
## Front Elevation

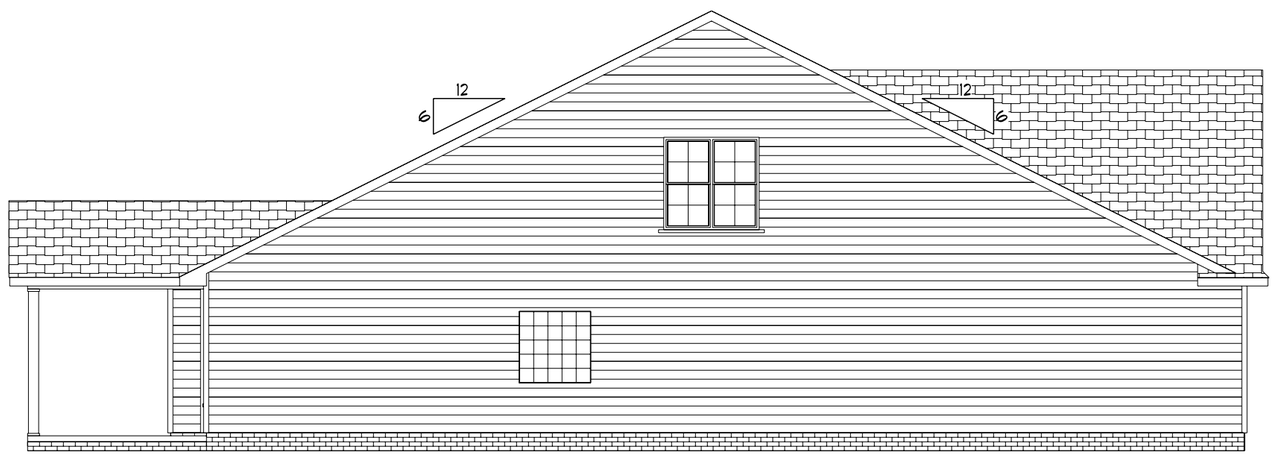
Scale: 1/4"= 1'0"

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

APPROVED
Limited building only review
Permit holder responsible for full compliance with the code

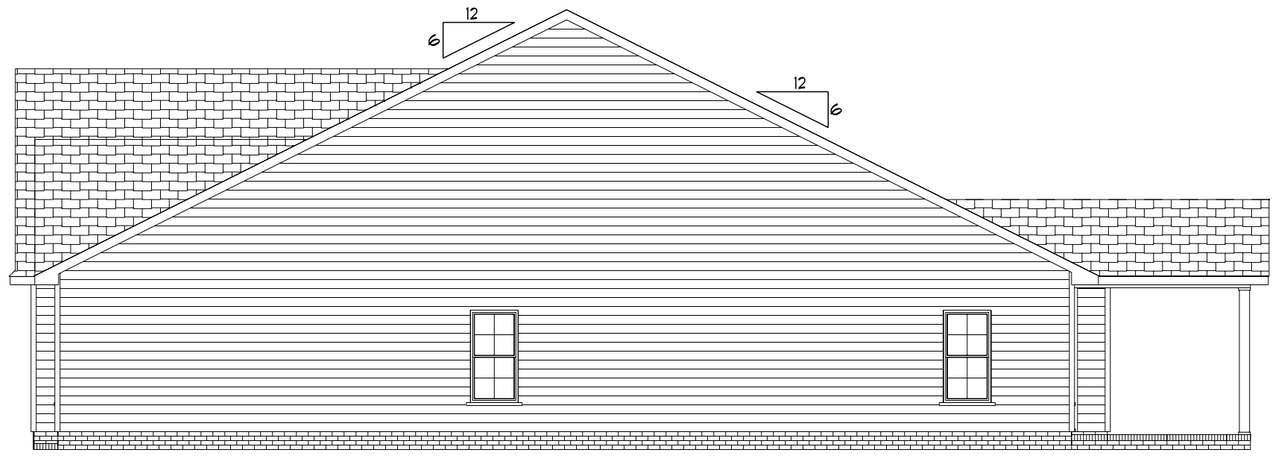
02/02/2023

Harnett COUNTY NORTH CAROLINA




## Left Elevation

Scale: 1/8"= 1'0"




## Right Elevation

Scale: 1/8"= 1'0"

