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SPECIFICATIONS

DIVISION 16. ELECTRICAL

16000 – General - Contractor shall review construction documents and provide labor and materials pertaining to the electrical system as required in construction documents and as specified herein, while complying with all applicable building codes, local utility requirements and building restrictions. [The contractor will be responsible for filing paper work to required BGE necessary for obtaining permanent electrical service.](#)

16100 – Electrical - Furnish & install 200 Ampere service & weatherproof disconnect on deck with conduit to meter & panel in basement as per BG&E. Raceways to be buried shall be PVC #2 Plastic Electrical conduit. Where permitted by code, non-metallic sheathed cable may be used. Type THW or THWN 600 volt insulation conductors shall be used, minimum wire size shall be #12. Aluminum wire shall not be permitted. Wiring shall connect into metal recessed electrical panel, as shown on construction documents. Electrical service shall be rated at [200 amps](#). Wiring from the outside meter box shall be SE cable.

[The contractor will install a secure disconnect box on the exterior 1st floor rear of the house, with cable connecting to the BGE meter, located inside in the mechanical room.](#)

16120 – Conductors and Cables - Provide and install necessary circuits and breakers for appliances as stated in manufacturer's recommendations per applicable building code requirements. [For general illumination, provide a minimum 15 amp circuit for each 500 sf of living area \(load 3 watts per sq.ft.\)](#) Branch circuits shall be wired with No. [12 gauge wire](#). Install GFI circuits with No. [12 gauge wire](#) in all wet areas, baths and exterior outlets.

Appliance circuits shall be installed as follows per applicable building code requirements.

Range: No. [6 gauge wire](#)

Dryer: No. [10 gauge wire](#)

Disposal: No. [6 gauge wire](#)

Dishwasher: No. [12 gauge wire](#)

For [heat pumps, sump pump, injector pump, and air conditioning units](#), install [10 gauge wire](#) per applicable building code requirements.

Install [AC or NM cable in all protected areas](#) (ie: inside stud walls, on the sides of joists etc.), that are not subject to mechanical damage or excessive heat, excluding mechanical and electrical rooms/areas, connections to motors and connections to surface cabinets.

[When cable should be buried, install AC cable or conduit.](#) Install conduit free from dents and bruises. Plug ends to prevent entry of dirt and moisture. Minimize crossovers. Provide flashing and pitch pockets, making watertight joints where conduits pass through roof or waterproofing membranes. Route all exposed conduits parallel or perpendicular to building lines. All fittings shall be UL approved.

Electrical Specifications
1744 Johnson St.

16140 – Wiring Devices - Install **white** receptacles, switches and cover plates as per construction documents and finish schedules. For exterior receptacles install **gray** cover plates. When two or more switches or receptacles are located together, gang with one common faceplate. If they cannot be ganged, install with a minimum distance between units. Install all receptacles at 18”on center (OC) above finished floor (AFF), unless otherwise noted. At counters, locate receptacles at 44”on center (OC), above finished floor (AFF). Install switches at 48”on center (OC) above finished floor (AFF). Locate light switch cover plates 6” from frame of door or corner of wall.

16500 – Light Fixtures - Provide necessary circuits and wiring for light fixtures as listed below. All lighting shall be switched as noted on construction documents. For exact locations of fixtures, see construction documents and finish schedules. Fixture allowances will be listed in Contract Documents.

Special Items - Provide necessary receptacle requirements and wiring for additional items as listed below. Locate as shown on construction documents.

Fixtures - Install fixtures supplied by owner as listed below.

Location	Fixture	Description	Model #
Rear Yard	Fan Coil, quantity 2	Carrier	FYANF024
Mechanical Room	Sump pump		
Mechanical Room	Injector pump		
Mechanical Room	Heat pump	Carrier 13 SEER	25HCA324A003
Kitchen	Range (stove is gas)		GE, JGBP30SEK
Kitchen	Microwave oven		GE, JVM1650SH
Kitchen	Refrigerator		GE, PFS22SBS
Kitchen	Dishwasher		GE, GLD4260L
Kitchen	Garbage disposal		
W/D Closet	Washer		GE, WCVH6260F
W/D Closet	Dryer	Electric	GE, DCVH515EF
Second Floor closet	Heat pump	Carrier 13 SEER	25HCA324A003
Second Floor West Bathroom Closet	Water Heater	Takagi, Gas fired Tankless	TK1S
Master Bathroom	Whirlpool tub	Clarion	RE2000

Electrical Specifications
1744 Johnson St.

Hallway ceiling top	Whole-house fan		Tamarack, TC1000-H
Basement Bathroom	Ventilation fan	Ceiling mounted	Panasonic, FV-08VQ3
Second Floor Bathrooms & Master Bathroom	Ventilation fan/heater	Ceiling mounted Quantity (3)	Panasonic, FV-11VH1
Kitchen	Lighting fixture	Pendant; quantity 2	Lithonia, 11998 CLST GW
Kitchen	Lighting fixture	Recessed quantity 6	Elite Lighting, B4PLIC
Master Bedroom Walk-in closet	Lighting fixture	Ceiling mounted	Sea Gull 5921BLE-962
Kitchen	Lighting fixture	Under cabinet quantity 4	Lithonia, UC 24E 120 SWR
Dining Area	Lighting fixture	pendant	Sea Gull 69033BLE-71
Staircase	Lighting fixture	Flush quantity 6	Sea Gull 79177BLE-962
Second Floor Hallway	Lighting fixture	flush	Sea Gull 79177BLE-962
Basement Hallway	Lighting fixture	Flush	Sea Gull 79177BLE-962
Mechanical Room	Lighting fixture	Ceiling-mounted	Sea Gull 5940BLE-962
All Bedrooms	Lighting fixture	Ceiling fan with light kit – quantity 4	Seagull Lighting, 1590BLE-15
Living Room	Lighting fixture	Ceiling fan	Seagull Lighting, 1535-15
Basement & 2 nd floor bedroom Closets	Lighting fixture	Cabinet light quantity 3	Lithonia UC 24E 120 SWR
W/D Closet	Lighting fixture	Ceiling mounted	Sea Gull 5921BLE-962
Basement & 2nd floor Bathrooms	Lighting fixture	Wall-mounted quantity 3	Sea Gull 49060BLE-962
Master Bathroom	Light Fixture	Wall mounted quantity 2	Sea Gull 49033BLE-71
Hallway ceiling top	Lighting fixture	Recessed quantity 3	Elite Lighting, B6PLIC
Master Bedroom Hallway	Lighting fixture	Linear fluorescent	Lithonia, S 1 32 120 ½ RE

