Carriage Circle 1164 - 104 Spruce Hollow Circle, Spring Lake, 28390
Harnett County
Created: 10/1/2020

BUILD PER PLAN

Wynn HOMES
Deeply rooted. Built to thrive

2550 Capitol Drive
Suite 105
Creedmoor, NC 27522
919-528-1347

2334
The Nicklaus II - LH

SQUARE FOOTAGE

	HERITAGE EUROPEAN		HERITAGE FARMHOUSE	
	UNHEATED	HEATED	UNHEATED	HEATED
FIRST FLOOR	0	971	0	971
SECOND FLOOR	0	1363	0	1363
REAR COVERED PORCH	50	0	50	0
FRONT PORCH	120	0	120	0
GARAGE	472	0	472	0
SUBTOTALS	642	2334	642	2334
TOTAL UNDER ROOF	2976		2976	

OPTIONS

	UNHEATED S.F.	HEATED S.F.
—	0	0
—	0	0
—	0	0
—	0	0
—	0	0
—	0	0
—	0	0
—	0	0
—	0	0

REVISION LOG

Rev	Description	Drawn By	Date	Sheets Affected	Brochure Required	Engineering Required
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

ARCHITECTURAL DRAWINGS

Sheet No.	Sheet Description
0.0	Cover Sheet
2.1	First Floor Plan
2.2	Second Floor Plan
3.A.0	Heritage European Front & Right Elevations
3.A.1	Heritage European Left & Rear Elevations
3.A.2	Heritage European Roof Plan
3.B.0	Heritage Farmhouse Front & Right Elevations
3.B.1	Heritage Farmhouse Left & Rear Elevations
3.B.2	Heritage Farmhouse Roof Plan
S.1.1	Crawl Foundation
S.1.2	Slab Foundation
S.2.1	Second Floor Framing
S.3.1	Attic Floor Framing
S.4.1	Roof Plan - Heritage European
S.4.2	Roof Plan - Heritage Farmhouse

SOUTH DESIGNS
(O) 919-556-2226
(F) 919-556-2228
www.southdesigns.com

Wynn HOMES
Deeply rooted. Built to thrive
2550 Capitol Drive
Suite 105
Creedmoor, NC 27522
919-528-1347

REV #	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		

2334 - THE NICKLAUS II - LH

Cover Sheet

DRAWN BY: South Designs
ISSUE DATE: 05/05/2017
CURRENT REVISION DATE: XX/XX/XXXX
SCALE: 1/8" = 1'-0"
SHEET 0.0

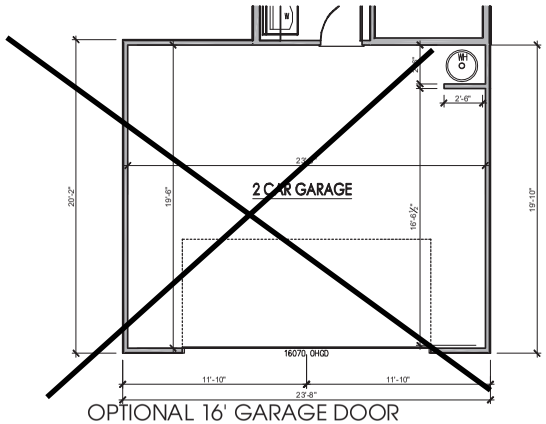
General Floor Plan Notes

General Floor Plan Notes shall apply unless noted otherwise on plan.

1. Wall Heights: Typically 10'-1-1/2" at first floor and second floor, and 9' 1-1/2" at attics U.N.O.. All walls are constructed using a double top plate. Splices at Double Top Plate do not need to occur at Vertical Studs but must be at least 24" apart from Joint in other Top Plate layer. Special wall heights are noted on plans where they occur.
2. Wall Thickness is typically 4" at exterior walls, 3-1/2" at interior. 2x6 frame shall be used at walls that back up to plumbing fixtures. Walls greater than 10' high shall be framed with 2x6 framing or greater and will be noted as a special condition where it occurs on plan.
3. Header height shall be 8'-0" AFF at First Floor, and 7'-6" AFF at Second Floor unless noted otherwise.
4. Jacks: Openings up to 3'-4" wide shall have (1) 2x4 jack stud SPF on each side. Openings greater than 3'-4" wide shall have (2) 2x4 jack studs SPF on each side.
5. Soffits, Coffered Ceilings, Trey Ceilings and other significant ceiling plan elements are shown on the floor plans and are denoted as single dashed lines. Unless specifically call out as included, Kitchens **do not** include soffits over wall cabinetry.
6. Door & Window Frames, where occuring near corners, shall be a minimum of 6" from corner. Except for walk-in closets with doors near a corner, doors at closets shall be centered on closet.
7. Windows: Shall have at least (1) window in each sleeping room, that meets egress. Shall be provided with tempered glass at hazardous glazing areas. False windows shall be installed with obscure glazing.
8. Closets for clothing or coat storage shall be equipped with 1 rod/shelf, open wire. Closets for linen shall have 5 open wire shelves. Closets for pantries shall have 5 wood shelves, painted.
9. Stair treads shall be 10" deep, risers shall be a maximum of 7-3/4", unless noted otherwise.
10. Handrails and Guards at stairs shall be 34" above the finished surface of the ramp surface of the stair. Handrails at landings and overlooks of multilevel spaces shall be 36" above finished floor. Guards (pickets or balisters) shall be spaced with no more than 4" between guards.
11. Attic Access shall be provided at all attic area with a height greater than 30". Minimum clear attic access shall be 20" x 30". Pull down stairs and access doors in knee walls meeting minimum criteria are also acceptable.
12. Garage Door to Living Space shall be 2'-8" x 6'-8" minimum size and shall be 20 minute fire rated and weather sealed.
13. Garage Walls, as a minimum, shall be separated from living space and living space attic by installing 1/2" gypsum board on the garage side of the wall.

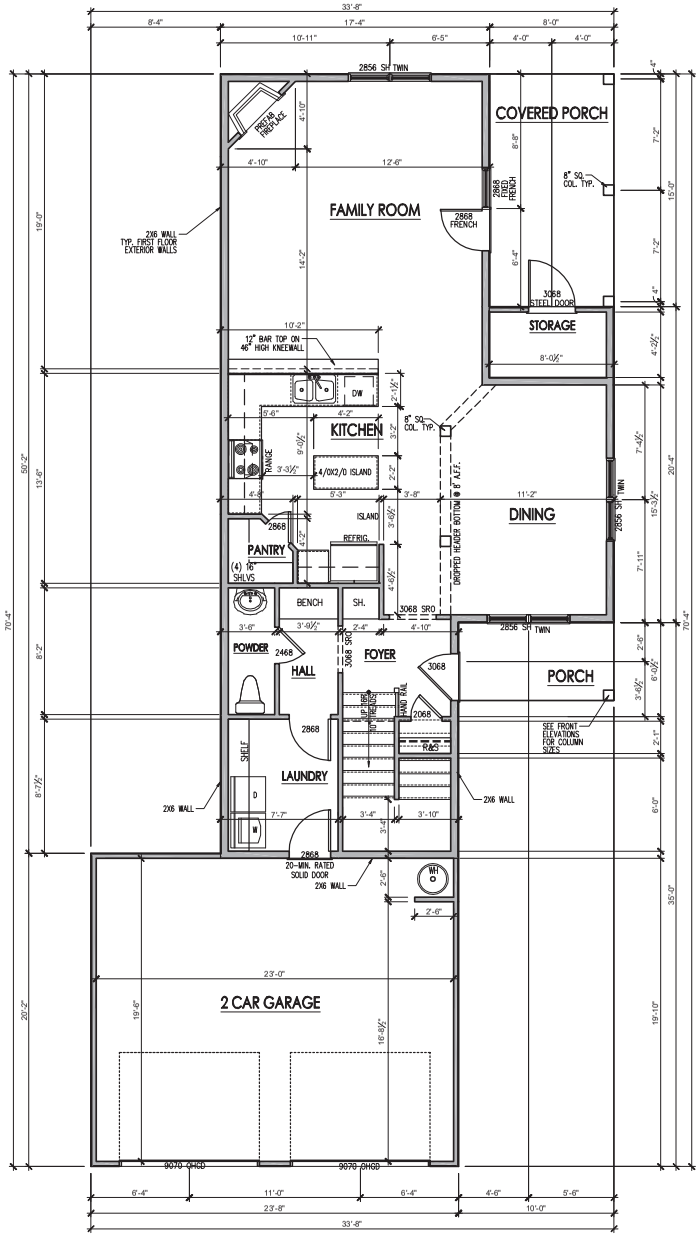
SQUARE FOOTAGE HERITAGE EUROPEAN & FARMHOUSE

	UNHEATED S.F.	HEATED S.F.
FIRST FLOOR	0	971
SECOND FLOOR	0	1363
FRONT PORCH	50	0
COVERED PORCH	120	0
GARAGE	472	0
TOTAL	642	2334
OPTIONS		
	UNHEATED S.F.	HEATED S.F.



OPTIONAL 16' GARAGE DOOR

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34



FIRST FLOOR PLAN

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34

SOUTH DESIGNS
(O) 919-556-2226
(F) 919-556-2228
www.southdesigns.com

Wynn HOMES
Deeply rooted. Built to thrive.
2550 Capitol Drive
Suite 105
Creedmoor, NC 27522
919-528-1347

REV. #	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		

2334 - THE NICKLAUS II - LH

First Floor Plan

DRAWN BY: South Designs

ISSUE DATE: 05/05/2017

CURRENT REVISION DATE: XX/XX/XXXX

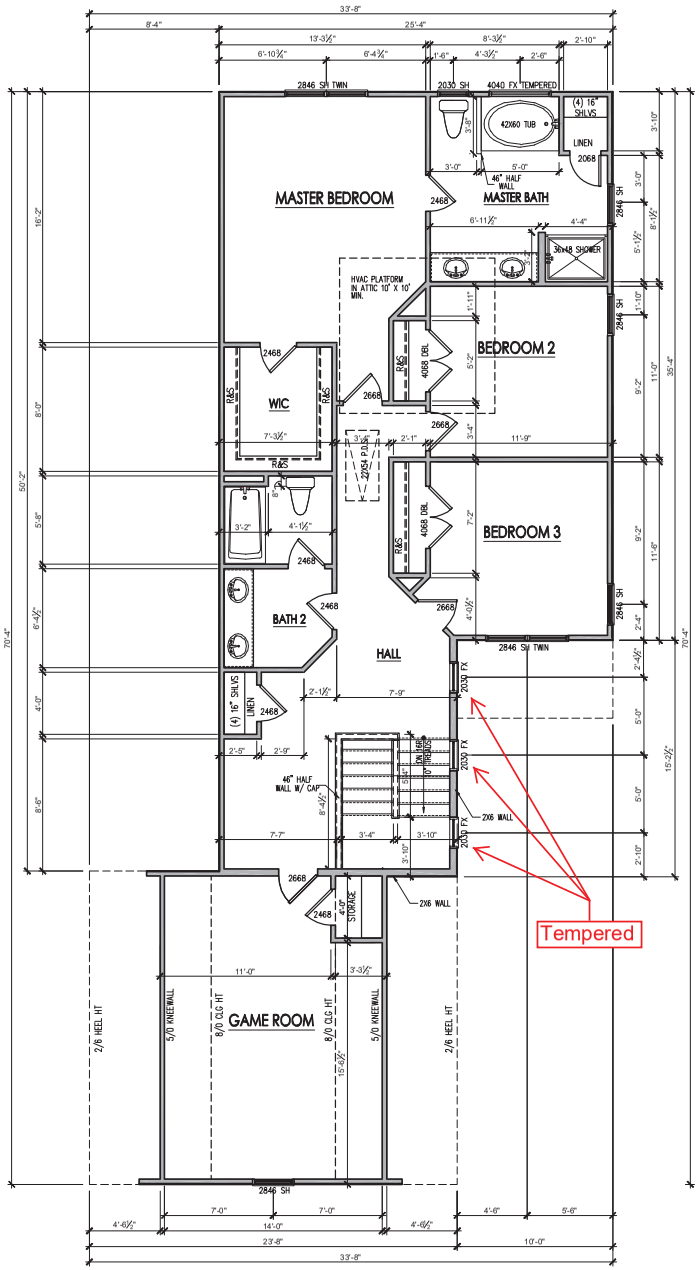
SCALE: 1/8" = 1'-0"

SHEET 2.1

General Floor Plan Notes

General Floor Plan Notes shall apply unless noted otherwise on plan.

