



TOWN OF KILL DEVIL HILLS

Land Where Flight Began

MEMORANDUM

August 9, 2021

TO: Mayor and Board of Commissioners

FROM: Debora P. Díaz, Town Manager 

REF: New Business

1. Site plan review

A. Proposed 2,500 square foot drive-thru restaurant – 1208 S. Croatan Highway in the Commercial Zone – 25 parking spaces and associated site modifications (Attached NB-1)

Quible and Associates has submitted a site plan on behalf of MPF Investment Company for the proposed construction at 1208 S. Croatan Highway of a 2,500 square foot drive-thru restaurant with 25 parking spaces, drive-thru aisle, and associated site improvements. As a part of the site plan, the existing shopping center will be demolished. Senior Planner Ryan Lang's attached memorandum, and the attached application and plans provide further details of the project.

At its July 20, 2021, meeting, the Planning Board approved the proposed site plan, and voted to forward it to the Board of Commissioners, recommending approval, with specific conditions and recommendations, which are detailed in Mr. Lang's memorandum. Staff concurs with the Planning Board's recommendation for the applicant to connect the site to Blue Jay Street to provide additional access than only from US 158, and recommends approval of the proposed site plan, with the following condition:

- A breakdown of required and provided plantings (trees and shrubs) per property line: NCDOT buffer – trees: 15, shrubs: 15; Northern buffer – trees: 8, shrubs: 23; Southern buffer – trees: 8, shrubs: 23; Western buffer – trees: 15, shrubs: 15.

A motion would be in order.

Director of
Planning and Inspections
MEREDITH GUNS

Building Inspector
MARTY SHAW
CHARLES THUMAN

Code Enforcement Officer
JORDAN BLYTHE



Assistant Director of
Planning and Inspections
CAMERON RAY

Senior Planner
RYAN LANG

Zoning Administrator
DONNA ELLIOTT

THE TOWN OF KILL DEVIL HILLS NORTH CAROLINA

PLANNING DEPARTMENT

August 09, 2021

Memorandum

To: Debbie Diaz, Town Manager

From: Ryan Lang, Senior Planner 

Subject: **SITE PLAN REVIEW** — 1208 S. Croatan Highway in the Commercial Zone — Proposed 2,500 Sq. Ft. Drive-Thru Restaurant, 25 Parking Spaces, and Associated Site Modifications.

Enclosed is a site plan review submitted by Quible and Associates for the proposed construction of a new 2500 Sq. Ft. Drive-Thru Restaurant with 25 parking spaces, drive-thru aisle and associated site improvements at 1208 S. Croatan Hwy. The proposed restaurant is a permitted use in the Commercial Zoning District (O) *Restaurant*. The plan calls for demolition of the existing shopping center. Attached you will find a commercial site plan review application, site development plans, architectural plan, lighting plan, site narrative, stormwater calculations, willingness to serve from KDHWTP, LLC, NCDOT permit package, the applicants response to Town staff technical review (2) comments, and most recent staff comments.

The Planning Board reviewed this proposal on July 20, 2021 and forwarded it to the Board of Commissioners recommending approval with several conditions and recommendations.

The following recommendation remains:

- Recommend applicant connect site to Blue Jay St. to allow traffic to enter the property from another street other than US 158. Additionally, allows access to Martin St. US 158 intersection including a traffic light via a public right of way and not only through an adjacent commercial property.

Since that time the following conditions remain: Sheet 6:

- Please provide breakdown of required and provided plantings (trees and shrubs) per property line. Required landscaping plantings are as follows: NCDOT Buffer - Trees: 15 Shrubs: 15, Northern Buffer - Trees: 8 Shrubs: 23, Southern Buffer - Trees: 8 Shrubs: 23, Western Buffer - Trees: 15 Shrubs: 15

Staff recommends approval of the site plan with the above listed condition.

Town of Kill Devil Hills Planning and Inspections
Commercial Site Plan Review Application*



Applicant

Name: MPF INVESTMENT COMPANY

Address: 6 JUMPER TRAIL

KITTY HAWK, NC 27949

Phone: (919) 940-2894

Fax: _____

Cell: _____

Property Owner

Name: ROY E PARKER

Address: P.O. BOX 49

KILLDEVIL HILLS, NC 27949

Phone: _____

Fax: _____

Cell: _____

Property Location

Address: 1208 S. CROATAN HWY

Lot, Block: 11-12, BLK 7

Subdivision: KILL DEVIL HILLS REALTY CORP.

Pin#: 988312961635

Zoning District: ☒ Commercial ☐ LI-1 ☐ LI-2 ☐ OIR

Total Lot Size: 33,021 Sq. Ft.

Disturbed Area: 37,200 Sq. Ft.

Contractor

Company Name: TITAN CONSTRUCTION GROUP

License Number: _____

Name: BRAD CAPPS

Phone: (804) 931-1726

Address: _____

Cell: _____

Fax: _____

Town Privilege License Number: _____

Construction Information

Type of Construction: COMMERCIAL

☐ Assembly ☐ Business ☐ Educational ☐ Factory/Industrial ☐ High Hazard
☐ Institutional ☐ Mercantile ☐ Residential ☐ Storage ☐ Utility/Misc.
☒ New Construction ☐ Addition ☐ Repair/Replace ☐ Remodel ☐ Other: _____

Square Footage Proposed:

Interior Space: 2,500 Sq. Ft. Covered Deck(s): N/A Sq. Ft. Storage: N/A Sq. Ft.

Garage: N/A Sq. Ft. # of Bedrooms: N/A # of Open Deck(s): N/A

Proposed Square Footage: 2,500 + Existing Square Footage: 0 = 2,500 Total Sq. Ft.

% Impervious Coverage: 13,991 + % Pervious Coverage: 3,902 = 17,893 Total % Coverage

of Parking Spaces: Existing: 0 Proposed: 25 Total: 25

Septic Tank Permit #: N/A Construction Type: COMMERCIAL

Estimated Construction Cost (including labor and materials): _____

Flood Information

Flood Zone: ☐ VE ☐ AE ☒ X

Base Flood Elevation: N/A

Proposed First Floor Elevation: 10.0'

Sq. Ft Below Base Flood Elevation: N/A

*This form is designed as a guide for Commercial Site Plan Review.
Additional plans and information will be required prior to building permits.

Project Description

2,500 SQ FT. DRIVE-THRU RESTAURANT W/
ASSOCIATED PARKING + UTILITIES

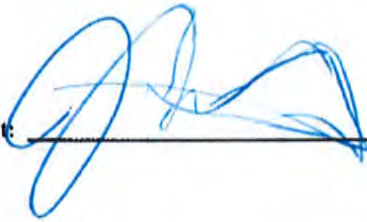
Required Site Plan Information Checklist:

- ☒ Permit Application (Completed)
- ☒ Site Plan Including the following
 - Submittal Requirements:
 - ☒ Vicinity Map
 - ☒ 15 Copies of Site Plan & Building Plan Elevations – Front, Side, and Rear
 - ☒ Tentative Health Department Approval **COMMITMENT TO SERVE FROM CENTRAL SEWER PROVIDER**
 - ☒ Site Plan Development Review Fee Paid in Full
 - Existing Conditions:
 - ☒ Boundary of Entire Lot
 - ☒ Width and Location of Existing Right of Ways
 - ☒ Nature, Purpose, Locations, and Size of Existing Easements
 - ☒ Iron Pins and Concrete Monuments
 - ☒ Scale (1" = 50" Minimum)
 - ☒ North Arrow
 - ☒ Streets Including Width of Pavement
 - ☒ All Underground Utilities, Gas/Propane Below or Above Grade
 - ☒ Dare Co. Register of Deeds Map Book/Subdivision Ref.
 - ☒ Street Address
 - ☒ Present Recorded Owner, Developer, Engineer contacts
 - ☐ Adjacent Property Owners, Adj. Use & Zone
 - ☒ Corp. of Engineers Report / Wetland Study
 - ☒ NFIP Flood Zone (ref: Elevation Datum (NAVD 1988))
 - ☒ Minimum, Lot Size indicated
 - Proposed Improvements:
 - ☒ Zoning Use Compliance/Setbacks labeled
 - ☒ Landscaping Plan / Buffers / Screening (per section 153.073)
 - ☒ Lighting Plan - photometric showing point output (section 153.074)
 - ☒ Sedimentation & Erosion Control Plan including details
 - ☒ Disturbed Areas delineated & areas calculated
 - ☒ Location of Sidewalks on the Croatan Highway and Curbs
 - ☒ Location of Sewer Facilities and Drain field
 - ☐ Proposed Building Type, # of Floors and dimensions, floor area ratio, Height
 - ☒ Existing and Finished Grades of Entire Site
 - ☒ Storm Water Management Plan including calculations
 - ☒ Total Units and Density per Acre (Multi-Family) or floor area ratio (in OIR)
 - ☒ Lot Size and Lot Coverage Calculation
 - ☒ Utility Plan indicating location & sizes of proposed improvements
 - ☒ Water Service Sizing Checklist
 - ☒ Layout, Size and Number of Parking Spaces including handicap w/ setbacks (Each Space Numbered)
 - ☒ Fire Lane and Driveways
 - ☒ Loading Zone (Commercial Sites) **<10,000 SF**
 - ☒ Mail Delivery Cluster Sites (Multi-Family)

- ☒ Proposed First Floor Elevation
- ☒ Dumpster Pad Location
- ☒ Proposed Sign Location
- ☒ Sight triangle shown
- ☒ Commercial Building Plans showing architectural compliance
- ☒ Plans to N.C.D.O.T. (if required)
- ☒ NC Engineer/Land Surveyor Seal on Site Plan

*** The items listed in the Site Plan portion of the above checklist represent information that must be indicated on any site plan submitted for review by the Kill Devil Hills Planning Department, Planning Board, and Board of Commissioners. All of the above required documents shall be submitted on or before the 3rd Tuesday of each month. Upon completion of review, the Planning Board shall transmit its recommendations to the Board of Commissioners. The Board of Commissioners shall review site plans on the second Monday of each month.

Signature of Applicant:

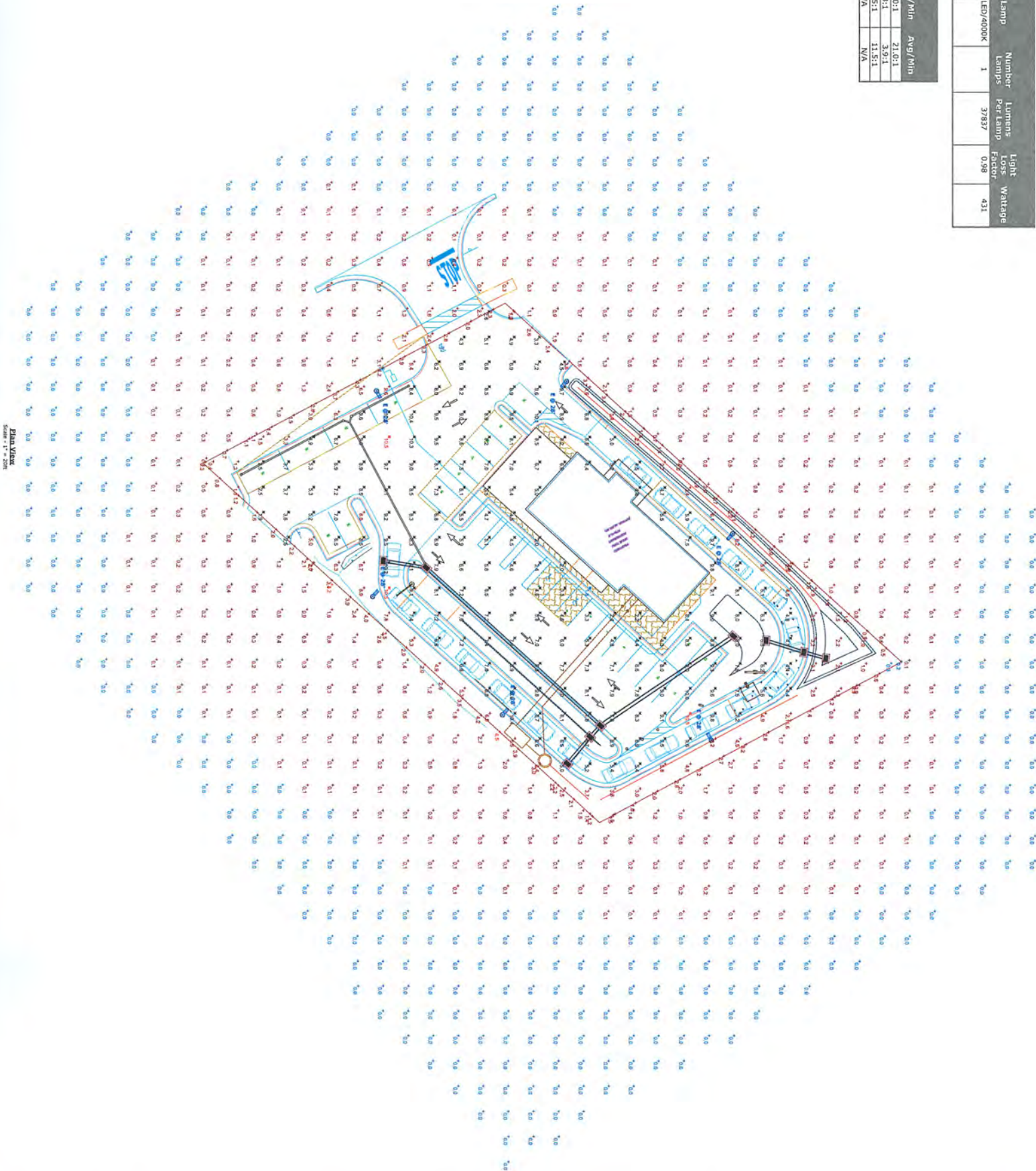


(Date)

6/11/21

Schedule					
Symbol	Label	Quantity	Catalog Number	Description	Lamp
E		6	DSX2-LED-P8-50K-T4M-MVOLT-HIS	Single Head Lithonia Lighting DSX2 Series LED Area Unit w/Type R4M Distribution (25K, Pole Height w/3ft. Concrete Base) House Side Shielding	LED/4000K
					Number Lamps Per Lamp
					37837
					Light Loss Factor
					0.98
					431

Statistics					
Description	Symbol	Avg	Max	Min	Max/Min
Overall Site Light Levels	+	6.3 fc	10.5 fc	0.3 fc	35.0:1
Parking Lot Light Levels	x	2.0 fc	10.5 fc	1.8 fc	5.8:1
Property Line Light Levels	+	2.3 fc	4.5 fc	0.2 fc	22.5:1
Property Line Light Spill Levels	+	0.2 fc	3.2 fc	0.0 fc	N/A



Drive-Thru Restaurant - Kill Devil Hills, NC Parking Lot Photometric Lighting Design



Designer: Adam Carrier
Date: 06/30/2021
Scale: Not to Scale
Drawing No.: Summary



D-Series Size 2 LED Area Luminaire

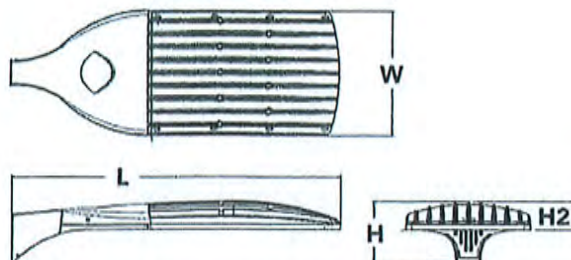


Buy American

d²series

Specifications

EPA:	1.1 ft ² (0.10 m ²)
Length:	40" (101.6 cm)
Width:	15" (38.1 cm)
Height 1:	7-1/4" (18.4 cm)
Height 2: (max):	3.5"
Weight:	36lbs



Catalog
Number

Notes

Type

Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment.

The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. The Size 2 is ideal for replacing 400-1000W metal halide in area lighting applications with energy savings of up to 80% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX2 LED P7 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX2 LED

Series	LEDs	Color Temperature	Optic	Optic	Voltage	Mounting		
DSX2 LED	Forward optics		30K 3000 K	T1S Type I Short (Automotive)	TSVS Type V Very Short ³	MVOLT ⁵	Shipped included	
	P1 P5 ¹	40K 4000 K		TSS Type V Short ³	XVOLT (277V-480V) ^{6,7,8}	SPA	Square pole mounting	
	P2 P6	50K 5000 K	T2S Type II Short	TSM Type V Medium ³	120 ⁹	RPA	Round pole mounting ¹⁰	
	P3 P7 ¹		T2M Type II Medium	TSW Type V Wide ³	208 ⁹	WBA	Wall bracket ³	
	P4 P8 ¹		T3S Type III Short	BLC Backlight control ⁴	240 ⁹	SPUMBA	Square pole universal mounting adaptor ¹¹	
	Rotated optics		T3M Type III Medium	LCCO Left corner cutoff ⁴	277 ⁹	RPUMBA	Round pole universal mounting adaptor ¹¹	
	P10 ² P13 ^{1,2}		T4M Type IV Medium	RCCO Right corner cutoff ⁴	347 ⁹	Shipped separately		
	P11 ² P14 ^{1,2}		TFTM Forward Throw Medium		480 ⁹	KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ¹²		
	P12 ²							

Control options	Other options	Finish options
Shipped installed	Shipped installed	DDBXD Dark bronze
NLTAIR2 nLight AIR generation 2 enabled ¹³	HS House-side shield ²¹	DBLXD Black
PIRHN Network, Bi-Level motion/ambient sensor ¹⁴	SF Single fuse (120, 277, 347V) ⁹	DNAXD Natural aluminum
PER NEMA twist-lock receptacle only (no controls) ¹⁵	DF Double fuse (208, 240, 480V) ⁹	DWHXD White
PERS Five-wire receptacle only (no controls) ^{15,16}	L90 Left rotated optics ²	DDBTXD Textured dark bronze
PER7 Seven-wire receptacle only (no controls) ^{15,16}	R90 Right rotated optics ²	DBLTXD Textured black
DMG 0-10V dimming extend out back of housing for external control (no controls) ¹⁷	HA 50°C ambient operations ¹	DNATXD Textured natural aluminum
DS Dual switching ^{18,19}	BAA Buy America(n) Act Compliant	DWHGXD Textured white
	Shipped separately	
	BS Bird spikes ²¹	
	EGS External glare shield	

Ordering Information

Accessories

Ordered and shipped separately.

DL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ²⁴
DL1347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ²⁴
DL1480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ²⁴
DSHORT SBK U	Shorting cap ²⁴
DSX2HS 80C U	House-side shield for 80 LED unit ²²
DSX2HS 90C U	House-side shield for 90 LED unit ²²
DSX2HS 100C U	House-side shield for 100 LED unit ²²
PUMBA DDBXD U*	Square and round pole universal mounting bracket (specify finish) ²³
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ²³
DSX2EGS (FINISH) U	External glare shield

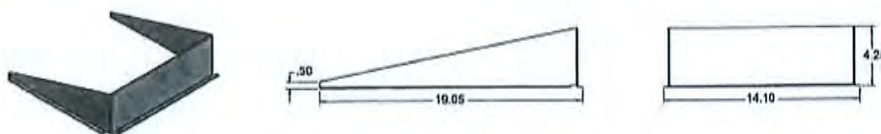
For more control options, visit [www.lithonia.com](#) and [online](#).

NOTES

- HA not available with P5, P7, P8, P13, and P14.
- P10, P11, P12, P13 or P14 and rotated optics (L90, R90) only available together.
- Any Type 5 distribution with photocell, is not available with WBA.
- Not available with HS.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- XVOLT is only suitable for use with P5, P6, P7, P8, P13 and P14.
- XVOLT works with any voltage between 277V and 480V.
- XVOLT not available with fusing (SF or DF) and not available with PIRH or PIRH1FC3V.
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- Suitable for mounting to round poles between 3.5" and 12" diameter.
- Universal mounting bracket intended for retrofit on existing pre-drilled poles only. 1.5 G vibration load rating per ANSI C136.31. Only usable when pole's drill pattern is NOT Lithonia template #8.
- Must order fixture with SPA option. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" diameter mast arm (not included).
- Must be ordered with NLTAIR2. Sensor cover only available in dark bronze, black, white or natural aluminum color.
- Must be ordered with NLTAIR2. For more information on nLight Air 2 visit [www.lithonia.com](#).
- Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Not available with DS option. Shorting Cap included.
- If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Node with integral dimming.
- DMG not available with PIRHN, PER5, PER7, PIR, PIRH, PIRH1FC3V or PIRH1FC3V, FAO.
- Requires (2) separately switched circuits with isolated neutrals.
- Provides 50/50 fixture operation via (2) independent drivers. Not available with PER, PER5, PER7, PIR or PIRH. Not available with P1, P2, P10.
- Reference Controls Options table settings table on page 4. Reference Motion Sensor Default table on page 4 to see functionality.
- Reference controls options table on page 4.
- Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessories; see Accessories information.
- Must be ordered with fixture for factory pre-drilling.
- Requires luminaire to be specified with PER, PER5 and PER7 option. Ordered and shipped as a separate line item from Acuity Brands Controls.
- For retrofit use only. Only usable when pole's drill pattern is NOT Lithonia template #8.

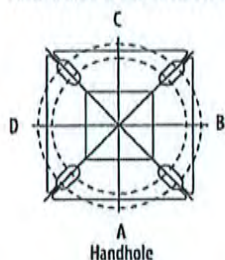
Options

EGS - External Glare Shield



Drilling

HANDHOLE ORIENTATION



A
Handhole

Tenon Mounting Slipfitter

Handhole	Bracket	2-3/8"	2-7/8"	3-1/2"	4"	4-1/2"	5"
2-3/8"	RPA	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 390	AS3-5 320	AS3-5 490
2-7/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
4"	RPA	AST35-190	AST35-280	AST35-290	AST35-390	AST35-320	AST35-490

Mounting Option	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#8	DM19AS	DM28AS	DM29AS	DM39AS	DM32AS	DM49AS

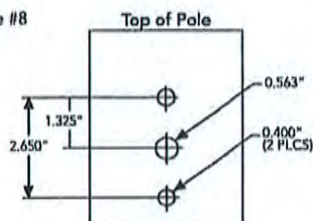
DSX2 Area Luminaire - EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Mounting Type	Single 180°	2 @ 180°	2 @ 90°	3 @ 90°	3 @ 120°	4 @ 90°
DSX2 LED	1.100	2.200	2.120	3.300	2.850	4.064

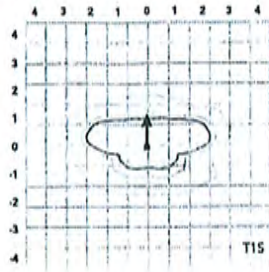
SPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
RPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
SPUMBA	#5	2-7/8"	3"	4"	4"	3.5"	4"
RPUMBA	#5	2-7/8"	3.5"	5"	5"	3.5"	5"

Template #8

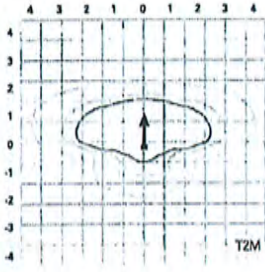


Isofootcandle plots for the DSX2 LED 80C 1000 40K. Distances are in units of mounting height (30').

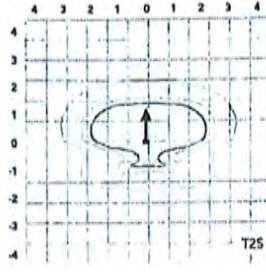
LEGEND



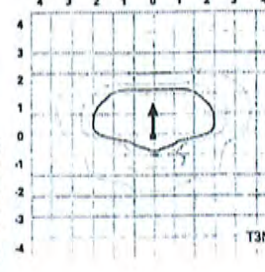
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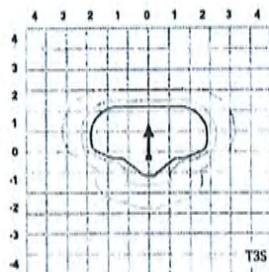
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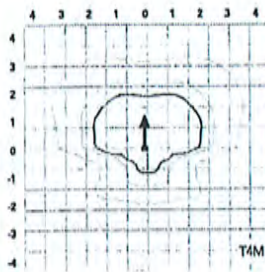
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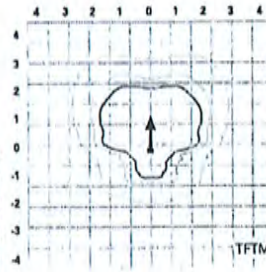
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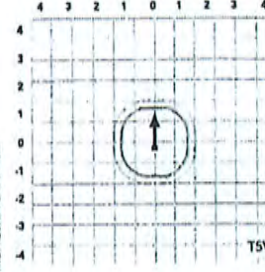
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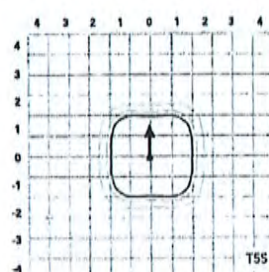
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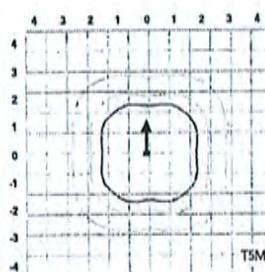
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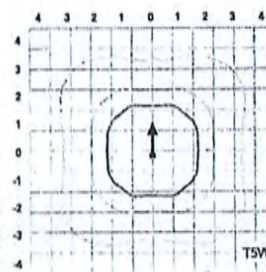
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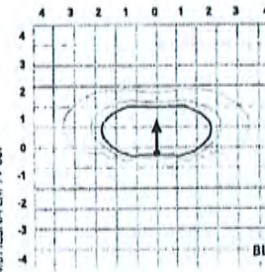
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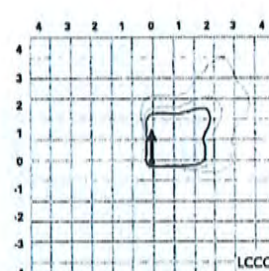
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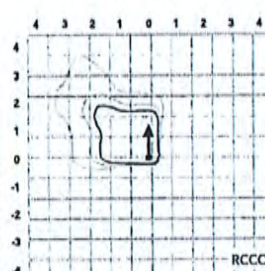
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Test No. LT.L2242SP1 tested in accordance with IESNA LM-79-08.



Test No. LT.L2242SP1 tested in accordance with IESNA LM-79-08.



Test No. LT.L2242SP1 tested in accordance with IESNA LM-79-08.

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

0-40°C	32-104°F	Lumen Ambient Temp
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25000	50000	100000
Lumen Maintenance Factor	1.00	0.96	0.92	0.85

Electrical Load

					Current (A)					
					120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	80	530	140	1.18	0.68	0.59	0.51	0.40	0.32
	P2	80	700	185	1.56	0.90	0.78	0.66	0.52	0.39
	P3	80	850	217	1.82	1.05	0.90	0.80	0.63	0.48
	P4	80	1050	270	2.27	1.31	1.12	0.99	0.79	0.59
	P5	80	1250	321	2.68	1.54	1.34	1.17	0.93	0.68
	P6	100	1050	343	2.89	1.66	1.59	1.37	1.00	0.71
	P7	100	1250	398	3.31	1.91	1.66	1.45	1.16	0.81
	P8	100	1350	431	3.61	2.07	1.81	1.57	1.25	0.91
Rotated Optics (Requires L90 or R90)	P10	90	530	156	1.30	0.76	0.65	0.62	0.45	0.32
	P11	90	700	207	1.75	1.01	0.87	0.74	0.60	0.46
	P12	90	850	254	2.12	1.22	1.06	0.94	0.73	0.55
	P13	90	1200	344	2.88	1.65	1.44	1.25	1.00	0.73
	P14	90	1400	405	3.39	1.95	1.71	1.48	1.18	0.86

Motion Sensor Default Settings						
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use when motion sensor is used as dusk to dawn control.

Control Options

Nomenclature	Description	Functionality	Primary control device	Notes
FAO	Field adjustable output device installed inside the luminaire; wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively trimming the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads
DS	Drivers wired independently for 50/50 luminaire operation	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative.
PERS or PER7	Twist-lock photocell receptical	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM.	Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire
PIR or PIRH	Motion sensors with Integral photocell. PIR for 8-15' mounting; PIRH for 15-30' mounting	Luminaires dim when no occupancy is detected.	Acuity Controls SBGR	Also available with PIRH1FC3V when the sensor photocell is used for dusk-to-dawn operation.
NLTAIR2 PIRHN	nLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Eclipse.	nLight Air rSBGR	nLight AIR sensors can be programmed and commissioned from the ground using the CLAIRity Pro app.



COMMERCIAL OUTDOOR

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Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Data																			
Lum. Const.	Drive Curr. (mA)	Power (Watt)	Lumen (lm)	Beam Dia. (ft)	Type 1 Beam Angle 15°					Type 2 Beam Angle 25°					Type 3 Beam Angle 35°				
					Beam Dia. (ft)	Beam Area (sq ft)	Beam Area (sq ft)	Beam Area (sq ft)	Beam Area (sq ft)	Beam Dia. (ft)	Beam Area (sq ft)	Beam Area (sq ft)	Beam Area (sq ft)	Beam Area (sq ft)	Beam Dia. (ft)	Beam Area (sq ft)	Beam Area (sq ft)	Beam Area (sq ft)	
80	530	P1	140W	T1S	17,575	3	0	3	126	18,933	3	0	3	135	19,173	3	0	3	137
				T2S	17,556	3	0	3	125	18,913	3	0	3	135	19,152	3	0	3	137
				T2M	17,647	3	0	3	126	19,010	3	0	3	136	19,251	3	0	3	138
				T3S	17,090	3	0	3	122	18,411	3	0	3	132	18,644	3	0	3	133
				T3M	17,604	3	0	3	126	18,964	3	0	3	135	19,204	3	0	3	137
				T4M	17,221	3	0	3	123	18,552	3	0	4	133	18,787	3	0	4	134
				TFTM	17,593	3	0	3	126	18,952	3	0	4	135	19,192	3	0	4	137
				TSVS	18,297	4	0	1	131	19,711	4	0	1	141	19,961	4	0	1	143
				TSS	18,312	4	0	2	131	19,727	4	0	2	141	19,977	4	0	2	143
				TSM	18,266	4	0	2	130	19,677	4	0	2	141	19,926	4	0	2	142
				TSW	18,146	5	0	3	130	19,548	5	0	3	140	19,796	5	0	3	141
				BLC	14,424	2	0	2	103	15,539	2	0	3	111	15,736	2	0	3	112
LCCO	10,733	1	0	3	77	11,562	1	0	3	83	11,709	2	0	3	84				
RCCO	10,733	1	0	3	77	11,562	1	0	3	83	11,709	2	0	3	84				
80	700	P2	185W	T1S	22,305	3	0	3	121	24,029	3	0	3	130	24,333	3	0	3	132
				T2S	22,281	3	0	4	120	24,003	3	0	4	130	24,307	3	0	4	131
				T2M	22,396	3	0	3	121	24,127	3	0	3	130	24,432	3	0	3	132
				T3S	21,690	3	0	4	117	23,366	3	0	4	126	23,662	3	0	4	128
				T3M	22,342	3	0	4	121	24,068	3	0	4	130	24,373	3	0	4	132
				T4M	21,857	3	0	4	118	23,545	3	0	4	127	23,844	3	0	4	129
				TFTM	22,328	3	0	4	121	24,054	3	0	4	130	24,358	3	0	4	132
				TSVS	23,222	5	0	1	126	25,016	5	0	1	135	25,333	5	0	1	137
				TSS	23,241	4	0	2	126	25,037	4	0	2	135	25,354	4	0	2	137
				TSM	23,182	5	0	3	125	24,974	5	0	3	135	25,290	5	0	3	137
				TSW	23,030	5	0	4	124	24,810	5	0	4	134	25,124	5	0	4	136
				BLC	18,307	2	0	3	99	19,721	2	0	3	107	19,971	2	0	3	108
LCCO	13,622	2	0	3	74	14,674	2	0	4	79	14,860	2	0	4	80				
RCCO	13,622	2	0	3	74	14,674	2	0	4	79	14,860	2	0	4	80				
80	850	P3	217W	T1S	26,202	3	0	3	121	28,226	3	0	3	130	28,584	3	0	3	132
				T2S	26,174	3	0	4	121	28,196	3	0	4	130	28,553	3	0	4	132
				T2M	26,309	3	0	3	121	28,342	3	0	3	131	28,700	3	0	3	132
				T3S	25,479	3	0	4	117	27,448	3	0	4	126	27,795	3	0	4	128
				T3M	26,245	3	0	4	121	28,273	3	0	4	130	28,631	3	0	4	132
				T4M	25,675	3	0	4	118	27,659	3	0	4	127	28,009	3	0	4	129
				TFTM	26,229	3	0	4	121	28,255	3	0	4	130	28,613	3	0	4	132
				TSVS	27,279	5	0	1	126	29,387	5	0	1	135	29,759	5	0	1	137
				TSS	27,301	4	0	2	126	29,410	5	0	2	136	29,783	5	0	2	137
				TSM	27,232	5	0	3	125	29,336	5	0	3	135	29,707	5	0	3	137
				TSW	27,053	5	0	4	125	29,144	5	0	4	134	29,513	5	0	4	136
				BLC	21,504	2	0	3	99	23,166	2	0	3	107	23,459	2	0	4	108
LCCO	16,001	2	0	4	74	17,238	2	0	4	79	17,456	2	0	4	80				
RCCO	16,001	2	0	4	74	17,238	2	0	4	79	17,456	2	0	4	80				
80	1050	P4	270W	T1S	30,963	4	0	4	115	33,355	4	0	4	124	33,777	4	0	4	125
				T2S	30,930	4	0	4	115	33,320	4	0	4	123	33,742	4	0	4	125
				T2M	31,089	3	0	4	115	33,491	3	0	4	124	33,915	3	0	4	126
				T3S	30,108	4	0	4	112	32,435	4	0	5	120	32,845	4	0	5	122
				T3M	31,014	3	0	4	115	33,410	3	0	4	124	33,833	3	0	4	125
				T4M	30,340	3	0	5	112	32,684	3	0	5	121	33,098	3	0	5	123
				TFTM	30,995	3	0	5	115	33,390	3	0	5	124	33,812	3	0	5	125
				TSVS	32,235	5	0	1	119	34,726	5	0	1	129	35,166	5	0	1	130
				TSS	32,261	5	0	2	119	34,754	5	0	2	129	35,194	5	0	2	130
				TSM	32,180	5	0	4	119	34,667	5	0	4	128	35,105	5	0	4	130
				TSW	31,969	5	0	4	118	34,439	5	0	5	128	34,875	5	0	5	129
				BLC	25,412	2	0	4	94	27,376	2	0	4	101	27,722	2	0	4	103
LCCO	18,909	2	0	4	70	20,370	2	0	4	75	20,628	2	0	4	76				
RCCO	18,909	2	0	4	70	20,370	2	0	4	75	20,628	2	0	4	76				

Lumen Output

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Performance Data																			
LED Series	Beam Diameter	Power Package	System Voltage	Optic Type	100' Beam @ 10' H					50' Beam @ 5' H					25' Beam @ 2.5' H				
					Beam	Y	U	C	Temp	Beam	Y	U	C	Temp	Beam	Y	U	C	Temp
80	1250	P5	321W	T1S	35,193	4	0	4	110	37,912	4	0	4	118	38,392	4	0	4	120
				T2S	35,155	4	0	5	110	37,872	4	0	5	118	38,351	4	0	5	119
				T2M	35,336	4	0	4	110	38,067	4	0	4	119	38,549	4	0	4	120
				T3S	34,222	4	0	5	107	36,866	4	0	5	115	37,333	4	0	5	116
				T3M	35,251	3	0	4	110	37,974	3	0	5	118	38,455	4	0	5	120
				T4M	34,485	3	0	5	107	37,149	4	0	5	116	37,620	4	0	5	117
				TFTM	35,229	3	0	5	110	37,951	3	0	5	118	38,431	3	0	5	120
				TSVS	36,639	5	0	1	114	39,470	5	0	1	123	39,970	5	0	1	125
				TSS	36,669	5	0	2	114	39,502	5	0	2	123	40,002	5	0	2	125
				TSM	36,576	5	0	4	114	39,403	5	0	4	123	39,901	5	0	4	124
				TSW	36,336	5	0	5	113	39,144	5	0	5	122	39,640	5	0	5	123
				BLC	28,884	3	0	4	90	31,115	3	0	4	97	31,509	3	0	4	98
				LCCO	21,492	2	0	4	67	23,153	2	0	5	72	23,446	3	0	5	73
				RCCO	21,492	2	0	4	67	23,153	2	0	5	72	23,446	3	0	5	73
100	1050	P6	343W	T1S	37,824	4	0	4	110	40,747	4	0	4	119	41,263	4	0	4	120
				T2S	37,784	4	0	5	110	40,704	4	0	5	119	41,219	4	0	5	120
				T2M	37,979	4	0	4	111	40,913	4	0	4	119	41,431	4	0	4	121
				T3S	36,780	4	0	5	107	39,623	4	0	5	116	40,124	4	0	5	117
				T3M	37,886	3	0	5	110	40,814	4	0	5	119	41,331	4	0	5	120
				T4M	37,063	4	0	5	108	39,927	4	0	5	116	40,433	4	0	5	118
				TFTM	37,863	3	0	5	110	40,789	4	0	5	119	41,305	4	0	5	120
				TSVS	39,379	5	0	1	115	42,422	5	0	1	124	42,959	5	0	1	125
				TSS	39,411	5	0	2	115	42,456	5	0	2	124	42,993	5	0	2	125
				TSM	39,311	5	0	4	115	42,349	5	0	4	123	42,885	5	0	4	125
				TSW	39,053	5	0	5	114	42,071	5	0	5	123	42,604	5	0	5	124
				BLC	31,043	3	0	4	91	33,442	3	0	4	97	33,865	3	0	4	99
				LCCO	23,099	2	0	5	67	24,884	3	0	5	73	25,199	3	0	5	73
				RCCO	23,099	2	0	5	67	24,884	3	0	5	73	25,199	3	0	5	73
100	1250	P7	398W	T1S	42,599	4	0	4	107	45,890	4	0	4	115	46,471	4	0	4	117
				T2S	42,553	4	0	5	107	45,842	4	0	5	115	46,422	4	0	5	117
				T2M	42,773	4	0	4	107	46,078	4	0	4	116	46,661	4	0	5	117
				T3S	41,423	4	0	5	104	44,624	4	0	5	112	45,189	4	0	5	114
				T3M	42,669	4	0	5	107	45,966	4	0	5	115	46,548	4	0	5	117
				T4M	41,742	4	0	5	105	44,967	4	0	5	113	45,537	4	0	5	114
				TFTM	42,643	4	0	5	107	45,938	4	0	5	115	46,519	4	0	5	117
				TSVS	44,350	5	0	1	111	47,777	5	0	1	120	48,381	5	0	1	122
				TSS	44,385	5	0	2	112	47,815	5	0	3	120	48,420	5	0	3	122
				TSM	44,273	5	0	4	111	47,695	5	0	4	120	48,298	5	0	4	121
				TSW	43,983	5	0	5	111	47,382	5	0	5	119	47,982	5	0	5	121
				BLC	34,962	3	0	4	88	37,664	3	0	5	95	38,140	3	0	5	96
				LCCO	26,015	3	0	5	65	28,025	3	0	5	70	28,380	3	0	5	71
				RCCO	26,015	3	0	5	65	28,025	3	0	5	70	28,380	3	0	5	71
100	1350	P8	448W	T1S	45,610	4	0	4	106	49,135	4	0	4	114	49,757	4	0	4	115
				T2S	45,562	4	0	5	106	49,083	4	0	5	114	49,704	4	0	5	115
				T2M	45,797	4	0	4	106	49,336	4	0	5	114	49,960	4	0	5	116
				T3S	44,352	4	0	5	103	47,779	4	0	5	111	48,384	4	0	5	112
				T3M	45,686	4	0	5	106	49,216	4	0	5	114	49,839	4	0	5	116
				T4M	44,693	4	0	5	104	48,147	4	0	5	112	48,756	4	0	5	113
				TFTM	45,657	4	0	5	106	49,186	4	0	5	114	49,808	4	0	5	116
				TSVS	47,485	5	0	1	110	51,155	5	0	1	119	51,802	5	0	1	120
				TSS	47,524	5	0	3	110	51,196	5	0	3	119	51,844	5	0	3	120
				TSM	47,404	5	0	4	110	51,067	5	0	5	118	51,713	5	0	5	120
				TSW	47,093	5	0	5	109	50,732	5	0	5	118	51,374	5	0	5	119
				BLC	37,434	3	0	5	87	40,326	3	0	5	94	40,837	3	0	5	95
				LCCO	27,854	3	0	5	65	30,006	3	0	5	70	30,386	3	0	5	71
				RCCO	27,854	3	0	5	65	30,006	3	0	5	70	30,386	3	0	5	71

Lumen Output

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Detailed Specifications																			
Beam Angle	Beam Diameter	Power (Watt)	Output (lm)	Beam Type	Beam Diameter (ft)					Beam Diameter (in)					Beam Diameter (mm)				
10°	20°	30°	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°	150°	160°	170°	180°	190°	
90	530	P10	156W	T1S	20,145	4	0	4	129	21,702	4	0	4	139	21,977	4	0	4	141
				T2S	20,029	4	0	4	128	21,577	4	0	4	138	21,850	4	0	4	140
				T2M	20,391	4	0	4	131	21,967	4	0	4	141	22,245	4	0	4	143
				T3S	19,719	4	0	4	126	21,242	4	0	4	136	21,511	4	0	4	138
				T3M	20,379	4	0	4	131	21,954	4	0	4	141	22,232	4	0	4	143
				T4M	19,995	4	0	4	128	21,540	4	0	4	138	21,812	5	0	5	140
				TFIM	20,511	4	0	4	131	22,096	5	0	5	142	22,376	5	0	5	143
				TSVS	20,655	4	0	1	132	22,251	4	0	1	143	22,533	4	0	1	144
				TSS	20,482	4	0	2	131	22,064	4	0	2	141	22,343	4	0	2	143
				TSM	20,477	5	0	3	131	22,059	5	0	3	141	22,338	5	0	3	143
				TSW	20,293	5	0	3	130	21,861	5	0	3	140	22,138	5	0	4	142
				BLC	16,846	4	0	4	108	18,148	4	0	4	116	18,378	4	0	4	118
				LCCO	12,032	2	0	3	77	12,961	2	0	3	83	13,125	2	0	3	84
RCCO	12,016	4	0	4	77	12,944	4	0	4	83	13,108	4	0	4	84				
90	700	P11	207W	T1S	25,518	4	0	4	123	27,490	4	0	4	133	27,837	4	0	4	134
				T2S	25,371	5	0	5	123	27,331	5	0	5	132	27,677	5	0	5	134
				T2M	25,829	4	0	4	125	27,825	4	0	4	134	28,177	4	0	4	136
				T3S	24,977	5	0	5	121	26,907	5	0	5	130	27,248	5	0	5	132
				T3M	25,814	5	0	5	125	27,809	5	0	5	134	28,161	5	0	5	136
				T4M	25,327	5	0	5	122	27,284	5	0	5	132	27,629	5	0	5	133
				TFIM	25,981	5	0	5	126	27,989	5	0	5	135	28,343	5	0	5	137
				TSVS	26,164	5	0	1	126	28,185	5	0	1	136	28,542	5	0	1	138
				TSS	25,943	4	0	2	125	27,948	5	0	2	135	28,302	5	0	2	137
				TSM	25,937	5	0	3	125	27,941	5	0	3	135	28,295	5	0	3	137
				TSW	25,704	5	0	4	124	27,691	5	0	4	134	28,041	5	0	4	135
				BLC	21,339	4	0	4	103	22,988	4	0	4	111	23,279	4	0	4	112
				LCCO	15,240	2	0	4	74	16,418	2	0	4	79	16,626	2	0	4	80
RCCO	15,220	5	0	5	74	16,396	5	0	5	79	16,604	5	0	5	80				
90	850	P12	254W	T1S	29,912	4	0	4	118	32,223	4	0	4	127	32,631	5	0	4	128
				T2S	29,740	5	0	5	117	32,038	5	0	5	126	32,443	5	0	5	128
				T2M	30,277	4	0	4	119	32,616	5	0	5	128	33,029	5	0	5	130
				T3S	29,278	5	0	5	115	31,540	5	0	5	124	31,940	5	0	5	126
				T3M	30,259	5	0	5	119	32,597	5	0	5	128	33,010	5	0	5	130
				T4M	29,688	5	0	5	117	31,982	5	0	5	126	32,387	5	0	5	128
				TFIM	30,455	5	0	5	120	32,808	5	0	5	129	33,224	5	0	5	131
				TSVS	30,669	5	0	1	121	33,039	5	0	1	130	33,457	5	0	1	132
				TSS	30,411	5	0	2	120	32,761	5	0	2	129	33,176	5	0	2	131
				TSM	30,404	5	0	3	120	32,753	5	0	4	129	33,168	5	0	4	131
				TSW	30,131	5	0	4	119	32,459	5	0	4	128	32,870	5	0	4	129
				BLC	25,013	4	0	4	98	26,946	4	0	4	106	27,287	4	0	4	107
				LCCO	17,865	2	0	4	70	19,245	2	0	4	76	19,489	2	0	4	77
RCCO	17,841	5	0	5	70	19,220	5	0	5	76	19,463	5	0	5	77				
90	1200	P13	344W	T1S	38,768	5	0	5	113	41,764	5	0	5	121	42,292	5	0	5	123
				T2S	38,545	5	0	5	112	41,523	5	0	5	121	42,049	5	0	5	122
				T2M	39,241	5	0	5	114	42,273	5	0	5	123	42,808	5	0	5	124
				T3S	37,947	5	0	5	110	40,879	5	0	5	119	41,396	5	0	5	120
				T3M	39,218	5	0	5	114	42,249	5	0	5	123	42,783	5	0	5	124
				T4M	38,478	5	0	5	112	41,451	5	0	5	120	41,976	5	0	5	122
				TFIM	39,472	5	0	5	115	42,522	5	0	5	124	43,060	5	0	5	125
				TSVS	39,749	5	0	1	116	42,821	5	0	1	124	43,363	5	0	1	126
				TSS	39,415	5	0	2	115	42,461	5	0	2	123	42,998	5	0	2	125
				TSM	39,405	5	0	4	115	42,450	5	0	4	123	42,988	5	0	4	125
				TSW	39,052	5	0	5	114	42,069	5	0	5	122	42,602	5	0	5	124
				BLC	32,419	5	0	5	94	34,925	5	0	5	102	35,367	5	0	5	103
				LCCO	23,154	3	0	5	67	24,943	3	0	5	73	25,259	3	0	5	73
RCCO	23,124	5	0	5	67	24,910	5	0	5	72	25,226	5	0	5	73				
90	1400	P14	405W	T1S	42,867	5	0	5	106	46,180	5	0	5	114	46,764	5	0	5	115
				T2S	42,621	5	0	5	105	45,914	5	0	5	113	46,495	5	0	5	115
				T2M	43,390	5	0	5	107	46,743	5	0	5	115	47,335	5	0	5	117
				T3S	41,959	5	0	5	104	45,201	5	0	5	112	45,773	5	0	5	113
				T3M	43,365	5	0	5	107	46,716	5	0	5	115	47,307	5	0	5	117
				T4M	42,547	5	0	5	105	45,834	5	0	5	113	46,414	5	0	5	115
				TFIM	43,646	5	0	5	108	47,018	5	0	5	116	47,614	5	0	5	118
				TSVS	43,952	5	0	1	109	47,349	5	0	1	117	47,948	5	0	1	118
				TSS	43,583	5	0	2	108	46,950	5	0	2	116	47,545	5	0	2	117
				TSM	43,572	5	0	4	108	46,939	5	0	4	116	47,533	5	0	4	117
				TSW	43,181	5	0	5	107	46,518	5	0	5	115	47,107	5	0	5	116
				BLC	35,847	5	0	5	89	38,617	5	0	5	95	39,106	5	0	5	97
				LCCO	25,602	3	0	5	63	27,580	3	0	5	68	27,930	3	0	5	69
RCCO	25,569	5	0	5	63	27,544	5	0	5	68	27,893	5	0	5	69				

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Area Size 2 reflects the embedded high performance LED technology. It is ideal for applications like car dealerships and large parking lots adjacent to malls, transit stations, grocery stores, home centers, and other big-box retailers.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (1.1 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K, or 5000 K (70 CRI) configurations. The D-Series Size 2 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hrs at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily-serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 2 to withstand up to a 2.0 G vibration load rating per ANSI C136.31. The D-Series Size 2 utilizes the AERIS™ series pole drilling pattern (Template #8). NEMA photocontrol receptacle is available.

STANDARD CONTROLS

The DSX2 LED area luminaire has a number of control options. DSX Size 2, comes standard with 0-10V dimming drivers. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. Integrated motion sensors with on-board photocells feature field-adjustable programming and are suitable for mounting heights up to 30 feet.

nLIGHT AIR CONTROLS

The DSX2 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaires can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclipse. Additional information about nLight Air can be found [here](#).

LISTINGS

UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D670,857 S. International patent pending.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org, QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

BUY AMERICAN

Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty-terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



SITE NARRATIVE
Drive Thru Restaurant
1208 South Croatan Highway
Kill Devil Hills
Dare County, North Carolina

Prepared for:
MPF Investment Company
102 W. Airstrip Rd
Kitty Hawk, NC 27948

Prepared by:
Quible & Associates, P.C.
PO Drawer 870
Kitty Hawk, NC 27949

June 15, 2021
P07116



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Appendices

Appendix A – Exhibit A (Post-development On-site Drainage Area Map)

Appendix B - On-site Soils Report and Memo

Appendix C - Stormwater Calculations

Appendix D - NOAA Precipitation Intensity (Kill Devil Hills)

Overview

The subject property is located at 1208 S. Croatan Highway approximately 0.78 miles south of Colington Road (SR #1217) and South Croatan Highway (U.S. 158) intersection. The property is located along the west side of S. Croatan Highway in Kill Devil Hills, Dare County.

The site development proposes the construction of a 2,500 sq. ft. building that includes a drive-thru restaurant. The project development will include the associated parking, drainage, water, and wastewater improvements for the development of the 0.76 acre lot. The following narrative, application, and calculations will demonstrate the parameters of the proposed design. The site is zoned commercial and restaurants are a permissible use within this zoning district.

Existing

The existing property has nonconformities, including parking and drive within close proximity of US Hwy 158, building corners within setbacks, and nonconforming entrance to US Hwy 158. Conditions of the property are in need of maintenance and replacement. There are substandard, if any, stormwater controls for the existing site. Those existing nonconformities, and poor conditions will be addressed with the redevelopment of the property.

Access

The development is proposed to be accessed from three existing entrances, one on S. Croatan Highway (US 158) and two from the adjacent parcels on either side. At the entrance to the development on US 158, 10 ft by 70 ft. sight triangles are provided on the plan sheets to demonstrate visibility at the proposed intersection. The proposed access will provide a minimum 12' wide drive aisle around the front, rear and sides of the building. The proposed 24' drive aisles will allow for fire apparatus to come within 150' of all portions of the structure. The proposed pavement section is capable of withstanding 75,000 lbs. An existing hydrant exists at the northeast corner of the property adjacent to S. Croatan Highway. This location has been reviewed to confirm hose length can reach within 400-ft of all parts of the proposed structure.

A loading and unloading zone is not required per Kill Devil Hills Zoning Ordinance, Section 153.076 (E) since the building square footage is less than 10,000 sf.

Parking

The number of proposed parking spaces for the site development is 25. The proposed building is 2,500 sq. ft. (gross square footage). It should be noted food service will not be provided at the outdoor patio area. Parking requirements are calculated using a restaurant at 1 space per 100 sf gross building square footage. A total of 25 spaces are required and 25 spaces have been provided (including 2 ADA accessible parking spaces). Stacking availability exceeds the required minimum of 5 spaces per window with 3 reserve spaces. 17 stacking spaces have been provided.

Signage will be provided within the parking area to notify employees and visitors that the drive aisle is a provided fire lane. Security lighting will be provided at the building and a lighting plan has been provided to address the expected footcandles at the property lines.

Stormwater Management Plan

Per 15A NCAC 02H.1005 (a) (3) (B) High Density Coastal Development is required to meet particular criteria. This development is proposed to have 71.3% of impervious coverage within the lot without taking any credit reduction for permeable pavements. The proposed interconnected infiltration basins onsite are designed in accordance with NCDEQ Requirements and are designed to store, control, and treat the stormwater runoff from all surfaces generated by the 4.3 inch of rainfall per Town requirements. In addition to these requirements, a minimum 50' vegetative buffer from surface waters is provided.

Collection

Runoff from the proposed vehicular area is to be collected and conveyed to the infiltration basin via sheet flow, vegetated swales, and a stormwater network. Runoff draining from the proposed building will be collected by roof drains and will discharge into the storm network.

Treatment

The proposed system will offer several methods of treatment prior to release.

Runoff from vehicular areas will be directed to the infiltration basin via catch basins, a piped network, and concrete flumes. Rip-rap connections to the vegetated swales will provide the first level treatment for these areas and will provide filtration of small particulates and nutrients prior to entering the infiltration basin.

Stormwater entering the basin will be deenergized by filling the proposed interconnected structures prior to overflow into each infiltration basin. The structure will reduce inflow velocities to the basin. Larger debris and pollutants will settle in the structure as the stormwater enters the basin. These structures will need to be maintained regularly to remove sediment and debris.

The primary treatment of runoff will be provided within the infiltration basin. The vegetated side slopes and vegetated shelf will provide filtration of runoff and nutrient uptake through natural biological processes.

Storage

The proposed infiltration basin has been sized to allow for a local requirement of storing the 4.3 inch storm. This storage capacity is in excess of the State required 1-yr storm (3.3 inch) and provides approximately 4.3 inches of storage within the basin and void space.

The NCDEQ storage required is 0 cf. The NCDEQ calculations provided take into account that the existing site has approximately 25,893 sf of coverage that will be removed with the project. Ultimately, excluding permeable pavements, the proposed site will only have 13,126 sf of coverage. This is an overall site reduction in coverage. The proposed interconnected infiltration detention basin will have an above grade storage capacity of 2,227 cf.

For local storage requirements, the site will need to store the 4.3-inch storm. Storage has been provided for the 4.3-inch storm within the basin, void space surrounding the basin, void space within the permeable pavements, and void space within the open area. Local stormwater

calculations are based off of a total impervious coverage of 23,406 sf within the associated drainage area, including permeable pavements. Local storage requirements require 8,048 cf of storage and 8,075 cf of storage is provided. The interconnected basins are designed at 15.6-inches deep and are designed to drawdown within 1.25 days at minimum hydraulic conductivity rate of 0.52 in/hr. Based on the soils found at the site, a higher hydraulic conductivity rate is anticipated.

The season high water table (SHWT) is at an elevation of 6.1 ft., per the attached soils analysis in **Appendix B**.

Disposal

The infiltration basin's primary mode of disposal between elevations 7.1 ft. and 8.5 ft. is through infiltration. The total drawdown time from an elevation of 8.5 ft. is 1.25 days. Supporting calculations for the drawdown time and storage of the proposed infiltration basin have been provided within **Appendix C**.

Calculations for the proposed infiltration basin have been provided in **Appendix C**. The infiltration basin design allows for 12" of separation from the seasonal high-water table (SHWT). A summary of the storage available within the basin is available in **Appendix C**.

Soils

The USDA NRCS Soil Survey lists the soil in the vicinity of the stormwater detention basin as described below:

DtA – Duckston Fine sand

This soil typically has 0 to 2 percent slope. Duckston fine sand typically has a very high runoff class and is poorly drained. This soil is categorized in Hydrologic Soil Group: A/D.

Quible and Associates conducted a soil boring test in the vicinity of the infiltration basins. The soils observed were consistent with the NRCS soil description. The results of this test are available in **Appendix B**. The SHWT was found to be at approximately 6.1' elevation.

Utilities

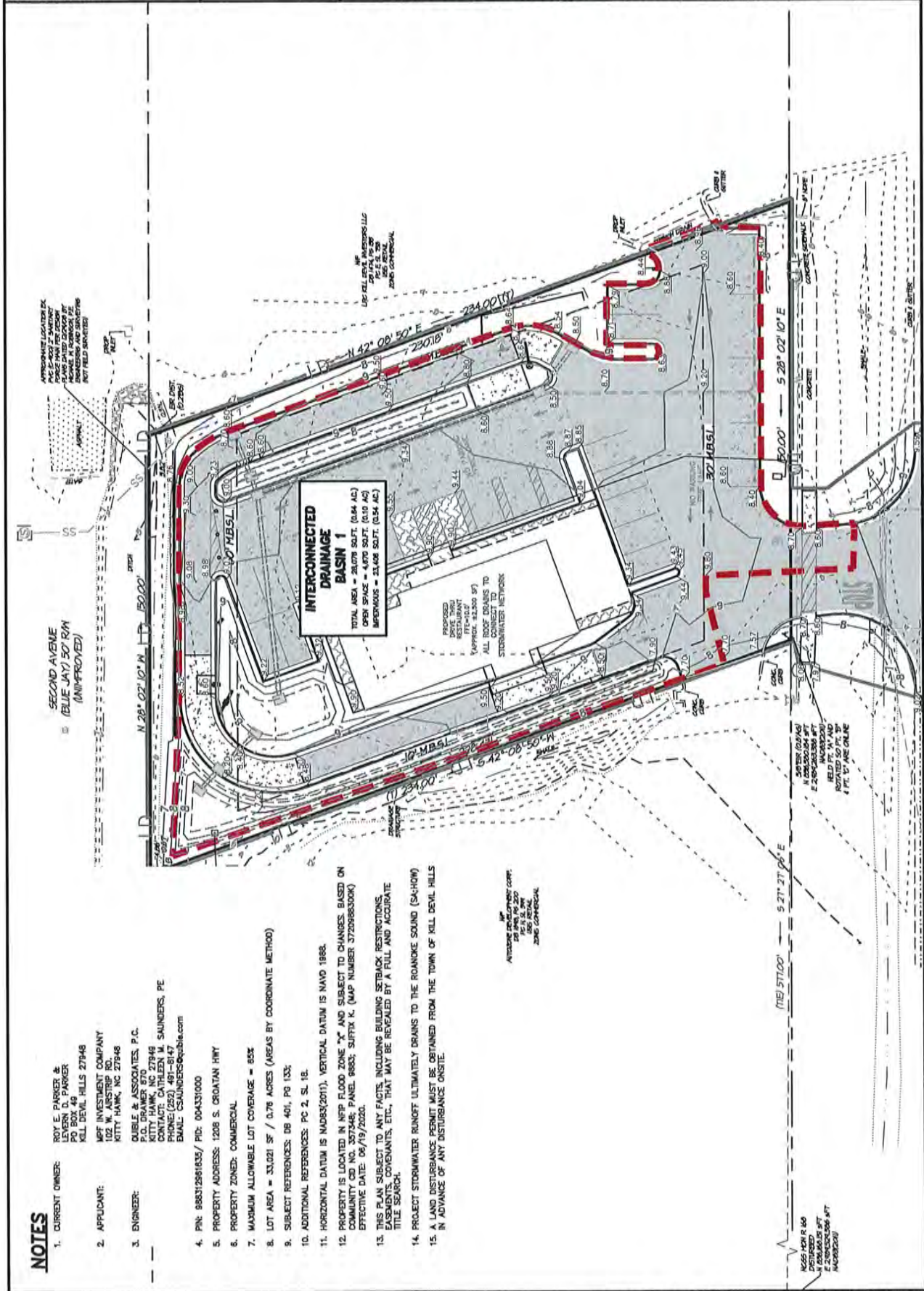
The site is proposed to have a single meter for domestic water. The existing water supply is provided by The Town of Kill Devil Hills, the proposed service size will be reviewed and confirmed during design of the building plans to determine an adequate size. Changes to the existing waterline within the right-of-way is not proposed, therefore, a permit to construct from NC DEQ Public Water Supply is not required. The proposed water service shall be installed per Kill Devil Hills standard water specifications and details.

The site has access to central wastewater. The downstream system currently handles the existing pump station at the site. Review and permitting of the proposed pump station will take place concurrent with site plan review. Wastewater use is anticipated to be 1,440 gpd.

Appendices

**Appendix A - Post-development
On-site Drainage Area Map**

1. CURRENT OWNER: ROY E. PARKER &
LEVERN D. PARKER
PO BOX 49
KILL DEVIL HILLS 27948
2. APPLICANT: MPF INVESTMENT COMPANY
102 W. AIRSTRIP RD.
KITTY HAWK, NC 27948
3. ENGINEER: QUBLE & ASSOCIATES, P.C.
P.O. DRAHER 870
KITTY HAWK, NC 27948
CONTACT: CATHERINE W. SAUNDERS, PE
PHONE: (252) 489-8447
EMAIL: CSOUND@csquba.com
4. PIN: 983312618135 / PID: 004331000
5. PROPERTY ADDRESS: 1208 S. ORCHARD HWY
6. PROPERTY ZONED: COMMERCIAL
7. MAXIMUM ALLOWABLE LOT COVERGE = 85%
8. LOT AREA = 33,021 SF / 0.76 ACRES (AREAS BY COORDINATE METHOD)
9. SUBJECT REFERENCES: DB 401, PG 133;
10. ADDITIONAL REFERENCES: PG 2, SL 18.
11. HORIZONTAL DATUM IS NAD83(2011), VERTICAL DATUM IS NAVD 1988.
12. PROPERTY IS LOCATED IN NEP FLOOD ZONE "X" AND SUBJECT TO CHANGES BASED ON COMMUNITY CDD NO. 337348; MAP NUMBER 3720988300K)
EFFECTIVE DATE: 06/19/2020.
13. THIS PLAN SUBJECT TO ANY FACTS, INCLUDING BUILDING SETBACK RESTRICTIONS, EASEMENTS, COVENANTS, ETC., THAT MAY BE REVEALED BY A FULL AND ACCURATE TITLE SEARCH.
14. PROJECT STORMWATER RUNOFF ULTIMATELY DRAINS TO THE ROANOKE SOUND (S-104H0)
15. A LAND DISTURBANCE PERMIT MUST BE OBTAINED FROM THE TOWN OF KILL DEVIL HILLS IN ADVANCE OF ANY DISTURBANCE ONSITE.

[illegible]

Appendix B - On-site Soils Map and Data

MEMORANDUM



Quible SINCE 1959
& Associates, P.C.

ENGINEERING * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING

Phone: (252) 261-3300

Fax: (252) 261-1260

Web: www.quible.com

To: Cathleen Saunders, P.E.

From: Brian Rubino, P.G. *BR*

Date: April 23, 2021

Re: P07116 Soil Borings

Cathleen,

On April 22, 2021, I visited the Site to conduct shallow soil borings in two locations (SB-1 and SB-2) for the purpose of understanding the lithologic conditions and for determining the depth and elevation of the Season High Water Table (SHWT) for Stormwater Management system design. The boring locations included unconsolidated sands (dominantly fine grain sands) with no restrictive horizon down to 42 inches below the ground surface. The ground elevations at boring locations were collected using survey grade GPS. The elevation of the estimated SHWT and actual water table are relatively consistent at the boring locations.

A summary of boring data collected and observed is as follows:

Soil Boring	Ground Elevation (ft)	Approx. Groundwater Elevation (ft)	Approx. Elevation of SHWT (ft)
SB-1	7.67	5.67	6.17
SB-2	8.83	5.75	6.16



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Dare County, North Carolina**

1208 S. Croatan Hwy



June 14, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:752 if printed on A landscape (11" x 8.5") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

- Area of Interest (AOI)

Area of Interest (AOI)
- Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points
- Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot
- Water Features

Streams and Canals
- Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads
- Background

Aerial Photography

MAP INFORMATION

- The soil surveys that comprise your AOI were mapped at 1:24,000.
- Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.
- Please rely on the bar scale on each map sheet for map measurements.
- Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)
- Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.
- This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.
- Soil Survey Area: Dare County, North Carolina
Survey Area Data: Version 20, Jun 2, 2020
- Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.
- Date(s) aerial images were photographed: Dec 31, 2009—Oct 19, 2017
- The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DtA	Duckston fine sand, 0 to 2 percent slopes, occasionally flooded	1.1	100.0%
Totals for Area of Interest		1.1	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Dare County, North Carolina

DtA—Duckston fine sand, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 3qgw
Elevation: 0 to 10 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Duckston and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Duckston

Setting

Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Eolian sands and/or beach sand

Typical profile

A - 0 to 8 inches: fine sand
Cg - 8 to 13 inches: sand
Ab - 13 to 17 inches: sand
C'g - 17 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 39.96 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water capacity: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

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Appendix C - Stormwater Calculations

NCDEQ Stormwater Calculations

Storage Calculations

	Interconnected Basin (Town)		Interconnected Basin (State)	
	(sq.ft.)	(acre)	(sq.ft.)	(acre)
Drainage Area =	28,076	0.64	28,076	0.64
Open Space	4,670	0.11	14,950	0.34
Permeable Concrete =	10,280	0.24	0	0.00
Building =	3,602	0.08	3,602	0.08
Asphalt/concrete =	9,524	0.22	9,524	0.22
Impervious =	13,126	0.30	13,126	0.30
Existing to be removed (State Credit) =	0	0.00	25,894	0.59
Total Impervious (including permeable) =	23,406	0.54	13,126	0.30

Runoff generated by Rainfall Event (NCDEQ Simplified Method)

Ia = Impervious Percentage = Impervious Area/Drainage Area

Rv = Runoff Coefficient, 0.05+0.9Ia

Rd = Rain fall depth

V = Runoff Volume, 3630*Rd*Rv*A

	A (3.3")		A (4.3")	
Ia =	46.8%		83.4%	
Rv =	0.47		0.80	
Rd (in.) =	3.3		4.3	
A (ac.) =	0.64		0.64	
V (cf.) =	3637		8048	

Total Storage Required by NCDEQ =

3637 cf

Infiltration Basin Stormwater Calculations for NCDEQ

Above Grade Storage Provided In Infiltration Basin (SWHT +/- 6.1' Assumed)

A - Above Grade Storage				
Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
7.10	567			0
		1127	1014	
8.00	1687			1014
		2426	1213	
8.50	3165			2227 (Vg)

Above Grade Storage Provided =

2227 cf

Total Storage Provided (above & below) =

3569 cf

Total Storage Rainfall Equivalent Storage =

1.9 in

Parking Spaces Permeable Pavement Storage	
Storage Area (A) =	10280.00 sf
Storage Elev. (E) =	8.30 ft
Season High Water Table (Wt) =	6.20 ft
Bedding Thickness (Ds) =	0.66 ft
Soil Volume (Sv) = A*D _s =	6785 cf
Void Ratio (Vr) =	40%
Subsurface Void Vol. (Vss) = A*D _s *Vr =	2714 cf

Bedding (Voids) Storage Provided =

2714 cf

Pipe Storage Provided =

179 cf

Total Storage Provided (permeable & openspace) =

4326 cf

Total Storage Provided =

8075 cf

Total Storage Rainfall Equivalent Storage =

4.3 in

A - Below Grade Storage

Storage Area (A) =	3165.00 sf
Storage Elev. (E) =	8.50 ft
Season High Water Table (Wt) =	6.10 ft
Soil Depth Above SWHT (Ds) = B-Wt	2.40 ft
Soil Volume (Sv) = A*D _s -Vg =	5369 cf
Void Ratio (Vr) =	25%
Subsurface Void Vol. (Vss) = A*D _s *Vr =	1342 cf

Below Grade (Voids) Storage Provided =

1342 cf

Below Grade Storage (Outside of basins)

Storage Area (A) =	6449.80 sf
Storage Elev. (E) =	7.00 ft
Season High Water Table (Wt) =	6.00 ft
Soil Depth Above SWHT (Ds) = B-Wt	1.00 ft
Soil Volume (Sv) = A*D _s -Vg =	6450 cf
Void Ratio (Vr) =	25%
Subsurface Void Vol. (Vss) = A*D _s *Vr =	1612 cf

Below Grade (Voids) Storage Provided =

1612 cf

Front Infiltration Basin Drawdown Calculations

Hydraulic Conductivity = 0.52 in/hr (minimum for permitted basin)
Max Stored Depth = 16.8 in
Drawdown Time = Stored Depth / Hydraulic Conductivity
Drawdown Time = 32.31 hrs or 1.35 days

Appendix D - NOAA Precipitation Intensity (Dare County)



NOAA Atlas 14, Volume 2, Version 3
 Location name: Kill Devil Hills, North Carolina,
 USA*
 Latitude: 36.003°, Longitude: -75.6553°
 Elevation: 9.26 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

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PF tabular

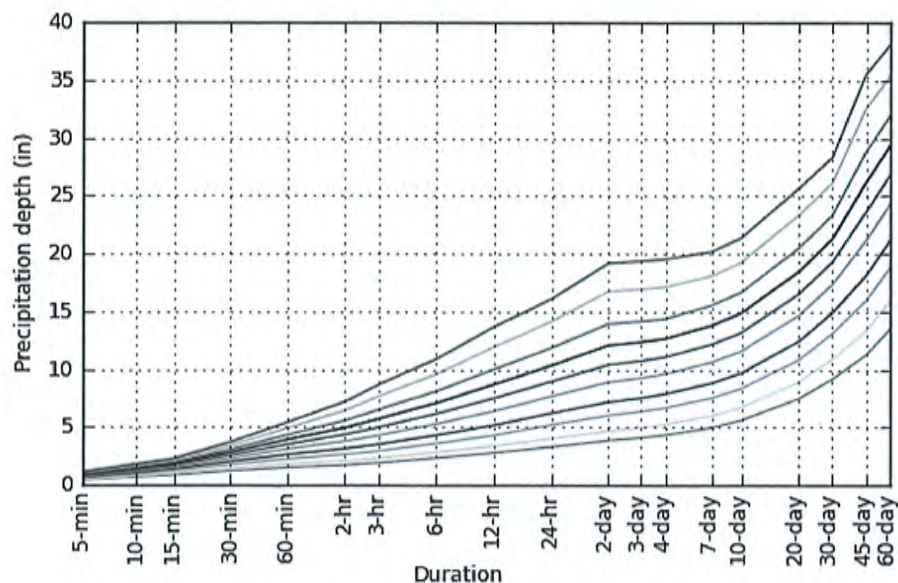
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.453 (0.414-0.498)	0.534 (0.487-0.584)	0.620 (0.568-0.678)	0.697 (0.636-0.760)	0.788 (0.715-0.856)	0.860 (0.775-0.934)	0.930 (0.838-1.01)	0.998 (0.894-1.08)	1.09 (0.966-1.18)	1.16 (1.03-1.27)
10-min	0.724 (0.661-0.795)	0.854 (0.779-0.934)	0.993 (0.910-1.09)	1.11 (1.02-1.22)	1.25 (1.14-1.36)	1.37 (1.24-1.49)	1.48 (1.33-1.61)	1.58 (1.42-1.72)	1.72 (1.53-1.87)	1.83 (1.62-2.00)
15-min	0.904 (0.827-0.993)	1.07 (0.980-1.17)	1.26 (1.15-1.37)	1.41 (1.29-1.54)	1.59 (1.44-1.73)	1.73 (1.56-1.88)	1.87 (1.68-2.03)	2.00 (1.79-2.17)	2.17 (1.92-2.36)	2.30 (2.03-2.51)
30-min	1.24 (1.13-1.36)	1.48 (1.35-1.62)	1.79 (1.64-1.95)	2.04 (1.86-2.23)	2.36 (2.14-2.56)	2.61 (2.35-2.84)	2.86 (2.58-3.11)	3.11 (2.78-3.37)	3.45 (3.06-3.75)	3.73 (3.29-4.06)
60-min	1.55 (1.41-1.70)	1.86 (1.70-2.04)	2.29 (2.10-2.50)	2.66 (2.43-2.90)	3.14 (2.85-3.41)	3.54 (3.19-3.84)	3.94 (3.55-4.28)	4.36 (3.90-4.73)	4.95 (4.39-5.38)	5.44 (4.80-5.92)
2-hr	1.75 (1.59-1.92)	2.12 (1.93-2.33)	2.67 (2.42-2.93)	3.16 (2.87-3.46)	3.81 (3.44-4.16)	4.38 (3.94-4.76)	4.96 (4.44-5.39)	5.59 (4.98-6.07)	6.47 (5.71-7.03)	7.21 (6.32-7.84)
3-hr	1.92 (1.75-2.11)	2.34 (2.13-2.56)	2.95 (2.69-3.23)	3.52 (3.20-3.85)	4.31 (3.88-4.70)	4.99 (4.48-5.42)	5.72 (5.12-6.22)	6.52 (5.78-7.07)	7.66 (6.72-8.31)	8.67 (7.52-9.39)
6-hr	2.36 (2.16-2.59)	2.86 (2.60-3.13)	3.62 (3.30-3.98)	4.33 (3.92-4.74)	5.31 (4.78-5.79)	6.18 (5.54-6.71)	7.10 (6.32-7.71)	8.12 (7.17-8.81)	9.60 (8.36-10.4)	10.9 (9.41-11.8)
12-hr	2.81 (2.55-3.13)	3.41 (3.08-3.79)	4.33 (3.92-4.80)	5.20 (4.69-5.75)	6.42 (5.76-7.07)	7.52 (6.70-8.25)	8.71 (7.68-9.54)	10.0 (8.76-11.0)	12.0 (10.3-13.1)	13.7 (11.6-15.0)
24-hr	3.32 (3.05-3.63)	4.05 (3.71-4.42)	5.23 (4.78-5.69)	6.23 (5.67-6.76)	7.69 (6.96-8.33)	8.96 (8.02-9.70)	10.3 (9.19-11.2)	11.9 (10.5-12.9)	14.1 (12.2-15.4)	16.1 (13.7-17.6)
2-day	3.89 (3.54-4.29)	4.71 (4.30-5.19)	6.05 (5.53-6.65)	7.19 (6.56-7.90)	8.92 (8.06-9.78)	10.4 (9.33-11.4)	12.1 (10.7-13.2)	14.0 (12.2-15.3)	16.8 (14.4-18.5)	19.2 (16.2-21.2)
3-day	4.12 (3.77-4.55)	5.00 (4.57-5.50)	6.38 (5.84-7.02)	7.55 (6.88-8.29)	9.28 (8.39-10.2)	10.8 (9.64-11.8)	12.4 (11.0-13.6)	14.2 (12.4-15.5)	17.0 (14.6-18.7)	19.4 (16.4-21.4)
4-day	4.36 (4.00-4.81)	5.28 (4.84-5.82)	6.72 (6.15-7.39)	7.91 (7.21-8.67)	9.64 (8.71-10.6)	11.1 (9.95-12.2)	12.7 (11.3-13.9)	14.4 (12.6-15.7)	17.1 (14.8-18.8)	19.5 (16.7-21.6)
7-day	5.00 (4.58-5.50)	6.02 (5.51-6.63)	7.56 (6.92-8.31)	8.83 (8.05-9.68)	10.7 (9.65-11.7)	12.2 (10.9-13.3)	13.8 (12.3-15.1)	15.6 (13.7-17.1)	18.1 (15.7-19.9)	20.2 (17.3-22.3)
10-day	5.63 (5.21-6.12)	6.75 (6.25-7.34)	8.36 (7.73-9.08)	9.70 (8.94-10.5)	11.6 (10.6-12.6)	13.2 (12.0-14.3)	14.9 (13.4-16.1)	16.7 (14.9-18.1)	19.3 (16.9-21.0)	21.4 (18.6-23.4)
20-day	7.49 (7.00-8.07)	8.92 (8.34-9.61)	10.8 (10.1-11.7)	12.4 (11.6-13.4)	14.7 (13.6-15.8)	16.5 (15.2-17.7)	18.4 (16.9-19.9)	20.5 (18.6-22.1)	23.3 (20.9-25.2)	25.6 (22.7-27.8)
30-day	9.18 (8.62-9.79)	10.9 (10.2-11.6)	13.1 (12.3-14.0)	14.9 (13.9-15.8)	17.3 (16.2-18.5)	19.3 (17.9-20.6)	21.3 (19.6-22.7)	23.3 (21.4-25.0)	26.1 (23.7-28.2)	28.3 (25.4-30.7)
45-day	11.3 (10.6-12.0)	13.3 (12.6-14.2)	16.0 (15.0-17.0)	18.1 (17.0-19.2)	21.1 (19.7-22.4)	23.6 (21.9-25.1)	26.2 (24.1-27.8)	28.8 (26.4-30.7)	32.5 (29.4-34.9)	35.5 (31.8-38.2)
60-day	13.5 (12.7-14.2)	15.9 (15.0-16.8)	18.8 (17.8-19.8)	21.1 (19.9-22.3)	24.3 (22.8-25.6)	26.7 (25.1-28.3)	29.3 (27.3-31.0)	31.9 (29.5-33.8)	35.3 (32.4-37.7)	38.0 (34.6-40.7)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

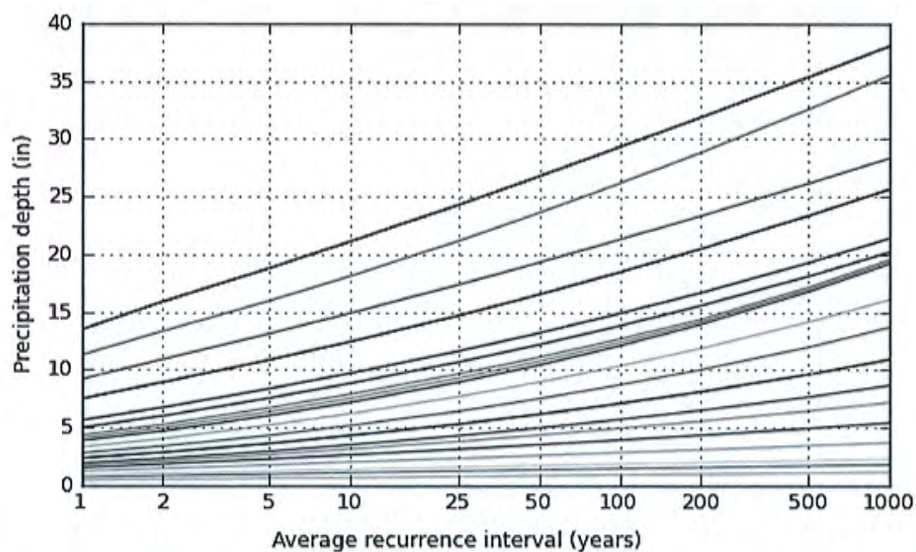
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PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 36.0030°, Longitude: -75.6553°



Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000



Duration	
5-min	2-day
10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

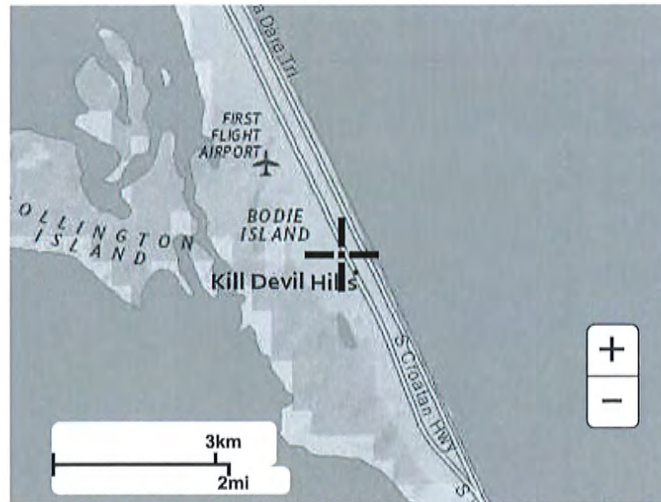
NOAA Atlas 14, Volume 2, Version 3

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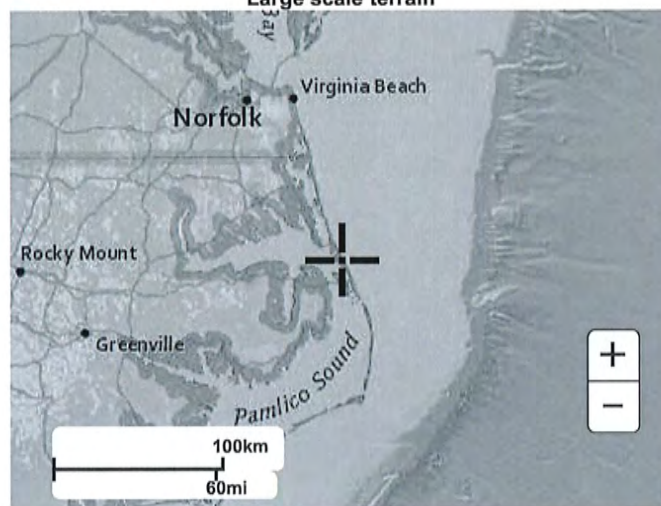
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Maps & aeriels

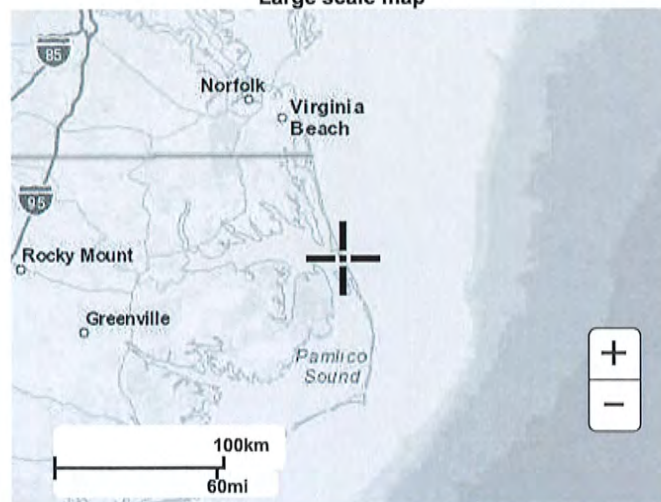
Small scale terrain



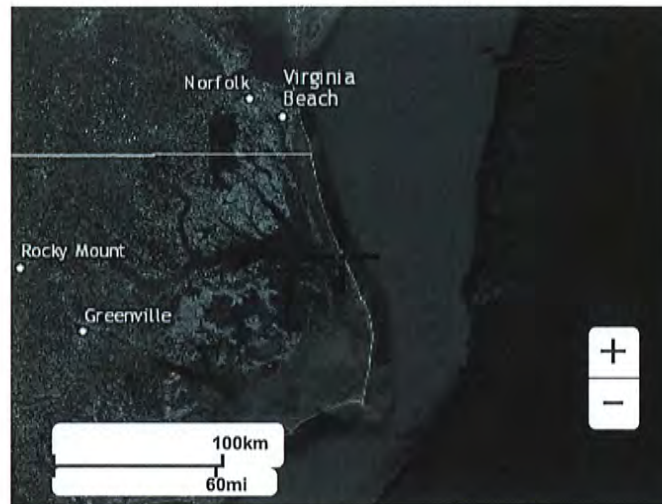
Large scale terrain



Large scale map



Large scale aerial



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NOAA Atlas 14, Volume 2, Version 3
Location name: Kill Devil Hills, North Carolina,
USA*

Latitude: 36.003°, Longitude: -75.6553°

Elevation: 9.26 ft**

* source: ESRI Maps

** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnín, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

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PF tabular

AMS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)¹									
Duration	Annual exceedance probability (1/years)								
	1/2	1/5	1/10	1/25	1/50	1/100	1/200	1/500	1/1000
5-min	5.89 (5.38-6.44)	7.27 (6.66-7.94)	8.28 (7.55-9.02)	9.41 (8.54-10.2)	10.3 (9.25-11.2)	11.1 (10.0-12.1)	11.9 (10.7-12.9)	13.0 (11.5-14.1)	13.9 (12.3-15.1)
10-min	4.72 (4.30-5.16)	5.82 (5.33-6.37)	6.61 (6.03-7.22)	7.49 (6.80-8.15)	8.18 (7.38-8.89)	8.83 (7.95-9.59)	9.46 (8.47-10.3)	10.3 (9.12-11.2)	11.0 (9.65-11.9)
15-min	3.95 (3.61-4.32)	4.91 (4.50-5.37)	5.58 (5.09-6.09)	6.34 (5.75-6.89)	6.91 (6.22-7.50)	7.44 (6.70-8.08)	7.96 (7.12-8.63)	8.63 (7.66-9.38)	9.16 (8.08-9.98)
30-min	2.73 (2.49-2.99)	3.49 (3.20-3.82)	4.04 (3.69-4.41)	4.69 (4.26-5.10)	5.20 (4.69-5.65)	5.70 (5.13-6.19)	6.19 (5.54-6.72)	6.87 (6.09-7.47)	7.42 (6.54-8.08)
60-min	1.71 (1.56-1.87)	2.24 (2.05-2.44)	2.63 (2.40-2.87)	3.13 (2.84-3.40)	3.52 (3.18-3.83)	3.93 (3.53-4.26)	4.34 (3.89-4.71)	4.93 (4.37-5.36)	5.42 (4.78-5.90)
2-hr	0.975 (0.887-1.07)	1.30 (1.18-1.43)	1.57 (1.42-1.71)	1.90 (1.71-2.07)	2.18 (1.96-2.37)	2.47 (2.21-2.68)	2.78 (2.48-3.02)	3.22 (2.84-3.50)	3.59 (3.14-3.90)
3-hr	0.716 (0.653-0.784)	0.961 (0.875-1.05)	1.16 (1.06-1.27)	1.43 (1.29-1.56)	1.66 (1.49-1.80)	1.90 (1.70-2.06)	2.16 (1.92-2.35)	2.54 (2.23-2.76)	2.87 (2.50-3.11)
6-hr	0.439 (0.400-0.481)	0.592 (0.538-0.649)	0.715 (0.648-0.783)	0.882 (0.795-0.962)	1.03 (0.922-1.12)	1.18 (1.05-1.28)	1.35 (1.19-1.47)	1.60 (1.39-1.73)	1.81 (1.57-1.97)
12-hr	0.260 (0.235-0.289)	0.351 (0.318-0.390)	0.427 (0.385-0.472)	0.531 (0.476-0.584)	0.622 (0.554-0.682)	0.720 (0.635-0.789)	0.829 (0.724-0.909)	0.989 (0.851-1.08)	1.13 (0.961-1.24)
24-hr	0.155 (0.142-0.170)	0.213 (0.195-0.232)	0.257 (0.234-0.279)	0.319 (0.289-0.346)	0.372 (0.333-0.403)	0.429 (0.381-0.464)	0.493 (0.434-0.534)	0.587 (0.508-0.640)	0.667 (0.568-0.731)
2-day	0.090 (0.083-0.099)	0.123 (0.112-0.135)	0.148 (0.135-0.163)	0.185 (0.167-0.203)	0.216 (0.194-0.237)	0.251 (0.222-0.275)	0.289 (0.254-0.318)	0.348 (0.299-0.384)	0.398 (0.336-0.441)
3-day	0.064 (0.058-0.070)	0.087 (0.079-0.095)	0.104 (0.095-0.114)	0.128 (0.116-0.141)	0.149 (0.133-0.163)	0.171 (0.152-0.188)	0.196 (0.172-0.215)	0.234 (0.202-0.258)	0.268 (0.227-0.296)
4-day	0.051 (0.046-0.056)	0.068 (0.063-0.075)	0.082 (0.074-0.089)	0.100 (0.090-0.110)	0.115 (0.103-0.126)	0.132 (0.117-0.144)	0.149 (0.131-0.163)	0.178 (0.154-0.195)	0.203 (0.173-0.224)
7-day	0.033 (0.030-0.036)	0.044 (0.040-0.048)	0.052 (0.047-0.057)	0.063 (0.057-0.069)	0.072 (0.065-0.079)	0.082 (0.073-0.090)	0.092 (0.081-0.101)	0.107 (0.093-0.118)	0.120 (0.103-0.132)
10-day	0.026 (0.024-0.028)	0.034 (0.031-0.037)	0.040 (0.037-0.043)	0.048 (0.044-0.052)	0.055 (0.050-0.059)	0.062 (0.056-0.067)	0.069 (0.062-0.075)	0.080 (0.070-0.087)	0.089 (0.077-0.097)
20-day	0.017 (0.016-0.018)	0.022 (0.021-0.024)	0.026 (0.024-0.028)	0.030 (0.028-0.033)	0.034 (0.032-0.037)	0.038 (0.035-0.041)	0.042 (0.039-0.046)	0.048 (0.043-0.052)	0.053 (0.047-0.058)
30-day	0.014 (0.013-0.015)	0.018 (0.017-0.019)	0.020 (0.019-0.022)	0.024 (0.022-0.026)	0.027 (0.025-0.028)	0.029 (0.027-0.031)	0.032 (0.030-0.035)	0.036 (0.033-0.039)	0.039 (0.035-0.042)
45-day	0.011 (0.011-0.012)	0.014 (0.014-0.015)	0.017 (0.016-0.018)	0.019 (0.018-0.021)	0.022 (0.020-0.023)	0.024 (0.022-0.026)	0.027 (0.024-0.028)	0.030 (0.027-0.032)	0.033 (0.029-0.035)
60-day	0.010 (0.010-0.011)	0.013 (0.012-0.013)	0.015 (0.014-0.015)	0.017 (0.016-0.018)	0.019 (0.017-0.020)	0.020 (0.019-0.021)	0.022 (0.020-0.023)	0.024 (0.022-0.026)	0.026 (0.024-0.028)

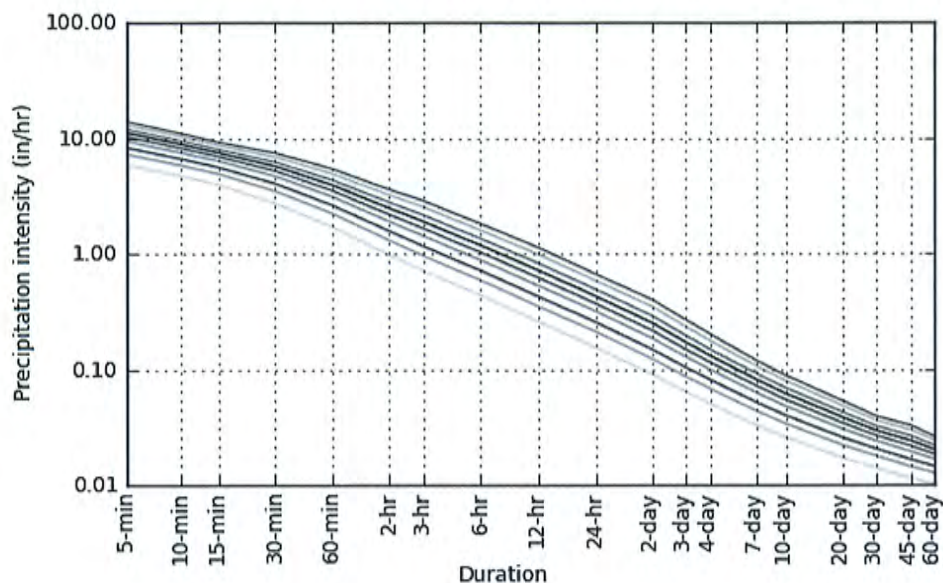
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of annual maxima series (AMS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and annual exceedance probability) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

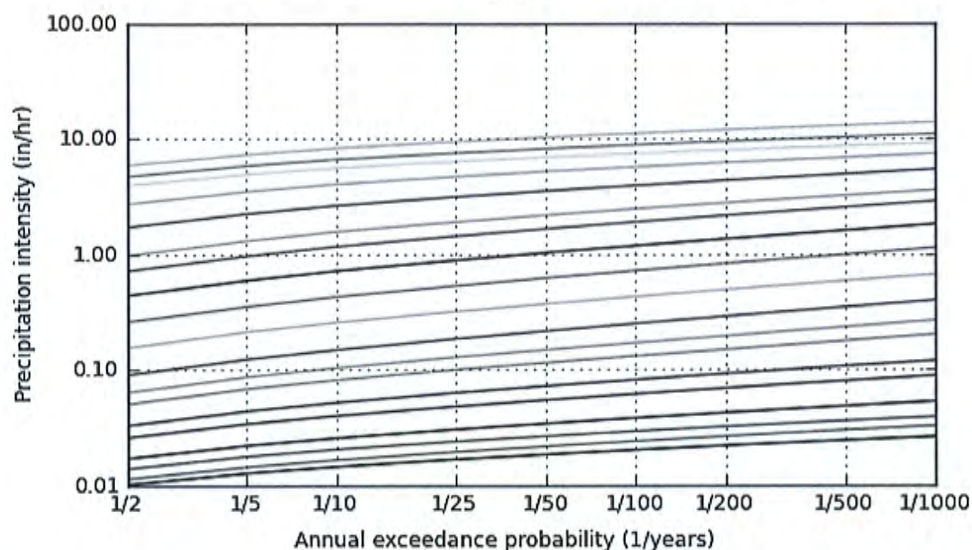
[Back to Top](#)

PF graphical

AMS-based intensity-duration-frequency (IDF) curves
Latitude: 36.0030°, Longitude: -75.6553°



Annual exceedance probability (1/years)
2
5
10
25
50
100
200
500
1000



Duration	
5-min	2-day
10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

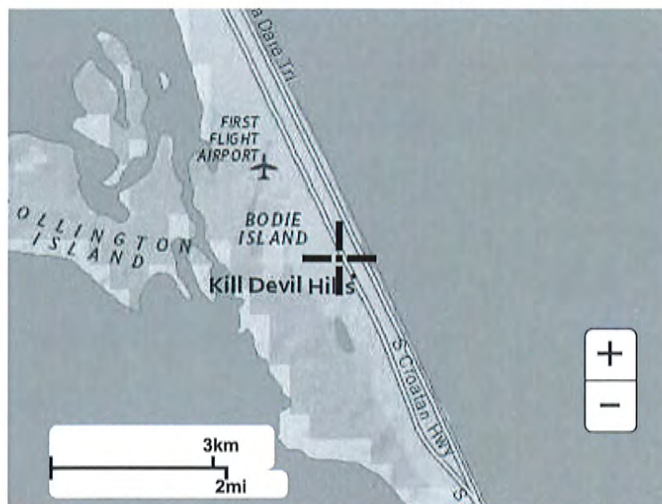
NOAA Atlas 14, Volume 2, Version 3

Created (GMT): Tue Jun 15 02:55:44 2021

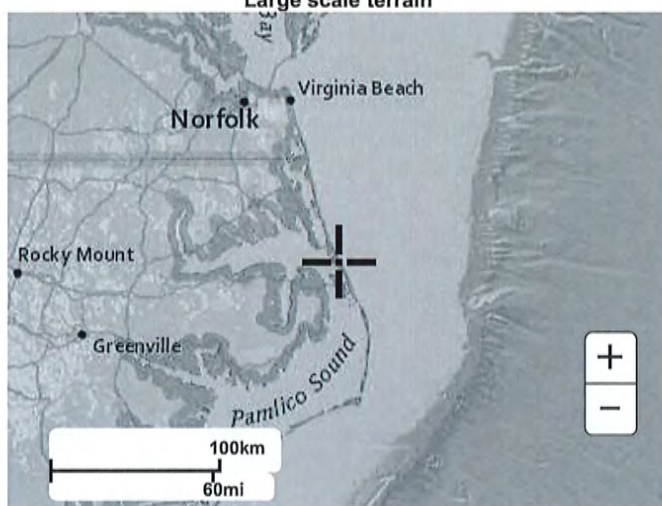
[Back to Top](#)

Maps & aeriels

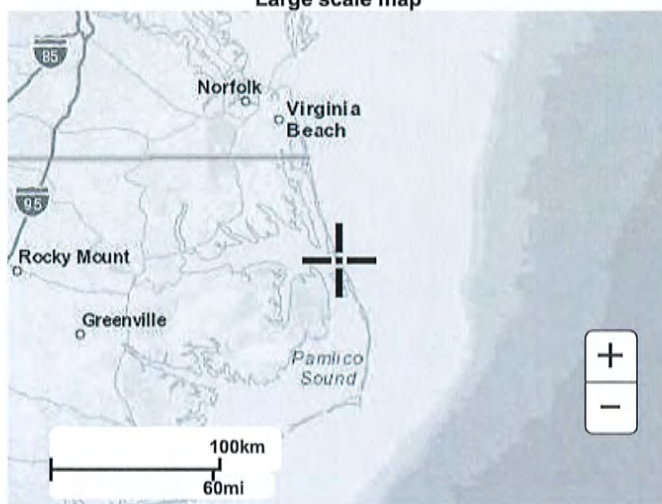
Small scale terrain



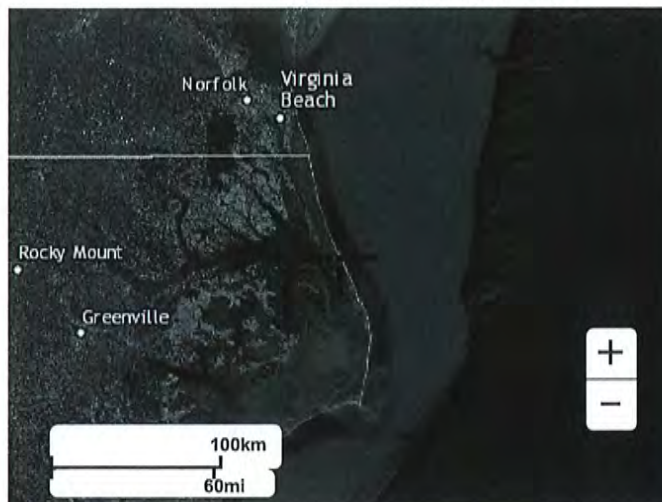
Large scale terrain



Large scale map



Large scale aerial



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[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

**PURCHASE AND SALE AGREEMENT
For
ADDITIONAL SEWER CAPACITY**

WHEREAS, KDHWTP, LLC, ("KDHWTP" as "Seller") is the owner and franchised operator of a wastewater treatment plant located in Kill Devil Hills, NC and

WHEREAS, in its treatment plant, KDHWTP currently has unused and available wastewater treatment capacity which is available for sale to existing and future customers, and

WHEREAS, MPF Investment Company and or assigns hereafter referred to as "Purchaser," has a contract to purchase the property which is the subject of this agreement and located at 1208 South Croatan Highway in Kill Devil Hills, NC 27948, which Legal Description is Dare County Parcel Number 004331000 and PIN 988312961635. There is currently 600 gpd allocated to the subject property and the Purchaser desires to purchase an additional 800 gpd of the unused and available treatment capacity belonging to KDHWTP to redevelop the property, which is located within the Public Utilities Service Area. This Agreement is specifically contingent on the Purchaser taking title to the property referenced above or shall be considered void.

W I T N E S S E T H:

1. Purchase and Sale. Purchaser hereby agrees to purchase, and Seller agrees to sell, capacity in the KDHWTP treatment plant, such purchase to consist of the right to use an additional 800 gallons per day ("gpd") of the plant's treatment capacity.

2. Purchase Price. The purchase price for this purchase of capacity is \$12.98 per gpd for a total purchase price of \$10,384.00. In addition to the purchase price the purchaser shall be required to pay, by separate check, an additional \$3,078.86 as required by the North Carolina Utilities Commission as the Gross-Up for Taxes on all Contributions in Aid of Construction for a total of \$13,462.86. Full payment shall be made within thirty (30) days after the Purchaser takes title to the property.

3. Connection to System; Succession. It shall be Purchaser's responsibility to construct the necessary collection pipes and associated equipment, including any required lift stations and stand by generators, the location of which must be approved by the Public Utility, which are required to connect Purchaser's premises with Seller's existing plant facilities. Such construction shall meet standards prescribed by the North Carolina Department of Environmental Resources, Division of Environmental Quality and the Public Utility. Upon completion and upon request of the Seller all such pipes, lift stations, other equipment, easements and rights-of-way associated with the sewer lines and facilities, and any facility plans and specifications including as-built surveys shall be conveyed at no cost by the Purchaser to the Seller, or to any successor-in-interest of the Seller. Purchaser and Seller may convey their rights and obligations hereunder to third parties upon giving written notice to the other party.

4. Paragraph Headings. The underlined paragraph headings are for the convenience of the parties and are not part of the substance of this Agreement.

5. Interpretation. This Agreement shall be construed pursuant to the laws of the State of North Carolina.

6. **Entire Agreement.** This Agreement represents the entire Agreement between the Purchaser and Seller regarding the subject matter of this Agreement. All prior discussions and negotiations are merged in this Agreement.

7. **Dispute Resolution.** In the event of disagreement or dispute concerning any of the terms of this Agreement, the Purchaser and Seller shall first attempt to negotiate a resolution themselves. If that fails, the parties will petition the North Carolina Utilities Commission for a resolution of the dispute. No lawsuits shall be filed by either party.

8. **Amendment.** This Agreement may be amended, in writing, with such written Amendment to be signed by both Purchaser and Seller or their respective successor(s) in interest.

9. **Date of Agreement.** This Agreement is executed on or as of 7/6/2021 7/6/2021

SELLER

KDHWTP, LLC

By: _____

George E. Goodrich
Manager

DocuSigned by:
Eddie Goodrich
F477256CDBFE1F8...

PURCHASER

MPF Investment Company

By: _____

DocuSigned by:
Jeff Fabricant
423814236F1247A... (Name)
(Title)

Quible

Quible & Associates, P.C.

ENGINEERING • ENVIRONMENTAL SCIENCES • PLANNING • SURVEYING
SINCE 1959

P.O. Drawer 870
Kill Devil Hills, NC 27949
Phone: 252-491-8147
Fax: 252-491-8146
web: quible.com

June 28, 2021

Caitlin Spear
NCDOT
1929 North Road St.
Elizabeth City, NC 27909

Re: Right of Way Encroachment &
Driveway Access Agreement
1208 S Croatan Highway
Kill Devil Hills, Dare County, NC

Ms. Spear,

On behalf of MPF Investment Company, Quible & Associates, P.C. hereby submits for your review and approval a Right of Way Encroachment Agreement and Driveway Access Permit Application for a drive-through restaurant along Croatan Highway in Kill Devil Hills, Dare County.

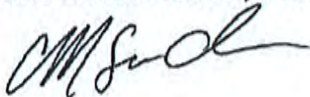
The following is attached and shall be considered part of this package:

- One (1) digital copy of the executed Street and Driveway Access Permit Application;
- One (1) digital copy of the executed Right of Way Encroachment Agreement;
- One (1) digital copy of the COVID Workforce Safety form;
- One (1) digital copy of the Plan Set Sheets 1, 2, and 6.

At your earliest convenience, please review and do not hesitate to contact me by email at csaunders@quible.com or by phone at (252) 202-7112 should you have any questions or require any additional information.

Thank you for your time and attention to this project.

Sincerely,
Quible & Associates, P.C.



Cathleen M. Saunders, P.E.

Encl.: as stated
Cc: Jeff Fabrikant, MPF Investment Company, LLC
File

APPLICATION IDENTIFICATION		N.C. DEPARTMENT OF TRANSPORTATION	
Driveway Permit No.	Date of Application	STREET AND DRIVEWAY ACCESS	
County:		PERMIT APPLICATION	
Development Name: Drive-Thru Restaurant			
LOCATION OF PROPERTY:			
Route/Road: 1208 S. Croatan Highway (US 158)			
Exact Distance 4,015	☐ Miles ☒ Feet	N S E W ☐ ☒ ☐ ☐	
From the Intersection of Route No. <u>US 158</u> and Route No. <u>SR 1217 (Colington)</u> Toward <u>Nags Head</u>			
Property Will Be Used For: ☐ Residential /Subdivision ☒ Commercial ☐ Educational Facilities ☐ TND ☐ Emergency Services ☐ Other			
Property: ☒ Is ☐ Is not within <u>Commercial</u> City Zoning Area.			
AGREEMENT			
• I, the undersigned property owner, request access and permission to construct driveway(s) or street(s) on public right-of-way at the above location. • I agree to construct and maintain driveway(s) or street entrance(s) in absolute conformance with the current "Policy on Street and Driveway Access to North Carolina Highways" as adopted by the North Carolina Department of Transportation. • I agree that no signs or objects will be placed on or over the public right-of-way other than those approved by NCDOT. • I agree that the driveway(s) or street(s) will be constructed as shown on the attached plans. • I agree that that driveway(s) or street(s) as used in this agreement include any approach tapers, storage lanes or speed change lanes as deemed necessary. • I agree that if any future improvements to the roadway become necessary, the portion of driveway(s) or street(s) located on public right-of-way will be considered the property of the North Carolina Department of Transportation, and I will not be entitled to reimbursement or have any claim for present expenditures for driveway or street construction. • I agree that this permit becomes void if construction of driveway(s) or street(s) is not completed within the time specified by the "Policy on Street and Driveway Access to North Carolina Highways". • I agree to pay a \$50 construction inspection fee. Make checks payable to NCDOT. This fee will be reimbursed if application is denied. • I agree to construct and maintain the driveway(s) or street(s) in a safe manner so as not to interfere with or endanger the public travel. • I agree to provide during and following construction proper signs, signal lights, flaggers and other warning devices for the protection of traffic in conformance with the current "Manual on Uniform Traffic Control Devices for Streets and Highways" and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the District Engineer. • I agree to indemnify and save harmless the North Carolina Department of Transportation from all damages and claims for damage that may arise by reason of this construction. • I agree that the North Carolina Department of Transportation will assume no responsibility for any damages that may be caused to such facilities, within the highway right-of-way limits, in carrying out its construction. • I agree to provide a Performance and Indemnity Bond in the amount specified by the Division of Highways for any construction proposed on the State Highway system. • The granting of this permit is subject to the regulatory powers of the NC Department of Transportation as provided by law and as set forth in the N.C. Policy on Driveways and shall not be construed as a contract access point. • I agree that the entire cost of constructing and maintaining an approved private street or driveway access connection and conditions of this permit will be borne by the property owner, the applicant, and their grantees, successors, and assignees. • I AGREE TO NOTIFY THE DISTRICT ENGINEER WHEN THE PROPOSED WORK BEGINS AND WHEN IT IS COMPLETED.			
2004-07 NOTE: Submit Four Copies of Application to Local District Engineer, N.C. Department of Transportation 61-03419 TEB 65-04rev.			

SIGNATURES OF APPLICANT

PROPERTY OWNER (APPLICANT)		WITNESS	
COMPANY	MPF Investment Company	NAME	John Hallberg
SIGNATURE		SIGNATURE	
ADDRESS	102 W. Airstrip Rd.	ADDRESS	1560 Tilden Street
	Kitty Hawk, NC 27948 Phone No. 779462894		Washington DC 20016
AUTHORIZED AGENT		WITNESS	
COMPANY	Quibler & Assoc., P.C. - Catherine S.	NAME	Mark R. Saunders, Jr.
SIGNATURE		SIGNATURE	
ADDRESS	8460 Carotake Hwy, Bldg 400	ADDRESS	13808 Sandy Oak Rd
	Peacocks Point, NC Phone No. (252) 202-7112		Chester, VA 23831

APPROVALS

APPLICATION RECEIVED BY DISTRICT ENGINEER

SIGNATURE

DATE

APPLICATION APPROVED BY LOCAL GOVERNMENTAL AUTHORITY (when required)

SIGNATURE

TITLE

DATE

APPLICATION APPROVED BY NCDOT

SIGNATURE

TITLE

DATE

INSPECTION BY NCDOT

SIGNATURE

TITLE

DATE

COMMENTS:

ROUTE US 158 (S. Croatan Hwy) PROJECT Drive-Thru Restaurant COUNTY OF STATE OF NORTH CAROLINA Dare

DEPARTMENT OF TRANSPORTATION RIGHT OF WAY ENCROACHMENT AGREEMENT
-AND- PRIMARY AND SECONDARY HIGHWAYS

MPF Investment Company

THIS AGREEMENT, made and entered into this day of June 20 21 by and between the Department of Transportation, party of the first part; and MPF Investment Company party of the second part,

WITNESSETH

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) US 158 (Croatan Highway), located At 1208 South Croatan Highway

with the construction and/or erection of: 24 lf of 4' Sidewalk, 1740 sf Driveway Entrance, and water connection installation, and roadway entrance.

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the installation, operation, and maintenance of the above described facility will be accomplished in accordance with the party of the first part's latest POLICIES AND PROCEDURES FOR ACCOMMODATING UTILITIES ON HIGHWAY RIGHTS-OF-WAY, and such revisions and amendments thereto as may be in effect at the date of this agreement. Information as to these policies and procedures may be obtained from the Division Engineer or State Utility Agent of the party of the first part.

That the said party of the second part binds and obligates himself to install and maintain the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway, nor obstruct nor interfere with the proper maintenance thereof, to reimburse the party of the first part for the cost incurred for any repairs or maintenance to its roadways and structures necessary due to the installation and existence of the facilities of the party of the second part, and if at any time the party of the first part shall require the removal of or changes in the location of the said facilities, that the said party of the second part binds himself, his successors and assigns, to promptly remove or alter the said facilities, in order to conform to the said requirement, without any cost to the party of the first part.

That the party of the second part agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first part.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

That the party of the second part agrees to restore all areas disturbed during installation and maintenance to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; siltling or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any installation or maintenance operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the construction site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

During the performance of this contract, the second party, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

- Compliance with Regulations:** The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the U. S. Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
- Nondiscrimination:** The contractor, with regard to the work performed by it during the contract, shall not discriminate on the

grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

- c. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
- d. **Information and Reports:** The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.
- e. **Sanctions for Noncompliance:** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to,
 - (1) withholding of payments to the contractor under the contract until the contractor complies, and/or
 - (2) cancellation, termination or suspension of the contract, in whole or in part.
- f. **Incorporation of Provisions:** The contractor shall include the provisions of paragraphs "a" through "f" in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Department of Transportation to enter into such litigation to protect the interests of the State, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

R/W (161) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (161) incorporating all revisions to date.

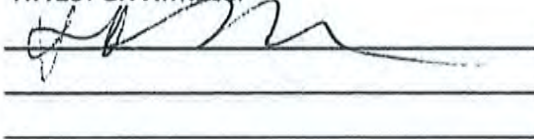
IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

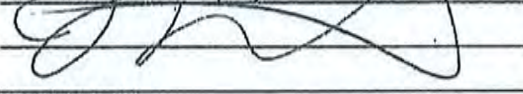
BY:

DIVISION ENGINEER

ATTEST OR WITNESS:



MPF Investment Company



Second Party

INSTRUCTIONS

When the applicant is a corporation or a municipality, this agreement must have the corporate seal and be attested by the corporation secretary or by the empowered city official, unless a waiver of corporate seal and attestation by the secretary or by the empowered City official is on file in the Raleigh office of the Manager of Right of Way. In the space provided in this agreement for execution, the name of the corporation or municipality shall be typed above the name, and title of all persons signing the agreement should be typed directly below their signature.

When the applicant is not a corporation, then his signature must be witnessed by one person. The address should be included in this agreement and the names of all persons signing the agreement should be typed directly below their signature.

This agreement must be accompanied, in the form of an attachment, by plans or drawings showing the following applicable information:

1. All roadways and ramps.
2. Right of way lines and where applicable, the control of access lines.
3. Location of the existing and/or proposed encroachment.
4. Length, size and type of encroachment.
5. Method of installation.
6. Dimensions showing the distance from the encroachment to edge of pavement, shoulders, etc.
7. Location by highway survey station number. If station number cannot be obtained, location should be shown by distance from some identifiable point, such as a bridge, road, intersection, etc. (To assist in preparation of the encroachment plan, the Department's roadway plans may be seen at the various Highway Division Offices, or at the Raleigh office.)
8. Drainage structures or bridges if affected by encroachment (show vertical and horizontal dimensions from encroachment to nearest part of structure).
9. Method of attachment to drainage structures or bridges.
10. Manhole design.
11. On underground utilities, the depth of bury under all traveled lanes, shoulders, ditches, sidewalks, etc.
12. Length, size and type of encasement where required.
13. On underground crossings, notation as to method of crossing - boring and jacking, open cut, etc.
14. Location of vents.

GENERAL REQUIREMENTS

1. Any attachment to a bridge or other drainage structure must be approved by the Head of Structure Design in Raleigh prior to submission of encroachment agreement to the Division Engineer.
2. All crossings should be as near as possible normal to the centerline of the highway.
3. Minimum vertical clearances of overhead wires and cables above all roadways must conform to clearances set out in the National Electric Safety Code.
4. Encasements shall extend from ditch line to ditch line in cut sections and 5' beyond toe of slopes in fill sections.
5. All vents should be extended to the right of way line or as otherwise required by the Department.
6. All pipe encasements as to material and strength shall meet the standards and specifications of the Department.
7. Any special provisions or specifications as to the performance of the work or the method of construction that may be required by the Department must be shown on a separate sheet attached to encroachment agreement provided that such information cannot be shown on plans or drawings.
8. The Department's Division Engineer should be given notice by the applicant prior to actual starting of installation included in this agreement.

WORKFORCE SAFETY PLAN

FOR ENCROACHMENT ACTIVITIES: COVID-19

EFFORTS THE N.C. TRANSPORTATION INDUSTRY IS TAKING TO STOP THE SPREAD OF COVID-19

The North Carolina Department of Transportation (NCDOT) and their partners expect all parties involved in the delivery of transportation projects to abide by the guidelines issued from the Centers for Disease Control and Prevention (CDC) and the North Carolina Department of Health and Human Services (NCDHHS).

Response to COVID-19 is rapidly evolving; new information and guidelines may be issued from the CDC, NCDHHS, or other state or federal agencies. NCDOT and their partners should review the current CDC and NCDHHS guidance, including the resources listed at the end of this document, for up-to-date information on how to respond to COVID-19. Additional guidelines may be issued by state or federal agencies that should be followed in addition to the guidance included in this document.

Though certain Americans with Disabilities Act (ADA) requirements have been relaxed in response to the pandemic, employers must still maintain all information about employee illness as a confidential medical record in compliance with the ADA. If an employee is suspected of having or tests positive for COVID-19, it is essential that management keep the identity of the employee and details related to the employee's health confidential.

Below are precautions required by NCDOT and from encroaching parties and their contractors performing construction within NCDOT Rights of Way. The term employee refers to any person on a job site within NCDOT right of way for the purpose of constructing or inspecting the work related to construction of a facility under an approved encroachment agreement and where that employee may or may not be under employment by or under contract to NCDOT.

EMPLOYEE WELLNESS

- If an employee has not yet reported to work and develops any COVID-19 symptoms (i.e. fever, coughing, or shortness of breath) — STAY HOME and immediately:
 - Call a health care provider
 - Self-Isolate
 - Communicate with your supervisor
 - Remain calm and follow all instructions from your health care provider
- Employees who appear to have acute respiratory illness symptoms (i.e. cough, shortness of breath) upon arrival to work, or become sick during the day, should be separated from others and sent home immediately. The potentially affected employees should immediately follow the steps outlined above, which includes immediately contacting a health care provider.
- Should an employee show symptoms of acute respiratory illness or be diagnosed with COVID-19, all other employees who have worked in close proximity to the affected employee during the last 14

days and all encroachment points of contact indicated at the end of this plan should be notified of potential exposure to the disease without identifying the affected employee.

- Consideration should be given to employees at “High Risk” of severe illness from COVID-19, who, per NCDHHS, include employees:
 - Over 65 years of age, **OR**
 - With underlying health conditions including heart disease, lung disease, or diabetes, **OR**
 - With weakened immune system
- “High Risk” Employees should be given the opportunity to discuss alternate work arrangements/duties with their employer or take leave according to their company policies.
- For guidance on confirmed positive tests for COVID-19, refer to the most recent version of the “COVID-19 Guidance for Employees on Encroachment Job Sites within NCDOT Right of Way” located on last page of this plan.

PERSONAL HYGIENE

- Clean hands often by washing with soap and water for 20 seconds. If soap and water are not available and hands are not visibly dirty, an alcohol-based hand sanitizer that contains 60%-95% alcohol may be used.
- Avoid touching your eyes, nose, mouth, or other parts of your face.
- Do not breathe, cough, or sneeze on another person or into the open air. Employees should cover their noses and mouth with a tissue when coughing or sneezing (or an elbow or shoulder if no tissue is available).
- A facemask for covering nose and mouth is encouraged on the job site.
- Appropriate gloves are encouraged while performing functions of the job.

CLEANING/DISINFECTING

- Wash stations and/or hand sanitizer are encouraged on each project site.
- Appropriate cleaning staff should clean frequently touched surfaces and objects with disinfectants at a minimum of once per day.
 - Office/buildings: door knobs, light switches, phones, computers/keyboards, copy machines, elevator buttons, toilets, faucets, sinks, countertops, paper towel dispensers, desktops, handrails, folders, vending machines, counters, tables, cabinets/knobs, etc.
 - Shop Yard/Jobsite: vehicle/equipment door handles, keys, gear shifts, steering wheel/operator controls and levers, fuel pump dispensers, touch points on machinery, etc.
 - Electronic equipment: cell phones, computers, keyboards, etc.
- Appropriate cleaning staff should sanitize/disinfect facilities and work areas after persons suspected/confirmed to have COVID-19 have been in the facility or work area.

- It is recommended to close off access to areas used by the ill persons and wait as long as practical, 24 hours if possible, before beginning cleaning and disinfection to minimize potential for exposure to respiratory droplets. Open outside doors and windows to increase air circulation in the area if possible.
- Appropriate cleaning staff should clean and disinfect all areas used by the ill persons, focusing especially on frequently touched surfaces.

GENERAL

- Increase communication measures between all parties regarding schedule, daily activities, etc. to reduce/minimize worker exposure in accordance with but not limited to the requirements below.
- Minimize on-site personnel such as subcontractors, work crews, QC personnel, and inspection staff to those required for that day's activities. If work is postponed or cancelled, immediately notify appropriate parties.
- Practice "Social Distancing" whenever feasible. Social Distancing is designed to limit the spread of a disease by reducing the opportunities for close contact between people. All personnel have the responsibility to remind each other to stay 6 feet or more apart. Examples of Social Distancing include:
 - Reducing face-to-face exposure by using conference calls and video conferencing
 - If an in-person meeting is absolutely required and cannot be rescheduled or attended remotely, the meeting is limited to a maximum of 10 people while maintaining Social Distancing of 6 feet or more.
 - Avoiding unnecessary travel
- Do not congregate at lunch or breaks. Bringing your lunch is encouraged.
- No communal coolers or drink stations are allowed. Supervisors should confirm with employees prior to beginning work for appropriate hydration and nutrition availability to employees for the duration of the employee's shift and without direct contact with others on the job site.
- First line of communication should be by phone, rather than in-person.
- Do not shake hands.
- Do not share iPads, tablets, pens, or clipboards for signing or any other purpose. Take pictures as proof of attendance at meetings.
- Sharing of Personal Protective Equipment (PPE) is strictly prohibited.
- Vehicles, equipment, and tools
 - Limit the number of people riding in a vehicle together.
 - Wipe down and disinfect vehicles after each trip.
 - As much as possible, do not share tools or equipment. If a tool or piece of equipment must be shared, the parts of it that are touched should be sanitized between uses.

RETURN TO WORK

- The following criteria must be followed for an employee who is tested for Covid-19, or asked to self-quarantine by health officials, or has contact with another employee with a positive test result to return to work:
 - at least a 14-day quarantine; **OR**
 - release by a health care provider.
- In accordance with CDC guidance, the following criteria must be followed for an employee with a positive test result to return to work:
 - at least 14 days from positive test notification; **AND**
 - at least 3 days (72 hours) have passed since recovery defined as resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms (e.g., cough, shortness of breath); **AND**
 - at least 7 days have passed since symptoms first appeared.

NCDOT may require certification of fitness to work from a health care provider.

ADDITIONAL RESOURCES

NCDOT and their partners should review the CDC and NCDHHS resources listed below for up-to-date information on how to respond to COVID-19. Additional guidelines may be issued by state or federal agencies that should be followed in addition to the guidelines included in this document.

- NCDHHS COVID-19 Resources:
 - <https://www.ncdhhs.gov/divisions/public-health/coronavirus-disease-2019-covid-19-response-north-carolina>
- NCOSHR Communicable Disease Emergency Policy
 - <https://oshr.nc.gov/policies-forms/workplace-wellness/communicable-disease-emergency>
- OSHA Guidance on Preparing Workplaces for COVID-19
 - <https://www.osha.gov/Publications/OSHA3990.pdf>
- CDC COVID-19 Resources:
 - <https://www.cdc.gov/coronavirus/2019-ncov/index.html>

AGREEMENT

The encroaching party shall adhere to the requirements of this plan in order to continue work under their approved encroachment agreement. Violations to this plan could result in the violating entity not being allowed to continue work or all work ceasing as determined by the NCDOT District Engineer or Resident Engineer.

PROJECT POINTS OF CONTACT

NCDOT

Name: _____

Phone #: _____

Encroaching Party (Primary Contact)

Name: Brad Capps - Titan Construction, Inc

Phone #: (804) 931-1726

**Primary Contractor to Encroaching Party
(Point of Contact)**

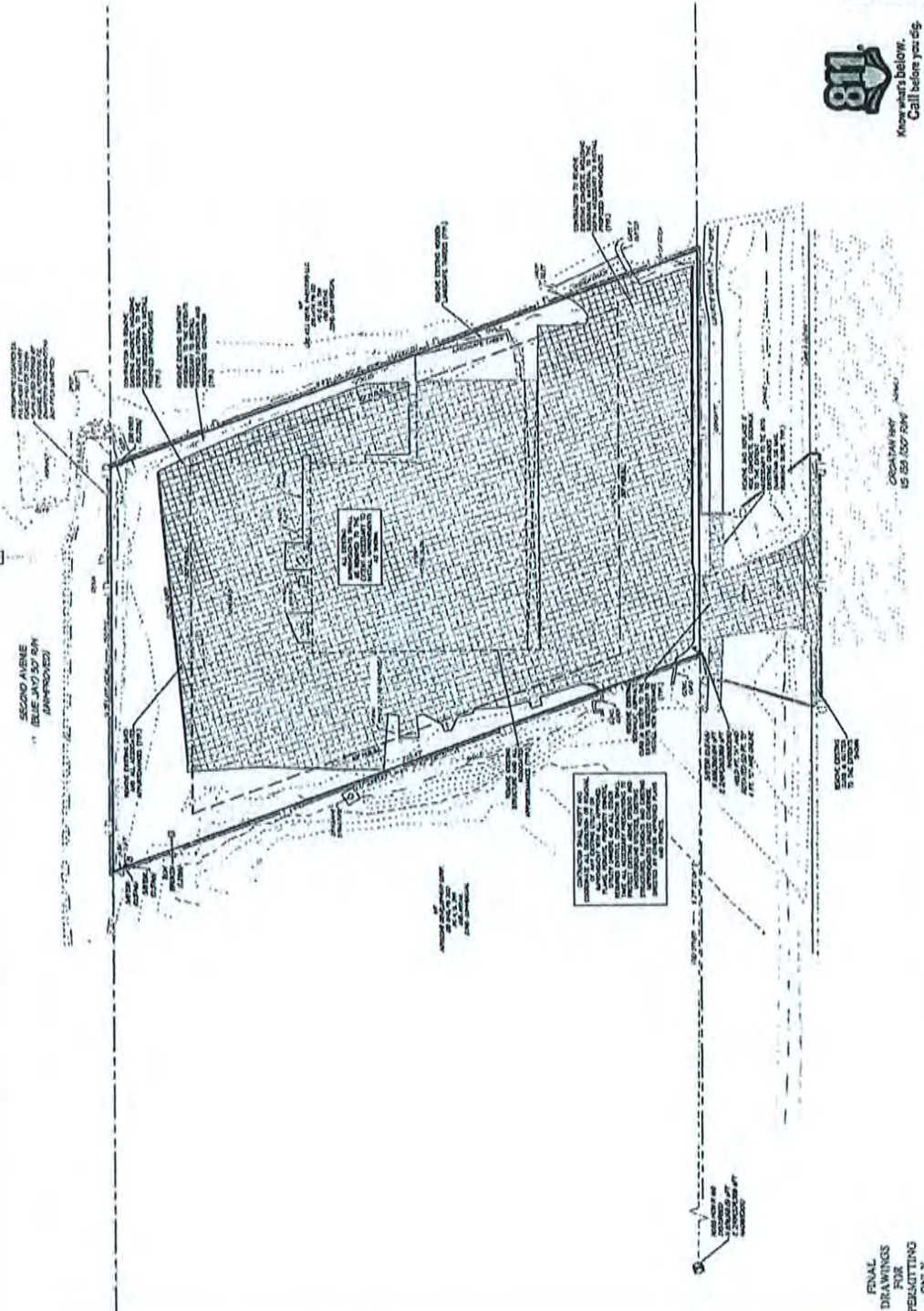
Name: Brad Capps - Titan Construction, Inc

Phone #: (804) 931-1726

COVID-19 Guidance for Employees on Encroachment Job sites within NCDOT Right of Way				
Relationship to Confirmed POSITIVE Test		CONTACT GROUP		
		What YOU Should Do	What your CREW Should Do <i>Exposure within 6' and longer than 10 minutes</i>	What PROJECT SITE Personnel Should Do <i>No exposure within 6' and longer than 10 minutes</i>
Employee	You +   	Notify your supervisor Self-quarantine for 14 days	Advise of POSITIVE test without identifying the affected employee* Directly exposed crew self-quarantine for 14 days Continue hygiene & disinfecting measures	Advise of POSITIVE test without identifying the affected employee* Site personnel without direct contact may continue onsite work or follow their company policy Continue hygiene & disinfecting measures
Direct Contact <i>Interaction with an infected person within 6' and longer than 10 minutes</i>	You +    	Self-quarantine for 14 days	Advise of POSITIVE test without identifying the affected employee* Crew may continue onsite work or follow their company policy Continue hygiene & disinfecting measures	Advise of POSITIVE test* Continue hygiene & disinfecting measures
Secondary Contact	You +    	You may continue onsite work or follow your company policy Continue hygiene & disinfecting measures	Continue hygiene & disinfecting measures	Continue hygiene & disinfecting measures
Two or more Persons Removed from Contact	You +    	Continue hygiene & disinfecting measures	Continue hygiene & disinfecting measures	Continue hygiene & disinfecting measures
*Notification Protocol <i>(Comply with HIPAA & ADA confidentiality requirements)</i>	NCDOT employee / agent tests POSITIVE	NCDOT District Engineer/Resident Engineer notifies Encroaching Party's primary point of contact and Contractor Point of Contact, CDC and, if Resident Engineer has oversight for the job site, FHWA any Consultant Firms working for NCDOT Encroaching party representative notifies other Contractors, Sub-Contractors and Suppliers with exposed Employees		
	Encroaching Party or Contract crew member on job site tests POSITIVE	Encroaching party representative or Contractor point of contact notifies appropriate NCDOT District Engineer or Resident Engineer and all other Contractors, Sub-Contractors and Suppliers with exposed Employees NCDOT notifies CDC, and as appropriate, FHWA and any Consultant Firms working for NCDOT		