Electrical Specifications
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Entry	Lighting fixture	Outdoor, wall-mounted	Progress P5685-50EB
First Floor Deck	Light Fixture	Outdoor, wall mounted	Energy Star Flood Light
3 rd Floor Rear Deck	Lighting fixture	Outdoor, wall mounted	Progress P5993-50

Note – The electrician is responsible connecting all the exhaust fans –e.g. bathroom and kitchen fans- to the duct which is installed by the HVAC contractors.

ROOM BY ROOM DETAIL

Basement

Basement Mechanical

1. Furnish & install 200 Ampere service & weatherproof disconnect on deck with conduit to meter & panel in basement as per BG&E
2. Install (1) single receptacle for Sump Pump
3. Install (1) single receptacle for Injector Pump
4. Install (2) GFI receptacles, (1) light outlet, (1) switch & hang customer's fixture
5. Wire (1) Heat Pump & (1) outdoor weatherproof GFI receptacle

Hall/Stairs

1. Wire customer's (3) lights with (1) switch, (2) 3-ways (1) receptacle

Bath

1. Wire customer's (1) light, (2) switches, (1) quad GFI & (1) exhaust fan

Bedroom

1. Wire customer's (1) ceiling fan, (1) closet light, (3) switches & (5) receptacles

First Floor

Kitchen

1. Wire customer's (12) lights, (2) outside lights, (6) switches, (4) countertop receptacles, (1) receptacle in kitchen island, (1) refrigerator, (1) microwave hood, (1) gas stove, (1) disposal, (1) dishwasher & (2) weatherproof receptacles

Dining Room

1. Wire customer's (1) light, (2) 3-ways & (3) receptacles

Living Room

Electrical Specifications
1744 Johnson St.

Wire customer's ceiling fan with (2) 3-ways, (1) outside light, (1) single pole switch, (5) receptacles, (1) bell & (1) weatherproof GFI

Stairs to Second Floor

1. Wire customer's (2) lights with (2) 3-ways

Second Floor

Rear Bedroom

1. Wire customer's ceiling fan, (1) closet light, (3) switches, (4) receptacles & (1) weatherproof GFI receptacle

Laundry Closet

1. Wire customer's light with switch, (1) washer & (1) electric dryer

Hall

1. Wire customer's (3) lights with (2) sets of 3-ways, doorbell & (1) receptacle

Mechanical Closet

1. Wire customer's 10KW Heat Pump & Outdoor Condensing Unit, (1) light, (1) switch, (1) receptacle & (1) weatherproof receptacle

Front Bedroom

1. Wire customer's ceiling fan, (1) closet light, (3) switches & (4) receptacles with arc fault protection

West Bathroom

1. Wire customer's (1) light, (1) exhaust fan heater, (3) switches, (2) GFI's & (1) water heater

East Bathroom

1. Wire customer's (1) light, (1) exhaust fan heater, (3) switches & (2) GFI's

Third Floor

Master Bedroom

1. Wire customer's fan, (1) closet light, (3) switches & (5) receptacles

Walk-in Closet

1. Wire customer's light with switch

Master Bedroom Hallway

1. Wire customer's cove lighting with (2) sets of 3-ways & (1) receptacle

Electrical Specifications
1744 Johnson St.

Hall/Stairs

1. Wire customer's (5) lights with (1) sets of 3-ways, (1) set of 4-ways & (1) receptacle

Bathroom

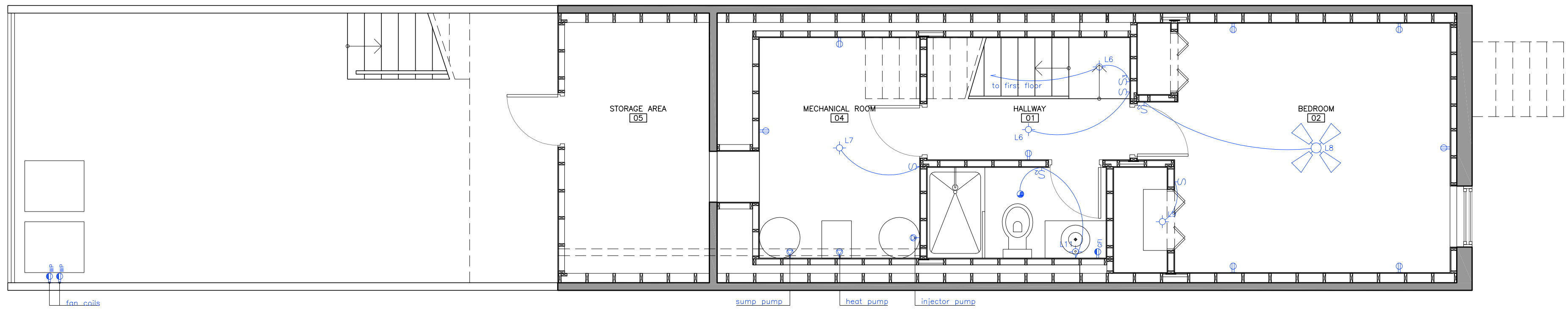
1. Wire customer's (2) lights, (1) heat fan with (3) switches, (2) GFI receptacles, (1) whirlpool & (1) pool heater

