



Building Permit Application

Howard County Maryland
Department of Inspections, Licenses and Permits
3430 Court House Drive
Permits: 410-313-2455
www.howardcountymd.gov

Date Received: 04/11/17

Permit No.: B17002678

Building Address: 8585 RESERVOIR RD
City: Fort Detrick State: MD Zip Code: 21744
Suite/Apt. # SDP/WP/BA #: 16-147
Census Tract: Subdivision: Howard County
Section: Area: Lot: 1
Tax Map: Parcel: 9 Grid: 12
Zoning: Map Coordinates: Lot Size: 3.4222

Existing Use: Proposed Use: Estimated Construction Cost: \$ Description of Work: Occupant/Tenant Name: Has tenant space previously occupied? ☐ Yes ☒ No

Contract Name: Address: City: State: Zip Code: Phone: Fax: Email:

Commercial Building Characteristics	Residential Building Characteristics
Height:	<input checked="" type="checkbox"/> SF Dwelling <input type="checkbox"/> SF Townhouse
No. of stories:	Depth Width
Gross area, sq. ft./floor:	1 st floor: 2 nd floor:
Area of construction (sq. ft.):	Basement: <input type="checkbox"/> Finished Basement <input type="checkbox"/> Unfinished Basement <input type="checkbox"/> Crawl Space
Use group:	<input type="checkbox"/> Slab on Grade
Construction type:	No. of Bedrooms: Multi-family Dwelling
<input type="checkbox"/> Reinforced Concrete	No. of efficiency units:
<input type="checkbox"/> Structural Steel	No. of 1 BR units:
<input type="checkbox"/> Masonry	No. of 2 BR units:
<input type="checkbox"/> Wood Frame	No. of 3 BR units:
<input type="checkbox"/> State Certified Modular	Other Structure:
	Dimensions:
Roadside Tree Project Permit	Footings:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Roof:
Roadside Tree Project Permit #	<input type="checkbox"/> State Certified Modular
	<input type="checkbox"/> Manufactured Home

Property Owner's Name: BUCKARD HOMES
Address: City: State: Zip Code: Phone: Fax: Email:

Applicant's Name & Mailing Address, (If other than stated herein)

Applicant's Name: Address: City: State: Zip Code: Phone: Fax: Email:

Contractor Company: Contact Person: Address: City: State: Zip Code: License No.: Phone: Fax: Email:

Engineer/Architect Company: Responsible Design Prof.: Address: City: State: Zip Code: Phone: Fax: Email:

Utilities
Electric: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Gas: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Supply
<input type="checkbox"/> Public <input checked="" type="checkbox"/> Private
Sewage Disposal
<input type="checkbox"/> Public <input checked="" type="checkbox"/> Private
Heating System
<input type="checkbox"/> Electric <input type="checkbox"/> Oil <input type="checkbox"/> Natural Gas <input checked="" type="checkbox"/> Propane Gas <input type="checkbox"/> Other:
Sprinkler System:
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Grading Permit Number: B17002678
Building Shell Permit Number:

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

Applicant's Signature: Email Address: Title/Company:

Print Name: Date:

Checks Payable to: DIRECTOR OF FINANCE OF HOWARD COUNTY

PLEASE WRITE NEATLY & LEGIBLY

-FOR OFFICE USE ONLY-

AGENCY	DATE	SIGNATURE OF APPROVAL
State Highways		
Building Officials		
PSZA (Zoning)		
PSZA (Engineering)		
Health		

Is Sediment Control approval required for issuance? ☐ Yes ☒ No
☐ CONTINGENCY CONSTRUCTION START

DPZ SETBACK INFORMATION
Front:
Rear:
Side:
Side St.:
All minimum setbacks met? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is Entrance Permit Required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Historic District? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Lot Coverage for New Town Zone:
SDP/Red-line approval date:

Filing Fee	\$ 150
Permit Fee	\$
Tech Fee	\$
Excise Tax	\$
PSFS	\$
Guaranty Fund	\$ -
Add'l per Fee	\$
Total Fees	\$
Sub- Total Paid	\$
Balance Due	\$
Check	# 1757

Distribution of Copies: White: Building Officials Green: PSZA,Zoning Yellow: PSZA,Engineering Pink: Health Gold: SHA



11130 Dovedale Court, Suite 200
Marriottsville, MD 21104
Website: www.sillengineering.com

Office: 443-325-5076
Fax: 410-696-2022
Email: info@sillengineering.com
Civil Engineering for Land Development

SILL ENGINEERING GROUP, LLC

September 21, 2017

Howard County Health Department
Bureau of Environmental Health
8390 Stanford Boulevard
Columbia, Maryland 21045

Attn: Mr. Robert Bricker

Re: Munro Subdivision
Lot 1
OSDS Report - Revised

Dear Mr. Bricker:

Please find below the Septic System Design for this project.

1) Septic System Trench Design

- Initial System:
 - Application Rate: 1.2
 - Effective Area Beginning Depth: 4.0'
 - Bottom Maximum Depth: 7.5'
 - Trench Effective Depth: 3.5'
- Replacement System #1
 - Application Rate: 1.2
 - Effective Area Beginning Depth: 3.0'
 - Bottom Maximum Depth: 6.0'
 - Trench Effective Depth: 3.0'
- Replacement System #2
 - Application Rate: 1.2
 - Effective Area Beginning Depth: 2.5'
 - Bottom Maximum Depth: 5.0'
 - Trench Effective Depth: 2.5'
- Design Flow:
 - 5 Bedrooms at 150 gpd
 - $5 \times 150 \text{ gpd} = 750 \text{ gpd}$
- Square Footage of Drain Field Required:
 - Design Flow (750 gpd) / Application Rate (1.2) = 625 sf

Approved Septic System Plan
Howard County Health Department

[Signature]
Signature

9/25/17
Date

B17002688

8585 Reservoir Rd.

Munro Subdivision
Lot 1

- Sidewall Reduction Credit:
 - Initial System:
 - Trench Width (W) = 3'
 - Trench Effective Depth (D) = 3.5'
 - $(W+2) / (W+1+2D) \times 100 = (3'+2') / (3'+1+2(3.5)) = 5/11 = 45.5\%$
 - Replacement System #1:
 - Trench Width (W) = 3'
 - Trench Effective Depth (D) = 3.0'
 - $(W+2) / (W+1+2D) \times 100 = (3'+2') / (3'+1+2(3)) = 5/10 = 50.0\%$
 - Replacement System #2:
 - Trench Width (W) = 3'
 - Trench Effective Depth (D) = 2.5'
 - $(W+2) / (W+1+2D) \times 100 = (3'+2') / (3'+1+2(2.5)) = 5/9 = 55.6\%$
- Linear Length of Trench Required:
 - Initial System:
 - Drain field Square Footage (625) x Sidewall Reduction Credit (45.5%) / Trench Width (3') = 94.79'
 - Replacement System #1:
 - Drain field Square Footage (625) x Sidewall Reduction Credit (50%) / Trench Width (3') = 104.17'
 - Replacement System #2:
 - Drain field Square Footage (625) x Sidewall Reduction Credit (55.6%) / Trench Width (3') = 115.83'
- Linear Length of Trench Provided:
 - Initial System:
 - Provided: 95
 - Two trenches 47.5 LF each
 - Replacement System #1:
 - Provided: 105
 - Two trenches 52.5 LF
 - Replacement System #2:
 - Provided: 116
 - Two trenches 58 LF

OK
RJB
9/25/17

2) Dose Tank Design

- Design Flow: 750 GPD
- Diameter of Force Main: 2.0"
- Material: Schedule 40 PVC
- Dose Calculations:
 - Design Flow: 750 gpd
 - Length of force main:
 - 2.0" force main = 93.6'

8585 Reservoir Rd.

- Volume of force main:
 - $93.6' \times 17.4 \text{ gallons per } 100' = 16.3 \text{ gallons}$
- Minimum dose is the greater of:
 - Volume of force main: 16.3
 - Or
 - $1/6^{\text{th}}$ the design flow: $1/6 \times 750 \text{ gallons} = 125 \text{ gallons min. dose}$
 - Therefore, use 125 gallons for dose min.

3) Pump Design

- Pump Flow required: 31 GPM
- Dose Amount: 125 gallons (~~120~~ gal.)
- Pump Run Time: 4.0 minutes to achieve required dose

4) Calculate Friction Loss in delivery pipe

Fittings	Equiv. L (ft.)
Fitting	2.0" Force Main
1/4 Bend (90°)	-
1/8 Bend (45°)	3 @ 2.00' = 6.00'
1/16 Bend (22.5°)	1 @ 2.00' = 2.00'
1/32 Bend (11.25°)	-
Gate Valve	1 @ 1.30' = 1.30'
Standard Tee	-
Run Tee	-
Cross	-
Reducer	-
Couplings	4 @ 2.00' = 8.00'
Quick Connect/Disconnect	1 @ 1.35' = 1.35'
Total Equivalent Length of pipe	18.65'

- Flow at 2.0" pipe = 31 gpm
- Friction loss per 100' (Table 4.4) of 2.0" schedule 40 plastic pipe: 1.10
 - Total equivalent length of 2.0" Force Main and appurtenances = $93.6' + 18.65' = 112.25'$
 - Friction loss in 2.0" pipe = $112.25/100 \times 1.10 = 1.23'$
- Total Friction Head = 1.23'
- Total Dynamic Head = Static Head + Friction Head
 - $6.9 + 1.23' = 8.13'$ use 8.0'
- Pump Chamber Design:
 - For pump tank dimensions and detail, see plans.
 - Pump chamber elevations:

'OK'
reB
9/25/2017

8585 Reservoir
Road

Munro Subdivision
Lot 1

Proposed grade at top of tank (at inlet): 379.64

Top of pump tank: 377.89

Interior Top of pump tank: 377.55

Pump chamber invert in: 376.81

High Water Alarm: 374.43

Pump On: 373.93

Pump Off: 373.55

Bottom inside slab of tank: 371.72

- Pump Chamber volumes:

Pump On to Pump Off: 17.41 cf or 130.23 gallons (-120 gal.)
Interior Top of pump tank to High Water Alarm: 142.94 cf or 1,069.28 gallons

- Design based on:

- C.R Semler, Inc. 1500 Gallon Pump Tank
- Goulds WE03L series pump or equivalent

Thank you for your consideration of this Pump Design. Should you have any questions or comments regarding this matter, please do not hesitate to contact this office.

Sincerely,
Sih Engineering Group, LLC

Anita E. Allen

'OK'
RS
9/25/2017

8585 Reservoir Rd.



Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

Twitter: [HowardCoHealthDep](https://twitter.com/HowardCoHealthDep)

Maura J. Rossman, M.D., Health Officer

MEMORANDUM

TO: *Tim Burkard, Burkard Homes, LLC*
tim@burkardhomes.com

FROM: *Robert Bricker, REHS/RS, L.E.H.S.*
Well & Septic Program

RE: *8585 Reservoir Road*, Potential Basement Bedroom

DATE: July 31, 2017

I have reviewed the floor plans in support of Building Permit **B17002688** for a new home at **8585 Reservoir Road** and noted that there is a rough-in for a full bathroom in the unfinished basement. Please note that this makes it very likely for one or more rooms to be considered bedrooms upon conversion of the basement to finished living space.

For reference, the following is the bedroom definition in Howard County Code Section 3.801(b):

- (1) Except as provided in paragraph (2) of this subsection, a bedroom is any space in the conditioned area of a dwelling unit or accessory structure that:
 - (i) Is 90 square feet or greater in size;
 - (ii) May be used as a private sleeping area; and
 - (iii) Has at least one window and one interior door.
- (2) If a home office, library, or similar room is proposed, it may not be a bedroom if there is no closet; and
 - (i) The room contains permanently built-in bookcases around the perimeter of the room, desks, and other features that encumber the room;
 - (ii) A minimum 4 foot-wide opening, without doors, into another room;
 - (iii) A half wall (4 foot maximum height) between the room and another room; or
 - (iv) The room is a first floor room or basement area that does not have direct access to full bathrooms or "roughed in" plumbing that would provide direct access to future full bathroom facilities.

The Health Department strongly recommends sizing the onsite sewage disposal system at least one bedroom larger than the existing 4-bedroom design to accommodate a future finished basement. If you choose to only size for the existing design, any future building permit for a finished basement may be placed on hold until the system is upgraded to accommodate the proposed number of bedrooms. This memo will be retained in the Health Department file for future reference.



Building Permit Application

Howard County Maryland
Department of Inspections, Licenses and Permits
3430 Court House Drive
Permits: 410-313-2455
www.howardcountymd.gov

Date Received: _____

Permit No.: B17003893

Building Address: 2584 Potomac Blvd
City: Beltsville State: MD Zip Code: 20741
Suite/Apt. #: _____ SDP/WP/BA #: _____
Census Tract: _____ Subdivision: Montlake Park
Section: _____ Area: _____ Lot: 1
Tax Map: 45 Parcel: 9 Grid: 12
Zoning: _____ Map Coordinates: _____ Lot Size: 3,456 sq. ft.

Existing Use: Residential
Proposed Use: Single-Family Detached
Estimated Construction Cost: \$ 150,000
Description of Work: 1000 sq. ft. addition to existing house

Occupant/Tenant Name: _____
Was tenant space previously occupied? ☐ Yes ☒ No
Contact Name: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Fax: _____
Email: _____

Commercial Building Characteristics	Residential Building Characteristics
Height:	<input type="checkbox"/> SF Dwelling <input type="checkbox"/> SF Townhouse
No. of stories:	Depth Width
Gross area, sq. ft./floor:	1 st floor:
Area of construction (sq. ft.):	2 nd floor:
Use group:	Basement:
	<input type="checkbox"/> Finished Basement
	<input type="checkbox"/> Unfinished Basement
	<input type="checkbox"/> Crawl Space
Construction type:	<input type="checkbox"/> Slab on Grade
<input type="checkbox"/> Reinforced Concrete	No. of Bedrooms:
<input type="checkbox"/> Structural Steel	Multi-family Dwelling
<input type="checkbox"/> Masonry	No. of efficiency units:
<input type="checkbox"/> Wood Frame	No. of 1 BR units:
<input type="checkbox"/> State Certified Modular	No. of 2 BR units:
	No. of 3 BR units:
	Other Structure:
	Dimensions:
➤ Roadside Tree Project Permit	Footings:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Roof:
Roadside Tree Project Permit #	<input type="checkbox"/> State Certified Modular
	<input type="checkbox"/> Manufactured Home

Property Owner's Name: Montlake Park Homeowners Assn
Address: 2584 Potomac Blvd
City: Beltsville State: MD Zip Code: 20741
Phone: _____ Fax: _____
Email: _____

Applicant's Name & Mailing Address, (If other than stated herein)
Applicant's Name: Montlake Park Homeowners Assn
Address: 2584 Potomac Blvd
City: Beltsville State: MD Zip Code: 20741
Phone: _____ Fax: _____
Email: _____

Contractor Company: ABC Inc
Contact Person: John Doe
Address: 1234 Main St
City: Beltsville State: MD Zip Code: 20741
License No.: 12345
Phone: 410-984-5678 Fax: _____
Email: _____

Engineer/Architect Company: _____
Responsible Design Prof.: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Fax: _____
Email: _____

Utilities
Electric: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Gas: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Supply
<input type="checkbox"/> Public
<input type="checkbox"/> Private
Sewage Disposal
<input type="checkbox"/> Public
<input type="checkbox"/> Private
Heating System
<input type="checkbox"/> Electric <input type="checkbox"/> Oil
<input type="checkbox"/> Natural Gas <input type="checkbox"/> Propane Gas
<input type="checkbox"/> Other:
Sprinkler System:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Grading Permit Number:
Building Shell Permit Number:

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

Applicant's Signature: _____
Email Address: _____
Title/Company: _____

Print Name: _____
Date: 10/27/17

Checks Payable to: DIRECTOR OF FINANCE OF HOWARD COUNTY

PLEASE WRITE NEATLY & LEGIBLY

-FOR OFFICE USE ONLY-

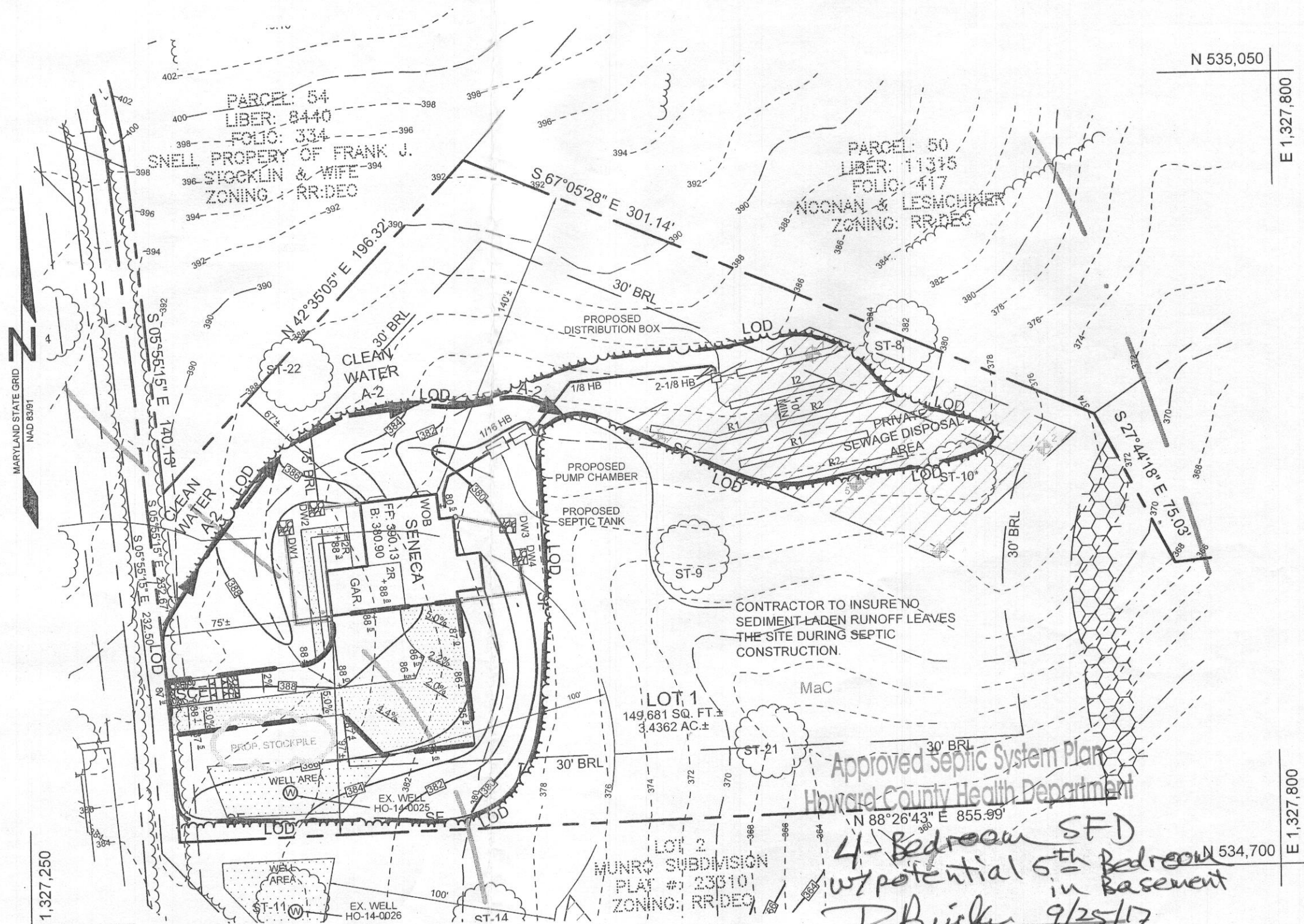
AGENCY	DATE	SIGNATURE OF APPROVAL
State Highways		
Building Officials		
PSZA (Zoning)		
PSZA (Engineering)		
Health	11/7/17	[Signature]

Is Sediment Control approval required for issuance? ☐ Yes ☒ No
☐ CONTINGENCY CONSTRUCTION START

DPZ SETBACK INFORMATION
Front:
Rear:
Side:
Side St.:
All minimum setbacks met? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is Entrance Permit Required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Historic District? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Lot Coverage for New Town Zone:
SDP/Red-line approval date:

Filing Fee	\$
Permit Fee	\$ 100
Tech Fee	\$ 10
Excise Tax	\$
PSFS	\$
Guaranty Fund	\$
Add'l per Fee	\$
Total Fees	\$ 110.00
Sub- Total Paid	\$
Balance Due	\$
Check	# 6700

Distribution of Copies: White: Building Officials Green: PSZA,Zoning Yellow: PSZA,Engineering Pink: Health Gold: SHA



PARCEL 54
LIBER: 8440
FOLIO: 334
SNELL PROPERTY OF FRANK J.
STOCKLIN & WIFE
ZONING: RR/DCO

PARCEL 50
LIBER: 11315
FOLIO: 417
NOONAN & LESMCHNER
ZONING: RR/DCO

MARYLAND STATE GRID
NAD 83/91

N 535,050

E 1,327,800

Approved Septic System Plan
Howard County Health Department

4 Bedrooms SFD
w/ potential 5th Bedroom
in Basement

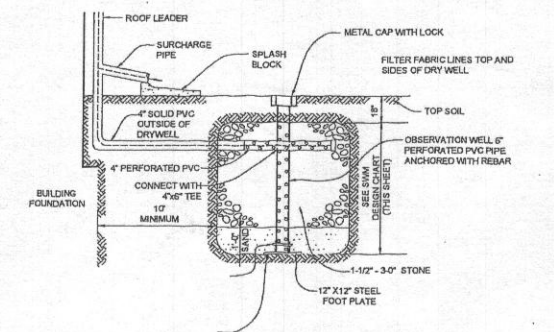
R. Buck 9/25/17
Signature Date

8585 Reservoir Rd.
B17002688

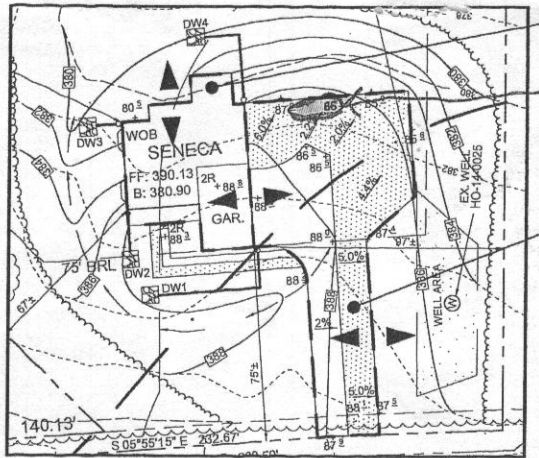
PLAN VIEW
SCALE: 1"=50'

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	K FACTOR
GgB	GLENNVILLE LOAM, 3 TO 8 PERCENT SLOPES	B	0.24
GmC	GLENNVILLE LOAM, 8 TO 15 PERCENT SLOPES	C	0.43
MaB	MAJOR LOAM, 3 TO 8 PERCENT SLOPES	B	0.28
MaC	MAJOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.28
MaD	MAJOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.28

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.



TYPICAL DRY WELL CROSS SECTION
NOT TO SCALE



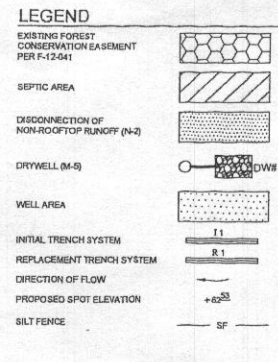
DRAINAGE AREA MAP
SCALE: 1"=100'

A=0.06 AC.
P=1.0 IN.
Z=RR-DEO
P=100%
B' AND 'C' SOIL

A=0.12 AC.
P=1.0 IN.
Z=RR-DEO
P=36%
B' AND 'C' SOIL

SITE ANALYSIS DATA SHEET	
ENVIRONMENTAL AREA	SIZE OR USE
TOTAL PROJECT AREA	3.4362 ACRES ±
LIMIT OF DISTURBANCE	0.8063 ACRES ±
GREEN OPEN AREA (LAWN)	0.8911 ACRES ±
IMPERVIOUS AREA	0.1092 ACRES ±
PROPOSED SITE USES	RESIDENTIAL
WETLANDS (I)	0.50 FT ±
WETLAND BUFFERS	0.50 FT ±
FLOODPLAIN BUFFERS	0.50 FT ±
EXISTING FOREST	0.50 FT ±
SLOPES GREATER THAN 15% (3)	0.50 FT ±
HIGHLY ERODIBLE SOILS	0 ACRES ±

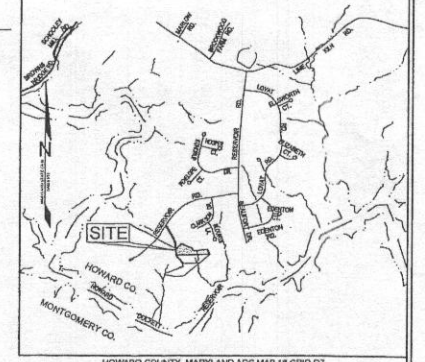
NOTES:
 1. NONE WITHIN THE MAIN LOT AREA. THE PRESTEM MAY HAVE WETLAND AREAS AND HAS NOT BEEN EVALUATED SINCE IT IS OUTSIDE THE AREA OF DEVELOPMENT.
 2. SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 3. HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.



STORMWATER MANAGEMENT PRACTICES				
LOT #	ADDRESS	DRY-WELL M-5 (NUMBER)	NON-ROOFTOP DISCONNECT N-2 (Y/N)	ROOFTOP DISCONNECT N-1 (Y/N)
1	8585 RESERVOIR ROAD	4	Y	N

DRY WELL CHART			
NO.	VOLUME REQUIRED	VOLUME PROVIDED	SIZE WELLS
DW 1	51.25 CF	85 CF	6.5' X 8.5' X 5.0'
DW 2	51.25 CF	85 CF	6.5' X 8.5' X 5.0'
DW 3	51.25 CF	91 CF	7.0' X 8.5' X 5.0'
DW 4	51.25 CF	91 CF	7.0' X 8.5' X 5.0'

NOTES:
 * PRACTICE M-5; DRYWELLS



VICINITY MAP
SCALE: 1"=200'

GENERAL NOTES

- SUBJECT PROPERTY ZONED RR-DEO PER 02/02/04 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF PROPERTY = 3.4362 ACRES.
- PRIVATE WATER AND PRIVATE SEWER WILL BE USED WITHIN THIS SITE.
- THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT, OF AT LEAST 10,000 SF AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.04.03). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.
- THE BOUNDARY SHOWN HEREON IS BASED ON HOWARD COUNTY A FIELD RUN BOUNDARY SURVEY PREPARED BY SHANBERGER & LANE, IN JUNE 2016.
- THE TOPOGRAPHY SHOWN HEREON WAS FIELD RUN BY SHANBERGER & LANE, DATED JUNE 1, 2016.
- PROPERTY ADDRESS: 8585 RESERVOIR ROAD, FULTON, MD 20759
- REFERENCE: LIBER 18958, FOLIO 226
- THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- A WETLAND AND FOREST STAND DELINEATION STUDY WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS DATED JANUARY 14, 2015.
- LIMIT OF DISTURBANCE: 34,882 SFT OR 0.8063 AC.
- A GRADING PLAN HAS BEEN REVIEWED AND APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT AS GP-17-009
- PLAT REFERENCE: 23310

STORMWATER MANAGEMENT NOTES & DESIGN NARRATIVE

BELOW IS A LIST TO DESCRIBE THE STORMWATER MANAGEMENT REQUIREMENTS AND ACHIEVEMENTS FOR THE SITE PER THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II, AS AMENDED BY THE STORMWATER MANAGEMENT ACT OF 2007.

- ENVIRONMENTALLY SENSITIVE AREAS (STREAMS AND STEEP SLOPES) DO NOT EXIST ON-SITE IN THE AREA OF DEVELOPMENT. THE LOT IS NOT BEING MASS GRADED AND THE ONLY TREES BEING REMOVED ARE THE ONES NECESSARY FOR THE GRADING SHOWN.
- WE HAVE MAINTAINED TO THE GREATEST EXTENT PRACTICABLE THE NATURAL FLOW PATTERNS OF THE SITE BY DIRECTING STORMWATER RUNOFF TO THE STORMWATER MANAGEMENT FACILITY WITHIN THE NATURAL DRAINAGE DIVIDES.
- WE HAVE REDUCED IMPERVIOUS AREAS BY UTILIZING THE SMALLEST DRIVEWAY WIDTH ALLOWED AND BY UTILIZING PERVIOUS AREAS FOR TREATMENT AND BY POSITIONING THE BUILDING AS CLOSE TO THE STREET AS THE BRL WILL ALLOW.
- EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN SHOWN AND HAVE BEEN INTEGRATED INTO THE DESIGN.
- DRYWELLS (M-5), AND DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2) HAVE BEEN UTILIZED FOR STORMWATER MANAGEMENT PRACTICES, AND HAVE PROVIDED ENVIRONMENTAL SITE DESIGN TO MAXIMUM EXTENT PRACTICABLE.
- NO DESIGN MANUAL OR WAIVER PETITION REQUESTS HAVE BEEN MADE.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1) DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2)

- MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE OWNER SHALL ENSURE THE AREAS RECEIVING RUNOFF ARE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

- THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
- WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOURS TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

OWNER/DEVELOPER

TIM BURKARD
 BURKARD HOMES, LLC
 8585 RESERVOIR ROAD, SUITE 140
 COLUMBIA, MARYLAND 21045
 (410) 325-5075 EXT. 102
 TIM@BURKARDHOMES.COM

STORMWATER MANAGEMENT PLAN MUNRO PROPERTY

LOT 1
 8585 RESERVOIR ROAD FULTON MD 20759

TAX MAP 45 GRID 12
 5TH ELECTION DISTRICT

PARCEL 9 & P/O PARCEL 50
 HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
 11130 Dovecote Court, Suite 200
 Manassas, Maryland 21044
 Phone: 410.325.5076
 Fax: 410.696.2023
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: RA
 DRAWN BY: RA
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: JULY 7, 2017
 PROJECT #: 16-047
 SHEET #: 1 of 1

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 2005, EXPIRATION DATE: JUNE 30, 2017

REVISIONS

DATE	COMMENT
07-19-16	Revised Base Set

IECC CODE COMPLIANCE

R301.1 Climate zone 4A

R401.2 Compliance Method: Mandatory and Prescriptive Provisions

R402.1.1 Vapor Retarder: Wall assemblies in the building thermal envelope shall comply with vapor retarder requirements of Section R702.7 of the International Residential Code, 2015 Edition.

R402.1.2 Attic Insulation: Raised Heel Trusses R-49 R-38

R402.1.2 Wood Frame Wall: R-20 or R19 + R5 continuous insulation.

R402.1.2 Basement Wall Insulation: R-13/R-10 Foil Faced Continuous, uninterrupted Batts Full Height

R402.1.2 Crawl Space Wall Insulation: R-13/R-10 Foil faced Continuous Batts Full Height extending from floor above to finishgrade level and then vertically or horizontally an additional 2' -0".

R402.1.2 Floor Insulation over Unconditioned Space: R-19 batt insulation.

R402.1.2 Window U-Value/SHGC .35 (U-Value)/.40 (SHGC)

R402.2.10 Slab on Grade Floors Less Than 12" Below Grade: R-10 Rigid Foam Board Under Slab Extending Either 2' -0" Horizontally or 2'-0" Vertically

R402.2.4 Attic Access: Attic access scuttle will be weatherstripped and insulated R-49

R402.4 Building Thermal Envelope (air leakage): Exterior walls and penetrations will be sealed per this section of the 2015 IECC with caulk, gaskets, weatherstripping or an air barrier of suitable material. Sealing methods between dissimilar materials shall allow sealing for differential expansion and contraction.

R402.4.1.2 Building Thermal Envelope Tightness Test: Building envelope shall be tested and verified as having an air leakage rate of not exceeding 3 air changes per hour. Testing shall be conducted in accordance with ASTM E1779 or ASTM E 1827 with (blower door) at a pressure of 0.2 inches w.g. (50 pascals). Testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the building inspector.1/15

R402.4.2 Fireplaces: New wood burning fireplaces will have tight-fitting flue dampers or doors, and outdoor combustion air. Fireplace doors shall be listed and labeled in accordance with UL 121 (factory built fireplace) and UL 901 (masonry fireplace).

R402.4.4 Rooms containing fuel-burning appliances where open combustion air ducts provide combustion air to open combustion fuel burning appliances, the appliances and combustion air shall be located outside the building thermal envelope or enclosed in a room isolated from inside the thermal envelope.
Exceptions: 1. Direct vent appliances with both intake and exhaust pipes installed continuous to the outside. 2. Fireplaces and stoves complying with Section R402.4.2 and Section R1006 of the IRC.

R402.4.5 Recessed Lighting: Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage.

R403.1.1 Thermostat: All dwelling units will have at least (1) programmable thermostat for each separate heating and cooling system per 2015 IECC Section 403.1.1.

R403.1.2 Where a Heat pump system having supplementary electric resistance heat is used the thermostat shall prevent the supplementary heat from coming on when heat pump can meet heating load.

R403.3.1 Mechanical Duct Insulation: Supply and Return Ducts in Attic R-8 minimum, R-6 when less than 3 inches. Supply and Return Ducts outside of conditioned spaces R-8 minimum. All other ducts except those located completely inside the building thermal envelope R-6 minimum. Ducts located under concrete slabs must be R-6 minimum.

R403.3.2 Duct Sealing: All ducts, air handlers, filter boxes will be sealed. Joints and seams will comply with section M601.4.1 of the IRC. A duct tightness test ("Duct Blaster" duct total leakage test) will be performed on all homes and shall be verified by either a post construction test or a rough-in test. Duct tightness test is not required if the air handler and all ducts are located within the conditioned space.

R403.6 Mechanical Ventilation: Outdoor (make-up and exhaust) air ducts to be provided with automatic or gravity damper that close when the ventilation system is not operating.

R403.6.1 Whole-house mechanical ventilation system fan efficiency to comply with TABLE R403.6.1.

R403.7 Equipment Sizing shall comply with R403.7.

R404.1 Lighting Equipment: A minimum of 15% of all lamps (lights) must be high-efficacy lamps. This contractor also responsible for generating Certificate of Compliance and affixing to electrical panel or within 6 feet of the electrical panel and be readily visible.

DESIGN CRITERIA

ROOF SNOW LOAD (pounds per square foot)		30
WIND PRESSURE (pounds per square foot)		17 +/- (90 m.p.h.)
SEISMIC CONDITION BY ZONE		B
SUBJECT TO DAMAGE	WEATHERING	SEVERE
	FROST LINE DEPTH	30
	TERMITE	MODERATE
	DECAY	MODERATE
WINTER DESIGN TEMP. FOR HEAT. FACILITIES		13°
RADON RESISTANT CONSTRUCTION REQ.		
FLOOD ZONE		
ALL WORK SHALL COMPLY WITH 2015 INTERNATIONAL RESIDENTIAL CODE W/ AMENDMENTS		

HEALTH DEPT
B17002688



BASE PLAN - THE SENECA

DRAWING LIST

0.00	TITLE SHEET	4.01	SECOND FLOOR PLAN
0.02	GENERAL NOTES	4.02	SECOND FLOOR OPTIONS
1.01	FRONT ELEVATION - 1	4.03	SECOND FLOOR OPTIONS
1.02	FRONT ELEVATION - 2	4.04	SECOND FLOOR OPTIONS
1.03	FRONT ELEVATION - 3	4.51	FIRST FLOOR PLAN BRACING
1.04	FRONT ELEVATION - 4	4.52	SECOND FLOOR PLAN BRACING
1.11	PARTIAL PLANS - ELEVATIONS 1 & 2	4.52a	WORST CASE SCENARIO BRACING
1.12	PARTIAL PLANS - ELEVATIONS 3 & 4	4.53	ELEVATION BRACING
1.21	RIGHT ELEVATION	4.54	BRACING DETAILS
1.31	LEFT ELEVATION	5.01	SECTION A-A
1.41	REAR ELEVATION	5.02	SECTION B-B
2.01	FOUNDATION PLAN	5.03	SECTION C-C
2.02	FOUNDATION DETAILS	5.10	TYPICAL WALL SECTIONS
2.03	FOUNDATION OPTIONS	E2.01	FOUNDATION - ELECTRICAL
3.01	FIRST FLOOR PLAN	E3.01	FIRST FLOOR - ELECTRICAL
3.02	FIRST FLOOR OPTIONS	E4.01	SECOND FLOOR - ELECTRICAL
3.03	FIRST FLOOR OPTIONS		
3.04	FIRST FLOOR OPTIONS		
3.05	FIRST FLOOR OPTIONS		

AREA INFO

LEVEL	SQUARE FEET
BASEMENT	1,155 s.f.
GROUND FLOOR	1,260 s.f.
SECOND FLOOR	1,401 s.f.
SUB TOTAL	3,709 s.f.
GARAGE	412 s.f.
TOTAL FINISHED AREA	2,661 s.f.

PROFESSIONAL CERTIFICATION
I certify that these documents were prepared or approved by me, and that I am a duly licensed professional architect under the laws of the State of Maryland, License Number #14678 Expiration Date: 6/30/2018.

BURKARD HOMES, LLC
5300 DORSEY HALL DRIVE - SUITE 102
ELLICOTT CITY, MARYLAND 21042
240-375-1052

- Concrete works shall conform to American Concrete Institute Standard 318-83
- Bottom of all footings shall be located a minimum of 36", (or as per local code) below finished grade. Steps or depth of footing / foundation may vary according to local site or frost conditions.
- All interior concrete slabs shall have 6"x6"x10" W.U.M. or control joints. Monolithic turned down slabs for townhouses shall have a control joint between units.
- Concrete used in exposed areas implicit to freezing and thawing (both during construction and service life) shall be air-entrained in accordance with local code. Exterior flat-work shall be coated with an approved curing compound.
- Foundation walls of habitable rooms located below grade shall be dampproofed or water proofed using materials and methods approved by local building jurisdiction.
- All work shall comply to local code.

Type of Concrete Construction	Minimum Specified Compressive Strength
- Footings	3000 PSI
- Interior Basement Slabs	3500 PSI
- Foundation Walls	3000 PSI
- Garage and Exterior Slabs	3500 PSI

(or as per local code)

- Concrete works shall conform to American Concrete Institute Standard 318-83
- All interior Concrete footings and slabs shall have a minimum 28 Day Compressive Strength of 2500 psi - unless noted otherwise.
- REINFORCING RODS: ASTM A-615 and A-305 MESH: 6x6 14/14 WUF ASTM A-105.
Reinforcing in footings is required where variations in soil conditions may exist.
- All interior slabs of 30 FEET or more in any dimension shall have WUF, Control Joints, or Fiber Reinforcemnt.
- Vapor barrier under all slabs EXCEPT garages:
6 MIL Polyethylene, Lap all edges 6", Lay over 4" Gravel bed.
- Exterior Concrete Slabs: 5% to 7% Air Entrained and shall have a minimum 28 Day Compressive Strength of 2500 psi - unless noted otherwise.
- Foundation Walls: Poured in place walls shall have a minimum 28 Day Compressive Strength of 3000 PSI. (SEE 4.01)

- Mechanical contractor is responsible for the design and installation of mechanical systems including duct sizes, trunk and register size for air conditioning and heating. Systems shall be installed per manufacturer's specifications and recommendations and as per all applicable building codes.
- Plumbing contractor is responsible for the design and installation of plumbing and piping. All plumbing, piping and fixtures shall be installed per manufacturer's specifications and recommendations and as per all applicable codes.
- Electrical contractor is responsible for the design and installation of all electrical systems. All electrical work shall meet the requirements of the National Electric Code, the local power company and all applicable codes. Fixtures and apparatus are selected by the builder and shall be UL approved.
- Smoke & Carbon Monoxide detectors - Provide a minimum of one ceiling mounted fixture per floor, hard wired to a nearby circuit and interconnected for simultaneous activation with battery backup. Provide detectors at each sleeping room if required by local code. Provide detectors outside each sleeping area within 10'-0' of each door.
- Fire suppression systems shall be installed as per local building code.
- All work shall comply to local code.

MASONRY

- Maximum vertical distance of unbalanced fill measured from the top of the lower level slab to outside finished grade shall not exceed the following. For unreinforced walls where unstable soil or ground water conditions do not exist.

Type of Wall	Height of Fill
8" C.M.U.	4'-0"
12" C.M.U. (hollow)	6'-0"
12" C.M.U. (solid)	7'-0"
8" Poured Concrete	7'-0"
10" Poured Concrete	8'-0"
- Masonry veneer shall be installed over 15" felt or approved water repellant sheathing. Through-wall flashing and weeps shall be provided at any location where interior space projects beyond the face of the veneer, i.e. bay windows, Off-set chimneys, etc...
- Masonry veneer shall be attached and anchored in accordance with the local code requirements.
- Walls over 7'-0" or on unstable soil shall be engineered and certified by a registered professional engineer.
- Concrete masonry units shall meet ASTM C-90 Grade A solid block or ASTM C-145 Grade B Standards and be 28 DAYS OLD before installation. Minimum net compression strength of block to be 2000 psi.
- Parging over CMU walls to be not less than 3/8" Portland cement parging from footing to finished grade. Parging and poured concrete walls shall be covered with a coat of approved bituminous material applied at the recommended rate below grade.
- MASONARY LINTELS: Provide lightweight pre-cast lintels for all openings and recesses in CMU walls. Provide (1) 4x8 lintel for each 4" of wall thickness. Reinforce each lintel with two #4 bars at top and bottom and with #2 ties spaced 3" O.C., unless noted otherwise. Precast lintel to have minimum 8" bearing at each end. Such lintels shall not support any superimposed loads.
- Use Type "M" mortar for masonry below grade in contact with earth.
- Use Type "N" mortar for exterior above-grade load bearing and non-load bearing walls, and for other applications where another type is not indicated.

DOORS and WINDOWS

- Provide safety glazing as required by local code.
- Garage door into dwelling shall be fire rated minimum 45 minute or as per local building code. The threshold of the door opening between the garage and the adjacent interior space shall not be less than 4" above the garage door. (or as per local code)
- All doors and windows shall be installed in accordance with manufacturer's specifications, and as per local code.

- GENERAL: These drawings do not cover sitework, grading or landscaping
- Building foundations have been designed based on an assumed soil bearing capacity of 3000 PSF. Additional engineering is required if soil bearing capacity is less than 3000 PSF.
- Provide continuous perimeter foundation drainage in accordance with local code requirements. Where both interior and exterior drains are required, provide minimum 1 1/2" dia. bleeder pipes through mid line of footing at max 8" o.c. Typically, drains shall lead to sump pits or to positive daylight discharge points.
- Slope all stoops, porches, walks and garage slabs away from building 1/8" minimum per foot.
- All work shall comply to local code.

WEATHER/THERMAL

- Insulation for slab on grade construction shall begin at the inside intersection of the slab and the foundation wall and shall extend for a minimum distance of 24" down the inside face of the foundation wall and horizontally 24" under the slab. For unheated slabs a material with an R-value of 42 is required; for heated slabs an R-value of 63 is required (or as per local code)
- Sill Sealer-compressible material shall be installed under all mud plates (foundation wall and wood floor systems) and sole plates (slab on grade)

R-Value	Thickness	Location
R-11 PS25	3 1/2"	Basement Walls
R-13	3 1/2"	2x4 Walls (exterior)
R-21	5 1/2"	2x6 Walls (exterior)
R-19	5 1/2"	Crawl Space
R-19	5 1/2"	Floors exposed to unheated condition
R-49 Batt.	12"	Roof
R-49 Blown	1"	Apply blown insulation as required by manufacturer's specifications
- Provide vents as per local code.

- Flashing: Prefinished aluminum or equal, at all roof offsets, chimneys, roof openings, hips, valleys, ridges, dormers and where roof intersects wall.
- Contractor shall maintain in all circumstances proper fire, sound and insulation ratings when penetrating through walls, floors, ceilings and roofs.
- All miscellaneous penetrations during construction shall be patched and repaired according to manufacturer's specifications and as per code.
- All exterior joints between windows, doors and other surfaces shall be caulked and sealed appropriately.
- DAMPPROOFING: Apply (1) coat of asphalt emulsion to exterior of all below grade walls at basement conditions. When habitable space occurs below grade, provide waterproofing membrane, aqueous based elastomeric, vinyl acrylic mastic, 35 Mil. min. thickness or other approved equal.

- SLAB VAPOR BARRIER: 6 Mil. polyethylene sheet where noted on drawings. Overlay all edges 6".
- SILL SEALER: 1/2" x 5 1/2" compressible fiberglass beneath all exterior sill plates or other approved sill sealer.
- Provide approved corrosion-resistive flashing at the intersections of masonry and wood frame construction: over projecting wood trim; where decks, porches etc. attach to wood frame construction; at wall and roof intersection; at chimney and roof intersections; in roof valleys; at all roof penetrations; and at wall openings if recommended by window and door manufacturers.

- Slab perimeters exposed to outside or within 30" of grade: 4.5x24", either vertical or horizontal from slab intersection.
- ROOFING: unless noted otherwise, roofing shall be min 200# Glass "C" Fiberglass based asphalt shingles over 15 pound felt. Eave flashing to a point 24" inside of interior face of wall line may be also installed at the owner discretion.

- WALL SHEATHING: As shown on drawings and installed in accordance with MANUFACTURER'S RECOMMENDATIONS.
- GUTTERS AND LEADERS: .032" Prefinished aluminum gutters with .024" prefinished aluminum leaders. Lead to splashblocks or collector as required.

- Pre-Built fireplace shall be UL approved and installed according to code and manufacturer's specifications and recommendations.
- Chimneys shall extend a minimum of 2'-0" above any roof structure within 10'-0".
- Provide overflow pane and drains for wet appliances when located on bedroom level, or as noted on plans.
- Provide 22"x34" attic access with pull chain light (or as per local code)
- Kitchen and bath plans are approximate. See manufacturer's plans for exact layout and dimensions.

WOOD

- Wall bracing shall be installed as per local code.
- All roof trusses and floor systems shall be engineered by others.
- All roof trusses and floor systems shall be braced and installed per manufacturer's specifications and as per local code. See manufacturer's plans for exact layout and construction.
- All trusses are stamped and certified by a registered engineer and meet TPI manufacturers minimum requirement.
- See drawings for type of floor construction.
 - Tongue and groove floor decking glued and nailed on (5PF #2) 2x8 or 2x10 or 2x12 floor joists at 16" o.c. maximum to meet the American Plywood Association Sturd-I-Floor system.
 - Tongue and groove floor decking glued and nailed on pre-engineered wood joists/trusses at 24"o.c. maximum to meet the American Plywood Association Sturd-I-Floor system.
- Fire-stopping shall be provided to cut-off concealed draft openings and to form an effective fire barrier between stories as per local code.
- Structural lumber to have minimum bending stress of 1200 psi
- All exterior walls are 2x6 stud #16" centers, minimum SPF stud grade unless otherwise noted.
- All interior walls are 2x4 stud #16" centers, minimum SPF stud grade unless otherwise noted.
- All opening headers to be 2x10's unless noted otherwise
- Joist hangers to be installed as required.
- All wood less than 8" from grade shall be pressure treated. All sole plates on slabs shall be pressure treated.
- Provide bearing at all structural members as required by local code.
- All materials shall be installed per manufacturer's specifications and as per applicable building codes.
- All work shall comply to local code.

METAL

- Strap anchors or anchor bolts shall be local code and building inspector approved: Minimum 2 straps/bolts per section of plating 12" Max. from each end and with intermediate strap/bolts at 6'-0" o.c. maximum. (or as per local code)
- Galvanized metal brick ties shall be installed as per local code.
- All steel shall conform to ASTM Specs for A-36 Steel.
- All steel designed for maximum bending stress of 24,000 psi
- Metal joist hangers (Standard wood ledger) shall be used where required at joist without direct bearing and be 18 GA. galvanized steel. Use all nails specified by the manufacturer.
- Veneer ties shall be 1" wide, 22 GA., galvanized steel installed 24" O.C. Horizontally and 16" O.C. Vertically.
- Steel lintels for all opening and recesses in brick or Brick Faced Masonry wall not specifically detailed: Provide (1) steel angle for each 4" of wall thickness. Steel angles to have minimum 6" bearing at each end. Horizontal leg shall be 3 1/2, unless noted otherwise.
- LINTEL SCHEDULE (UNLESS NOTED OTHERWISE ON PLANS):

L-1	3 1/2"x3-1/2"x5/16"	STEEL ANGLE	UP TO 3' OPG.
L-2	4"x 3-1/2"x5/16"	STEEL ANGLE	3' TO 5' OPG.
L-3	5"x 3-1/2"x3/8"	STEEL ANGLE	5' TO 6'-6" OPG.
L-4	6"x3-1/2"x1/2"	STEEL ANGLE	UP TO 9' OPG.
L-5	6"x 4"x5/8"	STEEL ANGLE	UP TO 10'-0"
L-6	8" OR 8"x4"x3/16"	STEEL ANGLE	16' GARAGE
- Lintels shown shall not support any superimposed loads.
- All steel angles in masonry walls are to be flashed and painted.
- Paint all exterior ferrous or galvanized metals EXCEPT completely pre-finished factory items.
- All work shall comply to local code.

- All work shall comply to all applicable local codes.
- All construction shall be classified as and comply to either of the following:
 - Use Group R-4 under the 2015 International Residential Code.
- All work shall comply to International Energy Conservation Code, 2015 edition
- These plans are subject to modification as necessary to meet code requirements and or facilitate mechanical/plumbing installations or to incorporate design improvements. The Architect and the Owner reserves the right to make any changes, for any reason, at any time, providing they comply with the code.
- The Sub-Contractor shall compare and coordinate all drawings. When a discrepancy or an error or omission exists, he shall comply with the code and contact the Architect and the Owner in writing for proper adjustment.
- These plans are not to be scaled for Construction purposes. Written dimensions and notes supersede all scaled reference.
- In the event certain features of Construction are not fully shown on the drawings, their construction shall be of the same character as for similar conditions that are shown or noted.
- Integral garages in dwelling units shall be separated from all adjacent living space with fire separation as required by local code.
- Field verify ALL existing dimensions

DESIGN - LIVE LOADS

- RECOMMENDED MINIMUMS:

- Ground Snow Load	55 psf
- Roof	30 psf
- Sleeping Floors	30 psf
- Living Floors	40 psf
- Exterior Decks	60 psf
- Stairs	100 psf
- Garage Slabs	50 psf
- Wind Load	17 psf
- Dead Load	10 psf
- Guardrails	200'
- ATTIC AREAS UNACCESSIBLE: 10PSF ACCESSIBLE: : 20 PSF WIND LOAD: : 16 PSF (EXPOSURE C) FLUID PRESSURE: : 30 PCF MAXIMUM
- (or as per local code) at any point in any direction.
- LOADS GREATER THAN 30 PCF REQUIRE FOUNDATION WALLS TO BE ENGINEERED.

STAIR CRITERIA

- INTERIOR and EXTERIOR STAIRS

- All stairs shall comply with all local codes.
 - Minimum finish width: 36"
 - Minimum finished headroom height: 6'-8"
 - Maximum riser height: 7 3/4"
 - Minimum tread depth: 11"
 - Maximum space between balusters: 4"
 - Handrail height shall not be less than 34" or greater than 38" and may not project more than 3 1/2" into stair width.
- Provide a minimum of 1 1/2" space between handrail and wall.
- Stair winder shall have a minimum inside width of 6" and a minimum of a 7" tread when measured 12" from inside corner.
- Stair landings shall be a minimum of 36" x 36"
- Stairways with 3 or more risers are required to have a handrail.

SPECIALTIES

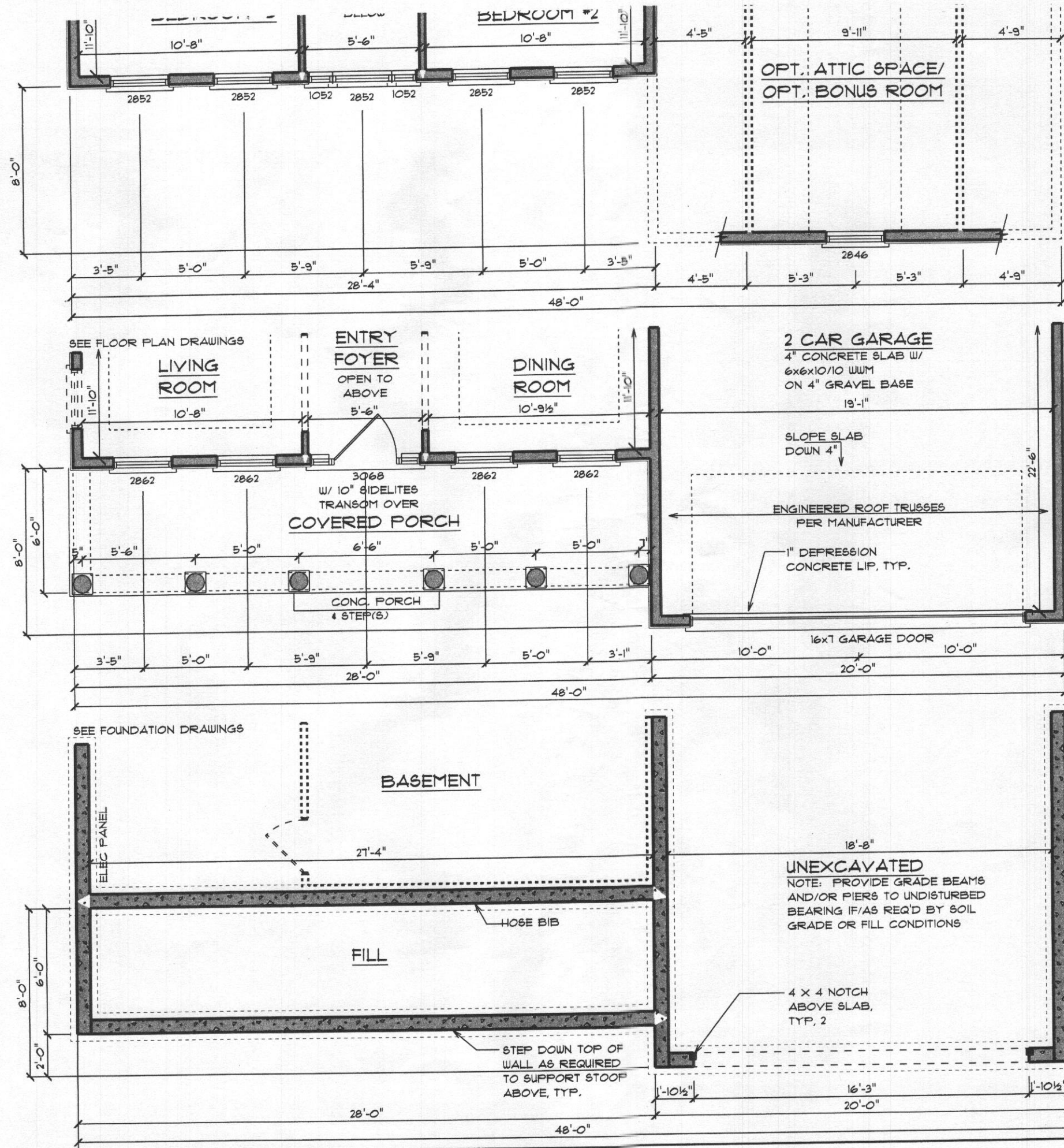
- Concrete works shall conform to American Concrete Institute Standard 318-83
- FIREPLACES: Pre-built U.L. Approved, selected by the owner, and installed according to code and manufacturer's recommendations, IF APPLICABLE.
- Toilet and bath accessories per plans or by owner.
- MIRRORS: TBD by builder or by owner.
- Provide two towel bars for each full bath, one per powder room.
- Provide either shower rods 80"a.f.f. or tempered or safety laminate glass doors, per owner.



NOTE:
STAIRS WITH 2 OR MORE RISERS SHALL BE PROVIDED WITH HANDRAILS. HANDRAILS SHALL BE A MINIMUM OF 34" IN HEIGHT AND NOT MORE THAN 38" IN HEIGHT. RAILS ARE TO BE MEASURED VERTICALLY FROM THE NOSING OF THE TREADS.

PORCHES, DECKS, BALCONIES OR RAISED FLOOR SURFACES LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS A MINIMUM OF 36" HIGH.

RISERS ARE TO BE CLOSED SUCH THAT THE OPENING BETWEEN THE TREADS DOES NOT PERMIT THE PASSAGE OF A 4" DIA SPHERE.



BURKARD HOMES, LLC
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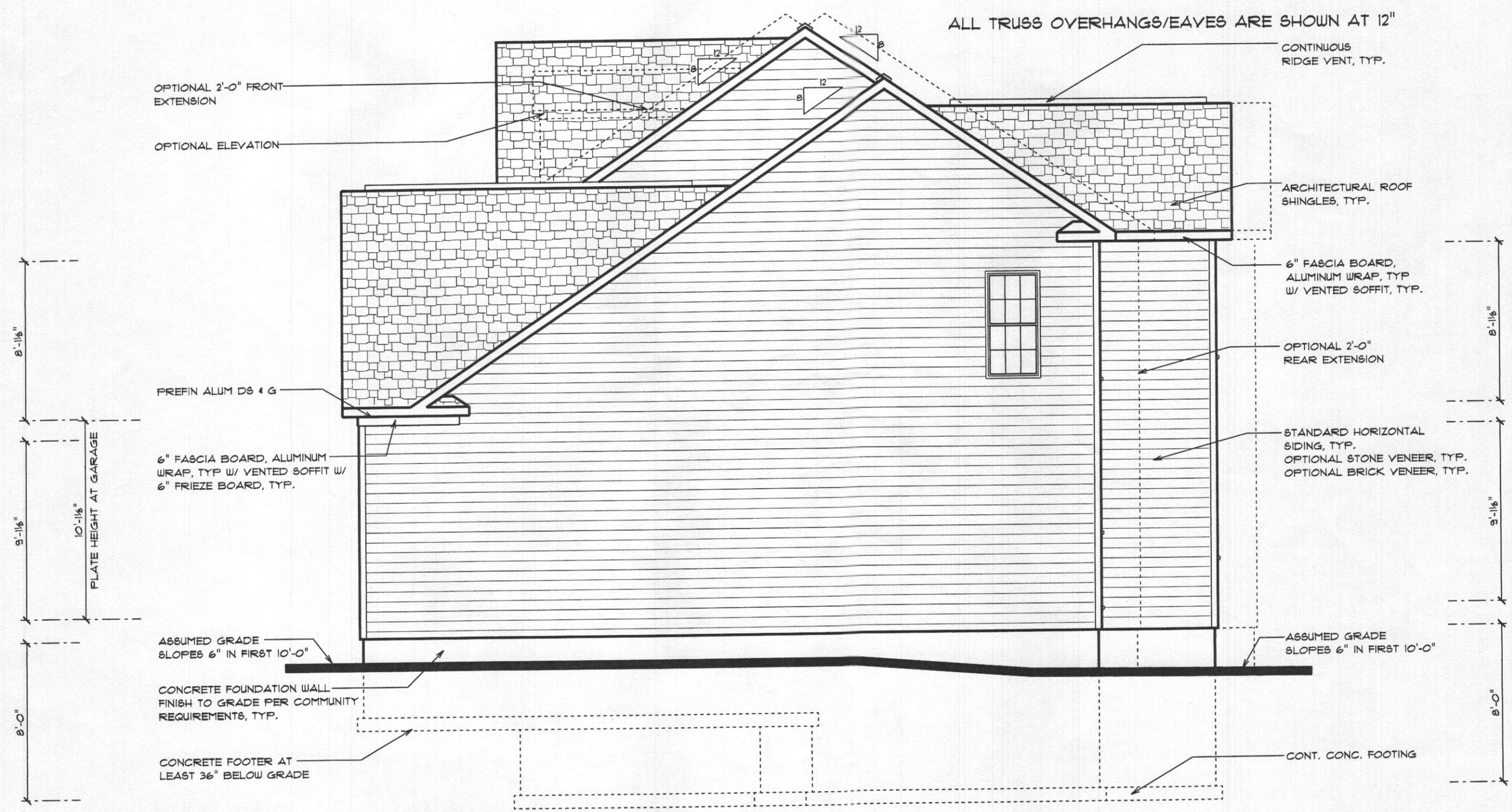
Seneca Base Plan
SCALE: 3/16" = 1'-0"
02-16-14 REVISED BASE SET
03-28-14 REVISED BASE SET
05-06-14 REVISED BASE SET
3-14-16 REVISED BASE SET
PRINT: Saturday, September 10, 2016

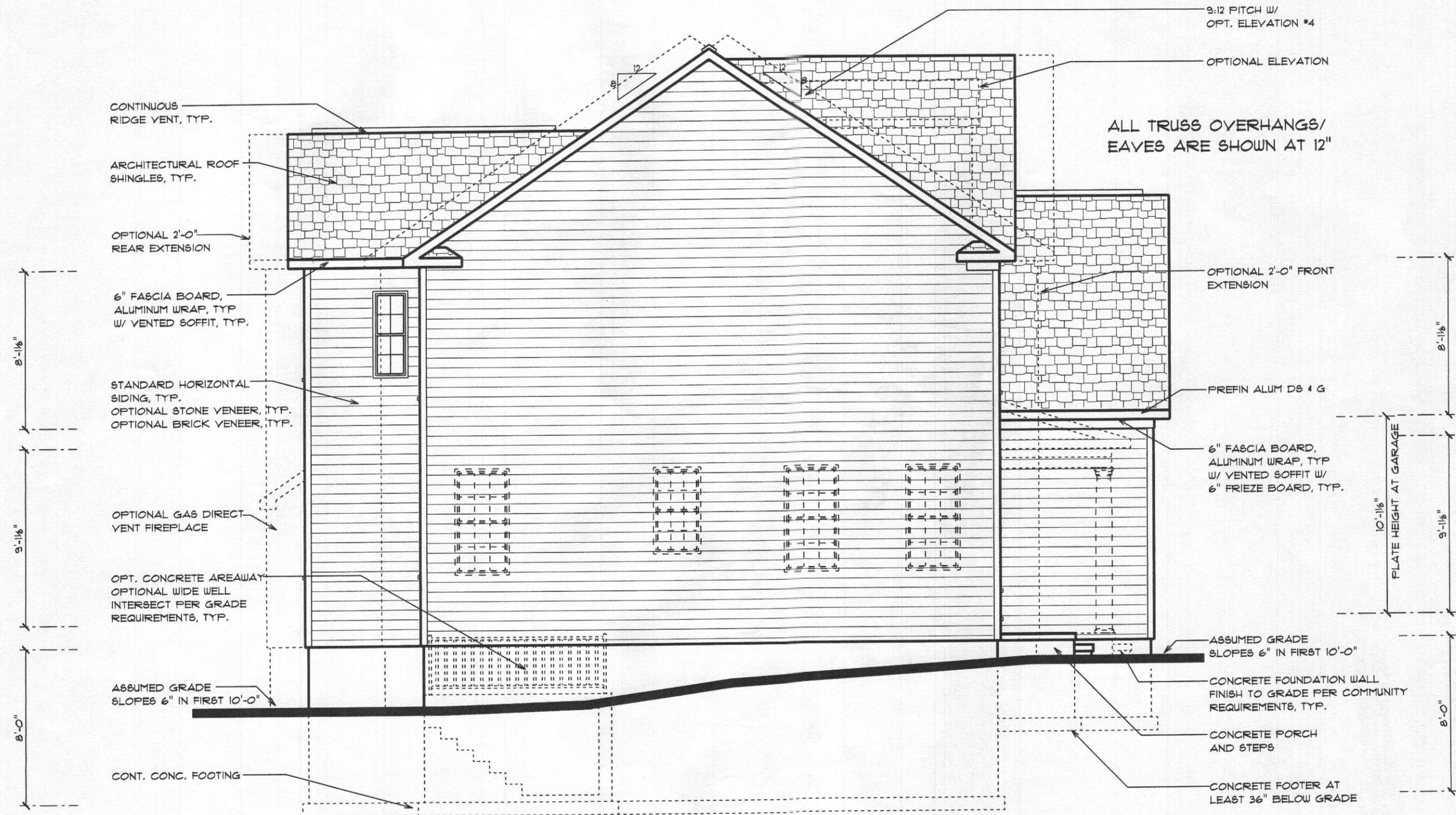
PARTIAL PLANS
1.14

BURKARD HOMES, LLC
5300 DORSEY HALL DRIVE - SUITE 102
ELLICOTT CITY, MARYLAND 21042
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**RIGHT
ELEV
1.21**





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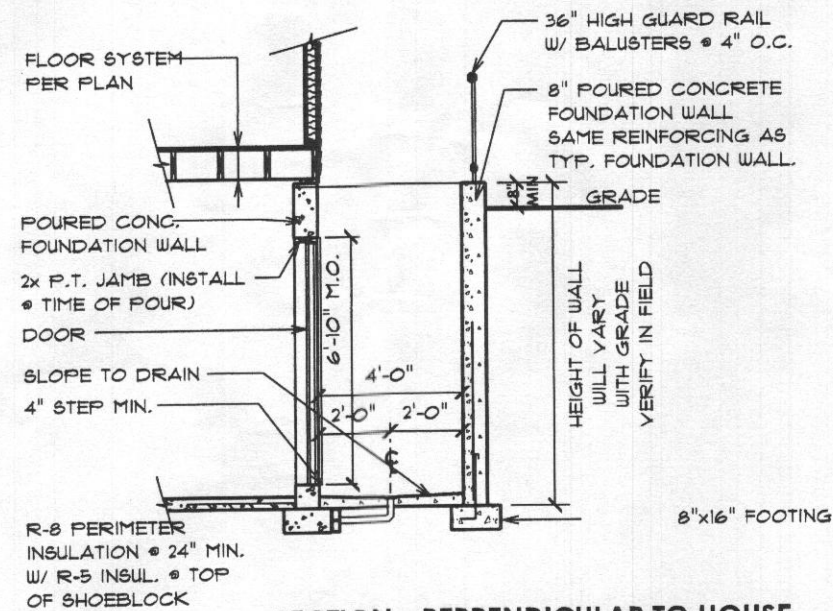
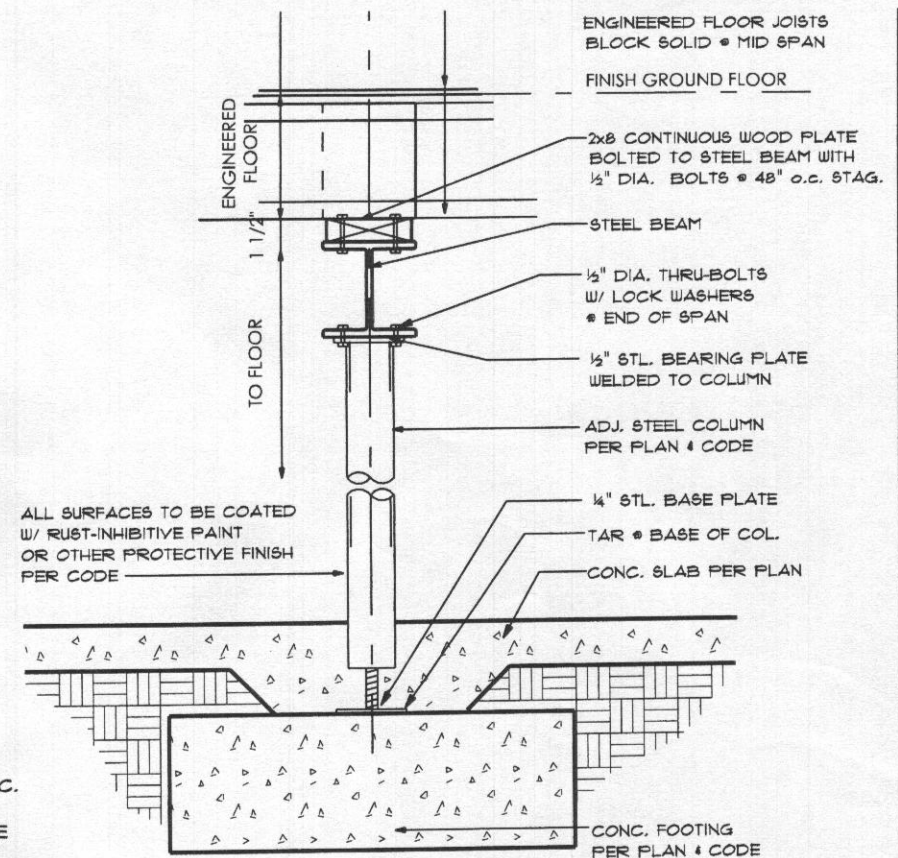
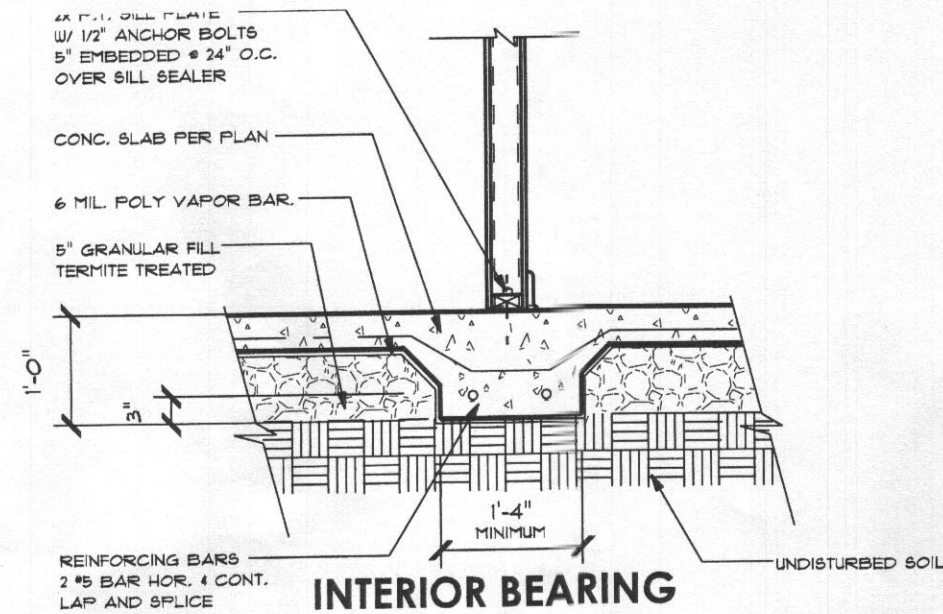
LEFT
ELEV
1.31



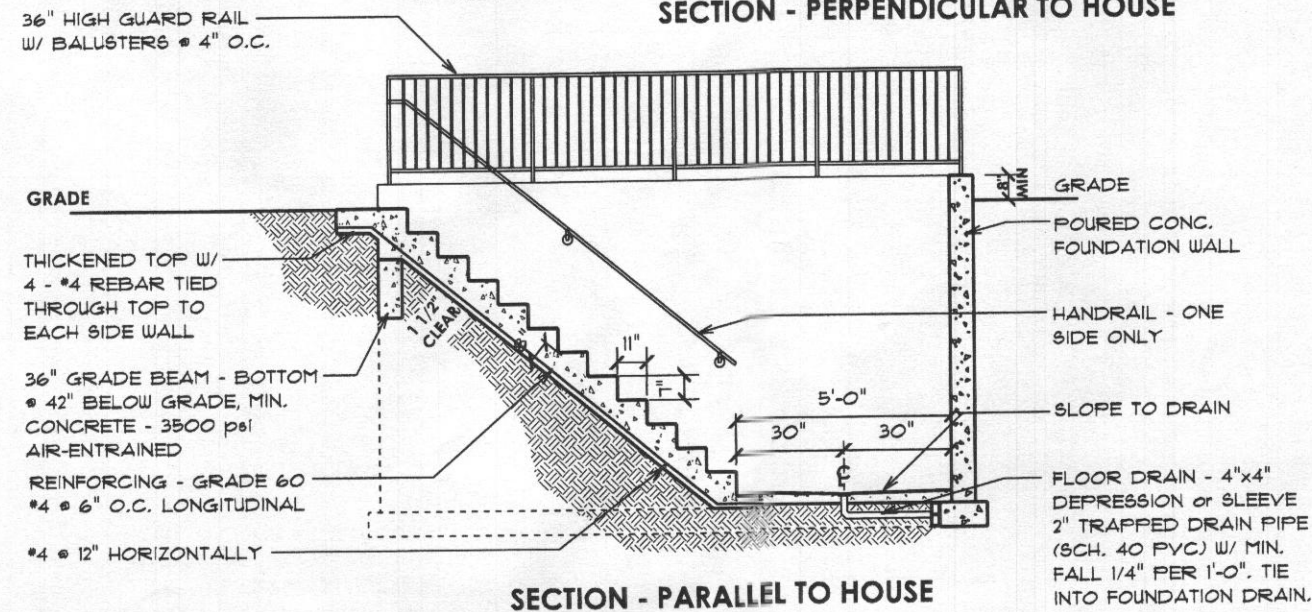
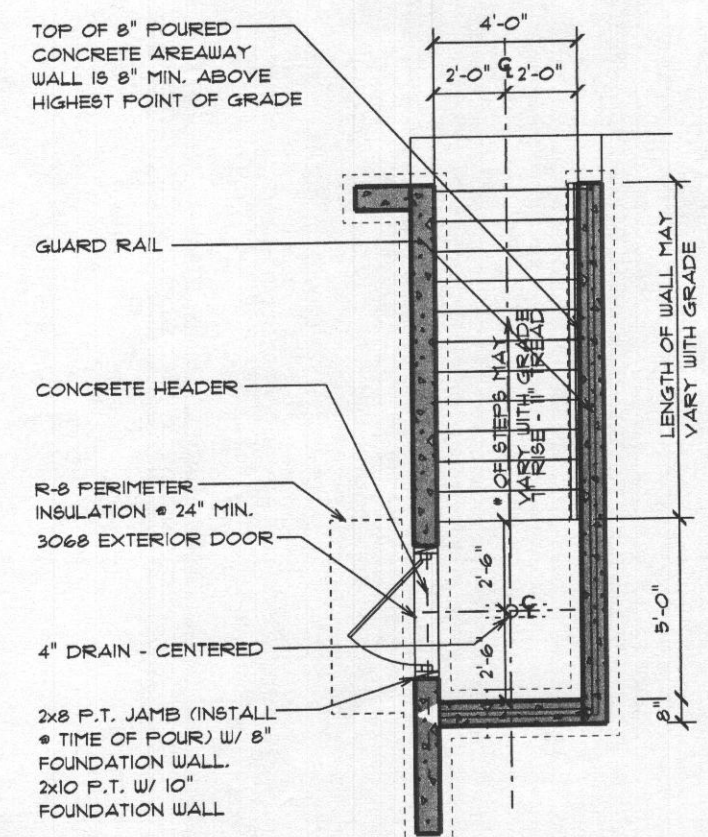
Seneca Base Plan
SCALE: 3/16" = 1'-0" PRINT: Saturday, September 10, 2016
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05-06-14 REVISED BASE SET
3-14-16 REVISED BASE SET