1. Wall Heights: Typically 10'-1-1/2" at first floor and second floor, and 9'-1-1/2" at attics U.N.O.. All walls are constructed using a double top plate. Splices of Double Top Plate do not need to occur at Vertical Studs but must be at least 24" apart from Joint in other Top Plate layer. Special wall heights are noted on plans where they occur.
2. Wall Thickness is typically 4" at exterior walls, 3-1/2" at interior. 2x6 frame shall be used at walls that back up to plumbing fixtures. Walls greater than 10' high shall be framed with 2x6 framing or greater and will be noted as a special condition where it occurs on plan.
3. Header height shall be 8'-0" AFF at First Floor, and 7'-6" AFF at Second Floor unless noted otherwise.
4. Jacks: Openings up to 3'-4" wide shall have (1) 2x4 jack stud SPF on each side. Openings greater than 3'-4" wide shall have (2) 2x4 jack studs SPF on each side.
5. Soffits, Coffered Ceilings, Trey Ceilings and other significant ceiling plan elements are shown on the floor plans and are denoted as single dashed lines. Unless specifically call out as included, Kitchens **do not** include soffits over wall cabinetry.
6. Door & Window Frames, where occuring near corners, shall be a minimum of 6" from corner. Except for walk-in closets with doors near a corner, doors at closets shall be centered on closet.
7. Windows: Shall have at least (1) window in each sleeping room, that meets egress. Shall be provided with tempered glass at hazardous glazing areas. False windows shall be installed with obscure glazing.
8. Closets for clothing or coat storage shall be equipped with 1 rod/shelf, open wire. Closets for linen shall have 5 open wire shelves. Closets for pantries shall have 5 wood shelves, painted.
9. Stair treads shall be 10" deep, risers shall be a maximum of 7-3/4", unless noted otherwise.
10. Handrails and Guards at stairs shall be 34" above the finished surface of the ramp surface of the stair. Handrails at landings and overlooks of multilevel spaces shall be 36" above finished floor. Guards (pickets or balisters) shall be spaced with no more than 4" between guards.
11. Attic Access shall be provided at all attic area with a height greater than 30". Minimum clear attic access shall be 20" x 30". Pull down stairs and access doors in knee walls meeting minimum criteria are also acceptable.
12. Garage Door to Living Space shall be 2'-8" x 6'-8" minimum size and shall be 20 minute fire rated and weather sealed.
13. Garage Walls, as a minimum, shall be separated from living space and living space attic by installing 1/2" gypsum board on the garage side of the wall.



SECOND FLOOR PLAN

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34

SOUTH DESIGNS
(O) 919-556-2226
(F) 919-556-2228
www.southdesigns.com

Wynn HOMES
Deeply rooted. Built to thrive.
2550 Capitol Drive
Suite 105
Creedmoor, NC 27522
919-528-1347

REV #	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		

2334 - THE NICKLAUS II - LH

Second Floor Plan

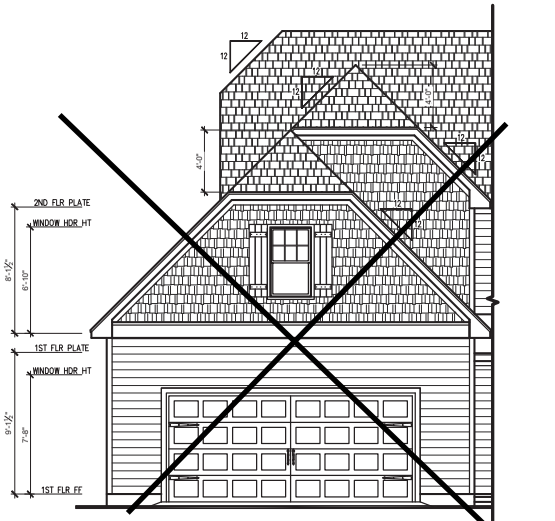
DRAWN BY: South Designs

ISSUE DATE: 05/05/2017

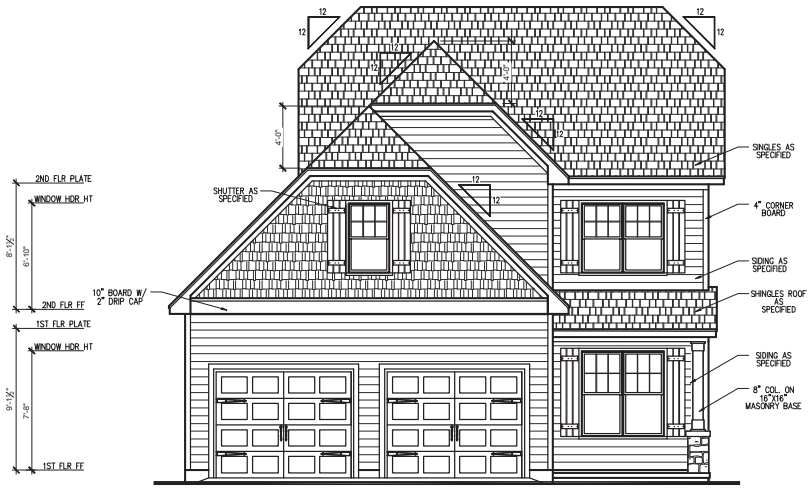
CURRENT REVISION DATE: XX/XX/XXXX

SCALE: 1/8" = 1'-0"

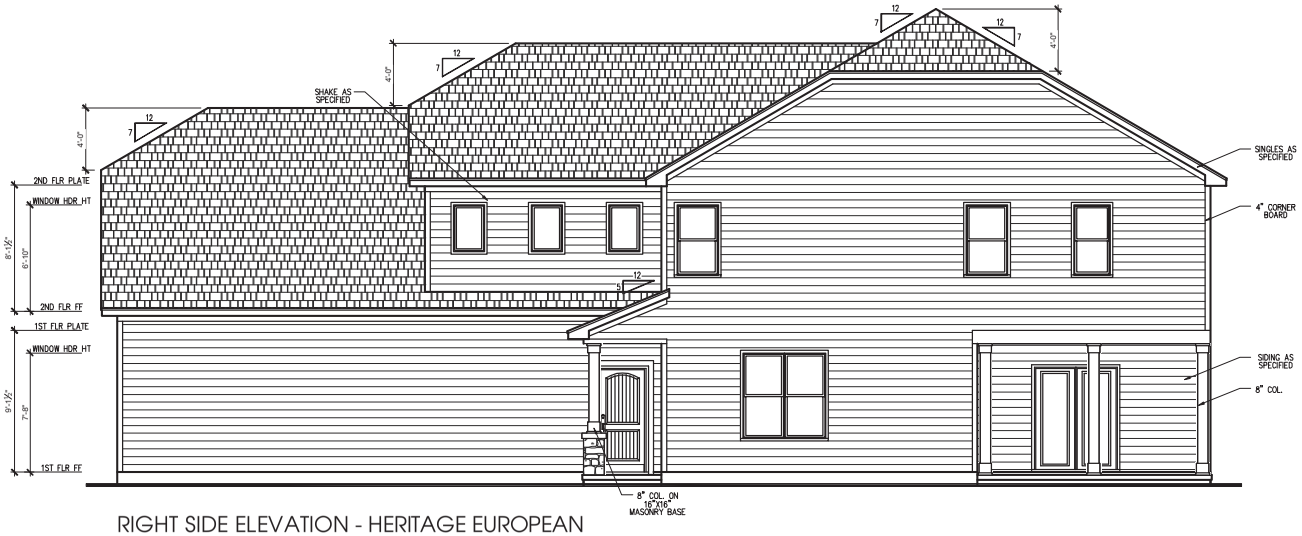
SHEET 2.2



FRONT ELEVATION - HERITAGE EUROPEAN
SINGLE GARAGE DOOR OPTION
SCALE: 1/4" = 1'-0" ON 22x34, 1/8" = 1'-0" ON 11x17
MONOLITHIC SLAB



FRONT ELEVATION - HERITAGE EUROPEAN
SCALE: 1/4" = 1'-0" ON 22x34, 1/8" = 1'-0" ON 11x17
MONOLITHIC SLAB



RIGHT SIDE ELEVATION - HERITAGE EUROPEAN
SCALE: 1/4" = 1'-0" ON 22x34, 1/8" = 1'-0" ON 11x17
MONOLITHIC SLAB

SOUTH DESIGNS
(O) 919-556-2226
(F) 919-556-2228
www.southdesigns.com

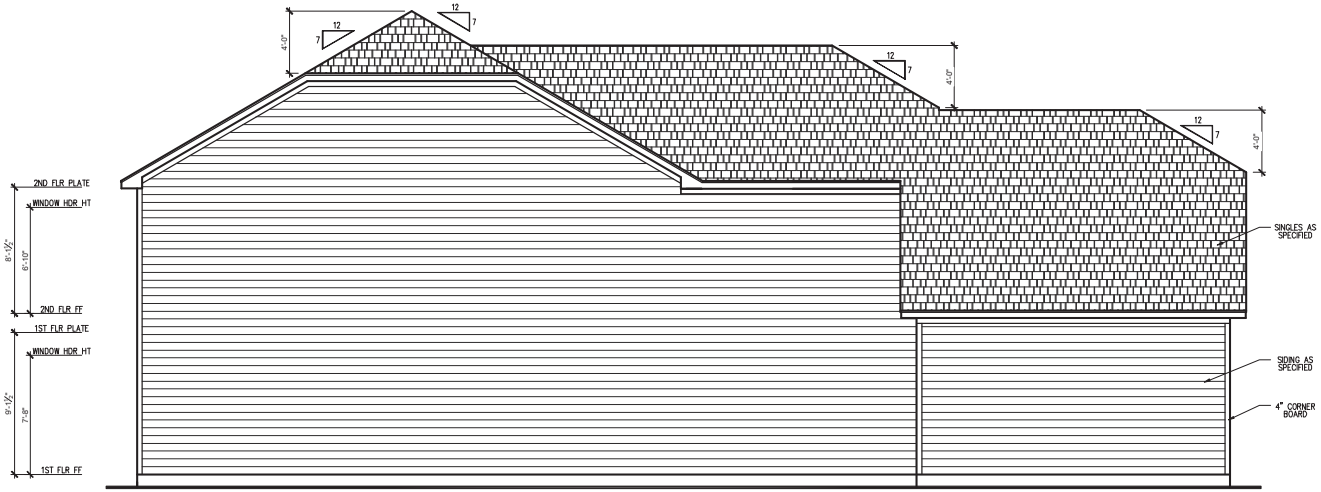
Wynn HOMES
Deeply rooted. Built to thrive.
2550 Capitol Drive
Suite 105
Creedmoor, NC 27522
919-528-1347

