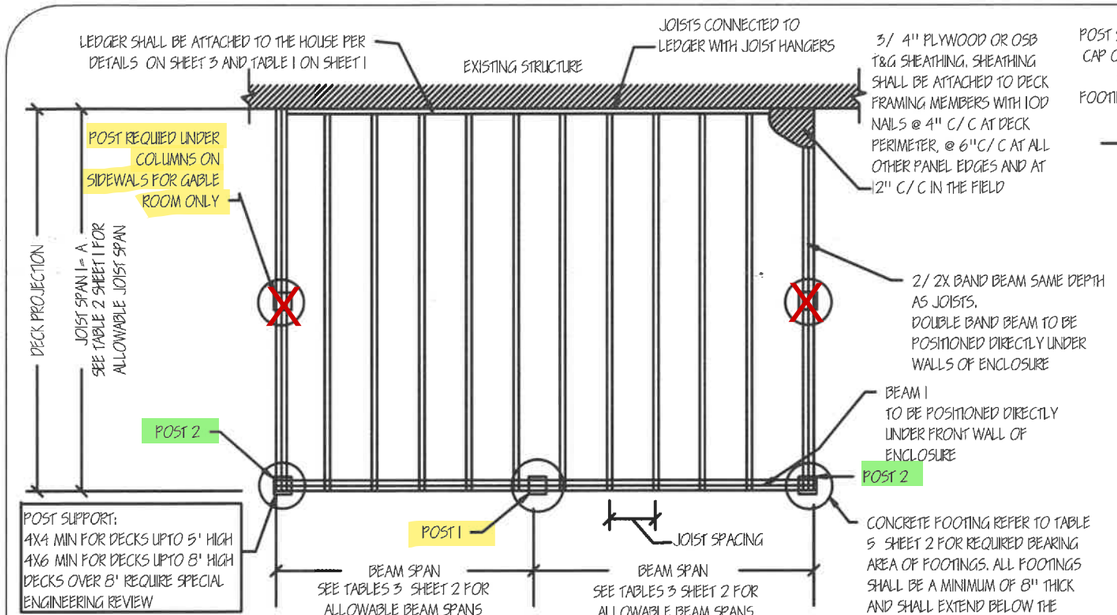
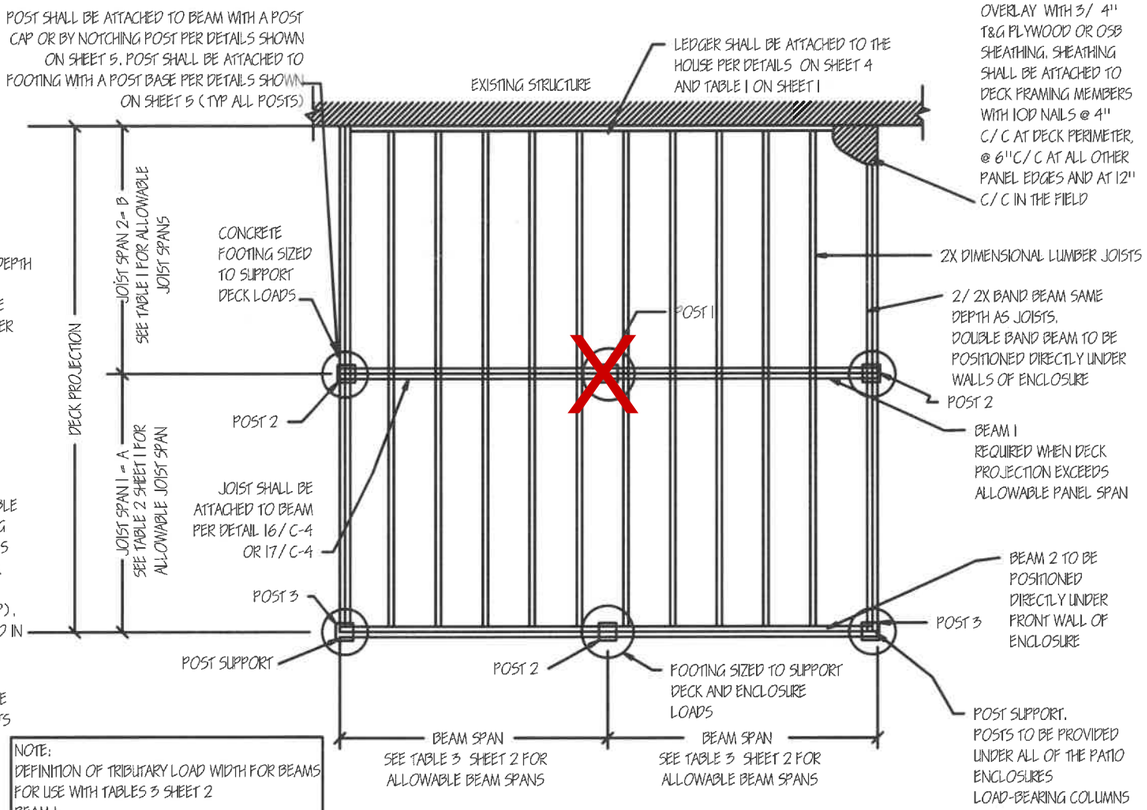


