RESIDENTIAL BUILDING PERMIT APPLICATION

Permit info: BLDF42019-0132

Application Date: 5/20/19 Rec'd by: MK

FOR OFFICE USE ONLY

GARDEN CITY — NESTLED BY THE RIVER

6015 Glenwood Street Garden City, Idaho 83714 Phone: (208) 472-2921
Fax: (208) 472-2926 building@gardencityidaho.org Inspection Hotline: (208) 472-2920

** Immediate notification to Garden City permit desk is required for ALL address changes

PRINCIPLE CONTACT NAME : Dylan Schneider

☐ Property Owner ☐ Design Professional ☒ Contractor ☐ Other

E-mail: schidaho@hotmail.com Firm: Schneider Custom Homes

Address: 470 E Floating Feather City: Eagle State: ID Zip: 83616

Phone: 208-724-0248 Cell: Same Fax: /

Signature: Dylan Schneider Date: 5/14/19

I am or have the owner's permission to submit this application. I agree to be responsible for all application materials, fees and application correspondence with the City. I have completed the application checklist noting all applicable pages and supporting documents for the project. I attest that all information is complete and accurate to the best of my knowledge.

*Note this person is the main contact. The applicant will be responsible for coordinating, reviewing, ensuring that all construction documents have been prepared by qualified design professionals, and submitting such materials. All application correspondence will be with through this person.

CONTRACTOR INFORMATION:

Contractor Name: Schneider Custom Homes E-mail: schidaho@hotmail.com

Address: 470 E Floating Feather City: Eagle State: ID Zip: 83616

Office Phone: 208-724-0248 Cell: Same Fax: /

Contractor State Registration #: RCE-17348 Exp Date: 6/27/19

OWNER INFORMATION: Home Owner

Owner Name: Kim Spears E-mail: kimdspears@gmail.com

Address: 310 E 35th St. City: Garden City State: ID Zip: 83714

Phone: 208-571-2705 Cell: Same Fax: /

PROJECT INFORMATION: PROJECT VALUE (excluding lot) $ 320,000

Select: ☒ New Construction ☐ Addition ☐ Remodel ☒ Demolition existing house

Select: ☒ Single Family ☐ Duplex ☐ Multifamily ☐ Garage ☐ Accessory Bldg ☐ Demolition

☐ Live-Work-Create less than 10% of structure (if greater than or equal to 10%, use non-residential application)

☐ Re-roof (simple) ☐ Limited Permit (non-combustible, no utility connections, MFH foundation)

☐ Manufactured Home Alteration ☐ Deck (uncovered) ☐ Other

Parcel # R2734540410 Lot: ___ Block: 29 Subdivision: Fairview Acres Sub #5

Project Street # 308 Street Name: E 35th St Zoning: C-2

Water Service Connection: ¾" 5/8" ☒ 1" ☐ 1.5" ☐ 2" ☐ 3" ☐ 4" ☐ 6" ☐ N/A ☐

Select Foundation: ☒ Crawl ☐ Slab on grade ☐ Basement

Construction Type (sq. ft.):

New Living 1821 New Garage 616 Remodel ___ Covered Porch/Deck/Shed 558

Uncovered Deck ___ Other (describe) ADU 600 Existing (sq. ft.): ___

Is project in floodplain? Y/(N) Elevation Certificate Attached? Y/N

Do you have a home business? Y/N (Percentage of gross floor area utilized for the business) % ___

List Water Body(s) within, adjacent or nearby (irrigation/drainage included):

Home, Apartment or Child-Occupied facility built prior to 1978? Y/N Lead Cert # ___

REQUIRED! - RESIDENTIAL APPLICATION CHECKLIST

Incomplete Applications will NOT be accepted

___ Electronic copy of all plans and application materials
- Drawings must be submitted with each sheet labeled as the sheet name. Include the numbered addresses. Please mark the plans as "proprietary information" should you not wish the plans to be disclosed pursuant to public information requests

___ Complete Residential Building Permit application
___ Submittal Fee: see fee schedule (plan review base fees will be paid at time of submittal
___ Plan Checklist
___ Affidavit of Legal Interest
- If the property owner is acting as the applicant, this form shall still be required to be signed and notarized by the property owner or authorized agent

___ Flood Risk Acknowledgement
___ Design Review application (if >1 single family home)
___ Fire Rescue approval (if multifamily structure - done concurrent with Garden City Reviews)
___ Sustainability Checklist (if new residential over 4 units)
___ Erosion and Sediment Control Application (if performing land disturbing activity)
___ Copy of Elevation Certificate (if property is in the floodplain)
___ **Prior to issuance of building permit:**
- Submit ACHD stamped drawings. If any ACHD related changes are made to the drawings, such changes are required to be reviewed & approved by Garden City at the applicant's cost
- Submit ACHD Impact Fee Receipt (or written confirmation from ACHD that fees are not required)

Notice to Contractors:
It will be unlawful for any person or firm, partnership, association or corporation that engages in business, trade or practice of work of Electrical, HVAC, Manufactured Homes, Plumbing or Public Works in the State of Idaho unless such person or firm, co partnership, association or corporation, has successfully passed an examination and has been issued a Certificate of Competency as required by the State of Idaho, Title 54. Garden City Building Division requires that each applicant provides proof of such applicable certification, or a permit will not be issued. An apprentice shall not perform under the required supervision. Any person that is licensed as an apprentice will not be allowed to obtain a permit within the City of Garden City. All applicants shall have their card on them at all times. Garden City inspectors may require cards to be produced at the time of inspections. For those who do not produce their card at the time of inspection shall be considered to be conducting work without a permit.

Notice to all Contractors and Designers:
All plans are required to include a Braced Wall plan per 2012 IRC R602.10
Provide all elevations heights including finish floor for each floor, portal frame, ridge height, etc
All plans submitted to Garden City after March 31, 2016 are required to include the design criteria used to design the building and the elevation heights. Any plans not including this information will not be approved.

Provide the applicable Design Criteria on all future Garden City Projects:
EXAMPLE ONLY:
DESIGN CRITERIA
Codes: IRC 2012, IECC 2012, IMC 2012. ISPC 2009, NEC 2014
Frost Depth: 24 Inches
Seismic Zone: C
Climate Zone: 5
Basic Wind Speed 90 mph
Soil Bearing Capacity: 1500 PSF
Roof Loads: 25 PSF Live (snow)
17 PSF Dead
Floor Loads: 40 PSF Live
17 PSF Dead
Provide all elevations heights including finish floor for each floor, portal frame, ridge height, etc

Plan Checklist

Instructions

The Idaho licensed design professional of record (or applicant if project does not require a design professional) must complete and sign this checklist. Fill out the Project Information, check (☑) the appropriate boxes, list all page numbers for the plans, and sign this checklist.

General

Yes N/A

☑ Plans are scaled at 1 inch = 20 feet -or- ⅛ inch = 1 foot or larger, unless otherwise specified. Where applicable, stamped and signed by an Idaho licensed design professional. Plans for townhouse projects with more than four (4) units attached shall be prepared, signed, and sealed by an architect licensed by the State of Idaho.

☐ ☑ All alterations to manufactured homes must submit engineered stamped plans.

☐ ☑ Structural calculations (where applicable) stamped and signed by an Idaho licensed engineer. (Such as for tall walls, non-typical light frame construction or wall bracing, beams, connections, or retaining walls more than 4' in height from the bottom of the footing to the top of the wall)

☐ ☑ Complicated roof layouts, provide truss details stamped by an Idaho licensed engineer.

☐ ☐ Building envelope energy code compliance - RES*check* analysis signed **– or –** compliance with the prescriptive method shown on plans. [Page(s) 2]

☐ ☐ If using spray foam insulation, provide information on the specific product or the approved ICC-ES Evaluation Services Report.

Plans Provided:

Site Plan [Page(s) 2]

Yes

☑ Show location of the structure including balconies, decks, driveways, and walkways <u>with setbacks to the property lines</u>. Indicate bearings, distance, and curve data in conformance with the recorded plat.

☑ Show any easement locations.

N/A ☐ Show floodway and/or 100 year floodplain

☑ Show fence location and type of fence

☑ Show parking locations and dimensions

☑ Show outdoor lighting, including light shielding

☐ Location of utilities (all new utilities must be underground)

Landscape Plan [Page(s) N/A] (Information can be on site plan or as a separate plan)

Yes

☐ Show calculation of total square footage and location of landscape comprised of 70% or greater of living materials

☐ Species, number, size and location of trees and shrubs in front yard

☐ Location of waterways including but not limited to rivers, drainages, irrigation canals, ditches and laterals.

Foundation Plan

Yes N/A

☑ Specify locations and sizes for all concrete footings, piers, slabs, and foundation walls. Show all reinforcement locations, sizes, and spacing.

☑ ☐ Note any required hold-down locations and types. Specify any mechanical connectors/fasteners such as anchor bolts and for column to footing connections.

☑ ☐ Show crawlspace venting sizes and locations.

Floor Plans [Page(s) 4]

Yes N/A

- ☒ ☐ Dimensioned plan for each floor with usage of all rooms labeled and window and door opening sizes/types noted.
- ☒ ☐ Show stairway locations, width, and handrails.
- ☒ Show all plumbing fixtures.
- ☒ ☐ Show any decks, porches, and stoops.
- ☒ ☐ Note any required safety glazing locations.
- ☒ ☐ Indicate attic access and crawlspace access locations and sizes.
- ☒ Provide a wall bracing plan specifying all braced wall line locations including the bracing method (intermittent bracing or continuous sheathing) on each wall line per IRC Table R602.10.2. Include any alternate braced wall panels or portal frame details where applicable. Show dimensions of braced wall panels in length required by IRC Table R602.10.1.2(1) based on wind speed. For townhouses, also verify requirements of IRC Table R602.10.1.2(2) based on seismic design category. Show foundation requirements, reinforcement, any hold-downs and fastening requirements of braced wall panels. If wall bracing method CS-WSP (continuous wood structural panel sheathing) is used, provide exterior corner framing details per IRC Figure R602.10.4.4.1 on plans. **NOTE:** Braced wall panel lengths may also be provided by submitting approved electronic wall bracing software compliance documentation.
- ☒ ☐ Note the required rated wall separation requirements between the garage and the dwelling including the door.

Elevations [Page(s) 5 & 6]

Yes N/A

- ☒ Show all sides of the structure and the height mark as North, South, East and West .
- ☒ ☐ Show exterior doors, windows, siding materials, roofing materials, roof drainage, decks, porches, and stoops.
- ☒ ☐ Show materials used on street façade wrapping around building (min. 2')
- ☒ ☐ Show attic vents and/or crawlspace vents.
- ☒ ☐Show outdoor lighting attached to building, including light shielding.

Structural Building Section [Page(s) 7]

Yes N/A

- ☐ Building cross section showing a cut through the building from the bottom of the footing to the roof. More than one section may be required.
- ☒ Specify footing/foundation sizes, reinforcement sizes and spacing, and minimum frost depth from grade to the bottom of the footing.
- ☒ Specify anchor bolt sizes and spacing, and specify sill plate as pressure treated or wood of natural resistance to decay.
- ☐ ☒ Show basement dampproofing method.
- ☐ ☐ Specify floor framing member sizes and spacing, under floor clearance, vapor barrier, and floor sheathing.
- ☒ Note insulation types and R-value for foundation, floors, walls, attic/ceiling.
- ☐ Specify stud types, sizes and spacing and note types and sizes of headers.
- ☒ Note wall sheathing, moisture barrier, siding material, interior wall covering, and vapor barrier.
- ☒ Specify roof framing members sizes and spacing, roof sheathing, roofing materials, any mechanical connectors for roof framing members to walls, and attic ventilation.
- ☐ ☐ Stair section detail showing dimensions of treads, risers, headroom, handrails, & guard requirements.
- ☐ ☒ Fire resistive assembly wall section details (Townhouse separation, duplex separation, exterior walls due to location on property, and fire rated eave details when applicable) Note applicable tested/listed assembly number on the plans.

Floor Framing Plans. [Page(s) 4]

Yes N/A

☒ ☐ Specify floor joists type, size, spacing, and spans. Show any interior bearing points

☐ ☒ Specify types and sizes of supporting beams, headers, and columns. Show any interior bearing points.

☐ ☐ Note any pony/cripple walls stud type, size, and spacing.

☐ ☐ Specify any mechanical connectors/fasteners such as for floor joist to beam, beam to beam, or beam to columns.

Roof Framing Plans[Page(s) 7]

Yes N/A

☒ ☐ Specify rafter and/or ceiling joist type, size, spacing, and spans. Show any interior bearing points.

☒ ☐ Specify/provide truss layout, spacing, spans, and style (scissor, mono, hip, standard, or girder). Show any interior bearing points.

☐ ☒ Specify types and sizes of supporting beams, headers, and columns. Show any interior bearing points.

☐ ☒ Specify any mechanical connectors/fasteners such as for rafter/truss to beam, beam to beam, girder truss to beam, or beam to columns.

Mechanical Information [Page(s) 4] (Information can be on floor plan or as a separate plan)

Yes N/A

☐ ACCA approved design software analysis output report showing compliance with the design requirements of Manual J (load calculations), Manual D (duct systems), and Manual S (equipment selection). Include a duct system layout noting duct sizes, lengths, and termination points with cfm outputs.

☒ Show mechanical equipment locations (furnace, air conditioner, water heater, fireplaces)

☒ ☐ Note gas fired equipment in garage elevated so the source of ignition is at least 18" minimum above the floor

☐ ☐ Indicate how gas piping and equipment in a garage will be guarded to prevent damage (such as a bollard)

☒ Note bathroom exhaust fan locations and cfm

Electrical Information [Page(s)]] (Information can be on floor plan or as a separate plan)

Yes N/A

☒ Show smoke alarm and carbon monoxide alarm locations.

☐ ☒ Show stairway lighting and switch locations

Accessibility (Townhouses)

Yes N/A

☐ ☒ Where there are four or more dwelling units or sleeping units in a single structure, the provisions of Chapter 11 of the *International Building Code* for Group R-3 shall apply. (Accessible dwelling units)

Wall Bracing Compliance Statement: In signing this application, I declare that I am the applicant and/or builder of the residence to be constructed on the site identified on this application, and that the plans have been designed and the building will be constructed in accordance with one or all of the following wall bracing requirements: 1. International Residential Code Wall Bracing Section 2. An engineered alternative designed by an Idaho licensed structural engineer. The ultimate responsibility for code compliance lies with the permit applicant and those that do work on the project.

APPLICANT'S SIGNATURE: Dylan Shidler **DATE:** 5/20/19

GARDEN CITY™
NESTLED BY THE RIVER

6015 Glenwood Street • Garden City, Idaho 83714
Phone 208 - 472-2921 • Fax 208 - 472-2926
www.gardencityidaho.org

Affidavit of Legal Interest

State of Idaho)
)SS
County of Ada)

I, Kim Spears (Name), 310 E 35th St (Address)

Garden City (City), ID 83714 (State and Zip)

Being first duly sworn upon oath, depose and say:

1. That I am the record owner of the property described on the attached, and I grant my permission

   to Dylan Schneider (Name), _____ (Address)
   to submit the accompanying application pertaining to that property.

2. I agree to indemnify, defend and hold the City of Garden City and its employees harmless from any claim or liability resulting from any dispute as to the statements contained herein or as to the ownership of the property which is the subject of the application.

3. I hereby grant permission to City of Garden City staff to enter the subject property for the purpose of site inspections related to processing said applications.

Dated this 16th day of May, 2019

_____
Signature

Subscribed and sworn to before me the day and year first above written

Tracy E Felton
Notary Public for Idaho

TRACY E FELTON
67538
NOTARY PUBLIC
STATE OF IDAHO
My Commission Expires
04/18/2022

Residing at: Boise Idaho

My Commission expires 04-18-2022

To: Garden City Planning and Zoning
From: Kim Spears
RE: 308 E 35th St., Garden City, Idaho 83714

May 14, 2019

I am requesting a waiver of installing sidewalk, curb and guttering at the above referenced property. The area is currently in transition, with adjacent owners planning to sell or develop in the future and it is likely that the entire road will need to be reconstructed. Installing a sidewalk on sixty feet of frontage would not have any beneficial impact to pedestrians on this street. I think it is likely that they would not utilize the sidewalk, as it would require them to step up on it, then step down and go around the numerous cars that park on 35th Street. Additionally, Ada County High District is not requiring improvements. The permit I have submitted includes a primary dwelling of 1800 square feet and an ADU that is 600 square feet.

Sincerely,

Kim Spears

GENERAL CONDITIONS:

1 ALL WORK SHALL COMPLY WITH THE LATEST PUBLICATION OF THE 2015 IRC AND ANY APPLICABLE LOCAL CODES OR REGULATIONS.
2 THE CONTRACTOR SHALL VERIFY ALL DETAILS, SITE CONDITIONS, AND NOTIFY THE DESIGNER OF ANY ERRORS OR OMISSIONS PRIOR TO CONSTRUCTION.
3 WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS.
4 PROVIDE ALL BASEMENT AREAS AND ALL BEDROOMS AT LEAST ONE INTERIOR OPERATING WINDOW THAT WILL MEET EGRESS REQUIREMENTS OF THE 2015 IRC
5 5/8" TYPE 'X' GYPSUM BOARD REQUIRED AT THE FOLLOWING AREAS: GARAGE CEILING, HOUSE TO GARAGE WALL, WALLS AND CEILINGS OF CLOSETS LOCATED UNDER STAIRWELLS, AND WALLS, BEAMS, AND POSTS SUPPORTING FIRE PROTECTED HORIZONTAL STRUCTURAL MEMBERS.
6 HOUSE TO GARAGE DOOR TO HAVE SELF CLOSING HINGES AND A MIN. 20 MIN FIRE RATING.
7 PROVIDE GUARDRAIL AT ALL LANDINGS OR WALKING SURFACE MORE THAN 30" HIGH. ALL BALUSTERS TO BE SPACED SO THAT A 4" SPHERE CANNOT PASS THROUGH.
8 SAFETY GLAZING REQUIRED AT THE FOLLOWING LOCATIONS: SHOWER AND BATHTUB ENCLOSURES, GLASS IN ALL DOORS, WINDOWS WITH SILL LOCATED LESS THAT 18" ABOVE FINISHED FLOOR, AND WINDOWS LOCATED WITHIN A 24" ARCH OF EITHER VERTICAL EDGE OF DOOR IN CLOSED POSITION.
9 SHOWER AND TUB SURROUNDS TO BE INSTALLED TO 70" ABOVE THE DRAIN INLET W/ WATER RESISTANT BACKING.
10 TOILETS SHALL BE LOCATED IN A MIN. CLEAR SPACE OF 30" IN WIDTH AND 24" CLEAR SPACE IN FRONT.
11 FIRE BLOCKING SHALL BE INSTALLED TO ELIMINATE ALL CONCEALED DRAFT OPENINGS BOTH VERTICAL AND HORIZONTAL.
12 OPENINGS PENETRATING THROUGH FLOORS FOR MECHANICAL CHASES AND SHAFTS, AND CONCEALED WITHIN BUILDING CONSTRUCTION SHALL BE MIN. 1-HOUR FIRE RESISTIVE CONSTRUCTION.
13 GAS FIREPLACES AND APPLIANCES ARE TO BE INSTALLED ACCORDING TO LISTED SPECS AND MFG. INSTALLATION INSTRUCTIONS. ALL FLUES TO BE INSTALLED ACCORDING TO MFG. INSTRUCTIONS AND ALL MIN. SPACE REQUIREMENTS MET.

