SOIL EROSION & SEDIMENT CONTROL PLAN NOTES:

1.) OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2.) FLAG AND/OR ROUGH STAKE WORK LIMITS.
3.) HOLD PRECONSTRUCTION CONFERENCE (OWNER, CONTRACTOR, ENGINEER, AND APPROPRIATE GOVERNMENT OFFICIALS) AT LEAST ONE WEEK PRIOR TO START OF CONSTRUCTION ACTIVITIES.
4.) INSTALL SILT AND SAND FENCING @ LOCATIONS SHOWN ON PLAN
5.) COMPLETE CLEARING AND GRUBBING PROCEDURES.
6.) GRADE SITE ACCORDING TO PLAN
7.) ALL EROSION SEDIMENT CONTROL PRACTICES WILL BE INSPECTED WEEKLY AND AFTER HEAVY RAINFALL EVENTS. NEEDED REPAIRS WILL BE MADE IMMEDIATELY.
8.) NO DEBRIS WILL BE BURIED ON THIS SITE.
9.) ALL EROSION AND SEDIMENT CONTROL, STORMWATER MANAGEMENT AND DRAINAGE DESIGN SHALL BE IN ACCORDANCE WITH THE NORTH CAROLINA SEDIMENT AND STORMWATER REGULATIONS AND WITH THE TOWN OF Kill Devil Hills CODE.
10.) EXISTING UTILITIES ARE IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONTACT THE GOVERNING UTILITY COMPANIES (3) THREE DAYS PRIOR TO CONSTRUCTION IN ORDER TO VERIFY THE UTILITY LOCATIONS IN THE FIELD.
11.) THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY AND ALL DAMAGES DONE TO THEM DUE TO HIS NEGLIGENCE SHALL BE IMMEDIATELY AND COMPETENTLY REPAIRED AT HIS EXPENSE.
12.) THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS, INSURANCE, BONDS, ETC. REQUIRED BY LOCAL, STATE AND/ OR FEDERAL AGENCIES NECESSARY FOR CONSTRUCTION.
13.) PLAN LOCATION AND DIMENSIONS SHALL BE STRICTLY ADHERED TO UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
14.) PROPOSED AREA TO BE DISTURBED IS (+/– 60,715 SQ. FT.)
15.) ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITHIN THIRTY DAYS OF LAND DISTURBING ACTIVITIES. IF SAID ACTIVITIES OCCUR OUTSIDE THE PERMANENT VEGETATION SEEDING DATES (APR. 1– SEP.30) THEN TEMPORARY VEGETATION SEEDING SPECIFICATIONS SHALL BE FOLLOWED FOR PLANTING UNTIL THE NEXT APPROPRIATE PERMANENT SEEDING PERIOD, AT WHICH TIME PERMANENT VEGETATION SHALL BE ESTABLISHED ACCORDING TO PERMANENT VEGETATION SEEDING SPECIFICATIONS (SEE PERM. & TEMP. SEEDING SPEC'S THIS SHEET.)
16.) IF EXCESSIVE WIND EROSION OR STORMWATER RUNOFF EROSION DEVELOPS DURING CONSTRUCTION IN ANY LOCATION ON THE PROJECT, ADDITIONAL SAND OR SILT FENCING SHALL BE INSTALLED AS DIRECTED BY ENGINEER SO AS TO PREVENT DAMAGE TO ADJACENT PROPERTY. SEE SAND AND SILT FENCE DETAIL THIS SHEET.
17.) SOIL EROSION AND SEDIMENTATION CONTROLS TO BE INSPECTED, MAINTAINED AND REPAIRED AS NECESSARY UNTIL PERMANENT CONTROLS ARE ESTABLISHED PER CONSTRUCTION SCHEDULE:
18.) THE TEMPORARY EROSION CONTROL SILT DITCHES WILL BE REMOVED to ORIGINAL SOIL CONDITION, SILT TO BE STOCKPILED AND DRIED AND USED IN FINAL GRADING IN PLANTED AREAS

EROSION AND SEDIMENT CONTROL MAINTENANCE NOTES

1.) PERIODICALLY CHECK ALL GRADED AREAS AND THE SUPPORTING EROSION AND SEDIMENTATION CONTROL PRACTICES, ESPECIALLY AFTER HEAVY RAINFALLS. PROMPTLY REMOVE ALL SEDIMENT FROM DIVERSIONS AND OTHER WATER– DISPOSAL PRACTICES. IF WASHOUTS OR BREAKS OCCUR, REPAIR THEM IMMEDIATELY. PROMPT MAINTENANCE OF SMALL ERODED AREAS BEFORE THEY BECOME SIGNIFICANT GULLIES IS AN ESSENTIAL PART OF AN EFFECTIVE EROSION AND SEDIMENTATION CONTROL PLAN.
2.) ALL EROSION AND SEDIMENT CONTROL MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR DURING CONSTRUCTION PHASE AND THE PROPERTY OWNER THEREAFTER.
3.) PROVIDE A GROUND COVER (TEMPORARY OR PERMANENT) ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
4.) THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION–CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

Seeding Specifications

PERMANENT VEGETATION

SEEDING DATES: APRIL 1– SEPT 30

SEED MIXTURE	APPLICATION RATES/ACRE
BAHIA	50 LBS.
COMMON BERMUDA (UNHULLED)	50 LBS.
GERMAN MILLETT	15 LBS.
FESCUE	20 LBS.

FERTILIZER
26–13–13 @ 500 LB/ACRE

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

BEACH GRASS
SPRIG AT 6" O.C.

TEMPORARY VEGETATION

SEEDING DATES: OCT. 1 – MARCH 31

SEED MIXTURE	APPLICATION RATES/ACRE
RYE GRAIN	175 LBS.

FERTILIZER
10–10–10 @ 1000 LB/ACRE

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

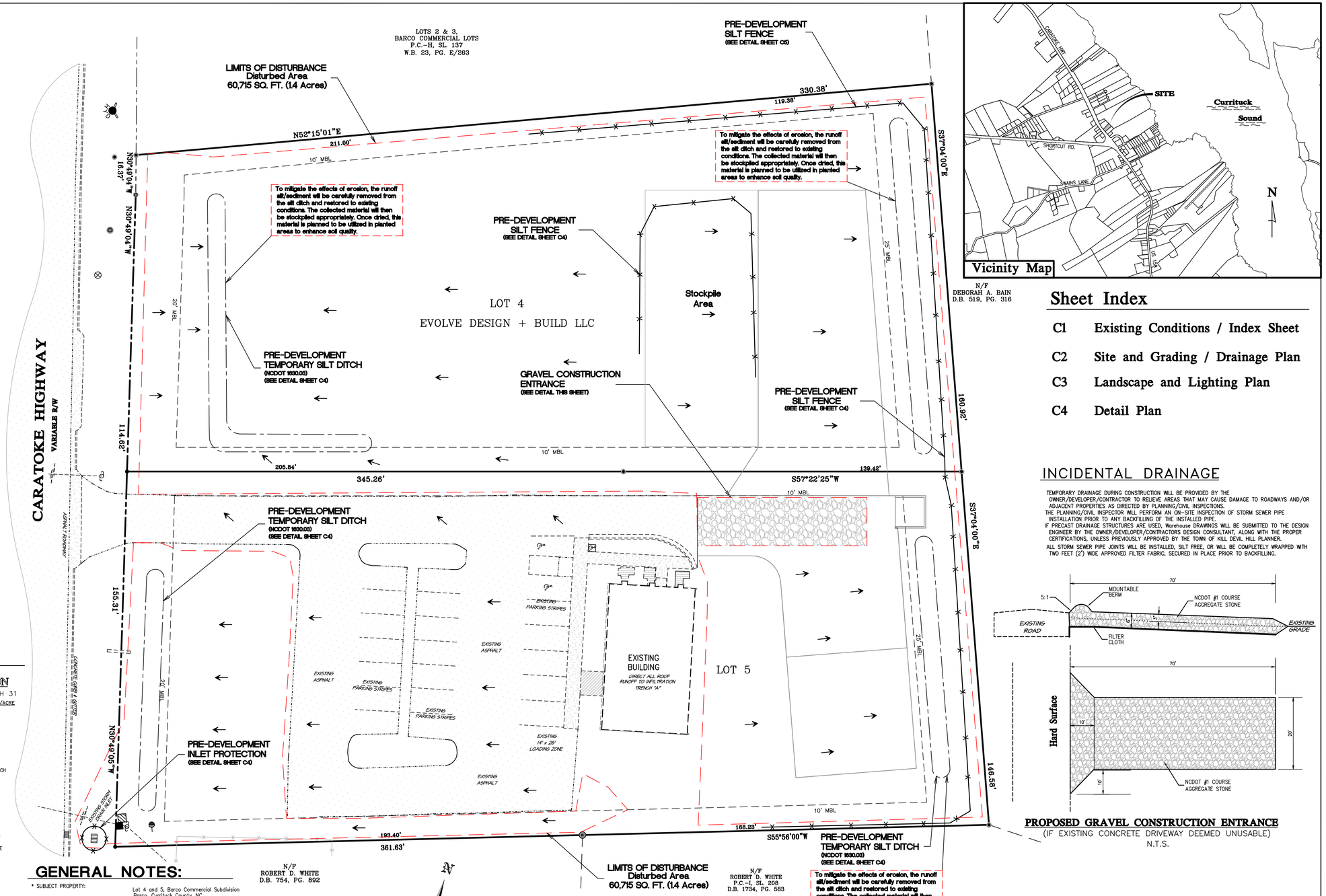
GENERAL:
– FERTILIZER RATES SHOWN ARE GENERAL RECOMMENDATIONS; FREQUENCY AND AMOUNT OF FERTILIZATION CAN BEST BE DETERMINED THROUGH SITE SPECIFIC SOIL TESTING.
– SATISFACTORY STABILIZATION AND EROSION CONTROL REQUIRES A COMPLETE VEGETATIVE COVER EVEN SMALL BREACHES IN VEGETATIVE COVER CAN EXPAND RAPIDLY IF LEFT UNATTENDED. A SINGLE HEAVY RAIN IS OFTEN SUFFICIENT TO GREATLY ENLARGE BARE SPOTS, AND THE LONGER REPAIRS ARE DELAYED THE MORE COSTLY THEY BECOME. PROMPT ACTION WILL KEEP SEDIMENT LOSS AND REPAIR COST DOWN. NEW SEEDLINGS SHOULD BE INSPECTED FREQUENTLY AND MAINTENANCE PERFORMED AS NEEDED. IF RILLS AND GULLES DEVELOP THEY MUST BE FILLED, RE–SEEDED, AND MULCHED AS SOON AS POSSIBLE. DIVERSIONS MAY BE NEEDED UNTIL NEW PLANTS TAKE HOLD.

MAINTENANCE REQUIREMENTS EXTEND BEYOND THE SEEDING PHASE
WEAK OR DAMAGED SPOTS MUST BE RELIMED, FERTILIZED, MULCHED AND RE–SEEDED AS PROMPTLY AS POSSIBLE. REFERTILIZATION MAY BE NEEDED TO MAINTAIN PRODUCTIVE STANDS.

ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED ACCORDING TO THE FOLLOWING SPECIFICATIONS:

BEFORE YOU DIG!

North Carolina 811
WWW.nc811.ORG



Vicinity Map

Sheet Index

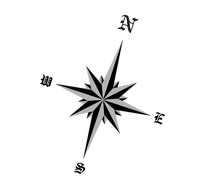
INCIDENTAL DRAINAGE

TEMPORARY DRAINAGE DURING CONSTRUCTION WILL BE PROVIDED BY THE OWNER/DEVELOPER/CONTRACTOR TO RELIEVE AREAS THAT MAY CAUSE DAMAGE TO ROADWAYS AND/OR ADJACENT PROPERTIES AS DIRECTED BY PLANNING/CIVIL INSPECTIONS.
THE PLANNING/CIVIL INSPECTOR WILL PERFORM AN ON–SITE INSPECTION OF STORM SEWER PIPE INSTALLATION PRIOR TO ANY BACKFILLING OF THE INSTALLED PIPE.
IF PRECAST DRAINAGE STRUCTURES ARE USED, Warehouse DRAWINGS WILL BE SUBMITTED TO THE DESIGN ENGINEER BY THE OWNER/DEVELOPER/CONTRACTORS DESIGN CONSULTANT, ALONG WITH THE PROPER CERTIFICATIONS, UNLESS PREVIOUSLY APPROVED BY THE TOWN OF KILL DEVIL HILL PLANNER.
ALL STORM SEWER PIPE JOINTS WILL BE INSTALLED, SILT FREE, OR WILL BE COMPLETELY WRAPPED WITH TWO FEET (2') WIDE APPROVED FILTER FABRIC, SECURED IN PLACE PRIOR TO BACKFILLING.

PROPOSED GRAVEL CONSTRUCTION ENTRANCE
(IF EXISTING CONCRETE DRIVEWAY DEEMED UNUSABLE)
N.T.S.

GENERAL NOTES:

* SUBJECT PROPERTY:	Lot 4 and 5, Barco Commercial Subdivision Barco, Currituck County, NC
* STREET ADDRESS:	3949 Caratoke Hwy Barco, NC. 27917
* OWNERS:	EVOLVE DESIGN + BUILD LLC 3949 CARATOKE HWY BARCO, NC 27917
* PARCEL ID NUMBER:	LOT 4 – 006000005700000 LOT 5 – 006000005700000
* GLOBAL PIN:	LOT 4 – 8987–93–9507 LOT 5 – 8987–93–9496
* RECORDED REFERENCE:	Lot 4 AND Lot 5 – D.B. 1,762, Pg. 821,
* LOT AREA:	LOT 4 – 49,162 SQ FT LOT 5 – 53,265 SQ FT TOTAL 102,427 SQ FT
* FEMA DATA: COMMUNITY –	CURRITUCK COUNTY FIRM ZONE – X FLOOD ZONES SUBJECT TO CHANGE BY FEMA
* SUBJECT PROPERTY ZONING:	GB (GENERAL BUSINESS)



GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 inch = 20 ft.

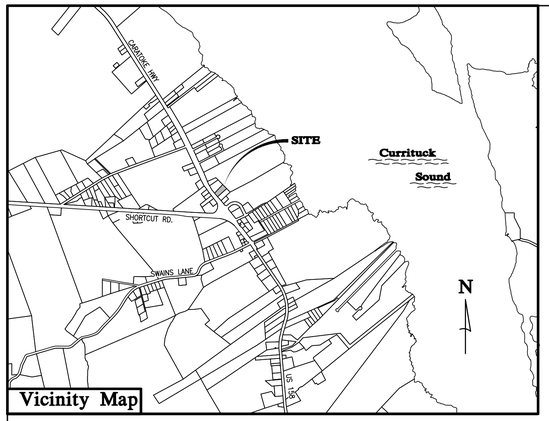
ENGINEER SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035447 ENGINEER THOMAS KWASNY

Kwasny Engineering PLLC
Civil Engineering and Land Planning Consultants
Firm Certification# P-2744
198 Augusta Drive
Grandy, NC. 27939
CELL: 757–705–0585
OFFICE: 757–435–4893
E–Mail: info.Kwasnyeng@gmail.com

Existing Conditions / Index Sheet
For:
Evolve Design + Build
Location:
3949 Caratoke Hwy
Lot 5, Barco Commercial Subdivision
Barco Currituck County North Carolina

APPROVALS		DATE	PROJECT NUMBER	SHEET NO.
Drawn:	D. NEFF	07/25/24	240125	C1 OF 4
Checked:	T. KWASNY	07/25/24		
Engineer:	T. KWASNY	07/25/24		

240125



Vicinity Map

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* SUBJECT PROPERTY ZONING:	GB (GENERAL BUSINESS)
* BUILDING SETBACKS:	FRONT – 20' SIDE – AS SHOWN' REAR – 25'
* PROPOSED DEVELOPMENT:	CONTRACTOR SERVICE (50' X 50' BUILDING) WITH INFRASTRUCTURE AND ASSOCIATED PARKING
* PROPOSED PARKING REQUIREMENTS:	1 SPACE / 2,500 SF 1 SPACES 1 SPACE REQUIRED 2 SPACE PROVIDED

* EXISTING IMPERVIOUS COVERAGE:		
	BUILDING / ROOF OVERHANG	2,256 SQ. FT.
	ASPHALT VEHICULAR CIRCULATION AREA	16,067 SQ. FT.
	CONCRETE WALK	845 SQ. FT.
	TOTAL EXISTING IMPERVIOUS COVERAGE	19,168 SQ. FT.
* PROPOSED IMPERVIOUS COVERAGE:		
	GRAVEL STORAGE AREA	6,350 SQ. FT.
	BUILDING / ROOF OVERHANG	2,705 SQ. FT.
	CONCRETE VEHICULAR CIRCULATION AREA	4,044 SQ. FT.
	CONCRETE DUMPSTER AREA	150 SQ. FT.
	CONCRETE SIDEWALK	2,135 SQ. FT.
	TOTAL PROPOSED IMPERVIOUS COVERAGE	15,384 SQ. FT.
	TOTAL: 34,552 SQ. FT./102,427 SQ. FT. = 33.73%	

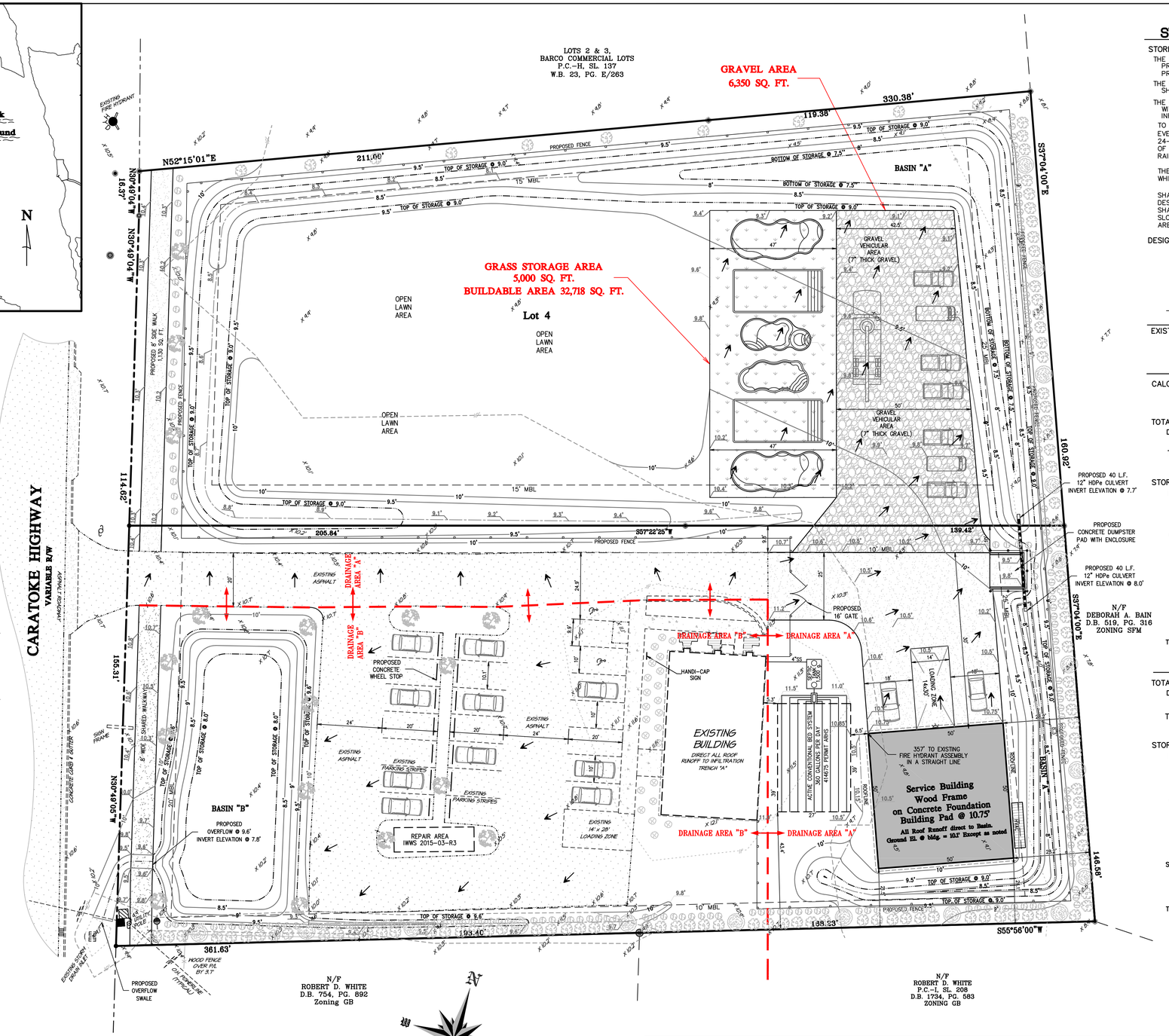
* DRAINAGE AREA "A":	
PROPOSED GRAVEL STORAGE AREA	6,350 SQ. FT.
PROPOSED BUILDING / ROOF OVERHANG	2,705 SQ. FT.
PROPOSED CONCRETE VEHICULAR AREA	4,044 SQ. FT.
PROPOSED CONCRETE DUMPSTER AREA	150 SQ. FT.
PROPOSED NORTH CONCRETE SIDEWALK	1,130 SQ. FT.
EXISTING ASPHALT VEHICULAR AREA	4,587 SQ. FT.
TOTAL PROPOSED IMPERVIOUS COVERAGE	18,966 SQ. FT.

* DRAINAGE AREA "B":	
EXISTING BUILDING / ROOF OVERHANG	2,256 SQ. FT.
EXISTING ASPHALT VEHICULAR AREA	11,480 SQ. FT.
EXISTING CONCRETE WALK	845 SQ. FT.
PROPOSED SOUTH CONCRETE WALK	1,005 SQ. FT.
TOTAL EXISTING IMPERVIOUS COVERAGE	15,586 SQ. FT.

* SURVEY PREPARED BY SADDLER SURVEYING PLLC

LEGEND:

- PROPOSED WOOD STRUCTURE
- PROPOSED REINFORCED CONCRETE VEHICLE CIRCULATION AREA
- EXISTING VEHICLE CIRCULATION AREA
- PROPOSED GRAVEL VEHICLE CIRCULATION AREA
- PROPOSED CONCRETE DUMPSTER AREA
- EXISTING SPOT GRADE x 0.2
- PROPOSED FINISHED SPOT GRADE 11.3'
- PROPOSED FINISHED GRADE CONTOUR 10'
- PROPOSED DRAINAGE DIRECTIONAL FLOW ARROW



I, , Jordan Daneker owner/agent hereby certify the information included on this and attached pages is true and correct to the best of my knowledge. On the plan entitled ,,Site and Grading Plan stormwater drainage improvements shall be installed according to these plans and specifications and approved by Currituck County. Yearly inspections are required as part of the stormwater plan. The owner is responsible for all maintenance required. Currituck County assumes no responsibility for the design, maintenance, or performance of the stormwater improvements.

Date: _____ Owner/Agent _____

GRAPHIC SCALE

20 0 20 40

(IN FEET)

1 inch = 20 ft.

STORMWATER MANAGEMENT NARRATIVE

STORMWATER MANAGEMENT NARRATIVE

THE STORMWATER MANAGEMENT PLAN SHOWN HEREON HAS BEEN PREPARED TO ADDRESS STORMWATER MANAGEMENT ON THE SUBJECT PROPERTY.

THE STORMWATER RUNOFF WILL BE MANAGED THROUGH PROPOSED ON SITE SHALLOW INFILTRATION BASIN AND OPEN LAWN AREAS,

THE CALCULATIONS WILL SHOW THAT THE HIGHLY PERVIOUS SOILS, COUPLED WITH THE SHALLOW INFILTRATION BASINS AND SWALES ARE ADEQUATE TO RETAIN AND INFILTRATE THE STORMWATER GENERATED FROM THE DESIGN RAINFALL EVENT.

TO CALCULATE THE VOLUME OF STORMWATER RUNOFF FOR A SPECIFIED STORM EVENT, WE FIRST NEED TO UNDERSTAND THE EVENT'S PARAMETERS. A 5–YEAR, 24–HOUR STORM EVENT REFERS TO A RAINFALL EVENT THAT HAS A PROBABILITY OF OCCURRING ONCE EVERY FIVE YEARS AND LASTS FOR 24 HOURS. THE GIVEN RAINFALL AMOUNT FOR THIS EVENT IS 4.81 INCHES.

THE VOLUME OF RUNOFF CAN BE CALCULATED USING THE SIMPLE METHOD, WHICH IS A SIMPLE YET WIDELY USED TECHNIQUE FOR ESTIMATING STORAGE

SHALLOW SWALES AND DRY BASINS ARE STORMWATER MANAGEMENT PRACTICES DESIGNED TO COLLECT AND CONVEY RUNOFF WHILE PROVIDING SOME TREATMENT. SHALLOW SWALES ARE GENTLY SLOPING CHANNELS WITH DENSE VEGETATION THAT SLOW DOWN RUNOFF AND FACILITATE INFILTRATION. DRY BASINS ARE IMPOUNDMENT AREAS THAT TEMPORARILY STORE RUNOFF AND ALLOW FOR SEDIMENTATION AND INFILTRATION.

DESIGN STORM EVENT:

PRE–DEVELOPMENT
2–year 24–hour storm event means a 4.23–inch event with rainfall distributed according to the median NOAA Atlas 14 1st quartile distribution

POST–DEVELOPMENT
5–year 24–hour storm event means a 4.81–inch event with rainfall distributed

FOR PRE–DEVELOPMENT 2 YR, 24 HOUR STORM RUNOFF = 0 CU.FT./SECOND
FOR POST–DEVELOPMENT 5 YR, 24 HOUR STORM RUNOFF = 0 CU.FT./SECOND FOR PERVIOUS SURFACES

– STORAGE IS PROVIDED FOR IMPERVIOUS SURFACES SO THAT POST DEVELOPMENT Q = 0 CU.FT./SECOND USING A RUNOFF COEFFICIENT, C OF 0.95 FOR IMPERVIOUS SURFACES

EXISTING SOIL DATA:

SOURCE:USDA, NATURAL RESOURCES CONSERVATION SERVICE, SOIL SURVEY

SOIL TYPE: StA – STATE, SLIGHT PERCENT SLOPES
DRAINAGE CLASS: WELL DRAINED (Protocol Sampling)

SEASONAL HIGH WATER TABLE ELEVATION = 5.1–5.3' MSL

CALCULATE HOLDING CAPACITY FOR INFILTRATION BASIN:

ASSUME SOIL INFILTRATION RATE = 20 INCHES PER HOUR
SOIL VOID RATIO = 20%
ALL SIDE SLOPES 4:1 OR FLATTER

TOTAL RUNOFF TO BE MANAGED FROM DESIGN STORM:

DRAINAGE AREA "A" IMPERVIOUS SURFACES:
TOTAL IMPERVIOUS COVERAGE – 18,966 SQ. FT.

TOTAL RUNOFF:
DRAINAGE AREA "A" – 18,966 SQ. FT. x 0.95 x 4.81"/12 x 1.00 = 7,222 CU. FT.

STORMWATER MANAGEMENT INFILTRATION BASIN "A"

BASIN DATA
TOP STORAGE ELEVATION = 9.0'
TOP AREA = 10,284 SQ. FT.
BOTTOM ELEVATION = 7.5'
BOTTOM AREA = 1,413 SQ. FT.

CALCULATE OPEN VOLUME IN BASIN (SEE ATTACHED DESIGN CALCULATIONS)

$V1 = \text{OPEN VOLUME} = \frac{(\text{TOP AREA} + \text{BOTTOM AREA})}{2} \times \text{DEPTH OF BASIN}$

$V1 = \text{OPEN VOLUME} = \frac{10{,}284 + 1{,}413}{2} \times 1.5 = 8{,}773 \text{ CU. FT.}$

V1 = OPEN VOLUME = 8,773 CU. FT.

STORAGE IN UNDERLYING SOILS ABOVE S.H.W.T
V2 = INTERSTITIAL STORAGE = (TOP AREA x SOIL DEPTH) x 0.2
SOIL DEPTH = 2.2 FEET
V2 = INTERSTITIAL STORAGE = (10,284 x 2.2) x 0.2 = 4,525 CU. FT.
V2 = OPEN VOLUME = 4,525 CU. FT.

TOTAL STORAGE IN BASIN AND UNDERLYING SOILS
TOTAL STORAGE PROVIDED = 8,773 CU.FT. + 4,525 CU.FT. = 13,298 CU. FT.
TOTAL STORAGE REQUIRED = (4.81") 7,222 CU. FT.

TOTAL RUNOFF TO BE MANAGED FROM DESIGN STORM:

DRAINAGE AREA " B" IMPERVIOUS SURFACES:
TOTAL IMPERVIOUS COVERAGE – 15,586 SQ. FT.

TOTAL RUNOFF:
DRAINAGE AREA "B" – 15,586 SQ. FT. x 0.95 x 4.81"/12 x 1.00 = 5,935 CU. FT.

STORMWATER MANAGEMENT INFILTRATION BASIN "B"

BASIN DATA
TOP ELEVATION = 9.6'
TOP AREA = 5,526 SQ. FT.
BOTTOM ELEVATION = 8.0'
BOTTOM AREA = 2,715 SQ. FT.

CALCULATE OPEN VOLUME IN BASIN (SEE ATTACHED DESIGN CALCULATIONS)

$V1 = \text{OPEN VOLUME} = \frac{(\text{TOP AREA} + \text{BOTTOM AREA})}{2} \times \text{DEPTH OF BASIN}$

$V1 = \text{OPEN VOLUME} = \frac{5{,}526 + 2{,}715}{2} \times 1.6 = 6{,}593 \text{ CU. FT.}$

V1 = OPEN VOLUME = 6,593 CU. FT.

STORAGE IN UNDERLYING SOILS ABOVE S.H.W.T. FOR EXISTING INFRASTRUCTURE
V2 = INTERSTITIAL STORAGE = (TOP AREA x SOIL DEPTH) x 0.2
SOIL DEPTH = 2.7 FEET
V2 = INTERSTITIAL STORAGE = (5,526 x 2.7) x 0.2 = 2,984 CU. FT.
V2 = OPEN VOLUME = 2,984 CU. FT.

TOTAL STORAGE IN BASIN AND UNDERLYING SOILS
TOTAL STORAGE PROVIDED = 6,593 CU.FT. + 2,984 CU.FT. = 9,577 CU. FT.
TOTAL STORAGE REQUIRED = (4.81") 5,935 CU. FT.

ENGINEER SEAL

NORTH CAROLINA PROFESSIONAL SEAL 035447 ENGINEER THOMAS KWASNY

Kwasny Engineering PLLC

Civil Engineering and Land Planning Consultants
Firm Certification# P-2744
198 Augusta Drive
Grandy, NC. 27939

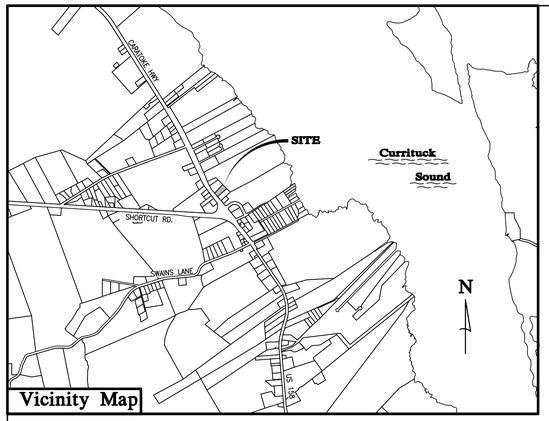
CELL: 757–705–0585
OFFICE: 757–435–4893
E–Mail: info.Kwasnyeng@gmail.com

APPROVALS		DATE
Drawn:	D. NEFF	07/25/24
Checked:	T. KWASNY	07/25/24
Engineer:	T. KWASNY	07/25/24

Site and Grading Plan
For:
Evolve Design + Build
Location:
3949 Caratoke Hwy
Lot 4 and Lot 5, Barco Commercial Subdivision
Barco Currituck County North Carolina

PROJECT NUMBER	SHEET NO.
240125	C2 OF 4

240125



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* SUBJECT PROPERTY ZONING:	GB (GENERAL BUSINESS)
* BUILDING SETBACKS:	FRONT – 20' SIDE – AS SHOWN' REAR – 25'
* PROPOSED DEVELOPMENT:	CONTRACTORS SERVICE (50' X 50' BUILDING) WITH INFRASTRUCTURE AND ASSOCIATED PARKING

LEGEND:

- PROPOSED WOOD STRUCTURE
- PROPOSED REINFORCED CONCRETE VEHICLE CIRCULATION AREA
- EXISTING VEHICLE CIRCULATION AREA
- PROPOSED GRAVEL VEHICLE CIRCULATION AREA
- PROPOSED CONCRETE DUMPSTER AREA
- EXISTING SPOT GRADE x.x

LOTS 2 & 3,
BARCO COMMERCIAL LOTS
P.C.–H, SL. 137
W.B. 23, PG. E/263

GROUND COVER IN OPEN AREAS SHALL BE GRASS SEEDED AREA

PROPOSED FENCE

15' MBL

PROPOSED ACI CANOPY TREE (7 REQUIRED) (8 PROVIDED)

PROPOSED ACI UNDERSTORY TREE (43 REQUIRED) (44 PROVIDED)

BUFFER YARD TYPE "B" AS PER 5.2.6.A

OPEN LAWN AREA

Lot 4

PROPOSED 8' SIDE WALK 1,130 SQ. FT.

PROPOSED FENCE (SEE DETAIL SHT. C4)

42.5'

GRAVEL VEHICULAR AREA (7" THICK GRAVEL)

47'

48'

25' MBL

EXISTING TREE CREDIT TOWARD LANDSCAPE BUFFER TO BE APPROVED BY THE CC PLANNING DEPARTMENT.

PROPOSED SHRUBS (62 REQUIRED) (72 PROVIDED)

PROPOSED CONCRETE DUMPSTER PAD WITH ENCLOSURE

PROPOSED FENCE (SEE DETAIL SHT. C4)

10' MBL

PROPOSED 16' GATE

CARATOKE HIGHWAY
VARIABLE R/W
(NC HIGHWAY 12)

8' WIDE SHARED WALKWAY

20' MBL

PROPOSED ACI CANOPY TREE

PROPOSED CONCRETE WHEEL STOP

HANDI–CAP SIGN

PROPOSED BUILDING FACADE LANDSCAPE (24 SHRUBS)

WASTEWATER AREA

PROPOSED WALL PACK LIGHT (SEE DETAIL SHT C4)

Service Building
Wood Frame
on Concrete Foundation
Building Pad @ 10.75'
All Roof Runoff direct to Basin.
Ground El. @ bldg. = 10.1' Except as noted

ROOF LINE

LANDING ZONE 144.50'

N/F
DEBORAH A. BAIN
D.B. 519, PG. 316
ZONING SFM

EXISTING TREE CREDIT TOWARD LANDSCAPE BUFFER TO BE APPROVED BY THE CC PLANNING DEPARTMENT.

BUFFER YARD TYPE "B" AS PER 5.2.6.A

N/F
ROBERT D. WHITE
D.B. 754, PG. 892
Zoning GB

PROPOSED ACI CANOPY TREE (8 REQUIRED) (9 PROVIDED)

PROPOSED ACI UNDERSTORY TREE (51 REQUIRED) (52 PROVIDED)

PROPOSED SHRUBS (73 REQUIRED) (79 PROVIDED)

N/F
ROBERT D. WHITE
P.C.–I, SL. 208
D.B. 1734, PG. 583
ZONING GB

WOOD FENCE OVER P/L BY 3.1'

OLD ROADBED (TYP.)

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 inch = 20 ft.

LANDSCAPE INVENTORY

Existing Vegetation: ON SITE INSPECTION SHALL BE REQUIRED TO ENSURE VEGETATION IS ON SITE PARCEL AND AND MINIMUM PLANTING REQUIREMENTS ARE MET.

Canopy Shade Cover: The percentage of ground covered by a vertical projection of the outermost perimeter of the natural spread of foliage of plants. Small openings within the canopy are included

LANDSCAPE LEGEND:

COMMON NAME Botanical Name	HEIGHT	SPREAD	MINIMUM SIZE @ PLANTING	QUANTITY	SYMBOL
NORTHERN MAPLE Acer Platanoides	50' – 100'	20' – 30'	3" Cal. – 8' Ht.	17	
EASTERN RED CEDAR Juniperus Virginiana	15' – 30'	6' – 15'	2" Cal. – 8' Ht.	106	
SHADBUSH SERVICEBERRY Juniperus Virginiana	15' – 30'	6' – 15'	1.5" Cal. – 8' Ht.	15	
DWARF AZALEA Building Facade Shrubs	3' – 5'	3' – 6'	3 Gallon	24	
DWARF YAUPON HOLLY	3' – 5'	3' – 6'	3 Gallon	171	

ALL PLANTS MAY BE SUBSTITUTED WITH THE SPECIES IDENTIFIED IN TABLE 3.4.6 RECOMMEND PLANTINGS

LIGHTING NOTES

1) REFER TO CURRITUCK COUNTY ORDINANCE, SECTION Subsection 5.4.3: Lighting Plan (EXTERIOR LIGHTING)
2) DOMINION POWER MAY PROVIDE SITE LIGHTING – OWNERS OPTION.
3) EXTERIOR LIGHTING SHALL BE FIXTURES WITH TRUE FULL CUT–OFF AND FULLY SHIELDED. WALL PACKS LIGHTS SHALL BE MOUNTED 12' ±
4) EXTERIOR LIGHTING CONTROLLED BY A TIMER SYSTEM. FOR STANDARD TIME, LIGHTS SHALL BE SET TO TURN ON AT 5:00 PM AND OFF AT 7:00 AM. FOR DAYLIGHT SAVINGS TIME, LIGHTS SHALL BE SET TO CUT ON AT 7:00 PM . AND TURN OFF AT 6:00 AM. UNLESS OTHERWISE SPECIFIED BY THE USE DEMAND OR THE PROPERTY OWNER AND/OR CURRITUCK COUNTY ALL WALL MOUNTED SITE LIGHTS TO BE PROVIDED WITH MANUAL OVERRIDES.
5) LIGHT POLE FOUNDATION TO BE DESIGNED BY A STRUCTURAL ENGINEER. POLE MOUNTING DETAIL TO BE PROVIDED BY STRUCTURAL ENGINEER. LIGHT POLE BASE DETAIL SHOWN HEREON IS FOR ELECTRIC & CONDUIT LAYOUT.
6) ALL ARCHITECTURAL AND LANDSCAPE LIGHTING TO BE 40 WATTS OR LESS.
7) LUMINARY CALCULATIONS BASED ON THE PROPOSED SITE LOCATION, LIGHT POLE HEIGHT AND FIXTURE AND ARE APPROXIMATE. FOOTCANDLE READINGS AT THE PROPERTY LINES SHALL BE CERTIFIED BY A REGISTERED ENGINEER BEFORE A CERTIFICATE OF OCCUPANCY WILL BE ISSUED FOR THE STRUCTURE.
8) ILLUMINATION STANDARDS MUST BE MET PRIOR TO FINAL APPROVAL
9) ALL LIGHTING ILLUMINATION SHALL MEET INTERNATIONAL DARK SKY REQUIREMENTS
10) ALL UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC AND BE A MINIMUM OF 1 INCH. UNLESS NOTED OTHERWISE
11) ALL ELECTRIC WIRING FOR POLE MOUNTED LIGHTS SHALL BE UNDERGROUND.
12) CONTRACTOR TO PROVIDE PROTECTION FROM PHYSICAL DAMAGE FOR SWITCHBOARDS, PANEL BOARD AND OTHER ELECTRICAL EQUIPMENT (3' FROM EQUIPMENT)

LIGHTING LEGEND

PROPOSED WALL PACK LIGHT
RAB LIGHTING (MODEL# WPLED52)
(OR APPROVED EQUAL)
MOUNTING HEIGHT @ 14' with 15° angle
(SEE DETAIL THIS SHEET)

PHOTOMETRIC ILLUMINATION CONTOURS
APPROVED BY Currituck County

PHOTOMETRIC ILLUMINATION MAXIMUM 3.6 (FC)
PHOTOMETRIC ILLUMINATION MINIMUM 0.1 (FC)
PHOTOMETRIC ILLUMINATION AVERAGE 1.8 (FC)

LANDSCAPE NOTES

- Landscaping shall not be considered to be complete until after 90 days of healthy growth. Contractor shall be responsible to replace all unhealthy or dead landscaping. Contractor shall remain responsible for all replaced landscape with the 90 day healthy growth requirement. Being applicable to all replaced landscaping.
- Dig planting hole no deeper than the root ball height. Excavate hole 2–3 times the width of the root ball diameter.
- Roughen the sides of the planting hole. before placing the tree in the planting hole, prune only dead or broken branches and remove any tree wrap, tape, string, and tags from tree trunk and branches.
- Gently lower the tree into the hole so that the trunk flare is at or slightly above the original grade.
- Backfill 1/3 of the planting hole with original soil to stabilize root ball and keep tree upright.
- Cut and remove top 2/3 of the wire basket. Cut and remove top 2/3 of the burlap from Completely backfill hole with original soil and add soil amendment if needed.
- Create a mulch ring around the tree and a 3–6" high soil and mulch berm at the edge of the hole. Keep mulch away from the trunk.
- Contractor shall be responsible for all plant counts and square footage. If any part of this plan can not be followed due to site conditions contact owner/town prior to commencing work.
- All trees in rows to be aligned unless shown otherwise
- Plant all trees a minimum of 2 feet from any drain lines. The Landscape contractor shall verify the location of all drain lines prior to commencing work.
- Trees are to be a minimum of 3 1/2 feet away from any hardscape such as curbs, walks parking stalls, ect.
- Prior to any excavating to any landscaping purposes, the location of all under ground utilities shall be determined.
- Grass and ground cover. Ground cover shall be placed or planted on all disturbed portions of exposed ground or earth not occupied by natural or other landscape material.
- All dumpster's shall be screened on three sides by a fence. The screening shall exceed the height of the intended container by 12 inches.The opening for the removal of trash pickup shall allow for a clearance of 12 inches on each side of the container and 24 inches at the rear of the container. Design shall be approved by the Department of Public Services, Public Works Division.

Any existing natural landscape shall be preserved whenever possible. Existing natural Landscape that meets minimum requirements may be credited towards the proposed landscape requirements.

- Where a vegetative screen is required between two incompatible uses, the perimeter landscape area shall contain one shrub, at least 30 inches high planted 2½ feet on center. The type of shrub used needs to be capable of attaining a height of at least 6 feet at maturity. Plant materials and/or planted berms shall be installed so as to screen the parking areas from adjacent properties and streets.
- Within the sight triangle, no plant material, signage or any other obstruction shall interfere with an individual's vehicle sight line. No plant material shall exceed 30 inches in height at maturity; trees shall be trimmed so that branches are at least seven feet above curb level
- plants shall be sufficiently sized to ensure screening within three years. Where a vegetative screen is required, plant materials shall be sufficiently sized as practicable to ensure obscurity within three years. Seedling plants may be used where berms or structures are required or where the proposed use is contiguous to a street or vacant land that does not have proposed development in the review process.

ENGINEER SEAL
NORTH CAROLINA PROFESSIONAL SEAL 035447 ENGINEER THOMAS KWASNY

Kwasny Engineering PLLC
Civil Engineering and Land Planning Consultants
Firm Certification# P-2744
198 Augusta Drive
Grandy, NC. 27939
CELL: 757–705–0585
OFFICE: 757–435–4893
E–Mail: info.Kwasnyeng@gmail.com

Landscape and Lighting Plan

For:
Evolve Design + Build
Location:
3949 Caratoke Hwy
Lot 5, Barco Commercial Subdivision
Barco Currituck County North Carolina

APPROVALS		DATE
Drawn:	D. NEFF	07/25/24
Checked:	T. KWASNY	07/25/24
Engineer:	T. KWASNY	07/25/24

PROJECT NUMBER: 240125
SHEET NO.: C3 OF 4

240125

WPLED52

RAB

LED 52W Wall packs. 3 cutoff options, patent-pending thermal management system, 100,000 hour L70 lifespan. 5-year, no-compromise warranty.

Color: Bronze Weight: 17.7 lbs

Project: 240125	**Type:** Full Cutoff
Prepared By: Kwasny Eng	**Date:** 07/21/24

Driver Info		LED Info	
Type	Constant Current	Watts	52W
120V	0.51A	Color Temp	5000K (Cool)
208V	0.33A	Color Accuracy	72 CRI
240V	0.29A	L70 Lifespan	100,000 Hours
277V	0.24A	Lumens	7,392 lm
Input Watts	57.9W	Efficacy	127.7

Technical Specifications

Compliance

UL Listed: Suitable for wet locations

IESNA LM-79 & LM-80 Testing: RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80

DLC Listed: This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements. DLC Product Code: P0000173W

Electrical

Driver: Constant Current, Class 2, 120-277V, 50-60Hz, 120V: 0.51A, 208V: 0.33A, 240C: 0.29A, 277V: 0.24A

Dimming Driver: Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

THD: 7.64% at 120V, 5.72% at 277V

Power Factor: 99.2% at 120V, 97.5% at 277V

Surge Protection: 6kV

Performance

Lifespan: 100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Wattage Equivalency: Equivalent to 250W Metal Halide

LED Characteristics

LEDs: Two (2) multi-chip, high-output, long-life LEDs

Color Consistency: 7-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

Color Stability: LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Color Uniformity: RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

Construction

Ambient Temperature: Suitable for use in up to 40°C (104°F)

Cold Weather Starting: The minimum starting temperature is -40°C (-40°F)

Housing: Precision die-cast aluminum housing, lens frame

Mounting: Die-cast aluminum wall bracket with (5) 1/2" conduit openings with plugs. Two-piece bracket with tether for ease of installation and wiring.

Arm: Die-cast aluminum with wiring access plate

Cutoff: Standard (15°)

Reflector: Specular vacuum-metallized polycarbonate

Gaskets: High-temperature silicone

Lens: Tempered glass

WPLED52

RAB LIGHTING

Technical Specifications (continued)

Other

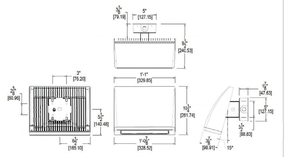
Replacement: Replaces 250W HID.

Buy American Act Compliance: RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Optical

BUG Rating: B0 U2 G3

Dimensions



Features

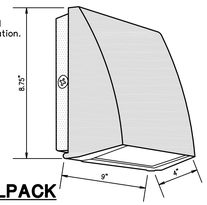
- High performance LED light engine
- Maintains 70% of initial lumens at 100,000 hours
- Weatherproof high temperature silicone gaskets
- Superior heat sinking with die cast aluminum housing and external fins
- Replaces 250W MH
- Traditional wallpack look from the front
- 3 cutoff options
- 5-year warranty

Ordering Matrix

Family	Cutoff	Wattage	Color Temp	Finish	Driver Options	Options
WPLED		52				
	Blank = Standard (15°) **C** = Cutoff (7.5°) **FC** = Full Cutoff (0°)	**80** = 80W **52** = 52W	**Blank** = 5000K (Cool) **N** = 4000K (Neutral) **Y** = 3000K (Warm)	**Blank** = Bronze **W** = White	**Blank** = 120-277V **/480** = 480V **/BL** = Bi-Level **/D10** = 0-10V Dimming	**Blank** = No Option **/PCS** = 120V Swivel Photocell **/PCS2** = 277V Swivel Photocell **/PCS4** = 480V Swivel Photocell **/LC** = Lightcloud®

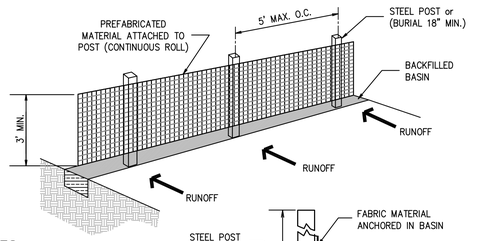
LIGHTING NOTES

* ALL LIGHT PRODUCED ON SITE SHALL BE CONTAINED WITHIN THE PERIMETER OF THE SITE BY DESIGN, ORIENTATION OR SHIELDING OF THE LIGHT SOURCE
* Mounting: Die-cast back box with four (4) conduit entry points and knockout pattern for junction box or direct wall mounting. Hinged housing and bubble level for easy installation.
* Full Cutoff: Full cutoff meets dark-sky requirements
* Recommended Mounting Height: 14 ft WITH 15° ANGLE
* RAB 52,Watt WPLED Wallpacks are designed to cover the footprint of most traditional wallpacks. They are suitable for mounting heights from 12' to 20'. These ultra-high efficiency fixtures are full cutoff



RAB SLIM POLE AND WALLPACK (MODEL# WPLED52)

NOT TO SCALE



NOTES:

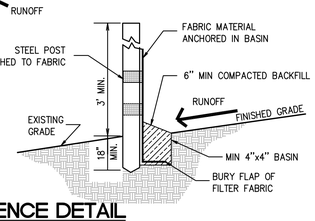
SILT FENCE SHALL BE INSTALLED BEFORE ANY EARTH REMOVAL OR EXCAVATION TAKES PLACE.

SET POSTS MAXIMUM 5 FEET ON CENTER AND EXCAVATE 4"x4" BASIN UPSLOPE ALONG THE LINE OF POSTS.

ATTACH FILTER FABRIC TO POSTS AND EXTEND IT INTO BASIN. BACKFILL AND COMPACT EXCAVATED SOIL.

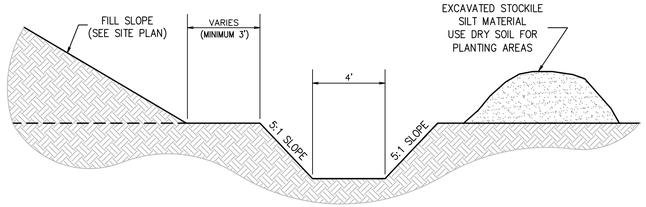
THE FABRIC SHALL BE A CONTINUOUS ROLL, CUT TO THE REQUIRED LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST, WITH A MINIMUM OF 6" OVERLAP AND SECURED TIED.

SILT FENCES SHALL BE REMOVE WHEN THEY HAVE SERVED THERE PURPOSES, BUT NOT BEFORE THE UPSLOPE AREA HAS PERMANENTLY STABILIZED.



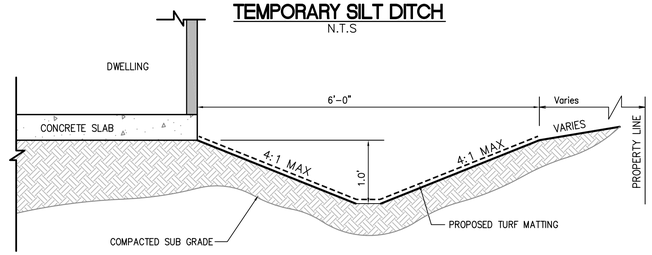
SILT FENCE DETAIL

N.T.S



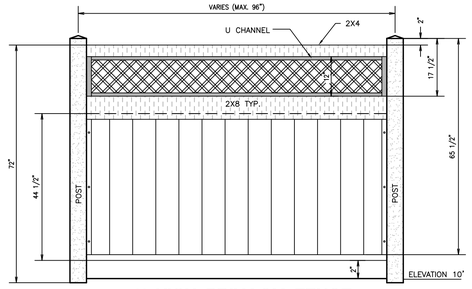
TEMPORARY SILT DITCH

N.T.S



Grassy Infiltration Swale

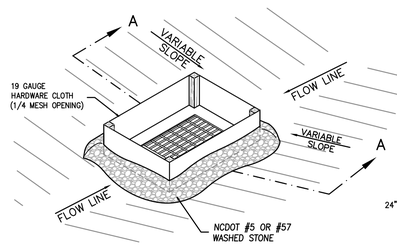
N.T.S.



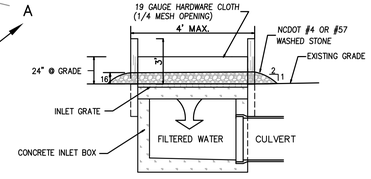
6' HIGH PRIVACY FENCE

OR APPROVED EQUAL

NO SCALE

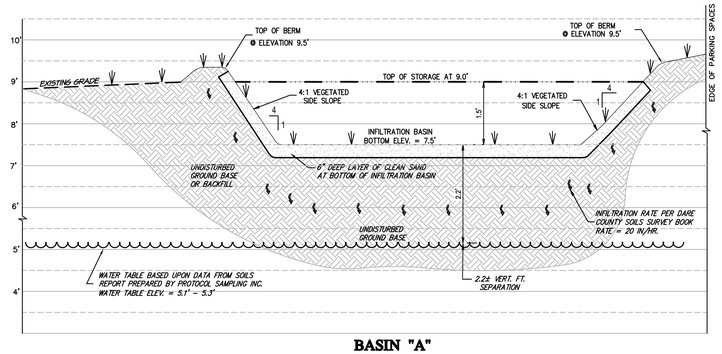


1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET
2. DRIVE 5 FOOT STEEL POST 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POST EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE and BOTTOM. PLACING A 2 FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NCDOT #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16" AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZED IT WITH GROUND COVER.



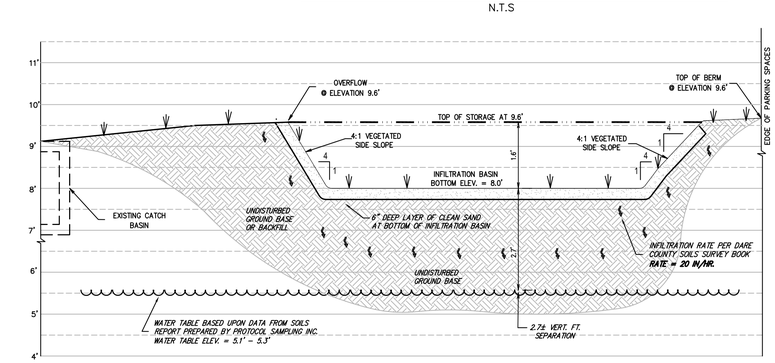
SILT BARRIER FENCE FOR INLET PROTECTION

N.T.S



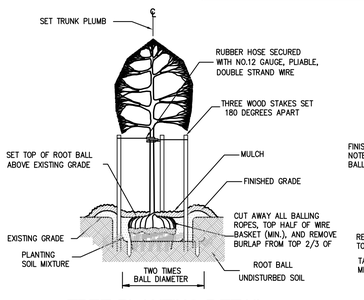
BASIN "A" "BMP" INFILTRATION BASIN

N.T.S.



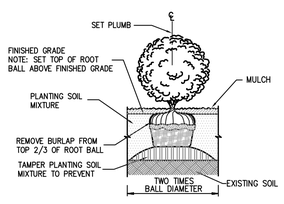
BASIN "B" "BMP" INFILTRATION BASIN

N.T.S.



TREE PLANTING DETAIL

N.T.S.



SHRUB PLANTING DETAIL

N.T.S.

ENGINEER SEAL

NORTH CAROLINA PROFESSIONAL SEAL 035447 ENGINEER THOMAS KWASNY

Kwasny Engineering PLLC

Civil Engineering and Land Planning Consultants
Firm Certification# P-2744
198 Augusta Drive
Grandy, NC. 27939

CELL: 757-705-0585
OFFICE: 757-435-4893
E-Mail: info.Kwasnyeng@gmail.com

Detail Plan

For:

Evolve Design + Build

Location:

3949 Caratoke Hwy

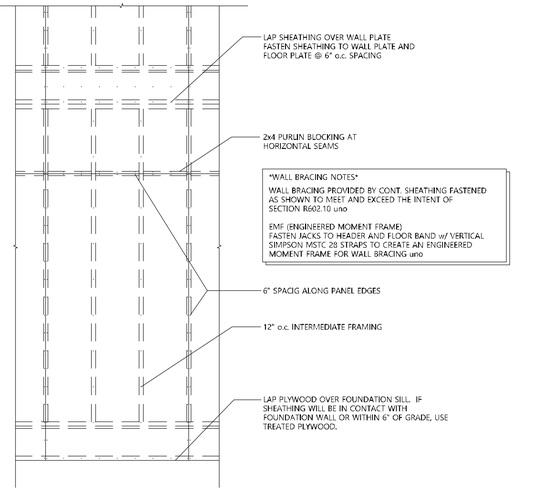
Lot 5, Barco Commercial Subdivision

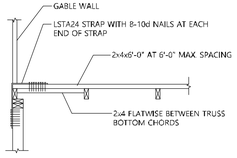
Barco Currituck County North Carolina

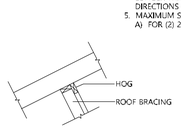
APPROVALS		DATE
Drawn:	D. NEFF	07/25/24
Checked:	T. KWASNY	07/25/24
Engineer:	T. KWASNY	07/25/24

PROJECT NUMBER	SHEET NO.
240125	C4 OF 4

240125







DESIGN LOADS AND GENERAL:

1. DESIGN LOADS ARE ALL DEAD LOADS PLUS:
    - A) SLEEPING ROOMS....................30 PSF.
    - B) ALL OTHER FLOORS....................40 PSF.
    - C) BALCONIES....................40 PSF.
    - D) ATTIC FLOOR LIVE LOADING WITH THE FOLLOWING:
        - I.) UNINHABITABLE ATTICS WITHOUT STORAGE....................10 PSF.
        - II.) UNINHABITABLE ATTICS WITH LIM. STORATE....................20 PSF.
        - III.) HABITIBALE ATTICS SERVED WITH FIX STAIR....................30 PSF.
    - E) ROOF LIVE LOADS....................20 PSF. OR AS REQ'D BY CODE
    - F) WIND LOAD....................V_{ULT} 130/V_{ASD} 101, TABLE R301.2.1.3
2. ALL DESIGNS ARE IN ACCORDANCE WITH 2018 NORTH CAROLINA RESIDENTIAL CODE. REFER TO THE RELEVANT CODE FOR ANY ADDITIONAL INFORMATION NOT COVERED IN THESE NOTES OR THE DESIGNS.
3. ENGINEERING DESIGN IS FOR STRUCTURAL INFORMATION ONLY. THE ENGINEER OF RECORD DOES NOT ACCEPT RESPONSIBILITY FOR DIMENSION ERRORS, ARCHITECTURAL ERRORS, DETAILING OF WATERPROOFING, PLUMBING, ELECTRICAL, MECHANICAL INFORMATION, OR CONSTRUCTION METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR ANY PART OF THE PLAN NOT RELEVANT TO THE STRUCTURAL INFORMATION.
4. THE CONTRACTOR SHALL COMPARE THE STRUCTURAL DRAWINGS AND OTHER CONTRACT DRAWINGS AND REPORT ANY DESCREPANCIES WITH THE PROJECT ENGINEER AND ARCHITECT PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
5. THE GENERAL CONTRACTOR IS REQUIRED FOR PROVIDING ALL REQUIRED BRACING AND SHORING DURING CONSTRUCTION TO MAINTAIN THE STABILITY AND SAFETY OF ALL STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PROCESS UNTIL THE STRUCTURE IS TIED TOGETHER AND COMPLETE.

RESIDENTIAL FOUNDATIONS:

1. ALL CONTINUOUS WALL FOOTINGS ARE 8"x16" FOR ONE- AND TWO-STORY HOUSES (10"x20" FOR HOUSES w/ BRICK VENEER) AND FOOTING FOR THREE-STORY WALLS SHALL BE 10"x24" UNLESS OTHERWISE NOTED. REINFORCING IS TO BE AS NOTED ON PLANS. REBAR IS REQUIRED ON ANY COMPCTED FILL REGARDLESS OF COMPACTION.
2. ALL INTERIOR PEIRS ARE 8"x16" CMU UP TO A MAXIMUM OF 32". ALL PIERS OVER 32" HIGH MUST BE FILLED SOLID w/ TYPE S MORTAR. MAXIMUM HEIGHT FOR 8"x16" FILLED PIER IS 6'-8". PIERS LARGER THANN 8"x16" ARE NOTED ON PLANS AND MUST BE FILLED WITH TYPE S MORTAR. FOR ONE-STORY STUCTURES, PIER CAPS ARE TO BE 4" SOLID MASONRY. FOR TWO-STORY STRUCTURES, PIERS CAPS ARE TO BE 8" SOLID MASONRY.
3. FOOTINGS FOR 8"x16" PIERS ARE 24"x36"x10" UNLESS NOTED OTHERWISE. REINFORCING IS TO BE AS NOTED ON PLANS.
4. INTERIOR THICKENED SLAB FOOTINGS WHICH OCCUR IN BASEMENTS AND SLAB ON GRADE FLOORS ARE 10" DEEP BY 18" WIDE UNLESS NOTED OTHERWISE. THICKENED FOOTINGS ARE REQUIRED UNDER ALL BEARING WALLS.
5. ALL REBAR SPLICES SHALL BE A MINIMUM OF 2'-0" UNLESS OTHERWISE NOTED.
6. SHALLOW FOUNDATIONS ARE DESIGNED FOR AN ASSUMED SOIL BEARING CAPACITY OF 2,000 PSF. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER OF RECORD IF ANY SOILS ARE FOUND TO BE UNSUITABLE FOR THIS BEARING CAPACITY. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING SOIL TESTING TO ENSURE THAT THE BEARING CAPACITY OF THE SOIL MEETS OR EXCEEDS THIS VALUE. ALL FILL IS TO BE COMACTED TO 95% DENSITY AS MEASURED BY THE STANDARD PROCTOR TEST (ASTM D-1557), OTHERWISE USE SELF-COMPACTING CLEAN WASHED #57 STONE.
7. ALL SOILS AND FILL UNDER FLOORS WITHIN AND/OR UNDER BUILDINGS SHALL HAVE PRECONSTRUCTION SOIL TREATMENT FOR PROTECTION AGAINST TERMITES. CERTIFICATION OF COMPLIANCE SHALL BE ISSUED TO THE BUILDING DEPARTMENT BY A LICENSED PEST CONTROL COMPANY.
8. ALL FOOTING EXCAVATIONS SHALL BE NEAT, STRAIGHT, AND LEVEL IN THE PROPER ELEVATIONS TO RECEIVE THE CONCRETE. EXCESSIVE VARIATIONS IN THE DIMENSIONS OF FOOTINGS OR SLAB WILL NOT BE PERMITTED. REINFORCING STEEL AND MESH SHALL BE ACCURATELY PLACED AND SUPPORTED TO MAINTAIN THEIR POSITION DURING THE CONCRETE POURING. EDGE FORMS SHALL BE USED FOR CONCRETE THAT WILL BE EXPOSED.
9. ALL SLAB PENETRATIONS ARE TO BE THE RESPONSIBILITY OF THE CONTRACTOR. PENETRATIONS INTERFERING WITH REINFORCING SHALL BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO THE PLACEMENT OF CONCRETE.
10. ELEVATION DIFFERENCE BETWEEN THE BOTTOM OF ADJACENT FOOTINGS SHALL BE LESS THAN THEIR HORIZONTAL DISTANCE LESS ONE FOOT. (STEPPED FOOTING) DIFFERENTIAL HEIGHTS BETWEEN FOOTINGS CAN BECOME EXCESSIVE USUALLY WHERE A PIER FOOTING IN A CRAWL SPACE OR GARAGE FOOTING IS NEXT TO A BASEMENT WALL FOOTING.

SPECIAL FOUNDATION CONSIDERATIONS:

1. MASONRY CHIMNEY FOOTINGS ARE TO BE 12" THICK WITH 12" PROJECTION AROUND ALL SIDES.
2. FOR UNRESTRAINED RETAINING WALLS SEE SPECIAL DESIGNS ON DRAWINGS.
3. SEE DRAWINGS FOR NOTES REGARDING DEEP FOUNDATIONS SUCH AS CAISSONS OR PILES.
4. ANCHOR BOLTS SHALL BE INSTALLED AS REQUIRED BY CODE INLESS OTHERWISE NOTED ON THE PLANS. DO NOT USE FOUNDATION STRAPS IN BRICK VENEER. STRAPS ARE ONLY ACCEPTABLE IN CONCRETE OR GROUT FILLED CMU AND MUST BE INSTALLED PER THE MANUFACTURER'S STANDARDS. WHERE STANDARD ANCHOR BOLTS OR STRAPS ARE MISSED OR NOT INSTALLED PROPERLY, A RETROFIT BOLT SUCH AS A SIMPSON 1/2"⌀ TITEN HD BOLT OR EPOXY BOLT MAY BE USED IN ITS PLACE IN A MANNER APPROVED BY THE MANUFACTURER.
5. WHERE NEW FOOTINGS OF A BUILDING ADDITION TIE INTO EXISTING CONCRETE FOOTINGS OF THE ORIGINAL BUIDLING, CONNECT THE NEW FOOTING TO THE EXISTING WITH TWO 18" LONG #5 DOWELS AT MID-DEPTH OF THE FOOTINGS. EMBED THE DOWELS 6" INTO THE EXISTING FOOTING USING NON-SHRINK GROUT OR A TWO PART EPOXY ADHESIVE SUCH AS HILTI HIT HY 150 OR EQUAL.

BASEMENT/RETAINING WALLS:

1. UNLESS OTHERWISE NOTED ON THE PLANS, RESTRAINED BASEMENT WALLS SHALL BE BUILT IN ACCORDANCE WITH R404.1 OF THE CODE. PROVIDE CORNER BAR REINFOREMENT AT ALL WALL CORNERS CONSISTING OF A MINIMUM 24"x24" #3 L-BARS AT 8"o.c. ERECT ALL FRAMING AND POUR SLAB BEFORE BACKFILLING.
2. UNRESTRAINED RETAINING WALLS GREATER THAN 48" IN WALL HEIGHT SHALL BE INSPECTED AS REQ'D BY THE COUNTY INSPECTOR PRIOR TO POURING CONCRETE. ALL REINFORCEMENT STEEL SHALL BE TIED OF FOR INSPECTION.
3. CONCRETE SHALL BE 3,000 PSI AT 28 DAYS.
4. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 318.
5. REINFORCEMENT SHALL BE GRADE 60.
6. WAIT AT LEAST 5 DAYS BEFORE BACKFILLING.
7. SPACING FOR REBAR SHALL BE WITHIN 1" OF DIMENSION SHOWN. DISTANCE OF REBAR FROM EDGE OF WALL SHALL BE WITHIN 1/2". WALL AND FOOTING THICKNESS SHALL BE WITHIN 3/4" TOLERENCE. FOOTING WIDTHS SHALL BE WITHIN 2" TOLERANCE.
8. WALL SESIGN IS BASED ON A EQUIVALENT FLUID PRESSURE OF 35 PCF AND ALLOWABLE SOIL BEARING CAPACITY OF 2,000 PSF AND A COEFFICIENT OF FRICTIONI BETWEEN THE FOOTING AND SOIL OF 0.45. A FLUID PRESSIRE OF 35 PCF REPRESENTS DRAINABLE FILL SUCH AS CLEAN STONE TO BE PLACED AGAINST THE WALL IF THE ACTUAL FIELD VALUES ARE LESS FAVORABLE THAN THESE ASSUMPTIVE VALUES, CONTACT THE ENGINEER FOR REANALYSIS.

FRAMING CONSTRUCTION-OTHER THAN ROOF:

1. SEE TABLE R602.3(1) OF THE CODE FOR A FASTENER SCHEDULE FOR STRUCTURAL MEMBERS. ALL LIGHT GAUGE METAL CONNECTORS SPECIFIED ON THE PLAN ARE DESIGNATIONS BY SIMPSON STRONG TIE. REFER TO SIMPSON'S PRODUCT MANUAL FOR SIZES, SPECIFICATIONS, AND INSTALLATION INSTRUCTIONS. OTHER BRANDS MAY BE USED PROVIDED THE CONNECTION IS EQUAL TO OR STRONGER THAN THAT SPECIFIED.
2. WOOD BEAMS SHALL BE SUPPORTED BY METAL HANGERS OF ADEQUARE CAPACITY WHERE FRAMING INTO BEAMS OR LEDGERS. THE FOLLOWING HANGER SCHEDULE MAY BE USED UNLESS NOTED OTHERWISE ON THE PLAN:

MEMBER SIZE	SIMPSON HANGERS
(2) 2x8	LUS 28-2
(2) 2X10	LUS 210-2
(2) 2x12	LUS 212-2
(2) 1-3/4"x9-1/4" LVL	HUS 410
(2) 1-3/4"x11-7/8" LVL	HUS 412
(2) 1-3/4"x14" LVL	HUS 412
ALL TRIPLE LVL's	HHUS 5.50/10

NOTE: FILL ALL OF THE HOLES IN HANGERS WITH 16dx3-1/2" COMMON NAILS UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. DO NOT BEND OR MODIFY THE HANGER OR USE INAPPROPRIATE FASTENERS. DO NOT USE 10dx1/2" 'HANER NAILS' UNLESS OTHERWISE NOTED ON THE PLANS OR IN SITUATIONS WHERE ONLY 1-3/4" OR LESS OF WOOD IS PROVIDED TO NAIL INTO.

3. CRAWLSPACE GIRDERS AND BANDS WITH 4" CURTAIN WALL AND PIER CONSTRUCTION SHALL BE 2-2x10 SYP #2 UNLESS NOTED OTHERWISE. MAXIMUM CLEAR SPANS ARE TO BE 4'-8" (6'-0" o.c. SPACING OF PIERS).
4. TO AVOID OBJECTIONABLE CRACKING IN FINISHED HARDWOOD FLOORS OVER ANY GIRDERS, CONNECT THE JOISTS SECURELY TO THE GIRDERS USING THE NAILING PATTERN PRESCRIBED IN THE CODE SECTION R602.3(1). AT ALL GIRDERS WHERE THE JOISTS CHANGE DIRECTION, INSTALL BRIDGING AT 6"o.c. FOR A MINIMUM OF SIX JOIST SPACINGS BEYOND ANY JOIST DIRECTION CHANGE. THIS WILL INSURE SHRINKAGE DISTRIBUTION OVER THE FLOOR AND NOT LET IT ACCUMULATE AT THE GIRDER.
5. ALL OTHER FRAMING LUMBER MAY BE SPRUCE #2 OR BETTER UNLESS NOTED OTHERWISE.
    - A) LUMBER BEAMS TO HAVE SAME NUMBER OF SUPPORT STUDS AS THE NUMBER OF PLIES
    - B) LUMBER HEADERS TO HAVE (1) JACK STUD UNLESS NOTED OTHERWISE.
6. STEEL BEAMS MUST HAVE (5)-2x4 OR (4)-2x6 STUDS UNDER EACH END SUPPORT UNLESS NOTED OTHERWISE.
7. 2-PLY "LVL" OR GLU-LAM BEAMS MUST HAVE (3)-2x4 OR (2)-2x6 STUDS UNDER EACH END SUPORT UNLESS NOTED OTHERWISE.

7a. 3-PLY "LVL" OR GLU-LAM BEAMS MUST HAVE (4)-2x4 OR (3)-2x6 STUDS UNDER EACH END SUPORT UNLESS NOTED OTHERWISE.

7b. 4-PLY "LVL" OR GLU-LAM BEAMS MUST HAVE (5)-2x4 OR (4)-2x6 STUDS UNDER EACH END SUPORT UNLESS NOTED OTHERWISE.

8. MASONRY LINTELS:
    - A) FOR SPANS UP TO 6'-0": USE 3-1/2"x3-1/2"x1/4" STEEL ANGLES.
    - B) FOR SPANS FROM 6'-0" TO 10'-0": USE 5"x3-1/2"x5/16" STEEL ANGLES.
    - C) FOR SPANS GREATER THAN 10'-0": FASTEN 4"x4"x5/16" STEEL ANGLE TO WOOD HEADERS WITH 1/2"⌀x4" LAG SCREWS @ 12" o.c. EXTEND ANGLE 6" PAST OPENING TO BEAR ON MASONRY VENEER AT ENDS.
    - D) WHEN STRUCTURAL STEEL BEAMS WITH BOTTOM PLATES ARE USED TO SUPPORT MASONRY, THE BOTTOM PLATE MUST EXTEND THE FULL LENGTH OF THE STEEL BEAM. THIS PROVIDES SUPPORT TO THE ENDS OF THE MASONRY. THE SHORING MAY BE REMOVED 5 DAYS AFTER LAYING MASONRY.
9. ALL BRICK VENEER OVER LOWER ROOFS (BRICK CLIMBS) MUST HAVE A STRUCTURAL ANGLE LAG SCREWED TO AN ADJACENT STUD WALL IN ACCORDANCE WITH SECTIN R703.8.2.1 OF THE CODE OR THE DETAIL ON THE PLAN, WITH STEEL BRICK STOPS TO PREVENT SLIDING OF BRICK.
10. ALL RAFTER BRACES MUST HAVE A STUD FROM PLATE THROUGH ALL FLOORS TO THE FOUNDATION OR SUPORTING BEAM BELOW. NO BRACES SHALL BE ATTACHED TO TOP WALL PLATE WITHOUT STUDS DIRECTLY UNDER THEM.
11. WHERE NON-LOAD BEARING PARTITIONS FALL BETWEEN FLOOR JOISTS OR TRUSSES, 2x4 LADDERS AT 24" o.c. MUST BE PLACED PERPENDICULAR TO THE JOISTS TO SUPPORT THE PLYWOOD DECKING. THE LADDERS SHALL BE SUPPORTED WITH A SIMPSON "Z" CLIP OR SIMILAR DEVICE. A DOUBLE JOIST CAN ALSO BE USED AND IS ALLOWED TO BE SEPARATED 4" MAX TO ALLOW FOR PLUMBING AND WIRING. WHERE THERE ARE NO OBSTRUCTIONS A SINGLE JOIST CON BE INSTALLED UNDER THE WALL.
12. ALL WOOD I-JOISTS AND OPEN JOISTS MUST BE BRACED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTION PLUS DETAILS SHOWN ON PLANS. LOAD-BEARING PARTITIONS, JACKS, BEAMS, AND COLUMNS SUPPORTS MUST BE SOLID BLOCKED THROUGH FLOOR. TRUSSES AND PLYWOOD CANNOT CARRY CONCENTRATED POINT LOADS. I-JOIST MATERIAL SHOULD NOT BE USED AS BLOCKING UNDER CONCENTRATED POINT LOADS. ALL POINT LOADS MUST BE CARRIED TO FOUNDATION WITH ADEQUATE BLOCKING AND/OR BEAMS.
13. CONTINUOUS 2x6 BRIDGING SHALL BE NAILED TO DIAGONAL OR VERTICAL WEB MEMBERS OF ALL OPEN-WEB FLOORS TRUSSES OVER 10'-0" LONG. THEY SHALL BE INSTALLED NEAR MID-SPAN AS A LOAD DISTRIBUTION MEMBER. IF THE 2x6 BRIDGING IS NOT CONTINUOUS, LAP ENDS OF BRIDGING ONE TRUSS SPACE.
14. ALL STEEL COLUMNS SHALL BEAR ON CONCRETE, MASONRY, OR STEEL ONLY. BEAMS THAT BEAR ON TOP OF STEEL COLUMNS SHALL BE WELDED TO THE COLUMN. WHERE STEEL COLUMNS BEAR ON CONCRETE OR MASONRY, UNLESS OTHERWISE NOTED, A 1/2"x6-1/2"x6-1/2" OR 1/2"x3-1/2"x10" BASE PLATE SHALL BE USED TO SPREAD THE COLUMN LOAD ACROSS THE BEARING SURFCE. BASE PLATES SHALL BE BOLTED WITH AT LEAST (2) 1/2"⌀ ANCHOR BOLTS OR EXPANSION BOLTS TO CONCRETE OR MASONRY.
15. ONE-HALF OF THE STUDS INTERRUPTED BY A WALL OPENING SHALL BE PLACED IMMEDIATELY OUTSIDE THE JACK STUDS ON EACH SIDE OF THE OPENING AS KING STUDS TO RESIST WIND LOADS. KING STUDS SHALL EXTEND FULL HEIGHT FROM SOLE PLATE TO TOP PLATE OF THE WALL.
16. AT ALL EXTERIOR DIAGONAL WALL PANELS (i.e. BAY WINDOWS), EACH PANEL SHALL BE SCREWED TOGETHER WHERE THE STUDS ADJOIN WITH 3-1/2" MIN. HEADLOCK SCREWS AT 9" o.c. THIS WILL AVOID VERTICAL CRACKING IN PANEL JOINTS DUE TO WOOD SHRINKAGE.
17. AT ALL STAIRS, EVERY STUD AT EACH STRINGER MUST BE NAILED TO EACH STRINGER WITH A MINIMUM OF 2-16d NAILS. THIS WILL AVOID CRACKING BETWEEN WALLBOARDS.
18. ROOF TRUSSES CLOSE TO SIDE WALLS FRAMING AND USED AS DEAD WOOD FOR SHEATROCK BOARDS SHOULD BE NAILED TO THE WALL FRAMING TO PREVENT CEILING-WALL CRACKING.
19. ALL STRUCTURAL FRAMING LUMBER EXPOSED DIRECTLY TO THE WEATHER OR BEARING DIRECTLY ON EXTERIOR MASONRY PIERS OR CONCRETE SHALL BE TREATED IN ACCORDANCE WITH THE AWPA UC3B CATEGORY. ALL WOOD IN CONTACT WITH THE GROUND IS TO CONFORM WITH THE AWPA UC4B CATEGORY. SEE SECTION R317.3.1 OF THE CODE FOR APPROVED FASTENERS IN TREATED LUMBER.
20. UNLESS OTHERWISE DETAILED, ALL STICK-BUILT CHIMNEYS SHALL BE CONSTRUCTED WITH 2x4 AT 12" o.c. OR 2x6 STUDS AT 16"o.c., BALLOON-FRAMED FROM ATTIC CEILING OR FLOOR. FASTEN 15/32" CDX PLYWOOD ON ALL SIDES OF THE CHIMNEY ALONG THE FULL LENGTH OF THE STUDS. FASTEN EACH STUD TO THE SUPPORTING BEAM OR CEILING JOIST WITH SIMPSON LSTA24 FASTEN BEAM DOWN TO SUPPORT STUDS WITH (2) SIMILAR STRAPS.
21. ALL POINT LOADS FROM ROOF BRACES, JACK STUDS, BEAM SUPPORT-WHETHER WOOD OR STEEL-CANNOT BEAR ON SHEATHING ALONE. BLOCKING EQUAL TO OR BETTER THAT THE POINT LOAD SUPPORTS ABOVE MUST BE CARRIED THROUGH ALL CONSTRUCTION TO THE FOUNDATION.
22. ALL "SELF SUPPORTING STAIRS" MUST BE CONNECTED TO ADEQUATE FRAMING TO SUPPORT THE LOAD OF THE STAIR CASE. IT IS THE STAIR MANUFACTURER'S RESPONSIBILITY TO PROVIDE THE E.O.R. WITH ALL POINT LOADS PRIOR TO CONSTRUCTION.
23. WALL SHEATHING SHALL LAP AND CONNECT TO FOUNDATION SILL PLATE AND LAP PAST WALL PLATES TO CONNECT TO SECOND STORY FLOOR BAND WHERE APPLICABLE. WHERE SHEATHIED WALL PANELS ARE AT LEAST 32" WIDE, PROVIDE 2x4 BLOCKING AT ALL HORIZONTAL SEAMS TO PROVIDE EDGE NAILING FOR PLYWOOD. SEE DETAIL BELOW.

NAILING SCHEDULE

SEE ALSO NCRC 2018 TABLE R602.3(1)&(3)

JOIST TO SILL OR GIRDER	8d TOENAIL
SOLEPLATE TO JOIST OR BLOCKING	16d @ 16"o.c.
STUD TO PLATE, GIRDER	8d OR 2-16d
DOUBLE TOP PLATE	10d @ 24"o.c.
CEILING JOIST TO PLATE	3-16d TOENAIL
CEILING JOIST TO LAP	4-10d
CEILING JOIST TO PARALLEL RAFTERS	3-16d
RAFTERS TO PLATE	3-16d TOENAIL
1" BRACING TO EACH STUD AND PLATE	2-8d
1/2" OR LESS PLYWOOD OR OSB	8d @ 6"o.c, EDGE & 12"o.c. FIELD
5/8" OR 3/4" PLYWOOD OR OSB	16d @ 6"o.c, EDGE & 12"o.c. FIELD
SUBFLOOR TO JOIST OR GIRDERS	2-16d

BRACED WALL LINE NOTE:

WALL BRACING IS UTILIZING AN ENGINEERED DESIGN AS FOLLOWS, ALL WALLS SHALL BE CONTINUOUSLY SHEATHED WITH MIN. 7/16" OSB FASTENED WITH 6d COMMON NAILS AT 6"o.c. ALONG EDGES AND 12"o.c. ALONG INTERMEDIATE FRAMING. ADD BLOCKING TO WALLS IF SHEATHING MAKES UP BETWEEN 25% AND 50% OF WALL AND REDUCE NAIL SPACING TO 3"o.c. ON EDGES AND 6"o.c. ON INTERMEDIATE FRAMING. PORTAL FRAME PER DETAIL, S0.1, SHALL BE CONSTRUCTED AT THE GARAGE DOOR OPENING.

WALL BRACING NOTES

WALL BRACING PROVIDED BY CONT. SHEATHING FASTENED AS SHOWN TO MEET AND EXCEED THE INTENT OF SECTION R602.10 uno

EMF (ENGINEERED MOMENT FRAME)
FASTEN JACKS TO HEADER AND FLOOR BAND w/ VERTICAL SIMPSON MSTC 28 STRAPS TO CREATE AN ENGINEERED MOMENT FRAME FOR WALL BRACING uno

ROOF CONSTRUCTION:

1. ALL ROOF TRUSSES MUST BE INSTALLED IN ACCORDANCE WITH TRUSS MANUFACTURERS' REQUIREMENTS. TRUSS DESIGNS AND LAYOUT SHALL BE SUBMITTED TO ENGINEER OF RECORD FOR APPROVAL. TIE-DOWN CONNECTIONS TO RESIST UPLIFT SHALL BE INSTALLED WHERE REQ'D. WHEN ROOF TRUSSES MANUFACTURERS DO NOT PROVIDE THE REQUIRED CONNECTORS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ROOF TRUSS ENGINEER OR THE ENGINEER OF RECORD TO PROVIDE AN ADEQUATE CONNECTOR.
2. IN ADDITION TO THE CODE'S FASTENER SCHEDULE, UNLESS NOTED OTHERWISE ON THE PLAN, INSTALL SIMPSON H1 OR H2.5A HURRICANE CLIPS AT THE ENDS OF THE RAFTERS WHERE THEY BEAR ON THE WALL PLATE @ 48" o.c. FASTEN TO THE OUTSIDE OF THE WALL PLATE WITH 8d COMMON NAILS AND TO THE RAFTERS OR TRUSS WITH 8dx1-1/2" NAILS. INSTALLING OVER WALL SHEATHING IS ACCEPTABLE.
3. RAFTERS SHALL BE 2x6 SPF#2 AT 16"o.c. FOR SHINGLES WITH 7/16" OSB SHEATHING WITH ONE LAYER OF #15 FELT UNLESS NOTED OTHERWISE. THEY ARE TO BE CUT INTO HIPS, RIDGES, ETC., UNLESS NOTED OTHERWISE. TILE, SLATE AND OTHER HEAVY ROOF COVERINGS SHALL USE 2x8 SPF#2 AT 16"o.c. WITH 3/4" MIN. SHEATHING WITH (2) LAYERS OF #15 FELT, OR AS RECOMMENDED BY THE ROOF COVERING MANUFACTURER.
4. COLLAR TIES SHALL BE 2x6 AT 48"o.c. AT ALL RIDGES UNLESS NOTED OTHERWISE AND LOCATED A NOMINAL 3" BELOW THE RIDGE. VAULTED CEILING REQUIRE SPECIAL COLLAR TIES OR A RIDGE BEAM. SEE THE END OF TABLE R802.5.1 IN THE CODE UNLESS OTHERWISE DETAILED ON THE PLAN.
5. ALL HIPS, VALLEYS, AND RIDGES ARE 2x10 SPF#2 UNLESS NOTED OTHERWISE.
6. ALL "HOGS" SHALL BE COMPOSED OF TWO 2x6's OR TWO 2x8's, AS INDICATED ON THE PLAN. THE BOARDS SHALL BE FASTENED TOGETHER AT THEIR ENDS WITH 16d NAILS AT 4"o.c. TO FORM AN "L" SHAPE.
7. RAFTERS MAY BE SPLICED OVER HOGS. SPLICE RAFTER HOGS ONLY AT ROOF BRACE.
8. GABLE END FRAMING MUST BE BRACED PARALLEL TO RIDGES WITH A MINIMUM OF 2x6 DIAGONAL BRACES AT 6" o.c. ALONG THE GABLE WALL TO INTERIOR CEILING JOISTS. BRACE TO BEAR ON 2x6 HOGS AND TO THE GABLE WALL AT APPROXIMATELY MID-HEIGHT OF GABLE WALLS.
9. WHERE CEILING JOISTS RUN PARALLEL TO GABLE WALLS, INSTALL 2x4x6'-0" LONG STRONGBACKS FLATWISE SPACED AT 6'-0"o.c. TYING TO THE TOPS OF EACH CROSSING CEILING JOIST WITH 3-10d NAILS AND TO THE GABLE WALL AND LOWER WALL STUDS WITH SIMPSON LSTA 24 BENT STRAPS FASTENED WITH AT LEAST 8-10d NAILS INTO THE WALL STUD AND INTO THE STRONGBACK. SEE DETAILS BELOW:

GABLE WALL ATTACHMENT

ROOF PLAN LEGEND:

1. ⊗ INDICATES LOCATION OF ROOF BRACE POINT AT RAFTER LEVEL.
2. ⟶ ARROW AWAY FROM THE BRACE POINT INDICATES DIRECTION OF ROOF BRACE TO PARTITION, BEAM, OR OTHER BRACE POINT BELOW.
3. ⟶ ARROW INTO BRACE POINT INDICATES A VERTICAL OR ALMOST VERTICAL ROOF BRACE TO PARTITION, BEAM OR OTHER BRACE POINT BELOW.
4. ROOF BRACES UNDER 7'-0" ARE 2-2x4 NAILED WITH 16d NAILS AT 9"o.c. VERTICALLY FROM TOP TO BOTTOM. BRACES LONGER THAT 7'-0" ARE (2)-2x6 T-BRACES. BRACES LONGER THAT 12'-0" MUST BE BRACED HORIZONTALLY IN TWO DIRECTIONS AT MID-HEIGHT.
5. MAXIMUM SPACING FOR ROOF BRACES IS TO BE AS FOLLOWS:
    - A) FOR (2) 2x6 HOG....................6'-0"o.c.

RAFTER HOG DETAIL

MATERIALS SPECIFICATIONS:

CONCRETE GENERAL NOTES:

1. EXCEPT WHERE OTHERWISE NOTED, FOR ALL CONCRETE, THE PROPORTIONS OF CEMENT, AGGREGATE, AND WATER TO ATTAIN REQUIRED PLASTICITY AND COMPRESSIVE STRENGTH SHALL BE IN ACORDANCE WITH ACI 318 CODE. CONCRETE SHALL BE 2,500 PSI IN 28 DAYS FOR FOOTINGS AND 3,000 PSI FOR WALLS, BEAMS AND COLUMNS, UNLESS NOTED OTHERWISE.
2. BEFORE PLACING CONCRETE, ALL DEBRIS, WATER AND OTHER DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE PLACES TO BE OCCUPIED BY THE CONCRETE. THE PLACING OF ALL CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318 AND ASTM C94 REQUIREMENTS. CONCRETE SHALL BE RAPIDLY HANDLED FROM THE MIXER TO FORMS AND DEPOSITED AS NEARLY AS POSSIBLE TO ITS FINAL POSITION TO AVOID SEGREGATION DUE TO REHANDLING. CONCRET SHALL BE PLACE UPON CLEAN, DAMP SURFACES. VIBRATION SHALL BE APPLIED DIRECTLY TO THE CONCRETE AND SHALL BE SUFFICIENT TO CAUSE FLOW OF SETTLEMENT BUT NOT LONG ENOUGH TO CAUSE SEGREGATION OF THE MIX.
3. SLAB ON GRADE SHALL BE REINFORCED WITH 6x6, w1.4xw1.4 WELDED WIRE FABRIC OR FIBERMESH SYNTHETIC FIBERS-FIBRILLATED POLYPROPYLENE FIBERS ENGINEERED AND DESIGNED FOR USE IN CONCRETE, COMPYING WITH ASTM C1116, TYP III, 3/4" LONG MAXIMUM, UNIFORMLY DISPERSED IN CONCRETE MIX AT MANUFACTURER'S RECOMMENDED RATE, BUT NOT LESS THAT 1.5 lb./ CUBIC YARD.
4. CONSTRUCTION JOINTS SHALL BE LOCATED IN ACCORDANCE WITH ACI 301. ALL REINFORCING STEEL SHALL BE CONTINUOUS ACROSS JOINTS. IN SLAB ON GRADE, SAW CONTRACTION JOINTS SHALL NOT BE OVER 15 FEET CENTER TO CENTER EACH WAY. JOINTS SHALL BE SAWN A DEPTH OF ONE-THIRD OF THE SLAB THICKNESS. SAWING OF THE JOINTS SHALL COMMENCE AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT EXCESSICE RAVELING. FILL THE SAW CUTS WITH APPROVED JOINT FILLER AFTER THE CONCRETE HAS CURED.
5. CONCRETE, WHEN DEPOSITED, SHALL HAVE A TEMPERATURE NOT BELOW 50° F AND NOT ABOVE 90° F. THE METHODS AND RECOMMENDED PRACTICES AS DESCRIBED IN ACI 306 SHALL BE FOLLOWED FOR COLD WEATHER CONCRETING AND ACI 305 FOR HOT WEATHER CONCRETING.
6. FRESHLY PLACED CONCRETE SHALL BE PROTECTED FROM PREMATURE DRYING BY ONE OF THE FOLLOWING METHODS:
    - * PONDING OR CONTINUOUS SPRINKLING.
    - * ABSORPTIVE MAT OR FABRIC KEPT CONTINUOUSLY WET.
    - * WATERPROOF PAPER CONFORMING TO ASTM C171.
    - * APPLICATION OF AN APPROVED CHEMICAL CURING COMPOUND.
7. THE CURING SHALL CONTINUE UNTIL THE CUMULATIVE NUMBER OF DAYS WHEN THE AMBIENT TEMPERATURE ABOVE 50° F HAS TOTALED SEVEN. DURING CURING, THE CONCRETE SHALL BE PROTECTED FROM ANY MECHANICAL INJURY, LOAD STRESSES, SHOCK, VIBRATION, OR DAMAGE TO FINISHED SURFACES.
8. REINFORCING STEEL BARS SHALL BE DEFORMED IN ACCORDANCE WITH ASTM A305 AND OR A408 AND FORMED OF ASTM 0615-78 GRADE 60 STEEL. WELDED WIRE FABRIC REINFORCING TO BE ASTM A185 STEEL WIRE. ACCESSORIES SHALL CONFORM TO THE CRSI "MANUAL OF STANDARD PRACTICE." THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED OVER REINFORCING BARS:
    - * EXPOSED TO EARTH....................3"
    - * EXPOSED TO WEATHER....................1-1/2"
    - * SLABS NOT EXPOSED TO WEATHER.....3/4"
    - * BEAMS AND COLUMNS....................1-1/2"

MASONRY GENERAL NOTES:

9. MASONRY WALLS ARE TO BE OF THE SIZES AND IN THE LOCATIONS SHOWN ON THE PLANS AND SHALL BE CONSTRUCTED IN ACCORDNACE WITH THE PROVISIONS OF ACI 530.
10. HOLLOW LOAD BEARING UNITS: ASTM C90 MADE WITH LIGHTWEIGHT OR NORMAL WEIGHT AGGREGATES. GRADE N-I UNITS SHALL BE PROVIDED FOR EXTERIOR AND FOUNDATION WALLS. GRADE N-I OR S-I UNITS SHALL BE PROVIDED FOR OTHER LOAD-BEARING WALLS OR PARTITIONS.
11. CONCRETE BUILDING BRICK: ASTM C55 MADE WITH LIGHTWEIGHT OR NORMAL AGGREGATES, GRADE N-I OR S-I EXCEPT THAT BRICK EXPOSED TO WEATHER SHALL BE N-I.
12. MORTAR: ASTM C270-95, TYPE S PREPACKAGED MORTAR MIX WHICH SHALL NOT CONTAIN ANY NON-CEMENTITIOUS FILLERS COMBINED WITH NOT MORE THAN THREE PARTS SAND PER ONE PART MIX.
13. REINFORCING STEEL: ASTM A615 GRADE 60 STEEL DEFORMED BARS WHERE INDICATED ON THE PLANS. WHERE REINFORCING BARS ARE NSTALLED IN THE CELLS OF CONCRETE MASONRY UNITS, THEY SHALL BE SECURED WITH WIRE TIES AT INTERVALS NOT EXCEEDING 24" o.c. TO MAINTAIN THE BARS LOCATION IN THE CELL. THE TOLERANCE FOR SPACING OF VERTICAL BARS IS ±2" ALONG THE LENGTH OF THE WALL THE TOLERANCE FOR THE DISTANCE BETWEEN THE FACE OF THE CONCRETE MASONRY UNIT AND THE CENTER OF THE BAR SHALL NOT EXCEED ±1/2".
14. MORTAR POTRUSSION SHALL BE LESS THAN 1/2". A PROTRUSION OF 1/2" OR GREATER MUST BE REMOVED BEFORE GROUTING.
15. HORIZONTAL JOINT REINFORCEMENT: ASTM A82 FABRICATED FROM COLD DRAWN STEEL WIRE AND HOT DIP ZINC COATED (ASTM A153). IT SHALL CONSIST OF TWO OR MORE PARALLEL, LONGITUDINAL WIRE 0.1875" IN DIAMETER WITH WELD-CONNECTED CROSS WIRES 0.1483" IN DIAMETER AT A MAXIMUM OF 16" o.c. JOINT REINFORCEMENT IS TO BE INSTALLED IN EVERY OTHER COURSE AND IN THE FIRST TWO COURSES AT THE BOTTOM AND TOP OF WALL OPENINGS AND SHALL EXTEND NOT LESS THAN 24" PAST THE OPENING. SPLICES SHALL OVERLAP NOT LESS THAN 12".
16. EXECUTION: MASONRY UNITS SHALL BE LAID IN A RUNNING BAND PATTERN UNLESS NOTED OTHERWISE. THE WALLS SHALL BE CARRIED UP LEVEL AND PLUMB WITHIN THE TOLERANCES SPECIFIED IN ACI 530.1-88, SECTION 2.3.3.2. IF NONSTANDARD DIMENSIONS ARE ENCOUNTERED, BLOCK SHALL BE CUT WITH A MASONRY SAW TO FIT, NOT BY STRETCHING OR SHRINKING JOINTS. UNFINISHED WORK SHALL BE STEPPED BACK FOR JOINING WITH NEW WORK. TOOTHING WILL NOT BE PERMITTED EXCEPT WHERE SPECIFICALLY APPROVED. DAMAGED UNITS ARE TO BE CUT OUT AND NEW UNITS SET IN PLACE.
17. THE FILLED CELLS AND BOND BEAM BLOCKS OR REINFORCED MASONRY WALLS ARE TO BE FILLED WITH ASTM C476-91, GROUT FOR MASONRY WITH MINIMUM COMPRESSIVE STRESS OF 2,000 PSI AND SLUMP RANGE OF 8" TO 11". THE OUTSIDE FACE OF THE BOTTOM BLOCK OF EACH REINFORCED CELL IS TO BE BROKEN OUT FOR INSPECTION OF REINFORCING AND CLEAN OUT OF MORTAR DROPPINGS IN CELL. THE GROUT IS TO BE PUMPED INTO THE CELL IN MAXIMUM 5'-0" LIFTS AND IMMEDIATELY VIBRATED TO MINIMIZE ANY VOIDING OF THE GROUT. RECONSOLIDATE EACH LIFT BY VIBRATING SEVERAL INCHES INTO THE PRECEDING LIFT BEFORE PLASTICITY IS LOST. RECONSOLIDATE THE TOP LIFT AND FILL WITH GROUT ANY SPACE LEFT BY SETTLEMENT SHRINKAGE.

LUMBER GENERAL NOTES:

18. ALL COMMON FRAMING LUMBER IS TO MEET THE FOLLOWING MINIMUM SPECIFICATIONS AT 19% MOISTURE CONTENT:

MATERIAL	#2 SOUTHERN PINE	#2 SPRUCE
Fb(psi)	1050	875
Ft(psi)	575	450
Fc PERP (psi)	565	425
E(ksi)	1600	1400

19. ALL STRUCTURAL COMPOSITE LUMBER (LVL, LSL, PSL) IS TO MEET THE FOLLOWING MINIMUM SPECIFICATIONS:

MATERIAL	GIRDERS AND BEAMS (LVL, PSL)	COLUMNS (LSL) & RIMBOARDS
Fb(psi)	2600	1700
Ft(psi)	2510	1400
Fc PERP (psi)	750	400
E(ksi)	1900	1300

20. ALL GLUE LAMINATED TIMBER (GLU-LAM) IS TO MEET THE FOLLOWING MINIMUM SPECIFICATIONS:

MATERIAL	GIRDERS & BEAMS	COLUMNS
Fb(psi)	2400	1600
Ft(psi)	1700	1550
Fc PERP (psi)	740	560
E(ksi)	1800	1500

21. WHERE THREE OR FOUR-PLY "LAM" BEAMS ARE SIDE-LOADED (JOISTS FRAME INTO THE SIDE AT THE OUTSIDE PLIES), FASTEN ALL TRIPLE PLY LVLs TOGETHER WITH TWO ROWS OF 5" LONG TRUSSLOK SCREWS AT 16"o.c. AND FOUR PLY LVL's WITH TWO ROWS OF 6-3/4" TRUSSLOK SCREWS AT 16"o.c. UNLESS NOTED OTHERWISE ON THE PLANS. THE SCREWS SHALL BE LOCATED A MINIMUM OF 2" AND A MAXIMUM OF 3" FROM THE TOP OR BOTTOM OF THE BEAM.
22. BUILT-UP WOOD COLUMNS CONSISTING OF MULTIPLE STUDS SHALL HAVE EACH LAMINATION NAILED WITH 16d NAILS AT 9" o.c. OR HEADLOK SCREWS THAT CAN PENETRATE ALL PLIES.

STEEL GENERAL NOTES:

23. ALL STEEL WIDE FLANGE BEAMS SHALL CONFORM TO ASTM A572 HAVING A MINIMUM YIELD STRESS OF 50,000 PSI.
24. ALL STEEL PIPES ARE LABELED AS OUTSIDE DIAMTER AND SHALL BE SCHEDULE 40 OR BETTER WITH A MINIMUM YIELD STRESS OF 35,000 PSI.
25. ALL STEEL TUBES SHALL CONFORM TO ASTM A500, GRADE B, HAVING A MINIMUM YIELD STESS OF 46,000 PSI.
26. ALL OTHER SHAPES NOT LISTED ABOVE SHALL CONFORM TO ASTM A36 HAVING A MINIMUM YIELD STRESS OF 36,000 PSI.
27. UNLESS OTHERWISE NOTED, ALL WELDS SHALL BE FILLET TYPE WITH A MINIMUM 3/16" LEG. WELDING ELECTRODES SHALL BE E70XX TYPE HAVING A MINIMUM YIELD STRENGTH OF 70,000 PSI. WELDING WORK AND MATERIALS SHALL CONFORM TO THE AMERICAN WELDING SOCIETY WELDING CODE (AWS D.1).
28. BOLTED CONNECTIONS SHALL INCLUDE HIGH STRENGTH BOLTS CONFORMING TO ASTM A325. FOUNDATION ANCHOR BOLTS OR TIE RODS SHALL CONFORM TO ASTM A36 HAVING A MINIMUM YIELD STRENGTH OF 36,000 PSI.
29. THE WEBS OF STEEL BEAMS THAT HAVE MEMBERS FRAMING INTO THEM MST BE PACKED OUTWITH 2x MEMBERS CUT TO FIT SECURELY BETWEEN THE FLANGES. THE BLOCKING IS TO BE SECURED TO THE STEEL BEAM WITH 1/2"⌀ BOLTS AT 24"o.c. STAGGERED. MEMBERS FRAMING INTO THE STEEL BEAMS MUST BE SECURED WITH PROPER HANGERS. 2x2 LEDGERS ARE ACCEPTABLE ONLY FOR ATTIC JOISTS.

COLD-FORM STEEL NOTES:

30. ALL STRUCTURAL FRAMING TO CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) AND THE AMERICAN IRON AND STEEL INSTITUTE (AISI).

NUMBER OF STUDS / BLOCKING TRANSFER LOAD DETAL AT ENGINEERED FLOOR SYSTEM

NUMBER OF STUDS / BLOCKING TRANSFER LOAD DETAL AT ENGINEERED FLOOR SYSTEM

PIPE COLUMN / BLOCKING TRANSFER LOAD DETAL AT ENGINEERED FLOOR SYSTEM

TO THE BEST OF HIS KNOWLEDGE,THE DESIGNER HAS PREPARED THESE PLANS TO COMPLY WITH THE CLIENT'S SPECIFICATIONS AND LOCAL BUILDING CODES IN EFFECT AT THE TIME. ALTHOUGH EVERY REASONABLE EFFORT HAS BEEN MADE TO AVOID ERRORS, OMMISIONS, AND MISTAKES, THE CONTRACTOR AND/OR CLIENT SHALL VERIFY ALL CONDITIONS, DIMENSIONS, DETAILS, AND SPECIFICATIONS. THE DESIGNER WILL NOT BE LIABLE FOR HUMAN ERROR AFTER CONSTRUCTION BEGINS.

1801 POARCH ROAD
LINCOLNTON, NC 28092
(980) 429-4000
SBEAL2040@YAHOO.COM

SHANE BEAL
DRAFTING

S0.0

SCALE: 1/4" - 1'-0"
DRAWN BY: MSJ DRAFTING
DATE: JANUARY 11, 2024
REVISION:
REVISION:
REVISION:

PROJECT NAME:
A NEW GARAGE FOR:
JORDAN DANEKER

PROJECT ADDRESS:
3949 CARATOKE HWY
BARCO, NC 27917

PROJECT 1

S0.0

BALLOON WALL FRAMING SCHEDULE

FRAMING MEMBER SIZE	MAX HEIGHT(PLATE TO PLATE) 115 MPH ULTIMATE DESIGN WIND SPEED
2x4 @ 16"o.c.	10'-0"
2x4 @ 12"o.c.	12'-0"
2x6 @ 16"o.c.	15'-0"
2x6 @ 12"o.c.	17'-9"
2x8 @ 16"o.c.	19'-0"
2x8 @ 12"o.c.	22'-0"
(2)2x4 @ 16"o.c.	14'-6"
(2)2x4 @ 12"o.c.	17'-0"
(2)2x6 @ 16"o.c.	21'-6"
(2)2x6 @ 12"o.c.	25'-0"
(2)2x8 @ 16"o.c.	27'-0"
(2)2x8 @ 12"o.c.	31'-0"

a. ALL HEIGHTS ARE MEASUED SUBFLOOR TO TOP OF WALL PLATE

b. WHEN SPLIT-FRAMED WALLS ARE USED FOR HEIGHTS OVER 12', THE G.C. SHALL ADD 6' MIN. OF CS16 COIL STRAPPING, CENTERED OVER THE WALL BREAK

c. FINGER-JOINTED MEMBERS MAY BE USED FOR CONTINUOUS HEIGHTS WHERE TRADITIONALLY MILLED LUMBER LENGHTS ARE LIMITED.

TYP. HANGERS FOR JOIST & BEAMS

NOTE: ALL HANGERS BY SIMPSON STRONG TIE CO., INC. (BRAND-NAME EQUIVALENTS ACCEPTABLE)

MEMBERS	HANGER
2x8	LUS28
2x10	LUS210
2x12	LUS210
(2) 2x8	HUS28-2
(2) 2x10	HUS210-2
(2) 2x12	HUS212-2
(3) 2x8	LUS28-3
(3) 2x10	LUS210-3
(3) 2x12	HU212-3 MIN.
(2) 1-3/4"x9-1/4" LVL	HGUS410
(2) 1-3/4"x9-1/2" LVL	HGUS410
(2) 1-3/4"x11-1/4" LVL	HGUS412
(2) 1-3/4"x11-7/8" LVL	HGUS412
(2) 1-3/4"x14" LVL	HGUS414
(2) 1-3/4"x16" LVL	HGUS414
(2) 1-3/4"x18" LVL	HGUS414
(3) 1-3/4"x9-1/4" LVL	HGUS5.50/10
(3) 1-3/4"x9-1/2" LVL	HGUS5.50/10
(3) 1-3/4"x11-1/4" LVL	HGUS5.50/12
(3) 1-3/4"x11-7/8" LVL	HGUS5.50/12
(3) 1-3/4"x14" LVL	HGUS5.50/14
(3) 1-3/4"x16" LVL	HGUS5.50/14
(3) 1-3/4"x18" LVL	HGUS5.50/14
(4) 1-3/4"x9-1/4" LVL	HGUS7.25/10
(4) 1-3/4"x9-1/2" LVL	HGUS7.25/10
(4) 1-3/4"x11-1/4" LVL	HGUS7.25/12
(4) 1-3/4"x11-7/8" LVL	HGUS7.25/12
(4) 1-3/4"x14" LVL	HGUS7.25/14
(4) 1-3/4"x16" LVL	HGUS7.25/14
(4) 1-3/4"x18" LVL	HGUS7.25/14

HEADER SIZE REQUIREMENTS U.N.O.

3.5" DOUBLE HEADER w/ 1/2" SHEATHING u.n.o.

EXTERIOR AND INTERIOR BEARING WALLS, SPF #2 GRADE or BETTER

ROUGH OPENING	SIZES	JACK STUDS/ KING STUDS
< 2'-6"	(2) 2x6's	1J/1K
< 3'-0"	(2) 2x8's	1J/1K
3'-1" thru 4'-0"	(2) 2x8's	2J/2K
4'-1" thru 6'-0"	(2) 2x10's	2J/3K
6'-1" thru 8'-0"	(2) 2x12's	3J/3K
8'-1" thru 10'-0"	(2) 2x12's	3J/4K
10'-1" thru 12'-0"	(2) 11-1/4" LVL's	3J/5K
12'-1" thru 16'-0"	SEE PLAN	SEE PLAN/6K
16'-1" +	SEE PLAN	SEE PLAN

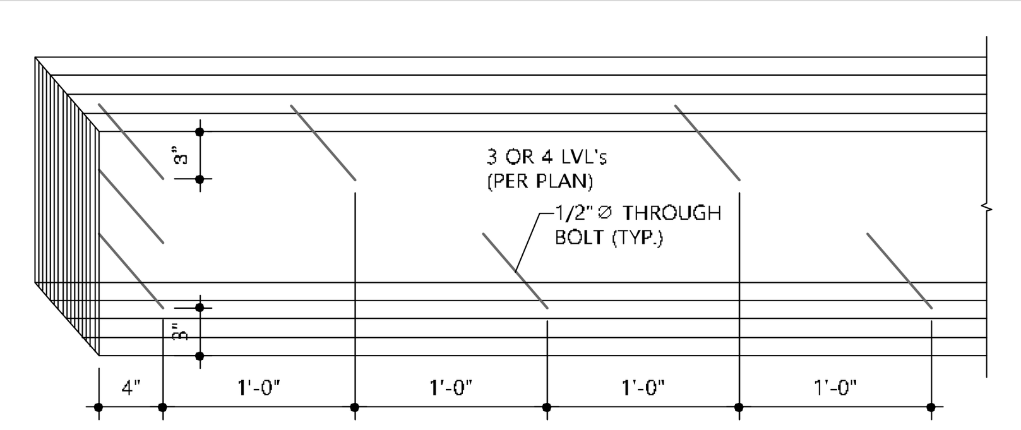
WALL STUD REQUIREMENTS

EXTERIOR WALL HIEGHT	STUD SIZE AND SPACING
H < 10'-0"	2x4 @ 16" o.c.
10'-0" < H < 11'-0"	2x4 @ 12" o.c.
11'-0" < H < 18'-0"	2x6 @ 16" o.c.
H > 11'-0"	CONSULT ENGINEER

FULL HEIGHT STUDS (KING)

HEADER SPAN (FEET)	STUD SPACING 16"	STUD SPACING 24"
UP TO 3'-0"	1	1
>3'-0" TO 4'-0"	2	1
>4'-0" TO 8'-0"	3	2
>8'-0" TO 10'-0"	4	3
>10'-0" TO 12'-0"	5	3
>12'-0" TO 16'-0"	6	4
>16'-0"	SEE PLAN	SEE PLAN

LVL BOLTING PATTERN DETAIL



GENERAL PLAN NOTES

1. DRAWINGS ARE NOT TO BE SCALED; DIMENSIONS IN QUESTION SHALL BE CLARFIFIED BY ARCHITECT.
2. ALL EXTERIOR DIMENSIONS ARE SHOWN TO THE OUTSIDE FACE OF STUD; UNLESS NOTED OTHERWISE.
3. ALL INTERIOR DIMENSIONS ARE SHOWN TO THE INSIDE FACE OF STUD; UNLESS NOTED OTHERWISE.
4. ALL INTERIOR WALLS ARE ASSUMED TO BE 3-1/2" WOOD STUDS; UNLESS NOTED OTHERWISE.
5. ALL EXTERIOR WALLS ARE ASSUMED TO BE 3-1/2" WOOD STUDS (PLUS 1/2" EXTERIOR WALL SHEATHING); UNLESS NOTED OTHERWISE.
6. ALL DOORS TO BE CENTERED; UNLESS NOTED OTHERWISE.
7. PROVIDE WOOD BLOCKING IN WALLS FOR MOUNTING OF ALL CABINETS, TOILET ACCESSORIES AND OTHER WALL MOUNTED ITEMS.
8. ALL CABINETRY TO BE DESIGNED BY OTHERS AND SHALL MEET ALL APPLICABLE ACCESSIBILTY CODES (IF REQUIRED)
9. ALL FINISH AND COLOR SELECTIONS TO BE APPROVED BY ARCHITECT/G.C.
10. NUMBER OF EXTERIOR RISERS TO BE FIELD VERIFIED; AT LOCATIONS WHERE 4 OR MORE ARE REQUIRED A HANDRAIL WILL ALSO BE REQUIRED.
11. PROVIDE TERMITE CHEMICAL AT FOUNDATION; AS REQUIRED.
12. MINIMUM 22-1/2"(w) x 54-1/2"(l) ATTIC ACCESS DOOR w/ PULL DOWN LADDER TO BE DETERMINED ON SITE AND WEATHERSTRIPPED AND INSULATED WITH MIN. R-5.
13. HVAC RETURN(S) TO BE DETERMINED ON SITE.
14. ALL COUNTERTOPS TO BE 36" A.F.F.; UNLESS NOTED OTHERWISE.
15. ALL DOOR HEIGHTS ARE SHOWN ON PLANS.

FRAMING CONSTRUCTION-OTHER THAN ROOF

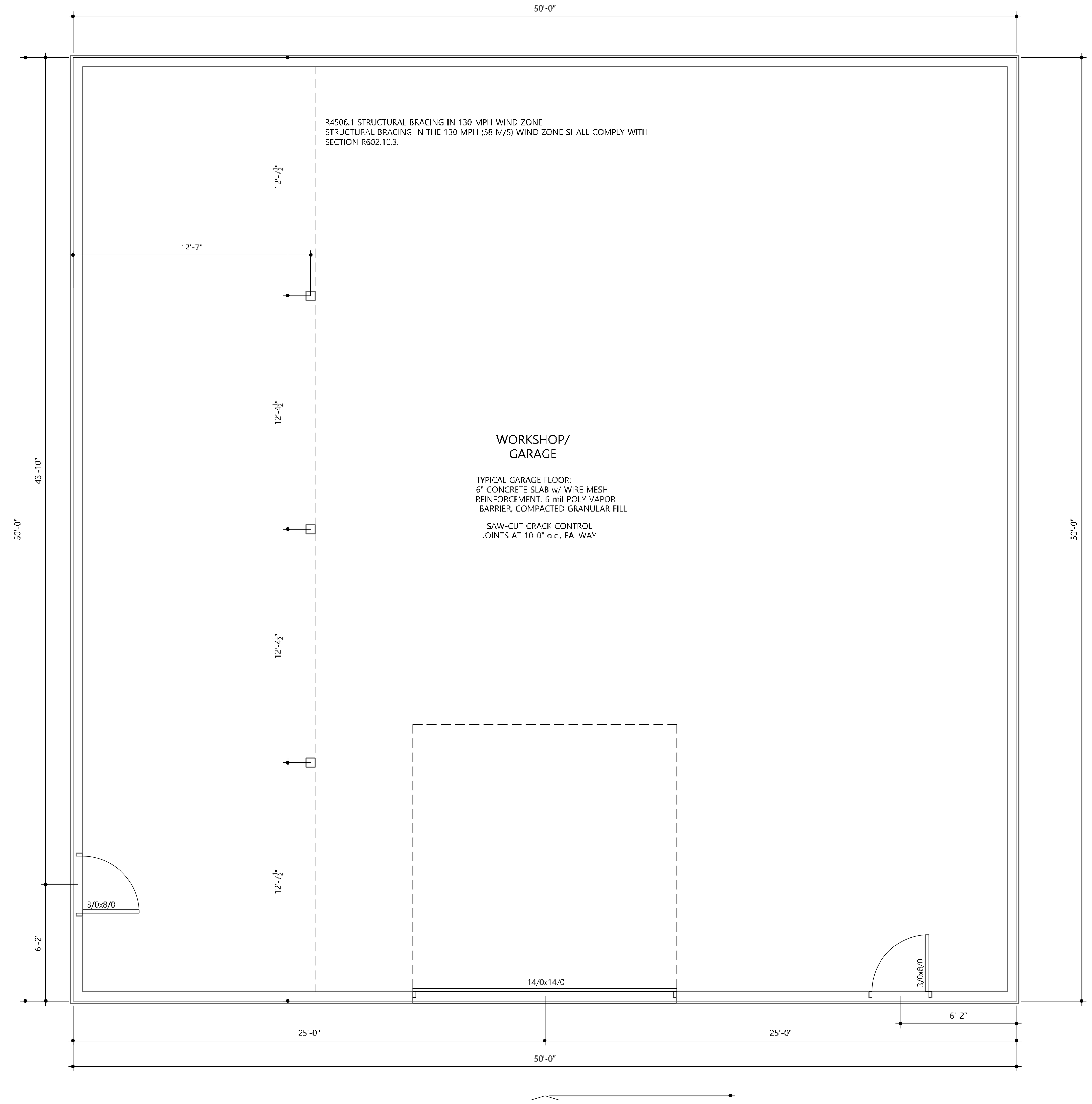
1. STEEL BEAMS MUST HAVE (5)2x4 STUD JACKS UNDER EACH END SUPPORT; UNLESS NOTED OTHERWISE.
2. MICRO-LAM BEAMS, SEE S0.1, CONSTRUCTION OTHER THAN ROOFS, NO'S. 7
3. ALL BRICK OVER LOWER ROOFS MUST HAVE ANGLE WITH STOPS LAG SCREWS TO STUDS ABOVE AND ACCORDANCE WITH DETAIL.
4. ALL WOOD I-JOISTS AND OPEN JOISTS MUST BE BRACED IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS PLUS DETAILS SHOWN ON PLANS.
5. ALL RAFTER BRACES MUST HAVE 2 STUDS FROM PLATE TO FOUNDATION OR BEAM BELOW THEM AT ALL FLOORS. NO BRACES ON CEILING PLATE WITHOUT STUDS DIRECTLY UNDER THEM.
6. WHERE PARTITIONS FALL BETWEEN FLOOR TRUSSES, 2"x4" LADDERS @ 16"o.c. MUST BE PLACED PERPENDICULAR TO THE TRUSSES TO SUPPORT THE PLYWOOD DECKING.
7. ON ALL OPEN WEB FLOOR TRUSSES OVER A 10' SPAN A MIN. SINGLE LINE OF 2"x4" SHALL BE NAILED TO DIAGONAL MEMBERS OR VERTICAL MEMBERS IN THE APPROXIMATE MID-SPAN AS A LOAD DISTRIBUTION MEMBER.
8. WHERE CEILING JOISTS ARE PARALLEL TO EXTERIOR WALLS AND RAFTERS BEAR ON STUD WALL TOP PLATE ADJACENT TO CEILING JOISTS, BRACE RAFTERS AND TOP PLATE TO 2x6 HOGS 6" LONG (MIN.) ON 6' CENTERS ALONG LENGTH OF CEILING JOISTS.
9. ALL 2-STORY OPEN GREAT ROOMS, LIVING ROOMS, WITH 2 OR MORE ADJACENT OPENINGS OF 3' OR LESS MUST USE A 3-1/2"x3-1/2"x1/2" STEEL ANGLE VERTICALLY FROM FLOOR TO TOP PLATE LAGGED TO KING STUDS WITH (3) 6"x3" LAGS @ 24"o.c. VERTICALLY AND LAGGED TO FLOOR AND TOP PLATE WITH (1) 3/16"x3" LAG THROUGH A 1/4" PLATE AT THE TOP AND BOTTOM. MULTIPLE OPENINGS WITH 3' OR LESS SPACE BETWEEN ROUGH OPENINGS SHALL HAVE AT LEAST (1) STEEL ANGLE VERTICALLY IN EACH MULLION SPACE. THE SHEATHING ON THIS STEEL REINFORCED PARTITION SHALL BE 1/2" PLYWOOD, NO OTHER SHEATHING SHALL BE PERMITTED.

STAIRWAYS

1. TREADS SHALL BE 9" DEEP PLUS A 1" NOSING
2. RISERS SHALL BE FIELD VERIFIED (NOT TO EXCEED 8-1/4")
3. STAIR SHALL BE 36" WIDE CLEAR MINIMUM AND SHALL HAVE A HANDRAIL AT A HEIGHT ABOVE THE NOSING OF 34"-38".
4. GUARD RAIL HEIGHT SHALL BE A MINIMUM OF 36" IN HEIGHT PER R312.1.2
5. REQUIRED GUARDS SHALL NOT HAVE OPENINGS FROM WALKING SURFACE TO GUARD RAIL HEIGHT THAT ALLOW PASSAGE OF A 4" SPHERE.
6. GUARDS ON OPEN SIDES OF STAIRS SHALL NOT HAVE OPENINGS ALLOWING PASSAGE OF A 4-3/8" SPHERE
7. TRIANGLE FORMED BY RISER, TREAD AND BOTTOM GUARD RAIL SHALLL NOT ALLOW PASSAGE OF A 6" SPHERE.

TABLE N1102.1.2 - INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE	FLOOR R-VALUE	BASEMENT WALL R-VALUE	SLAB R-VALUE AND DEPTH	CRAWL SPACE WALL R-VALUE
3	0.35	0.55	0.30	38 OR 30 CONT.	15 13+2.5	5/13 5/10 c.i.	19	5/13	0	5/13
4	0.35	0.55	0.30	38 OR 30 CONT.	15 13+2.5	5/13 5/10 c.i.	19	10/15	10	10/15
5	0.35	0.55	NR	38 OR 30 CONT.	19, 13+5, OR 15+3	13/17 13/12.5 c.i.	30	10/15	10	10/19



101 / B1.0 MAIN LEVEL PLAN 1/4" = 1'-0"

MAIN LEVEL

HEATED SQUARE FOOT	N/A SQ. FT.
COVERED FRONT PORCH	N/A SQ. FT.
GARAGE/STORAGE	2,500 SQ. FT.
COVERED REAR PORCH	N/A SQ. FT.

TOTAL

HEATED SQUARE FOOT	N/A SQ. FT.
UNHEATED SQUARE FOOT	2,500 SQ. FT.

1801 POARCH ROAD
LINCOLNTON, NC 28092
(980) 429-4000
SBEAL2040@YAHOO.COM

SHANE BEAL
DRAFTING

B1.0

SCALE:	1/4" = 1'-0"
DRAWN BY:	MSJ DRAFTING
DATE:	JANUARY 11, 2024
REVISION:	
REVISION:	
REVISION:	

MAIN LEVEL PLAN AND NOTES

PROJECT NAME:
A NEW GARAGE FOR:
JORDAN DANEKER

PROJECT ADDRESS:
3949 CARATOKE HWY
BARCO, NC 27917

PROJECT 1

B1.0

BALLOON WALL FRAMING SCHEDULE	
FRAMING MEMBER SIZE	MAX HEIGHT(PLATE TO PLATE) 115 MPH ULTIMATE DESIGN WIND SPEED
2x4 @ 16"o.c. 2x4 @ 12"o.c.	10'-0" 12'-0"
2x6 @ 16"o.c. 2x6 @ 12"o.c.	15'-0" 17'-9"
2x8 @ 16"o.c. 2x8 @ 12"o.c.	19'-0" 22'-0"
(2)2x4 @ 16"o.c. (2)2x4 @ 12"o.c.	14'-6" 17'-0"
(2)2x6 @ 16"o.c. (2)2x6 @ 12"o.c.	21'-6" 25'-0"
(2)2x8 @ 16"o.c. (2)2x8 @ 12"o.c.	27'-0" 31'-0"

a. ALL HEIGHTS ARE MEASUED SUBFLOOR TO TOP OF WALL PLATE

b. WHEN SPLIT-FRAMED WALLS ARE USED FOR HEIGHTS OVER 12', THE G.C. SHALL ADD 6' MIN. OF CS16 COIL STRAPPING, CENTERED OVER THE WALL BREAK

c. FINGER-JOINTED MEMBERS MAY BE USED FOR CONTINUOUS HEIGHTS WHERE TRADITIONALLY MILLED LUMBER LENGHTS ARE LIMITED.

TYP. HANGERS FOR JOIST & BEAMS

NOTE: ALL HANGERS BY SIMPSON STRONG TIE CO., INC. (BRAND-NAME EQUIVALENTS ACCEPTABLE)

MEMBERS	HANGER
2x8	LUS28
2x10	LUS210
2x12	LUS210
(2) 2x8	HUS28-2
(2) 2x10	HUS210-2
(2) 2x12	HUS212-2
(3) 2x8	LUS28-3
(3) 2x10	LUS210-3
(3) 2x12	HU212-3 MIN.
(2) 1-3/4"x9-1/4" LVL	HGUS410
(2) 1-3/4"x9-1/2" LVL	HGUS410
(2) 1-3/4"x11-1/4" LVL	HGUS412
(2) 1-3/4"x11-7/8" LVL	HGUS412
(2) 1-3/4"x14" LVL	HGUS414
(2) 1-3/4"x16" LVL	HGUS414
(2) 1-3/4"x18" LVL	HGUS414
(3) 1-3/4"x9-1/4" LVL	HGUS5.50/10
(3) 1-3/4"x9-1/2" LVL	HGUS5.50/10
(3) 1-3/4"x11-1/4" LVL	HGUS5.50/12
(3) 1-3/4"x11-7/8" LVL	HGUS5.50/12
(3) 1-3/4"x14" LVL	HGUS5.50/14
(3) 1-3/4"x16" LVL	HGUS5.50/14
(3) 1-3/4"x18" LVL	HGUS5.50/14
(4) 1-3/4"x9-1/4" LVL	HGUS7.25/10
(4) 1-3/4"x9-1/2" LVL	HGUS7.25/10
(4) 1-3/4"x11-1/4" LVL	HGUS7.25/12
(4) 1-3/4"x11-7/8" LVL	HGUS7.25/12
(4) 1-3/4"x14" LVL	HGUS7.25/14
(4) 1-3/4"x16" LVL	HGUS7.25/14
(4) 1-3/4"x18" LVL	HGUS7.25/14

HEADER SIZE REQUIREMENTS U.N.O.

3.5" DOUBLE HEADER w/ 1/2" SHEATHING u.n.o.
EXTERIOR AND INTERIOR BEARING WALLS, SPF #2 GRADE or BETTER

ROUGH OPENING	SIZES	JACK STUDS/ KING STUDS
< 2'-6"	(2) 2x6's	1J/1K
< 3'-0"	(2) 2x8's	1J/1K
3'-1" thru 4'-0"	(2) 2x8's	2J/2K
4'-1" thru 6'-0"	(2) 2x10's	2J/3K
6'-1" thru 8'-0"	(2) 2x12's	3J/3K
8'-1" thru 10'-0"	(2) 2x12's	3J/4K
10'-1" thru 12'-0"	(2) 11-1/4" LVL's	3J/5K
12'-1" thru 16'-0"	SEE PLAN	SEE PLAN/6K
16'-1" +	SEE PLAN	SEE PLAN

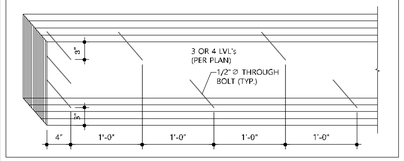
WALL STUD REQUIREMENTS

EXTERIOR WALL HIEGHT	STUD SIZE AND SPACING
H < 10'-0"	2x4 @ 16" o.c.
10'-0" < H < 11'-0"	2x4 @ 12" o.c.
11'-0" < H < 18'-0"	2x6 @ 16" o.c.
H > 11'-0"	CONSULT ENGINEER

FULL HEIGHT STUDS (KING)

HEADER SPAN (FEET)	STUD SPACING 16"	STUD SPACING 24"
UP TO 3'-0"	1	1
>3'-0" TO 4'-0"	2	1
>4'-0" TO 8'-0"	3	2
>8'-0" TO 10'-0"	4	3
>10'-0" TO 12'-0"	5	3
>12'-0" TO 16'-0"	6	4
>16'-0"	SEE PLAN	SEE PLAN

LVL BOLTING PATTERN DETAIL



GENERAL PLAN NOTES

1. DRAWINGS ARE NOT TO BE SCALED; DIMENSIONS IN QUESTION SHALL BE CLARIFIED BY ARCHITECT.
2. ALL EXTERIOR DIMENSIONS ARE SHOWN TO THE OUTSIDE FACE OF STUD; UNLESS NOTED OTHERWISE.
3. ALL INTERIOR DIMENSIONS ARE SHOWN TO THE INSIDE FACE OF STUD; UNLESS NOTED OTHERWISE.
4. ALL INTERIOR WALLS ARE ASSUMED TO BE 3-1/2" WOOD STUDS; UNLESS NOTED OTHERWISE.
5. ALL EXTERIOR WALLS ARE ASSUMED TO BE 3-1/2" WOOD STUDS (PLUS 1/2" EXTERIOR WALL SHEATHING); UNLESS NOTED OTHERWISE.
6. ALL DOORS TO BE CENTERED; UNLESS NOTED OTHERWISE
7. PROVIDE WOOD BLOCKING IN WALLS FOR MOUNTING OF ALL CABINETS, TOILET ACCESSORIES AND OTHER WALL MOUNTED ITEMS.
8. ALL CABINETRY TO BE DESIGNED BY OTHERS AND SHALL MEET ALL APPLICABLE ACCESSIBILITY CODES (IF REQUIRED)
9. ALL FINISH AND COLOR SELECTIONS TO BE APPROVED BY ARCHITECT/G.C.
10. NUMBER OF EXTERIOR RISERS TO BE FIELD VERIFIED; AT LOCATIONS WHERE 4 OR MORE ARE REQUIRED A HANDRAIL WILL ALSO BE REQUIRED.
11. PROVIDE TERMITE CHEMICAL AT FOUNDATION; AS REQUIRED.
12. MINIMUM 22-1/2"(w) x 54-1/2"(h) ATTIC ACCESS DOOR w/ PULL DOWN LADDER TO BE DETERMINED ON SITE AND WEATHERSTRIPPED AND INSULATED WITH MIN. R-5.
13. HVAC RETURN(S) TO BE DETERMINED ON SITE.
14. ALL COUNTERTOPS TO BE 36" A.F.F.; UNLESS NOTED OTHERWISE.
15. ALL DOOR HEIGHTS ARE SHOWN ON PLANS.

FRAMING CONSTRUCTION-OTHER THAN ROOF

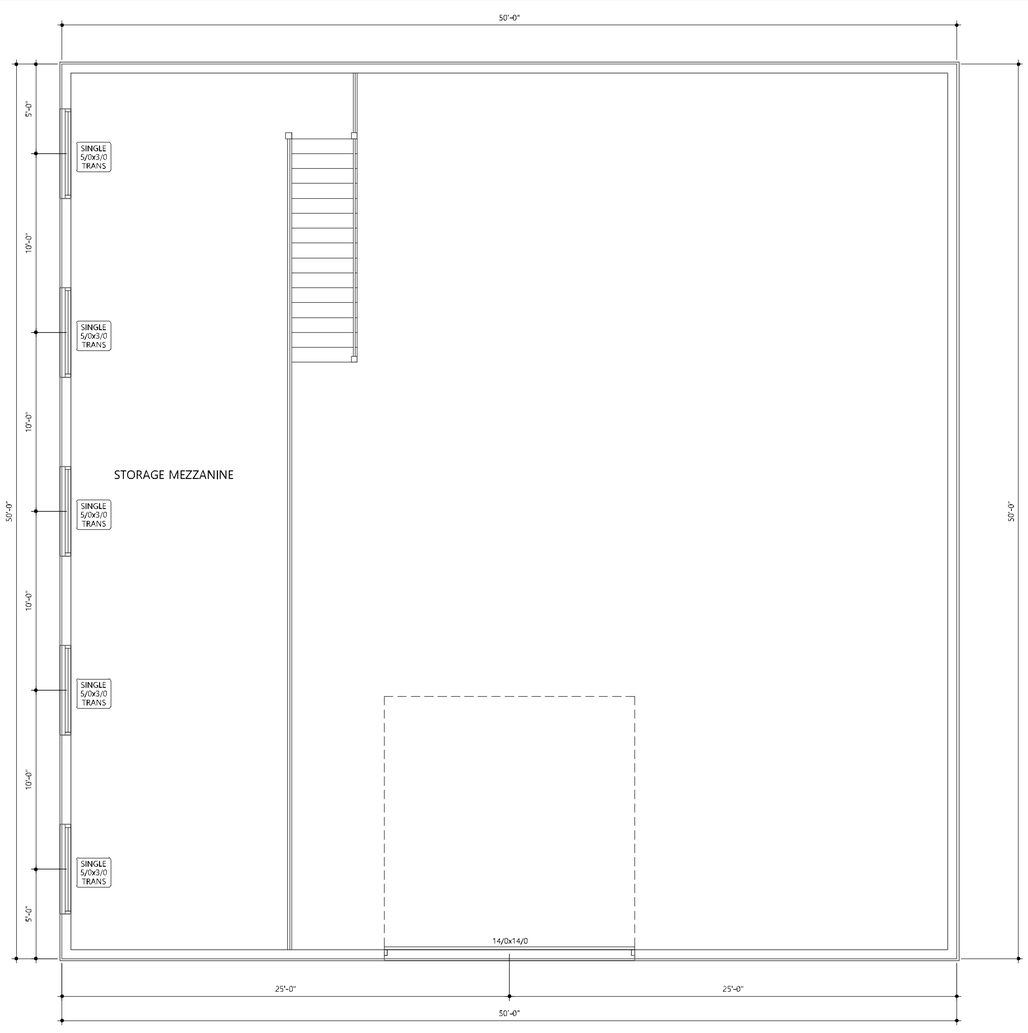
1. STEEL BEAMS MUST HAVE (S)2x4 STUD JACKS UNDER EACH END SUPPORT; UNLESS NOTED OTHERWISE.
2. MICRO-LAM BEAMS, SEE S0.1, CONSTRUCTION OTHER THAN ROOFS. NO'S. 7
3. ALL BRICK OVER LOWER ROOFS MUST HAVE ANGLE WITH STOPS LAG SCREWS TO STUDS ABOVE AND ACCORDANCE WITH DETAIL.
4. ALL WOOD I-JOISTS AND OPEN JOISTS MUST BE BRACED IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS PLUS DETAILS SHOWN ON PLANS.
5. ALL RAFTER BRACES MUST HAVE 2 STUDS FROM PLATE TO FOUNDATION OR BEAM BELOW THEM AT ALL FLOORS. NO BRACES ON CEILING PLATE WITHOUT STUDS DIRECTLY UNDER THEM.
6. WHERE PARTITIONS FALL BETWEEN FLOOR TRUSSES, 2"x4" LADDERS @ 16"o.c. MUST BE PLACED PERPENDICULAR TO THE TRUSSES TO SUPPORT THE PLYWOOD DECKING.
7. ON ALL OPEN WEB FLOOR TRUSSES OVER A 10' SPAN A MIN. SINGLE LINE OF 2"x4" SHALL BE NAILED TO DIAGONAL MEMBERS OR VERTICAL MEMBERS IN THE APPROXIMATE MID-SPAN AS A LOAD DISTRIBUTION MEMBER.
8. WHERE CEILING JOISTS ARE PARALLEL TO EXTERIOR WALLS AND RAFTERS BEAR ON STUD WALL TOP PLATE ADJACENT TO CEILING JOISTS, BRACE RAFTERS AND TOP PLATE TO 2x6 HOGS 6" LONG (MIN.) ON 6' CENTERS ALONG LENGTH OF CEILING JOISTS.
9. ALL 2-STORY OPEN GREAT ROOMS, LIVING ROOMS, WITH 2 OR MORE ADJACENT OPENINGS OF 3' OR LESS MUST USE A 3-1/2"x3-1/2"x1/2" STEEL ANGLE VERTICALLY FROM FLOOR TO TOP PLATE LAGGED TO KING STUDS WITH (3) 6"x3" LAGS @ 24"o.c. VERTICALLY AND LAGGED TO FLOOR AND TOP PLATE WITH (1) 3/16"x3" LAG THROUGH A 1/4" PLATE AT THE TOP AND BOTTOM. MULTIPLE OPENINGS WITH 3' OR LESS SPACE BETWEEN ROUGH OPENINGS SHALL HAVE AT LEAST (1) STEEL ANGLE VERTICALLY IN EACH MULLION SPACE. THE SHEATHING ON THIS STEEL REINFORCED PARTITION SHALL BE 1/2" PLYWOOD. NO OTHER SHEATHING SHALL BE PERMITTED.

STAIRWAYS

1. TREADS SHALL BE 9" DEEP PLUS A 1" NOSING
2. RISERS SHALL BE FIELD VERIFIED (NOT TO EXCEED 8-1/4")
3. STAIR SHALL BE 36" WIDE CLEAR MINIMUM AND SHALL HAVE A HANDRAIL AT A HEIGHT ABOVE THE NOSING OF 34"-38".
4. GUARD RAIL HEIGHT SHALL BE A MINIMUM OF 36" IN HEIGHT PER R312.1.2
5. REQUIRED GUARDS SHALL NOT HAVE OPENINGS FROM WALKING SURFACE TO GUARD RAIL HEIGHT THAT ALLOW PASSAGE OF A 4" SPHERE.
6. GUARDS ON OPEN SIDES OF STAIRS SHALL NOT HAVE OPENINGS ALLOWING PASSAGE OF A 4-3/8" SPHERE
7. TRIANGLE FORMED BY RISER, TREAD AND BOTTOM GUARD RAIL SHALLL NOT ALLOW PASSAGE OF A 6" SPHERE.

TABLE N1102.1.2 - INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE	FLOOR R-VALUE	BASEMENT WALL R-VALUE	SLAB R-VALUE AND DEPTH	CRAWL SPACE WALL R-VALUE
3	0.35	0.55	0.30	38 OR 30 CONT.	15 13+2.5	5/13 5/10 c.i.	19	5/13	0	5/13
4	0.35	0.55	0.30	38 OR 30 CONT.	15 13+2.5	5/13 5/10 c.i.	19	10/15	10	10/15
5	0.35	0.55	NR	38 OR 30 CONT.	19, 13+5, OR 15+3	13/17 13/12.5 c.i.	30	10/15	10	10/19



101 / B1.1 MEZZANINE PLAN 1/4" = 1'-0"

MAIN LEVEL	
HEATED SQUARE FOOT	N/A SQ. FT.
COVERED FRONT PORCH	N/A SQ. FT.
GARAGE/STORAGE	2,500 SQ. FT.
COVERED REAR PORCH	N/A SQ. FT.
TOTAL	
HEATED SQUARE FOOT	N/A SQ. FT.
UNHEATED SQUARE FOOT	2,500 SQ. FT.

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DRAFTING

B1.1

SCALE: 1/4" = 1'-0"
DRAWN BY: MD DRAFTING
DATE: JANUARY 11, 2024
REVISION:
REVISION:
REVISION:

MAIN LEVEL PLAN AND NOTES

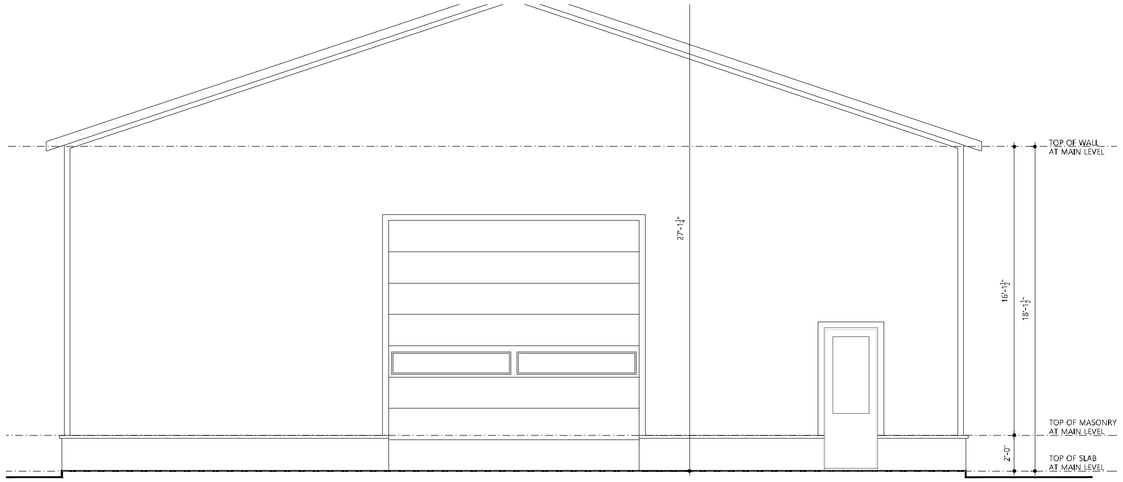
PROJECT NAME:
A NEW GARAGE FOR:
JORDAN DANEKER

PROJECT ADDRESS:
3949 CARATOKE HWY
BARCO, NC 27917

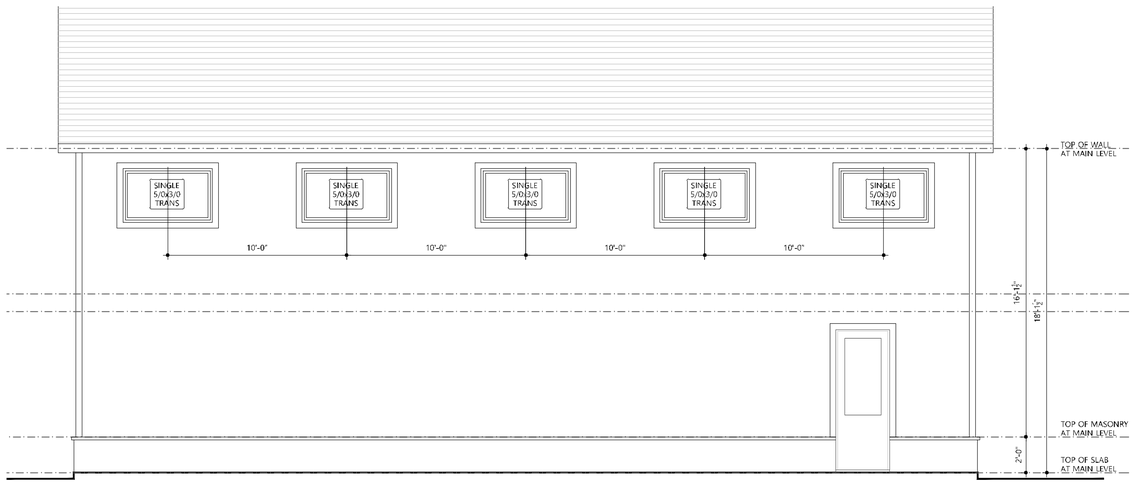
TO THE BEST OF MY KNOWLEDGE,THE DESIGNER HAS PREPARED THESE PLANS TO COMPLY WITH THE CLIENT'S SPECIFICATIONS AND LOCAL BUILDING CODES IN EFFECT AT THE TIME. ALTHOUGH EVERY REASONABLE EFFORT HAS BEEN MADE TO AVOID ERRORS, OMISSIONS, AND MISTAKES, THE CONTRACTOR AND/OR CLIENT SHALL VERIFY ALL CONDITIONS, DIMENSIONS, DETAILS, AND SPECIFICATIONS. THE DESIGNER WILL NOT BE LIABLE FOR HUMAN ERROR AFTER CONSTRUCTION BEGINS.

PROJECT 1

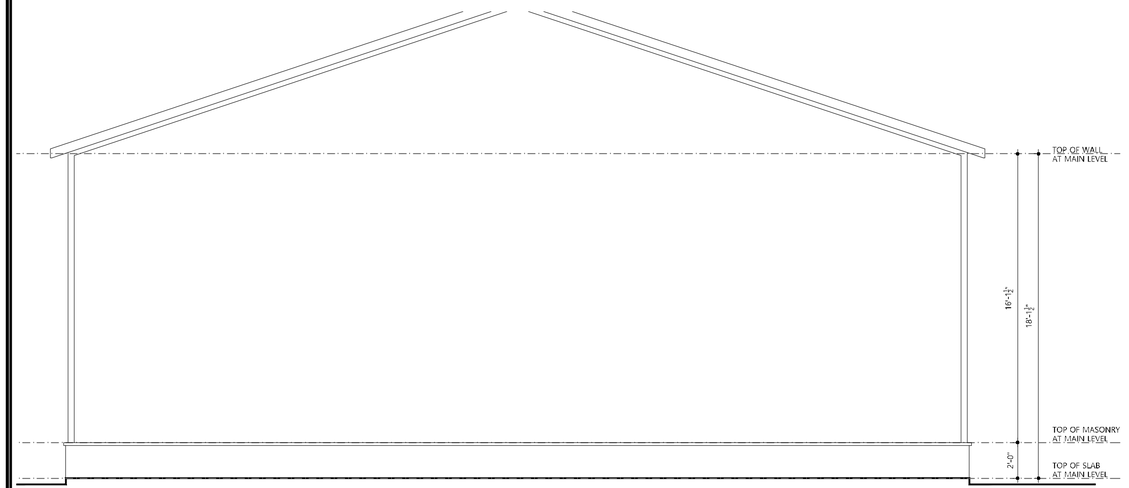
B1.1



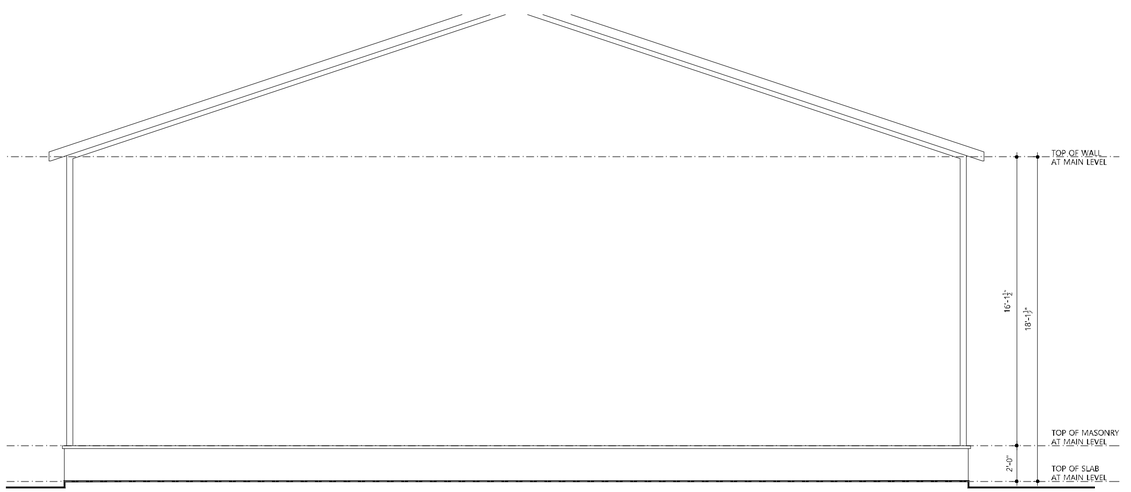
201 B2.0 FRONT ELEVATION 1/4" = 1'-0"



202 B2.0 LEFT SIDE ELEVATION 1/4" = 1'-0"



203 B2.0 REAR ELEVATION 1/4" = 1'-0"



204 B2.0 RIGHT SIDE ELEVATION 1/4" = 1'-0"

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SCALE: 1/4" = 1'-0"
DRAWN BY: MD DRAFTING
DATE: JANUARY 11, 2024
REVISION:
REVISION:
REVISION:

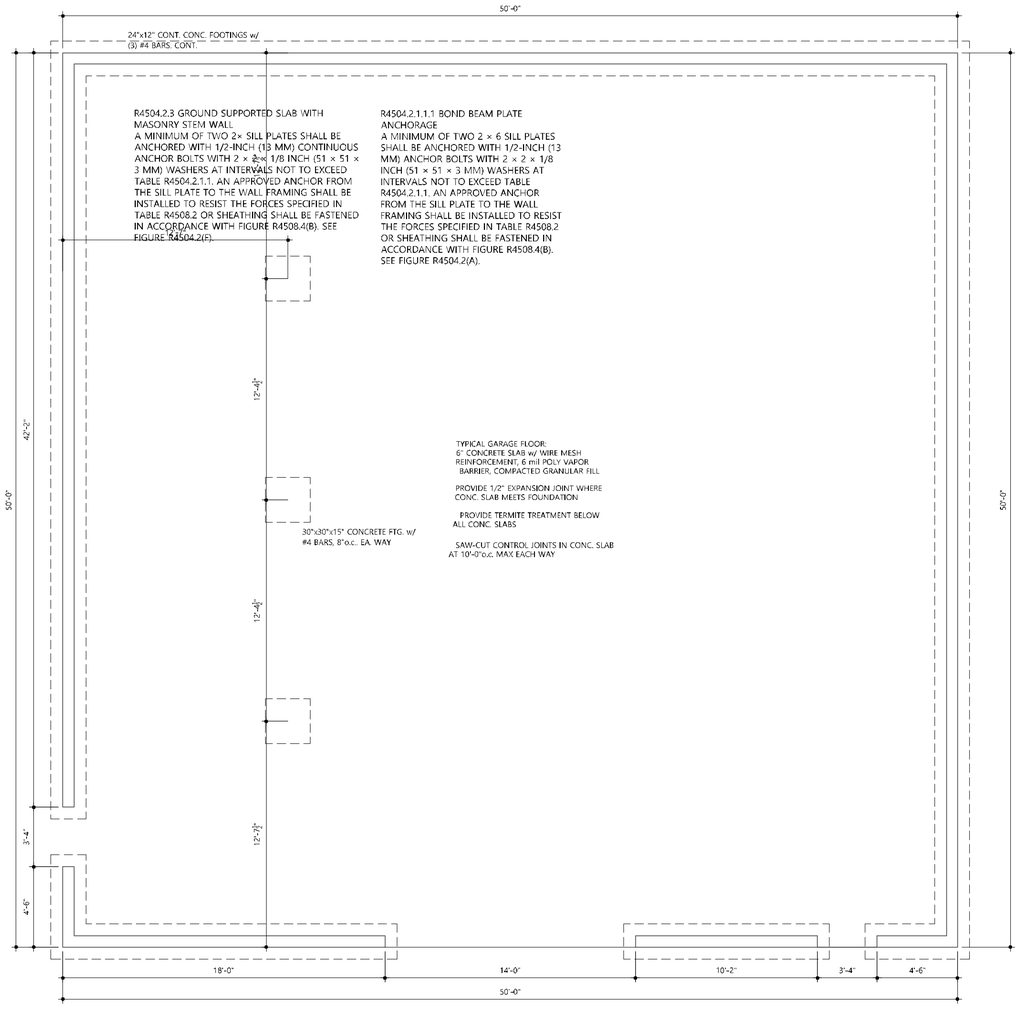
ELEVATIONS

PROJECT NAME:
A NEW GARAGE FOR:
JORDAN DANEKER

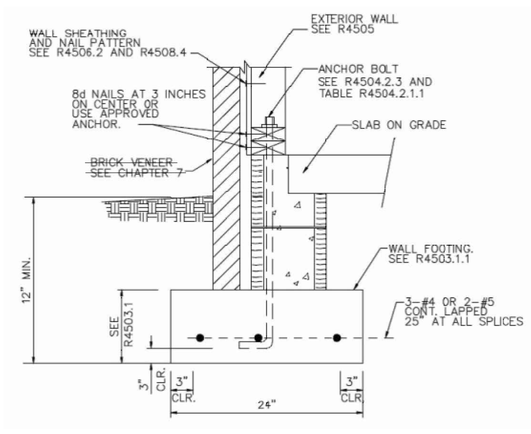
PROJECT ADDRESS:
3949 CARATOKE HWY
BARCO, NC 27917

PROJECT 1

B2.0



101 / S0.1 FOUNDATION PLAN 1/4" = 1'-0"



CRAWL SPACE VENTILATION NOTES

THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL BE NOT LESS THAN 1 SQ. FT. FOR EACH 150 SQ. FT. OF CRAWL SPACE GROUND AREA.
1,920 SQ. FT. / 150 SQ. FT. = 12.8 - 30 VENTS REQUIRED
IF GROUND SURFACE IS TREATED WITH AN APPOVED VAPOR RETARDER MATERIAL IN ACCORDANCE WITH SECTION R408.2 AND THE REQUIRED OPENINGS ARE PLACED SO AS TO PROVIDE CROSS-VENTING OF CRAWL SPACE
1,920 SQ. FT. / 1,500 SQ. FT. = 1.28 - 3 VENTS REQUIRED

ONE VENT SHALL BE LOCATED WITH IN 3'-0" OF EACH CORNER.

A MINIMUM ACCESS OPENING OF 18"x24" SHALL BE PROVIDED TO THE CRAWL SPACE. PROVIDE A TIGHT FITTING ACCESS DOOR/PANEL WITH A LATCH AND BE INSULATED TO A MINIMUM OF R-2.

IF MECHANICAL EQUIPMENT IS LOCATED IN CRAWL SPACE, PASSAGEWAY TO BE NO LESS THAN 22"x36" OR LARGE ENOUGH TO REMOVE LARGEST PIECE OF EQUIPMENT AND NO MORE THAN 20'-0" IN LENGTH TO THE APPLIANCE.

TABLE N1102.1.2 - INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE	FLOOR R-VALUE	BASEMENT WALL R-VALUE	SLAB R-VALUE AND DEPTH	CRAWL SPACE WALL R-VALUE
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4	0.35	0.55	0.30	38 OR 30 CONT.	15 13+2.5	5/13 5/10 c.i.	19	10/15	10	10/15
5	0.35	0.55	NR	38 OR 30 CONT.	19, 13+5, OR 15+3	13/17 13/12.5 c.i.	30	10/15	10	10/19

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S0.1

FOUNDATION PLAN AND DETAILS

SCALE: 1/4" = 1'-0"
DRAWN BY: MD DRAFTING
DATE: JANUARY 11, 2024
REVISION:
REVISION:
REVISION:

PROJECT NAME:
A NEW GARAGE FOR:
JORDAN DANEKER

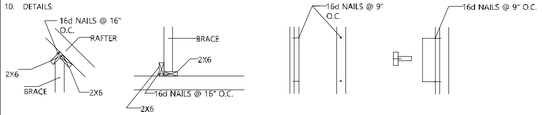
PROJECT ADDRESS:
3949 CARATOKE HWY
BARCO, NC 27917

PROJECT 1

S0.1

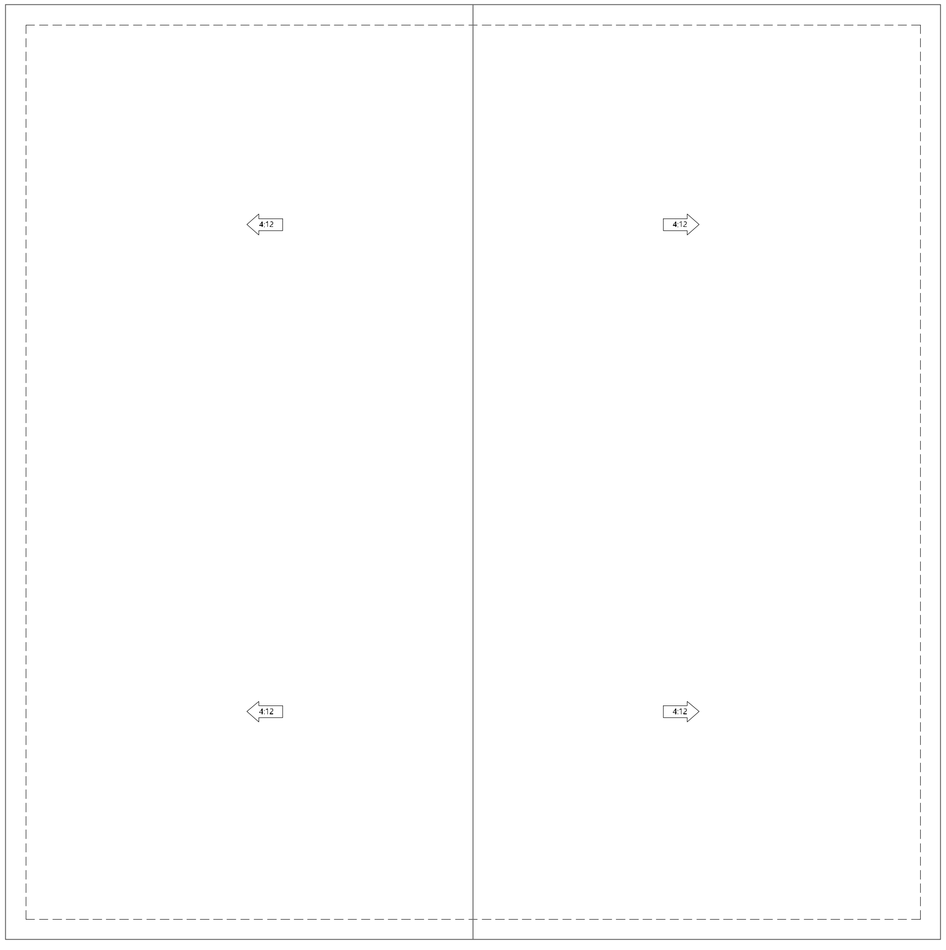
ROOF FRAMING RESIDENTIAL PLAN NOTES

1. RAFTERS TO BE 2x8's @ 16" o.c. UNLESS NOTED OTHERWISE.
2. ROOF SHEATHING OVER RAFTERS TO BE 1/2" NOMINAL ORIENTED STRAND BOARD (OSB). ROOF SHEATHING OVER TRUSSES TO BE 5/8" NOMINAL (OSB). NAIL PER MANUFACTURER'S RECOMMENDATIONS.
3. COLLAR (WIND) TIES TO BE 2X4 @ 4'-0" O/C AT ALL RIDGES. THREE COLLAR (WIND) TIES MINIMUM AT ALL RIDGES, EVEN IF TWO TIES MUST BE PUT ON ONE SET OF RAFTERS.
4. ⊗ -INDICATES LOCATION OF RAFTER BRACE AT RAFTER LEVEL.
5. ⊗ -INDICATES DIRECTION OF BRACE TO PARTITION / BEAM BELOW.
6. ⊗ -INDICATES VERTICAL OR ALMOST VERTICAL BRACE TO PARTITION / BEAM BELOW.
7. ALL BRACES TO BE 2-2X4 T-BRACES NAILED W/ 16d NAILS AT 9 INCHES O/C FULL LENGTH. BRACES LONGER THAN 10'-0" MUST BE BRACED HORIZONTALLY IN TWO OPPOSING DIRECTIONS U.N.O.
8. ALL HOGS ON CEILING JOISTS TO BE 2-2X6. NAIL VERTICAL HOG ON CEILING JOIST TO 2-2X4 BRACE WITH 2-16d NAILS.
9. MAXIMUM SPANNING OF RAFTER BRACES FOR 2X6 HOG IS 4'-0" O/C. RAFTERS CAN BE SPLICED OVER HOGS WITH 2-2X4 BRACES.
10. DETAILS.



2X6 HOG - ROOF | 2X6 HOG - CEILING | 2-2X4'S BRACE | T- BRACE

11. BRACE TOP OF ALL ROOF RAFTER KNEE WALLS TO CEILING JOISTS WITH DIAG. 2X4 AT 4'-0" O/C WITH 7 16d NAILS EACH END OF DIAGONAL BRACE.
12. ROOF TRUSSES TO BE BUILT AND DESIGNED PER MANUFACTURER'S RECOMMENDATIONS. SUBMIT TRUSS LAYOUT TO ENGINEER FOR REVIEW PRIOR TO FABRICATION.



101 / S1.2 ROOF PLAN 1/4" = 1'-0"

ROOF NOTES

- RAFTERS ARE 2X8 @ 16" O.C. (U.N.O.)
- HIPS AND RIDGES ARE 2X10 (U.N.O.)
- VALLEYS ARE 2X10 (U.N.O.)
- SHADED AREAS ARE OVERBUILT.
- INSTALL A MINIMUM OF (2) STUDS UNDER ALL ROOF BRACES THAT BEAR ON WALLS.

NOTE:

BUILDER TO CONFIRM THE SQ. IN./FT. VENTED AREA w/ THEIR MANUF. OF VENTING PRODUCTS USED FOR THIS CONSTRUCTION SO THEY WILL COMPLY w/ THE CALCULATED SQ. IN./FT. OF VENTED AREA REQUIRED.

PROVIDE 12" OVERHANG THROUGHOUT U.N.O.

ROOF VENTILATION CALCULATIONS

2" CONT. ALUM. SOFFIT VENT = 8 SQ. IN./FT. OF VENT AREA
RIDGE VENT = 12.5 SQ. IN./FT. OF VENT AREA
MAIN BUILDING (AS PER SECTION R806.2 OF 2018 NCRC):

ATTIC VENTILATED AREA = 4,160 SQUARE FEET

	w/o VAPOR	w/ VAPOR
60% SOFFIT	299.52	149.76
40% RIDGE	127.80	63.90

ATTIC VENTILATED AREA w/o VAPOR RETARDER: ATTIC S.F. x 144 SQ. IN. x 1/150 =

THE NET FREE CROSS VENTILATION AREA MAY BE REDUCED TO 1/300 WHEN A CLASS I OF II VAPOR RETARDER IS INSTALLED ON THE WARM-IN-WINTER SIDE OF THE CEILING.

ATTIC VENTILATED AREA w/ VAPOR RETARDER: ATTIC S.F. x 144 SQ. IN. x 1/300 =

TABLE N1102.1.2 - INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE	FLOOR R-VALUE	BASEMENT WALL R-VALUE	SLAB R-VALUE AND DEPTH	CRAWL SPACE WALL R-VALUE
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SCALE:	1/4" = 1'-0"
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ROOF PLAN

PROJECT NAME:
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PROJECT 1

S1.2