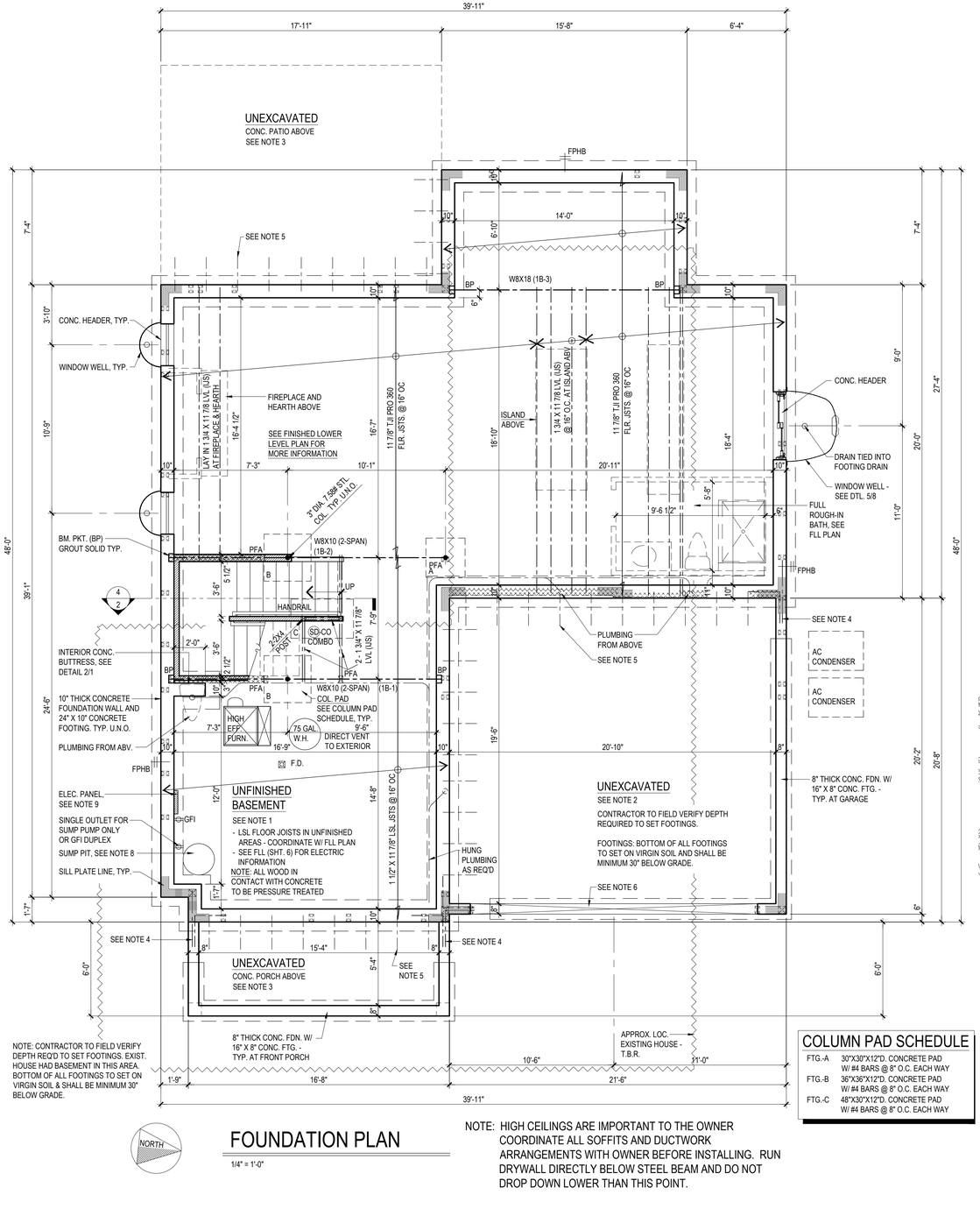


NOTE: CONTRACTOR TO FIELD VERIFY DEPTH REQ'D TO SET FOOTINGS. EXIST. HOUSE HAD BASEMENT IN THIS AREA. BOTTOM OF ALL FOOTINGS TO SET ON VIRGIN SOIL & SHALL BE MINIMUM 30" BELOW GRADE.

NORTH

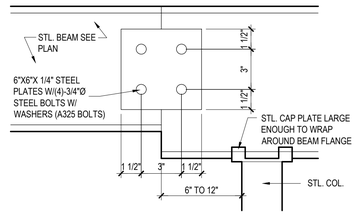
FOUNDATION PLAN

1/4" = 1'-0"

NOTE: HIGH CEILINGS ARE IMPORTANT TO THE OWNER COORDINATE ALL SOFFITS AND DUCTWORK ARRANGEMENTS WITH OWNER BEFORE INSTALLING. RUN DRYWALL DIRECTLY BELOW STEEL BEAM AND DO NOT DROP DOWN LOWER THAN THIS POINT.

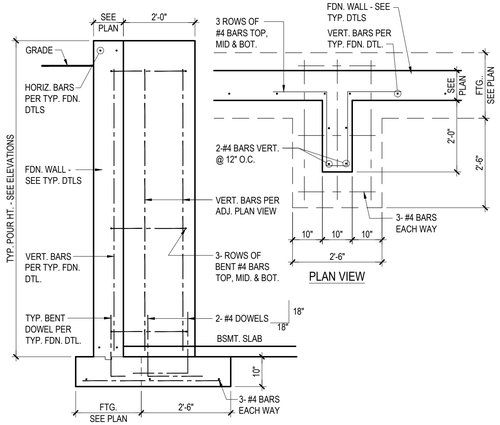
COLUMN PAD SCHEDULE

FTG.-A	30"X30"X12"D. CONCRETE PAD W/ #4 BARS @ 8" O.C. EACH WAY
FTG.-B	36"X36"X12"D. CONCRETE PAD W/ #4 BARS @ 8" O.C. EACH WAY
FTG.-C	48"X30"X12"D. CONCRETE PAD W/ #4 BARS @ 8" O.C. EACH WAY



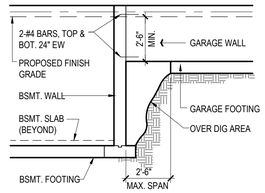
3 BEAM SPLICE DETAIL

3/4" = 1'-0"



2 INTERIOR BUTTRESS DETAIL

1/2" = 1'-0"



GARAGE FTG. IN RELATION TO BASEMENT FOOTING

1

1/4" = 1'-0"

Jim Bulejski Architects
25 MIDPARK LANE

FOUNDATION DRAWING NOTES

1. BASEMENT SLAB: 3-1/2" CONCRETE SLAB OVER 6 MIL. VAPOR BARRIER (LAP JOINTS MIN. 6" AND SEAL) OVER MIN. 4" GRAVEL OR CRUSHED STONE (SLOPE TO FLOOR DRAIN).
2. GARAGE SLAB: 4" CONCRETE SLAB WITH FIBERMESH REINFORCING OVER 6 MIL. VAPOR BARRIER (LAP JOINTS MIN. 6" AND SEAL) OVER MIN. 4" GRAVEL OR CRUSHED STONE (SLOPE TO GARAGE DOOR MINIMUM 4" U.N.O.).
3. EXTERIOR PORCH/PATIO SLABS: 4" CONCRETE SLAB WITH 6"X6" W1.4XW1.4 WWF OVER MIN. 4" GRAVEL OR CRUSHED STONE. SLOPE AWAY FROM FOUNDATION WITH EDGES TURNED DOWN BELOW GRADE MINIMUM 12" OR TO TOP OF FOUNDATION WALL.
4. (2) #4 BARS TOP, MIDDLE, AND BOTTOM, 24" EA. WAY. TYP. AT ALL INTERSECTING WALLS.
5. #4 BARS AT 24" O.C. DOWEL INTO FOUNDATION WALL AND BEND 24" INTO CONCRETE SLAB. TYPICAL AT EXTERIOR PORCH SLABS AND GARAGE SLAB (ADJACENT TO BASEMENT FOUNDATION WALL).
6. HOLD DOWN TOP OF FOUNDATION WALL AT DOOR TO RECEIVE CONCRETE SLAB.
7. FOOTINGS AND PIERS: BOTTOM OF FOOTINGS TO BE MINIMUM 30" BELOW GRADE. PIERS TO EXTEND MIN. 24" INTO SOLID, UNDISTURBED SOIL AND MIN. 30" BELOW GRADE.
8. DRAINAGE SYSTEM SHALL DISCHARGE BY GRAVITY TO DAYLIGHT OR BE CONNECTED TO AN APPROVED SUMP (MIN. 24" IN DIAMETER OR 20 INCHES SQUARE AND SHALL EXTEND MIN. 24 INCHES BELOW THE BOTTOM OF THE BASEMENT FLOOR. SUMP SHALL HAVE A FITTED COVER. PROVIDE PUMP IF DRAINAGE SYSTEM IS CONNECTED TO SUMP PIT. DISCHARGING TO OR WITHIN 10' OF A SIDEWALK, DRIVEWAY, STREET, PROPERTY LINE, OR TO CREATE A NUISANCE TO ADJOINING PROPERTIES IS PROHIBITED.
9. ELECTRICAL PANEL: (200 AMP. MINIMUM / 600 AMP. MAXIMUM) TO BE SIZED AND LOCATED BY ELECTRICAL CONTRACTOR.
10. STEEL COLUMNS SHALL BE SCHEDULE 40, SIZED PER PLAN. ALL COLUMNS SHALL HAVE A CAP AND BASE. ADJUSTABLE COLUMNS PERMITTED UNLESS NOTED TO BE FIXED.
11. MINIMUM OF (2) #5 REINFORCING BARS SHALL BE PROVIDE AROUND ALL WINDOW AND DOOR OPENINGS IN PLAIN CONCRETE FOUNDATION AND BASEMENT WALLS. BARS SHALL EXTEND A MINIMUM OF 24" BEYOND THE CORNERS OF THE OPENINGS.
12. CONTRACTOR SHALL NOT BACKFILL UNTIL CONCRETE FOUNDATION HAS CURED FOR A MINIMUM OF 7 DAYS.
13. UNFINISHED BASEMENTS SHALL BE INSULATED TO MIN. R-10. SEE GENERAL NOTES AND DETAILS.

MECHANICAL: GAS APPLIANCES LOCATED IN SPACES WHERE THE VOLUME IS LESS THAN 50 CUBIC FEET PER 1,000 BTU/HR. INPUT RATING, SHALL HAVE COMBUSTION AIR PROVIDED. MECHANICAL CONTRACTOR SHALL CALCULATE, SPECIFY, AND COORDINATE WITH G.C. ALL ADDITIONAL COMBUSTION AIR AS REQUIRED BY THE MECHANICAL CODE AND LOCAL JURISDICTIONS. LOUVERED DOORS SHALL BE PERMITTED BY THE ARCHITECT IF CALLED OUT ON THE PLANS (VERIFY WITH OWNER). IF ADDITIONAL COMBUSTION AIR IS REQUIRED, MECHANICAL CONTRACTOR SHALL PROVIDE THE FOLLOWING:
USING INSIDE AIR: PROVIDE 1 SQ. IN. PER 1000BTU/HR. IN HIGH AND LOW OPENINGS. MINIMUM OPENING SIZE 100 SQ. IN.
USING OUTSIDE AIR: PROVIDE 1 SQ. IN. PER 4,000 BTU/HR. (1 SQ. IN. PER 2,000 BTU/HR. IF DUCTED HORIZONTAL OPENING).

HIGH CEILINGS ARE IMPORTANT TO THE OWNER. COORDINATE DUCTWORK ARRANGEMENTS WITH OWNER BEFORE INSTALLING. RUN DRYWALL DIRECTLY BELOW STEEL BEAM AND DO NOT DROP DOWN LOWER THAN THIS POINT.

PLUMBING CONTRACTOR TO LOCATE PLUMBING PIPING AND PLUMBING STACKS TO AVOID CONFLICT WITH FINISH BASEMENT PLAN AND TO AVOID CONFLICT WITH FUTURE FINISH WORK THAT MAY OCCUR IN UNFINISHED BASEMENT AREAS. REVIEW LOCATION OF PLUMBING STACKS WITH OWNER.

LIST OF SHEETS

1. FOUNDATION PLAN AND STAIR SECT.
2. FIRST FLOOR PLAN, STAIR SECTION, INTERIOR ELEVATIONS
3. SECOND FLOOR PLAN / ROOF PLAN
4. FRONT AND LEFT SIDE ELEVATION
5. REAR AND RIGHT SIDE ELEVATION
6. F.L.L. PLAN
7. FIRST & SECOND FLOOR ELECTRIC PLANS
8. SECTIONS & DETAILS
9. BRACING PLANS & DETAILS
10. GENERAL NOTES

LEGEND

- WALL FILL / BRICK
- BRG. WALL
- BRG. FROM ABV.
- WALL BRACING
- POST & HEADER
- GIRDER TRUSS
- MTL. HANGER
- POST

BUILDING CODE INFORMATION:

LADUE, MISSOURI

BUILDING:	2021 INTERNATIONAL RESIDENTIAL (BUILDING) CODE
EXISTING:	2015 INTERNATIONAL EXISTING BUILDING CODE
PLUMBING:	2021 INTERNATIONAL PLUMBING CODE
MECHANICAL:	2021 INTERNATIONAL MECHANICAL CODE
ELECTRICAL:	2014 NATIONAL ELECTRIC CODE
OTHER:	2021 INTERNATIONAL PROPERTY MAINTENANCE CODE 2021 INTERNATIONAL SWIMMING POOL AND SPA CODE 2021 INTERNATIONAL FUEL GAS CODE

date:
8/19/2024
9/25/2024
ARB: 9/26/2024
PERMIT:
10/7/2024
CITY COMMENTS:
11/20/2024

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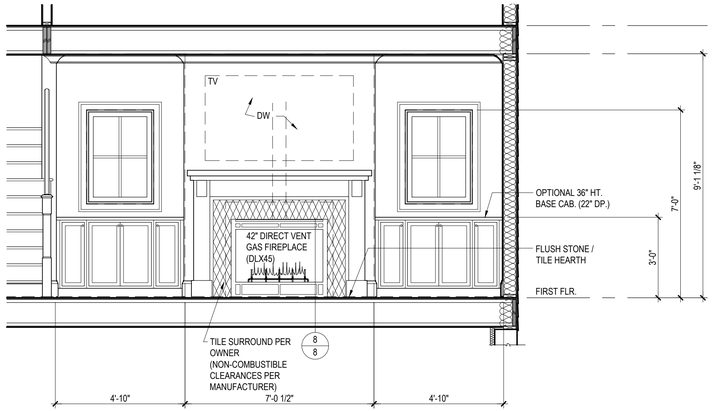
NEW RESIDENCE AT:
25 Midpark Lane
Ladue, MO 63124

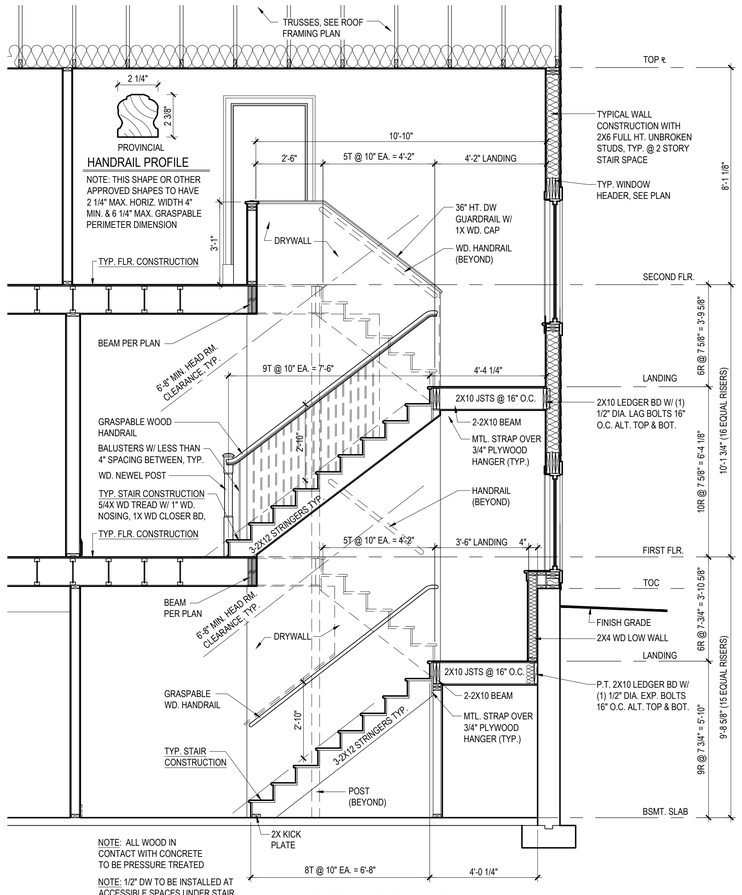
FOUNDATION PLAN

sheet: 1 of 10



5 FAMILY ROOM FIREPLACE ELEVATION

3/8" = 1'-0"



