November 25, 2024

Dynamic Towers, Inc.
Attn: Mr. Kevin Aycock
7209 Reserve Creek Dr.
Port St. Lucie, FL 34986

GEN3 Engineering, Inc.
27139 Sea Breeze Way
Wesley Chapel, FL 33544
COA #: 35409

RE: Fire Station # 20 / Special Exception Use – Cell Tower
Parcel ID: 4315-804-0004-000-5 (St. Lucie County)

Mr. Aycock,

The Dynamic Towers, Inc. Fire Station #20 Cell Site proposes a 150' monopole constructed of galvanized steel with the following elevations:

T/ Tower Steel	150'-0" AGL
(1) Stealth Radome	140'-0" Centerline AGL
(1) Stealth Radome	120'-0" Centerline AGL

The monopole shall be designed to support a total of four cellular carriers. The tower shall be designed per the following criteria:

DESIGN CRITERIA:					
Applicable Codes:	Florida Building Code – 2023 (8th Edition)		ASCE-7-22	TIA-222-H	
Wind Speed:	**Vult** = 156 mph (3 Second Gust)				
Exposure Category:	C	**Risk Category:**	II	**Radial Ice Thickness:**	0.0"
Tornado:	NA*	**Topographic Category:**	I	**Seismic Response:**	S_S = 0.061 S_1 = 0.027

**Tornado Wind speeds are not applicable to Risk Category II structures*

The tower shall be designed by a licensed Florida State Professional Engineer meeting the aforementioned criteria.

The tower shall be designed/ constructed such that in the unlikely event of a tower failure the tower shall collapse upon itself with a resultant tower fall zone radius which will be entirely on the leased tower parcel.

We appreciate the opportunity to continue Professional Services to you. Please do not hesitate to contact me with any questions or comments.

Sincerely,
GEN3 Engineering, Inc.

Darryl J, Kroeze, P.E.
Florida Registration Number: 53092

Attachments: ASCE 07-22 Hazard Print Out

Darryl J Kroeze

Digitally signed by Darryl J Kroeze
Date: 2024.11.25 16:56:28 -05'00'

DARRYL J. KROEZE LICENSE No 53092 STATE OF FLORIDA PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY DARRYL J. KROEZE, P.E., FL LICENSE NUMBER 53092 USING A DIGITAL SIGNATURE.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ELECTRONIC COPIES.

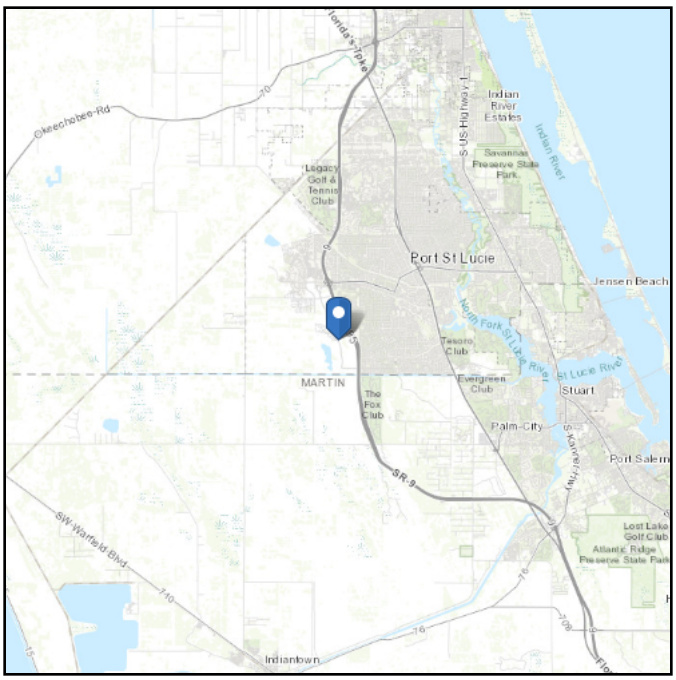
Monday, November 25, 2024

ASCE Hazards Report

Address:
SW Village Pkwy
Port Saint Lucie, Florida
34953

Standard: ASCE/SEI 7-22
Risk Category: II
Soil Class: Default

Latitude: 27.227383
Longitude: -80.415109
Elevation: 28.30434436702508 ft (NAVD 88)



Wind

Results:

Wind Speed	156 Vmph
10-year MRI	79 Vmph
25-year MRI	106 Vmph
50-year MRI	119 Vmph
100-year MRI	130 Vmph
300-year MRI	145 Vmph
700-year MRI	156 Vmph
1,700-year MRI	167 Vmph
3,000-year MRI	176 Vmph
10,000-year MRI	186 Vmph
100,000-year MRI	209 Vmph
1,000,000-year MRI	228 Vmph

Data Source: ASCE/SEI 7-22, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Mon Nov 25 2024

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-22 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years). Values for 10-year MRI, 25-year MRI, 50-year MRI and 100-year MRI are Service Level wind speeds, all other wind speeds are Ultimate wind speeds.

