## LIST OF ABBREVIATIONS

AB ANCHOR BOLT
A/C AIR CONDITIONING
ACT ACOUSTICAL CEILING TILE
ADJ ADJUSTABLE
AFF ABOVE FINISHED FLOOR
AP ACCESS PANEL
BD BOARD
BIT BITUMINUS
BKG BLOCKING
BLDG BUILDING
BM BEAM
BOF BOTTOM OF FOOTING
BR BRICK
BRG BEARING
C COURSE
CAB CABINET
CFM CUBIC FEET PER MINUTE
CI CAST IRON
CLG CEILING
CMU CONCRETE MASONRY UNIT
COL COLUMN
CONC CONCRETE
CONT CONTINUOUS
CPT CARPET
CT CERAMIC TILE
CTR CENTER
DBL DOUBLE
DEM DEMOLISH/DEMOLITION
DET DETAIL
DH DOUBLE HUNG
DIA DIAMETER
DIM DIMENSION
DN DOWN
DR DOOR
DS DOWNSPOUT
DWG DRAWING
EA EACH
EL ELEVATION
ENCL ENCLOSURE
EQ EQUAL
EQPT EQUIPMENT
EX EXISTING
EXP EXPANSION
EXT EXTERIOR
FIBRGL FIBERGLASS
FD FLOOR DRAIN
FDN FOUNDATION
FF FOIL FACE
FIN FINISH
FL FLOOR
FLG FLASHING
FOM FACE OF MASONRY
FB FULL SIZE
FT FOOT OR FEET
FTG FOOTING
FUR FURRING
GA GAUGE
GALV GALVANIZED
GC GENERAL CONTRACTOR
GL GLASS
GR GRADE
GTR GUTTER
GWB GYPSUM WALL BOARD
HB HOSE BIB
HC HANDICAP
HD HEAD
HDR HEADER
HDW HARDWARE
HGR HANGER
HOR HORIZONTAL
HT HEIGHT
HTG HEATING
HVAC HEATING VENTILATING AND AIR CONDITIONING
HW HOT WATER
HWD HARDWOOD
ID INSIDE DIAMETER
INS INSULATION
INT INTERIOR
JB JAMB
JST JOIST
KIT KITCHEN
LAM LAMINATED
LAV LAVATORY
LBS POUNDS
LH LEFT HAND
LT LIGHT
MAS MASONRY
MAX MAXIMUM
MECH MECHANICAL
MEMB MEMBRANE
MFR MANUFACTURER
MIN MINIMUM
MISC MISCELLANEOUS
MLDG MOLDING
MO MASONRY OPENING
MTD MOUNTED
MTL METAL
NO# NUMBER
NTS NOT TO SCALE
OC ON CENTER
OD OUTSIDE DIAMETER
OPG OPENING
OPP OPPOSITE
PC PRECAST CONCRETE
PL PLATE
PLAM PLASTIC LAMINATE
PLAS PLASTER
PNL PANEL
PNT PAINT
PR PAIR
PSF POUNDS PER SQUAR FOOT
PSI POUNDS PER SQUAE INCH
PVC POLYVINYL CHLORIDE
PLY PLYWOOD
R RISER
RAD RADIUS
RD ROOF DRAIN
REBAR STEEL REINFORCING BAR
REC RECESSED
REFG REFRIGERATOR
REINF REINFORCED
REQ REQUIRED
REV REVERSE
REF REFERENCE
RFG ROOFING
RH RIGHT HAND
RM ROOM
RO ROUGH OPENING
RTG RATING
SCHD SCHEDULE
SECT SECTION
SF SQUARE FOOT
SHT SHEET
SIM SIMILAR
SPH SHOOT LUMBER COMPANY DESIGNATION
SPEC SPECIFICATION
SPKR SPEAKER
SQ SQUARE
SHR SHELF AND ROD
STD STANDARD
STL STEEL
STR STRUCTURE
SUSP SUSPENDED
SYS SYSTEM
T TREAD
T&G TONGUE AND GROOVE
TEL TELEPHONE
TEMP TEMPERED
THK THICK
TOF TOP OF FOOTING
TOW TOP OF WALL
TV TELEVISION
TYP TYPICAL
UON UNLESS OTHERWISE NOTED
VB VAPOR BARRIER
VCT VINYL COMPOSITION TILE
VERT VERTICAL
VT VINYL TILE
W/ WITH
WD WOOD
WIN WINDOW
W/O WITHOUT
WP WATERPROOFING
WR WATER RESISTANT
WSCT WAINSCOT
WT WEIGHT
WWF WELDED WIRE FABRIC