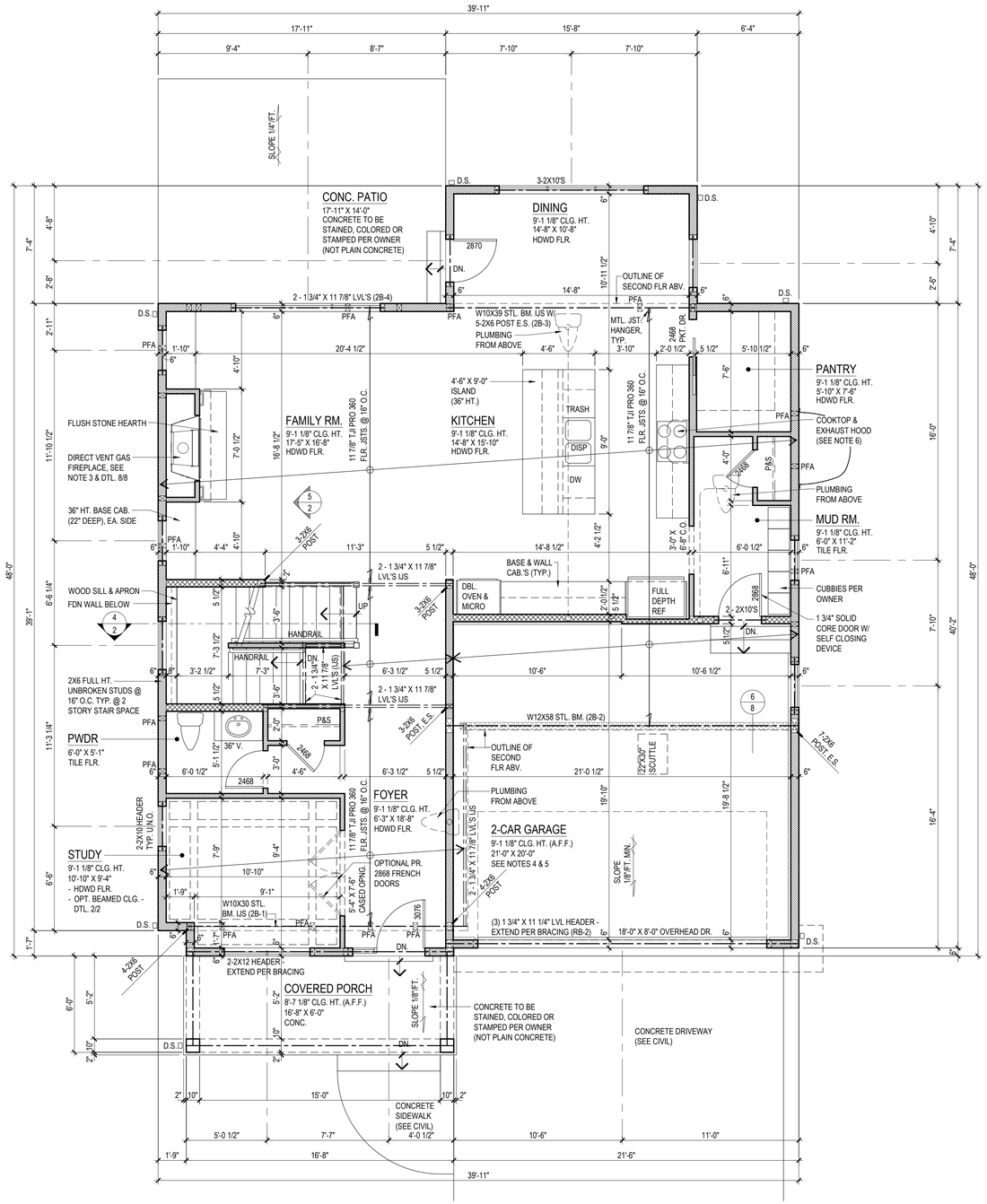
NOTE: ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED

NOTE: 1/2" DW TO BE INSTALLED AT ACCESSIBLE SPACES UNDER STAIR

NOTE: STYLE OF NEWEL POST, W.I. BALUSTERS, RAILINGS AND TRIM AS SELECTED BY OWNER

4 STAIR SECTION

3/8" = 1'-0"

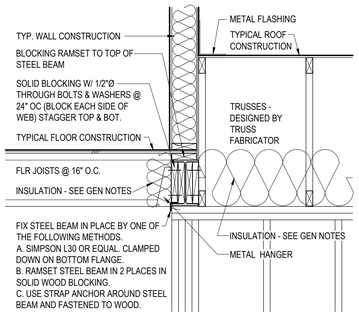


NORTH

FIRST FLOOR PLAN

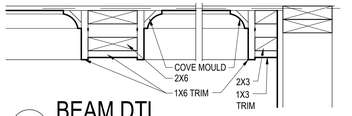
1/4" = 1'-0"

1,285 SF FIRST FLOOR	1,725 SF FIRST FLOOR FOOTPRINT
1,222 SF SECOND FLOOR	1,298 SF SECOND FLOOR FOOTPRINT
2,407 SF TOTAL	3,023 SF (MAX ALLOWED FAR 3024 SF)
440 SF GARAGE	100 SF FRONT PORCH (FULLY DEDUCTED PER ZONING)



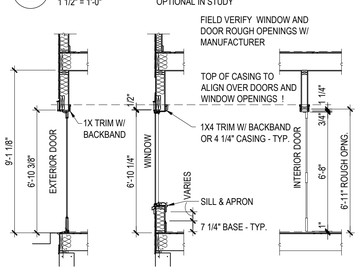
3 STL. BEAM - IN JOIST SPACE

3/4" = 1'-0"



2 BEAM DTL.

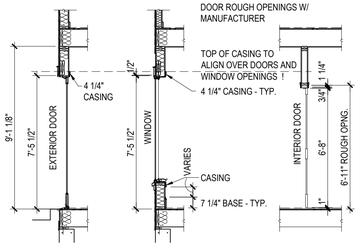
1 1/2" = 1'-0" OPTIONAL IN STUDY



WDW / DOOR HEAD & TRIM RELATIONSHIP DTL.

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

9'-1 1/8" CEILING HT.
7'-0" NOMINAL HEAD HT.



WDW / DOOR HEAD & TRIM RELATIONSHIP DTL.

1 1/4" = 1'-0"

9'-1 1/8" CEILING HT.
7'-6" NOMINAL HEAD HT.

FLOOR PLAN DRAWING NOTES

1. ALL INTERIOR WALLS TO BE 3 1/2" (2X4 STUDS), UNLESS NOTED OTHERWISE (U.N.O.). ALL INTERIOR DIMENSIONS ARE TO FACE OF STUD. ALL EXTERIOR DIMENSIONS ARE TO FACE OF SHEATHING (U.N.O.).
2. POST INDICATED SHALL BE MINIMUM (2) 2X WALL THICKNESS, GLUED AND NAILED, UNLESS NOTED OTHERWISE. EXCEPTION: POSTS CARRYING MINIMAL LOADS, LESS THAN 8'-0" IN HEIGHT AND SUPPORTING HEADERS SPANNING 3'-0" OR LESS MAY CONSIST OF A SINGLE 2X CRIPPLE AND (1) FULL HT. UNBROKEN STUD UNLESS NOTED OTHERWISE. MINIMUM HEADER SIZE (2) 2X10'S GLUED AND NAILED.
3. FIREPLACE: HEATILATOR CALIBER CD4236 (36" VIEWING AREA) OR CD4842 (42" VIEWING AREA) DIRECT VENT GAS PRE-FABRICATED FIREPLACE OR AS SELECTED BY OWNER (SEE SECTION). SURROUND, MANTLE, AND HEARTH TO BE SELECTED BY OWNER. COORD. WITH MFR. FOR MIN. ROUGH-IN DIMENSIONS, HEARTH WIDTH, AND EXTENSION.
4. GARAGE/HOUSE SEPARATION WALL TO BE INSULATED MINIMUM R-13.
5. GARAGE-ATTACHED W/ STORY ABOVE: 5/8" TYPE X DRYWALL ON GARAGE SIDE OF GARAGE/HOUSE SEPARATION WALL UP TO 5/8" TYPE X DRYWALL CEILING. ALL BEARING WALLS, BEAMS, AND COLUMNS SUPPORTING THE FLOOR/CEILING ASSEMBLY TO HAVE MIN. 5/8" TYPE X DRYWALL.
6. COOKTOP/RANGE WITH EXHAUST HOOD. PROVIDE GAS AND/OR ELECTRIC HOOKUPS AS REQUIRED. IF GAS PROVIDE GAS SHUTOFF IN ADJACENT CABINET. ALL EXHAUST TO BE VENTED TO EXTERIOR PER ALL LOCAL CODES. EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 600 CUBIC FEET PER MINUTE (0.19 M 3 /S) SHALL BE PROVIDED WITH MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST AIR RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH A MEANS OF CLOSURE AND SHALL BE AUTOMATICALLY CONTROLLED TO START AND OPERATE SIMULTANEOUSLY WITH THE EXHAUST SYSTEM.
7. LAUNDRY: WASHER TO BE PLACED IN A FLOOD SAVER WITH DRAIN. PROVIDE IN-WALL WASHER OUTLET BOX AND RECESSED DRYER VENT BOX. DRYER TO VENT TO EXTERIOR.
8. SEE ELECTRIC SHEET FOR DEVICE LOCATIONS.

date:
8/19/2024
9/25/2024
ARB: 9/26/2024
PERMIT: 10/7/2024
CITY COMMENTS: 11/20/2024

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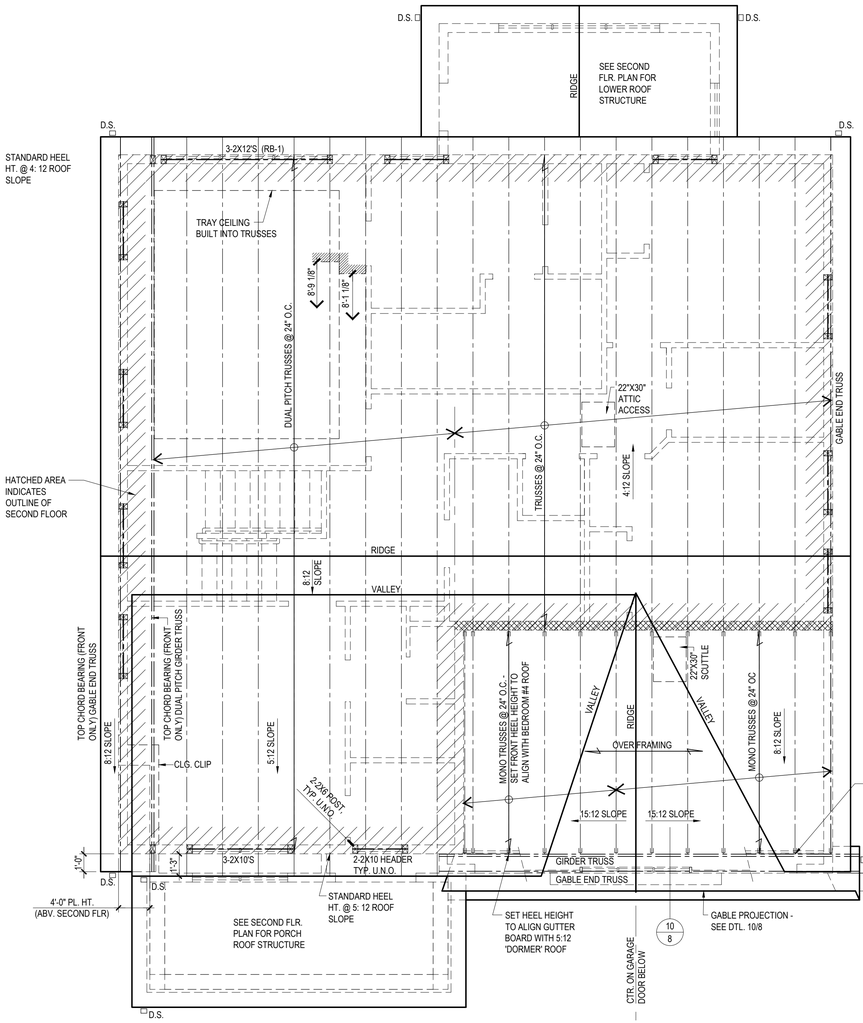
NEW RESIDENCE AT:
25 Midpark Lane
Ladue, MO 63124

FIRST FLOOR PLAN

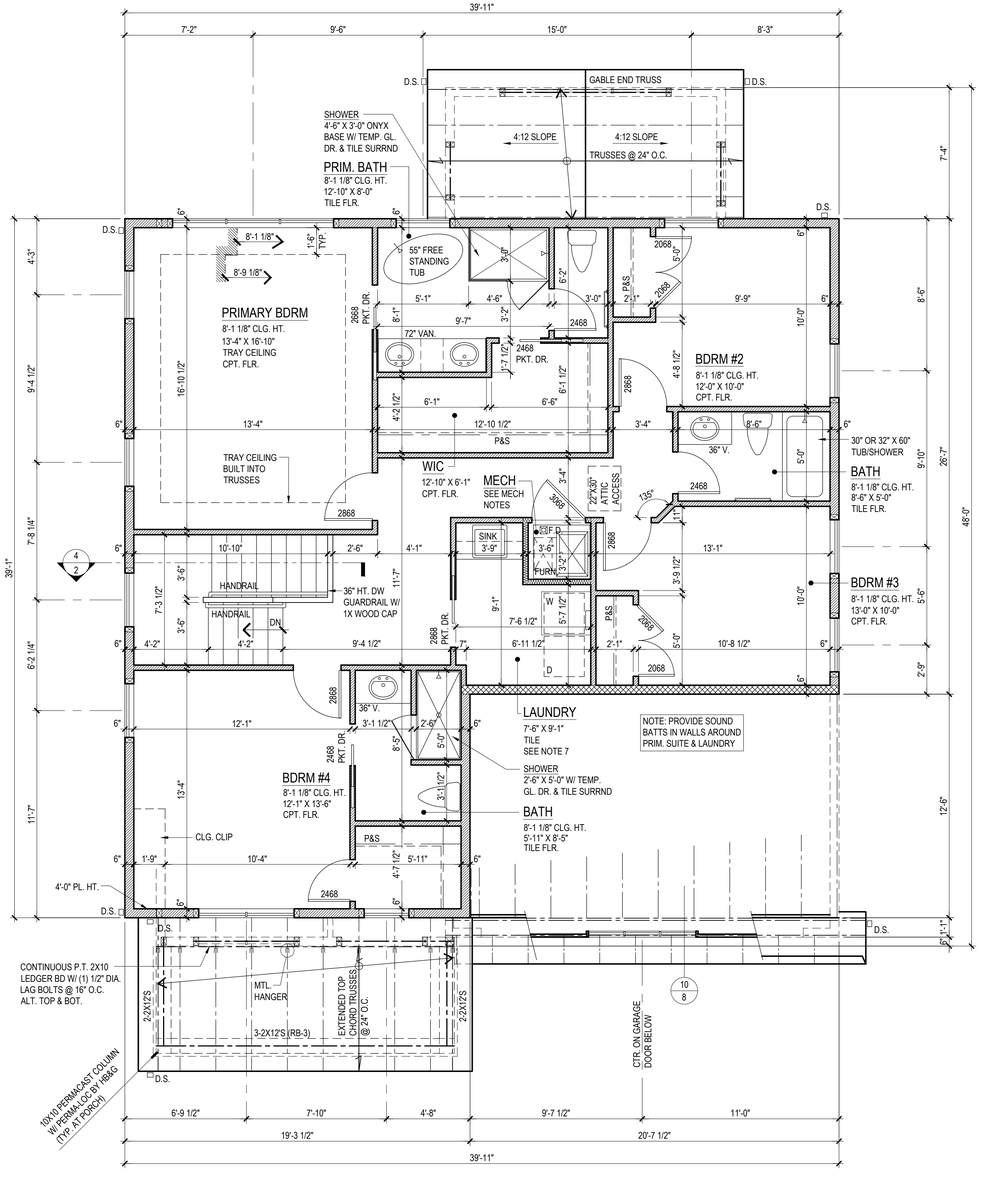
sheet: 2 of 10



NORTH

ROOF / FRAMING PLAN

1/4" = 1'-0"



NORTH

SECOND FLOOR PLAN

1/4" = 1'-0"

ROOF FRAMING NOTES

1. POST INDICATED SHALL BE MINIMUM (2) 2X WALL THICKNESS, GLUED AND NAILED, UNLESS NOTED OTHERWISE. MINIMUM HEADER SIZE (2) 2X10'S. GLUE AND NAIL ALL MULTIPLE BEAM MEMBERS.
   EXCEPTION: POSTS CARRYING ROOF LOADS ONLY AND NOT EXCEEDING 8'-1" IN HEIGHT AND SUPPORTING HEADERS SPANNING 3'-0" OR LESS MAY CONSIST OF A SINGLE 2X CRIPPLE AND (1) FULL HT. UNBROKEN STUD UNLESS NOTED OTHERWISE.
2. SEE FIRST AND SECOND FLOOR PLANS FOR INTERIOR CEILING CONDITIONS.
3. TRUSS LAYOUT SHOWN IS FOR DIAGRAMMATIC PURPOSES ONLY. SEE MANUFACTURER'S SHOP DRAWINGS FOR ACTUAL LAYOUT.