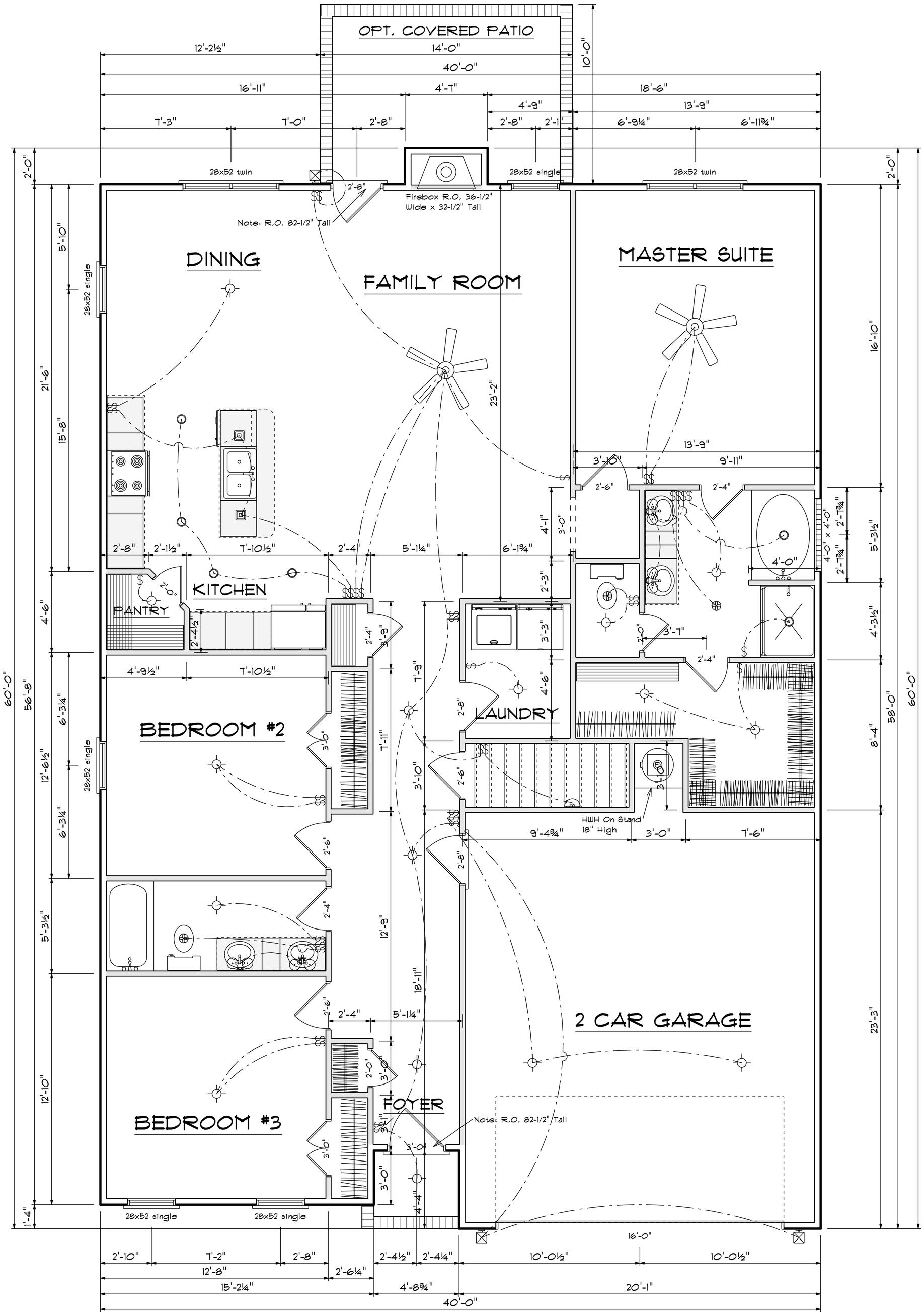

## Rear Elevation

Scale: 1/8"= 1'0"

Wellco Contractors Inc.

# Plan# 2

| | | | |
|---|---|---|---|
| SCALE: 1/4" | | DATE: 12/15/2022 | |
| DRAWN BY | | REVISED | |
| APPROVED | | DRAWING# | |




# First Floor Plan

Scale: 1/4"= 1'-0"

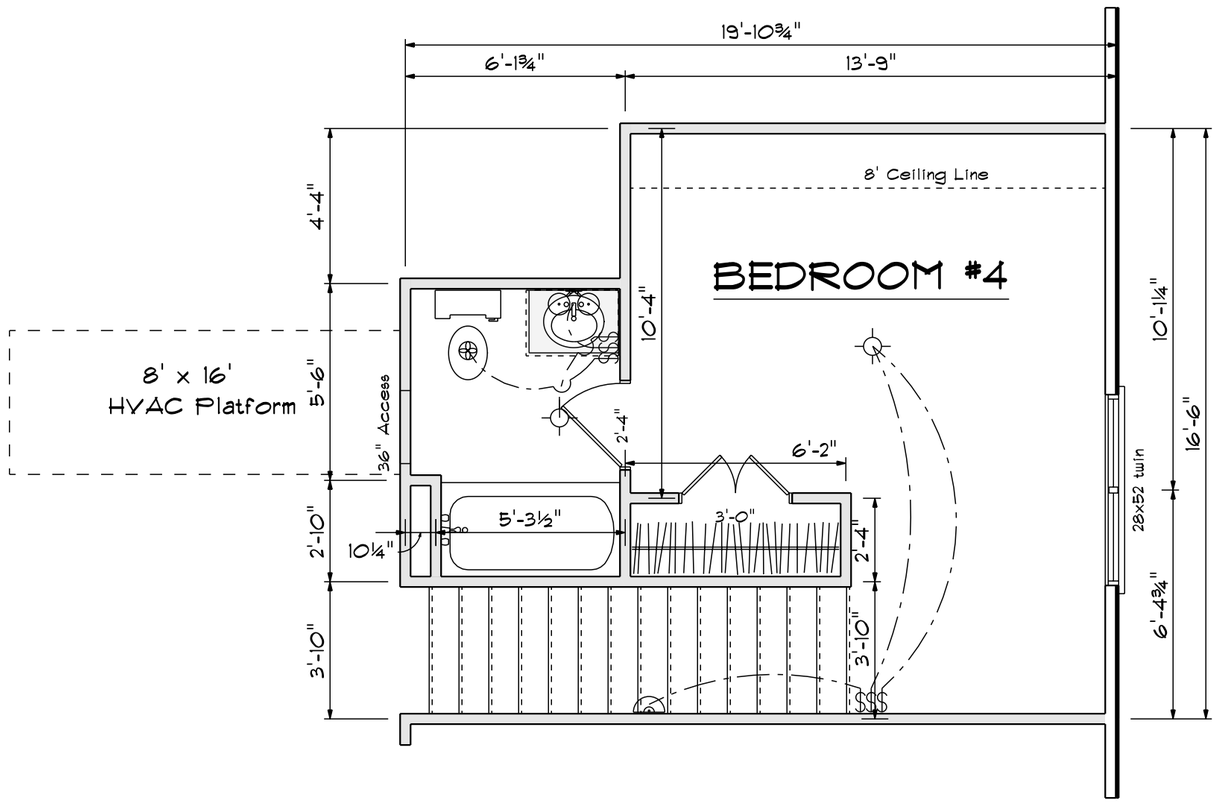
## Areas

| | |
|---|---|
| First Floor | 1818 |
| Second Floor | 245 |
| Total Heated | 2063 |
| Garage | 486 |
| Front Porch | 26 |
| Rear Opt. Porch | 145 |

Welco Contractors Inc.