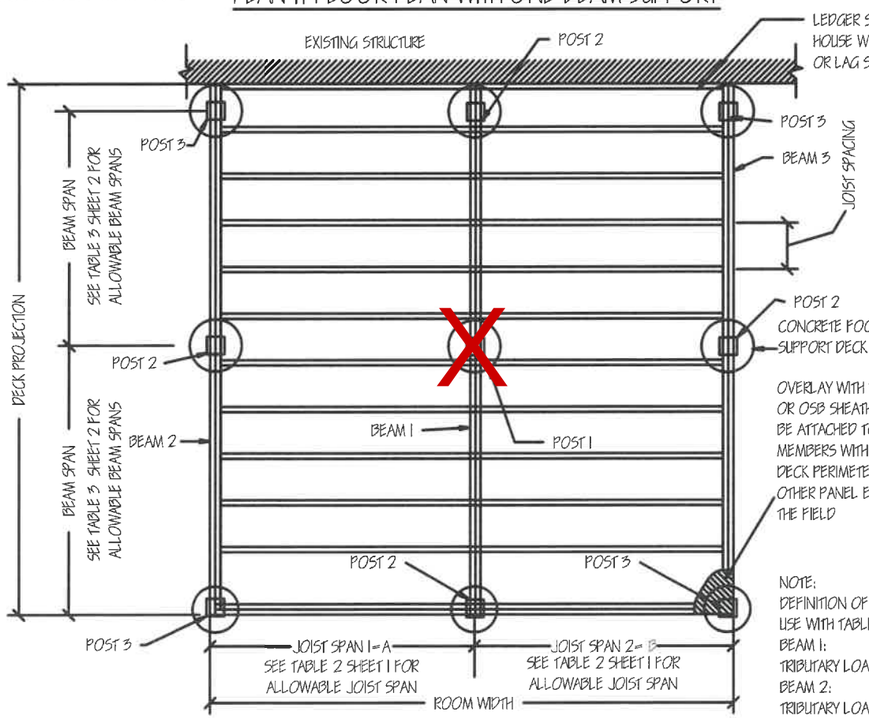
NOTE:
DEFINITION OF TRIBUTARY LOAD WIDTH FOR BEAMS FOR USE WITH TABLE 3 SHEET 2
BEAM 1:
TRIBUTARY LOAD WIDTH = A/ 2

PLAN 1: FLOOR PLAN WITH ONE BEAM SUPPORT



NOTE:
DEFINITION OF TRIBUTARY LOAD WIDTH FOR BEAMS FOR USE WITH TABLES 3 SHEET 2
BEAM 1:
TRIBUTARY LOAD WIDTH =(A + B) / 2
BEAM 2:
TRIBUTARY LOAD WIDTH = A/ 2

PLAN 2: FLOOR PLAN WITH TWO BEAM SUPPORTS



PLAN 3: FLOOR PLAN WITH THREE BEAM SUPPORTS

NOTE:
LATERAL BRACING SHALL BE INSTALLED FOR DECKS OVER 4' IN HEIGHT PER THE DETAILS SHOWN ON SHEET 3. DECKS OVER 8' IN HEIGHT REQUIRE SPECIAL ENGINEERING

NOTE:
DEFINITION OF TRIBUTARY LOAD WIDTH FOR BEAMS FOR USE WITH TABLE 3 SHEET 2
BEAM 1:
TRIBUTARY LOAD WIDTH =(A + B) / 2
BEAM 2:
TRIBUTARY LOAD WIDTH = A/ 2
BEAM 3:
TRIBUTARY LOAD WIDTH = B/ 2

TABLE 1: MINIMUM REQUIRED LAG SCREW OR BOLTED CONNECTION BETWEEN 2X LEDGER AND EXISTING STRUCTURE

PANEL SPAN (FT)	DECK LIVE LOAD
	40 LBS/ FT²
7'	(2) - 5/8" @ 24"C/C
8'	(2) - 5/8" @ 16"C/C
9'	(2) - 5/8" @ 16"C/C
10'	(2) - 5/8" @ 16"C/C
12'	(2) - 5 / 8" @ 16"C/C
14'	(2) - 5 / 8" @ 16"C/C
16	(2) - 5 / 8" @ 16"C/C

TABULATED VALUES BASED ON LUMBER WITH A SPECIFIC GRAVITY = 0.43
TABLE INCLUDES A DEAD LOAD = 10PSF

TABLE 2: ALLOWABLE JOIST SPANS

SPECIES	JOIST SIZE	40 PSF LIVE LOAD		
		1'-0"	1'-4"	2'-0"
SOUTHERN PINE NO.2	2X6	10'-3"	9'-4"	7'-6"
	2X8	13'-6"	11'-10"	9'-8"
	2X10	16'-2"	14'-0"	11'-4"
	2X12	19'-1"	16'-6"	13'-5"
DOUG FIR NO.2	2X6	10'-5"	9'-0"	7'-4"
	2X8	13'-2"	11'-5"	9'-4"
	2X10	16'-1"	13'-11"	11'-4"
	2X12	18'-8"	16'-2"	13'-2"
HEM FIR No.2 SPF No.2	2X6	9'-2"	8'-4"	7'-2"
	2X8	12'-3"	11'-1"	9'-1"
	2X10	15'-6"	13'-6"	11'-1"
	2X12	18'-2"	15'-8"	12'-10"
REDWOOD No.2 WESTERN CEDAR NO.2	2X6	9'-2"	8'-4"	7'-3"
	2X8	12'-1"	11'-0"	9'-2"
	2X10	15'-9"	13'-9"	11'-3"
	2X12	14'-4"	16'-0"	13'-0"

