



ROCKY MOUNT TOWN COUNCIL
AGENDA
REGULAR COUNCIL MEETING
TO BE HELD IN COUNCIL CHAMBERS
ROCKY MOUNT MUNICIPAL BUILDING
345 DONALD AVENUE
ROCKY MOUNT, VIRGINIA
JANUARY 11, 2016
AT 7:00 P.M.

When speaking before Town Council, please come to the podium and give your name and address for the record. Please address the Council and not the audience. If you provide Council with any documentation, please also give a copy to the town clerk prior to speaking.

◆
All cellular phones must be turned off during the Council Meeting.
◆

The Town of Rocky Mount is pleased to offer assistive listening devices for meeting attendees with special hearing needs. Please ask any staff member or the town clerk for assistance.

- I. Roll Call
- II. Pledge of Allegiance
- III. Approval of Agenda
- IV. Special Items
 - Introduction of New Staff
- V. Public Hearing
 - Franklin County Public Safety Tower on Grassy Hill
- VI. Approval of Draft Minutes
 - December 14, 2015 – regular meeting minutes
- VII. Approval of Consent Agenda
 - Miscellaneous Action
 - Review of meeting dates and deadlines for the Planning Commission, Board of Zoning Appeals and Town Council for the year 2016
 - Miscellaneous Resolutions/Proclamations (none at this time)
 - Departmental Monthly Reports
 - Community Development Department
 - Finance Department
 - Fire Department
 - Police Department
 - Public Works Department
 - Wastewater Department
 - Water Department
- VIII. Hearing of Citizens
- IX. Old Business
- X. New Business
 1. Consideration of Extension of the Cable Television Franchise Agreement
 2. Consideration of Fats, Oils and Grease Discharge Policy
- XI. Committee Reports
 1. Public Utilities Committee consideration of Maple Avenue Water Pressure, Fats, Oils and Grease Policy and Refuse Collection Rules

XII. Other Matters, Concerns and Rise 'N Shine Appearances

XIII. Closed Meeting and Action

- Section 2.2-3711(A).3 Discussion or consideration of the acquisition of real property for a public purpose, or of the disposition of publicly held real property, where discussion in an open meeting would adversely affect the bargaining position or negotiating strategy of the public body, specifically right-of-way for street construction.
- Section 2.2-3711(A).5 Discussion concerning a prospective business or industry, or the expansion of an existing business or industry where no previous announcement has been made of the business' or industry's interest in locating or expanding its facilities in the community, specifically a prospective tenant for the Cox property.

XIV. Adjournment

Copies of the agenda packet are available for review at the Town Clerk's Office located at the Rocky Mount Municipal Building, 345 Donald Avenue, Rocky Mount, Virginia, Monday through Friday, during normal working hours (8 a.m. to 5 p.m.), or by going to Town of Rocky Mount website: www.rockymountva.org.

◆
Notice of intent to comply with Americans With Disabilities Act: Special assistance is available for disabled persons addressing Town Council. Efforts will be made to provide adaptations or accommodations based on individual needs of qualified individuals with disability, provided that reasonable advance notification has been received by the Town Clerk's Office. For assistance, please contact the Town Clerk's Office, Town of Rocky Mount, 345 Donald Avenue, Rocky Mount, VA 24151, or by calling (540) 483-7660.

◆
Thank you for taking the time to participate in your Town Council meeting. The Mayor and members of Council invite and encourage you to attend whenever possible because good government depends on the interest and involvement of citizens.

ITEM(S) TO BE CONSIDERED UNDER:

- Hearing of Citizens**
 Consent Item
 Old Business
 New Business
 Committee Report
 Other

FOR COUNCIL MEETING DATED:	1/11/16
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STAFF MAKING REQUEST:	Planning Commission Community Development
BRIEF SUMMARY OF REQUEST:	Franklin County Public Safety wants to replace an existing tower on Grassy Hill with a new, taller one capable of supporting the radio and microwave equipment necessary for the new county emergency radio communications system. The application is in line with our ordinance, including providing future co-location opportunities. We have advertised the issue and notified adjoining property owners. The Planning Commission held its public hearing January 5, and unanimously recommends the application receive your approval. You are required to hold a public hearing on the matter and determine how to proceed with the application. Staff report, application and maps are attached.
ACTION NEEDED:	Approve or deny the request with or without conditions recommended by the planning commission.

Attachment(s):

FOLLOW-UP ACTION: (To be completed by Town Clerk)

TOWN OF ROCKY MOUNT
345 DONALD AVE.
ROCKY MOUNT, VIRGINIA 24151

540.483.7660
FAX : 540.483.8830

E-MAIL: JGIBSON@ROCKYMOUNTVA.ORG
WWW.ROCKYMOUNTVA.ORG



TOWN COUNCIL
STEVEN C. ANGLE, MAYOR
GREGORY B. WALKER, VICE MAYOR
BOBBY M. CUNDIFF BOBBY L. MOYER
P. ANN LOVE JON W. SNEAD
BILLIE W. STOCKTON

JOSH GIBSON
TOWN PLANNER

STAFF REPORT

PETITIONER: Franklin County Public Safety
LOCATION: Top of Grassy Hill (no street address)
REQUEST: Replace a 160-ft tower with a 195-ft tower in an M1 zoning district, primarily for public safety telecommunication; future colocation of cellular arrays for wireless/cellular communication
HEARING DATE: January 5th, 2016 (Planning Commission)
January 11th, 2016 (Town Council)
TAX PARCEL: 2010010300

EXECUTIVE SUMMARY:

A Special Exception/Use Permit application has been filed by Franklin County Public Safety to replace an existing 160' tower at the top of Grassy Hill with a 195' tower on the same parcel and adjacent to the existing tower. Once the new tower is complete, the old tower will be removed. Since this is a 22% increase in tower height, Article 40 of the Town of Rocky Mount Zoning and Development Ordinance (Wireless Telecommunication Facilities) dictates that the Planning Commission and Town Council should review the application as a Special Exception for a new tower. The primary use of the tower will be public safety communication, but plans do provide for additional colocation opportunities, as encouraged by the wireless ordinance.

I. APPLICABLE REGULATIONS:

All of ARTICLE 40: WIRELESS TELECOMMUNICATION FACILITIES

DEFINITIONS

- **Antenna:** A telecommunication device that transmits or receives electromagnetic signals.
- **Wireless telecommunication facility:** Any structure used for the purpose of supporting antennas, microwave dishes or other electromagnetic transmission devices, including, but not limited to, self-supporting lattice towers, guy wires, pole towers, radio and television transmission towers, alternative tower structures, buildings, roof tops, etc. For the purpose of this ordinance, new wireless telecommunication facilities shall be defined as a commercial activity and shall not be permitted in residential districts, unless co-locating on an existing tower.
- **Special exception:** A special exception is a use that would not be appropriate generally or without restriction throughout the zoning division or district but which, if controlled as to number, area, location, or relation to the neighborhood would promote the public health, safety, welfare, morals, order, comfort, convenience, appearance, prosperity, or general welfare.

IMPACT OF FEDERAL REGULATIONS (FCC)

Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012 mandates that a State or local government **must approve** certain wireless broadband facilities siting requests for modifications and collocations of wireless transmission equipment on an existing tower or base

station that does not result in a **substantial change** to the physical dimensions of such tower or base station. In October 2014, the Federal Communications Commission (FCC) further clarified Section 6409(a). "Substantial change" is defined as any extension or replacement of an existing tower that does not exceed 10% in height.

For the Town of Rocky Mount, this means that an increase of 10% or less in the height of an existing tower must be automatically approved (likely by way of a zoning permit). Since this tower will increase 22% in height, federal jurisdiction does not apply and we must consider the tower based on local codes (which require a special exception).

II. EXISTING CONDITIONS:

The property in question was rezoned in 2005, with Franklin County as the landowner and applicant. The purpose of the rezoning was to construct the 160-ft tower which exists at the site at present. The tower is currently being used for public safety and for a wireless internet tenant (B2X). Various supporting structures exist at present, including a 500-gallon propane tank which will be replaced by a larger tank.

III. PROPOSED CONDITIONS/IMPACTS:

Traffic Impact: None.

Fire/Rescue Impact: None (other than anticipated improved communication as a result of updated equipment).

Community Meeting: None required by staff.

Site Layout Architecture notes: Plans are included in the application; new tower will replace existing tower; new support equipment (propane tank, generator, etc.) will replace existing equipment; new height = 195' and new base = 19'; replacement tower will support new/modern equipment and possible future co-location; Tower profile plans and load engineering not available until construction, but applicant provided the structural design report for an identical tower (see application materials).

Setbacks: None required for an M1 property; the tower is self-supporting and will not require any additional guy wires for stabilization. Nearest residence is approximately 1,000 feet away on Summit Drive.

Visual Impact: Due to the greater height and base area of the new tower, it is expected to be slightly more visually intrusive than the existing, smaller tower.

IV. CONFORMANCE WITH COMPREHENSIVE PLAN:

The increased height and capacity of the existing tower proposed as a part of this Special Exception application is generally supported by the Town of Rocky Mount 2035 Comprehensive Plan. The Plan advocates working with Franklin County as a community partner, and specifically encourages development of law enforcement services and facilities to meet the needs of local citizens and cooperation of public safety and law enforcement. Under the Public Safety section of the plan, anticipated improvements to the radio system are encouraged with subsequent upgrades to police and fire radio systems to ensure communication compatibility. The Town's scenic qualities, including natural resources such as high-elevation areas like Grassy Hill and Bald Knob, are noted throughout the Plan as important Town assets and should also be considered.

V. STAFF CONCLUSIONS

Staff supports a special exception permit presented for tax map #2010010300 owned by the County of Franklin. Though the net scenic impact of the project will likely be unfavorable, it is a

marginal impact and taken as a whole is only a minor change from the existing conditions. Article 40 requires that applicants for new towers show capacity for co-location, and the additional height is in part a result of that requirement from Town Code. Coupled with the anticipated improvements in available public safety technology, the public good for the projects offsets any visual impacts. The upgraded tower at this location is not expected to substantially change the character of the neighborhood nor the scenic views from in and around Town.

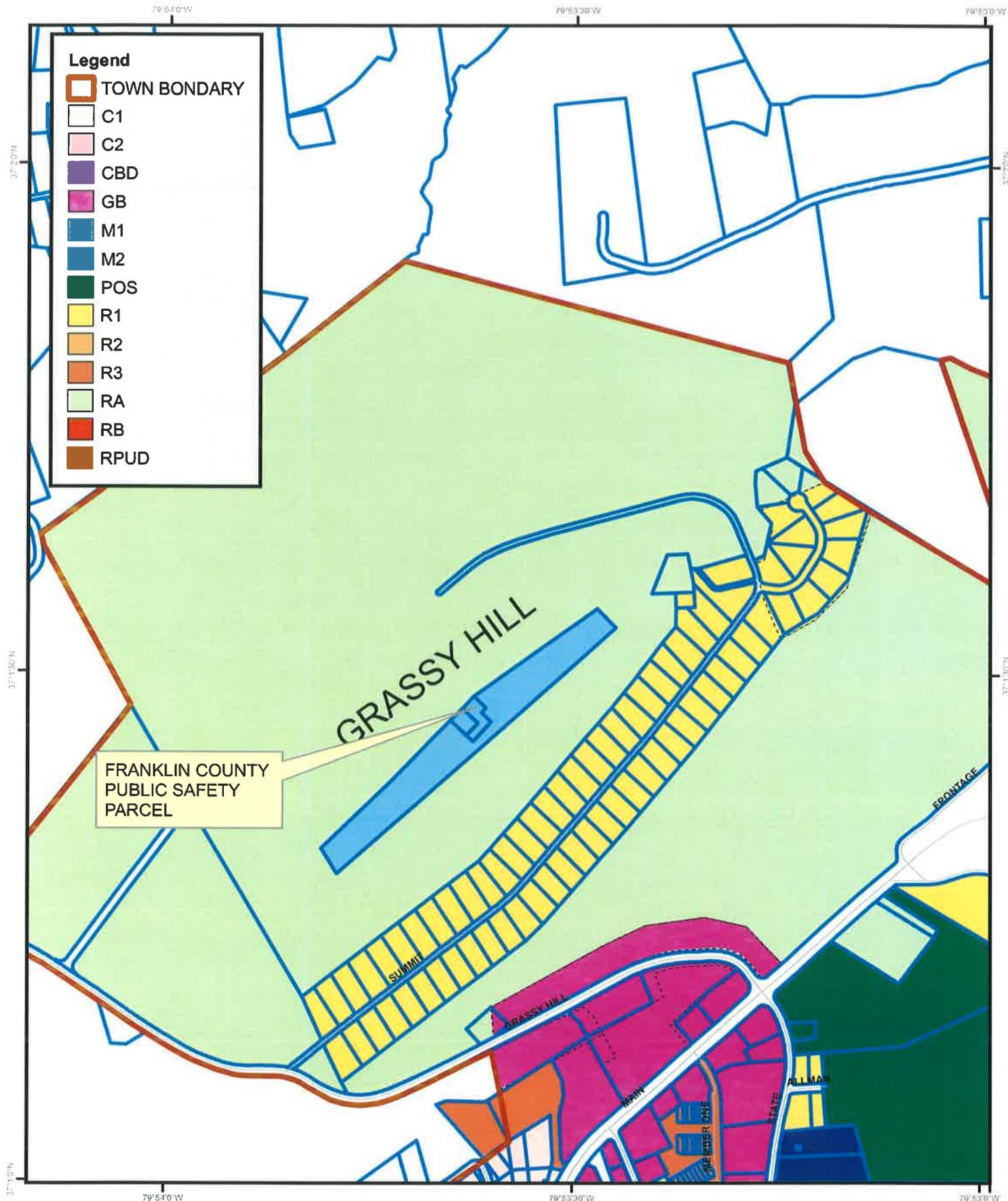
Staff recommends an approval of the special exception with the following conditions:

- 1. The site shall be developed in substantial conformance with the conceptual plans submitted as a part of the special exception application.**
- 2. At the time of competition of the new tower and after transfer of existing equipment to the new tower, the old tower must be removed within 90 days.**

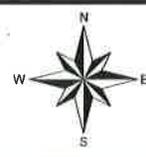
PLANNING COMMISSION ACTION:

On January 5, 2016, the Planning Commission recommended approval of the special exception request, with two conditions: (1) that the site be developed in accordance with the provided application materials and (2) upon completion of the new tower, the old tower shall be removed within 90 days.

PREPARED BY: Josh Gibson
HEARING DATES: Planning Commission, 1/5/2016
Town Council, 1/11/2016
ATTACHMENTS: Zoning Map
Aerial Map
Topo Map
Application



ZONING MAP
FC Public Safety Special Exception
New Wireless Tower
 DATE CREATED: 12/21/2015
 TOWN OF ROCKY MOUNT, VA



Projection: Lambert Conformal Conic
 GCS North America 1983
 Datum: D North America 1983

Map created by jgibson
 This map is for general reference and display purposes only.

70°53'30"W

Legend

-  PARCEL BOUNDARIES
-  TOWN ROADS

FRANKLIN COUNTY
PUBLIC SAFETY
PARCEL

GRASSY HILL

SUMMER

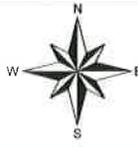
37°11'00"N

37°11'00"N

70°53'30"W



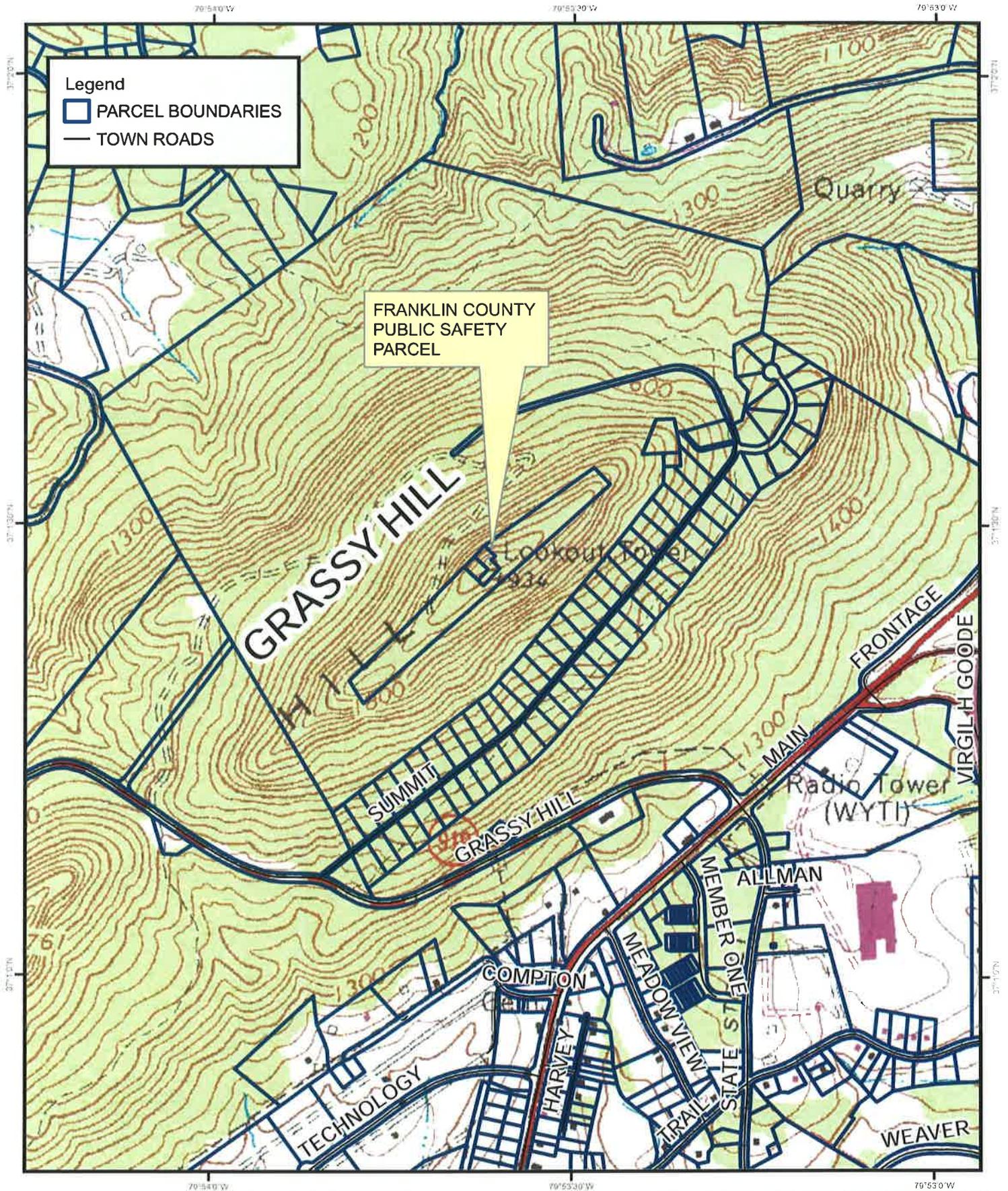
AERIAL MAP
 FC Public Safety Special Exception
 New Wireless Tower
 DATE CREATED: 12/21/2015
 TOWN OF ROCKY MOUNT, VA



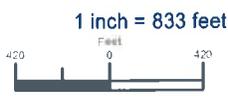
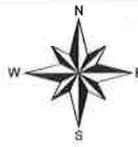
1 inch = 167 feet

Projection: Lambert Conformal Conic
 GCS North America 1983
 Datum: D North America 1983

Map created by jgibson
 This map is for general reference and display purposes only.



TOPOGRAPHIC MAP
FC Public Safety Special Exception
New Wireless Tower
 DATE CREATED: 12/21/2015
 TOWN OF ROCKY MOUNT, VA



Projection: Lambert Conformal Conic
 GCS North America 1983
 Datum: D North America 1983

Map created by jgibson
 This map is for general reference and display purposes only.



Town of Rocky Mount SPECIAL ZONING APPLICATION

REZONING REQUEST SPECIAL EXCEPTION/USE VARIANCE

Date Received:
Received by:
PC/BZA Date:

PRE-FILING CONSULTATION WITH THE TOWN PLANNING STAFF TO REVIEW THE PROPOSED REQUEST AND TO OBTAIN RECOMMENDED PROCEDURES AND TECHNICAL ASSISTANCE IS REQUIRED. TO SCHEDULE A PRE-FILING CONSULTATION, PLEASE CONTACT THE TOWN OF ROCKY MOUNT COMMUNITY DEVELOPMENT DEPARTMENT AT 540-483-0907.

APPLICANT NAME: Pat Regan - Franklin County Public Safety

ADDRESS: 1488 Franklin Street, Rocky Mount, VA 24151

PHONE: 540-483-3091 ext 2155 EMAIL: pat.regan@franklincountyva.gov

PROPERTY OWNERS NAME & ADDRESS: County of Franklin, Virginia 1255 Franklin Street, Suite 112 , Rocky Mount, VA 24151
(IF DIFFERENT FROM APPLICANT)

TAX MAP & PARCEL NUMBER: 2010010300 LOT SIZE (ACRES/SQ.FT.) .046

CURRENT ZONING: R-1 R-2 R-3 RA RB RPUD POS C-1 C-2 M-1 M-2 CBD CBD-ARTS & CULTURE GB

CURRENT LAND USE: VACANT AGRICULTURAL RESIDENTIAL COMMERCIAL INDUSTRIAL

REZONING REQUEST: PROPOSED ZONING: _____ PROPOSED LAND USE: _____

SPECIAL EXCEPTION/USE REQUEST OF SECTION(S) Article 40 OF THE TOWN ZONING ORDINANCE.

VARIANCE REQUEST OF SECTION(S) _____ OF THE TOWN ZONING ORDINANCE.

NATURE OF REQUEST - BRIEFLY DESCRIBE THE PROPOSED PROJECT AND SPECIFIC DEVIATION REQUEST FROM THE ZONING ORDINANCE.

Request the construction of a new 195' self-support Public Safety 911 telecommunications tower. and the removal of the existing 160' tower. Project will also include the removal of an existing 500 Gal propane tank and installation of a new 1000 gal. propane tank. Installation of a new 50 Kw LP emergency generator and a new 4' wide utility H frame for power.

Once the antennas are operational on the new tower the old 160' tower will be removed. New Tower requested because the old tower is structurally unable to support the new equipment and future co-locations.

I HEARBY CERTIFY THAT I AM ACTING WITH THE KNOWLEGE AND CONSENT OF THE PROPERTY OWNER TO THE REQUEST DESCRIBED ON THE APPLICATION. BY SIGNING BELOW, I AGREE THE INFORMATION PROVIDED ON THE APPLICATION IS TRUE TO THE BEST OF MY KNOWLEDGE.

APPLICANT SIGNATURE

DATE

BY SIGNING BELOW, I CERTIFY I AM AWARE OF THE REQUEST SUBMITTED AND THE INFORMATION PROVIDED IS TRUE TO THE BEST OF MY KNOWLEDGE.

OWNER SIGNATURE

DATE

WHAT IS A REZONING?

A rezoning is a legal change to the Official Zoning Map. The rezoning of property is a legal matter, we strongly recommend applicants consult with an attorney for assistance with the preparation of the rezoning application. A rezoning may be initiated by the property owner, by a contract purchaser with the owner's written consent, or by the owner's agent. Original signatures are required by all parties.

Rezoning requests will be submitted to the zoning administrator and referred to the planning commission for its review and recommendation. The final determination on the rezoning request will be made by the governing body (Town Council).

1. The written request for rezoning shall be submitted to the planning commission by the zoning administrator.
2. Notice shall be given of the required public hearing in accordance with the requirements of Code of Virginia, § 15.2-2204. Adjacent property owners (front, back and side) and the applicant shall be notified in writing as to the rezoning or conditional zoning request and public hearing date.
3. A public hearing shall be held by the planning commission. If requested, the zoning administrator may make a report and recommendation to the planning commission on the subject request. Other parties may appear in person and present their views.
4. The commission shall make a recommendation to go on the rezoning request after the public hearing is held.
5. The governing body (Town Council) shall then hold its own public hearing in conformity with all notice requirements under Code of Virginia, § 15.2-2204, and make the final determination on the rezoning request.

WHAT IS A SPECIAL EXCEPTION?

A special exception/use permit allows a specific exception to the Town's Zoning Ordinance on a particular parcel of land in a district of a particular zoning character. Uses and dimensional standards allowed only by special exception are those considered to have potentially greater impact upon neighboring properties or the public. The special exception process allows potential impacts to be addressed through conditions. A granted special exception runs with the property.

WHAT IS A VARIANCE?

A variance is a request for a reasonable deviation from a provision of the Town's Zoning Ordinance when strict application of the ordinance would result in unnecessary or unreasonable hardship to the property owner. A variance may not allow a use in a district not authorized by district regulations. A granted variance runs with the property.

The authorization to hear and decide on applications for special exception/use permit and a variance request has been delegated to the Board of Zoning Appeals (BZA), a quasi-judicial five (5) member Circuit Court appointed body.

Special Exception and Variance application requests will be submitted to the zoning administrator for review and recommendation; then referred to the Board of Zoning Appeals (BZA) for a public hearing. A determination on the application will be made by the Board of Zoning Appeals (BZA). Additional approval and final determinations by the Planning Commission and/or by the governing body (Town Council) could be required to complete the request.

1. The Special Exception or Variance application shall be submitted to the Board of Zoning Appeals (BZA) by the zoning administrator.
2. Notice shall be given of the required public hearing in accordance with the requirements of Code of Virginia, § 15.2-2204. Adjacent property owners (front, back and side) and the applicant shall be notified in writing as to the application request and public hearing date.
3. A public hearing shall be held by the Board of Zoning Appeals (BZA). If requested, the zoning administrator may make report and recommendation to the Board of Zoning Appeals (BZA) on the subject request. Other parties may appear in person and present their views.
4. The Board of Zoning Appeals (BZA) shall make a decision on the application request after the public hearing is held.
5. If additional approval and final determination is needed by the planning commission and/or the governing body (Town Council); each shall then hold its own public hearing in conformity with all notice requirements under Code of Virginia, § 15.2-2204, and will each make the final determination on the application request.

12/07/2015

Special Use Permit Request
Article 40
For
Franklin County Public Service 911 Emergency Communication

Grassy Hill Site – Town of Rocky Mount
Parcel Number 2010010300

From Town of Rocky Mount Zoning Ordinance
Article 40
Wireless Telecommunications Facilities

Description of Proposed Project

The Special use Permit is being requested is for the construction of a new 195' self-support telecommunications tower for use by Franklin County Public Safety. This new tower will replace an existing 160' self-support tower on Grassy Hill. The existing 160' self-support telecommunications tower will be removed once the new Public Safety radio system becomes operational.

The new tower will be used for Franklin County's Public Service 911 Emergency communications network and possible co-location. Additional elements to be modified and constructed for this new tower include removal of an existing 500 gallon propane tank the installation of new 1000 gallon propane tank and pad, the installation of a new 50Kw emergency generator, and a new 4' wide H frame for power connection. The existing building will be reused

Application Submission Requirement responses as per Article 40 of the Town of Rocky Mount zoning ordinance

Article 40

40.7.1 Provide Documents as follows

- Master plan and construction documents are attached showing tower height, antenna locations, co-location points on tower, and ground plan requirements and structures. (See Accompanying)
- Signed and sealed documents of the above and all other signatures and seals will be provided after acceptance of the SUP and prior to the issuance of the zoning compliance certificate. No substantial changes are anticipated from the drawings provided.
- Radio Frequencies are not changing from those presently in use by Franklin County Public Safety 911 Emergency Communications Network
- Tower height's setback, drives, parking, fencing, landscaping, adjacent uses, and other information are provided. (See Accompanying)
- Photographic simulation (See Accompanying)

40.7.2 Engineering Reports certifying the tower is compatible for co-location with a minimum of three similar users.

- Actual sealed structural documents for the tower cannot be provided until tower is ordered. Tower will not be ordered until Special Use Permit is granted. Sealed structural documents will be provided for your records after approval of the SUP and prior to the issuance of the zoning compliance certificate

- We have provided you with the Tom's Knob structural documents which have been approved by Franklin County. The Tom's Knob Tower and the Grassy Hill Tower will be identical. (See Accompanying).
- (Design Appurtenances Loading table may be found on Page 2 of the Tom's Knob Tower Structural)
- We will provide you with signed and sealed drawings and tower structural documents after the SUP and prior to issuance of the zoning compliance certificate.
 - Certificate and sealed drawings will then be forwarded with all the appropriate signed and sealed documents for building permit application through Franklin County

40.7.3- Copies of Applicants' co-location policy

- Franklin County Public Safety has not written co-location policy however the tower is designed for co-location between the Public Safety Antenna and above (See sheet C-10 of the attached preliminary construction documents)

40.7.4 Provide copies of Propagation maps demonstrating that antennas and sites for possible co-locator antennas are no higher in elevation than necessary

- Propagation maps are provided (See Accompanying) Height above future antennas is for future expansion.

40.7.5 – Determination of need by FAA

- FAA Publication , Title 14 Sub-part B, Part 77.13 Construction or alteration requiring notice , does not require FAA notification if the structure is less than 200 feet in height: however, a determination of no hazard study will be performed to insure compliance with FAA rules. The tower will be constructed at less than 200' and the tower will not be lighted...

40.7.6 – 30 Days for City Approval or Denial

- 30 Day time of acceptance and/or denial is noted.

40.7.7 -Time frame for construction – must be completed within 90 days

- Tower will be completed within 90 days from when the Franklin County Building permit is issued.

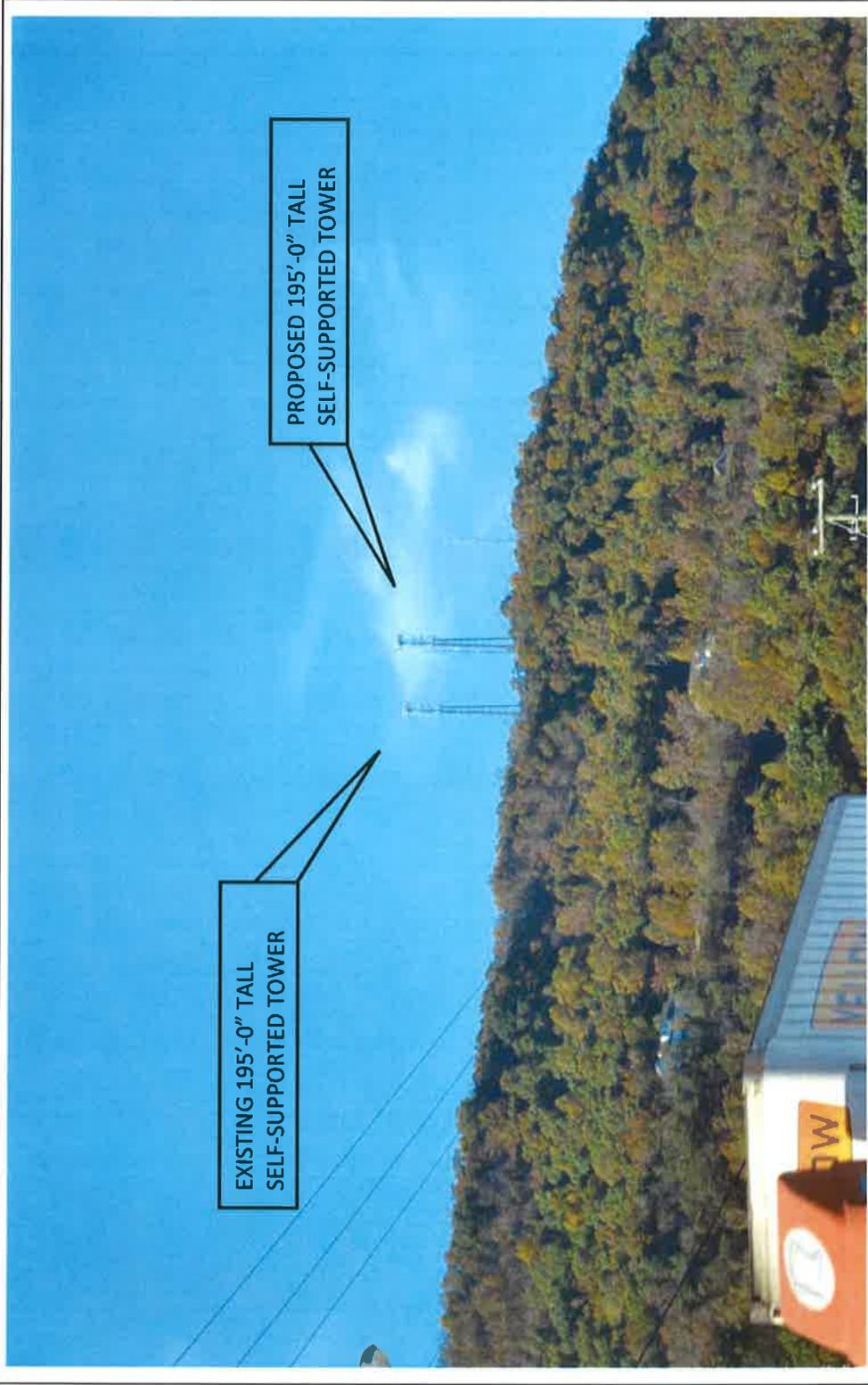
40.8.1 –Governing factors in determining whether to issue a special use permit have been considered.

- Franklin county Public Safety is building a new eight-site P25 800 MHz simulcast trunked radio system. The proposed Grassy Hill tower will be an integral part of the coverage design
- The existing tower is not structurally adequate to support the new antenna systems.
- The existing tower will be removed after construction of the proposed 195' tower.
- This is a new tower on an existing site.

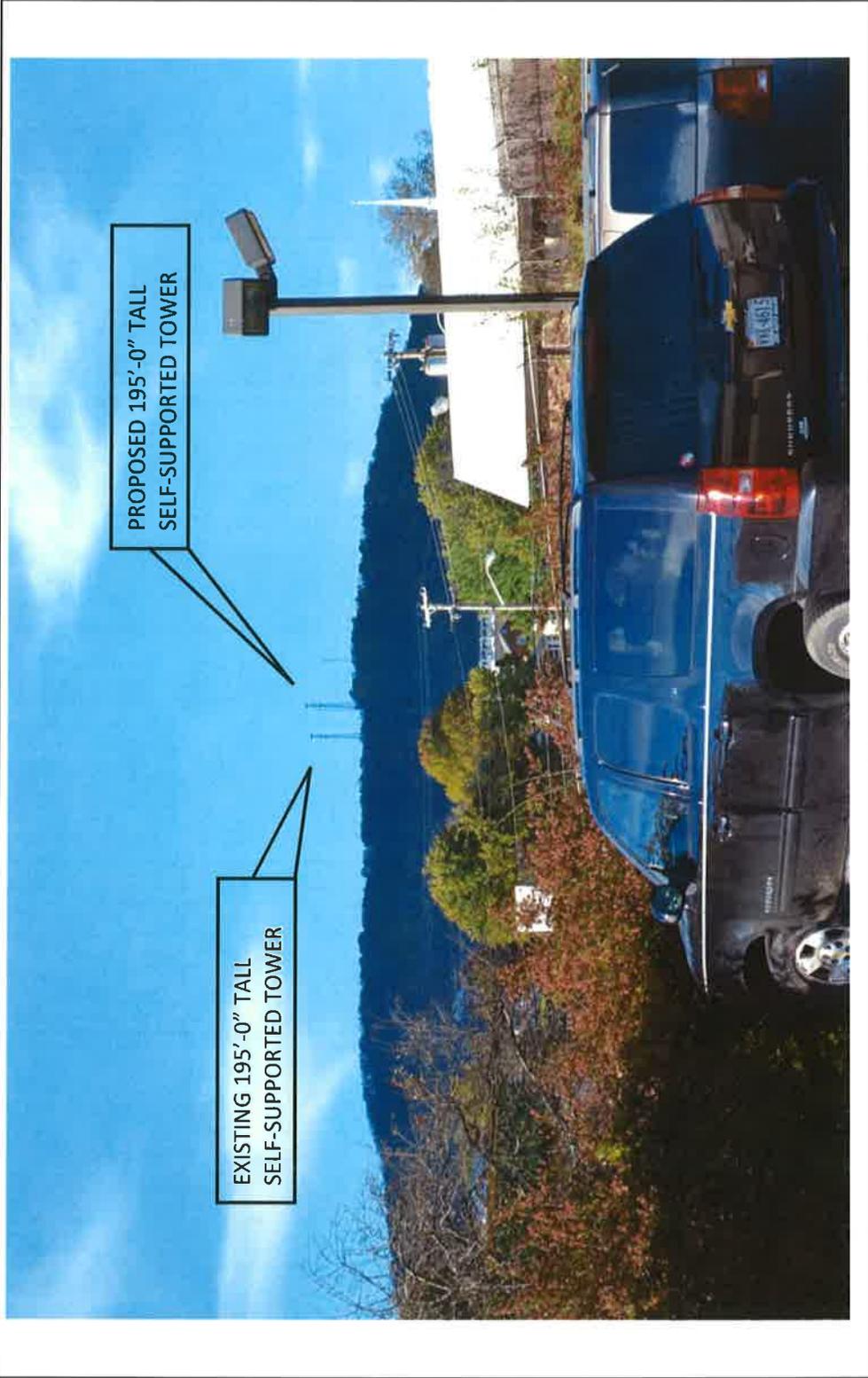
40.8.2 – New Tower Permitting

Reason for New Tower

- This is a replacement tower on an existing site. The existing tower is not of sufficient structural strength to support the applicants proposed antenna and related equipment. We are building the new tower higher for future expansion.



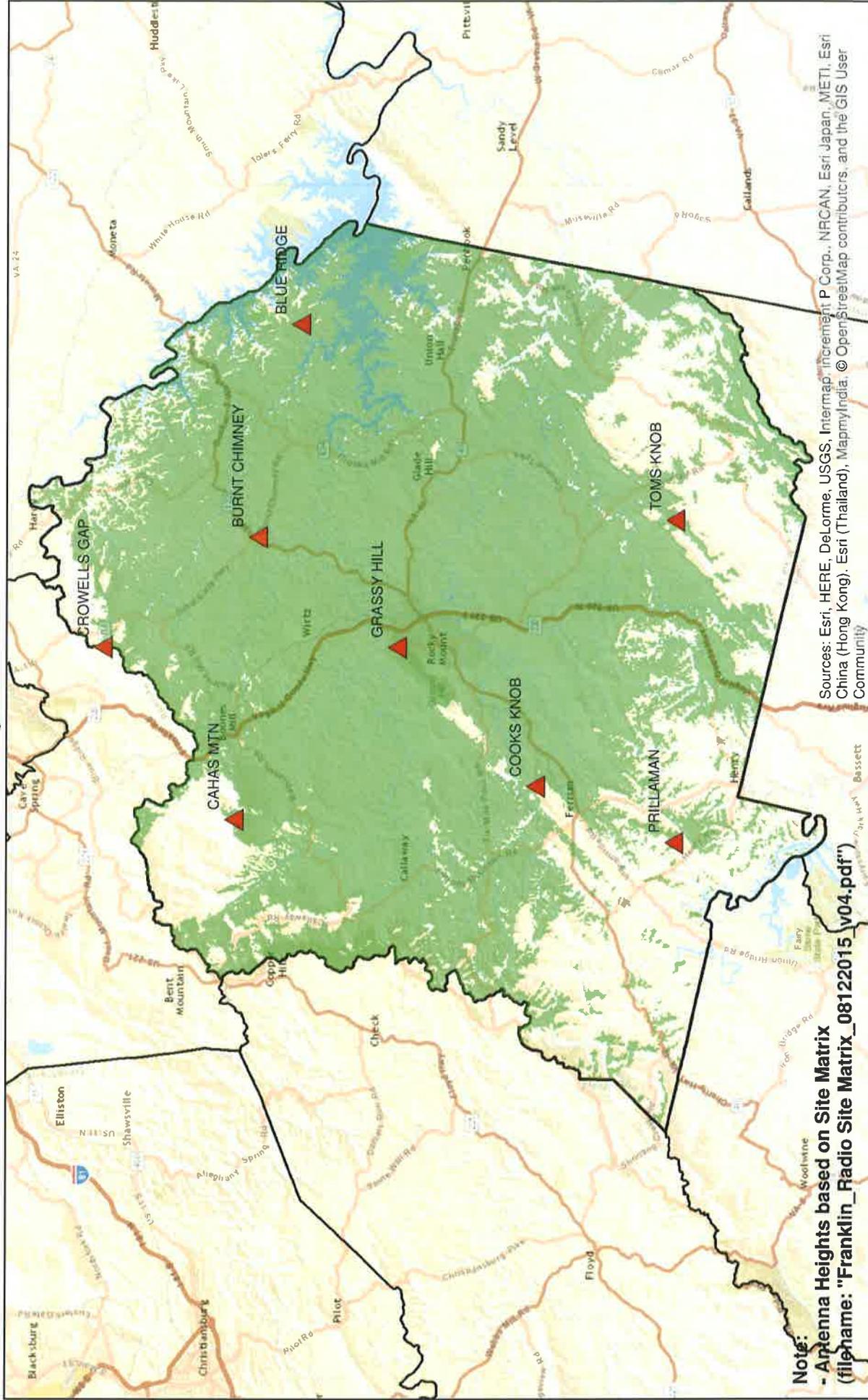
GRASSY HILL TOWER
1247 SUMMIT DR., ROCKY MOUNT, VA 24151
PROPOSED 195'-0" SELF-SUPPORTED TOWER
VIEW FROM ROCKY MOUNT EMERGENCY SERVICES



GRASSY HILL TOWER
1247 SUMMIT DR., ROCKY MOUNT, VA 24151
PROPOSED 195'-0" SELF-SUPPORTED TOWER
VIEW FROM ROCKY MOUNT MUNICIPAL BUILDING



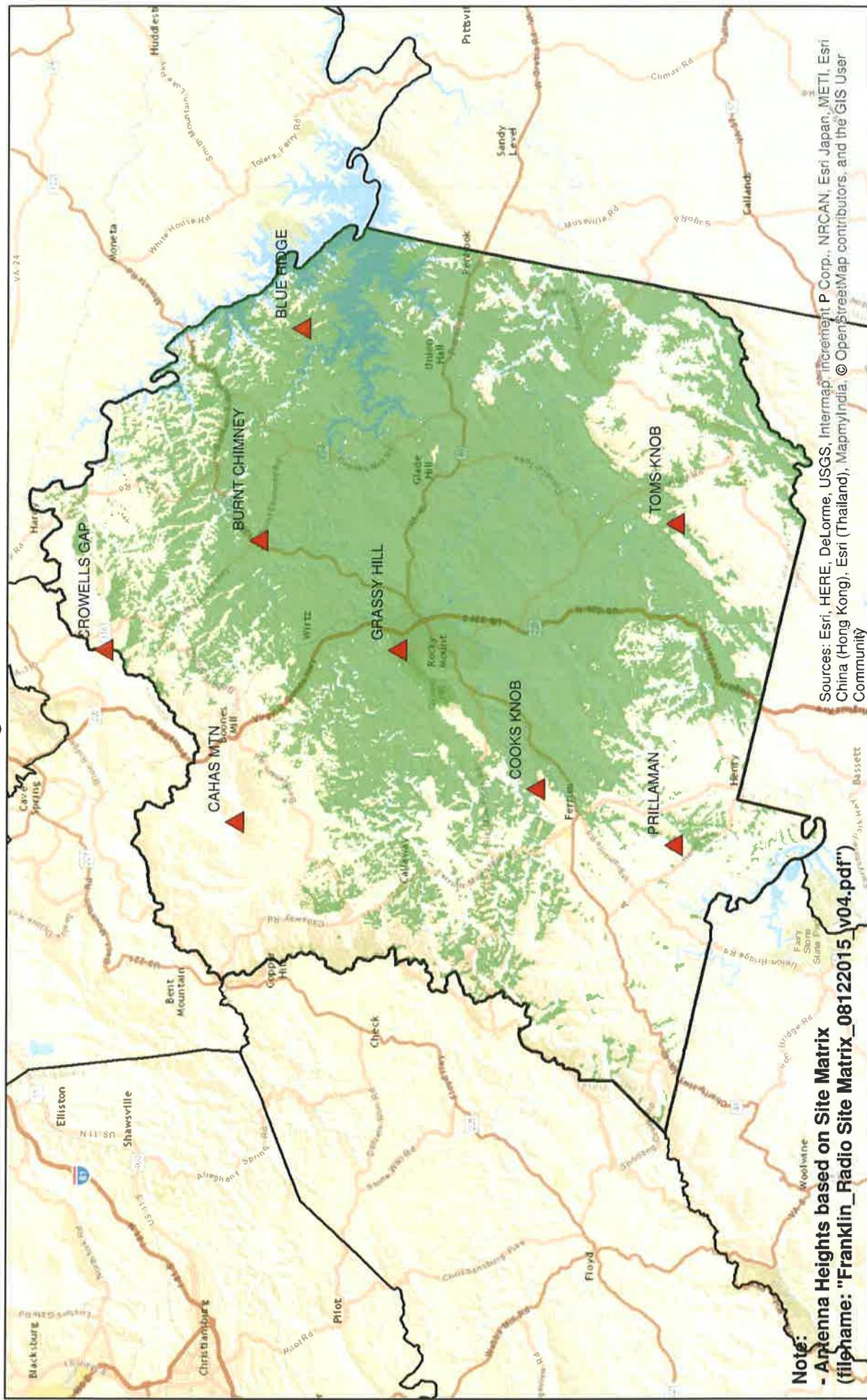
**Franklin County, Virginia
800 MHz P25 Radio System
Grassy Hill Talk-In Portable Single Site Coverage
No Building Penetration Loss**



The shaded area represents talk-in coverage from an APX portable at head level, equipped with a 1/2 wave flex whip antenna, with no building loss. 95% or more of the shaded area is covered at DAQ 3.4.



Franklin County, Virginia
 800 MHz P25 Radio System
 Grassy Hill Talkout Portable Single Site Coverage
 No Building Penetration Loss



Note:
 - Antenna Heights based on Site Matrix
 (filename: "Franklin_Radio_Site_Matrix_08122015_v04.pdf")

The shaded area represents talkout coverage to an APX portable at hip level,
 in a swivel case, equipped with a 1/2 wave flex whip antenna, with no building loss.
 95% or more of the shaded area is covered at DAQ 3.4.

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri
 China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User
 Community



FRANKLIN COUNTY, VA
 PLANNING AND
 COMMUNITY DEVELOPMENT
 1255 FRANKLIN ST.,
 SUITE 103
 ROCKY MOUNT, VA 24151
 PHONE: (540) 483-3027

GRASSY HILL

1247 SUMMIT DR.
 ROCKY MOUNT, VIRGINIA 24151
 LAT: 37° 01' 27.57"N
 LONG: 79° 53' 36.95"W

PROPOSED 195'-0" TALL SELF-SUPPORTED TOWER
 TO REPLACE EXISTING 160'-0" TALL SELF-SUPPORTED TOWER
 HIGHEST APPURTENANCE = 199'-0"



SITE CONTACT:

PROJECT MANAGER:
 7031 COLUMBIA GATEWAY DR., 3rd FLOOR
 COLUMBIA, MARYLAND 21046
 PHONE: (301) 775-2509

UTILITY CONTACTS:

ELECTRIC:
 APPALACHIAN POWER (AEP)
 40 FRANKLIN RD., SW
 ATLANTA, GA 30334
 PHONE: (800) 956-4237

CALL BEFORE YOU DIG: MISS. UTILITY OF VIRGINIA
 LAW REQUIRES THAT THE CONTRACTOR NOTIFY
 ALL UTILITIES AT LEAST 48 HOURS BEFORE
 ANY EXCAVATION OR DEVIATION ACTIVITIES. BUT NOT
 MORE THAN TEN (10) WORKING DAYS PRIOR TO
 EXCAVATION OR DEVIATION ACTIVITIES.
 VIRGINIA: 1-800-552-7001 OR 811

PROPERTY OWNER:

COUNTY OF FRANKLIN, VA
 1255 FRANKLIN ST., SUITE #112
 ROCKY MOUNT, VA 24151

PARCEL INFORMATION:

JURISDICTION: COUNTY OF FRANKLIN, VA
 PARCEL ID NUMBER: 2010010300
 PARCEL ACRES: 0.46 ACRES
 PARCEL ZONING: M1
 CURRENT USE: TELECOMMUNICATIONS TOWER SITE

USE: UNMANNED EMERGENCY 911 TELECOMMUNICATIONS
 RELAY TOWER, ONE 11'-8" x 20'-0" EQUIPMENT AND
 STORAGE BUILDING, PARKING AND TURN-AROUND AREA

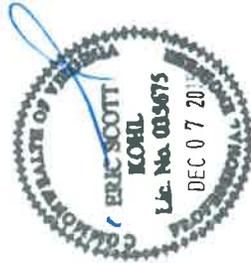
ENGINEER:

KCI TECHNOLOGIES, INC.
 4601 SIX FORKS RD., SUITE 220
 RALEIGH, NC 27609
 (919) 783-8214 VA LICENSE #35675
 ERIC S. KOHL, VA LICENSE #35675

NOTES:

CONTRACTOR SHALL NOTIFY OWNER FOR ACCESS TO SITE
 KEEP GATES AND/OR DOORS LOCKED AT ALL TIMES.
 CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING
 DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL
 IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY
 DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR
 BE RESPONSIBLE FOR SAME.

- T-1 COVER SHEET
- C-1 SITE OVERVIEW
- C-2 SITE PLAN AND NOTES
- C-3 EXISTING SHELTER LAYOUT
- C-4 TOWER ELEVATION AND NOTES
- D-1 CONSTRUCTION DETAILS
- D-2 CONSTRUCTION DETAILS



NO.	DATE	REVISION
1005	11/02/2015	100% SITE PLAN SUBMISSION



MOTOROLA SOLUTIONS
 MOTOROLA SOLUTIONS, INC.
 7031 COLUMBIA GATEWAY DR.,
 COLUMBIA, MARYLAND 21046
 CONTACT: GARY SMITH
 PHONE: (301) 775-2509

GRASSY HILL
 1247 SUMMIT DR.
 ROCKY MOUNT, VIRGINIA 24151
 FRANKLIN COUNTY, VA

DATE OF ORIGINATION: 03/01/2015
 DRAWN BY: TNW APPROVED BY:
 CHECKED BY: KCI# 0214-7855-0



FRANKLIN COUNTY, VA
 PLANNING AND
 COMMUNITY DEVELOPMENT
 1255 FRANKLIN ST.,
 SUITE 103
 ROCKY MOUNT, VA 24151
 PHONE: (540) 483-3027

SCALE:
 COVER SHEET
 T-1

CONTRACTOR NOTES

CONTRACTOR SHALL CONTACT A SURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS BY TEST PIT AS NECESSARY. LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND FOR PLANNING PURPOSES ONLY.

ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES, THE LATEST EDITION THEREOF.

CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENT AGENCIES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.

CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS.

THESE PLANS ARE NOT FOR RECORDATION OR CONVEYANCE.

EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.

DAMAGE TO UTILITIES OR PROPERTY OF OTHERS BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO LIKE-NEW CONDITION.

NOTIFY "GAS UTILITY OF VIRGINIA" AT 811 OR 1-800-552-7001 - 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA.