PLOT PLAN NOTES:

1 ALL SET BACKS TO COMPLY WITH ALL CODES AND ZONING REQUIREMENTS AND TO BE VERIFIED BY BUILDING INSPECTOR PRIOR TO CONSTRUCTION
2 ALL UTILITIES TO BE RUN UNDERGROUND
3 SLOPE AWAY FROM HOUSE MINIMUM 5% FOR 5' IN EACH DIRECTION AND 2% THEREAFTER TO PROPERTY LINE.

FOUNDATION NOTES:

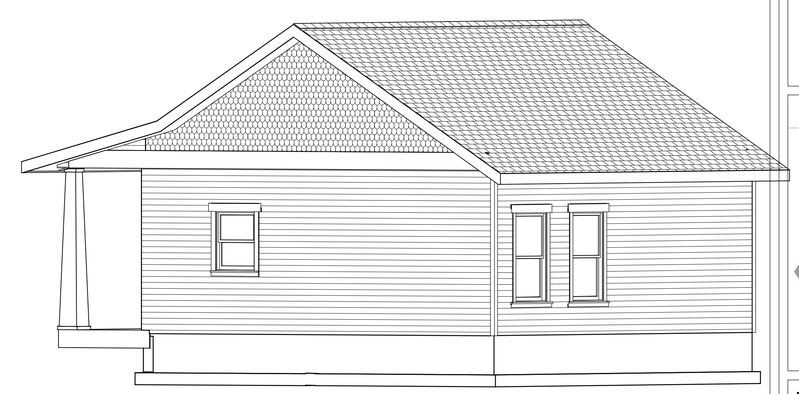
1 ALL CONCRETE TO HAVE 5 BAGS OF CEMENT PER YARD W/ MAX SLUMP OF 4" MIN. COMPRESSION STRENGTH OF 2500 PSI AFTER 28 DAYS.
2 REINFORCING STEEL, WHEN REQ. TO BE GRADE 40, INSTALLED PER ACI STANDARDS.
3 EXCAVATED TO MIN 24" BELOW FLOOR JOISTS. ENTIRE CRAWL SPACE TO BE COVERED WITH MIN. 6 MIL VISQUEEN.
4 POWER VENTED CRAWLSPACE, CONDITIONED.
5 ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED.
6 MUDSILLS TO BE 2X PRESSURE TREATED W/ 1/2" DIA. X 10" ANCHOR BOLTS @ 6' O.C. AND 1' FROM ENDS AND CORNERS.
7 ALL FLATWORK TO BE MIN 4" CONCRETE SLAB ON MIN 4" COMPACTED STRUCTURAL FILL. ALL EXTERIOR FLATWORK TO HAVE MIN. 6" THK'D EDGES AND BE ATTACHED TO STEM WALL W/ #4 BAR X 18" @ 24" O.C. (ONLY ONE EDGE OF SLAB TO BE ATTACHED).
8 ALL HOLD DOWN STRAPS AND STRAP TIES FOR SHEAR WALL REQUIREMENTS TO MEET U.B.C. AS WELL AS LOCAL BUILDING CODES. (TO BE VERIFIED BY CONTRACTOR AND LOCAL BUILDING DEPARTMENT).

FRAMING NOTES:

1 2X6 EXTERIOR FRAMING WITH DBL TOP PLATE AND SINGLE BOTTOM PLATE.
2 2X4 INTERIOR FRAMING WITH DBL TOP PLATE AND SINGLE BOTTOM PLATE.
3 ALL FRAMING CONNECTIONS TO BE SIMPSON STRONG-TIE OR EQUAL.
4 MIN. 4X8 DF #2 HEADERS AT ALL OPENINGS LESS THAN 60". MIN. 4X10 #2 HEADERS AT ALL OPENINGS 60" OR GREATER IN WIDTH UNLESS OTHERWISE NOTED.
5 ALL STRUCTURAL LUMBER SIZED FOR NO 2 OR BETTER DOUGLAS FIR.
6 BLOCK WALLS OVER 10' AT MID HEIGHT.

ROOF PLAN NOTES:

1 ALL TRUSSES TO BE PRE-MFG. WOOD TRUSSES WITH COMPLETE ENGINEERED DRAWINGS. TRUSS MFG SHALL VERIFY AND APPROVE ALL TRUSS HANGERS. TRUSS MFG SHALL VERIFY ALL BUILDING DIMENSIONS PRIOR TO TRUSS FABRICATION
2 MIN. 4X8 DF #2 HEADERS AT ALL OPENINGS LESS THAN 60". MIN. 4X10 #2 HEADERS AT ALL OPENINGS 60" OR GREATER IN WIDTH UNLESS OTHERWISE NOTED.
3 MIN. 7/16" APA RATED STRUCTURAL SHEATHING FASTENED WITH 8D NAILS AT 6" O.C. AT EDGES AND DIAPHRAGM BOUNDARIES AND 12" O.C. IN THE FIELD.
4 BLOCK CEILING AND ROOF JOISTS WITH 2X8 DF WHERE SPANS EXCEED 8'-0".
5 ALL BEARING WALLS AND COLUMN LOADS MUST BE CARRIED CONTINUOUSLY DOWN TO FOUNDATION.
6 ROOF VENTS AS PER CODE 1 SF OF VENTILATION PER 300SF OF ATTIC SPACE.



REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

SPEARS RESIDENCE

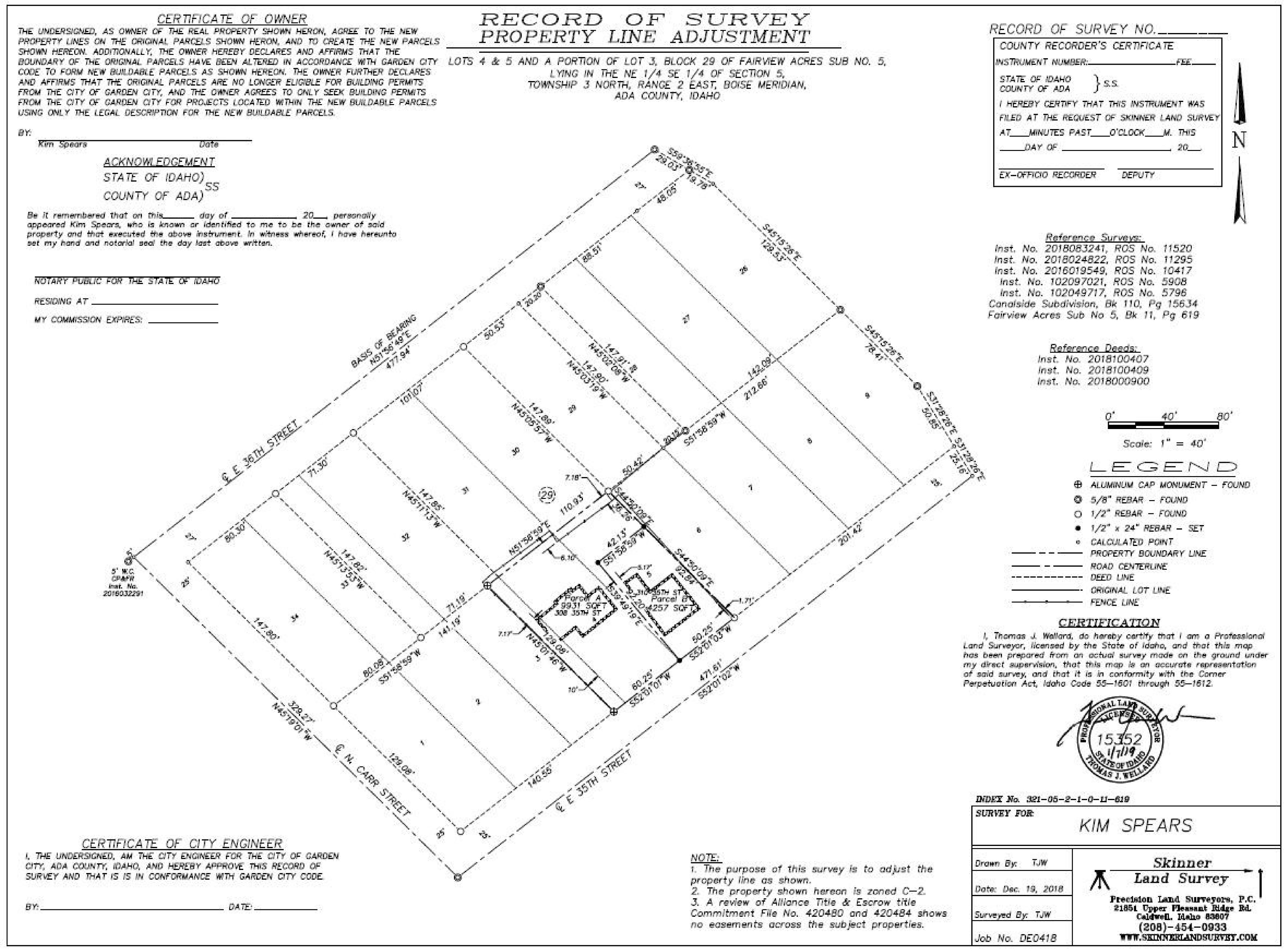
308 E 35TH ST
GARDEN CITY, ID 83714

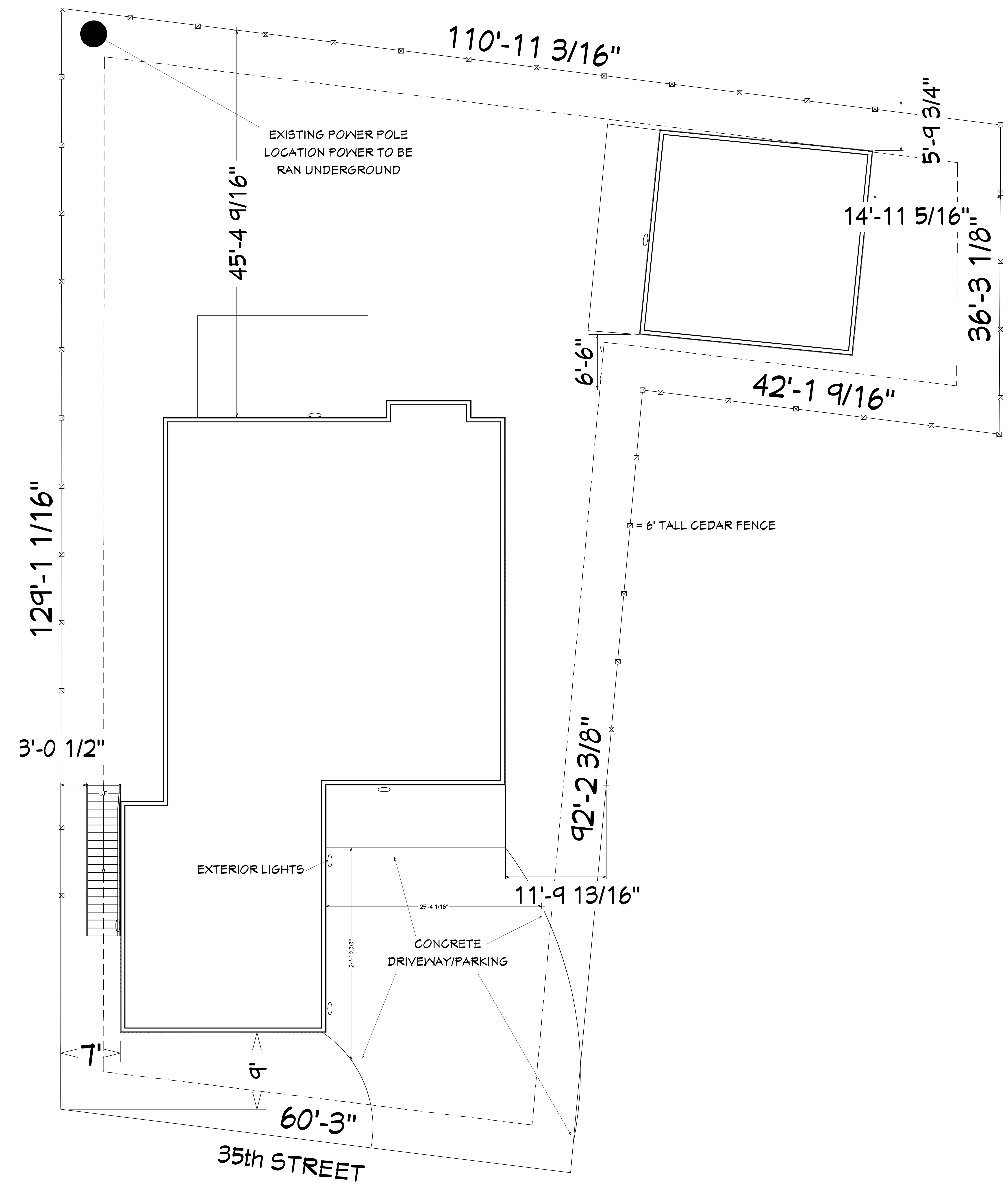
SCHNEIDER CUSTOM HOMES

DATE:
5/20/2019

SCALE:

SHEET:
1





PROPERTY IS ZONED C-2

1 ALL SET BACKS TO COMPLY WITH ALL CODES AND ZONING REQUIREMENTS AND TO BE VERIFIED BY BUILDING INSPECTOR PRIOR TO CONSTRUCTION
2 ALL UTILITIES TO BE RUN UNDERGROUND
3 SLOPE AWAY FROM HOUSE MINIMUM 5% FOR 5' IN EACH DIRECTION AND 2% THEREAFTER TO PROPERTY LINE

SETBACKS FOR ZONE C-2:
FRONT 5' REAR 5' SIDE 5'

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NUMBER	DATE	REVISED BY	DESCRIPTION

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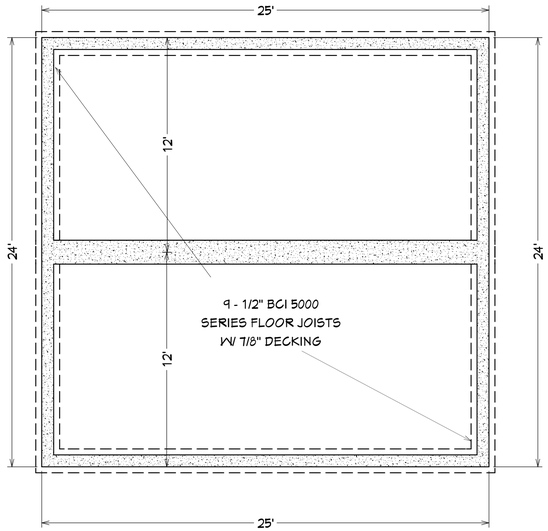
GARDEN CITY, ID 83714

SCHNEIDER CUSTOM HOMES

DATE:
5/20/2019

SCALE:

SHEET:
2



= 14" SONO TUBE

FOUNDATION NOTES:

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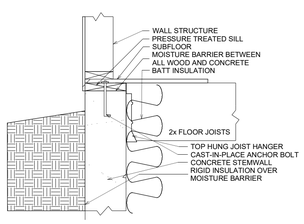
DESIGN CRITERIA

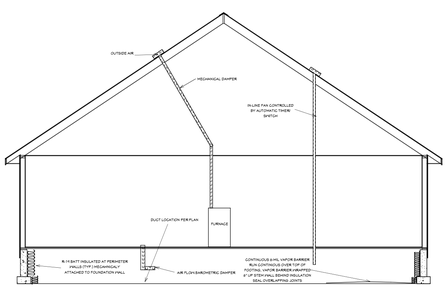
CODES: IRC 2012, IECC 2012, IMC 2012, ISPC 2009, NEC 2014
FROST DEPTH: 24"
SEISMIC ZONE: C
CLIMATE ZONE: 5
BASIC WIND SPEED: 90 MPH
SOIL BEARING CAPACITY: 1500PSF
ROOF LOADS: 25 PSF LIVE (SNOW), 17 PSF DEAD
FLOOR LOADS: 40PSF LIVE, 17 PSF DEAD

TABLE R402.1.1 Insulation and Fenestration Requirement by Component

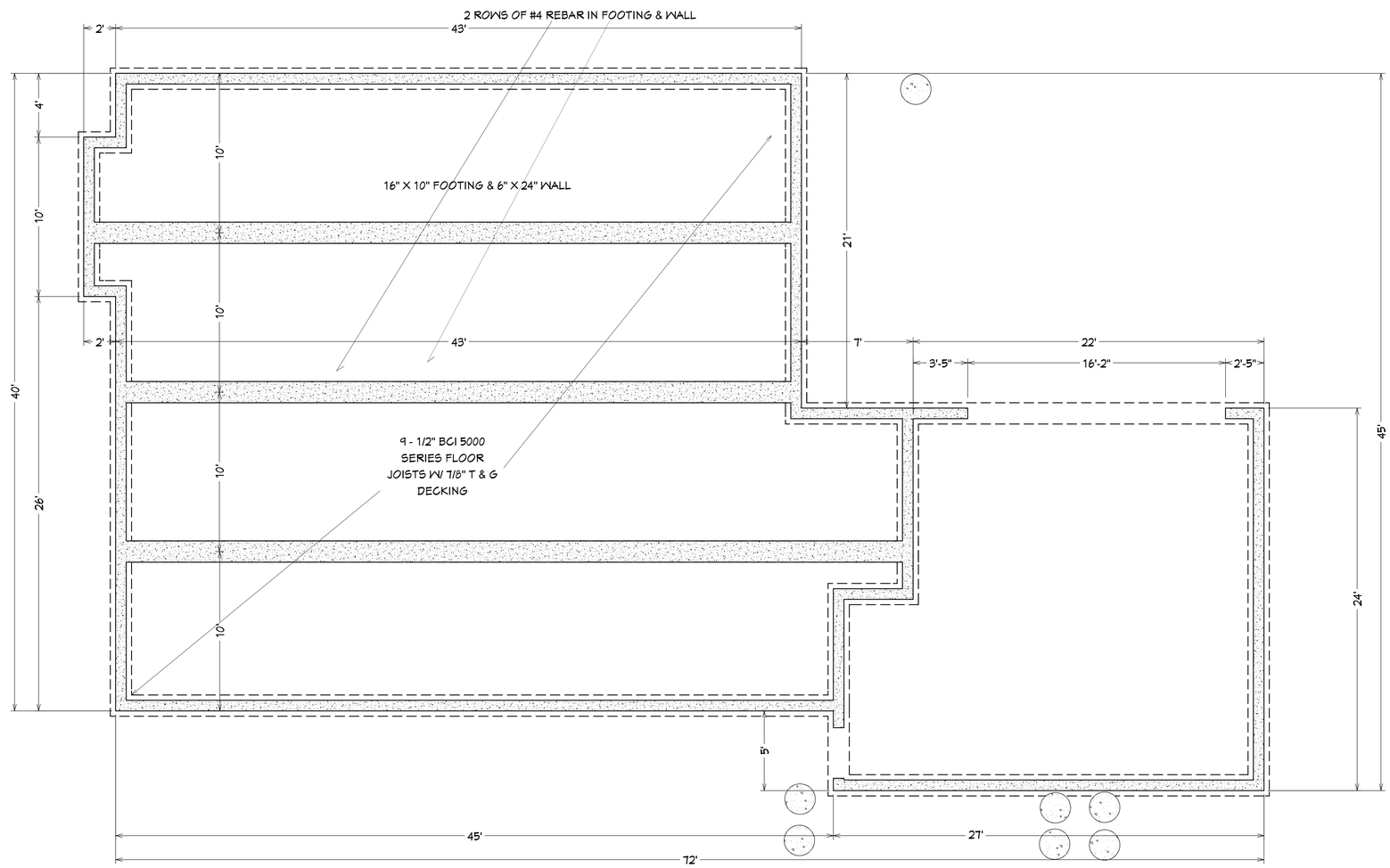
Climate Zone	Fenestration U-Factor	Skylight U-Factor	Glazed Fenestration SHGC	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement Wall R-Value	Slab R-Value and Depth	Crawl Space Wall R-Value
5 and Marine 4	0.31	.55	NR	38	20 Or 13+5	13/17	30	15/19	10, 2ft	15/19