CES
CHAMPION ENCLOSURE SUPPLIERS
12111 CHAMPION WAY, CINCINNATI, OH 45241
PH: (513) 782-3900 FAX: (513) 782-3903

CHAMPION WINDOWS AND PATIO ROOM
PLANS AND DETAILS FOR A LUMBER DECK SUPPORTING A CHAMPION PATIO ROOM

DATE: JULY 3, 2019
SCALE: NTS
Drawn by: MJG

REV:	DATE:

SHEET: 1 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 026759 ENGINEER MARTIN GOSS
4/5/2022

TABLE 3: MAXIMUM ALLOWABLE BEAM SPANS

SPECIES	BEAM SIZE	40 PSF LIVE LOAD								
		TRIBUTARY LOAD WIDTH (FT)								
		4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
SOUTHERN PINE NO.2	2/ 2X6	7'-1"	6'-4"	5'-9"	5'-4"	5'-0"	4'-8"	----	----	----
	2/ 2X8	9'-0"	8'-0"	7'-4"	6'-9"	6'-4"	6'-0"	5'-8"	5'-4"	5'-2"
	2/ 2X10	10'-8"	9'-6"	8'-9"	8'-0"	7'-6"	7'-1"	6'-9"	6'-4"	6'-2"
	2/ 2X12	12'-6"	11'-3"	10'-3"	9'-6"	8'-10"	8'-4"	7'-11"	7'-6"	7'-3"
	4X6	7'-8"	6'-10"	6'-3"	5'-9"	5'-4"	5'-1"	4'-10"	4'-6"	4'-4"
	4X8	10'-2"	9'-1"	8'-4"	7'-8"	7'-2"	6'-9"	6'-4"	6'-1"	5'-10"
	4X10	12'-1"	10'-10"	9'-0"	9'-1"	8'-6"	8'-0"	7'-8"	7'-3"	7'-0"
	4X12	14'-3"	12'-9"	11'-6"	10'-8"	10'-0"	9'-6"	9'-0"	8'-6"	8'-2"

TABLE 3: MAXIMUM ALLOWABLE BEAM SPANS

SPECIES	BEAM SIZE	40 PSF LIVE LOAD								
		TRIBUTARY LOAD WIDTH (FT)								
		4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
REDWOOD NO.2/ WESTERN CEDAR NO.2	2/ 2X6	6'-9"	6'-0"	5'-6"	5'-1"	4'-9"	4'-6"	----	----	----
	2/ 2X8	8'-6"	7'-8"	7'-0"	6'-4"	6'-0"	5'-9"	5'-4"	5'-2"	4'-11"
	2/ 2X10	10'-4"	9'-4"	8'-6"	7'-11"	7'-4"	7'-0"	6'-8"	6'-3"	6'-0"
	2/ 2X12	12'-2"	10'-9"	9'-11"	9'-2"	8'-7"	8'-1"	7'-8"	7'-4"	7'-0"
	4X6	7'-4"	6'-6"	5'-11"	5'-6"	5'-2"	4'-10"	4'-6"	4'-5"	----
	4X8	9'-6"	8'-6"	7'-10"	7'-3"	6'-10"	6'-4"	6'-1"	5'-10"	5'-6"
	4X10	11'-10"	10'-6"	9'-8"	9'-1"	8'-4"	7'-10"	7'-5"	7'-1"	6'-10"
	4X12	13'-9"	12'-4"	11'-3"	10'-4"	9'-9"	9'-2"	8'-8"	8'-3"	7'-11"

TABLE 3: MAXIMUM ALLOWABLE BEAM SPANS

SPECIES	BEAM SIZE	40 PSF LIVE LOAD								
		TRIBUTARY LOAD WIDTH (FT)								
		4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
DOUG FIR NO.2/ SPF NO.2/ HEM FIR NO.2	2/ 2X6	6'-4"	5'-7"	5'-2"	4'-9"	----	----	----	----	----
	2/ 2X8	8'-5"	7'-7"	6'-11"	6'-4"	6'-0"	5'-7"	5'-4"	5'-1"	4'-10"
	2/ 2X10	10'-4"	9'-3"	8'-4"	7'-10"	7'-3"	6'-10"	6'-6"	6'-3"	5'-11"
	2/ 2X12	12'-0"	10'-8"	9'-7"	9'-1"	8'-5"	8'-0"	7'-7"	7'-3"	6'-11"
	4X6	6'-10"	6'-1"	5'-7"	5'-2"	4'-10"	4'-6"	----	----	----
	4X8	9'-0"	8'-1"	7'-4"	6'-10"	6'-4"	6'-0"	5'-8"	5'-5"	5'-2"
	4X10	11'-7"	10'-5"	9'-6"	8'-2"	8'-3"	7'-9"	7'-4"	7'-0"	6'-8"
	4X12	13'-7"	12'-1"	11'-1"	10'-3"	9'-7"	9'-0"	8'-7"	8'-0"	7'-10"