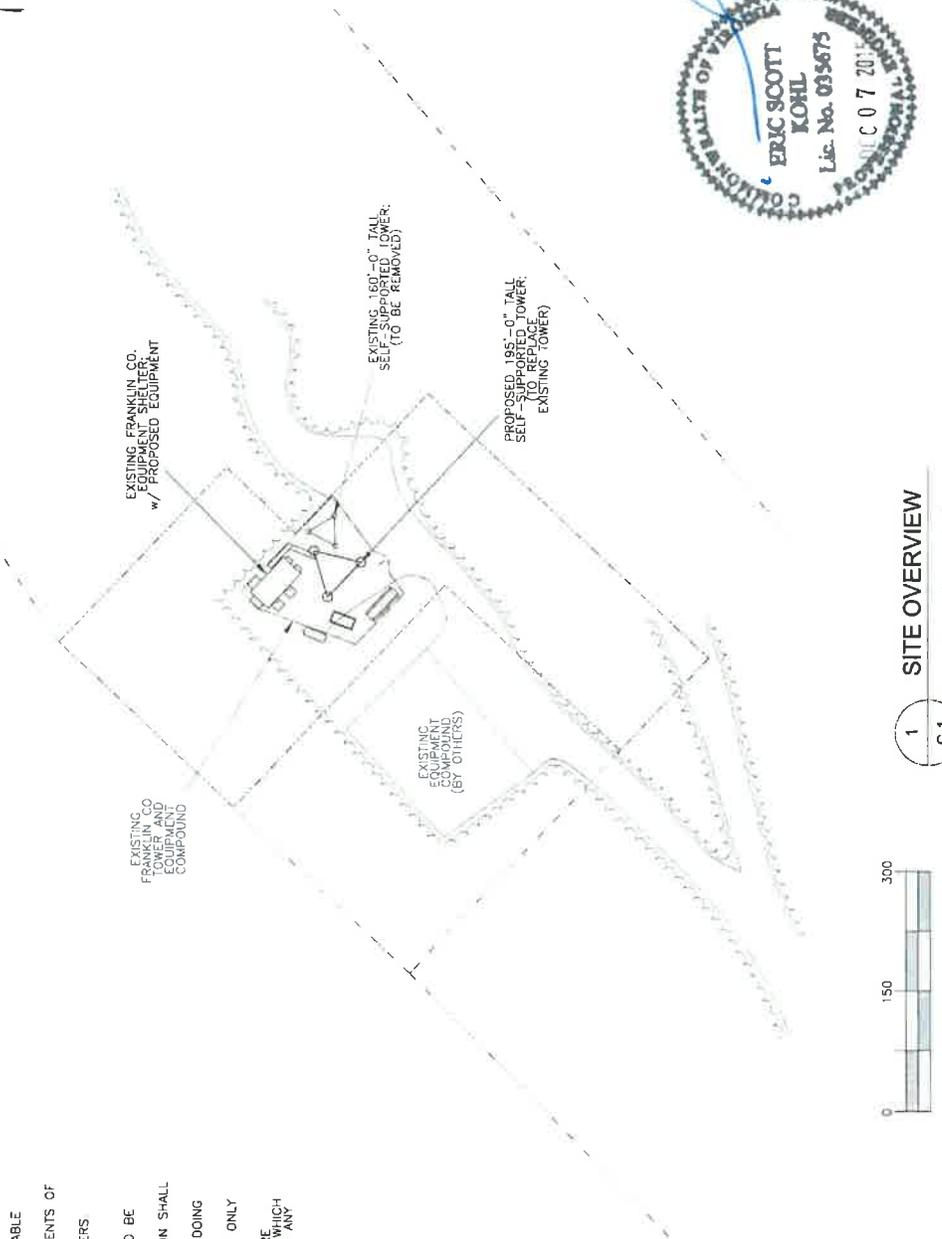
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE.

THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING CONSTRUCTION BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES AND ALL UNDERGROUND UTILITIES.

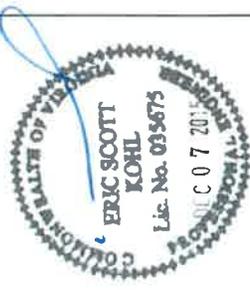
CENTERLINE TOWER DATA	
LAT. 37° 01' 27.57" (NAD 83)	
LONG 79° 53' 36.95" (NAD 83)	
AVERAGE GROUND ELEVATION AT CENTERLINE OF TOWER	
ELEV. = 8' 19.24' 0.00 (NAD 88)	

GENERAL NOTES:

1. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED
2. HORIZONTAL DATUM IS BASED ON THE VIRGINIA STATE PLANE COORDINATE SYSTEM OF 1983 IN U.S. FEET.
3. VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988
4. REFERENCE: DEED BOOK 476, PAGE 880.
5. THIS PLAN DOES NOT REPRESENT A TITLE SURVEY OF THE PARENT TRACT.
6. FLOOD INSURANCE RATE MAP: 51067C0195C, ZONE X.
7. INFORMATION SHOWN HEREON BASED ON INFORMATION GATHERED BY CHARLOTTE LAND SURVEYING, INC. DATE: JANUARY 31, 2005. AS WELL AS INFORMATION CONTAINED IN THE PUBLIC RECORDS OF THE FRANKLIN CO REGISTER OF DEEDS AND TAX ASSESSORS' OFFICES.
8. LANDOWNER INFORMATION:
COUNTY OF FRANKLIN, VA
ROCKY MOUNT, VA 24151



1
C-1
SITE OVERVIEW
SCALE: 1" = 150'-0"



NO.	DATE	REVISION
1	11/02/2015	100% SITE PLAN SUBMISSION

KCI TECHNOLOGIES
SUITE 220, LANDMARK CENTER II
4601 SIX FORKS ROAD
RALEIGH, NC 27609
(919) 793-9214
ENGINEERS • PLANNERS • ECOLOGISTS

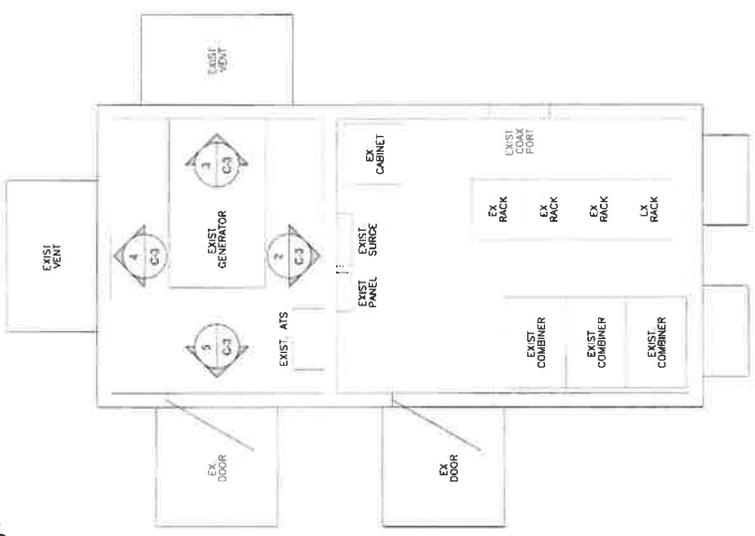
MOTOROLA SOLUTIONS
MOTOROLA SOLUTIONS, INC.
7031 COLUMBIA GATEWAY DR.
COLUMBIA, MARYLAND 21046
CONTACT: GARY SMITH
PHONE: (301) 775-2509

GRASSY HILL
1247 SUMMIT DR
ROCKY MOUNT, VIRGINIA 24151
FRANKLIN COUNTY, VA

DATE OF ORIGINATION: 03/01/2015
DRAWN BY: TNW APPROVED BY:
CHECKED BY: KC # : 0214-7355-D

FRANKLIN COUNTY, VA
PLANNING AND
COMMUNITY DEVELOPMENT
1255 FRANKLIN ST.,
SUITE 103
ROCKY MOUNT, VA 24151
PHONE: (540) 483-3027

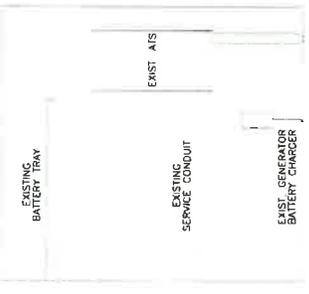
SITE OVERVIEW
C-1



EXISTING SHELTER LAYOUT

SCALE: 1/4" = 1'-0"

1 C-3



EXISTING WALL ELEVATION

SCALE: 1/4" = 1'-0"

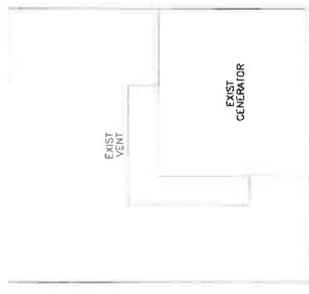
2 C-3



EXISTING WALL ELEVATION

SCALE: 1/4" = 1'-0"

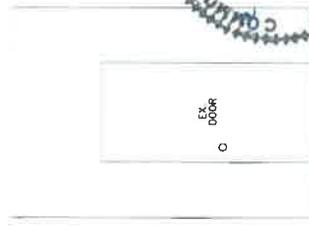
3 C-3



EXISTING WALL ELEVATION

SCALE: 1/4" = 1'-0"

4 C-3



EXISTING WALL ELEVATION

SCALE: 1/4" = 1'-0"

5 C-3



NO.	DATE	REVISION
1008	11/02/2015	100% SITE PLAN SUBMISSION

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MOTOROLA SOLUTIONS
 MOTOROLA SOLUTIONS, INC.
 7031 COLUMBIA GATEWAY DR.
 COLUMBIA, SC 29912
 CONTACT: CHRYL SWIFT
 PHONE: (301) 773-2509

GRASSY HILL
 1247 SUMMIT DR
 ROCKY MOUNT, VIRGINIA, 24151
 FRANKLIN COUNTY, VA

DATE OF ORIGINATION : 03/01/2015
 DRAWN BY : TNW APPROVED BY :
 CHECKED BY : KCI # : 0214-7855-D

**FRANKLIN COUNTY, VA
 PLANNING AND
 COMMUNITY DEVELOPMENT**
 1255 FRANKLIN ST.,
 SUITE 103
 ROCKY MOUNT, VA 24151
 PHONE: (540) 483-3027

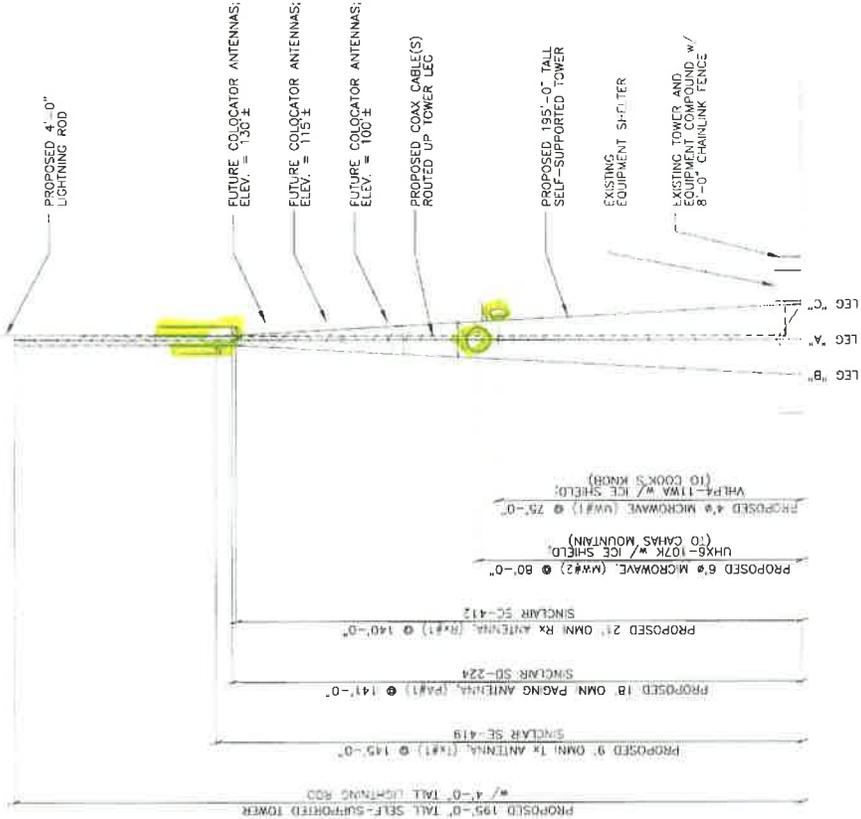
EXISTING SHELTER LAYOUT

C-3

SCALE

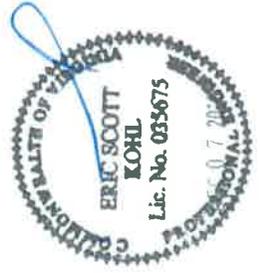
PROPOSED EQUIPMENT AND COAXIAL CABLE SCHEDULE

ANTENNA	ACRONYM	BAND 1	BAND 2	BAND 3	BAND 4
PROPOSED Rx OMNI ANTENNA	Rx#1	GREEN	GREEN	GREEN	
PROPOSED Tx OMNI ANTENNA	Tx#1	RED	GREEN	GREEN	
PROPOSED PAGING ANTENNA	PA#1	YELLOW	GREEN	GREEN	
PROPOSED MICROWAVE #1 (TO COOK'S KNOB)	MW#1	BLUE	GREEN	GREEN	
PROPOSED MICROWAVE #2 (TO CAHAS MOUNTAIN)	MW#2	BLUE	GREEN	RED	



GENERAL CONSTRUCTION NOTES

- ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS SHALL BE GROUNDED NEAR THE TOP AND BOTTOM OF EACH TOWER. HORIZONTAL TRANSMISSION AND NEAR THE ENTRY POINT ON THE SHELTER. ADDITIONAL BRACES AND CABLE MARKERS SHALL BE INSTALLED AS REQUIRED TO MAINTAIN THE DESIGN STRENGTH. GROUND KITS TO A RANGE OF 50FT (MIN) TO 65FT (MAX). TOWER TOP AMPLIFIER SHALL BE GROUNDED TO TOWER TOP GROUND BAR.
- THE CONTRACTOR SHALL CONDUCT A SWEEP TEST ON ALL THE NEWLY INSTALLED TRANSMISSION LINES TO DETERMINE THE CABLE CONDUCTOR RESISTANCE, CABLE INSERTION LOSS, REFLECTION AND STIMULUS RESPONSE MEASUREMENTS.
- DRIP LOOPS SHALL BE INCORPORATED IN CABLE RUNS TO PREVENT WATER FROM TRICKLING DOWN THE LINES INTO THE BUILDING.
- ALL TRANSMISSION LINES SHALL BE MARKED WITH APPROPRIATE COLOR TAPE BANDS (ONE INCH WIDE COLOR TAPE) FOR IDENTIFICATION NEAR THE ANTENNA AT THE BOTTOM OF VERTICAL RUN JUST BEFORE ENTERING THE BUILDING AS WELL AS INSIDE THE BUILDING, BEFORE CONNECTING TO THE SURGE SUPPRESSORS FOR COLOR CODING SCHEME. SEE EQUIPMENT AND CABLE SCHEDULE.



1 TOWER ELEVATION C-4

SCALE: 1" = 30'-0"

NO.	DATE	REVISION
1008	11/02/2015	100% SITE PLAN SUBMISSION

KCI
TECHNOLOGIES
SUIT 220 LANDMARK CENTER II
4601 SIX FORKS ROAD
RALEIGH, NC 27609
PHONE: (919) 853-0214
ENGINEERS • PLANNERS • ECOLOGISTS

MOTOROLA SOLUTIONS
MOTOROLA SOLUTIONS, INC.
7031 COLUMBIA GATEWAY DR.
COLUMBIA, MARYLAND 21046
CONTACT: CARY SWIFT
PHONE: (301) 775-8309

GRASSY HILL
1247 SUMMIT DR
ROCKY MOUNT, VIRGINIA 24151
FRANKLIN COUNTY, VA

DATE OF ORIGINATION : 03/01/2015
DRAWN BY : TNW APPROVED BY :
CHECKED BY : KSI # : 0214-7855-9

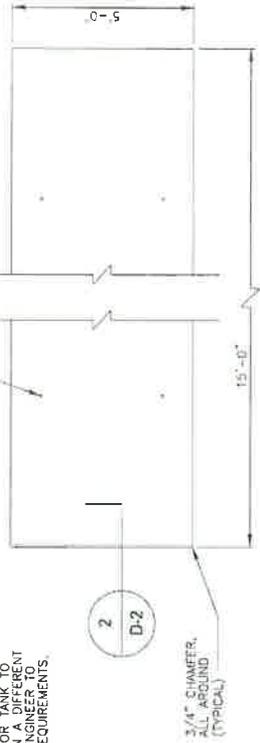
FRANKLIN COUNTY, VA
PLANNING AND
COMMUNITY DEVELOPMENT
1255 FRANKLIN ST.,
SUITE 103
ROCKY MOUNT, VA 24151
PHONE: (540) 483-3027

TOWER ELEVATION AND NOTES C-4

NOTES:

- CONTRACTOR SHALL MOUNT 1000gal. LP FUEL TANK TO CONCRETE FOUNDATION ACCORDING TO MANUFACTURER'S SPECIFICATIONS
- CONTRACTOR SHALL VERIFY EXACT DIMENSIONS WITH SPECIFIC FUEL TANK PROVIDED.
- TANK PROVIDER OR CONTRACTOR MAY DESIRE TO ANCHOR TANK TO A LARGER PAD, OR IN A DIFFERENT WATER. CONTACT ENGINEER TO VERIFY ANCHORAGE REQUIREMENTS.

ANCHOR PROPOSED FUEL TANK DIRECTLY TO PROPOSED CONCRETE FOUNDATION w/ 3/4" x 4" ANCHOR BOLTS (TYP. OF 4); CONTRACTOR SHALL VERIFY SPACING OF BOLTS WITH FUEL TANK PROVIDER



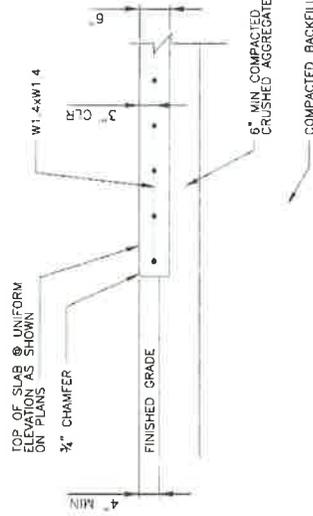
FUEL TANK FOUNDATION

NOT TO SCALE

1
D-2

NOTES:

- PAD-ON-GRADE SHALL BE PLACED OVER 6" MIN. AASHTO NO. 57 GRAVEL ON WELL COMPACTED SOIL TO BEARING PRESSURE OF 2000 PSF MIN.
- VERIFY ALL UNDERGROUND SERVICES AND CONDUIT LOCATIONS PRIOR TO PAD FOUNDATION EXCAVATION.
- VERIFY SIZE AND PAD REQUIREMENTS OF FUEL TANK WITH EQUIPMENT SUPPLIER PRIOR TO PAD FOUNDATION EXCAVATION.
- VERIFY SIZE, LOCATION, AND NUMBER OF STRAPS WITH EQUIPMENT SUPPLIER.



FUEL TANK FOUNDATION SECTION

NOT TO SCALE

2
D-2

GENERAL CONCRETE NOTES

- CONCRETE SHALL ATTAIN A MINIMUM COMPRESSED STRENGTH OF 3,000 PSI IN 28 DAYS (2,500 PSI PRIOR TO BACKFILL); CONTINUOUS INSPECTION IS NOT REQUIRED. 50% CONCRETE SHALL CONFORM TO SLUMP: 4" MIN / 6" MAX AND AIR ENTRAINMENT: 2% - 3% BY VOLUME.
- MAXIMUM COARSE AGGREGATE SIZE SHALL BE 3/4"
- REINFORCEMENT SHALL BE NEW BILLET STEEL DEFORMED BARS CONFORMING TO ASTM SPECIFICATIONS A615, GRADE 60.
- REINFORCEMENT SHALL COMPLY WITH THE LATEST EDITION OF ACI FOR MINIMUM CLEARANCES.
- ALL EMBEDDED ITEMS SHALL BE SECURELY HELD IN POSITION PRIOR TO PLACEMENT OF CONCRETE. ALL CONCRETE SHALL BE READY-MIXED IN ACCORDANCE WITH ASTM C9-2.
- MAINTAIN TEMPERATURE OF CAST IN PLACE CONCRETE AT BETWEEN 50F AND 90F.
- DO NOT USE RETEMPERED CONCRETE, OR ADD WATER TO READY-MIX CONCRETE AT THE JOB SITE.
- MINIMUM REBAR SPACINGS SHALL BE 40 DIAMETERS. MAKE BARS CONTINUOUS AROUND CORNERS. REBAR CONTACT SHALL BE CLASS "B" TENSION LAPS UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL CONSTRUCT ENTIRE FOUNDATION FOOTING PRIOR TO BACKFILLING AND POURING SLAB.

GENERAL FOUNDATION NOTES

- CONTRACTOR SHALL GRADE SITE TO PROVIDE LEVEL FOUNDATION FOR SHELTER AND GENERATOR.
- IF FOUND FRACKS IS ENCOUNTERED, PREVENTING INSTALLATION OF SHELTER OR GENERATOR MAY BE NECESSARY. CONTRACTOR SHALL CONTROL A MINIMUM OF 15' TO 20' SOUND ROCK AND ANCHOR REBAR WITH HIGH STRENGTH GROUT.
- REBARS SHALL BE SUPPORTED ON GALVANIZED CHAIRS OR BRICKS. "PULL-UP" OF REINFORCEMENT AT THE TIME OF CONCRETE PLACEMENT IS NOT ALLOWED.



NO.	DATE	REVISION
1	11/07/2015	ISSUE SITE PLAN SUBMISSION

KCI TECHNOLOGIES
 4501 SIX FORKS ROAD
 RALEIGH, NC 27609
 (919) 783-3214
 ENGINEERS • PLANNERS • ECOLOGISTS

MOTOROLA SOLUTIONS
 MOTOROLA SOLUTIONS, INC.
 7031 COLUMBIA GATEWAY DR.
 COLUMBIA, MARYLAND 21046
 CONTACT: GARY SMITH
 PHONE: (301) 775-2509

GRASSY HILL
 1247 SUMMIT DR
 ROCKY MOUNT, VIRGINIA 24151
 FRANKLIN COUNTY, VA

DATE OF ORIGINATION : 03/01/2015
 DRAWN BY : TNW APPROVED BY :
 CHECKED BY : KC# 0214-7855-D

FRANKLIN COUNTY, VA
 PLANNING AND
 COMMUNITY DEVELOPMENT
 1255 FRANKLIN ST.,
 SUITE 103
 ROCKY MOUNT, VA 24151
 PHONE: (540) 483-3027

SCALE:
CONSTRUCTION DETAILS
D-2

Structural Design Report
195' S3TL Series HD1 Self-Supporting Tower
Site: Blue Ridge LLC, VA

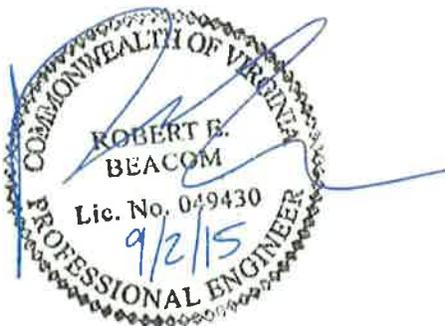
IDENTICAL TOWER SPECS

Prepared for: MOTOROLA ISPO
by: Sabre Towers & Poles™

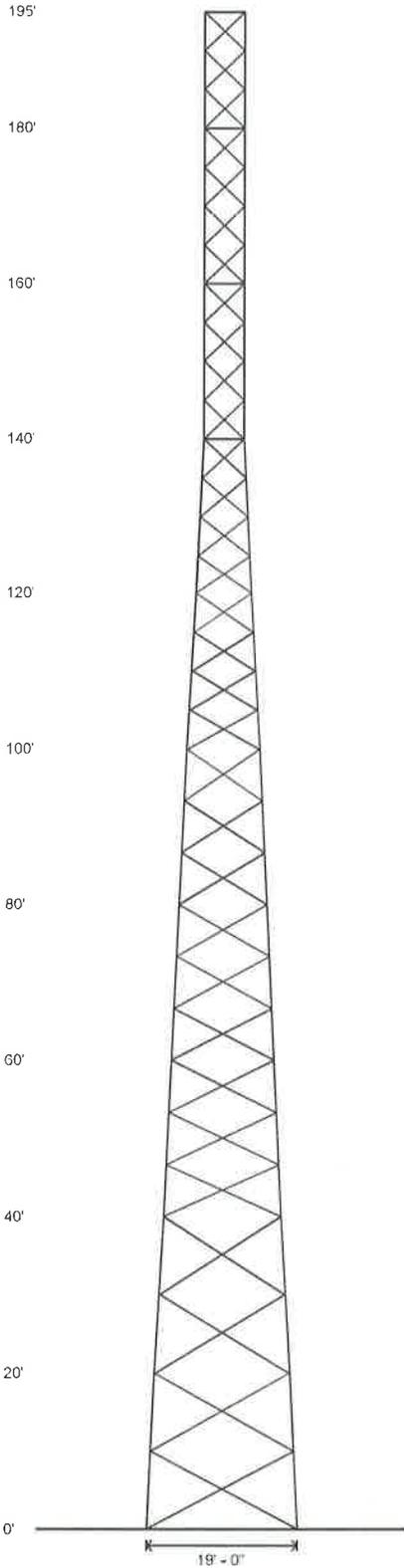
Job Number: 126087

September 2, 2015

Tower Profile.....	1-2
Foundation Design Summary.....	3
Maximum Leg Loads.....	4
Maximum Diagonal Loads.....	5
Maximum Foundation Loads.....	6
Calculations.....	7-19



Legs	8.625 OD X .322 L 3 1/2 X 3 1/2 X 1/4	5.563 OD X .500 A	5.563 OD X .375 L 3 X 3 X 3/16	4.500 OD X .337 B	4.000 OD X .318	3.500 OD X .216	2.875 OD X .203 L 2 X 2 X 1/8	2.375 OD X .154	
Diagonals									
Horizontals			NONE						
Brace Bolts		(1) 3/4"							
Top Face Width	17'	15'	13'	9'	7'		5'		
Panel Count/Height	4 @ 10'			9 @ 6.6667'			19 @ 5'		
Section Weight:	3657	3305	2587	1878	1460	1062	865	721	565



Base Reactions

Total Foundation		Individual Footing	
Shear (kips)	48,52	Shear (kips)	28,23
Axial (kips)	104,29	Compression (kips)	287
Moment (ft-kips)	4522	Uplift (kips)	252
Torsion (ft-kips)	22,14		

Material List

Display	Value
A	L 3 1/2 X 3 X 1/4 (SLV)
B	L 2 1/2 X 2 1/2 X 3/16
C	L 2 X 2 X 1/8

Notes

- 1) All legs are 50 ksi.
- 2) All braces are 36 ksi.
- 3) All brace bolts are A325-X.
- 4) The tower model is S3TL Series HD1.
- 5) Transmission lines are to be attached to standard 12 hole waveguide ladders with stackable hangers.
- 6) Azimuths are relative (not based on true north).
- 7) Foundation loads shown are maximums.
- 8) (6) 1 1/2" dia. F1554 grade 105 anchor bolts per leg. Minimum 58" embedment from top of concrete to top of nut.
- 9) All unequal angles are oriented with the short leg vertical.
- 10) Weights shown are estimates. Final weights may vary.
- 11) This tower was designed for a basic wind speed of 90 mph with 0" of radial ice, and 30 mph with 3/4" of radial ice, in accordance with ANSI/TIA-222-G, Structure Class III, Exposure Category C, Topographic Category 1.
- 12) The foundation loads shown are factored loads.



Sabre Communications Corporation
 7101 Southbridge Drive
 P.O. Box 658
 Sioux City, IA 51102-0658
 Phone: (712) 253-6900
 Fax: (712) 279-8014

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Job: **126087**
 Customer: **MOTOROLA ISPO**
 Site Name: **Blue Ridge LLC, VA**
 Description: **195' S3TL**
 Date: **9/2/2015**

By: **REB**

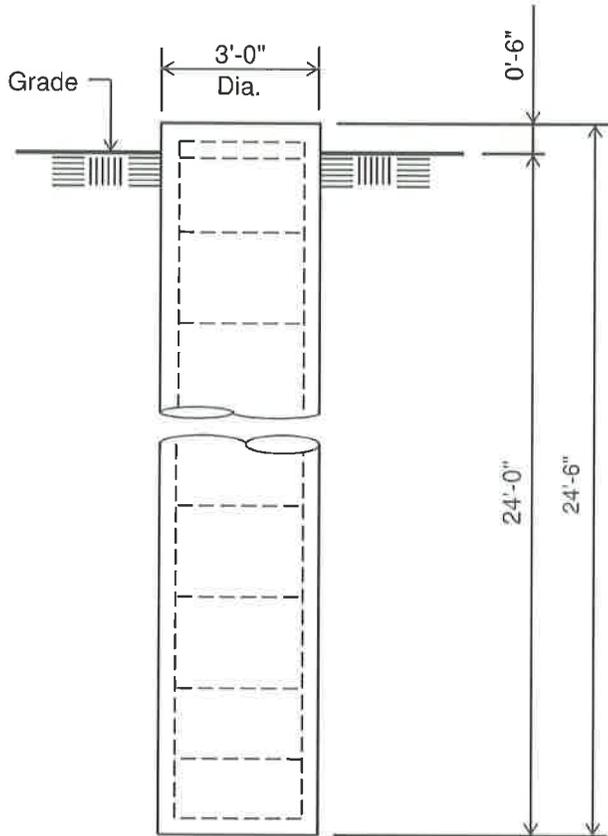
Designed Appurtenance Loading

Elev	Description	Tx-Line	Elev	Description	Tx-Line
179	6ft Sidearm		85	(1) 8' Ice Shield	
179	(1) SE419-SF1P2LDF	(1) 1 5/8"	85	(1) 8' Ice Shield	
174	6ft Sidearm		80	(2) Leg Dish Mount	
174	(1) SE414-SF2P2LNF	(1) 1 5/8"	80	(2) 8' H.P. Dishes	(2) 1 5/8"
160	(1) SD224		75	(1) 8' Ice Shield	
151	6ft Sidearm		71	(1) 8' Ice Shield	
151		(1) 1 5/8"	70	Leg Dish Mount	
140	(3) 6ft Sidearms		70	(1) 8' H.P. Dish	(1) 1 5/8"
140	(3) 8' X 1' X 6INs	(3) 1 5/8"	66	Leg Dish Mount	
130	(3) 6ft Sidearms		66	(1) 8' H.P. Dish	(1) 1 5/8"
130	(3) 8' X 1' X 6INs	(3) 1 5/8"	35	(1) 8' Ice Shield	
120	(3) 6ft Sidearms		30	Leg Dish Mount	
120	(3) 8' X 1' X 6INs	(3) 1 5/8"	30	(1) 8' H.P. Dish	(1) 1 5/8"

	Sabre Communications Corporation 7101 Southbridge Drive P.O. Box 658 Sioux City, IA 51102-0658 Phone: (712) 279-0690 Fax: (712) 279-0614	Job: 126087 Customer: MOTOROLA ISPO Site Name: Blue Ridge LLC, VA Description: 195' S3TL Date: 9/2/2015
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Customer: MOTOROLA ISPO
Site: Blue Ridge LLC, VA

195 ft. Model S3TL Series HD1 Self Supporting Tower At
90 mph Wind with no ice and 30 mph Wind with 0.75 in. Ice per ANSI/TIA-222-G.
Antenna Loading per Page 1



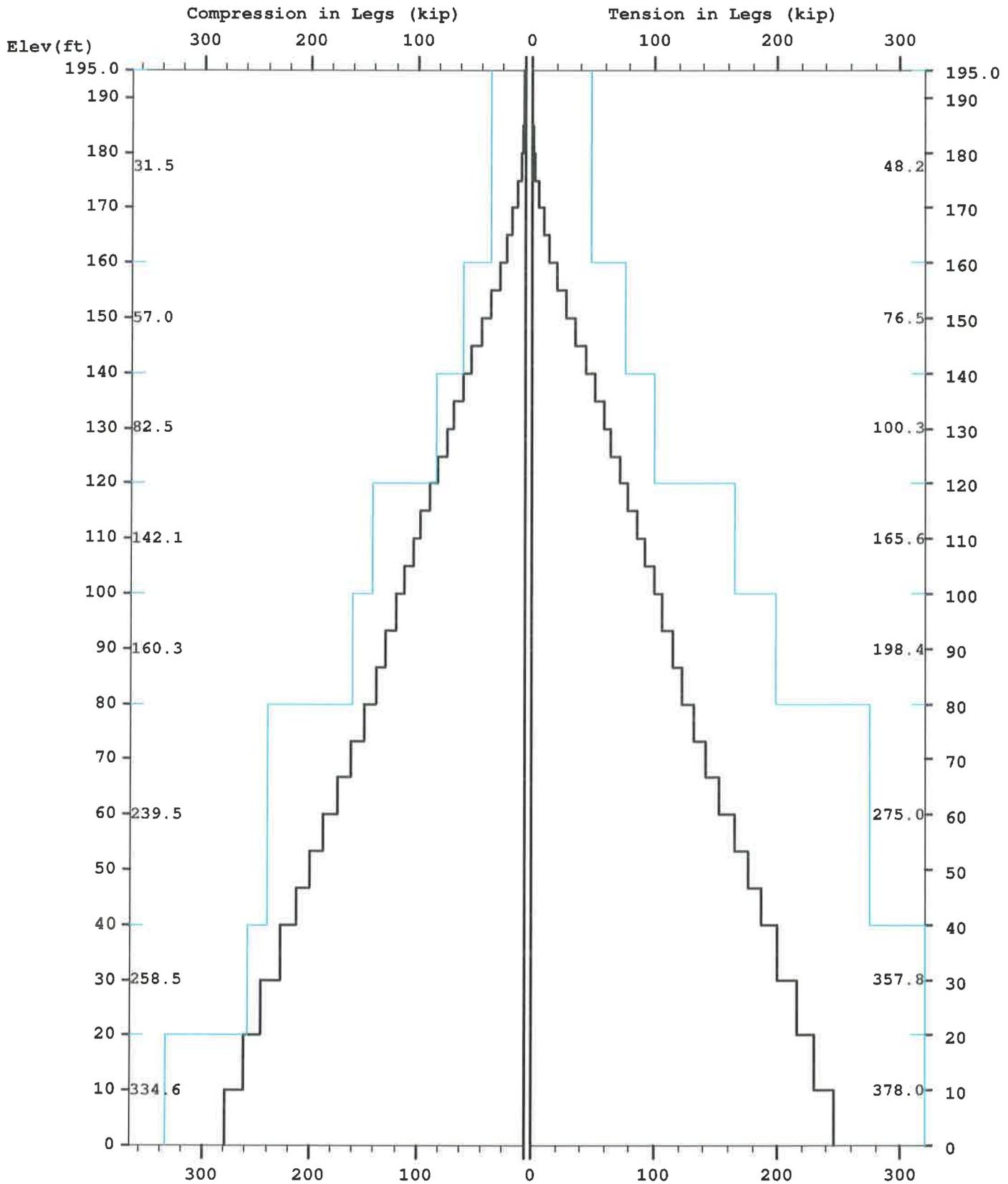
ELEVATION VIEW
(6.41 Cu. Yds. each)
(3 REQUIRED; NOT TO SCALE)

Notes:

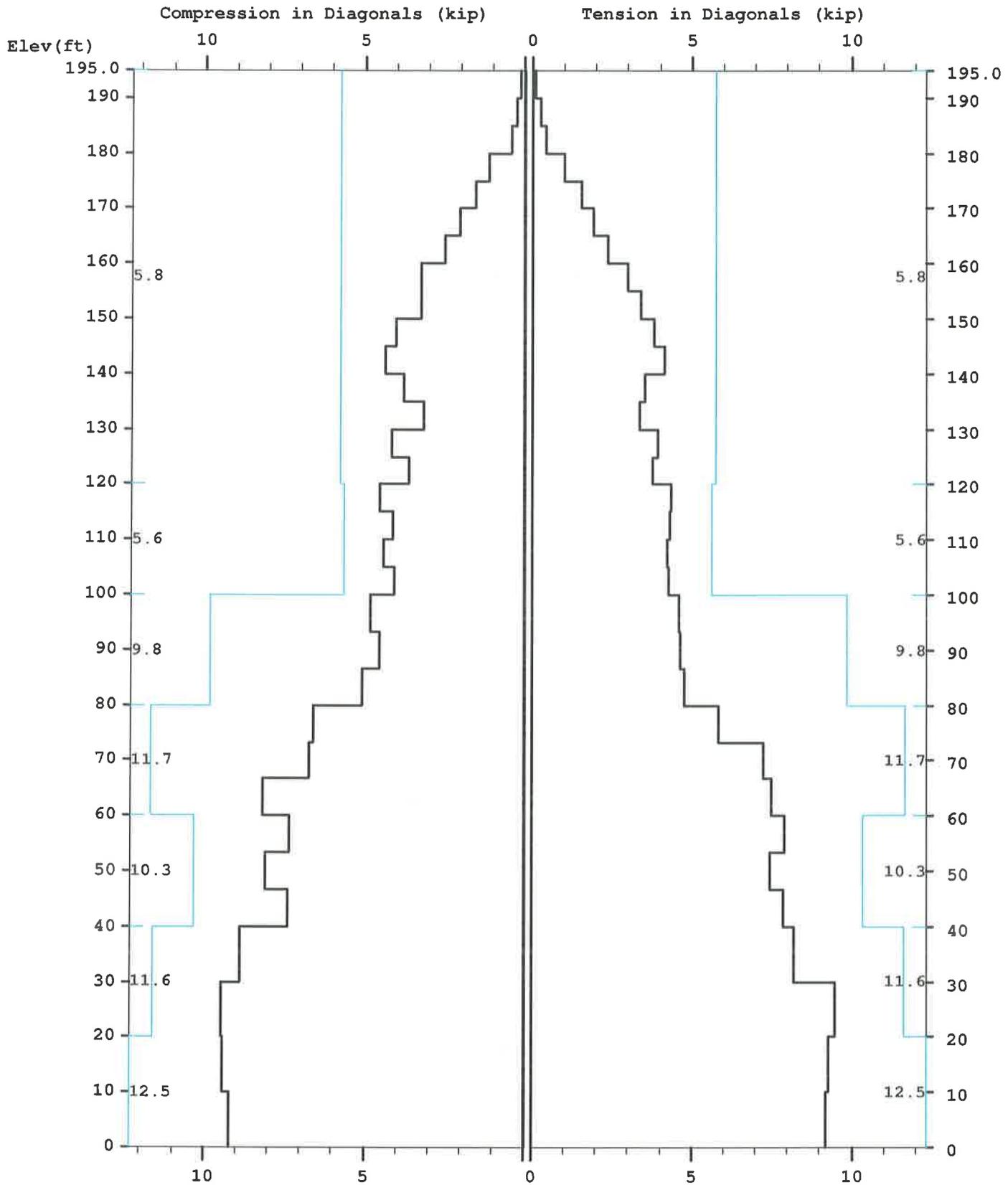
- 1). Concrete shall have a minimum 28-day compressive strength of 4500 PSI, in accordance with ACI 318-05.
- 2). Rebars to conform to ASTM specification A615 Grade 60.
- 3). All rebar to have a minimum of 3" concrete cover.
- 4). All exposed concrete corners to be chamfered 3/4".
- 5). The foundation design is based on the geotechnical report by Terracon, Project No. 70155139, dated August 28, 2015
- 6). See the geotechnical report for drilled pier installation requirements, if specified.
- 7). The foundation is based on the following factored loads:
Factored uplift (kips) = 252
Factored download (kips) = 287
Factored shear (kips) = 28
- 8). This is a design drawing only. Please see final construction drawings for all installation details.

Rebar Schedule per Pier	
Pier	(14) #7 vertical rebar w/#4 ties, two (2) within top 5" of pier then 12" C/C

Maximum

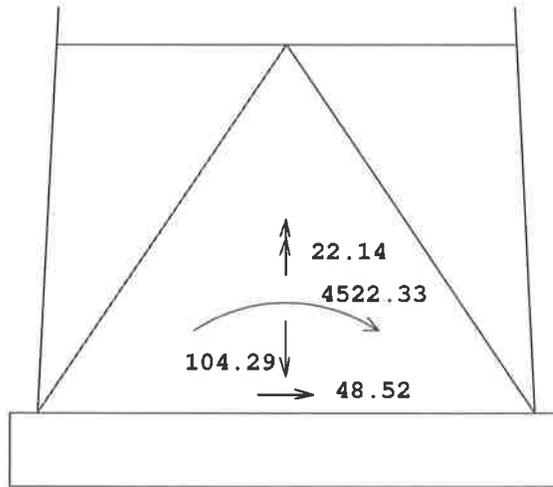


Maximum

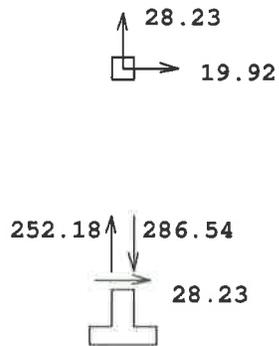


Maximum

TOTAL FOUNDATION LOADS (kip, ft-kip)



INDIVIDUAL FOOTING LOADS (kip)



Latticed Tower Analysis (Unguyed)
 Processed under license at:

(c)2013 Guymast Inc. 416-736-7453

Sabre Towers and Poles

on: 22 jul 2015 at: 8:01:12

MAST GEOMETRY (ft)

PANEL TYPE	NO.OF LEGS	ELEV.AT BOTTOM	ELEV.AT TOP	F.W..AT BOTTOM	F.W..AT TOP	TYPICAL PANEL HEIGHT
X	3	190.00	195.00	5.00	5.00	5.00
X	3	180.00	190.00	5.00	5.00	5.00
X	3	175.00	180.00	5.00	5.00	5.00
X	3	160.00	175.00	5.00	5.00	5.00
X	3	155.00	160.00	5.00	5.00	5.00
X	3	140.00	155.00	5.00	5.00	5.00
X	3	135.00	140.00	5.50	5.00	5.00
X	3	120.00	135.00	7.00	5.50	5.00
X	3	100.00	120.00	9.00	7.00	5.00
X	3	80.00	100.00	11.00	9.00	6.67
X	3	60.00	80.00	13.00	11.00	6.67
X	3	40.00	60.00	15.00	13.00	6.67
X	3	20.00	40.00	17.00	15.00	10.00
X	3	0.00	20.00	19.00	17.00	10.00

MEMBER PROPERTIES

MEMBER TYPE	BOTTOM ELEV ft	TOP ELEV ft	X-SECTN AREA in.sq	RADIUS OF GYRAT in	ELASTIC MODULUS ksi	THERMAL EXPANSN /deg
LE	160.00	195.00	1.075	0.787	29000.	0.0000116
LE	140.00	160.00	1.704	0.787	29000.	0.0000116
LE	120.00	140.00	2.228	0.787	29000.	0.0000116
LE	100.00	120.00	3.678	0.787	29000.	0.0000116
LE	80.00	100.00	4.407	0.787	29000.	0.0000116
LE	40.00	80.00	6.111	0.787	29000.	0.0000116
LE	20.00	40.00	7.952	0.787	29000.	0.0000116
LE	0.00	20.00	8.399	0.787	29000.	0.0000116
DI	100.00	195.00	0.484	0.626	29000.	0.0000116
DI	80.00	100.00	0.902	0.626	29000.	0.0000116
DI	40.00	80.00	1.090	0.626	29000.	0.0000116
DI	20.00	40.00	1.562	0.626	29000.	0.0000116
DI	0.00	20.00	1.688	0.626	29000.	0.0000116
HO	190.00	195.00	0.484	0.626	29000.	0.0000116
HO	175.00	180.00	0.484	0.626	29000.	0.0000116
HO	155.00	160.00	0.484	0.626	29000.	0.0000116
HO	135.00	140.00	0.484	0.626	29000.	0.0000116

FACTORED MEMBER RESISTANCES

BOTTOM ELEV ft	TOP ELEV ft	LEGS		DIAGONALS		HORIZONTALS		INT BRACING	
		COMP kip	TENS kip	COMP kip	TENS kip	COMP kip	TENS kip	COMP kip	TENS kip
190.0	195.0	31.48	48.15	5.76	5.76	5.76	5.76	0.00	0.00
180.0	190.0	31.48	48.15	5.76	5.76	0.00	0.00	0.00	0.00
175.0	180.0	31.48	48.15	5.76	5.76	5.76	5.76	0.00	0.00
160.0	175.0	31.48	48.15	5.76	5.76	0.00	0.00	0.00	0.00
155.0	160.0	57.04	76.50	5.76	5.76	5.76	5.76	0.00	0.00
140.0	155.0	57.04	76.50	5.76	5.76	0.00	0.00	0.00	0.00
135.0	140.0	82.52	100.35	5.76	5.76	5.76	5.76	0.00	0.00
120.0	135.0	82.52	100.35	5.76	5.76	0.00	0.00	0.00	0.00
100.0	120.0	142.05	165.60	5.63	5.63	0.00	0.00	0.00	0.00
80.0	100.0	160.28	198.45	9.84	9.84	0.00	0.00	0.00	0.00
60.0	80.0	239.46	274.95	11.69	11.69	0.00	0.00	0.00	0.00
40.0	60.0	239.46	274.95	10.34	10.34	0.00	0.00	0.00	0.00
20.0	40.0	258.49	357.75	11.62	11.62	0.00	0.00	0.00	0.00
0.0	20.0	334.65	378.00	12.53	12.53	0.00	0.00	0.00	0.00

* only 3 condition(s) shown in full

* Some wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

90 mph wind with no ice. Wind Azimuth: 0

PL - 0

MAST LOADING

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LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AZI	AT AZIFORCES.....	MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	179.0	0.00	0.0	0.0	0.75	0.39	0.00	0.00
C	174.0	0.00	0.0	0.0	0.47	0.38	0.00	0.00
C	160.0	0.00	0.0	0.0	0.17	0.04	0.00	0.00
C	151.0	0.00	0.0	0.0	0.43	0.36	0.00	0.00
C	140.0	0.00	0.0	0.0	1.51	1.37	0.00	0.00
C	130.0	0.00	0.0	0.0	1.49	1.37	0.00	0.00
C	120.0	0.00	0.0	0.0	1.46	1.37	0.00	0.00
C	85.0	0.00	0.0	0.0	0.27	0.96	0.00	0.00
C	85.0	0.00	0.0	0.0	0.27	0.96	0.00	0.00
C	75.0	0.00	0.0	0.0	0.26	0.96	0.00	0.00
C	71.0	0.00	0.0	0.0	0.26	0.96	0.00	0.00
C	35.0	0.00	0.0	0.0	0.22	0.96	0.00	0.00
D	195.0	0.00	180.0	0.0	0.07	0.04	0.00	0.00
D	190.0	0.00	180.0	0.0	0.07	0.04	0.00	0.00
D	190.0	0.00	180.0	0.0	0.06	0.03	0.00	0.00
D	180.0	0.00	180.0	0.0	0.06	0.03	0.00	0.00
D	180.0	0.00	42.0	0.0	0.14	0.04	0.01	0.09
D	175.0	0.00	42.0	0.0	0.14	0.04	0.01	0.09
D	175.0	0.00	42.0	0.0	0.14	0.04	0.01	0.11
D	160.0	0.00	42.0	0.0	0.14	0.04	0.01	0.11
D	160.0	0.00	42.0	0.0	0.15	0.05	0.01	0.11
D	155.0	0.00	42.0	0.0	0.15	0.05	0.01	0.11
D	155.0	0.00	42.0	0.0	0.14	0.05	0.02	0.11
D	140.0	0.00	42.0	0.0	0.14	0.05	0.02	0.11
D	140.0	0.00	43.2	0.0	0.16	0.07	0.02	0.11
D	130.0	0.00	45.7	0.0	0.15	0.06	0.02	0.10
D	130.0	0.00	38.1	0.0	0.15	0.06	0.04	0.10
D	120.0	0.00	40.1	0.0	0.15	0.07	0.03	0.10
D	120.0	0.00	33.9	0.0	0.15	0.09	0.05	0.10
D	100.0	0.00	38.5	0.0	0.16	0.09	0.04	0.10
D	100.0	0.00	28.7	0.0	0.16	0.11	0.06	0.10
D	80.0	0.00	26.3	0.0	0.17	0.12	0.06	0.10
D	80.0	0.00	22.9	0.0	0.18	0.15	0.08	0.09
D	53.3	0.00	20.0	0.0	0.18	0.16	0.10	0.09
D	53.3	0.00	20.8	0.0	0.18	0.16	0.09	0.09
D	40.0	0.00	21.6	0.0	0.18	0.17	0.09	0.09
D	40.0	0.00	17.2	0.0	0.15	0.19	0.11	0.08
D	20.0	0.00	16.7	0.0	0.15	0.20	0.12	0.08
D	20.0	0.00	15.7	0.0	0.15	0.21	0.13	0.07
D	0.0	0.00	16.5	0.0	0.15	0.22	0.12	0.07

ANTENNA LOADING

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.....ANTENNA..... TYPE	ELEV ft	AZI	ATTACHMENT	ANTENNA FORCES.....			
			RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
HP	80.0	0.0	7.8	0.0	2.11	0.00	0.54	0.00
HP	80.0	180.0	7.8	120.0	-1.70	0.00	0.54	0.00
HP	70.0	0.0	8.4	0.0	2.05	0.00	0.54	0.00
HP	66.0	180.0	8.7	240.0	-1.63	0.00	0.54	0.00
HP	30.0	0.0	10.7	0.0	1.72	0.00	0.54	0.00

SUPPRESS PRINTING

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LOADS INPUT	...FOR THIS LOADING..			MAXIMUMS.....			
	DISPL	MEMBER FORCES	FOUNDN LOADS		ALL	DISPL	MEMBER FORCES	FOUNDN LOADS
no	yes	yes	yes		no	no	no	no

LOADING CONDITION k

MAST LOADING

LOAD TYPE	ELEV ft	APPLY.. RADIUS ft	LOAD..AT AZI	LOAD AZI	.....FORCES.....		.....MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	179.0	0.00	0.0	0.0	0.75	0.29	0.00	0.00
C	174.0	0.00	0.0	0.0	0.47	0.28	0.00	0.00
C	160.0	0.00	0.0	0.0	0.17	0.03	0.00	0.00
C	151.0	0.00	0.0	0.0	0.43	0.27	0.00	0.00
C	140.0	0.00	0.0	0.0	1.51	1.03	0.00	0.00
C	130.0	0.00	0.0	0.0	1.49	1.03	0.00	0.00
C	120.0	0.00	0.0	0.0	1.46	1.03	0.00	0.00
C	85.0	0.00	0.0	0.0	0.27	0.72	0.00	0.00
C	85.0	0.00	0.0	0.0	0.27	0.72	0.00	0.00
C	75.0	0.00	0.0	0.0	0.26	0.72	0.00	0.00
C	71.0	0.00	0.0	0.0	0.26	0.72	0.00	0.00
C	35.0	0.00	0.0	0.0	0.22	0.72	0.00	0.00
D	195.0	0.00	180.0	0.0	0.07	0.03	0.00	0.00
D	190.0	0.00	180.0	0.0	0.07	0.03	0.00	0.00
D	190.0	0.00	180.0	0.0	0.06	0.02	0.00	0.00
D	180.0	0.00	180.0	0.0	0.06	0.02	0.00	0.00
D	180.0	0.00	42.0	0.0	0.14	0.03	0.01	0.09
D	175.0	0.00	42.0	0.0	0.14	0.03	0.01	0.09
D	175.0	0.00	42.0	0.0	0.14	0.03	0.01	0.11
D	160.0	0.00	42.0	0.0	0.14	0.03	0.01	0.11
D	160.0	0.00	42.0	0.0	0.15	0.04	0.01	0.11
D	155.0	0.00	42.0	0.0	0.15	0.04	0.01	0.11
D	155.0	0.00	42.0	0.0	0.14	0.04	0.01	0.11
D	140.0	0.00	42.0	0.0	0.14	0.04	0.01	0.11
D	140.0	0.00	43.0	0.0	0.15	0.05	0.02	0.11
D	120.0	0.00	39.9	0.0	0.15	0.05	0.03	0.10
D	120.0	0.00	33.9	0.0	0.15	0.07	0.04	0.10
D	100.0	0.00	38.5	0.0	0.16	0.07	0.03	0.10
D	100.0	0.00	28.7	0.0	0.16	0.09	0.04	0.10
D	80.0	0.00	26.3	0.0	0.17	0.09	0.05	0.10
D	80.0	0.00	22.9	0.0	0.18	0.11	0.06	0.09
D	53.3	0.00	20.0	0.0	0.18	0.12	0.07	0.09
D	53.3	0.00	20.8	0.0	0.18	0.12	0.07	0.09
D	40.0	0.00	21.6	0.0	0.18	0.12	0.07	0.09
D	40.0	0.00	17.2	0.0	0.15	0.15	0.09	0.08
D	20.0	0.00	16.7	0.0	0.15	0.15	0.09	0.08
D	20.0	0.00	15.7	0.0	0.15	0.16	0.10	0.07
D	0.0	0.00	16.5	0.0	0.15	0.16	0.09	0.07

ANTENNA LOADING

ANTENNA TYPE	ELEV ft	AZI	ATTACHMENT		.....ANTENNA FORCES.....			
			RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
HP	80.0	0.0	7.8	0.0	2.11	0.00	0.40	0.00
HP	80.0	180.0	7.8	120.0	-1.70	0.00	0.40	0.00
HP	70.0	0.0	8.4	0.0	2.05	0.00	0.40	0.00
HP	66.0	180.0	8.7	240.0	-1.63	0.00	0.40	0.00
HP	30.0	0.0	10.7	0.0	1.72	0.00	0.40	0.00

SUPPRESS PRINTING

LOADS INPUT	...FOR THIS LOADING..				.....MAXIMUMS.....			
	DISPL	MEMBER FORCES	FOUNDN LOADS		ALL	DISPL	MEMBER FORCES	FOUNDN LOADS
no	yes	yes	yes		no	no	no	no