Floor at Foundation Hung From Sill Plate



POWER VENTED CONDITIONED CRAWL SPACE



REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

SPEARS RESIDENCE

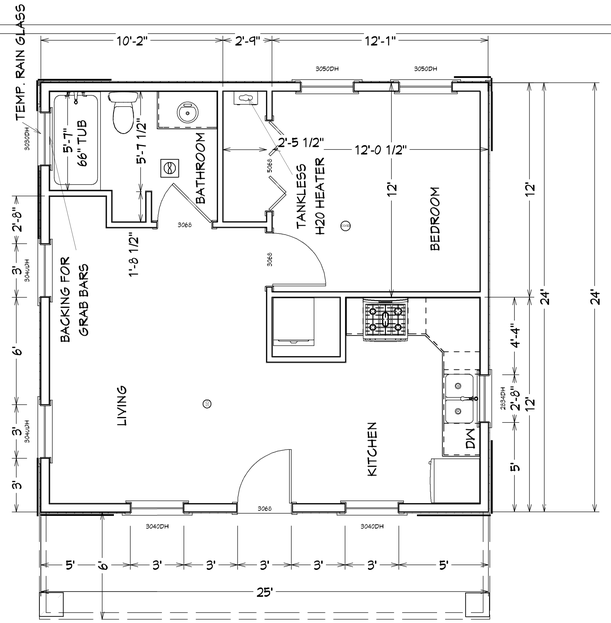
308 E 35TH ST
GARDEN CITY, ID 83714

SCHNEIDER CUSTOM HOMES

DATE: 5/20/2019

SCALE:

SHEET: 3



LIVING AREA
600 SQ FT

GENERAL CONDITIONS:

1 ALL WORK SHALL COMPLY WITH THE LATEST PUBLICATION OF THE 2015 IRC AND ANY APPLICABLE LOCAL CODES OR REGULATIONS.
2 THE CONTRACTOR SHALL VERIFY ALL DETAILS, SITE CONDITIONS, AND NOTIFY THE DESIGNER OF ANY ERRORS OR OMISSIONS PRIOR TO CONSTRUCTION.
3 WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS.
4 PROVIDE ALL BASEMENT AREAS AND ALL BEDROOMS AT LEAST ONE INTERIOR OPERATING WINDOW THAT WILL MEET EGRESS REQUIREMENTS OF THE 2015 IRC
5 5/8" TYPE 'X' GYPSUM BOARD REQUIRED AT THE FOLLOWING AREAS: GARAGE CEILING, HOUSE TO GARAGE WALL, WALLS AND CEILINGS OF CLOSETS LOCATED UNDER STAIRWELLS, AND WALLS, BEAMS, AND POSTS SUPPORTING FIRE PROTECTED HORIZONTAL STRUCTURAL MEMBERS.
6 HOUSE TO GARAGE DOOR TO HAVE SELF CLOSING HINGES AND A MIN. 20 MIN FIRE RATING.
7 PROVIDE GUARDRAIL AT ALL LANDINGS OR WALKING SURFACE MORE THAN 30" HIGH. ALL BALUSTERS TO BE SPACED SO THAT A 4" SPHERE CANNOT PASS THROUGH.
8 SAFETY GLAZING REQUIRED AT THE FOLLOWING LOCATIONS: SHOWER AND BATHTUB ENCLOSURES, GLASS IN ALL DOORS, WINDOWS WITH SILL LOCATED LESS THAT 18" ABOVE FINISHED FLOOR, AND WINDOWS LOCATED WITHIN A 24" ARCH OF EITHER VERTICAL EDGE OF DOOR IN CLOSED POSITION.
9 SHOWER AND TUB SURROUNDS TO BE INSTALLED TO 70" ABOVE THE DRAIN INLET W/ WATER RESISTANT BACKING.
10 TOILETS SHALL BE LOCATED IN A MIN. CLEAR SPACE OF 30" IN WIDTH AND 24" CLEAR SPACE IN FRONT.
11 FIRE BLOCKING SHALL BE INSTALLED TO ELIMINATE ALL CONCEALED DRAFT OPENINGS BOTH VERTICAL AND HORIZONTAL.
12 OPENINGS PENETRATING THROUGH FLOORS FOR MECHANICAL CHASES AND SHAFTS, AND CONCEALED WITHIN BUILDING CONSTRUCTION SHALL BE MIN. 1-HOUR FIRE RESISTIVE CONSTRUCTION.
13 GAS FIREPLACES AND APPLIANCES ARE TO BE INSTALLED ACCORDING TO LISTED SPECS AND MFG. INSTALLATION INSTRUCTIONS. ALL FLUES TO BE INSTALLED ACCORDING TO MFG. INSTRUCTIONS AND ALL MIN. SPACE REQUIREMENTS MET.

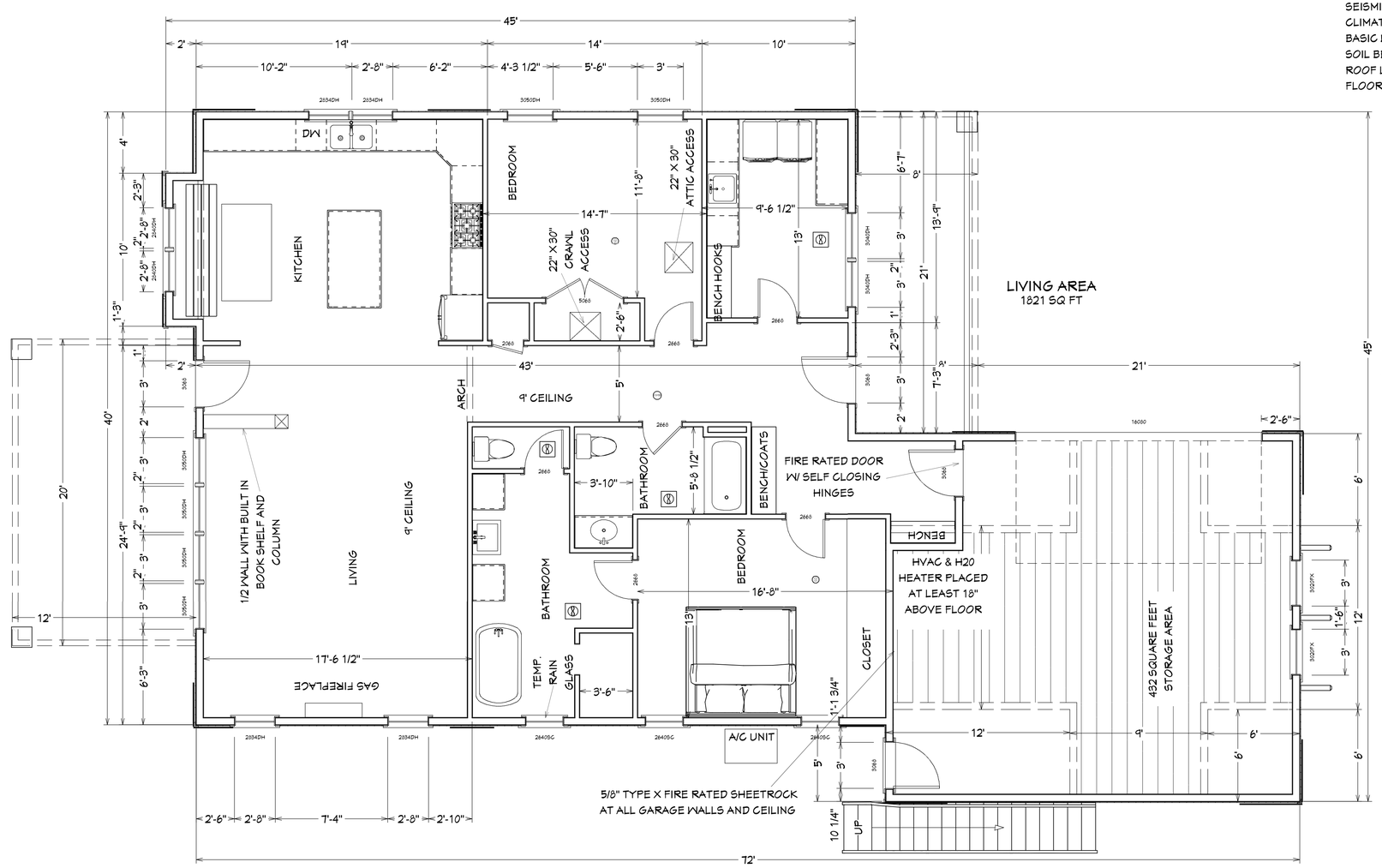
FRAMING NOTES:

1 2X6 EXTERIOR FRAMING WITH DBL TOP PLATE AND SINGLE BOTTOM PLATE.
2 2X4 INTERIOR FRAMING WITH DBL TOP PLATE AND SINGLE BOTTOM PLATE.
3 ALL FRAMING CONNECTIONS TO BE SIMPSON STRONG-TIE OR EQUAL.
4 MIN. 4X8 DF #2 HEADERS AT ALL OPENINGS LESS THAN 60". MIN. 4X10 #2 HEADERS AT ALL OPENINGS 60" OR GREATER IN WIDTH UNLESS OTHERWISE NOTED.
5 ALL STRUCTURAL LUMBER SIZED FOR NO 2 OR BETTER DOUGLAS FIR.
6 BLOCK WALLS OVER 10' AT MID HEIGHT.

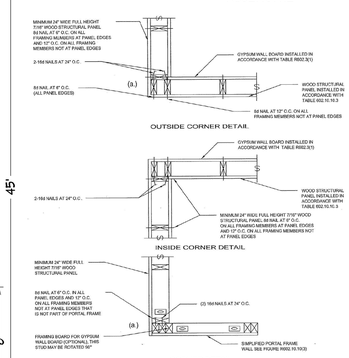
ROOF PLAN NOTES:

1 ALL TRUSSES TO BE PRE-MFG. WOOD TRUSSES WITH COMPLETE ENGINEERED DRAWINGS. TRUSS MFG SHALL VERIFY AND APPROVE ALL TRUSS HANGERS. TRUSS MFG SHALL VERIFY ALL BUILDING DIMENSIONS PRIOR TO TRUSS FABRICATION
2 MIN. 4X8 DF #2 HEADERS AT ALL OPENINGS LESS THAN 60". MIN. 4X10 #2 HEADERS AT ALL OPENINGS 60" OR GREATER IN WIDTH UNLESS OTHERWISE NOTED.
3 MIN. 7/16" APA RATED STRUCTURAL SHEATHING FASTENED WITH 8D NAILS AT 6" O.C. AT EDGES AND DIAPHRAGM BOUNDARIES AND 12" O.C. IN THE FIELD.
4 BLOCK CEILING AND ROOF JOISTS WITH 2X8 DF WHERE SPANS EXCEED 8'-0".
5 ALL BEARING WALLS AND COLUMN LOADS MUST BE CARRIED CONTINUOUSLY DOWN TO FOUNDATION.
6 ROOF VENTS AS PER CODE 1 SF OF VENTILATION PER 300SF OF ATTIC SPACE.

DESIGN CRITERIA:
CODES: IRC 2012, IECC 2012, IMC 2012, ISPC 2009, NEC 2014
FROST DEPTH: 24"
SEISMIC ZONE: C
CLIMATE ZONE: 5
BASIC WIND SPEED: 90 MPH
SOIL BEARING CAPACITY: 1500PSF
ROOF LOADS: 25 PSF LIVE (SNOW) ,17 PSF DEAD
FLOOR LOADS: 40PSF LIVE,17 PSF DEAD



CONTINUOUS
SHEATHING BRACING
METHOD PER IRC TABLE
R602.10.1.2



REVISION TABLE		
NUMBER	DATE	REVISED BY	DESCRIPTION

SPEARS RESIDENCE

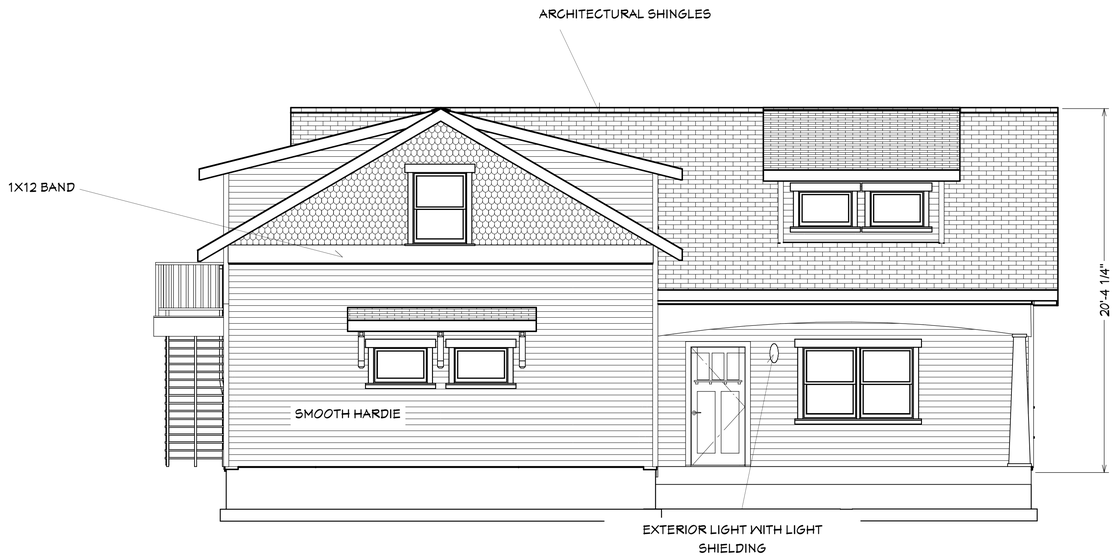
308 E 35TH ST
GARDEN CITY, ID 83714

SCHNEIDER CUSTOM HOMES

DATE:
5/20/2019

SCALE:

SHEET:
4



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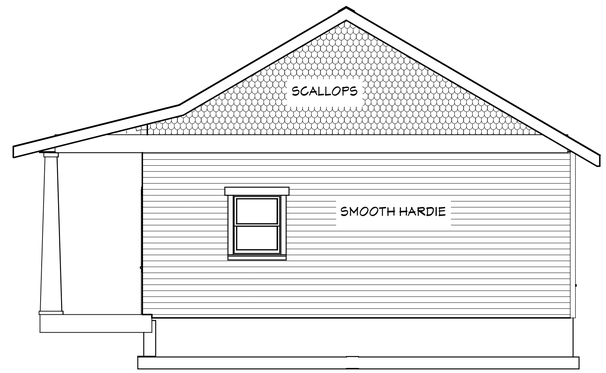
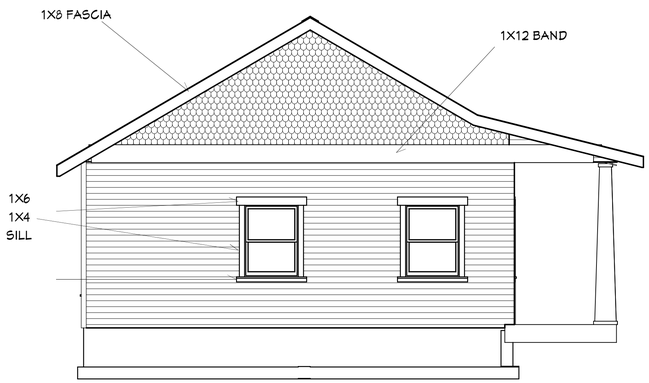
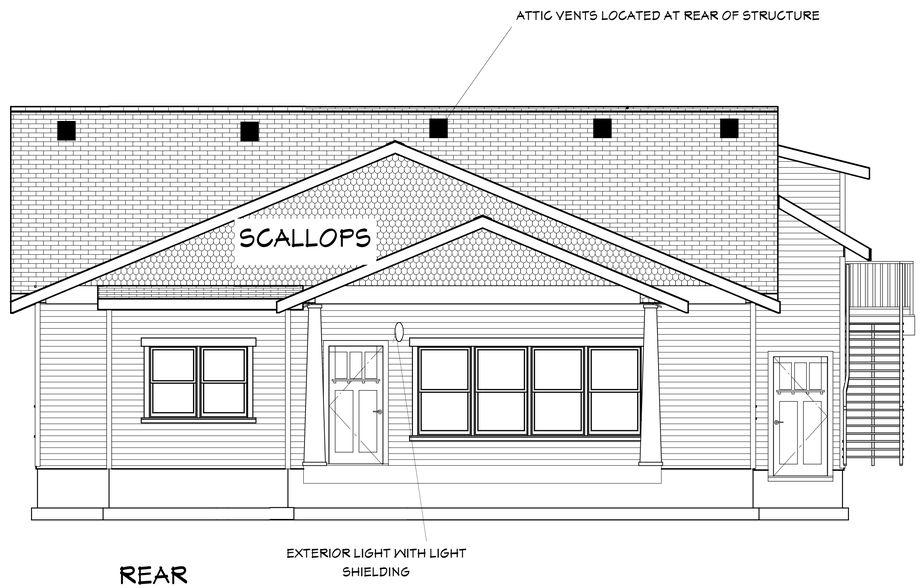






REAR

REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

SPEARS RESIDENCE

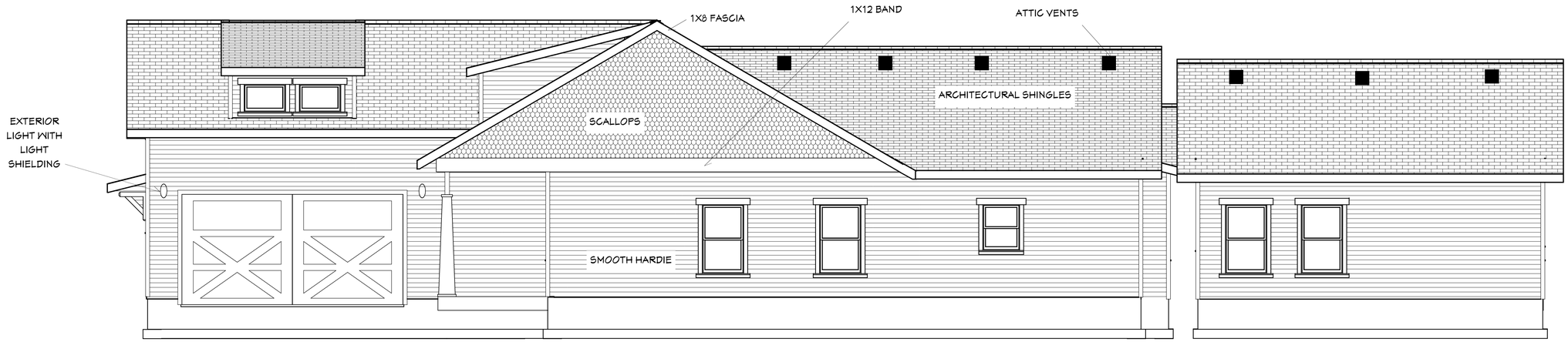
308 E 35TH ST
GARDEN CITY, ID 83714

SCHNEIDER CUSTOM HOMES

DATE:
5/20/2019

SCALE:

SHEET:
5



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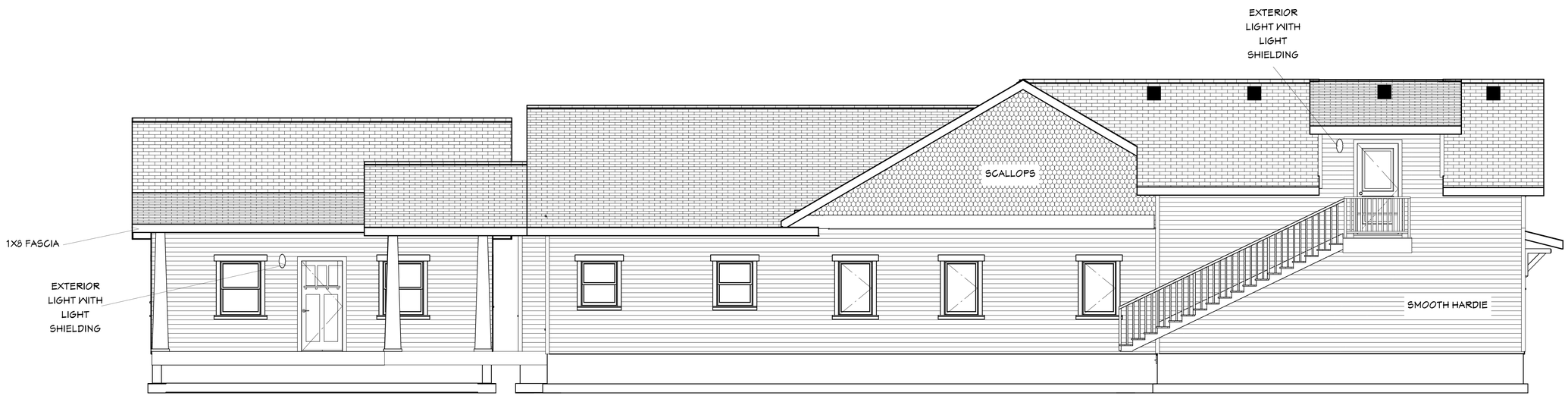


SIDE

REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

SPEARS RESIDENCE

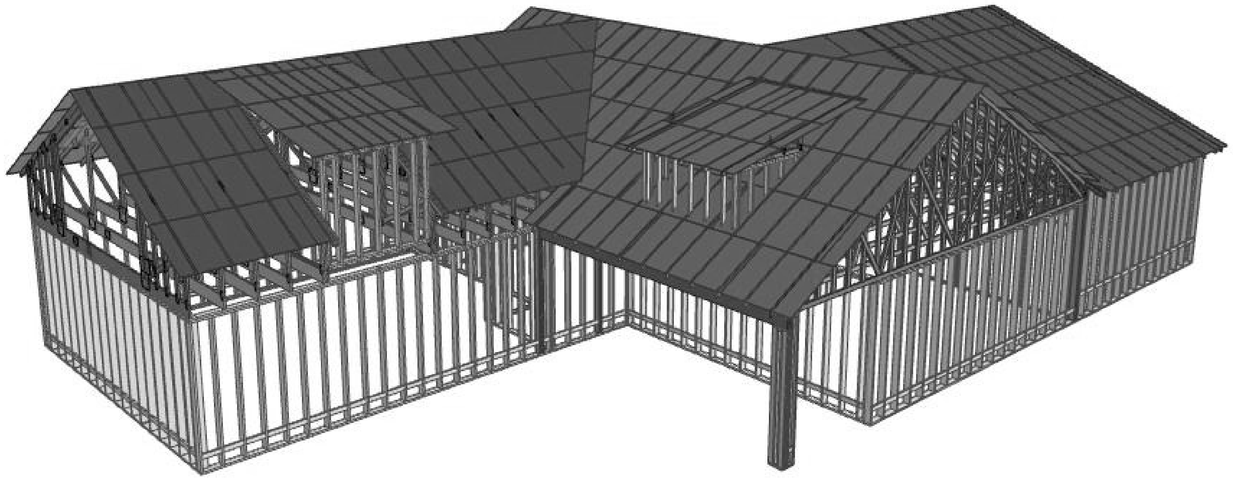
308 E 35TH ST
GARDEN CITY, ID 83714

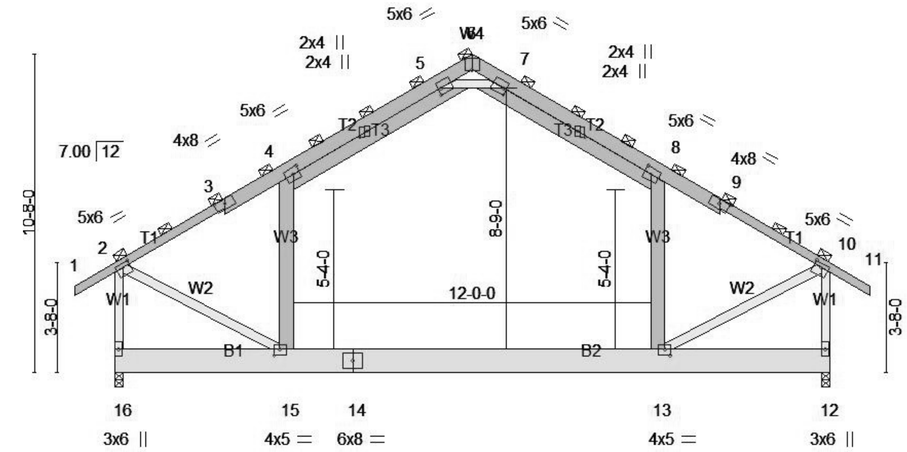
SCHNEIDER CUSTOM HOMES

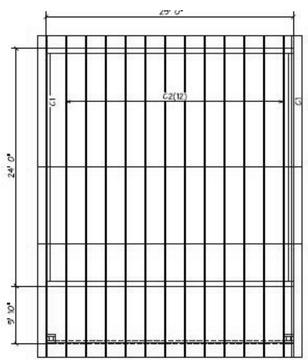
DATE:
5/20/2019

SCALE:

SHEET:
6



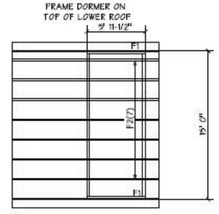


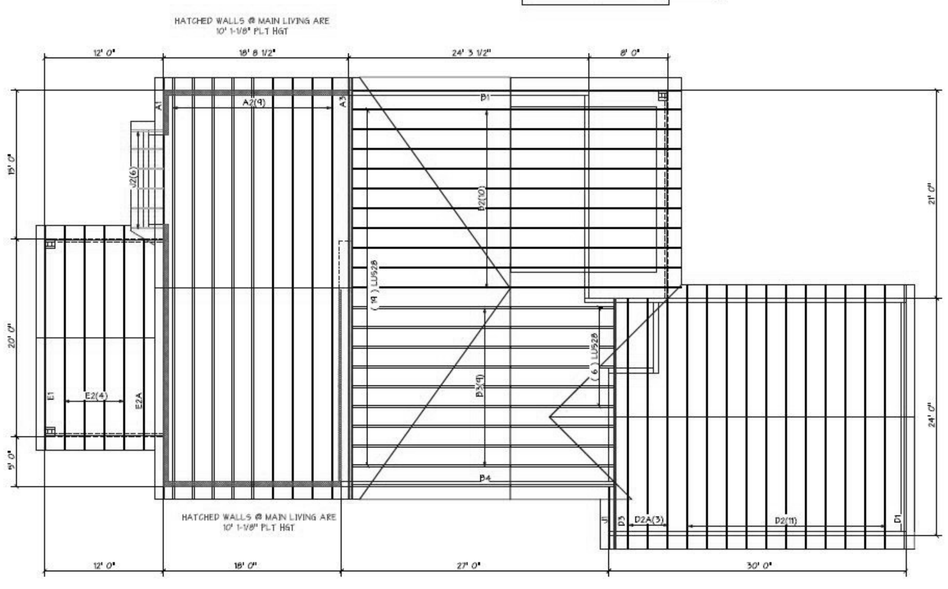


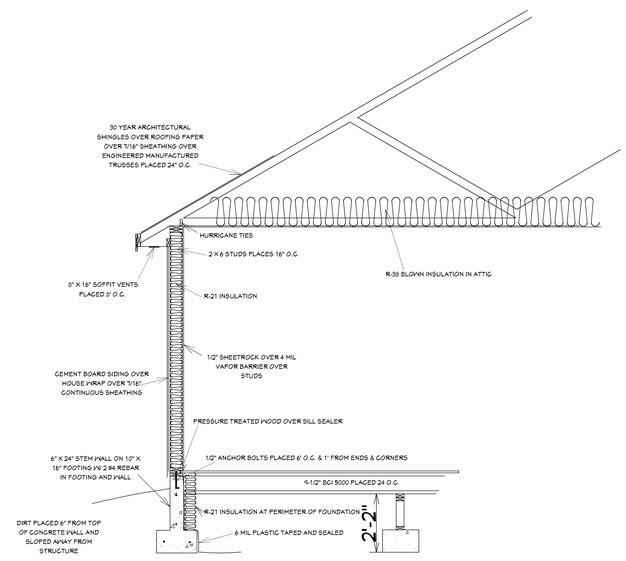
Schneider Custom Homes	1/4" = 1'
Spears Residence	03/13/2019
308 E 35th Street	19-032717T

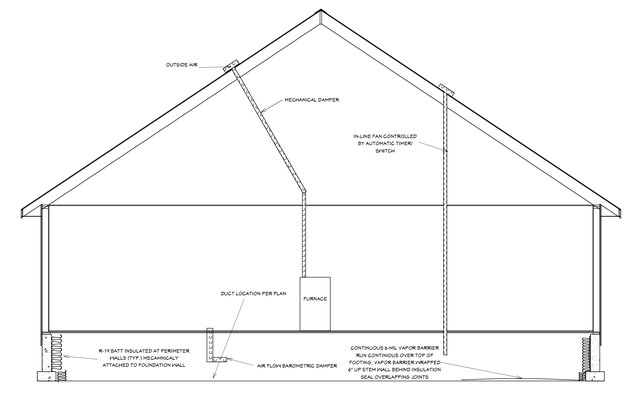
BMC Building Materials and Construction Services Boise, Idaho PHONE : 321-3752

Designer: Aren Stevens - Phone: 321-3741
Email: Aren.Stevens@BuildwithBMC.Com









POWER VENTED CONDITIONED CRAWL SPACE

REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

SPEARS RESIDENCE

308 E 35TH ST
GARDEN CITY, ID 83714

SCHNEIDER CUSTOM HOMES

DATE: 5/20/2019

SCALE:

SHEET: 7

* Main House - Furnace

SPECIFICATIONS

	Model No.	ML195DF045XP36B	ML195DF070XP36B	ML195DF090XP60C	ML195DF110XP60C
Gas Heating Performance	[1] AFUE	95%	95%	95%	95%
	Input - Btuh	44,000	66,000	88,000	110,000
	Output - Btuh	43,000	64,000	86,000	106,000
	Temperature rise range - °F	25 - 55	35 - 65	30 - 60	40 - 70
	Gas Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane	3.5 / 10.0	3.5 / 10.0	3.5 / 10.0	3.5 / 10.0
	High static - in. w.g.	0.50	0.50	0.50	0.50
Connections in.	Intake / Exhaust Pipe (PVC)	2 / 2	2 / 2	2 / 2	2 / 2
	Gas pipe size IPS	1/2	1/2	1/2	1/2
	Condensate Drain Trap (PVC pipe) - i.d.	3/4	3/4	3/4	3/4
	with furnished 90° street elbow	3/4 slip x 3/4 Mipt	3/4 slip x 3/4 Mipt	3/4 slip x 3/4 Mipt	3/4 slip x 3/4 Mipt
	with field supplied (PVC coupling) - o.d.	3/4 slip x 3/4 MPT	3/4 slip x 3/4 MPT	3/4 slip x 3/4 MPT	3/4 slip x 3/4 MPT
Indoor Blower	Wheel nom. dia. x width - in.	10 x 8	10 x 8	11 ½ x 10	11 ½ x 10
	Motor output - hp	1/3	1/3	1	1
	Tons of add-on cooling - tons	2.5 - 3	2.5 - 3	4 - 5	4 - 5
	Air Volume Range - cfm	605 - 1615	560 - 1505	1270 - 2305	1210 - 2410
Electrical Data	Voltage	120 volts - 60 hertz - 1 phase			
	Blower motor full load amps	6.1	6.1	11.5	11.5
	Maximum overcurrent protection	15	15	15	15
Shipping Data	lbs. - 1 package	121	127	152	164

NOTE - Filters and provisions for mounting are not furnished and must be field provided.

[1] Annual Fuel Utilization Efficiency based on DOE test procedures and according to FTC labeling regulations. Isolated combustion system rating for non-weatherized furnaces.

INSTALLATION CLEARANCES

Sides	[1] 0 inches (0 mm)
Rear	0 inches (0 mm)
Top/Plenum	1 inch (25 mm)
Front	0 inches (0 mm)
Front (service/alcove)	24 inches (610 mm)
Floor	[2] Combustible

NOTE - Air for combustion must conform to the methods outlined in the National Fuel Gas Code (NFPA 54/ ANSI-Z223.1) or the National Standard of Canada CAN/CSA-B149.1 "Natural Gas and Propane Installation Code".

NOTE - In the U.S. flue sizing must conform to the methods outlined in the current National Fuel Gas Code (NFPA 54/ANSI-Z223.1) or applicable provisions of local building codes. In Canada flue sizing must conform to the methods outlined in National Standard of Canada CAN/CSA-B149.1.

[1] Allow proper clearances to accommodate condensate trap and vent pipe installation.

[2] Clearance for installation on combustible floor if Optional Downflow Combustible Flooring Base is installed between furnace and combustible floor. Not required in add-on cooling applications if installed in accordance with local codes or National Fuel Gas Code ANSI-Z223.1 or CAN/CGA-149.1,.2. Do not install the furnace directly on carpeting, tile, or other combustible materials other than wood flooring.

* Main House - Furnace

BLOWER DATA

ML195DF045XP36B PERFORMANCE (Less Filter)

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds							
	High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1615	650	1385	555	1205	465	1045	390
0.10	1605	640	1375	545	1195	455	1035	380
0.20	1500	620	1340	525	1165	445	1015	370
0.30	1450	590	1290	490	1125	420	975	365
0.40	1350	560	1235	480	1090	405	920	345
0.50	1300	545	1170	450	1035	380	875	335
0.60	1195	500	1095	425	990	365	840	320
0.70	1140	485	1020	400	895	345	780	300
0.80	1025	450	920	370	840	330	695	275
0.90	945	435	800	335	700	295	605	250

ML195DF070XP36B PERFORMANCE (Less Filter)

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds							
	High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1505	660	1310	570	1090	455	940	390
0.10	1480	625	1295	550	1070	435	935	365
0.20	1405	585	1255	515	1055	425	930	350
0.30	1355	580	1225	475	1045	405	900	330
0.40	1305	540	1165	470	1010	385	890	325
0.50	1270	525	1110	425	975	370	835	305
0.60	1175	500	1080	415	925	345	815	290
0.70	1105	460	1000	395	855	320	745	270
0.80	1040	440	925	365	790	300	670	250
0.90	920	400	825	335	680	270	560	225

ML195DF090XP60C PERFORMANCE (Less Filter)

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds							
	High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	2305	1255	2145	950	1900	810	1515	670
0.10	2295	1240	2135	940	1885	795	1500	665
0.20	2200	1220	2085	915	1865	775	1525	655
0.30	2160	1210	1990	875	1830	755	1545	640
0.40	2055	1170	1935	865	1790	725	1530	620
0.50	1970	1130	1855	835	1705	700	1500	600
0.60	1890	1105	1765	805	1635	675	1495	580
0.70	1775	1075	1680	785	1565	655	1430	560
0.80	1690	1050	1590	760	1485	630	1370	540
0.90	1580	1010	1485	735	1405	610	1270	510

ML195DF110XP60C PERFORMANCE (Less Filter)

External Static Pressure in. w.g.	Air Volume / Watts at Various Blower Speeds							
	High		Medium-High		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	2410	1390	2190	1080	1860	910	1560	735
0.10	2405	1385	2180	1070	1855	905	1555	730
0.20	2285	1345	2120	1030	1850	865	1540	720
0.30	2220	1315	2015	1005	1770	840	1535	705
0.40	2185	1295	1950	955	1750	815	1530	685
0.50	2045	1240	1830	925	1680	790	1500	660
0.60	1965	1220	1710	890	1575	755	1445	640
0.70	1820	1165	1610	850	1495	720	1370	615
0.80	1625	1155	1510	820	1400	695	1315	595
0.90	1455	1110	1390	790	1350	660	1210	565

* Main House - A/C

LENNOX

Design Conditions			
Indoor Entering Wet Bulb Temperature (F):	63	Outdoor Dry Bulb Temperature (F):	95
Indoor Air Volume (CFM):	800	Indoor Entering Dry Bulb Temperature (F):	75
Cooling capacity calculation results:			
Total cooling capacity (kBTUH):	23.6	Sensible to Total Ratio (S/T):	0.83
Sensible cooling capacity (kBTUH):	19.58	Latent cooling capacity (kBTUH):	4.02
Heating mode outdoor temperature:	0		
Heating capacity calculation results:			

13ACXN024-230- - CR33-30/36A-F - Cooling Performance**

Note: information based upon published performance data dated - Friday, February 06, 2015

Entering Wet Bulb Temperature	Total Air Volume	85° F					95° F					105° F					115° F					125°
		Total Cool Cap	Comp Motor Input	Sensible to Total Ratio (S/T) Dry Bulb			Total Cool Cap	Comp Motor Input	Sensible to Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp Motor Input	Sensible to Total Ratio (S/T) Dry Bulb			Total Cool Cap	Comp Motor Input	Sensible to Total Ratio (S/T) Dry Bulb			Total Cool Cap	Comp Motor Input	Se
	cfm	kBtuh	kW	75° F	80° F	85° F	kBtuh	kW	75° F	80° F	85° F	kBtuh	kW	75° F	80° F	85° F	kBtuh	kW	75° F	80° F	85° F	kBtuh	kW	75°
59° F	700	23.6	1.42	.96	1.00	1.00	22.6	1.62	.98	1.00	1.00	21.4	1.86	1.00	1.00	1.00	20.2	2.10	1.00	1.00	1.00	18.8	2.34	1.0
	800	24.6	1.42	.99	1.00	1.00	23.4	1.62	1.00	1.00	1.00	22.4	1.85	1.00	1.00	1.00	21.0	2.09	1.00	1.00	1.00	19.5	2.33	1.0
	900	25.4	1.41	1.00	1.00	1.00	24.2	1.62	1.00	1.00	1.00	23.0	1.85	1.00	1.00	1.00	21.6	2.09	1.00	1.00	1.00	20.0	2.33	1.0
63° F	700	24.2	1.42	.78	.92	1.00	23.0	1.63	.80	.95	1.00	21.6	1.86	.82	.98	1.00	20.2	2.10	.85	1.00	1.00	18.8	2.34	.8
	800	24.8	1.42	.81	.97	1.00	23.6	1.62	.83	.99	1.00	22.4	1.85	.86	1.00	1.00	21.0	2.09	.89	1.00	1.00	19.5	2.33	.9
	900	25.4	1.41	.85	1.00	1.00	24.2	1.62	.87	1.00	1.00	23.0	1.85	.90	1.00	1.00	21.6	2.09	.93	1.00	1.00	20.0	2.33	.9
67° F	700	25.6	1.41	.62	.75	.89	24.2	1.62	.63	.77	.91	23.0	1.85	.64	.80	.94	21.4	2.09	.66	.82	.98	19.5	2.33	.6
	800	26.2	1.41	.64	.79	.93	25.0	1.62	.65	.81	.96	23.4	1.85	.67	.84	.99	21.8	2.09	.69	.87	1.00	19.9	2.32	.7
	900	26.8	1.40	.66	.82	.98	25.4	1.61	.67	.85	1.00	24.0	1.84	.69	.88	1.00	22.2	2.08	.71	.91	1.00	20.2	2.32	.7

Disclaimer: Due to Lennox's ongoing commitment to quality, specifications, ratings and performance data are subject to change with notice and without incurring liability. I nstallation, adjustment, alteration, service or maintenance can cause property damage or personal injury. Installation and service must be performed by a qualified installer a gency. The capacities listed in the performance data are gross capacities and do not include the effects of blower motor heat.