TABLE 4: AXIAL LOADS ON POSTS FOR 40PSF LIVE LOAD + 10PSF DEAD LOAD FROM DECK ONLY

DECK PROJECTION (FT)	AXIAL LOADS ON POST 1 (LBS)												
	DECK WIDTH (FT)												
	10	11	12	13	14	15	16	17	18	19	20	21	22
10	1250	1375	1500	1625	1750	1875	2000	2125	2250	2375	2500	2625	2750
11	1375	1513	1650	1788	1925	2063	2200	2338	2475	2613	2750	2888	3025
12	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	3150	3300
13	1625	1788	1950	2113	2275	2438	2600	2763	2925	3088	3250	3413	3575
14	1750	1925	2100	2275	2450	2625	2800	2975	3150	3325	3500	3675	3850
15	1875	2063	2250	2438	2625	2813	3000	3188	3375	3563	3750	3938	4125
16	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000	4200	4400
17	2125	2338	2550	2763	2975	3188	3400	3613	3825	4038	4250	4463	4675
18	2250	2475	2700	2925	3150	3375	3600	3825	4050	4275	4500	4725	4950

NOTE:
TABLE 4 SHOWS AXIAL LOADS FOR POST 1 AS DETAILED IN PLAN 1, PLAN 2 AND PLAN 3 SHEET 1 1
FOR ALL PLAN 1 1 CONFIGURATIONS AND PLAN 2 AND PLAN 3 CONFIGURATIONS WHERE PANEL SPAN A AND B ARE EQUAL
AXIAL LOADS ON POST 2 = TABULATED VALUES DIVIDED BY TWO
AXIAL LOADS ON POST 3 = TABULATED VALUES DIVIDED BY FOUR
TABLE DOES NOT INCLUDE ENCLOSURE COLUMN LOADS. THESE CAN BE OBTAINED FROM TABLE 4 FOR LOAD BEARING COLUMNS AND FROM THE ENGINEERING PACKAGE FOR THE ROOM FOR RIDGE POST LOADS.

TABLE 5: PATIO ROOM COLUMN AXIAL LOADS (LBS)

PATIO ROOM ROOF SPAN (FT)	CHAMPION PATIO ROOM LOAD BEARING COLUMN SPACING (FT)								
	ROOF LOAD: 20PSF			ROOF LOAD: 30PSF			ROOF LOAD: 40 PSF		
	4'	6'	8'	4'	6'	8'	4'	6'	8'
8	460	690	920	660	990	1320	860	1290	1720
10	552	828	1104	792	1188	1584	1032	1548	2064
12	644	966	1288	924	1386	1848	1204	1806	2408
14	736	1104	1472	1056	1584	2112	1376	2064	2752
16	828	1242	1656	1188	1782	2376	1548	2322	3096
18	920	1380	1840	1320	1980	2640	1720	2580	3440
20	1012	1518	2024	1452	2178	2904	1892	2838	3784

NOTE:
1. THE AXIAL LOADS PRESENTED IN THIS TABLE ARE FOR THE LOAD BEARING COLUMNS IN A CHAMPION PATIO ROOM USING CHAMPION'S STANDARD SANDWICH PANEL ROOF ONLY.
2. FOR PATIO ROOMS UTILIZING CHAMPION'S OSB ROOF PANELS, THE INPUT ROOF LOAD VALUE SHALL BE THE DESIGN ROOF SNOW LOAD PLUS 5PSF.
3. THIS TABLE DOES NOT APPLY TO THE PATIO ROOM RIDGE POST. THE RIDGE POST LOADS SHALL BE DETERMINED FROM THE CHAMPION PATIO ENCLOSURE ENGINEERING PACKAGE.
4. LINEAR INTERPOLATION IS PERMITTED.

TABLE 6: REQUIRED FOOTING SIZE

ALLOWABLE SOIL BEARING CAPACITY	AXIAL LOADS ON POST (LBS)								
	500	1000	1500	2000	2500	3000	3500	4000	5000
1000	12"Ø	14"Ø	17"Ø	20"Ø	22"Ø	24"Ø	26"Ø	28"Ø	31"Ø
1500	12"Ø	12"Ø	14"Ø	16"Ø	18"Ø	20"Ø	21"Ø	23"Ø	25"Ø
2000	12"Ø	12"Ø	12"Ø	14"Ø	16"Ø	17"Ø	18"Ø	20"Ø	22"Ø
2500	12"Ø	12"Ø	12"Ø	13"Ø	14"Ø	15"Ø	17"Ø	18"Ø	20"Ø
3000	12"Ø	12"Ø	12"Ø	12"Ø	13"Ø	14"Ø	15"Ø	16"Ø	20"Ø
3500	12"Ø	12"Ø	12"Ø	12"Ø	13"Ø	13"Ø	14"Ø	15"Ø	18"Ø
4000	12"Ø	12"Ø	12"Ø	12"Ø	12"Ø	12"Ø	12"Ø	14"Ø	17"Ø

NOTE:
1. AXIAL LOADS SHALL BE THE COMBINATION OF DECK LOADS FROM TABLE 4 PLUS THE PATIO ENCLOSURE LOADS DETERMINED FROM TABLE 5 FOR LOAD BEARING COLUMNS.
2. RIDGE POST LOADS MUST BE DETERMINED FROM THE ENCLOSURE ENGINEERING PACKAGE.
3. FOOTINGS THAT ARE FOUNDED LESS THAN 18" BELOW GRADE SHALL BE A MINIMUM OF 18" X18" X 12" THICK