Plan# 2

| | | | |
|---|---|---|---|
| SCALE: 1/4" | | DATE: 12/15/2022 | |
| DRAWN BY | | REVISED | |
| APPROVED | | DRAWING# | |

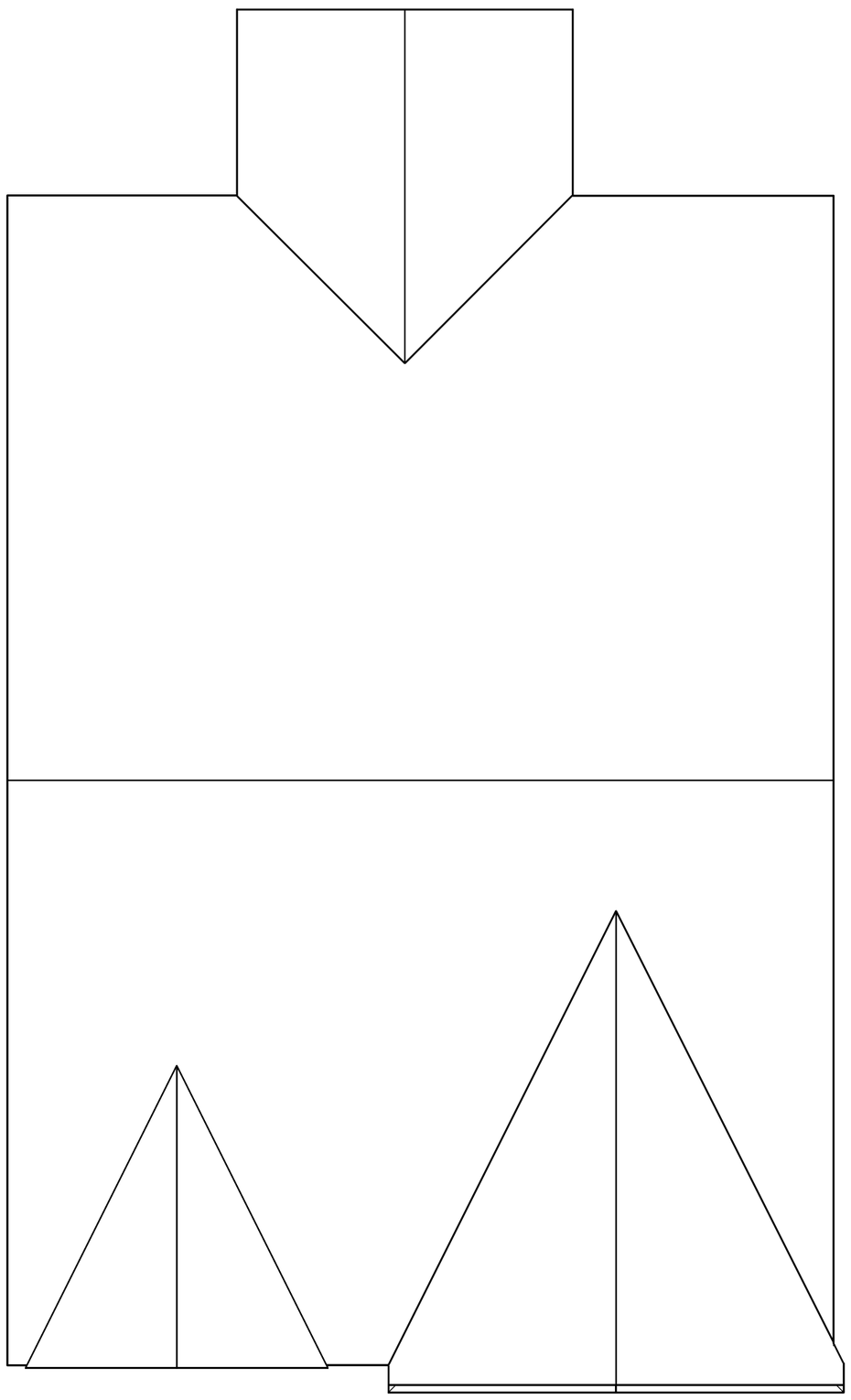



# Second Floor Plan

Scale: 1/4"= 1'-0"

| FIRST FLOOR OPENING SCHEDULE | | | | |
|---|---|---|---|---|
| **PRODUCT CODE** | **SIZE** | **HINGE** | **REVERSED** | **COUNT** |
| 36X80 COLONIAL A 1 | 3'-0" | L | NO | 1 |
| 32X80 FRENCH A 1 | 2'-8" | R | NO | 1 |
| 192X84 - 8 PANEL - GARAGE DOOR | 16'-0" | U | NO | 1 |
| 2-0 Door Unit | 2'-0" | R | NO | 1 |
| 2-0 Door Unit | 2'-0" | L | NO | 3 |
| 2-4 Door Unit | 2'-4" | R | NO | 1 |
| 2-4 Door Unit | 2'-4" | L | NO | 3 |
| 2-6 Door Unit | 2'-6" | R | NO | 3 |
| 2-6 Door Unit | 2'-6" | L | NO | 1 |
| 2-8 Door Unit | 2'-8" | L | NO | 1 |
| 2-8 Door Unit | 2'-8" | R | NO | 1 |
| 3-0 Doublehung Door Unit | 3'-0" | LR | NO | 1 |
| 3-0 Doublehung Door Unit | 3'-0" | LR | NO | 1 |
| 28x52 single | 2'-8" x 5'-2" | N | NA | 5 |
| 28x52 twin | 5'-4" x 5'-2" | NN | NA | 2 |
| 4X8 GLASS BLOCK | 4'-0" x 4'-0" | N | NA | 1 |

| SECOND FLOOR OPENING SCHEDULE | | | | |
|---|---|---|---|---|
| **PRODUCT CODE** | **SIZE** | **HINGE** | **REVERSED** | **COUNT** |
| 2-4 Door Unit | 2'-4" | L | NO | 1 |
| 3-0 Doublehung Door Unit | 3'-0" | LR | NO | 1 |
| 28x52 twin | 5'-4" x 5'-2" | NN | NA | 1 |