REV #	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		

2334 - THE NICKLAUS II - LH

Heritage European Front & Right Elevations

DRAWN BY: South Designs
ISSUE DATE: 05/05/2017
CURRENT REVISION DATE: XX/XX/XXXX
SCALE: 1/8" = 1'-0"
SHEET 3.A.0



LEFT SIDE ELEVATION - HERITAGE EUROPEAN

SCALE: 1/4" = 1'-0" ON 22x34, 1/8" = 1'-0" ON 11x17

MONOLITHIC SLAB

REAR ELEVATION - HERITAGE EUROPEAN

SCALE: 1/4" = 1'-0" ON 22x34, 1/8" = 1'-0" ON 11x17

MONOLITHIC SLAB

SOUTH DESIGNS
(O) 919-556-2226
(F) 919-556-2228
www.southdesigns.com

Wynn HOMES
Deeply rooted. Built to thrive.
2550 Capitol Drive
Suite 105
Creedmoor, NC 27522
919-528-1347

REV #	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		

2334 - THE NICKLAUS II - LH

Heritage European Rear & Left Elevations

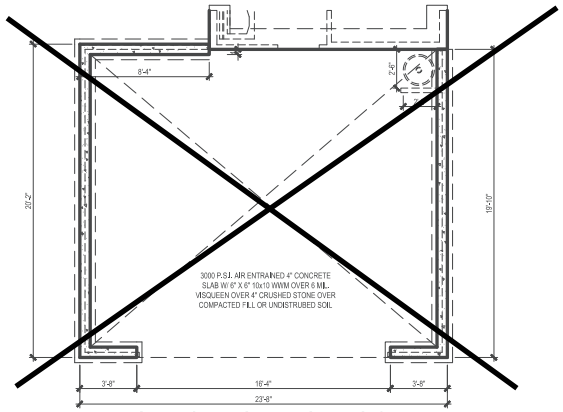
DRAWN BY: South Designs

ISSUE DATE: 05/05/2017

CURRENT REVISION DATE: XX/XX/XXXX

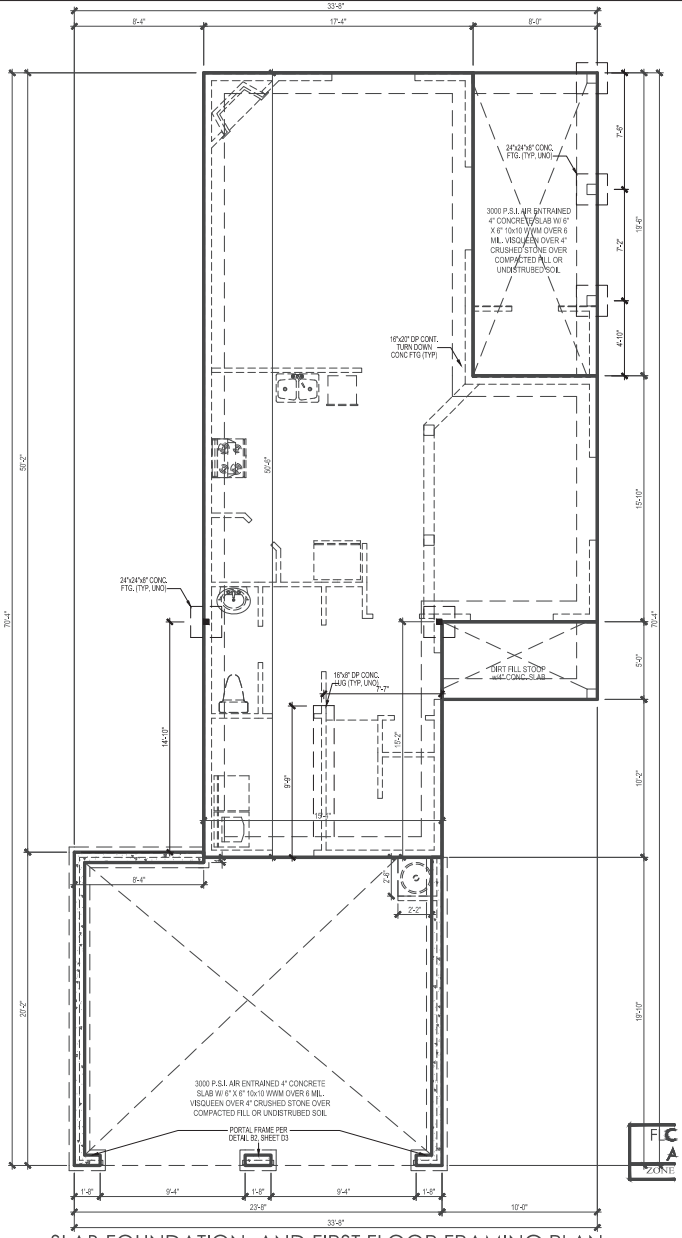
SCALE: 1/8" = 1'-0"

SHEET 3.A.1



OPT. ONE GARAGE DOOR

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34



SLAB FOUNDATION AND FIRST FLOOR FRAMING PLAN

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34

* Engineers seal does not include construction means, methods, techniques, sequences, procedures or safety precaution.
* Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.
* Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable once construction begins.

TYNDALL
ENGINEERING & DESIGN, P.A.
[redacted]

Client: WYNN HOMES

Plan: THE NICKLAUSII GARAGE LEFT

NORTH CAROLINA PROFESSIONAL SEAL 024899 ENGINEER PRENTICE A TYNDALL JR

1/30/19

Project #:	1901-010039
Date:	1/18/19
Drawn/Design By:	ISE
DWG. Checked By:	PAT
Scale:	SEE PLAN

REVISIONS

No.	Date:	Remarks
1		
2		
3		
4		

Sheet Number

S2

DESIGN LOADS

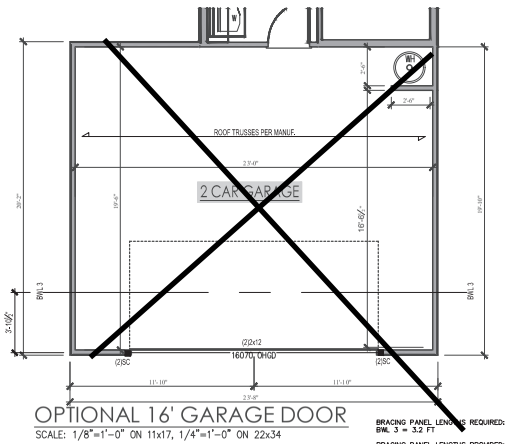
	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION	
			L	S
FLOOR (primary)	40	10	L/360	L/240
FLOOR (secondary)	40	10	L/360	L/240
ATTIC (w/ storage)	20	10	L/240	L/180
ATTIC (no access)	10	5	L/240	L/180
EXTERNAL BALCONY	40	10	L/360	L/240
ROOF	20	10	L/240	L/180
ROOF TRUSS	20	20	L/240	L/180
WIND LOAD	BASED ON 120 MPH (EXPOSURE B)			
SEISMIC	BASED ON SEISMIC ZONES A, B & C			

STRUCTURAL NOTES:

1) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF "NORTH CAROLINA STATE 2018 RESIDENTIAL BUILDING CODE", IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.
2) IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND SQUARE FOOTAGE PRIOR TO CONSTRUCTION. TYNDALL ENGINEERING & DESIGN, PA IS NOT RESPONSIBLE FOR DIMENSIONS AND SQUARE FOOTAGE ERRORS ONCE CONSTRUCTION BEGINS.
3) ALL LUMBER SHALL BE SYP #2 (UNO)
   ALL LVL LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2600 PSI, E = 1.9M PSI (I.E. ILEVEL MICROLAM)
   ALL LSL LUMBER IS TO BE 1.55E (Fb = 2325 PSI)
4) ALL LOAD BEARING EXTERIOR WINDOW HEADERS WITH MAXIMUM SPAN OF 5'-6" SHOULD BE A (2) 2x10 w/ (1) 2x4 KING STUD AND (1) 2x4 JACK STUD NAILED TOGETHER w/ (2) 10d @ 8" O.C. PROVIDED THAT THE TOP OF THE WINDOW HEIGHT IS 6'-8", MINIMUM BOTTOM OF THE WINDOW HEIGHT IS 1'-6", OTHERWISE REFER TO TABLE R602.7(1).
5) ALL INTERIOR LOAD BEARING HEADERS TO BE (2) 2x10 (U.N.O.) REFER TO TABLE R602.7(2) FOR JACK STUD REQUIREMENTS FOR HEADER SPANS FOR INTERIOR AND EXTERIOR LOAD CONDITIONS (UNO)
6) REFER TO 2018 NC BUILDING CODE SECTION R602 FOR CONSTRUCTION OF ALL WALLS OVER 10'-0" IN HEIGHT.
7) ALL STRUCTURAL STEEL SHALL BE ASTM A992 GRADE 50 Fy = 50 KSI MIN. (UNO)
8) ALL EXTERIOR LUMBER TO BE #2 SYP PT
9) ALL CONCRETE, fc = 3000 PSI MIN.
10) PRESUMPTIVE BEARING CAPACITY = 2000 PSF
11) 1/2"⌀ ANCHOR BOLTS SPACED AT MAXIMUM OF 6'-0" O.C. AND NOT MORE THAN 12" FROM THE CORNER. THERE SHALL BE A MINIMUM OF (2) BOLTS PER PLATE SECTION. ANCHOR BOLTS SHALL BE SPACED AT 3'-0" O.C. FOR BASEMENTS. ANCHOR BOLT SHALL EXTEND 7" INTO CONCRETE OR MASONRY.
12) PSL COLUMNS DESIGNED WITH MAX. HEIGHT OF 9'-0" (UNO)
13) PROVIDE A MINIMUM OF 500# UPLIFT & LATERAL CONNECTION AT TOP AND BOTTOM OF PORCH COLUMNS. (U.N.O.)
14) PROVIDE CONTINUOUS SHEATHING PER SECTION 602.10.4 OF THE 2018 IRC.
15) MAXIMUM MASONRY PIER HEIGHT SHALL NOT EXCEED FOUR TIMES ITS LEAST HORIZONTAL DIMENSION.
16) UPLIFT LOADS GREATER THAN 500# SHALL BE CONTINUOUSLY ANCHORED TO THE FOUNDATION.
17) METAL HANGERS SHALL BE SIMPSON OR APPROVED EQUAL.