CES
CHAMPION ENCLOSURE SUPPLIERS
12111 CHAMPION WAY, CINCINNATI, OH 45241
PH: (513) 782-3900 FAX: (513) 782-3903

CHAMPION WINDOWS AND PATIO ROOM
PLANS AND DETAILS FOR A LUMBER DECK SUPPORTING A CHAMPION PATIO ROOM

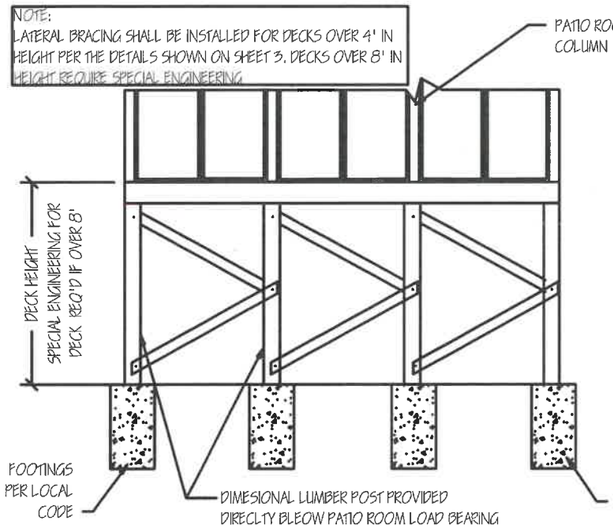
DATE: OCT 15, 2019
SCALE: NTS
Drawn by: MJG

REV:	DATE:

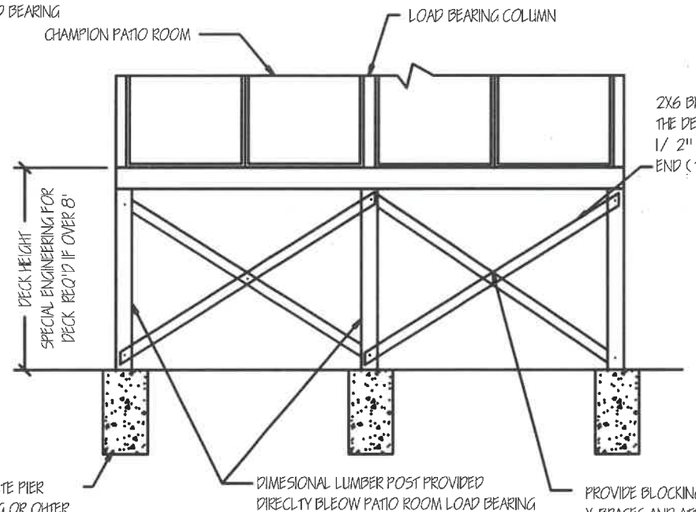
SHEET 2 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 026759 ENGINEER MARTIN J. GOOD