BURKARD HOMES, LLC
5300 DORSEY HALL DRIVE - SUITE 102
ELLICOTT CITY, MARYLAND 21042
240-375-1052

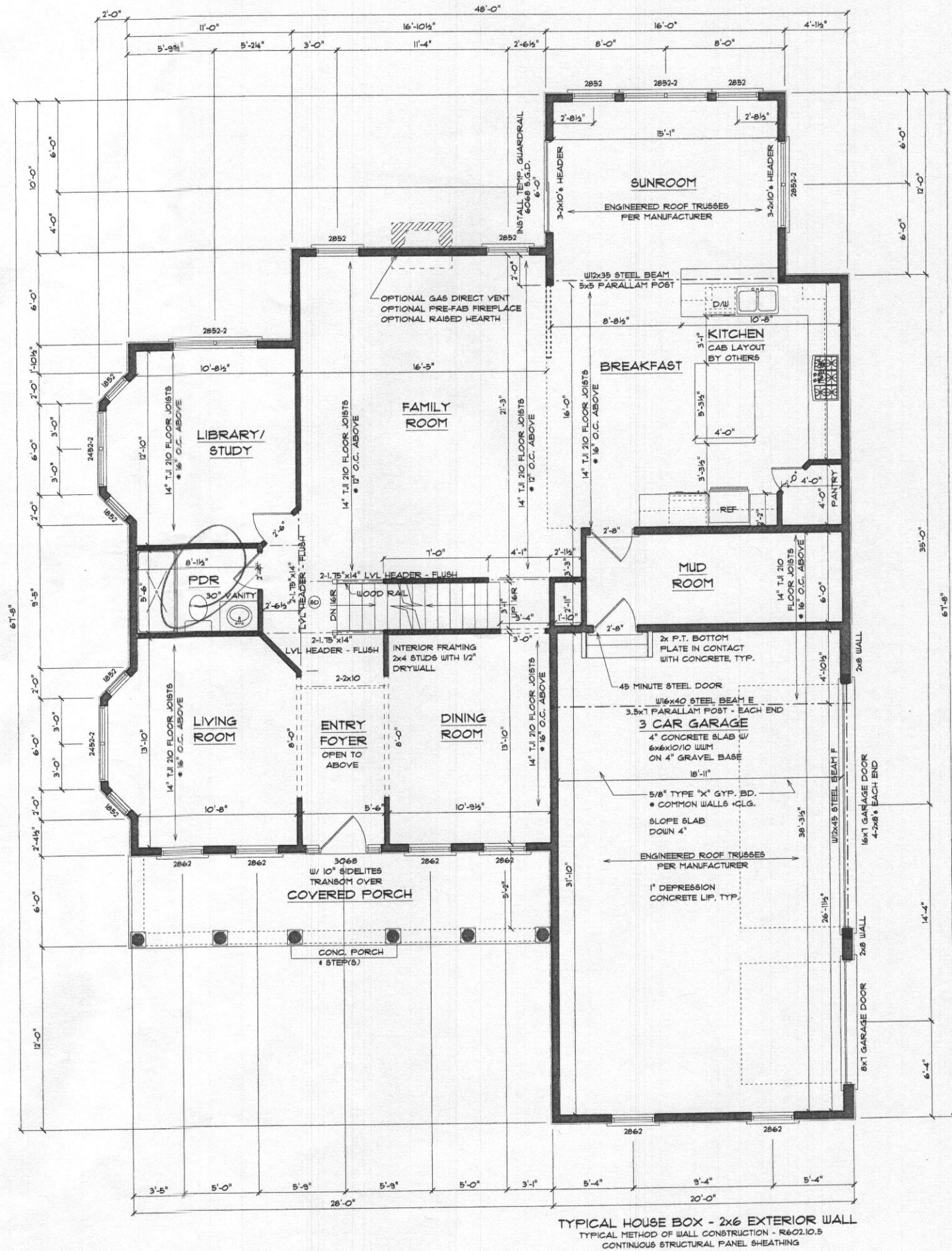
REAR
ELEV
1.41



STEEL COLUMN - BEARING



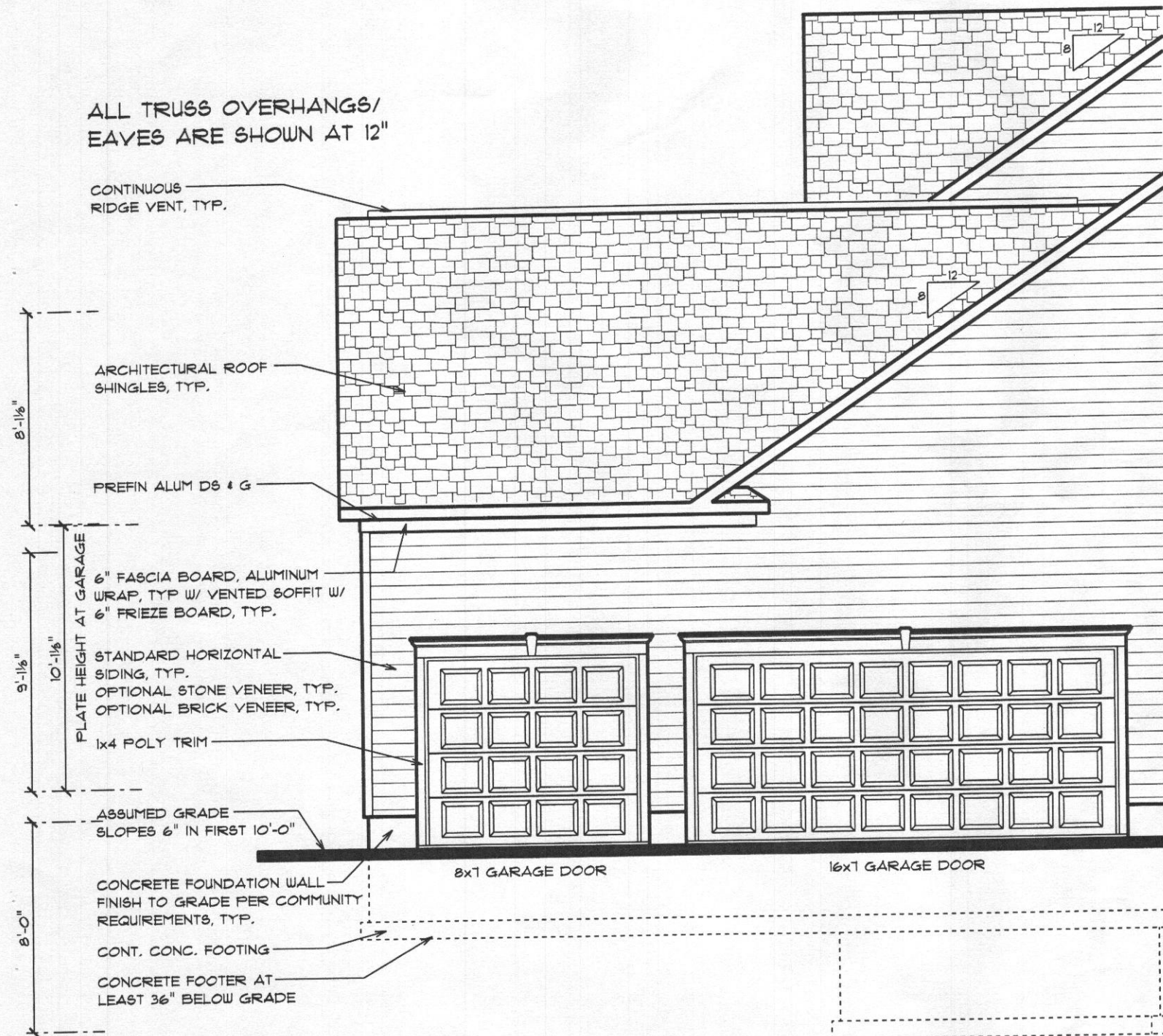
**DOOR @ AREAWAY
PLAN AT HOUSE**
SEE 2.01 FOR FOUNDATION PLAN DETAIL



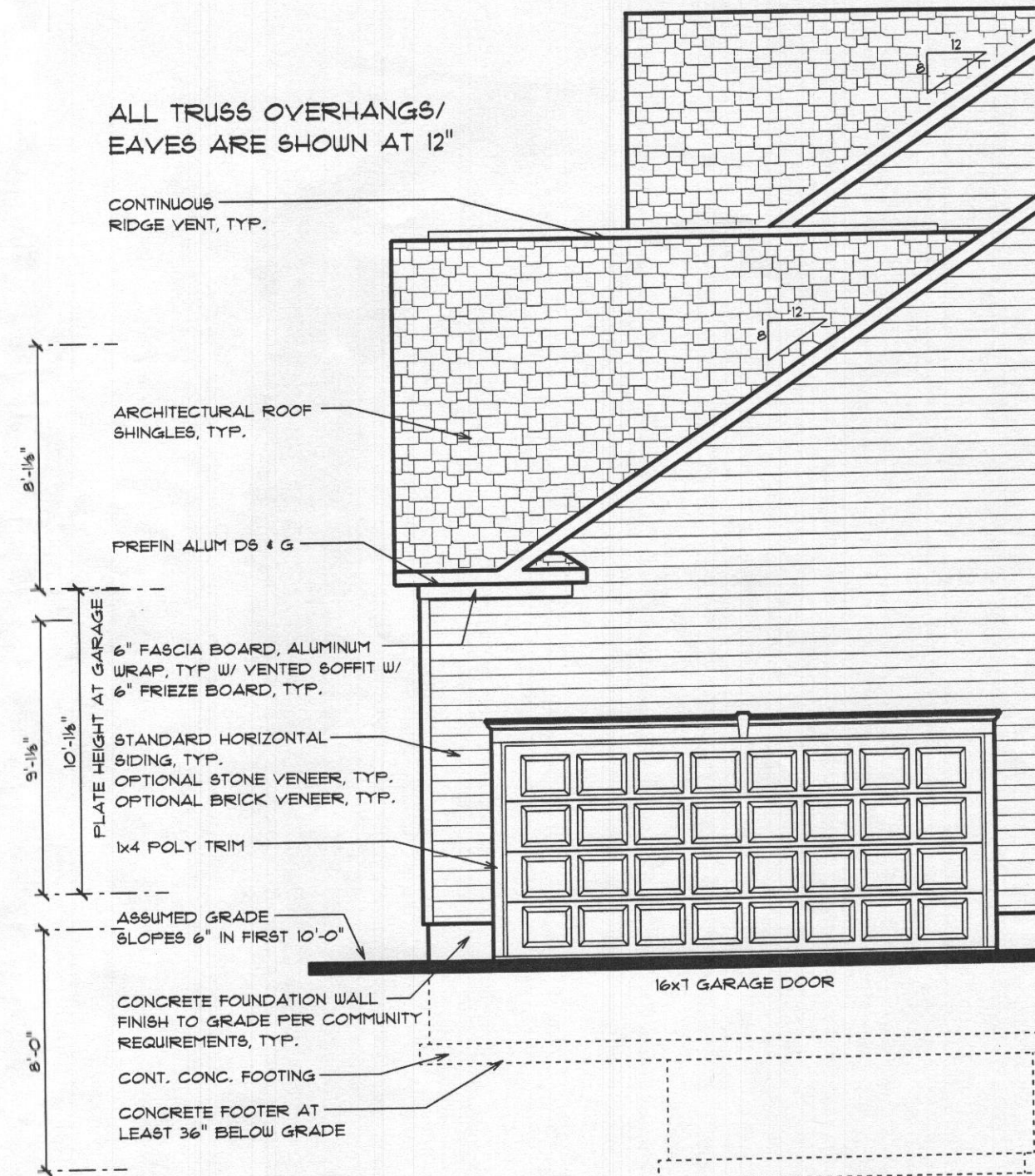
Reservoir Road - Lot 1
SCALE: 3/16" = 1'-0" PRINT: Thursday, May 25, 2011
3-24-17 PRELIMINARY BASE SET

BURKARD HOMES, LLC
5300 DORSEY HALL DRIVE - SUITE 102
ELLCOTT CITY, MARYLAND 21042
240-375-1052

FIRST FLOOR
3.01



OPTIONAL 3-CAR SIDE ENTRY GARAGE
PARTIAL RIGHT ELEVATION



OPTIONAL 2-CAR SIDE ENTRY GARAGE
PARTIAL RIGHT ELEVATION

BURKARD HOMES, LLC

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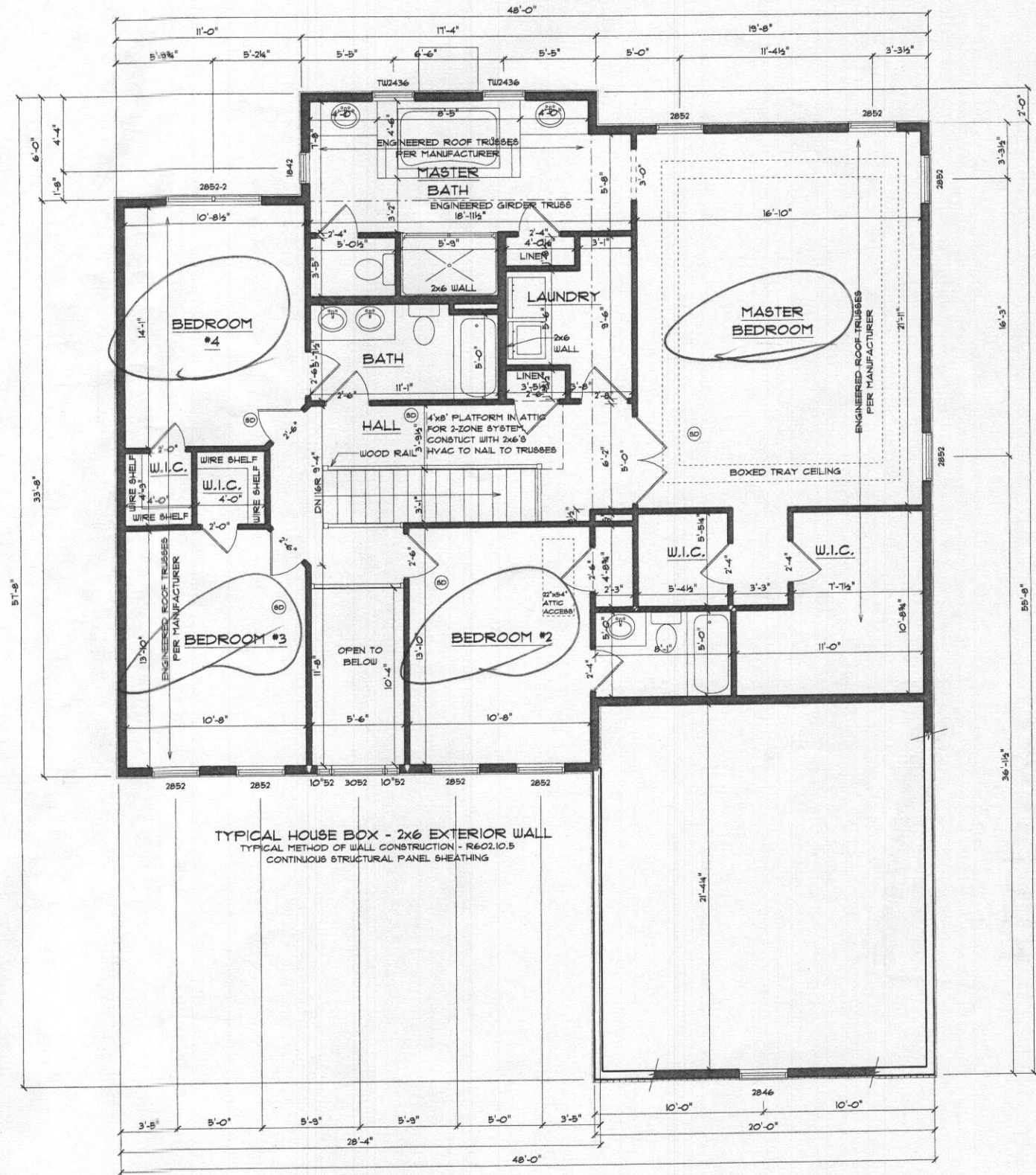
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3-14-16 REVISED BASE SET

ELEVATIONS
SIDE ENTRY

3.03

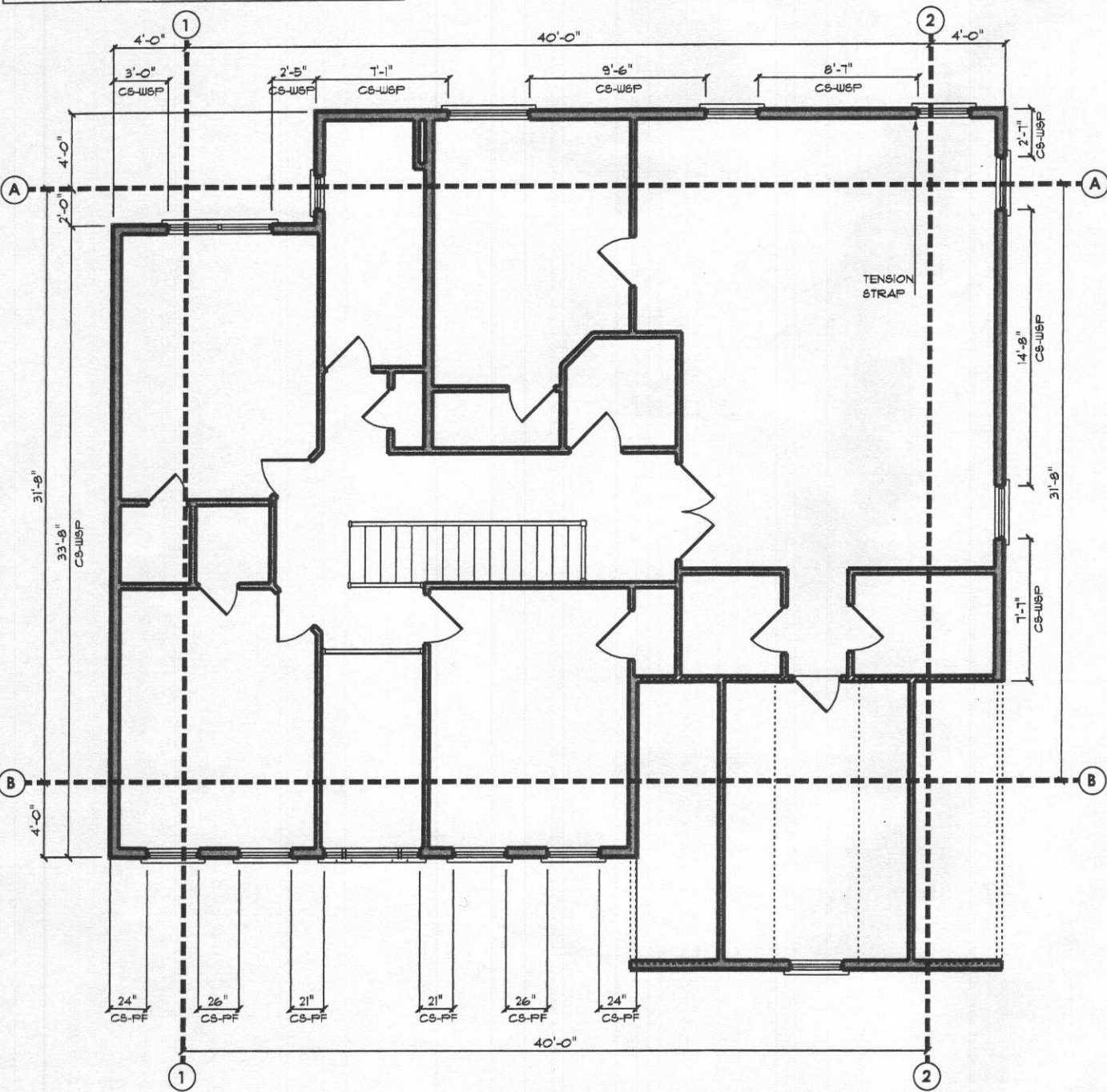


Reservoir Road - Lot 1 **BURKARD HOMES, LLC**
SCALE: 3/16" = 1'-0" PRINT: Thursday, May 25, 2011
3-24-17 PRELIMINARY BASE SET
SECOND FLOOR
4.01
5300 DORSEY HALL DRIVE - SUITE 102
ELLICOTT CITY, MARYLAND 21042
240-375-1052

SECOND FLOOR CALCULATIONS - WORST CASE

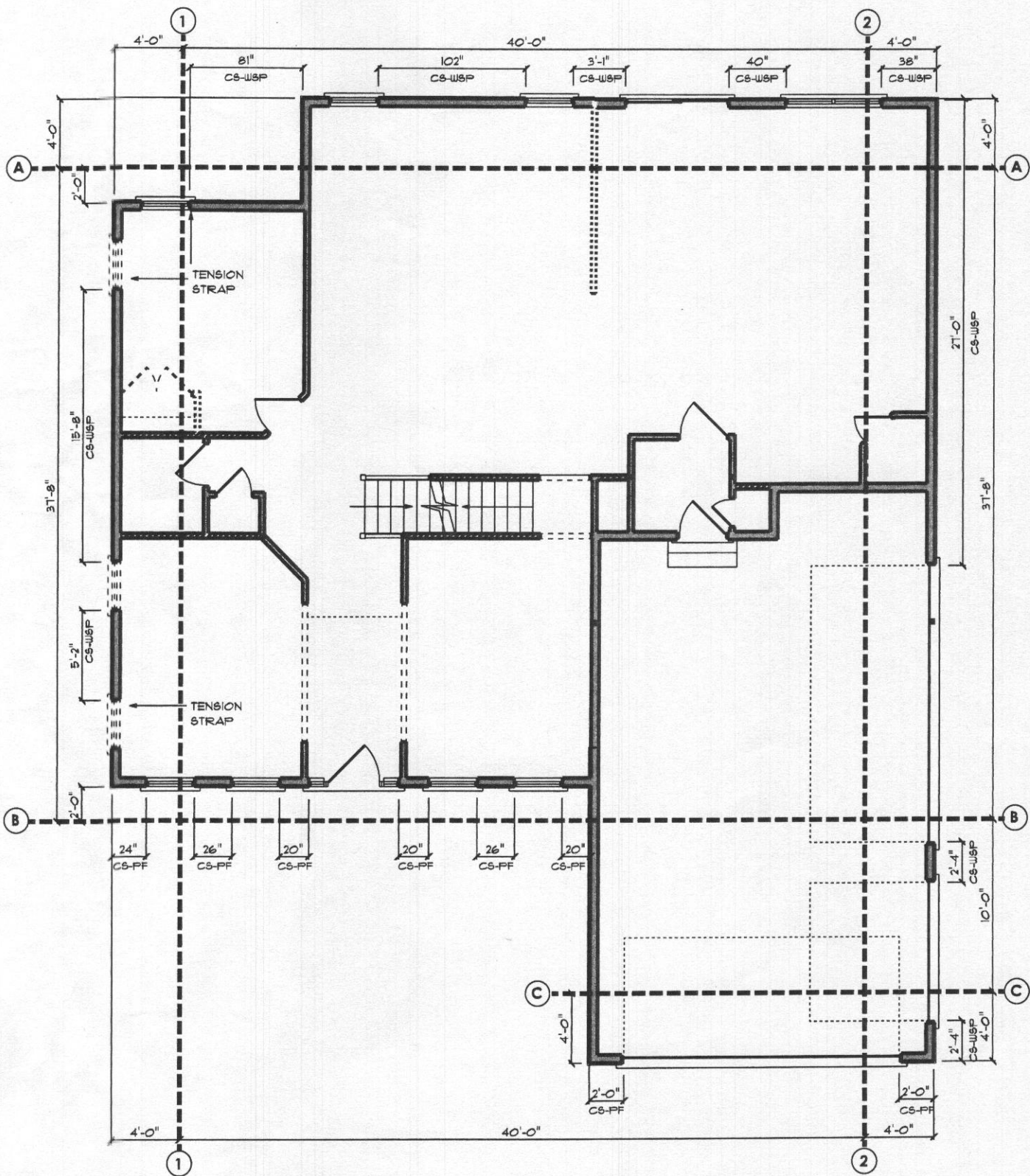
BRACED WALL LINE	WALL PANEL TYPE	NET REQ. BRACING	PROVIDED BRACING
A	CS-WSP	5.39'	31.75'
B	CS-PF	5.39'	24.0'
1	CS-WSP	8.28'	33.66'
2	CS-WSP	8.28'	27.61'

- ALL DESIGNATED EXTERIOR BRACED WALLS SHALL BE A MINIMUM 7/16" PANEL SHEATHING ATTACHED TO FRAMING WITH 8d COMMON NAILS @ 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS. SOLE PLATS SHALL BE FASTENED TO JOIST OR SOLID WOOD BLOCKING WITH (3) 16d NAILS AT 16" O.C. RIM JOIST TO PLATE OR SILL 8d @ 6" O.C. TO NAIL.
- ALL EXTERIOR WALL CORNERS SHALL BE FRAMED PER DETAIL.
- ALL DESIGNATED INTERIOR BRACED WALLS SHALL BE MIN 1/2" GYPSUM BOARD APPLIED TO BOTH FACES OF FRAMING WITH ADHESIVE AND TYPE S OR W SCREWS AT 24" O.C.
- DESIGNATED NARROW WALL BRACING SHALL BE CONSTRUCTED IN ACCORDANCE WITH BRACED WALL DETAILS.
- TENSION HOLD DOWN STRAP OF 800# - ex. (SIMPSON CMST14 STRAP W/ 15-16d NAILS EACH END)



FIRST FLOOR CALCULATIONS - WORST CASE

BRACED WALL LINE	WALL PANEL TYPE	NET REQ. BRACING	PROVIDED BRACING
A	CS-WSP	13.95'	21.75'
B	CS-PF	13.95'	24.00'
C	CS-PF	4.32'	8.00'
1	CS-WSP	13.11'	20.83'
2	CS-WSP	13.11'	31.67'



architect under the laws of the
State of Maryland,
License Number #14678
Expiration Date: 4/30/2018.

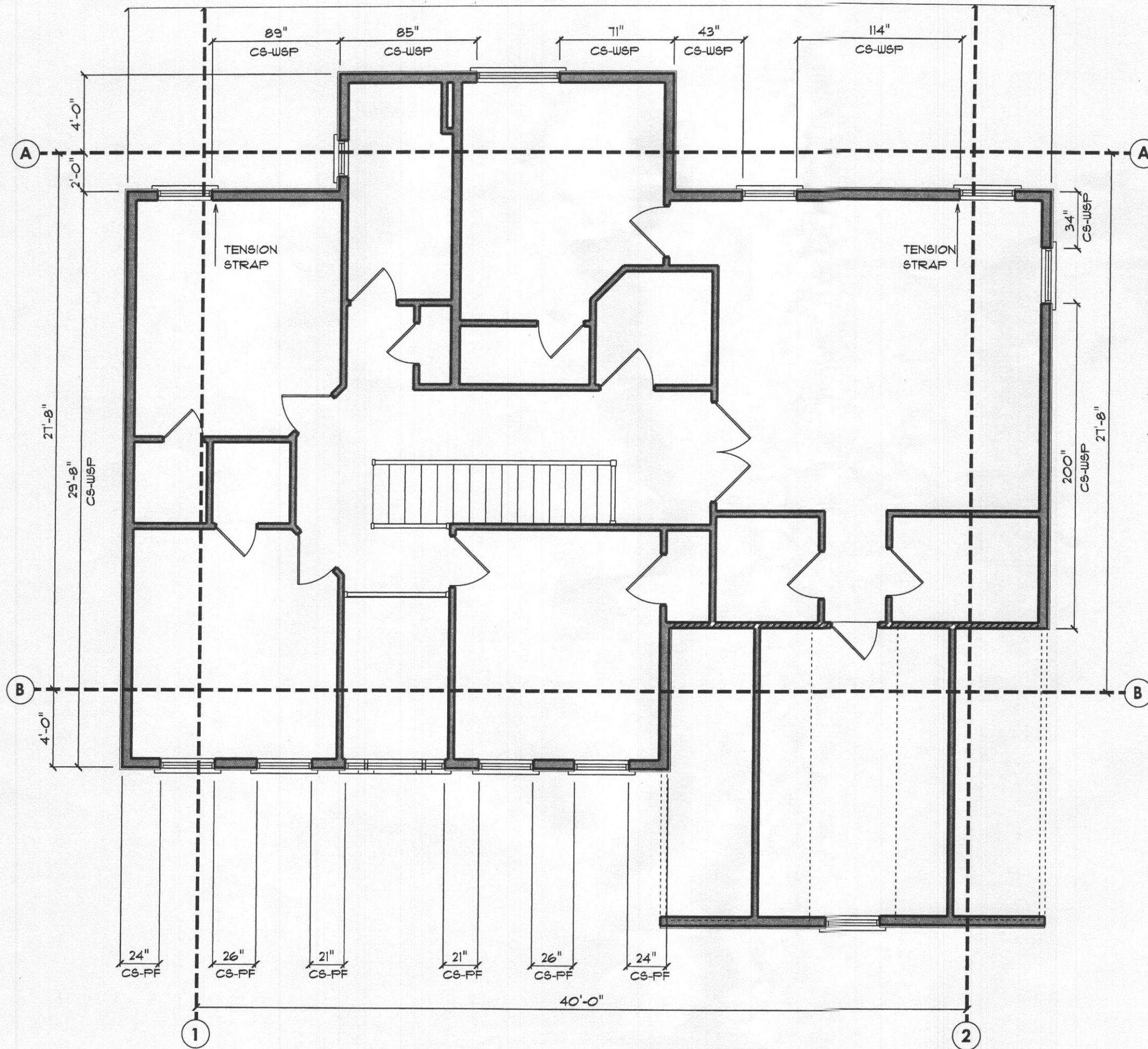
Jonathan Rivera
License Number #14678

BURKARD HOMES, LLC
5300 DORSEY HALL DRIVE - SUITE 102
ELLICOTT CITY, MARYLAND 21042
240-375-1052

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3-14-16 REVISED BASE SET

**WORST CASE
BRACING**

4.52a



BRACED WALL LINE	WALL PANEL TYPE	NET REQ. BRACING	PROVIDED BRACING
A	CS-WSP	5.39'	33.5'
B	CS-PF	5.39'	24.0'
1	CS-WSP	7.02'	29.66'
2	CS-WSP	7.02'	19.5'

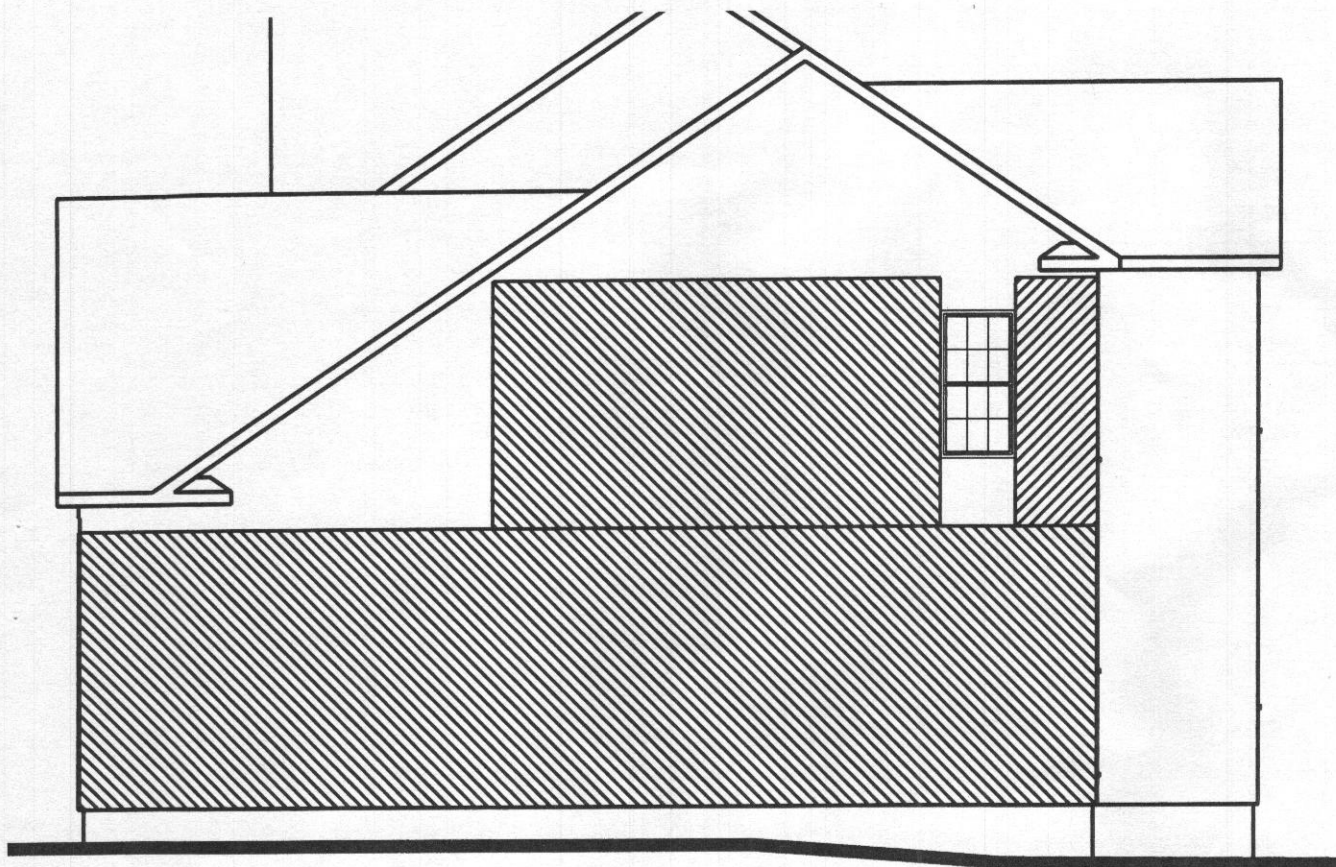
- ALL DESIGNATED EXTERIOR BRACED WALLS SHALL BE A MINIMUM 1/16" PANEL SHEATHING ATTACHED TO FRAMING WITH 8d COMMON NAILS @ 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS. SOLE PLATES SHALL BE FASTENED TO JOIST OR SOLID WOOD BLOCKING WITH (3) 16d NAILS AT 16" O.C. RIM JOIST TO PLATE OR SILL 8d @ 6" O.C. TOENAIL.
- ALL EXTERIOR WALL CORNERS SHALL BE FRAMED PER DETAIL.
- ALL DESIGNATED INTERIOR BRACED WALLS SHALL BE MIN 1/2" GYPSUM BOARD APPLIED TO BOTH FACES OF FRAMING WITH ADHESIVE AND TYPE S OR W SCREWS AT 24" O.C.
- DESIGNATED NARROW WALL BRACING SHALL BE CONSTRUCTED IN ACCORDANCE WITH BRACED WALL DETAILS.
- TENSION HOLD DOWN STRAP OF 800# - ex. (SIMPSON CMST14 STRAP W/ 15-16d NAILS EACH END)

BURKARD HOMES, LLC
 5300 DORSEY HALL DRIVE - SUITE 102
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 3-14-16 REVISED BASE SET

2nd FLOOR
 BRACING

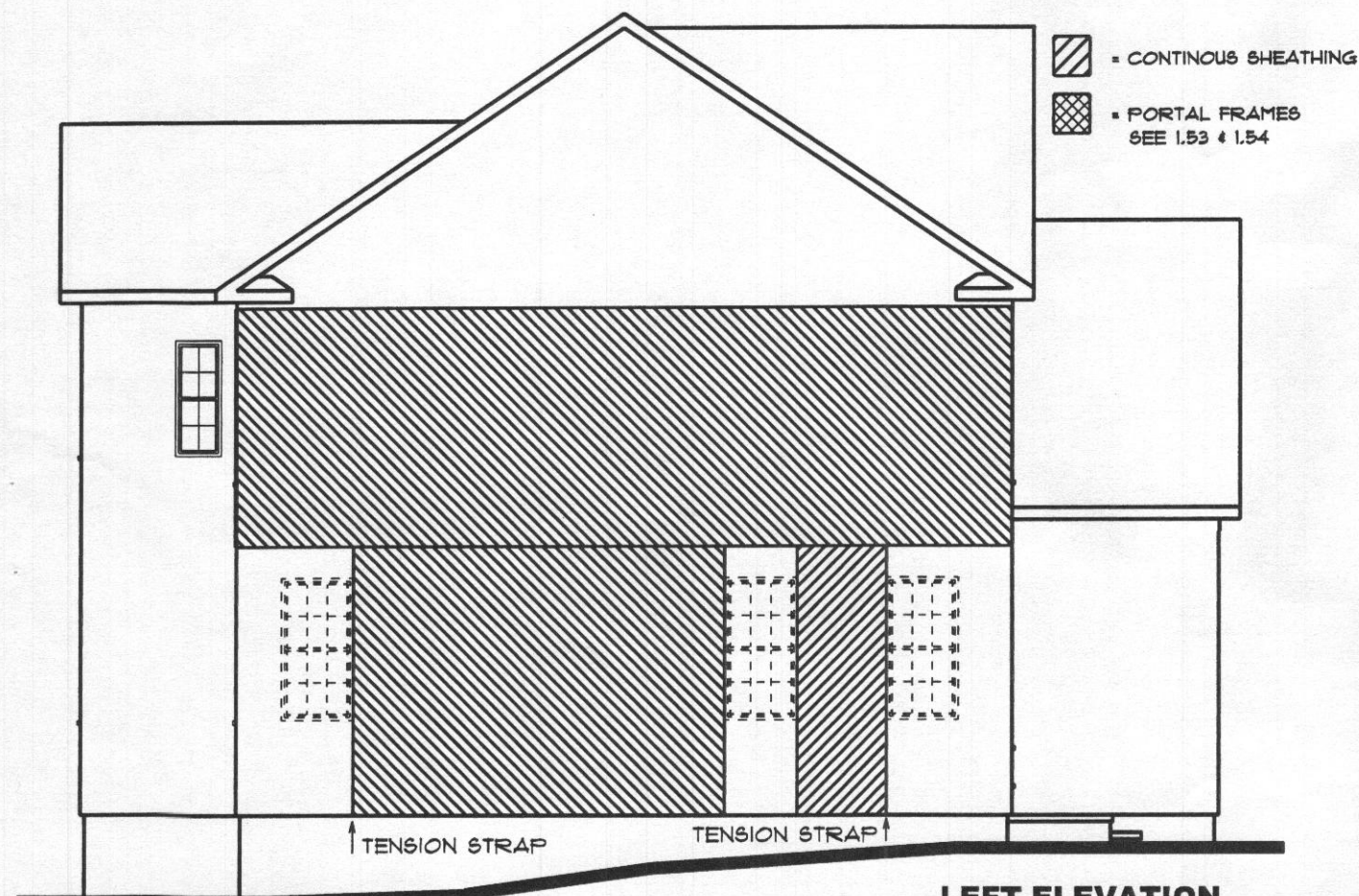
4.52



RIGHT ELEVATION
NOT TO SCALE





REAR ELEVATION
NOT TO SCALE



LEFT ELEVATION
NOT TO SCALE



FRONT ELEVATION
NOT TO SCALE

-  = CONTINUOUS SHEATHING
-  = PORTAL FRAMES
SEE 1.53 & 1.54

BURKARD HOMES, LLC

5300 DORSEY HALL DRIVE - SUITE 102
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Seneca Base Plan

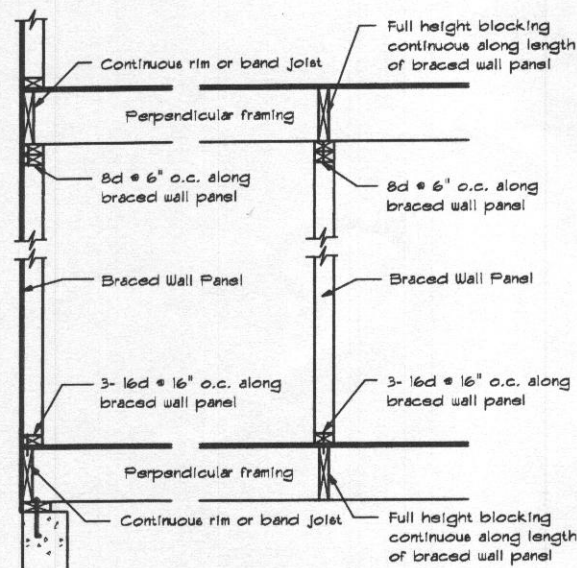
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ELEV
BRACING
4.53

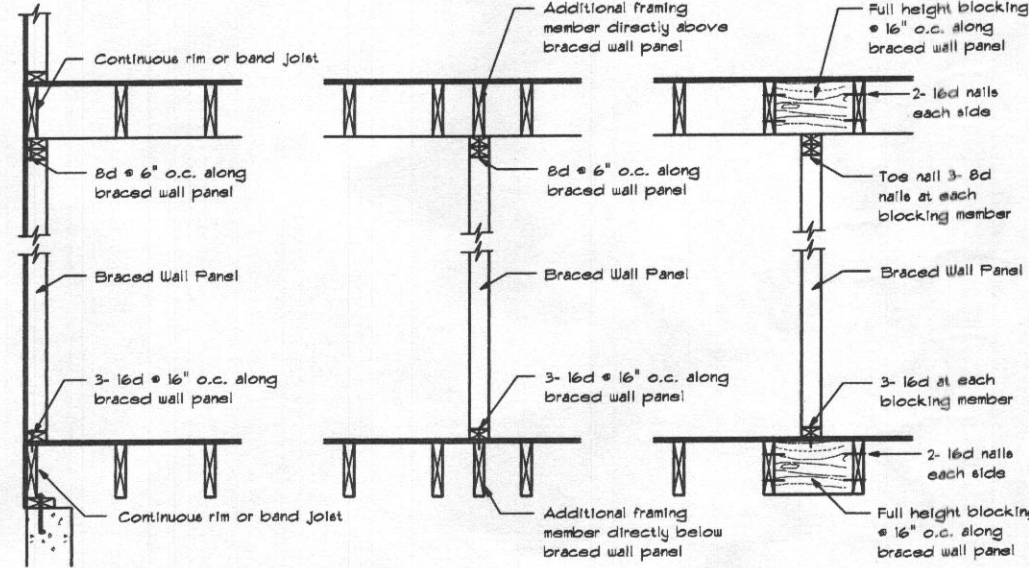
NOTES

Methods WSP & CS-WSP: Min. 7/16" OSB Wood Structural Panel sheathing attached to framing with 6d at 6" o.c. at panel edges and 12" o.c. at intermediate framing members.
Note: At Braced Wall Lines incorporating Continuously Sheathed bracing methods (CS-WSP & CS-PF), all exterior walls along the Braced Wall Line must be fully sheathed with min 7/16" OSB Wood Structural Panel sheathing fastened per IRC 2015 Tables R602.3(1), R602.3(2), and R602.3(3).