Main House
* Coil

Airflow Data

* K, S, T, & Y = Copper slab; L, U, V, & Z = Aluminum slab.

(1) Face velocity above 350 ft/min not recommended for downflow or counterflow applications due to potential water blow-off.

Min / Max BTU	Slab Letter *	Cabinet / Drain Pan Dimension Code	CFM	Face Velocity(1) (fpm)	Wet Coil Air Pressure Drop (Inches W.C.)
23/37	Y, Z	B, C	800	138	.10
			1000	173	.13
			1200	208	.15
24/25	S, U	A	800	299	.25
			1000	375	.29
24/36	P	A	800	257	.18
			1000	321	.22
			1200	386	.28
24/36	P	B	800	257	.14
			1000	321	.19
			1200	386	.24
24/42	S, U	B	800	200	.14
			1000	250	.18
			1200	300	.25
			1400	350	.28
24/42	S, U	C	800	200	.11
			1000	250	.13
			1200	300	.17
			1400	350	.26
30/36	S, U	A	1000	204	.20
			1200	245	.26
30/36	S, U	B	1000	204	.16
			1200	245	.22
35/36	S, U	A	1200	225	.24
35/36	S, U	B	1200	225	.22
35/36	S, U	C	1200	225	.14
36/42	N	B	1200	337	.16
			1400	393	.20
36/42	N	C	1200	337	.15
			1400	393	.19

* Guest House - Ductless Indoor Unit

SPECIFICATIONS - WALL-MOUNTED INDOOR UNITS

Model No.	MWMA009S4	MWMA012S4	MWMA018S4	MWMA024S4
Nominal Tons	0.75	1	1.5	2
Power Supply - 60 hz - 1 phase	208/230V	208/230V	208/230V	208/230V
Rated load amps	0.06	0.06	0.13	0.3
Output (W)	20	20	58	60
Room Temperature Range (°F) Cooling	62 - 90	62 - 90	62 - 90	62 - 90
Room Temperature Range (°F) Heating	32 - 86	32 - 86	32 - 86	32 - 86
Air Volume - cfm (High/Medium/Low)	370/270/195	370/275/200	530/410/295	695/625/485
Sound Data (dBA) - Low/Medium/High	26.5/33.4/41.7	28.6/35.8/45.1	30.9/36.3/46.2	35.1/44.5/51.7
Piping Connections - Liquid/Gas - o.d. - flare - in.	1/4 / 3/8	1/4 / 1/2	1/4 / 1/2	3/8 / 5/8
Drain connection o.d. - in.	1	1	1	1
Net/Shipping weights - lbs.	20 / 26	20 / 27	27 / 35	40 / 54

SPECIFICATIONS - CASSETTE INDOOR UNITS

Model No.	M22A009S4	M22A012S4	M22A018S4	M33A024S4
Nominal Tons	0.75	1	1.5	2
Power Supply - 60 hz - 1 phase	208/230V	208/230V	208/230V	208/230V
Rated load amps	0.9	1.0	1.5	2.0
Output (W)	46	46	46	42
Room Temperature Range (°F) Cooling	62 - 90	62 - 90	62 - 90	62 - 90
Room Temperature Range (°F) Heating	32 - 86	32 - 86	32 - 86	32 - 86
Air Volume - cfm (High/Medium/Low)	375/300/255	380/310/260	560/485/415	700/635/575
Sound Data (dBA) - Low/Medium/High	33/37/41	36/39/43	36/39/44	43/47/51
Piping Connections - Liquid/Gas - o.d. - flare - in.	1/4 / 3/8	1/4 / 1/2	1/4 / 1/2	3/8 / 5/8
Drain connection o.d. - in.	1	1	1	1-1/4
Net/Shipping weights - lbs. Body	32 / 38	36 / 41	36 / 42	47 / 55

REQUIRED COMPONENTS - ORDERED SEPARATELY

Cassette Panel	**13X04** (M0STAT62Q-1)	**13X04** (M0STAT62Q-1)	**13X04** (M0STAT62Q-1)	**13X05** (M0STAT63Q-1)
Net/Shipping weights - lbs.	6 / 10	6 / 10	6 / 10	12 / 18

* Guest House - Ductless Outdoor Unit

COOLING CAPACITY - 012

Outdoor Temperature - °F (Dry Bulb)	Indoor Temperature - °F (Dry Bulb / Wet Bulb)							
	65°F / 54°F		70°F / 59°F		75°F / 63°F		80°F / 67°F	
	Total mBtuh	Sensible mBtuh	Total mBtuh	Sensible mBtuh	Total mBtuh	Sensible mBtuh	Total mBtuh	Sensible mBtuh
–22	9.09	6.54	9.82	7.08	10.70	7.62	11.49	8.17
–13	9.51	6.88	10.28	7.45	11.21	8.02	11.97	8.60
–4	9.86	7.17	10.71	7.76	11.56	8.36	12.40	8.95
0	9.97	7.25	10.83	7.85	11.68	8.45	12.54	9.05
5	10.11	7.34	10.97	7.96	11.84	8.57	12.71	9.18
15	10.38	7.54	11.27	8.17	12.16	8.80	13.06	9.42
25	10.67	8.00	11.49	8.59	12.32	9.19	13.15	9.78
35	10.95	8.46	11.72	9.02	12.48	9.58	13.24	10.14
45	11.24	8.92	11.94	9.44	12.64	9.97	13.33	10.50
55	11.53	9.38	12.16	9.87	12.79	10.36	13.42	10.85
65	11.82	9.83	12.38	10.29	12.95	10.75	13.52	11.21
75	12.11	10.29	12.61	10.72	13.11	11.14	13.61	11.57
85	12.39	10.53	12.83	10.91	13.28	11.28	13.72	11.66
95	11.04	9.26	11.80	10.03	12.01	10.21	12.83	10.90
105	9.68	7.98	10.47	8.90	10.75	9.13	11.93	10.14
115	8.43	7.17	9.13	7.76	9.83	8.35	10.53	8.95
122	7.27	6.18	7.92	6.73	8.56	7.27	9.20	7.82

HEATING CAPACITY - 012

Outdoor Temperature - °F (Dry Bulb)	Indoor Temperature - °F (Dry Bulb)			
	60°F	65°F	70°F	75°F
	Total mBtuh	Total mBtuh	Total mBtuh	Total mBtuh
–22	4.06	3.68	3.29	2.91
–13	7.10	7.00	6.89	6.79
–5	10.40	10.25	10.10	9.94
0	12.09	11.92	11.74	11.56
5	12.46	12.28	12.10	11.92
17	13.58	13.12	12.45	11.79
19.4	13.72	13.27	12.81	12.36
24.8	14.33	13.75	13.17	12.59
32	14.52	13.92	13.53	13.43
35	14.66	14.45	14.24	14.03
39.2	15.29	14.93	14.56	14.20
44.6	15.82	15.40	14.98	14.56
47	16.22	15.68	15.14	14.60
53.6	17.32	16.45	15.57	14.70
57	17.89	16.84	15.79	14.75

AHRI SYSTEM MATCHES

Indoor Unit Type	Outdoor Unit	Indoor Unit	Cooling Capacity	SEER	EER	Heat Capacity High	Heat Capacity Low	HSPF (IV)	AHRI Reference
Wall-Mounted Non-Ducted	MLA009S4S-1P	MWMA009S4-2P	9,000	24.00	14.50	10,900	6,900	10.50	9920038
	MLA012S4S-1P	MWMA012S4-2P	12,000	22.00	12.50	12,000	7,800	10.00	9920041
	MLA018S4S-1P	MWMA018S4-2P	17,000	20.00	12.50	18,000	10,800	10.00	9920044
	MLA024S4S-1P	MWMA024S4-2P	24,000	20.00	12.50	24,000	15,400	10.00	9920047
Cassette Non-Ducted	MLA009S4S-1P	M22A009S4-2P	9,000	19.50	13.00	10,000	6,700	10.00	9920039
	MLA012S4S-1P	M22A012S4-2P	12,000	19.00	12.50	12,000	8,200	10.00	9920042
	MLA018S4S-1P	M22A018S4-2P	16,000	19.00	12.50	18,000	12,000	9.60	9920045
	MLA024S4S-1P	M33A024S4-2P	24,000	19.50	11.00	24,000	16,200	10.50	9920048
Ceiling/Floor Mount Non-Ducted	MLA018S4S-1P	MCFB018S4-2P	17,000	18.50	12.50	18,000	12,900	10.00	9956319
	MLA024S4S-1P	MCFA024S4-2P	24,000	19.00	11.50	24,000	17,200	11.00	9920049
Medium Static Ducted	MLA009S4S-1P	MMDA009S4-2P	9,000	19.00	13.00	10,000	6,900	10.00	9920037
	MLA012S4S-1P	MMDA012S4-2P	11,500	19.00	12.50	12,000	8,500	10.00	9920040
	MLA018S4S-1P	MMDA018S4-2P	16,500	19.00	12.50	18,000	12,200	10.00	9920043
	MLA024S4S-1P	MMDA024S4-2P	24,000	20.00	12.50	24,000	17,200	10.50	9920046

Ratings are AHRI certified to AHRI Standard 210/240-2008;

- Cooling Ratings - 80°F dry bulb/67°F wet bulb entering indoor coil air and 95°F wet bulb/75°F dry bulb outdoor air temperature.
- High Temperature Heating Ratings - 70°F dry bulb/60°F wet bulb entering indoor coil air and 47°F dry bulb/43°F wet bulb outdoor air temperature.
- Low Temperature Heating Ratings - 70°F dry bulb/60°F wet bulb entering indoor coil air and 17°F dry bulb/15°F wet bulb outdoor air temperature.

To convert HSPF from Region IV to Region V - Divide by 1.15.

GARDEN CITY, ADA COUNTY, IDAHO

In the Matter of:	)	Permit No. BLDFY2019-0132
	)	
Address 308 E 35th St	)	**FLOOD RISK**
Parcel No. R2734540400	)	**ACKNOWLEDGEMENT**
Garden City, Ada County, Idaho	)	
	)	

Introduction

The FEMA Flood Insurance Rate Maps (FIRMS) for the Lower Boise River are in the process of being updated. Garden City will be secluded from the proposed change which means that the secluded area will maintain the 2003 mapped floodplain and floodway until further study. The City does not know of a date that this might happen. Currently the property where the subject building permits is proposed is not in the 100 year floodplain, however, the model shows that they will be in the floodplain once the seclusion is lifted.

All insurable structures within the floodplain are federally required to have flood insurance if there is a federally backed mortgage on the structure. The base flood elevations (BFEs) for the proposed structures are below the base flood elevations identified in the model that is being used for the new maps. Flood insurance for homes below the BFE is significantly higher than homes that are constructed above the BFE. Depending on the first floor construction in relation to the Base Flood Elevation, the required flood insurance rates could be thousands more per year. Subsequently, building the homes below the BFE could have significant economic impacts on the ability to sell the homes and for future home owners.

While there is no regulatory necessity to build the proposed structure to the proposed BFEs it is strongly recommended.

Acknowledgement

Garden City has provided this information prior to construction and these risks and requirements are acknowledged by the undersigned owner of the subject property located at 308 E. 35th St, Garden City, Idaho; lot(s)_____ block(s) of See attached legal subdivision on the day and year as indicated below:

PROPERTY OWNER:

Kim Spears

Printed Name

Signature

5-16-19

Date

CAPACITY CLAIMED BY SIGNER

Individual X

Corporation Officer__ _____

title

Partner(s)__

Attorney__

Trustee(s)__

Guardian/Conservator__

Other: _____

NOTARY PUBLIC:

On this 16 day of May, in the year 2019, before me, personally appeared, Kimberly Spears, personally known to me or proven to me on the basis of satisfactory evidence to be the person whose name is subscribed to be within the said instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his signature on the instrument that the person or entity upon behalf of which the person acted, executed the instrument.

TRACY E FELTON
67538
NOTARY PUBLIC
STATE OF IDAHO
My Commission Expires
04/18/2022

Tracy E Felton

Notary Public for Idaho

Residing at Boise, Idaho

My Commission expires 04-18-2022

GARDEN CITY™
NESTLED BY THE RIVER

6015 Glenwood Street • Garden City, Idaho 83714
Phone 208 - 472-2921 • Fax 208 - 472-2926
www.gardencityidaho.org

Affidavit of Legal Interest

State of Idaho)
)SS
County of Ada)

I, Kim Spears (Name), 310 E 35th St (Address)

Garden City (City), ID 83714 (State and Zip)

Being first duly sworn upon oath, depose and say:

1. That I am the record owner of the property described on the attached, and I grant my permission

   to Dylan Schneider (Name), _____ (Address)
   to submit the accompanying application pertaining to that property.

2. I agree to indemnify, defend and hold the City of Garden City and its employees harmless from any claim or liability resulting from any dispute as to the statements contained herein or as to the ownership of the property which is the subject of the application.

3. I hereby grant permission to City of Garden City staff to enter the subject property for the purpose of site inspections related to processing said applications.

Dated this 16th day of May, 2019

_____
Signature

Subscribed and sworn to before me the day and year first above written

Tracy E Felton
Notary Public for Idaho

TRACY E FELTON
67538
NOTARY PUBLIC
STATE OF IDAHO
My Commission Expires
04/18/2022

Residing at: Boise Idaho

My Commission expires 04-18-2022

GARDEN CITY, ADA COUNTY, IDAHO

In the Matter of:	)	Permit No. _____
	)	
Address 308 E 35th St	)	**FLOOD RISK**
Parcel No. R2734540400	)	**ACKNOWLEDGEMENT**
Garden City, Ada County, Idaho	)	
_____	)	

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PROPERTY OWNER:

Kim Spears

Printed Name

Signature

5-16-19

Date

CAPACITY CLAIMED BY SIGNER

Individual X

Corporation Officer__ _____

title

Partner(s)__

Attorney__

Trustee(s)__

Guardian/Conservator__

Other: _____

NOTARY PUBLIC:

On this 16 day of May, in the year 2019, before me, personally appeared, Kimberly Spears, personally known to me or proven to me on the basis of satisfactory evidence to be the person whose name is subscribed to be within the said instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his signature on the instrument that the person or entity upon behalf of which the person acted, executed the instrument.

TRACY E FELTON
67538
NOTARY PUBLIC
STATE OF IDAHO
My Commission Expires
04/18/2022

Tracy E Felton

Notary Public for Idaho

Residing at Boise, Idaho

My Commission expires 04-18-2022

Exhibit 'A'

Skinner
Land Survey
Precision Land Surveyors, P.C.
17842 Upper Pleasant Ridge Road
Caldwell, Idaho 83607
(208)454-0933
WWW.SKINNERLANDSURVEY.COM
surveys@skinnerlandsurvey.com

Thomas J. Wellard, PLS
Rodney Clark, PE

December 19, 2018

Legal Description for
Kim Spears
Job No. DE0418

Parcel A

This parcel is a portion of Lots 3, 4 and 5, Block 29 of Fairview Acres Subdivision No. 5 as shown in Book 5 of Plats at Page 619 in the Office of the Recorder for Ada County, Idaho, lying in the NE ¼ SE ¼ of Section 5 in Township 3 North, Range 2 East of the Boise Meridian, Ada County, Idaho and is more particularly described as follows:

COMMENCING at the Southernmost corner of said Block 29, a found ½ inch diameter rebar;

thence North 52° 01' 01" East along the Southeasterly boundary of said Block 29, a distance of 140.55 feet to the **TRUE POINT OF BEGINNING**, said point being on a line ten feet Southwest from the Northeasterly boundary of Lot 3, Block 29, a found aluminum cap monument;

thence North 45° 01' 46" West, along said line being ten feet Southwest of and parallel with the Northeasterly boundary of Lot 3, a distance of 129.08 feet to a found aluminum cap monument;

thence North 51° 58' 59" East along the Northwesterly boundary of Lots 3, 4, and 5 a distance of 110.93 feet to the Northernmost corner of Lot 5, a found ½ inch diameter rebar;

thence South 44° 50' 09" East along the Northeast boundary of Lot 5 a distance of 36.26 feet to a ½ x 24 inch rebar set with a plastic cap stamped P.L.S. 15352;

thence South 51° 58' 59" West a distance of 42.13 feet to a ½ x 24 inch rebar set with a plastic cap stamped P.L.S. 15352;

thence South 39° 49' 19" East a distance of 92.20 feet to the Easternmost corner of Lot 4, a ½ x 24 inch rebar set with a plastic cap stamped P.L.S. 15352;

thence South 52° 01' 01" West along the Southeast boundary of Lot 4 and 3 a distance of 60.25 feet to the **TRUE POINT OF BEGINNING**, said parcel being 9,931 square feet, more or less, and being subject to any and all easements and rights of way of record of implied.

PROFESSIONAL LAND SURVEYOR
LICENSED
15352
12/19/18
STATE OF IDAHO
THOMAS J. WELLARD

Exhibit 'A'

Skinner
Land Survey
Precision Land Surveyors, P.C.
17842 Upper Pleasant Ridge Road
Caldwell, Idaho 83607
(208)454-0933
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Thomas J. Wellard, PLS
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December 19, 2018

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Kim Spears
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thence South 52° 01' 01" West along the Southeast boundary of Lot 4 and 3 a distance of 60.25 feet to the **TRUE POINT OF BEGINNING**, said parcel being 9,931 square feet, more or less, and being subject to any and all easements and rights of way of record of implied.