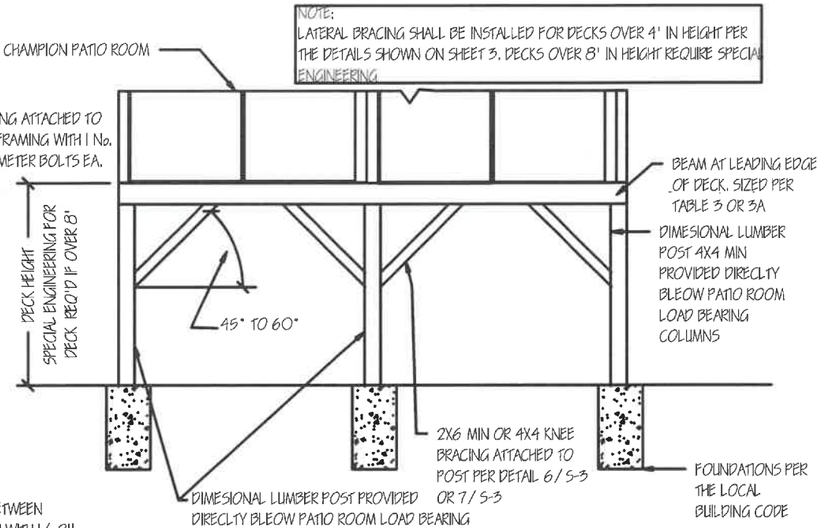
4/5/2022



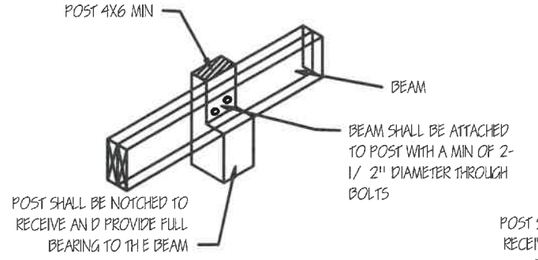
1 C-3 K-BRACING ELEVATION



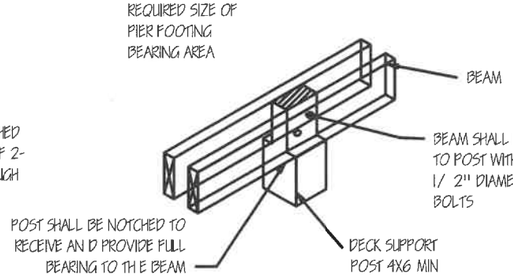
2 C-3 X-BRACING ELEVATION



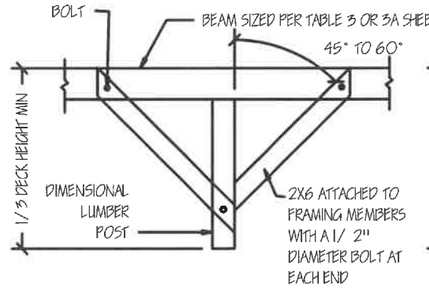
3 C-3 KNEE BRACING DETAIL



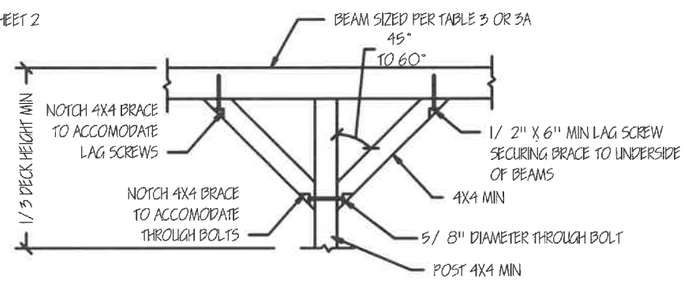
4 C-3 POST TO BEAM CONNECTION DETAIL 1



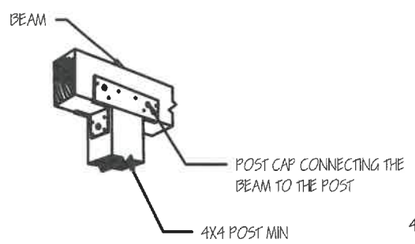
5 C-3 POST TO BEAM CONNECTION DETAIL 2



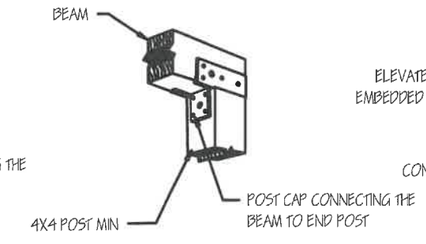
6 C-3 KNEE BRACING DETAIL OPTION 1



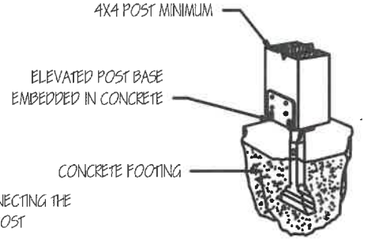
7 C-3 KNEE BRACING DETAIL OPTION 2



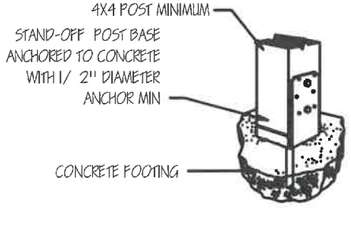
8 C-3 POST TO BEAM CONNECTION DETAIL 3



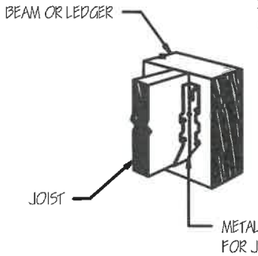
9 C-3 END POST TO BEAM CONNECTION DETAIL



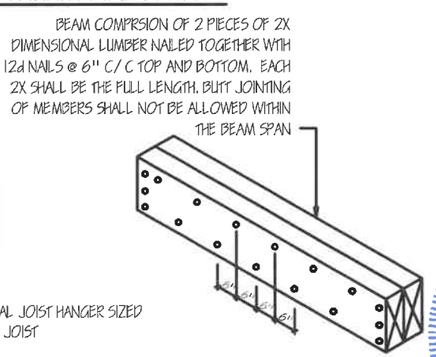
10 C-3 POST TO PIER FOOTING CONNECTION DETAIL 1



11 C-3 POST TO PIER FOOTING CONNECTION DETAIL 2



12 C-3 JOIST TO HEADER/ LEDGER CONNECTION DETAIL



13 C-3 NAILING PATTERN FOR NAIL LAMINATED BEAMS

CES
CHAMPION ENCLOSURE SUPPLIERS
12111 CHAMPION WAY, CINCINNATI, OH 45241
PH: (513) 782-3900 FAX: (513) 782-3903

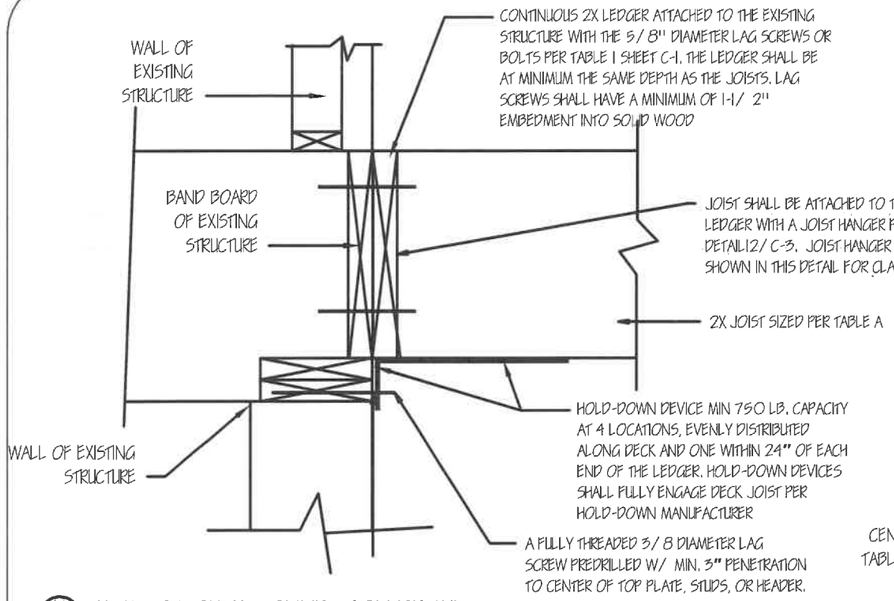
CHAMPION WINDOWS AND PATIO ROOM
PLANS AND DETAILS FOR A
LUMBER DECK SUPPORTING A
CHAMPION PATIO ROOM