STRUCTURAL SHEATHING NOTES

1) DESIGNED FOR SEISMIC ZONE A-C AND WIND SPEEDS OF 120 MPH OR LESS.
2) WALLS SHALL BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE 2018 NCRC.
3) BRACING REQUIREMENTS SHALL BE PER TABLE R602.10.3. REFER TO SECTION R602.10.4 FOR LOAD PATH DETAILS INCLUDING CONNECTIONS & SUPPORT OF BRACED WALL PANELS.
   (1) REFERENCE FIGURE R602.10.4.3 OF THE 2018 NCRC.
4) INTERIOR BRACED WALL PANELS (BWP) INDICATED SHALL BE SHEATHED IN ACCORDANCE WITH THE GB METHOD OR WSP METHOD AS PRESCRIBED IN SECTION R602.10.1 (UNO)
   (2) 1/2" GYPSUM BOARD (GB) MINIMUM LENGTH OF 8'-0" (ISOLATED PANELS) OR 4'-0" (CONTINUOUS SHEATHING). SECURE w/ 5d COOLER NAILS (OR EQUAL PER TABLE R702.3.5) SPACED @ 7" O.C. AT PANEL EDGES, INCLUDING TOP AND BOTTOM PLATES & 7" O.C. AT INTERMEDIATE SUPPORTS
   (3) 3/8" WOOD STRUCTURAL PANEL (WSP) SECURE w/ 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS
5) EXTERIOR BRACED WALL PANELS (BWP) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CS-WSP METHOD AS PRESCRIBED IN SECTION R602.10.3 (UNO)
6) ALL SHEATHABLE SURFACES OF EXTERIOR WALLS (INCLUDING AREAS ABOVE AND BELOW OPENINGS AND GABLE END WALLS) SHALL BE CONTINUOUSLY SHEATHED WITH WOOD STRUCTURAL PANEL (WSP) SHEATHING WITH A MINIMUM THICKNESS OF 3/8". SHEATHING SHALL BE SECURED WITH MINIMUM 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND SPACED AT 12" O.C. AT INTERMEDIATE SUPPORTS.
7) MINIMUM BRACED WALL PANEL LENGTHS WITH CS-WSP METHOD SHALL BE AS FOLLOWS:
   - 24" ADJACENT TO OPENINGS NOT MORE THAN 67% OF WALL HEIGHT
   - 30" ADJACENT TO OPENINGS GREATER THAN 67% AND LESS THAN 85% OF WALL HEIGHT.
   - 48" FOR OPENINGS GREATER THAN 85% OF WALL HEIGHT
   (4) SHEATH INTERIOR & EXTERIOR
8) FOR CS-WSP METHOD, A MINIMUM 24" BRACED WALL PANEL CORNER RETURN SHALL BE PROVIDED AT BOTH ENDS OF A BRACED WALL LINE IN ACCORDANCE WITH FIGURE R602.10.3(4). IN LIEU OF A CORNER RETURN, EITHER A MIN. 48" BRACED WALL PANEL SHALL BE PROVIDED AT THE CORNER OR A HOLD-DOWN DEVICE WITH A MINIMUM UPLIFT DESIGN VALUE OF 800# SHALL BE FASTENED TO THE EDGE OF THE BRACED WALL PANEL CLOSEST TO THE CORNER AND TO THE FOUNDATION OR FRAMING BELOW.
   (5) MINIMUM 800# HOLD-DOWN DEVICE

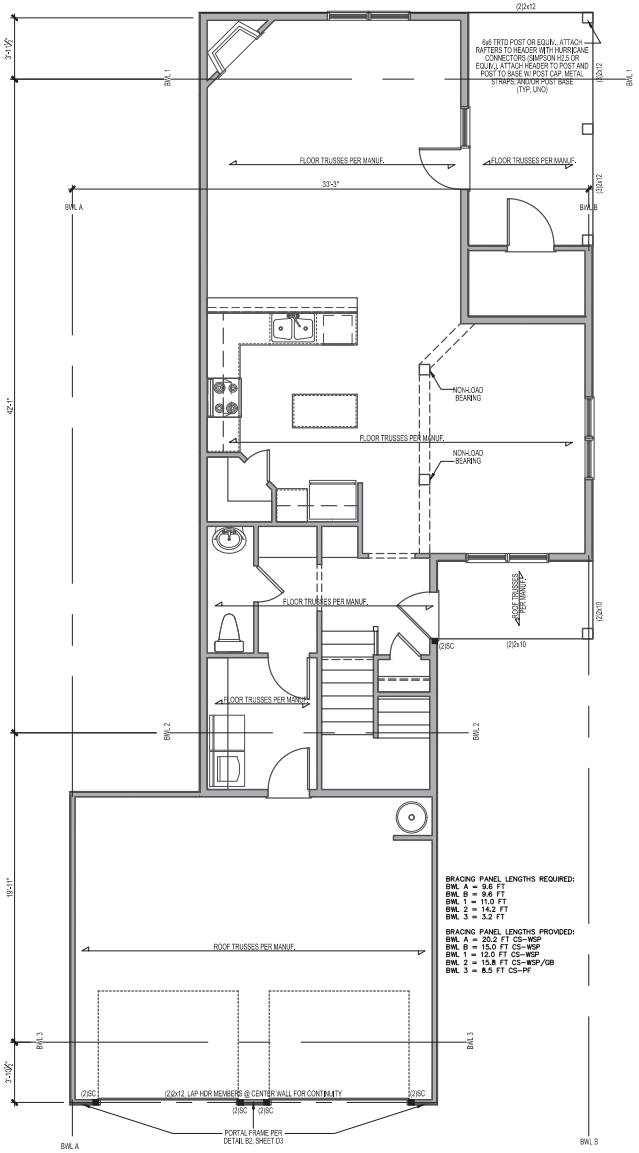


OPTIONAL 16' GARAGE DOOR

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34

BRACING PANEL LENGTHS REQUIRED:
BWL 3 = 3.2 FT

BRACING PANEL LENGTHS PROVIDED:
BWL 3 = 7.7 FT CS-WSP

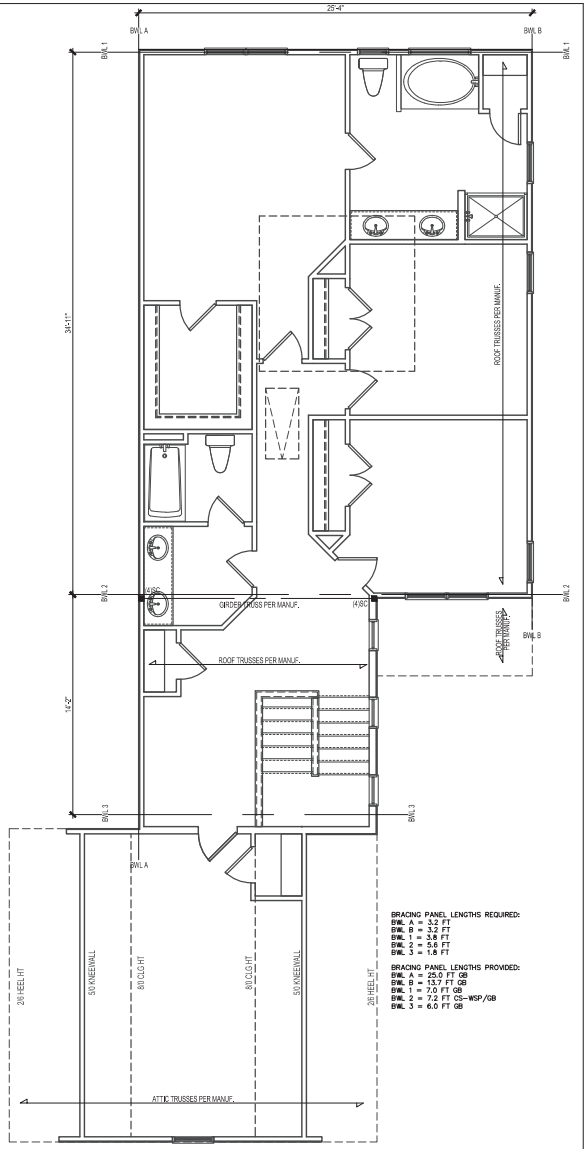


BRACING PANEL LENGTHS REQUIRED:
BWL A = 9.6 FT
BWL B = 9.6 FT
BWL 1 = 11.0 FT
BWL 2 = 14.2 FT
BWL 3 = 3.2 FT

BRACING PANEL LENGTHS PROVIDED:
BWL A = 20.2 FT CS-WSP
BWL B = 15.0 FT CS-WSP
BWL 1 = 12.0 FT CS-WSP
BWL 2 = 15.8 FT CS-WSP/GB
BWL 3 = 8.5 FT CS-PF

SECOND FLOOR FRAMING PLAN

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34



BRACING PANEL LENGTHS REQUIRED:
BWL A = 3.2 FT
BWL B = 3.2 FT
BWL 1 = 3.8 FT
BWL 2 = 5.6 FT
BWL 3 = 1.8 FT

BRACING PANEL LENGTHS PROVIDED:
BWL A = 25.0 FT GB
BWL B = 13.7 FT GB
BWL 1 = 7.0 FT GB
BWL 2 = 7.2 FT CS-WSP/GB
BWL 3 = 6.0 FT GB

ATTIC FLOOR FRAMING PLAN

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34

* Engineers seal does not include construction means, methods, techniques, sequences, procedures or safety precaution.
* Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.
* Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable once construction begins.

TYNDALL
ENGINEERING & DESIGN, P.A.
[illegible] Shipyard Drive • Wilmington, NC 28405
P: 910.772.3300 • F: 910.772.9468
www.tyndallengineering.com

Client: WYNN HOMES

Plan: THE NICKLAUSII GARAGE LEFT

NORTH CAROLINA PROFESSIONAL SEAL 024899 ENGINEER PRENTICE A TYNDALL JR
1/30/19

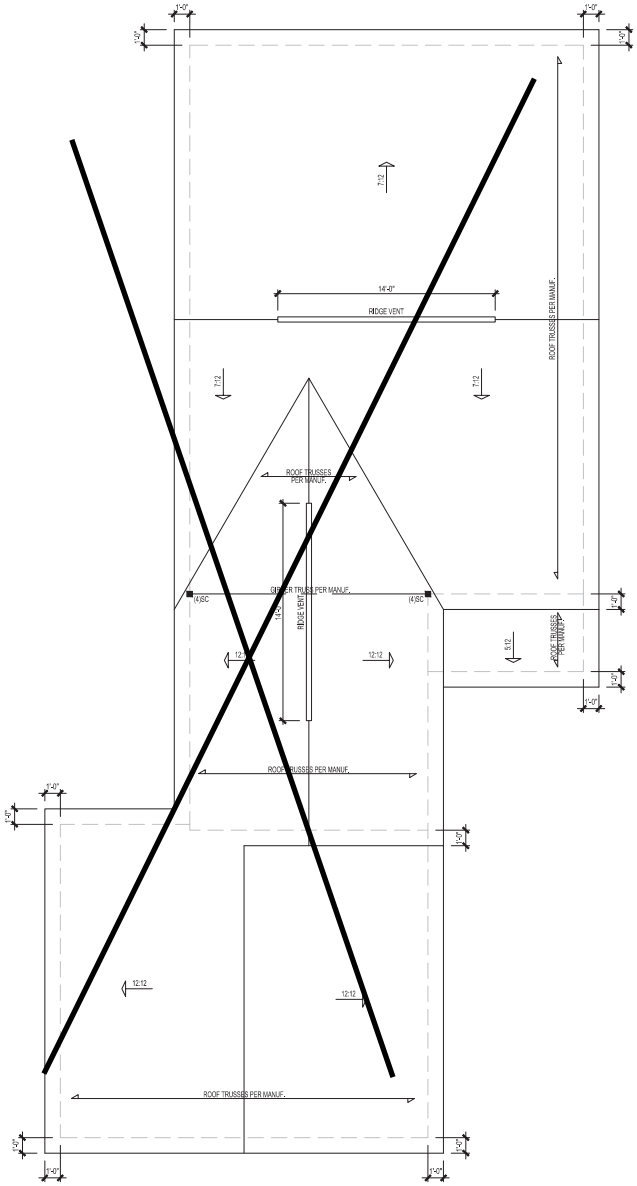
Project #:	1901-010039
Date:	1/18/19
Drawn/Design By:	ISE
DWG. Checked By:	PAT
Scale:	SEE PLAN