Deck

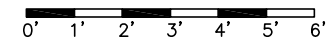
1. Wire customer's light & switch, (1) weatherproof GFI

Roof

1. Wire customer's (1) weatherproof receptacle, (1) customer whole house fan & controls



BASEMENT PLAN
SCALE 1/4"=1'

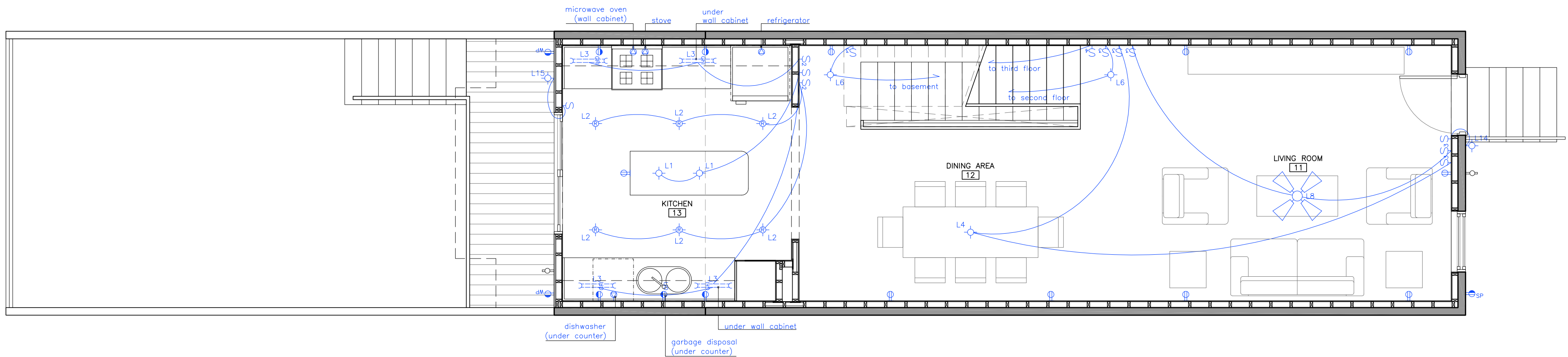


CLG. FAN W/LIGHT	WALL MOUNTED LIGHT	SINGLE POLE SWITCH	DUPLIX RECEPTACLE OUTLET	SPECIAL PURPOSE OUTLET
FLUORESCENT LIGHT	CEILING MOUNTED LIGHT	DOUBLE POLE SWITCH	W/GROUND FAULT INTERRUPTER	EXHAUST VENT
	RECESSED LIGHT	THREE-WAY SWITCH	W/WEATHERPROOF COVER	EXHAUST VENT W/HEATER
	EXHAUST FAN/LIGHT	FOUR-WAY SWITCH	W/SPECIAL COVER	

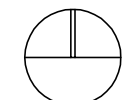
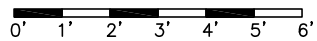
GBA
GREEN BUILDING ALTERNATIVES

PROJECT	Residence in 1744 Johnson St. Baltimore, MD 21230		
CLIENT	Erik Steensen Laura Steensen		
TITLE	ELECTRICAL SCHEMES BASEMENT PLAN		
SCALE	DATE	REV. N°	REV. N°
1/4"=1'	02/09/07	15	
DRAWN BY	REVISED BY	APPROVED BY	
FD	CA		
FILE NAME	SHEET		
E_GB_100_R15.dwg	E-100		
REV. N°	DESCRIPTION	DATE	APPROVED
R8	Internal Information	05/19/06	
R9	Internal Information	06/15/06	
R10	Internal Information	06/27/06	
R11	Internal Information	07/08/06	
R12	Internal Information	07/13/06	
R13	Internal Information	11/17/06	
R14	Internal Information	12/23/06	
R15	Internal Information	02/09/07	

Note: All structural and construction elements are to be specified by specialist, and shall be incorporated to construction drawings. All dimensions given are subject to job site verification and adjustment to fit job site conditions.



FIRST FLOOR PLAN
SCALE 1/4"=1'