PROFESSIONAL LAND SURVEYOR
LICENSED
15352
12/19/18
STATE OF IDAHO
THOMAS J. WELLARD

Load Short Form
Entire House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Design Information

	Htg	Clg
Outside db (°F)	9	95
Inside db (°F)	70	75
Design TD (°F)	61	20
Daily range	-	H
Inside humidity (%)	30	50
Moisture difference (gr/lb)	29	-28

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

HEATING EQUIPMENT

Make	n/a		
Trade	n/a		
Model	n/a		
AHRI ref	n/a		
Efficiency		n/a	
Heating input			
Heating output		0	Btuh
Temperature rise		0	°F
Actual air flow		0	cfm
Air flow factor		0	cfm/Btuh
Static pressure		0	in H2O
Space thermostat		n/a	

COOLING EQUIPMENT

Make	n/a		
Trade	n/a		
Cond	n/a		
Coil	n/a		
AHRI ref	n/a		
Efficiency		n/a	
Sensible cooling		0	Btuh
Latent cooling		0	Btuh
Total cooling		0	Btuh
Actual air flow		0	cfm
Air flow factor		0	cfm/Btuh
Static pressure		0	in H2O
Load sensible heat ratio		0	

ROOM NAME		Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Main House	d	1821	21145	15115	895	895
Guest House	d	600	8658	7693	380	380
Entire House	d	2421	29803	22808	1275	1275
Other equip loads			6689	2226		
Equip. @ 1.00 RSM				25134		
Latent cooling				108		
TOTALS		2421	36491	25242	1275	1275

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Load Short Form
Guest House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Design Information

	Htg	Clg
Outside db (°F)	9	95
Inside db (°F)	70	75
Design TD (°F)	61	20
Daily range	-	H
Inside humidity (%)	30	50
Moisture difference (gr/lb)	29	-28

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

HEATING EQUIPMENT

Make	Lennox		
Trade	Ductless H/P System		
Model	MLA012S4S-1P		
AHRI ref			
Efficiency	10 HSPF		
Heating input			
Heating output	15140	Btuh @ 47°F	
Temperature rise	40	°F	
Actual air flow	380	cfm	
Air flow factor	0.044	cfm/Btuh	
Static pressure	0	in H2O	
Space thermostat			
Capacity balance point = -6 °F			

COOLING EQUIPMENT

Make	Lennox	
Trade	Ductless H/P System	
Cond	MLA012S4S-1P	
Coil	MWMA012S4S**	
AHRI ref		
Efficiency	12.5 EER, 19 SEER	
Sensible cooling	9008	Btuh
Latent cooling	3003	Btuh
Total cooling	12010	Btuh
Actual air flow	380	cfm
Air flow factor	0.049	cfm/Btuh
Static pressure	0	in H2O
Load sensible heat ratio	1.00	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Bathrm	68	0	0	0	0
Bedrm	164	0	0	0	0
Living / Kitchen	368	8658	7693	380	380
Guest House d	600	8658	7693	380	380
Other equip loads		2004	667		
Equip. @ 1.00 RSM			8393		
Latent cooling			0		
TOTALS	600	10662	8393	380	380

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Load Short Form
Main House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Design Information

	Htg	Clg
Outside db (°F)	9	95
Inside db (°F)	70	75
Design TD (°F)	61	20
Daily range	-	H
Inside humidity (%)	30	50
Moisture difference (gr/lb)	29	-28

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

HEATING EQUIPMENT

Make	Lennox	
Trade	Merit Series	
Model	ML195DF045XP36B	
AHRI ref		
Efficiency	95 AFUE	
Heating input	44000	Btuh
Heating output	43000	Btuh
Temperature rise	48	°F
Actual air flow	895	cfm
Air flow factor	0.042	cfm/Btuh
Static pressure	0.70	in H2O
Space thermostat		

COOLING EQUIPMENT

Make	Lennox	
Trade	Merit Series	
Cond	13ACXN024-230**	
Coil	LC23/37**B	
AHRI ref		
Efficiency	11.0 EER, 13 SEER	
Sensible cooling	20060	Btuh
Latent cooling	3540	Btuh
Total cooling	23600	Btuh
Actual air flow	895	cfm
Air flow factor	0.059	cfm/Btuh
Static pressure	0.70	in H2O
Load sensible heat ratio	1.00	

ROOM NAME	Area (ft^2)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Bath	78	235	138	10	8
Bdrm 2	220	2085	2254	88	133
Hall	238	2718	1254	115	74
Kitchen	329	4217	2425	178	144
Laundry	125	2234	1806	95	107
Living	426	5933	4310	251	255
M. Bath	184	1239	501	52	30
Mstr. Bdrm	221	2485	2427	105	144

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Main House d	1821	21145	15115	895	895
Other equip loads		4684	1559		
Equip. @ 1.00 RSM			16740		
Latent cooling			0		
TOTALS	1821	25829	16740	895	895

Building Analysis
Entire House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Design Conditions

Location:
Boise Municipal, ID, US
Elevation: 2867 ft
Latitude: 44°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	9	95
Daily range (°F)	-	30 (H)
Wet bulb (°F)	-	63
Wind speed (mph)	15.0	7.5

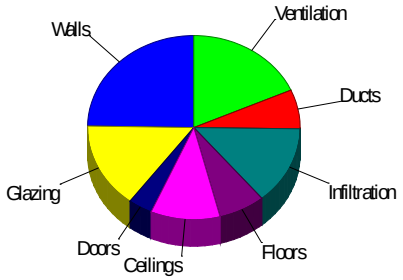
Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	61	20
Relative humidity (%)	30	50
Moisture difference (gr/lb)	28.7	-28.5

Infiltration:

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

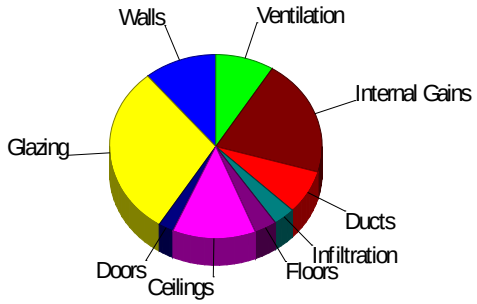
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.0	9018	24.7
Glazing	19.0	5485	15.0
Doors	21.8	1334	3.7
Ceilings	1.6	3859	10.6
Floors	1.1	2581	7.1
Infiltration	2.1	5020	13.8
Ducts		2506	6.9
Piping		0	0
Humidification		0	0
Ventilation		6689	18.3
Adjustments		0	
Total		**36491**	**100.0**



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.2	2779	11.1
Glazing	26.0	7496	29.9
Doors	9.6	586	2.3
Ceilings	1.3	3173	12.7
Floors	0.4	859	3.4
Infiltration	0.3	835	3.3
Ducts		1930	7.7
Ventilation		2226	8.9
Internal gains		5150	20.6
Blower		0	0
Adjustments		0	
Total		**25033**	**100.0**



Latent Cooling Load = 108 Btuh
Overall U-value = 0.163 Btuh/ft²-°F

Data entries checked.

Building Analysis
Guest House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Design Conditions

Location:
Boise Municipal, ID, US
Elevation: 2867 ft
Latitude: 44°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	9	95
Daily range (°F)	-	30 (H)
Wet bulb (°F)	-	63
Wind speed (mph)	15.0	7.5

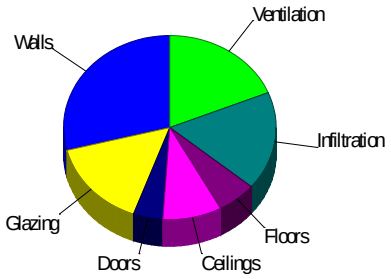
Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	61	20
Relative humidity (%)	30	50
Moisture difference (gr/lb)	28.7	-28.5

Infiltration:

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

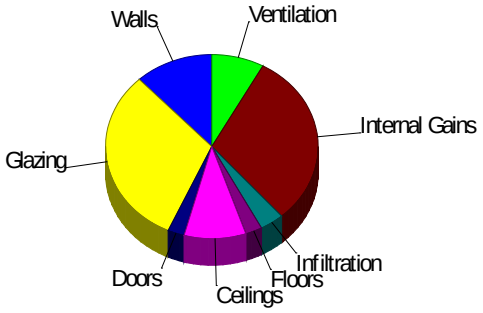
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.0	3088	29.0
Glazing	19.0	1649	15.5
Doors	23.9	481	4.5
Ceilings	1.6	956	9.0
Floors	1.1	640	6.0
Infiltration	2.1	1844	17.3
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		2004	18.8
Adjustments		0	
Total		**10662**	**100.0**



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.3	1001	12.0
Glazing	30.1	2615	31.3
Doors	10.5	211	2.5
Ceilings	1.3	786	9.4
Floors	0.4	213	2.5
Infiltration	0.3	307	3.7
Ducts		0	0
Ventilation		667	8.0
Internal gains		2560	30.6
Blower		0	0
Adjustments		0	
Total		**8360**	**100.0**



Latent Cooling Load = 0 Btuh
Overall U-value = 0.154 Btuh/ft²-°F

Data entries checked.

Building Analysis
Main House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Design Conditions

Location:
Boise Municipal, ID, US
Elevation: 2867 ft
Latitude: 44°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	9	95
Daily range (°F)	-	30 (H)
Wet bulb (°F)	-	63
Wind speed (mph)	15.0	7.5

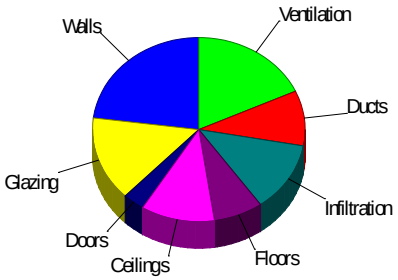
Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	61	20
Relative humidity (%)	30	50
Moisture difference (gr/lb)	28.7	-28.5

Infiltration:

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

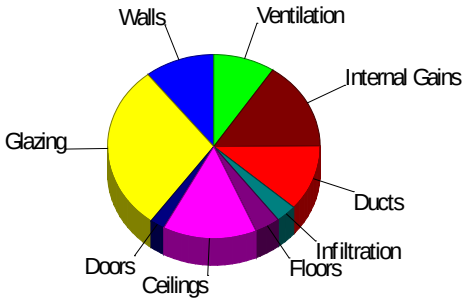
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.0	5929	23.0
Glazing	19.0	3835	14.8
Doors	20.8	854	3.3
Ceilings	1.6	2903	11.2
Floors	1.1	1941	7.5
Infiltration	2.1	3177	12.3
Ducts		2506	9.7
Piping		0	0
Humidification		0	0
Ventilation		4684	18.1
Adjustments		0	
Total		**25829**	**100.0**



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.2	1778	10.7
Glazing	24.2	4881	29.3
Doors	9.1	375	2.2
Ceilings	1.3	2386	14.3
Floors	0.4	646	3.9
Infiltration	0.3	529	3.2
Ducts		1930	11.6
Ventilation		1559	9.3
Internal gains		2590	15.5
Blower		0	0
Adjustments		0	
Total		**16674**	**100.0**



Latent Cooling Load = 0 Btuh
Overall U-value = 0.166 Btuh/ft²-°F

Data entries checked.

Component Constructions
Entire House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Design Conditions

Location:
Boise Municipal, ID, US
Elevation: 2867 ft
Latitude: 44°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	9	95
Daily range (°F)	-	30 (H)
Wet bulb (°F)	-	63
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	61	20
Relative humidity (%)	30	50
Moisture difference (gr/lb)	28.7	-28.5

Infiltration:

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

Construction descriptions	**Or**	**Area** ft²	**U-value** Btuh/ft²-°F	**Insul R** ft²-°F/Btuh	**Htg HTM** Btuh/ft²	**Loss** Btuh	**Clg HTM** Btuh/ft²	**Gain** Btuh
Walls								
12F-0sw: Frm wall, wd ext, 1/2" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	491	0.065	21.0	3.98	1955	1.29	633
	e	642	0.065	21.0	3.98	2559	1.29	829
	s	352	0.065	21.0	3.98	1403	1.29	455
	w	588	0.065	21.0	3.98	2342	1.29	759
	all	2073	0.065	21.0	3.98	8259	1.29	2676
Partitions								
12F-0sw: Frm wall, wd ext, 1/2" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud		191	0.065	21.0	3.98	759	0.54	103
Windows								
2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk: 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.35); 6.67 ft head ht	n	105	0.310	0	19.0	2002	13.0	1366
	e	69	0.310	0	19.0	1307	39.1	2688
	s	20	0.310	0	19.0	382	15.5	311
	s	33	0.310	0	19.0	623	22.1	725
	w	62	0.310	0	19.0	1171	39.1	2407
	all	289	0.310	0	19.0	5485	26.0	7496
Doors								
11D0: Door, wd sc type	n	20	0.390	0	23.9	481	10.5	211
	w	20	0.390	0	23.9	481	10.5	211
	all	40	0.390	0	23.9	961	10.5	422
11P0: Door, mtl pur core type	n	21	0.290	10.5	17.8	373	7.80	164
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		2421	0.026	38.0	1.59	3859	1.31	3173
Floors								
19D-0cstp: Flr floor, frm flr, 10" thkns, tight crwl ovr, r-19 wall insul		2421	0.368	19.0	1.07	2581	0.35	859

Component Constructions
Main House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Design Conditions

Location:
Boise Municipal, ID, US
Elevation: 2867 ft
Latitude: 44°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	9	95
Daily range (°F)	-	30 (H)
Wet bulb (°F)	-	63
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	61	20
Relative humidity (%)	30	50
Moisture difference (gr/lb)	28.7	-28.5

Infiltration:

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

Construction descriptions	**Or**	**Area** ft²	**U-value** Btuh/ft²-°F	**Insul R** ft²-°F/Btuh	**Htg HTM** Btuh/ft²	**Loss** Btuh	**Clg HTM** Btuh/ft²	**Gain** Btuh
Walls								
12F-0sw: Frm wall, wd ext, 1/2" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	299	0.065	21.0	3.98	1190	1.29	385
	e	447	0.065	21.0	3.98	1782	1.29	577
	s	145	0.065	21.0	3.98	577	1.29	187
	w	407	0.065	21.0	3.98	1621	1.29	525
	all	1298	0.065	21.0	3.98	5170	1.29	1675
Partitions								
12F-0sw: Frm wall, wd ext, 1/2" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud		191	0.065	21.0	3.98	759	0.54	103
Windows								
2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk: 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.35); 6.67 ft head ht	n	81	0.310	0	19.0	1546	13.0	1055
	e	39	0.310	0	19.0	737	39.1	1516
	s	20	0.310	0	19.0	382	15.5	311
	s	24	0.310	0	19.0	456	22.1	530
	w	38	0.310	0	19.0	715	39.1	1469
	all	202	0.310	0	19.0	3835	24.2	4881
Doors								
11D0: Door, wd sc type	n	20	0.390	0	23.9	481	10.5	211
11P0: Door, mtl pur core type	n	21	0.290	10.5	17.8	373	7.80	164
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		1821	0.026	38.0	1.59	2903	1.31	2386
Floors								
19D-0cstp: Flr floor, frm flr, 10" thkns, tight crwl ovr, r-19 wall insul		1821	0.368	19.0	1.07	1941	0.35	646

Component Constructions
Guest House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Design Conditions

Location:
Boise Municipal, ID, US
Elevation: 2867 ft
Latitude: 44°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	9	95
Daily range (°F)	-	30 (H)
Wet bulb (°F)	-	63
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	61	20
Relative humidity (%)	30	50
Moisture difference (gr/lb)	28.7	-28.5

Infiltration:	
Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

Construction descriptions	**Or**	**Area** ft²	**U-value** Btuh/ft²-°F	**Insul R** ft²-°F/Btuh	**Htg HTM** Btuh/ft²	**Loss** Btuh	**Clg HTM** Btuh/ft²	**Gain** Btuh
Walls								
12F-0sw: Frm wall, wd ext, 1/2" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	192	0.065	21.0	3.98	765	1.29	248
	e	195	0.065	21.0	3.98	777	1.29	252
	s	207	0.065	21.0	3.98	826	1.29	267
	w	181	0.065	21.0	3.98	721	1.29	234
	all	775	0.065	21.0	3.98	3088	1.29	1001
Partitions								
(none)								
Windows								
2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk: 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.35); 6.67 ft head ht	n	24	0.310	0	19.0	456	13.0	311
	e	30	0.310	0	19.0	570	39.1	1172
	s	9	0.310	0	19.0	167	22.1	194
	w	24	0.310	0	19.0	456	39.1	938
	all	87	0.310	0	19.0	1649	30.1	2615
Doors								
11D0: Door, wd sc type	w	20	0.390	0	23.9	481	10.5	211
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		600	0.026	38.0	1.59	956	1.31	786
Floors								
19D-0cstp: Flr floor, frm flr, 10" thkns, tight crwl ovr, r-19 wall insul		600	0.368	19.0	1.07	640	0.35	213

Project Summary
Entire House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Notes:

Design Information

Weather: Boise Municipal, ID, US

Winter Design Conditions

Outside db	9	°F
Inside db	70	°F
Design TD	61	°F

Summer Design Conditions

Outside db	95	°F
Inside db	75	°F
Design TD	20	°F
Daily range	H	
Relative humidity	50	%
Moisture difference	-28	gr/lb

Heating Summary

Structure	27297	Btuh
Ducts	2506	Btuh
Central vent (110 cfm)	6689	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	36491	Btuh

Sensible Cooling Equipment Load Sizing

Structure	20877	Btuh
Ducts	1930	Btuh
Central vent (110 cfm)	2226	Btuh
Blower	0	Btuh
Use manufacturer's data	n	
Rate/swing multiplier	1.00	
Equipment sensible load	25134	Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

	Heating	Cooling
Area (ft²)	2421	2421
Volume (ft³)	22546	22546
Air changes/hour	0.22	0.11
Equiv. AVF (cfm)	83	41

Latent Cooling Equipment Load Sizing

Structure	279	Btuh
Ducts	-171	Btuh
Central vent (110 cfm)	-1922	Btuh
Equipment latent load	108	Btuh
Equipment Total Load (Sen+Lat)	25242	Btuh
Req. total capacity at 0.70 SHR	3.0	ton

Heating Equipment Summary

Make	n/a		
Trade	n/a		
Model	n/a		
AHRI ref	n/a		
Efficiency		n/a	
Heating input			
Heating output		0	Btuh
Temperature rise		0	°F
Actual air flow		0	cfm
Air flow factor		0	cfm/Btuh
Static pressure		0	in H2O
Space thermostat	n/a		

Cooling Equipment Summary

Make	n/a		
Trade	n/a		
Cond	n/a		
Coil	n/a		
AHRI ref	n/a		
Efficiency		n/a	
Sensible cooling		0	Btuh
Latent cooling		0	Btuh
Total cooling		0	Btuh
Actual air flow		0	cfm
Air flow factor		0	cfm/Btuh
Static pressure		0	in H2O
Load sensible heat ratio		0	

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Project Summary
Guest House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Notes:

Design Information

Weather: Boise Municipal, ID, US

Winter Design Conditions

Outside db	9	°F
Inside db	70	°F
Design TD	61	°F

Summer Design Conditions

Outside db	95	°F
Inside db	75	°F
Design TD	20	°F
Daily range	H	
Relative humidity	50	%
Moisture difference	-28	gr/lb

Heating Summary

Structure	8658	Btuh
Ducts	0	Btuh
Central vent (33 cfm)	2004	Btuh
Outside air		
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	10662	Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

	Heating	Cooling
Area (ft²)	600	600
Volume (ft³)	5400	5400
Air changes/hour	0.34	0.17
Equiv. AVF (cfm)	30	15

Sensible Cooling Equipment Load Sizing

Structure	7693	Btuh
Ducts	0	Btuh
Central vent (33 cfm)	667	Btuh
Outside air		
Blower	0	Btuh
Use manufacturer's data	n	
Rate/swing multiplier	1.00	
Equipment sensible load	8393	Btuh