DATE: JULY 3, 2019
SCALE: NTS
Drawn by: MJG

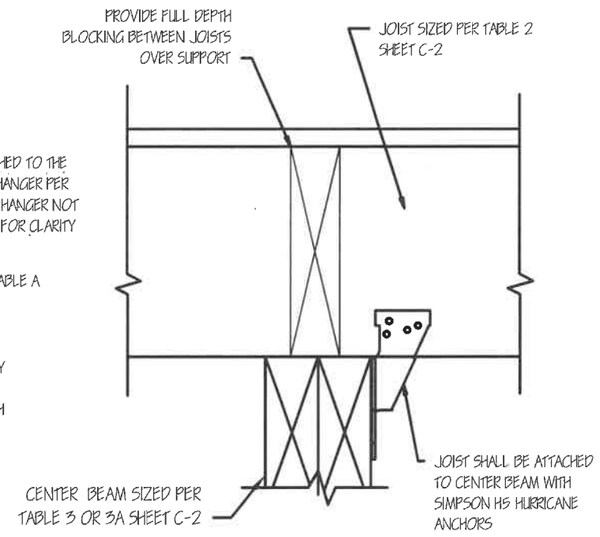
REV:	DATE:

SHEET: 3 OF 4

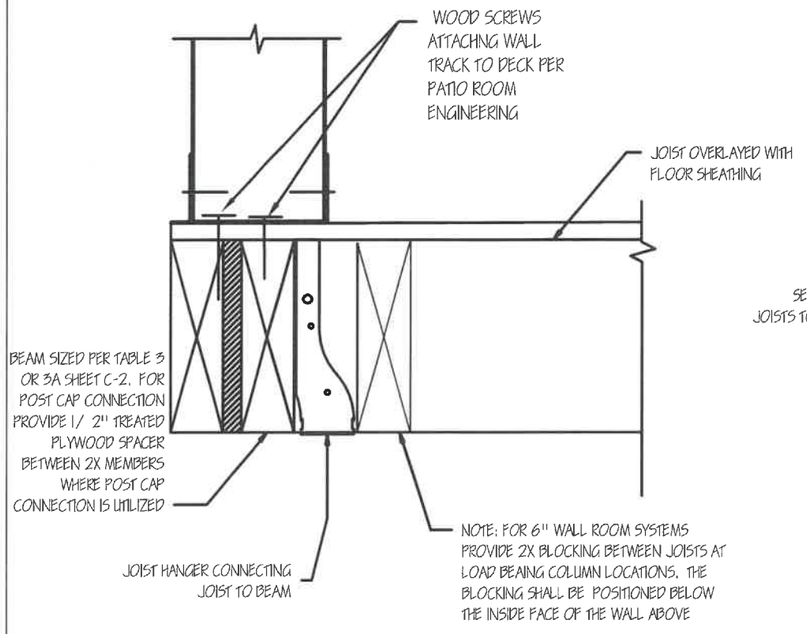
NORTH CAROLINA PROFESSIONAL SEAL 026759 ENGINEER MARTIN L GOSS
4/5/2022



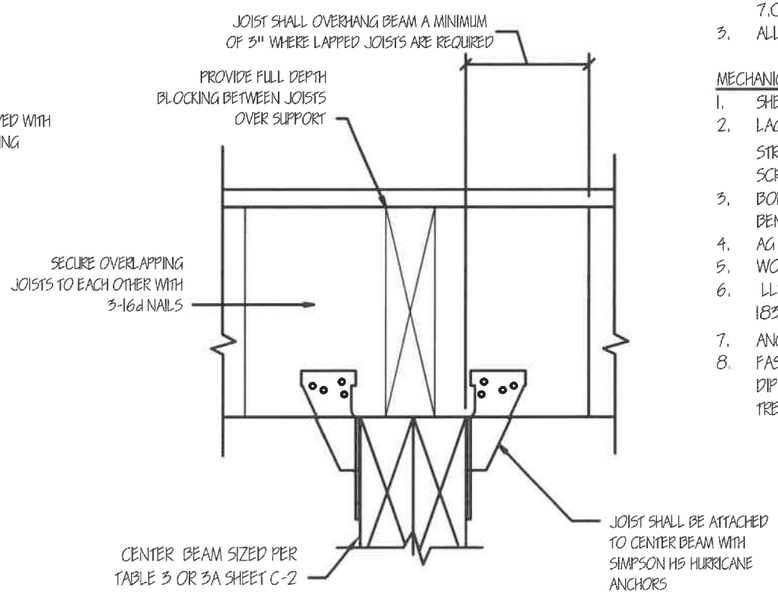
14 C-4 DECK TO HOUSE CONNECTION DETAIL



16 C-4 CONNECTION DETAIL AT CENTER BEAM



15 C-4 CONNECTION DETAIL FOR BEAM AT DECK PERIMETER



17 C-4 CONNECTION DETAIL AT CENTER BEAM

GENERAL NOTES AND SPECIFICATIONS

1. THE STRUCTURAL DESIGN FOR THE DECK HAS BEEN PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF 2009, 2012, 2015 AND 2018 EDITIONS OF THE IRC CODES AND UTILIZING THE FOLLOWING REFERENCED STANDARDS; 2005, 2012, 2015 AND 2018 NDS FOR WOOD.
2. THESE PLANS COVER THE DESIGN OF THE DECK AND IT'S CONNECTION TO THE EXISTING STRUCTURE. THE STRUCTURAL ADEQUACY OF THE EXISTING STRUCTURE TO SUPPORT THE TRANSFERRED LOADS IS BEYOND THE SCOPE OF THIS PACKAGE AND SHOULD BE VERIFIED BY OTHERS.
3. A MAXIMUM DESIGN HORIZONTAL WIND LOAD OF 30PSF WAS USED IN THE DESIGN OF THE DECK CONNECTIONS.
4. THE TERM "PATIO ROOM" IN THESE DRAWINGS REFERS SOLELY TO LIGHT GAUGE ALUMINUM FRAME STRUCRURES MANUFACTURED BY CHAMPION ENCLOSURE SUPPLIERS. THESE DRAWINGS ARE ONLY VALID WHEN THE PATIO ROOMS ARE CONSTRUCTED IN ACCORDANCE WITH THE CHAMPION ENCLOSURE SUPPLIERS PATIO ROOM ENGINEERING.

MATERIALS

DIMENSIONAL LUMBER

1. DIMENSIONAL LUMBER SHALL BE DOUGLAS FIR, SOUTHERN PINE, HEM-FIR, SPF, ALL DIMENSIONAL LUMBER SHALL BE GRADE #2 MINIMUM.
2. DIMENSIONAL LUMBER SHALL BE TREATED FOR PREVENTION OF DECAY AS REQUIRED BY THE GOVERNING CODE OF THE LOCALITY.

SOILS

1. ALL FOOTINGS SHALL BEAR ON LEVEL(WITHIN 1:12) UNDISTURBED SOIL OR APPROVED ENGINEERING FILL WITH AN ALLOWABLE SOIL BEARING CAPACITY OF 1000 PSF. FOOTINGS SHALL EXTEND BELOW THE FROST LINE OF THE LOCALITY BUT NOT LESS THAN 12" BELOW GRADE.

CONCRETE