REVISIONS

No.	Date:	Remarks
1		
2		
3		
4		

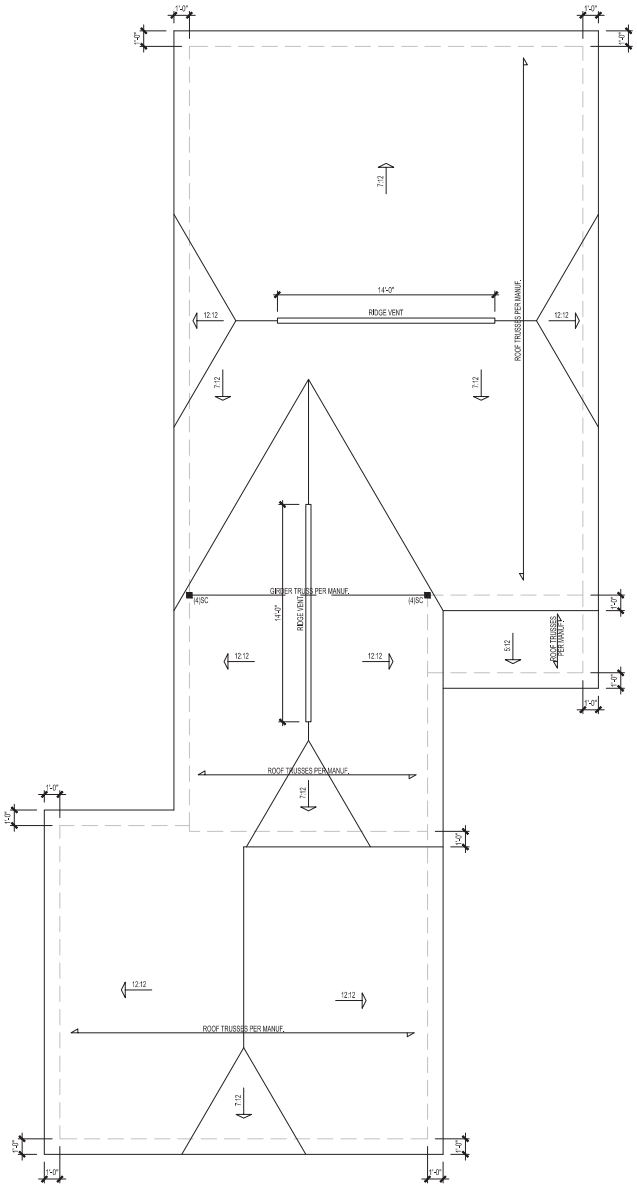
Sheet Number

S3



ROOF PLAN - FARMHOUSE

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34



ROOF PLAN - EUROPEAN

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34

* Engineers seal does not include construction means, methods, techniques, sequences, procedures or safety precaution.
* Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.
* Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable once construction begins.

TYNDALL
ENGINEERING & DESIGN, P.A.
[redacted]

Client: WYNN HOMES

Plan: THE NICKLAUSII GARAGE LEFT

NORTH CAROLINA PROFESSIONAL SEAL 024899 ENGINEER PRENTICE A TYNDALL JR

1/30/19

Project #: 1901-010039

Date: 1/18/19

Drawn/Design By: ISE

DWG. Checked By: PAT

Scale: SEE PLAN

REVISIONS

No.	Date:	Remarks
1		
2		
3		
4		

Sheet Number

S4

STRUCTURAL NOTES

1) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF "NORTH CAROLINA STATE 2018 RESIDENTIAL BUILDING CODE", IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.

2) DESIGN LOADS:

	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION LL	DEFLECTION TL
ALL FLOORS	40	10	L/360	L/240
ATTIC (w/ walk up stairs)	30	10	L/360	L/240
ATTIC (pull down access)	20	10	L/240	L/180
ATTIC (no access)	10	5	L/240	L/180
EXTERNAL BALCONY	40	10	L/360	L/240
ROOF	20	10	L/240	L/180
ROOF TRUSS	20	20	L/240	L/180
WIND LOAD	BASED ON 120 MPH (EXPOSURE B)			
SEISMIC	SEISMIC ZONES A, B & C			

3) MINIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF

4) CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF FIVE INCHES UNLESS NOTED OTHERWISE. (U.N.O.)

5) MAXIMUM DEPTH OF UNBALANCED FILL AGAINST FOUNDATION WALLS TO BE LESS THAN 4'-0" WITHOUT USING SUFFICIENT WALL BRACING. REFER TO SECTION R404 OF 2018 NC BUILDING CODE FOR BACKFILL LIMITATIONS BASED ON WALL HEIGHT, WALL THICKNESS, SOIL TYPE, AND UNBALANCED BACKFILL HEIGHT.

6) ALL FRAMING LUMBER SHALL BE SYP #2 (Fb = 800 PSI, BASED ON 2x10) UNO.
ALL FRAMING LUMBER EXPOSED TO THE ELEMENTS SHALL BE TREATED MATERIAL.
ALL LVL LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2600 PSI, E = 1.9M PSI (U.N.O.)
ALL LSL LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2325 PSI, E = 1.6M PSI (U.N.O.)
ALL PSL LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2400 PSI, E = 1.8M PSI (U.N.O.)

7) ALL LOAD BEARING EXTERIOR HEADERS SHALL BE AT (2) 2x10. (U.N.O.) REFER TO TABLE R602.7(1) & (2) FOR JACK STUD REQUIREMENTS FOR HEADER SPANS FOR INTERIOR AND EXTERIOR LOAD CONDITIONS UNLESS SPECIFICALLY NOTED ON PLANS.

8) ALL STRUCTURAL STEEL W-SHAPES (I-BEAMS) SHALL BE ASTM A992 GRADE 50.
ALL STEEL ANGLES, PLATES, AND C-CHANNELS SHALL BE ASTM A36.
ALL STEEL PIPE SHALL BE ASTM A53 GRADE B.

9) STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3-1/2" AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO (2) LAG SCREWS (1/2"ϕ x 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDED THE JOISTS ARE TOE NAILED TO THE SOLE PLATES, AND THE SOLE PLATES ARE NAILED OR BOLTED TO THE BEAM FLANGES @ 48" O.C.

10) PROVIDE ANCHOR BOLT PLACEMENT PER SECTION 403.1.6: 1/2"ϕ ANCHOR BOLTS SPACED AT 6'-0" O.C. AND PLACED 12" FROM THE END OF EACH PLATE SECTION. ANCHOR BOLTS SHALL BE SPACED AT 3'-0" O.C. FOR BASEMENTS. ANCHOR BOLT SHALL EXTEND 7" INTO CONCRETE OR MASONRY. THE BOLTS SHALL BE LOCATED IN THE MIDDLE THIRD OF THE WIDTH OF THE PLATE. THERE SHALL BE A MINIMUM TWO ANCHOR BOLTS PER PLATE SECTION.

11) FOUNDATION DRAINAGE-DAMP PROOFING OR WATERPROOFING PER SECTION 405 AND 406 OF NC BUILDING CODE.

12) WALL AND ROOF CLADDING VALUES:
WALL CLADDING SHALL BE DESIGNED FOR 28.0 POUNDS PER SQUARE FOOT (LBS/SQFT) OR GREATER POSITIVE AND NEGATIVE PRESSURE.
ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE AS FOLLOWS:
39.0 LBS/SQFT FOR ROOF PITCHES 0/12 TO 1.5/12
36.0 LBS/SQFT FOR ROOF PITCHES 1.5/12 TO 6/12
18.0 LBS/SQFT FOR ROOF PITCHES 6/12 TO 12/12
**MEAN ROOF HEIGHT 30'-0" OR LESS

13) FOR ROOF SLOPES FROM 2/12 THROUGH 4/12, BUILDER TO INSTALL 2 LAYERS OF 15# FELT PAPER.

14) REFER TO SECTION R602.3 FOR FRAMING OF ALL WALLS OVER 10'-0" IN HEIGHT.

15) PROVIDE CONTINUOUS SHEATHING PER SECTION 602.10.3 OF THE 2018 IRC.

16) UPLIFT LOADS GREATER THAN 500# SHALL BE CONTINUOUSLY ANCHORED TO THE FOUNDATION.

17) REFER TO TABLE N1102.1 FOR PRESCRIPTIVE BUILDING ENVELOPE THERMAL COMPONENT CRITERIA.

18) PSL COLUMNS DESIGNED WITH MAXIMUM HEIGHT OF 9'-0" (U.N.O.)

19) PROVIDE A MINIMUM OF 500# UPLIFT & LATERAL CONNECTION AT TOP AND BOTTOM OF PORCH COLUMNS. (U.N.O.)

20) MAXIMUM MASONRY PEIR HEIGHT SHALL NOT EXCEED FOUR TIMES ITS LEAST HORIZONTAL DIMENSION.

21) IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND SQUARE FOOTAGE PRIOR TO CONSTRUCTION. TYNDALL ENGINEERING & DESIGN, PA IS NOT RESPONSIBLE FOR DIMENSION OR SQUARE FOOTAGE ERRORS ONCE CONSTRUCTION BEGINS.

CLIMATE ZONES	FENESTRATION U-FACTOR[b,j]	SKYLIGHT[b] U-FACTOR	GLAZED FENESTRATION SHGC[b,k]	CEILING[m] R-VALUE	WOOD FRAMED WALL R-VALUE	MASS WALL R-VALUE[i]	FLOOR R-VALUE	BASEMENT[c,o] WALL R-VALUE	SLAB[d] R-VALUE AND DEPTH	CRAWL SPACE[c] WALL R-VALUE
3	0.35	0.55	0.30	38 or 30 cont	15 or 13 + 2.5[h]	5/13 or 5/10 cont	19	5/13[f]	0	5/13
4	0.35	0.55	0.30	38 or 30 cont[j]	15 or 13 + 2.5[h]	5/13 or 5/10 cont	19	10/15	10	10/15
5	0.35	0.55	NR	38 or 30 cont[j]	19[n] or 13 + 5[h] or 15 + 3[h]	13/17 or 13/12.5 cont	30[g]	10/15	10	10/19