## GENERAL NOTES:

CONTRACTOR SHALL VERIFY AND FAMILIARIZE HIMSELF WITH ALL FIELD CONDITIONS PRIOR TO SUBMITTING PROPOSALS AND COMMENCING CONSTRUCTION. FIELD CONDITIONS NOT AGREEING WITH CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTTENTION OF THE OWNER & ARCHITECT PRIOR TO BEGINNING WORK. ALL ADDITIONAL WORK NEEDED TO COMPLETE THE PROPOSED PROJECT WHICH IS NOT INDICATED ON DRAWINGS SHALL RECIEVE PRIOR AUTHORIZATION FROM THE HOMEOWNER.

CONTRACTOR SHALL BE RESPONSIBLE FOR THE INCLUSION OF ALL WORK NECESSARY FOR A COMPLETE INSTALLATION WHETHER SUCH WORK IS INDICATED ON DRAWINGS OR SPECIFICATIONS.

ALL MANUFACTURED / PREFABRICATED ITEMS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE WRITTEN MANUFACTURES SPECIFICATIONS.

JOB SITE SHALL BE KEPT IN A CLEAN AND ORDERLY FASHION AT THE END OF EACH DAYS WORK.

ALL WARRANTIES, GUARANTEES AND MANUFACTURERS INSTRUCTIONS SHALL BE PRESENTED TO THE HOMEOWNER IN A COMPLETE AND ORDERLY MANNER AT THE CONCLUSION OF CONSTRUCTION.

ALL WORK PERFORMED SHALL BE EXECUTED TO GREATER THAN STANDARD BUILDING QUALITY.

THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR AND WILL NOT HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, OR FOR THE SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTIONS WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE FAILURE OF THE CLIENT OR HIS CONTRACTORS, SUBCONTRACTORS OR ANYONE PERFORMING WORK TO CARRY OUT THE WORK IN ACCORDANCE WITH THE APPROVED CONTRACT DOCUMENTS.

BY A LICENSED GENERAL CONTRACTOR ENTERING INTO AGREEMENT WITH THE HOMEOWNER/PROPERTY OWNER, HE AGREES TO KEEP CURRENT ALL INSURANCES, WORKER'S COMPENSATION AS REQUIRED, AND AGREES TO INDEMNIFY/HOLD HARMLESS THE HOMEOWNER/ PROPERTY OWNER FROM ANY ACCIDENTS OCCURING FROM THE SCOPE OF WORK REQUIRED TO COMPLETE THE PROPOSED PROJECT.

CONTRACTORS SHALL BE RESPONSIBLE FOR REMOVING & DISPOSING OF DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM WORK AT THE JOB SITE.

BZA
Case No. 14998
Exhibit No. 8

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# Frankel Residence

4336 Garrison Street NW
Washington DC 20016

## Basement Renovation

## CODE ANALYSIS

1995 ONE AND TWO FAMILY CABO NATIONAL BUILDING CODE
WITH WASHINGTON DC AMENDMENTS

USE GROUP: R
CONSTRUCTION TYPE: COMBUSTABLE, WOOD FRAME

| DATE: | SUBMISSION |
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Studio Z Design Concepts, LLC
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STUDIO Z DESIGN CONCEPTS

Frankel Residence
4336 Garrison Street NW
Washington DC 20016
Lot 816 Square 1655

Project Number

COVER

OF

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## 1. GENERAL NOTES

A. Applicable Codes and Standards

1. CABO One and Two Family Dwelling Code, latest addition.
2. AFPA National Design Specification 1991 Edition with 1991 Supplement.