Latent Cooling Equipment Load Sizing

Structure	135	Btuh
Ducts	0	Btuh
Central vent (33 cfm)	-576	Btuh
Outside air		
Equipment latent load	0	Btuh
Equipment Total Load (Sen+Lat)	8393	Btuh
Req. total capacity at 0.75 SHR	0.9	ton

Heating Equipment Summary

Make	Lennox
Trade	Ductless H/P System
Model	MLA012S4S-1P
AHRI ref	

Efficiency	10 HSPF	
Heating input		
Heating output	15140	Btuh @ 47°F
Temperature rise	40	°F
Actual air flow	380	cfm
Air flow factor	0.044	cfm/Btuh
Static pressure	0	in H2O
Space thermostat		

Capacity balance point = -6 °F

Cooling Equipment Summary

Make	Lennox
Trade	Ductless H/P System
Cond	MLA012S4S-1P
Coil	MWMA012S4S**
AHRI ref	

Efficiency	12.5 EER, 19 SEER	
Sensible cooling	9008	Btuh
Latent cooling	3003	Btuh
Total cooling	12010	Btuh
Actual air flow	380	cfm
Air flow factor	0.049	cfm/Btuh
Static pressure	0	in H2O
Load sensible heat ratio	1.00	

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Project Summary
Main House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Notes:

Design Information

Weather: Boise Municipal, ID, US

Winter Design Conditions

Outside db	9	°F
Inside db	70	°F
Design TD	61	°F

Summer Design Conditions

Outside db	95	°F
Inside db	75	°F
Design TD	20	°F
Daily range	H	
Relative humidity	50	%
Moisture difference	-28	gr/lb

Heating Summary

Structure	18639	Btuh
Ducts	2506	Btuh
Central vent (77 cfm)	4684	Btuh
Outside air		
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	25829	Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

	Heating	Cooling
Area (ft²)	1821	1821
Volume (ft³)	17146	17146
Air changes/hour	0.18	0.09
Equiv. AVF (cfm)	52	26

Sensible Cooling Equipment Load Sizing

Structure	13184	Btuh
Ducts	1930	Btuh
Central vent (77 cfm)	1559	Btuh
Outside air		
Blower	0	Btuh
Use manufacturer's data	n	
Rate/swing multiplier	1.00	
Equipment sensible load	16740	Btuh

Latent Cooling Equipment Load Sizing

Structure	144	Btuh
Ducts	-171	Btuh
Central vent (77 cfm)	-1346	Btuh
Outside air		
Equipment latent load	0	Btuh
Equipment Total Load (Sen+Lat)	16740	Btuh
Req. total capacity at 0.85 SHR	1.6	ton

Heating Equipment Summary

Make	Lennox
Trade	Merit Series
Model	ML195DF045XP36B
AHRI ref	

Efficiency	95	AFUE
Heating input	44000	Btuh
Heating output	43000	Btuh
Temperature rise	48	°F
Actual air flow	895	cfm
Air flow factor	0.042	cfm/Btuh
Static pressure	0.70	in H2O
Space thermostat		

Cooling Equipment Summary

Make	Lennox
Trade	Merit Series
Cond	13ACXN024-230**
Coil	LC23/37**B
AHRI ref	

Efficiency	11.0 EER, 13 SEER	
Sensible cooling	20060	Btuh
Latent cooling	3540	Btuh
Total cooling	23600	Btuh
Actual air flow	895	cfm
Air flow factor	0.059	cfm/Btuh
Static pressure	0.70	in H2O
Load sensible heat ratio	1.00	

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Right-J® Worksheet
Entire House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

		Entire House	Main House
1	Room name		
2	Exposed wall	257.8 ft	159.8 ft
3	Room height	9.3 ft d	9.4 ft d
4	Room dimensions		
5	Room area	2421.2 ft²	1821.2 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool
6	W	12F-0sw	0.065	n	3.98	1.29	616	491	1955	633	400	299	1190	385
.	G	2 glazing, clr outr,	0.310	n	19.00	12.97	105	0	2002	1366	81	0	1546	1055
.	D	11D0	0.390	n	23.91	10.49	20	20	481	211	20	20	481	211
.	W	12F-0sw	0.065	e	3.98	1.29	711	642	2559	829	486	447	1782	577
11	G	2 glazing, clr outr,	0.310	e	19.00	39.07	69	0	1307	2688	39	0	737	1516
	W	12F-0sw	0.065	s	3.98	1.29	405	352	1403	455	189	145	577	187
	G	10B-v	0.310	s	19.00	15.46	20	0	382	311	20	0	382	311
	G	2 glazing, clr outr,	0.310	s	19.00	22.09	33	0	623	725	24	0	456	530
	W	12F-0sw	0.065	w	3.98	1.29	670	588	2342	759	445	407	1621	525
	G	2 glazing, clr outr,	0.310	w	19.00	39.07	62	0	1171	2407	38	0	715	1469
	D	11D0	0.390	w	23.91	10.49	20	20	481	211	0	0	0	0
	R	12F-0sw	0.065	-	3.98	0.54	212	191	759	103	212	191	759	103
	D	11P0	0.290	n	17.78	7.80	21	21	373	164	21	21	373	164
	C	16B-38ad	0.026	-	1.59	1.31	2421	2421	3859	3173	1821	1821	2903	2386
	F	19D-0cstp	0.368	-	1.07	0.35	2421	2421	2581	859	1821	1821	1941	646

6	c) AED excursion									0				0
	Envelope loss/gain								22276	14892			15462	10066
12	a) Infiltration								5020	835			3177	529
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				5			1150	3			690
		Appliances/other								4000				1900
	Subtotal (lines 6 to 13)								27297	20877			18639	13184
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								27297	20877			18639	13184
15	Duct loads						9%	9%	2506	1930	13%	15%	2506	1930
	Total room load								29803	22808			21145	15115
	Air required (cfm)								1275	1275			895	895

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Right-J® Worksheet
Entire House
A-1 Heating & Air Conditioning

Job:
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327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

1	Room name	Guest House
2	Exposed wall	98.0 ft
3	Room height	9.0 ft d
4	Room dimensions	
5	Room area	600.0 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area or perimeter Gross	N/P/S	Load Heat	Load Cool
6	W	12F-0sw	0.065	n	3.98	1.29	216	192	765	248				
.	G	2 glazing, clr outr,	0.310	n	19.00	12.97	24	0	456	311				
.	D	11D0	0.390	n	23.91	10.49	0	0	0	0				
.	W	12F-0sw	0.065	e	3.98	1.29	225	195	777	252				
11	G	2 glazing, clr outr,	0.310	e	19.00	39.07	30	0	570	1172				
	W	12F-0sw	0.065	s	3.98	1.29	216	207	826	267				
	G	10B-v	0.310	s	19.00	15.46	0	0	0	0				
	G	2 glazing, clr outr,	0.310	s	19.00	22.09	9	0	167	194				
	W	12F-0sw	0.065	w	3.98	1.29	225	181	721	234				
	G	2 glazing, clr outr,	0.310	w	19.00	39.07	24	0	456	938				
	D	11D0	0.390	w	23.91	10.49	20	20	481	211				
	P	12F-0sw	0.065	-	3.98	0.54	0	0	0	0				
	D	11P0	0.290	n	17.78	7.80	0	0	0	0				
	C	16B-38ad	0.026	-	1.59	1.31	600	600	956	786				
	F	19D-0cstp	0.368	-	1.07	0.35	600	600	640	213				

6	c) AED excursion				0		
	Envelope loss/gain			6814	4826		
12	a) Infiltration			1844	307		
	b) Room ventilation			0	0		
13	Internal gains:	Occupants @ 230	2		460		
		Appliances/other			2100		
	Subtotal (lines 6 to 13)			8658	7693		
	Less external load			0	0		
	Less transfer			0	0		
	Redistribution			0	0		
14	Subtotal			8658	7693		
15	Duct loads		0% 0%	0	0		
	Total room load			8658	7693		
	Air required (cfm)			380	380		

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Right-J® Worksheet
Guest House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

1	Room name	Guest House	Bathrm
2	Exposed wall	98.0 ft	15.8 ft
3	Room height	9.0 ft d	9.0 ft heat/cool
4	Room dimensions		1.0 x 68.4 ft
5	Room area	600.0 ft²	68.4 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	Area (ft²) or perimeter (ft) N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area (ft²) or perimeter (ft) Gross	Area (ft²) or perimeter (ft) N/P/S	Load (Btuh) Heat	Load (Btuh) Cool
6	W	12F-0sw	0.065	n	3.98	1.29	216	192	765	248	50	50	197	64
.	G	2 glazing, clr outr,	0.310	n	19.00	12.97	24	0	456	311	0	0	0	0
.	D	11D0	0.390	n	0.00	0.00	0	0	0	0	0	0	0	0
.	W	12F-0sw	0.065	e	3.98	1.29	225	195	777	252	93	93	371	120
11	G	2 glazing, clr outr,	0.310	e	19.00	39.07	30	0	570	1172	0	0	0	0
	W	12F-0sw	0.065	s	3.98	1.29	216	207	826	267	0	0	0	0
	G	10B-v	0.310	s	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr outr,	0.310	s	19.00	22.09	9	0	167	194	0	0	0	0
	W	12F-0sw	0.065	w	3.98	1.29	225	181	721	234	0	0	0	0
	G	2 glazing, clr outr,	0.310	w	19.00	39.07	24	0	456	938	0	0	0	0
	D	11D0	0.390	w	23.91	10.49	20	20	481	211	0	0	0	0
	P	12F-0sw	0.065	-	0.00	0.00	0	0	0	0	0	0	0	0
	D	11P0	0.290	n	0.00	0.00	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.59	1.31	600	600	956	786	68	68	109	90
	F	19D-0cstp	0.368	-	1.07	0.35	600	600	640	213	68	68	73	24

6	c) AED excursion									0				-21
	Envelope loss/gain								6814	4826			750	277
12	a) Infiltration								1844	307			298	50
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				2			460	0			0
		Appliances/other								2100				0
	Subtotal (lines 6 to 13)								8658	7693			1048	326
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			-1048	-326
14	Subtotal								8658	7693			0	0
15	Duct loads						0%	0%	0	0	-0%	0%	0	0
	Total room load								8658	7693			0	0
	Air required (cfm)								380	380			0	0

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Right-J® Worksheet
Guest House
A-1 Heating & Air Conditioning

Job:
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327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

1	Room name						Bedrm				Living / Kitchen				
2	Exposed wall						26.7 ft				55.5 ft				
3	Room height						9.0 ft		heat/cool		9.0 ft		heat/cool		
4	Room dimensions						1.0 x 163.6 ft				1.0 x 368.0 ft				
5	Room area						163.6 ft²				368.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12F-0sw	0.065	n	3.98	1.29	0	0	0	0	167	143	568	184	
.	G	2 glazing, clr outr,	0.310	n	19.00	12.97	0	0	0	0	24	0	456	311	
.	D	11D0	0.390	n	0.00	0.00	0	0	0	0	0	0	0	0	
.	W	12F-0sw	0.065	e	3.98	1.29	132	102	406	132	0	0	0	0	
11	G	2 glazing, clr outr,	0.310	e	19.00	39.07	30	0	570	1172	0	0	0	0	
	W	12F-0sw	0.065	s	3.98	1.29	108	108	430	139	108	99	395	128	
	G	10B-v	0.310	s	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr outr,	0.310	s	19.00	22.09	0	0	0	0	9	0	167	194	
	W	12F-0sw	0.065	w	3.98	1.29	0	0	0	0	225	181	721	234	
	G	2 glazing, clr outr,	0.310	w	19.00	39.07	0	0	0	0	24	0	456	938	
	D	11D0	0.390	w	23.91	10.49	0	0	0	0	20	20	481	211	
	P	12F-0sw	0.065	-	0.00	0.00	0	0	0	0	0	0	0	0	
	D	11P0	0.290	n	0.00	0.00	0	0	0	0	0	0	0	0	
	C	16B-38ad	0.026	-	1.59	1.31	164	164	261	214	368	368	587	482	
	F	19D-0cstp	0.368	-	1.07	0.35	164	164	174	58	368	368	392	131	

6	c) AED excursion									18				4	
	Envelope loss/gain								1842	1733			4223	2816	
12	a) Infiltration								502	83			1044	174	
	b) Room ventilation								0	0			0	0	
13	Internal gains:	Occupants @	230				2			460	0			0	
		Appliances/other								0				2100	
	Subtotal (lines 6 to 13)								2344	2277			5267	5090	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								-2344	-2277			3391	2603	
14	Subtotal								0	0			8658	7693	
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0	
	Total room load								0	0			8658	7693	
	Air required (cfm)								0	0			380	380	

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Right-J® Worksheet
Main House
A-1 Heating & Air Conditioning

Job:
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		Main House	Bath
1	Room name	Main House	Bath
2	Exposed wall	159.8 ft	0 ft
3	Room height	9.4 ft d	9.0 ft heat/cool
4	Room dimensions		1.0 x 77.9 ft
5	Room area	1821.2 ft²	77.9 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	Area (ft²) or perimeter (ft) N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area (ft²) or perimeter (ft) Gross	Area (ft²) or perimeter (ft) N/P/S	Load (Btuh) Heat	Load (Btuh) Cool
6	W	12F-0sw	0.065	n	3.98	1.29	400	299	1190	385	0	0	0	0
.	G	2 glazing, clr outr,	0.310	n	19.00	12.97	81	0	1546	1055	0	0	0	0
.	D	11D0	0.390	n	23.91	10.49	20	20	481	211	0	0	0	0
.	W	12F-0sw	0.065	e	3.98	1.29	486	447	1782	577	0	0	0	0
11	G	2 glazing, clr outr,	0.310	e	19.00	39.07	39	0	737	1516	0	0	0	0
	W	12F-0sw	0.065	s	3.98	1.29	189	145	577	187	0	0	0	0
	G	10B-v	0.310	s	19.00	15.46	20	0	382	311	0	0	0	0
	G	2 glazing, clr outr,	0.310	s	19.00	22.09	24	0	456	530	0	0	0	0
	W	12F-0sw	0.065	w	3.98	1.29	445	407	1621	525	0	0	0	0
	G	2 glazing, clr outr,	0.310	w	19.00	39.07	38	0	715	1469	0	0	0	0
	D	11D0	0.390	w	0.00	0.00	0	0	0	0	0	0	0	0
	R	12F-0sw	0.065	-	3.98	0.54	212	191	759	103	0	0	0	0
	D	11P0	0.290	n	17.78	7.80	21	21	373	164	0	0	0	0
	C	16B-38ad	0.026	-	1.59	1.31	1821	1821	2903	2386	78	78	124	102
	F	19D-0cstp	0.368	-	1.07	0.35	1821	1821	1941	646	78	78	83	28

6	c) AED excursion									0				-9
	Envelope loss/gain								15462	10066			207	121
12	a) Infiltration								3177	529			0	0
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				3			690	0			0
		Appliances/other								1900				0
	Subtotal (lines 6 to 13)								18639	13184			207	121
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								18639	13184			207	121
15	Duct loads						13%	15%	2506	1930	13%	15%	28	18
	Total room load								21145	15115			235	138
	Air required (cfm)								895	895			10	8

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Right-J® Worksheet
Main House
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		Bdrm 2	Hall
1	Room name	Bdrm 2	Hall
2	Exposed wall	14.7 ft	13.7 ft
3	Room height	9.0 ft heat/cool	9.0 ft heat/cool
4	Room dimensions	14.7 x 15.0 ft	1.0 x 237.8 ft
5	Room area	220.0 ft²	237.8 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Bdrm 2 Area (ft²) or perimeter (ft) Gross	Bdrm 2 N/P/S	Bdrm 2 Load (Btuh) Heat	Bdrm 2 Load (Btuh) Cool	Hall Area (ft²) or perimeter (ft) Gross	Hall N/P/S	Hall Load (Btuh) Heat	Hall Load (Btuh) Cool
6	W	12F-0sw	0.065	n	3.98	1.29	0	0	0	0	0	0	0	0
.	G	2 glazing, clr outr,	0.310	n	19.00	12.97	0	0	0	0	0	0	0	0
.	D	11D0	0.390	n	23.91	10.49	0	0	0	0	0	0	0	0
.	W	12F-0sw	0.065	e	3.98	1.29	132	102	406	132	57	57	227	74
11	G	2 glazing, clr outr,	0.310	e	19.00	39.07	30	0	570	1172	0	0	0	0
	W	12F-0sw	0.065	s	3.98	1.29	0	0	0	0	66	46	183	59
	G	10B-v	0.310	s	19.00	15.46	0	0	0	0	20	0	382	311
	G	2 glazing, clr outr,	0.310	s	19.00	22.09	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	3.98	1.29	0	0	0	0	0	0	0	0
	G	2 glazing, clr outr,	0.310	w	19.00	39.07	0	0	0	0	0	0	0	0
	D	11D0	0.390	w	0.00	0.00	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	3.98	0.54	0	0	0	0	107	86	341	46
	D	11P0	0.290	n	17.78	7.80	0	0	0	0	21	21	373	164
	C	16B-38ad	0.026	-	1.59	1.31	220	220	351	288	238	238	379	312
	F	19D-0cstp	0.368	-	1.07	0.35	220	220	234	78	238	238	253	84

6	c) AED excursion									20				1
	Envelope loss/gain								1562	1690			2138	1051
12	a) Infiltration								276	46			257	43
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				1			230	0			0
		Appliances/other								0				0
	Subtotal (lines 6 to 13)								1838	1966			2396	1094
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1838	1966			2396	1094
15	Duct loads						13%	15%	247	288	13%	15%	322	160
	Total room load								2085	2254			2718	1254
	Air required (cfm)								88	133			115	74

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Right-J® Worksheet
Main House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

		Kitchen	Laundry
1	Room name	Kitchen	Laundry
2	Exposed wall	39.3 ft	23.3 ft
3	Room height	10.0 ft heat/cool	9.0 ft heat/cool
4	Room dimensions	1.0 x 329.0 ft	1.0 x 125.1 ft
5	Room area	329.0 ft²	125.1 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool
6	W	12F-0sw	0.065	n	3.98	1.29	163	142	566	183	0	0	0	0
.	G	2 glazing, clr outr,	0.310	n	19.00	12.97	21	0	405	277	0	0	0	0
.	D	11D0	0.390	n	23.91	10.49	0	0	0	0	0	0	0	0
.	W	12F-0sw	0.065	e	3.98	1.29	210	201	802	260	87	87	347	112
11	G	2 glazing, clr outr,	0.310	e	19.00	39.07	9	0	167	344	0	0	0	0
	W	12F-0sw	0.065	s	3.98	1.29	0	0	0	0	123	99	394	128
	G	10B-v	0.310	s	19.00	15.46	0	0	0	0	0	0	0	0
	G	2 glazing, clr outr,	0.310	s	19.00	22.09	0	0	0	0	24	0	456	530
	W	12F-0sw	0.065	w	3.98	1.29	20	20	80	26	0	0	0	0
	G	2 glazing, clr outr,	0.310	w	19.00	39.07	0	0	0	0	0	0	0	0
	D	11D0	0.390	w	0.00	0.00	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	3.98	0.54	0	0	0	0	0	0	0	0
	D	11P0	0.290	n	17.78	7.80	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.59	1.31	329	329	524	431	125	125	199	164
	F	19D-0cstp	0.368	-	1.07	0.35	329	329	351	117	125	125	133	44