TABLE N1102.1 CLIMATE ZONES 3-5
NO SCALE

a. R-VALUES ARE MINIMUMS. U-FACTORS AND SHGC ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE INSTALLED R-VALUE OF THE INSULATION SHALL NOT BE LESS THAN THE R-VALUE SPECIFIED IN THE TABLE.
b. THE FENESTRATION U-FACTOR COLUMN EXCLUDED SKYLIGHTS. THE SOLAR HEAT GAIN COEFFICIENT (SHGC) COLUMN APPLIES TO ALL GLAZED FENESTRATION.
c. "10/15" MEANS R-10 CONTINUOUS INSULATED SHEATHING ON THE INTERIOR OR EXTERIOR OF THE HOME OR R-15 CAVITY INSULATION AT THE INTERIOR OF THE BASEMENT WALL OR CRAWL SPACE WALL.
d. FOR MONOLITHIC SLABS, INSULATION SHALL BE APPLIED FROM THE INSPECTION GAP DOWNWARD TO THE BOTTOM OF THE FOOTING OR A MAXIMUM OF 24" BELOW GRADE WHICHEVER IS LESS. FOR FLOATING SLABS, INSULATION SHALL EXTEND TO THE BOTTOM OF THE FOUNDATION WALL OR 24", WHICHEVER IS LESS. R-5 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R-VALUES FOR HEATED SLABS.
e. DELETED
f. BASEMENT WALL INSULATION IS NOT REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED BY FIGURE N1101.7 AND TABLE N1101.7.
g. OR INSULATION SUFFICIENT TO FILL THE FRAMING CAVITY. R-19 MINIMUM.
h. THE FIRST VALUE IS CAVITY INSULATION, THE SECOND VALUE IS CONTINUOUS INSULATION, SO "13+5" MEANS R-13 CAVITY INSULATION PLUS R-5 INSULATED SHEATHING. "15+3" MEANS R-15 CAVITY INSULATION. PLUS R-3 INSULATED SHEATHING. IF STRUCTURAL SHEATHING COVERS 25% OR LESS OF THE EXTERIOR, INSULATING SHEATHING IS NOT REQUIRED WHERE THE STRUCTURAL SHEATHING IS USED. IF STRUCTURAL SHEATHING COVERS MORE THAN 25 PERCENT OF THE EXTERIOR, SHALL BE SUPPLEMENTED WITH INSULATED SHEATHING OF AT LEAST R-2. "13 + 2.5" MEANS R-13 CAVITY INSULATION PLUS R-2.5 SHEATHING.
i. FOR MASS WALLS, THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF THE INSULATION IS ON THE INTERIOR MASS WALL.
j. IN ADDITION TO THE EXEMPTION IN SECTION N1102.3.3, A MAXIMUM OF TWO GLAZED FENESTRATION PRODUCT ASSEMBLIES HAVING A U-FACTOR NO GREATER THAN 0.55 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.
k. IN ADDITION TO THE EXEMPTION IN SECTION N1102.3.3, A MAXIMUM OF TWO GLAZED FENESTRATION PRODUCT ASSEMBLIES HAVING A SHGC NO GREATER THAN 0.70 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.
l. R-30 SHALL BE DEEMED TO SATISFY THE CEILING INSULATION REQUIREMENT WHEREVER THE FULL HEIGHT OF UNCOMPRESSED R-30 INSULATION EXTENDS OVER THE WALL TOP PLATE AT THE EAVES. OTHERWISE R-38 INSULATION IS REQUIRED WHERE ADEQUATE CLEARANCE EXISTS OR INSULATION MUST EXTEND TO EITHER THE INSULATION BAFFLE OR WITHIN 1 INCH OF THE ATTIC ROOF DECK.
m. TABLE VALUE REQUIRED EXCEPT FOR ROOF EDGE WHERE THE SPACE IS LIMITED BY THE PITCH OF THE ROOF; THERE THE INSULATION MUST FILL THE SPACE UP TO THE AIR BAFFLE.
n. R-19 FIBERGLASS BATTS COMPRESSED AND INSTALLED IN A NOMINAL 2 × 6 FRAMING CAVITY IS DEEMED TO COMPLY. FIBERGLASS BATTS RATED R-19 OR HIGHER COMPRESSED AND INSTALLED IN A 2X4 WALL IS NOT DEEMED TO COMPLY.
o. BASEMENT WALL MEETING THE MINIMUM MASS WALL SPECIFIC HEAT CONTENT REQUIREMENT MAY USE THE MASS WALL R-VALUE AS THE MINIMUM REQUIREMENT.

972 SQ. FT. OF CRAWL SPACE / 150 = 6.48 SQ. FT. OF REQ'D VENTILATION WITHOUT CROSS VENTILATION
6.48 SQ. FT. OF VENTILATION REQ'D / 0.45 SQ.FT. PER VENT = 15 VENTS REQ'D1

-OR-

972 SQ. FT. OF CRAWL SPACE / 1500 = 0.65 SQ. FT. OF REQ'D VENTILATION WITH CROSS VENTILATION
0.65 SQ. FT. OF VENTILATION REQ'D / 0.45 SQ.FT. PER VENT = 2 VENTS REQ'D2

1) VENT LOCATIONS MAY VARY FROM THOSE SHOWN ON PLAN, HOWEVER VENTS SHALL BE PLACED TO PROVIDE ADEQUATE VENTILATION AT ALL POINTS AND TO PREVENT DEAD AIR POCKETS.

2) THE TOTAL AREA OF VENTILATION OPENINGS MAY BE REDUCED TO 1/1500 OF THE CRAWL SPACE GROUND AREA WHERE THE REQUIRED OPENINGS ARE PLACED SO AS TO PROVIDE CROSS VENTILATION OF THE CRAWL SPACE. THE INSTALLATION OF OPERABLE LOUVERS SHALL NOT BE PROHIBITED. ONE FOUNDATION VENT SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING. TO PREVENT RAINWATER ENTRY WHEN THE CRAWL SPACE IS BUILT ON A SLOPED SITE, THE UPHILL FOUNDATION WALLS MAY BE CONSTRUCTED WITHOUT WALL VENT OPENINGS. VENT DAMS SHALL BE PROVIDED WHEN THE BOTTOM OF THE FOUNDATION VENT OPENING IS LESS THAN 4 INCHES ABOVE THE FINISHED EXTERIOR GRADE.

WALL VENTED CRAWL SPACES REQUIRE FULL COVERAGE GROUND VAPOR RETARDERS.

CRAWL SPACE VENTILATION CALCULATION
NO SCALE

1650 SQ. FT. OF ATTIC / 300 = 5.50 SQ. FT. INLETS/OUTLETS REQUIRED

1) CALCULATION BASED ON VENTILATORS USED AT LEAST 3'-0" ABOVE THE COMICE VENTS WITH THE BALANCE OF VENTILATION PROVIDED BY EAVE VENTS.

2) CATHEDRAL CEILINGS SHALL HAVE A 1" MINIMUM CLEARANCE BETWEEN THE BOTTOM OF THE ROOF DECK AND THE INSULATION.

ATTIC VENTILATION CALCULATION
NO SCALE

DEFINITIONS FOR COMMON ABBREVIATIONS

ALT	ALTERNATE	MAX	MAXIMUM
CANT	CANTILEVER	MIN	MINIMUM
CJ	CEILING JOIST	NOM	NOMINAL
CMU	CONCRETE MASONRY UNIT	O.C.	ON CENTER
COL	COLUMN	PL	PLATE
CONC	CONCRETE	PT	PRESSURE TREATED
CONT	CONTINUOUS	REINF	REINFORCED
CT	COLLAR TIE	REQD	REQUIRED
DBL	DOUBLE	RJ	ROOF JOIST
DIA	DIAMETER	RS	ROOF SUPPORT
DJ	DOUBLE JOIST	SC	STUD COLUMN
DR	DOUBLE RAFTER	SCH	SCHEDULE
EA	EACH	SPEC	SPECIFIED
EE	EACH END	THK	THICK
FJ	FLOOR JOIST	TJ	TRIPLE JOIST
FND	FOUNDATION	TRTD	TREATED
FTG	FOOTING	TYP	TYPICAL
GALV	GALVANIZED	UNO	UNLESS NOTED OTHERWISE
HORIZ	HORIZONTAL	W	WIDE FLANGE BEAM
HT	HEIGHT	WWF	WELDED WIRE FABRIC
MANUF	MANUFACTURER	XJ	EXTRA JOIST

1) MAXIMUM HEIGHT OF DECK SUPPORT POSTS AS FOLLOWS:

POST SIZE	MAX. POST HEIGHT**
4 x 4	8'-0"
6 x 6	20'-0"
***	OVER 20'-0"

* THIS TABLE IS BASED ON NO. 2 TREATED SOUTHERN PINE POSTS. MAXIMUM TRIBUTARY AREA IS BASED ON 128 TOTAL SQUARE FEET WHICH MAY BE LOCATED AT DIFFERENT LEVELS.
** FROM TOP OF FOOTING TO BOTTOM OF GIRDER
*** DECKS WITH POST HEIGHTS OVER 20'-0" SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT.

2) DECKS SHALL BE BRACED TO PROVIDE LATERAL STABILITY BY ONE OF THESE METHODS:

A. THE DECK FLOOR HEIGHT IS LESS THAN 4'-0" AND THE DECK IS ATTACHED TO THE STRUCTURE IN ACCORDANCE WITH SECTION (4) ABOVE. LATERAL BRACING IS NOT REQUIRED.

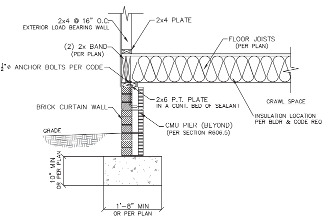
B. 4 x 4 WOOD KNEE BRACES MAY BE PROVIDED ON EACH COLUMN IN BOTH DIRECTIONS. THE KNEE BRACES SHALL ATTACH TO EACH POST AT A POINT NOT LESS THAN 1/3 OF THE POST LENGTH FROM THE TOP OF THE POST, AND THE BRACES SHALL BE ANGLED BETWEEN 45° AND 60° FROM THE HORIZONTAL. KNEE BRACES SHALL BE BOLTED TO THE POST AND GIRDER WITH ONE 5/8"ϕ HOT DIPPED GALVANIZED BOLT AT EACH END OF THE BRACE.

C. FOR FREESTANDING DECKS WITHOUT KNEE BRACES OR DIAGONAL BRACING, LATERAL STABILITY MAY BE PROVIDED BY EMBEDDING THE POSTS IN ACCORDANCE WITH THE FOLLOWING:

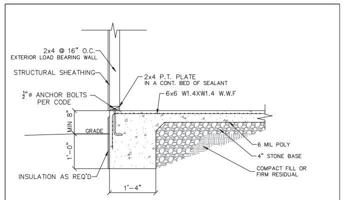
POST SIZE	MAX. TRIBUTARY AREA	MAX. POST HEIGHT	EMBEDMENT DEPTH	CONCRETE DIAMETER
4 x 4	48 SQ. FT.	4'-0"	2'-6"	1'-0"
6 x 6	120 SQ. FT.	6'-0"	3'-6"	1'-8"

D. 2 x 6 DIAGONAL VERTICAL CROSS BRACING MAY BE PROVIDED IN TWO (2) PERPENDICULAR DIRECTIONS FOR FREESTANDING DECKS OR PARALLEL TO THE STRUCTURE AT THE EXTERIOR COLUMN LINE FOR ATTACHED DECKS. THE 2 x 6s SHALL BE ATTACHED TO THE POSTS WITH ONE 5/8"ϕ HOT DIPPED GALVANIZED BOLT AT EACH END OF EACH BRACING MEMBER.

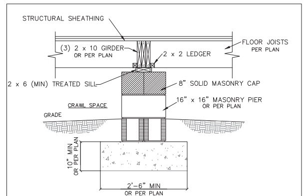
E. FOR EMBEDMENT OF PILES IN COASTAL REGIONS, SEE CHAPTER 46.



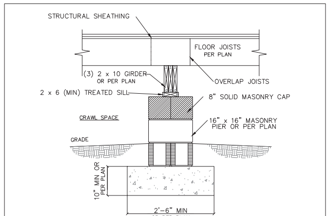
CURTAIN WALL DETAIL
NO SCALE — PIER AND CURTAIN WALL FOUNDATION LIMITED TO 2-STORY DWELLING



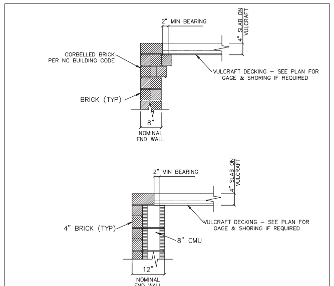
TURN DOWN FOOTING DETAIL
NO SCALE



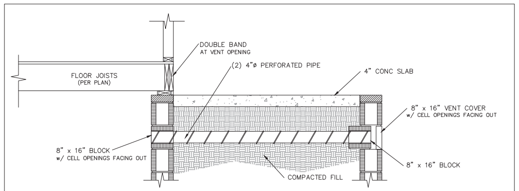
FLUSH GIRDER DETAIL
NO SCALE



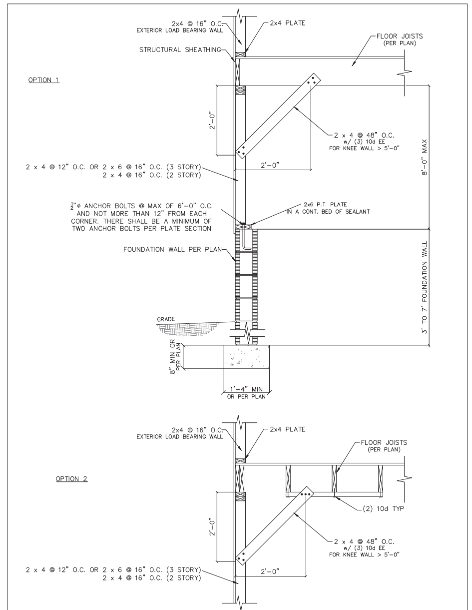
DROPPED GIRDER DETAIL
NO SCALE



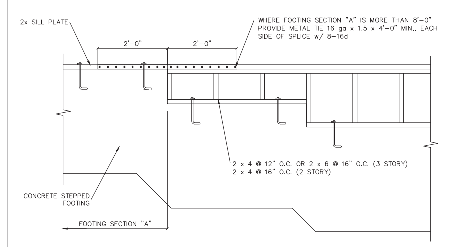
CONCRETE SLAB ON METAL DECKING DETAIL
NO SCALE



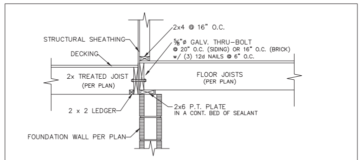
FOUNDATION VENT DETAIL AT COMPACTED FILL
NO SCALE



CRIPPLE WALL DETAIL
NO SCALE — 2 OPTIONS



STEP DOWN FOUNDATION AT CRIPPLE WALL
NO SCALE
USED WITH BOTH OPTIONS ABOVE
NOTE: WHERE FOOTING SECTION "A" IS LESS THAN 8 FEET LONG IN A 25 FEET TOTAL LENGTH WALL, PROVIDE BRACING AT CRIPPLE STUD WALL.



DECK ATTACHMENT DETAIL
NO SCALE

* Engineers seal does not include construction means, methods, techniques, sequences, procedures or safety precaution.
* Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.
* Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable once construction begins.

TYNDALL
ENGINEERING & DESIGN, P.A.
T 919 773-1200 ▪ F 919 773-9658
250 Shipwash Drive ▪ Garner ▪ North Carolina ▪ 27529
www.tyndallengineering.com

Client: WYNN HOMES

Plan: THE NICKLAUSII GARAGE LEFT

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024899 PRENTICE A TYNDALL JR
1/30/19

Project #: 1901-010039
Date: 1/18/19
Drawn/Design By: ACS
DWG. Checked By: PAT
Scale: NOT TO SCALLE

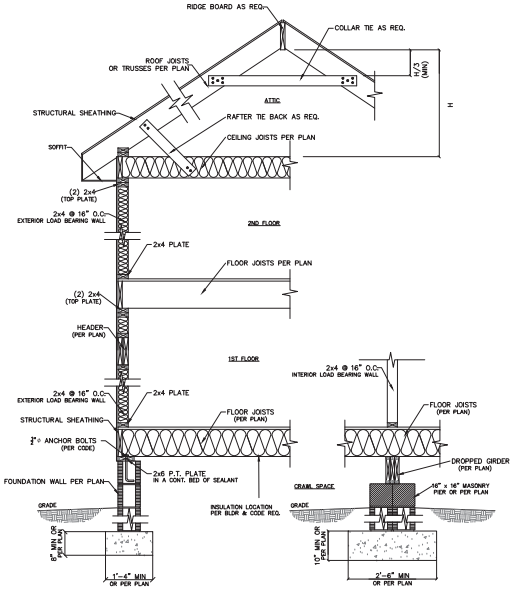
REVISIONS

No.	Date:	Remarks
1		
2		
3		
4		

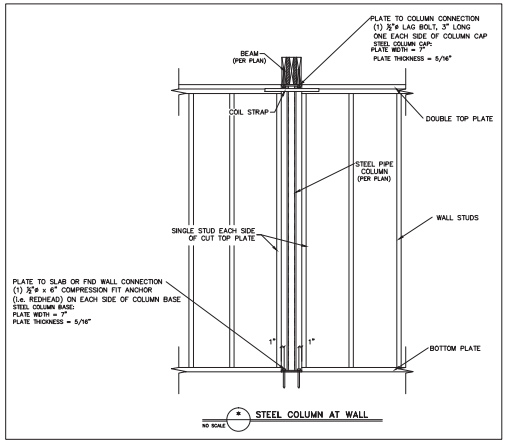
Sheet Number

D1

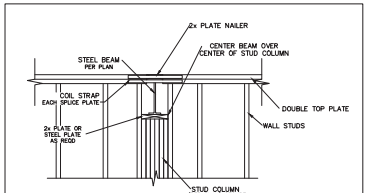
1 of 3



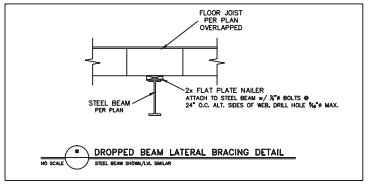
TWO-STORY ON CRAWL
NO SCALE — TYPICAL WALL DETAIL



STEEL COLUMN AT WALL
NO SCALE

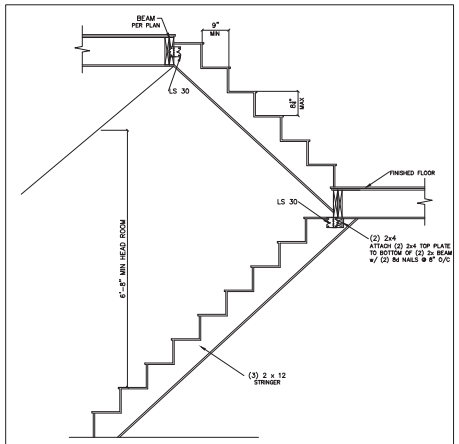


DROPPED BEAM TO STUD COLUMN DETAIL
NO SCALE — STEEL BEAM SHOWN/LIK. SIMILAR



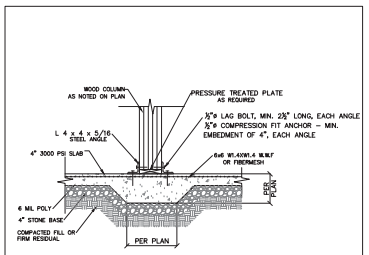
DROPPED BEAM LATERAL BRACING DETAIL
NO SCALE — STEEL BEAM SHOWN/LIK. SIMILAR

HARDWARE CROSS-REFERENCE CHART	
SIMPSON STRONG-TIE	USP STRUCTURAL CONNECTORS
PRODUCT NUMBER	PRODUCT NUMBER
A35	MPA1
ABE	PAE
CBSQ	CBSQ
CCQ	KCCQ
CMSTC16	CMSTC16
CS	RS
H1	RT15
H2.5A	RT7A
H10	RT16
HDQB-SDS3	UPHD8
HDU2-SDS2.5	PHD2
HDU5-SDS2.5	PHD5
HETA	HTA
HGAM10KTA	HGAM
HHDQ14-SDS2.5	UPHD14
HTS	HTW
HTT	HTT
HUS	HUS
LTA1	LPTA
LTHJA26	HJC26
LTP4	MP4F
LUS	JUS
MAS	FA3
MSTAM	MSTAM
PC	PCM
PHD-SDS3	PHD
SSP	RSPT6
STC	TR1
STHD	STAD

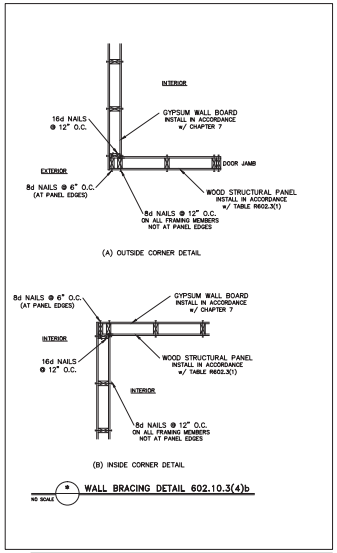


HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH FOUR OR MORE RISERS. HANDRAIL HEIGHT MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE, SHALL NOT BE LESS THAN 30 INCHES AND NOT MORE THAN 38 INCHES.

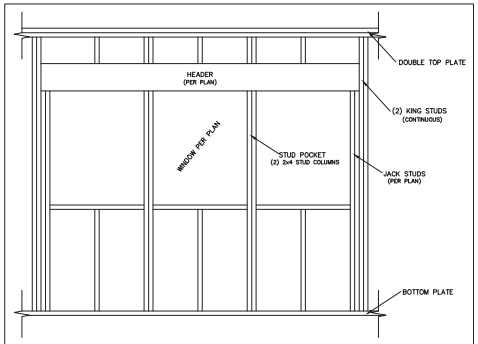
TYPICAL STAIRWAY DETAIL
NO SCALE



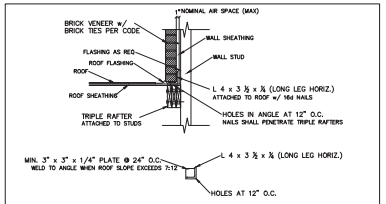
BASEMENT WOOD COLUMN SLAB ATTACHMENT
NO SCALE



WALL BRACING DETAIL 602.10.3(4)b
NO SCALE



TYPICAL WINDOW STUD POCKET DETAIL
NO SCALE

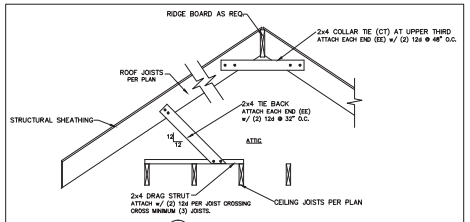


ALLOWABLE SPANS FOR LINTELS SUPPORTING MASONRY VENEER

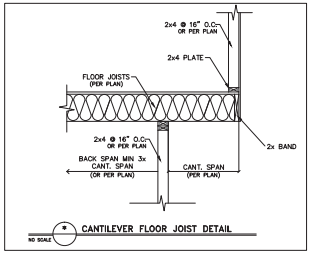
SIZE OF ANGLE(1,2)	NO STORY ABOVE(3)	1 STORY ABOVE(3)	2 STORIES ABOVE(3)	# OF 1/2" (OR EQUIV.) REINFORCING BARS IN REINFORCED LINTEL(2,4,5)
L 3 x 3 x 1/4	6'-0"	4'-6"	3'-0"	1
L 4 x 3 x 1/4	8'-0"	6'-0"	4'-6"	1
L 5 x 3 1/2 x 5/16	10'-0"	8'-0"	6'-0"	2
L 6 x 3 1/2 x 5/16	14'-0"	9'-6"	7'-0"	2
2L 5 x 3 1/2 x 5/16	20'-0"	12'-0"	9'-6"	4

1. LONG LEG OF THE ANGLE SHALL BE PLACED IN A VERTICAL POSITION.
2. DEPTH OF REINFORCED LINTELS SHALL NOT BE LESS THAN 8" AND ALL CELLS OF HOLLOW MASONRY LINTELS SHALL BE GROUTED. REINFORCING BARS SHALL EXTEND NOT LESS THAN 8" INTO THE SUPPORT.
3. STEEL MEMBERS INDICATED ARE ADEQUATE TYPICAL EXAMPLES; OTHER STEEL MEMBERS MEETING STRUCTURAL DESIGN REQUIREMENTS SHALL BE PERMITTED TO BE USED.
4. EITHER STEEL ANGEL OR REINFORCED LINTEL SHALL SPAN OPENING
5. SPANS OVER 4'-0" SHALL BE SHORED UP UNTIL CURED

MASONRY VENEER SUPPORT FIG 703.8.3.1
NO SCALE



RAFTER TIE BACK DETAIL
NO SCALE — CJ PERPENDICULAR TO RAFTERS



CANTILEVER FLOOR JOIST DETAIL
NO SCALE

* Engineers seal does not include construction means, methods, techniques, sequences, procedures or safety precaution.
* Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.
* Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable once construction begins.