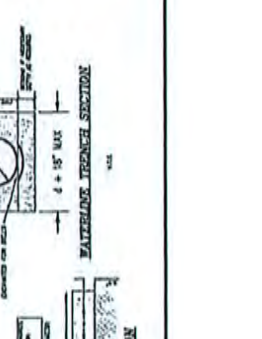
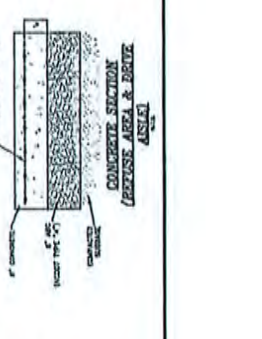
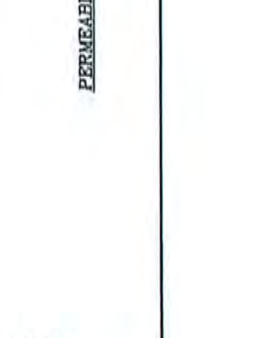
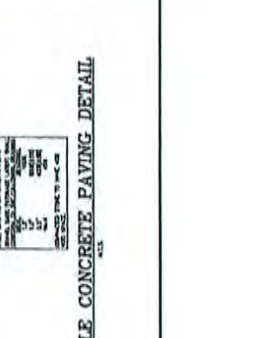
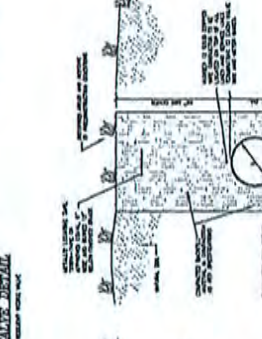
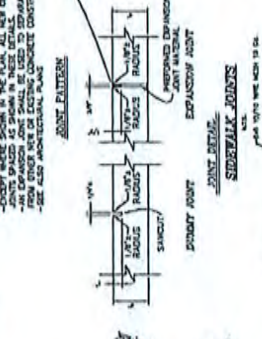
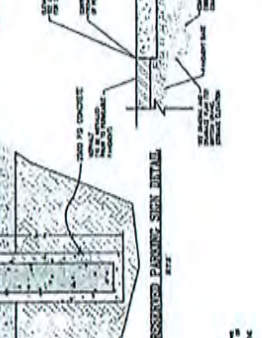
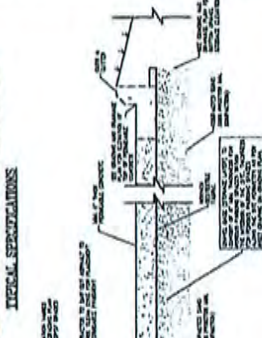
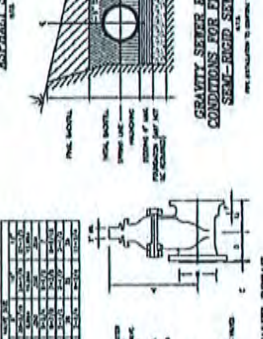
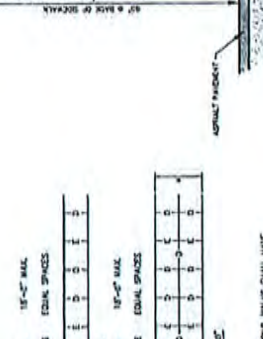
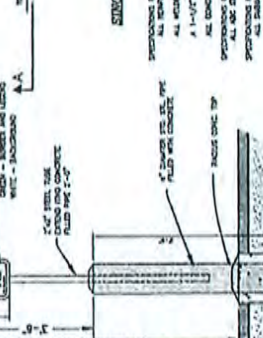
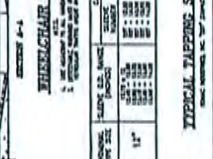
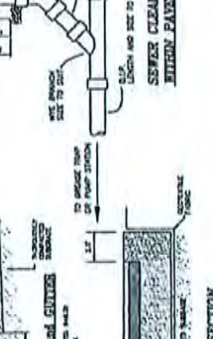
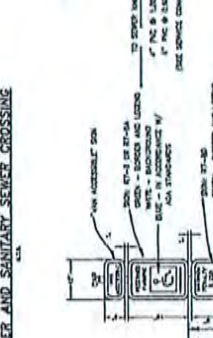
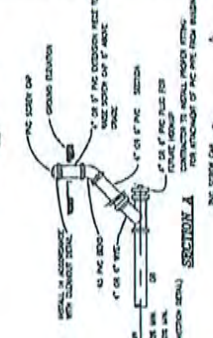
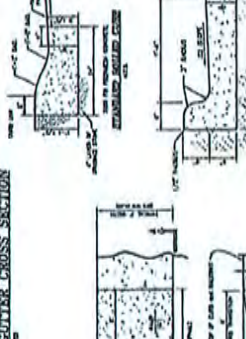
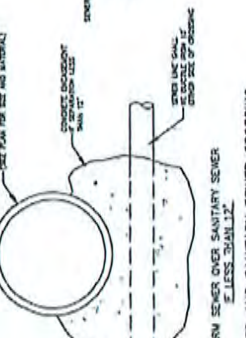
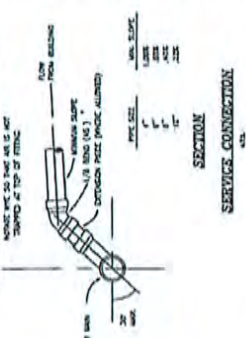
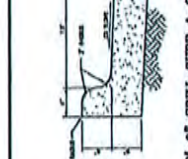
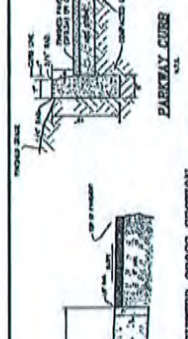
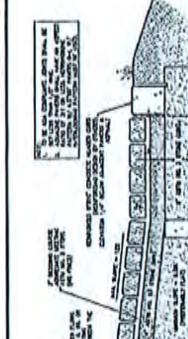
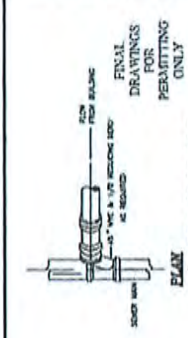
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DATE REC	55/28/71



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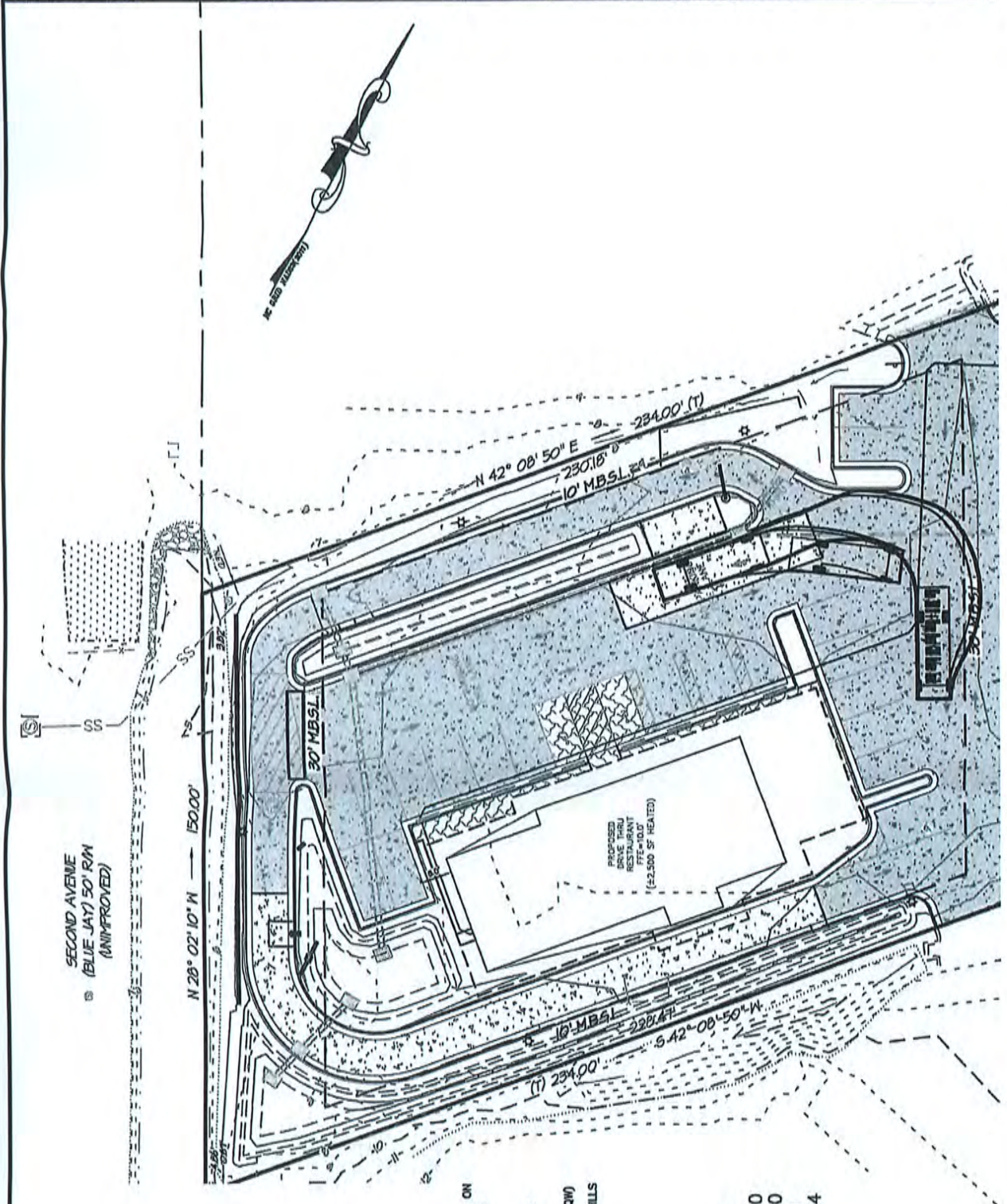
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ONLY



Quible & Associates, P.C.
 ENGINEERING • CONSULTING • PLANNING
 ENVIRONMENTAL SCIENCES • SURVEYING
 8466 Carolina Hwy., Powells Point, NC 27966
 Phone: (252) 491-8147 Fax: (252) 491-8146
 90 Church St., Black Mountain, NC 28711
 Phone: (828) 793-0398 Fax: (252) 491-8146
 NC License #: C-0208
 SINCE 1959

REFUSE EXHIBIT
 DRIVE-THRU RESTAURANT
 KILL DEVIL HILLS, NC
 DARE COUNTY
 NORTH CAROLINA
 SCALE: 1" = 30'

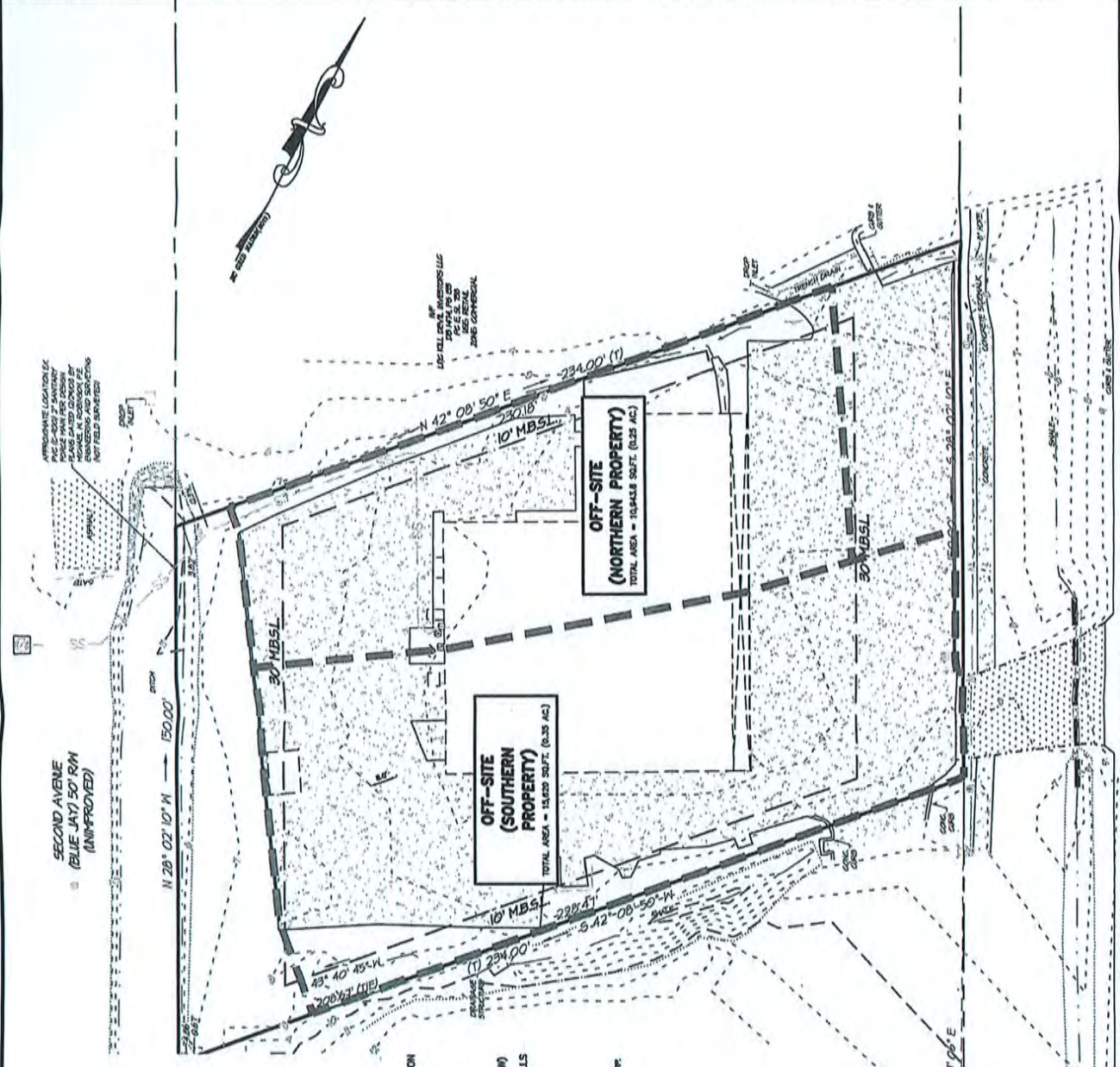
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 13; SUFFIX K. (MAP NUMBER 3720988300K)
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 IE.
 REFUSE
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 Track : 8.00
 Lock to Lock Time : 6.0
 Steering Angle : 27.4

NOTES

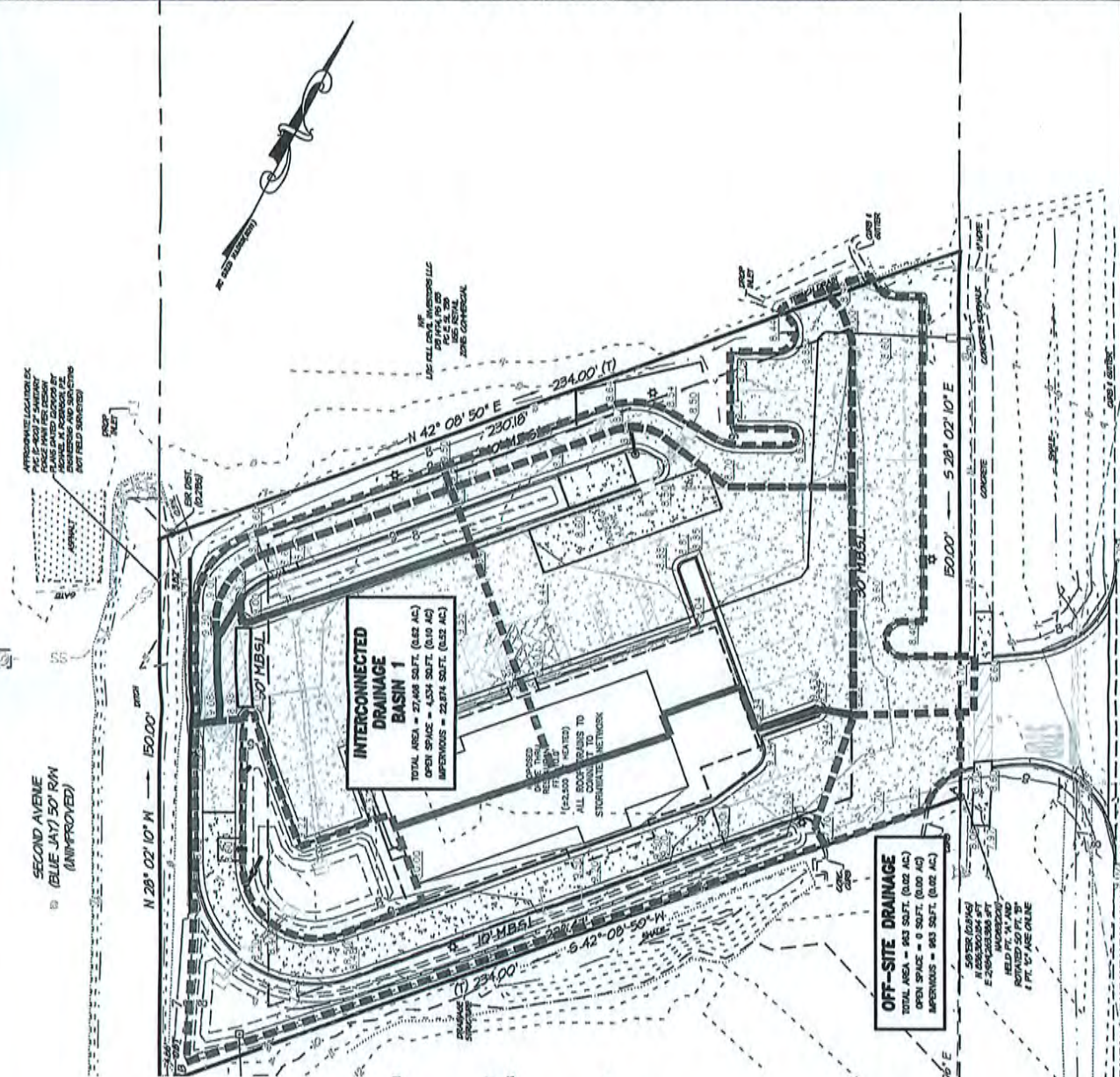
1. CURRENT OWNER: ROY E. PARKER & LEVERN D. PARKER
PO BOX 48
KILL DEVIL HILLS 27948
2. APPLICANT: MPF INVESTMENT COMPANY
102 W. ARISTIDE RD.
KITTY HAWK, NC 27948
3. ENGINEER: QUILBE & ASSOCIATES, P.C.
P.O. DRAWER 870
KITTY HAWK, NC 27948
CONTACT: CATHLEEN M. SAUNDERS, PE
PHONE: (252) 491-8147
EMAIL: CSAUNDERS@quible.com
4. PIN: 98321261633 / PID: 004331000
5. PROPERTY ADDRESS: 1208 S. ORNTAN HWY
6. PROPERTY ZONED: COMMERCIAL
7. MAXIMUM ALLOWABLE LOT COVERAGE = 65%
8. LOT AREA = 33,021 SF / 0.76 ACRES (AREAS BY COORDINATE METHOD)
9. SUBJECT REFERENCES: DB 401, PG 133
10. ADDITIONAL REFERENCES: PC 2, SL 18
11. HORIZONTAL DATUM IS NAD83(2011), VERTICAL DATUM IS NAVD 1988.
12. PROPERTY IS LOCATED IN WFP FLOOD ZONE "C" AND SUBJECT TO CHANGES BASED ON COMMUNITY CD NO. 35734R, PANEL 9883, SUFFIX K. (MAP NUMBER 3720983309K) EFFECTIVE DATE 06/19/2020.
13. THIS PLAN SUBJECT TO ANY FACTS, INCLUDING BUILDING SETBACK RESTRICTIONS, EASEMENTS, COVENANTS, ETC., THAT MAY BE REVEALED BY A FULL AND ACCURATE TITLE SEARCH.
14. PROJECT STORMWATER RUNOFF ULTIMATELY DRAINS TO THE ROANOKE SOUND (S&HW)
15. A LAND DISTURBANCE PERMIT MUST BE OBTAINED FROM THE TOWN OF KILL DEVIL HILLS IN ADVANCE OF ANY DISTURBANCE ON-SITE.