1. ALL CONCRETE SHALL CONFORM TO ALL REQUIREMENTS OF ACI 318 SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS AND WHERE EXPOSED TO THE EXTERIOR ENVIRONMENT SHALL HAVE AN ENTRAINED AIR CONTENT OF BETWEEN 5.0% TO 7.0%.
3. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 60 KSI DEFORMED BARS AND ASTM A185 MESH.

MECHANICAL FASTENERS

1. SHEET METAL SCREWS (SMS) SHALL BE STAINLESS STEEL WITH TYPE AB SCREW THREADS.
2. LAG SCREWS SHALL BE GALVANIZED STEEL "FULL BODIED" SCREWS WITH A MINIMUM BENDING YIELD STRENGTH OF 60,000 PSI FOR 5/16" DIAMETER AND 40,000 PSI FOR 3/8" AND LARGER DIAMETER. LAG SCREWS SHALL HAVE A MINIMUM EMBEDMENT DEPTH OF 8 X LAG SCREW DIAMETER
3. BOLTS SHALL COMPLY TO ANSI/ ASME STANDARD B.18.2.1-1981. BOLTS SHALL BE FULL DIAMETER BOLTS WITH A BENDING YIELD STRENGTH OF 70,000 PSI. L
4. AG SCREWS SHOULD BE GALVANISED STEEL WITH A MINIMUM BENDING YIELD STRENGTH OF 60,000PSI.
5. WOOD SCREWS SHALL HAVE A MINIMUM BENDING YIELD STRENGTH OF 80,000 PSI
6. LL358 LEDGER LOK® SCREWS BY FASTENMASTER AND SHALL HAVE A MINIMUM BENDING STRENGTH OF 183,000 PSI AND SHALL HAVE A MINIMUM EMBEDMENT OF 2" INTO THE MAIN WOOD SUPPORTING MEMBER.
7. ANCHOR BOLTS INTO CONCRETE SHALL BE 3/8"Ø X 2-1/ 2" WEDGE-BOLT+ ANCHORS BY POWERS FASTENERS.
8. FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE STAINLESS STEEL OR SHALL BE HOT DIPPED GALVANIZED PER ASTM A153. HOT DIPPED CONNECTOR PRODUCTS IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE ASTM-A653 COATING DESIGNATION G-185.

CES
CHAMPION ENCLOSURE SUPPLIERS
12111 CHAMPION WAY, CINCINNATI, OH 45241
PH: (513) 782-3900 FAX: (513) 782-3903

CHAMPION WINDOWS AND PATIO ROOM
PLANS AND DETAILS FOR A LUMBER DECK SUPPORTING A CHAMPION PATIO ROOM

DATE: JULY 3, 2019
SCALE: NTS
Drawn by: MJG

REV:	DATE:

SHEET: 4 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 028759 ENGINEER MARTIN J. GOSS
4/5/2022