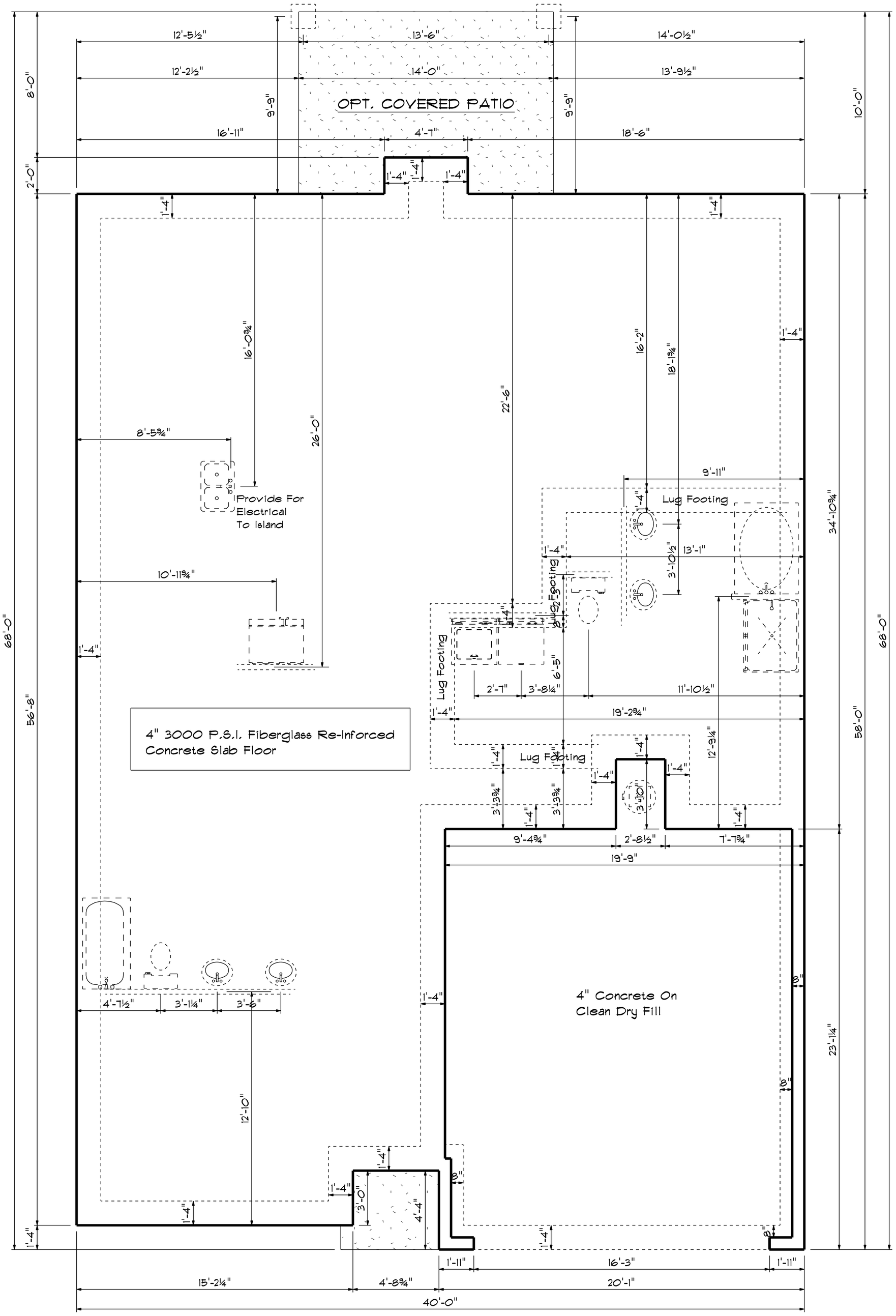


Roof Plan

Welleo Contractors Inc.

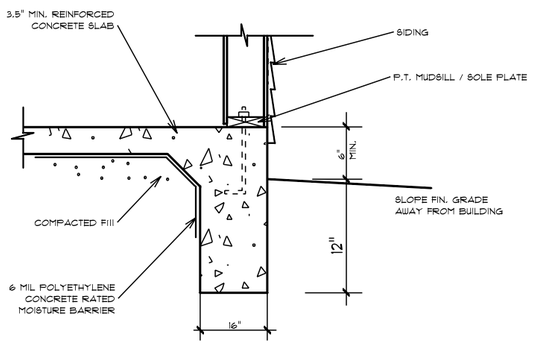
Plan# 2

| | | |
|---|---|---|
| SCALE: 1/4" | | DATE: 12/15/2022 |
| DRAWN BY | | REVISED |
| APPROVED | | DRAWING# |

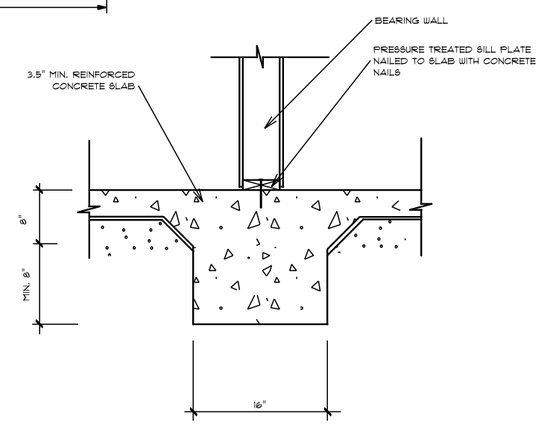



# Foundation Plan

Scale: 1/4"= 1'-0"




