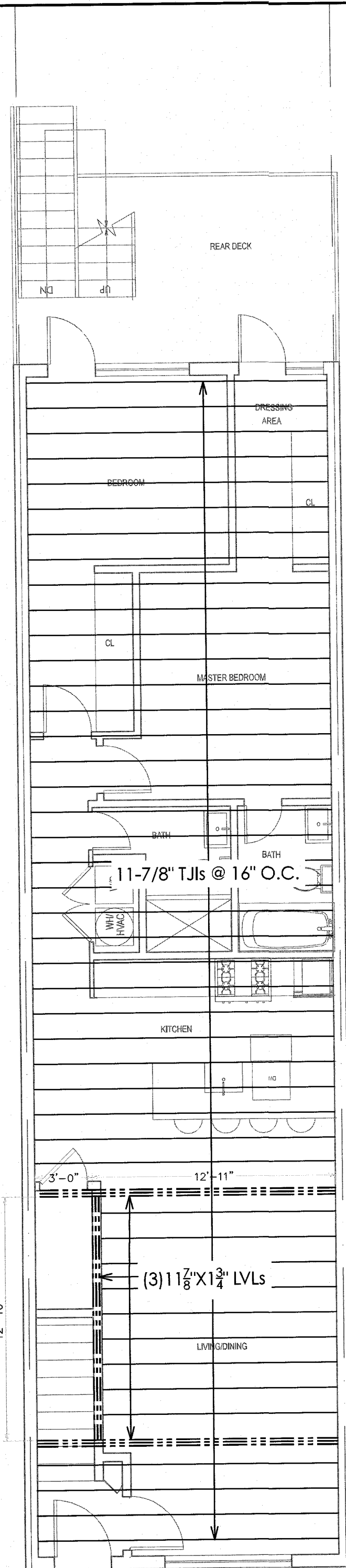
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FRAMING PLAN

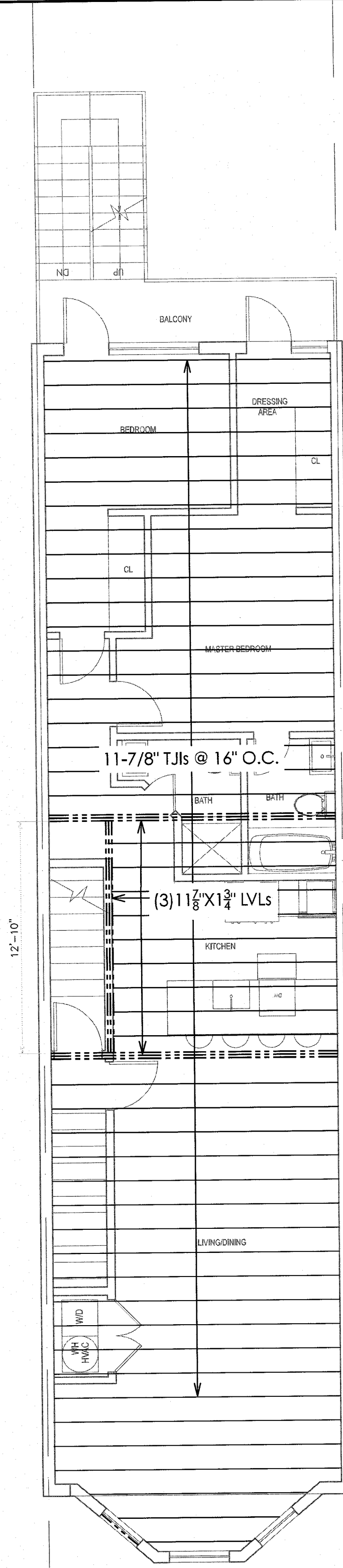
S102



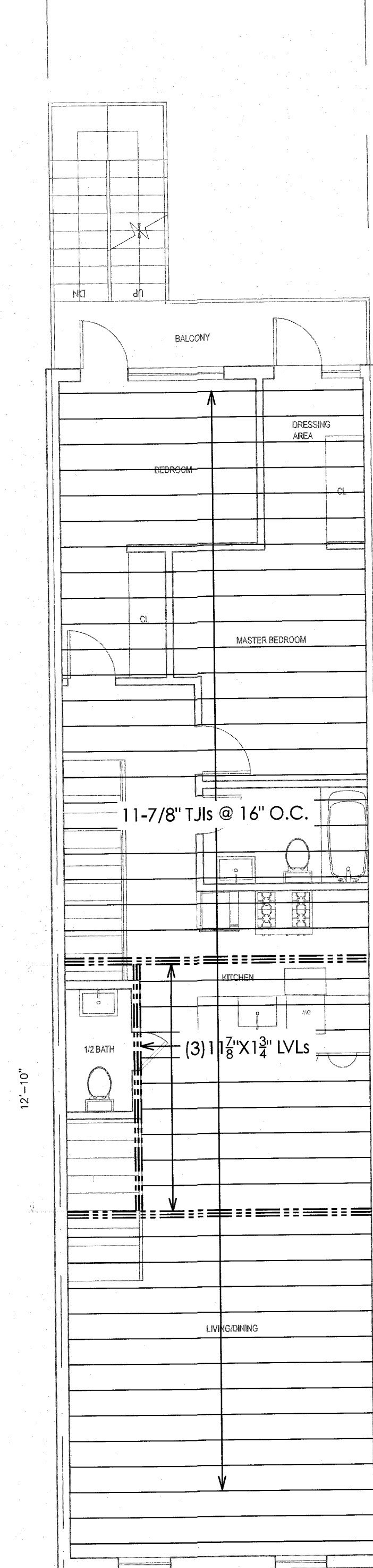
**1 FIRST FLOOR FRAMING**  
S102 scale: 3/16" = 1'-0"



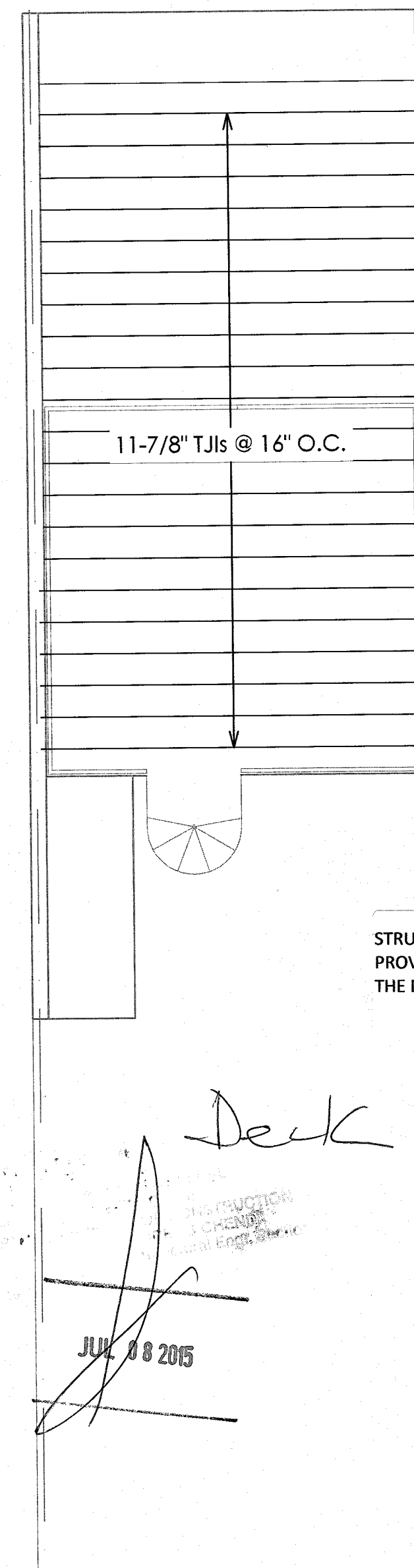
**2 SECOND FLOOR FRAMING**  
S102 scale: 3/16" = 1'-0"