TYNDALL ENGINEERING & DESIGN, P.A.
466 Shipyard Drive • Wilmington, NC 28773
T 910.772.9960 • F 910.772.9968
www.tyndallengineering.com

Client: WYNN HOMES
Plan: THE NICKLAUSII GARAGE LEFT

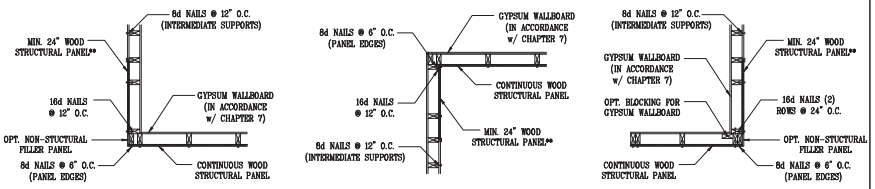
NORTH CAROLINA PROFESSIONAL SEAL 024899 ENGINEER PRENTICE A TYNDALL JR

Project #:	1901-010039
Date:	1/18/19
Drawn/Design By:	ACS
DWG. Checked By:	PAT
Scale:	NOT TO SCALE

REVISIONS

No.	Date:	Remarks
1		
2		
3		
4		
5		

Sheet Number
D2
2 of 3



a) OUTSIDE CORNER DETAIL

b) INSIDE CORNER DETAIL

c) GARAGE DOOR CORNER

** IN LIEU OF THE 24" (MIN.) CORNER RETURN, A HOLD-DOWN DEVICE WITH A MINIMUM UPLIFT DESIGN VALUE OF 800# SHALL BE FASTENED TO THE CORNER STUD AND TO THE FOUNDATION OR FRAMING BELOW.

B1: TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING

NO SCALE

STRUCTURAL SHEATHING NOTES

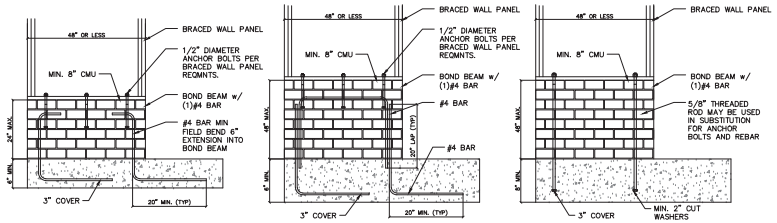
1) DESIGNED FOR SEISMIC ZONE A–C AND WIND SPEEDS OF 120 MPH OR LESS.
2) WALLS SHALL BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE 2018 NCRC.
3) BRACING REQUIREMENTS SHALL BE PER TABLE R602.10.3. REFER TO SECTION R602.10.4 FOR LOAD PATH DETAILS INCLUDING CONNECTIONS & SUPPORT OF BRACED WALL PANELS.
   (1) REFERENCE FIGURE R602.10.4.3 OF THE 2018 NCRC.
4) INTERIOR BRACED WALL PANELS (BWP) INDICATED SHALL BE SHEATHED IN ACCORDANCE WITH THE GB METHOD OR WSP METHOD AS PRESCRIBED IN SECTION R602.10.1 (UNO)
   (2) 1/2" GYPSUM BOARD (GB) MINIMUM LENGTH OF 8'–0" (ISOLATED PANELS) OR 4'–0" (CONTINUOUS SHEATHING). SECURE w/ 5d COOLER NAILS (OR EQUAL PER TABLE R702.3.5) SPACED @ 7" O.C. AT PANEL EDGES, INCLUDING TOP AND BOTTOM PLATES & 7" O.C. AT INTERMEDIATE SUPPORTS
   (3) 3/8" WOOD STRUCTURAL PANEL (WSP) SECURE w/ 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS
5) EXTERIOR BRACED WALL PANELS (BWP) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CS–WSP METHOD AS PRESCRIBED IN SECTION R602.10.3 (UNO)
6) ALL SHEATHABLE SURFACES OF EXTERIOR WALLS (INCLUDING AREAS ABOVE AND BELOW OPENINGS AND GABLE END WALLS) SHALL BE CONTINUOUSLY SHEATHED WITH WOOD STRUCTURAL PANEL (WSP) SHEATHING WITH A MINIMUM THICKNESS OF 3/8". SHEATHING SHALL BE SECURED WITH MINIMUM 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND SPACED AT 12" O.C. AT INTERMEDIATE SUPPORTS.
7) MINIMUM BRACED WALL PANEL LENGTHS WITH CS–WSP METHOD SHALL BE AS FOLLOWS:
   – 24" ADJACENT TO OPENINGS NOT MORE THAN 67% OF WALL HEIGHT
   – 30" ADJACENT TO OPENINGS GREATER THAN 67% AND LESS THAN 85% OF WALL HEIGHT.
   – 48" FOR OPENINGS GREATER THAN 85% OF WALL HEIGHT
   (4) SHEATH INTERIOR & EXTERIOR
8) FOR CS–WSP METHOD, A MINIMUM 24" BRACED WALL PANEL CORNER RETURN SHALL BE PROVIDED AT BOTH ENDS OF A BRACED WALL LINE IN ACCORDANCE WITH FIGURE R602.10.3(4). IN LIEU OF A CORNER RETURN, EITHER A MIN. 48" BRACED WALL PANEL SHALL BE PROVIDED AT THE CORNER OR A HOLD–DOWN DEVICE WITH A MINIMUM UPLIFT DESIGN VALUE OF 800# SHALL BE FASTENED TO THE EDGE OF THE BRACED WALL PANEL CLOSEST TO THE CORNER AND TO THE FOUNDATION OR FRAMING BELOW.
   (5) MINIMUM 800# HOLD–DOWN DEVICE

REQUIRED BRACED WALL PANEL CONNECTIONS				
			REQUIRED CONNECTION	
METHOD	MATERIAL	MIN. THICKNESS	@ PANEL EDGES	@ INTERMEDIATE SUPPORTS
CS–WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.
GB	GYPSUM BOARD	1/2"	5d COOLER NAIL** @ 7" O.C.	5d COOLER NAIL** @ 7" O.C.
WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.

**OR EQUIVALENT PER TABLE R702.3.5

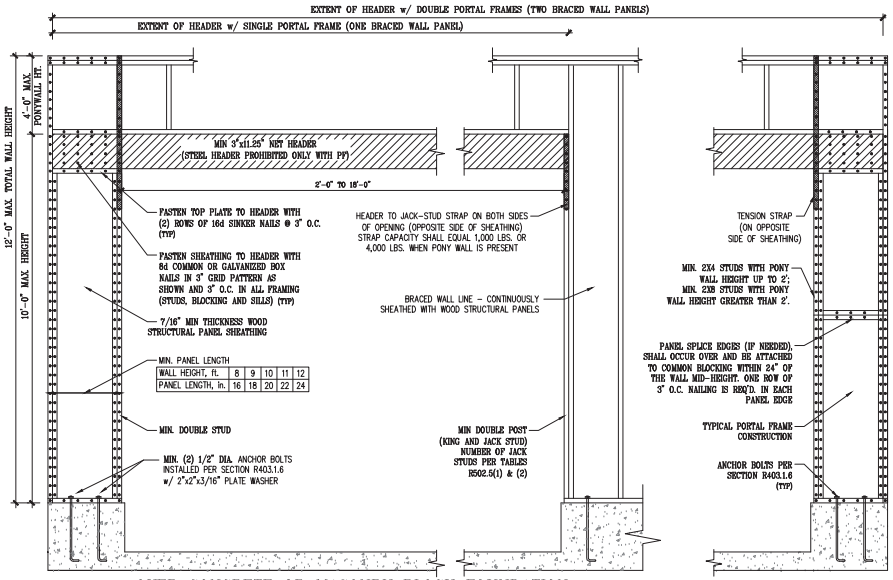
B3: BRACE WALL PANEL CONNECTIONS

NO SCALE

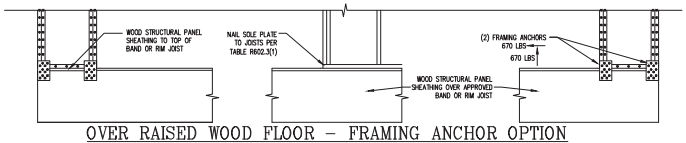


B4: MASONRY STEM WALL SUPPORTING BRACED WALL PANELS

FIGURE R602.10.4.3 OF THE 2018 NCRC
NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS

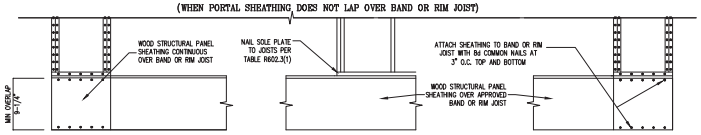


OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISED WOOD FLOOR – FRAMING ANCHOR OPTION

(WHEN PORTAL SHEATHING DOES NOT LAP OVER BAND OR RIM JOIST)



OVER RAISED WOOD FLOOR – OVERLAP OPTION

(WHEN PORTAL SHEATHING LAPS OVER BAND OR RIM JOIST)

B2: METHOD CS–PF: CONTINUOUSLY SHEATHED PORTAL FRAME

FIGURE R602.10.1

* Engineers seal does not include construction means, methods, techniques, sequences, procedures or safety precaution.
* Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.
* Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc, presented in these documents were deemed acceptable once construction begins.

TYNDALL ENGINEERING & DESIGN, P.A.

Client: WYNN HOMES

Plan: THE NICKLAUSII GARAGE LEFT

NORTH CAROLINA PROFESSIONAL SEAL 024899 ENGINEER PRENTICE A TYNDALL JR

Project #:	1901-010039
Date:	1/18/19
Drawn/Design By:	ACS
DWG. Checked By:	PAT
Scale:	NOT TO SCALE

REVISIONS

No.	Date:	Remarks
1		
2		
3		
4		

Sheet Number

D3