TURN-DOWN
FOOTING DETAIL

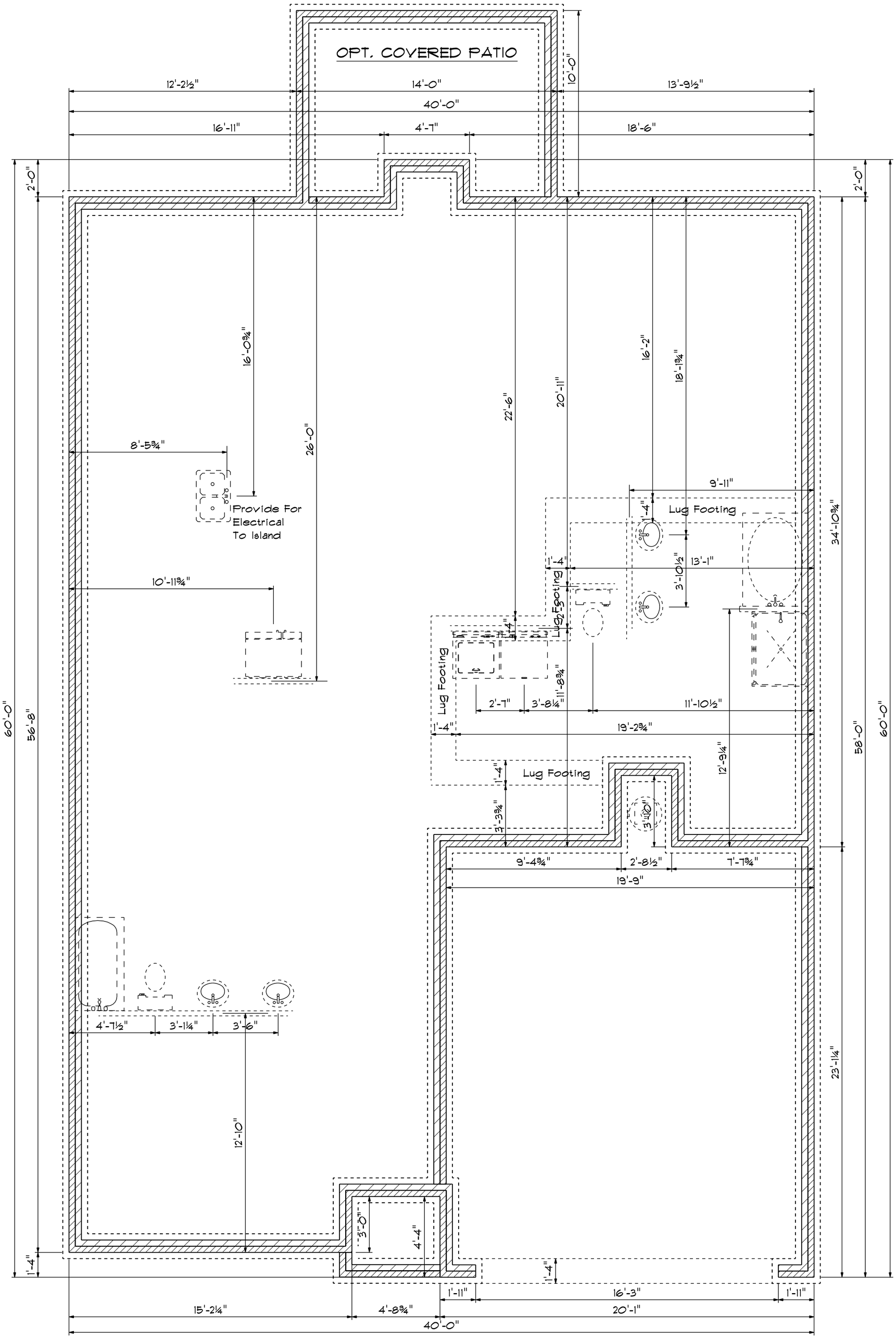



INTEGRAL SLAB FOOTING
DETAIL AT BEARING WALL

Welco Contractors Inc.

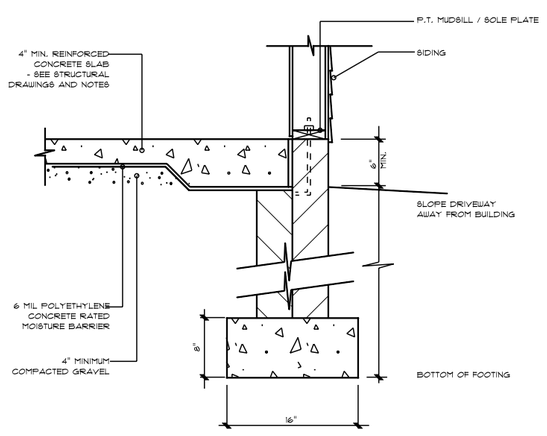
# Plan# 2

| | | | |
|---|---|---|---|
| SCALE: 1/4" | | DATE: 12/15/2022 | |
| DRAWN BY | | REVISED | |
| APPROVED | | DRAWING# | |

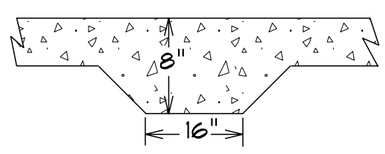



# Foundation Plan

Scale: 1/4"= 1'-0"