**3 THIRD FLOOR FRAMING**  
S102 scale: 3/16" = 1'-0"



**4 FOURTH FLOOR FRAMING**  
S102 scale: 3/16" = 1'-0"



**5 ROOF FRAMING**  
S102 scale: 3/16" = 1'-0"

## GENERAL REQUIREMENTS

- ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE LATEST VERSION OF THE INTERNATIONAL RESIDENTIAL CODE (IRC), AS ADOPTED BY THE DISTRICT OF COLUMBIA, AS WELL AS ALL LOCAL AMENDMENTS.
- WORK PERFORMED SHALL COMPLY WITH THESE GENERAL NOTES UNLESS OTHERWISE NOTED ON PLANS.
- WORK PERFORMED SHALL COMPLY WITH ALL APPLICABLE LOCAL AND STATE CODES, ORDINANCE AND REGULATIONS.
- ON-SITE VERIFICATION OF ALL DIMENSIONS AND CONDITIONS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS.
- DIMENSIONS SHALL BE READ OR CALCULATED AND NEVER SCALED. ALL DIMENSIONS ARE TO THE ROUGH UNLESS NOTED OTHERWISE.
- DISCREPANCIES: THE CONTRACTOR SHALL COMPARE AND COORDINATE ALL DRAWINGS; WHEN IN THE OPINION OF THE CONTRACTOR, A DISCREPANCY EXISTS HE SHALL PROMPTLY REPORT IT TO THE DESIGNER OR PROPER ADJUSTMENT BEFORE PROCEEDING.
- OMISSIONS: IN THE EVENT CERTAIN FEATURES OF THE CONSTRUCTION ARE NOT FULLY SHOWN ON THE DRAWINGS, THE CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR NOTED.
- ALL WORK IS TO BE PERFORMED IN A PROFESSIONAL MANNER AND IN ACCORDANCE WITH STANDARD PRACTICE AND SHALL BE IN STRICT COMPLIANCE WITH MANUFACTURER'S SPECIFICATIONS AND/OR RECOMMENDATIONS.
- THE GENERAL AND SUB-CONTRACTORS SHALL CAREFULLY EXAMINE THE DRAWINGS INSPECT THE SITE AND ACQUAINT THEMSELVES WITH ALL GOVERNING ORDINANCES, LAWS, ETC. AND OTHERWISE FAMILIARIZE THEMSELVES WITH ALL MATTERS WHICH MAY AFFECT PERFORMANCE OF THE WORK.
- THE STRUCTURAL INTEGRITY OF THE BUILDING IS DEPENDENT UPON COMPLETION ACCORDING TO THE PLANS AND SPECIFICATIONS. THE STRUCTURAL ENGINEER OF RECORD ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION. THE METHOD OF CONSTRUCTION AND SEQUENCE OF OPERATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SUPPLY ANY NECESSARY BRACING, GUYS, ETC. TO PROPERLY BRACE THE STRUCTURE AGAINST WIND, DEAD AND LIVE LOADS UNTIL THE BUILDING IS COMPLETED ACCORDING TO THE PLANS SPECIFICATIONS. ANY QUESTIONS REGARDING TEMPORARY BRACING REQUIREMENTS SHOULD BE FORWARDED TO A STRUCTURAL ENGINEER FOR REVIEW.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY BRACING AND SHORING, AS REQUIRED, TO ENSURE VERTICAL AND LATERAL STABILITY OF THE ENTIRE STRUCTURE OR PORTION THEREOF DURING CONSTRUCTION.
- ALL WALLS ARE DESIGNED AS LATERALLY BRACED BY THE FLOOR AND ROOF SYSTEMS. CONTRACTOR SHALL ENSURE THAT WALLS ARE ADEQUATELY BRACED DURING CONSTRUCTION.
- TEMPORARY BRACING SHALL BE PROVIDED FOR ALL WALLS SUBJECTED TO UNBALANCED BACKFILL. BRACE WALL PLUMB UNTIL STABILIZING ELEMENT ABOVE IS IN PLACE.

## DEMOLITION

- ALL MEANS AND METHODS OF SAFELY REMOVING ALL EXISTING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- DEMOLITION SUB-CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL TEMPORARY SHORING AND BRACING REQUIRED FOR DEMOLITION OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF AND THE PROCEDURES FOR THE REQUIRED TEMPORARY SHORING. THE DESIGN PROCEDURES SHALL CONFORM TO ALL GOVERNING CODES AND SAFETY REQUIREMENTS.

## EXISTING CONDITIONS

- ALL EXISTING BEAMS, COLUMNS, LINTELS, ANGELS AND JOIST TO REMAIN INTACT UNLESS SPECIFICALLY NOTED TO BE REMOVED BY MOST RECENT DEMOLITION DOCUMENTS OR OTHERWISE NOTED ON THESE DRAWINGS.
- INFORMATION PROVIDED ON THESE DRAWINGS RELATED TO EXISTING CONDITIONS IS BASED ON AVAILABLE DESIGN DOCUMENTS AND FIELD OBSERVATION. CONTRACTOR TO CONTACT STRUCTURAL ENGINEER UPON DISCOVERY OF ANY DISCREPANCY BETWEEN CONTRACT DRAWINGS AND ACTUAL EXISTING CONDITIONS.
- THE PORTIONS OF THE BUILDING THAT ARE SHOWN TO BE STRUCTURALLY MODIFIED HAVE BEEN DESIGNED IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRACTICE. HOWEVER, WE CANNOT ASSUME RESPONSIBILITY FOR ANY DAMAGE THAT MAY ARISE FOR ANY PORTION OF THE BUILDING NOT REDESIGNED, ALTERED OR CONSTRUCTED UNDER THIS SET OF DESIGN DRAWINGS OR OF DEFICIENCIES IN THE CONDITION OF THE BUILDING PRIOR TO RENOVATION.

## CONCRETE

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 301, ACI 318 AND ACI 302.
- CEMENT SHALL COMPLY WITH ASTM C150, TYPE I OR II.
- REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615 GRADE 60. ALL REINFORCEMENT SPICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.
- CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH  $F_c = 3000$  PSI.
- PROVIDE 6.6-W1.4XW1.4 W.W.F. IN ALL SLAB-ON-GRADE. ALL WIRE FABRIC SHALL CONFORM TO ASTM A 185. ALL MESH EDGES SHALL LAP A MINIMUM OF TWO (2) SQUARES.
- CONCRETE SLUMP SHALL  $\sim 4" \pm 1"$ .
- MINIMUM CONCRETE COVER BETWEEN FACE OF REINFORCING BAR AND FACE OF CONCRETE SHALL BE AS FOLLOWS:
  - CONCRETE CAST AGAINST EARTH = 3"
  - FORMED CONCRETE EXPOSED TO WEATHER OR EARTH = 2"
- ALL SLABS AND FOUNDATION WALLS EXPOSED TO WEATHER SHALL HAVE A MINIMUM AIR ENTRAINMENT OF  $6\% \pm 1.5\%$  PER ACI-318 4.2.1.
- PROVIDE CORNER BARS AT ALL WALL INTERSECTIONS WITH SIZE AND SPACING TO MATCH HORIZONTAL WALL REINFORCEMENT.
- PROVIDE KEYED JOINTS BETWEEN ALL NON-MONOLITHIC INTERSECTING CONCRETE WALLS AND AT ALL CONCRETE JOINTS.
- PROVIDE AN 8-MIL VAPOR BARRIER OVER A 4-INCH LAYER OF GRAVEL BENEATH ALL SLAB-ON-GRADE.
- PROVIDE 1/2-INCH DIAMETER ANCHOR BOLTS AT A MAXIMUM OF 6'-0" ON CENTER AT ALL WOOD SILL PLATES. PROVIDE AT LEAST (2) ANCHOR BOLTS PER PLATE SECTION WITH ONE BOLT LOCATED AT NOT MORE THAN 12-INCHES FROM EACH END. BOLTS SHALL EMBED AT LEAST 7-INCHES INTO MASONRY OR CONCRETE. NUTS AND PLATE WASHERS (1/8"x2"x2") SHALL BE TIGHTENED ONTO EACH BOLT.