6	c) AED excursion									-158				24
	Envelope loss/gain								2895	1479			1530	1002
12	a) Infiltration								822	137			439	73
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				0			0	0			0
		Appliances/other								500				500
	Subtotal (lines 6 to 13)								3717	2116			1969	1575
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								3717	2116			1969	1575
15	Duct loads						13%	15%	500	310	13%	15%	265	231
	Total room load								4217	2425			2234	1806
	Air required (cfm)								178	144			95	107

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Right-J® Worksheet
Main House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

		Living	M. Bath
1	Room name	Living	M. Bath
2	Exposed wall	41.7 ft	11.0 ft
3	Room height	10.0 ft heat/cool	9.0 ft heat/cool
4	Room dimensions	18.0 x 23.7 ft	1.0 x 184.4 ft
5	Room area	426.0 ft²	184.4 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool
6	W	12F-0sw	0.065	n	3.98	1.29	237	157	624	202	0	0	0	0
.	G	2 glazing, clr outr,	0.310	n	19.00	12.97	60	0	1140	778	0	0	0	0
.	D	11D0	0.390	n	23.91	10.49	20	20	481	211	0	0	0	0
.	W	12F-0sw	0.065	e	3.98	1.29	0	0	0	0	0	0	0	0
11	G	2 glazing, clr outr,	0.310	e	19.00	39.07	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	3.98	1.29	0	0	0	0	0	0	0	0
	G	10B-v	0.310	s	19.00	15.46	0	0	0	0	0	0	0	0
	G	2 glazing, clr outr,	0.310	s	19.00	22.09	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	3.98	1.29	180	162	647	210	99	99	394	128
	G	2 glazing, clr outr,	0.310	w	19.00	39.07	18	0	334	688	0	0	0	0
	D	11D0	0.390	w	0.00	0.00	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	3.98	0.54	0	0	0	0	0	0	0	0
	D	11P0	0.290	n	17.78	7.80	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.59	1.31	426	426	679	558	184	184	294	242
	F	19D-0cstp	0.368	-	1.07	0.35	426	426	454	151	184	184	197	65

6	c) AED excursion									-83				-33
	Envelope loss/gain								4359	2715			885	402
12	a) Infiltration								871	145			207	34
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				0			0	0			0
		Appliances/other								900				0
	Subtotal (lines 6 to 13)								5230	3760			1092	437
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								5230	3760			1092	437
15	Duct loads						13%	15%	703	550	13%	15%	147	64
	Total room load								5933	4310			1239	501
	Air required (cfm)								251	255			52	30

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Right-J® Worksheet
Main House
A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

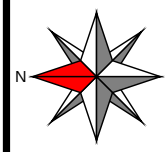
327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

1	Room name	Mstr. Bdrm
2	Exposed wall	16.2 ft
3	Room height	9.0 ft heat/cool
4	Room dimensions	16.2 x 13.7 ft
5	Room area	220.9 ft²

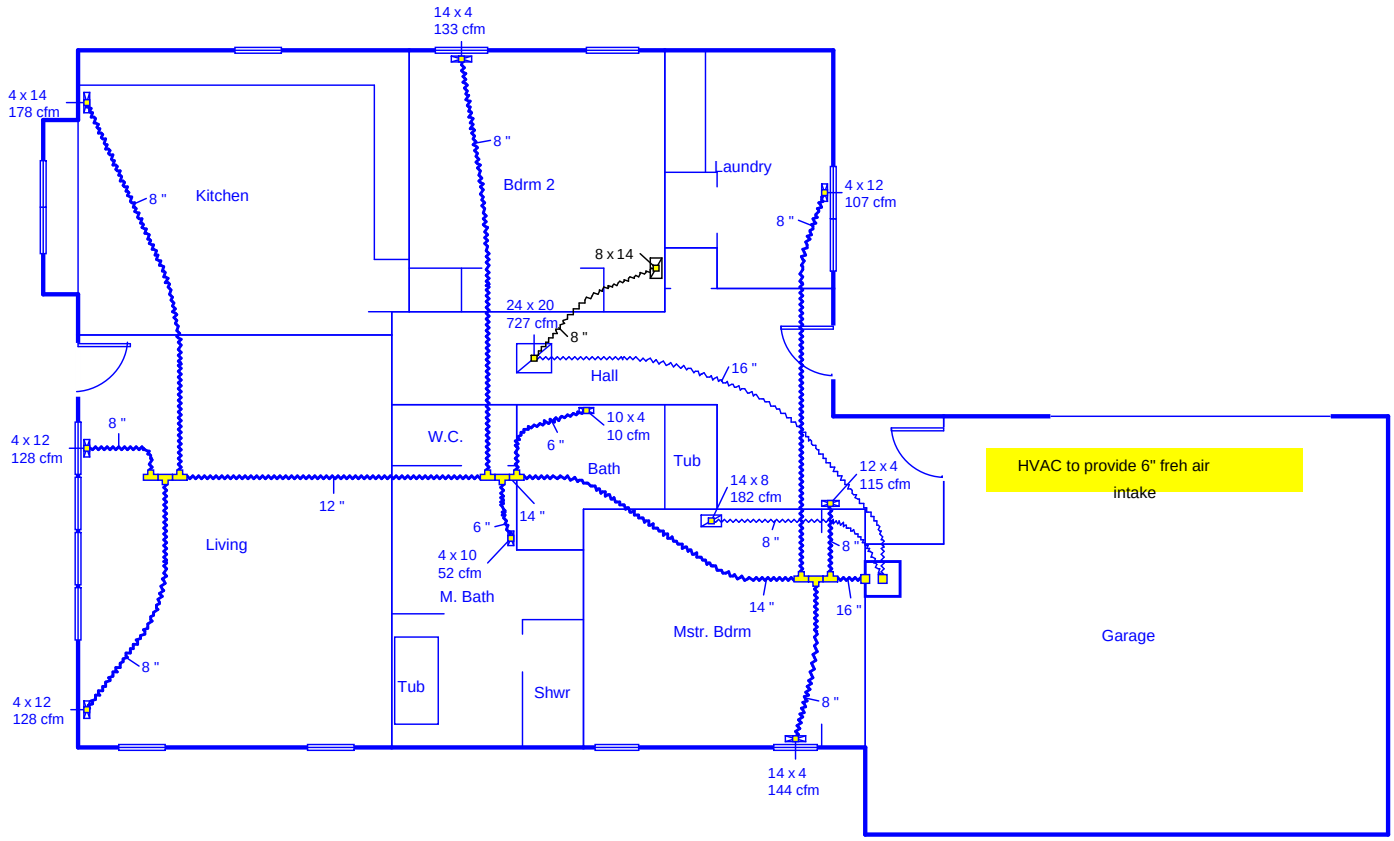
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area or perimeter Gross	N/P/S	Load Heat	Load Cool
6	W	12F-0sw	0.065	n	3.98	1.29	0	0	0	0				
.	├──G	2 glazing, clr outr,	0.310	n	19.00	12.97	0	0	0	0				
.	└──D	11D0	0.390	n	23.91	10.49	0	0	0	0				
.	W	12F-0sw	0.065	e	3.98	1.29	0	0	0	0				
11	└──G	2 glazing, clr outr,	0.310	e	19.00	39.07	0	0	0	0				
	W	12F-0sw	0.065	s	3.98	1.29	0	0	0	0				
	├──G	10B-v	0.310	s	19.00	15.46	0	0	0	0				
	└──G	2 glazing, clr outr,	0.310	s	19.00	22.09	0	0	0	0				
	W	12F-0sw	0.065	w	3.98	1.29	146	126	500	162				
	├──G	2 glazing, clr outr,	0.310	w	19.00	39.07	20	0	380	781				
	└──D	11D0	0.390	w	0.00	0.00	0	0	0	0				
	P	12F-0sw	0.065	-	3.98	0.54	105	105	418	57				
	└──D	11P0	0.290	n	17.78	7.80	0	0	0	0				
	C	16B-38ad	0.026	-	1.59	1.31	221	221	352	290				
	F	19D-0cstp	0.368	-	1.07	0.35	221	221	235	78				

6	c) AED excursion					238			
	Envelope loss/gain				1886	1606			
12	a) Infiltration				304	51			
	b) Room ventilation				0	0			
13	Internal gains:	Occupants @ 230	2			460			
		Appliances/other				0			
	Subtotal (lines 6 to 13)				2190	2117			
	Less external load				0	0			
	Less transfer				0	0			
	Redistribution				0	0			
14	Subtotal				2190	2117			
15	Duct loads		13%	15%	294	310			
	Total room load				2485	2427			
	Air required (cfm)				105	144			

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

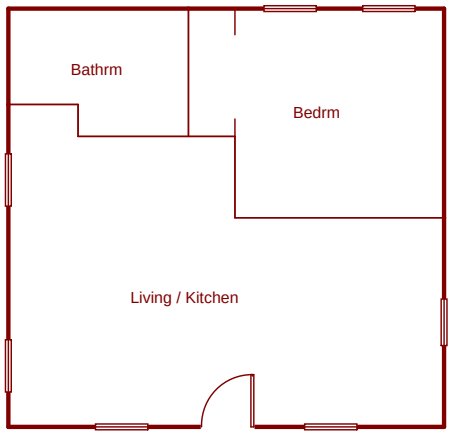


Main Residence



Job #:	A-1 Heating & Air Conditioning	Scale: 1 : 132
Performed by A-1 Heating & Air Cond. for		Page 1
Spears Residence & Guest House	327 N. Linder Rd.	Right-Suite® Universal 2019
308 E. 35th St.	Meridian, ID 83642	19.0.05 RSU02665
Garden City, ID 83714	Phone: 208-343-4445	2019-May-20 16:27:40
	www.a1heating.com LloydB@a1heating.com	.... 35TH ST. GARDEN CITY 83714.rup

Guest House



'Guest House' to be conditioned by Ductless Heat Pump System

Job #:

Performed by A-1 Heating & Air Cond. for

Spears Residence & Guest House
308 E. 35th St.
Garden City, ID 83714

A-1 Heating & Air Conditioning

327 N. Linder Rd.
Meridian, ID 83642
Phone: 208-343-4445
www.a1heating.com LloydB@a1heating.com

Scale: 1 : 132

Right-Suite® Universal 2019
19.0.05 RSU02665
2019-May-20 16:27:40
.... 35TH ST. GARDEN CITY 83714.rup

Duct System Summary

Guest House

A-1 Heating & Air Conditioning

Job:
Date: **5/17/19**
By: **A-1 Heating & Air Cond.**

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

	Heating	Cooling
External static pressure	0 in H2O	0 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0 in H2O	0 in H2O
Supply / return available pressure	0.000 / 0.000 in H2O	0.000 / 0.000 in H2O
Lowest friction rate	0 in/100ft	0 in/100ft
Actual air flow	380 cfm	380 cfm
Total effective length (TEL)	0 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
Living / Kitchen-A	c 7693	380	380	0	0	0x 0	VIFx	0	0	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	380	380	0	0	0	0	0x 0		VIFx	

Duct System Summary

Main House

A-1 Heating & Air Conditioning

Job:
Date: 5/17/19
By: A-1 Heating & Air Cond.

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

	Heating		Cooling	
External static pressure	0.70	in H2O	0.70	in H2O
Pressure losses	0.46	in H2O	0.46	in H2O
Available static pressure	0.24	in H2O	0.24	in H2O
Supply / return available pressure	0.180 / 0.060	in H2O	0.180 / 0.060	in H2O
Lowest friction rate	0.074	in/100ft	0.074	in/100ft
Actual air flow	895	cfm	895	cfm
Total effective length (TEL)			324	ft

Supply Branch Detail Table

Name		Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
Bath	h	235	10	8	0.095	6.0	0x 0	VIFx	28.6	160.0	st2
Bdrm 2	c	2254	88	133	0.074	8.0	0x 0	VIFx	47.6	195.0	st3
Hall	h	2718	115	74	0.111	8.0	0x 0	VIFx	6.3	155.0	st1
Kitchen	h	4217	178	144	0.075	8.0	0x 0	VIFx	63.8	175.0	st4
Laundry	c	1806	95	107	0.102	8.0	0x 0	VIFx	26.1	150.0	st1
Living	c	2155	126	128	0.079	8.0	0x 0	VIFx	56.8	170.0	st4
Living-A	c	2155	126	128	0.084	8.0	0x 0	VIFx	48.1	165.0	st4
M. Bath	h	1239	52	30	0.087	6.0	0x 0	VIFx	26.2	180.0	st3
Mstr. Bdrm	c	2427	105	144	0.107	8.0	0x 0	VIFx	12.1	155.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	570	562	0.074	533	14.0	0 x 0	VinlFlx	st2
st2	Peak AVF	580	570	0.074	543	14.0	0 x 0	VinlFlx	st1
st1	Peak AVF	895	895	0.074	641	16.0	0 x 0	VinlFlx	
st4	Peak AVF	430	399	0.075	547	12.0	0 x 0	VinlFlx	st3

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb3	0x 0	168	182	51.6	0.117	520	8.0	0x 0		VlFx	
rb2	0x 0	727	713	81.7	0.074	521	16.0	0x 0		VlFx	rst1

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rst1	Peak AVF	727	713	0.074	521	16.0	0 x 0	VinlFlx	

Static Pressure and Friction Rate

Guest House

A-1 Heating & Air Conditioning

Job:
Date: **5/17/19**
By: **A-1 Heating & Air Cond.**

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Available Static Pressure

	Heating (in H2O)	**Cooling** (in H2O)
External static pressure	0	0
Pressure losses		
Coil	0	0
Heat exchanger	0	0
Supply diffusers	0	0
Return grilles	0	0
Filter	0	0
Humidifier	0	0
Balancing damper	0	0
Other device	0	0
Available static pressure	0	0

Total Effective Length

	Supply (ft)	**Return** (ft)
Measured length of run-out	0	0
Measured length of trunk	0	0
Equivalent length of fittings	0	0
Total length	0	0
Total effective length		0

Friction Rate

	Heating (in/100ft)		**Cooling** (in/100ft)	
Supply Ducts	0	< 0.06	0	< 0.06
Return Ducts	0	< 0.06	0	< 0.06

Fitting Equivalent Length Details

Supply TotalEL=0

Return TotalEL=0

Static Pressure and Friction Rate

Main House

A-1 Heating & Air Conditioning

Job:
Date: **5/17/19**
By: **A-1 Heating & Air Cond.**

327 N. Linder Rd., Meridian, ID 83642 Phone: 208-343-4445 Email: LloydB@a1heating.com Web: www.a1heating.com

Project Information

For: Spears Residence & Guest House, Schneider Custom Homes
308 E. 35th St., Garden City, ID 83714

Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.70	0.70
Pressure losses		
Coil	0.15	0.15
Heat exchanger	0	0
Supply diffusers	0.03	0.03
Return grilles	0.03	0.03
Filter	0.22	0.22
Humidifier	0	0
Balancing damper	0.03	0.03
Other device	0	0
Available static pressure	0.24	0.24

Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	24	0
Measured length of trunk	23	27
Equivalent length of fittings	195	55
Total length	243	82
Total effective length		324

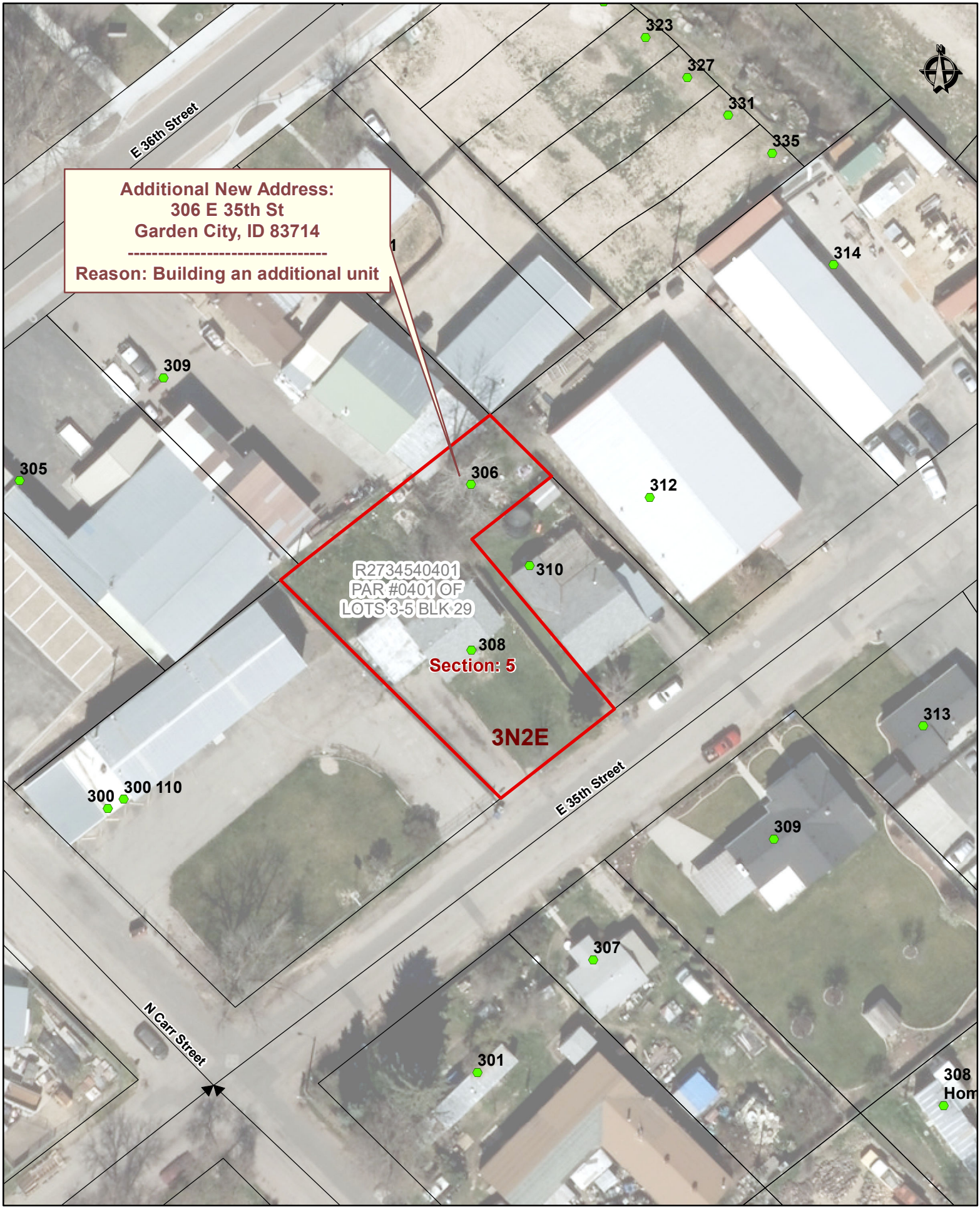
Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.074	OK	0.074	OK
Return Ducts	0.074	OK	0.074	OK

Fitting Equivalent Length Details

Supply 4AD=60, 9I1=85, 11G=5, 11G=5, 11G=5, 1A=35: TotalEL=195

Return 6M=20, 6A1=10, 5E1=10, 11G=5, 11G=5, 11G=5: TotalEL=55



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ADA COUNTY ASSESSOR
Land Records Division
Geographic Information Systems
190 E. Front Street, Ste. 107
Boise, ID 83702

1 inch = 50 feet