4. The use of these documents without the written permission of the architect is forbidden.

5. These drawings are for graphic representation only. DO NOT SCALE DRAWINGS. Contractor shall confirm and verify all dimensions prior to construction. Contractor shall notify Architect of any discrepancies. In case of conflicts, most stringent shall always govern. Notify architect immediately of any conflicts. Overall dimensions take precedence over dimension discrepancies arising out of the use of nominal and actual dimensions. Adjust unit dimensions accordingly to achieve established elevations. Trim as required.

6. Any and all drawings and specifications for sitework, plumbing supply or waste, electrical circuiting and heating, ventilation and air conditioning systems not contained in the list of drawings on the Cover sheet are not part of the professional services provided to the owner by the architect under their agreement.

B. Design Live Loads

1. Roof Live Loads: 30 psf, Basic Wind Speed: 80 mph, Floor Live Loads: 40 psf, Deck Live Loads: 40 psf, Deck Railing and Handrail: 200 psf at any point, or direction.
2. This project has been designed for the weights of the materials indicated on the drawings and for the superimposed loads indicated on the Structural Dwgs. It is the sole responsibility of the general or sub-contractor to determine proper design and construction of all formwork, shoring, and bracing.
3. Job site safety and corrosion precautions are the responsibility of the contractor.

C. The contractor shall field verify all existing conditions dimensions and elevations related to the proposed work prior to estimating, fabrication or construction.

D. All workmanship shall be performed and completed in a workmanlike manner maintaining the high quality standards of each trade.

E. All dimensions shown on the drawings are to rough framing unless otherwise noted. Dimensions, finishes, etc. indicated on the plans, sections and/or details, shall apply to similar, symetrical and/or opposite plans, sections and/or details, u.o.n. or detailed.

F. The drawings and specs. are complementary, where the spec's and drawings disagree, the dwgs. will supersede.

## 2. Foundations

A. Footings are designed for an assumed bearing capacity of 2000 psf; it is/shall be the contractors responsibility to field verify this info. Pads, shall be placed per geo-tech. engineers recommendations and bear 12" into natural undisturbed soil. Bottom of all footings shall be 24" below finished grade.

B. Steps: Tops, with a ratio of 1 vertical to 2 horizontal, as necessary, to change elevation and match existing hg. elevs. Use minimum 16" vertical rise/step.

C. Termite treat all soil after placement of fdgs/mstr. walls. Do not place conc. fdgs. on frozen soils. Backfill only with approved soils free of lifts of organic soils. Consult w/ civil engineer if unstable/non-compacted soils are found.

D. Site retaining walls are design by others and not included herein.

## 3. Concrete

A. Concrete shall be mixed and placed in accordance ACI Code 318 and 301. Provide smooth visual finish @ exposed surfaces.

B. All concrete work shall have min. compressive strength(f'c) at 28 days of 3000 psi.

C. Concrete exposed to weather and garage slabs shall be air entrained. Total air content will not be less then 5% or more then 7%. Garage slabs shall be 3500 psi.

D. All concrete formwork shall be in accordance with ACI. Formwork for Concrete, special publication 4 and ACI Recommended Practice for Conc. Prac., ' ACI-347.

E. Unless otherwise noted, slabs on grade shall be 4" thick, concrete reinforced w/ 6x6 - 10/10 WWF, over 6 mil poly vapor barrier. Provi. control jts. @ max. 26'-0" intervals. Locate as to not jepordize strength of conc. Provide ACI standards for concrete. Use of fibermesh in concrete is acceptable alternate to WWF.

F. The contractor shall coordinate placement of SLDs, w/ installation of under slab utilities, bldg. footes, drains and retaining walls.

G. The contractor will comply with all ACI standards and recommendations for fabrication, installation, placement for protection, etc. of all accessories and reinforcing steel.

H. Backfilling adjacent to the concrete foundation walls will not occur until concrete walls have sufficient strength or unless walls have been sufficiently braced to prevent damage.

I. Reinforcement

A. All reinforcing shall be new billet steel conforming to ASTM A615-Grade 60, fabricated and placed in accordance with ACI Manual of Standard Practice for Detailing Concrete Structures(ACI-315).
B. Provide concrete coverage for reinforcing bars as follows: Footings: 3", Walls: 1 1/2", and Slabs: 1 1/2".
C. WWF will be installed at top third of concrete slabs or 6" laps at all sides or one full mesh min. which ever is larger.

## 4. Masonry

A. All masonry construction and materials shall be in accordance w/ the building code req's. for masonry structures(ACI 530/ ASCE 5/TMS 402), and specifications for masonry structures (ACI 530.1/ASCE 6-92/TMS 602). Fc shall be 1500 psi min.

B. Masonry bearing walls, partitions, and piers shall consist entirely of load brg. units. ASTM C90. Use full head and bed joints. Bond brick or masonry piers and cross walls into adj. walls.

C. All masonry shall be laid in type M or S mortar conforming to ASTM C 270. Grout for filling masonry cores shall be course type, conforming to ASTM C 476, or pea gravel concrete. Minimum compressive strength = 3000 psi. All piers and partitions shall be bonded to adj. rein. walls. Constructor shall provide bracing and support for all masonry work until permanent construction is in place.

D. Provide Dur-o-wall hor. reinf. @ 16" o.c. on all CMU walls 8" thick or thicker. Lap 8" minimum at corners and ends.

E. Provide three courses of solid brick or CMU below point loads at indiv. walls. Alternate provide all cells w/ solid grout to fdg.

## 5. Steel

A. Structural Steel

1. All structural steel shall be detailed, fabricated, and erected in accordance w/ the American Institute of Steel Construction Specifications for the Design, Fabrication, and Erection of Structural steel for Buildings.
2. Steel shapes shall conform to ASTM A 36, pipe columns to ASTM A 53, anchor bolts to ASTM A 307.
3. All shop dwgs. and field connections are to be by welding or w/ minimum 3/4" diameter A 325 high strength bolts.
4. Structural steel shall be painted in accordance w/ AISC code using inorganic zinc rich paint as defined in SSPC PS 12.00. Areas to be welded shall be masked out as necessary.

6. Wood

1. All wood construction including fastening and details shall be in accord. w/ appropriate National Design Specification by AFPA, references in the building code noted here. Maximum moisture content will not exceed 19%.
2. All structural framing lumber, including bearing wall studs, shall be spruce-pine-fir(SPF), hem-fir 2 or better.

3. All wood in contact with masonry or concrete or within 8" of grade shall be pressure treated.

4. Wood Stills

A. Brg. walls 8' bents, less than 8'-6" ft. to eld, shall be either 2x4's @ 12" o.c. or 2x6's @ 16" o.c. Bents, 8'-6"-10'-6" tall shall be 2x6's @ 16" o.c.

B. Joints in multiple lap plates shall be staggered 4'-0" minimum with splices centered over wood studs.

C. All interior partitions will have 1/2 gypsum board finish unless. Provide Durock tile backer board on studs where tile is to be the final finish. This includes all wall and floor surfaces as required. Install as per manufacturers specifications.

D. Use exterior grade plywood sheathing applied to exterior walls 4 Roof Trusses or Roof Rafters per manufacturers specs's. Use clips to align all butt joints at roof sheathing. Fasten plywood per CABO Table 2403.2.

E. All sill plates shall be minimum PT2x6/PT2x4. Anchor with approved galvanized anchors embedded 6", @ 4'o/c and/or concrete foundation walls. Minimum two anchors per section of sill plate. Maximum anchor spacing: 4'-0" o/c. and 7" from corners.

F. Prefabricated wood trusses, open web type with metal plate connections shall be pre-engineered and designed by a licensed manufacturer in the State of Maryland. All trusses must adhere to the design criteria within these specifications. See General note section.
Roof trusses: LL = 30 psf, DL. = 7 psf, top chord + 10 psf.

G. Design, fabrication, and installation of metal plate connection roof and floor trusses shall be inaccordance w/ the current National Design Specification for Wood Construction, by the AFPA and the Design specifications for Metal plate Connected Id Wood Trusses by Truss Plate Institute. Manufacturers will design and provide all hangers as required for all flush beam/header conditions. Floor and Roof Trusses shall be engineered and stamped by the Architect prior to fabrication commencing. All truss shop drawings submitted shall be stamped with the signature and stamp of a licensed structural engineer.

H. Contractor is responsible for all temporary truss bracing required until permanent roof sheathing, ceiling drywall, etc. is in place. Truss manufacturer shall review bracing requirements in all shop drawings to benifit the contractor. Install bracing within in accordance with TPI recommendations.

I. Joists designated truss joist are (series to be determined) joists as manufactured by Trus Joists MacMillan, or approved. Provide (dbl) jsts. under all parallel partitions that extend over one third of the span. Truss manufacturer shall specify all hangers required for flush conditions. Shop drawings sent for approval will bear size and series of trusses to be used, and signature and stamp of a licensed structural engineer.

J. Beams, headers and lintel beams designated LVL or MicroLam as manufactured by Trus MacMillan shall have structural properties: Fb=2800 psi, Fv=285 psi, E=2,000,000 psi. Multiple Microlams(2 maximum) are to be fastened together - 2 rows of 10d common nails at top of lam. Nails to be staggered at 12" o.c. But not less then required by the manufacturer. Nails to be driven from both the top and bottom of the beams.

K. Use "Simpson" Strong Tie or equal structural wood connectors for all structural connections & plates to be used. Connectors, joist anchors, and flush floor framing conditions as req'd.

L. Contractor/erector shall provide required bracing including strut bracing, diagonal bracing, bottom chord bracing, bottom chord restraint, and sway bracing. Use CABO Table 6602.3 for nailing schedule.

M. In accordance w/ the code required live load deflection limits, roof sheathing shall be APA rated. Floor sheathing shall be tounge and groove plywood, rated as required for the floor joist spacing, laid over two or more supports, continuously, with face grain perpendicular to support direction. Plywood shall be glued and screwed to underlying supports as recommended by manufacturer. Provide all edges supported by panel supports to performance specifications APG-01, exposure 1 plywood is required.
Roof sheathing shall be standard APA rated sheathing, with long dimension perpendicular to supports, span rated for 32/16 exposure 1 min. thickness 15/32". Contractor shall use panel clips to help support edges of all plywood panels. Nail plywood to trusses w/ approved fasteners by local jurisdiction building department.

N. Provide minimum one jack stud and one king stud at all opening headers. See framing plans for additional post information. All posts and jacks are to align w/ those at floor below even when jacks are not required by framing for the floor below. All jacks shall be continuous to the lowest level. Block posts, and floor joists at 12nd points or as specified by truss manufacturer. Provide solidn blocks as required. All lintels, headers, and posts shall be free of checks, splits and shakes.

O. Prefassembled wood stairs including stair rails and landings pre all connections shall be designed, fabricated, and installed in accordance with all requirements of all pertinent codes and local regulations. Stair stringers shall provide support for clear span load from top to bottom bearing points.

P. All exterior structural wood members, wood located within 8" of grade, shall be Southern Yellow Pine "D, pressure treated to resist decay and insect infestation.

Q. Selection of decking for outside decks is the responsibility of others. Deflection on decks shall not be less than L/360 of the deck span permitted. Fasten decking to joists w/ minimum 10d common galvanized nails.

R. Provide draftstopping in accordance w/ CABO Section 3602.3, Maximun areas shall not exceed 1000 sq. feet.

S. Minimum joist bearing is 3 1/2".

T. All piping, ldt or other wood beams may not be notched or cut in any way w/out prior authorization.

U. Provide all blocking in walls and cig. for cabinetry, stair railings, and handicapped items as required for adaptability.

V. All headers not designated on drawings shall be 2-2x10"s w/ one jack and one stud on each side of header.

## 7. Brick Veneer

A. All exterior veneer shall be installed in accordance w/ 1988 CABO code, Section 1804.1. Provide backer rod between masonry to sid. connections and caulk. tight.

B. Use non-corrosive masonry ties not less then 22 GA. gauge by 7/8" corrugation. Each tie shall be spaced not more than 24" on center and 16" vertically, fastened directly to the wood studs w/ 8d nails and support not more then 8 1/4" square feet of wall area. Use metal ties over wood studs, the studs shall be spaced a maximum of 16" o.c. Provide approved felt paper over sheathing prior to fastening masonry ties.

C. Provide minimum 1" air space between backing and the brick veneer. Care will be taken to keep air spaces clear of mortar debris. Provide weeps at 36" oc. above grade and above bottom thru wall flashing.

D. Lintels: For all openings in masonry veneer walls not otherwise detailed, provide one steel angle for each 4" of wall thickness. Steel angles shall have a minimum 6" bearing at each end. Horizontal leg shall be 3-1/2" unless otherwise noted. Provide long leg vertical.
Lintel Schedule
L-1 4" x 3 1/2" x 5/16" up to 4'-0" masonry opens
L-2 5" x 3 1/2" x 5/16" up to 6'-0" masonry opens
L-3 6" x 3 1/2" x 3/8" up to 8'-0" masonry opens

## 8. Insulation

A. All construction will be in accordance with the latest CABO model energy code requirements. Insulation values shall be as follows:

1. Exterior Walls- 2x4 - R-13 batt insulation
2. Exterior Walls- 2x6 - R-19 batt insulation
3. Floor Assemblies- R-19 batt insulation
4. Perimeter Slabs- R-7 rigid insulation
5. Roof insulation R-38
6. All exterior doors- Solid core or metal insulated.
7. All glazing- double insulated with U values as required.

B. Air Infiltration: Fill all cracks, construction holes, loose joints, and spaces in rough framing and masonry with approved foam sealer or backer rod and sealant.

C. All pipes and vent stacks in exterior walls shall be insulated.

D. Install pre-fabricated fireplaces and chimneys in accordance w/ approved by manufacturers recommendations and per CABO chapters 21 and 22.

E. Provide firestopping to cut off all concealed draft openings within all soffits at ceilings for duct work and plumbing vents, ducts and flues penetrating through floor/ceiling assemblies. Adhere to the criteria within these specifications.

## 9. Sealants, Moisture proofing and Glazing

A. Appropriate sealants shall be selected for each substrate depending upon location(interior and exterior), humidity and moisture conditions, and traffic conditions. Use primers as required. Building paper shall be 15# felt paper with veneer of brick, stone, clay tile, concrete, or artificial stone. Attach felt paper by approved sheathing paper nails. Install with moisture penetration behind the veneer. Approved water resistant sheathing or air infiltration barrier may be substituted for building paper if approved by architect and local building officials.

B. At exterior siding connections to wood trim, provide sealed joint as required by manufacturer between channel and wood trim.

C. Seal at all exterior locations including the following:

1. Exterior windows and door frames shall be taped and sealed if nailing flange is part of window unit.
2. Between window and door frames and adjacent wood wall framing.
3. Penetrations of utility services through walls, floors and roofs.
4. Sealants shall be free of formaldehyde.

D. Acrylic latex caulking shall be used for wood to brick, siding to brick, siding to wood, and siding to siding. Color to be coordinated with adjacent materials. Verify with architect.

E. Flashing: Install per current CABO code.

1. Door and window frames as required.
2. Deck and stair connections
3. Chimney, flue pipe connection through and at wall and roof.
4. Dormers, valleys and crickets as required.
5. Cavity approved corrosive resistant flashing shall be provided at the top of all exterior windows and door openings in such a manner as to be sealed tight. Self flashing windows shall have a minimum of 2" of not less than 1/64" over the sheathing material at the perimeter of the opening.