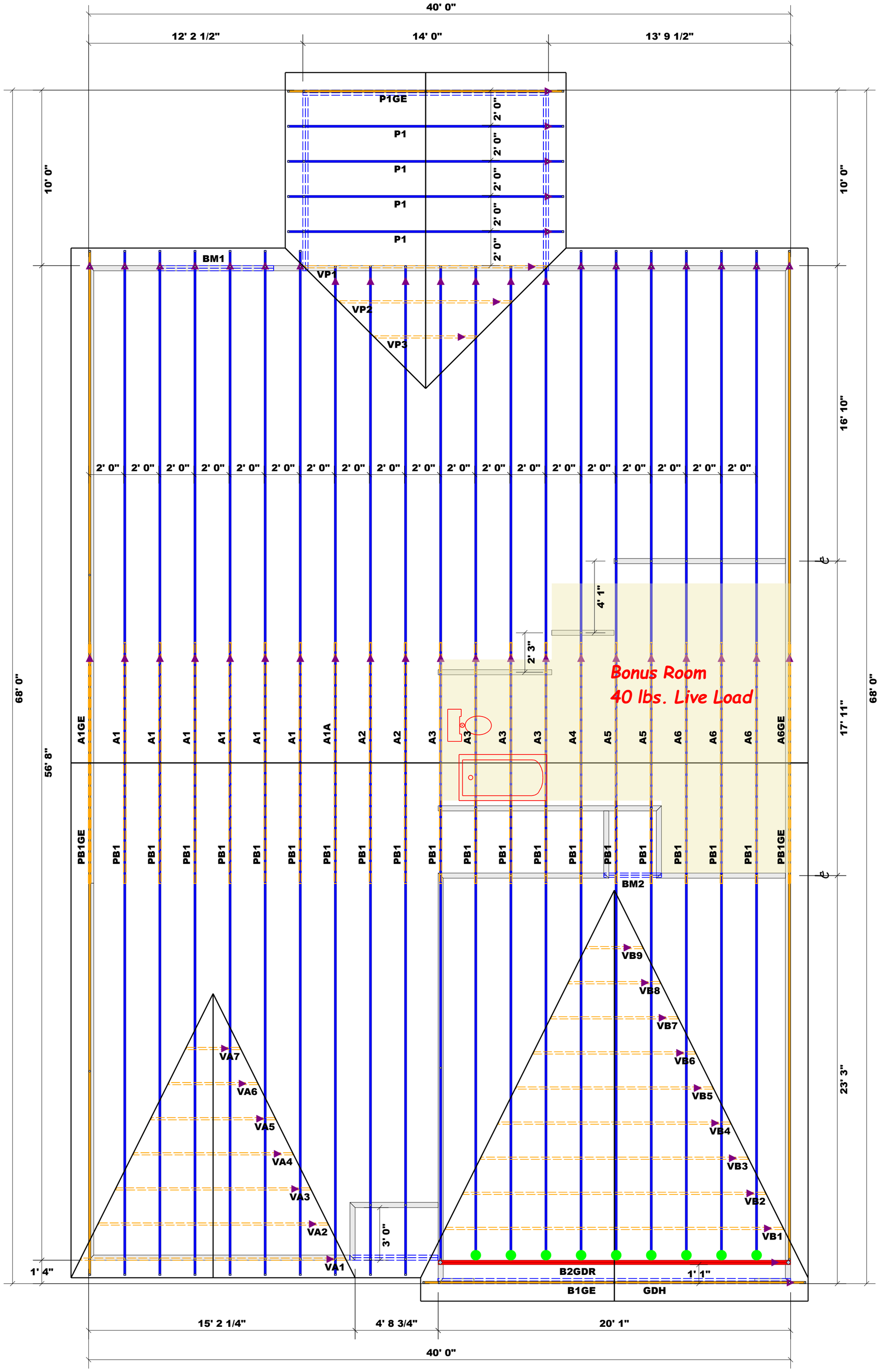



STEM WALL FOOTING DETAIL




LUG FOOTING DETAIL

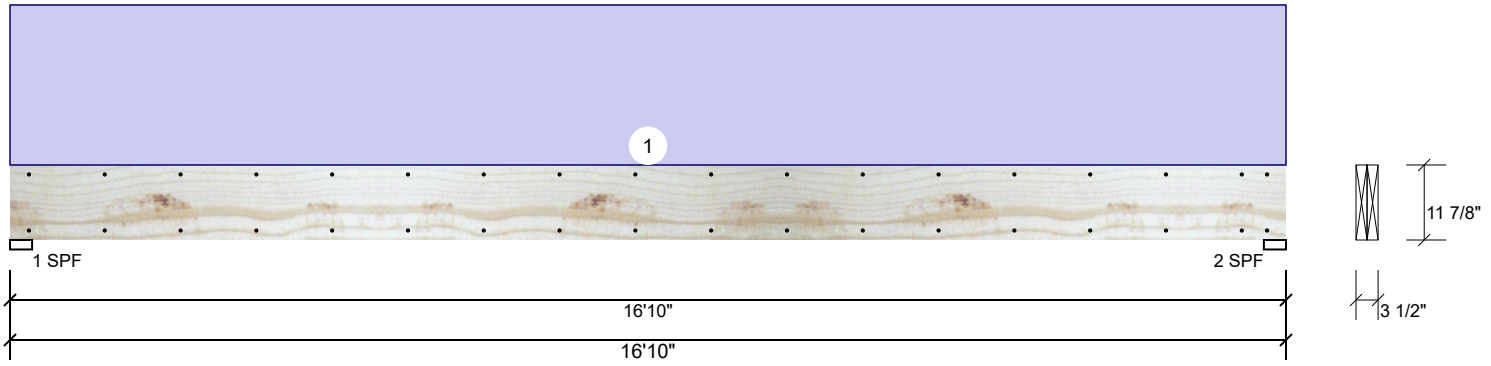
| | | | |
|---|---|---|---|
| Welco Contractors Inc. | Plan# 2 | SCALE: 1/4" | DATE: 12/15/2022 |
| | | DRAWN BY | REVISED |
| | | APPROVED | DRAWING# |


40' 0"
12' 2 1/2"
14' 0"
13' 9 1/2"
10' 0"
P1GE
P1
P1
P1
P1
2' 0"
2' 0"
2' 0"
2' 0"
2' 0"
BM1
VP1
VP2
VP3
2' 0"
2' 0"
2' 0"
2' 0"
2' 0"

| | | | |
|---|---|---|---|
| Client: | Wellco Contractors | Date: | 7/15/2022 |
| Project: | | Input by: | Curtis Quick |
| Address: | | Job Name: | Plan 2 Beams |
| | | Project #: | |

# GDH Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level




## Member Information

| | | | |
|---|---|---|---|
| Type: | Girder | Application: | Floor |
| Plies: | 2 | Design Method: | ASD |
| Moisture Condition: | Dry | Building Code: | IBC/IRC 2015 |
| Deflection LL: | 480 | Load Sharing: | No |
| Deflection TL: | 360 | Deck: | Not Checked |
| Importance: | Normal - II | | |
| Temperature: | Temp <= 100°F | | |

## Reactions UNPATTERNED lb (Uplift)

| Brg | Direction | Live | Dead | Snow | Wind | Const |
|---|---|---|---|---|---|---|
| 1 | Vertical | 0 | 2182 | 0 | 0 | 0 |
| 2 | Vertical | 0 | 2182 | 0 | 0 | 0 |

## Bearings

| Bearing | Length | Dir. | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|---|
| 1 - SPF | 3.500" | Vert | 42% | 2182 / 0 | 2182 | Uniform | D |
| 2 - SPF | 3.500" | Vert | 42% | 2182 / 0 | 2182 | Uniform | D |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 8689 ft-lb | 8'5" | 17919 ft-lb | 0.485 (48%) | D | Uniform |
| Unbraced | 8689 ft-lb | 8'5" | 8702 ft-lb | 0.998 (100%) | D | Uniform |
| Shear | 1859 lb | 15'6 5/8" | 7980 lb | 0.233 (23%) | D | Uniform |
| LL Defl inch | 0.000 (L/999) | 0 | 999.000 (L/0) | 0.000 (0%) | | |
| TL Defl inch | 0.453 (L/433) | 8'5 1/16" | 0.546 (L/360) | 0.831 (83%) | D | Uniform |

## Design Notes

1. Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2. Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3. Refer to last page of calculations for fasteners required for specified loads.
4. Girders are designed to be supported on the bottom edge only.
5. Top loads must be supported equally by all plies.
6. Top must be laterally braced at a maximum of 10'8 15/16" o.c.
7. Bottom must be laterally braced at end bearings.
8. Lateral slenderness ratio based on single ply width.

| ID | Load Type | Location | Trib Width | Side | Dead 0.9 | Live 1 | Snow 1.15 | Wind 1.6 | Const. 1.25 | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Uniform | | | Top | 250 PLF | 0 PLF | 0 PLF | 0 PLF | 0 PLF | |
| | Self Weight | | | | 9 PLF | | | | | |