Method GB: Min. 1/2" gypsum board applied to each side of framing with adhesive and Type S or W screws @ 7" o.c. at panel edges and 24" o.c. at intermediate framing members or nails per IRC 2015 Table R702.3.5 @ 7" o.c. at panel edges and 16" o.c. at intermediate framing members.



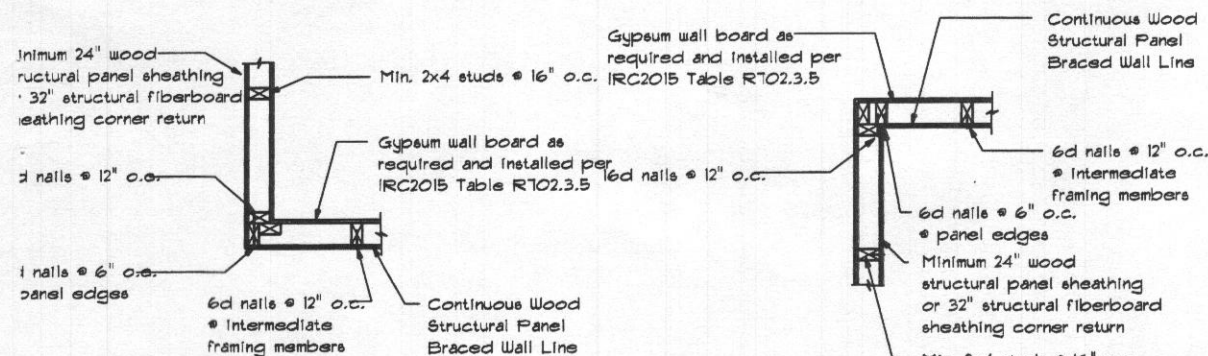
BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING



BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING

Braced Wall Panel Connections to Floor and Ceiling Framing

NOT TO SCALE

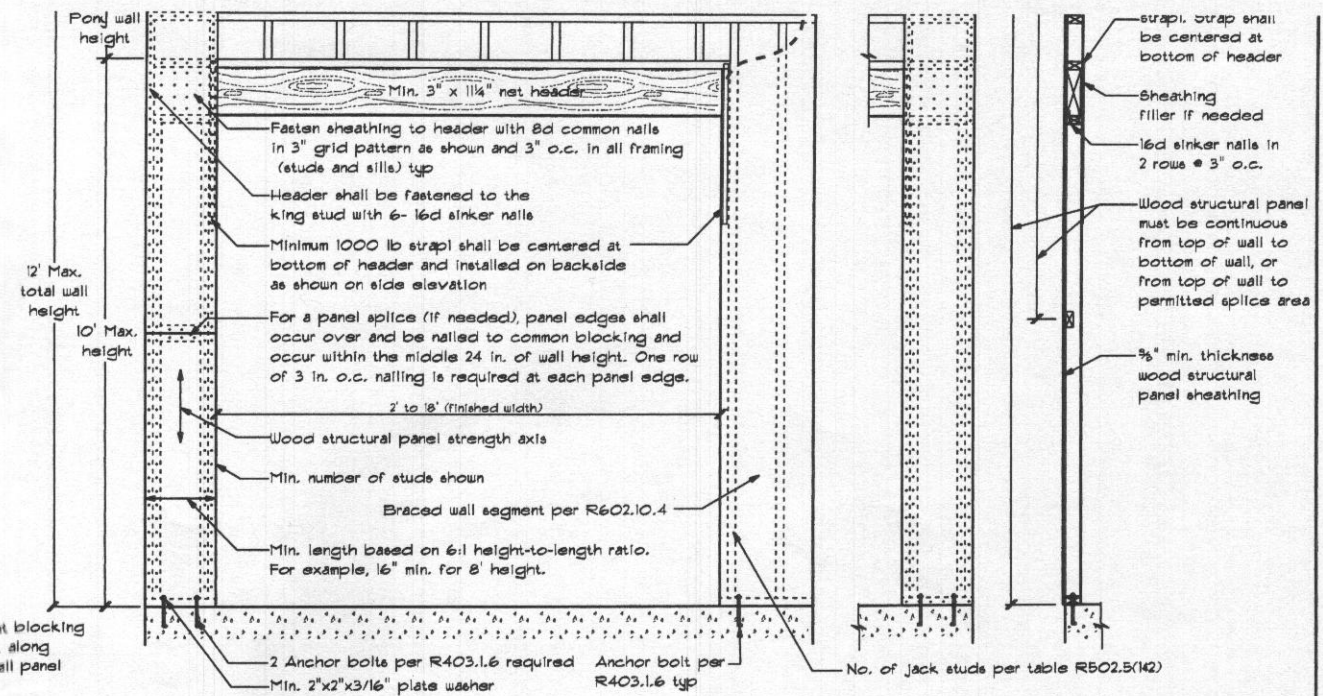


OUTSIDE CORNER

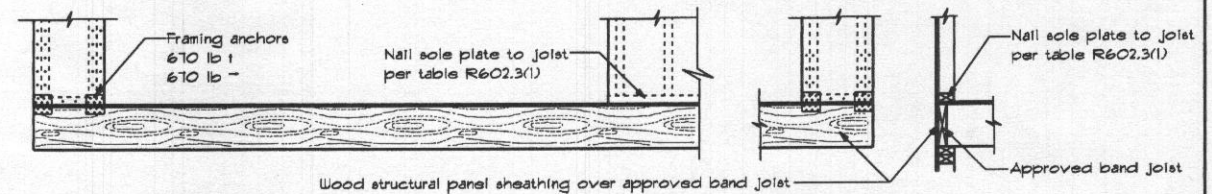
INSIDE CORNER

Corner Framing Details

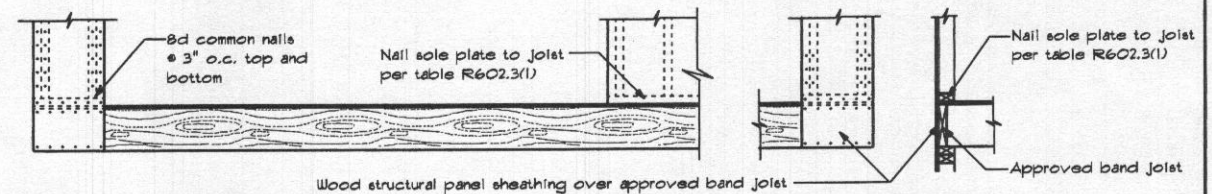
NOT TO SCALE



OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISED WOOD FLOOR OR SECOND FLOOR - FRAMING ANCHOR OPTION



OVER RAISED WOOD FLOOR OR SECOND FLOOR - WOOD STRUCTURAL PANEL OVERLAP OPTION

'Tension Strap Capacity Required for Method CS-PF

Minimum Wall Stud Framing Nominal Size and Grade	Maximum Pony Wall Height (feet)	Maximum Total Wall Height (feet)	Maximum Opening Width (feet)	Wind Exposure B Tension strap capacity required (lb)	
				Exposure B	Exposure C
2x4 No. 2 Grade	0	10	18	1000	1000
			9	1000	1000
			16	1000	2325
			18	1200	2725
	2	10	9	1000	1550
			16	2025	3900
			18	2400	DR
			9	1200	2750
	4	12	16	3200	DR
			18	3850	DR
			9	2350	DR
			16	DR	DR
2x4 Stud Grade	2	12	9	1000	1750
			16	2050	3850
			18	2450	4100
	4	12	9	1500	2715
			16	3150	DR
			18	3675	DR

Notes: 1. Basic Wind Speed of 90mph. For other Basic Wind Speeds, see IRC 2015 Table R602.10.4.1.1
 2. DR = Design Required

Continuous Portal Frame CS-PF

NOT TO SCALE

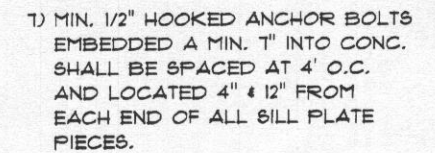
State of Maryland,
 License Number #14678
 Expiration Date: 6/30/2018.

Jonathan Rivera
 License Number #14678

BURKARD HOMES, LLC
 5300 DORSEY HALL DRIVE - SUITE 102
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 240-375-1052

Seneca Base Plan
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BRACING DETAILS
4.54



SECTION A-A 5.01

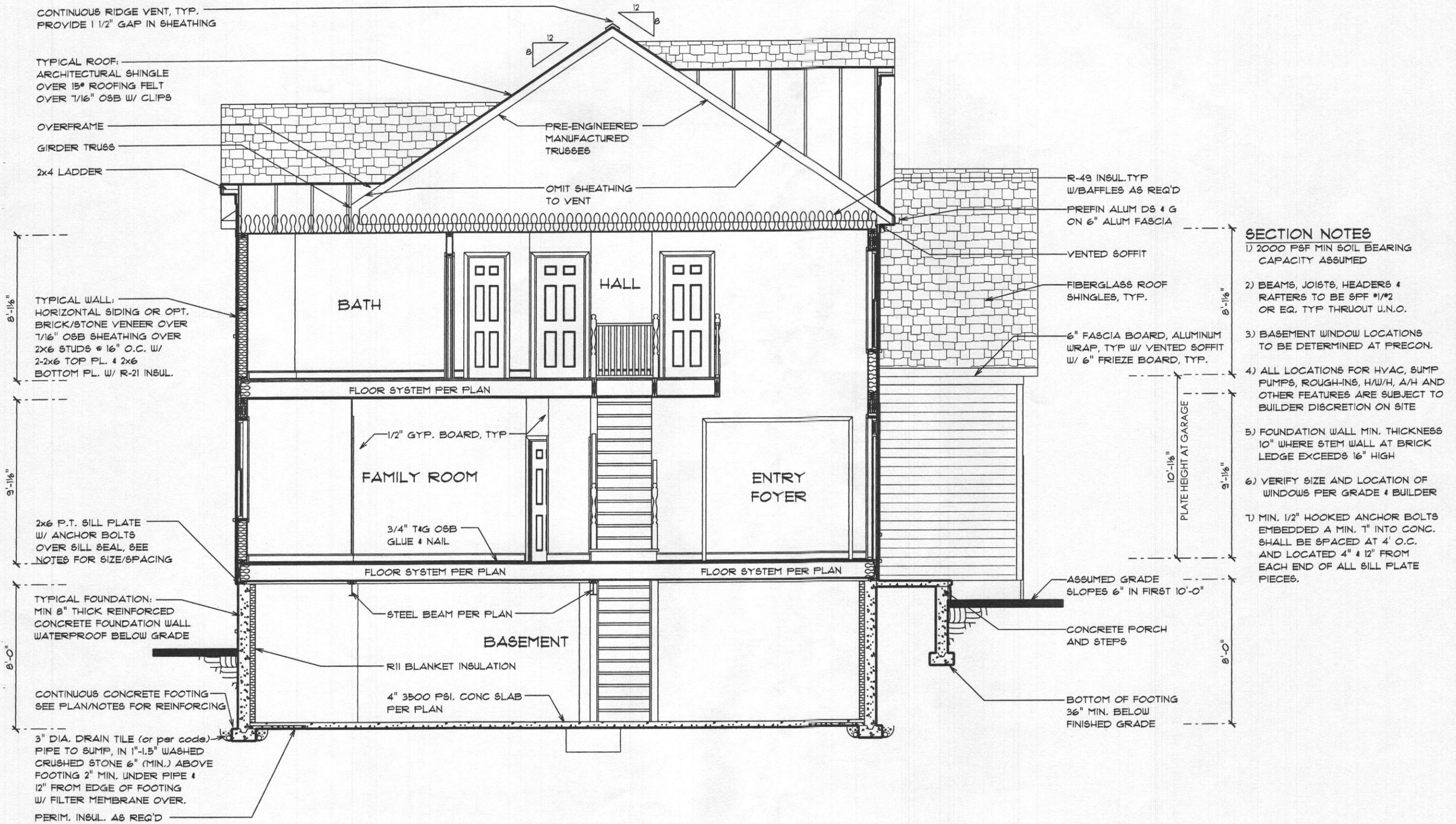
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3-14-16 REVISED BASE SET

**SECTION
B-B
5.02**



CAPACITY ASSUMED

2) BEAMS, JOISTS, HEADERS &
RAFTERS TO BE SPF #1/#2
OR EQ. TYP THRUOUT U.N.O.

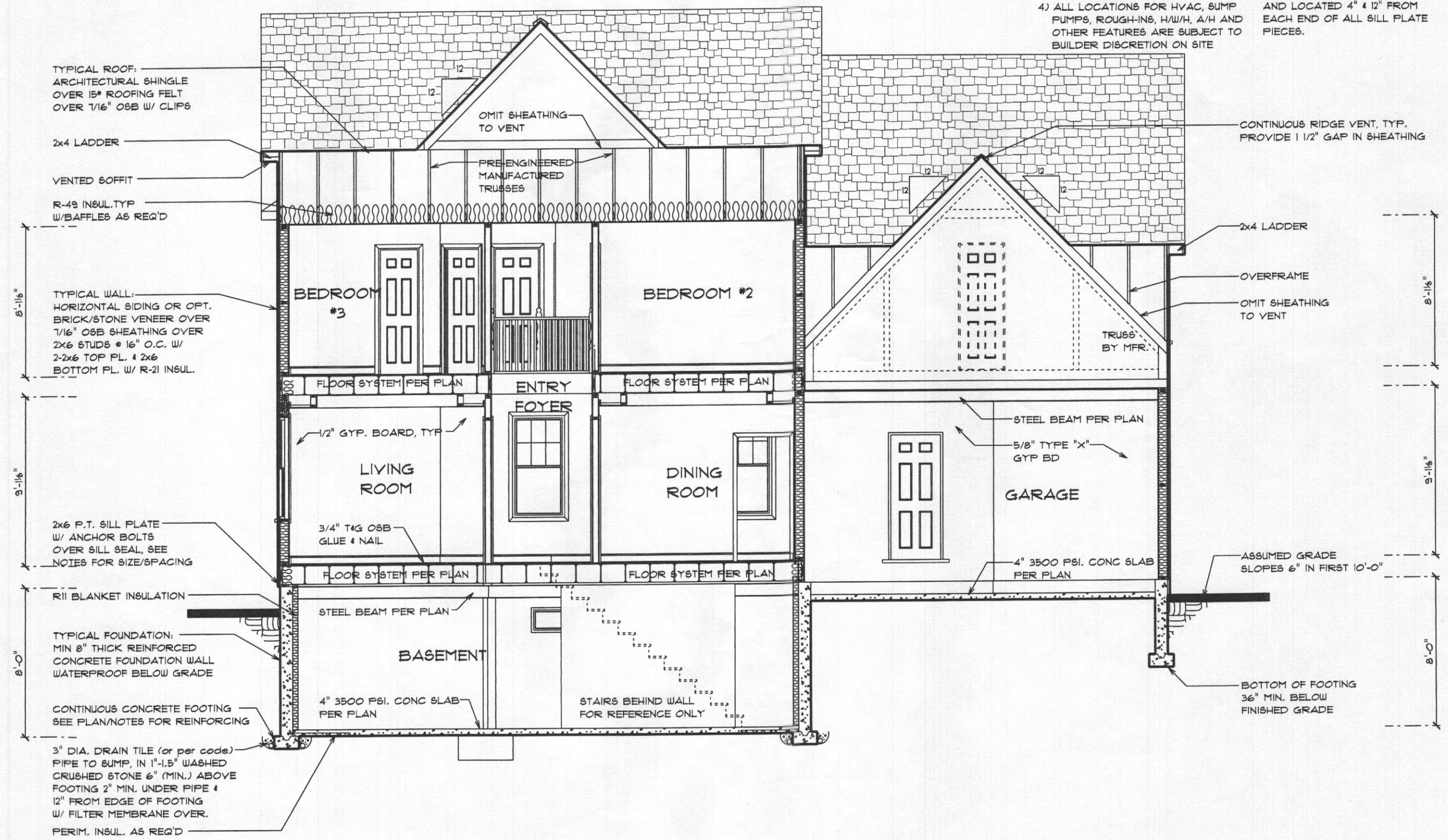
3) BASEMENT WINDOW LOCATIONS
TO BE DETERMINED AT PRECON.

4) ALL LOCATIONS FOR HVAC, SUMP
PUMPS, ROUGH-INS, H/W/H, A/H AND
OTHER FEATURES ARE SUBJECT TO
BUILDER DISCRETION ON SITE

10" WHERE STEM WALL AT BRICK
LEDGE EXCEEDS 16" HIGH

6) VERIFY SIZE AND LOCATION OF
WINDOWS PER GRADE & BUILDER

7) MIN. 1/2" HOOKED ANCHOR BOLTS
EMBEDDED A MIN. 1" INTO CONC.
SHALL BE SPACED AT 4' O.C.
AND LOCATED 4" & 12" FROM
EACH END OF ALL SILL PLATE
PIECES.