LOADING CONDITION AU

MAST LOADING

LOAD TYPE	ELEV ft	APPLY.. RADIUS ft	LOAD.. AZI ft	AT AZI	LOAD AZI	.....FORCES.....		.....MOMENTS.....	
						HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	179.0	0.00	0.0	0.0	0.0	0.08	0.89	0.00	0.00
C	174.0	0.00	0.0	0.0	0.0	0.06	1.02	0.00	0.00
C	160.0	0.00	0.0	0.0	0.0	0.05	0.12	0.00	0.00
C	151.0	0.00	0.0	0.0	0.0	0.06	0.80	0.00	0.00
C	140.0	0.00	0.0	0.0	0.0	0.16	3.19	0.00	0.00
C	130.0	0.00	0.0	0.0	0.0	0.16	3.17	0.00	0.00
C	120.0	0.00	0.0	0.0	0.0	0.16	3.16	0.00	0.00
C	85.0	0.00	0.0	0.0	0.0	0.02	1.37	0.00	0.00
C	85.0	0.00	0.0	0.0	0.0	0.02	1.37	0.00	0.00
C	75.0	0.00	0.0	0.0	0.0	0.02	1.37	0.00	0.00
C	71.0	0.00	0.0	0.0	0.0	0.02	1.36	0.00	0.00
C	35.0	0.00	0.0	0.0	0.0	0.02	1.34	0.00	0.00
D	195.0	0.00	180.0	0.0	0.0	0.01	0.22	0.00	0.00
D	190.0	0.00	180.0	0.0	0.0	0.01	0.22	0.00	0.00
D	190.0	0.00	180.0	0.0	0.0	0.01	0.18	0.00	0.00
D	180.0	0.00	180.0	0.0	0.0	0.01	0.18	0.00	0.00
D	180.0	0.00	42.0	0.0	0.0	0.01	0.25	0.06	0.01
D	175.0	0.00	42.0	0.0	0.0	0.01	0.25	0.06	0.01
D	175.0	0.00	42.0	0.0	0.0	0.01	0.22	0.09	0.01
D	160.0	0.00	42.0	0.0	0.0	0.01	0.22	0.09	0.01
D	160.0	0.00	42.0	0.0	0.0	0.01	0.27	0.09	0.01
D	155.0	0.00	42.0	0.0	0.0	0.01	0.27	0.09	0.01
D	155.0	0.00	42.0	0.0	0.0	0.01	0.23	0.09	0.01
D	140.0	0.00	42.0	0.0	0.0	0.01	0.23	0.10	0.01
D	140.0	0.00	43.2	0.0	0.0	0.01	0.30	0.13	0.01
D	135.0	0.00	43.2	0.0	0.0	0.01	0.30	0.13	0.01
D	135.0	0.00	45.7	0.0	0.0	0.01	0.27	0.12	0.01
D	130.0	0.00	45.7	0.0	0.0	0.01	0.27	0.12	0.01
D	130.0	0.00	38.1	0.0	0.0	0.01	0.29	0.18	0.01
D	125.0	0.00	38.1	0.0	0.0	0.01	0.29	0.18	0.01
D	125.0	0.00	40.1	0.0	0.0	0.01	0.29	0.17	0.01
D	120.0	0.00	40.1	0.0	0.0	0.01	0.29	0.17	0.01
D	120.0	0.00	33.8	0.0	0.0	0.01	0.34	0.24	0.01
D	115.0	0.00	33.8	0.0	0.0	0.01	0.34	0.24	0.01
D	115.0	0.00	35.4	0.0	0.0	0.01	0.34	0.23	0.01
D	110.0	0.00	35.4	0.0	0.0	0.01	0.34	0.23	0.01
D	110.0	0.00	36.9	0.0	0.0	0.01	0.35	0.22	0.01
D	105.0	0.00	36.9	0.0	0.0	0.01	0.35	0.22	0.01
D	105.0	0.00	38.4	0.0	0.0	0.01	0.36	0.20	0.01
D	100.0	0.00	38.4	0.0	0.0	0.01	0.36	0.20	0.01
D	100.0	0.00	27.8	0.0	0.0	0.01	0.38	0.28	0.01
D	93.3	0.00	27.8	0.0	0.0	0.01	0.38	0.28	0.01
D	93.3	0.00	29.3	0.0	0.0	0.01	0.38	0.27	0.01
D	86.7	0.00	29.3	0.0	0.0	0.01	0.38	0.27	0.01
D	86.7	0.00	25.5	0.0	0.0	0.01	0.39	0.30	0.01
D	80.0	0.00	25.5	0.0	0.0	0.01	0.39	0.30	0.01
D	80.0	0.00	22.9	0.0	0.0	0.02	0.46	0.37	0.01
D	73.3	0.00	22.9	0.0	0.0	0.02	0.46	0.37	0.01
D	73.3	0.00	21.7	0.0	0.0	0.02	0.47	0.39	0.01
D	66.7	0.00	21.7	0.0	0.0	0.02	0.47	0.39	0.01
D	66.7	0.00	20.5	0.0	0.0	0.02	0.48	0.42	0.01
D	40.0	0.00	21.2	0.0	0.0	0.02	0.50	0.41	0.01
D	40.0	0.00	17.2	0.0	0.0	0.01	0.48	0.48	0.01
D	20.0	0.00	16.7	0.0	0.0	0.01	0.49	0.51	0.01
D	20.0	0.00	15.7	0.0	0.0	0.01	0.53	0.61	0.00
D	10.0	0.00	15.7	0.0	0.0	0.01	0.53	0.61	0.00
D	10.0	0.00	16.5	0.0	0.0	0.01	0.55	0.76	0.01
D	0.0	0.00	16.5	0.0	0.0	0.01	0.55	0.76	0.01

ANTENNA LOADING

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.....ANTENNA..... TYPE	ELEV ft	AZI	ATTACHMENT	ANTENNA FORCES.....			
			RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
HP	80.0	0.0	7.8	0.0	0.14	0.00	2.59	0.00
HP	80.0	180.0	7.8	120.0	-0.11	0.00	2.59	0.00
HP	70.0	0.0	8.4	0.0	0.14	0.00	2.56	0.00
HP	66.0	180.0	8.7	240.0	-0.11	0.00	2.55	0.00
HP	30.0	0.0	10.7	0.0	0.11	0.00	2.39	0.00

SUPPRESS PRINTING

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...FOR THIS LOADING.. MAXIMUMS.....
LOADS DISPL MEMBER FOUNDN ALL DISPL MEMBER FOUNDN
INPUT FORCES LOADS FORCES LOADS

no yes yes yes no no no no

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MAXIMUM MAST DISPLACEMENTS:

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ELEV ft	-----DEFLECTIONS (ft)-----			--TILTS (DEG)---		TWIST DEG
	NORTH	EAST	DOWN	NORTH	EAST	
195.0	2.790 S	1.993 b	0.033 S	1.664 S	1.214 b	0.287 AR
190.0	2.645 S	1.887 b	0.031 S	1.664 S	1.214 b	0.287 AR
185.0	2.499 S	1.781 b	0.028 S	1.662 S	1.212 b	0.287 AR
180.0	2.354 S	1.676 b	0.026 S	1.657 S	1.208 b	0.287 AR
175.0	2.209 S	1.570 b	0.024 S	1.647 S	1.199 b	0.286 AR
170.0	2.066 S	1.466 b	0.022 S	1.627 S	1.181 b	0.282 AR
165.0	1.924 S	1.362 b	0.020 S	1.592 S	1.152 b	0.275 AR
160.0	1.786 S	1.263 b	0.018 BM	1.540 S	1.110 b	0.266 AR
155.0	1.651 S	1.166 b	0.018 BM	1.495 S	1.075 b	0.253 AR
150.0	1.523 S	1.074 b	0.018 BM	1.434 S	1.028 b	0.238 AR
145.0	1.397 S	0.983 b	0.017 BM	1.356 S	0.970 b	0.220 AR
140.0	1.281 S	0.901 b	0.017 BM	1.258 S	0.898 b	0.199 AR
135.0	1.172 S	0.823 b	0.016 BM	1.177 S	0.839 b	0.178 AR
130.0	1.073 S	0.753 b	0.016 BM	1.095 S	0.779 b	0.159 AR
125.0	0.978 S	0.685 b	0.015 BM	1.009 S	0.717 b	0.142 AR
120.0	0.893 S	0.625 b	0.014 BM	0.924 S	0.655 b	0.126 AR
115.0	0.811 S	0.567 b	0.014 BM	0.871 S	0.617 b	0.110 AR
110.0	0.736 S	0.513 b	0.013 BM	0.818 S	0.579 b	0.096 AR
105.0	0.664 S	0.463 b	0.013 BM	0.763 S	0.539 b	0.082 AR
100.0	0.598 S	0.416 b	0.012 BM	0.709 S	0.500 b	0.069 AR
93.3	0.517 S	-0.359 J	0.012 BM	0.646 S	0.454 b	0.060 AR
86.7	0.444 S	0.307 b	0.011 BM	0.583 S	0.409 b	0.051 AR
80.0	0.378 S	-0.261 J	0.010 BM	0.520 S	0.364 b	0.043 AR
73.3	0.317 S	-0.219 J	0.009 BM	0.474 S	-0.331 J	0.042 AR
66.7	0.263 S	-0.181 J	0.009 BM	0.428 S	-0.298 J	0.042 AR
60.0	0.212 S	-0.146 J	0.008 BM	0.380 S	-0.265 J	0.036 AR
53.3	0.168 S	-0.115 J	0.007 BJ	0.332 S	-0.231 J	0.030 AR
46.7	0.129 S	-0.089 J	0.006 BM	0.283 S	-0.196 J	0.024 AR
40.0	0.096 S	-0.066 J	0.005 BM	0.233 S	-0.161 J	0.018 AR
30.0	0.057 S	0.039 b	0.004 AU	0.174 S	-0.121 J	0.013 AR
20.0	0.029 S	-0.019 J	0.003 BM	0.115 S	-0.079 J	0.008 AR
10.0	0.008 S	0.005 b	0.001 BJ	0.057 S	-0.039 J	0.004 AR
0.0	0.000 A	0.000 A	0.000 A	0.000 A	0.000 A	0.000 A

MAXIMUM ANTENNA AND REFLECTOR ROTATIONS:

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ELEV ft	AZI deg	TYPE *BEAM DEFLECTIONS (deg).....			
			PITCH	YAW	ROLL	TOTAL
80.0	0.0	HP	-0.364 b	0.042 AT	-0.520 S	0.364 b
80.0	180.0	HP	0.364 b	0.042 AT	0.520 S	0.364 b
70.0	0.0	HP	0.315 J	0.041 AT	-0.451 S	0.315 J
66.0	180.0	HP	-0.295 J	0.040 AT	0.423 S	0.295 J
30.0	0.0	HP	0.121 J	0.012 AT	-0.174 S	0.121 J

MAXIMUM TENSION IN MAST MEMBERS (kip)

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ELEV ft	LEGS	DIAG	HORIZ	BRACE
195.0	-----	-----	0.02 BU	0.00 A
190.0	0.05 l	0.10 k	0.00 S	0.00 A
185.0	-----	-----	0.01 AU	0.00 A
180.0	1.17 k	0.41 n	0.10 A	0.00 A
175.0	-----	-----	0.09 A	0.00 A
170.0	2.48 k	1.00 k	0.02 S	0.00 A
165.0	-----	-----	0.13 A	0.00 A
160.0	5.46 k	1.52 v	0.51 A	0.00 A
155.0	-----	-----	0.25 A	0.00 A
150.0	9.56 k	1.90 s	0.05 AC	0.00 A
145.0	-----	-----		
140.0	14.45 k	2.35 k		
135.0	-----	-----		
130.0	20.11 k	3.00 k		
125.0	-----	-----		
120.0	27.51 k	3.38 s		
115.0	-----	-----		
110.0				
105.0				
100.0				
95.0				
90.0				
85.0				
80.0				
75.0				
70.0				
65.0				
60.0				
55.0				
50.0				
45.0				
40.0				
35.0				
30.0				
25.0				
20.0				
15.0				
10.0				
5.0				
0.0				

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145.0	35.20 k	3.80 k	0.27 A	0.00 A
140.0	44.31 k	4.14 A	0.31 q	0.00 A
135.0	51.49 k	3.53 k	0.31 A	0.00 A
130.0	58.61 k	3.36 S	0.03 I	0.00 A
125.0	64.17 k	3.92 k	0.27 A	0.00 A
120.0	71.71 k	3.78 S	0.02 L	0.00 A
115.0	77.95 k	4.33 k	0.16 A	0.00 A
110.0	85.81 k	4.29 S	0.06 A	0.00 A
105.0	92.35 k	4.21 k	0.12 A	0.00 A
100.0	99.39 k	4.25 S	0.08 A	0.00 A
93.3	106.49 k	4.59 k	0.10 P	0.00 A
86.7	115.07 k	4.63 S	0.12 V	0.00 A
80.0	122.54 k	4.76 k	0.07 P	0.00 A
73.3	131.77 k	5.83 AC	0.11 A	0.00 A
66.7	141.80 k	7.25 R	0.03 J	0.00 A
60.0	152.87 k	7.49 m	0.10 A	0.00 A
53.3	164.99 k	7.89 U	0.08 A	0.00 A
46.7	176.20 k	7.44 m	0.09 A	0.00 A
40.0	187.34 k	7.87 U	0.08 A	0.00 A
30.0	200.10 k	8.18 m	0.12 A	0.00 A
20.0	216.00 k	9.47 AH	0.02 e	0.00 A
10.0	230.24 k	9.26 F	0.10 A	0.00 A
0.0	245.86 k	9.17 AH	0.00 A	0.00 A

MAXIMUM COMPRESSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
195.0	-0.16 BN	-0.13 G	-0.01 s	0.00 A
190.0	-0.68 S	-0.27 q	0.00 k	0.00 A
185.0	-1.62 G	-0.45 S	-0.01 AC	0.00 A
180.0	-3.36 S	-1.13 S	-0.09 AC	0.00 A
175.0	-7.03 S	-1.56 S	-0.08 AC	0.00 A
170.0	-11.56 S	-2.03 S	-0.02 k	0.00 A
165.0	-16.93 S	-2.52 S	-0.12 AC	0.00 A
160.0	-23.09 S	-3.25 S	-0.49 AC	0.00 A
155.0	-31.35 S	-3.23 AC	-0.24 AC	0.00 A
150.0	-39.79 S	-4.04 S	-0.05 A	0.00 A
145.0	-49.67 S	-4.38 S	-0.27 AC	0.00 A
140.0	-58.08 S	-3.79 S	-0.31 M	0.00 A
135.0	-65.99 S	-3.18 k	-0.30 AC	0.00 A
130.0			-0.03 o	0.00 A

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125.0	-72.59 s	-4.14 S	-0.26 AC	0.00 A
120.0	-80.79 s	-3.62 k	-0.02 AK	0.00 A
115.0	-88.20 s	-4.55 S	-0.15 AC	0.00 A
110.0	-96.77 s	-4.11 k	-0.06 AC	0.00 A
105.0	-103.76 s	-4.42 S	-0.11 AC	0.00 A
100.0	-111.46 s	-4.07 k	-0.08 AC	0.00 A
93.3	-119.18 s	-4.84 S	-0.09 AR	0.00 A
86.7	-128.74 s	-4.53 AE	-0.10 AC	0.00 A
80.0	-137.81 s	-5.07 S	-0.07 AR	0.00 A
73.3	-149.11 s	-6.59 R	-0.10 AC	0.00 A
66.7	-161.81 s	-6.71 j	-0.04 AI	0.00 A
60.0	-174.02 s	-8.16 U	-0.10 AC	0.00 A
53.3	-187.87 s	-7.35 p	-0.07 AO	0.00 A
46.7	-199.71 s	-8.08 U	-0.08 AC	0.00 A
40.0	-212.49 s	-7.37 AC	-0.07 AC	0.00 A
30.0	-226.58 s	-8.89 U	-0.11 AC	0.00 A
20.0	-245.86 s	-9.47 F	-0.02 w	0.00 A
10.0	-261.79 s	-9.41 U	-0.09 AC	0.00 A
0.0	-279.29 s	-9.19 F	0.00 A	0.00 A

MAXIMUM INDIVIDUAL FOUNDATION LOADS: (kip)

LOAD---COMPONENTS-----				TOTAL
NORTH	EAST	DOWN	UPLIFT	SHEAR
28.23 s	19.92 e	286.54 s	-252.18 k	28.23 s

MAXIMUM TOTAL LOADS ON FOUNDATION : (kip & kip-ft)

HORIZONTAL-----			DOWN	OVERTURNING-----			TORSION
NORTH	EAST	TOTAL		NORTH	EAST	TOTAL	
		@				@	
		0.0				360.0	
48.5	32.8	48.5	104.3	4522.3	-3109.2	4522.3	22.1
S	b	S	AX	S	J	S	AR

Latticed Tower Analysis (Unguyed)
Processed under license at:

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Sabre Towers and Poles

on: 22 jul 2015 at: 8:01:19

***** Service Load Condition *****

* only 1 condition(s) shown in full

* some wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

60 mph wind with no ice. Wind Azimuth: 0°

PL - 0

MAST LOADING

LOAD TYPE	ELEV ft	APPLY... RADIUS ft	LOAD... AZI	LOAD AZI	.....FORCES.....		.....MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	179.0	0.00	0.0	0.0	0.18	0.32	0.00	0.00
C	174.0	0.00	0.0	0.0	0.11	0.31	0.00	0.00
C	160.0	0.00	0.0	0.0	0.04	0.04	0.00	0.00
C	151.0	0.00	0.0	0.0	0.10	0.30	0.00	0.00
C	140.0	0.00	0.0	0.0	0.37	1.14	0.00	0.00
C	130.0	0.00	0.0	0.0	0.36	1.14	0.00	0.00
C	120.0	0.00	0.0	0.0	0.35	1.14	0.00	0.00
C	85.0	0.00	0.0	0.0	0.07	0.80	0.00	0.00
C	85.0	0.00	0.0	0.0	0.07	0.80	0.00	0.00
C	75.0	0.00	0.0	0.0	0.06	0.80	0.00	0.00
C	71.0	0.00	0.0	0.0	0.06	0.80	0.00	0.00
C	35.0	0.00	0.0	0.0	0.05	0.80	0.00	0.00
D	195.0	0.00	180.0	0.0	0.02	0.03	0.00	0.00
D	180.0	0.00	180.0	0.0	0.01	0.03	0.00	0.00
D	180.0	0.00	42.0	0.0	0.03	0.04	0.01	0.02
D	160.0	0.00	42.0	0.0	0.03	0.03	0.01	0.03
D	160.0	0.00	42.0	0.0	0.04	0.04	0.01	0.03
D	140.0	0.00	42.0	0.0	0.03	0.04	0.01	0.03
D	140.0	0.00	43.0	0.0	0.04	0.05	0.02	0.03
D	120.0	0.00	39.9	0.0	0.04	0.05	0.03	0.02
D	120.0	0.00	33.9	0.0	0.04	0.07	0.04	0.02
D	100.0	0.00	38.5	0.0	0.04	0.08	0.03	0.02
D	100.0	0.00	28.7	0.0	0.04	0.09	0.05	0.02
D	80.0	0.00	26.3	0.0	0.04	0.10	0.05	0.02
D	80.0	0.00	22.9	0.0	0.04	0.13	0.06	0.02
D	60.0	0.00	20.9	0.0	0.04	0.13	0.08	0.02
D	60.0	0.00	20.0	0.0	0.04	0.13	0.08	0.02
D	40.0	0.00	21.7	0.0	0.05	0.14	0.07	0.02
D	40.0	0.00	17.2	0.0	0.04	0.16	0.10	0.02
D	20.0	0.00	16.7	0.0	0.04	0.17	0.10	0.02
D	20.0	0.00	15.7	0.0	0.04	0.18	0.11	0.02
D	0.0	0.00	16.5	0.0	0.04	0.18	0.10	0.02

ANTENNA LOADING

.....ANTENNA..... TYPE	ELEV ft	AZI	ATTACHMENT		.....ANTENNA FORCES.....			
			RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
HP	80.0	0.0	7.8	0.0	0.51	0.00	0.45	0.00
HP	80.0	180.0	7.8	120.0	-0.41	0.00	0.45	0.00
HP	70.0	0.0	8.4	0.0	0.50	0.00	0.45	0.00
HP	66.0	180.0	8.7	240.0	-0.39	0.00	0.45	0.00
HP	30.0	0.0	10.7	0.0	0.41	0.00	0.45	0.00

SUPPRESS PRINTING

LOADS INPUT	...FOR THIS LOADING..				.....MAXIMUMS.....			
	DISPL	MEMBER FORCES	FOUNDN LOADS		ALL	DISPL	MEMBER FORCES	FOUNDN LOADS
no	yes	yes	yes		no	no	no	no

MAXIMUM MAST DISPLACEMENTS:

ELEV ft	-----DEFLECTIONS (ft)-----			--TILTS (DEG)---		TWIST DEG
	NORTH	EAST	DOWN	NORTH	EAST	
195.0	0.680 s	0.487 b	0.006 s	0.405 s	0.296 b	0.069
190.0	0.645 s	0.461 b	0.006 s	0.405 s	0.296 b	0.069
185.0	0.610 s	0.435 b	0.006 s	0.404 s	0.296 b	0.069

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180.0	0.574 S	0.410 b	0.006 S	0.403 S	0.295 b	0.069
175.0	0.539 S	0.384 b	0.006 S	0.401 S	0.293 b	0.069
170.0	0.504 S	0.358 b	0.006 S	0.396 S	0.288 b	0.068
165.0	0.469 S	0.333 b	0.006 S	0.387 S	0.281 b	0.066
160.0	0.436 S	0.309 b	0.005 S	0.375 S	0.271 b	0.064
155.0	0.403 S	0.285 b	0.005 S	0.364 S	0.262 b	0.061
150.0	0.372 S	0.263 b	0.005 S	0.349 S	0.251 b	0.057
145.0	0.341 S	0.241 b	0.005 S	0.330 S	0.237 b	0.053
140.0	0.313 S	0.221 b	0.005 S	0.307 S	0.219 b	0.048
135.0	0.286 S	0.202 b	0.004 S	0.287 S	0.205 b	0.043
130.0	0.262 S	0.184 b	0.004 S	0.267 S	0.190 b	0.038
125.0	0.239 S	0.168 b	0.004 S	0.246 S	0.175 b	0.034
120.0	0.218 S	0.153 b	0.004 S	0.225 S	0.160 b	0.030
115.0	0.198 S	0.139 b	0.004 S	0.212 S	0.151 b	0.027
110.0	0.180 S	0.126 b	0.004 S	0.200 S	0.142 b	0.023
105.0	0.163 S	0.113 b	0.003 S	0.186 S	0.132 b	0.020
100.0	0.146 S	0.102 b	0.003 S	0.173 S	0.122 b	0.017
93.3	0.127 S	-0.088 J	0.003 S	0.158 S	0.111 b	0.014
86.7	0.109 S	-0.075 J	0.003 S	0.142 S	0.100 b	0.012
80.0	0.093 S	-0.064 J	0.003 S	0.127 S	0.089 b	0.010
73.3	0.078 S	-0.054 J	0.003 S	0.116 S	-0.081 J	0.010
66.7	0.065 S	-0.045 J	0.002 S	0.105 S	-0.073 J	0.010
60.0	0.052 S	-0.036 J	0.002 S	0.093 S	-0.065 J	0.009
53.3	0.041 S	-0.028 J	0.002 S	0.081 S	-0.057 J	0.007
46.7	0.032 S	-0.022 J	0.002 S	0.069 S	-0.048 J	0.006
40.0	0.024 S	-0.016 J	0.001 S	0.057 S	-0.040 J	0.004
30.0	0.014 S	0.010 b	0.001 C	0.043 S	-0.030 J	0.003
20.0	0.007 S	-0.005 J	0.001 U	0.028 S	-0.019 J	0.002
10.0	0.002 S	0.001 b	0.000 U	0.014 S	-0.010 J	0.001
0.0	0.000 A	0.000 A	0.000 A	0.000 A	0.000 A	0.000

MAXIMUM ANTENNA AND REFLECTOR ROTATIONS:

ELEV ft	AZI deg	TYPE *	.....BEAM DEFLECTIONS (deg).....			
			PITCH	YAW	ROLL	TOTAL
80.0	0.0	HP	-0.089 b	0.010 j	-0.127 S	0.089 b
80.0	180.0	HP	0.089 b	0.010 j	0.127 S	0.089 b
70.0	0.0	HP	0.077 J	0.010 j	-0.110 S	0.077 J
66.0	180.0	HP	-0.072 J	0.010 j	0.104 S	0.072 J
30.0	0.0	HP	0.030 J	0.003 j	-0.043 S	0.030 J

MAXIMUM TENSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
195.0	-----	-----	0.00 C	0.00 A
	0.00 A	0.02 Y		
190.0	-----	-----	0.00 S	0.00 A
	0.04 A	0.06 V		
185.0	-----	-----	0.00 A	0.00 A
	0.19 Y	0.10 D		
180.0	-----	-----	0.04 A	0.00 A
	0.42 A	0.23 A		
175.0	-----	-----	0.03 A	0.00 A
	1.00 A	0.37 D		
170.0	-----	-----	0.00 S	0.00 A
	1.95 A	0.46 S		
165.0	-----	-----	0.04 A	0.00 A
	3.10 A	0.57 A		
160.0	-----	-----	0.14 A	0.00 A
	4.44 A	0.71 A		
155.0	-----	-----	0.07 A	0.00 A
	6.12 A	0.83 S		
150.0	-----	-----	0.01 S	0.00 A
	7.90 A	0.91 A		
145.0	-----	-----	0.07 A	0.00 A
	10.05 A	1.00 A		
140.0	-----	-----	0.07 e	0.00 A
	11.49 A	0.81 A		
135.0	-----	-----	0.09 A	0.00 A
	13.07 A	0.83 S		
130.0	-----	-----	0.01 g	0.00 A
	14.12 A	0.92 A		
125.0	-----	-----	0.08 A	0.00 A
	15.82 A	0.93 S		
120.0	-----	-----	0.00 L	0.00 A
	17.01 A	1.03 A		
115.0	-----	-----	0.04 A	0.00 A
	18.78 A	1.06 S		

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110.0			0.02 A	0.00 A
	20.31 A	1.00 A		
105.0			0.03 A	0.00 A
	21.90 A	1.04 S		
100.0			0.02 A	0.00 A
	23.53 A	1.10 A		
93.3			0.03 P	0.00 A
	25.43 A	1.14 S		
86.7			0.03 V	0.00 A
	26.82 A	1.13 A		
80.0			0.02 P	0.00 A
	28.39 A	1.37 S		
73.3			0.03 A	0.00 A
	30.16 A	1.79 R		
66.7			0.01 J	0.00 A
	32.46 A	1.80 C		
60.0			0.03 A	0.00 A
	35.16 A	1.95 X		
53.3			0.02 A	0.00 A
	37.73 A	1.79 C		
46.7			0.03 A	0.00 A
	40.19 A	1.94 U		
40.0			0.02 b	0.00 A
	42.96 A	1.98 C		
30.0			0.04 A	0.00 A
	46.01 A	2.30 X		
20.0			0.01 e	0.00 A
	49.10 A	2.30 F		
10.0			0.03 A	0.00 A
	52.55 A	2.24 X		
0.0			0.00 A	0.00 A

MAXIMUM COMPRESSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
195.0			0.00 A	0.00 A
	-0.04 f	-0.03 G		
190.0			0.00 A	0.00 A
	-0.22 S	-0.06 G		
185.0			0.00 S	0.00 A
	-0.47 G	-0.11 S		
180.0			-0.01 S	0.00 A
	-0.98 S	-0.29 S		
175.0			-0.01 S	0.00 A
	-2.01 S	-0.38 S		
170.0			0.00 A	0.00 A
	-3.16 S	-0.50 S		
165.0			-0.02 S	0.00 A
	-4.50 S	-0.62 S		
160.0			-0.10 S	0.00 A
	-6.03 S	-0.81 S		
155.0			-0.05 S	0.00 A
	-8.14 S	-0.77 S		
150.0			-0.01 A	0.00 A
	-10.26 S	-0.99 S		
145.0			-0.06 S	0.00 A
	-12.72 S	-1.06 S		
140.0			-0.08 M	0.00 A
	-15.04 S	-0.96 S		
135.0			-0.06 S	0.00 A
	-17.10 S	-0.75 A		
130.0			-0.01 o	0.00 A
	-18.98 S	-1.04 S		
125.0			-0.05 S	0.00 A
	-21.08 S	-0.86 A		
120.0			0.00 o	0.00 A
	-23.18 S	-1.13 S		
115.0			-0.03 S	0.00 A
	-25.40 S	-0.99 A		
110.0			-0.01 S	0.00 A
	-27.16 S	-1.09 S		
105.0			-0.02 S	0.00 A
	-29.15 S	-0.98 A		
100.0			-0.01 S	0.00 A
	-31.12 S	-1.20 S		
93.3			-0.02 h	0.00 A
	-33.63 S	-1.10 U		

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86.7			-0.02 S	0.00 A
	-36.25 S	-1.26 S		
80.0			-0.01 h	0.00 A
	-39.63 S	-1.66 R		
73.3			-0.02 S	0.00 A
	-43.37 S	-1.63 j		
66.7			-0.01 G	0.00 A
	-46.73 S	-2.03 U		
60.0			-0.02 S	0.00 A
	-50.37 S	-1.79 F		
53.3			-0.01 S	0.00 A
	-53.44 S	-2.01 U		
46.7			-0.01 S	0.00 A
	-56.82 S	-1.79 F		
40.0			-0.01 S	0.00 A
	-60.63 S	-2.22 U		
30.0			-0.02 S	0.00 A
	-66.16 S	-2.36 F		
20.0			0.00 Y	0.00 A
	-70.49 S	-2.30 U		
10.0			-0.02 S	0.00 A
	-75.18 S	-2.31 F		
0.0			0.00 A	0.00 A

MAXIMUM INDIVIDUAL FOUNDATION LOADS: (kip)

LOAD---COMPONENTS				TOTAL
NORTH	EAST	DOWN	UPLIFT	SHEAR
7.35 S	5.23 e	77.20 S	-53.88 A	7.35 S

MAXIMUM TOTAL LOADS ON FOUNDATION : (kip & kip-ft)

HORIZONTAL			DOWN	OVERTURNING			TORSION
NORTH	EAST	TOTAL @ 0.0		NORTH	EAST	TOTAL @ 360.0	
11.9 S	8.1 b	11.9 S	29.3 F	1109.8 S	-765.1 j	1109.8 S	5.3 h

DRILLED STRAIGHT PIER DESIGN BY SABRE TOWERS & POLES

Tower Description 195' S3TL Series HD1
 Customer Name MOTOROLA ISPO
 Job Number 126087
 Date 9/2/2015
 Engineer BD

Factored Uplift (kips)	252	Anchor Bolt Count (per leg)	6
Factored Download (kips)	287		
Factored Shear (kips)	28		
Ultimate Bearing Pressure	16		
Bearing Φ s	0.75		
Bearing Design Strength (ksf)	12		
Water Table Below Grade (ft)	30		
Bolt Circle Diameter (in)	13.25		
Top of Concrete to Top of Bottom Threads (in)	58		
Pier Diameter (ft)	3	Minimum Pier Diameter (ft)	2.60
Ht. Above Ground (ft)	0.5		
Pier Length Below Ground (ft)	24		
Quantity of Bars	14		
Bar Diameter (in)	0.875		
Tie Bar Diameter (in)	0.5		
Spacing of Ties (in)	12		
Area of Bars (in ²)	8.42	Minimum Area of Steel (in ²)	5.09
Spacing of Bars (in)	6.31		
f'c (ksi)	4.5		
fy (ksi)	60		
Unit Wt. of Concrete (kcf)	0.15		
Download Friction Φ s	0.75		
Uplift Friction Φ s	0.75		
Volume of Concrete (yd ³)	6.41		
Skin Friction Factor for Uplift	1	Length to Ignore Download (ft)	0
Ignore Bottom Length in Download?	<input type="checkbox"/>		

Depth at Bottom of Layer (ft)	Ult. Skin Friction (ksf)	(Ult. Skin Friction)*(Uplift Factor)	γ (kcf)
3	0.00	0.00	0.12
5.5	1.40	1.40	0.12
12	1.40	1.40	0.12
40	1.70	1.70	0.12
0	0.00	0.00	0
0	0.00	0.00	0
0	0.00	0.00	0
0	0.00	0.00	0
0	0.00	0.00	0
0	0.00	0.00	0

Download:

Factored Net Weight of Concrete (kips)	0.6		
Bearing Design Strength (kips)	84.8		
Skin Friction Design Strength (kips)	233.3		
Download Design Strength (kips)	318.1	Factored Net Download (kips)	287.6

DRILLED STRAIGHT PIER DESIGN BY SABRE TOWERS & POLES (CONTINUED)

Uplift:

Nominal Skin Friction (kips)	311.0
W _c , Weight of Concrete (kips)	26.0
W _R , Soil Resistance (kips)	1032.3
ΦsWr+0.9Wc (kips)	797.6

Uplift Design Strength (kips)	256.6	Factored Uplift (kips)	252.0
-------------------------------	-------	------------------------	-------

Pier Design:

Design Tensile Strength (kips)	454.6
--------------------------------	-------

T _u (kips)	252.0
-----------------------	-------

ΦV _n (kips)	107.8
------------------------	-------

V _u (kips)	28.0
-----------------------	------

ΦV _c =Φ2(1+N _u /(500A _g))f' _c ^{1/2} b _w d (kips)	59.7
---	------

V _s (kips)	56.5
-----------------------	------

*** V _s max = 4 f' _c ^{1/2} b _w d (kips)	278.2
---	-------

Maximum Spacing (in)	13.01
----------------------	-------

(Only if Shear Ties are Required)

*** Ref. ACI 11.5.5 & 11.5.6.3

Anchor Bolt Pull-Out:

ΦP _c =Φλ(2/3)f' _c ^{1/2} (2.8A _{SLOPE} + 4A _{FLAT})	153.4
--	-------

P _u (kips)	252.0
-----------------------	-------

Rebar Development Length (in)	47.56
-------------------------------	-------

Required Length of Development (in)	21.69
-------------------------------------	-------

Condition	1 is OK, 0 Fails
Download	1
Uplift	1
Area of Steel	1
Shear	1
Anchor Bolt Pull-Out	1
Interaction Diagram Visual Check	1

**ROCKY MOUNT TOWN COUNCIL
REGULAR MEETING MINUTES
DECEMBER 14, 2015**

The December 14, 2015 regular meeting of the Rocky Mount Town Council (hereafter referred to as "Council") was held in the Council Chambers of the Rocky Mount Municipal Building located at 345 Donald Avenue, Rocky Mount, Virginia, at 7:00 p.m. with Mayor Steven C. Angle presiding.

The following members of Council were present:

- Mayor Steven C. Angle
- Vice Mayor Gregory B. Walker
- Bobby M. Cundiff
- P. Ann Love
- Robert L. Moyer
- Jon W. Snead
- Billie W. Stockton

The following staff members were also present:

- John Boitnott, Town Attorney
- Tim Burton, Wastewater Treatment Plant Superintendent
- Bob Deitrich, Water Treatment Plant Superintendent
- Rebecca Dillon, Interim Executive Assistant
- C. James Ervin, Town Manager
- Josh Gibson, Town Planner
- Amy Gordon, Assistant Finance Director
- Matthew Hankins, Assistant Town Manager
- Mark Lovern, Lieutenant, Rocky Mount Police Department
- Cecil Mason, Public Works Director
- Linda Woody, Finance Director

The meeting was called to order by Mayor Steven C. Angle.

PLEDGE OF ALLEGIANCE

Mayor Angle led in saying the Pledge of Allegiance.

APPROVAL OF AGENDA

Motion: To approve agenda as presented

Motion By: Council Member Moyer

Second: Council Member Snead

Motion Discussion: None

Ayes: Cundiff, Love, Moyer, Snead, Stockton, Walker

Nays: None

Action: Agenda approved by a unanimous vote

SPECIAL ITEMS

Let the record show there were no special items to discuss at this time.

PUBLIC HEARINGS

Mayor Angle recessed the meeting to go into public hearing.

- A. **Public Hearing No. 1:** The Town of Rocky Mount's 2015-2035 Comprehensive Plan final update is ready for adoption. The Planning Commission and Town Council held a joint meeting on December 1, 2015. The Planning Commission held its required public hearing and received one public comment, which led to the removal of references to Building Code Parts 2 and 3. Staff and the consultant added additional language regarding the development of tourism zones. The plan draft is now finished and requires an additional public hearing prior to adoption.

Discussion: Assistant Town Manager, Matt Hankins spoke regarding the Comprehensive Plan. Mrs. Evie Sloan with Hill Studio spoke summarizing what is in the Comprehensive Plan.

Motion: To approve the Comprehensive Plan as presented

Motion By: Council Member Love

Second: Vice Mayor Walker

Motion Discussion: None

Ayes: Cundiff, Moyer, Snead, Stockton, Walker, Love

Nays: None

Action: Approved the Comprehensive Plan without Building Code Parts 2 and 3.

Public Hearing: Let the record show that no member of the public came forward to speak.

Mayor Angle called the meeting back into regular session.

APPROVAL OF MINUTES

Received by Council in their packet for this scheduled meeting were draft minutes for review and consideration of approval:

- October 12, 2015 Regular Meeting Minutes
- November 9, 2015 Regular Meeting Minutes
- December 1, 2015 Joint Meeting Minutes

Motion: To approve the draft minutes as presented

Motion By: Council Member Snead

Second: Vice Mayor Walker

Motion Discussion: None

Ayes: Cundiff, Love, Moyer, Stockton, Snead, Walker

Nays: None

Action: The draft minutes presented were approved by a unanimous vote

APPROVAL OF CONSENT AGENDA

This month's consent agenda consists of the following items:

- (1) **Miscellaneous Action:**
 - Disposal of surplus vehicles
- (2) **Miscellaneous Resolutions/Proclamations:** None at this time
- (3) **Department Monthly Reports**
 - Community Development Department
 - Finance Department
 - Fire Department
 - Police Department
 - Public Works Department
 - Wastewater Department
 - Water Department

Motion: To approve the consent agenda as presented

Motion By: Vice Mayor Walker

Second: Council Member Stockton

Motion Discussion: None

Ayes: Cundiff, Love, Moyer, Snead, Stockton, Walker

Nays: None

Action: Consent agenda approved by a unanimous vote

HEARING OF CITIZENS

Let the record show that prior to the meeting, there was one person who requested to speak during the "Hearing of Citizens" segment of the meeting. Mrs. Linda Spence of 920 State Street spoke and made the request of Council for the need of sidewalks on State Street. She expressed her concerns over the traffic flow during the frequent use of pedestrians walking and running on State Street.

Mayor Angle referred the request to the Street/Sidewalks Committee

Mayor Angle opened the floor to any other citizens wishing to speak. Let the record show no one came forward.

OLD BUSINESS:

- A. ***Old Business Item No. 1*** Council Planning Retreat: We have asked our facilitator, Mrs. Tyler St. Clair with the Weldon Cooper Center for Public Service, to schedule March 11th and 12th, 2016. Council needs to approve or deny these dates for the retreat.

General Discussion: In general, Council expressed concern in the facilitator fee of \$5,400 being too much and recommended alternatives be discussed. The Town Manager suggested to Council to keep the dates in March and he would talk with the facilitator, Ms. St. Clair, to see if she could recommend anyone else that could facilitate more within Council's budget, and bring that proposal to them at their January meeting.

NEW BUSINESS

- A. ***New Business Item No. 1:*** Town Council at their November meeting considered a report by the Finance and Human Services Committee that outlined the Town's plan to tackle credit card fees and how we will pass them on or not pass them on to our customers. Council asked Mr. Boitnott to review the legal status of those fees and to advise Council at the December meeting of a recommendation.

Virginia Code permits the Town to accept payments of amounts due by credit cards and debit cards and to add to any amount due a sum not to exceed the amount charged to the Town by the credit card processor. However, the Town operates under an agreement with our credit card processor that requires us to comply with the Card Brand Regulations. The credit card processing regulations of Visa and MasterCard do not allow a convenience fee to be charged at the point of sale for "business type activities" which we interpret to be charges for utilities, refuse collection or land use fees. As a result, the Town should not charge a convenience fee for face to face "in person" (point of sale) payment of "business type activities." The regulations allow a convenience fee to be charged for alternate payment channels such as by telephone, mail, or electronic commerce. The regulations allow a convenience fee to be charged for face to face "in person" (point of sale) payment of "government type activities" which we interpret to be charges for taxes, fines, costs, and penalties.

Staff recommends that the Town continue to charge a convenience fee of 2.5% for "government type activities" made in person or by alternate payment channels and stop charging a convenience fee for other face to face "in person" (point of sale) payments. The 2.5% convenience fee would still be charged for "business type activities" payments made over alternate payment channels. We believe this approach complies with our agreement with our credit card processor and state code. The implemented structure would then be:

Government: 2.5% fee regardless of in-person or alternate payment

Business and Other: 2.5% fee for alternate payment and no fee for in-person payment

Motion: To approve convenience fee structure as presented

Motion By: Council Member Stockton

Second: Council Member Cundiff

Motion Discussion: None

Ayes: Cundiff, Love, Moyer, Snead, Stockton, Walker

Nays: None

Action: Request approved as presented by a unanimous vote

- B. ***New Business Item No. 2*** Recommendation of Custodial Cleaning Contract: The most recent custodial services contract awarded by the Town of Rocky Mount expires December 31. The Town has requested proposals from responsible custodial services firms. We received interest from five contractors, but only two submitted proposals.

Staff recommends to authorize the Town Manager or his designee to enter into a contract with Sarver Cleaning Services to clean Town facilities. This contract period is

for three years, commencing January 1, 2016, expiring December 31, 2018, with a Town option to renew for two additional one-year terms.

Discussion: Council expressed concern over the language and cleaning fees in the contract presented. It was the general consensus to reject all bids and continue with our current provider until it can be advertised for bid again.

Motion: Reject contract and all bids, and advertise again

Motion By: Council Member Cundiff

Second: Council Member Moyer

Motion Discussion: None

Ayes: Cundiff, Love, Moyer, Snead, Stockton, Walker

Nays: None

Action: Request rejected by a unanimous vote.

- C. ***New Business Item No. 3*** Adoption of the 2015-2035 Town of Rocky Mount Comprehensive Plan

This item was voted on at the close of the public hearing earlier.

- D. ***New Business Item No. 4*** Consideration and approval of Comprehensive Economic Development Strategy Priority Projects (CEDs) for the year 2016: The United States Department of Commerce, Economic Development Administration requires that the Town keep on file and update annually a list of our comprehensive economic development strategies (CEDs) and that this be filed through our local planning district.

The Town's proposed list for 2016 was circulated for Council input in November. Projects must be on the CEDs list to apply for federal funding (though in the past decade all of the projects accomplished that were once on the CEDs list have been done with local dollars). Staff asks that Council consider and approve this list of projects (identical to last year's) and authorize the proposed letter to be sent by the Town Manager.

Motion: To approve the list of projects and proposed letter presented

Motion By: Vice Mayor Walker

Second: Council Member Snead

Motion Discussion: None

Ayes: Cundiff, Love, Moyer, Snead, Stockton, Walker

Nays: None

Action: Request approved as presented by a unanimous vote

- E. ***New Business Item No. 5*** Consideration of a resolution seeking a ruling from the Virginia Department of Environmental Quality that would require site specific erosion and sediment control plans for any pipeline construction in Virginia: Staff believes that as it relates to the topography of our region and our water plant in particular, site specific plans are essential. Without encouragement DEQ is likely to issue a state wide permit as they lack the staff and funding to review and approve the hundred or so plans that "site specific plans" would require.

Staff asks that Council approve the resolution seeking site specific erosion and sediment plans so that we can add our voice to the other localities that have already done so.

Motion: To approve resolution as presented

Motion By: Council Member Snead

Second: Council Member Love

Motion Discussion: None

Ayes: Roll Call: Angle – aye, Cundiff – aye, Love – aye, Moyer – aye, Snead – aye, Stockton – aye, and Walker – aye

Nays: None

Action: Resolution approved as presented by a unanimous vote

- F. ***New Business Item No. 6*** Nuisance and Blight Determination, including 100 Goodview Avenue: Staff asks that Council authorize public notice to pursue nuisance claims (115 Wilson Street, 360 Patterson Avenue, and 380 Patterson Avenue), and approve or deny the use of Town demolition funds for 100 Goodview Street.

Motion: To authorize staff to proceed with public notices for nuisance properties and begin administration process for 100 Goodview Street

Motion By: Vice Mayor Walker

Second: Council Member Stockton

Motion Discussion: None

Ayes: Cundiff, Love, Moyer, Snead, Stockton, Walker

Nays: None

Action: Approved as presented by a unanimous vote

COMMITTEE REPORTS

Let the record show there were none at this time.

OTHER MATTERS & CONCERNS

Assistant Town Manager Hankins appeared on *Rise and Shine Franklin County* this morning, with Mr. Dick Shoemaker as host.

WORK SESSION

Andy Turner presented Council with the quarterly financial statements for the Harvester Performance Center.

ADJOURNMENT

Motion: To adjourn meeting

Time: 8:24 p.m.

Motion By: Vice Mayor Walker

Second: Council Member Snead

Motion Discussion: None

Ayes: Cundiff, Love, Moyer, Snead, Stockton, Walker

Nays: None

Action: Adjourned by a unanimous vote

Steven C. Angle, Mayor

ATTEST:

Amy D. Gordon, Acting Town Clerk

DRAFT

ITEM(S) TO BE CONSIDERED UNDER:

- Hearing of Citizens Consent Item Old Business New Business
 Committee Report Other

FOR COUNCIL MEETING DATED:

STAFF MAKING REQUEST:	Matthew C. Hankins, Assistant Town Manager
BRIEF SUMMARY OF REQUEST:	Each year we submit to you a list of meeting dates and deadlines for the Planning Commission, Board of Zoning Appeals and Town Council. Attached is the list for 2016.
ACTION NEEDED:	Approve or reject

Attachment(s):

FOLLOW-UP ACTION:
(To be completed by Town Clerk)

2016 Meeting Dates and Deadlines

Meeting Day and Date	Filing Deadline	Ad Publication >5, <21
Planning Commission		
Tuesday, January 5	Monday, December 14, 2015	Dec. 23, 30
Tuesday, February 2	Monday, January 11	Jan. 20, 27
Wednesday, March 2	Monday, February 8	Feb. 17, 24
Tuesday, April 5	Monday, March 14	March 23,30
Wednesday, May 4	Tuesday, April 12	April 20, 27
Tuesday, June 7	Monday, May 9	May 25, June 1
Tuesday, July 5	Monday, June 13	June 22, 29
Tuesday, August 2	Monday, July 11	July 20, 27
Tuesday, September 6	Monday, August 15	Aug. 24, 31
Tuesday, October 4	Monday, September 12	Sep. 21, 28
Tuesday, November 1	Monday, October 10	Oct. 19, 26
Tuesday, December 6	Monday, November 14	Nov. 23, 30

Meeting Day and Date	Filing Deadline	Ad Publication
Board of Zoning Appeals		
Thursday, January 7	Wednesday, December 16	12/25, 1/1
Thursday, February 4	Wednesday, January 13	Jan. 22, 29
Thursday, March 3	Wednesday, February 10	Feb. 19, 26
Thursday, April 7	Wednesday, March 16	March 25, April 1
Thursday, May 5	Wednesday, April 13	April 22, 29
Thursday, June 2	Wednesday, May 11	May 20, 27
Thursday, July 7	Wednesday, June 15	June 24, July 1
Thursday, August 4	Wednesday, July 13	July 22, 29
Thursday, September 1	Wednesday, August 10	Aug. 19, 26
Thursday, October 6	Wednesday, September 14	Sep. 23, 30
Thursday, November 3	Wednesday, October 12	Oct. 21, 28
Thursday, December 1	Wednesday, November 9	Nov. 18, 25

Meeting Day and Date	Filing Deadline	Ad Publication
Town Council		
Monday, January 11	Monday, December 14	Concurrent with PC
Monday, February 8	Monday, January 11	Concurrent with PC
Monday, March 14	Monday, February 8	Concurrent with PC
Monday, April 11	Monday, March 14	Concurrent with PC
Monday, May 9	Tuesday, April 12	Concurrent with PC
Monday, June 13	Monday, May 9	Concurrent with PC
Friday, July 1	None – Organizational Meeting; Time TBA	
Monday, July 11	Monday, June 13	Concurrent with PC
Monday, August 8	Monday, July 11	Concurrent with PC
Monday, September 12	Monday, August 15	Concurrent with PC
Monday, October 10	Monday, September 12	Concurrent with PC
Monday, November 14	Monday, October 10	Concurrent with PC
Monday, December 12	Monday, November 14	Concurrent with PC

TOWN OF ROCKY MOUNT
345 DONALD AVE.
ROCKY MOUNT, VIRGINIA 24151

540.483.7660
FAX : 540.483.8830

E-MAIL: MHANKINS@ROCKYMOUNTVA.ORG
WWW.ROCKYMOUNTVA.ORG



TOWN COUNCIL
STEVEN C. ANGLE, *MAYOR*
GREGORY B. WALKER, *VICE MAYOR*

BOBBY M. CUNDIFF BOBBY L. MOYER
P. ANN LOVE JON W. SNEAD
BILLIE W. STOCKTON

MATTHEW C. HANKINS
Assistant Town Manager
Director, Community Development

MEMORANDUM

To: Mayor Angle & Members of Town Council

From: Matthew C. Hankins
Community Development Director

Date: January 6, 2016

Re: Monthly Report

Council:

Here are some highlights from the month in Community Development:

- Completed hiring process for new community development assistant. The new staff member will be introduced to you at the January council meeting.
- Working on commercial and industrial economic development prospects.
- HomeTown Ice is making significant progress on its redevelopment of the Weaver Mirror plant on Weaver Street.
- Worked with our contractor to complete the materials for the Comprehensive Plan.
- Met with regional tourism directors and marketers to continue work to build region as a destination.
- Showed the Cox Property to prospects.
- We have closed the Depot for the winter. We will meet with Depot staff in January to determine when to re-open.
- Installed power backup for Farmers Market security camera system.
- Harvester closed for winter break after December 21, reopening on January 22.
- Completed negotiations to book Barter Theatre into the Harvester in April.
- Staff walked storm drainage lines on northwest side of town to assess conditions.

TOWN OF ROCKY MOUNT
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TOWN COUNCIL
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P. ANN LOVE JON W. SNEAD
BILLIE W. STOCKTON

JOSH GIBSON
TOWN PLANNER

E-MAIL: JGIBSON@ROCKYMOUNTVA.ORG
WWW.ROCKYMOUNTVA.ORG

STAFF REPORT

PETITIONER: Franklin County Public Safety
LOCATION: Top of Grassy Hill (no street address)
REQUEST: Replace a 160-ft tower with a 195-ft tower in an M1 zoning district, primarily for public safety telecommunication; future collocation of cellular arrays for wireless/cellular communication
HEARING DATE: January 5th, 2016 (Planning Commission)
January 11th, 2016 (Town Council)
TAX PARCEL: 2010010300

EXECUTIVE SUMMARY:

A Special Exception/Use Permit application has been filed by Franklin County Public Safety to replace an existing 160' tower at the top of Grassy Hill with a 195' tower on the same parcel and adjacent to the existing tower. Once the new tower is complete, the old tower will be removed. Since this is a 22% increase in tower height, Article 40 of the Town of Rocky Mount Zoning and Development Ordinance (Wireless Telecommunication Facilities) dictates that the Planning Commission and Town Council should review the application as a Special Exception for a new tower. The primary use of the tower will be public safety communication, but plans do provide for additional collocation opportunities, as encouraged by the wireless ordinance.

I. APPLICABLE REGULATIONS:

All of ARTICLE 40: WIRELESS TELECOMMUNICATION FACILITIES

DEFINITIONS

- **Antenna:** A telecommunication device that transmits or receives electromagnetic signals.
- **Wireless telecommunication facility:** Any structure used for the purpose of supporting antennas, microwave dishes or other electromagnetic transmission devices, including, but not limited to, self-supporting lattice towers, guy wires, pole towers, radio and television transmission towers, alternative tower structures, buildings, roof tops, etc. For the purpose of this ordinance, new wireless telecommunication facilities shall be defined as a commercial activity and shall not be permitted in residential districts, unless co-locating on an existing tower.
- **Special exception:** A special exception is a use that would not be appropriate generally or without restriction throughout the zoning division or district but which, if controlled as to number, area, location, or relation to the neighborhood would promote the public health, safety, welfare, morals, order, comfort, convenience, appearance, prosperity, or general welfare.

IMPACT OF FEDERAL REGULATIONS (FCC)

Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012 mandates that a State or local government **must approve** certain wireless broadband facilities siting requests for modifications and collocations of wireless transmission equipment on an existing tower or base

station that does not result in a **substantial change** to the physical dimensions of such tower or base station. In October 2014, the Federal Communications Commission (FCC) further clarified Section 6409(a). "Substantial change" is defined as any extension or replacement of an existing tower that does not exceed 10% in height.

For the Town of Rocky Mount, this means that an increase of 10% or less in the height of an existing tower must be automatically approved (likely by way of a zoning permit). Since this tower will increase 22% in height, federal jurisdiction does not apply and we must consider the tower based on local codes (which require a special exception).

II. EXISTING CONDITIONS:

The property in question was rezoned in 2005, with Franklin County as the landowner and applicant. The purpose of the rezoning was to construct the 160-ft tower which exists at the site at present. The tower is currently being used for public safety and for a wireless internet tenant (B2X). Various supporting structures exist at present, including a 500-gallon propane tank which will be replaced by a larger tank.

III. PROPOSED CONDITIONS/IMPACTS:

Traffic Impact: None.

Fire/Rescue Impact: None (other than anticipated improved communication as a result of updated equipment).

Community Meeting: None required by staff.

Site Layout Architecture notes: Plans are included in the application; new tower will replace existing tower; new support equipment (propane tank, generator, etc.) will replace existing equipment; new height = 195' and new base = 19'; replacement tower will support new/modern equipment and possible future co-location; Tower profile plans and load engineering not available until construction, but applicant provided the structural design report for an identical tower (see application materials).

Setbacks: None required for an M1 property; the tower is self-supporting and will not require any additional guy wires for stabilization. Nearest residence is approximately 1,000 feet away on Summit Drive.

Visual Impact: Due to the greater height and base area of the new tower, it is expected to be slightly more visually intrusive than the existing, smaller tower.

IV. CONFORMANCE WITH COMPREHENSIVE PLAN:

The increased height and capacity of the existing tower proposed as a part of this Special Exception application is generally supported by the Town of Rocky Mount 2035 Comprehensive Plan. The Plan advocates working with Franklin County as a community partner, and specifically encourages development of law enforcement services and facilities to meet the needs of local citizens and cooperation of public safety and law enforcement. Under the Public Safety section of the plan, anticipated improvements to the radio system are encouraged with subsequent upgrades to police and fire radio systems to ensure communication compatibility. The Town's scenic qualities, including natural resources such as high-elevation areas like Grassy Hill and Bald Knob, are noted throughout the Plan as important Town assets and should also be considered.

V. STAFF CONCLUSIONS

Staff supports a special exception permit presented for tax map #2010010300 owned by the County of Franklin. Though the net scenic impact of the project will likely be unfavorable, it is a

marginal impact and taken as a whole is only a minor change from the existing conditions. Article 40 requires that applicants for new towers show capacity for co-location, and the additional height is in part a result of that requirement from Town Code. Coupled with the anticipated improvements in available public safety technology, the public good for the projects offsets any visual impacts. The upgraded tower at this location is not expected to substantially change the character of the neighborhood nor the scenic views from in and around Town.

Staff recommends an approval of the special exception with the following conditions:

- 1. The site shall be developed in substantial conformance with the conceptual plans submitted as a part of the special exception application.**
- 2. At the time of competition of the new tower and after transfer of existing equipment to the new tower, the old tower must be removed within 90 days.**

PLANNING COMMISSION ACTION:

On January 5, 2016, the Planning Commission recommended approval of the special exception request, with two conditions: (1) that the site be developed in accordance with the provided application materials and (2) upon completion of the new tower, the old tower shall be removed within 90 days.

PREPARED BY: Josh Gibson
HEARING DATES: Planning Commission, 1/5/2016
Town Council, 1/11/2016
ATTACHMENTS: Zoning Map
Aerial Map
Topo Map
Application

79°54'0"W

79°53'30"W

79°53'0"W

37°20'N

37°20'N

37°13'0"N

37°13'0"N

37°10'N

79°54'0"W

79°53'30"W

79°53'0"W

Legend

- TOWN BONDARY
- C1
- C2
- CBD
- GB
- M1
- M2
- POS
- R1
- R2
- R3
- RA
- RB
- RPUD

GRASSY HILL

FRANKLIN COUNTY
PUBLIC SAFETY
PARCEL

SUMMIT

GRASSY HILL

MAIN

MEMBER ONE

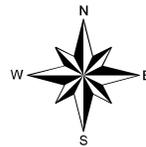
STATE

ALLMAN

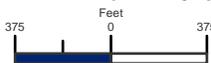
FRONTAGE



ZONING MAP
FC Public Safety Special Exception
New Wireless Tower
 DATE CREATED: 12/21/2015
 TOWN OF ROCKY MOUNT, VA



1 inch = 746 feet



Projection: Lambert Conformal Conic
 GCS North America 1983
 Datum: D North America 1983

Map created by jgibson
 This map is for general reference and display purposes only.

79°53'30"W

37°13'00"N

37°13'00"N

Legend

-  PARCEL BOUNDARIES
-  TOWN ROADS

FRANKLIN COUNTY
PUBLIC SAFETY
PARCEL

GRASSY HILL

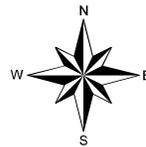
SUMMIT

79°53'30"W



AERIAL MAP
FC Public Safety Special Exception
New Wireless Tower

DATE CREATED: 12/21/2015
 TOWN OF ROCKY MOUNT, VA



Projection: Lambert Conformal Conic
 GCS North America 1983
 Datum: D North America 1983

Map created by jgibson
 This map is for general reference and display purposes only.

79°54'0"W

79°53'30"W

79°53'0"W

37°20'N

37°20'N

37°13'0"N

37°13'0"N

37°10'N

37°10'N

79°54'0"W

79°53'30"W

79°53'0"W

Legend

- ▭ PARCEL BOUNDARIES
- TOWN ROADS

FRANKLIN COUNTY
PUBLIC SAFETY
PARCEL

GRASSY HILL

SUMMIT

GRASSY HILL

COMPTON

TECHNOLOGY

HARVEY

MEADOWVIEW
TRAIL

MEMBER ONE
STATES

ALLMAN

WEAVER

FRONTAGE

MAIN

VIRGIL H GOODE

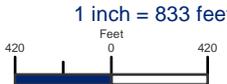
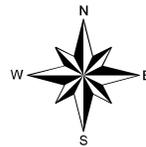
Radio Tower
(WYTI)

Lookout Tower
934

Quarry



TOPOGRAPHIC MAP
FC Public Safety Special Exception
New Wireless Tower
 DATE CREATED: 12/21/2015
 TOWN OF ROCKY MOUNT, VA



Projection: Lambert Conformal Conic
 GCS North America 1983
 Datum: D North America 1983

Map created by jgibson
 This map is for general reference and display purposes only.



Town of Rocky Mount SPECIAL ZONING APPLICATION

REZONING REQUEST SPECIAL EXCEPTION/USE VARIANCE

Date Received:
Received by:
PC/BZA Date:

PRE-FILING CONSULTATION WITH THE TOWN PLANNING STAFF TO REVIEW THE PROPOSED REQUEST AND TO OBTAIN RECOMMENDED PROCEDURES AND TECHNICAL ASSISTANCE IS REQUIRED. TO SCHEDULE A PRE-FILING CONSULTATION, PLEASE CONTACT THE TOWN OF ROCKY MOUNT COMMUNITY DEVELOPMENT DEPARTMENT AT 540-483-0907.

APPLICANT NAME: _____

ADDRESS: _____

PHONE: _____ EMAIL: _____

PROPERTY OWNERS NAME & ADDRESS:
(IF DIFFERENT FROM APPLICANT) _____

TAX MAP & PARCEL NUMBER: _____ LOT SIZE (ACRES/SQ.FT.) _____

CURRENT ZONING: R-1 R-2 R-3 RA RB RPUD POS C-1 C-2 M-1 M-2 CBD CBD-ARTS & CULTURE GB

CURRENT LAND USE: VACANT AGRICULTURAL RESIDENTIAL COMMERCIAL INDUSTRIAL

REZONING REQUEST: PROPOSED ZONING: _____ PROPOSED LAND USE: _____

SPECIAL EXCEPTION/USE REQUEST OF SECTION(S) _____ OF THE TOWN ZONING ORDINANCE.

VARIANCE REQUEST OF SECTION(S) _____ OF THE TOWN ZONING ORDINANCE.

NATURE OF REQUEST - BRIEFLY DESCRIBE THE PROPOSED PROJECT AND SPECIFIC DEVIATION REQUEST FROM THE ZONING ORDINANCE.

I HEARBY CERTIFY THAT I AM ACTING WITH THE KNOWLEGE AND CONSENT OF THE PROPERTY OWNER TO THE REQUEST DESCRIBED ON THE APPLICATION. BY SIGNING BELOW, I AGREE THE INFORMATION PROVIDED ON THE APPLICATION IS TRUE TO THE BEST OF MY KNOWLEDGE.

APPLICANT SIGNATURE

DATE

BY SIGNING BELOW, I CERTIFY I AM AWARE OF THE REQUEST SUBMITTED AND THE INFORMATION PROVIDED IS TRUE TO THE BEST OF MY KNOWLEDGE.

OWNER SIGNATURE

DATE

WHAT IS A REZONING?

A rezoning is a legal change to the Official Zoning Map. The rezoning of property is a legal matter, we strongly recommend applicants consult with an attorney to for assistance with the preparation of the rezoning application. A rezoning may be initiated by the property owner, by a contract purchaser with the owner's written consent, or by the owner's agent. Original signatures are required by all parties.

Rezoning requests will be submitted to the zoning administrator and referred to the planning commission for its review and recommendation. The final determination on the rezoning request will be made by the governing body (Town Council).

1. The written request for rezoning shall be submitted to the planning commission by the zoning administrator.
2. Notice shall be given of the required public hearing in accordance with the requirements of Code of Virginia, § 15.2-2204. Adjacent property owners (front, back and side) and the applicant shall be notified in writing as to the rezoning or conditional zoning request and public hearing date.
3. A public hearing shall be held by the planning commission. If requested, the zoning administrator may make a report and recommendation to the planning commission on the subject request. Other parties may appear in person and present their views.
4. The commission shall make a recommendation to go on the rezoning request after the public hearing is held.
5. The governing body (Town Council) shall then hold its own public hearing in conformity with all notice requirements under Code of Virginia, § 15.2-2204, and make the final determination on the rezoning request.

WHAT IS A SPECIAL EXCEPTION?

A special exception/use permit allows a specific exception to the Town's Zoning Ordinance on a particular parcel of land in a district of a particular zoning character. Uses and dimensional standards allowed only by special exception are those considered to have potentially greater impact upon neighboring properties or the public. The special exception process allows potential impacts to be addressed through conditions. A granted special exception runs with the property.

WHAT IS A VARIANCE?

A variance is a request for a reasonable deviation from a provision of the Town's Zoning Ordinance when strict application of the ordinance would result in unnecessary or unreasonable hardship to the property owner. A variance may not allow a use in a district not authorized by district regulations. A granted variance runs with the property.

The authorization to hear and decide on applications for special exception/use permit and a variance request has been delegated to the Board of Zoning Appeals (BZA), a quasi-judicial five (5) member Circuit Court appointed body.

Special Exception and Variance application requests will be submitted to the zoning administrator for review and recommendation; then referred to the to the Board of Zoning Appeals (BZA) for a public hearing. A determination on the application will be made by the Board of Zoning Appeals (BZA). Additional approval and final determinations by the Planning Commission and/or by the governing body (Town Council) could be required to complete the request.

1. The Special Exception or Variance application shall be submitted to the Board of Zoning Appeals (BZA) by the zoning administrator.
2. Notice shall be given of the required public hearing in accordance with the requirements of Code of Virginia, § 15.2-2204. Adjacent property owners (front, back and side) and the applicant shall be notified in writing as to the application request and public hearing date.
3. A public hearing shall be held by the Board of Zoning Appeals (BZA). If requested, the zoning administrator may make report and recommendation to the Board of Zoning Appeals (BZA) on the subject request. Other parties may appear in person and present their views.
4. The Board of Zoning Appeals (BZA) shall make a decision on the application request after the public hearing is held.
5. If additional approval and final determination is needed by the planning commission and/or the governing body (Town Council); each shall then hold its own public hearing in conformity with all notice requirements under Code of Virginia, § 15.2-2204, and will each make the final determination on the application request.

12/07/2015

Special Use Permit Request
Article 40
For
Franklin County Public Service 911 Emergency Communication

Grassy Hill Site – Town of Rocky Mount
Parcel Number 2010010300

From Town of Rocky Mount Zoning Ordinance
Article 40
Wireless Telecommunications Facilities

Description of Proposed Project

The Special use Permit is being requested is for the construction of a new 195' self-support telecommunications tower for use by Franklin County Public Safety. This new tower will replace an existing 160' self-support tower on Grassy Hill. The existing 160' self-support telecommunications tower will be removed once the new Public Safety radio system becomes operational.

The new tower will be used for Franklin County's Public Service 911 Emergency communications network and possible co-location. Additional elements to be modified and constructed for this new tower include removal of an existing 500 gallon propane tank the installation of new 1000 gallon propane tank and pad, the installation of a new 50Kw emergency generator, and a new 4' wide H frame for power connection. The existing building will be reused

Application Submission Requirement responses as per Article 40 of the Town of Rocky Mount zoning ordinance

Article 40

40.7.1 Provide Documents as follows

- Master plan and construction documents are attached showing tower height, antenna locations, co-location points on tower, and ground plan requirements and structures. (See Accompanying)
- Signed and sealed documents of the above and all other signatures and seals will be provided after acceptance of the SUP and prior to the issuance of the zoning compliance certificate. No substantial changes are anticipated from the drawings provided.
- Radio Frequencies are not changing from those presently in use by Franklin County Public Safety 911 Emergency Communications Network
- Tower height's setback, drives, parking, fencing, landscaping, adjacent uses, and other information are provided. (See Accompanying)
- Photographic simulation (See Accompanying)

40.7.2 Engineering Reports certifying the tower is compatible for co-location with a minimum of three similar users.

- Actual sealed structural documents for the tower cannot be provided until tower is ordered. Tower will not be ordered until Special Use Permit is granted. Sealed structural documents will be provided for your records after approval of the SUP and prior to the issuance of the zoning compliance certificate

- We have provided you with the Tom's Knob structural documents which have been approved by Franklin County. The Tom's Knob Tower and the Grassy Hill Tower will be identical. (See Accompanying).
- (Design Appurtenances Loading table may be found on Page 2 of the Tom's Knob Tower Structural)
- We will provide you with signed and sealed drawings and tower structural documents after the SUP and prior to issuance of the zoning compliance certificate.
 - Certificate and sealed drawings will then be forwarded with all the appropriate signed and sealed documents for building permit application through Franklin County

40.7.3- Copies of Applicants' co-location policy

- Franklin County Public Safety has not written co-location policy however the tower is designed for co-location between the Public Safety Antenna and above (See sheet C-10 of the attached preliminary construction documents)

40.7.4 Provide copies of Propagation maps demonstrating that antennas and sites for possible co-locator antennas are no higher in elevation than necessary

- Propagation maps are provided (See Accompanying) Height above future antennas is for future expansion.

40.7.5 – Determination of need by FAA

- FAA Publication , Title 14 Sub-part B, Part 77.13 Construction or alteration requiring notice , does not require FAA notification if the structure is less than 200 feet in height: however, a determination of no hazard study will be performed to insure compliance with FAA rules. The tower will be constructed at less than 200' and the tower will not be lighted...

•

40.7.6 – 30 Days for City Approval or Denial

- 30 Day time of acceptance and/or denial is noted.

40.7.7 -Time frame for construction – must be completed within 90 days

- Tower will be completed within 90 days from when the Franklin County Building permit is issued.

40.8.1 –Governing factors in determining whether to issue a special use permit have been considered.

- Franklin county Public Safety is building a new eight-site P25 800 MHz simulcast trunked radio system. The proposed Grassy Hill tower will be an integral part of the coverage design
- The existing tower is not structurally adequate to support the new antenna systems.
- The existing tower will be removed after construction of the proposed 195' tower.
- This is a new tower on an existing site.

40.8.2 – New Tower Permitting

Reason for New Tower

- This is a replacement tower on an existing site. The existing tower is not of sufficient structural strength to support the applicants proposed antenna and related equipment. We are building the new tower higher for future expansion.



PHOTO LOCATION INDEX

No.	DESCRIPTION
X	PROPOSED "GRASSY HILL TOWER" SITE
1	TOWN OF ROCKY MOUNT MUNICIPAL BUILDING
2	TOWN OF ROCKY MOUNT EMERGENCY SERVICES

NO.	DATE	DESCRIPTION
0	11/13/15	100% PHOTO SIMULATION MAP

DRAWN BY: TNW
 CHECKED BY: ESK
 APPROVED BY: ESK

KCI TECHNOLOGIES, INC.
 4601 Six Forks Rd., Suite 220
 Raleigh, NC 27609
 Phone: 919-783-9214

Franklin County
A Natural Setting for Opportunity
GRASSY HILL TOWER
 1247 SUMMIT DR.
 ROCKY MOUNT, VA 24151

ENGINEER:
 ERIC S. KOHL, PE
 VA LICENSE NO.: 35675

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF VERIZON. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED.

SCALE: AS NOTED
 DATE: 11/19/2015
 KCI JOB NUMBER: 02157855-D

SHEET TITLE
 PHOTO SIMULATION MAP

SHEET
 PS-1

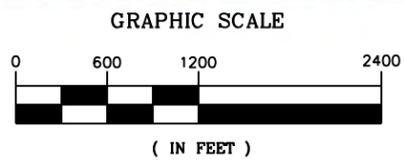
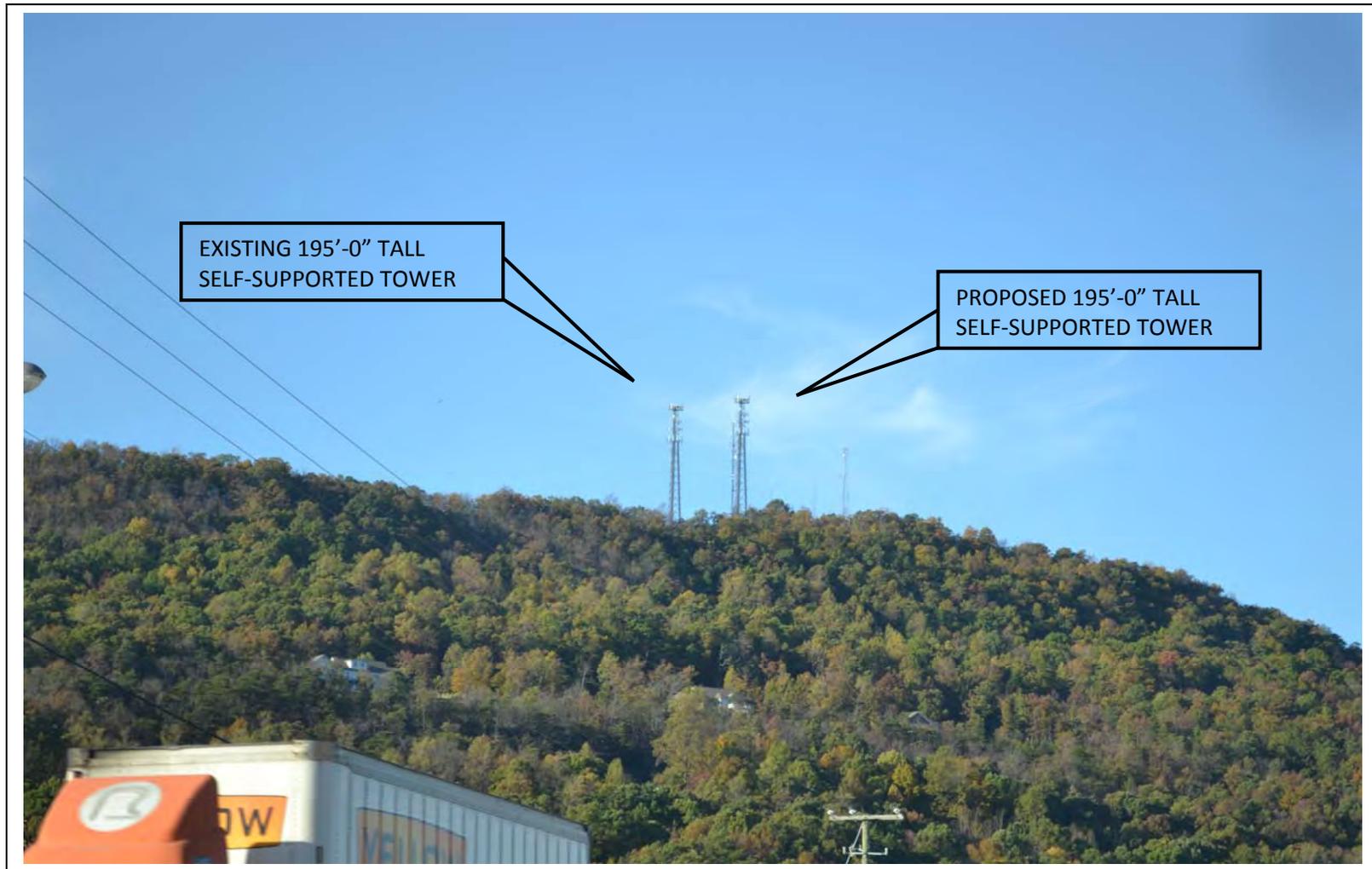


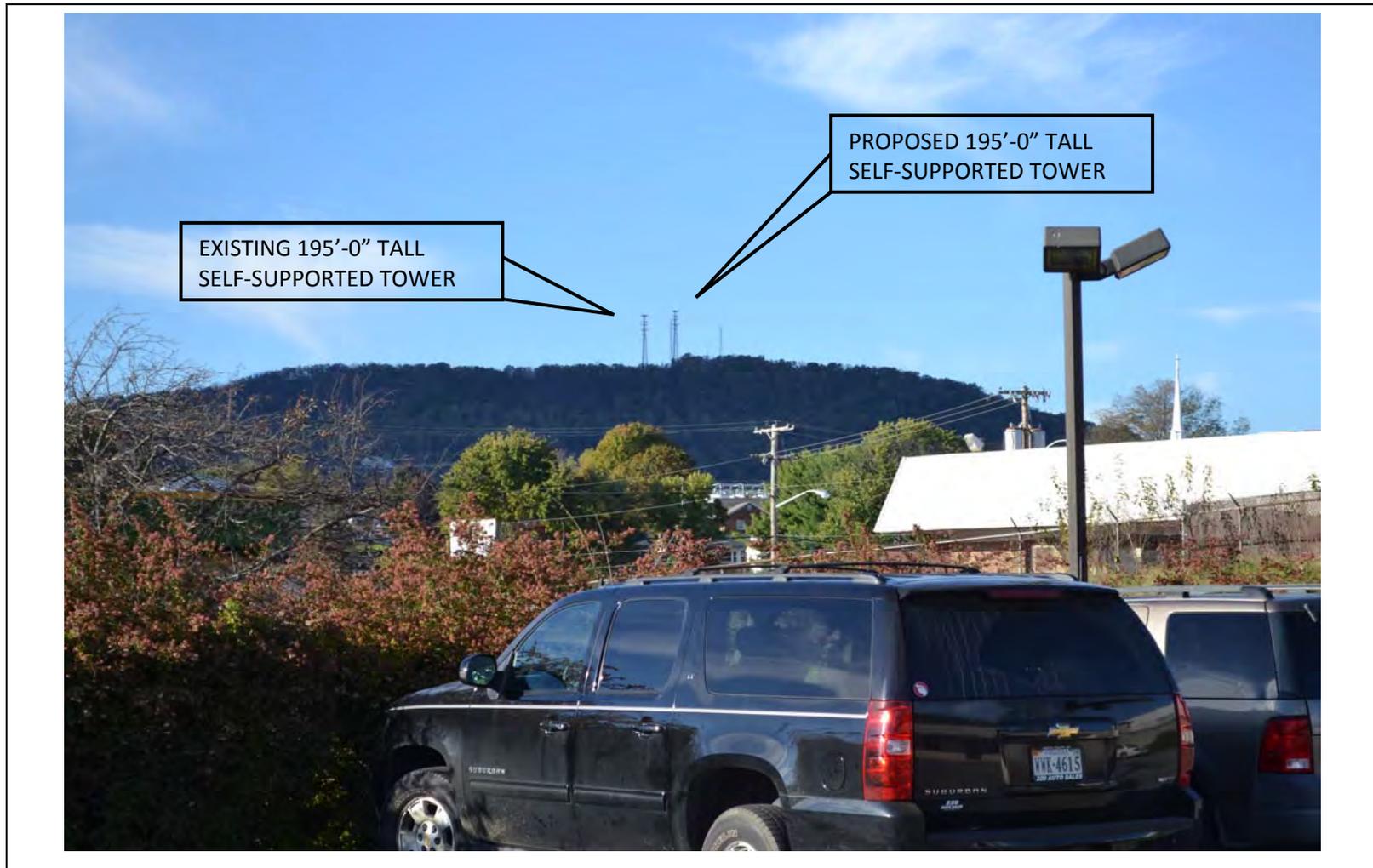
PHOTO SIMULATION MAP
 SCALE: 11X17: 1" = 1200'
 24X36: 1" = 600'



- PROPOSED TOWER SITE
- PHOTO LOCATION - PROPOSED TOWER VISIBLE
- PHOTO LOCATION - PROPOSED TOWER NOT VISIBLE



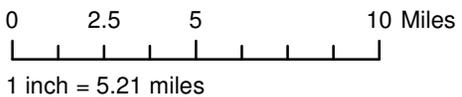
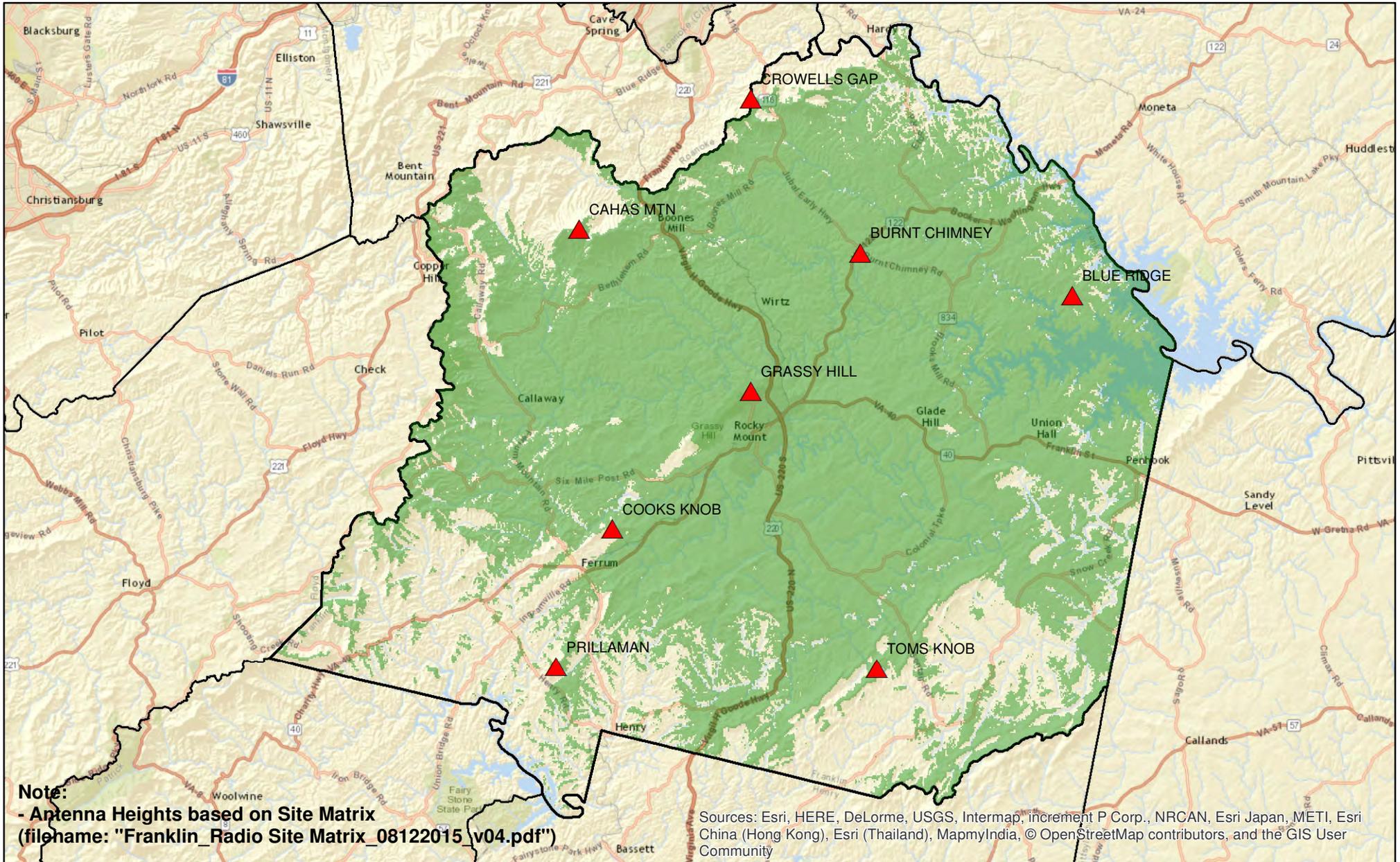
GRASSY HILL TOWER
1247 SUMMIT DR., ROCKY MOUNT, VA 24151
PROPOSED 195'-0" SELF-SUPPORTED TOWER
VIEW FROM ROCKY MOUNT EMERGENCY SERVICES



GRASSY HILL TOWER
1247 SUMMIT DR., ROCKY MOUNT, VA 24151
PROPOSED 195'-0" SELF-SUPPORTED TOWER
VIEW FROM ROCKY MOUNT MUNICIPAL BUILDING



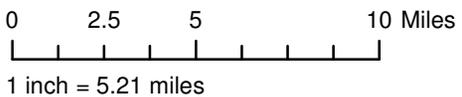
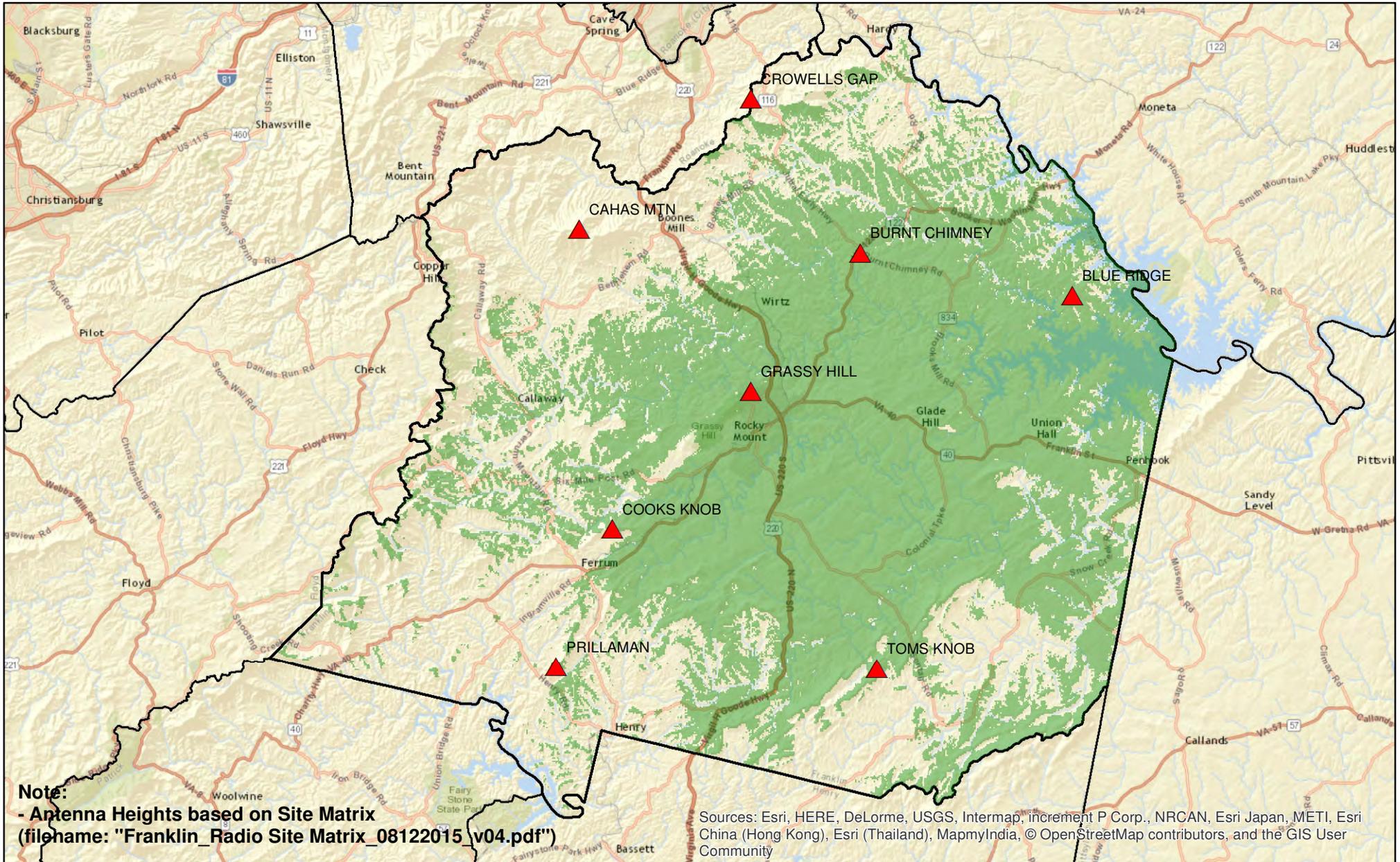
Franklin County, Virginia 800 MHz P25 Radio System Grassy Hill Talk-In Portable Single Site Coverage No Building Penetration Loss



The shaded area represents talk-in coverage from an APX portable at head level, equipped with a 1/2 wave flex whip antenna, with no building loss. 95% or more of the shaded area is covered at DAQ 3.4.



Franklin County, Virginia 800 MHz P25 Radio System Grassy Hill Talkout Portable Single Site Coverage No Building Penetration Loss



The shaded area represents talkout coverage to an APX portable at hip level, in a swivel case, equipped with a 1/2 wave flex whip antenna, with no building loss. 95% or more of the shaded area is covered at DAQ 3.4.



FRANKLIN COUNTY, VA
 PLANNING AND
 COMMUNITY DEVELOPMENT
 1255 FRANKLIN ST.,
 SUITE 103
 ROCKY MOUNT, VA 24151
 PHONE: (540) 483-3027

GRASSY HILL

1247 SUMMIT DR.
 ROCKY MOUNT, VIRGINIA 24151
 LAT: 37° 01' 27.57"N
 LONG: 79° 53' 36.95"W

**PROPOSED 195'-0" TALL SELF-SUPPORTED TOWER
 TO REPLACE EXISTING 160'-0" TALL SELF-SUPPORTED TOWER
 HIGHEST APPURTENANCE = 199'-0"**

SITE CONTACT:

PROJECT MANAGER:
 GARY SMITH
 7031 COLUMBIA GATEWAY DR., 3rd FLOOR
 COLUMBIA, MARYLAND 21046
 PHONE: (301) 775-2509

UTILITY CONTACTS:

ELECTRIC:
 APPALACHIAN POWER (AEP)
 40 FRANKLIN RD., SW
 ROANOKE, VA 24011
 PHONE: (800) 956-4237

CALL BEFORE YOU DIG: MISS UTILITY OF VIRGINIA
 LAW REQUIRES THAT THE CONTRACTOR NOTIFY
 THE APPROVED NOTIFICATION CENTER NOT LESS
 THAN TWO (2) WORKING DAYS PRIOR, BUT NOT
 MORE THAN TEN (10) WORKING DAYS PRIOR TO
 EXCAVATION OR DEMOLITION ACTIVITIES.
 VIRGINIA: 1-800-552-7001 OR 811

PROPERTY OWNER:

COUNTY OF FRANKLIN, VA
 1255 FRANKLIN ST., SUITE #112
 ROCKY MOUNT, VA 24151

PARCEL INFORMATION:

JURISDICTION: COUNTY OF FRANKLIN, VA
 PARCEL ID NUMBER: 2010010300
 PARCEL ACREAGE: 0.46 ACRES
 PARCEL ZONING: M1
 CURRENT USE: TELECOMMUNICATIONS TOWER SITE

USE: UNMANNED EMERGENCY 911 TELECOMMUNICATIONS
 RELAY TOWER, ONE 11'-8" x 20'-0" EQUIPMENT AND
 STORAGE BUILDING, PARKING AND TURN-AROUND AREA.

ENGINEER:

KCI TECHNOLOGIES, INC.
 4601 SIX FORKS RD., SUITE 220
 RALEIGH, NC 27609
 (919) 783-9214
 ERIC S. KOHL, VA LICENSE #35675

NOTES:

CONTRACTOR SHALL NOTIFY OWNER FOR ACCESS TO SITE.
 KEEP GATES AND/OR DOORS LOCKED AT ALL TIMES.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING
 DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL
 IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY
 DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR
 BE RESPONSIBLE FOR SAME.

- T-1 COVER SHEET
- C-1 SITE OVERVIEW
- C-2 SITE PLAN AND NOTES
- C-3 EXISTING SHELTER LAYOUT
- C-4 TOWER ELEVATION AND NOTES
- D-1 CONSTRUCTION DETAILS
- D-2 CONSTRUCTION DETAILS



NO.	DATE	REVISION
100%	11/02/2015	100% SITE PLAN SUBMISSION

SUITE 220, LANDMARK CENTER II,
 4601 SIX FORKS ROAD
 RALEIGH, NORTH CAROLINA 27609
 (919) 783-9214
 ENGINEERS • PLANNERS • ECOLOGISTS

MOTOROLA SOLUTIONS, INC.
 7031 COLUMBIA GATEWAY DR.,
 3rd FLOOR
 COLUMBIA, MARYLAND 21046
 CONTACT: GARY SMITH
 PHONE: (301) 775-2509

GRASSY HILL
 1247 SUMMIT DR.
 ROCKY MOUNT, VIRGINIA 24151
 FRANKLIN COUNTY, VA

DATE OF ORIGATION : 03/01/2015
 DRAWN BY : TNW APPROVED BY :
 CHECKED BY : KCI# : 0214-7855-D



FRANKLIN COUNTY, VA
 PLANNING AND
 COMMUNITY DEVELOPMENT
 1255 FRANKLIN ST.,
 SUITE 103
 ROCKY MOUNT, VA 24151
 PHONE: (540) 483-3027

COVER SHEET

T-1

SEAL:

CONTRACTOR NOTES

CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS BY TEST PIT AS NECESSARY. LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND FOR PLANNING PURPOSES ONLY.

ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES, THE LATEST EDITION THEREOF.

CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENT AGENCIES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.

CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS.

THESE PLANS ARE NOT FOR RECORDATION OR CONVEYANCE.

EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.

DAMAGE TO UTILITIES OR PROPERTY OF OTHERS BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO LIKE-NEW CONDITION.

NOTIFY "MISS UTILITY OF VIRGINIA" AT 811 OR 1-800-552-7001 - 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE.

THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

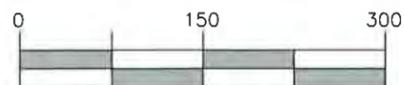
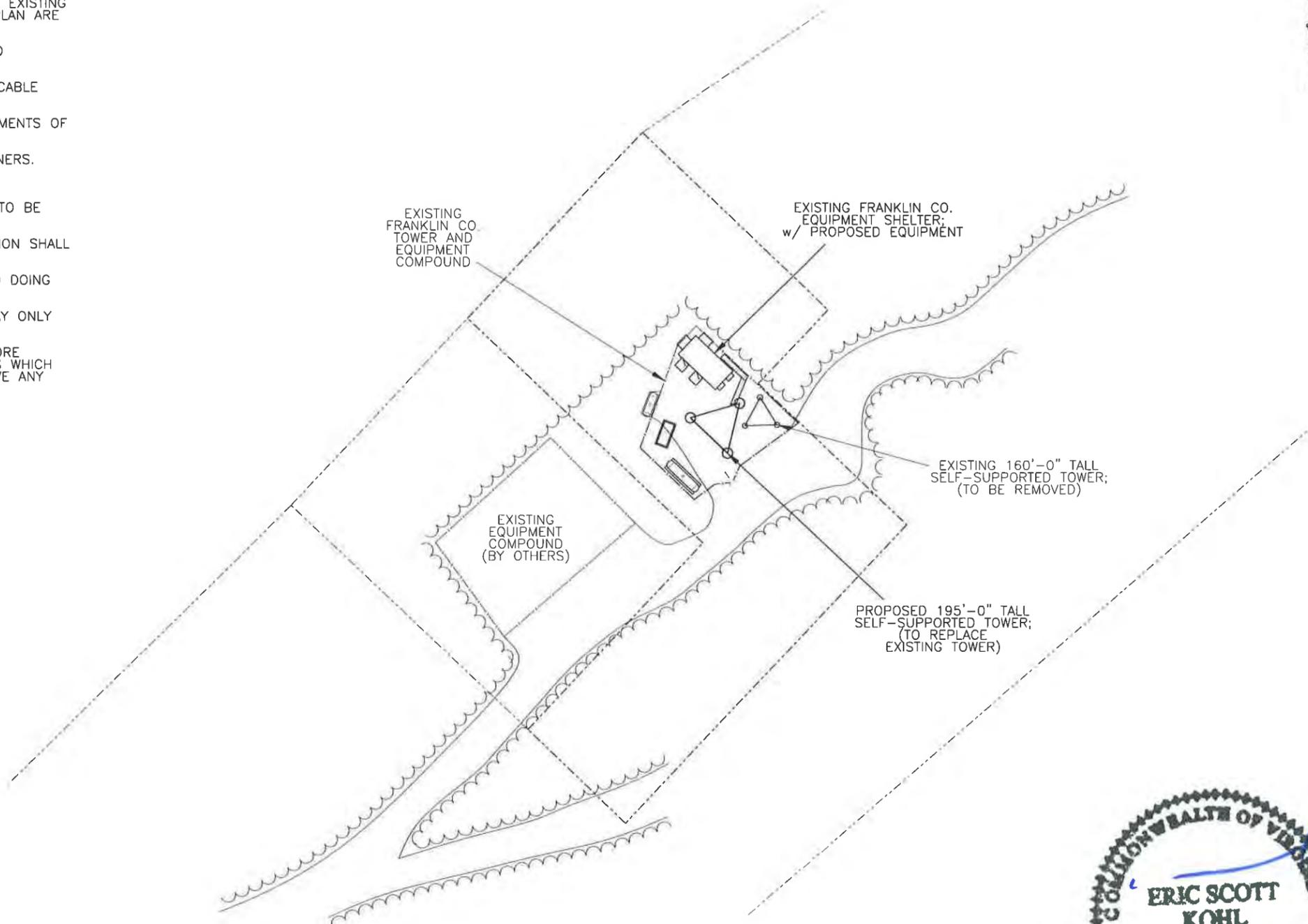
**CENTERLINE
TOWER DATA**

LAT 37° 01' 27.57" (NAD '83)
LON 79° 53' 36.95" (NAD '83)

AVERAGE GROUND ELEVATION
AT CENTERLINE OF TOWER
ELEV. = @ 1924.00' (NAVD '88)

GENERAL NOTES:

1. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED.
2. HORIZONTAL DATUM IS BASED ON THE VIRGINIA STATE PLANE COORDINATE SYSTEM OF 1983 IN US FEET.
3. VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
4. REFERENCE: DEED BOOK 476, PAGE 880.
5. THIS PLAN DOES NOT REPRESENT A TITLE SURVEY OF THE PARENT TRACT.
6. FLOOD INSURANCE RATE MAP: 51067C0195C, ZONE X.
7. INFORMATION SHOWN HEREON BASED ON INFORMATION GATHERED BY CORNERSTONE LAND SURVEYING, INC., DATED JANUARY 31, 2005, AS WELL AS INFORMATION CONTAINED IN THE PUBLIC RECORDS OF THE FRANKLIN CO. REGISTER OF DEEDS AND TAX ASSESSORS OFFICES.
8. LANDOWNER INFORMATION:
COUNTY OF FRANKLIN, VA
1255 FRANKLIN ST., SUITE #112
ROCKY MOUNT, VA 24151



1
C-1

SITE OVERVIEW

SCALE: 1" = 150'-0"



NO.	DATE	REVISION
100%	11/02/2015	100% SITE PLAN SUBMISSION

SUITE 220, LANDMARK CENTER II,
4601 SIX FORKS ROAD
RALEIGH, NORTH CAROLINA 27609
(919) 783-9214
ENGINEERS • PLANNERS • ECOLOGISTS

MOTOROLA SOLUTIONS, INC.
7031 COLUMBIA GATEWAY DR.,
3rd FLOOR
COLUMBIA, MARYLAND 21046
CONTACT: GARY SMITH
PHONE: (301) 775-2509

GRASSY HILL
1247 SUMMIT DR.
ROCKY MOUNT, VIRGINIA 24151
FRANKLIN COUNTY, VA

DATE OF ORIGATION : 03/01/2015
DRAWN BY : TNW APPROVED BY :
CHECKED BY : KCI# : 0214-7855-D

FRANKLIN COUNTY, VA
PLANNING AND
COMMUNITY DEVELOPMENT
1255 FRANKLIN ST.,
SUITE 103
ROCKY MOUNT, VA 24151
PHONE: (540) 483-3027

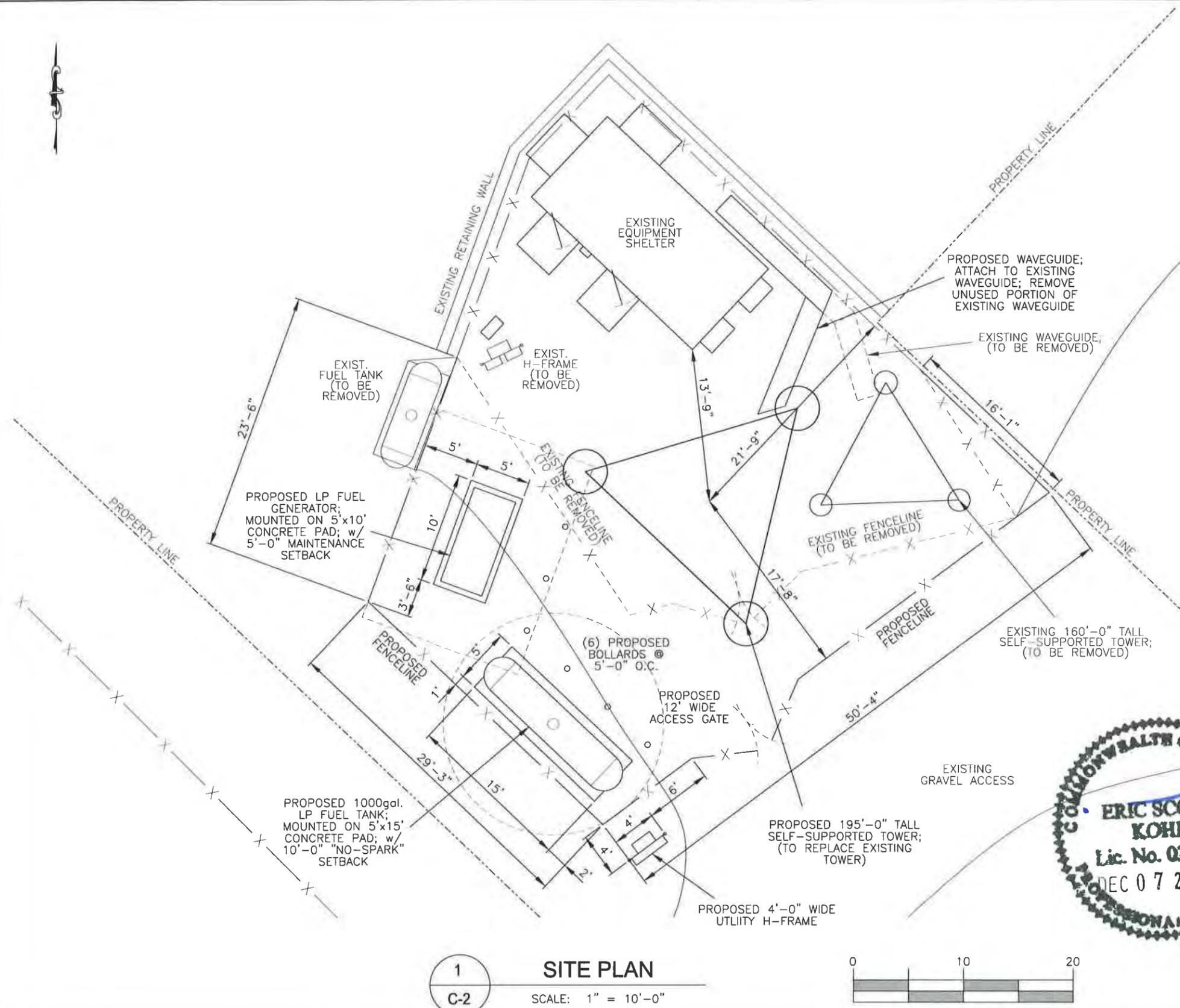
SITE OVERVIEW

C-1

SEAL:

CONSTRUCTION NOTES

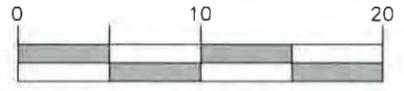
1. PRIOR TO COMMENCING ANY EXCAVATION OR GRADING, THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF ALL SURVEY DATA AS INDICATED IN THE PLANS AND SPECIFICATIONS AND/OR AS PROVIDED BY MOTOROLA.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING ALL ESTABLISHED SURVEY CONTROL POINTS. IF THE CONTRACTOR OR ANY OF ITS SUBCONTRACTORS MOVE OR DESTROY ANY SURVEY CONTROL POINTS, THE COST INCURRED BY THE OWNER OR MOTOROLA TO RE-ESTABLISH THEM WILL BE BORNE BY THE CONTRACTOR.
3. THE ACCESS ROAD SHALL BE CLEARED 2.5 FEET ON EITHER SIDE OF THE ROAD.
4. BEFORE CLEARING, THE CONTRACTOR SHALL ENSURE THAT THE AREA TO BE CLEARED HAS BEEN PROPERLY MARKED BY THE SURVEYORS AND ANY APPROVALS REQUIRED FROM THE LOCAL AUTHORITIES HAVE BEEN OBTAINED.
5. THE CONTRACTOR SHALL ENSURE THAT ALL THE TREES, SHRUBS, STUMPS AND OTHER SURFACE OBSTRUCTIONS ARE REMOVED AND DISPOSED OF AT AN APPROVED DUMPSITE.
6. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
7. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS AND EQUIPMENT NOT SHOWN IN THE BILL OF MATERIALS AS OWNER FURNISHED, AND ALL LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
8. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO PERFORMING WORK TO FAMILIARIZE THEMSELVES WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES OR INTERFERENCES WHICH AFFECT THE WORK OF THIS CONTRACT.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE CITY, STATE OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, VEGETATION, AND RUBBISH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. SEED AND MULCH ALL DISTURBED AREAS NOT COVERED BY OTHER MATERIALS IN ACCORDANCE WITH THE SPECIFICATIONS.
14. ANY PROPERTY DAMAGE CAUSED BY THE CONTRACTOR OR HIS OPERATIONS SHALL BE CORRECTED AND/OR RESTORED TO THE SATISFACTION OF THE PROPERTY OWNER(S) AND MOTOROLA AT NO ADDITIONAL COST TO THE PROPERTY OWNER OR MOTOROLA.