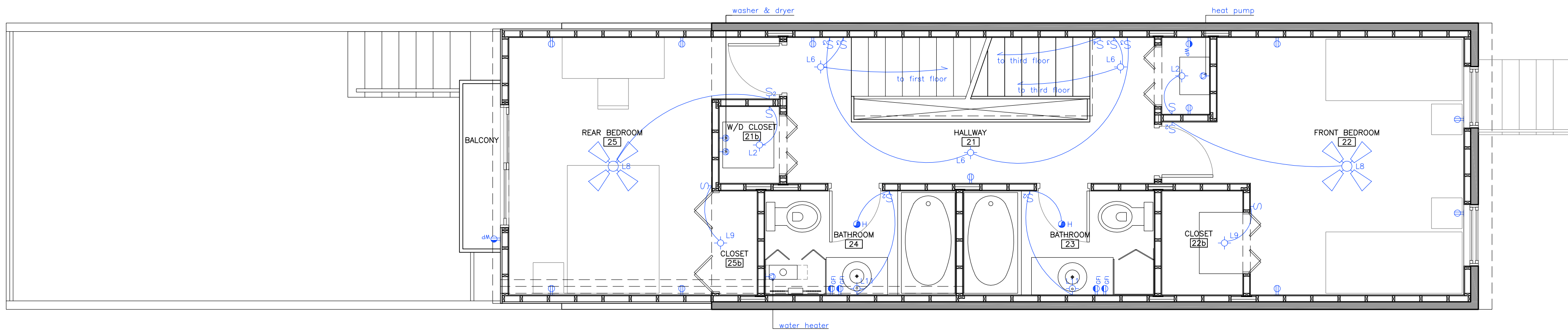


CLG. FAN W/LIGHT	WALL MOUNTED LIGHT	SINGLE POLE SWITCH	DUPLIX RECEPTACLE OUTLET	SPECIAL PURPOSE OUTLET
FLUORESCENT LIGHT	CEILING MOUNTED LIGHT	DOUBLE POLE SWITCH	W/GROUND FAULT INTERRUPTER	EXHAUST VENT
	RECESSED LIGHT	THREE-WAY SWITCH	W/WEATHERPROOF COVER	EXHAUST VENT W/HEATER
	EXHAUST FAN/LIGHT	FOUR-WAY SWITCH	W/SPECIAL COVER	

GBA
GREEN BUILDING ALTERNATIVES

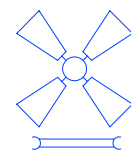
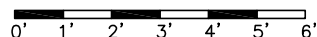
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CLIENT Erik Steensen Laura Steensen	DRAWN BY FD	REVISED BY CA	APPROVED BY	R9	Internal Information	06/15/06	
TITLE ELECTRICAL SCHEMES FIRST FLOOR PLAN	FILE NAME E_GB_101_R15.dwg	SHEET E-101		R10	Internal Information	06/27/06	
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				R12	Internal Information	07/13/06	
				R13	Internal Information	11/17/06	
				R14	Internal Information	12/23/06	
				R15	Internal Information	02/09/07	

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SECOND FLOOR PLAN

SCALE 1/4"=1'



CLG. FAN W/LIGHT

FLUORESCENT LIGHT



WALL MOUNTED LIGHT



CEILING MOUNTED LIGHT



RECESSED LIGHT



EXHAUST FAN/LIGHT



SINGLE POLE SWITCH



DOUBLE POLE SWITCH



THREE-WAY SWITCH



FOUR-WAY SWITCH



DUPLEX RECEPTACLE OUTLET



W/GROUND FAULT INTERRUPTER



W/WEATHERPROOF COVER



W/SPECIAL COVER



SPECIAL PURPOSE OUTLET



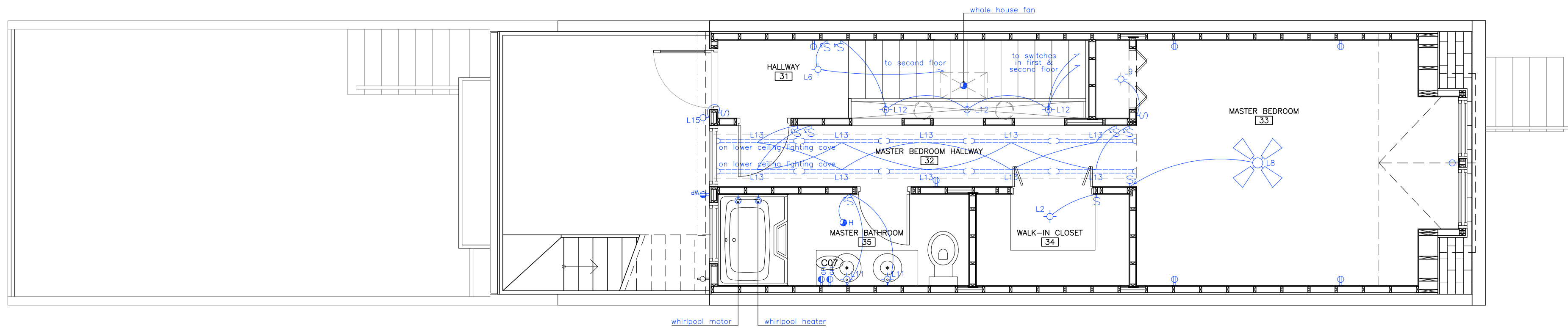
EXHAUST VENT



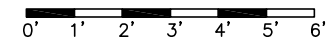
EXHAUST VENT W/HEATER

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GREEN BUILDING ALTERNATIVES

PROJECT Residence in 1744 Johnson St. Baltimore, MD 21230		SCALE 1/4"=1'	DATE 02/09/07	REV. N° 15	REV. N°	DESCRIPTION	DATE	APPROVED
CLIENT Erik Steensen Laura Steensen		DRAWN BY FD	REVISED BY CA	APPROVED BY	R8	Internal Information	05/19/06	<small>Note: All structural and construction elements are to be specified by specialist, and shall be incorporated to construction drawings. All dimensions given are subject to job site verification and adjustment to fit job site conditions.</small>
TITLE ELECTRICAL SCHEMES SECOND FLOOR PLAN		FILE NAME E_GB_102_R15.dwg	SHEET E-102	R9	Internal Information	06/15/06		
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				R13	Internal Information	11/17/06		
				R14	Internal Information	12/23/06		
				R15	Internal Information	02/09/07		



THIRD FLOOR PLAN
SCALE 1/4"=1'

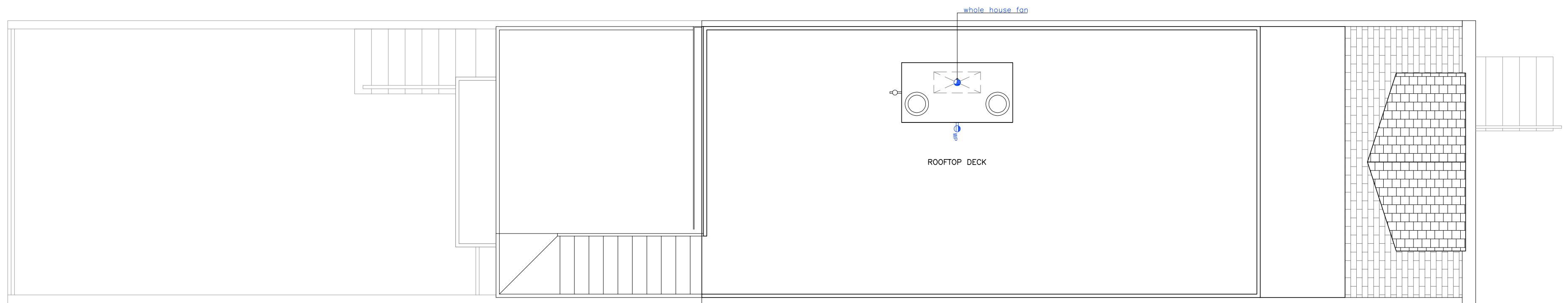


CLG. FAN W/LIGHT	WALL MOUNTED LIGHT	SINGLE POLE SWITCH	DUPLEX RECEPTACLE OUTLET	SPECIAL PURPOSE OUTLET
FLUORESCENT LIGHT	CEILING MOUNTED LIGHT	DOUBLE POLE SWITCH	W/GROUND FAULT INTERRUPTER	EXHAUST VENT
	RECESSED LIGHT	THREE-WAY SWITCH	W/WEATHERPROOF COVER	EXHAUST VENT W/HEATER
	EXHAUST FAN/LIGHT	FOUR-WAY SWITCH	W/SPECIAL COVER	

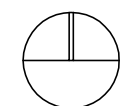
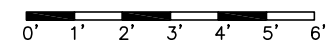
GBA
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PROJECT Residence in 1744 Johnson St. Baltimore, MD 21230	SCALE 1/4"=1'	DATE 02/09/07	REV. N° 15	REV. N° R8	DESCRIPTION Internal Information	DATE 05/19/06	APPROVED
CLIENT Erik Steensen Laura Steensen	DRAWN BY FD	REVISED BY CA	APPROVED BY	R9	Internal Information	06/15/06	
TITLE ELECTRICAL SCHEMES THIRD FLOOR PLAN	FILE NAME E_GB_103_R15.dwg	SHEET E-103		R10	Internal Information	06/27/06	
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				R13	Internal Information	11/17/06	
				R14	Internal Information	12/23/06	
				R15	Internal Information	02/09/07	

Note: All structural and construction elements are to be specified by specialist, and shall be incorporated to construction drawings. All dimensions given are subject to job site verification and adjustment to fit job site conditions.



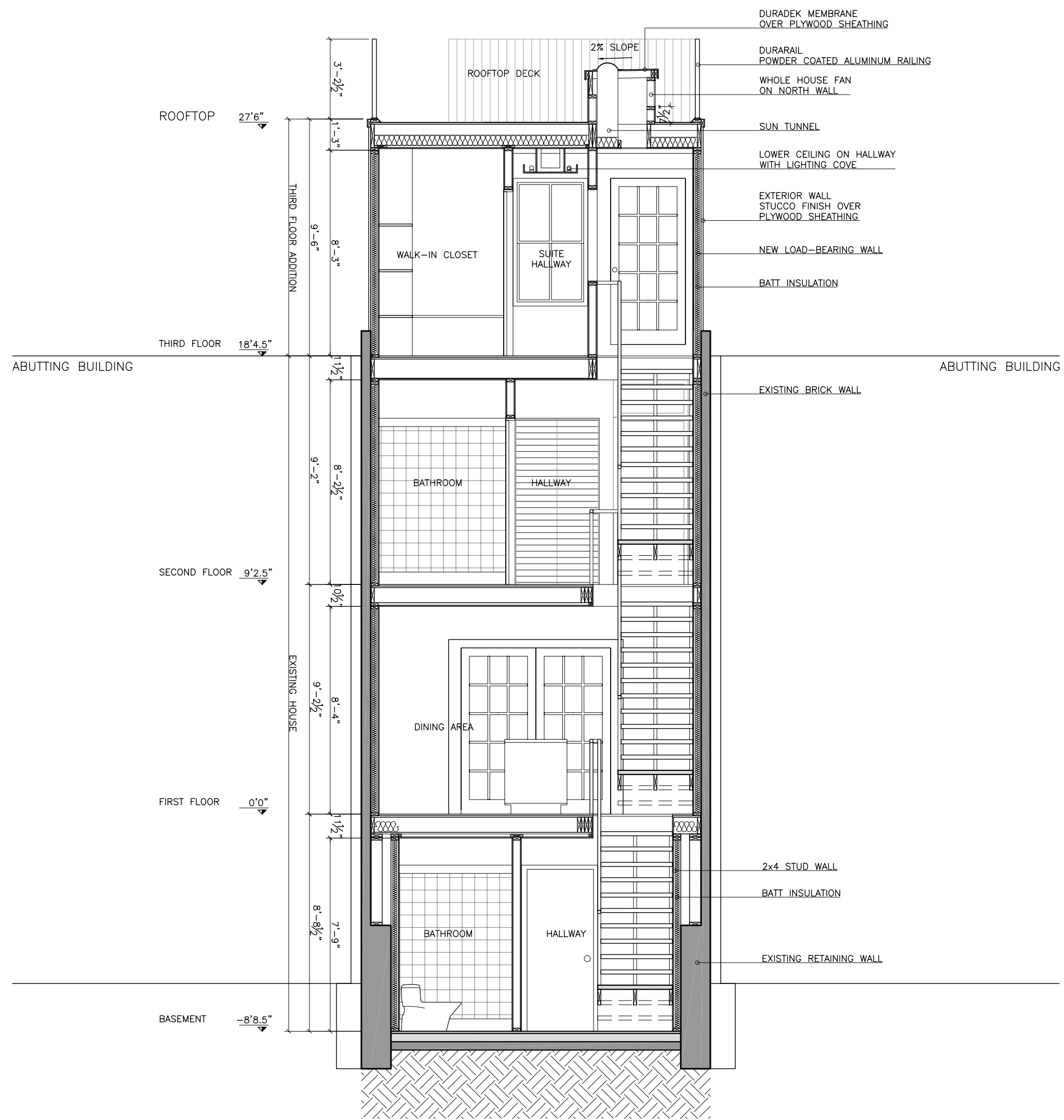
ROOFTOP PLAN
SCALE 1/4"=1'