## EARTHWORK

- THE ALLOWABLE SOIL BEARING PRESSURE FOR ALL FOOTINGS IS ASSUMED TO BE 1500 PSF.
- SHOULD UNSTABLE SOILS BE ENCOUNTERED, FOOTINGS SHALL BE EXCAVATED AND REPLACED WITH LEAN CONCRETE.  $F_c = 2000$  PSI. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-6" BELOW EXTERIOR GRADE, UNLESS NOTED OTHERWISE.
- ALL FILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL AND SHALL BE SELECTED ON THE BASIS OF LABORATORY COMPACTION TESTS, HAVING A LIQUID LIMIT LESS THAN 40, A PLASTICITY LESS THAN 15. FILL PLACED IN MAXIMUM 8-INCH LIFTS AND COMPACTED TO 95% OF THE DRY DENSITY OBTAINED BY ASTM D1557, MODIFIED PROCTOR METHOD.

## UNDERPINNING NOTES

- THIS DRAWING SHOWS THE UNDERPINNING REQUIRED TO ALLOW CONSTRUCTION OF THE ADDITIONS & RENOVATIONS. ONLY INFORMATION NECESSARY TO ACCOMPLISH THIS WORK IS SHOWN.
- WE DO NOT CONTROL JOB SITE ASSEMBLY OR PROCEDURES, GRADE OR QUALITY OF MATERIALS OR EQUIPMENT PROVIDED BY OTHERS IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INTEGRATE THIS DRAWING INTO A COMPOSITE DRAWING SUITABLY COMPLETE FOR CONSTRUCTION PURPOSES CONSISTENT WITH SAFE PRACTICE AND OVERALL PROJECT OBJECTIVES.
- WE SHALL NOT BE RESPONSIBLE IN THE EVENT OF ANY DEVIATIONS, CHANGES, OR ALTERNATIONS TO THE RECOMMENDED ASSEMBLY DETAILS DESCRIBED IN THIS DRAWING UNLESS SUCH DEVIATIONS, CHANGES OR ALTERATIONS ARE ILLUSTRATED IN A REVISED DRAWING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BRACING, SHORING & SUPPORT OF EXISTING STRUCTURE FOR THE CONSTRUCTION OF UNDERPINNING.
- CONTRACTOR SHALL VERIFY ALL SIZES & LOCATIONS OF EXISTING WALL FOOTING BEFORE ANY UNDERPINNING WORK BEGINS.
- EXCAVATION UNDER EXISTING FOOTING SHALL BE DONE ALTERNATELY IN 3'-0" SECTIONS MAX. 1,4,2,5,3,1,4,2,5,3,1 .... ETC. PER PIT SEQUENCE DETAIL. WITH APPROPRIATE SUPPORT OF STRUCTURE & EXCAVATION, ALLOW 24 HR FOR CONCRETE CURING PRIOR TO DRY PACKING OF EXISTING WORK.
- CONTRACTOR SHALL CLEAN EXISTING SURFACES OF ALL LOOSE MATERIALS & PREPARE EXISTING MASONRY UNITS, FOUNDATION & FOUNDATION SUB GRADE TO ACCEPT UNDERPINNING.
- CONTRACTOR SHALL BACKFILL ALL EXCAVATED VOIDS UNDER ADJACENT CONCRETE SLABS & FOOTING CAUSED BY UNDERPINNING WITH CONCRETE.
- CONTRACTOR SHALL POUR CONCRETE & SHALL EXCAVATE ANOTHER ADJACENT SECTION WHEN THE PREVIOUS POURS ARE CURED & ABLE TO SUPPORT EXISTING WALL. THE TIME PERIOD SHALL BE MINIMUM 7 DAYS.
- CONTRACTOR SHALL PROJECT ALL EXISTING WORK FROM DAMAGE DURING CONSTRUCTION.
- MINIMUM WIDTH OF UNDERPINNING SHALL BE SAME AS THAT IF EXISTING FOOTING WHICH SHALL BE FIELD ESTABLISHED.
- UNDERPINNING WORK SHALL BE PERFORMED BY A SPECIALTY CONTRACTOR HAVING A MINIMUM OF 5 YEARS OF EXPERIENCE UNDER SIMILAR SITUATIONS AND REGULARLY ENGAGED IN THIS TYPE OF WORK.
- CONTRACTOR SHALL REVIEW THE CONSTRUCTION DOCUMENTS FOR ANY CONFLICTS WITH THE EXISTING FIELD CONDITIONS. RESOLVE SUCH CONFLICTS AND COORDINATE COMPATIBILITY OF NEW WORK WITH EXISTING CONDITIONS BEFORE PROCEEDING WITH THE UNDERPINNING WORK.
- PROTECT ALL EXISTING STRUCTURAL AND ARCHITECTURAL BUILDING ELEMENTS AND UTILITIES SERVICES FROM DAMAGE DURING UNDERPINNING WORK.
- FOLLOW STRICTLY THE SEQUENCE OF UNDERPINNING IN THE DIRECTION SPECIFIED ON THE PLAN FOR EACH SEQUENCE GROUP. DO NOT MOVE TO THE NEXT SEQUENCE GROUP UNTIL ALL SEGMENTS IN THE SEQUENCE UNDERTAKEN ARE UNDERPINNED.
- MARK UNDERPINNING SEGMENTS ON THE WALLS AND NUMBER THEM AS SHOWN ON THE PLAN. COMPLETE UNDERPINNING OF ALL SEGMENTS MARKED 1'S FIRST, 2'S SECOND, 3'S THIRD, 4'S FOURTH AND 5'S LAST.
- LIMIT TO A MAXIMUM OF THREE (3) OPEN PITTS IN EACH GROUP IN ANY WALL AT ANY TIME. DO NOT OPEN PITTS IN THE OTHER GROUP UNTIL ALL SEGMENTS IN THE GROUP UNDERTAKEN HAVE BEEN COMPLETED, CURED AND ABLE TO SUPPORT THE EXISTING WALL AND THE LOADS CARRIED BY IT.
- SHORE/BRACE/SUPPORT TEMPORARILY ALL FRAMING/STRUCTURE RESTING ON THE EXISTING WALL FOOTING SEGMENT TO BE UNDERPINNED. SHORES SHALL REMAIN IN PLACE UNTIL THE UNDERPINNING OF THE SEGMENT HAS BEEN COMPLETED (CONCRETE IN FOOTING AND WALL CURED AND DRY PACK OR NON-SHRINK GROUT INSTALLED AND CURED).
- EXCAVATE THE SEGMENT TO THE DESIGN DEPTH USING MANUAL TOOLS. EXCAVATION FOR THE SEGMENT BEING UNDERPINNED, IF UNSTABLE, SHALL BE BRACED/SUPPORTED IMMEDIATELY.
- THE EXCAVATED EARTH SHALL BE REMOVED FROM THE SITE. IF STORED ON THE SITE, IT SHALL NOT OBSTRUCT THE FREE DRAINAGE OF STORM WATER FROM THE SITE.
- DRILL HOLES IN THE EXISTING EARTH ON EACH SIDE OF THE START FOOTING SEGMENT AND ON ONE SIDE OF SUBSEQUENT SEGMENTS ARE REQUIRED FOR REBAR INSTALLATION. PROTECT PART OF THE DOWEL IN DIRT WITH A PLASTIC WRAP WHICH SHALL BE REMOVED PRIOR TO PLACING CONCRETE IN ADJACENT SEGMENT. REPEAT THE PROCESS FOR WALL SEGMENTS. THOROUGHLY CLEAN SURFACES OF UNDERPINNING FOOTINGS AND WALLS SEGMENTS ALREADY COMPLETED AND TO BE IN CONTACT WITH NEW WORK (NEW SEGMENT, DRY PACK, ISOLATION JOINT MATERIALS ETC.) OF ALL LOOSE MATERIALS AND DIRT. THEN FORM, PLACE REINFORCEMENT INCLUDING DOWELS, CONSTRUCTION JOINT KEYS, BETWEEN SEGMENTS, RX WATER STOPS AND DOWELS FOR ADJACENT SEGMENT. PLACE, CONSOLIDATE AND VIBRATE CONCRETE TO INSURE NO VOIDS. PLACE ENOUGH CONCRETE TO MAKE SURE THAT THE VOID SPACE ON THE ADJOINING NEIGHBOR'S SIDE IS COMPLETELY FILLED. DRY PACKING SHALL BE A MINIMUM OF 2" AND SHALL PRECEDE ONLY 72 HOURS MINIMUM AFTER CONCRETE POUR FOR THE SEGMENT.
- COMPLETE UNDERPINNING OF ALL SEGMENTS FOLLOWING THE SPECIFIED SEQUENCE AND DIRECTION OF UNDERPINNING. EXISTING FLOOR SLAB AND EARTH BELOW SHALL BE EXCAVATED TO THE REQUIRED/SPECIFIED ELEVATION AS THE FINAL STEP.

## UNDERPINNING - CONSTRUCTION PROCEDURES

- EXCAVATE TO THE TOP OF THE EXISTING FOOTING.
- LAYOUT UNDERPINNING PITTS AS SHOWN ON PLAN AND SECTIONS.
- EXCAVATE UNDERPINNING PITTS TO THE DEPTHS INDICATED ON THE PIT SECTIONS.
- DIG AND SHORE PIT IN AS PER PIT SEQUENCE.
- POUR CONCRETE, LEAVING A 2-INCH SPACE BETWEEN THE CONCRETE AND THE UNDERSIDE OF THE EXISTING FOOTING.
- ON THE FOLLOWING MORNING DRYPACK THE 2 - INCH SPACE BY THE RAMMING THE DRYPACK MIXTURE WITH A 2 4 AND A 2 LB SLEDGE.
- CONTINUE NEXT SEQUENCE OF UNDERPINNING PITTS AFTER FIRST SEQUENCE HAS BEEN POURED AND DRY PACKED.

## DESIGN LIVE LOADS FOR NEW WORK:

- ROOF LIVE LOAD
  - $P_g = 30$  PSF
  - $P_t = 21$  PSF
  - $C_e = 1.0$
  - $I_s = 1.0$
  - $C_s = 1.0$
- FLOOR LIVE LOADS
  - BEDROOMS = 40 PSF
  - DWELLING AREAS = 40 PSF
- WIND LOAD
  - $V$  (3-second gust) = 90 mph
  - $I_w = 1.0$
  - EXPOSURE = B
- SEISMIC LOAD
  - LATERAL FORCE SYSTEM: BRACED WOOD PANELS
  - SEISMIC USE GROUP = I
  - SITE CLASS = D
  - NO DESIGN REQUIRED PER IRC/R301.2.2
- CODE: THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL RESIDENTIAL CODE/2006 AND THE 2012 DCMR
- ASSUMED EARTH PRESSURES
  - P AT REST = 60H
  - P ACTIVE = 45H
  - P PASSIVE = 300H
- DEAD LOADS:
  - ROOF = 15 PSF
  - TYPICAL FLOORS = 12 PSF
  - TILE/STONE FLOORS = 20 PSF

## LUMBAR

- ALL JOISTS, BEAMS AND POSTS SHALL BE SPRUCE-PINE-FIR NO.1/NO.2 PER "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION", NFPA. ALL STUDS SHALL BE SPRUCE-PINE-FIR STUD-GRADE. ALL WOOD MEMBERS SHALL BE MANUFACTURED TO COMPLY WITH PS20 OF "AMERICAN SOFTWOOD LUMBER STANDARDS" AND SHALL HAVE 19% MAXIMUM MOISTURE CONTENT.
  - MINIMUM MEMBER PROPERTIES SHALL BE AS FOLLOWS:
    - WOOD LINTELS, JOISTS AND BEAMS
      - FLEXURE:  $F_b = 875$  PSI
      - SHEAR:  $F_v = 135$  PSI
      - MODULUS OF ELASTICITY = 1,400,000
    - WALL STUDS: STUD GRADE
      - FLEXURE:  $F_b = 675$  PSI
      - COMPRESSION PARALLEL:  $F_c = 725$  PSI
      - MODULUS OF ELASTICITY = 1,200,000
  - ALL FRAMING EXPOSED TO WEATHER OR DESIGNATED "P.T." IS TO BE PRESSURE TREATED SOUTHERN PINE NO.2 PER "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION", NFPA. ALL WOOD MEMBERS SHALL BE MANUFACTURED TO COMPLY WITH PS20 OF "AMERICAN SOFTWOOD LUMBER STANDARDS". MINIMUM MEMBER PROPERTIES SHALL BE IN ACCORDANCE WITH TABLE 4B IN THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION".
  - ALL EXTERIOR WALL STUDS ARE TO BE 2.6'S SPACED AT 16" D.C. (U.N.O.). PLACE DOUBLE STUDS AT END OF WALLS AND TRIPLE STUDS AT INTERSECTIONS AND CORNERS. ALL MULTIPLE STUD POSTS SHALL BE FASTENED AS FOLLOWS:
    - DOUBLE STUDS SHALL BE NAILED TOGETHER WITH 10d AT 6' D.C.
    - TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 16d AT 6' O.C. EACH SIDE.
    - FOR (4) STUD POSTS, USE 20d NAILS AT 8-INCHES ON CENTER.
  - PROVIDE SIMPSON STRONG-TIE (OR APPROVED EQUAL) POST CAPS AT ALL BEAM-ON-POST BEARING LOCATIONS, U.N.O.
  - ROOF SHEATHING SHALL BE 5/8-INCH, CDX, APA STRUCTURAL I RATED SHEATHING, EXPOSURE I, PER THE "AMERICAN PLYWOOD ASSOCIATION". SHEATHING SHALL BE FASTENED WITH 8d NAILS AT 6-INCHES ON CENTER AT BOUNDARY PANEL EDGES AND AT 12-INCHES ON CENTER AT ALL INTERMEDIATE SUPPORTS.
  - WALL SHEATHING SHALL BE 1/2-INCH, CDX, APA STRUCTURAL I RATED SHEATHING, EXPOSURE I, PER THE "AMERICAN PLYWOOD ASSOCIATION". SHEATHING SHALL BE FASTENED WITH 8d NAILS AT 6-INCHES ON CENTER AT PANEL EDGES AND AT 12-INCHES ON CENTER AT ALL INTERMEDIATE SUPPORTS.
  - ALL PLYWOOD SUBFLOORING SHALL BE 3/4-INCH THICK T&G, APA RATED 32/16 ADVANTECH SHEATHING. SHEATHING SHALL BE GLUED WITH SUB-FLOOR ADHESIVE AND BE FASTENED WITH 8d NAILS AT 6-INCHES ON CENTER AT BOUNDARY PANEL EDGES AND AT 12-INCHES ON CENTER AT ALL INTERMEDIATE SUPPORTS.
  - LAMINATED VENEER LUMBER (L.V.L.) SHALL BE INSTALLED AND FASTENED PER THE MANUFACTURER'S RECOMMENDATIONS AND NOT BE LESS THAN SIZE SPECIFIED IN PLANS. MINIMUM MEMBER PROPERTIES SHALL BE AS FOLLOWS:
    - FLEXURE:  $F_b = 2,800$  PSI
    - SHEAR:  $F_v = 285$  PSI
    - MODULUS OF ELASTICITY = 1,900,000
  - PARALLEL STRAND LUMBER (P.S.L.) SHALL BE INSTALLED AND FASTENED PER THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM MEMBER PROPERTIES SHALL BE AS FOLLOWS FOR P.S.L. POSTS:
    - FLEXURE:  $F_b = 2,400$  PSI
    - COMPRESSION:  $F_c = 2,500$  PSI
    - MODULUS OF ELASTICITY = 1,800,000
  - PROVIDE MIN. 3" BEARING FOR ALL LAMINATED VENEER AND PARALLEL STRAND BEAMS, 2" BEARING FOR STANDARD LUMBER BEAMS.
  - ALL WOOD TOP PLATE SPLICES SHALL BE STAGGERED @ 6'-0" MINIMUM.
  - ALL WALL SHEATHING SHALL BE CONTINUOUS BETWEEN TOP PLATES AND BOTTOM PLATE OF WALL ABOVE. ALL PLYWOOD PANELS EDGES SHALL BE CONTINUOUSLY BLOCKED AND NAILED.
  - ALL MULTIPLE MEMBERS ARE TO BE FASTENED TOGETHER WITH THE FOLLOWING NAILS AND SIMPSON SDS (STRONG-DRIVE SCREWS). USING THE FASTENER-TO-FASTENER SPACING NOTED WITHIN EACH ROW OF FASTENERS. ALL FASTENERS SHALL BE INSTALLED IN THE QUANTITY OF ROWS SPECIFIED, IN A STAGGERED PATTERN:

| PILES      | DEPTH   | FASTENERS       | SPACING  | ROWS |
|------------|---------|-----------------|----------|------|
| (2)-1-1/2" | 9'-12"  | 10d NAILS       | 12" O.C. | 2    |
| (2)-1-1/2" | 14'-18" | 10d NAILS       | 12" O.C. | 3    |
| (3)-1-1/2" | 9'-12"  | 16d NAILS       | 16" O.C. | 2*   |
| (3)-1-1/2" | 14'-18" | 16d NAILS       | 16" O.C. | 3*   |
| (2)-1-3/4" | 9'-12"  | 12d NAILS       | 16" O.C. | 2    |
| (2)-1-3/4" | 14'-20" | 12d NAILS       | 12" O.C. | 3    |
| (3)-1-3/4" | 9'-12"  | SDS 1/4"x4 1/2" | 12" O.C. | 2*   |
| (3)-1-3/4" | 14'-20" | SDS 1/4"x4 1/2" | 12" O.C. | 3*   |
- \*ALL TRIPLE AND -PLY MEMBERS SHALL BE FASTENED FROM BOTH SIDES WITH THE NUMBER OF ROWS AND FASTENERS SPECIFIED. SIDE-TO-SIDE SPACING SHALL ALSO BE STAGGERED.
- PROVIDE SOLID BLOCKING BETWEEN JOISTS AND RAFTERS AT ALL BEARING POINTS.
- PROVIDE 1/4 GAGE JOIST HANGERS OR ANGLE CLIPS TO ALL JOIST CONNECTIONS WHERE THERE IS NO DIRECT BEARING SUPPORT.
- PROVIDE BRIDGING AT CENTER SPAN OF JOISTS OR INTERVALS NOT EXCEEDING 8 FEET.
- ALL MISCELLANEOUS WOOD CONNECTIONS SHALL BE FASTENED PER 2006 IBC, TABLE 2304.9.1 "FASTENING SCHEDULE."
- NAILS INDICATED IN THE DRAWINGS, DETAILS, AND NOTES SHALL BE DEFINED AS FOLLOWS: 8d = 0.131"x2.5", 10d = 0.148"x3", 16d = 0.162"x3.5". SUBSTITUTIONS FOR THESE NAIL SIZES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR APPROVAL.
- DOUBLE JOISTS SHALL BE HURRICANE BENEATH ALL PARTITIONS WHEN THE LENGTH OF THE PARTITION EXCEEDS ONE HALF THE SPAN.
- PROVIDE SIMPSON H2.5A HURRICANE CLIPS FASTENED TO THE OUTSIDE FACE OF THE DOUBLE TOP PLATE AT ALL RAFTER BEARING POINTS.
- ALL ROOF SHEATHING SHALL BE LAID CONTINUOUSLY BETWEEN THE EDGES OF THE ROOF. NO INTERRUPTIONS ARE PERMITTED AT CAP TRUSSES OR AT ROOF OVERBUILDS.

STRUCUTRAL PLANS CERTIFIED AS  
PROVIDED IN SECTION 106.1.4.1 OF  
THE DC CONSTRUCTION CODE.

GENERAL REQUIREMENTS

1. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE LATEST VERSION OF THE INTERNATIONAL RESIDENTIAL CODE (IRC), AS ADOPTED BY THE DISTRICT OF COLUMBIA, AS WELL AS ALL LOCAL AMENDMENTS.
2. WORK PERFORMED SHALL COMPLY WITH THESE GENERAL NOTES UNLESS OTHERWISE NOTED ON PLANS.
3. WORK PERFORMED SHALL COMPLY WITH ALL APPLICABLE LOCAL AND STATE CODES, ORDINANCE AND REGULATIONS.
4. ON-SITE VERIFICATION OF ALL DIMENSIONS AND CONDITIONS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS.
8. DIMENSIONS SHALL BE READ OR CALCULATED AND NEVER SCALED. ALL DIMENSIONS ARE TO THE ROUGH UNLESS NOTED OTHERWISE.
9. DISCREPANCIES: THE CONTRACTOR SHALL COMPARE AND COORDINATE ALL DRAWINGS; WHEN IN THE OPINION OF THE CONTRACTOR, A DISCREPANCY EXISTS HE SHALL PROMPTLY REPORT IT TO THE DESIGNER OR PROPER ADJUSTMENT BEFORE PROCEEDING.
10. OMISSIONS: IN THE EVENT CERTAIN FEATURES OF THE CONSTRUCTION ARE NOT FULLY SHOWN ON THE DRAWINGS, THE CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR NOTED.
11. ALL WORK IS TO BE PERFORMED IN A PROFESSIONAL MANNER AND IN ACCORDANCE WITH STANDARD PRACTICE AND SHALL BE IN STRICT COMPLIANCE WITH MANUFACTURER'S SPECIFICATIONS AND/OR RECOMMENDATIONS.
12. THE GENERAL AND SUB-CONTRACTORS SHALL CAREFULLY EXAMINE THE DRAWINGS INSPECT THE SITE AND ACQUAINT THEMSELVES WITH ALL GOVERNING ORDINANCES, LAWS, ETC. AND OTHERWISE FAMILIARIZE THEMSELVES WITH ALL MATTERS WHICH MAY AFFECT PERFORMANCE OF THE WORK.
13. THE STRUCTURAL INTEGRITY OF THE BUILDING IS DEPENDENT UPON COMPLETION ACCORDING TO THE PLANS AND SPECIFICATIONS. THE STRUCTURAL ENGINEER OF RECORD ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION. THE METHOD OF CONSTRUCTION AND SEQUENCE OF OPERATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SUPPLY ANY NECESSARY BRACING, GUYS, ETC. TO PROPERLY BRACE THE STRUCTURE AGAINST WIND, DEAD AND LIVE LOADS UNTIL THE BUILDING IS COMPLETED ACCORDING TO THE PLANS SPECIFICATIONS. ANY QUESTIONS REGARDING TEMPORARY BRACING REQUIREMENTS SHOULD BE FORWARDED TO A STRUCTURAL ENGINEER FOR REVIEW.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY BRACING AND SHORING, AS REQUIRED, TO ENSURE VERTICAL AND LATERAL STABILITY OF THE ENTIRE STRUCTURE OR PORTION THEREOF DURING CONSTRUCTION.
15. ALL WALLS ARE DESIGNED AS Laterally Braced by the Floor and Roof Systems. CONTRACTOR SHALL ENSURE THAT WALLS ARE ADEQUATELY BRACED DURING CONSTRUCTION.
16. TEMPORARY BRACING SHALL BE PROVIDED FOR ALL WALLS SUBJECTED TO UNBALANCED BACKFILL. BRACE WALL PLUMB UNTIL STABILIZING ELEMENT ABOVE IS IN PLACE.

DEMOLITION

1. ALL MEANS AND METHODS OF SAFELY REMOVING ALL EXISTING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. DEMOLITION SUB-CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL TEMPORARY SHORING AND BRACING REQUIRED FOR DEMOLITION OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF AND THE PROCEDURES FOR THE REQUIRED TEMPORARY SHORING. THE DESIGN PROCEDURES SHALL CONFORM TO ALL GOVERNING CODES AND SAFETY REQUIREMENTS.