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

**Manufacturer Info**

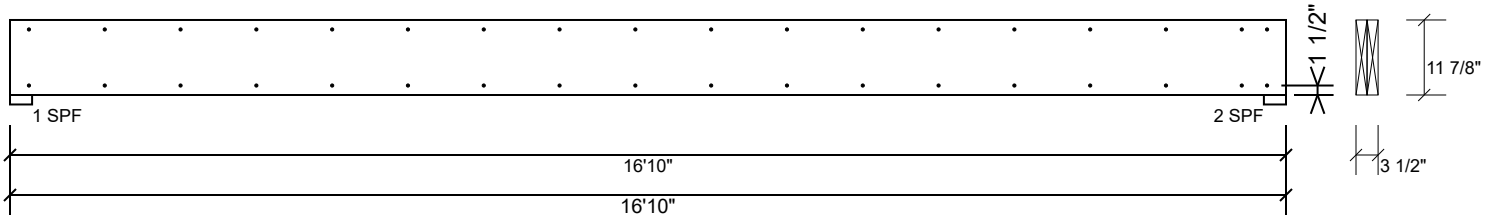
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

| | | | |
|---|---|---|---|
| Client: | Wellco Contractors | Date: | 7/15/2022 |
| Project: | | Input by: | Curtis Quick |
| Address: | | Job Name: | Plan 2 Beams |
| | | Project #: | |

# GDH Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level




## Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

| | |
|---|---|
| Capacity | 0.0 % |
| Load | 0.0 PLF |
| Yield Limit per Foot | 163.7 PLF |
| Yield Limit per Fastener | 81.9 lb. |
| Yield Mode | IV |
| Edge Distance | 1 1/2" |
| Min. End Distance | 3" |
| Load Combination | |
| Duration Factor | 1.00 |

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

**Manufacturer Info**

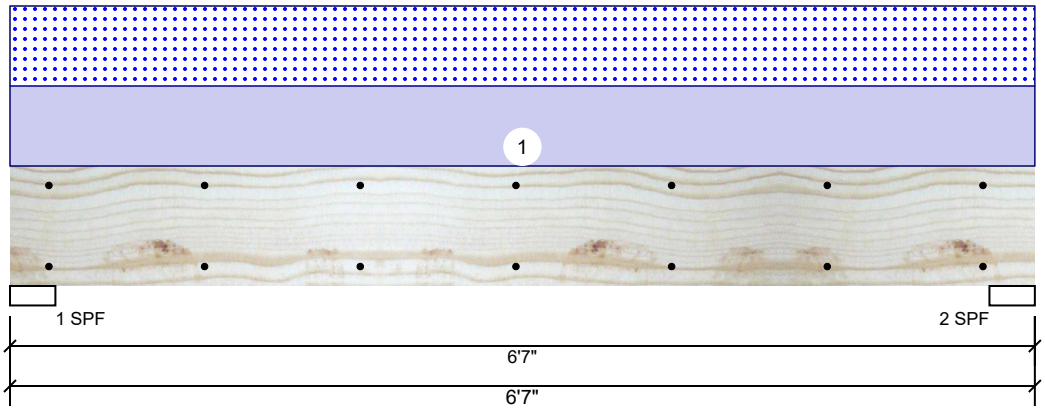
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

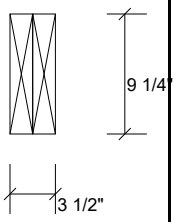
Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

| | | | |
|---|---|---|---|
| Client: | Wellco Contractors | Date: | 7/15/2022 |
| Project: | | Input by: | Curtis Quick |
| Address: | | Job Name: | Plan 2 Beams |
| | | Project #: | |

# BM1 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level




## Member Information

| | | | |
|---|---|---|---|
| Type: | Girder | Application: | Floor |
| Plies: | 2 | Design Method: | ASD |
| Moisture Condition: | Dry | Building Code: | IBC/IRC 2015 |
| Deflection LL: | 480 | Load Sharing: | No |
| Deflection TL: | 360 | Deck: | Not Checked |
| Importance: | Normal - II | | |
| Temperature: | Temp <= 100°F | | |

## Reactions UNPATTERNED lb (Uplift)

| Brg | Direction | Live | Dead | Snow | Wind | Const |
|---|---|---|---|---|---|---|
| 1 | Vertical | 0 | 2015 | 1991 | 0 | 0 |
| 2 | Vertical | 0 | 2015 | 1991 | 0 | 0 |

## Bearings

| Bearing | Length | Dir. | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|---|
| 1 - SPF | 3.500" | Vert | 77% | 2015 / 1991 | 4007 | L | D+S |
| 2 - SPF | 3.500" | Vert | 77% | 2015 / 1991 | 4007 | L | D+S |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 5708 ft-lb | 3'3 1/2" | 14423 ft-lb | 0.396 (40%) | D+S | L |
| Unbraced | 5708 ft-lb | 3'3 1/2" | 10451 ft-lb | 0.546 (55%) | D+S | L |
| Shear | 2719 lb | 1' 3/4" | 7943 lb | 0.342 (34%) | D+S | L |
| LL Defl inch | 0.052 (L/1425) | 3'3 1/2" | 0.153 (L/480) | 0.337 (34%) | S | L |
| TL Defl inch | 0.104 (L/708) | 3'3 1/2" | 0.204 (L/360) | 0.508 (51%) | D+S | L |

## Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at end bearings.
7 Bottom must be laterally braced at end bearings.
8 Lateral slenderness ratio based on single ply width.

| ID | Load Type | Location | Trib Width | Side | Dead 0.9 | Live 1 | Snow 1.15 | Wind 1.6 | Const. 1.25 | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Uniform | | | Top | 605 PLF | 0 PLF | 605 PLF | 0 PLF | 0 PLF | A1 |
| | Self Weight | | | | 7 PLF | | | | | |