	CLG. FAN W/LIGHT		WALL MOUNTED LIGHT		SINGLE POLE SWITCH		DUPLEX RECEPTACLE OUTLET		SPECIAL PURPOSE OUTLET
	FLUORESCENT LIGHT		CEILING MOUNTED LIGHT		DOUBLE POLE SWITCH		W/GROUND FAULT INTERRUPTER		EXHAUST VENT
			RECESSED LIGHT		THREE-WAY SWITCH		W/WEATHERPROOF COVER		EXHAUST VENT W/HEATER
			EXHAUST FAN/LIGHT		FOUR-WAY SWITCH		W/SPECIAL COVER		

GBA
GREEN BUILDING ALTERNATIVES

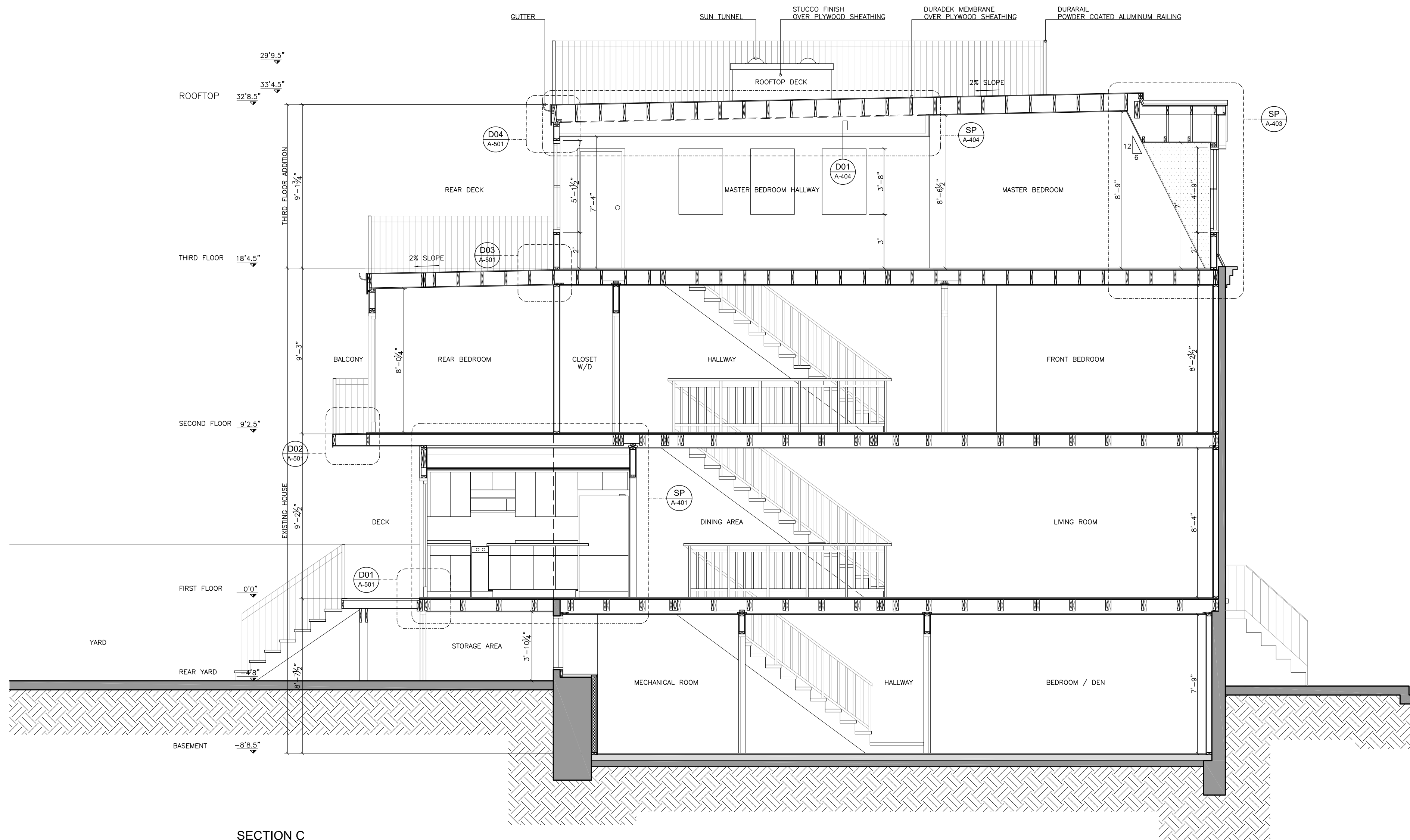
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CLIENT	Erik Steensen Laura Steensen			1/4"=1'	02/09/07	15	R8	Internal Information	05/19/06		
TITLE	ELECTRICAL SCHEMES ROOFTOP PLAN			DRAWN BY	REVISED BY	APPROVED BY	R9	Internal Information	06/15/06		
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				FILE NAME		SHEET	R11	Internal Information	07/08/06		
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							R13	Internal Information	11/17/06		
							R14	Internal Information	12/23/06		
							R15	Internal Information	02/09/07		



SECTION B
SCALE 1/4"=1'

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GREEN BUILDING ALTERNATIVES

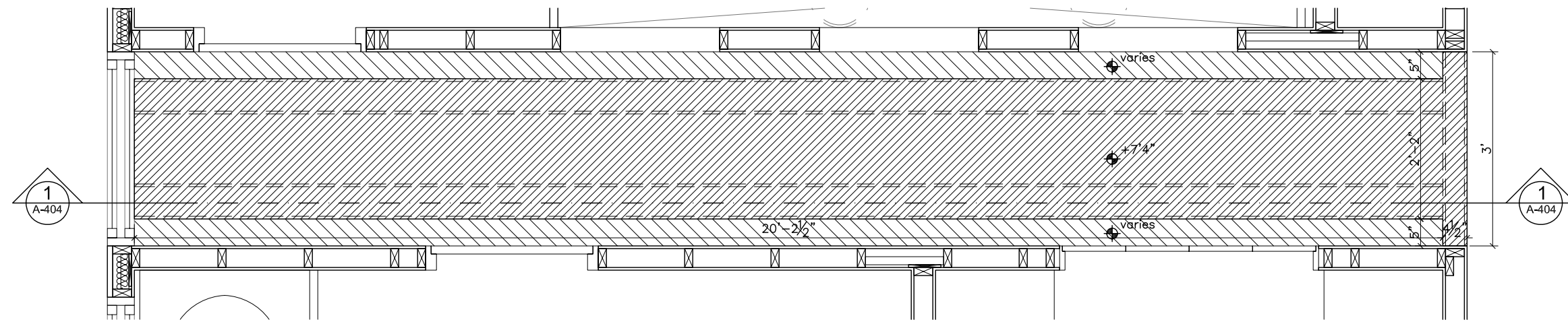
PROJECT	Residence in 1744 Johnson St. Baltimore, MD 21230			SCALE	DATE	REV. N°	REV. N°	DESCRIPTION	DATE	APPROVED	Note: All structural and construction elements are to be specified by specialist, and shall be incorporated to construction drawings. All dimensions given are subject to job site verification and adjustment to fit job site conditions.
CLIENT	Erik Steensen Laura Steensen			1/4"=1'	12/18/06	14	R8	Internal Information	05/19/06		
TITLE	PROJECT DESIGN SECTION B			DRAWN BY	REVISED BY	APPROVED BY	R9	Internal Information	06/15/06		
				FD	CA		R10	Internal Information	06/27/06		
				FILE NAME		SHEET	R11	Internal Information	07/06/06		
				A_GB_202_R14.dwg		A-202	R12	Internal Information	09/11/06		
							R13	Internal Information	12/06/06		
							R14	Internal Information	12/18/06		



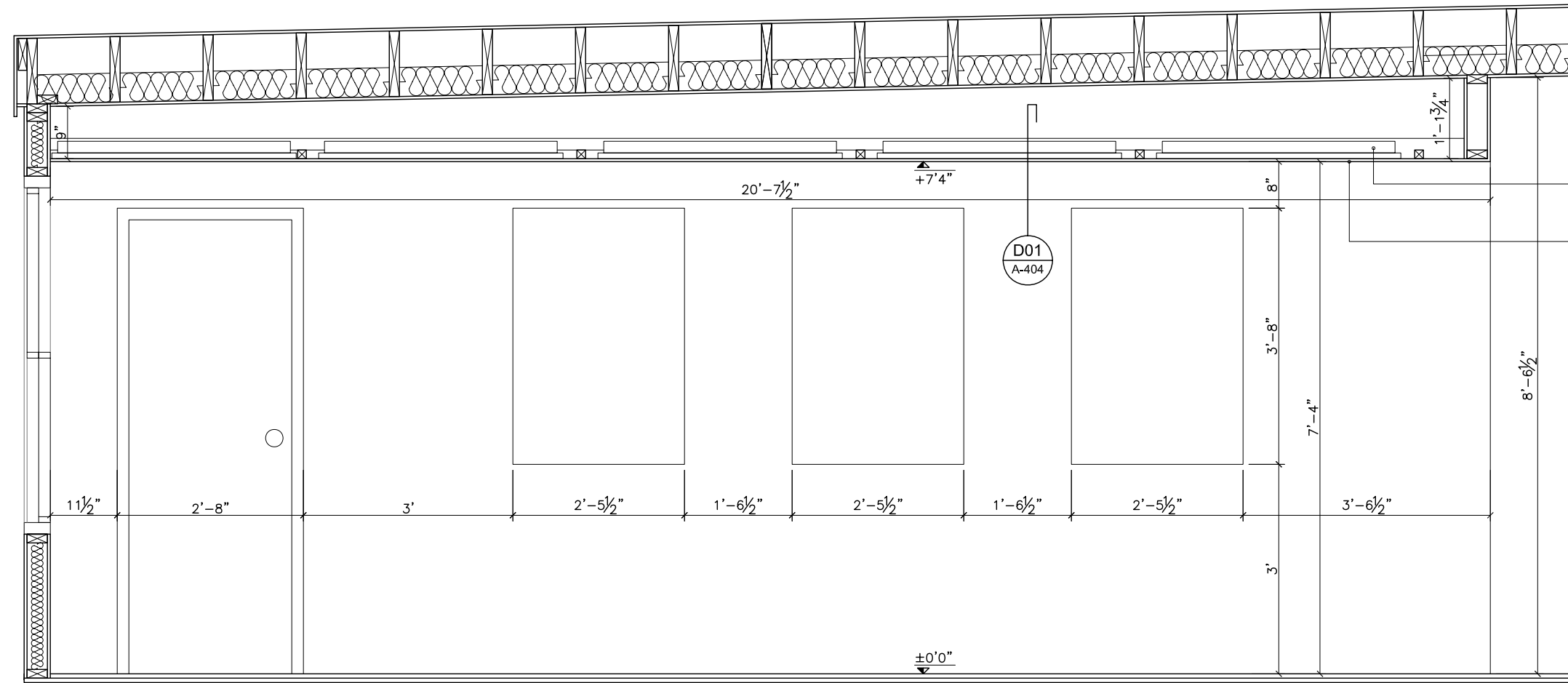
SECTION C
SCALE 1/4"=1'