QUIBLE & ASSOCIATES, P.C. ENGINEERING • PLANNING ENVIRONMENTAL SCIENCES • SURVEYING 8466 Cornshaw Hwy., Raleigh, NC 27666 Phone: (919) 793-0398 Fax: (919) 491-0140 admin@quible.com		GRAPHIC SCALE IN FEET 1"=30' 0 30 60 NORTH CAROLINA KILL DEVIL HILLS, NC DARE COUNTY		PROJECT: P07116 DRAWN BY: CMS CHECKED BY: MWS DATE: 07/08/21
EXHIBIT A - EXIST DEV. DRAINAGE AREA MAP DRIVE-THRU RESTAURANT KILL DEVIL HILLS, NC DARE COUNTY		COPYRIGHT © 2021 QUILBE & ASSOCIATES, P.C. THIS DOCUMENT IS THE PROPERTY OF QUILBE & ASSOCIATES, P.C. ANY ALTERATION OF THIS DOCUMENT IS PROHIBITED. IF THIS DOCUMENT IS NOT SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER, IT SHALL NOT BE CONSIDERED PRELIMINARY, NOT A RECOMMENDATION, SALES OR LAND CONVEYANCE, UNLESS OTHERWISE NOTED.		

NOTES

1. CURRENT OWNER: ROY E. PARKER & LEVERN D. PARKER
KILL DEVIL HILLS 27948
2. APPLICANT: MPF INVESTMENT COMPANY
102 W. ARISTIDE DR.
KATY PARK, TX 77948
3. ENGINEER: QUBILE & ASSOCIATES, P.C.
P.O. DRAWER 870
KILL DEVIL HILLS 27948
CONTACT: CATHLEEN M. SAUNDERS, PE
PHONE: (252) 491-8147
FAX: (252) 491-8146
EMAIL: CS@QUBILE.COM
4. PIN: 983312561635 / PID: 004331000
5. PROPERTY ADDRESS: 1208 S. CROATAN HWY
6. PROPERTY ZONED: COMMERCIAL
7. MAXIMUM ALLOWABLE LOT COVERAGE = 63%
8. LOT AREA = 33,021 SF / 0.76 ACRES (AREAS BY COORDINATE METHOD)
9. SUBJECT REFERENCES: DB 401, PG 133;
10. ADDITIONAL REFERENCES: PG 2, SL 18.
11. HORIZONTAL DATUM IS NAD83(2011). VERTICAL DATUM IS NAVD 1988.
12. PROPERTY IS LOCATED IN WFP FLOOD ZONE "X" AND SUBJECT TO CHANGES BASED ON COMMUNITY CDD NO. 357348; PANEL 9883; SUFFIX K. (MAP NUMBER 37209833094)
13. THIS PLAN SUBJECT TO ANY FACTS, INCLUDING BUILDING SETBACK RESTRICTIONS, EASEMENTS, ETC., THAT MAY BE REVEALED BY A FULL AND ACCURATE TITLE SEARCH.
14. PROJECT STORMWATER RUNOFF ULTIMATELY DRAINS TO THE ROANOKE SOUND (S&HOW)
15. A LAND DISTURBANCE PERMIT MUST BE OBTAINED FROM THE TOWN OF KILL DEVIL HILLS IN ADVANCE OF ANY DISTURBANCE ONSITE.



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NC License #: C-0208
ENGINEERING • CONSULTING • SURVEYING
PLANNING
1466 Crumback Hwy, P.O. Box 27966
KILL DEVIL HILLS, NC 27948
Phone: (252) 491-8147 Fax: (252) 491-8146
Phone: (252) 793-0398 Fax: (252) 491-8146

DRIVE-THRU RESTAURANT
KILL DEVIL HILLS, NC
DARE COUNTY
NORTH CAROLINA
0 30' 60'

EXHIBIT B - POST DEV. DRAINAGE AREA MAP
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PROJECT	P07116
DRAWN BY	CMS
CHECKED BY	MWS
DATE	

Quible

Quible & Associates, P.C.

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SINCE 1959

P.O. Drawer 870
Kitty Hawk, NC 27949
Phone: 252-491-8147
Fax: 252-491-8146
web: quible.com

July 27, 2021

Ryan Lang
Senior Planner
Town of Kill Devil Hills Planning and Inspections
102 Town Hall Drive
Kill Devil Hills, NC 27948

Town of Kill Devil Hills

Re: Drive-Thru Restaurant
Major Site Plan Resubmittal
1208 S. Croatan Highway
Kill Devil Hills, Dare County, NC

JUL 27 2021

Planning & Inspections Department

Mr. Lang,

Thank you for the TRC review comments for the Major Site Plan submittal of the above referenced project dated July 20, 2021 and the subsequent Planning Board meeting. On behalf of MPF Investment Company, Quible & Associates, P.C., hereby submit for your review and approval the following documentation:

1. Fifteen (15) full size (24"x36") copies of the revised Site Plan Set;
2. Fifteen (15) full size copies of the revised Elevations;
3. One (1) PDF digital copy of all items.

Please find our responses listed below in *italics* to your review comments.

Planning, Ryan Lang

- ✓ 1. Recommend applicant connect site to Blue Jay St. to allow traffic to enter the property from another street other than US 158. Additionally, allows access to Martin St. US 158 intersection including a traffic light via a public right of way and not only through an adjacent commercial property. *Acknowledged. We have thoroughly reviewed the potential of connecting the subject proposed development to Blue Jay St, and do not feel that the connection would improve the safety or maneuverability of the site. We feel that an added connection to the intersection of the two-way drive aisle with the stacking lane could cause confusion and add to potential "cut-ins" from Blue Jay St. into the drive-thru stacking lane. Please acknowledge that the site as currently designed is fully compliant with the Town Dimensional Standards, NC Fire Code, and other State requirements. The site is fully functional, Public Works is satisfied with refuse pick-up maneuverability, and patrons have full access to the light at Martin St. Furthermore, the proposed stacking provided is about three times the minimum required by the Town. We do appreciate the Town's apparent willingness to accommodate a connection to Blue Jay St. and the Applicant will certainly monitor the need for a connection presuming that the development is permitted.*

2. Sheet 8 "Wastewater Details" Sheet is missing from plan set. *The wastewater details sheet 8 is provided for reference and will be submitted to KDHWTP, LLC for review and approval.*
3. Sheet 1: Does not identify "Stop Sign" symbol. Label "Sign" on North East corner of property. *Sheet 1 has been updated to reflect these items.*
4. Sheets 3 and 4: Remove note "Proposed Removable Bollards (typ. of 3)" *Please note this has been removed on Sheets 3 and 4.*
5. Sheet 6: Landscaping Planting Summary does not meet the required number of plantings. Please provide breakdown of required and provided plantings (trees and shrubs) per property line. Required landscaping plantings are as follows: NCDOT Buffer - Trees: 15 Shrubs: 15, Northern Buffer - Trees: 8 Shrubs: 23, Southern Buffer - Trees: 8 Shrubs: 23, Western Buffer - Trees: 15 Shrubs: 15 *Sheet 6 has been updated based on the number of trees and shrubs listed in this comment.*
6. Architecturals Sheet 6PK-3: Pitch of Canopy needs to be identified. Canopy length cannot exceed 15'. Height of Mansard Roof needs to be identified. *Acknowledged. Please see the enclosed revised architectural Sheet 6PK-3.*

Fire – John Risoldi (252-449-5227)

1. Parking lot opened to Blue Jay Street, would provide the fire department another option to access the structure. *Acknowledged. Please refer to Planning response #1 above and note that the site as proposed is in compliance with NC Fire Code.*

Town Engineer -- Pete Burkheimer

1. My comments of June 21 have generally been addressed satisfactorily, except for #7 (referred to as h in the resubmittal letter). It stated "Please note that Pervious Concrete, or Permeable Concrete, shall be installed in accordance with the latest version of ACI 522.1, "Specification for Pervious Concrete," shall have a minimum void ratio of 15%, and shall be by a contractor with demonstrated successful prior experience in the installation of Pervious Concrete." The engineer acknowledges this in the resubmittal letter, but when we said "Please note...", we meant that an actual note to this effect should be placed near the PERMEABLE CONCRETE PAVING DETAIL on Sheet 7. *This note has been added to Sheet 7 next to the permeable concrete paving detail.*
2. Also, a minor detail: In the TYPICAL BELGARD® AQUA BRIC TYPE 4 PERMEABLE PAVER INSTALLATION DETAIL, the callout "MINIMUM SLOPE 0.5% (PREFERABLY FLAT)" should read "MAXIMUM SLOPE 0.5% (PREFERABLY FLAT)". *This note has been updated on Sheet 7.*

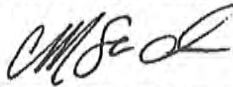
Public Services – Derek A. Dail (252-480-4085)

1. Solid Waste — Site drawings and notes call for the dumpster to be screened and screening details to be provided on building plans. Dumpster screen details will need to meet the minimum requirements or the Town Two Dumpster Diagram. *Acknowledged.*
2. Streets/Drainage
 1. Provide NCDOT Access Permit for the proposed driveway modifications on US 158 or documentation from NCDOT that no Access Permit is required prior to Building Permit application. Applicant has indicated the Access Permit has been submitted to NCDOT for review. *Acknowledged. The NCDOT database indicates this submittal is still under review by the district.*
 2. The existing driveway culvert to be replaced needs to be regraded to drain to the next southern downstream drainage culvert under Boundary Street which has an elevation of

5.17' per the 2012 Autozone Asbuilt drawing. The existing culvert invert may be damaged or improperly installed. A copy of the 2012 Autozone Asbuilt drawing can be provide if requested. Please note the driveway culvert elevations have been modified to drain to the south as requested. Regrading within the existing ditch is shown on the enclosed Sheet 4 to tie into existing grades at 5.92' further downstream.

3. Designer is requested to install a small flume, curb wipe down or other conveyance on each side of the driveway in the US 158 right-of-way and just east of the sidewalk/crosswalk to allow stormwater to exit the low point of the driveway before flowing down the sidewalk. Designer is requested to coordinate with Public Service on final minor modifications in the driveway before submitting for Building Permit. *A wipe down curb has been called out on the enclosed Sheet 4 on the east side of the sidewalk/crossing.*

Sincerely,
Quible & Associates, P.C.



Cathleen M. Saunders, P.E.

Encl.: As stated

Cc:
File

Lang, Ryan

From: Dail, Derek
Sent: Tuesday, August 3, 2021 8:35 AM
To: Lang, Ryan
Subject: RE: 1208 S Croatan Highway -- Proposed Drive Thru Restaurant

Public Services has no further comments.

Do you have a hard copy for us? I have not seen it.

From: Lang, Ryan
Sent: Monday, August 2, 2021 1:07 PM
To: Dail, Derek <derek@kdhnc.com>; Pete Burkheimer <PBurkhimer@american-ea.com>
Subject: 1208 S Croatan Highway -- Proposed Drive Thru Restaurant

Seeing if you guys had comments if any for the Board of Commissioners?

Thanks,

Ryan Lang, CFM
Senior Planner
Town of Kill Devil Hills
102 Town Hall Drive
Kill Devil Hills, NC 27948
252-449-5315



TOWN OF KILL DEVIL HILLS PUBLIC SERVICES

Post Office Box 1719, 107 Town Hall Drive
Kill Devil Hills, NC 27948
Administration (252) 480-4080 Fax (252) 441-6136
Office Hours: 8:00 a.m. – 5:00 p.m. Mon. – Fri.
Water Plant (252) 480-4090
www.kdhnc.com

July 12, 2021

STEPHEN F. ALBRIGHT
Director

DEREK A. DAIL
Assistant Director

MARCIA OLLIS
Administrative Services

ALFRED W. BURTON
Water Plant

WILLIAM H. WATERFIELD
Water Systems

L. RANDOLPH TURNER
Streets

LYNN E. LINDSEY
Solid Waste

To: Cameron Ray
Kill Devil Hills Planning

From: Derek A. Dail
Kill Devil Hills Public Services

Re: Site Plan Review II
Drive-Thru Restaurant
1208 S. Croatan Highway

The Town of Kill Devil Hills Public Services Department has performed a Review II of the site plan application for the proposed improvements to the commercial property located at 1208 S. Croatan Highway. Comments from Public Services are provided in the following sections and are based on the resubmittal package received on 07/06/2021.

Solid Waste

1. Site drawings and notes call for the dumpster to be screened and screening details to be provided on building plans. Dumpster screen details will need to meet the minimum requirements or the Town Two Dumpster Diagram.

Streets/Drainage

1. Provide NCDOT Access Permit for the proposed driveway modifications on US 158 or documentation from NCDOT that no Access Permit is required prior to Building Permit application. Applicant has indicated the Access Permit has been submitted to NCDOT for review.
2. The existing driveway culvert to be replaced needs to be regraded to drain to the next southern downstream drainage culvert under Boundary Street which has an elevation of 5.17' per the 2012 Autozone Asbuilt drawing. The existing culvert invert may be

damaged or improperly installed. A copy of the 2012 Autozone Asbuilt drawing can be provide if requested.

3. Designer is requested to install a small flume, curb wipe down or other conveyance on each side of the driveway in the US 158 right-of-way and just east of the sidewalk/crosswalk to allow stormwater to exit the low point of the driveway before flowing down the sidewalk. Designer is requested to coordinate with Public Service on final minor modifications in the driveway before submitting for Building Permit.

Water System

1. Based on the meter sizing from provided, the minimum required water service size is a 1 inch service.
2. Anticipated upgrade fees associated with the proposed service are based on the current rate schedule:

System Development 1" meter	= \$6,900.00*
Available Credit (Good Standing Accounts)	= -\$4,000.00*
1" Tap Fee	= \$1,460.00
1" Surety	= \$200.00
Total	= \$4,560.00

*Developer may receive a \$4,000 System Development Fee credit for the existing 5/8"x3/4" service so long as it is in good standing at the time of Building Permit application.

3. The existing 5/8x3/4 service located in the US 158 Right-of-Way will be abandoned by Kill Devil Hills unless the new owner would like to utilize the existing service as an irrigation meter. Any inquiries regarding an irrigation meter should be directed to Public Service at 252-480-4080.

Wastewater

1. No Comment

Town of Kill Devil Hills

Water Meter Service Sizing Forms – Water Customer data Sheet

Customer: Jeff Fabrikant Address: _____
 Building Address: 1208 South Croatan Highway Zip Code: 27948
 Lot: _____ Block: _____ Section: _____ Subdivision: _____
 Type of Occupancy: Commercial Restaurant

Fixture	Fixture Value 35 P.S.I.	=	# of Fixtures	=	Fixture Value
Bathtub	8	=		=	
Bedpan Washers	10	=		=	
Combination Sink & Tray	3	=		=	
Dental Unit	1	=		=	
Dental Lavatory	2	=		=	
Drinking Fountain – Cooler	1	=		=	
Drinking Fountain – Public	2	=	1	=	2
Kitchen Sink – ½" Connection	3	=	2	=	6
Kitchen Sink – ¾" Connection	7	=		=	
Lavatory – 3/8" Connection	2	=	2	=	4
Lavatory – ½" connection	4	=		=	
Laundry Tray – ½" Connection	3	=		=	
Laundry Tray – ¾" Connection	7	=		=	
Shower Head (Shower Only)	4	=		=	
Service Sink – ½" Connection	3	=	1	=	3
Service Sink – ¾" Connection	7	=		=	
Urinal – Pedestal Flush Valve	35	=		=	
Urinal – Wall Flush Valve	12	=		=	
Urinal – Trough (2 ft. unit)	2	=		=	
Wash Sink (each set of faucets)	4	=	3	=	12
Water Closet – Flush Valve	35	=		=	
Water Closet – Tank Type	3	=	2	=	6
Dishwasher – ½" Connection	5	=		=	
Dishwasher – ¾" Connection	10	=		=	
Washing Machine – ½" Connection	5	=		=	
Washing Machine – ¾" Connection	12	=		=	
Washing Machine - 1" Connection	25	=		=	
Hose Connection (Wash Down) – ½"	6	=	2	=	12
Hose Connection (Wash Down) – ¾"	10	=		=	
Hose (50ft Wash Down) – ½"	6	=		=	
Hose (50ft Wash Down) 5/8"	9	=		=	
Hose (50ft Wash Down) – ¾"	12	=		=	

COMBINED FIXTURE TOTAL	45
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Swimming Pool – size/water Connection	Total GPM	=	
Ornamental Sprinkler - # of Heads	Total GPM	=	
Fire Suppression Sprinklers - # of Heads	Total GPM	=	
Other uses such as Saunas, Whirlpools, Etc,:	Total GPM	=	
	Total GPM	=	
	Total GPM	=	
Customer Peak Demand from sizing book by Press.	Total GPM	=	
TOTAL FIXTURE DEMAND IN GALLONS PER MINUTE	Total GPM	=	

NOTE: THIS FORM MUST BE COMPLETED BEFORE SERVICE IS PURCHASED!

Person Completing Form

6/28/2021

Date

Lang, Ryan

From: Pete Burkheimer <PBurkheimer@american-ea.com>
Sent: Monday, August 2, 2021 2:03 PM
To: Lang, Ryan; Dail, Derek
Subject: RE: 1208 S Croatan Highway -- Proposed Drive Thru Restaurant

Sorry...out of town dealing with family medical situation. My comments have been resolved satisfactorily.

Pete Burkheimer, PE

Senior Consultant



**AMERICAN
Engineering**

830 Greenbrier Circle, Suite 110

Chesapeake, VA 23320

(757) 468-6800 (office), (757) 478-5970 (cell)

pburkheimer@american-ea.com

From: Lang, Ryan <rlang@kdhnc.com>
Sent: Monday, August 02, 2021 1:07 PM
To: Dail, Derek <derek@kdhnc.com>; Pete Burkheimer <PBurkheimer@american-ea.com>
Subject: 1208 S Croatan Highway -- Proposed Drive Thru Restaurant

[ALERT: This is an External E-mail. Use caution when opening attachments or clicking links.]

Seeing if you guys had comments if any for the Board of Commissioners?

Thanks,

Ryan Lang, CFM
Senior Planner
Town of Kill Devil Hills
102 Town Hall Drive
Kill Devil Hills, NC 27948
252-449-5315

Lang, Ryan

From: Risoldi, John
Sent: Monday, August 2, 2021 7:39 AM
To: Lang, Ryan
Subject: RE: Site Plan Technical Review -- 1208 S Croatan Highway in the Commercial Zone -- Proposed 2500 Sq Ft Drive Thru Restaurant with Associated Parking and Site Improvements

The proposed site plan meets the intent of the fire code.

The opening of Blue Jay was a recommendation to make accessibility to the building easier in the event of an emergency.



John L. Risoldi, Sr.
Fire Marshal/Health & Safety Officer
Town of Kill Devil Hills
1634 N. Croatan Highway, P. O. Box 1719
Kill Devil Hills, NC 27948
252-480-4060 x 5227 - Office
252-573-3874 - Direct
252-480-4069 - Fax
johnr@kdhnc.com

"Everyday is a Fire Prevention Day"

From: Lang, Ryan
Sent: Tuesday, July 27, 2021 11:51 AM
To: Risoldi, John <JOHNR@kdhnc.com>; Albright, Steve <Steve@kdhnc.com>; Dail, Derek <derek@kdhnc.com>; Pete Burkheimer <PBurkheimer@american-ea.com>
Cc: Ray, Cameron <Cameron@kdhnc.com>
Subject: Site Plan Technical Review -- 1208 S Croatan Highway in the Commercial Zone -- Proposed 2500 Sq Ft Drive Thru Restaurant with Associated Parking and Site Improvements
Importance: High

Good Morning,

Attached is the revised Site Plan for the proposed 2500 sq. ft. drive-thru restaurant at 1208 S Croatan Highway to address staff comments from Site Plan Technical Review 2.

Please review the plans with respect to your department's responsibilities and submit written comments to the Planning Department by **Close of Business on Monday August 2, 2021**. Your comments are important and will be reviewed by the Board of Commissioners.

Thanks in advance for your cooperation.

Ryan Lang, CFM
Senior Planner
Town of Kill Devil Hills
102 Town Hall Drive
Kill Devil Hills, NC 27948
252-449-5315

Lang, Ryan

From: Lang, Ryan
Sent: Tuesday, July 27, 2021 11:51 AM
To: Risoldi, John; Albright, Steve; Dail, Derek; Pete Burkheimer
Cc: Ray, Cameron
Subject: Site Plan Technical Review -- 1208 S Croatan Highway in the Commercial Zone -- Proposed 2500 Sq Ft Drive Thru Restaurant with Associated Parking and Site Improvements
Attachments: 210327_Blank - Kill Devil Hills_06302021 - Sheet - 6PK-3 - EXTERIOR ELEVATIONS_072721.pdf; P07116-base-2021-07-27 (1).pdf; P07116-transmittal-2021-07-27.pdf
Importance: High
Follow Up Flag: Follow up
Due By: Monday, August 2, 2021 12:00 PM
Flag Status: Flagged

Good Morning,

Attached is the revised Site Plan for the proposed 2500 sq. ft. drive-thru restaurant at 1208 S Croatan Highway to address staff comments from Site Plan Technical Review 2.

Please review the plans with respect to your department's responsibilities and submit written comments to the Planning Department by **Close of Business on Monday August 2, 2021**. Your comments are important and will be reviewed by the Board of Commissioners.

Thanks in advance for your cooperation.

Ryan Lang, CFM
Senior Planner
Town of Kill Devil Hills
102 Town Hall Drive
Kill Devil Hills, NC 27948
252-449-5315