1
C-2

SITE PLAN

SCALE: 1" = 10'-0"



NO.	DATE	REVISION
100%	11/02/2015	100% SITE PLAN SUBMISSION

KCI
TECHNOLOGIES

SUITE 220, LANDMARK CENTER II,
4601 SIX FORKS ROAD
RALEIGH, NORTH CAROLINA 27609
(919) 783-9214
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MOTOROLA SOLUTIONS

MOTOROLA SOLUTIONS, INC.
7031 COLUMBIA GATEWAY DR.,
3rd FLOOR
COLUMBIA, MARYLAND 21046

CONTACT: GARY SMITH
PHONE: (301) 775-2509

GRASSY HILL
1247 SUMMIT DR.
ROCKY MOUNT, VIRGINIA 24151
FRANKLIN COUNTY, VA

DATE OF ORIGATION : 03/01/2015

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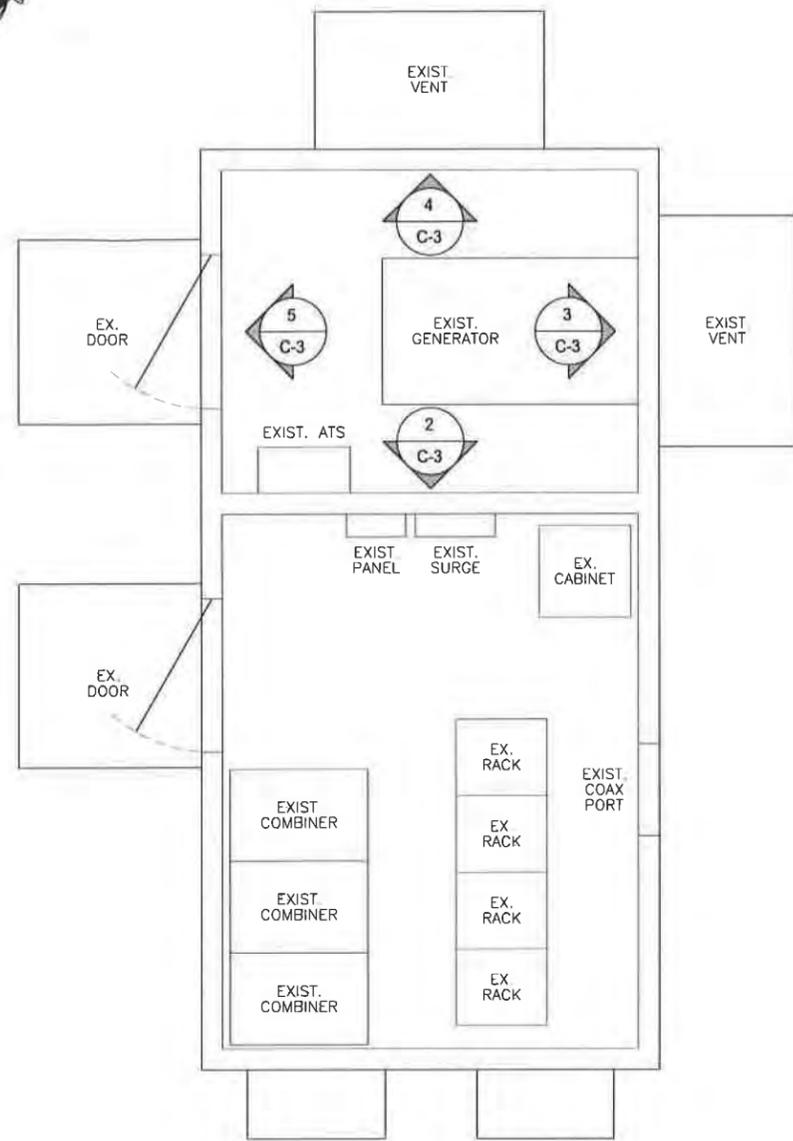
CHECKED BY : KCI# : 0214-7855-D

**FRANKLIN COUNTY, VA
PLANNING AND
COMMUNITY DEVELOPMENT**
1255 FRANKLIN ST.,
SUITE 103
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**SITE PLAN
AND NOTES**

C-2

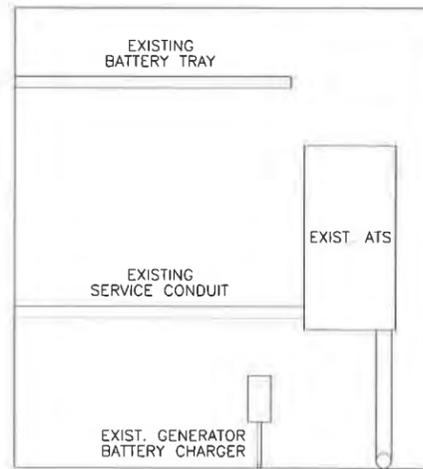
SEAL:



1
C-3

EXISTING SHELTER LAYOUT

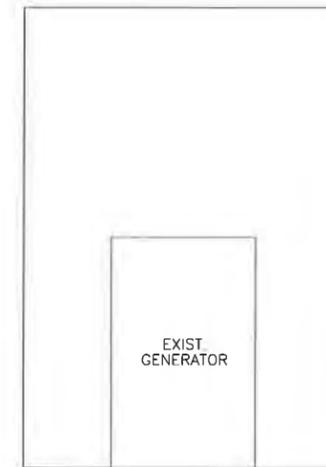
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2
C-3

EXISTING WALL ELEVATION

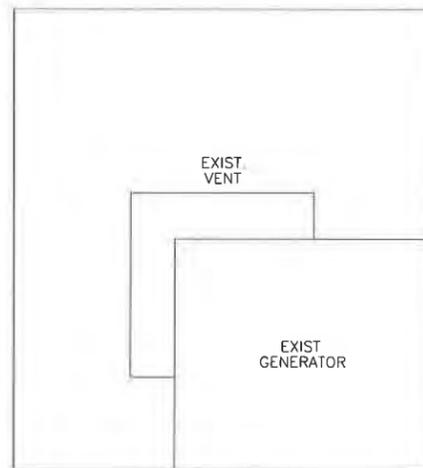
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3
C-3

EXISTING WALL ELEVATION

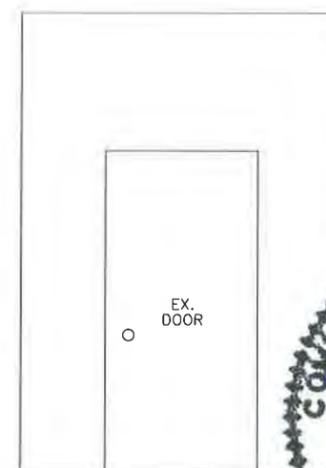
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4
C-3

EXISTING WALL ELEVATION

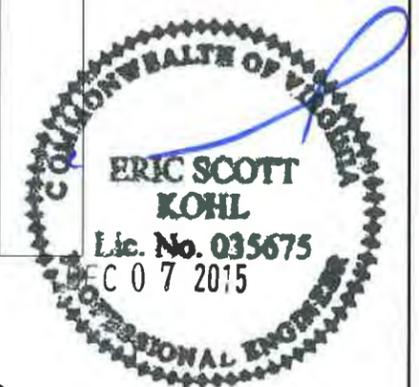
SCALE: 1/4" = 1'-0"



5
C-3

EXISTING WALL ELEVATION

SCALE: 1/4" = 1'-0"



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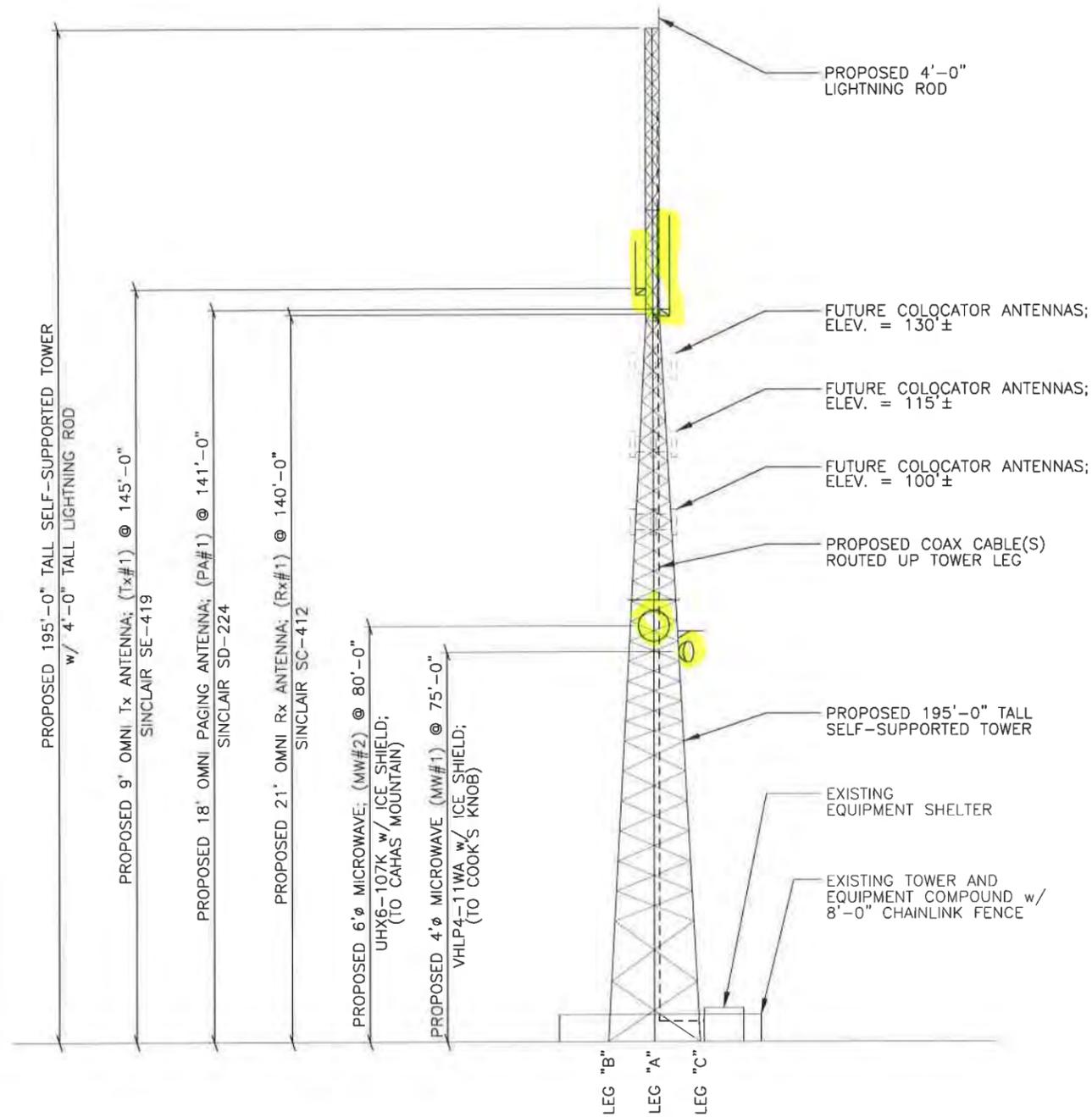


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EXISTING SHELTER LAYOUT

C-3

SEAL:



PROPOSED EQUIPMENT AND COAXIAL CABLE SCHEDULE					
ANTENNA	ACRONYM	BAND 1	BAND 2	BAND 3	BAND 4
PROPOSED Rx OMNI ANTENNA	Rx#1	GREEN	GREEN	GREEN	
PROPOSED Tx OMNI ANTENNA	Tx#1	RED	GREEN	GREEN	
PROPOSED PAGING ANTENNA	PA#1	YELLOW	GREEN	GREEN	
PROPOSED MICROWAVE #1 (TO COOK'S KNOB)	MW#1	BLUE	GREEN	GREEN	
PROPOSED MICROWAVE #2 (TO CAHAS MOUNTAIN)	MW#2	BLUE	GREEN	RED	

GENERAL CONSTRUCTION NOTES

1. ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS SHALL BE GROUNDED NEAR THE TOP AND BOTTOM OF THE TOWER (BEFORE THE CABLE MAKES HORIZONTAL TRANSITION AND NEAR THE ENTRY PORT ON THE SHELTER. ADDITIONAL TRANSMISSION LINE GROUND KITS SHALL BE INSTALLED AS NEEDED TO LIMIT THE DISTANCE BETWEEN GROUND KITS TO A RANGE OF 50FT (MIN.) TO 65FT (MAX.). TOWER TOP AMPLIFIER SHALL BE GROUNDED TO TOWER TOP GROUND BAR.
2. THE CONTRACTOR SHALL CONDUCT A SWEEP TEST ON ALL THE NEWLY INSTALLED TRANSMISSION LINES TO DETERMINE THE CABLE CONDUCTOR RESISTANCE, CABLE INSERTION LOSS, REFLECTION AND STIMULUS RESPONSE MEASUREMENTS.
3. DRIP LOOPS SHALL BE INCORPORATED IN CABLE RUNS TO PREVENT WATER FROM TRICKLING DOWN THE LINES INTO THE BUILDING.
4. ALL TRANSMISSION LINES SHALL BE MARKED WITH APPROPRIATE COLOR TAPE BANDS (ONE INCH WIDE COLOR TAPE) FOR IDENTIFICATION NEAR THE ANTENNA, AT THE BOTTOM OF VERTICAL RUN, JUST BEFORE ENTERING THE BUILDING AS WELL AS INSIDE THE BUILDING, BEFORE CONNECTING TO THE SURGE SUPPRESSORS. FOR COLOR CODING SCHEME, SEE EQUIPMENT AND CABLE SCHEDULE.

1
C-4
TOWER ELEVATION
SCALE: 1" = 30'-0"



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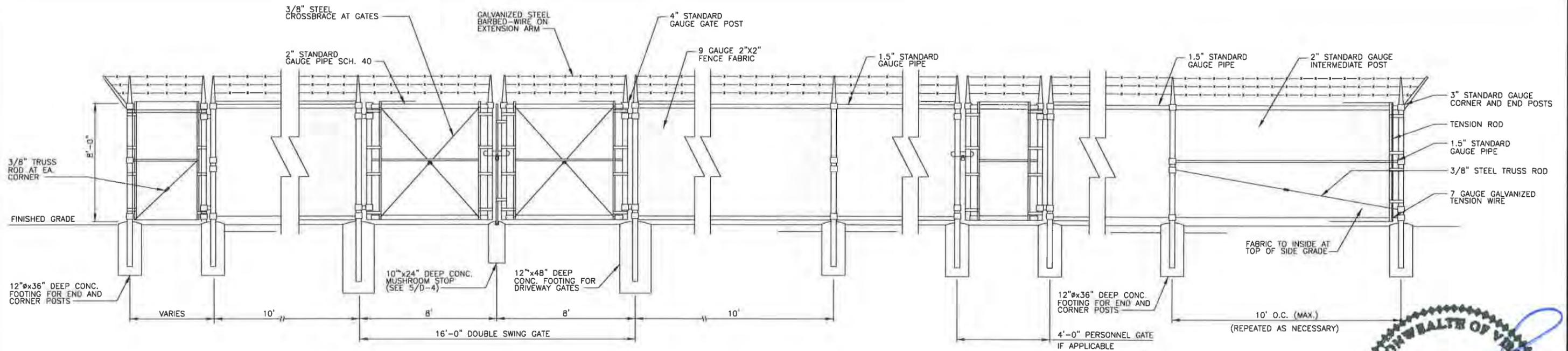
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**TOWER ELEVATION
AND NOTES**
C-4

SEAL:

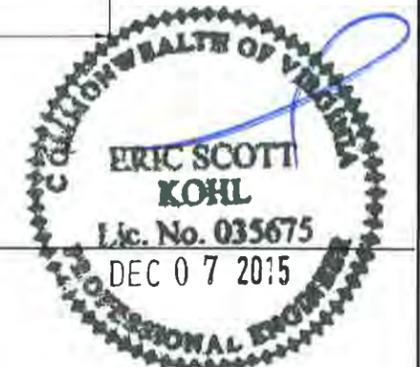


NOTE:
FOR EXACT LOCATION OF GATE(S), REFER TO SITE PLAN

1
D-1

CHAIN LINK FENCE AND GATE ELEVATION

NOT TO SCALE



GENERAL FENCING NOTES

(INSTALL FENCING PER MOTOROLA CIVIL WORKS STANDARDS)

COMPOUND FENCING

THE CONTRACTOR SHALL FURNISH AND INSTALL NEW PERIMETER SECURITY FENCE AS REQUIRED TO ENCLOSE THE NEW EQUIPMENT SHELTERS, ADJUSTED IF NECESSARY IN ACCORDANCE WITH FINAL BUILDING DESIGN. ALL MATERIALS AND LABOR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE HEIGHT OF THE FENCE SHALL BE EIGHT (8) FEET, UNLESS THE DRAWINGS OTHERWISE INDICATED. THE CHAIN LINK FENCE, GATE(S) AND ACCESSORIES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PLANS AND SPECIFICATIONS IN A WORKMANLIKE MANNER.

FOR SITES THAT REQUIRE MODIFICATIONS OR ADDITIONS TO THE EXISTING FENCE, THE CONTRACTOR SHALL MATCH NEW FENCING WITH THE EXISTING HEIGHT AND TYPE. CONTRACTOR IS RESPONSIBLE FOR RE-ATTACHING EXISTING GROUNDS TO EXISTING FENCING AS A RESULT OF SITE EXPANSION OR DEVELOPMENT. ADDITIONAL FENCING WILL BE GROUNDED ACCORDING TO THE SECTION IDENTIFIED UNDER "GROUNDING".

FENCE IS TO BE INSTALLED IN A PROFESSIONAL MANNER TO ENHANCE THE APPEARANCE OF THE INSTALLATION, TO PREVENT ENTRANCE OF PERSONS AND ANIMALS AND TO PROTECT EQUIPMENT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN THAT THE GRADE AT THE FENCE LINE IS CORRECT AND FINAL BEFORE THE FENCE IS INSTALLED.

WARNING SIGNS USING THE INTERNATIONAL SYMBOL OF ELECTRICAL SHOCK HAZARD SHALL BE FURNISHED AND INSTALLED ON THE EXTERIOR OF ALL SIDES OF THE MAIN PERIMETER FENCE AND THE GATE. ADDITIONALLY, SIGNS SHALL BE FURNISHED AND INSTALLED THAT STATE "NO TRESPASSING" IN ENGLISH. THE SIGNS SHALL BE IMPERVIOUS TO WEATHERING, AND BE MOUNTED TO AVOID EASE OF REMOVAL BY VANDALS.

POSTS

THE FENCE FABRIC SHALL BE SUPPORTED BY CORNER POSTS, LINE POSTS AND GATE POSTS (3 INCHES, 2.5 INCHES AND 4 INCHES DIAMETER RESPECTIVELY) MADE FROM SCHEDULE 40 TUBULAR STEEL HOT-DIPPED GALVANIZED INSIDE AND OUT. THESE POSTS SHALL BE BURIED TO A MINIMUM DEPTH OF 36 INCHES IN A CONCRETE OR ANCHOR FOUNDATION AND SHALL NOT BE SPACED MORE THAN TEN FEET APART. ALL POSTS SHALL BE PLUMB, WITH TOPS PROPERLY ALIGNED. ALL BRACE RAILS (EACH 1-5/8 INCH DIAMETER SCHEDULE 40 TUBULAR STEEL HOT-DIPPED GALVANIZED INSIDE AND OUT) AND TRUSS RODS (3/8 INCH DIAMETER HOT-DIPPED GALVANIZED ROD WITH TURNBUCKLES) SHALL BE USED IN THE FENCE CONSTRUCTION. TERMINAL POSTS SHALL BE PROVIDED AT EACH TERMINATION AND CHANGE IN HORIZONTAL OR VERTICAL DIRECTION OF 30 DEGREES OR MORE.

END, CORNER, PULL AND GATE POSTS ARE TO BE BRACED WITH THE SAME MATERIAL AS TOP RAIL. ALL POSTS SHALL BE SET IN A CONCRETE FOUNDATION OF 1:2:4 MIX HAVING A MINIMUM DIAMETER OF 9" AND AT LEAST A 42" DEPTH. LINE POSTS SHALL BE EVENLY SPACED 10' OR LESS APART.

FENCE

FENCING SHALL CONSIST OF #9 GAUGE, 2-INCH ZINC COATED DIAMOND MESH, SECURED TO THE LINE POSTS BY #9 GAUGE ALUMINUM TIE WIRES SPACED AT 12 INCH INTERVALS. THE FABRIC SHALL BE ATTACHED TO THE CORNER OR GATE POSTS BY A TENSION BAR (3/16"x3/4" HOT-DIPPED GALVANIZED STEEL STRIP) THREADED THROUGH THE LAST VERTICAL LINKS IN THE FABRIC. THE TENSION BAR SHALL BE ATTACHED TO THE POSTS USING TENSION BANDS NOT LESS THAN 15 INCHES ON CENTER. ATTACHMENT BOLTS FOR THE BANDS SHALL BE 3/8"x1-1/2" GALVANIZED (MAY BE STAINLESS STEEL) CARRIAGE BOLTS WITH NUTS.

THE TENSION WIRE SHALL RUN ALONG THE BOTTOM OF THE FABRIC IN LIEU OF A BOTTOM RAIL. THE TENSION WIRE SHALL BE MADE OF 7 GAUGE HOT DIP GALVANIZED SPRING STEEL TENSIONWIRE WITH A BREAKING STRENGTH OF NOT LESS THAN 1900 POUNDS. THIS WIRE SHALL BE KEPT TAUT WITH GALVANIZED TURNBUCKLES AND ATTACHED TO THE POSTS WITH GALVANIZED HARDWARE OR CABLE CLAMPS. THE LOWER PORTION OF THE FENCE FABRIC SHALL BE ATTACHED TO THE TENSION WIRE WITH #9 GAUGE ROUND ALUMINUM TIE WIRES SPACED AT NOT MORE THAN 24 INCH INTERVALS. THE FABRIC MUST BE INSTALLED FLUSH TO THE GROUND/GRAVEL SURFACE IN WAY THAT SHALL PREVENT EVEN A SMALL CHILD FROM CRAWLING UNDERNEATH. THE MESH FENCING MATERIAL SHALL BE SECURED TO TERMINAL POSTS USING STRETCHER BARS AND STEEL BANDS AND LINE POSTS USING WIRE CLIPS. THE TOP OF THE FENCING SHALL HAVE BARBED WIRE WITH 45 DEGREE EXTENSION ARMS POINTED OUTSIDE THE FENCE AREA.

GATE

A SIXTEEN FEET (16 FEET) WIDE GATE CONSISTING OF (2) EIGHT FEET WIDE HALVES, SHALL BE INSTALLED IN THE FENCE TO ALLOW PERSONNEL AND EQUIPMENT TO ENTER THE FENCED COMPOUND AND HAVE ACCESS TO THE ENTRANCE OF THE BUILDING OR SHELTER. GATE FRAMES SHALL BE CONSTRUCTED OF 2-1/2" OUTSIDE DIAMETER HEAVY DUTY OR GALVANIZED PIPE OR OF 1-1/4" SQUARE ALUMINUM TUBE. GATES MADE OF GALVANIZED PIPE SHALL BE ASSEMBLED USING CORNER FITTINGS OF HEAVY PRESSED STEEL OR MALLEABLE CASTINGS OR MAY BE WELDED IF THE ENTIRE FRAME IS HOT DIP GALVANIZED AFTER THE WELDING PROCESS IS COMPLETED. GATES MADE OF ALUMINUM TUBE MAY BE WELDED AT THE CORNERS. INDIVIDUAL GATES 10 FEET OR GREATER IN WIDTH SHALL HAVE AN INTERNAL VERTICAL BRACE OF 2 INCH HEAVY DUTY GALVANIZED PIPE OR OF 1 1/4 INCH SQUARE ALUMINUM TUBE. VERTICAL EXTENSIONS SHALL BE INSTALLED ONE FOOT ABOVE THE GATE FRAME TO ACCOMMODATE THREE STRANDS OF BARBED WIRE. ALL GATES SHALL BE EQUIPPED WITH HEAVY DUTY GALVANIZED STEEL TYPE HINGES OF ADEQUATE STRENGTH TO SUPPORT THE GATE. THESE HINGES SHALL HAVE LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGES SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. GATES SHALL BE INSTALLED PLUMB, LEVEL AND SECURE FOR FULL OPENING WITHOUT INTERFERENCE. THEY SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON WITHOUT BINDING OR DRAGGING. LATCHES, STOPS AND KEEPERS SHALL BE PROVIDED FOR ALL GATES. DOUBLE GATE LATCHES SHALL HAVE A DROP BAR ARRANGED TO ENGAGE THE CENTER STOP. THE GATE SHALL BE SECURED BY A POSITIVE TYPE LOCKING LATCH THAT CAN BE SECURED BY A PADLOCK PROVIDED BY MOTOROLA. THIS LATCH ASSEMBLY SHALL INCLUDE A PIN-TYPE MECHANISM THAT SECURES THE GATE BY CAUSING THE PIN TO ENTER A SOCKET SECURED IN CONCRETE AT THE BOTTOM AND CANNOT BE REMOVED UNTIL THE LOCKING LATCH IS OPENED. THE CONSTRUCTION OF THE GATE SHALL INCLUDE REINFORCING TO PREVENT SAGGING OR BENDING. A PLUNGER ROD AND CATCH SHALL ALSO BE INSTALLED TO SECURE GATE IN THE OPEN POSITION.

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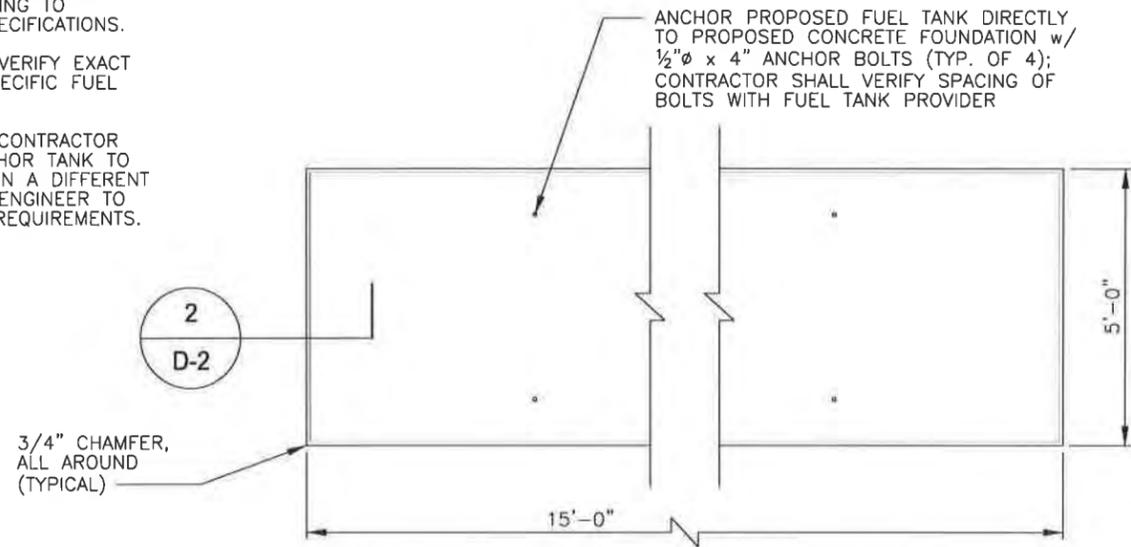
CONSTRUCTION DETAILS

D-1

SEAL:

NOTES:

1. CONTRACTOR SHALL MOUNT 1000gal. LP FUEL TANK TO CONCRETE FOUNDATION ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. CONTRACTOR SHALL VERIFY EXACT DIMENSIONS WITH SPECIFIC FUEL TANK PROVIDED.
3. TANK PROVIDER OR CONTRACTOR MAY DESIRE TO ANCHOR TANK TO A LARGER PAD, OR IN A DIFFERENT MANNER. CONTACT ENGINEER TO VERIFY ANCHORAGE REQUIREMENTS.



1
D-2

FUEL TANK FOUNDATION

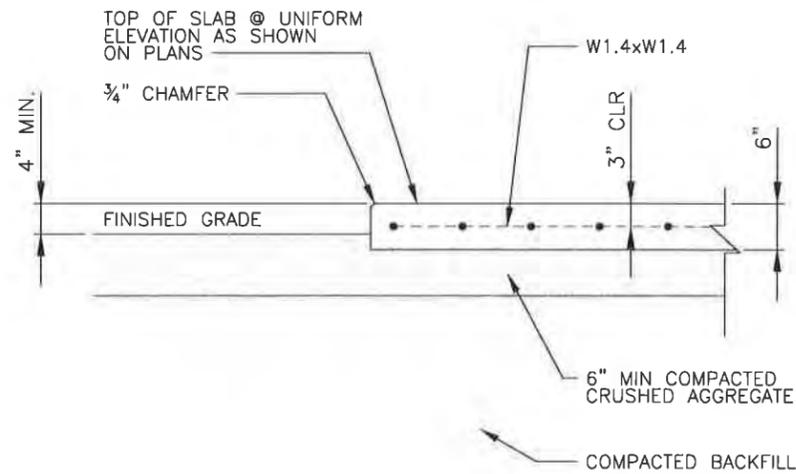
NOT TO SCALE

GENERAL CONCRETE NOTES

1. CONCRETE SHALL ATTAIN A MINIMUM COMPRESSED STRENGTH OF 3,000 PSI IN 28 DAYS (2,500 PSI PRIOR TO BACKFILL); CONTINUOUS INSPECTION IS NOT REQUIRED. CONCRETE SHALL CONFORM TO SLUMP: 4" MIN / 6" MAX AND AIR ENTRAINMENT: 2% - 3% BY VOLUME.
2. MAXIMUM COARSE AGGREGATED SIZE SHALL BE 3/4".
3. REINFORCEMENT SHALL BE NEW BILLET STEEL DEFORMED BARS CONFORMING TO ASTM SPECIFICATIONS A615 GRADE 60.
4. REINFORCEMENT SHALL COMPLY WITH THE LATEST EDITION OF ACI FOR MINIMUM CLEARANCES.
5. ALL EMBEDDED ITEMS SHALL BE SECURELY HELD IN POSITION PRIOR TO PLACEMENT OF CONCRETE. ALL CONCRETE SHALL BE READY-MIXED IN ACCORDANCE WITH ASTM C9-4.
6. MAINTAIN TEMPERATURE OF CAST IN PLACE CONCRETE AT BETWEEN 50°F AND 90°F.
6. DO NOT USE RETEMPERED CONCRETE, OR ADD WATER TO READY-MIX CONCRETE AT THE JOB SITE.
7. MINIMUM REBAR SPLICES SHALL BE 40 DIAMETERS. MAKE BARS CONTINUOUS AROUND CORNERS. WHERE PERMITTED, SPLICES MADE BY CONTACT LAPS SHALL BE CLASS "B" TENSION LAPS UNLESS NOTED OTHERWISE.
8. CONTRACTOR SHALL CONSTRUCT ENTIRE FOUNDATION FOOTING PRIOR TO BACKFILLING AND POURING SLAB.

NOTES:

1. PAD-ON-GRADE SHALL BE PLACED OVER 6" MIN. AASHTO NO. 57 GRAVEL, ON WELL COMPACTED SOIL TO BEARING PRESSURE OF 2000 PSF MIN.
2. VERIFY ALL UNDERGROUND SERVICES AND CONDUIT LOCATIONS PRIOR TO PAD FOUNDATION EXCAVATION.
3. VERIFY SIZE AND PAD REQUIREMENTS OF FUEL TANK WITH EQUIPMENT SUPPLIER PRIOR TO PAD FOUNDATION EXCAVATION.
4. VERIFY SIZE, LOCATION, AND NUMBER OF STRAPS WITH EQUIPMENT SUPPLIER.



2
D-2

FUEL TANK FOUNDATION SECTION

NOT TO SCALE

GENERAL FOUNDATION NOTES

1. CONTRACTOR SHALL GRADE SITE TO PROVIDE LEVEL FOUNDATION FOR SHELTER AND GENERATOR.
2. IF SOUND ROCK IS ENCOUNTERED, PREVENTING INSTALLATION OF SHELTER OR GENERATOR MAT PERIMETER FOOTING, CONTRACTOR MAY DRILL AND GROUT #4 REBAR AT 18" ON CENTER INTO ROCK. DRILL A MINIMUM OF 12" INTO SOUND ROCK AND ANCHOR REBAR WITH HIGH STRENGTH GROUT.
3. REBARS SHALL BE SUPPORTED ON GALVANIZED CHAIRS OR BRICKS. "PULL-UP" OF REINFORCEMENT AT THE TIME OF CONCRETE PLACEMENT IS NOT ALLOWED.



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**CONSTRUCTION
DETAILS**

D-2

SEAL:

Structural Design Report
195' S3TL Series HD1 Self-Supporting Tower
Site: Blue Ridge LLC, VA

IDENTICAL TOWER SPECS

Prepared for: MOTOROLA ISPO
by: Sabre Towers & Poles™

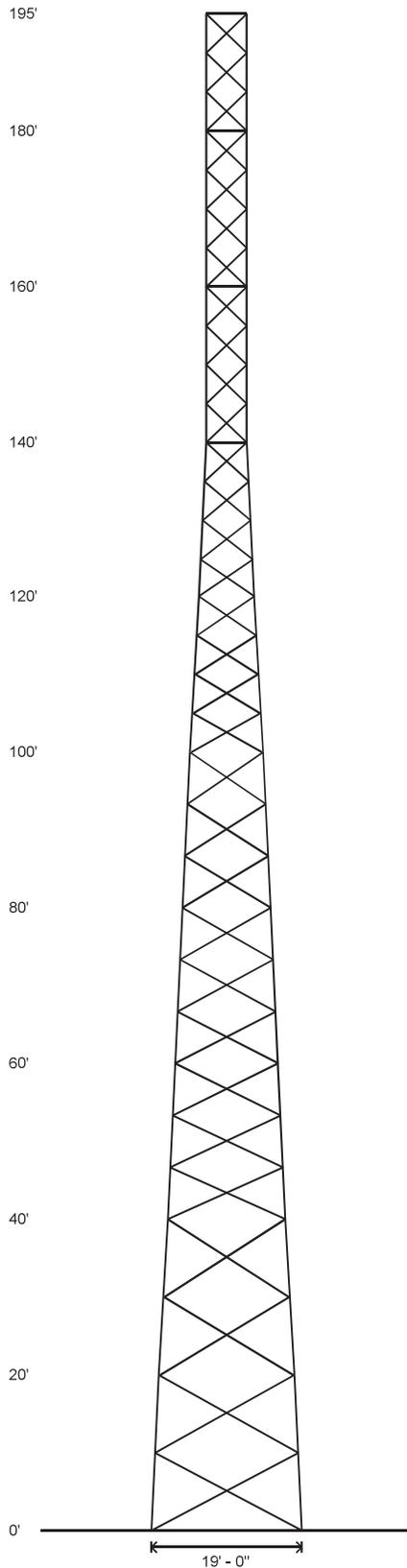
Job Number: 126087

September 2, 2015

Tower Profile.....	1-2
Foundation Design Summary.....	3
Maximum Leg Loads.....	4
Maximum Diagonal Loads.....	5
Maximum Foundation Loads.....	6
Calculations.....	7-19



Legs	8.625 OD X .322 L 3 1/2 X 3 1/2 X 1/4	5.563 OD X .500 A	5.563 OD X .375 L 3 X 3 X 3/16	4.500 OD X .337 B	4.000 OD X .318	3.500 OD X .216	2.875 OD X .203 L 2 X 2 X 1/8	2.375 OD X .154
Diagonals								
Horizontals			NONE					
Brace Bolts	(1) 3/4"	(1) 3/4"						
Top Face Width	17'	15'	13'	11'	9'	7'	5'	
Panel Count/Height	4 @ 10'		9 @ 6.6667'				19 @ 5'	
Section Weight	3657	3306	2587	2459	1878	1460	865	721
								565



Base Reactions

Total Foundation		Individual Footing	
Shear (kips)	48.52	Shear (kips)	28.23
Axial (kips)	104.29	Compression (kips)	287
Moment (ft-kips)	4522	Uplift (kips)	252
Torsion (ft-kips)	22.14		

Material List

Display	Value
A	L 3 1/2 X 3 X 1/4 (SLV)
B	L 2 1/2 X 2 1/2 X 3/16
C	L 2 X 2 X 1/8

Notes

- 1) All legs are 50 ksi.
- 2) All braces are 36 ksi.
- 3) All brace bolts are A325-X.
- 4) The tower model is S3TL Series HD1.
- 5) Transmission lines are to be attached to standard 12 hole waveguide ladders with stackable hangers.
- 6) Azimuths are relative (not based on true north).
- 7) Foundation loads shown are maximums.
- 8) (6) 1 1/2" dia. F1554 grade 105 anchor bolts per leg. Minimum 58" embedment from top of concrete to top of nut.
- 9) All unequal angles are oriented with the short leg vertical.
- 10) Weights shown are estimates. Final weights may vary.
- 11) This tower was designed for a basic wind speed of 90 mph with 0" of radial ice, and 30 mph with 3/4" of radial ice, in accordance with ANSI/TIA-222-G, Structure Class III, Exposure Category C, Topographic Category 1.
- 12) The foundation loads shown are factored loads.

	Sabre Communications Corporation 7101 Southbridge Drive P.O. Box 658 Sioux City, IA 51102-0658 Phone: (712) 258-6690 Fax: (712) 279-0814	Job: 126087
	Customer: MOTOROLA ISPO	Site Name: Blue Ridge LLC, VA
Description: 195' S3TL		Date: 9/2/2015 By: REB
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Designed Appurtenance Loading

Elev	Description	Tx-Line
179	6ft Sidearm	
179	(1) SE419-SF1P2LDF	(1) 1 5/8"
174	6ft Sidearm	
174	(1) SE414-SF2P2LNF	(1) 1 5/8"
160	(1) SD224	
151	6ft Sidearm	
151		(1) 1 5/8"
140	(3) 6ft Sidearms	
140	(3) 8' X 1' X 6INs	(3) 1 5/8"
130	(3) 6ft Sidearms	
130	(3) 8' X 1' X 6INs	(3) 1 5/8"
120	(3) 6ft Sidearms	
120	(3) 8' X 1' X 6INs	(3) 1 5/8"

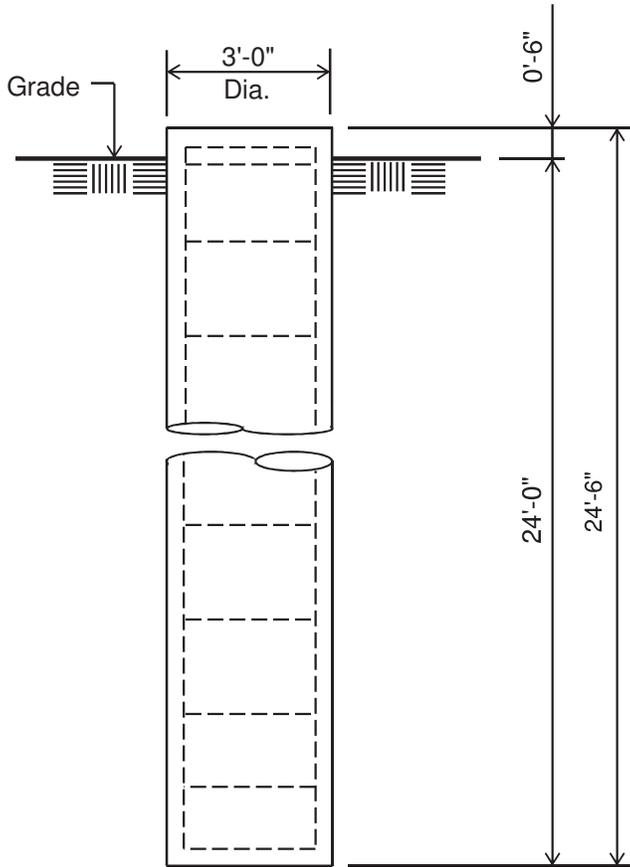
Elev	Description	Tx-Line
85	(1) 8' Ice Shield	
85	(1) 8' Ice Shield	
80	(2) Leg Dish Mount	
80	(2) 8' H.P. Dishes	(2) 1 5/8"
75	(1) 8' Ice Shield	
71	(1) 8' Ice Shield	
70	Leg Dish Mount	
70	(1) 8' H.P. Dish	(1) 1 5/8"
66	Leg Dish Mount	
66	(1) 8' H.P. Dish	(1) 1 5/8"
35	(1) 8' Ice Shield	
30	Leg Dish Mount	
30	(1) 8' H.P. Dish	(1) 1 5/8"

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	Site Name:	Blue Ridge LLC, VA
	Description:	195' S3TL
	Date:	9/2/2015

Customer: MOTOROLA ISPO

Site: Blue Ridge LLC, VA

195 ft. Model S3TL Series HD1 Self Supporting Tower At
90 mph Wind with no ice and 30 mph Wind with 0.75 in. Ice per ANSI/TIA-222-G.
Antenna Loading per Page 1



ELEVATION VIEW

(6.41 Cu. Yds. each)

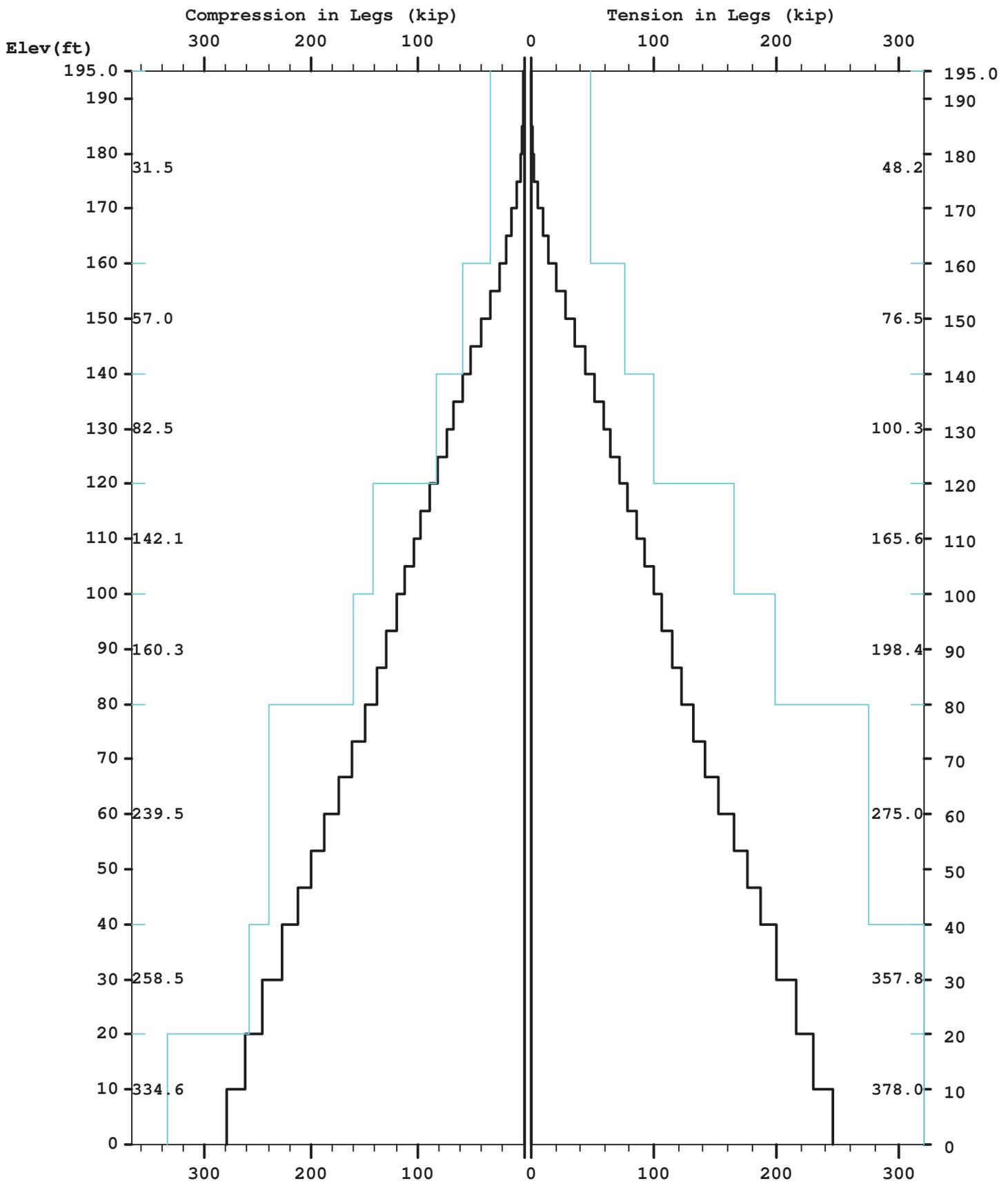
(3 REQUIRED; NOT TO SCALE)

Notes:

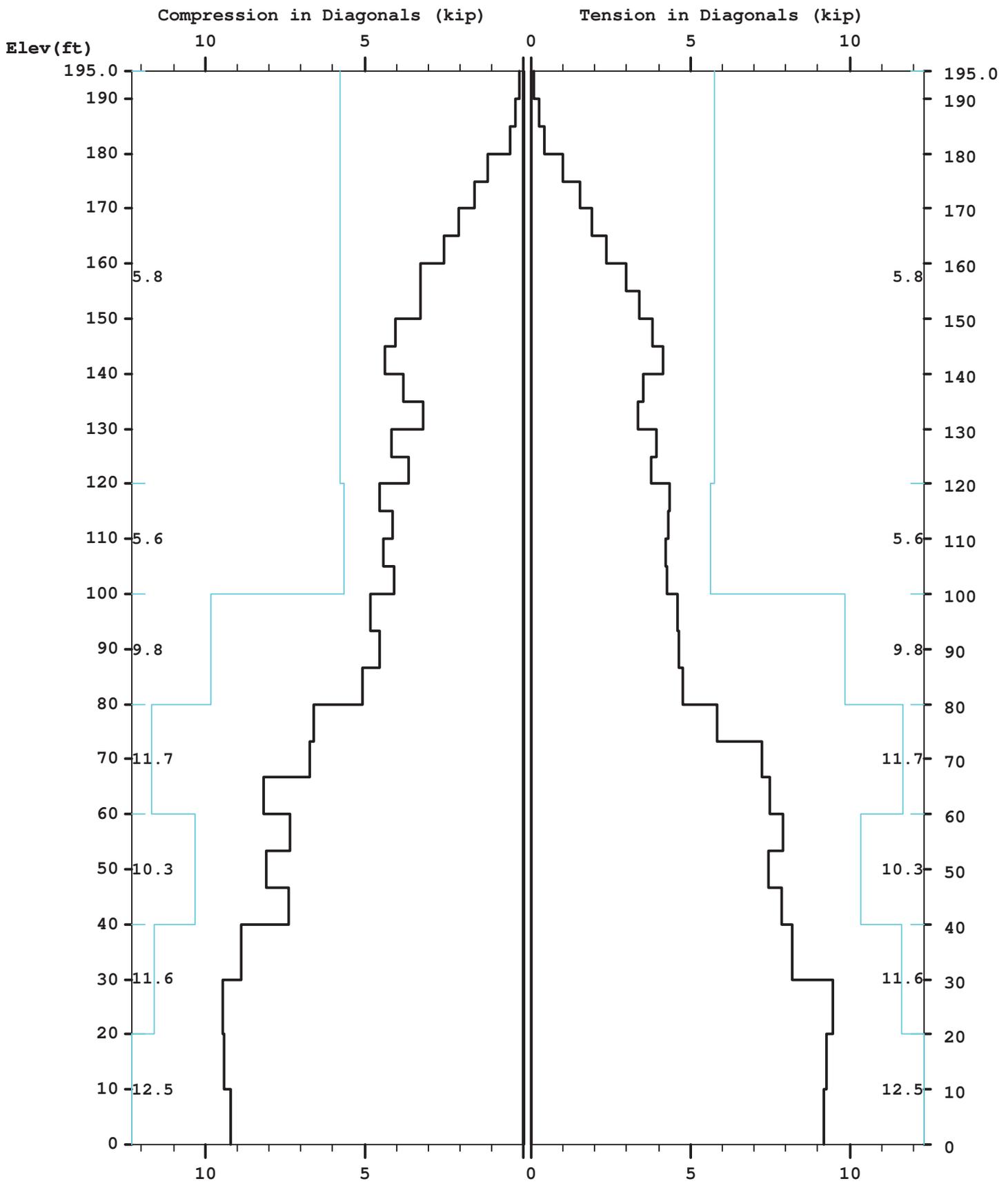
- 1). Concrete shall have a minimum 28-day compressive strength of 4500 PSI, in accordance with ACI 318-05.
- 2). Rebars to conform to ASTM specification A615 Grade 60.
- 3). All rebar to have a minimum of 3" concrete cover.
- 4). All exposed concrete corners to be chamfered 3/4".
- 5). The foundation design is based on the geotechnical report by Terracon, Project No. 70155139, dated August 28, 2015
- 6). See the geotechnical report for drilled pier installation requirements, if specified.
- 7). The foundation is based on the following factored loads:
Factored uplift (kips) = 252
Factored download (kips) = 287
Factored shear (kips) = 28
- 8). This is a design drawing only. Please see final construction drawings for all installation details.