GBA
GREEN BUILDING ALTERNATIVES

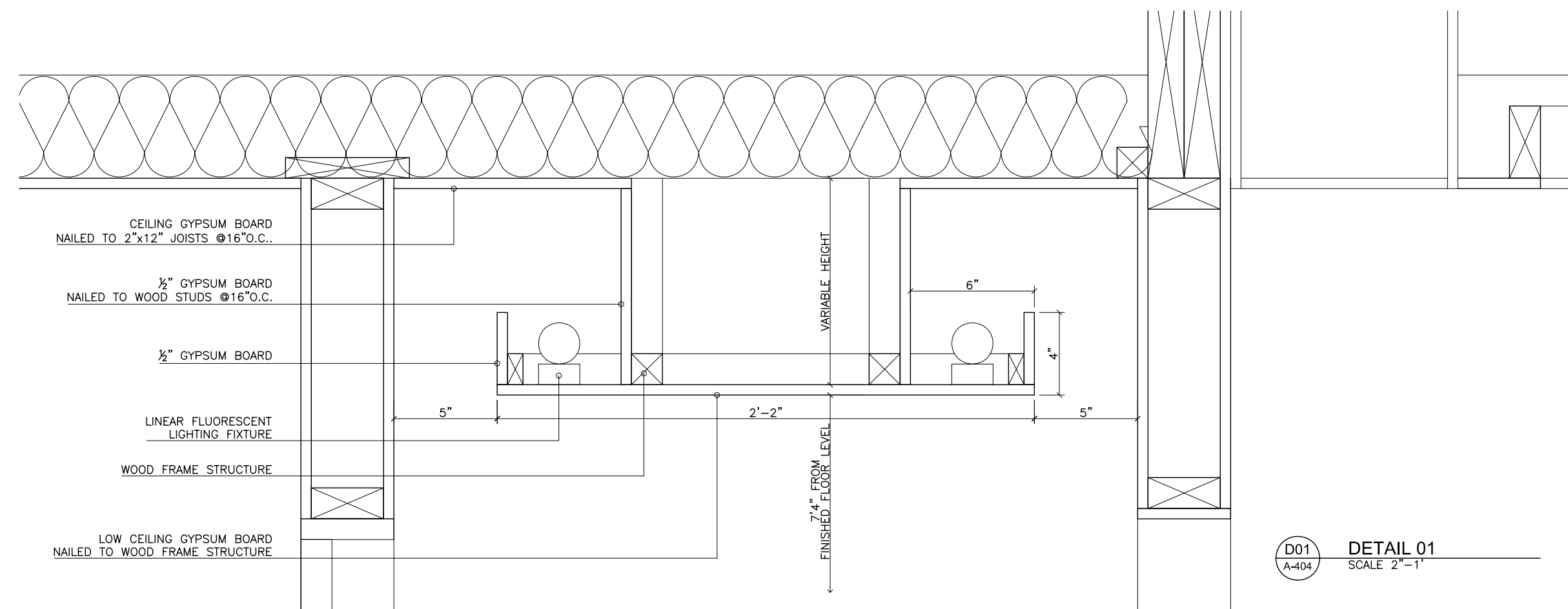
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CLIENT Erik Steensen Laura Steensen		DRAWN BY FD	REVISED BY CA	APPROVED BY	R8	Internal Information	05/19/06		
TITLE PROJECT DESIGN SECTION C		FILE NAME A_GB_203_R14.dwg	SHEET A-203		R9	Internal Information	06/15/06		
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					R11	Internal Information	07/06/06		
					R12	Internal Information	09/11/06		
					R13	Internal Information	12/06/06		
					R14	Internal Information	12/18/06		



MASTER BEDROOM HALLWAY CEILING PLAN
SCALE 1/2"=1'
0' 1' 2' 3' 4'



MASTER BEDROOM HALLWAY - SECTION 1
SCALE 1/2"=1'
0' 1' 2' 3' 4'



D01 DETAIL 01
SCALE 2"=1'

GBA
GREEN BUILDING ALTERNATIVES

PROJECT Residence in 1744 Johnson St. Baltimore, MD 21230	SCALE varies	DATE 11/10/06	REV. N° 13	REV. N° R9	DESCRIPTION	DATE	APPROVED	Note: All structural and construction elements are to be specified by specialist, and shall be incorporated to construction drawings. All dimensions given are subject to job site verification and adjustment to fit job site conditions.
CLIENT Erik Steensen Laura Steensen	DRAWN BY FD	REVISED BY CA	APPROVED BY	R10				
TITLE SECTOR PLAN MASTER BEDROOM HALLWAY LIGHTING COVE	FILE NAME A_GB_404_R13.dwg	SHEET A-404	R11					
			R12	Internal Information	11/10/06			
			R13					