EXISTING CONDITONS

- A. ALL EXISTING BEAMS, COLUMNS, LINTELS, ANGELS AND JOIST TO REMAIN INTACT UNLESS SPECIFICALLY NOTED TO BE REMOVED BY MOST RECENT DEMOLITION DOCUMENTS OR OTHERWISE NOTED ON THESE DRAWINGS.
- B. INFORMATION PROVIDED ON THESE DRAWINGS RELATED TO EXISTING CONDITIONS IS BASED ON AVAILABLE DESIGN DOCUMENTS AND FIELD OBSERVATION. CONTRACTOR TO CONTACT STRUCTURAL ENGINEER UPON DISCOVERY OF ANY DISCREPANCY BETWEEN CONTRACT DRAWINGS AND ACTUAL EXISTING CONDITIONS.
- C. THE PORTIONS OF THE BUILDING THAT ARE SHOWN TO BE STRUCTURALLY MODIFIED HAVE BEEN DESIGNED IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRACTICE. HOWEVER, WE CANNOT ASSUME RESPONSIBILITY FOR ANY DAMAGE THAT MAY ARISE FOR ANY PORTION OF THE BUILDING NOT REDESIGNED, ALTERED OR CONSTRUCTED UNDER THIS SET OF DESIGN DRAWINGS OR OF DEFICIENCIES IN THE CONDITION OF THE BUILDING PRIOR TO RENOVATION.

CONCRETE

- A. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 301, ACI 318 AND ACI 302.
- B. CEMENT SHALL COMPLY WITH ASTM C150,TYPE I OR II.
- C. REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615 GRADE 60. ALL REINFORCEMENT SPICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.
- D. CAST -IN-PLACE CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH  $F_c = 3000$  PSI
- E. PROVIDE 6.6-W1.4XW1.4 W.W.F. IN ALL SLAB-ON-GRADE. ALL WIRE FABRIC SHALL CONFORM TO ASTM A 185. ALL MESH EDGES SHALL LAP A MINIMUM OF TWO (2) SQUARES.
- F. CONCRETE SLUMP SHALL ~ 4"  $\pm$  1".
- G. MINIMUM CONCRETE COVER BETWEEN FACE OF REINFORCING BAR AND FACE OF CONCRETE SHALL BE AS FOLLOWS:
  - a. CONCRETE CAST AGAINST EARTH = 3"
  - b. FORMED CONCRETE EXPOSED TO WEATHER OR EARTH = 2"
- H. ALL SLABS AND FOUNDATION WALLS EXPOSED TO WEATHER SHALL HAVE A MINIMUM AIR ENTRAINMENT OF 6%  $\pm$  1.5% PER ACI-318 4.2.1.
- I. PROVIDE CORNER BARS AT ALL WALL INTERSECTIONS WITH SIZE AND SPACING TO MATCH HORIZONTAL WALL REINFORCEMENT.
- J. PROVIDE KEYED JOINTS BETWEEN ALL NON-MONOLITHIC INTERSECTING CONCRETE WALLS AND AT ALL CONCRETE JOINTS.
- K. PROVIDE AN 8-MIL VAPOR BARRIER OVER A 4-INCH LAYER OF GRAVEL BENEATH ALL SLAB-ON-GRADE.
- L. PROVIDE 1/2-INCH DIAMETER ANCHOR BOLTS AT A MAXIMUM OF 6'-0" ON CENTER AT ALL WOOD SILL PLATES. PROVIDE AT LEAST (2) ANCHOR BOLTS PER PLATE SECTION WITH ONE BOLT LOCATED AT NOT MORE THAN 12-INCHES FROM EACH END. BOLTS SHALL EMBED AT LEAST 7-INCHES INTO MASONRY OR CONCRETE. NUTS AND PLATE WASHERS (1/8"x2"x2") SHALL BE TIGHTENED ONTO EACH BOLT.

EARTHWORK

1. THE ALLOWABLE SOIL BEARING PRESSURE FOR ALL FOOTINGS IS ASSUMED TO BE 1500 PSF
2. SHOULD UNSTABLE SOILS BE ENCOUNTERED, FOOTINGS SHALL BE EXCAVATED AND REPLACED WITH LEAN CONCRETE,  $F_c=2000$  PSI. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-6" BELOW EXTERIOR GRADE, UNLESS NOTED OTHERWISE.
3. ALL FILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL AND SHALL BE SELECTED ON THE BASIS OF LABORATORY COMPACTION TESTS, HAVING A LIQUID LIMIT LESS THAN 40, A PLASTICITY LESS THAN 15. FILL PLACED IN MAXIMUM 8-INCH LIFTS AND COMPACTED TO 95% OF THE DRY DENSITY OBTAINED BY ASTM D1557, MODIFIED PROCTOR METHOD.

UNDERPINNING NOTES

1. THIS DRAWING SHOWS THE UNDERPINNING REQUIRED TO ALLOW CONSTRUCTION OF THE ADDITIONS & RENOVATIONS. ONLY INFORMATION NECESSARY TO ACCOMPLISH THIS WORK IS SHOWN.
2. WE DO NOT CONTROL JOB SITE ASSEMBLY OR PROCEDURES, GRADE OR QUALITY OF MATERIALS OR EQUIPMENT PROVIDED BY OTHERS IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INTEGRATE THIS DRAWING INTO A COMPOSITE DRAWING SUITABLY COMPLETE FOR CONSTRUCTION PURPOSES CONSISTENT WITH SAFE PRACTICE AND OVERALL PROJECT OBJECTIVES.
3. WE SHALL NOT BE RESPONSIBLE IN THE EVENT OF ANY DEVIATIONS, CHANGES, OR ALTERNATIONS TO THE RECOMMENDED ASSEMBLY DETAILS DESCRIBED IN THIS DRAWING UNLESS SUCH DEVIATIONS, CHANGES OR ALTERATIONS ARE ILLUSTRATED IN A REVISED DRAWING.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BRACING, SHORING & SUPPORT OF EXISTING STRUCTURE FOR THE CONSTRUCTION OF UNDERPINNING.
5. CONTRACTOR SHALL VERIFY ALL SIZES & LOCATIONS OF EXISTING WALL FOOTING BEFORE ANY UNDERPINNING WORK BEGINS.
6. EXCAVATION UNDER EXISTING FOOTING SHALL BE DONE ALTERNATELY IN 3'-0" SECTIONS MAX. 1,4,2,5,3,1,4,2,5,3,1 .... ETC. PER PIT SEQUENCE DETAIL. WITH APPROPRIATE SUPPORT OF STRUCTURE & EXCAVATION, ALLOW 24 HR FOR CONCRETE CURING PRIOR TO DRY PACKING OF EXISTING WORK.
7. CONTRACTOR SHALL CLEAN EXISTING SURFACES OF ALL LOOSE MATERIALS & PREPARE EXISTING MASONRY UNITS, FOUNDATION & FOUNDATION SUB GRADE TO ACCEPT UNDERPINNING.
8. CONTRACTOR SHALL BACKFILL ALL EXCAVATED VOIDS UNDER ADJACENT CONCRETE SLABS & FOOTING CAUSED BY UNDERPINNING WITH CONCRETE.
9. CONTRACTOR SHALL POUR CONCRETE & SHALL EXCAVATE ANOTHER ADJACENT SECTION WHEN THE PREVIOUS POURS ARE CURED & ABLE TO SUPPORT EXISTING WALL. THE TIME PERIOD SHALL BE MINIMUM 7 DAYS.
10. CONTRACTOR SHALL PROJECT ALL EXISTING WORK FROM DAMAGE DURING CONSTRUCTION.
11. MINIMUM WIDTH OF UNDERPINNING SHALL BE SAME AS THAT IF EXISTING FOOTING WHICH SHALL BE FIELD ESTABLISHED.
12. UNDERPINNING WORK SHALL BE PERFORMED BY A SPECIALTY CONTRACTOR HAVING A MINIMUM OF 5 YEARS OF EXPERIENCE UNDER SIMILAR SITUATIONS AND REGULARLY ENGAGED IN THIS TYPE OF WORK.
13. CONTRACTOR SHALL REVIEW THE CONSTRUCTION DOCUMENTS FOR ANY CONFLICTS WITH THE EXISTING FIELD CONDITIONS, RESOLVE SUCH CONFLICTS AND COORDINATE COMPATIBILITY OF NEW WORK WITH EXISTING CONDITIONS BEFORE PROCEEDING WITH THE UNDERPINNING WORK.
14. PROTECT ALL EXISTING STRUCTURAL AND ARCHITECTURAL BUILDING ELEMENTS AND UTILITIES ISERVICES FROM DAMAGE DURING UNDERPINNING WORK.
15. FOLLOW STRICTLY THE SEQUENCE OF UNDERPINNING IN THE DIRECTION SPECIFIED ON THE PLAN FOR EACH SEQUENCE GROUP. DO NOT MOVE TO THE NEXT SEQUENCE GROUP UNTIL ALL SEGMENTS IN THE SEQUENCE UNDERTAKEN ARE UNDERPINNED.
16. MARK UNDERPINNING SEGMENTS ON THE WALLS AND NUMBER THEM AS SHOWN ON THE PLAN. COMPLETE UNDERPINNING OF ALL SEGMENTS MARKED 1'S FIRST, 2'S SECOND, 3'S THIRD, 4'S FOURTH AND 5'S LAST.
17. LIMIT TO A MAXIMUM OF THREE (3) OPEN PITS IN EACH GROUP IN ANY WALL AT ANY TIME. DO NOT OPEN PITS IN THE OTHER GROUP UNTIL ALL SEGMENTS IN THE GROUP UNDERTAKEN HAVE BEEN COMPLETED, CURED AND ABLE TO SUPPORT THE EXISTING WALL AND THE LOADS CARRIED BY IT.
18. SHORE/BRACE/SUPPORT TEMPORARILY ALL FRAMING/STRUCTURE RESTING ON THE EXISTING WALL FOOTING SEGMENT TO BE UNDERPINNED. SHORES SHALL REMAIN IN PLACE UNTIL THE UNDERPINNING OF THE SEGMENT HAS BEEN COMPLETED (CONCRETE IN FOOTING AND WALL CURED AND DRY PACK OR NON-SHRINK GROUT INSTALLED AND CURED).
19. EXCAVATE THE SEGMENT TO THE DESIGN DEPTH USING MANUAL TOOLS. EXCAVATION FOR THE SEGMENT BEING UNDERPINNED, IF UNSTABLE, SHALL BE BRACED/SUPPORTED IMMEDIATELY.
20. THE EXCAVATED EARTH SHALL BE REMOVED FROM THE SITE. IF STORED ON THE SITE, IT SHALL NOT OBSTRUCT THE FREE DRAINAGE OF STORM WATER FROM THE SITE.
21. DRILL HOLES IN THE EXISTING EARTH ON EACH SIDE OF THE START FOOTING SEGMENT AND ON ONE SIDE OF SUBSEQUENT SEGMENTS ARE REQUIRED FOR REBAR INSTALLATION. PROTECT PART OF THE DOWEL IN DIRT WITH A PLASTIC WRAP WHICH SHALL BE REMOVED PRIOR TO PLACING CONCRETE IN ADJACENT SEGMENT. REPEAT THE PROCESS FOR WALL SEGMENTS. THOROUGHLY CLEAN SURFACES OF UNDERPINNING FOOTINGS AND WALLS SEGMENTS ALREADY COMPLETED AND TO BE IN CONTACT WITH NEW WORK (NEW SEGMENT, DRY PACK, ISOLATION JOINT MATERIALS ETC.) OF ALL LOOSE MATERIALS AND DIRT. THEN FORM, PLACE REINFORCEMENT INCLUDING DOWELS, CONSTRUCTION JOINT KEYS, BETWEEN SEGMENTS. RX WATER STOPS AND DOWELS FOR ADJACENT SEGMENT. PLACE, CONSOLIDATE AND VIBRATE CONCRETE TO INSURE NO VOIDS. PLACE ENOUGH CONCRETE TO MAKE SURE THAT THE VOID SPACE ON THE ADJOINING NEIGHBOR'S SIDE IS COMPLETELY FILLED. DRY PACKING SHALL BE A MINIMUM OF 2" AND SHALL PRECEDE ONLY 72 HOURS MINIMUM AFTER CONCRETE POUR FOR THE SEGMENT. COMPLETE UNDERPINNING OF ALL SEGMENTS FOLLOWING THE SPECIFIED SEQUENCE AND DIRECTION OF UNDERPINNING. EXISTING FLOOR SLAB AND EARTH BELOW SHALL BE EXCAVATED TO THE REQUIRED/SPECIFIED ELEVATION AS THE FINAL STEP.

UNDERPINNING - CONSTRUCTION PROCEDURES

1. EXCAVATE TO THE TOP OF THE EXISTING FOOTING.
2. LAYOUT UNDERPINNING PITS AS SHOWN ON PLAN AND SECTIONS.
3. EXCAVATE UNDERPINNING PITS TO THE DEPTHS INDICATED ON THE PIT SECTIONS.
4. DIG AND SHORE PIT IN AS PER PIT SEQUENCE.
5. POUR CONCRETE, LEAVING A 2-INCH SPACE BETWEEN THE CONCRETE AND THE UNDERSIDE OF THE EXISTING FOOTING;
6. ON THE FOLLOWING MORNING DRYPACK THE 2 - INCH SPACE BY THE RAMMING THE DRYPACK MIXTURE WITH A 2 4 AND A 2 LB SLEDGE.
7. CONTINUE NEXT SEQUENCE OF UNDERPINNING PITS AFTER FIRST SEQUENCE HAS BEEN POURED AND DRY PACKED.

DESIGN LIVE LOADS FOR NEW WORK:

- A. ROOF LIVE LOAD
  1.  $P_g = 30$  PSF
  2.  $P_f = 21$  PSF
  3.  $C_e = 1.0$
  4.  $I_s = 1.0$
  5.  $C_s = 1.0$
- B. FLOOR LIVE LOADS
  1. BEDROOMS = 40 PSF
  2. DWELLING AREAS = 40 PSF
- C. WIND LOAD
  1.  $V$  (3-second gust) = 90 mph
  2.  $I_w = 1.0$
  3. EXPOSURE = B
- D. SEISMIC LOAD
  1. LATERAL FORCE SYSTEM: BRACED WOOD PANELS
  2. SEISMIC USE GROUP = I
  3. SITE CLASS = D
  4. NO DESIGN REQUIRED PER IRC/R301.2.2
- E. CODE: THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL RESIDENTIAL CODE/2006 AND THE 2012 DCMR
- F. ASSUMED EARTH PRESSURES
  1. P AT REST = 60H
  2. P ACTIVE = 45H
  3. P PASSIVE = 300H
- G. DEAD LOADS:
  1. ROOF = 15 PSF
  2. TYPICAL FLOORS = 12 PSF
  3. TILE/STONE FLOORS = 20 PSF