FLOOR PLAN DRAWING NOTES

1. ALL INTERIOR WALLS TO BE 3 1/2" (2X4 STUDS), UNLESS NOTED OTHERWISE (U.N.O.). ALL INTERIOR DIMENSIONS ARE TO FACE OF STUD. ALL EXTERIOR DIMENSIONS ARE TO FACE OF SHEATHING (U.N.O.).
2. POST INDICATED SHALL BE MINIMUM (2) 2X WALL THICKNESS, GLUED AND NAILED, UNLESS NOTED OTHERWISE. EXCEPTION: POSTS CARRYING MINIMAL LOADS, LESS THAN 8'-0" IN HEIGHT AND SUPPORTING HEADERS SPANNING 3'-0" OR LESS MAY CONSIST OF A SINGLE 2X CRIPPLE AND (1) FULL HT. UNBROKEN STUD UNLESS NOTED OTHERWISE. MINIMUM HEADER SIZE (2) 2X10'S GLUED AND NAILED.
3. FIREPLACE: HEATILATOR CALIBER CD4236 (36" VIEWING AREA) OR CD4842 (42" VIEWING AREA) DIRECT VENT GAS PRE-FABRICATED FIREPLACE OR AS SELECTED BY OWNER (SEE SECTION). SURROUND, MANTLE, AND HEARTH TO BE SELECTED BY OWNER. COORD. WITH MFR. FOR MIN. ROUGH-IN DIMENSIONS, HEARTH WIDTH, AND EXTENSION.
4. GARAGE/HOUSE SEPARATION WALL TO BE INSULATED MINIMUM R-13.
5. GARAGE-ATTACHED W/ STORY ABOVE: 5/8" TYPE X DRYWALL ON GARAGE SIDE OF GARAGE/HOUSE SEPARATION WALL UP TO 5/8" TYPE X DRYWALL CEILING. ALL BEARING WALLS, BEAMS, AND COLUMNS SUPPORTING THE FLOOR/CEILING ASSEMBLY TO HAVE MIN. 5/8" TYPE X DRYWALL.
6. COOKTOP/RANGE WITH EXHAUST HOOD. PROVIDE GAS AND/OR ELECTRIC HOOKUPS AS REQUIRED. IF GAS PROVIDE GAS SHUTOFF IN ADJACENT CABINET. ALL EXHAUST TO BE VENTED TO EXTERIOR PER ALL LOCAL CODES. EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 600 CUBIC FEET PER MINUTE (0.19 M 3 /S) SHALL BE PROVIDED WITH MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST AIR RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH A MEANS OF CLOSURE AND SHALL BE AUTOMATICALLY CONTROLLED TO START AND OPERATE SIMULTANEOUSLY WITH THE EXHAUST SYSTEM.
7. LAUNDRY: WASHER TO BE PLACED IN A FLOOD SAVER WITH DRAIN. PROVIDE IN-WALL WASHER OUTLET BOX AND RECESSED DRYER VENT BOX. DRYER TO VENT TO EXTERIOR.
8. SEE ELECTRIC SHEET FOR DEVICE LOCATIONS.

MECH. NOTES

1. SECOND FLOOR FURNACE SHALL BE SET IN OVERFLOW DRAIN PAN.
2. PROVIDE SOUND BATTS AROUND AND IN FLOOR BELOW FURN. RM.
3. INSTALL 1/2" HOMISOTE SOUND BOARD UNDER DRYWALL AND WEATHER STRIP DOOR FOR SOUND CONTROL.
4. MECHANICAL CONTRACTOR TO SUPPLY COMBUSTION AIR. (NO LOUVER)
5. DO NOT INSTALL SUPPLY OR RETURN VENTS IN SHARED BEDROOM / MECHANICAL ROOM WALLS

ENERGY CONSERVATION REQUIRED WITH COMBUSTION / VENTILATION OUTSIDE AIR:
- SOLID, SELF-CLOSING WEATHERSTRIPPED DOOR
- R-13 INSULATION AT INTERIOR WALLS
- R-19 INSULATION AT FLOOR/CEILING
- WRAPPED, INSULATED DUCTS
- STOPPED WALL PENETRATIONS

date:
8/19/2024
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NEW RESIDENCE AT:
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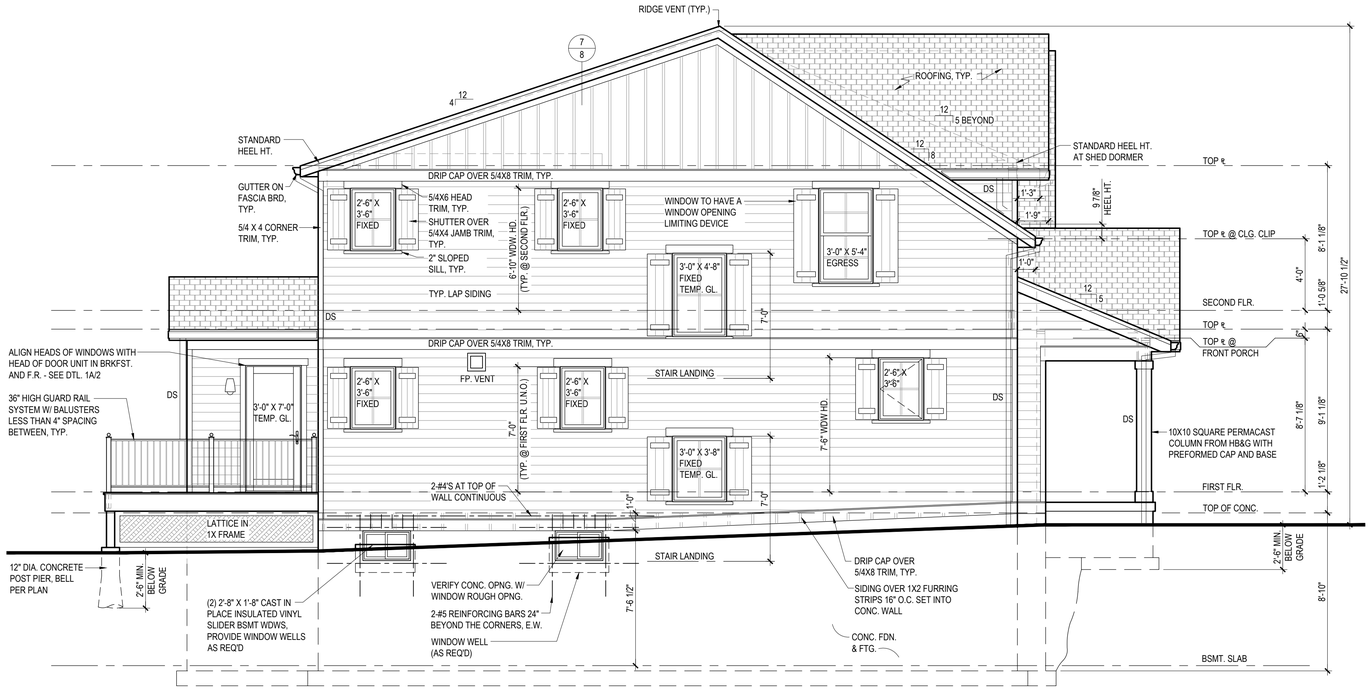
Ladue, MO 63124

SECOND FLOOR PLAN
ROOF / FRAMING PLAN

sheet: 3 of 10



LEFT SIDE ELEVATION

1/4" = 1'-0"

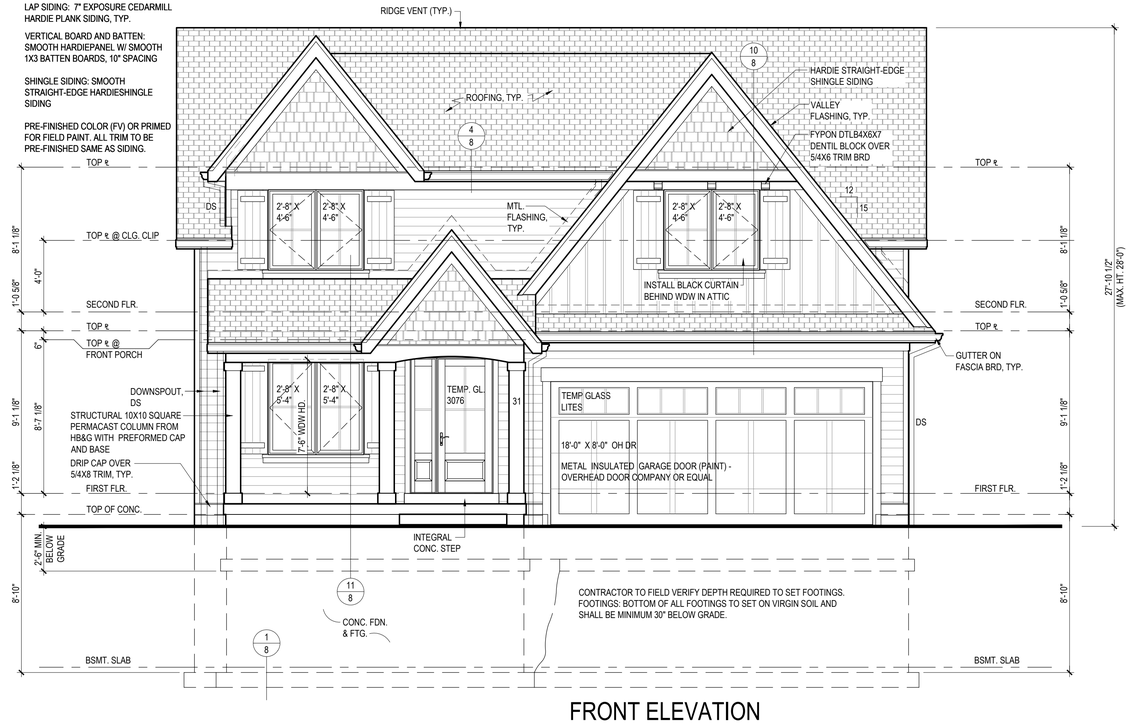
SIDING SHALL BE:
JAMES HARDIE FIBER CEMENT BOARD SIDING AND TRIM, TYP.

LAP SIDING: 7" EXPOSURE CEDARMILL HARDIE PLANK SIDING, TYP.

VERTICAL BOARD AND BATTEN: SMOOTH HARDIEPANEL W/ SMOOTH 1X3 BATTEN BOARDS, 10" SPACING

SHINGLE SIDING: SMOOTH STRAIGHT-EDGE HARDIESHINGLE SIDING

PRE-FINISHED COLOR (FV) OR PRIMED FOR FIELD PAINT. ALL TRIM TO BE PRE-FINISHED SAME AS SIDING.



FRONT ELEVATION

1/4" = 1'-0"

ELEVATION DRAWING NOTES

1. SLOPE GRADE AWAY FROM FOUNDATION MINIMUM 1"/FT. FOR A DISTANCE OF 8'-0" OR TO A SWALE.
2. FOOTINGS AND PIERS: BOTTOM OF ALL FOOTINGS TO SET ON SOLID, UNDISTURBED SOIL. PIERS TO EXTEND MINIMUM 24" INTO SOLID, UNDISTURBED SOIL. BOTH SHALL BE MINIMUM 30" BELOW GRADE.
3. BRICK VENEER: ALL SOLDIER AND ROWLOCK HEADERS, SILLS, AND TRIM TO PROJECT 3/4", UNLESS NOTED OTHERWISE.
4. CHIMNEY HEIGHT: SHALL EXTEND ABOVE ROOF MIN. 3'-0" AT POINT OF PENETRATION AND 2'-0" HIGHER THAN ANY PORTION OF THE BUILDING WITHIN 10' HORIZONTALLY.
5. DECK DOORS: SECURELY BARRICADE DOOR UNTIL DECK IS BUILT AND APPROVED.
6. ROOF FLASHING: PROVIDE CORROSION-RESISTANT METAL FLASHING AT ALL ROOF VALLEYS, WALL AND CHIMNEY INTERSECTIONS, PORCHES, DECKS, ETC. ROLLED ROOFING OR (2) LAYERS OF TYPE 1 UNDERLAYMENT MAY BE SUBSTITUTED FOR FLASHING AT THE ROOF VALLEY PROVIDED THE SHINGLES ARE INTERLACED.
7. CANTILEVERS: PROVIDE EXTERIOR GRADE SOFFIT (SEAL ALL JOINTS). INSULATE BETWEEN FLOOR JOISTS TO MINIMUM R-19.
8. GENERAL CONTRACTOR SHALL CONFIRM USE OF ALL TRIM ACCESSORIES AND MODEL NUMBERS WITH SUPPLIER BEFORE ORDERING.
8. WINDOW SIZES ARE GENERIC. WINDOW TYPE: ALUMINUM CLAD EXTERIOR, WOOD INTERIOR. INTERIOR: PRIMED. EXTERIOR: BRONZE.
9. EGRESS WINDOW REQUIREMENTS:
   (COMPLY WITH IRC 2021 SECTION R310)
   - 44" MAX. SILL HT. A.F.F. AT BASEMENT WINDOWS
   - MIN. NET CLEAR OPENING OF 5.7 S.F. (5 S.F. ALLOWED AT GRADE FLOOR OPENINGS)
   - MIN. OPENING HEIGHT = 24" NET CLEAR
   - MIN. OPENING WIDTH = 20" NET CLEAR

   CONTRACTOR SHALL SUBMIT MANUFACTURER'S DATA WITH PERMIT DOCUMENTS TO SHOW THAT EGRESS WINDOWS MEET THESE REQUIREMENTS.
10. WINDOW OPENING REQUIREMENTS:
    (COMPLY WITH IRC 2021 SECTION R312)
    - FOR WINDOWS WITH SILLS LESS THAN 24" ABOVE THE FLOOR AND MORE THAN 72" ABOVE GRADE, LIMIT WINDOW OPENINGS TO PROHIBIT PASSAGE OF 4" SPHERE.
    - PROVIDE MECHANISM TO ALLOW FOR EMERGENCY ESCAPE.

date:
2/4/2026
ARB: 3/19/2026
ARB REVISIONS: 4/9/2026
PERMIT: 4/17/2026

JIM BULEJSKI ARCHITECTS
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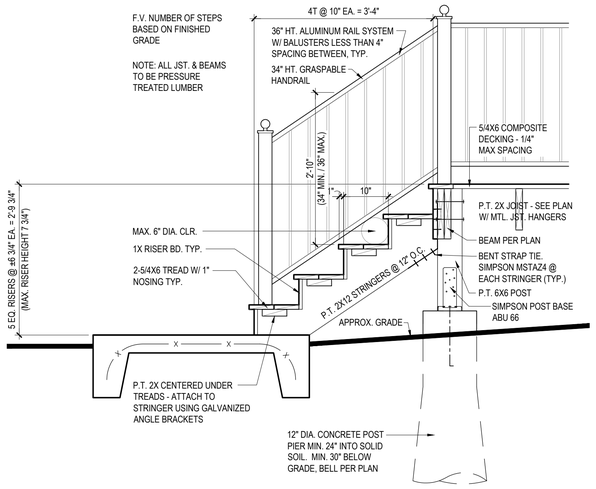
STATE OF MISSOURI
KATHARINE S. NIESEN COOK
NUMBER A-2024034183
ARCHITECT

Douglas Properties

NEW RESIDENCE AT:
31 Midpark Lane
Ladue, MO 63124

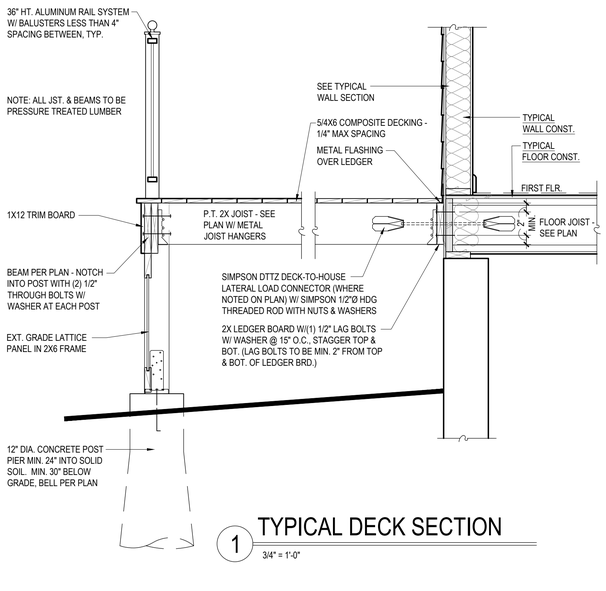
FRONT AND LEFT ELEVATIONS

sheet: 4 of 10



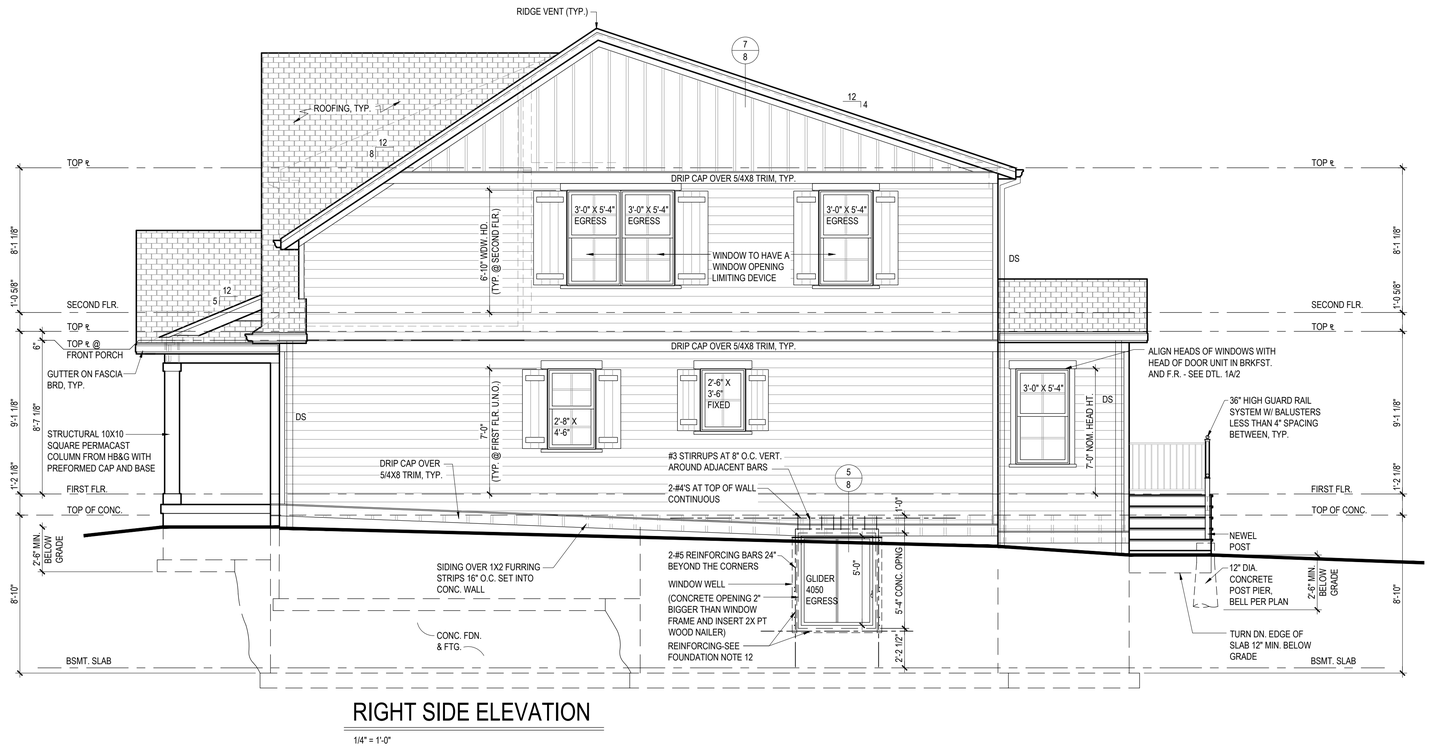
2 DECK STAIR SECTION

3/4" = 1'-0"



1 TYPICAL DECK SECTION

3/4" = 1'-0"



RIGHT SIDE ELEVATION

1/4" = 1'-0"

REAR ELEVATION

ELEVATION DRAWING NOTES

1. SLOPE GRADE AWAY FROM FOUNDATION MINIMUM 1"/FT. FOR A DISTANCE OF 8'-0" OR TO A SWALE.
2. FOOTINGS AND PIERS: BOTTOM OF ALL FOOTINGS TO SET ON SOLID, UNDISTURBED SOIL. PIERS TO EXTEND MINIMUM 24" INTO SOLID, UNDISTURBED SOIL. BOTH SHALL BE MINIMUM 30" BELOW GRADE.
3. BRICK VENEER: ALL SOLDIER AND ROWLOCK HEADERS, SILLS, AND TRIM TO PROJECT 3/4", UNLESS NOTED OTHERWISE.
4. CHIMNEY HEIGHT: SHALL EXTEND ABOVE ROOF MIN. 3'-0" AT POINT OF PENETRATION AND 2'-0" HIGHER THAN ANY PORTION OF THE BUILDING WITHIN 10' HORIZONTALLY.
5. DECK DOORS: SECURELY BARRICADE DOOR UNTIL DECK IS BUILT AND APPROVED.
6. ROOF FLASHING: PROVIDE CORROSION-RESISTANT METAL FLASHING AT ALL ROOF VALLEYS, WALL AND CHIMNEY INTERSECTIONS, PORCHES, DECKS, ETC. ROLLED ROOFING OR (2) LAYERS OF TYPE 1 UNDERLAYMENT MAY BE SUBSTITUTED FOR FLASHING AT THE ROOF VALLEY PROVIDED THE SHINGLES ARE INTERLACED.
7. CANTILEVERS: PROVIDE EXTERIOR GRADE SOFFIT (SEAL ALL JOINTS). INSULATE BETWEEN FLOOR JOISTS TO MINIMUM R-19.
8. GENERAL CONTRACTOR SHALL CONFIRM USE OF ALL TRIM ACCESSORIES AND MODEL NUMBERS WITH SUPPLIER BEFORE ORDERING.
8. WINDOW SIZES ARE GENERIC. WINDOW TYPE: ALUMINUM CLAD EXTERIOR, WOOD INTERIOR. INTERIOR: PRIMED. EXTERIOR: BRONZE.
9. EGRESS WINDOW REQUIREMENTS:
   (COMPLY WITH IRC 2021 SECTION R310)
   - 44" MAX. SILL HT. A.F.F. AT BASEMENT WINDOWS
   - MIN. NET CLEAR OPENING OF 5.7 S.F. (5 S.F. ALLOWED AT GRADE FLOOR OPENINGS)
   - MIN. OPENING HEIGHT = 24" NET CLEAR
   - MIN. OPENING WIDTH = 20" NET CLEAR

   CONTRACTOR SHALL SUBMIT MANUFACTURER'S DATA WITH PERMIT DOCUMENTS TO SHOW THAT EGRESS WINDOWS MEET THESE REQUIREMENTS.
10. WINDOW OPENING REQUIREMENTS:
    (COMPLY WITH IRC 2021 SECTION R312)
    - FOR WINDOWS WITH SILLS LESS THAN 24" ABOVE THE FLOOR AND MORE THAN 72" ABOVE GRADE, LIMIT WINDOW OPENINGS TO PROHIBIT PASSAGE OF 4" SPHERE.
    - PROVIDE MECHANISM TO ALLOW FOR EMERGENCY ESCAPE.

date:
2/4/2026
ARB: 3/19/2026
ARB REVISIONS: 4/9/2026
PERMIT: 4/17/2026

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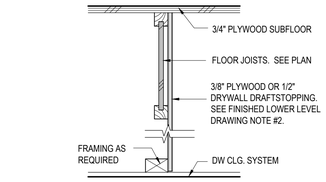
Ladue, MO 63124

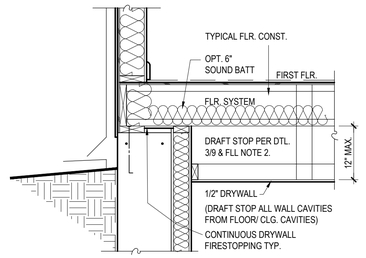
REAR AND RIGHT ELEVATIONS

sheet: 5 of 10



3 DRAFTSTOPPING DTL.

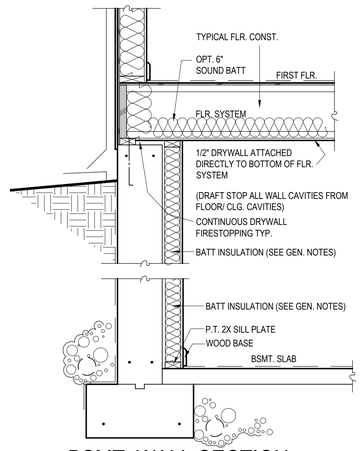
1 1/2" = 1'-0"



BSMT. WALL SECTION - DROPPED CLG.

3/4" = 1'-0"

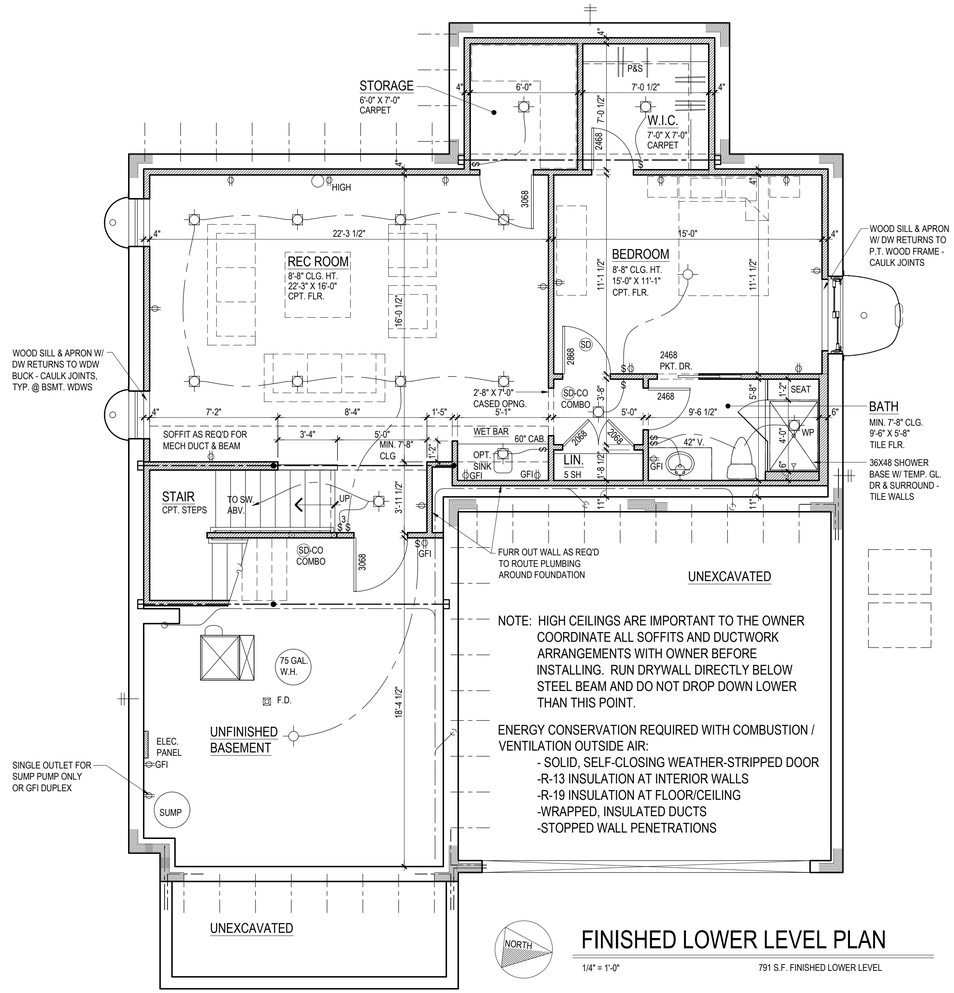
SEE TYP. WALL SECTIONS FOR ADDITIONAL INFORMATION



1 BSMT. WALL SECTION

3/4" = 1'-0"

SEE TYP. WALL SECTIONS FOR ADDITIONAL INFORMATION



FINISHED LOWER LEVEL PLAN

1/4" = 1'-0"

791 S.F. FINISHED LOWER LEVEL

FINISHED LOWER LEVEL DRAWING NOTES

1. ALL INTERIOR WALLS TO BE 3 1/2 " (2X4 STUDS) UNLESS NOTED OTHERWISE (OPTIONAL LIGHT GAUGE STEEL STUDS).
   USE PRESSURE-TREATED SILL PLATES OR STEEL TRACKS.
2. DRAFT-STOPPING: CEILINGS SUSPENDED BELOW WOOD JOISTS OR ATTACHED DIRECTLY TO WOOD FLOOR TRUSSES SHALL BE DRAFT-STOPPED AT MAXIMUM 1000 S.F. INTERVALS PARALLEL TO MAIN FRAMING MEMBERS. SEE DETAIL THIS SHEET.
3. CEILING HEIGHTS TO BE DETERMINED BY EXTENT OF DUCTWORK, STEEL BEAMS, ETC. (7'-0" MIN. CEILING HEIGHT).
4. FURR DOWN CEILING, IF REQUIRED, TO CLEAR BEAMS, DUCTWORK, WIRES, PIPES, ETC., UNLESS NOTED OTHERWISE.
5. SET ALL CEILING AS HIGH AS POSSIBLE. PROVIDE ACCESS PANELS TO UTILITIES, CLEANOUTS, ETC. IN FINISHED AREAS. VERIFY METHOD WITH OWNER.
6. MAINTAIN REQUIRED CLEARANCES AROUND FURNACES AND WATER HEATERS.
7. VENT BATHROOM EXHAUST FAN TO EXTERIOR.
8. ADJUST LOCATIONS OF RECESSED LIGHT FIXTURES, IF REQUIRED, FOR FRAMING MEMBERS, DUCTWORK, ETC. REVIEW ALTERNATE LOCATIONS WITH OWNER.

MECHANICAL: GAS APPLIANCES LOCATED IN SPACES WHERE THE VOLUME IS LESS THAN 50 CUBIC FEET PER 1,000 BTU/HR. INPUT RATING SHALL HAVE COMBUSTION AIR PROVIDED. MECHANICAL CONTRACTOR SHALL CALCULATE, SPECIFY, AND COORDINATE WITH G.C. ALL ADDITIONAL COMBUSTION AIR AS REQUIRED BY THE MECHANICAL CODE AND LOCAL JURISDICTIONS. LOUVERED DOORS SHALL BE PERMITTED BY THE ARCHITECT IF CALLED OUT ON THE PLANS (VERIFY WITH OWNER). IF ADDITIONAL COMBUSTION AIR IS REQUIRED, MECHANICAL CONTRACTOR SHALL PROVIDE THE FOLLOWING:
USING INSIDE AIR: PROVIDE 1 SQ. IN. PER 1000BTU/HR. IN HIGH AND LOW OPENINGS (MIN. OPENING SIZE 100 SQ. IN.).
USING OUTSIDE AIR: PROVIDE 1 SQ. IN. PER 4,000 BTU/HR. (1 SQ. IN. PER 2,000 BTU/HR. IF DUCTED HORIZONTAL OPENING).