Rebar Schedule per Pier	
Pier	(14) #7 vertical rebar w/#4 ties, two (2) within top 5" of pier then 12" C/C

Maximum

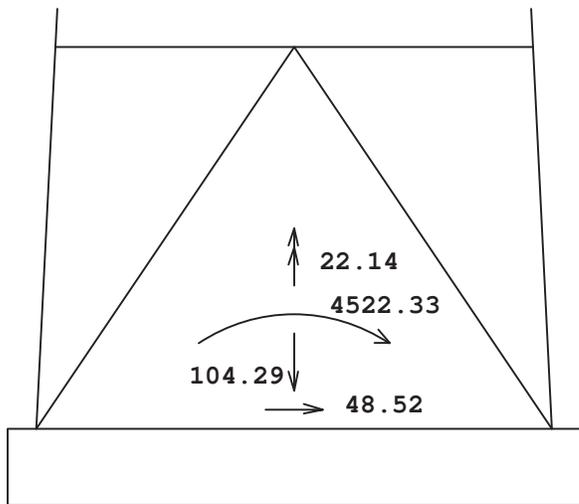


Maximum

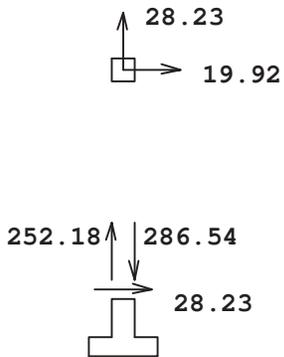


Maximum

TOTAL FOUNDATION LOADS (kip, ft-kip)



INDIVIDUAL FOOTING LOADS (kip)



Latticed Tower Analysis (Unguyed)
 Processed under license at:

(c)2013 Guymast Inc. 416-736-7453

Sabre Towers and Poles

on: 22 jul 2015 at: 8:01:12

MAST GEOMETRY (ft)

PANEL TYPE	NO.OF LEGS	ELEV.AT BOTTOM	ELEV.AT TOP	F.W..AT BOTTOM	F.W..AT TOP	TYPICAL PANEL HEIGHT
X	3	190.00	195.00	5.00	5.00	5.00
X	3	180.00	190.00	5.00	5.00	5.00
X	3	175.00	180.00	5.00	5.00	5.00
X	3	160.00	175.00	5.00	5.00	5.00
X	3	155.00	160.00	5.00	5.00	5.00
X	3	140.00	155.00	5.00	5.00	5.00
X	3	135.00	140.00	5.50	5.00	5.00
X	3	120.00	135.00	7.00	5.50	5.00
X	3	100.00	120.00	9.00	7.00	5.00
X	3	80.00	100.00	11.00	9.00	6.67
X	3	60.00	80.00	13.00	11.00	6.67
X	3	40.00	60.00	15.00	13.00	6.67
X	3	20.00	40.00	17.00	15.00	10.00
X	3	0.00	20.00	19.00	17.00	10.00

MEMBER PROPERTIES

MEMBER TYPE	BOTTOM ELEV ft	TOP ELEV ft	X-SECTN AREA in.sq	RADIUS OF GYRAT in	ELASTIC MODULUS ksi	THERMAL EXPANSN /deg
LE	160.00	195.00	1.075	0.787	29000.	0.0000116
LE	140.00	160.00	1.704	0.787	29000.	0.0000116
LE	120.00	140.00	2.228	0.787	29000.	0.0000116
LE	100.00	120.00	3.678	0.787	29000.	0.0000116
LE	80.00	100.00	4.407	0.787	29000.	0.0000116
LE	40.00	80.00	6.111	0.787	29000.	0.0000116
LE	20.00	40.00	7.952	0.787	29000.	0.0000116
LE	0.00	20.00	8.399	0.787	29000.	0.0000116
DI	100.00	195.00	0.484	0.626	29000.	0.0000116
DI	80.00	100.00	0.902	0.626	29000.	0.0000116
DI	40.00	80.00	1.090	0.626	29000.	0.0000116
DI	20.00	40.00	1.562	0.626	29000.	0.0000116
DI	0.00	20.00	1.688	0.626	29000.	0.0000116
HO	190.00	195.00	0.484	0.626	29000.	0.0000116
HO	175.00	180.00	0.484	0.626	29000.	0.0000116
HO	155.00	160.00	0.484	0.626	29000.	0.0000116
HO	135.00	140.00	0.484	0.626	29000.	0.0000116

FACTORED MEMBER RESISTANCES

BOTTOM ELEV ft	TOP ELEV ft	LEGS		DIAGONALS		HORIZONTALS		INT BRACING	
		COMP kip	TENS kip	COMP kip	TENS kip	COMP kip	TENS kip	COMP kip	TENS kip
190.0	195.0	31.48	48.15	5.76	5.76	5.76	5.76	0.00	0.00
180.0	190.0	31.48	48.15	5.76	5.76	0.00	0.00	0.00	0.00
175.0	180.0	31.48	48.15	5.76	5.76	5.76	5.76	0.00	0.00
160.0	175.0	31.48	48.15	5.76	5.76	0.00	0.00	0.00	0.00
155.0	160.0	57.04	76.50	5.76	5.76	5.76	5.76	0.00	0.00
140.0	155.0	57.04	76.50	5.76	5.76	0.00	0.00	0.00	0.00
135.0	140.0	82.52	100.35	5.76	5.76	5.76	5.76	0.00	0.00
120.0	135.0	82.52	100.35	5.76	5.76	0.00	0.00	0.00	0.00
100.0	120.0	142.05	165.60	5.63	5.63	0.00	0.00	0.00	0.00
80.0	100.0	160.28	198.45	9.84	9.84	0.00	0.00	0.00	0.00
60.0	80.0	239.46	274.95	11.69	11.69	0.00	0.00	0.00	0.00
40.0	60.0	239.46	274.95	10.34	10.34	0.00	0.00	0.00	0.00
20.0	40.0	258.49	357.75	11.62	11.62	0.00	0.00	0.00	0.00
0.0	20.0	334.65	378.00	12.53	12.53	0.00	0.00	0.00	0.00

* only 3 condition(s) shown in full

* Some wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

90 mph wind with no ice. wind Azimuth: 0

PL - 0

MAST LOADING

LOAD TYPE	ELEV ft	APPLY... RADIUS ft	LOAD..AT AZI	LOAD AZI	.....FORCES.....		.....MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	179.0	0.00	0.0	0.0	0.75	0.39	0.00	0.00
C	174.0	0.00	0.0	0.0	0.47	0.38	0.00	0.00
C	160.0	0.00	0.0	0.0	0.17	0.04	0.00	0.00
C	151.0	0.00	0.0	0.0	0.43	0.36	0.00	0.00
C	140.0	0.00	0.0	0.0	1.51	1.37	0.00	0.00
C	130.0	0.00	0.0	0.0	1.49	1.37	0.00	0.00
C	120.0	0.00	0.0	0.0	1.46	1.37	0.00	0.00
C	85.0	0.00	0.0	0.0	0.27	0.96	0.00	0.00
C	85.0	0.00	0.0	0.0	0.27	0.96	0.00	0.00
C	75.0	0.00	0.0	0.0	0.26	0.96	0.00	0.00
C	71.0	0.00	0.0	0.0	0.26	0.96	0.00	0.00
C	35.0	0.00	0.0	0.0	0.22	0.96	0.00	0.00
D	195.0	0.00	180.0	0.0	0.07	0.04	0.00	0.00
D	190.0	0.00	180.0	0.0	0.07	0.04	0.00	0.00
D	190.0	0.00	180.0	0.0	0.06	0.03	0.00	0.00
D	180.0	0.00	180.0	0.0	0.06	0.03	0.00	0.00
D	180.0	0.00	42.0	0.0	0.14	0.04	0.01	0.09
D	175.0	0.00	42.0	0.0	0.14	0.04	0.01	0.09
D	175.0	0.00	42.0	0.0	0.14	0.04	0.01	0.11
D	160.0	0.00	42.0	0.0	0.14	0.04	0.01	0.11
D	160.0	0.00	42.0	0.0	0.15	0.05	0.01	0.11
D	155.0	0.00	42.0	0.0	0.15	0.05	0.01	0.11
D	155.0	0.00	42.0	0.0	0.14	0.05	0.02	0.11
D	140.0	0.00	42.0	0.0	0.14	0.05	0.02	0.11
D	140.0	0.00	43.2	0.0	0.16	0.07	0.02	0.11
D	130.0	0.00	45.7	0.0	0.15	0.06	0.02	0.10
D	130.0	0.00	38.1	0.0	0.15	0.06	0.04	0.10
D	120.0	0.00	40.1	0.0	0.15	0.07	0.03	0.10
D	120.0	0.00	33.9	0.0	0.15	0.09	0.05	0.10
D	100.0	0.00	38.5	0.0	0.16	0.09	0.04	0.10
D	100.0	0.00	28.7	0.0	0.16	0.11	0.06	0.10
D	80.0	0.00	26.3	0.0	0.17	0.12	0.06	0.10
D	80.0	0.00	22.9	0.0	0.18	0.15	0.08	0.09
D	53.3	0.00	20.0	0.0	0.18	0.16	0.10	0.09
D	53.3	0.00	20.8	0.0	0.18	0.16	0.09	0.09
D	40.0	0.00	21.6	0.0	0.18	0.17	0.09	0.09
D	40.0	0.00	17.2	0.0	0.15	0.19	0.11	0.08
D	20.0	0.00	16.7	0.0	0.15	0.20	0.12	0.08
D	20.0	0.00	15.7	0.0	0.15	0.21	0.13	0.07
D	0.0	0.00	16.5	0.0	0.15	0.22	0.12	0.07

ANTENNA LOADING

.....ANTENNA..... TYPE	ELEV ft	AZI	ATTACHMENT		.....ANTENNA FORCES.....			
			RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
HP	80.0	0.0	7.8	0.0	2.11	0.00	0.54	0.00
HP	80.0	180.0	7.8	120.0	-1.70	0.00	0.54	0.00
HP	70.0	0.0	8.4	0.0	2.05	0.00	0.54	0.00
HP	66.0	180.0	8.7	240.0	-1.63	0.00	0.54	0.00
HP	30.0	0.0	10.7	0.0	1.72	0.00	0.54	0.00

SUPPRESS PRINTING

LOADS INPUT	...FOR THIS LOADING..				.....MAXIMUMS.....			
	DISPL	MEMBER FORCES	FOUNDN LOADS		ALL	DISPL	MEMBER FORCES	FOUNDN LOADS
no	yes	yes	yes		no	no	no	no

LOADING CONDITION k

MAST LOADING

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LOAD TYPE	ELEV ft	APPLY... RADIUS ft	LOAD...AT AZI	LOAD AZIFORCES.....	MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	179.0	0.00	0.0	0.0	0.75	0.29	0.00	0.00
C	174.0	0.00	0.0	0.0	0.47	0.28	0.00	0.00
C	160.0	0.00	0.0	0.0	0.17	0.03	0.00	0.00
C	151.0	0.00	0.0	0.0	0.43	0.27	0.00	0.00
C	140.0	0.00	0.0	0.0	1.51	1.03	0.00	0.00
C	130.0	0.00	0.0	0.0	1.49	1.03	0.00	0.00
C	120.0	0.00	0.0	0.0	1.46	1.03	0.00	0.00
C	85.0	0.00	0.0	0.0	0.27	0.72	0.00	0.00
C	85.0	0.00	0.0	0.0	0.27	0.72	0.00	0.00
C	75.0	0.00	0.0	0.0	0.26	0.72	0.00	0.00
C	71.0	0.00	0.0	0.0	0.26	0.72	0.00	0.00
C	35.0	0.00	0.0	0.0	0.22	0.72	0.00	0.00
D	195.0	0.00	180.0	0.0	0.07	0.03	0.00	0.00
D	190.0	0.00	180.0	0.0	0.07	0.03	0.00	0.00
D	190.0	0.00	180.0	0.0	0.06	0.02	0.00	0.00
D	180.0	0.00	180.0	0.0	0.06	0.02	0.00	0.00
D	180.0	0.00	42.0	0.0	0.14	0.03	0.01	0.09
D	175.0	0.00	42.0	0.0	0.14	0.03	0.01	0.09
D	175.0	0.00	42.0	0.0	0.14	0.03	0.01	0.11
D	160.0	0.00	42.0	0.0	0.14	0.03	0.01	0.11
D	160.0	0.00	42.0	0.0	0.15	0.04	0.01	0.11
D	155.0	0.00	42.0	0.0	0.15	0.04	0.01	0.11
D	155.0	0.00	42.0	0.0	0.14	0.04	0.01	0.11
D	140.0	0.00	42.0	0.0	0.14	0.04	0.01	0.11
D	140.0	0.00	43.0	0.0	0.15	0.05	0.02	0.11
D	120.0	0.00	39.9	0.0	0.15	0.05	0.03	0.10
D	120.0	0.00	33.9	0.0	0.15	0.07	0.04	0.10
D	100.0	0.00	38.5	0.0	0.16	0.07	0.03	0.10
D	100.0	0.00	28.7	0.0	0.16	0.09	0.04	0.10
D	80.0	0.00	26.3	0.0	0.17	0.09	0.05	0.10
D	80.0	0.00	22.9	0.0	0.18	0.11	0.06	0.09
D	53.3	0.00	20.0	0.0	0.18	0.12	0.07	0.09
D	53.3	0.00	20.8	0.0	0.18	0.12	0.07	0.09
D	40.0	0.00	21.6	0.0	0.18	0.12	0.07	0.09
D	40.0	0.00	17.2	0.0	0.15	0.15	0.09	0.08
D	20.0	0.00	16.7	0.0	0.15	0.15	0.09	0.08
D	20.0	0.00	15.7	0.0	0.15	0.16	0.10	0.07
D	0.0	0.00	16.5	0.0	0.15	0.16	0.09	0.07

ANTENNA LOADING

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.....ANTENNA..... TYPE	ELEV ft	AZI	ATTACHMENT	ANTENNA FORCES.....			
			RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
HP	80.0	0.0	7.8	0.0	2.11	0.00	0.40	0.00
HP	80.0	180.0	7.8	120.0	-1.70	0.00	0.40	0.00
HP	70.0	0.0	8.4	0.0	2.05	0.00	0.40	0.00
HP	66.0	180.0	8.7	240.0	-1.63	0.00	0.40	0.00
HP	30.0	0.0	10.7	0.0	1.72	0.00	0.40	0.00

SUPPRESS PRINTING

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LOADS INPUT	...FOR THIS LOADING..			MAXIMUMS.....			
	DISPL	MEMBER FORCES	FOUNDN LOADS		ALL	DISPL	MEMBER FORCES	FOUNDN LOADS
no	yes	yes	yes		no	no	no	no

LOADING CONDITION AU

MAST LOADING

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LOAD TYPE	ELEV ft	APPLY... RADIUS ft	LOAD...AT AZI	LOAD AZIFORCES.....	MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	179.0	0.00	0.0	0.0	0.08	0.89	0.00	0.00
C	174.0	0.00	0.0	0.0	0.06	1.02	0.00	0.00
C	160.0	0.00	0.0	0.0	0.05	0.12	0.00	0.00
C	151.0	0.00	0.0	0.0	0.06	0.80	0.00	0.00
C	140.0	0.00	0.0	0.0	0.16	3.19	0.00	0.00
C	130.0	0.00	0.0	0.0	0.16	3.17	0.00	0.00
C	120.0	0.00	0.0	0.0	0.16	3.16	0.00	0.00
C	85.0	0.00	0.0	0.0	0.02	1.37	0.00	0.00
C	85.0	0.00	0.0	0.0	0.02	1.37	0.00	0.00
C	75.0	0.00	0.0	0.0	0.02	1.37	0.00	0.00
C	71.0	0.00	0.0	0.0	0.02	1.36	0.00	0.00
C	35.0	0.00	0.0	0.0	0.02	1.34	0.00	0.00
D	195.0	0.00	180.0	0.0	0.01	0.22	0.00	0.00
D	190.0	0.00	180.0	0.0	0.01	0.22	0.00	0.00
D	190.0	0.00	180.0	0.0	0.01	0.18	0.00	0.00
D	180.0	0.00	180.0	0.0	0.01	0.18	0.00	0.00
D	180.0	0.00	42.0	0.0	0.01	0.25	0.06	0.01
D	175.0	0.00	42.0	0.0	0.01	0.25	0.06	0.01
D	175.0	0.00	42.0	0.0	0.01	0.22	0.09	0.01
D	160.0	0.00	42.0	0.0	0.01	0.22	0.09	0.01
D	160.0	0.00	42.0	0.0	0.01	0.27	0.09	0.01
D	155.0	0.00	42.0	0.0	0.01	0.27	0.09	0.01
D	155.0	0.00	42.0	0.0	0.01	0.23	0.09	0.01
D	140.0	0.00	42.0	0.0	0.01	0.23	0.10	0.01
D	140.0	0.00	43.2	0.0	0.01	0.30	0.13	0.01
D	135.0	0.00	43.2	0.0	0.01	0.30	0.13	0.01
D	135.0	0.00	45.7	0.0	0.01	0.27	0.12	0.01
D	130.0	0.00	45.7	0.0	0.01	0.27	0.12	0.01
D	130.0	0.00	38.1	0.0	0.01	0.29	0.18	0.01
D	125.0	0.00	38.1	0.0	0.01	0.29	0.18	0.01
D	125.0	0.00	40.1	0.0	0.01	0.29	0.17	0.01
D	120.0	0.00	40.1	0.0	0.01	0.29	0.17	0.01
D	120.0	0.00	33.8	0.0	0.01	0.34	0.24	0.01
D	115.0	0.00	33.8	0.0	0.01	0.34	0.24	0.01
D	115.0	0.00	35.4	0.0	0.01	0.34	0.23	0.01
D	110.0	0.00	35.4	0.0	0.01	0.34	0.23	0.01
D	110.0	0.00	36.9	0.0	0.01	0.35	0.22	0.01
D	105.0	0.00	36.9	0.0	0.01	0.35	0.22	0.01
D	105.0	0.00	38.4	0.0	0.01	0.36	0.20	0.01
D	100.0	0.00	38.4	0.0	0.01	0.36	0.20	0.01
D	100.0	0.00	27.8	0.0	0.01	0.38	0.28	0.01
D	93.3	0.00	27.8	0.0	0.01	0.38	0.28	0.01
D	93.3	0.00	29.3	0.0	0.01	0.38	0.27	0.01
D	86.7	0.00	29.3	0.0	0.01	0.38	0.27	0.01
D	86.7	0.00	25.5	0.0	0.01	0.39	0.30	0.01
D	80.0	0.00	25.5	0.0	0.01	0.39	0.30	0.01
D	80.0	0.00	22.9	0.0	0.02	0.46	0.37	0.01
D	73.3	0.00	22.9	0.0	0.02	0.46	0.37	0.01
D	73.3	0.00	21.7	0.0	0.02	0.47	0.39	0.01
D	66.7	0.00	21.7	0.0	0.02	0.47	0.39	0.01
D	66.7	0.00	20.5	0.0	0.02	0.48	0.42	0.01
D	40.0	0.00	21.2	0.0	0.02	0.50	0.41	0.01
D	40.0	0.00	17.2	0.0	0.01	0.48	0.48	0.01
D	20.0	0.00	16.7	0.0	0.01	0.49	0.51	0.01
D	20.0	0.00	15.7	0.0	0.01	0.53	0.61	0.00
D	10.0	0.00	15.7	0.0	0.01	0.53	0.61	0.00
D	10.0	0.00	16.5	0.0	0.01	0.55	0.76	0.01
D	0.0	0.00	16.5	0.0	0.01	0.55	0.76	0.01

ANTENNA LOADING
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TYPEANTENNA.....		ATTACHMENT	ANTENNA FORCES.....			
	ELEV ft	AZI	RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
HP	80.0	0.0	7.8	0.0	0.14	0.00	2.59	0.00
HP	80.0	180.0	7.8	120.0	-0.11	0.00	2.59	0.00
HP	70.0	0.0	8.4	0.0	0.14	0.00	2.56	0.00
HP	66.0	180.0	8.7	240.0	-0.11	0.00	2.55	0.00
HP	30.0	0.0	10.7	0.0	0.11	0.00	2.39	0.00

SUPPRESS PRINTING
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	...FOR THIS LOADING..MAXIMUMS.....
LOADS	DISPL MEMBER FOUNDN	ALL DISPL MEMBER FOUNDN
INPUT	FORCES LOADS	FORCES LOADS

no yes yes yes no no no no

=====

MAXIMUM MAST DISPLACEMENTS:

=====

ELEV ft	-----DEFLECTIONS (ft)-----			--TILTS (DEG)---		TWIST DEG
	NORTH	EAST	DOWN	NORTH	EAST	
195.0	2.790 S	1.993 b	0.033 S	1.664 S	1.214 b	0.287 AR
190.0	2.645 S	1.887 b	0.031 S	1.664 S	1.214 b	0.287 AR
185.0	2.499 S	1.781 b	0.028 S	1.662 S	1.212 b	0.287 AR
180.0	2.354 S	1.676 b	0.026 S	1.657 S	1.208 b	0.287 AR
175.0	2.209 S	1.570 b	0.024 S	1.647 S	1.199 b	0.286 AR
170.0	2.066 S	1.466 b	0.022 S	1.627 S	1.181 b	0.282 AR
165.0	1.924 S	1.362 b	0.020 S	1.592 S	1.152 b	0.275 AR
160.0	1.786 S	1.263 b	0.018 BM	1.540 S	1.110 b	0.266 AR
155.0	1.651 S	1.166 b	0.018 BM	1.495 S	1.075 b	0.253 AR
150.0	1.523 S	1.074 b	0.018 BM	1.434 S	1.028 b	0.238 AR
145.0	1.397 S	0.983 b	0.017 BM	1.356 S	0.970 b	0.220 AR
140.0	1.281 S	0.901 b	0.017 BM	1.258 S	0.898 b	0.199 AR
135.0	1.172 S	0.823 b	0.016 BM	1.177 S	0.839 b	0.178 AR
130.0	1.073 S	0.753 b	0.016 BM	1.095 S	0.779 b	0.159 AR
125.0	0.978 S	0.685 b	0.015 BM	1.009 S	0.717 b	0.142 AR
120.0	0.893 S	0.625 b	0.014 BM	0.924 S	0.655 b	0.126 AR
115.0	0.811 S	0.567 b	0.014 BM	0.871 S	0.617 b	0.110 AR
110.0	0.736 S	0.513 b	0.013 BM	0.818 S	0.579 b	0.096 AR
105.0	0.664 S	0.463 b	0.013 BM	0.763 S	0.539 b	0.082 AR
100.0	0.598 S	0.416 b	0.012 BM	0.709 S	0.500 b	0.069 AR
93.3	0.517 S	-0.359 J	0.012 BM	0.646 S	0.454 b	0.060 AR
86.7	0.444 S	0.307 b	0.011 BM	0.583 S	0.409 b	0.051 AR
80.0	0.378 S	-0.261 J	0.010 BM	0.520 S	0.364 b	0.043 AR
73.3	0.317 S	-0.219 J	0.009 BM	0.474 S	-0.331 J	0.042 AR
66.7	0.263 S	-0.181 J	0.009 BM	0.428 S	-0.298 J	0.042 AR
60.0	0.212 S	-0.146 J	0.008 BM	0.380 S	-0.265 J	0.036 AR
53.3	0.168 S	-0.115 J	0.007 BJ	0.332 S	-0.231 J	0.030 AR
46.7	0.129 S	-0.089 J	0.006 BM	0.283 S	-0.196 J	0.024 AR
40.0	0.096 S	-0.066 J	0.005 BM	0.233 S	-0.161 J	0.018 AR
30.0	0.057 S	0.039 b	0.004 AU	0.174 S	-0.121 J	0.013 AR
20.0	0.029 S	-0.019 J	0.003 BM	0.115 S	-0.079 J	0.008 AR
10.0	0.008 S	0.005 b	0.001 BJ	0.057 S	-0.039 J	0.004 AR
0.0	0.000 A	0.000 A	0.000 A	0.000 A	0.000 A	0.000 A

MAXIMUM ANTENNA AND REFLECTOR ROTATIONS:

=====

ELEV ft	AZI deg	TYPE *	.....BEAM DEFLECTIONS (deg).....			
			PITCH	YAW	ROLL	TOTAL
80.0	0.0	HP	-0.364 b	0.042 AT	-0.520 S	0.364 b
80.0	180.0	HP	0.364 b	0.042 AT	0.520 S	0.364 b
70.0	0.0	HP	0.315 J	0.041 AT	-0.451 S	0.315 J
66.0	180.0	HP	-0.295 J	0.040 AT	0.423 S	0.295 J
30.0	0.0	HP	0.121 J	0.012 AT	-0.174 S	0.121 J

MAXIMUM TENSION IN MAST MEMBERS (kip)

=====

ELEV ft	LEGS	DIAG	HORIZ	BRACE
195.0	-----	-----	0.02 BU	0.00 A
	0.05 l	0.10 k		
190.0	-----	-----	0.00 S	0.00 A
	0.43 k	0.26 v		
185.0	-----	-----	0.01 AU	0.00 A
	1.17 k	0.41 n		
180.0	-----	-----	0.10 A	0.00 A
	2.48 k	1.00 k		
175.0	-----	-----	0.09 A	0.00 A
	5.46 k	1.52 v		
170.0	-----	-----	0.02 S	0.00 A
	9.56 k	1.90 s		
165.0	-----	-----	0.13 A	0.00 A
	14.45 k	2.35 k		
160.0	-----	-----	0.51 A	0.00 A
	20.11 k	3.00 k		
155.0	-----	-----	0.25 A	0.00 A
	27.51 k	3.38 s		
150.0	-----	-----	0.05 AC	0.00 A

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145.0	35.20 k	3.80 k	0.27 A	0.00 A
140.0	44.31 k	4.14 A	0.31 q	0.00 A
135.0	51.49 k	3.53 k	0.31 A	0.00 A
130.0	58.61 k	3.36 S	0.03 I	0.00 A
125.0	64.17 k	3.92 k	0.27 A	0.00 A
120.0	71.71 k	3.78 S	0.02 L	0.00 A
115.0	77.95 k	4.33 k	0.16 A	0.00 A
110.0	85.81 k	4.29 S	0.06 A	0.00 A
105.0	92.35 k	4.21 k	0.12 A	0.00 A
100.0	99.39 k	4.25 S	0.08 A	0.00 A
93.3	106.49 k	4.59 k	0.10 P	0.00 A
86.7	115.07 k	4.63 S	0.12 V	0.00 A
80.0	122.54 k	4.76 k	0.07 P	0.00 A
73.3	131.77 k	5.83 AC	0.11 A	0.00 A
66.7	141.80 k	7.25 R	0.03 J	0.00 A
60.0	152.87 k	7.49 m	0.10 A	0.00 A
53.3	164.99 k	7.89 U	0.08 A	0.00 A
46.7	176.20 k	7.44 m	0.09 A	0.00 A
40.0	187.34 k	7.87 U	0.08 A	0.00 A
30.0	200.10 k	8.18 m	0.12 A	0.00 A
20.0	216.00 k	9.47 AH	0.02 e	0.00 A
10.0	230.24 k	9.26 F	0.10 A	0.00 A
0.0	245.86 k	9.17 AH	0.00 A	0.00 A

MAXIMUM COMPRESSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
195.0	-----	-----	-0.01 s	0.00 A
190.0	-0.16 BN	-0.13 G	0.00 k	0.00 A
185.0	-0.68 S	-0.27 q	-0.01 AC	0.00 A
180.0	-1.62 G	-0.45 S	-0.09 AC	0.00 A
175.0	-3.36 S	-1.13 S	-0.08 AC	0.00 A
170.0	-7.03 S	-1.56 S	-0.02 k	0.00 A
165.0	-11.56 S	-2.03 S	-0.12 AC	0.00 A
160.0	-16.93 S	-2.52 S	-0.49 AC	0.00 A
155.0	-23.09 S	-3.25 S	-0.24 AC	0.00 A
150.0	-31.35 S	-3.23 AC	-0.05 A	0.00 A
145.0	-39.79 S	-4.04 S	-0.27 AC	0.00 A
140.0	-49.67 S	-4.38 S	-0.31 M	0.00 A
135.0	-58.08 S	-3.79 S	-0.30 AC	0.00 A
130.0	-65.99 S	-3.18 k	-0.03 O	0.00 A

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125.0	-72.59 s	-4.14 s	-0.26 AC	0.00 A
120.0	-80.79 s	-3.62 k	-0.02 AK	0.00 A
115.0	-88.20 s	-4.55 s	-0.15 AC	0.00 A
110.0	-96.77 s	-4.11 k	-0.06 AC	0.00 A
105.0	-103.76 s	-4.42 s	-0.11 AC	0.00 A
100.0	-111.46 s	-4.07 k	-0.08 AC	0.00 A
93.3	-119.18 s	-4.84 s	-0.09 AR	0.00 A
86.7	-128.74 s	-4.53 AE	-0.10 AC	0.00 A
80.0	-137.81 s	-5.07 s	-0.07 AR	0.00 A
73.3	-149.11 s	-6.59 R	-0.10 AC	0.00 A
66.7	-161.81 s	-6.71 j	-0.04 AI	0.00 A
60.0	-174.02 s	-8.16 U	-0.10 AC	0.00 A
53.3	-187.87 s	-7.35 p	-0.07 AO	0.00 A
46.7	-199.71 s	-8.08 U	-0.08 AC	0.00 A
40.0	-212.49 s	-7.37 AC	-0.07 AC	0.00 A
30.0	-226.58 s	-8.89 U	-0.11 AC	0.00 A
20.0	-245.86 s	-9.47 F	-0.02 w	0.00 A
10.0	-261.79 s	-9.41 U	-0.09 AC	0.00 A
0.0	-279.29 s	-9.19 F	0.00 A	0.00 A

MAXIMUM INDIVIDUAL FOUNDATION LOADS: (kip)

NORTH	EAST	DOWN	UPLIFT	TOTAL SHEAR
28.23 s	19.92 e	286.54 s	-252.18 k	28.23 s

MAXIMUM TOTAL LOADS ON FOUNDATION : (kip & kip-ft)

HORIZONTAL			DOWN	OVERTURNING			TORSION
NORTH	EAST	TOTAL @ 0.0		NORTH	EAST	TOTAL @ 360.0	
48.5 S	32.8 b	48.5 S	104.3 AX	4522.3 S	-3109.2 J	4522.3 S	22.1 AR

Latticed Tower Analysis (Unguyed)
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Sabre Towers and Poles

on: 22 jul 2015 at: 8:01:19

 ***** Service Load Condition *****

* Only 1 condition(s) shown in full

* Some wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

60 mph wind with no ice. Wind Azimuth: 0°

PL - 0

MAST LOADING

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES.....		.....MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	179.0	0.00	0.0	0.0	0.18	0.32	0.00	0.00
C	174.0	0.00	0.0	0.0	0.11	0.31	0.00	0.00
C	160.0	0.00	0.0	0.0	0.04	0.04	0.00	0.00
C	151.0	0.00	0.0	0.0	0.10	0.30	0.00	0.00
C	140.0	0.00	0.0	0.0	0.37	1.14	0.00	0.00
C	130.0	0.00	0.0	0.0	0.36	1.14	0.00	0.00
C	120.0	0.00	0.0	0.0	0.35	1.14	0.00	0.00
C	85.0	0.00	0.0	0.0	0.07	0.80	0.00	0.00
C	85.0	0.00	0.0	0.0	0.07	0.80	0.00	0.00
C	75.0	0.00	0.0	0.0	0.06	0.80	0.00	0.00
C	71.0	0.00	0.0	0.0	0.06	0.80	0.00	0.00
C	35.0	0.00	0.0	0.0	0.05	0.80	0.00	0.00
D	195.0	0.00	180.0	0.0	0.02	0.03	0.00	0.00
D	180.0	0.00	180.0	0.0	0.01	0.03	0.00	0.00
D	180.0	0.00	42.0	0.0	0.03	0.04	0.01	0.02
D	160.0	0.00	42.0	0.0	0.03	0.03	0.01	0.03
D	160.0	0.00	42.0	0.0	0.04	0.04	0.01	0.03
D	140.0	0.00	42.0	0.0	0.03	0.04	0.01	0.03
D	140.0	0.00	43.0	0.0	0.04	0.05	0.02	0.03
D	120.0	0.00	39.9	0.0	0.04	0.05	0.03	0.02
D	120.0	0.00	33.9	0.0	0.04	0.07	0.04	0.02
D	100.0	0.00	38.5	0.0	0.04	0.08	0.03	0.02
D	100.0	0.00	28.7	0.0	0.04	0.09	0.05	0.02
D	80.0	0.00	26.3	0.0	0.04	0.10	0.05	0.02
D	80.0	0.00	22.9	0.0	0.04	0.13	0.06	0.02
D	60.0	0.00	20.9	0.0	0.04	0.13	0.08	0.02
D	60.0	0.00	20.0	0.0	0.04	0.13	0.08	0.02
D	40.0	0.00	21.7	0.0	0.05	0.14	0.07	0.02
D	40.0	0.00	17.2	0.0	0.04	0.16	0.10	0.02
D	20.0	0.00	16.7	0.0	0.04	0.17	0.10	0.02
D	20.0	0.00	15.7	0.0	0.04	0.18	0.11	0.02
D	0.0	0.00	16.5	0.0	0.04	0.18	0.10	0.02

ANTENNA LOADING

.....ANTENNA..... TYPE	ELEV ft	AZI	ATTACHMENT		.....ANTENNA FORCES.....			
			RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
HP	80.0	0.0	7.8	0.0	0.51	0.00	0.45	0.00
HP	80.0	180.0	7.8	120.0	-0.41	0.00	0.45	0.00
HP	70.0	0.0	8.4	0.0	0.50	0.00	0.45	0.00
HP	66.0	180.0	8.7	240.0	-0.39	0.00	0.45	0.00
HP	30.0	0.0	10.7	0.0	0.41	0.00	0.45	0.00

SUPPRESS PRINTING

LOADS INPUT	...FOR THIS LOADING..			.....MAXIMUMS.....			
	DISPL	MEMBER FORCES	FOUNDN LOADS	ALL	DISPL	MEMBER FORCES	FOUNDN LOADS
no	yes	yes	yes	no	no	no	no

MAXIMUM MAST DISPLACEMENTS:

ELEV ft	-----DEFLECTIONS (ft)-----			--TILTS (DEG)---		TWIST DEG
	NORTH	EAST	DOWN	NORTH	EAST	
195.0	0.680 s	0.487 b	0.006 s	0.405 s	0.296 b	0.069 j
190.0	0.645 s	0.461 b	0.006 s	0.405 s	0.296 b	0.069 j
185.0	0.610 s	0.435 b	0.006 s	0.404 s	0.296 b	0.069 j

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180.0	0.574 S	0.410 b	0.006 S	0.403 S	0.295 b	0.069 j
175.0	0.539 S	0.384 b	0.006 S	0.401 S	0.293 b	0.069 j
170.0	0.504 S	0.358 b	0.006 S	0.396 S	0.288 b	0.068 j
165.0	0.469 S	0.333 b	0.006 S	0.387 S	0.281 b	0.066 j
160.0	0.436 S	0.309 b	0.005 S	0.375 S	0.271 b	0.064 j
155.0	0.403 S	0.285 b	0.005 S	0.364 S	0.262 b	0.061 j
150.0	0.372 S	0.263 b	0.005 S	0.349 S	0.251 b	0.057 j
145.0	0.341 S	0.241 b	0.005 S	0.330 S	0.237 b	0.053 j
140.0	0.313 S	0.221 b	0.005 S	0.307 S	0.219 b	0.048 j
135.0	0.286 S	0.202 b	0.004 S	0.287 S	0.205 b	0.043 j
130.0	0.262 S	0.184 b	0.004 S	0.267 S	0.190 b	0.038 j
125.0	0.239 S	0.168 b	0.004 S	0.246 S	0.175 b	0.034 j
120.0	0.218 S	0.153 b	0.004 S	0.225 S	0.160 b	0.030 j
115.0	0.198 S	0.139 b	0.004 S	0.212 S	0.151 b	0.027 j
110.0	0.180 S	0.126 b	0.004 S	0.200 S	0.142 b	0.023 j
105.0	0.163 S	0.113 b	0.003 S	0.186 S	0.132 b	0.020 j
100.0	0.146 S	0.102 b	0.003 S	0.173 S	0.122 b	0.017 j
93.3	0.127 S	-0.088 J	0.003 S	0.158 S	0.111 b	0.014 j
86.7	0.109 S	-0.075 J	0.003 S	0.142 S	0.100 b	0.012 j
80.0	0.093 S	-0.064 J	0.003 S	0.127 S	0.089 b	0.010 j
73.3	0.078 S	-0.054 J	0.003 S	0.116 S	-0.081 J	0.010 j
66.7	0.065 S	-0.045 J	0.002 S	0.105 S	-0.073 J	0.010 j
60.0	0.052 S	-0.036 J	0.002 S	0.093 S	-0.065 J	0.009 j
53.3	0.041 S	-0.028 J	0.002 S	0.081 S	-0.057 J	0.007 j
46.7	0.032 S	-0.022 J	0.002 S	0.069 S	-0.048 J	0.006 j
40.0	0.024 S	-0.016 J	0.001 S	0.057 S	-0.040 J	0.004 j
30.0	0.014 S	0.010 b	0.001 C	0.043 S	-0.030 J	0.003 j
20.0	0.007 S	-0.005 J	0.001 U	0.028 S	-0.019 J	0.002 h
10.0	0.002 S	0.001 b	0.000 U	0.014 S	-0.010 J	0.001 h
0.0	0.000 A	0.000 A	0.000 A	0.000 A	0.000 A	0.000 A

MAXIMUM ANTENNA AND REFLECTOR ROTATIONS:

ELEV ft	AZI deg	TYPE *	.....BEAM DEFLECTIONS (deg).....			
			PITCH	YAW	ROLL	TOTAL
80.0	0.0	HP	-0.089 b	0.010 j	-0.127 S	0.089 b
80.0	180.0	HP	0.089 b	0.010 j	0.127 S	0.089 b
70.0	0.0	HP	0.077 J	0.010 j	-0.110 S	0.077 J
66.0	180.0	HP	-0.072 J	0.010 j	0.104 S	0.072 J
30.0	0.0	HP	0.030 J	0.003 j	-0.043 S	0.030 J

MAXIMUM TENSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
195.0	-----	-----	0.00 C	0.00 A
	0.00 A	0.02 Y		
190.0	-----	-----	0.00 S	0.00 A
	0.04 A	0.06 V		
185.0	-----	-----	0.00 A	0.00 A
	0.19 Y	0.10 D		
180.0	-----	-----	0.04 A	0.00 A
	0.42 A	0.23 A		
175.0	-----	-----	0.03 A	0.00 A
	1.00 A	0.37 D		
170.0	-----	-----	0.00 S	0.00 A
	1.95 A	0.46 S		
165.0	-----	-----	0.04 A	0.00 A
	3.10 A	0.57 A		
160.0	-----	-----	0.14 A	0.00 A
	4.44 A	0.71 A		
155.0	-----	-----	0.07 A	0.00 A
	6.12 A	0.83 S		
150.0	-----	-----	0.01 S	0.00 A
	7.90 A	0.91 A		
145.0	-----	-----	0.07 A	0.00 A
	10.05 A	1.00 A		
140.0	-----	-----	0.07 e	0.00 A
	11.49 A	0.81 A		
135.0	-----	-----	0.09 A	0.00 A
	13.07 A	0.83 S		
130.0	-----	-----	0.01 g	0.00 A
	14.12 A	0.92 A		
125.0	-----	-----	0.08 A	0.00 A
	15.82 A	0.93 S		
120.0	-----	-----	0.00 L	0.00 A
	17.01 A	1.03 A		
115.0	-----	-----	0.04 A	0.00 A
	18.78 A	1.06 S		

110.0	-----		0.02 A	0.00 A
	20.31 A	1.00 A		
105.0	-----		0.03 A	0.00 A
	21.90 A	1.04 S		
100.0	-----		0.02 A	0.00 A
	23.53 A	1.10 A		
93.3	-----		0.03 P	0.00 A
	25.43 A	1.14 S		
86.7	-----		0.03 V	0.00 A
	26.82 A	1.13 A		
80.0	-----		0.02 P	0.00 A
	28.39 A	1.37 S		
73.3	-----		0.03 A	0.00 A
	30.16 A	1.79 R		
66.7	-----		0.01 J	0.00 A
	32.46 A	1.80 C		
60.0	-----		0.03 A	0.00 A
	35.16 A	1.95 X		
53.3	-----		0.02 A	0.00 A
	37.73 A	1.79 C		
46.7	-----		0.03 A	0.00 A
	40.19 A	1.94 U		
40.0	-----		0.02 b	0.00 A
	42.96 A	1.98 C		
30.0	-----		0.04 A	0.00 A
	46.01 A	2.30 X		
20.0	-----		0.01 e	0.00 A
	49.10 A	2.30 F		
10.0	-----		0.03 A	0.00 A
	52.55 A	2.24 X		
0.0	-----		0.00 A	0.00 A

MAXIMUM COMPRESSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
195.0	-----		0.00 A	0.00 A
	-0.04 f	-0.03 G		
190.0	-----		0.00 A	0.00 A
	-0.22 S	-0.06 G		
185.0	-----		0.00 S	0.00 A
	-0.47 G	-0.11 S		
180.0	-----		-0.01 S	0.00 A
	-0.98 S	-0.29 S		
175.0	-----		-0.01 S	0.00 A
	-2.01 S	-0.38 S		
170.0	-----		0.00 A	0.00 A
	-3.16 S	-0.50 S		
165.0	-----		-0.02 S	0.00 A
	-4.50 S	-0.62 S		
160.0	-----		-0.10 S	0.00 A
	-6.03 S	-0.81 S		
155.0	-----		-0.05 S	0.00 A
	-8.14 S	-0.77 S		
150.0	-----		-0.01 A	0.00 A
	-10.26 S	-0.99 S		
145.0	-----		-0.06 S	0.00 A
	-12.72 S	-1.06 S		
140.0	-----		-0.08 M	0.00 A
	-15.04 S	-0.96 S		
135.0	-----		-0.06 S	0.00 A
	-17.10 S	-0.75 A		
130.0	-----		-0.01 O	0.00 A
	-18.98 S	-1.04 S		
125.0	-----		-0.05 S	0.00 A
	-21.08 S	-0.86 A		
120.0	-----		0.00 O	0.00 A
	-23.18 S	-1.13 S		
115.0	-----		-0.03 S	0.00 A
	-25.40 S	-0.99 A		
110.0	-----		-0.01 S	0.00 A
	-27.16 S	-1.09 S		
105.0	-----		-0.02 S	0.00 A
	-29.15 S	-0.98 A		
100.0	-----		-0.01 S	0.00 A
	-31.12 S	-1.20 S		
93.3	-----		-0.02 h	0.00 A
	-33.63 S	-1.10 U		

86.7	-----		-0.02 S	0.00 A
	-36.25 S	-1.26 S		
80.0	-----		-0.01 h	0.00 A
	-39.63 S	-1.66 R		
73.3	-----		-0.02 S	0.00 A
	-43.37 S	-1.63 j		
66.7	-----		-0.01 G	0.00 A
	-46.73 S	-2.03 U		
60.0	-----		-0.02 S	0.00 A
	-50.37 S	-1.79 F		
53.3	-----		-0.01 S	0.00 A
	-53.44 S	-2.01 U		
46.7	-----		-0.01 S	0.00 A
	-56.82 S	-1.79 F		
40.0	-----		-0.01 S	0.00 A
	-60.63 S	-2.22 U		
30.0	-----		-0.02 S	0.00 A
	-66.16 S	-2.36 F		
20.0	-----		0.00 Y	0.00 A
	-70.49 S	-2.30 U		
10.0	-----		-0.02 S	0.00 A
	-75.18 S	-2.31 F		
0.0	-----		0.00 A	0.00 A

MAXIMUM INDIVIDUAL FOUNDATION LOADS: (kip)

-----LOAD-----COMPONENTS-----				TOTAL
NORTH	EAST	DOWN	UPLIFT	SHEAR
7.35 S	5.23 e	77.20 S	-53.88 A	7.35 S

MAXIMUM TOTAL LOADS ON FOUNDATION : (kip & kip-ft)

-----HORIZONTAL-----			DOWN	-----OVERTURNING-----			TORSION
NORTH	EAST	TOTAL @ 0.0		NORTH	EAST	TOTAL @ 360.0	
11.9 S	8.1 b	11.9 S	29.3 F	1109.8 S	-765.1 J	1109.8 S	5.3 h

=====

DRILLED STRAIGHT PIER DESIGN BY SABRE TOWERS & POLES

Tower Description 195' S3TL Series HD1
 Customer Name MOTOROLA ISPO
 Job Number 126087
 Date 9/2/2015
 Engineer BD

Factored Uplift (kips)	252	Anchor Bolt Count (per leg)	6
Factored Download (kips)	287		
Factored Shear (kips)	28		
Ultimate Bearing Pressure	16		
Bearing Φ s	0.75		
Bearing Design Strength (ksf)	12		
Water Table Below Grade (ft)	30		
Bolt Circle Diameter (in)	13.25		
Top of Concrete to Top of Bottom Threads (in)	58		
Pier Diameter (ft)	3	Minimum Pier Diameter (ft)	2.60
Ht. Above Ground (ft)	0.5		
Pier Length Below Ground (ft)	24		
Quantity of Bars	14		
Bar Diameter (in)	0.875		
Tie Bar Diameter (in)	0.5		
Spacing of Ties (in)	12		
Area of Bars (in ²)	8.42	Minimum Area of Steel (in ²)	5.09
Spacing of Bars (in)	6.31		
f'c (ksi)	4.5		
fy (ksi)	60		
Unit Wt. of Concrete (kcf)	0.15		
Download Friction Φ s	0.75		
Uplift Friction Φ s	0.75		
Volume of Concrete (yd ³)	6.41		
Skin Friction Factor for Uplift	1	Length to Ignore Download (ft)	0
Ignore Bottom Length in Download?	<input type="checkbox"/>		

Depth at Bottom of Layer (ft)	Ult. Skin Friction (ksf)	(Ult. Skin Friction)*(Uplift Factor)	γ (kcf)
3	0.00	0.00	0.12
5.5	1.40	1.40	0.12
12	1.40	1.40	0.12
40	1.70	1.70	0.12
0	0.00	0.00	0
0	0.00	0.00	0
0	0.00	0.00	0
0	0.00	0.00	0
0	0.00	0.00	0
0	0.00	0.00	0

Download:

Factored Net Weight of Concrete (kips)	0.6		
Bearing Design Strength (kips)	84.8		
Skin Friction Design Strength (kips)	233.3		
Download Design Strength (kips)	318.1	Factored Net Download (kips)	287.6

DRILLED STRAIGHT PIER DESIGN BY SABRE TOWERS & POLES (CONTINUED)

Uplift:

Nominal Skin Friction (kips)	311.0
W _c , Weight of Concrete (kips)	26.0
W _R , Soil Resistance (kips)	1032.3
$\phi_s W_R + 0.9 W_c$ (kips)	797.6

Uplift Design Strength (kips)	256.6	Factored Uplift (kips)	252.0
-------------------------------	-------	------------------------	-------

Pier Design:

Design Tensile Strength (kips)	454.6	T _u (kips)	252.0
ϕV_n (kips)	107.8	V _u (kips)	28.0

$\phi V_c = \phi 2(1 + N_u / (500 A_g)) f'_c{}^{1/2} b_w d$ (kips)	59.7		
V _s (kips)	56.5	*** V _s max = 4 f' _c ^{1/2} b _w d (kips)	278.2

Maximum Spacing (in) 13.01 (Only if Shear Ties are Required)

*** Ref. ACI 11.5.5 & 11.5.6.3

Anchor Bolt Pull-Out:

$\phi P_c = \phi \lambda (2/3) f'_c{}^{1/2} (2.8 A_{SLOPE} + 4 A_{FLAT})$	153.4	P _u (kips)	252.0
Rebar Development Length (in)	47.56	Required Length of Development (in)	21.69

Condition	1 is OK, 0 Fails
Download	1
Uplift	1
Area of Steel	1
Shear	1
Anchor Bolt Pull-Out	1
Interaction Diagram Visual Check	1

MONTHLY STAFF REPORT

DATE:	January 6, 2016
TO:	Rocky Mount Town Council
FROM:	Linda Woody, Finance Director
DEPARTMENT:	Finance Department
MONTH:	January meeting

This report contains the following monthly information for December 2015 activity:

New businesses obtaining a business license during the month

Investment portfolio from the latest bank statement

Revenue comparisons from this fiscal year to last fiscal year

Meals tax collections chart

Local sales tax collections chart

Expenditure comparisons from this fiscal year to last fiscal year

Available contingency funds status

Utility billing profiles on customers and consumption

Water Customer Cut-off's chart

Water accountability reconciliation of finished water gallons pumped vs. metered water gallons consumed

Utility profiles on water production and wastewater flow

Customer flow for the Finance Department:

478 walk-in transactions

1491 drive-thru transactions

1407 mail transactions

**TOWN OF ROCKY MOUNT
NEW BUSINESS LICENSES
DURING DECEMBER 2015**

The following new businesses obtained their business licenses during the month:

NONE

**TOWN OF ROCKY MOUNT
Investment Portfolio
at November 30, 2015**

<u>Security</u>	<u>Call Date</u>	<u>Maturity Date</u>	<u>Bond</u>	<u>Market Price</u>	<u>Market Value</u>	<u>Market Yield</u>	<u>Yield to Maturity</u>	<u>Cusip Number</u>	<u>Estimated Annual Interest</u>
Fixed Income / Bonds:									
FFCB	10/31/2014	8/1/2019	230,000	100.009	230,020.70	1.43%	1.44%	3133EAD62	3,312.00
FNMA	12/26/2013	12/26/2017	500,000	100.034	500,170.00	0.99%	0.99%	3135G0SJ3	5,000.00
Bond Totals			<u>730,000</u>		<u>730,190.70</u>	1.21% avg. return			<u>8,312.00</u>
Certificates of Deposits:									
Ally BK Midvale UT		12/31/2014	230,000	99.988	229,972.40	1.50%	1.50%	02006LNA7	3,450.00
Am Express Centurion		5/28/2020	245,000	99.265	243,199.25	2.06%	2.05%	02587DYH5	5,022.50
BMW Salt Lake City UT		10/11/2018	245,000	101.122	247,748.90	2.02%	2.05%	05568P5S2	5,022.50
Bank Hampton Rds. VA		9/27/2017	245,000	100.184	245,450.80	0.99%	1.00%	062492BH5	2,450.00
Bank of Perry Co. Tenn		2/20/2018	248,000	100.562	249,393.76	1.24%	1.25%	06425KBN8	3,100.00
Barclays BK Del Retail		8/20/2019	225,000	100.297	225,668.25	2.09%	2.10%	06740LHV2	4,725.00
CIT BK Salt Lake UT		10/13/2016	190,000	100.082	190,155.80	0.99%	1.00%	17284CBJ2	1,900.00
Com Bk Harrogate TN		8/25/2016	245,000	100.049	245,120.05	0.99%	1.00%	20143PCV0	2,450.00
Discover BK Greenwood D		9/4/2018	245,000	100.170	245,416.50	2.29%	2.30%	254671VH0	5,635.00
Essa BK Stroudsburg PA		11/30/2016	245,000	100.315	245,771.75	0.99%	1.00%	29667RGE7	2,450.00
Everbank Jacksonville FL		3/29/2019	245,000	100.094	245,230.30	1.49%	1.50%	29976DW3	3,675.00
First Merchants BK N A		9/30/2019	245,000	100.183	245,448.35	1.99%	2.00%	32082BDS5	4,900.00
State BK India NY NY		12/5/2014	245,000	100.753	246,844.85	2.18%	2.20%	8562843E2	5,390.00
Synchrony Bk Retail CTF		6/13/2019	230,000	100.440	231,012.00	1.99%	0.99%	87164YAP9	4,600.00
Whitney BK Gulfport MS C		8/18/2016	245,000	100.120	245,294.00	0.59%	0.60%	966594AF0	1,470.00
CD Totals			<u>3,573,000</u>		<u>3,581,726.96</u>	1.56% avg. return			<u>56,240.00</u>
Total Investments			<u>4,303,000</u>		<u>4,311,917.66</u>	1.52% avg. return			<u>64,552.00</u>

<u>Month</u>	<u>LGIP</u>	<u>Effective</u>
	<u>Balance</u>	<u>Yield</u>
Nov-14	191,220.60	0.10%
Dec-14	333,032.97	0.10%
Jan-15	49,377.36	0.11%
Feb-15	65,977.38	0.12%
Mar-15	431,251.31	0.12%
Apr-15	448,365.07	0.13%
May-15	965,221.12	0.13%
Jun-15	1,336,421.94	0.13%
Jul-15	1,353,469.46	0.15%
Aug-15	1,427,079.03	0.17%
Sep-15	1,820,172.63	0.17%
Oct-15	1,843,408.19	0.18%
Nov-15	1,459,985.45	0.19%

TOWN OF ROCKY MOUNT
REVENUE COMPARISONS
AS OF DECEMBER 31, 2015

REVENUE SOURCE	MONTH		YEAR TO DATE		BUDGET	% OF BUDGET
	THIS YEAR	LAST YEAR	THIS YEAR	LAST YEAR	THIS YEAR	THIS YEAR
GENERAL FUND - Local Revenues:						
Real Estate Tax	90,226	17,878	104,588	30,708	567,382	18.43%
Public Service Tax	-	-	-	-	28,605	0.00%
Personal Property Tax	47,026	6,844	55,742	13,996	222,044	25.10%
Machinery & Tools Tax	-	-	-	-	105,563	0.00%
Penalties on Tax	297	118	4,538	2,265	3,500	129.65%
Interest on Tax	234	53	1,176	1,810	1,700	69.15%
Local Sales Tax	13,547	13,288	58,257	56,513	173,368	33.60%
Meals Tax	110,434	104,750	561,661	532,888	1,386,000	40.52%
Utility Tax	24,857	26,563	139,564	132,936	330,000	42.29%
Communications Tax	16,012	16,590	78,923	82,204	223,200	35.36%
Decals	-	-	-	-	-	0.00%
Bank Stock Tax	-	-	-	-	213,000	0.00%
Penalty-Meals Tax	927	857	1,811	2,609	2,000	90.54%
Interest-Meals Tax	61	503	131	730	800	16.42%
Lodging Tax	9,313	8,363	49,841	48,087	113,388	43.96%
Cigarette Tax	8,846	8,980	45,499	54,595	101,400	44.87%
BPOL-Retail	105	1,797	5,102	7,038	350,000	1.46%
BPOL-Professional	-	80	15,590	9,207	142,000	10.98%
BPOL-Contractor	7	180	1,618	1,447	13,750	11.77%
BPOL-Repairs/Services	-	20	6,339	3,545	131,000	4.84%
BPOL-Alcoholic Beverages	-	50	-	75	650	0.00%
BPOL-Penalty/Interest	375	124	3,209	2,369	2,000	160.45%
BPOL-Amusement	-	-	-	-	200	0.00%
BPOL-Utility	-	-	-	-	12,000	0.00%
BPOL-Miscellaneous	-	-	150	133	2,500	6.00%
Solicitor Permits	-	-	-	-	-	0.00%
Farmer's Market Fees	230	250	1,099	1,059	3,000	36.63%
Welcome Center Fees	110	370	2,510	2,415	3,500	71.71%
Planning/Zoning Fees	1,213	210	4,756	3,980	8,000	59.45%
Court Fines	4,330	4,887	22,226	18,449	48,000	46.30%
Parking Fines	20	-	75	85	100	75.00%
Garbage Violation Fines	-	-	-	-	-	0.00%
Interest Earnings	-	7,678	14,210	28,946	42,576	33.38%
Return Check Fees	40	60	265	380	450	58.89%
Rental of Property	420	120	420	420	420	100.00%
Bond Proceeds	-	-	-	-	1,500,000	0.00%
Mortgage Payments	281	256	1,561	1,536	3,073	50.81%
Loan Repayment - Paving	728	728	5,093	2,183	-	0.00%
Sale of Materials	-	-	-	960	-	0.00%
Sale of Property	-	-	-	-	-	0.00%
Grave Preparation	-	-	1,125	750	1,500	75.00%
Security Services	-	1,673	2,229	1,673	3,660	60.90%
Passport Service Fees	356	385	3,942	2,837	10,000	39.42%
Police Reports	79	126	395	565	1,000	39.50%
Fingerprint Service Fees	60	55	205	255	400	51.25%
Garbage Collection Fees	9,461	7,758	39,111	37,203	89,400	43.75%
Truck Rental Program	10	20	170	50	100	170.00%
Credit Card Fees	203	10	1,157	10	1,800	64.28%
Weed Control Fees	-	-	-	153	-	0.00%
Miscellaneous Services	-	281	23	50	100	23.21%
Transfer from Utility Fund	-	-	-	-	-	0.00%
Donations	10	8	47	43	-	0.00%
Merchandise Sales	-	5	209	186	-	0.00%
Miscellaneous	-	-	212	1,933	-	0.00%

**TOWN OF ROCKY MOUNT
REVENUE COMPARISONS
AS OF DECEMBER 31, 2015**

REVENUE SOURCE	MONTH		YEAR TO DATE		BUDGET	% OF BUDGET
	THIS YEAR	LAST YEAR	THIS YEAR	LAST YEAR	THIS YEAR	THIS YEAR
Community Grant-Police Dept.	-	-	2,000	-	-	0.00%
Recoveries	247	-	647	-	-	0.00%
Unrealized Gain on Investments	-	(23,927)	4,574	(23,499)	-	0.00%
Appropriated Fund Balance	-	-	-	-	846,822	0.00%
Total Local Revenues	340,065	207,992	1,242,002	1,065,775	6,689,951	18.57%
GENERAL FUND - State Revenues:						
Rolling Stock Tax	-	-	3,748	3,645	3,600	104.12%
Litter Tax	-	-	2,640	2,611	2,500	105.60%
Other Categorical Aid	17	23	40	60	-	0.00%
Fire Programs	-	-	13,689	12,972	12,972	105.53%
PPTRA from the State	-	-	53,861	53,861	53,861	100.00%
DMV Grants	3,181	-	3,181	-	-	0.00%
DMV Mini Grants	-	9,839	4,410	9,839	-	0.00%
Street Maintenance	335,840	320,971	671,679	641,942	1,309,366	51.30%
Volunteer Fire Dept.	7,500	7,500	15,000	15,000	30,000	50.00%
Law Enforcement-599 Funds	27,115	27,115	54,230	54,230	108,460	50.00%
Police Grants	17,728	-	17,728	-	-	0.00%
FEMA Grants	-	-	-	-	473,400	0.00%
Va. Commission of the Arts Grant	1,360	-	1,360	-	-	0.00%
Other Categorical Aid-County	-	-	100,000	-	-	0.00%
Other Categorical Aid-Schools	-	-	29,632	29,632	29,632	100.00%
Total State Revenues	392,741	365,448	971,198	823,792	2,023,791	47.99%
TOTAL GENERAL FUND REVENUES	732,806	573,441	2,213,200	1,889,566	8,713,742	25.40%
UTILITY FUND REVENUES:						
Water Sales	104,737	81,902	476,195	416,129	1,070,400	44.49%
gallons billed	18,571,068	16,315,568	102,634,429	100,276,664		
Water Connections	-	-	11,275	15,905	22,440	50.25%
Reconnect Fees	160	550	1,995	3,750	4,500	44.33%
Penalties	2,481	2,255	13,357	12,390	17,000	78.57%
Bulk Water Purchases	21	735	1,304	3,217	5,000	26.07%
Sewer Collection Charges	67,194	52,519	302,644	260,369	680,040	44.50%
gallons billed	14,416,358	11,945,105	76,611,292	74,210,545		
Sewer Connections	-	-	8,000	3,500	9,500	84.21%
Cell Tower Rent	3,913	7,821	19,878	23,462	47,052	42.25%
Recoveries	-	-	232	1,115	-	0.00%
Bond Proceeds	-	-	-	-	-	0.00%
Meals Tax Transfer (in fund 05 for fy 15)	-	-	-	-	-	0.00%
Transfer from General Fund	-	-	-	-	86,888	0.00%
Appropriated Fund Balance	-	-	-	-	769,000	0.00%
TOTAL UTILITY FUND REVENUES	178,507	145,782	834,879	739,837	2,711,820	30.79%
CAPITAL PROJECTS REVENUES:						
Uptown Loan Repayments	-	449	-	8,035	-	0.00%
Microenterprise Loan Payments	102	-	456	-	-	0.00%
Historic Tax Credits	-	-	-	-	-	0.00%
Bonds / Loans	-	-	-	-	-	0.00%
EDA Loan Repayment	-	-	544,829	-	-	0.00%
Transfers from General Fund	-	-	-	-	-	0.00%
Appropriated Fund Balance	-	-	-	-	-	0.00%
TOTAL CAPITAL PROJECTS REVENUES	102	449	545,285	8,035	-	0.00%

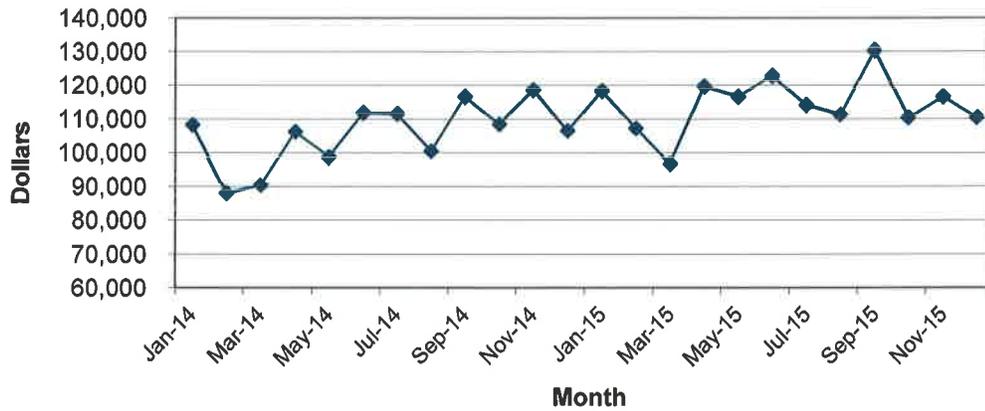
TOWN OF ROCKY MOUNT
REVENUE COMPARISONS
AS OF DECEMBER 31, 2015

REVENUE SOURCE	MONTH		YEAR TO DATE		BUDGET	% OF
	THIS YEAR	LAST YEAR	THIS YEAR	LAST YEAR	THIS YEAR	BUDGET THIS YEAR
UTILITY CAPITAL REVENUES:						
Proceeds from Bond	-	-	-	-	65,000	0.00%
Capital Recovery Fees-Water	18,003	12,758	102,068	73,305	201,696	50.60%
Capital Recovery Fees-Sewer	15,589	12,155	80,008	66,414	195,350	40.96%
Capital Recovery Fees-Garbage	1,668	1,661	9,978	9,970	19,945	50.03%
Appropriated Fund Balance	-	-	-	-	47,803	0.00%
Meals Tax Transfer (in fund 02 for fy 14)	-	-	-	257,139	-	0.00%
Transfer from Other Funds	-	-	-	-	-	0.00%
TOTAL UTILITY CAPITAL REVENUES	35,260	26,574	192,055	406,827	529,794	36.25%
PERFORMANCE VENUE REVENUES:						
Transfers from General Fund	-	-	-	-	289,310	0.00%
TOTAL PERFORMANCE VENUE REVENUES	-	-	-	-	289,310	0.00%
6 months of the 12 months of the fiscal year						50.00%

**TOWN OF ROCKY MOUNT
MEALS TAX COLLECTIONS**

Month	Collections
Jan-14	108,245
Feb-14	88,119
Mar-14	90,391
Apr-14	106,223
May-14	98,887
Jun-14	111,723
Jul-14	111,448
Aug-14	100,522
Sep-14	116,710
Oct-14	108,467
Nov-14	118,725
Dec-14	106,535
Jan-15	118,367
Feb-15	107,244
Mar-15	96,859
Apr-15	119,709
May-15	116,730
Jun-15	122,695
Jul-15	114,250
Aug-15	111,303
Sep-15	130,219
Oct-15	110,364
Nov-15	116,664
Dec-15	110,434

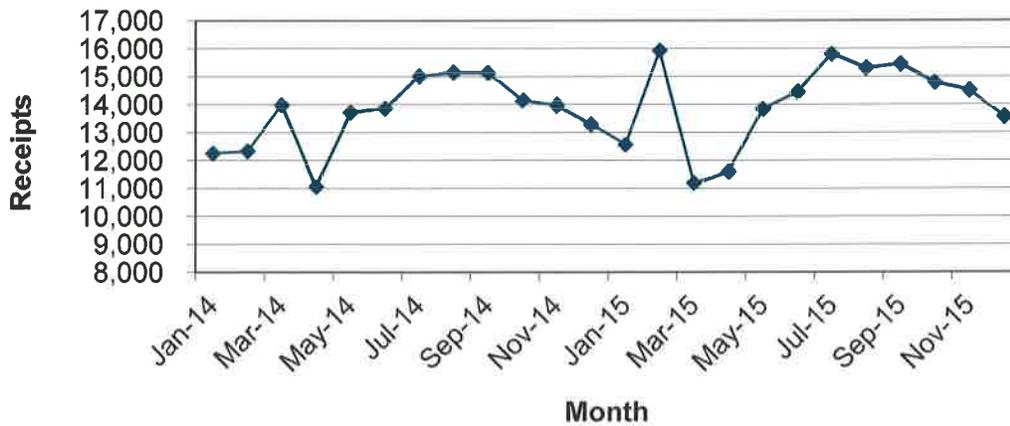
Meals Tax Collections



Town of Rocky Mount
Local Sales Tax

Jan-14	12,249
Feb-14	12,323
Mar-14	13,976
Apr-14	11,061
May-14	13,709
Jun-14	13,862
Jul-14	15,006
Aug-14	15,131
Sep-14	15,111
Oct-14	14,145
Nov-14	13,969
Dec-14	13,288
Jan-15	12,560
Feb-15	15,912
Mar-15	11,180
Apr-15	11,616
May-15	13,835
Jun-15	14,434
Jul-15	15,795
Aug-15	15,283
Sep-15	15,428
Oct-15	14,783
Nov-15	14,500
Dec-15	13,547

Local Sales Tax



**TOWN OF ROCKY MOUNT
EXPENDITURE COMPARISONS
AS OF DECEMBER 31, 2015**

ACTIVITY	MONTH		YEAR TO DATE		BUDGET THIS YEAR	% OF BUDGET THIS YEAR
	THIS YEAR	LAST YEAR	THIS YEAR	LAST YEAR		
GENERAL FUND:						
Mayor & Council	12,160	8,020	40,610	53,957	87,008	46.67%
Town Manager	20,217	15,274	111,951	101,658	223,142	50.17%
Town Attorney	-	4,224	9,220	16,844	36,240	25.44%
Finance Department	19,273	22,812	158,987	160,319	331,039	48.03%
Electorial Board	-	-	-	-	2,800	0.00%
Police Department	148,027	135,449	878,838	895,250	1,968,333	44.65%
Volunteer Fire Dept.	2,625	8,501	49,165	59,370	745,978	6.59%
Public Works Admin.	1,362	970	5,731	32,025	17,133	33.45%
Street Lights	15,478	13,141	49,404	49,417	111,178	44.44%
Traffic Control & Parking	26,605	2,990	40,290	47,787	72,686	55.43%
Streets	388,063	28,591	867,989	557,873	990,287	87.65%
Sidewalks & Curbs	184	-	3,205	4,827	13,181	24.32%
40 East Sidewalks/Crosswalks	7,894	8,316	18,530	55,998	-	0.00%
Scuffling Hill Drainage	5,420	-	27,543	-	462,500	5.96%
Bernard Rd Drainage	-	-	-	-	120,000	0.00%
Street Cleaning	3,757	3,120	10,841	11,260	20,953	51.74%
Refuse Collection	29,623	19,443	123,092	85,206	202,748	60.71%
Snow Removal	2,078	110	2,419	759	29,408	8.23%
Municipal Building	4,990	7,921	34,891	41,312	137,850	25.31%
Emergency Services Bldg.	18,979	7,323	42,390	57,592	65,650	64.57%
Public Works Building	2,207	1,461	5,506	5,351	22,800	24.15%
Cemetery	-	641	8,014	10,088	21,023	38.12%
Playgrounds	167	1,973	29,199	15,467	35,670	81.86%
Gilley's Park	-	-	-	-	25,000	0.00%
Veterans Memorial Park Erosion	-	-	-	473	900,000	0.00%
Planning & Zoning	13,374	10,511	63,926	47,141	134,567	47.51%
Community Development	11,114	16,269	82,753	87,665	224,705	36.83%
Citizen's Square	863	964	6,567	10,232	14,035	46.79%
Hospitality Center	3,587	2,231	21,097	12,025	32,362	65.19%
Passport Services Expenses	-	-	924	252	2,070	44.63%
Economic Development Authority	-	-	123	40	2,000	6.16%
Remediation of Blighted Structures	-	-	-	18,125	20,000	0.00%
Non-Departmental:						
Wages & Fringes	3,822	13,637	17,558	24,454	61,852	28.39%
Employee Wellness Program	464	-	1,519	4,450	2,381	63.82%
Employee Drug Testing	-	-	219	423	1,577	13.86%
Insurance	-	-	70,531	67,853	81,567	86.47%
Contributions to Others	-	-	16,500	22,500	16,500	100.00%
Debt Service-Principal	-	-	-	-	220,000	0.00%
Debt Service-Interest	-	-	22,412	40,690	44,574	50.28%
New Debt Service-Principal & Interest	-	-	-	-	158,447	0.00%
Transfer to Utility Operating Fund	-	-	-	-	86,888	0.00%
Transfer to Utility Capital Fund	-	-	-	257,139	-	0.00%
Transfer to Capital Proj. Fund	-	-	-	-	-	0.00%
Transfer to Performance Operations	-	-	-	-	289,310	0.00%
Contingency - General Purposes	-	-	-	-	50,000	0.00%
Contingency - Harvester Operations	-	-	-	-	60,000	0.00%
Contingency - Contributions & Special Events	-	-	-	-	10,550	0.00%
Contingency - Pay Adjustments	-	-	-	-	26,913	0.00%
Contingency - to reimburse fund balance	-	-	-	-	530,837	0.00%
TOTAL GENERAL FUND EXPENDITURES	742,335	333,890	2,821,943	2,855,820	8,713,742	32.38%

**TOWN OF ROCKY MOUNT
EXPENDITURE COMPARISONS
AS OF DECEMBER 31, 2015**

ACTIVITY	MONTH		YEAR TO DATE		BUDGET	% OF
	THIS YEAR	LAST YEAR	THIS YEAR	LAST YEAR	THIS YEAR	BUDGET THIS YEAR
WATER & SEWER FUND:						
Water System Operation	10,152	6,867	56,222	73,717	150,486	37.36%
Meter Reading	3,755	2,940	17,665	17,392	42,490	41.57%
Water Plant	47,305	41,033	250,702	242,749	605,080	41.43%
Belmont Dr. Water Line Replacement	-	-	-	30,268	-	0.00%
Wastewater System Operation	5,737	2,341	35,217	26,277	145,936	24.13%
Wastewater Treatment Plant	36,918	28,573	185,742	168,701	475,819	39.04%
Utility Billing & Administration	11,898	10,393	58,999	63,101	162,303	36.35%
Non-Departmental:						
Wages & Fringes	-	3,701	-	3,701	-	0.00%
Insurance	-	-	23,510	22,618	25,131	93.55%
Debt Service-Principal	-	-	102,000	100,000	225,000	45.33%
Debt Service-Interest	-	-	7,669	6,683	91,078	8.42%
Transfer to Capital Projects Fund	-	-	-	-	-	0.00%
Transfer to General Fund	-	-	-	-	-	0.00%
Contingency - Utility Operating Purposes	-	-	-	-	12,500	0.00%
Contingency - Pay Adjustments	-	-	-	-	6,997	0.00%
Contingency - to reimburse fund balance	-	-	-	-	-	0.00%
Depreciation	-	-	-	-	769,000	0.00%
TOTAL WATER & SEWER FUND EXPENSES	115,764	95,848	737,726	755,205	2,711,820	27.20%
CAPITAL IMPROVEMENTS FUND:						
Microenterprise Loan Program	-	20,000	15,000	20,000	-	0.00%
Performance Venue Renovations	-	88,516	-	133,946	-	0.00%
Transfer to General Fund	-	-	-	-	-	0.00%
TOTAL CAPITAL PROJECTS EXPENDITURES	-	108,516	15,000	153,946	-	0.00%
UTILITY CAPITAL FUND:						
Water Distribution Capital	-	1,500	500	12,813	20,000	2.50%
Water Treatment Plant Small Capital	3,024	2,775	27,710	60,157	-	0.00%
Oak St Water Line Replacement	-	-	751	-	-	0.00%
Orchard Ave. Water Line Replacement	-	-	13,085	-	-	0.00%
Pendleton Water Tanks Removal	-	-	-	-	-	0.00%
Water Treatment Plant Chlorine Conversion	375	-	125,282	-	-	0.00%
Water Treatment Plant Pump Impeller	-	-	-	-	10,000	0.00%
Water Treatment Plant Parking Lot Repaving	-	-	-	-	18,000	0.00%
Lee Waid Water Line Replacement	-	-	17,189	-	-	0.00%
220 South Water Tank Mixer	-	-	91,155	-	135,000	67.52%
Sewer Collection Capital	-	97	-	7,876	-	0.00%
Scuffling Hill Sewer Line	-	-	-	-	65,000	0.00%
Wastewater Plant Small Capital	-	-	4,883	22,661	6,000	81.38%
Hillcrest Sewer Replacement	-	-	-	-	48,000	0.00%
Wastewater Plant Clarifier Brushes	-	-	-	-	30,000	0.00%
Wastewater Plant PH Monitoring Equipment	9,692	-	9,692	-	12,000	80.77%
Non-Departmental - Utility Capital	-	-	-	-	-	0.00%
New Debt Service - Principal & Interest	-	-	-	-	7,177	0.00%
Contingency	-	-	-	-	(75,000)	0.00%
Reserved Fund Balance Transfer	-	-	-	-	-	0.00%
TOTAL UTILITY CAPITAL EXPENDITURES	13,091	4,372	290,248	103,506	276,177	105.09%

TOWN OF ROCKY MOUNT
EXPENDITURE COMPARISONS
AS OF DECEMBER 31, 2015

ACTIVITY	MONTH		YEAR TO DATE		BUDGET THIS YEAR	% OF BUDGET THIS YEAR
	THIS YEAR	LAST YEAR	THIS YEAR	LAST YEAR		
PERFORMANCE VENUE OPERATIONS:						
Performance Venue Operations:						
Wages - Full Time	9,832	8,570	47,974	47,685	119,016	40.31%
Wages - Part Time	1,449	1,647	9,587	12,415	23,000	41.68%
Wages - Security	1,140	900	8,325	17,565	32,000	26.02%
Fringes	4,607	4,263	25,109	29,338	52,010	48.28%
Contractual Services	207	7,471	30,040	25,018	15,260	196.86%
Security Services	-	162	-	900	-	0.00%
Custodial Services	-	1,278	-	6,692	-	0.00%
Repairs & Maintenance	4,107	-	2,245	67	2,500	89.80%
Advertising	-	13,798	-	85,792	-	0.00%
Printing & Binding	-	569	-	3,582	-	0.00%
Postage & Delivery Services	-	24	-	437	-	0.00%
Utilities	2,289	2,878	10,451	12,389	35,000	29.86%
Communications	729	872	3,513	4,057	10,524	33.38%
Travel & Training	-	-	-	273	-	0.00%
Dues & Memberships	-	-	-	99	-	0.00%
Stipends	-	-	-	-	-	0.00%
Office Supplies	125	1,440	141	7,218	-	0.00%
TOTAL PERFORMANCE VENUE EXPENSES	24,486	43,869	137,386	253,526	289,310	47.49%
			6 months of the 12 month fiscal year			50.00%

TOWN OF ROCKY MOUNT
UTILITY BILLING
WATER CONSUMPTION PERCENTAGES
FOR THE MONTH OF DECEMBER 2015

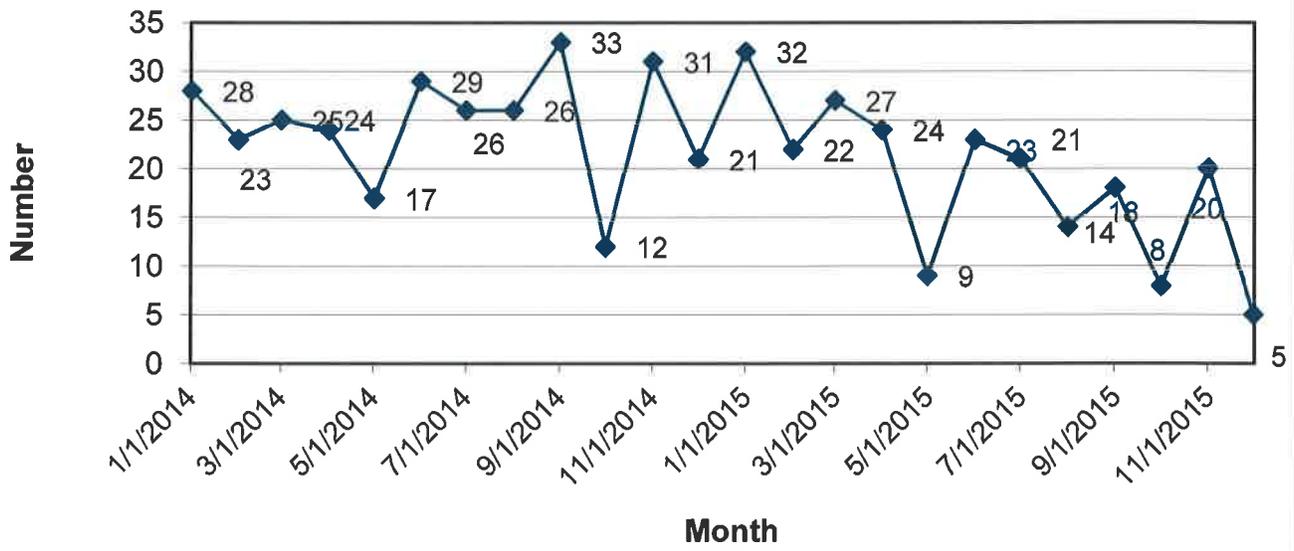
	TOTAL METERS	TOTAL GALLONS	TOTAL REVENUES	% METERS	% GALLONS	% REVENUES
IN-TOWN CUSTOMERS						
RESIDENTIAL	1,764	6,304,113	\$ 38,194	61%	34%	34%
COMMERCIAL	344	5,717,595	\$ 24,568	12%	31%	22%
INDUSTRIAL	50	3,181,530	\$ 11,266	2%	17%	10%
TOTAL	2,158	15,203,238	\$ 74,029	74%	82%	66%
OUT-OF-TOWN CUSTOMERS						
RESIDENTIAL	668	2,145,820	\$ 26,721	23%	12%	24%
COMMERCIAL	75	1,218,010	\$ 10,912	3%	7%	10%
INDUSTRIAL	2	4,000	\$ 69	0%	0%	0%
TOTAL	745	3,367,830	\$ 37,701	26%	18%	34%
				100%	100%	100%
GRAND TOTAL (ALL CUSTOMERS)						
RESIDENTIAL	2,432	8,449,933	\$ 64,915	84%	46%	58%
COMMERCIAL	419	6,935,605	\$ 35,479	14%	37%	32%
INDUSTRIAL	52	3,185,530	\$ 11,335	2%	17%	10%
TOTAL	2,903	18,571,068	\$ 111,730	100%	100%	100%

TOWN OF ROCKY MOUNT
 UTILITY BILLING
 PERCENT CONSUMPTION & PERCENT REVENUE
 PER CUSTOMER CLASS
 FISCAL YEAR 2016

Month	In Town								Out of Town							
	Residential		Commercial		Industrial		Total		Residential		Commercial		Industrial		Total	
	% Gal.	% Rev.	% Gal.	% Rev.	% Gal.	% Rev.	% Gal.	% Rev.	% Gal.	% Rev.	% Gal.	% Rev.	% Gal.	% Rev.	% Gal.	% Rev.
Jul-15	34%	33%	31%	23%	16%	10%	81%	66%	12%	24%	7%	10%	0%	0%	19%	34%
Aug-15	35%	33%	30%	22%	15%	9%	80%	65%	13%	25%	7%	10%	0%	0%	20%	35%
Sep-15	34%	34%	34%	25%	14%	9%	82%	67%	12%	24%	6%	9%	0%	0%	18%	33%
Oct-15	32%	32%	34%	25%	17%	10%	82%	67%	11%	23%	6%	10%	0%	0%	18%	33%
Nov-15	33%	34%	33%	24%	16%	9%	82%	67%	11%	24%	6%	10%	0%	0%	18%	33%
Dec-15	34%	34%	31%	22%	17%	10%	82%	66%	12%	24%	7%	10%	0%	0%	18%	34%
Jan-16																
Feb-16																
Mar-16																
Apr-16																
May-16																
Jun-16																
Average	34%	33%	32%	24%	16%	10%	82%	66%	12%	24%	7%	10%	0%	0%	19%	34%

***NOTE: The above chart shows the breakdown of in-town customer gallons and revenues vs. out-of-town. It also breaks those gallons & revenues into residential, commercial, and industrial customers for FY 2016 (year ended 6/30/16).

Number of Water Cut-off's



TOWN OF ROCKY MOUNT
WATER ACCOUNTABILITY
November-15

Water Plant Finished Water Pumped		<u>22,540,000</u>
Water Consumption Billed	18,571,068	
Meters Read and Not Billed	914,440	
Water Obtained from Water Plant (to bill)	-	
Water Obtained from Public Works Hydrant (to bill)	-	
Flushing Water Lines Reported to WTP or PW	1,660,000	
	(Exchange Milling fire on Nov. 1 estimated at 1,000,000 gallons)	
Flow Meter Checks at Hydrants	-	
Grand Total of Water Metered / Consumed / Tracked		<u>21,145,508</u>
Percent Finished Water Accounted		93.81%

Meters Read and Not Billed

001-0122-10-01	Mary Bethune Park	100
001-0188-00-01	Impound Lot	-
002-0317-20-01	Public Works Bldg	90
002-0317-30-01	Public Works Bldg-new bldg	1,000
004-1067-00-01	Veteran's Memorial Park	300
005-1300-00-01	Mary Elizabeth Park	100
005-1343-10-01	Harvester Performance Centre	7,000
005-1384-00-01	Farmer's Market	1,300
005-1457-00-01	Municipal Bldg.	2,000
006-1710-00-01	Welcome Center / Depot	5,550
009-2523-50-01	Emergency Services Bldg.	6,000
011-0050-90-01	Rt 122 Pump Station	-
041-0034-00-01	WasteWater Treatment Plant	234,000
	Water Plant Process	657,000

TOTAL Meters Not Billed		<u>914,440</u>
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Water Line Repairs by Public Works during the month:

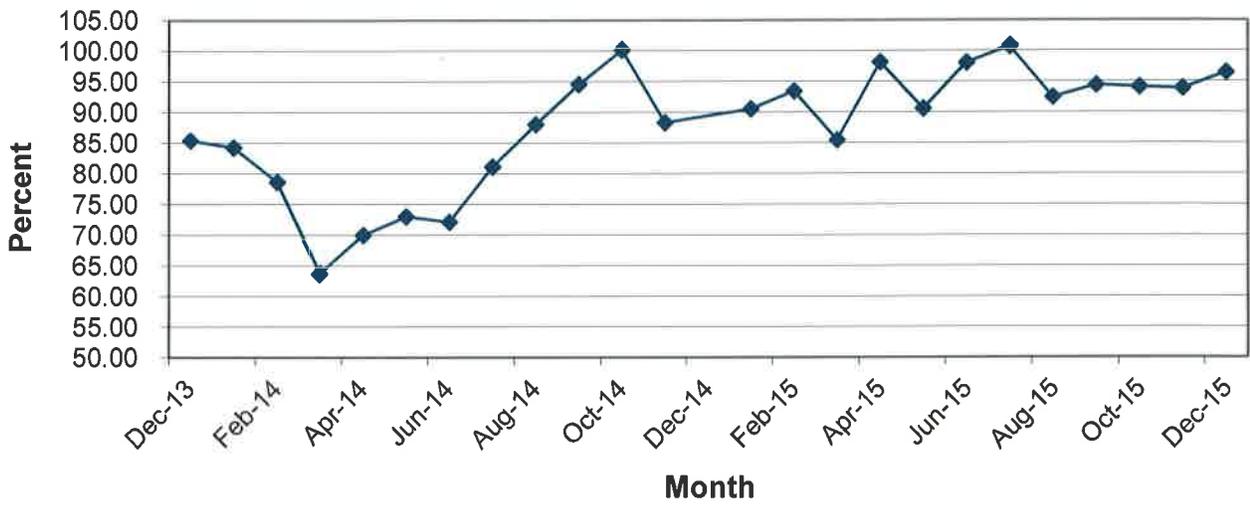
- 6" line on Diamond Ave.
- 2" line on Claybrook Rd.

Sewer Line Repairs by Public Works during the month:

none

TOWN OF ROCKY MOUNT WATER ACCOUNTABILITY FISCAL YEAR 2016						
Month	Finished Water Treated	Total Water Gallons Accounted	Percent Accounted	Monthly Gallons Variance	Average Accounted Variance per Quarter	Average Monthly Variance per Quarter
Jul-15	22,100,000	22,249,622	100.68%	(149,622)		
Aug-15	25,140,000	23,225,535	92.38%	1,914,465		
Sep-15	24,600,000	23,207,716	94.34%	1,392,284	95.80%	1,052,376
Oct-15	22,360,000	21,025,298	94.03%	1,334,702		
Nov-15	22,540,000	21,145,508	93.81%	1,394,492		
Dec-15				-	93.92%	1,364,597
Jan-16				-		
Feb-16				-		
Mar-16				-	0.00%	-
Apr-16				-		
May-16				-		
Jun-16				-	0.00%	-
AVG.	23,348,000	22,170,736	95.05%	1,177,264	94.86%	1,208,486
TOTAL	116,740,000	110,853,679		5,886,321		
Monthly Avg. Percent Unaccounted =			4.95%			
Monthly Avg. Percent Accounted =			95.05%			
5 out of 5 months this fiscal year > 80% accountability						

Water Accountability %



**TOWN OF ROCKY MOUNT
UTILITY PROFILE
FISCAL YEAR 2016**

Month	Plant Hrs.	Raw Water Drawn	Monthly Avg. % of capacity	Finished water Treated	Monthly Avg. % of capacity	Total Water Gallons Accounted (A)(B)	Pct. Accounted	Connections	Wastewater Monthly Flow	Monthly Avg. % of Capacity	Total Sewer Gallons Billed	Pct. Account ed
Jul-15	294.50	22,910,000	36.95%	22,100,000	35.65%	22,249,622	100.68%	2,900	16,988,000	27.40%	15,241,932	89.72%
Aug-15	313.10	26,260,000	42.35%	25,140,000	40.55%	23,225,535	92.38%	2,900	16,523,000	26.65%	15,263,589	92.38%
Sep-15	312.00	25,830,000	43.05%	24,600,000	41.00%	23,207,716	94.34%	2,878	23,790,000	39.65%	16,375,932	68.84%
Oct-15	285.20	23,060,000	37.19%	22,360,000	36.06%	21,025,298	94.03%	2,903	35,464,000	57.20%	15,313,481	43.18%
Nov-15	288.00	23,420,000	39.03%	22,540,000	37.57%	21,145,508	93.81%	2,903	31,800,000	53.00%	14,416,358	45.33%
Dec-15	282.10	22,100,000	35.65%	21,020,000	33.90%				34,472,000	55.60%		
Jan-16			0.00%		0.00%					0.00%		
Feb-16			0.00%		0.00%					0.00%		
Mar-16			0.00%		0.00%					0.00%		
Apr-16			0.00%		0.00%					0.00%		
May-16			0.00%		0.00%					0.00%		
Jun-16			0.00%		0.00%					0.00%		
AVG.	295.82	23,930,000	39.04%	22,960,000	37.45%	22,170,736	95.05%	2,897	26,506,167	43.25%	15,322,258	67.89%

NOTE (A): "Total Water Gallons Accounted" consists of gallons billed and gallons read but not billed plus bulk water sold at the Water Plant plus water used to flush lines or hydrants plus gallons used to fill water tanks.

NOTE (B): For any given month, "total water gallons accounted" are for "finished water treated" that month. For example, for the month of July, "water gallons accounted" would be water consumed during the month of July by customers and read by the meter readers during the first week of August. Those gallons, however, would not be billed to customers until the end of August during that month's billing cycle. However, those gallons consumed are displayed on the July line to match usage with water plant production ("finished water treated").

MONTHLY STAFF REPORT

DATE:	December 18, 2015
TO:	Rocky Mount Town Council
FROM:	Jeff Rakes
DEPARTMENT:	Fire Department
MONTH:	November 2015

The Rocky Mount Fire Dept. had a total of 43 calls for the month of November. 24 calls inside town limits and 19 calls in the county.

A total of 160.20 gallons of Diesel fuel and 54.70 gallons of gasoline was used while running these calls.

There were a total of 7 structure fires - 3 motor vehicle fires - 5 woods & grass fires - 10 motor vehicle accidents - 11 false alarms - 4 smoke & odor removal calls - 1 utility pole fire - 2 assist rescue squad calls.

The Rocky Mount Fire Dept. traveled a total of 1360 miles answering these calls.

Chief Rakes let the membership know that starting January 2016 the Rocky Mount Fire Dept. will implement its first ever Fireman Performance Evaluation once a year. This process is to help the Firemen become better Firefighters and Officers as well as helping the guys become a better person in general. This Performance Evaluation will be administered by Chief Rakes and will be a one on one meeting with each member.

I would like to take a moment and say Thank You to all of the Town Staff and also to the Town Council for supporting and putting all of your confidence in the Rocky Mount Fire Dept. We truly appreciate the opportunity to serve you and this great town. We hope each and every one of you have a very Blessed & Safe Christmas.

MONTHLY STAFF REPORT

DATE:	January 4 th , 2016
TO:	Rocky Mount Town Council
FROM:	Chief Ken E. Criner, Jr.
DEPARTMENT:	Police Department
MONTH:	December

Rocky Mount Police Department held its first “Pack-A-Trunk” event in the parking lot of Wal-Mart to help collect toys for our 2nd annual Toy Drive for Carilion’s Children Hospital in Roanoke, Va. This event was a huge success!

On Tuesday, December 8th we had a report of an armed suspect that had just robbed Family Dollar on Tanyard Road. On December 10th the case was solved and the subject “Olutobi Banisaiye” was arrested! Great job to our Investigation Unit!!

Our annual food drive this year was able to help about 40 individuals/families from the Rocky Mount and surrounding area in Franklin County. Donations were also made to Stepping Stones!

RMPD personnel would like to personally thank Town Council for our Christmas bonus this year and our employee Christmas dinner.

ROCKY MOUNT POLICE DEPARTMENT
MONTHLY REPORT TO COUNCIL

ADM #1

DATE: December 2015

OCT.

NOV.

DEC.

	OCT.	NOV.	DEC.
UNIFORM TRAFFIC SUMMONS ISSUED	137	93	108
TRAFFIC STOPS	209	179	156
SPEEDING TICKETS ISSUED	28	27	28
DUI	6	6	3
COLLISIONS INVESTIGATED (TREDS)	12	12	13
MOTORIST AIDES	51	44	50
CRIMINAL ARRESTS "MISDEMEANOR"	45	50	43
CRIMINAL ARRESTS "FELONY"	8	30	10
INCIDENTS ADDRESSED	2257	1895	2047
INCIDENTS, OFFENSES REPORTABLE IN "RMS"	59	78	83
GRAND LARCENY WARRANTS	1	10	4
BREAKING & ENTERING REPORTS	1	0	0
BREAKING & ENTERING WARRANTS	0	0	0
BOLO'S (Be On Look Out)	57	68	40
FOLLOW-UP'S	68	78	70
BUSINESSES, RESIDENCES CHECKED "FOOT PATROLS"	1333	1021	1186
SCHOOL CHECKS	134	93	99
ALARM RESPONSES	27	33	30
OPEN DOORS, WINDOWS, ETC. UNSECURED	13	10	7
COURT HOURS	26.75	20	21.25
TRAINING HOURS:	530.5	19	286
SPECIAL ASSIGNMENT HOURS:	119.25	105.75	88.75
HARVESTER HOURS WORKED:	42	45.5	28
ECO/TDO	5	4	7
ECO/TDO Hours:	15.25	10.25	14.75

TRAFFIC ENFORCEMENT:

- ◇ Moving and stationary radar: throughout the Town, Bernard Road, Greenview Drive, North & South Main Street, Grassy Hill Road, Tanyard Road, Pell Avenue, State Street, Old Franklin Turnpike, Scuffling Hill Road, Glenwood Drive, Green Meadow Lane and Windy Lane.
- ◇ There were 13 reportable accidents with 13 of the accidents on our public streets.

COMMUNITY OUTREACH:

- ◇ Residential Foot Patrols: Ann Sink Street, Bernard Road, Bland Street, Byrd Lane, Candlewood Apartments, Claiborne Avenue, Cornell Road, Dent Street, Diamond Avenue, East Court Street, Fairlawn Drive, Floyd Avenue, Goodview Street, Grassy Hill Road, Hatcher Street, Herbert Street, Knob Apartments, Lakeview Drive, Leonor Street, Mamie Avenue, Mary Coger Lane, Montview Avenue, North Main Street, Oak Street, Orchard Avenue, Pell Avenue, Pendleton Street, Riverview Street, School Board Road, Scuffling Hill Road, Spring Street, State Street, Summit Drive, Sycamore Street, Tanyard Village, Trail Drive, West Court Street, Wilson Street, Windy Lane, Woodlawn Drive and Wrays Chapel Road.
- ◇ Business Foot Patrols: Aaron's, ABC Store, All American Car Wash, Angle Hardware, Arrington Sports Awards, BB& T Bank, BFMS, Bojangles, Bootleggers Café, Burger King, C-Mart, Carter Bank & Trust, CATCE Center, Christian Heritage Academy, Comfort Inn, Cook Out, Cox's, CVS, Dairy Queen, Dollar Tree, Eagle Cinema, El Rodeo, Empire Foods, Family Dollar, Family Pharmacy, Farmer's Market, FCHS, Fleetwood Homes, Food Lion, Franklin Community Bank, Franklin Heights Baptist Church, Franklin Memorial Hospital, Franklin Street, Free Clinic, Goodwill, Gusler' Alignment, Harvester Center, Hema's, Holiday Inn Express, Hub Restaurant, Ippys, Kay's Corner, Kentucky Fried Chicken, Kroger, Lee M. Waid, Lowe's, Mary Bethune Park, Mary Elizabeth Park, McDonalds, Member One, Moose Lodge, Newbold, North Main Street, Ntelos, Old Franklin Turnpike, Papa Johns, Peebles, Pizza King, Plygem, Riverside Minute Market, Rocky Mount Bowling Center, Rocky Mount Elementary, Rocky Mount Public Works, Roses, Schewel's, School Board Road, Sheetz, Shell Station, Shoe Show, South Main Street, Tanyard Road, Trinity Missions, Valley Star Bank, Walgreens, Wal-Mart and the YMCA.

MISCELLANEOUS:

- ◇ December 4th, 2015 - Pack the Trunk Event @ Wal-Mart
- ◇ December 4th, 2015 - Come Home To A Franklin County Christmas "Downtown Rocky Mount"
- ◇ December 5th, 2015 - Open Gate "Bus Garage"
- ◇ December 6th, 2015 - Christmas Parade
- ◇ December 10th, 2015 - Town Employee Christmas Dinner @ Pigg River Community Center
- ◇ December 11th, 2015 - Open Door "Angle Eye Center"
- ◇ December 13th, 2015 - Open Door "FCHS"
- ◇ December 14th, 2015 - Open Door "Fleetwood Homes"
- ◇ December 16th, 2015 - Open Door "FCHS"
- ◇ December 16th, 2015 - Open Door "Old's Cool" on Franklin Street
- ◇ December 18th, 2015 - Needy Family Food Drive Deliveries
- ◇ December 18th, 2015 - Toy Drive for "Carilion Children's Hospital in Roanoke, VA"
- ◇ December 18th, 2015 - Open Door "620 Bernard Road"

CRIMINAL ARRESTS & LOCATIONS:

Possession of Methamphetamine	Old Franklin Turnpike
Possession of Methamphetamine w/ Intent to Distribute	North Main Street
Possession of Schedule IV Drug	Old Franklin Turnpike
Possession w/ Intent to Distribute Marijuana	Tanyard Road
Possession of Marijuana	Old Franklin Turnpike (x 3)
Possession of Marijuana	High Street
Possession of Marijuana	North Main Street
Possession of Marijuana	West College Street
Driving Under the Influence	Pell Avenue
Driving Under the Influence	Tanyard Road
Driving Under the Influence	Rakes Road
Drunk In Public	Old Franklin Turnpike (x 2)
Drunk In Public	Tanyard Road
Drunk In Public	Orchard Avenue
Drunk In Public	State Street
Drunk In Public	North Main Street
Drunk In Public	Mary Coger Lane
Drunk In Public	Franklin Street
Drunk In Public	East Court Street
Possession of Alcohol Underage	Pell Avenue (x 2)
Possession of Alcohol Underage	Tanyard Road
Possession of Alcohol Underage	Grassy Hill Road
Robbery	Tanyard Road
Brandishing a Firearm	Old Franklin Turnpike

Reckless Handling of a Firearm	Muse Lane
Felony Shoplifting	Old Franklin Turnpike (x 4)
Shoplifting	Old Franklin Turnpike (x 8)
Capias (Felony)	Circle Drive
Capias (Felony)	East Court Street
Domestic Assault	Cornell Road
Domestic Assault	East Court Street
Domestic Assault	Herbert Street
Domestic Assault	Mary Coger Lane
Domestic Assault	Orchard Avenue
Simple Assault	North Main Street (x 2)
Larceny	Old Franklin Turnpike
Disorderly Conduct	Herbert Street
Violate Protective Order	Herbert Street
Temporary Detaining Order	Dent Street
Temporary Detaining Order	North Main Street
Temporary Detaining Order	Floyd Avenue

SPEEDING TICKETS ISSUED

Pell Avenue (x 12)

Franklin Street (x 4)

North Main Street (x 4)

State Street

Tanyard Road

East Court Street

Scuffling Hill Road

School Board Road

Green Meadow Lane

Old Franklin Turnpike

Booker T. Washington Highway

MONTHLY STAFF REPORT

DATE:	January 6, 2016
TO:	Rocky Mount Town Council
FROM:	Cecil Mason, Public Works Director
DEPARTMENT:	Public Works Department
MONTH:	December 2015

1. Read meters (4 days)
2. Changed 7, 5/8 inch meters
3. Worked on sidewalk for 8 days pouring last section on 12/31/15
4. Cleanup 3 days
5. Ran leaf truck 17 days
6. Cleaned streets 3 days
7. Finished Christmas Decorations

MONTHLY STAFF REPORT

DATE:	January 5, 2016
TO:	Rocky Mount Town Council
FROM:	Tim Burton
DEPARTMENT:	Wastewater Treatment
MONTH:	December

Average Daily Flow	1.112 MGD
TSS Reduction	96.4 %
BOD Reduction	97.3 %
Leachate (F.C. Landfill)	371,921 gallons
VPDES Violations	None
Sludge (Land filled @ F.C.)	78.44 tons
Rain Total 4.2 inches	Snow Total 0 inches

SCADA Alarms: 1 after hour alarm for December and it was for high flows due to the heavy rains in December.

The Wastewater Plant came through the heavy rains with no problems. The high flows seemed to flush the sewer lines and temporarily corrected the pH issue at the plant. We expect to see the low pH issue come back when flows return back to normal.

The Oxidation Ditch had a bearing go bad and caused a coupling to strip out. We now keep these parts in stock and were able to repair and put the unit back into service. All of the replacement parts have not yet arrived to put back in stock. This shows the important reason to keep these parts in stock. The parts are going to cost around \$2,500.

The Fats, Oils and Grease Policy (FOG) is now complete and ready for adoption.

Request: None

Respectfully Submitted,

Timothy Burton

MONTHLY STAFF REPORT

DATE:	January 6, 2015
TO:	Rocky Mount Town Council
FROM:	Bob Deitrich, Water Plant Superintendent
DEPARTMENT:	Water
MONTH:	December 2015

Operation and Production Summary:

For December, the actual water production time (filtering of water) for the entire month averaged 9.1 hours per day which yielded approximately 680,000 gallons of water per day. Typically, November and December are low demand months because of the holidays. Rainfall for the month, measured at the water plant, was 5.4 inches.

Total Raw Water Pumped:	22.10 million gallons
Total Drinking Water Produced:	21.02 million gallons
Average Daily Production:	680,000 gallons per day
Ave Percent of Production Capacity:	34%
Flushing of Hydrants/Tanks/FD Use:	280,000 gallons
Plant Process Water:	627,000 gallons (finished water used by the plant)
Bulk Water Sold @ WTP:	None

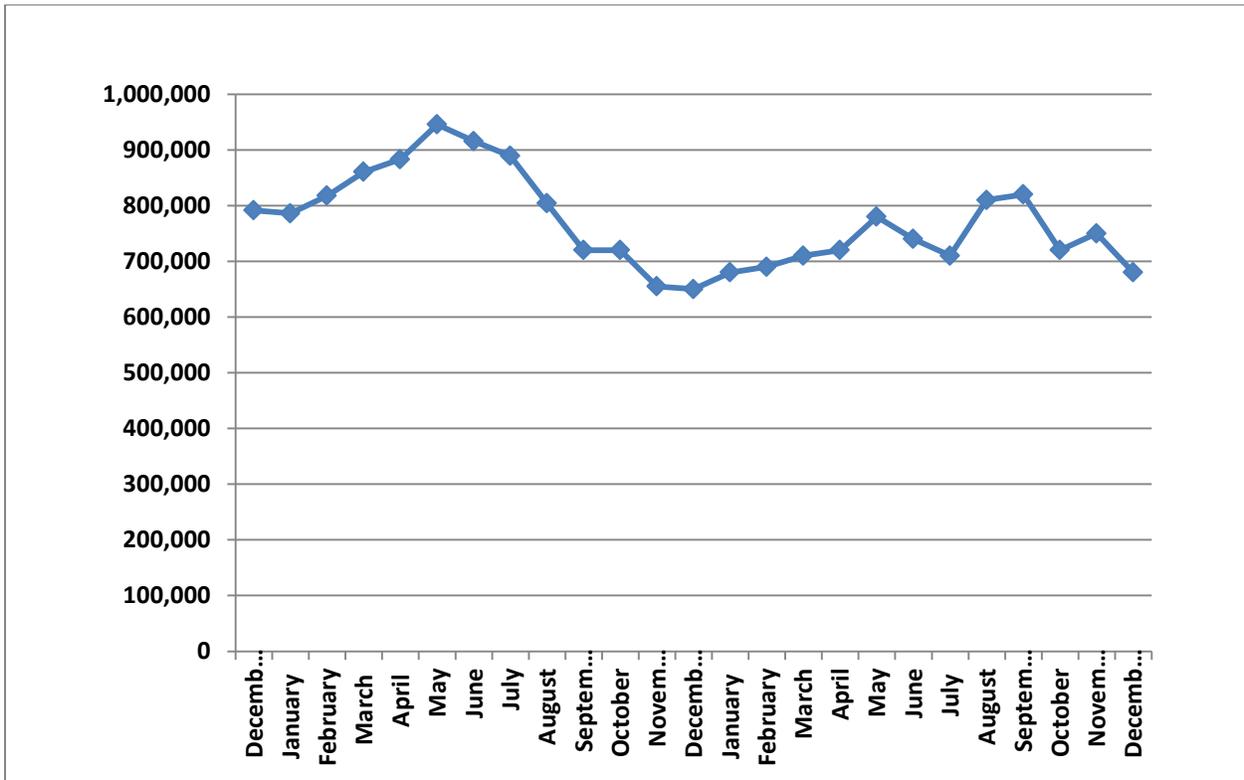
Testing:

- All routine monthly bacteria samples were good. The Town is currently in compliance with all drinking water standards. The next round of disinfection byproducts samples is due in February.

Activities / Maintenance / Improvements

- A motor controller on the new South Tank aeration system failed. The part was under warranty and will be replaced in January. The circulation pump is working fine. During the winter, disinfection byproducts are very low and this brief period without the aerator will not cause any water quality issues.
- The water treatment plant boiler is 30 years old and required significant repair this year after a major failure. Since our air handler is in similar shape we intend to put out an RFP for replacement of our boiler and air handler for the FY17 budget.
- A 4 hour power outage on Friday, December 18th created some havoc at the water plant. When the power came back on our bench top turbidimeter would not work. This is a critical piece of lab equipment used to determine compliance with a number of important regulatory standards. The VDH office in Danville was kind enough to provide us with a loaner unit that day to get us through the weekend. We purchased a new unit that was delivered the following Tuesday. We will have the old unit serviced and will keep it on hand for emergencies.

**Water Plant Production in Gallons Per Day
(December 2013 to December 2015)**



ITEM(S) TO BE CONSIDERED UNDER:

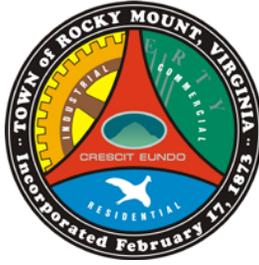
- Hearing of Citizens Consent Item Old Business New Business
 Committee Report Other

FOR COUNCIL MEETING DATED: _____

STAFF MAKING REQUEST:	C. James Ervin, Town Manager
BRIEF SUMMARY OF REQUEST:	<p>Extension of Cable Television Franchise with Shentel.</p> <p>The original cable television franchise held by Shenandoah Cable Television, LLC will expire on March 31, 2016. Shentel has expressed an interest in renewing the franchise under identical terms and conditions for an additional ten year term. Town staff will initiate the renewal process outlined in State and Federal code (47 U.S.C. § 546 and Virginia § 12.2-2100) but it is not likely that these steps can be concluded by the end of the current franchise term.</p> <p>Staff proposes that the existing franchise be extended for one year to allow for the renewal process to be initiated and completed. The attached resolution extends the current franchise, in entirety, for one year to a new expiration date of March 31, 2017.</p>
ACTION NEEDED:	Adopt or reject the proposed franchise extension resolution.

Attachment(s):

FOLLOW-UP ACTION:
(To be completed by Town Clerk)



RESOLUTION NO.: 2016.001

EXTENSION OF THE CABLE TELEVISION FRANCHISE AGREEMENT

This CABLE TELEVISION FRANCHISE EXTENSION AGREEMENT executed this 11th day of January, 2016 by the TOWN OF ROCKY MOUNT, VIRGINIA;

WHEREAS, pursuant to the Communications Act of 1934, as amended, 47 U.S.C. §521 et. Sec., the Town may grant or renew a franchise to construct, operate and maintain a cable television system within the Town limits;

WHEREAS, the original cable television franchise held by Shenandoah Cable Television, LLC ("Franchisee"), dba Shentel will expire on March 31, 2016; and

WHEREAS, the Town and Franchisee have entered into informal franchise renewal negotiations pursuant to § 626 of the Communications Act (47 U.S.C. § 546), as amended, that may extend beyond March 31, 2016, the expiration date of the Franchise; and

WHEREAS, the Franchisee has requested a renewal of the franchise under identical terms of the current franchise; and

WHEREAS, 47 U.S.C. § 546 and Virginia § 12.2-2100 establish guidelines for a renewal of the existing ten year franchise that will require the Town to engage the public in a process that could take up to a year to complete; and

WHEREAS, the Town Council of Rocky Mount has determined that it is in the best interest of the citizens of the Town to extend the existing cable Franchise Agreement to provide time for the renewal process with Franchisee.

NOW THEREFORE, BE IT RESOLVED by the Town Council of Rocky Mount, Virginia that the current Franchise Agreement between the Town of Rocky Mount and Shenandoah Cable Television be extended for a period of one year to expire March 21, 2017 and that the

Franchise continues to assume all obligations and liabilities of the Franchise, Cable Ordinance, this Resolution, transfer resolutions, all amendments thereto, any covenant, condition and agreements between the Town and the Franchise including without limitation, all obligations of the Franchisee as are currently to be preformed, but have not been preformed.

TOWN OF ROCKY MOUNT, VIRGINIA

By: _____
Steven C. Angle,
Mayor

WITNESS MY HAND and the seal of the Town of Rocky Mount, Virginia, this the 11th day of January, 2016.

(SEAL)

By: _____

Amy D. Gordon, Acting Town
Clerk

ITEM(S) TO BE CONSIDERED UNDER:

- Hearing of Citizens
 Consent Item
 Old Business
 New Business
 Committee Report
 Other

FOR COUNCIL MEETING DATED:	
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STAFF MAKING REQUEST:	C James Ervin, Town Manager
BRIEF SUMMARY OF REQUEST:	<p>Revised Policy on Fats, Oils and Grease</p> <p>Mr. Burton has drafted the attached Fats, Oils, and Grease (FOG) Discharge Policy. The Town's current FOG policies are codified in Section §58-77(b)(17) of our code which simply states that Fats, Oils or greases of animal or vegetable origin in concentrations greater than 100 milligrams per liter are prohibited. This simple policy is not in keeping with EPA expectations and guidelines and also fails to enumerate the steps the Town should take to verify compliance or to register those who discharge such items. The proposed policy addresses those concerns and sets a new limit of 200 milligrams per liter and is drafted in keeping with industry guidelines, with consultation with other public utilities and with substantial review by Town officials as it relates to business support while balancing the functioning of our public utility.</p> <p>It is the mission of a FOG policy to help prevent unwanted sewage backups due to grease related clogs and to keep the effluent that the sewage treatment plant has to treat within normal parameters.</p> <p>Your Attorney has drafted the included revision to §58-77(b)(17) to adopt this new policy.</p> <p>The Public Utilities Committee reviewed the proposed amendments on January 4, 2016 and recommended the adoption of the changes to Town Council.</p>
ACTION NEEDED:	Adopt or reject the proposed changes to §58-77(b)(17).

Attachment(s):

FOLLOW-UP ACTION: (To be completed by Town Clerk)
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IN THE COUNCIL OF THE TOWN OF ROCKY MOUNT

AN ORDINANCE of the Town of Rocky Mount amending Chapter 58, §58-77(b)(17) of the Code of the Town of Rocky Mount, Virginia (2002), and providing for the regulation of the fats, oils and grease discharges.

BE IT ORDAINED by the Council of the Town of Rocky Mount that Chapter 58, §58-77 (b)(17) of the Code of the Town of Rocky Mount, Virginia (2002), is amended to provide as follows:

Sec. 58-77(b)

(17) Fats, oils, or greases of animal or vegetable origin except in compliance with the Fats, Oils, and Grease (FOG) Discharge Policy, which is attached as Appendix A and incorporated by reference.

This ordinance shall be in full force and effect immediately.