Site is in a hurricane-prone region as defined in ASCE/SEI 7-22 Section 26.2. Glazed openings shall be protected against wind-borne debris as specified in Section 26.12.3.

Seismic

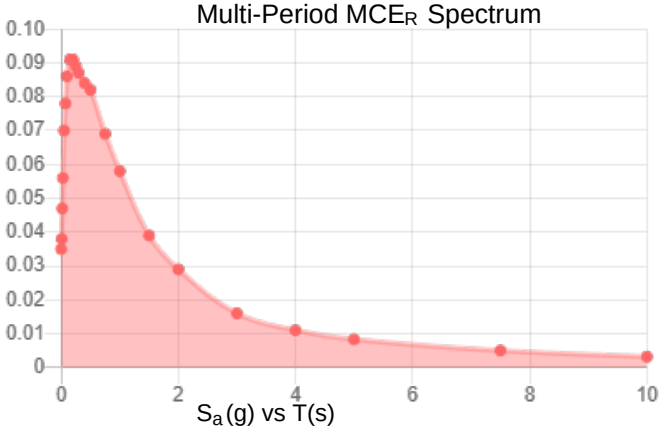
Site Soil Class: Default

Results:

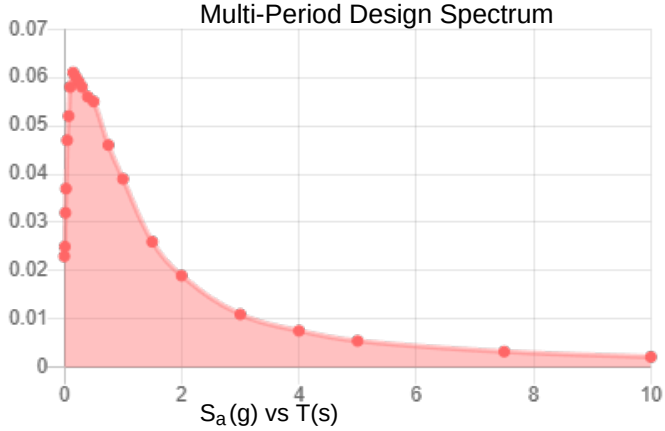
PGA_M :	0.031	T_L :	8
S_{MS} :	0.081	S_S :	0.061
S_{M1} :	0.058	S_1 :	0.027
S_{DS} :	0.054	V_{S30} :	260
S_{D1} :	0.039		

Seismic Design Category: A

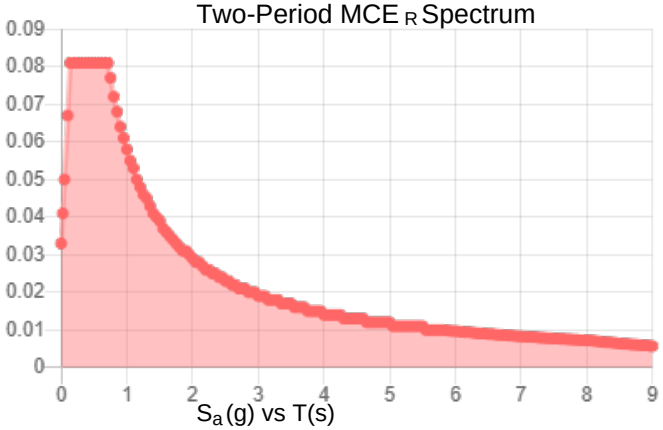
Multi-Period MCE_R Spectrum



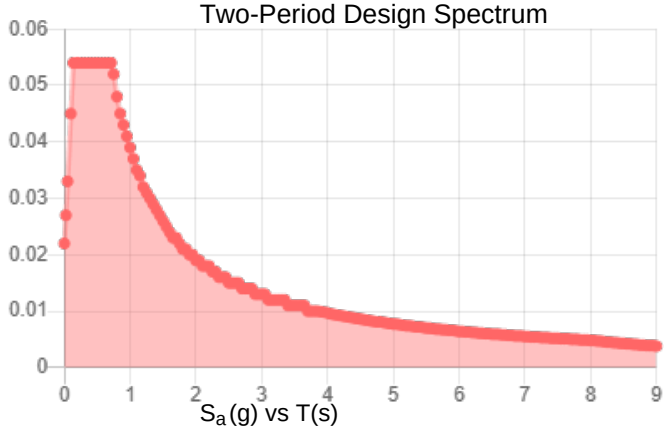
Multi-Period Design Spectrum



Two-Period MCE_R Spectrum



Two-Period Design Spectrum



MCE_R Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Design Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Data Accessed: **Mon Nov 25 2024**

Date Source:
USGS Seismic Design Maps based on ASCE/SEI 7-22 and ASCE/SEI 7-22 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-22 Ch. 21 are available from USGS.

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