F. Provide fiberglass sill sealer or equal between foundation sill and all sill plates.

G. Provide all unvented spaces with a vapor barrier on the conditioned side with a maximum perm rating of 1.0.

H. When grade is above conditioned interior space, footing drains shall be 4" diameter perforated pipe set in 6" minimum 3/4" gravel fill and drain to sump pump or to positive outfall, cover with filter paper and 6" gravel fill. No footing drains are required for slab on grade slab.

I. Roofing: Provide fiberglass, asphalt, or other approved composition shingles. Provide waterproofing roof underlayment felt minimum, 15# felt applied as required in CABO Section 1803 and Table 1804.4.

J. At all roof slopes less than 3 units in twelve, provide two layers of 15# felt paper. At all roof slopes less than 4 units in twelve provide self sealing rubber roof membrane installed in a continuous sheet and as per manufacturers written specifications and requirements.

K. Asphalt and composition shingles will be fastened as per CABO Section 1804.4. Asphalt shingles will be applied in accordance w/ manufacturers written instructions.

L. Side sail flashing: Flashing against vertical surfaces will be by the step flashing method. Vertical flashing dimension will not be less than 8" above the adjacent roofing surface. If vertical surface is masonry lay in flashing minimum 1/2" and sealed tight with roof tar/sealant.

M. Provide solstice resistant gypsum board at all bathroom walls and cigs. not receiving ceramic tile. All surfaces receiving ceramic tile will have a cementitious backer board. Use Durock or equal.

N. Provide insulated and tempered safety glazing as required in CABO Section 2406 that includes all exterior door assemblies and adjacent sidelights, above whirlpool tubs, window sashes less then 18" above the finished floor and more then 9 square feet within each sash, and windows closer then 24" to adjacent exterior glass doors. See CABO Section 2406.4 for hazardous glazing locations.

O. Dampproof all exterior foundation walls below grade as per local codes from above grade to bottom of footing.

## 10. Ventilation

A. Attics may be vented with continuous soffit venting (min 2" wide) and continuous ridge venting. See overhang details. All louvered vents will be fitted w/ insect screening on the interior.

B. Attic ventilation shall be provided at the second floor area or U3606 If 50% of the ventilators are located in the upper portion of the attic space and at least 3'-0" above eave or cornice vents.

C. All interior bathrooms will be equipped w/ mechanical exhaust fan. If bathrooms do not have supply air duct, then the exhaust fan must be wired to the light circuit.

D. Dryer vents and kitchen exhausts shall be vented to the exterior in an appropriate manner, in accordance with CABO Code, Chapter 18.

E. New basements will have PVC pipe installed from above sump pump to thru the roof for ventilation of radon if desecured. Please note that the contractor will follow all local, state, and federal guidelines with regards to ventilating radon.

## 11. Plumbing Notes

A. All plumbing will be in compliance with National Plumbing Code guidelines, latest edition as approved by local jurisdictions. All plumbing systems will be complete in place, tested and approved, as shown on these doc's.

B. Plumbing contractor shall provide design for permits as required by local jurisdictions.

C. All thru vent stacks will terminate a minimum 6" above roofing surfaces. Flash VTR as required.

D. All Domestic Water Lines shall be type "L" Copper.

## 12. HVAC

A. All work will be in accordance w/ the latest applicable energy codes state, local, and national. Fire protection association requirements. Any items or requirements noted herein or on the drawings in excess of code req's. and permitted under the code shall take preference.

B. The contractor shall examine the premises and observe site conditions where the work is to be done. The contractor will design and prepare drawings of the system intended to be installed. Contractor shall be responsible for all design aspects based on square footage and amounts of glazing to be installed.

C. All equipment will be tested as to air flow, temperature balancing, vibration, and noise. Furnish manual of all dampers, thermostats, and controls.

D. Gas Fired Furnace shall be High Efficiency Units with Minimum SEER Rating of 13. Provide a humidifier and electronic air cleaner on all units.

## 13. Electrical

A. All work will comply with the National Electrical Code, latest approved edition. Any items or requirements noted herein or on the drawings in excess of code req's. and permitted under the code shall take preference.

B. The contractor shall examine the premises and observe site conditions where the work is to be done. The contractor will design and prepare drawings of the system intended to be installed. Contractor shall be responsible for all design aspects based on anticipate system loads.