ENERGY CONSERVATION REQUIRED WITH COMBUSTION/VENTILATION OUTSIDE AIR:
- SOLID, SELF-CLOSING WEATHER-STRIPPED DOOR
-R-13 INSULATION AT INTERIOR WALLS
-R-19 INSULATION AT FLOOR/CEILING
-WRAPPED, INSULATED DUCTS
-STOPPED WALL PENETRATIONS

date:
8/19/2024
9/25/2024
ARB: 9/26/2024
PERMIT: 10/7/2024
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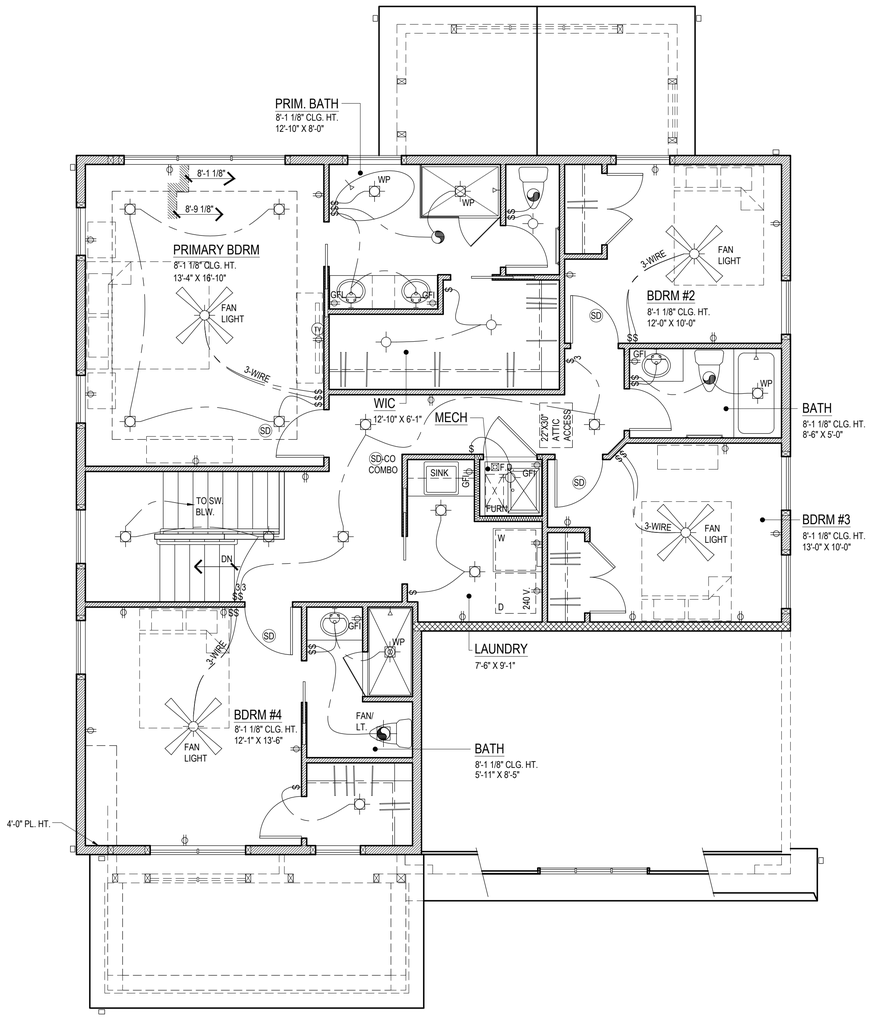
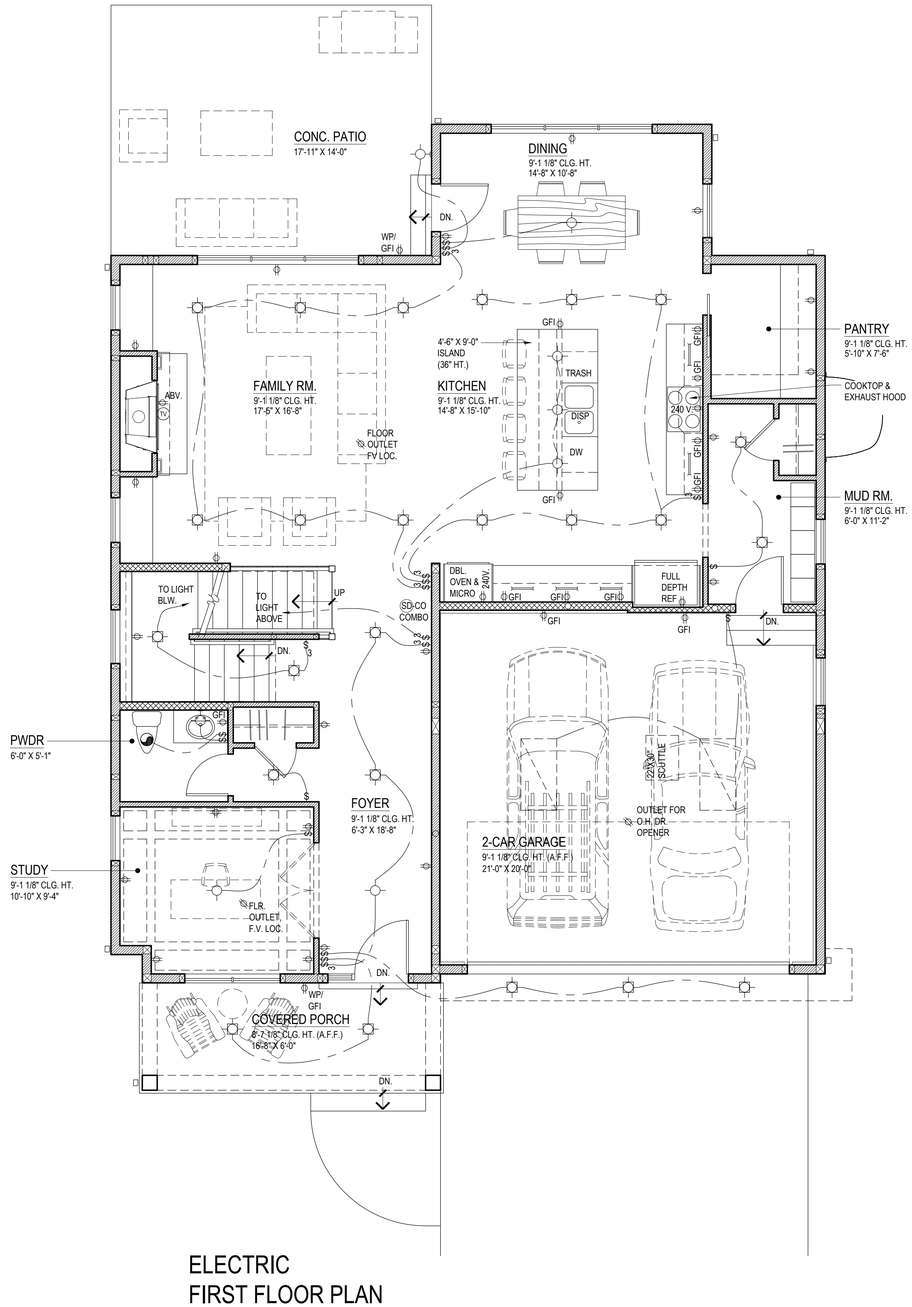
FINISHED LOWER LEVEL PLAN

sheet: 6 of 10



ELECTRIC
SECOND FLOOR PLAN

1/4" = 1'-0"



ELECTRIC
FIRST FLOOR PLAN

1/4" = 1'-0"

ELECTRICAL SYMBOLS

DUPLEX OUTLET		UNDER CAB. INCANDESCENT	
WATER PROOF (WP) GROUND FAULT INTERRUPTER (GFI)	WP/ GFI	CLICK STRIP	
FOURPLEX		BRACKET MOUNT	
SPECIALTY OUTLET	240 V.	CEILING MOUNT	
PHONE		RECESSED CAN LIGHT	
SWITCH DIMMER (D)	$ D	RECESSED WALL WASH	
CABLE TV OUTLET	TV	FLUORESCENT LIGHT	
EXHAUST FAN/ MOTOR		FLOOD LIGHT	
COMPUTER NETWORK PORT/ INTERNET ACCESS LINE		PULL CHAIN LIGHT	PC
CEILING FAN W/ LIGHT	FAN/ LIGHT	SMOKE DETECTOR	SD
		CARBON MONOXIDE DETECTOR	CO

ELECTRIC PLAN DRAWING NOTES

1. NOTE: HOME RUN ALL RG6 AND CAT. 6 TO ONE SPOT IN BSMT. AND LABEL. PROVIDE ROUGH-IN FOR FUTURE DSS.
2. COMPUTER NETWORK PORT TO RECEIVE THE FOLLOWING: (1) RG6 COAX CABLE, (2) CAT. 6 FOR PHONE/INTERNET ACCESS, MODEM, AND NETWORK

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8/19/2024
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ARB: 9/26/2024
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CITY COMMENTS: 11/20/2024

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NEW RESIDENCE AT:
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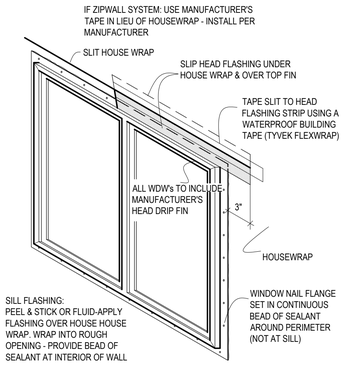
Ladue, MO 63124

FIRST FLOOR ELECTRIC PLAN
SECOND FLOOR ELECTRIC PLAN

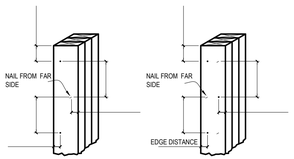
sheet: 7 of 10



13 TYP. WDW HEAD FLASHING

NOT TO SCALE

NAILING SCHEDULE FOR BUILT UP COLUMN					
COLUMN SIZE	NAILS	ROW(S) (EA. SIDE)	SPACING	EDGE DISTANCE	END DISTANCE
(2) 2x4	10d	1	8"	1"	2 1/2"
(3) 2x4	30d	1	8"	1"	3 1/2"
(4) 2x4	60d	1	8"	1 1/4"	4 1/2"
(2) 2x6	10d	2	8"	1 1/2"	2 1/2"
(3) 2x6	30d	2	8"	1 1/2"	3 1/2"
(4) 2x6	60d	2	8"	1 1/2"	4 1/2"
(2) 2x8	10d	2	8"	2"	2 1/2"
(3) 2x8	30d	2	8"	2"	3 1/2"
(4) 2x8	60d	2	8"	2"	4 1/2"

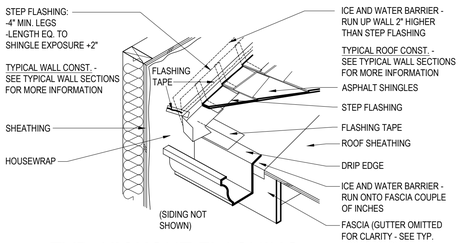


SINGLE ROW NAIL PLACEMENT

1" = 1'-0"

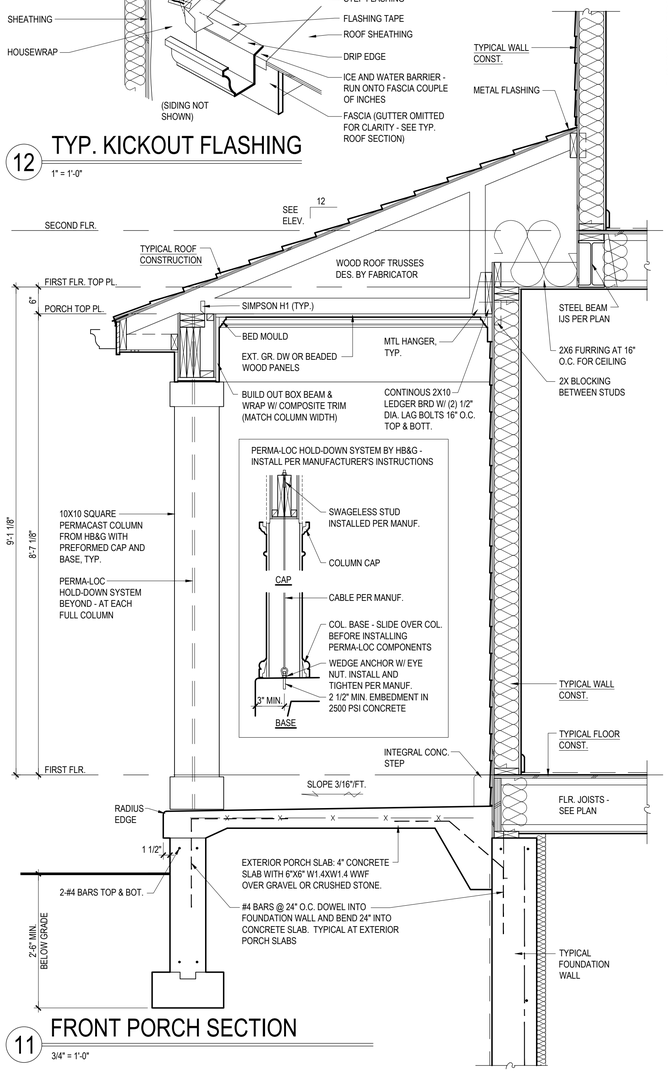
TWO ROW NAIL PLACEMENT

1" = 1'-0"



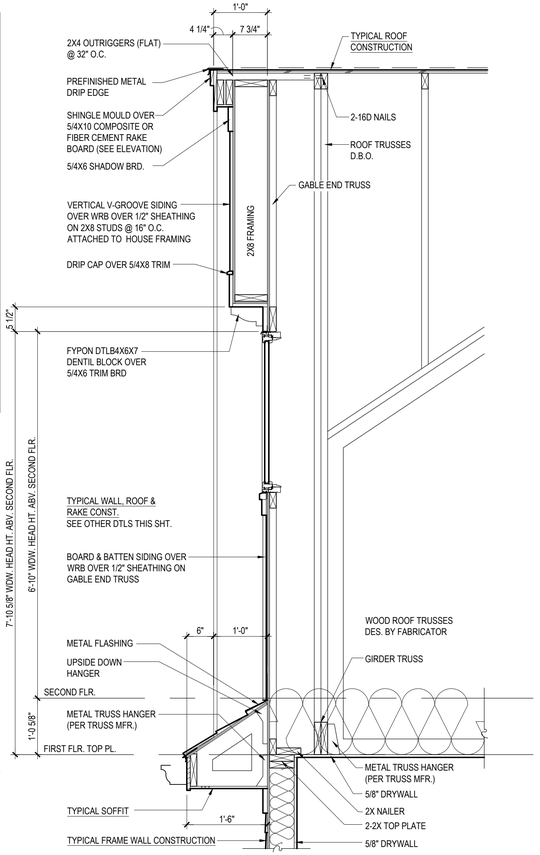
12 TYP. KICKOUT FLASHING

1" = 1'-0"



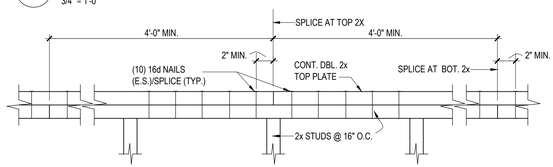
11 FRONT PORCH SECTION

3/4" = 1'-0"



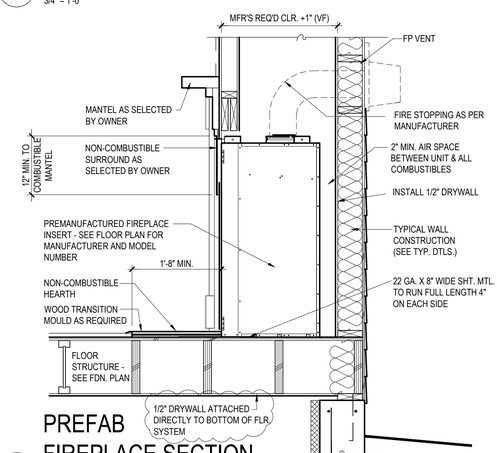
10 SECTION @ GARAGE GABLE END

3/4" = 1'-0"



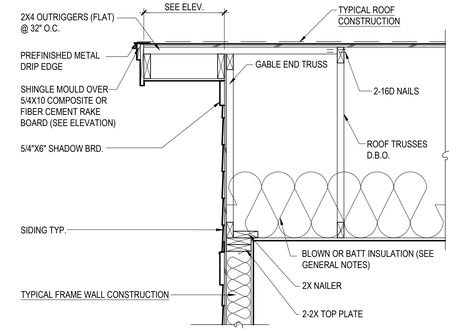
9 TYP. DBL. TOP PLATE SPLICE DETAIL

3/4" = 1'-0"



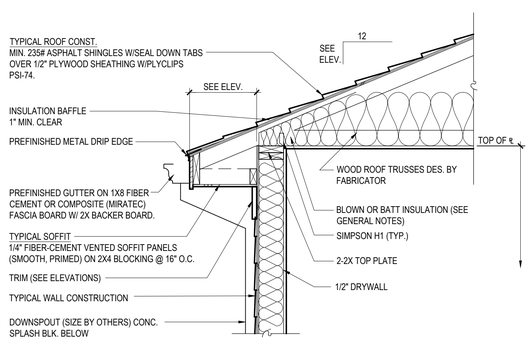
PREFAB FIREPLACE SECTION

8 3/4" = 1'-0"



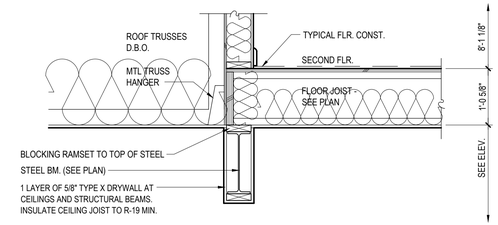
7 TYP. SECTION @ GABLE END

3/4" = 1'-0"



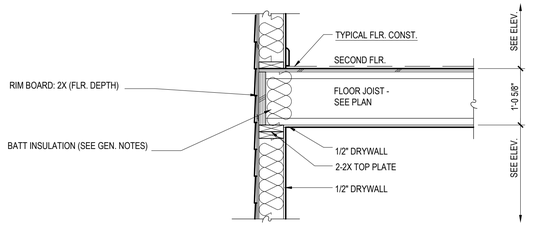
4 TYPICAL SECTION @ ROOF - FRAME

SCALE 3/4" = 1'-0"



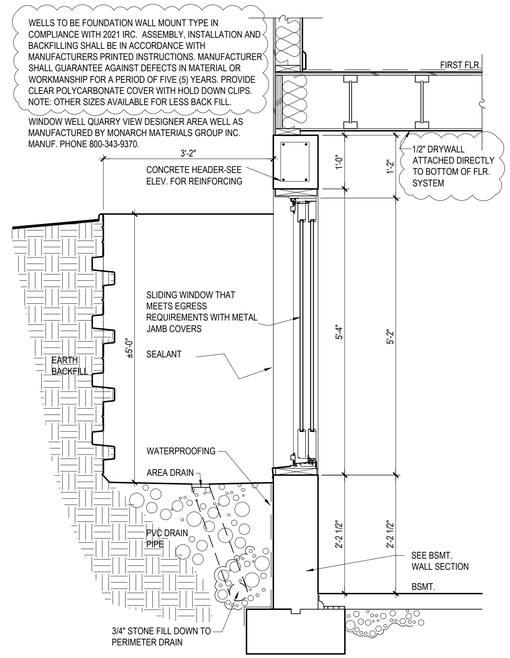
6 TYP. SECTION @ GARAGE STEEL BM.

SCALE 3/4" = 1'-0"



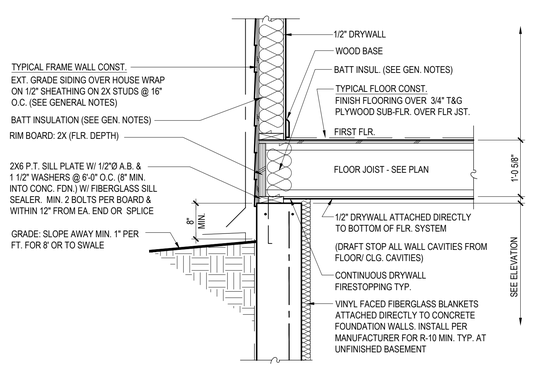
3 TYP. SECTION @ SECOND FLR.-FRAME

SCALE 3/4" = 1'-0"



5 WINDOW WELL SECTION

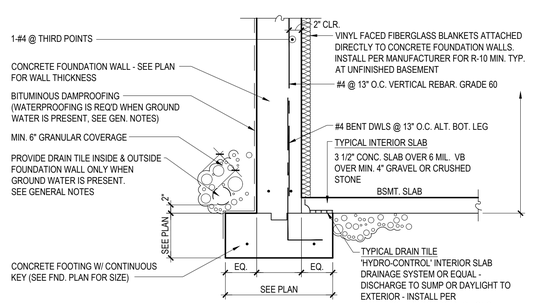
3/4" = 1'-0"



2 TYP. SECTION @ FIRST FLR. - FRAME

SCALE 3/4" = 1'-0"

SEE OPT. FLL WALL SECTIONS FOR ADDITIONAL INFORMATION



1 TYP. SECTION @ BSMT. FOUNDATION

3/4" = 1'-0"

date:	
8/19/2024	
9/25/2024	
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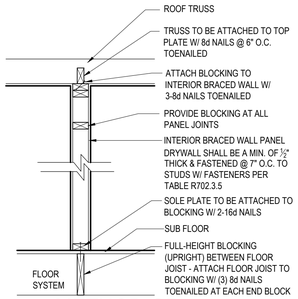
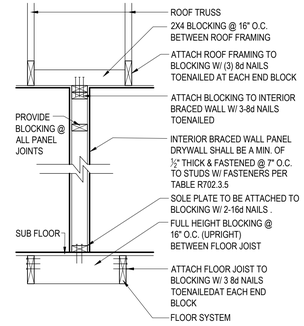
SECTIONS & DETAILS

sheet: 8 of 10



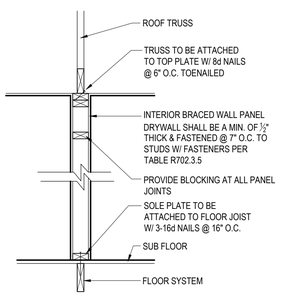
METHOD GB PERPENDICULAR W/ TRUSS AND JOIST

8 3/4" = 1'-0"



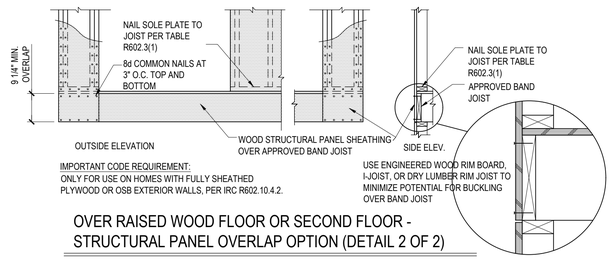
METHOD GB W/O TRUSS AND JOIST OFFSET ABOVE AND BELOW

7 3/4" = 1'-0"

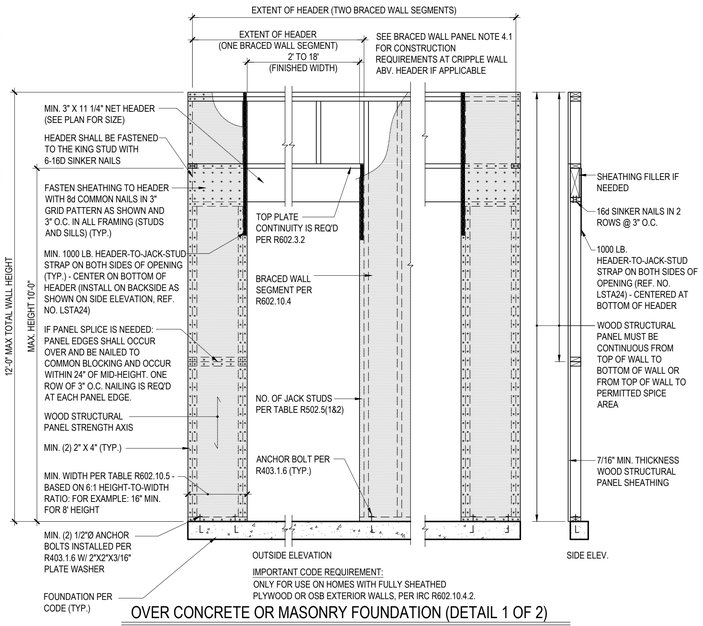


METHOD GB W/ TRUSS AND JOIST DIRECTLY ABOVE AND BELOW

6 3/4" = 1'-0"



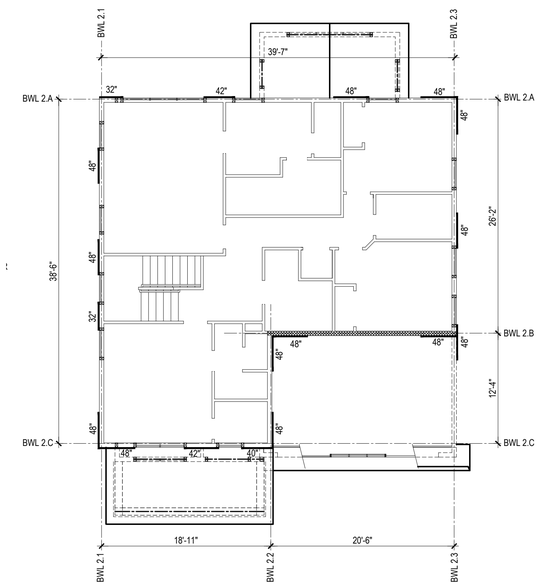
OVER RAISED WOOD FLOOR OR SECOND FLOOR - STRUCTURAL PANEL OVERLAP OPTION (DETAIL 2 OF 2)



OVER CONCRETE OR MASONRY FOUNDATION (DETAIL 1 OF 2)

METHOD CS-PF: CONTINUOUS PORTAL FRAME PANEL CONSTRUCTION

5 1/2" = 1'-0"


BWL 2.1
BWL 2.3
39'-7"
BWL 2.A
BWL 2.B
BWL 2.C
32"
42"
48"
48"
48

GENERAL NOTES

DIVISION 1 – GENERAL REQUIREMENTS

Examination of Documents and Project Site: Contractors warrant they have carefully examined the drawings, read the specifications, visited the site (to verify, topography, site restrictions, existing conditions), and that his bid includes all items necessary to perform the work. Prior to beginning the work, promptly notify the architect of any discrepancies or errors discovered in the documents. Do not scale drawings. Follow written dimensions only. Only written interpretations or documented changes from the architect are binding. Architect will not be responsible for oral instruction.

Codes & Permits: All work shall be done in accordance with all applicable local codes, ordinances, state and federal codes. Compliance with these notes and drawings does not necessarily cover all restrictions required. Notify architect immediately of any inconsistencies. Contractor shall bear correction cost if he knowingly performs any work contrary to the regulations. Building and fire district permit approval must be obtained before construction starts.

Copyright: These plans are the sole and absolute property of the Architects. Any use, copying or reproducing of these plans without the express written consent of Jim Bulejski Architects is illegal. The architect takes no responsibility for work that does not bear his seal and signature.

Substitutions of materials and equipment

Certain materials and equipment are specified by manufacture or trade name to establish minimum standards of quality and performance and not for the purpose of limiting competition. Material suppliers and phone numbers may be included as a convenience and purchase may be made through any competent source. Contractor shall strictly adhere to manufacturers installation instructions.

Indemnities

The Contractors shall indemnify, protect, defend and save, and hold harmless the Owner and Architect from and against any and all claims, demands, liability, and costs, including attorney's fee, arising from injury to persons during the life of this contract.

Guarantees

The contractor shall include in his contract, provisions to promptly correct, "within reason", any defects (settlement, shrinkage, door or window adjustments needed) in the Work which may appear within twelve months after the date of final payment to the contractor or within such longer period of time as may be prescribed by law. The contractor shall not be responsible for general maintenance or to compensate for homeowners neglect. The contractor and his subcontractor's warrant that all materials and equipment shall be new, unless otherwise specified, and that work shall be of good quality and free of defects. In addition, the contractor shall assume full responsibility for any damage to the building and its contents caused by defects or improper installation of equipment or materials. Provide owner with receipts and warranty information on all items that carry a manufacturer's warranty.

Acceptance of Previous Work

Commencement of work by any trade indicates acceptance of previous work by others to be suitable for proper application of a subcontractor's work unless the owner is given a written notice of damage or defective workmanship and the possible effects upon the succeeding work. It is the responsibility of each subcontractor to notify the general contractor and architect of any problem before beginning construction.

DIVISION 2 – SITE WORK

2.1 Flood plain: Basement floor elevation must be above 100 year flood plain. low sill must be minimum 2 feet above flood plain elevation.

2.2 Soil bearing capacity: General Contractor to hire a soils engineer licensed in the state of Missouri for soil testing, the owner shall be required to pick up the cost of these services. The architect shall be informed of the engineer's written recommendations and shall review prior to the work proceeding. If less than 1500 psf. soil bearing capacity, redesign may be required. All footings and column pads shall bear on virgin soil. The architect and owner shall be notified during excavation if additional excavation is required.

2.3 Finish Grading: Finished grades at the bldg. to be a min. of 6" below top of foundation for wood frame and 4" below for wood frame with brick veneer. All wood framing members that rest on top of the foundation located less than 8 inches above the exposed ground and all other wood less than 6 inches from the ground shall be pressure treated. Grade shall slope away from foundation a minimum of .6 6" drop within the first 10' or to a swale.

2.5 Existing Topsoil: Carefully scrape up in areas of new construction only. Stockpile topsoil on site in area that does not disturb any existing trees, and redistribute on site during finish grading.

2.7 Backfill and fill: Backfill shall be free of all tree roots, large rocks construction debris.

2.11 Termite Treatment: "Termidor". Treat below all slabs, entry pads, porches, and on the outside face of all foundation walls to include dirt just outside foundations. Treatment shall be performed by licensed applicator.

2.12 Drain tile: 4" (Agricultural drain tile) Black corrugated perforated with filter fabric drain tile. Install drain tile all around house, see details on plans. Provide owner with an optional price to connect downspouts to a separate under ground drainage system.

2.13 Asphalt Driveway: Granular base shall consist of 4" of 2" minus crushed limestone rock to compact (minimum), well compacted and graded. Remove minimum 3" of topsoil, then place rock and compact. Install a 2" asphalt-wearing surface, with edges thickened and beveled at a 45-degree angle. Roll asphalt finish with minimum 3-tone roller. No ponding on driveway will be accepted. Verify and Comply with city requirements in right of way.

2.13 Concrete Driveway: 4" thick concrete with 10/10 wire mesh using 6 sack meramec gravel concrete over 3" to 4" of 1"minus crushed compacted rock. Wood or carpet float finish and broom finish at steep driveways exceeding 5%. Round all edges 1/4" radius. Provide 1/4" per foot crown slope UNO. No ponding on driveway will be accepted.

2.14 Concrete Patio or Walkway: 4" concrete walk with 6" x 6" W14 x @ 1.4 WWF over minimum 4" crushed stone. Slope to drain water.

2.14 Exposed Aggregate Patio or Walkway: 4" concrete walk with 6" x 6" W14 x @ 1.4 WWF over minimum 4" crushed stone. Finish shall be exposed aggregate using Meramec River gravel. Verify selection of exposed aggregate finish with owner. Round all edges 1/4" radius. Slope to drain water.

2.15 Concrete Expansion/Control Joints: At drives and walks 1/2" expansion joints with premolded filler at maximum 15 ft OC. and at building junctures. Control joints to be 1/4" wide at least 1" deep at maximum 6 feet OC.

DIVISION 3 – CONCRETE

3.1 Compressive strength of concrete at 28 days shall be minimum:
a. 2500 psi – basement slabs.
b. 3000 psi – foundation, basement walls, footings, and piers.
c. 3500 psi – porches, walks, patios, steps, garage slabs, and driveways.

3.2 All concrete shall be air-entrained in accordance with IRC

3.3 Admixtures used must conform with IRC and be approved by the architect.

3.4 Footings & piers: must be a minimum of 2'-6" below finished grade and bear on undisturbed soil or prepared fill.
Exterior footings & piers shall extend a minimum of 12" into undisturbed soil and at least 30" below finished grade.

3.5 Vertical Reinforcing: for foundation walls to be derived from 2015 IRC table 404.1.2(8). Alternate spacing for different bar sizes or different grades of steel is derived from table 404.1.2(9). Bars shall not be spaced less than one-half the wall thickness, or more than 48" on center.

3.6 Horizontal Reinforcing: per 2015 IRC table 404.1.2(11).

3.7 Basement walls and floors shall be treated to provide resistance to the infiltration of water and properly reinforced to withstand water pressure as necessary per R406.2

3.8 Provide construction, isolation, and control joints as indicated or required. Locate joints so as to not impair strength or appearance of structure.

3.9 Protect concrete from weather extremes during mixing, placing and curing. In cold weather comply with ACI 306; in hot weather comply with ACI 305.

3.10 Interior concrete: Finish surface by troweling to a uniform texture and appearance.

DIVISION 5 – STRUCTURAL STEEL

5.1 Steel to be minimum A36 grade steel. All steel beams minimum 3" bearing to be grouted solid into beam pockets with "non-shrink" grout. All steel beams, columns, and lintels to be shop primed. Use steel Shims, Typ.

5.2 Provide steel angle at all masonry openings (U.N.O.). Verify size with architect if not indicated. Minimum 8" bearing onto masonry.

5.3 Minimum column size shall be 3" diameter schedule 40 columns. (See plans for each size.) All reinforcing steel shall be grade 60. Bolts A03

5.4 All steel beams terminating at steel post shall run completely (full bearing) over top of steel post.

DIVISION 6 – WOOD FRAMING

6.1 Materials & Descriptions:
Minimum Bearing Conditions: All joists, girders, and beams shall bear a minimum of 1 1/2 inches on wood and 3 inches on masonry.
Grade: Wall studs and plates shall be a minimum No. 2 stud grade or better. Utility grade studs are not permitted to be used for wall studs.
Treated Lumber: All exterior lumber and lumber in contact with concrete to be pressure treated. Treated lumber drilled or cut in the field to be treated to meet AWPA standard M4.
Floor joists: to be grade-marked minimum 1000/1150 fb (2x12's) or 1050/1208 fb (2x10's) single member use / repetitive, unless noted otherwise.
(substructure exposed to exterior – pressure treated, use cedar or other exterior grade wood for finish surfaces).
I-joist floor system designations are those of: TJI truss joist (U-fab®) Comply with manufacturers details including but not limited to bearing, blocking, rim boards, bracing and metal hangers etc., including blocking between joist at bearing walls over steel beams per manufacturer. Joist and beam system shall be provided as specified. Submit shop drawings for architect's review and approval.
Sill plates: 2x Pressure Treated installed over fiberglass sill sealer. Grout level as required.
Stairs shall be designed for a 40 psf live load or 300 lb. concentrated load on 4 sq. inches at mid span of a tread; whichever produces the greater stress and deflections. Stair winders must have 9" minimum tread depth at a point not more than 12" from the narrow end and be at least 6" in depth at the narrow end.
Posts: (2) 2x to be interpreted as (2) 2x "cripples", glued and nailed, plus minimum (1) full height unbroken stud. all posts to be blocked solid to top of structure below. studs used as posts to be spruce-pine-fir. minimum post size 2-2x wall thickness, typical under all beams and headers uno. Exception: posts carrying minimal loads, less than 8'-0" in height and supporting headers spanning 3'-0" or less may consist of a single 2x cripple and (1) full ht. unbroken stud unless noted otherwise.
Interior partitions: Minimum 2x4 studs at 16" OC., UNO. All framing to be 16" OC. typical UNO.
Headers: minimum 2-2x10's glued and nailed unless noted otherwise.Typical at all doors and windows. Glue and nail all beams together.
Subfloor: APA Rated Sturd-I-Floor or Avanteck, 24"OC (23/32") ¾" nom., Exposure 1, (Plywood only) glued and nailed. (using ring shanks) to joists. Do not use ring shanks on I joist.
Exterior Wall Sheathing: APA rated sheathing exposure 1, span rating 24/16, (7/16" OSB) or 32/16, (15/32" plywood) 1/2" nominal. Use plywood under EIFS not OSB! Bracing shall comply with IRC.
Roof Sheathing: APA Rated Sheathing, Exposure 1, span rating 32/16, (15/32" plywood) ½" nom. w/ plyclips.
Laminated Strand Lumber: LSL 1.55E, fb 2325 psi "TimberStrand" beams as manufactured by Truss Joist Corporation or approved equal.
Laminated Veneer Lumber: LVL 2.0E, fb 2600 psi "Microllam" beams as manufactured by Truss Joist Corporation or approved equal.
Parallel Strand Lumber: PSL 2.0E, fb 2900 psi "Parallam" beams as manufactured by Truss Joist Corporation or approved equal.
T & G Wood Bead Board Ceiling: Standard available 1x6 (23/32) Tongue & Grove with "V" groove at each joint on each side, surfaced one side in cedar or pine. Typical where noted on plans. (Back prime before installation at exterior use)
Nailing: Nailing and Fastening of floor, wall, and roof assemblies shall be fastened in accordance with tables R602.3(1) through R602.3(4) gypsum sheathing shall be fastened in accordance with table R602.3(1) rafter/ceiling joist systems shall be nailed to the top plate of the wall in accordance with table R602.3(1). Trusses shall be nailed to the top plate of the wall with 3-16d nails toe nailed without splitting the end of the truss. All fasteners (nails, bolts, hangers, flashing, etc.) that come into direct contact with ACQ Preservative Treated Wood to be hot dipped galvanized or stainless steel.
Interior Millwork: As detailed on plans –Match existing. Provide base shoe mold at all wood or tile floors. Flat jambs shall be ¾" thick min., wall caps, bookcase shelving, and window sills shall be minimum 5/4" thick, UNO. Install trim with minimum number of joints. Cope inside corners and returns. Miter all drip edge corners. Scarf end-to-end joints.
Shelving: Closet shelving in pantries shall be solid White Melamine Shelves. Clothes closets shall be vinyl coated wire pole and shelf system (color selected as P&S) UNO. Linen closets shall be 5 vinyl wire shelves, typical.
Shelving: Closet shelving "Custom Closets" shall be by allowance.
Exposed Exterior Materials to be approved exterior grade. Typical. Exterior metal connectors shall be galvanized.

6.3 Fireblocking: Top and bottom of all conventional, double stud, furred spaces, and staggered stud frame walls are to be fireblocked vertically at the ceiling and floor levels and horizontally at intervals not exceeding 10'. Fireblocking required at all soffits and dropped ceilings. Mid-span wall blocking shall be required on all exterior and interior walls. Fireblocking required between stairway stringers at the top and bottom of the run. Enclosed accessible spaces under stairs shall have walls and clg clad with ½ " dw. Fireblocking required around vent, pipe, and duct penetrations of ceilings and floors. All spaces between the chimney and the floors and ceilings shall be fireblocked (1" depth of batt or blanket of mineral wool or glass fiber supported by strips of metal or metal lath). All penetrations shall be properly fire caulked with approved caulking.

6.4 Draftstopping: Ceilings suspended below wood joists or attached directly to wood floor trusses shall be draftstopped at 1000 sq. ft. intervals and parallel to main framing members.

6.5 Access Openings: a 22" x 30" min. access opening required for attic areas which exceed 30 sf and have a clear height over 30". Install in a hallway or other accessible location with 30" minimum headroom above the opening. A 16" x 24" minimum wall access opening is required for crawl spaces. Coordinate opening size required when an appliance is located in attic or crawl space. Access panels to be weatherstripped and insulated to be equivalent to surrounding surfaces.

6.6 Deck Doors: Securely barricade doors until deck is built and approved, typical.

6.7 Double Floor Joists around stair openings, fireplace hearths, at corners of cantilevered bays and under parallel partitions (typical at all openings, uno). Bearing partitions and post shall be unbroken (run continuous) from bearing to structure below.

6.8 Cutting, Notching, and/or Boring holes on wood beams, joists, rafters, or studs shall not exceed the limitations noted in sections R502.8, R602, and R802.7. Reinforcement of studs shall be done in accordance with IRC. Notches and holes in top plates, bottom plates and mid-span firebloking shall be properly sealed with fire caulking or other methods as approved by the Code Official.
Install 1x4 each side of steel beam nailed to floor joist, or ramset 2x4 to top of beam and toe nail joist, or block solid between joist over beam.
NOTE: Framing crew shall review HVAC layout drawings provided by heating contractor and thicken walls where required for ductwork. Do not cut out substantial areas of bearing walls.

6.9 Cabinet supplier to field measure area of work after rough framing to assure exact fit of cabinets and free operation of all doors and drawers. Scribe cabinets to wall as required.

6.9 Handrails: shall not project more than 4 1/2" into required stairway width. Handrails at straight run stairs to be continuous. Handrail shall have circular cross section with minimum diameter of 1 1/4" but not more than 2", or other approved shapes having a maximum allowable horizontal width of 2 1/4", minimum graspable perimeter dimension of 6 1/4", and a minimum 4" grasppable perimeter dimension. Handrail ends shall return to the wall or newel post.

6.10 Guards: along open-sided stairs with a total rise more than 30" shall be a minimum of 34"in height above the leading edge of the tread and minimum of 36" in height at the stair landings. Minimum 36" high guards shall be provided along balconies, areaways, mezzanines and open-sided walking surfaces where the difference in floor levels is more than 30". Open guards shall have intermediate vertical balusters spaced less than 4" apart.

6.11 Roof Over Framing: Minimum 2x6 at 16"oc (max. 10'-0" span) UNO, with 2x sill plate anchored through roof sheathing into solid blocking -- or -- truss the over framing where possible. cut openings in sheathing to vent to attic.

6.12 Truss Requirements:

a. Trusses to be designed by others and shall comply with 2015 IRC, ANSI/AF&PA NDS-2001, and ANSI / TPI 1-2002 as the design standards. Fabricator's Responsibilities include but are not limited to designing all connections and truss to truss connections. All trusses must be designed to resist horizontal thrust. No horizontal thrust shall be applied to any walls. All trusses to be two (2) point bearing unless noted otherwise. Trusses to be designed to minimize total deflection. Compound deflection must be taken into account when designing truss system. Total Load Deflection of truss system not to exceed l/360. Scissor Trusses with horizontal movement greater than 1/2" to be anchored with TC simpson anchors on one end, or approved equal.

Truss supplier to provide shop drawings, product data for all truss components, stress diagrams (which have been signed and sealed by a structural engineer licensed to practice structural engineering in missouri) and a truss layout plan showing all truss locations, hangers, connectors, spacing, pitch, girders and cross bracing. Fabricator shall coordinate his work with the architectural/structural plans and notify the architect of variations prior to fabrication. General contractor is responsible for checking and coordinating truss drawings. General contractor shall submit truss drawings to the architect for review for general conformance with the construction documents. All variations must be brought to the attention and approved by the architect.

b. All roof framing shall be designed to support the following minimums:

Top chord of trusses:	snow load 20 lb. per sq. ft., approx. 10 lb. per sq ft. dead load
or roof rafter:	use actual dead load. (note: dead load must include 2 layers of roofing)
Ceiling joists or	use a live load of 20 lb. per sq. ft when there is attic storage.
Bottom chord of trusses:	use 10 lb per sq. ft. live load where there is no attic storage.
	dead load-use actual dead load

DIVISION 7 – THERMAL AND MOISTURE

Construction shall comply with "International Energy Conservation Code" & the IRC (Prescriptive Method). Builder to provide a permanent certificate to be posted on or in the electric panel (not to obstruct other labeling). Certificate to include: predominant R-values in ceiling/roof, walls, foundation; U-factors for fenestration; solar heat gain coefficient of fenestration; types & efficiencies of heating, cooling and service water heating equipment.

7.1 Dampproofing / Waterproofing: Walls that retain earth and enclose interior spaces shall be waterproofed or dampproofed depending on the presence or non-presence of groundwater. An evaluation of the soil for the presence or absence of ground water is required prior to pouring concrete.
No Groundwater Present:
Provide perforated drain pipe inside or outside of foundation. Drainage system shall discharge by gravity to daylight or be connected to an approved sump. Walls shall be dampproofed with a bituminous material; 3 lb. per sq. yd. of acrylic modified cement, 1/8" coat of surface bonding mortar, or by any of the materials permitted for wall waterproofing.
Groundwater Present – Provide perforated drain pipe both inside and outside of foundation. Drainage system shall discharge by gravity to daylight or be connected to an approved sump. Foundation to be "waterproofed" with approved system per manufacturer's instruction in accordance with R406.2. waterproofing to be applied from the top of the footing to the finished grade. All joints in walls and floors to be water tight.

7.2 ROOFING: Provide and install the roofing shown on the drawings and everything required to complete a good weather tight roof installation that qualifies for the manufacturers warranty. (Verify final color selections with owner.)
Roofing shall be: Match existing asphalt shingles
General Roofing: Asphalt shingles shall not be installed on roof slopes below (2:12). (verify with manuf.) Class A, B, or C roofing shall be required where the edge of the roof is less than 3' to the property line.
Felt Underlayment: Minimum type I Per ASTM D226-97 or type I Per ASTM D4869-88(1993)E Comply with ICBO ES Report #1996
Slopes of 2:12 to less than 4:12 shall be protected with two layers of underlayment. Apply a 19" strip of underlayment felt parallel with and starting at the eaves, fastened sufficiently to hold into place. Starting at the eave, apply 36" wide sheets of underlayment. Successive 36" wide sheets of underlayment shall overlap the previous 36" wide sheet by 19". All underlayment shall be fastened sufficiently to hold into place.
slopes equaling or exceeding 4:12 shall be protted with one layer of underlayment. Underlayment shall be applied shingle fashion, parallel to and starting from the eave and lapped 2", fastened sufficiently to hold in place. End laps shall be offset by 6'.
Asphalt Roll Roofing: installed on roofs of less than 3:12 slope, apply parallel to the eaves. It shall not be installed on roof slopes below 1:12. minimum roof slope 1/4-12 with approved low-slope roof covering materials.
Ice and Water Shield: is required under shingles/roofing of 2 layers of type 1 underlayment cemented together or an approved waterproofing membrane extending from the edge of the eave to at least 24" (measured horiz.) inside the exterior wall line where the roof slope is greater than or equal to 4:12 and the eave overhang is less than 12" (measured horizontally) from the sheathing to the outside face of the gutter board, or where the roof slope is less than 4:12 and greater than or equal to 2:12.
Roof Flashing: provide corrosion-resistant flashing at all wall and roof intersections, changes in roof slope or direction, around all roof openings, intersections with chimneys, intersection of exterior walls and porches and decks, etc. Installed per SMACNA. Valley flashing shall be installed per R905.2.8.2
Metal flashing shall be 26 gauge-galvanized sheet. Upgrade to min 16 oz. copper flashing where noted on drawings.
Rolled roofing or two (2) layers of Type 1 underlayment may be substituted for flashing at the roof valley provided the shingles are interlaced.
Underlayment substituted for valley flashing shall be installed to extend at least 18" beyond a roof valley or hip from either direction. Flashing at these locations is required.
Ridge Vent: OmniRidge® By Lomanco

7.3 GUTTERS & DOWNSPOUTS: All gutters and downspouts to be sized and located by others, and be installed per "SMACNA" recommendations. Verify all downspout locations with owner. Gutters shall be seamless minimum 5" (EDIT 6") prefinished aluminum gutters (with leaf screens), well sealed and watertight, with oversized downspouts. Verify color with owner. Install downspouts as indicated on plans if shown with at least 1 downspout per 25' gutter run. Downspouts shall discharge to "splash blocks" directed away from foundation. Provide owner with optional price to connect downspouts to, separate 4" dia. Non-perforated underground drainage system, which is connected to storm sewer if allowed by municipality (verify), or "day lighted" unless noted on plans. Install screened end caps where drain tile discharges to daylight. Gutters and downspouts required on roof overhangs less than 36".