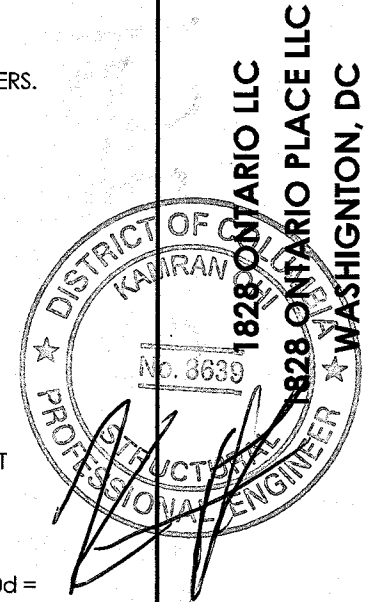
LUMBAR

- A. ALL JOISTS, BEAMS AND POSTS SHALL BE SPRUCE-PINE-FIR NO.1/NO.2 PER "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION", NPFA. ALL STUDS SHALL BE SPRUCE-PINE-FIR STUD-GRADE. ALL WOOD MEMBERS SHALL BE MANUFACTURED TO COMPLY WITH PS20 OF "AMERICAN SOFTWOOD LUMBER STANDARDS" AND SHALL HAVE 19% MAXIMUM MOISTURE CONTENT.
- B. MINIMUM MEMBER PROPERTIES SHALL BE AS FOLLOWS:
  1. WOOD LINTELS, JOISTS AND BEAMS
    - a. FLEXURE:  $F_b = 875$  PSI
    - b. SHEAR:  $F_v = 135$  PSI
    - c. MODULUS OF ELASTICITY = 1,400,000
  2. WALL STUDS: STUD GRADE
    - a. FLEXURE:  $F_b = 675$  PSI
    - b. COMPRESSION PARALLEL:  $F_c = 725$  PSI
    - c. MODULUS OF ELASTICITY = 1,200,000
- C. ALL FRAMING EXPOSED TO WEATHER OR DESIGNATED "P.T." IS TO BE PRESSURE TREATED SOUTHERN PINE NO.2 PER "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION", NPFA. ALL WOOD MEMBERS SHALL BE MANUFACTURED TO COMPLY WITH PS20 OF "AMERICAN SOFTWOOD LUMBER STANDARDS". MINIMUM MEMBER PROPERTIES SHALL BE IN ACCORDANCE WITH TABLE 4B IN THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION".
- D. ALL EXTERIOR WALL STUDS ARE TO BE 2.6'S SPACED AT 16" D.C. (U.N.O.). PLACE DOUBLE STUDS AT END OF WALLS AND TRIPLE STUDS AT INTERSECTIONS AND CORNERS. ALL MULTIPLE STUD POSTS SHALL BE FASTENED AS FOLLOWS:
  - a. DOUBLE STUDS SHALL BE NAILED TOGETHER WITH 10d AT 6' D.C.
  - b. TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 16d AT 6' O.C. EACH SIDE.
  - c. FOR (4) STUD POSTS, USE 20d NAILS AT 8-INCHES ON CENTER.
- E. PROVIDE SIMPSON STRONG-TIE (OR APPROVED EQUAL) POST CAPS AT ALL BEAM-ON-POST BEARING LOCATIONS. U.N.O.
- F. ROOF SHEATHING SHALL BE 5/8-INCH, CDX, APA STRUCUTRAL I RATED SHEATHING, EXPOSURE I, PER THE "AMERICAN PLYWOOD ASSOCIATION: SHEATHING SHALL BE FASTENED WITH 8d NAILS AT 6-INCHES ON CENTER AT BOUNDARY PANEL EDGES AND AT 12-INCHES ON CENTER AT ALL INTERMEDIATE SUPPORTS.
- G. WALL SHEATHING SHALL BE 1/2-INCH, CDX, APA STRUCTURAL I RATED SHEATHING, EXPOSURE I, PER THE "AMERICAN PLYWOOD ASSOCIATION;" SHEATHING SHALL BE FASTENED WITH 8d NAILS AT 6-INCHES ON CENTER AT PANEL EDGES AND AT 12-INCHES ON CENTER AT ALL INTERMEDIATE SUPPORTS.
- H. ALL PLYWOOD SUBFLOORING SHALL BE 3/4-INCH THICK T&G, APA RATED 32/16 ADVANTECH SHEATHING. SHEATHING SHALL BE GLUED WITH SUB-FLOOR ADHESIVE AND BE FASTENED WITH 8d NAILS AT 6-INCHES ON CENTER AT BOUNDRY PANEL EDGES AND AT 12-INCHES ON CENTER AT ALL INTERMEDIATE SUPPORTS.
- I. LAMINATED VENEER LUMBER (L.V.L.) SHALL BE INSTALLED AND FASTENED PER THE MANUFACTURER'S RECOMMENDATIONS AND NOT BE LESS THAN SIZE SPECIFIED IN PLANS. MINIMUM MEMBER PROPERTIES SHALL BE AS FOLLOWS:
  - a. FLEXURE:  $F_b = 2,800$  PSI
  - b. SHEAR:  $F_v = 285$  PSI
  - c. MODULUS OF ELASTICITY = 1,900,000
- J. PARALLEL STRAND LUMBER (P.S.L.) SHALL BE INSTALLED AND FASTENED PER THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM MEMBER PROPERTIES SHALL BE AS FOLLOWS FOR P.S.L. POSTS:
  - a. FLEXURE:  $F_b = 2,400$  PSI
  - b. COMPRESSION:  $F_c = 2,500$  PSI
  - c. MODULUS OF ELASTICITY = 1,800,000
- K. PROVIDE MIN. 3" BEARING FOR ALL LAMINATED VENEER AND PARALLEL STRAND BEAMS, 2" BEARING FOR STANDARD LUMBER BEAMS.
- L. ALL WOOD TOP PLATE SPICES SHALL BE STAGGERED @ 6'-0" MINIMUM.
- M. ALL WALL SHEATHING SHALL BE CONTINUOUS BETWEEN TOP PLATES AND BOTTOM PLATE OF WALL ABOVE. ALL PLYWOOD PANELS EDGES SHALL BE CONTINUOUSLY BLOCKED AND NAILED.
- N. ALL MULTIPLE MEMBERS ARE TO BE FASTENED TOGETHER WITH THE FOLLOWING NAILS AND SIMPSON SDS (STRONG-DRIVE SCREWS), USING THE FASTENER-TO-FASTENER SPACING NOTED WITHIN EACH ROW OF FASTENERS. ALL FASTENERS SHALL BE INSTALLED IN THE QUANTITY OF ROWS SPECIFIED, IN A STAGGERED PATTERN:

| PILES      | DEPTH   | FASTENERS       | SPACING  | ROWS |
|------------|---------|-----------------|----------|------|
| (2)1'-1/2" | 9'-12"  | 10d NAILS       | 12" O.C. | 2    |
| (2)1'-1/2" | 14'-18" | 10d NAILS       | 12" O.C. | 3    |
| (3)1'-1/2" | 9'-12"  | 16d NAILS       | 16" O.C. | 2*   |
| (3)1'-1/2" | 14'-18" | 16d NAILS       | 16" O.C. | 3*   |
| (2)1'-3/4" | 9'-12"  | 12d NAILS       | 16" O.C. | 2    |
| (2)1'-3/4" | 14'-20" | 12d NAILS       | 12" O.C. | 3    |
| (3)1'-3/4" | 9'-12"  | SDS 1/4"x4 1/2" | 12" O.C. | 2*   |
| (3)1'-3/4" | 14'-20" | SDS 1/4"x4 1/2" | 12" O.C. | 3*   |

- \*ALL TRIPLE AND -PLY MEMBERS SHALL BE FASTENED FROM BOTH SIDES WITH THE NUMBER OF ROWS AND FASTENERS SPECIFIED. SIDE-TO-SIDE SPACING SHALL ALSO BE STAGGERED.
- O. PROVIDE SOLID BLOCKING BETWEEN JOISTS AND RAFTERS AT ALL BEARING POINTS
  - P. PROVIDE 16 GAGE JOIST HANGERS OR ANGLE CLIPS TO ALL JOIST CONNECTIONS WHERE THERE IS NO DIRECT BEARING SUPPORT.
  - Q. PROVIDE BRIDGING AT CENTER SPAN OF JOISTS OR INTERVALS NOT EXCEEDING 8 FEET.
  - R. ALL MISCELLANEOUS WOOD CONNECTIONS SHALL BE FASTENED PER 2006 IBC, TABLE 2304.9.1 "FASTENING SCHEDULE".
  - S. NAILS INDICATED IN THE DRAWINGS, DETAILS, AND NOTES SHALL BE DEFINED AS FOLLOWS: 8d = 0.131"x2.5", 10d = 0.148"x3", 16d = 0.162"x3.5". SUBSTITUTIONS FOR THESE NAIL SIZES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR APPROVAL.
  - T. DOUBLE JOISTS SHALL BE LOCATED BENEATH ALL PARTITIONS WHEN THE LENGTH OF THE PARTITION EXCEEDS ONE HALF THE SPAN.
  - U. PROVIDE SIMPSON H2.5A HURRICANE CLIPS FASTENED TO THE OUTSIDE FACE OF THE DOUBLE TOP PLATE AT ALL RAFTER BEARING POINTS.
  - V. ALL ROOF SHEATHING SHALL BE LAID CONTINUOUSLY BETWEEN THE EDGES OF THE ROOF. NO INTERRUPTIONS ARE PERMITTED AT CAP TRUSSES OR AT ROOF OVERBUILDS.

STRUCUTRAL PLANS CERTIFIED AS  
PROVIDED IN SECTION 106.1.4.1 OF  
THE DC CONSTRUCTION CODE.



REVISIONS

PROJECT No.  
DATE: October 9, 2014  
SCALE: AS SHOWN

STRUCTURAL  
NOTES

S103