C. Provide smoke detector within each new and existing bedroom, one in the basement, one in the kitchen, and at the upper most floor hallway containing sleeping rooms.

D. These drawings are a diagramatic representation of the intended work. Final location placement of switches, outlets, and light fixtures in appropriate panties prior to rough in.
All GFI outlets will be located and meet applicable code guidelines.
All outlets above countertops will be located 3" above backsplashes mounted vertically. Confirm other and appliance receptacle types prior to rough in.
All cables used shall be provided with full size ground. Provide category five phone lines, typical. Provide ground fault and 15 bare copper ground for tv and phone service. Confirm mounting heights of appliances prior to rough in.

E. Contractor will be responsible for obtaining all permits as required. If proposed work is a renovation, contractor will evaluate existing services and proposes recommendations.

F. All recessed lights shall be Lightolier or equal and be approved for insulated installation. Provide baffle with installed in insulated spaces per code req's.

G. All Phone Line Locations indicate with a Triangel on the Plans shall be a Category 5 Line.

## 14. Finishes and Specifications

A. All exterior painted surfaces shall be primed and caulked tight. Paint all interior and exterior surfaces as per manufacturers urban specifications and builder shall coordinate all final finishes and products to be used.

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DESIGN CONCEPTS

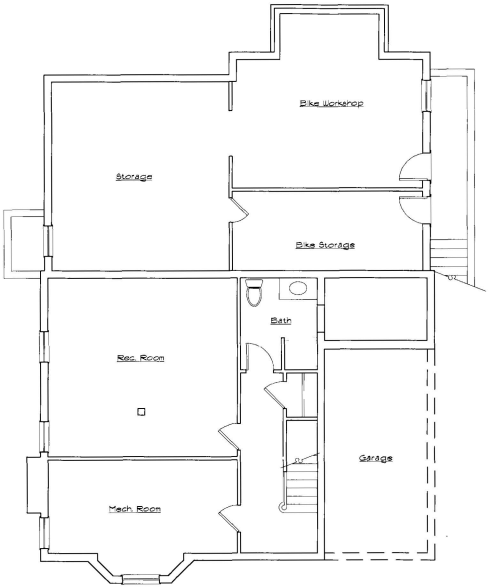
Frankel Residence

Project Number

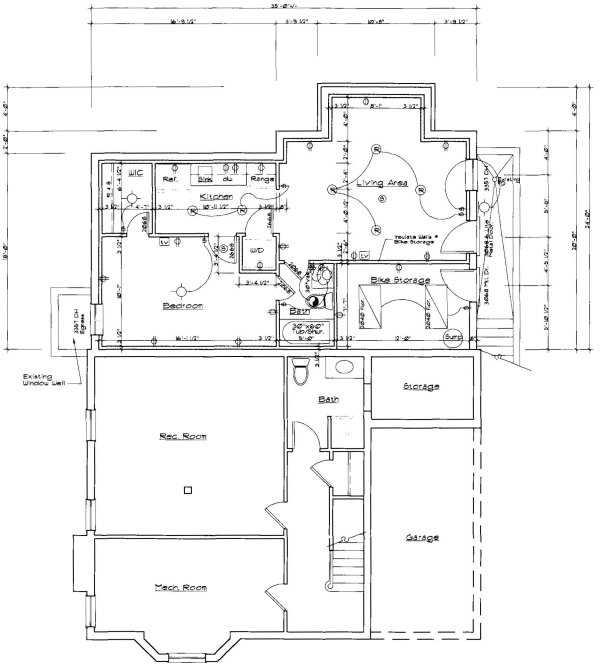
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Existing Lower Level Floor Plan




Lower Level Floor Plan

NOTE:
Provide Sound Insulation in Ceiling Of Apartment Area.

NOTE:
All Interior Doors to be Solid Core Six Panel Doors.

NOTE:
All Interior Walls Hatched as ////// Are NEW Walls

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STUDIO Z
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Lower Level Mechanical Plan

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