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BURKARD HOMES, LLC

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SECTION

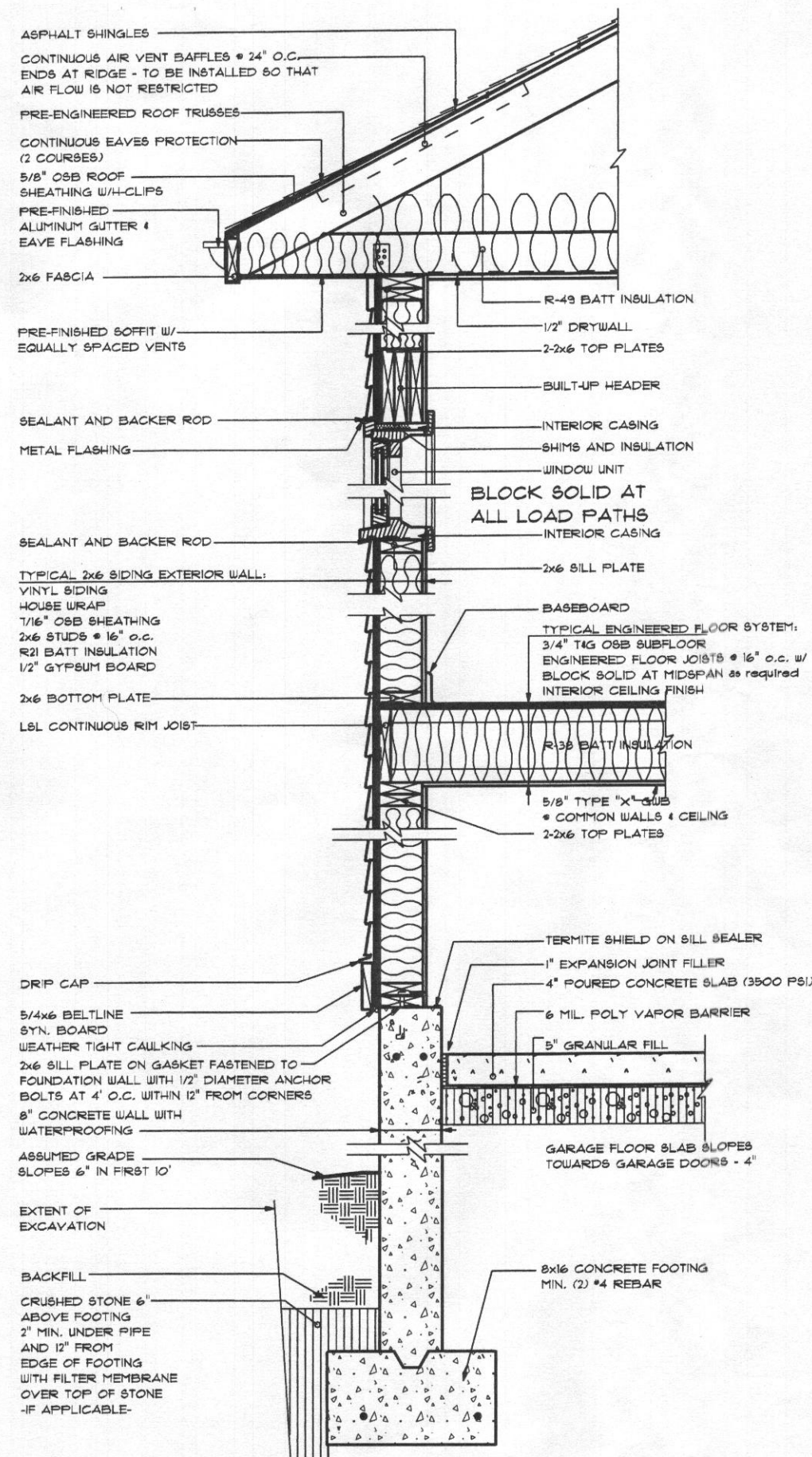
C-C

5.03

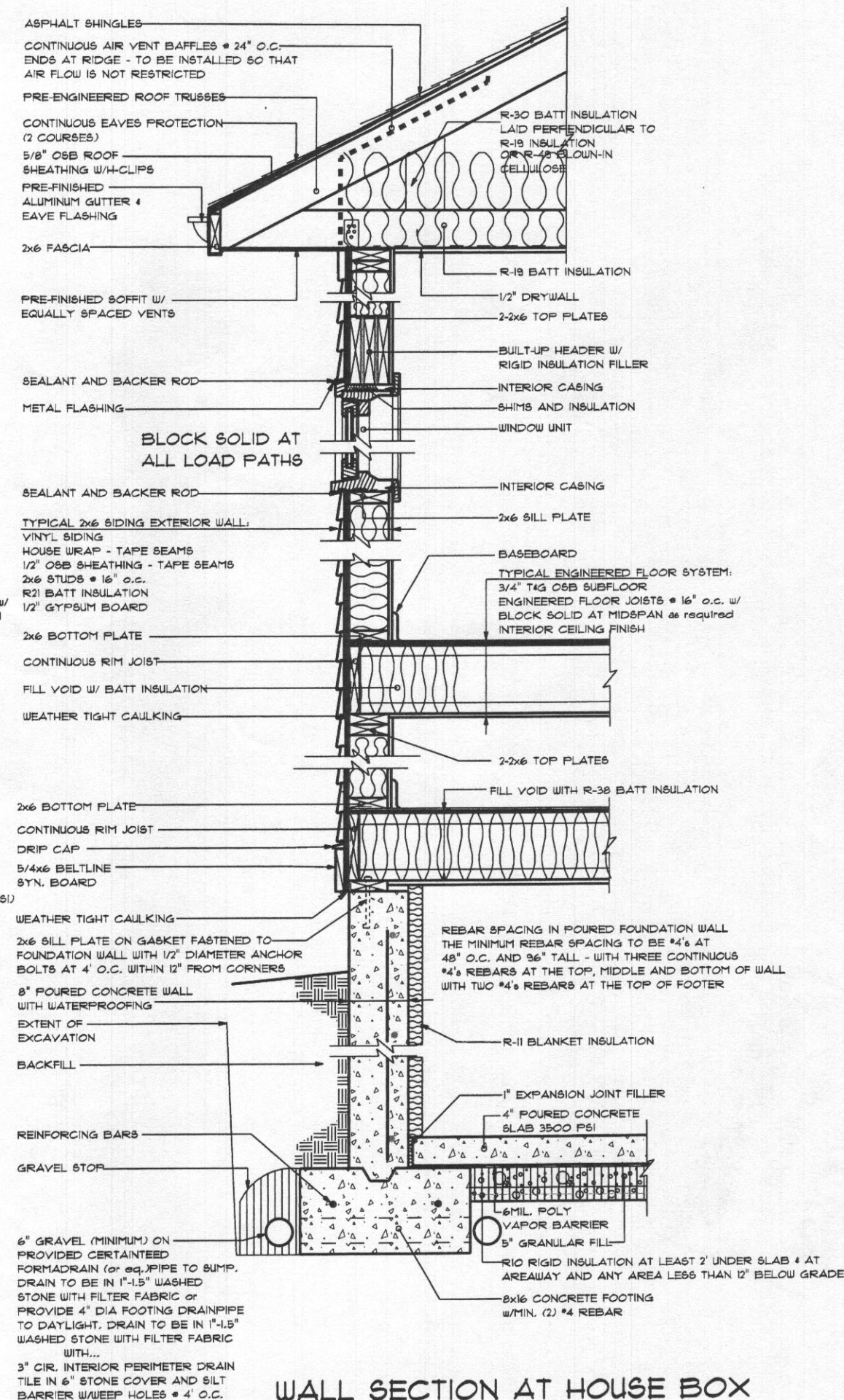
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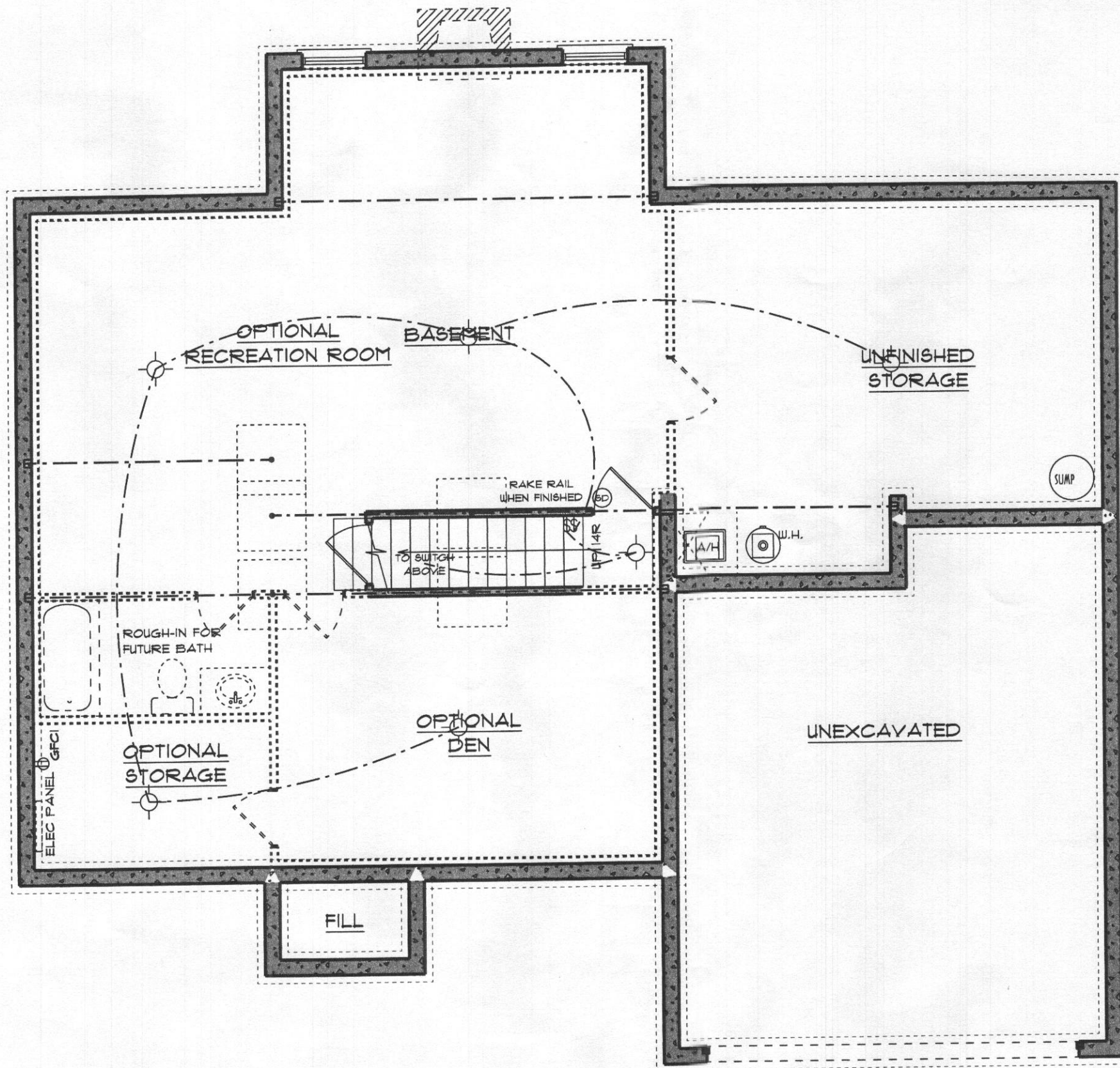
WALL SECTIONS 5.10



WALL SECTION AT GARAGE



WALL SECTION AT HOUSE BOX



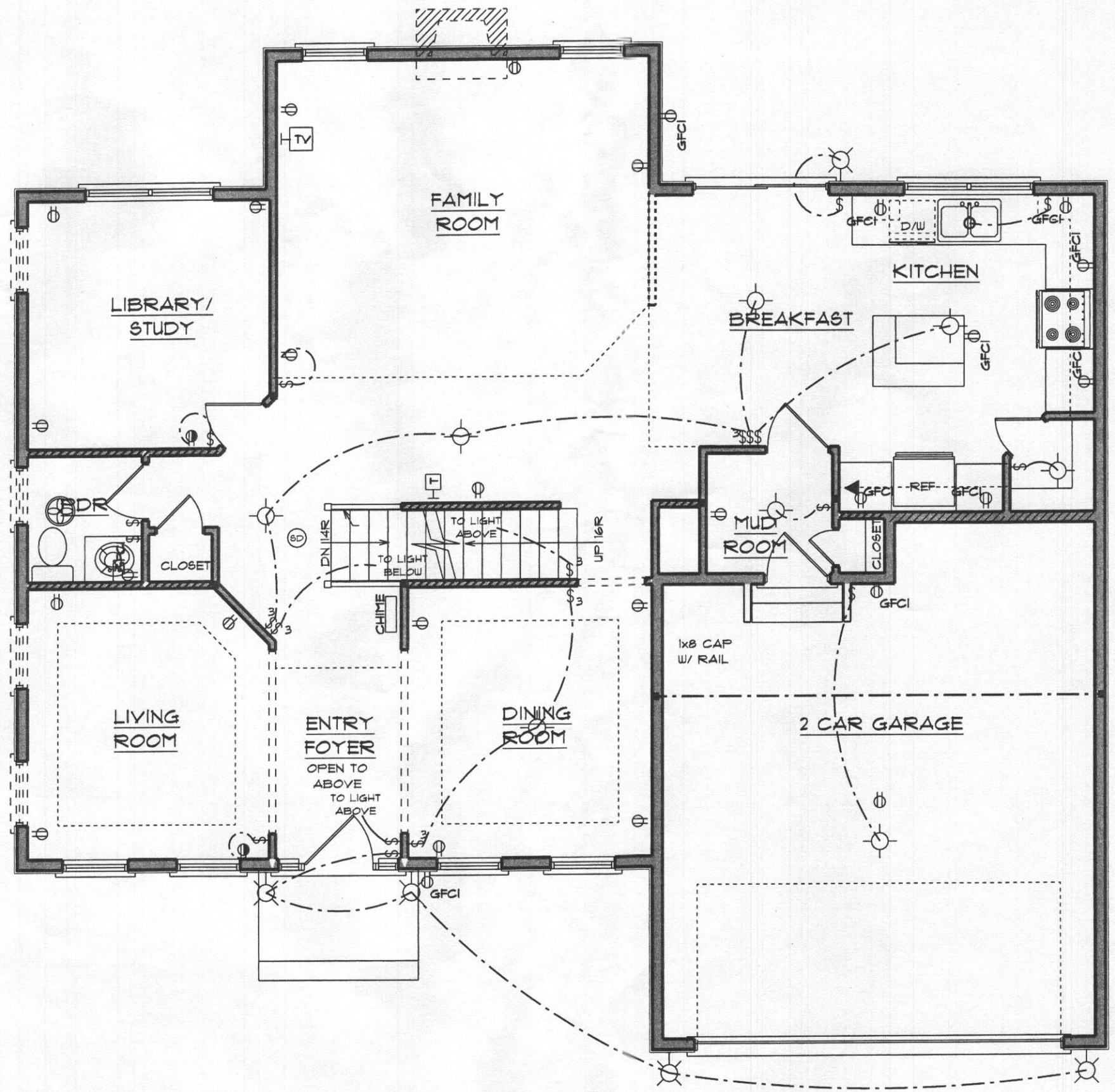
State of Maryland,
License Number #14478
Expiration Date: 6/30/2018.

Jonathan Rivera
License Number #14478

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**FOUNDATION
ELECTRICAL
E2.01**



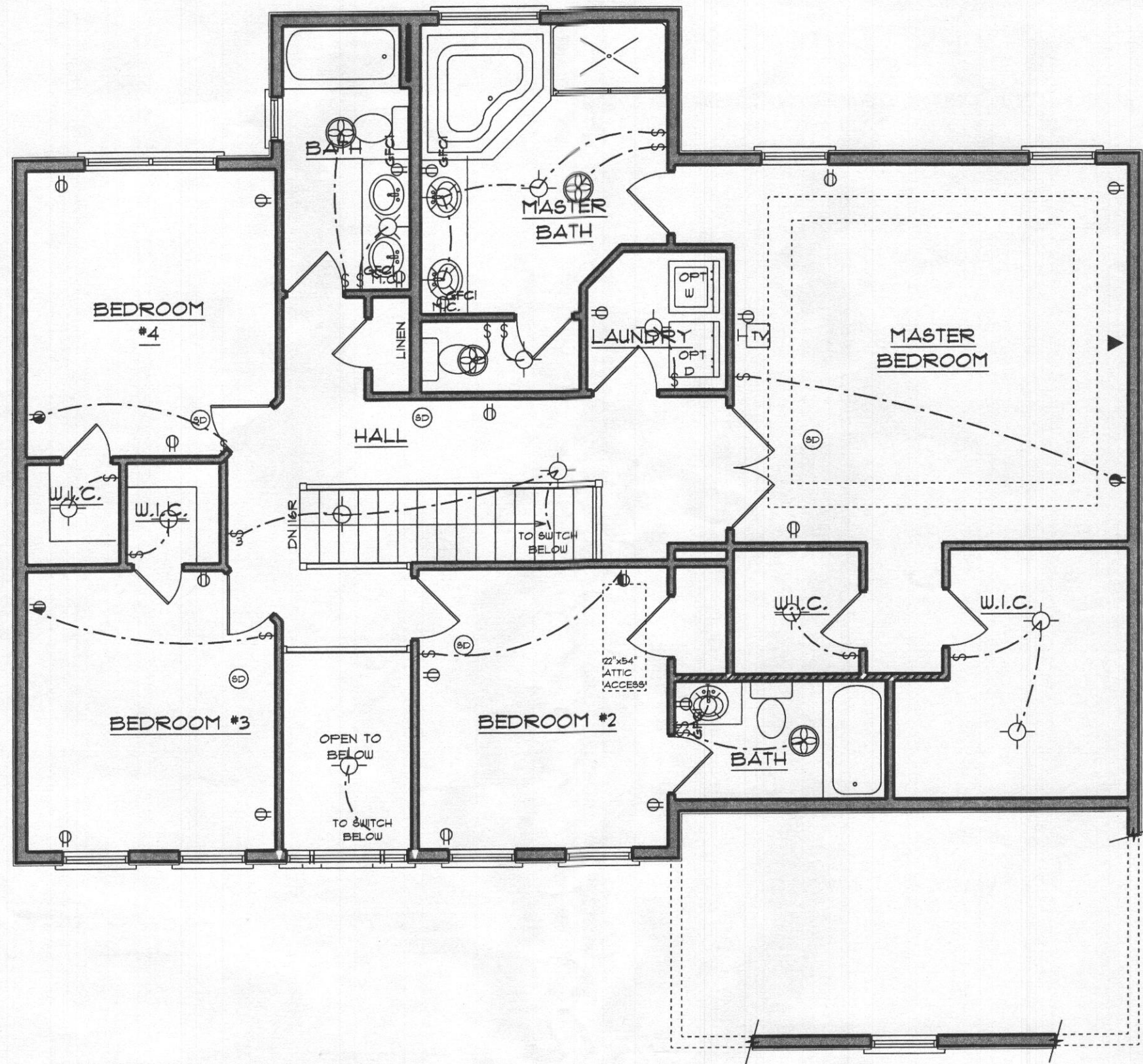
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1ST FLOOR
ELECTRICAL
E3.01



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**2ND FLOOR
ELECTRICAL
E4.01**