Adopted this ____ day of _____, 2016

Presiding: Mayor S. Angle

Ayes: Vice Mayor G. Walker, Council Members B. Cundiff, A. Love, R. Moyer, B. Stockton and J. Snead

Nays: None

APPROVED:

Mayor

ATTEST:

Acting Clerk



Town of Rocky Mount

Fats, Oils, and Grease (FOG) Discharge Policy

Appendix A

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A. GENERAL FATS, OILS AND GREASE (FOG) DISCHARGE POLICY

- I. Fats, oil and grease (FOG) in wastewater can result in the decreased carrying capacity of sewers due to congealed, cooled grease which coats the inside of the pipes. Once a pipe becomes constricted, the potential for a blockage increases. Blockages can and will eventually cause sanitary sewer overflows.
- II. The following is the FOG Policy for the Town of Rocky Mount including grease interceptor sizing examples in Appendix A, Best Management Practices in Appendix B, and FOG Policy definitions in Appendix C. The purpose of establishing the FOG Policy is to protect public health by eliminating sanitary sewer system overflows due to FOG and reduce the amount of FOG discharged to the sanitary system while reducing maintenance costs for the Town of Rocky Mount customers and improving operation of the Town's sanitary sewer system under the conditions of this Policy and with a valid FOG discharge permit.
- III. A FOG discharge permit shall be required of any customer of the Town of Rocky Mount including businesses, institutions, or establishments participating in the preparation or service of food, where fats, oil and grease may be discharged into a public sewer, except as provided in item A (V) and in accordance with the schedule provided in item A (IV). Such customers shall obtain a FOG discharge permit from the Town as a condition of wastewater service. Grease interceptors, waste oil collection devices or other applicable pretreatment units shall be installed, operated, maintained, and repaired solely at the customer's expense.
- IV. Schedule for Compliance with the FOG Discharge Policy
 1. New construction of any establishment meeting the criteria of item A (III) shall obtain a FOG discharge permit and be in full compliance with its construction requirements before commencing any wastewater discharges to the sanitary sewer system.
 2. Existing structures meeting the criteria of item A (III) due to a change of use shall obtain a FOG discharge permit and be in full compliance with its provisions within 6 months of issuance.
 3. Existing structures meeting the criteria of item A (III) being renovated or expanded shall obtain a FOG discharge permit and be in full compliance with its provisions within 6 months of issuance.
 - a. Existing structures being renovated or expanded that already have a FOG discharge permit shall contact the Town to determine if a modification is needed.

4. Existing establishments determined by the Town to be contributing FOG to the sanitary sewer system in excess of 200 mg/L as total recoverable FOG, are causing increased downstream maintenance of the sanitary sewer system, or are contributing to downstream backups or overflows due to grease blockages shall obtain a FOG discharge permit and be in full compliance with its provisions within 6 months of issuance.

V. Exceptions:

1. Establishments meeting the criteria of item A (III) that use disposable service ware and have less than 25 seats may not be required to install a grease interceptor. This exception does not apply to wholesalers, commercial kitchens or take-out only establishments. The establishment shall complete and submit a FOG discharge permit application showing fixtures, seat count and certify usage of disposable service ware and shall comply with all other provisions of the FOG Policy. Exception must be pre-approved by the Town prior to: construction of new establishment; beginning construction of new seating addition or kitchen expansion of an existing establishment.
2. A FOG discharge permit shall not be required for single-family residences unless such residences have been converted for commercial food preparation use.
3. A FOG discharge permit shall not be required for duplexes, triplexes, quadplexes, or apartment complexes. However, multifamily dwellings which are found to be contributing FOG in sufficient quantities to cause main line blockages or increased maintenance in the sanitary sewer system shall be required to obtain a FOG discharge permit.
4. Single service kitchens with no food preparation (microwave heating and serve only), and which use only disposal service ware will not be required to install a grease interceptor. This applies only to establishments that are not serving the general public. The establishment shall complete and submit a FOG discharge permit application showing number of fixtures, seat count, and certify usage of disposable services ware and shall comply with all other provisions of the FOG Policy. Exception must be pre-approved by the Town prior to: construction of new establishment; beginning modifications and/or opening of a new establishment in an existing building; or beginning construction of new seating addition or kitchen expansion of an existing establishment.

- VI. The Town reserves the right to waive portions of the FOG Policy at its discretion. If a properly-sized grease interceptor cannot be accommodated within the property of existing establishments, a waiver may be requested from the Town. For existing establishments, the establishment shall demonstrate to the satisfaction of the Town that the installation of a grease interceptor would be unfeasible and or would cause an undue hardship in the utilization of the building as a food service establishment. The

establishment seeking the waiver shall submit a written request to the Town detailing the reasons and issues supporting the waiver request. The establishment shall complete and submit a FOG discharge permit application and shall comply with all other provisions of the FOG Discharge Policy as well as the Best Management Practices (BMP) of Appendix B. A waiver to the grease interceptor installation requirement shall not relieve the establishment of the requirement to use waste oil barrels to dispose of waste cooking grease as detailed in item E (III).

1. For any establishment granted a waiver that fails to comply with the provisions of the FOG Policy (except as waived) or fails to comply with the BMPs of Appendix B, the Town reserves the right to require the establishment to install a grease interceptor or pay monthly fees for noncompliance.

B. DESIGN OF GREASE INTERCEPTORS

- I. Grease interceptors shall be designed and constructed in accordance with the provisions of the FOG Policy, in accordance with the most current edition of the Town's Design and Construction Standards and in compliance with the requirements of the Virginia Department of Health (VDH).
- II. Design and construction shall be approved by an Licensed Engineering Firm.
- III. The establishment shall hire an engineering firm to prepare site layout, size the grease interceptor and prepare a plan detailing connection to the Town's sanitary sewer.
- IV. The discharge from the following fixtures shall be included: all sinks, dishwashers, floor drains in food preparation and storage areas, food waste grinders and any other fixtures through which grease may be discharged.
- V. Grease interceptors shall include isolation valving in the inlet piping to the interceptor to stop flow for cleaning purposes.
- VI. Grease interceptors shall be installed on the customer's property or within recorded easement and in a location outside of the customer's establishment, which provides access for inspection, cleaning, and maintenance, including pumping.
- VII. Wastewater from sanitary establishments shall not be introduced into the grease interceptor under any circumstances.
- VIII. Grease interceptors are to be installed at a minimum distance of 10 ft. from sinks and dishwashers to allow for adequate cooling of wastewater. The influent to interceptors shall not exceed 140 degrees Fahrenheit (140° F). The temperature at the flow control device inspection port shall be considered equivalent to the temperature of the influent¹.

¹ Editor's Note: This is to ensure good removal. If the interceptor is either too small or too close to the commercial dishwasher, grease may pass through the interceptor and into the sanitary sewer system.

- IX. Where food-waste grinders are installed, the waste from those units may discharge directly into the sanitary sewer system or pass through the grease interceptor according to applicable plumbing codes. For grease interceptors with discharges from a food grinder, the grease interceptor size shall be increased by 30% of the sizing requirement.
- X. Drains that receive “clear waste” only, such as from ice machines, condensate from coils and drink stations, may be plumbed to the sanitary system without passing through the grease interceptor with the condition that the receiving drain is a “hub” type with a minimum of two inches above the finished floor.
- XI. All waste shall only enter the grease interceptor through the inlet flow control device.
- XII. Grease interceptors shall conform to the following criteria when being designed and constructed:
1. New in-ground grease interceptors shall be **no less than 70 gallons** total capacity. The maximum capacity of any grease interceptor shall be 1500 gallons unless advised otherwise by the Town’s selected Engineering firm. Where sufficient capacity cannot be achieved with a single interceptor, installation of grease interceptors in series shall be required.
 2. Minimum 2:1 length to width ratio.
 3. Nine (9) inches of freeboard at grease interceptor top.
 4. Inlet and outlet tees. Inlet and outlet tees must be plugged at the top of the sanitary tee and be minimum of four (4) inches in diameter.
 5. Access openings over the inlet and outlet (each compartment) within the grease interceptor. Each opening shall be twenty-four (24) inches in diameter and contain pick bars. All covers shall be constructed of cast iron or equivalent traffic bearing material and allow for proper maintenance and inspection.
 6. Manholes and covers must extend to the finished grade and be installed to exclude the entrance of ground water, surface or storm water into the interceptor. Frames and covers shall be watertight.
 7. Manhole covers shall:
 - a. Have the word “Grease” cast into the manhole cover
 - b. Contain no holes
 - c. Be a gasket design to prevent inflow of stormwater
 8. Full size cleanouts shall be installed on the inlet and outlet sides of the interceptor and extended to grade.

9. Have a minimum concrete compressive strength of 3,500 psi.
 10. Joints should be properly sealed to prevent infiltration or exfiltration. A non-monolithic unit shall have the following:
 - a. A ConSeal CS-102 Butyl Rubber Sealant (or equivalent) in the joint
 - b. 26” ConSeal CS-212 Polyolefin Backed Exterior Wrap (or equivalent) installed per manufacturer’s spec and centered over the exterior of the joint.
 11. Grease interceptors must meet a minimum structural design of 150-pounds per square foot for non-traffic installations. For vehicular traffic conditions the grease interceptor shall be designed to withstand H-20 wheel loads.
 12. Grease interceptors shall meet the following standards: ASTM C-1227 (Septic Tanks), C-913 (Pre-cast Concrete Water and Wastewater Structures), ACI-318 (Design) and ASTM C-890 (for establishing Minimum Structural Design Loading).
 13. A licensed Virginia design professional will specifically design cast in place grease interceptors.
 14. A Town inspector shall inspect the grease interceptor prior to installation. Contractor shall call (540) 483-1202 forty-eight (48) hours prior to installation. The Town will not accept a grease interceptor that has not been inspected prior to installation.
 15. Prior to Town inspection, the contractor shall submit shop drawing of the grease interceptor and the Grease Interceptor Submittal Form to Town of Rocky Mount Wastewater Superintendent at 345 Donald Avenue, Rocky Mount, VA 24151 or fax it to (540) 483-8830. The shop drawing shall list “*Grease Interceptor for (insert the actual project name here)*” as the heading of the drawing. The Town reserves the right to waive the shop drawing requirement.
- XIII. In approving an establishment’s grease interceptor design, the Town does not accept liability for the failure of a system to adequately treat wastewater to achieve effluent quality requirements specified under this policy. It is the responsibility of the establishment to insure the appropriate level of treatment necessary for compliance with the FOG Policy and applicable regulations.
- XIV. It is suggested but not required that all new buildings, such as malls, strip centers, etc., containing sections designated for commercial enterprise, provide a stub-out for a separate water line for future grease interceptor installation. The designer of such new structures shall consider suitable physical property space and sewer gradient that will be conducive for the installation of an exterior grease interceptor(s) for any flex space contained within the building. Physical property restrictions and sewer gradient shall not be a basis for waiver to install a grease interceptor after the effective date of this policy.

C. PLAN SUBMITTAL REQUIREMENTS

The following procedures are to assist the applicant in permit application, plan submittal, and permit issuance.

- I. Establishments required to install a grease interceptor shall submit the following to the Town:
 1. A completed FOG discharge permit application.
 2. Detailed calculations by A & E firm, licensed engineer, or competent design professional showing size of the grease interceptor. An example of grease interceptor sizing is contained in Appendix A.
 3. A complete list of all fixtures. For all sinks, list dimensions and drain sizes. For all dishwashers, list discharge flow rates as determined by the manufacturer's specifications.
 4. Plans showing:
 - a. Location of grease interceptor, inverts and elevation of manholes.
 - b. Fixture plumbing.
 - c. Grease interceptor detail showing correct sizing information.
 - d. Grease recycling barrels located near the dumpster area.
- II. Two (2) copies of calculations and plans are to be submitted to the Town.

D. FOG DISCHARGE PERMIT

- I. A FOG discharge permit is required of establishments identified in item A (III) to discharge wastewater into the sanitary sewer system. A completed "FOG Discharge Permit Application" shall be submitted to the Town under the schedule in item A (IV). The permit sets the terms and conditions to achieve compliance with the FOG Policy and shall include installation of a grease interceptor unless excepted or waived, recycling or disposal of waste oil, fats and grease, as required by item E (III) and implementation of all other provisions of the Best Management Practices of Appendix B. FOG discharge permits may contain specific milestone dates to be met by the establishment.
- II. The Terms and conditions of the permit are subject to modification by the Town at any time as just causes exist. The establishment shall be informed of any proposed changes in the issued permit at least thirty (30) days prior to the effective date of the change(s). Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

- III. An establishment may request a waiver under the terms of item A (VI) to certain portions of the FOG Policy. Establishments may request a modification to an existing FOG discharge permit to comply with renovation or expansion requirements.
- IV. Any request for extensions of FOG discharge permit milestone dates must be made in writing to the Town, at least thirty (30) days in advance of the date.
- V. As a condition precedent to the granting of a permit, the permittee agrees to hold harmless the Town and the Town's employees from any liabilities arising from the establishment's operations.

E. ESTABLISHMENT RESPONSIBILITIES

I. Discharge Criteria:

- 1. Where fats, oil and grease are by-products of food preparation and/or cleanup, reasonable efforts shall be made to separate waste fats, oil and grease into a separate containers for proper disposal. Waste fats, oil and grease shall not be discharged to any drains or grease interceptors. Such waste shall be placed in a container designed to hold such waste and either recycled or disposed of at suitable locations in accordance with item E (III).
- 2. Adequately sized grease interceptor shall mean a grease interceptor that does not allow a discharge of wastewater containing fats, oil or grease in excess of 200 mg/L or has not been found to be contributing to line stoppages or require sewer maintenance to prevent stoppages from occurring. It is the responsibility of the establishment to insure compliance with the sanitary sewer discharge limitations.

II. Maintenance, Record Keeping, and Grease Removal

- 1. Grease interceptors shall be kept free of inorganic solid materials such as grit, rocks, gravel, sand, eating utensils, cigarettes, shells, towels, rags, etc., which could settle into this pocket and thereby reduce the effective volume of the grease interceptor.
- 2. Grease interceptors shall meet the FOG Policy's compliance requirements and be maintained for efficient FOG removal and shall be cleaned every ninety (90) days. Some establishments may need to clean interceptors more frequently. It is the responsibility of the establishment to monitor and clean interceptor as needed but no less than ninety (90) days.² The Town reserves the right to adjust cleaning frequency of individual establishments as needed.

² Editors Note: It is recommended that establishments with food grinders discharging to their grease interceptors be cleaned every 30 days.

3. Interceptor Maintenance Log:

- a. Every establishment having a grease interceptor shall maintain a log of each pumping for the previous three (3) years. This log shall include the date, time, name of the waste hauler and shall be kept in a conspicuous location on the premises of the establishment for inspection. Trip tickets or manifests shall be maintained for a period of 3 years to substantiate the maintenance log. Establishments shall keep their FOG discharge permit with the log. Permit and log shall be made immediately available to Town staff upon request.
- b. A copy of the information required in the maintenance log must be submitted to the Town annually including trip tickets or manifests. The annual reporting period shall be July 1 through June 30 of each year. The report shall be submitted to the Town within thirty (30) days after the end of the reporting period.

4. Cleaning Procedures:

- a. An owner, manager or employee of the establishment shall supervise grease interceptor cleaning, and shall be physically present and observe the entire cleaning operation.
- b. The owner, manager or employee of the establishment shall cause the liquid waste hauler, transporter, or other person cleaning or servicing the grease interceptor to evacuate all contents, including floating materials, wastewater, and bottom sludge and solids. Skimming the surface layer of waste material, partial cleaning of the interceptor or use of any method that does not remove the entire contents of the collection device is prohibited. The suction of the floating materials shall be done prior to removal of other contents. After complete evacuation, the walls, top, and bottom of the interceptor shall then be thoroughly scraped and the residue removed. The interceptor shall then be washed down and the residue removed. Upon completion of the servicing, the employee witnessing the cleaning shall make an inspection of the interior of the interceptor and then sign the trip ticket or manifest. The employee shall make an appropriate entry in the establishment log.
- c. Each grease interceptor pumped shall be fully evacuated unless the volume is greater than the tank capacity of the vacuum truck in which case the transporter shall arrange for additional transportation capacity so that the grease interceptor is fully evacuated within a twenty-four (24) hour period.
- d. The return of gray water back into the interceptor from which the waste was removed is prohibited.

- e. All waste removed from each grease interceptor shall be disposed of at an establishment permitted and authorized to receive such waste in accordance with all applicable federal, state, and local regulations. In no way shall the pumped material be returned to any private or public portion of the sanitary sewer system.
- f. It shall be a violation for an establishment to allow grease interceptor waste to be removed from the premises by a transporter that does not have all applicable federal, state, or local permits or registrations. Transportation and disposal of grease or other materials generated by a grease interceptor shall be subject to all applicable federal, state and local regulations.
- g. It is strictly prohibited for any non-water portion of the grease interceptor's contents to be pushed or flushed into the public sanitary sewer at any time. (See item I. Section G. "Violations of Policy")

III. Waste Oil Disposal

- 1. All establishments shall use waste oil barrels or containers to dispose of waste fats, oil and grease. Such material shall be recycled or disposed of through an establishment permitted and authorized to receive such waste in accordance with all applicable federal, state, and local regulations.

IV. Compliance Requirements

- 1. Establishments shall comply with the milestone dates of FOG discharge permits.
- 2. Establishments not in compliance with the cleaning requirements of the FOG Policy shall clean the grease interceptor within ten (10) business days after the date the establishment receives written notice from the Town.

F. MONITORING, INSPECTION AND ENTRY

I. Right of Entry – Inspection and Sampling

The Town shall have the right to enter the premises of any establishment to determine whether the establishment is complying with all requirements of the FOG Policy, any wastewater discharge permit or order issued hereunder. Establishments shall allow the Town ready access to all parts of the premises for the purposes of inspection, sampling, records examination and copying, and the performance of any additional duties during reasonable business hours.

- 1. Where an establishment has security measures in force, which require proper identification and clearance before entry into its premise, the establishment shall

make necessary arrangements with security so that, upon presentation of suitable identification, Town staff will be permitted to enter immediately for the purposes of performing specific responsibilities.

2. The Town shall have the right to set up on the establishment property, or require installation of, such devices as are necessary to conduct sampling and/or metering of the establishment's operations.
 3. The Town may require the establishment to install monitoring equipment as necessary. The establishment's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the establishment at the establishment's expense. All devices used to measure wastewater flow and quality shall be calibrated at least annually to ensure accuracy.
 4. Any temporary or permanent obstruction to safe and easy access to the establishment to be inspected and/or sampled shall be promptly removed by the establishment at the written or verbal request of the Town staff and shall not be replaced. The costs of clearing such access shall be born by the establishment.
 5. Unreasonable delays in allowing Town staff to access the establishment's premises shall be a violation of this policy.
- II. No new establishment will be allowed to initiate operations until a grease interceptor is installed, approved and inspected by the Town. The Town reserves the right to suspend service if the grease interceptor is not in compliance with the FOG Policy.

G. VIOLATIONS OF POLICY

- I. No establishment shall discharge wastewater to the sanitary sewer system in violation of the FOG Policy or the Town's pretreatment discharge limitations.
- II. It shall be a violation of the FOG Policy for any establishment to:
 1. Modify a grease interceptor structure without the consent or approval of the Town including alteration or removal of any flow constricting devices so as to cause flow to rise above the design capacity of the grease interceptor.
 2. Provide false maintenance records.
 3. Cause or permit the plugging, blocking, or interference with a grease interceptor or permits others to cause such interference.
 4. Not comply with the provisions of a FOG discharge permit or the FOG Policy.

- III. No customer or establishment, including non-permitted establishments, shall discharge grease in excess of 200 mg/l to the sanitary sewer collection system. If such discharge occurs, the customer or establishment shall be considered in violation of this policy and subject to the remedies described herein.
- IV. No establishment shall contribute or cause to be contributed into the grease interceptor or the sanitary sewer system any of the following:
1. Hot water running continuously through grease interceptor;
 2. Concentrated alkaline or acidic solutions;
 3. Concentrated detergents, emulsifiers, de-emulsifiers, surface active agents, enzymes, degreasers, solvents or any type of product that will liquefy grease interceptor wastes;
 4. Any substance that may cause excessive foaming in the sanitary sewer system;
 5. Any substance capable of passing the solid or semi-solid contents of the grease interceptor to the sanitary sewer system;
 6. Hazardous waste including concentrated cleaners, pesticides, herbicides, paints, solvents, gasoline or other petroleum products; or
 7. Waste fats, oils, and grease not generated as part of the wastewater system.
- V. When the Town finds that a user has violated, or continues to violate any provision of this policy or the Sewer Use Ordinance, a wastewater discharge permit or order issued hereunder, or any other pretreatment standard or requirement, the Town may serve upon that user a written Notice of Violation (NOV). Within ten (10) days of the receipt of this notice, an explanation of the violation, verification of grease trap cleaning, and a plan for the satisfactory correction and prevention thereof, to include specific required actions, shall be submitted by the user to the Town. Submission of this plan in no way relieves the user of liability for any violations occurring before or after receipt of the Notice of Violation. Nothing in this section shall limit the authority of the Town to take any action, including emergency actions or any other enforcement action, without first issuing a Notice of Violation. The Town may suspend water and/or sewer service, when such suspension is required in order to stop an actual or threatened discharge that:
1. Presents or may present an imminent or substantial endangerment to the health or welfare of persons or the environment;
 2. Causes blockages or excessive maintenance to be performed to prevent stoppages in the sanitary sewer collection system; or

3. Causes interference to the sanitary sewer collection system or treatment plant.
- VI. Any customer or establishment notified of a suspension of the water or sewer service shall immediately stop or eliminate the discharge. In the event of a failure of the customer or establishment to comply voluntarily with the suspension order, the Town shall take such steps as deemed necessary, including immediate termination of water or sewer service, to prevent or minimize damage to the sanitary sewer system or sewer connection or endangerment to any individuals. The Town will also notify the Health Department and this may impact other permits and/or license that the customer may have. The Town shall reinstate the water or sewer service when such conditions causing the suspension have passed or been eliminated. A detailed written statement submitted by the customer or establishment describing the cause(s) of the harmful discharge and the measure(s) taken to prevent any future occurrence shall be submitted to the Town within fifteen (15) days of the date of occurrence.
 - VII. Any customer or establishment may appeal the actions of the Town by submitting a notice of appeal to the Town Manager's office within fourteen (14) days from the receipt of a suspension notice from the Town or other notice requiring action, imposition of a fee, or notice of service termination. An appeal request will not delay action by the Town.
 - VIII. The Town Manager shall conduct a hearing on all appeals within fourteen (14) days of the receipt of notice of appeal. The notice of appeal shall state the technical grounds and objections for the appeal. At the hearing, the Town Manager shall hear and investigate any objection that may be raised and take such as may be appropriate under the facts and circumstances established. In all other respects, the substantive and procedural requirements for this appeal shall comply with the applicable provisions of the Code of Virginia (1950) as amended.
 - IX. The Town Manager shall render a decision within five (5) business days of the date of the hearing. The customer or establishment requesting the appeal may take other such action as permitted by applicable Virginia law. The Town reserves the right to seek reimbursement of administrative and operational costs and legal fees resulting from enforcement of this policy.

H. FEES AND COST

- I. Progression of fees for violations of the FOG Policy:
 1. First occurrence will result in a warning letter and placement of the establishment on a list for increased observation. For establishments without a FOG discharge permit, the establishment shall apply for a permit. Notification will be made to the Virginia Health Department.

2. Second occurrence will result in a letter of violation. For establishments with a FOG discharge permit, the Town may require submission of a grease interceptor design, maintenance information and/or other corrective actions within thirty (30) days. Collection system cleaning costs will be applied. This may include Jet Truck cleaning, Video inspection, Testing, total footage of line cleaning, etc...
 3. Third occurrence will include assessment of cleaning costs and noncompliance fees as described in H (III).
 4. Fourth occurrence or failure to pay assessed costs or fees in the time specified shall result in termination of service and notification to the Health Department.
- II. Establishments granted a waiver under item A (VI) that are in noncompliance with the FOG Policy or BMPs shall pay a noncompliance fee of \$50 per month in addition to any other fees identified in section H.
 - III. Any establishments that is identified, in whole or in part, as the source of a sanitary sewer blockage and/or overflow, will be assessed a noncompliance fee of not less than \$500 and not more than \$2500, plus costs for clean up, property damage, regulatory fines and applicable administrative and legal costs.
 - IV. Each failure to meet individual requirements of the FOG Policy including grease interceptor maintenance or documentation requirements is considered to be a separate violation of the FOG Policy subject to enforcement.

Appendix A Sizing

This Appendix is intended to be example guidance for the designer. To determine the size of an exterior, in-ground grease interceptor using the Manning Formula, the calculation is:

Gallons of interceptor = $[(1) = \text{GPM/fixture} \times (2) = \text{total \# fixture ratings of grease-Laden waste streams}] + (3) \text{ direct flow from a dishwasher, laundry washer, glass Washer (in GPM)} \times (4) \text{ (30 minute retention time)}$

Components of equation are:

- (1) GPM/fixture: This is derived from the Manning Formula. It takes into account the slope; roughness of the pipe (plastic) used, and pipe diameter size. The drainage rates of various pipe diameter sizes are:

0.5 inch pipe diameter = 0.8 GPM/fixture
1.0 inch pipe diameter = 5.0 GPM/fixture
1.5 inch pipe diameter = 15 GPM/fixture
2.0 inch pipe diameter = 33 GPM/fixture
2.5 inch pipe diameter = 59 GPM/fixture
3.0 inch pipe diameter = 93 GPM/fixture

- (2) Fixture Ratings of Grease-Laden Waste Streams: Fixtures that have more grease in their waste stream received higher values while less grease corresponds to a lower value. Common Commercial Kitchen Fixtures and their Corresponding Rating (each) are:

2, 3, or 4 compartment pot sink = 1.0
1 or 2 compartment meat prep sink = 0.75
Pre-rinse sink = 0.5
1 or 2 compartment vegetable prep sink = 0.25
Can Wash = 0.25
Mop sink = 0.25
Floor drain = 0.00

- (3) Direct Flow from Dishwashers, Laundry washer, and Glass washer: These flows must be added directly to the GPM flow because their potential for discharging large quantities of water in a short time period. Since these appliances have pumps, the Manning Formula cannot be applied to predict flow; must use manufacturer's discharge rate for flow in GPM but not less than the draw down rate.
- (4) Thirty (30) minute retention time.

Example # 1

A restaurant has the following fixtures in their kitchen (all fixtures have a 1.5 inch pipe diameter):

- (1) 3-compartment pot sink
- (1) pre-rinse sink
- (1) 2-compartment vegetable prep sink
- dishwasher that discharges 10 GPM

Using the formula to size exterior grease interceptors, gallons needed for grease interceptor =

$$\begin{aligned} & [[15\text{GPM} \times [1 + 0.5 + 0.25] + 10 \text{ GPM}] \times 30 \text{ minutes} = \\ & [[15\text{GPM} \times 1.75] + 10 \text{ GPM}] \times 30 \text{ minutes} = \\ & 26.25 \text{ GPM} + 10 \text{ GPM} \times 30 \text{ minutes} = \\ & 36.25 \text{ GPM} \times 30 \text{ minutes} = \\ & 1087\text{gallons round up to the next nearest size} = \end{aligned}$$

1,250 gallons grease interceptor is required

Example # 2

A restaurant has the following fixtures:

A 0.5 inch pipe diameter: Pre-rinse sink

A 1.5 inch pipe diameter:

- (1) 3-compartment pot sink
- (1) pre-rinse sink
- (1) meat prep sink
- (1) vegetable prep sink

A 3.0 inch pipe diameter:

- (1) can wash

Using the formula to size exterior grease interceptors:

For the pre-rinse sink: take $0.8 \text{ GPM} \times 0.5 = 0.4 \text{ GPM}$

For the 1.5 inch pipe diameter fixtures: $15 \text{ GPM} \times [1+0.5+0.75+0.25] = 15 \text{ GPM} \times 2.5 = 37.5 \text{ GPM}$

For the can wash: $93 \text{ GPM} \times 0.25 = 23.25 \text{ GPM}$

Add $23.25 \text{ GPM} + 37.5 \text{ GPM} + 0.4 \text{ GPM} = 61.15 \text{ GPM} \times 30 \text{ minutes} = 1835 \text{ gallons};$

Round up to the next nearest size = 2,000 gallon grease interceptor is required (Two 1,000 gallon in series).

Appendix B

Best Management Practices

Unless required by a specific establishment FOG DISCHARGE PERMIT, this Appendix is intended to be operational guidance.

1. FOR CLEAN KITCHEN PRACTICES

- I. Provide regular training to and monitoring of employees on proper and consistency implementation of BMPs to reduce grease discharges to sewer.
- II. Dispose of food waste directly into trash containers.
- III. Dry wipe pots, pans and dishware prior to washing.
- IV. Use absorbent material to soak up FOG under fryer baskets.
- V. Post “NO GREASE” signs above sinks and on the front of dishwashers.
- VI. Properly dispose of all yellow grease into recycling barrels. No yellow grease/oil shall be poured into a drain or flushed into sanitary sewer collection system.
- VII. Place covers on containers before transporting used oil and grease to recycling barrels.

2. FOR REYCLING FOG

- I. FOG waste can be recycled by rendering or recycling companies.
- II. Collect and recycled used cooking oil in appropriate barrels for recycling.
- III. Collecting and recycling used oil greatly minimizes the amount of FOG that is introduced into the sewer system.

3. FOR GREASE INTERCEPTOR OPERATION (if applicable)

- I. Observe proper grease interceptor cleaning and maintenance procedures to ensure that the device is operating properly. Regular and proper service maximizes interceptor efficiency, prevents spills and minimizes odor.
- II. Train all staff to regularly check the depth of solids and thickness of retained FOG. As a general rule, an interceptor loses its effectiveness when excessive amount of jFOG and/or solids accumulate. The frequency of servicing is determined by the accumulation rate of FOG and solids.
- III. Call a pumping company to service the grease interceptor. Have a licensed and certified hauling, rendering or pumping company clean, pump down, and service the grease interceptor regularly.
- IV. Carefully check the interceptor after service to ensure that service was performed correctly.

Appendix C Definitions

1. **Establishment** shall mean customer of the Town of Rocky Mount as described in item A (III) engaging in any of the following:
 - a. Commercial food preparation and food service establishment, including but not limited to bakeries, butcher shops, cafes, clubhouses, commercial kitchens, delicatessens, fat rendering plants, ice cream parlors, hospitals, meat packing establishments, especially where meat, poultry, seafood, dairy products or fried foods are prepared or served.
 - b. All shopping centers with food processing establishments and / or food courts; and
 - c. All new areas of intensified dwelling, including, but not limited to: adult day care establishments, assisted living establishments, convalescent homes, day nursing and childcare establishments in which food preparation occurs, hotels/motels in which there is a commercial food preparation service, nursing homes, retirement and life care communities and homes, and truck stops with commercial food service.
2. **New construction** shall mean any establishment constructed after the effective date of the FOG Policy.
3. **Existing structures** shall mean any establishment constructed prior to the effective date of the FOG Policy.
4. **Change of use** shall mean conversion of an existing structure not previously meeting the definition of an establishment.
5. **Renovated** shall mean modifications sufficient to require issuance of a building permit from the locality in which the establishment is situated.
6. **Expanded** shall mean establishment modifications that add seating capacity or increases the number of fixtures in the kitchen area.
7. **Wholesalers or commercial kitchens** shall mean establishments that meet the requirements of item A (III) but do not have retail sales.

ITEM(S) TO BE CONSIDERED UNDER:

- Hearing of Citizens
 Consent Item
 Old Business
 New Business
 Committee Report
 Other

FOR COUNCIL MEETING DATED:	
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STAFF MAKING REQUEST:	C. James Ervin, Town Manager
BRIEF SUMMARY OF REQUEST:	<p>The Public Utilities Committee met on January 4, 2016 to consider three items:</p> <p>Maple Avenue Water Pressure:</p> <p>Thompson and Litton's (one of our engineering partners) plan to boost water pressure on Maple Avenue was considered alongside an alternate suggestion to offer residents a tankless booster system. It was the consensus of the committee that the in-home tankless system was considerably cheaper, both to purchase and to operate, than a new dedicated pump station feeding just a 2" residential segment. The committee advised staff to offer the new tankless technology to those on Maple Avenue with inadequate water pressure in accordance with our existing policies on Town subsidized pumping systems (we have several in place). The current approach is that the Town will furnish the pump if the home owner pays for the installation and the ongoing operational maintenance (if any). A copy of the original committee report on this issue is attached. Given that this is our current policy, no action by Council is required unless Council wishes to direct staff to continue to review the central pump station proposal.</p> <p>Fats, Oils and Grease Policy:</p> <p>This item was presented under new business.</p> <p>Refuse Collection Rules:</p> <p>The committee received an update from the Town Manager and the Public Works Director. The committee recommended that the town proceed to the issuance of fines following a notice in the Franklin News Post advising of the start of fines after two collection cycles of new warnings. If approved by Council, a notice will be placed in the local paper after the January meeting advising refuse collection customers that the \$10 per violation fee will be applied starting with the collection the week of February 15th.</p>
ACTION NEEDED:	Approve or alter the proposed refuse collection policy. Give staff any additional guidance on the use of booster pumps for town

	customers at elevations that make water pressure an issue.
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Attachment(s):

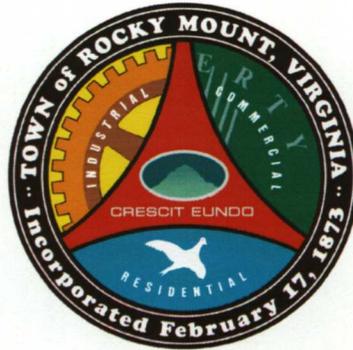
FOLLOW-UP ACTION:
(To be completed by Town Clerk)



TOWN OF ROCKY MOUNT
345 DONALD AVE.
ROCKY MOUNT, VIRGINIA 24151

540.483.7660
FAX: 540.483.8830

E-MAIL: JERVIN@ROCKYMOUNTVA.ORG
WWW.ROCKYMOUNTVA.ORG



TOWN COUNCIL
STEVEN C. ANGLE, MAYOR
GREGORY B. WALKER, VICE MAYOR

BOBBY M. CUNDIFF BOBBY L. MOYER
P. ANN LOVE JON W. SNEAD
BILLIE W. STOCKTON

C. JAMES ERVIN
Town Manager

MEMORANDUM

DATE: September 3, 2015

TO: Public Utilities Committee
-Bobby M. Cundiff, Chairman
-Billie W. Stockton, Vice Chairman
-Jon Snead, Voting Member

CC: Cecil Mason, Public Works Director
Bob Dietrich, Water Plant Superintendent

FROM: C. James Ervin, Town Manager *CSE*

RE: Maple Avenue Water Pressure Recommendation

Town Council authorized staff to study the water pressure problem on Maple Avenue and to make a recommendation for a solution. This memo is the recommendation from Mr. Mason and me. Mrs. Sink will shortly be calling a meeting of the committee to consider this proposal.

The Town hired Thompson & Litton to do an analysis and make a recommendation. Their final report is attached.

The report recommends:

Creation of a new pressure zone for the residential customers using a boosted 2" distribution network, connected to 19 residences, fed by a 22-gallon-per-minute pump installed in a to be purchased site.

The estimated cost of this solution is \$216,950 without the funds needed for land acquisition. It is worth noting that this solution creates a high pressure residential consumption zone on a 2" line and **would not in any way** improve fire flow in the area. To improve fire flow would require a 6" high pressure zone, and the corresponding pump station for that size of a zone would be in excess of \$1 million.

Given that the area-wide solution was approaching a quarter million in expense with less than 19 entities served and no increase in fire flow, the question debated by Mr.

Mason and myself was: is there a site specific solution that would be as effective and more cost effective? To fully understand the alternative and to test, Mr. Mason and I installed a new design single site pressure booster at 65 East Church Street. This new design operates more efficiently and with a "micro tank" (see image attached - Aquaboost II) and a pressure sensing system that allows the pump to cycle on and off as needed. The purchase and install of the new "micro tank" pump system cost \$500 labor and \$864 for the pump. This was installed on August 18th and the owner reported that the pump system worked above her expectations, producing enough pressure to operate a sprinkler and other normal water appliances. This location was selected because it was the "worst case scenario" being the home with the lowest base pressure and at the highest elevation.

Attached are the invoices for the work.

To estimate the cost of this approach, the Town gathered pressure readings for residences in the area. These are outlined on the attached pressure system map. Based on this map, and using 35psi as a minimum target pressure, there are an estimated 11 pumps to install. Installing these 11 pumps would cost the Town approximately \$16,500. If it is expanded to those under 40psi, 4 additional sites would be included.

Based on the experience with the test pump, this solution could be implemented for considerably less than a central pump system.

Mr. Dietrich reports that the Health Department views such pumps as part of the water system and that it is preferred that the Town (water utility) own and maintain these pumps. The logic is that they must be operated in a way that limits the risk of inflow and infiltration (if you have a larger number of pumps in a single area and they are set at too high a pressure and several of them operate at the same time, the local system could experience a negative pressure such that I&I becomes an issue).

CJE/sbs

Attachments (3)





THOMPSON & LITTON
Over fifty years of integrity, insight and innovation.

May 21, 2015

Mr. C. James Ervin
Town of Rocky Mount
345 Donald Avenue
Rocky Mount, VA 24151

Re: Maple Avenue Pressure Issues
T&L Project No. 12309-03

Dear Mr. Ervin:

Per your request and in accordance with the Memorandum of Understanding (MOU) No. 3 to the Retainer Agreement between the Town of Rocky Mount (Town), Virginia and Thompson & Litton, Inc. (T&L), T&L has evaluated incorporating improvements to the Town's existing water distribution system to eliminate pressure issues currently witnessed along Maple Avenue.

Background

Pressures in the Town's low pressure zone are established via the tank levels of the 220 South, 220 North, Bald Knob, and Scuffling Hill water storage tanks. The Town has received complaints from customers located in close proximity to the intersection of East Church Street and Maple Avenue. Consequently, the Town requested T&L evaluate options to remedy the aforementioned pressure issues.

Evaluation

Identification of the Problem

As the first step of the evaluation, T&L reviewed topographic mapping, performed hydraulic calculations, and utilized the existing hydraulic model of the Town's water distribution system to estimate the static pressures that should exist within the area of concern. After determining the approximate pressures that should be witnessed, T&L requested that the Town obtain several field pressures in the area of concern to compare the theoretical and field data. The pressures provided by the Town were similar to the pressures estimated by T&L. Based on

this verification, it was determined that the pressure issues have existed since the water distribution system was extended to the area of concern.

Alternatives

To increase pressures in the area of concern, two (2) primary options exist:

- Option I - Install a booster pump station for each resident effected by low pressures, or
- Option II - Install one (1) booster pump station to serve the entire area of concern, which would create a new pressure zone in the Town's water distribution system.

Per communication with Town staff, it is T&L's understanding that the Town would prefer Option II.

Following a site visit and review of mapping, T&L determined four (4) potential locations to situate a new booster pump station to increase pressures in the area of concern. Based off of communication with the Town, it was determined that construction of a booster pump station in the graveled area associated with 95 Maple Avenue would provide the best site for construction and meet the design requirements. A location map illustrating the aforementioned location is included in Appendix A.

New Pressure Zone Design

To increase pressures in the area of concern, a new pressure zone must be created. The new pressure zone will witness increased pressures as a result of the proposed booster pump station referenced above. The target pressure will be 50 psi at the highest elevation along Maple Avenue. Additionally, modifications will be incorporated into the existing water distribution system to maintain the available fire flows in the area of concern following creation of a new pressure zone.

In order to construct the proposed booster pump station and create the new pressure zone, the following modifications to the existing system will be required:

- Construct approximately 200 linear feet (L.F.) of water line from the intersection of East Court Street and Maple Avenue to an existing 2-inch water line located along Maple Avenue.
- Install the necessary yard piping from the existing 2-inch water line located along Maple Avenue to the proposed pump station location.
- Install a 6-inch check valve in close proximity to the intersection of East Church Street and South Main Street.
- Install a 6-inch check valve in close proximity to the intersection of South Main Street, Tanyard Road, and Maple Avenue.

A map illustrating the proposed improvements and the associated proposed pressure zone is included in Appendix B.

Pump Station Design

The proposed booster pump station will consist of one (1) pump, one (1) hydropneumatic tank, and all related appurtenances. The pump and hydropneumatic tank will be situated in a concrete vault with a traffic rated hatch. Electrical controls will be installed in an aboveground enclosure. Preliminary pump calculations are as follows:

- Approximately 19 connections in proposed pressure zone.
- Average Demand - 19 connections x 400 gallons/day/connection = 7,600 gallons per day (gpd).
- 2 x Average Demand (Peak Demand) – 7,600 gpd x 2 = 15,200 gpd [11 gallons per minute (gpm)].
- Size Pump to operate 12 hours per day (hrs/day) at Peak Demand – 11 gpm x 2 = 22 gpm.

Therefore, size the proposed pump to produce a flow rate of 22 gpm.

Recommended Course of Action

To alleviate pressure issues located in the area of concern along Maple Avenue, it is recommended that the Town begin the necessary steps in order to construct the proposed 2-inch water line, booster pump station, check valves, and all associated appurtenances to establish the proposed pressure zone described in this report. The following bullets outline a chronological order of the tasks required by the Town:

- Per conversations with the Virginia Department of Health (VDH), a formal review by the VDH is not required. However, the VDH will require a set of the construction documents for their files. Nevertheless, the Town should confirm the aforementioned VDH requirements.
- Secure the property and any associated easements required to construct the proposed pump station.
- Procure consulting engineering services in order to prepare a set of project documents to ultimately bid the project.
- Verify the location/diameter of all existing water lines in the project area.
- Verify the location of all meters in the project area, and determine which meters will be incorporated into the proposed pressure zone.
- Notify all customers that will be affected by the proposed pressure zone.
- Install pressure reducing valves on customer service lines that will witness pressures in excess of 70 psi.
- Bid and award the project to a contractor.

Mr. C. James Ervin
May 21, 2015
Page 4

- Upon completion of the project, utilize the new improvements to establish the new pressure zone.

The total probable project cost of constructing the proposed improvements within the existing system is estimated to be approximately \$216,950 (See Appendix C).

If you should have questions or comments regarding the aforementioned evaluation, please contact us at your convenience.

Sincerely,

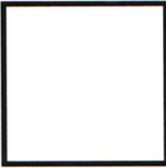


Jeremiah W. Tuggle, PE
Design Supervisor

Attachments

- Appendix A – Location Map
- Appendix B – Proposed Improvements Map
- Appendix C – Probable Project Cost Estimate

pc: Robert Deitrich, Town
Brian Tew, T&L



THOMPSON & LITTON

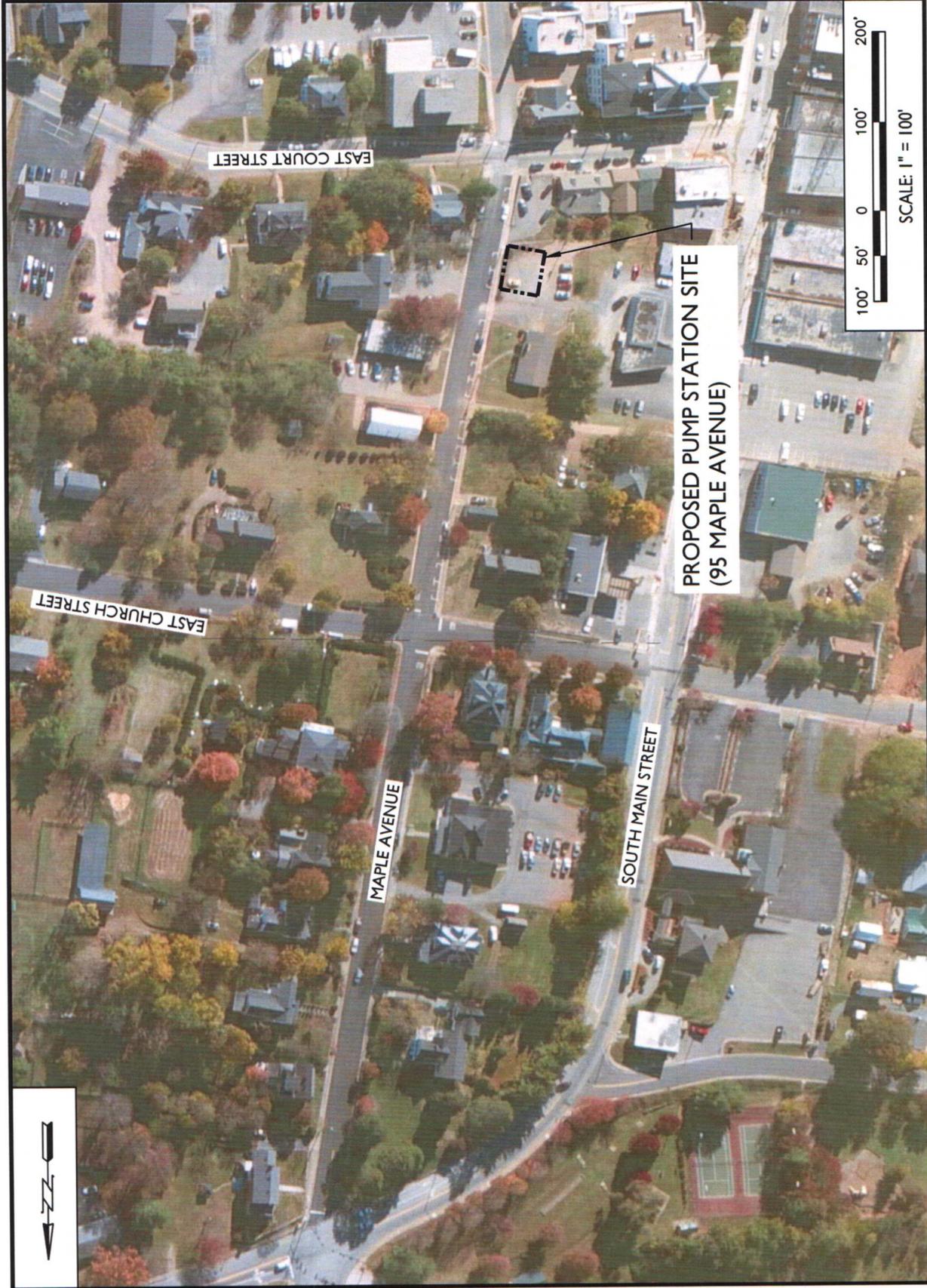
726 Auburn Avenue
Roanoke, Virginia 24101

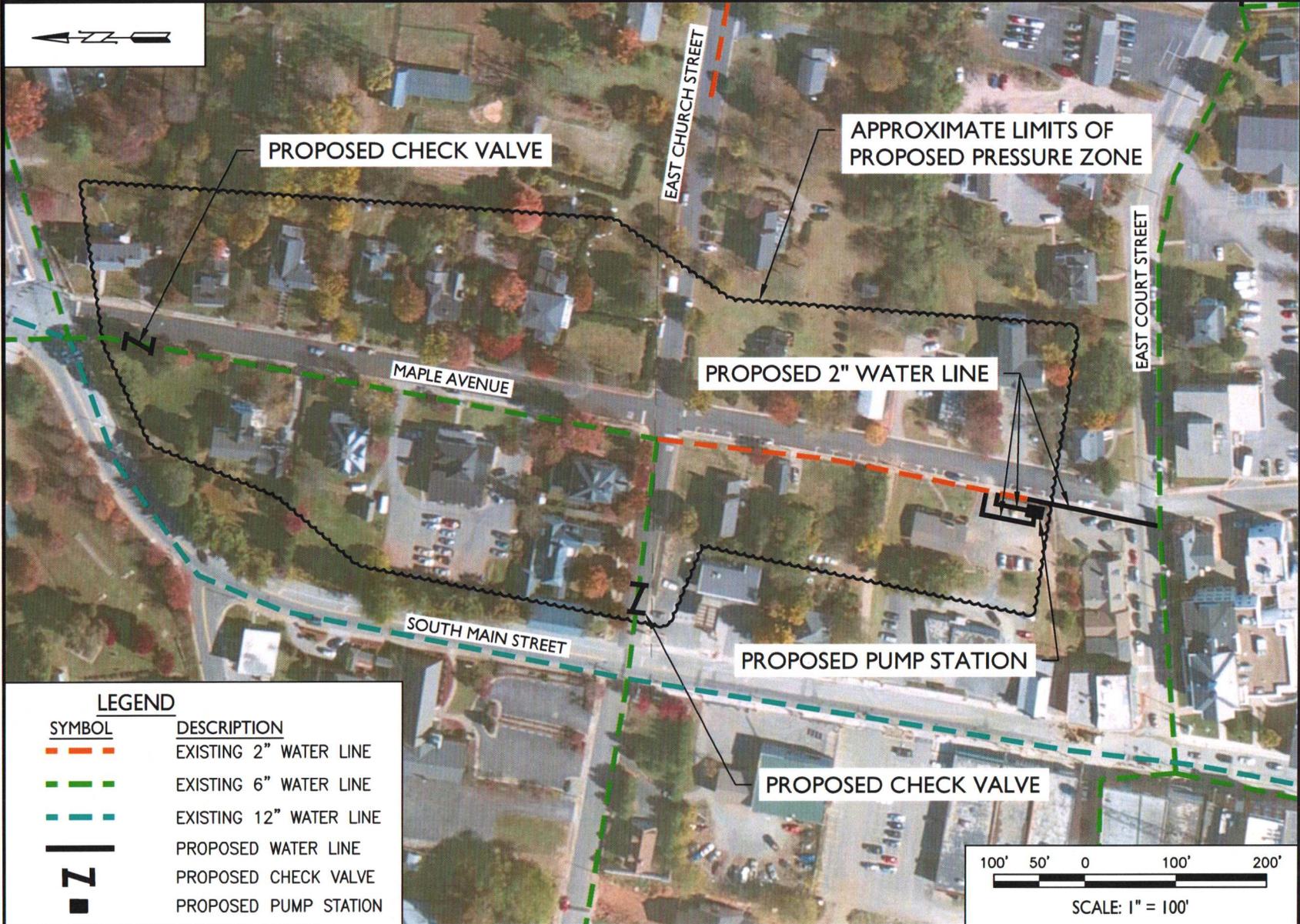
MAPLE AVENUE PRESSURE ISSUES
LETTER REPORT
FOR THE
TOWN OF ROCKY MOUNT
LOCATION MAP

Designed	
Drawn	
Checked	
Date	MAY 2015
File No.	EX-HBITS

Project No.
12309-03

Sheet No.
EXHIBIT I





LEGEND	
SYMBOL	DESCRIPTION
	EXISTING 2" WATER LINE
	EXISTING 6" WATER LINE
	EXISTING 12" WATER LINE
	PROPOSED WATER LINE
	PROPOSED CHECK VALVE
	PROPOSED PUMP STATION



THOMPSON & LITTON

726 Auburn Avenue
Radford, Virginia 24141

MAPLE AVENUE PRESSURE ISSUES
LETTER REPORT
FOR THE
TOWN OF ROCKY MOUNT
PROPOSED IMPROVEMENTS

Designed	
Drawn	
Checked	
Date	MAY 2015
File No.	EXHIBITS

Project No.
12309-03

Sheet No.
EXHIBIT II

**PRELIMINARY STATEMENT OF PROBABLE CONSTRUCTION COST
FOR THE
TOWN OF ROCKY MOUNT
MAPLE AVENUE PRESSURE IMPROVEMENTS**

CONSTRUCTION COST:

500 L.F. 2" Water Line @\$50 L.F.	\$25,000
3 EA. 2" Ball Valves @\$1,500 EA.	4,500
2 EA. Check Valves @\$20,000 EA.	40,000
1 L.S. Pump Station @\$75,000 L.S.	75,000
1 L.S. Sidewalk/Pavement Repair/Driveway Restoration @\$10,000 L.S.	<u>10,000</u>
Sub-Total Construction Cost	\$154,500
Contingency Cost (10%)	<u>\$15,450</u>
TOTAL CONSTRUCTION COST	\$169,950

RELATED COST:

Easements/Property	\$5,000
Basic Engineering	
Design	20,000
Bidding and Advertising	7,500
Construction Contract Administration (3 Months)	12,000
Survey (Planimetric / Plat)	<u>2,500</u>
TOTAL RELATED COST	\$47,000

TOTAL PROBABLE PROJECT COST **\$216,950**

Please be advised that since Thompson & Litton has no control over the cost of labor, materials, equipment, or services furnished by others, or over Contractor(s)' methods of determining prices, or over competitive bidding or market conditions, our opinions of probable project cost and construction cost provided herein are made on the basis of our experience and qualifications and represent our best judgment as experienced and qualified Professional Engineers familiar with the construction industry. Thompson & Litton cannot and does not guarantee that proposals, bids, or actual project construction cost will not vary from those opinions of probable costs prepared by Thompson & Litton. If, prior to the Bidding or Negotiating Phase, the Town wishes greater assurance as to project or construction costs, the Town should employ an independent cost estimator.