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

**Manufacturer Info**

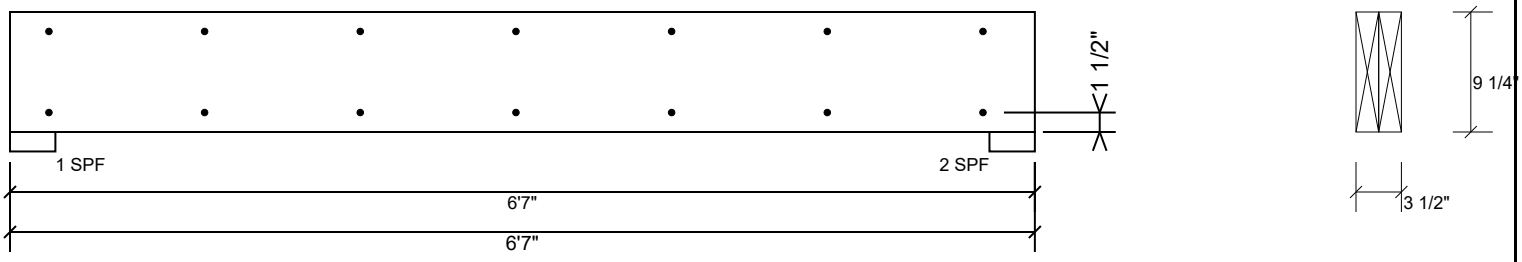
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

| | | | |
|---|---|---|---|
| Client: | Wellco Contractors | Date: | 7/15/2022 |
| Project: | | Input by: | Curtis Quick |
| Address: | | Job Name: | Plan 2 Beams |
| | | Project #: | |

# BM1 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level




## Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

| | |
|---|---|
| Capacity | 0.0 % |
| Load | 0.0 PLF |
| Yield Limit per Foot | 163.7 PLF |
| Yield Limit per Fastener | 81.9 lb. |
| Yield Mode | IV |
| Edge Distance | 1 1/2" |
| Min. End Distance | 3" |
| Load Combination | |
| Duration Factor | 1.00 |

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

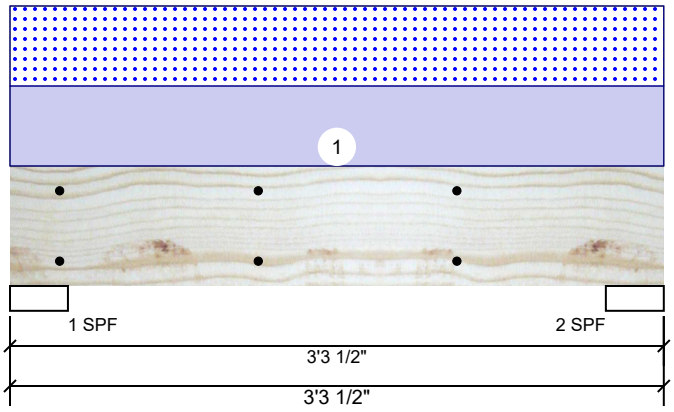
**Manufacturer Info**

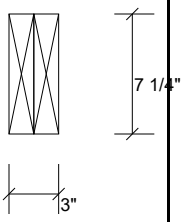
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

# BM2 S-P-F #2 2.000" X 8.000" 2-Ply - PASSED

Level: Level




## Member Information

| | | | |
|---|---|---|---|
| Type: | Girder | Application: | Floor |
| Plies: | 2 | Design Method: | ASD |
| Moisture Condition: | Dry | Building Code: | IBC/IRC 2015 |
| Deflection LL: | 480 | Load Sharing: | No |
| Deflection TL: | 360 | Deck: | Not Checked |
| Importance: | Normal - II | | |
| Temperature: | Temp <= 100°F | | |

## Reactions UNPATTERNED lb (Uplift)

| Brg | Direction | Live | Dead | Snow | Wind | Const |
|---|---|---|---|---|---|---|
| 1 | Vertical | 0 | 397 | 397 | 0 | 0 |
| 2 | Vertical | 0 | 397 | 397 | 0 | 0 |

## Bearings

| Bearing | Length | Dir. | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|---|
| 1 - SPF | 3.500" | Vert | 18% | 397 / 397 | 793 | L | D+S |
| 2 - SPF | 3.500" | Vert | 18% | 397 / 397 | 793 | L | D+S |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 484 ft-lb | 1'7 3/4" | 2645 ft-lb | 0.183 (18%) | D+S | L |
| Unbraced | 484 ft-lb | 1'7 3/4" | 2586 ft-lb | 0.187 (19%) | D+S | L |
| Shear | 362 lb | 2'4 3/4" | 2251 lb | 0.161 (16%) | D+S | L |
| LL Defl inch | 0.003 (L/12977) | 1'7 3/4" | 0.071 (L/480) | 0.037 (4%) | S | L |
| TL Defl inch | 0.005 (L/6488) | 1'7 3/4" | 0.094 (L/360) | 0.055 (6%) | D+S | L |

## Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at end bearings.
7 Bottom must be laterally braced at end bearings.
8 Lateral slenderness ratio based on single ply width.

| ID | Load Type | Location | Trib Width | Side | Dead 0.9 | Live 1 | Snow 1.15 | Wind 1.6 | Const. 1.25 | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Uniform | | | Top | 241 PLF | 0 PLF | 241 PLF | 0 PLF | 0 PLF | A5 |

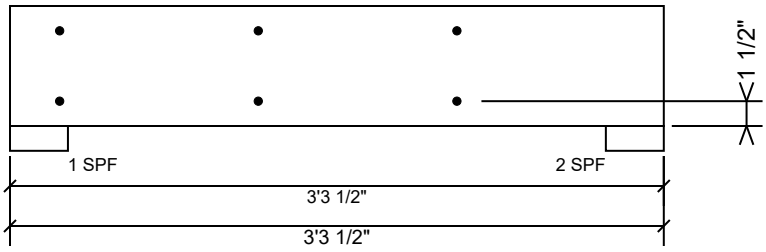
This design is valid until 11/3/2024

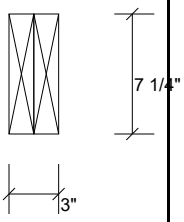
Manufacturer Info

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

# BM2 S-P-F #2 2.000" X 8.000" 2-Ply - PASSED

Level: Level




## Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

| | |
|---|---|
| Capacity | 0.0 % |
| Load | 0.0 PLF |
| Yield Limit per Foot | 157.4 PLF |
| Yield Limit per Fastener | 78.7 lb. |
| Yield Mode | IV |
| Edge Distance | 1 1/2" |
| Min. End Distance | 3" |
| Load Combination | |
| Duration Factor | 1.00 |

This design is valid until 11/3/2024

**Manufacturer Info**

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS