

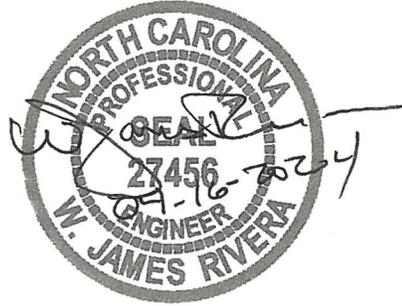
W. James Rivera, P.E.

P.O. Box 593
Kitty Hawk, NC 27949
757-287-7441
Email: seahawk1@earthlink.net

April 16, 2024

Mr. George Gardner
4513 Beacham Lane
Kitty Hawk, NC 27949

Re: TRC Comments
149 Greyson Loop
Powells Point, NC
Project # 23030



Dear George:

As requested, I have reviewed the TRC Comments dated April 11, 2024. My comments are as follows:

Planning

- (1) Breakdown of lot coverage added to sheet 1. Total impervious cover total was revised.
- (2) Vehicular landscape strips have been added to site plan details. Landscaping near the building protected by curb stops and stack-stone curbing. Outer landscape strips protected by an extra two foot offset from the vehicular surface.
- (3) Pictures of existing vegetation adjacent to the proposed building are attached. The major items are shown on the site plan. There are young pines and native bushes along the back ditch bank that you may want to give us credit for. Please advise.
- (4) An Eastern Red Cedar (ERC) was located on the center planter between the garage doors and is listed as a "Canopy Tree" in the Currituck Administrative Guide (p 3.20). A 60 foot radius has been added to the Site Plan Sheet 1.
- (5) See note 13 sheet 1. The staff's understanding is correct that roll-out cans will be used if needed as first option. The Owner will probably remove trash from site for disposal at home as the level of trash would not require scheduled pickup by a commercial hauler, even with roll-out cans.
- (6) Added note sheet 2 "REAR SECTION" detail re: UDO 5.3 fence.

Building & Fire Inspections

- (1) Added Appendix B
- (2) Added handicap space (8'x20') and access aisle (5') east end of building. See Site Plan.
- (3) The ISO calculation has been amended to include the possible future smaller metal storage shed east of the main building.
- (4) Added KnoxBox detail to sheet 1 of Building Plans. Appropriate literature has been given to Mr. Gardner to coordinate purchase and installation with Captain Chris Bailey.

Please let me know if there are any additional questions or concerns.

Respectfully Submitted,



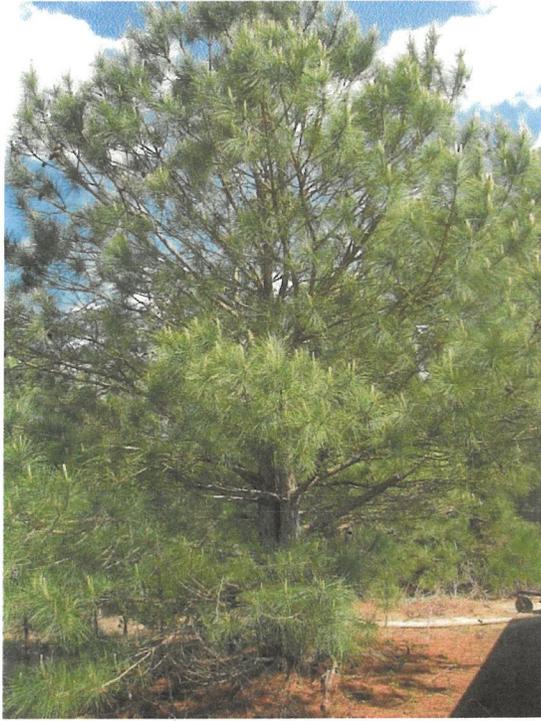
W. James Rivera, PE
(NC, VA, NV (ret.))



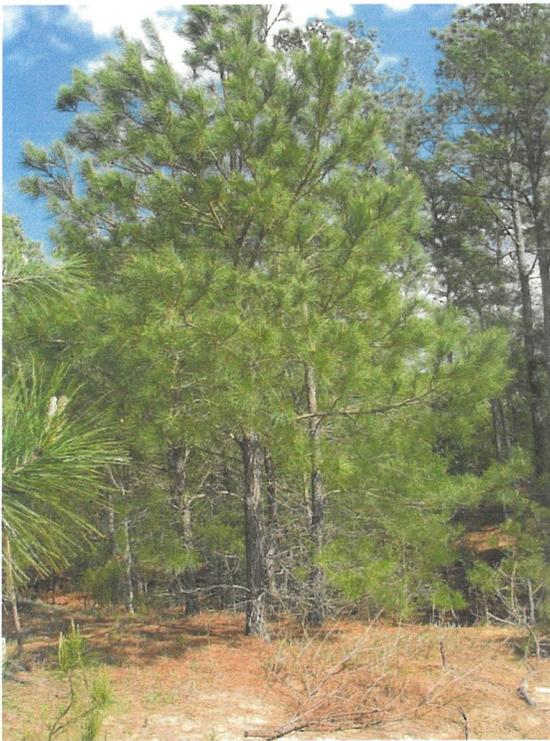
Crape Myrtles Planted by Developer Along Road Frontage



Existing Cedars Right Front



Twin Pines



Scrub Pines



Pine on Side Slope







Vegetation Along Bank (North Side) of Ditch Behind Building (5 pictures)

**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS**

Name of Project: George's Hobby Shop
 Address: 149 Greyson Loop, Powells Point, NC Zip Code: 27966
 Owner/Authorized Agent: George Gardner Phone: (252) 455-2447 Email: ghgfour@hotmail.com
 Owned By: George Gardner City/County State
 Code Enforcement Jurisdiction: City County State

CONTACT:

DESIGNER	FIRM	NAME	LICENSE	PHONE	EMAIL
Architectural	Gunderson Engineering, LLC	Craig E. Gunderson	48404	941-391-5980	GundersonEngineering.com
Civil	W. James Rivera, PE	Jim Rivera	27456	757-287-7441	seahawk1@earthlink.net
Electrical	W. James Rivera, PE				
Fire Alarm					
Plumbing	W. James Rivera, PE				
Mechanical	W. James Rivera, PE				
Sprinkler/Standpipe					
Structural	Gunderson Engineering, LLC				
Retaining Walls >5'					
Other					

2018 NC BUILDING CODE: New Building Shell/Core 1st Time Interior Completion
 Addition Phased Construction - Shell/Core
2018 NC EXISTING BUILDING CODE: Prescriptive Alteration Level I Historic Property
 Repair Alteration Level II Change of Use
 Chapter 14 Alteration Level III

CONTRACTED: (date) 2024 **CURRENT OCCUPANCY(S):**
RENOVATED: (date) **PROPOSED OCCUPANCY(S):** S-2
OCCUPANCY CATEGORY (Table 1604.5): Current: Proposed: II

BASIC BUILDING DATA:
 Construction Type: I-A II-A III-A IV-A V-A
 I-B II-B III-B IV-B V-B
 Sprinklers: No Partial NFPA-13 NFPA-13R NFPA-13D
 Standpipes: No Class I II III Wet Dry
 Primary Fire District: No Yes **Flood Hazard Area:** No Yes
 Special Inspections Required: No Yes

GROSS BUILDING AREA TABLE

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUBTOTAL
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor	0	3000	3000
Basement			
TOTAL	0	3000	3000

ALLOWABLE AREA

Primary Occupancy Classifications(s):

Assembly A-1 A-2 A-3 A-4 A-5
 Business
 Educational
 Factory F-1 Moderate F-2 Low
 Hazardous H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health H-5 HPM
 Institutional I-1 I-2 I-3 I-4
 I-1 Condition 1 2
 I-2 Condition 1 2
 I-3 Condition 1 2 3 4 5
 Mercantile
 Residential R-1 R-2 R-3 R-4
 Storage S-1 Moderate S-2 Low High Piled
 Parking Garage Open Closed Repair Garage
 Utility and Miscellaneous

Accessory Occupancy Classifications(s): none
Incidental Uses (Table 509): none
 This separation is not exempt as a Non-Separated Use (see exceptions)
Special Uses (Chapter 4 - List Code Sections): none
Mixed Occupancy: Separation: Exception:

$$\frac{\text{Actual area of Occupancy A}}{\text{Allowable area of Occupancy A}} + \frac{\text{Actual area of Occupancy B}}{\text{Allowable area of Occupancy B}} \leq 1$$

$$+ \quad = \quad \leq 1$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 ⁴ AREA	(C) AREA FOR FRONTAGE INCREASE ^{1,2}	(D) ALLOWABLE AREA PER STORY OR UNLIMITED ³
1	Owner Storage	3000	25,000		

¹Frontage area increases from Section 506.2 are computed thus:
 (a) Perimeter which fronts a public way or open space having 20 feet minimum width =
 (b) Total Building Perimeter =
 (c) Ratio (F/P) =
 (d) W = Minimum width of public way =

²Unlimited area applicable under conditions of Section 507.
³Maximum Building Area = total number of stories in the building X D (maximum 3 stories) (506.2)
⁴The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1
⁵Frontage increase is based on the un-sprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	55	14	
Building Height in Stories (Table 504.4)	3	1	

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
		REQ'D	PROVIDED W/ REDUCTION				
Structural Frame including columns, girders, tusses							
Bearing walls							
Exterior							
North	65 feet to street						
East	150 feet to prop line						
West	16 feet to prop line						
South	50 feet to prop line						
Interior							
Non-bearing walls and partitions							
Exterior							
North							
East							
West							
South							
Interior							
Floor Construction Including supporting beams and joists							
Floor Ceiling Assembly							
Columns Supporting Floors							
Roof Construction, including supporting beams and joists							
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures -Exit							
Shaft Enclosures -Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/Sleeping Unit Separation							
Incidental Use Separation							

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA %	ACTUAL SHOWN ON PLANS %
North > 65 feet	UP, NS	no limit	30%
East >150 feet	UP, NS	no limit	5%
South 50 feet	UP, NS	no limit	1.5%
West 16 feet	UP, NS	25%	0%

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: Yes No
 Exit Signs: Yes No
 Fire Alarm: Yes No
 Smoke Detection Systems: Yes No
 Carbon Monoxide Detection: Yes No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet # - see floor plan sheet 1 and site plan

- Fire and/or smoke rated wall locations - none
- Assumed and real property line locations - on site plan
- Exterior wall opening area with respect to distance to assumed property lines ((705.8)
- Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- Occupant loads for each area
- Exit access travel distance (1017)
- Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1)) - N/A
- Dead end lengths (1020.4) - none
- Clear exit widths for each door
- Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- Actual occupant load for each exit door
- A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation - none
- Location of doors with panic hardware (1010.1.10) - none
- Location of doors with delayed egress locks and the amount of delay (1010.1.9.7) - none
- Location of doors with electromagnetic egress locks (1010.1.9.9) - none
- Location of doors equipped with hold-open devices - none
- Location of emergency escape windows (1030) - none
- The square footage of each fire area - one area only
- The square footage of each smoke compartment for Occupancy Classification I-2 (407.5) - N/A
- Note any code exceptions or table notes that may have been utilized regarding the items above - none

ACCESSIBLE DWELLING UNITS (SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
not applicable							

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES REQUIRED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	8' ACCESS AISLE	
1	2	3	1			1
TOTAL	2	3	1			1

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	SPACE	WATERCLOSETS			URINALS			LAVATORIES			SHOWERS / TUBS		DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX	MALE	FEMALE	UNISEX	REGULAR	ACCESSIBLE	REGULAR	ACCESSIBLE	REGULAR	ACCESSIBLE	
EXISTG	0	0	0	0	0	0	0	0	0	0	0	0	0	
NEW	0	0	1	0	0	0	1	0	0	0	0	0	0	
REQ'D	0	0	1	0	0	0	1	0	0	0	0	0	0	

Private Building for Owner's Person Use

SPECIAL APPROVALS

Special Approval: (Local jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc. Describe below)
 ARHS Septic Permit has been issued

STRUCTURAL DESIGN (PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factors: Wind (IW) 1.0
 Snow (IS) 1.0
 Seismic (IE) 1.0

Live Loads: Roof 20 psf
 Mezzanine none
 Floor 100 psf

Ground Snow Load: 20 psf

Wind Load: Basic Wind Speed 130 mph (ASCE-7)
 Exposure Category B

SEISMIC DESIGN CATEGORY: A B C D

Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) I II III IV
Spectral Response Acceleration S_s _____ %g S₁ _____ %g
Site Classification (ASCE 7) A B C D E F
 Data Source: Field Test Presumptive Historical Data
Basic structural system (check one)
 Bearing Wall Dual w/Special Moment Frame
 Building Frame Dual w/Intermediate R/C or Special Steel
 Moment Frame Inverted Pendulum
Analysis Procedure: Simplified Equivalent Lateral Force Dynamic
Architectural, Mechanical, Components anchored? Yes No

LATERAL DESIGN CONTROL: Earthquake Wind

SOIL BEARING CAPACITIES:
 Field Test (provide copy of test report)
 Presumptive Bearing capacity 2000 (sand) psf
 Pile size, type, and capacity none

ENERGY SUMMARY

Steel building is uninsulated and un-conditioned per Owner's request.

Handicap bathroom is heated and ventilated with R-38 ceiling insulation and R-15 wall insulation

MECHANICAL DESIGN (PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

BUILDING IS UNHEATED AND UNCOOLED
 BATHROOM HAS ELECTRIC WALL HEATER

ELECTRICAL DESIGN (PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:
 Energy Code: Prescriptive Performance
 ASHRAE 90.1: Prescriptive Performance

Lighting schedule (each fixture type)
 see sheet 2
 all LED
 total wattage per fixture = 119.5
 1314.5 watts = 0.45 watts/ sq ft
 total interior wattage specified
 0.66 watts / sq ft (warehouse) or
 1.19 watts / sq ft (workshop)
 total exterior wattage specified
 192 watts
 Lighting Zone 2 Base Load 600 watts

Other Electrical
 Wall heater in bathroom
 Bosch Tronic 3000 P.O.U. Water Heater
 Broan Energy Star Bath Fan/Light

REV/NO	DATE	BY	CHECKED	PROJECT NO	DATE
STM				23030	04/16/2024

W. James Rivera, PE
 P.O. Box 593
 Kitty Hawk, NC 27949
 757-287-7441



GEORGE GARDNER HOBBY SHOP
 149 Greyson, Loop
 Powells Point, Currituck County, NC
 BUILDING CODE SUMMARY
 SHEET TITLE

SHEET NUMBER
 B
 SHEET 1 OF 1

REV. A: Added new access door left wall
 Added sheetrock surround at bathroom
 Added BFP in bathroom
 REV. B: Added east walkway and access aisle
 Added KnoxBox, added curbstops

REVISIONS	DATE	PROJ. MGR.	DESIGNED	DRAWN	CHECKED
A	03/27/24	JR	JR	JR	JR
B	04/19/24	JR	JR	JR	JR

PROJECT NO: 23030
 DATE: 03/06/24

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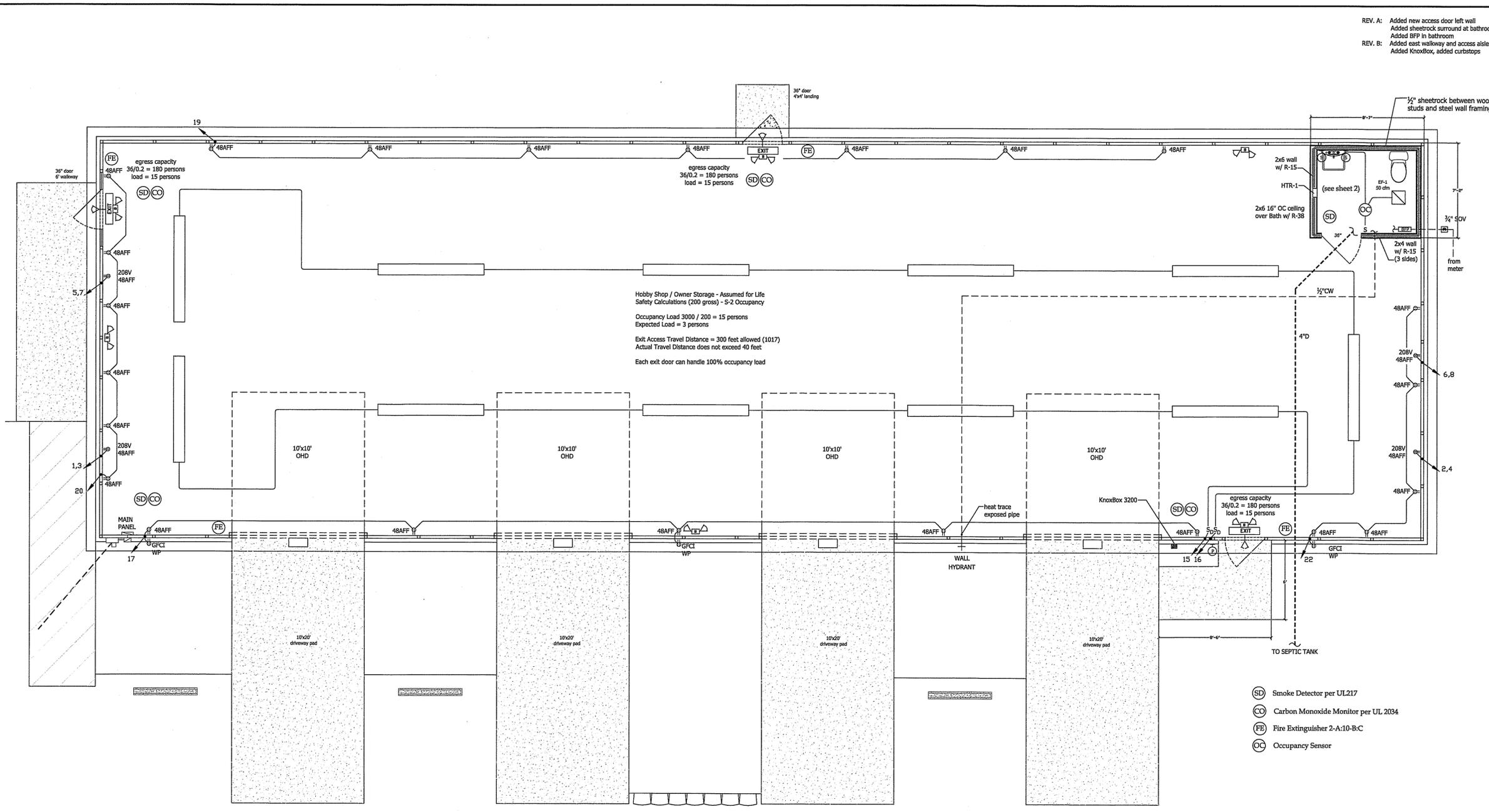


GEORGE GARDNER HOBBY SHOP
 149 Greyson, Loop
 Powells Point, Currituck County, NC

FLOOR PLAN

SHEET TITLE

SHEET NUMBER
 1
 SHEET 1 OF 2



- (SD) Smoke Detector per UL217
- (CO) Carbon Monoxide Monitor per UL 2034
- (FE) Fire Extinguisher 2-A:10-B:C
- (OC) Occupancy Sensor

FLOOR PLAN
 scale 1/4"=1'

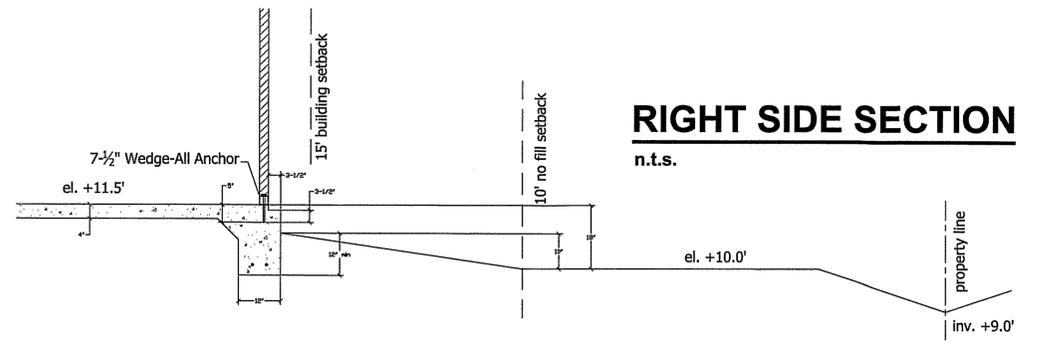
All new construction to be in strict accordance with the 2018 North Carolina Building Code, the 2018 North Carolina Mechanical Code, and the 2018 North Carolina Energy Code. Mechanical equipment shall comply with all local water conservation requirements.

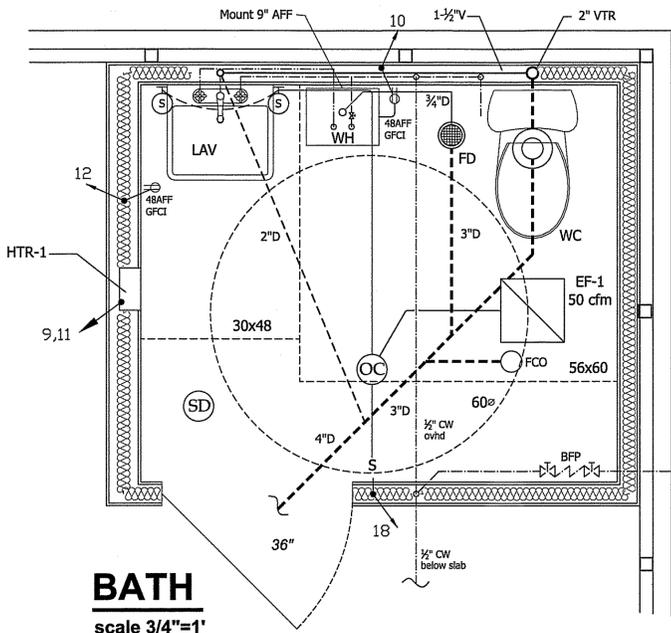
Do not scale drawings.

See Sheet 2 for Bath detail and all schedules

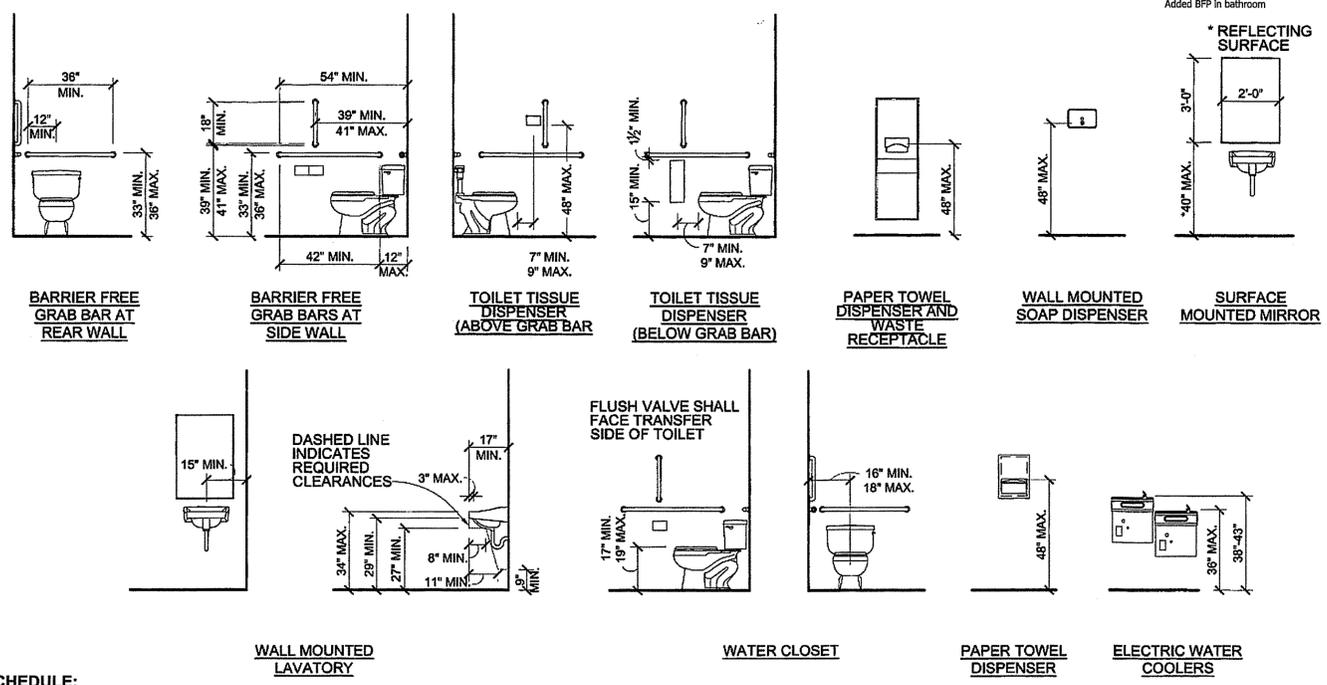
Mechanical work for this project is limited to heating and ventilating the handicap bathroom. The remaining parts of the building are un-heated, un-air-conditioned and un-ventilated. Air changes provided by manual operation of the four overhead doors by Owner.

Install KnoxBox 3200 Model 3261 High Security Key Lock Box on wall surface between front egress passage door and right side overhead door. Coordinate purchase from Knox with Captain Chris Bailey of the Currituck Department of Fire and EMS 252-232-7746





BATH
scale 3/4"=1'



PLUMBING EQUIPMENT SCHEDULE:

WATER CLOSET (WC): Pro-Flo, floor mounted, two-piece white vitreous china toilet, with elongated bowl with flush lever on transfer side of toilet (left side) and 16-1/2" bowl height, elongated toilet seat, brass floor flange, Brasscraft chrome angle 1/4 turn supply stop, Brasscraft SpeedPlumb Plus SS braided toilet connector. Shall meet all ADA requirements.

LAVATORY (LAV): Pro-Flo white vitreous china 20" x 18" wall hung sink (with mounting bracket) with 4" center faucet holes. Faucet to be polished chrome without drain and pop-up hole; with 0.5 GPM vandal resistant aerator. Provide compatible sink drain, chrome plated P-trap, Brasscraft G2 angle chrome 1/4 turn supply stops and Brasscraft SpeedPlumb Plus SS braided faucet connectors. Provide Truebro Lav-Guard 2 (or equal) ADA installation kit. Shall meet all ADA requirements.

WATER HEATER (WH): Provide point of use water heater, BOSCH-TRONIC 3000T ES-2.5 or equal, 120v, 1440 watt, 1/2" MPT conns, 3/4" T&P.

BACKFLOW PREVENTER (BFP): Watts Model LF007M3QT 3/4"

HOSE BIBB (HB): Provide frostproof wall hydrant/hose bibb with vacuum breaker on north wall in courtyard.

FLOOR CLEANOUT (FCO): Zurn C02450 PV3 for 3 PVC pipe connection.

FLOOR DRAIN (FD): Zurn FD-2202-PVC 3" General Purpose Floor Drain

INSULATE all above slab piping.

EXHAUST FAN SCHEDULE (EF)

EQUIPMENT	CFM	DRIVE TYPE	AMPS	VOLTS/PHASE	MODEL
EF-1	50	DIRECT	0.3	120/1	BROAN AE5011DCL QR EQUAL W/ LED LIGHT

HEATER

EQUIPMENT NO.	LOCATION	OUTSIDE AIR (CFM)	HEATING (BTU)	ELECTRICAL		ELEC. HEAT (KW)	MANUFACTURER & MODEL
				AMPS	V - PH - CY		
HTR-1	BATHROOM	50	6825	8.3	230/1/60	2 kW	CADET CSC202TW W/TSTAT & WALL CAN

LIGHTING LEGEND

SYMBOL							
STYLE	LOW BAY 14 FT AFF	OUTDOOR WALL PACK W/ MOTION SENSOR	INDOOR WALL MOUNT	OUTDOOR WALL MOUNT	INDOOR WALL MOUNT	PORCH LIGHT OUTDOOR WALL MOUNT	BATH SCONCE WALL MOUNT
LAMP	LED	LED	LED	LED	LED	LED	LED
WATTS	119.5	36	2.1	1.0	1.5W X 2 HEADS	16	16
LAMP MFR	LITHONIA	LITHONIA	E-CONOLIGHT	E-CONOLIGHT	E-CONOLIGHT	BY OWNER	BY OWNER
CRI	80	80					
COLOR TEMPERATURE	4000	4000					
INTENSITY	28 fc	1 fc 32w x 22'd area	90 lumens	45 lumens	154 lumens		
FIXTURE MFR	LITHONIA	LITHONIA	E-CONOLIGHT	E-CONOLIGHT	E-CONOLIGHT		
FIXTURE FEATURES	UFIT-L96-1600LM-SEF-MVOLT-DZ10-40K	TWR1-LED-ALO-SWW2-UVOLT-PE-DOBTXD	C-EE-A-EX-2LDF-RED-BB	C-EE-A-EMG-L-REM-WET-GR	C-EE-B-EMG-2L-BB-WHITE		
MOUNTING	CHAIN HUNG	WALL	WALL JBOX	WALL JBOX	WALL JBOX		
LENS	DIFFUSER	OUTDOOR	6" LETTERS	OUTDOOR	INDOOR		
TRIM FINISH	WHITE	WHITE	WHITE	WHITE	WHITE		
LOCATIONS:	WAREHOUSE INTERIOR	FRONT OUTSIDE WALL WITH PHOTOCCELL	EXIT DOORS	EXIT DOORS	WAREHOUSE INTERIOR		

LOAD SERVED	WIRE SIZE	AMP LOAD	CKT BRKR TRIP	CKT NO.	CKT NO.	CKT BRKR TRIP	AMP LOAD	WIRE SIZE	LOAD SERVED
WELDER RECEPTACLE**	6	56	60	1	2	4	60	6	WELDER RECEPTACLE**
TOOL RECEPTACLE	12	18	20	5	6	20	18	12	TOOL RECEPTACLE
BATHROOM WALL HEATER	12	8.3	20	11	10	20	13	12	WATER HEATER
SMOKE / CO ALARMS	12	5	20	13	12	20	1.8	12	RECEPTACLE BATH
INSIDE FRONT LIGHTS	12	5.1	20	15	16	20	6.1	12	OUTSIDE REAR LIGHTS
RECEPTACLES FRONT WALL	12	12.6	20	17	18	20	2.3	12	BATH LIGHTS / FAN
RECEPTACLES REAR WALL	12	12.6	20	19	20	20	10.8	12	RECEPTACLES LEFT WALL
EMERGENCY LIGHTS	12	5	20	21	22	20	10.8	12	RECEPTACLES RIGHT WALL
SPARE	---	---	---	23	24	---	---	---	SPARE
SPARE	---	---	---	25	26	---	---	---	SPARE
SPARE	---	---	---	27	28	---	---	---	SPARE
SPARE	---	---	---	29	30	---	---	---	SPARE

ELECTRICAL LEGEND	
	NEW WORK
	DUPLEX RECEPTACLE 20A, 125VAC MOUNT 18" AFF, UDN
	DUPLEX RECEPTACLE WITH INTERNAL GROUND FAULT PROTECTION 20A, 125VAC, MOUNT 18" AFF, FLUSH IN WALL, UDN
	SINGLE POLE SWITCH 20A, 120/277V, 48" AFF MAX., UDN
	SINGLE POLE SWITCH 20A W/ DIMMER, 120/277V, 48" AFF MAX., UDN
	SINGLE POLE SWITCH 20A W/ DIMMER, 120/277V, 48" AFF MAX., UDN
	JUNCTION BOX
	MOTOR CONNECTION AS NOTED
	DISCONNECT SWITCH 240V IN NEMA 1 ENCLOSURE UDN 2P=NO. OF POLES, 30=SWITCH RATING, 15=FUSE RATING (NF INDICATES NON-FUSIBLE AND 3R INDICATES ENCLOSURE TYPE IF REQUIRED)
	ELECTRICAL PANEL BOARD AS NOTED
	BRANCH CIRCUIT NUMBER FOR AREA INDICATED
	EMERGENCY LIGHTS / EXIT SIGNS
	WIRING RUN CONCEALED ABOVE CEILING OR IN WALL

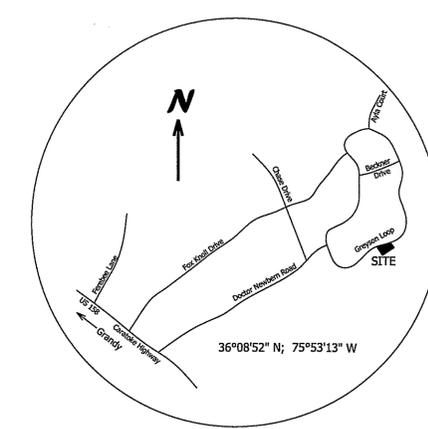
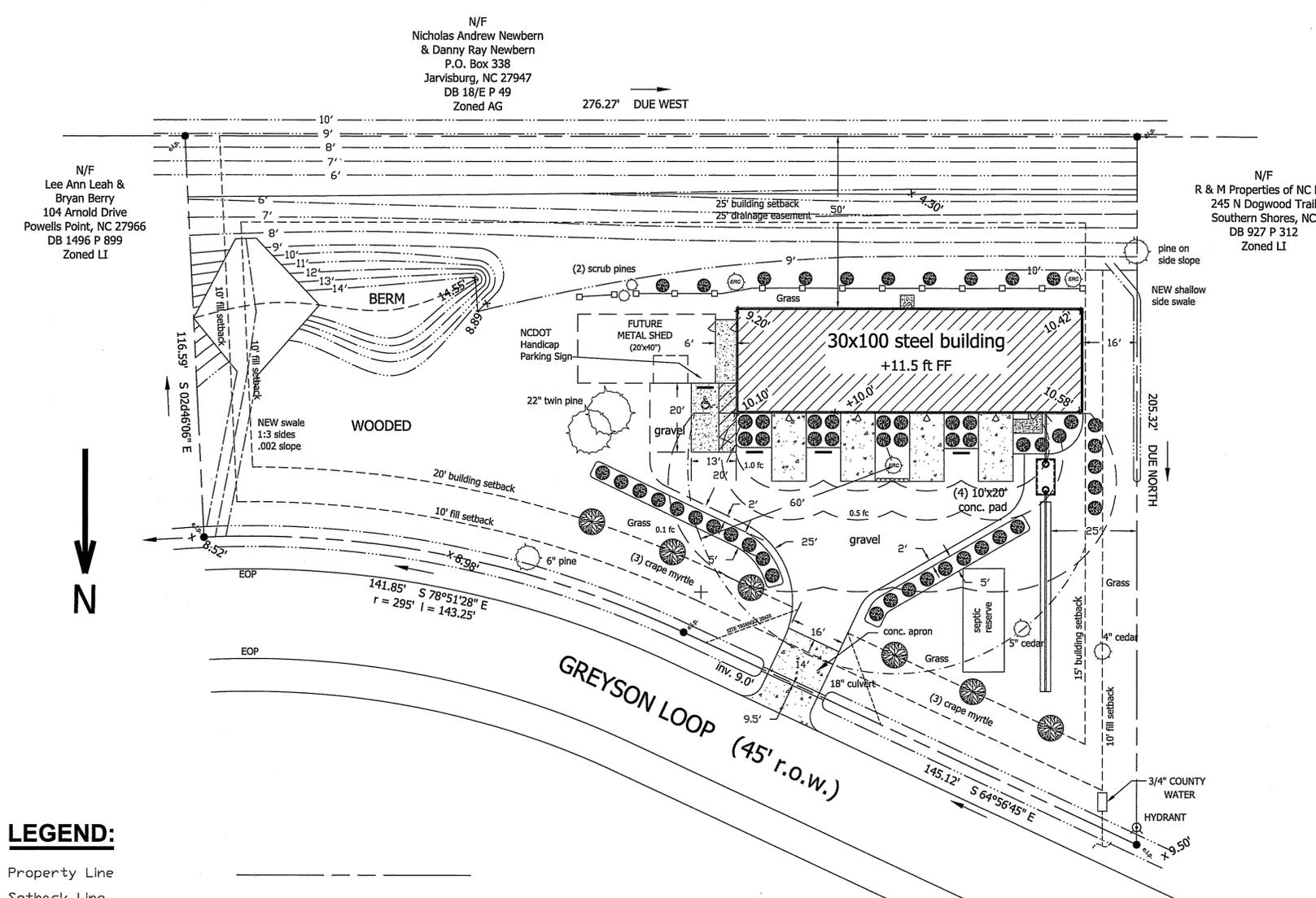
REVISIONS	DATE	SYMBOL	BY	DATE	SYMBOL	BY
REV. A:	03/27/24	A	DR	03/06/24	DR	DR

W. James Rivera, PE
P.O. Box 503
Kitty Hawk, NC 27949
757-267-7441



GEORGE GARDNER HOBBY SHOP
149 Greyson, Loop
Powells Point, Currituck County, NC

SHEET NUMBER
2
SHEET 2 OF 2



Owner: George H Gardner, IV
 4513 Beacham Lane
 Kitty Hawk, NC 27949
 ghgfour@hotmail.com
 252-455-2447

Parcel ID: 149 Greysen Loop
 Powells Point, NC
 123E00000270000
 9838-37-9726
 Lot 27 Currutuck Industrial Park
 Deed Book 1120 Page 373
 Plat Book 1 Pages 279-281

Proposed Use:
 Private automobile storage (hobby shop)

- This is not a survey. Dimensions and bearings are excerpts from the original subdivision plat "Final Subdivision Plat CURRUTUCK INDUSTRIAL PARK" dated September 8, 2005 by William T. Robbins, PLS; a subsequent survey "Survey for George Gardner" dated May 24, 2007 by William S. Jones, Jr. PLS; and additional site work done under my supervision by Keith Loomis, PLS on November 21, 2023.
- All elevations shown on this sheet are based upon the elevation shown at the east end of the road culvert from the Jones survey. No warranty is expressed or implied regarding the elevation of the site with respect to any officially established datum.
- Lot area = 0.93 acres
- Not in flood zone
- Zone LI - Light Industrial
- Soil Type - CnA Conetoe loamy sand
no soil footing inspection required
- There are no areas on this lot of Environmental Concern.
- See drawing note re: septic system approval from ARHS. Permit is attached.
- Water meter (3/4") installed at property corner. Backflow preventer (Watts LF007M3QT) installed in heated bathroom. See building plans.
- Electrical service to be determined by Dominion Power. A new transformer roadside is likely.
- Lot coverage (Impervious):
Coverage 18.5 %
- Parking calculations are based upon one parking space per 2,500 sq. ft. of warehouse storage of private automobiles. (Table 5.1.3.C.) Two spaces are required; four paved concrete pads provided in front of overhead doors. Three spaces with curb stops in front of planting areas.
- The structure is single story, with approximate building total height from finished adjacent grade of 16 feet.
- Refuse collection is not necessary for this proposed use. It is a single person occupancy (plus guests) and refuse will be removed from the site by the Owner on an as-needed basis. If containerized refuse collection becomes necessary, rollout trash cans or a small dumpster could be placed in front of the future shed behind the front plane of the main building.
- Swales and retention ponds for the Currutuck Industrial Park were designed by Quible Associates and were certified to be installed in accordance with those plans in 2005. (See PB 1 P 179-181). The Developer created a "homeowners association", Currutuck Industrial Park Association, Inc. to manage the community stormwater facilities. That Association is currently shown by the NC Secretary of State to be in a "suspended" state. The Owner of Lot 149 will maintain stormwater facilities on his property until a subsequent "homeowners association" is recognized and approved by Currutuck County.
- All work and material within the NCDOT right-of-way met or exceeded the minimum requirements of the "North Carolina Standard Specifications for Roadside Structures" in 2005. No new work is included with this plan. A new paved driveway apron will be installed conforming to those Standard Specifications.
- Vehicular landscape strips are shown five feet wide and offset from vehicular areas by two additional feet. IN addition to curb stops in front of building shrubs, a strip of stackstone is shown in front of the eastern red cedar.

SITE PLAN
 scale 1"=20'

LEGEND:

- Property Line _____
- Setback Line - - - - -
- Stormwater Facilities _____
- Floodlight ↙

SEPTIC SYSTEM

ARHS Permit # 398094
 Occupants: 2
 Flow: 100 gpd
 LTAR: 0.60
 Drainfield Area: 166.7 sq ft
 Line Length: 55 ft
 Setbacks:
 5' from building
 25' from downstream ditch
 10' from water line

LOT DISTURBANCE

Area of fill (see sheet 2)	6600 sq ft
Other driveway, landscaping, future shed space	14,880 sq ft
Total	0.493 ac.
Remaining land	
Woods	0.167 ac.
Stormwater storage	0.270 ac.

SITE LIGHTING

Four outdoor wall packs
 36w LED w/ motion sensors
 and photocells
 Lithonia
 TWL1-LED-ALO-SWW2-
 UVOLT-PE-DDBTXD
 intensities as shown
 Porch lights at front and rear doors
 LED 18w style by owner

STORMWATER CONTROL

see Stormwater drawing SW

LANDSCAPE SCHEDULE

see drawing 2

LOT COVERAGE (IMPERVIOUS)

foundation & roof	3000 sq ft
rear door landing	16 sq ft
front walkway	40 sq ft
garage door pads (4) 10'x20'	800 sq ft
handicap parking and walkway	370 sq ft
driveway apron	224 sq ft
gravel vehicle area	3050 sq ft
Total	7500 sq ft
	0.17 acre
	18.5% coverage

REVISIONS	DATE	PROJ. MGR.	DESIGNED	DRAWN	CHECKED
SYM A	03/19/24				
SYM B	04/16/24				

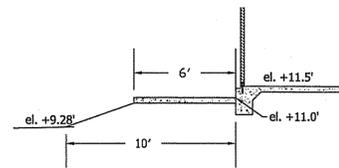
PROJECT NO: 23030
 DATE: 12/01/2023

W. James Rivera, PE
 P.O. Box 583
 Kitty Hawk, NC 27949
 757-287-7441

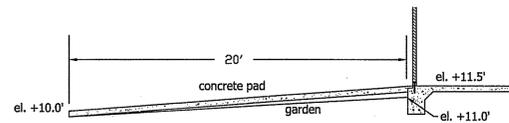


GEORGE GARDNER HOBBY SHOP
 149 Greysen, Loop
 Powells Point, Currutuck County, NC

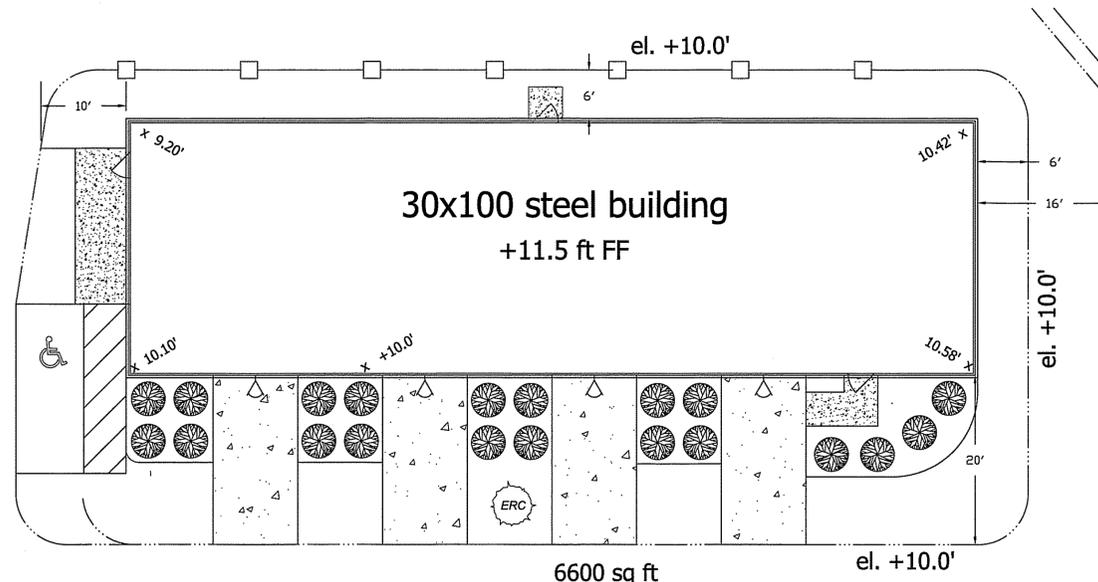
SITE PLAN



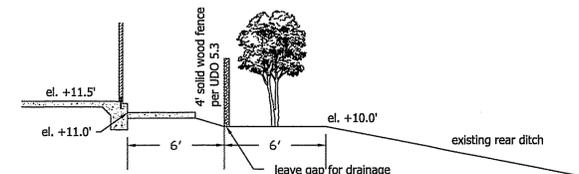
LEFT SIDE SECTION
1"=5'



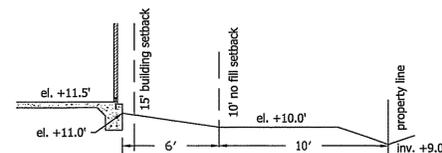
FRONT SECTION
1"=5'



LIMIT OF FILL
1"=10'



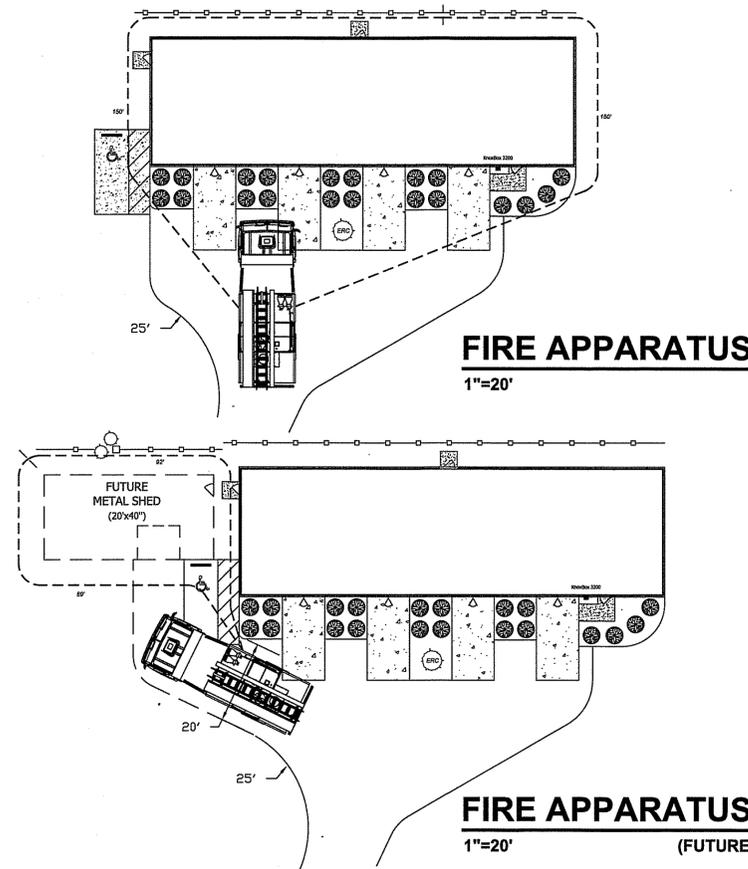
REAR SECTION
1"=5'



RIGHT SIDE SECTION
1"=5'

ISO DETERMINATION OF NEEDED FIRE FLOW

DESIGN FORMULA	Current Building	with Future Building (metal construction)
	$NFF = (C_1)(C_2)(C_3)(C_4)(X)(P)$	
where	NFF = needed fire flow in gpm C ₁ = factor related to type of construction C ₂ = factor related to the type of occupancy C ₃ = factor related to the exposure buildings X = factor related to the communications between buildings P = factor related to the communications between buildings	
TYPE OF CONSTRUCTION F	0.8 Class 3 Non-combustible steel w/ no insulation internal wood wall at bathroom separated from outside wall w/ 1/2" drywall	0.8
EFFECTIVE AREA	3000 Square footage of first floor (no second floor)	3000 (Table 33A)(1)
EXPOSURE CATEGORY X		0.1000
TYPE OF CONSTRUCTION FACTOR	$C_1 = 1.5^F(A_2)^{0.1}$	
	C ₁ = 789 rounded off to nearest 250	789
TYPE OF OCCUPANCY	Combustible (C-3)	
	C ₂ = 1.00	1.00
EXPOSURE BUILDINGS	no other structures on adjoining properties	
	C ₃ = 0.00	0.1000
COMMUNICATIONS BETWEEN BUILDINGS	none	
	P = 0.00	0.00
ISO FIRE FLOW	NFF = 1000	868
NEAREST HYDRANT	Northwest corner of property distance to building = 120' (1/1) Hydrant 1009	
SECOND HYDRANT	1546 gpm flow at 20 psi (tested 2014) Northwest corner of lot 147 distance to building = 350' (1/1) Hydrant 1008	
THIRD HYDRANT	Corner of Greer-Ck and Grayson Loop distance to building = 650' (1/1) Hydrant 1011	



FIRE APPARATUS
1"=20'

FIRE APPARATUS (FUTURE)
1"=20'

LANDSCAPING

There are no existing heritage trees on this site.

STREET SCREENING:

- Existing Canopy Trees
 5CI Eastern Red Cedar
 4CI Eastern Red Cedar
 22CI Twin Pine
 Three smaller Pines along top of rear ditch

One additional canopy tree (Eastern Red cedar) to be added to center planter between concrete pads to meet 60 foot diameter requirement.

Existing Understory:
 (6) Crape Myrtle along road frontage

- Shrubs:
 Parking Lot Screening:
 25 required
 (12) waxleaf privet
 (13) Japanese pittosporum

BUILDING SCREENING:

- 20 required
 Planters between garage doors
 (2) Japanese holly (rear)
 (2) waxleaf privet (front)
 Planter adjacent to front door
 (4) Japanese holly

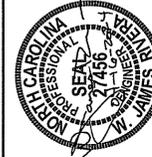
REAR TYPE C BUFFER

- 4 foot solid fence
 (2) 1CI eastern red cedar
 (8) 2CI crape myrtle

REVISIONS	DATE	PROJ. MGR.	DESIGNED	DRAWN	CHECKED
SYM	03/19/24				
A					
B	04/16/24				

W. James Rivera, PE

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 757-287-7441

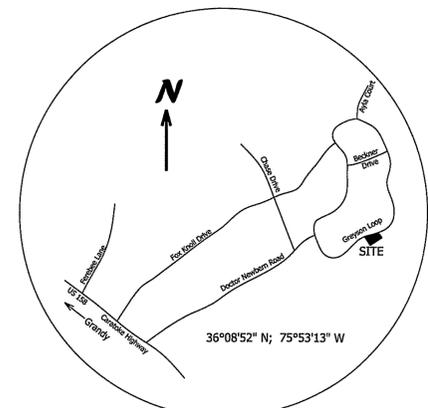
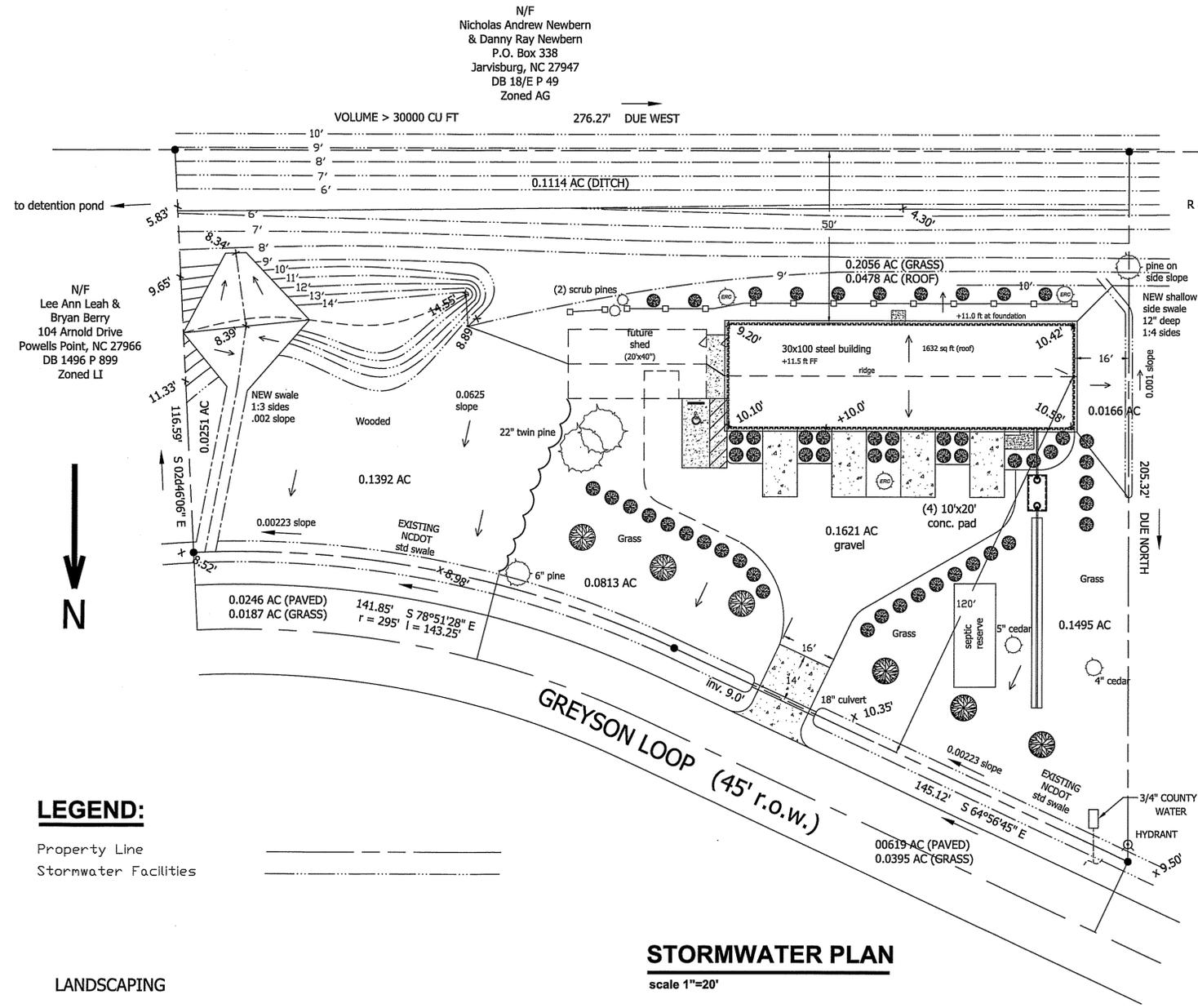


GEORGE GARDNER HOBBY SHOP
 149 Grayson, Loop
 Powells Point, Currituck County, NC

SITE PLAN

SHEET NUMBER
2

SHEET 2 OF 2



Owner: George H Gardner, IV
4513 Beacham Lane
Kitty Hawk, NC 27949
ghgfour@hotmail.com
252-455-2447

Parcel ID: 149 Greyson Loop
Powells Point, NC
123E0000270000
9838-37-9726
Lot 27 Currituck Industrial Park
Deed Book 1120 Page 373
Plat Book 1 Pages 279-281

Proposed Use:
Private automobile storage (hobby shop)

- This is not a survey. Dimensions and bearings are excerpts from the original subdivision plat "Final Subdivision Plat CURRITUCK INDUSTRIAL PARK" dated September 8, 2005 by William T. Robbins, PLS; a subsequent survey "Survey for George Gardner" dated May 24, 2007 by William S. Jones, Jr. PLS; and additional site work done under my supervision by Keith Loomis, PLS on November 21, 2023.
- All elevations shown on this sheet are based upon the elevation shown at the east end of the road culvert from the Jones survey. No warranty is expressed or implied regarding the elevation of the site with respect to any officially established datum.
- Lot area = 0.93 acres
Road area = 0.24 acres (swale to CL)
- Not in flood zone
- Zone LI - Light Industrial
- Soil Type - CnA Conetoe loamy sand
no soil footing inspection required
- There are no areas on this lot of Environmental Concern.
- Seasonal High water Table -38"
Static Level -66"
Measured March 27, 2024 by David Meyer, LSS Protocol Sampling Service, Raleigh, NC
- Swales and retention ponds for the Currituck Industrial Park were designed by Quible Associates and were certified to be installed in accordance with those plans in 2005. (See PB 1 P 179-181). The Developer created a "homeowners association", Currituck Industrial Park Association, Inc. to manage the community stormwater facilities. That Association is currently shown by the NC Secretary of State to be in a "suspended" state. The Owner of Lot 149 will maintain stormwater facilities on his property until a subsequent "homeowners association" is recognized and approved by Currituck County.
- Stormwater runoff calculations done by TR-55. Stormwater ditch at rear of lot far exceeds the predicted runoff capacity. Calculations submitted as a separate document.
- All work and material within the NCDOT right-of-way met or exceeded the minimum requirements of the "North Carolina Standard Specifications for Roadside Structures" in 2005. No new work is included with this plan. A new paved driveway apron will be installed conforming to those Standard Specifications.

I, George H. Gardner, IV, owner, hereby certify the information included on this and attached pages is true and correct to the best of my knowledge.

On the plan entitled "George Gardner Hobby Shop - Stormwater 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: 4-16-24 Owner: *George Gardner*

LEGEND:

Property Line _____
Stormwater Facilities _____

LANDSCAPING

There are no existing heritage trees on this site.

STREET SCREENING:

Existing Canopy Trees
5CI Eastern Red Cedar
4CI Eastern Red Cedar
22CI Twin Pine
Three smaller Pines along top of rear ditch

One additional canopy tree (Eastern Red cedar) to be added to center planter between concrete pads to meet 60 foot diameter requirement.

Understory:
(6) Crape Myrtle along road frontage

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25 required
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BUILDING SCREENING:

20 required
Planters between garage doors
(2) Japanese holly (rear)
(2) waxleaf privet (front)
Planter adjacent to front door
(4) Japanese holly

REAR TYPE C BUFFER

4 foot solid fence
(2) 1CI eastern red cedar
(8) 2CI crape myrtle

REVISIONS	DATE	PROJ. MGR. JR	DESIGNED: JR	CHECKED:
SYM	A	04/16/24		
PROJECT NO	23030	DATE	03/27/2024	

W. James Rivera, PE
P.O. Box 503
Kitty Hawk, NC 27949
757-287-7441



GEORGE GARDNER HOBBY SHOP
149 Greyson, Loop
Powells Point, Currituck County, NC
SHEET TITLE
STORMWATER PLAN

SHEET NUMBER
SW
SHEET 1 OF 1