7.4 Insulation to have an R-value identification mark or installer to provide certification. Certification to include: insulation type, manufacturer, R-value of insulation in each element of the building thermal envelope. For blown or sprayed insulation (fiberglass or cellulose), certification to include: initial installed thickness, settled thickness, settled R-value, installed density, coverage area and number of bags installed. At blown or sprayed roof/ceiling insulation, the thickness of insulation shall be written in inches on markers, affixed to the trusses facing the attic opening, that are installed at least one for every 300 sq. ft. throughout the attic.
Thermal Requirements: (R-Values indicated must be obtained by only the insulation material used, not by the total system).

roof/ceiling	min. R-38 Blown
wood frame walls & band joists/boards	min. R-20 (2x6)
floor over over unheated crawl space or garage	min. R-19 Min.
finished concrete basement FDN. walls	min. R-13 (full height) or R-10 (continuous)
unfinished concrete basement FDN. walls	min. R-10 (continuous)
crawl space wall	min. R-10

General: OPTION TO PROVIDE AN AIR SEAL PACKAGE: Voids in corners, headers, and all exterior wall framing, shall be filled completely. Insulation above ceilings shall not clog space designed for ventilation (Min. 1"). Insulation to be installed following installation of Owens Corning EnergyComplete Sealant System. EnergyComplete to be installed in following locations: top & bottom of each wall cavity where exterior sheathing meets framing & at vertical framing where there is a joint in sheathing; interior face of top plate on all exterior walls & interior walls with attic above; bottom plate and subfloor on exterior walls; around electrical wires & boxes, plumbing pipes, ductwork or any other penetrations between floors; around windows and doors, all rim joists, including between foundation wall and sill plate, rim joist and sill plate, and rim joist and subfloor; any other penetrations on exterior walls.

7.5 Sound batts: 3 1/2", Certainteed sound control batts or approved equal. Install around all upper level bathroom drain lines where they pass through finished areas of the house.

7.6 Caulking and Sealants: Exterior joints around windows and door frames, between wall and penetrations for utility service through walls, floors and roof and all other openings in the exterior envelope shall be sealed in an approved manner. Weather stripping is required on all exterior windows and doors. Corrosion resistant flashing is required at the top and sides of all exterior doors and windows and at the intersection of all masonry and frame construction. Sill seal is required at foundation.
Sealant used shall be Vulkem 116 as manufactured by Tremco.

7.7 Sheet Metal and Flashing Other than roof flashing: Shall be minimum 26-gauge aluminum with baked on enamel finish where exposed.
Comply with "Architectural Sheet Metal Manual" by SMACNA.

7.8 Waterproof Membrane: Manufacture; Pasco (or approved equal) installed per manufacturers recommendations with preformed corners. Showers or steam room w/ tile; 40 mil (red) shower pan liner

7.9 Vapor Retarder: is required on the warm side of the insulation of all exterior frame elements. Vapor retarder shall be integral with Kraft faced batts meeting ASTM-96. (polyethylene vapor barriers should not be used in ceiling or walls.) Install 6-mil poly vapor barrier under concrete slab. Use large sheets of material, thus eliminating most joints. A vapor retarder shall not be installed under water-resistant gypsum backer board in shower or bathtub compartments.

7.10 Weather- Resistant Sheathing Paper (asphalt saturated felt 1¢® per square otherwise known as type I felt, Tyvek, Typar, or other approved weather resistant material) shall be installed under siding and brick/stone veneer listed in table R703.4.

7.15 Attic Ventilation (net free) area is to be at least 1/150 of the area served. Two remote vents required for each attic/space (minimum).
Exception: required ventilation area may be reduced to 1/300 where a vapor retarder having a transmission rate not exceeding 1 perm is provided on the conditioned side of the insulation, or if the gable or ridge vents are located in the upper 1/3 of the attic or enclosed rafter space and provide 50% to 80% of the required vent area with the balance of the required vent area is supplied by eave or cornice vents.
Enclosed attic, rafter and crawl space areas may be ventilated by a mechanical exhaust and supply air system of .02 CFM/sq. ft. of horizontal area. The ventilation systems shall operate continuously.
Unfinished Basement Ventilation: and utility rooms require natural ventilation (net openable area) at the ratio of 1% of the square footage floor area served. Mechanical ventilation with outdoor air (not recirculated air) in accordance with the mechanical code may be substituted at a rate of .05 CFM/sq. ft. of area.

7.16 Air Leakage: The building thermal envelope shall be durably sealed to limit infiltration. The following shall be caulked, gasketed, weatherstripped or otherwise sealed with an air barrier material, suitable film or solid material: all joints, seams and penetrations, site-built windows, doors and skylights; openings between window and door assemblies and their respective jambs and framing; utility penetrations; dropped ceilings or chases adjacent to the thermal envelope; knee walls, walls and ceiling separating the garage from conditioned spaces; behind tubs and showers on exterior walls; attic access openings; rim joists junction; other sources of infiltration. A blower door test is required to prove building tightness.(NOT IN CLAYTON)

DIVISION 8 – WINDOWS AND DOORS

All fenestration (windows, doors, and skylights) U-factors shall be in accordance with NRFC 100 and labeled and certified by the manufacturer.

8.1 Windows: all windows shall have a maximum U value of .35. Skylights shall have a maximum U value of 0.55.

8.3 Window Wells: serving a basement emergency escape and rescue shall be a minimum of 9 square feet in horizontal area with a minimum horizontal projection width of 36". The well shall also be large enough to allow the window to be fully opened. Wells with a vertical depth greater than 44 inches shall have a permanent ladder or steps. The ladder, if applicable, shall be at least 12" wide, project a minimum of 3" from the wall and have rungs spaced not more than 18" on center vertically. Structural calculations not required on window wells that have an ICC-ES research report addressing the structural adequacy of the wells.

8.5 Glazing installed in the following locations shall be tested and labeled in accordance with CPSC 16 CFR part 1201 Standard as a Type I or II category.
1. Glazing in doors and any portion of a building wall enclosing bathtubs, showers, indoor or outdoor pools which is located 60" or less, measured horizontally, from the water's edge and less than 60" vertically above a standing surface.
2. Any glazing material adjacent to a door if the nearest vertical edge of the glazing material is within a 24" arc of either vertical edge of the door in a closed position and if the bottom edge of the glazing material is less than 60" above the floor.
Exceptions: Where there is an intervening wall or barrier to prevent a person from striking the glazing while approaching the door., Glazing adjacent to a door serving a closet or storage area 3' or less in depth., Decorative glass
3. Safety Glazing is required for fixed or operable panels that meet all of the following:
a.) individual pane greater than 9 sq. ft. and;
b.) bottom edge less than 18" above floor and;
c.) top edge more than 36" above floor and;
d.) walking surface within 36" horizontally
4. All doors. Exception: decorative glass

8.10 Door Locks: with thumb turns on the inside are permitted. All means of egress doors shall be readily operable from the side which egress is to be made without the use of a key or special knowledge or effort. Inside key operation is permitted provided the key cannot be removed from the lock when locked from the inside.

DIVISION 9 – FINISHES

9.1 Drywall: Drywall installation must be in accordance with the Gypsum Association recommended practices for thickness, fastening and taping on correct stud spacing. Fire rated drywall assemblies shall be installed in accordance with approved test assemblies. Drywall to be fastened in accordance with table R702.3.5 of the IRC.
User water resistant gypsum backer board in damp areas of bath rooms next to sinks and around toilets. Do not apply over a vapor barrier.
Underlayment at Tile Walls and other: Tile surfaces shall be 1/2" cementitious board such as "Durock" or "Wonderboard" underlayment on all walls to receive tile finish in shower and tub compartments within 2 ft of fixture. (Follow manufacturer's recommendations carefully.)
All drywall shall all be 1/2" thick with smooth finish and screw applied UNO. Edit Use 5/8" thick drywall on ceiling framing/trusses spaced 24" OC. Screw and glue to ceiling. This installer shall not damage vapor barrier. Appropriate drywall corner beads shall protect exposed drywall corners. Use USG Sheetrock Brand paperfaced metal drywall bead and trim or equal to resist edge cracking.
Ceiling shall be smooth, no texture unless noted otherwise, see finish schedule

9.2 Underlayment at Tile Walls: and other Tile surfaces shall be 1/2" cementitious board such as "Durock" or "Wonderboard" underlayment on all walls to receive tile finish in shower and tub compartments within 2 ft of fixture. (Follow manufacturer's recommendations carefully.)

9.4 Interior Finish Materials shall not have a flame spread rating exceeding 200 or a smoke development index exceeding 450. Batt insulation including the vapor retarder, shall not be left exposed in basements unless the material has a flame spread rating of 25 or less and a smoke development rating of 450 or less.
All foam plastic insulation shall be separated from the interior of the building by a thermal barrier of ½" gypsum wallboard. Exceptions:
1. Foam plastic having a maximum thickness of ½" when used as siding backer board may be separated from the interior of the building by not less than 2" of mineral fiber insulation instead of the thermal barrier.
2. Foam plastic within an attic or crawl space may be protected by 1 1/2-inch thick mineral fiber insulation, 1/4-inch-thick wood structural panel, 3/8-inch thick particleboard or hardboard, 3/8-inch gypsum wallboard, or corrosion-resistant steel having a base metal thickness of 0.016 inch each instead of the thermal barrier. All foam plastics shall have a flame spread rating of 75 or less and a smoke development rating of 450 or less.

9.5 PAINTING: shall be done using highest quality Porter Paints, Benjamin Moore, or equal paint approved by the owner. Owner will pick a variety of interior colors. Verify all color selections with owner. Painting shall include finishing all built-in custom millwork cabinets that are not pre-finished.
Painted interior woodwork and doors shall be painted with minimum one prime coat and two finish coats of oil based semi-gloss enamel. All woodwork and doors shall be sanded smooth before painting or staining.
Interior drywall shall be sprayed or rolled with acrylic latex. Use Porter Paints #426 Drywall sealer, and two coats minimum of "Vinyl Suede" or equal. If drywall is sprayed, then the second spraying shall be back rolled.
Exterior doors and garage doors shall be painted with two coats an acrylic semi gloss. Any exposed wood on the exterior of the house shall be primed and backprimed before installation; then painted with two coats of acrylic semi-gloss paint. Painting contractor shall spray paint black the inside of the areas where return air grills are mounted on stud spaces so that studs are not visible. Paint all steel beams and columns.
External Painting/Caulk: Paint all woodwork, painted metals, shutters, painted louvers and equipment boxes. Do not paint prefinished materials.

9.7 Flooring: (Carpet, hardwood, and tile) shall be selected by owner from allowance for labor and materials. Install per manufacturer recommendations. Tile floors shall include control joints at doorways and as required. Install wood floor grilles in wood floors to match. Coordinate with Mechanical contractor. See also division 6 for vinyl floor underlayment specification. Tile flooring underlayment shall be by flooring contractor.
Underlayment at Tile or Stone Floor: 1/2" "Durock" or "Wonderboard" underlayment (over subfloor) on all floors to receive tile floor finish. Include 3/4" cement board underlayment below tile floors with tiles larger than 12". (Follow manufacturer's recommendations carefully for floor finish.)

9.8 NON-COMBUSTIBLE FIREPLACE HEARTH & SURROUND: shall be selected by owner from allowance for labor and materials. Install per manufacturers recommendations.

DIVISION 10 – SPECIALTIES

10.1 Medicine cabinets, grab bars towel bars, and bath accessories: shall be selected by owners based on an allowance, and installed by contractor.

10.3 Shower Doors and Glass Surrounds and Mirrors: shall be selected by the owner based on a labor and materials allowance.

DIVISION 12 -FURNISHINGS

12.1 Kitchen cabinets and vanities: shall be selected by owner based on allowance, and shall be installed by contractor. Cabinet and countertop suppliers shall field measure for all cabinets before ordering, and coordinate all appliance selections with cabinet sizes.

12.2 Counter Tops: shall be selected by owner based on allowance. Contractor shall provide for installation of cultured marble and plastic laminate countertops. Allowance for stone, tile and solid surface tops shall include both labor and materials.

DIVISION 13-SPECIALTIES

13.1 Pre-fab Fireplace Unit: Note that framing carpenters and general contractor shall carefully review pre-fab fireplace unit installation instructions before framing enclosure for fireplace, and before installing unit. Comply carefully with all manufacturers instructions, fire stopping requirements (including local fire stopping requirements) and clearances. Fire stop all chases with non-combustible fire stops wherever chases exceed 8'-0" in height. Do not alter or modify the fireplace or its components under any circumstances. Any modification or alteration of the fireplace system, including but not limited to the fireplace, chimney components and accessories, may void the warranty, listings and approvals of this system and could result in an unsafe and potentially dangerous installation. Fireplace units shall be equipped with an exterior air supply to assure proper fuel combustion. The air duct serving the exterior air intake and the interior air outlet shall be listed and installed in accordance with the manufacturer's installation instructions. The cross sectional area of the passageway shall be a minimum of 6 sq. in. but not more than 55 sq. in. unless otherwise noted in the installation instructions. The exterior air intake (covered with a corrosion resistant screen of 1/4" mesh) may draw air from a naturally ventilated crawl space or attic. The interior air outlet may be located in the back or sides of the fireplace chamber or within 24 in. of the firebox opening on or near the floor. The interior air outlet shall be closable and designed to prevent burning material from dropping into a concealed combustible space. Exterior air intakes shall be installed below the level of the base of the firebox when the interior air inlet is installed inside the fireplace chamber.

DIVISION 15 – MECHANICAL

Plumbing – (P)

P15.1 Work shall consist of all services typically known as "design/build" and shall include the furnishing of construction documents, as required, materials, labor, equipment and tools to install a complete and operable system of plumbing and sewering. Install per all local codes and ordinances.

P15.2 Lead-Free Solder is required on all copper water supply piping.

P15.3 Supply piping shall be type M hard copper above ground with lead free solder. Sewer, soil, and vent piping shall be schedule 40 PVC or other locally approved. All joints in PVC drains shall have primer and PVC solvent cement as per county code. Maintain minimum 1/4" per foot slope on all drains. All fixtures shall be properly trapped and vented. Install individual shutoffs on all plumbing fixtures. Pressure test all plumbing lines before closing in walls. Install steel protection plates in front of plumbing supply lines so that drywall nails or screws cannot puncture lines.
Separately valve each riser; locate at an accessible place. Install air chambers as required by Local Code. Block all lines and risers as necessary to prevent noise or vibration when water is turned on or off. Water service pipe and the building sewer are to be minimum 10'-0" apart, horizontally.

P15.6 Basement Areaway Drains and foundation drain tiles are not to be connected to a sanitary sewer. Downspouts are not to be connected to a sanitary sewer. Note that the water service pipe and the building sewer are to be a minimum of 10'-0" apart horizontally. May be connected to the storm water server if permitted by municipality (verify).

P15.7 Window Areaway Drains less than 10 square feet in area shall be served by a 2" pipe drained to daylight or a sump pit served by an approved pump installation. Window areaway drains 10 square feet or greater but less than 100 square feet in area shall be served by a 3" pipe drained in the same manor. Areaways greater than 100 square feet require the drain to be sized in accordance with Table 11-2 of the Plumbing Code. The presence of a cover over the areaways does not negate the need for a drain.

P15.8 Hose Bibbs are to be freeze-proof or shall include, a main shut off valve (with drain) in the basement space. (protected from back flow in accordance with P2902 of IRC 2003

P15.9 Icemaker Water Lines: Provide at Refrigerator in kitchen.
Install proper sound attenuation around soil pipes and as required. Plumbing subcontractor shall do trenching. Provide dialectic unions where copper lines are connected to steel. Piping shall be free of waterhammer. mechanical shock arrestors. Test all soil, waste, vent piping, and water lines.
Vent Stacks: shall run to rear slope of roof.
Flashing: Pipes passing through the roof shall be flashed with four-pound sheet lead. Flashing shall extend twelve (12) inches from the pipe underneath roofing material in all directions and shall have a lead collar extending from flashing up and around outside of, carried over and turned down into top of pipe.

P15.15 Plumbing Fixtures: Plumbing fixtures shall be by allowance. (includes sinks, tubs, toilets, faucets, drains, shower heads, controls and valves in baths. Fittings and accessories shall be included in the plumber's bid. Provide shutoff valves at all supply lines. Verify all final plumbing selections with owner before ordering. Verify the heights of all showerheads in showers with owner before installing. Floor drain shall be cast iron with filter grate. Contractor shall construct a cement board tub deck at all drop in tub configurations and provide access panel for whirlpool equipment as required. Hot water pipes shall be insulated to min. R-3.

H.V.A.C. (M) MECHANICAL

M15.1 Work shall consist of all services typically known as "Design/Build", and shall include the furnishing of construction documents, specifications and all materials, labor, equipment, and tools required to provide a complete and operable system of heating, ventilating, and air conditioning.