CITY OF GROSSE POINTE WOODS

Electronic Committee-of-the-Whole Meeting Agenda Monday, May 11, 2020 7:00 p.m.

Mayor Robert E. Novitke has called a meeting of the City Council, meeting as a Committee-of-the-Whole. The meeting will be conducted by video (Zoom) and telephone conference in accordance with the City of Grosse Pointe Woods City Council Resolution adopted May 4, 2020. This notice is being provided to ensure that those wishing to participate in the meeting have an opportunity to do so. Additional instructions are listed below.

Join Zoom Meeting

https://zoom.us/j/96093092411?pwd=MmZmRFltM1ZBM0lOSXoyT0tLQzMzZz09

Meeting ID: 960 9309 2411

Password: 085447

Join by phone:

Dial by your location

888 788 0099 US Toll-free

877 853 5247 US Toll-free

Meeting ID: 960 9309 2411

Password: 085447

- 1. Call to Order
- 2. Roll Call
- 3. Acceptance of Agenda
- 4. AEW Flood Potentials/Marina Fees
- A. Memo 05/06/20 Director of Public Services
- B. Water Levels 10/2018 10/2020
- C. Aerial View
- D. 2020 Projected Revenue/Revenue Loss
- 5. City-Owned Cell Tower/AT&T Proposals
- A. Letter 04/30/20 City Attorney
- B. Letter 09/16/20 AT&T
- C. License Agreement 06/17/96
- D. Letter 04/06/20 Black & Veatch
- E. Building Permit Application w/attachments 04/06/20
- 6. Workers' Compensation Excess Coverage
- A. Memo 05/7/20 Treasurer/Comptroller
- B. Quotation Sheet 04/13/20 Midwest Employers Casualty Co.

- 7. Commission Meetings/Remote Attendance/Training
- 8. Update Regarding City Hall Clean-Up, Reconstruction, and Costs/Insurance Reimbursement
- 9. COVID-19 Strategies to Employ Upon Reopening of City Hall
- 10. Items to Remove from Committee-of-the-Whole
- A. Agreement: Business Association/Data Use Remedy Partners
- B. Jail Lock-Up Agreement
- C. DTE Street Light Project Funding
- D. Administrative Clerk II
- E. Water Billing Payment Agreement Policy
- F. Medstar Update
- G. The Avenue in the Woods Business Association-various requests
- H. Grosse Pointe War Memorial-PEG Agreements
- I. Rocket Fiber
- 11. New Business/Public Comment
- 12. Adjournment

Lisa Kay Hathaway, MiPMC/MMC City Clerk

IN ACCORDANCE WITH PUBLIC ACT 267 (OPEN MEETINGS ACT) POSTED AND COPIES GIVEN TO NEWSPAPERS

The City of Grosse Pointe Woods will provide necessary, reasonable auxiliary aids and services to individuals with disabilities. Closed captioning and audio will be provided for all electronic meetings. All additional requests must be made in advance of a meeting.

Instructions for meeting participation

1. <u>To join through Zoom</u>: The meeting may be joined by clicking on the link provided on the agenda at the start time posted on the agenda, enter the meeting identification number, and password. Zoom may provide a couple of additional instructions for first time use. As an alternative to using the link, accessibility to the meeting may be obtained by using the browser at join.zoom.us. If having trouble logging in, try a different browser e.g. Chrome.

Join Zoom Meeting

https://zoom.us/j/96093092411?pwd=MmZmRFltM1ZBM0lOSXoyT0tLQzMzZz09

Meeting ID: 960 9309 2411

Password: 085447

2. <u>Join by telephone</u>: Dial the toll-free conferencing number provided and enter the meeting identification number, and password. Dial *9 to be heard under Public Comment.

Dial by your location

888 788 0099 US Toll-free

877 853 5247 US Toll-free

Meeting ID: 960 9309 2411

Password: 085447

In an effort to alleviate feedback and disruption of the meeting, choose one of the media options, either phone or Zoom, not both.

Meeting notices are posted on the City of Grosse Pointe Woods website home page at www.gpwmi.us and the on-line calendar, both containing a link to the agenda. The agenda contains all pertinent information including business to be conducted at the meeting, a hyperlink to participate using Zoom, and call-in telephone number with necessary meeting identification, and a password. Agendas will also be posted on six (6) City bulletin boards along Mack Avenue.

The following are procedures by which persons may contact members of the public body to provide input or ask questions:

- To assist with meeting flow and organization, all public comment will be taken at the end of the meeting unless it is moved to a different location on the agenda upon a consensus of the Committee:
- 2. The phone-in audience, when making public comment please state your name (optional) when called upon;
- 3. Audience participants will be muted upon entry and will have a chance to speak during the public comment portion of the meeting at the end of the agenda, at which time the microphones will be unmuted.
- 4. Those joining by Zoom will also be muted and may use the virtual raised "hand" to request to be heard under Public Comment.
- 5. Those joining by telephone need to dial in using the phone number provided on the agenda. When prompted, enter the meeting number and the password also located on the agenda. Dial *9 to be heard under Public Comment.
- 6. The published agenda invites participants from the community to provide written questions, comments, and concerns in advance of the meeting to any Elected Official or the City Clerk regarding relevant City business and may be read under Public Comment. Emails may be sent to:

Mayor Robert E. Novitke	mayornovitke@comcast.net	586 899-2082
Art Bryant, Council Member	arthurwbryant@gmail.com	313 885-2174
Ken Gafa, Council Member	kgafa@comcast.net	313 580-0027
Vicki Granger, Council Member	grangergpw@aol.com	313 882-9878
Mike Koester, Council Member	koester.gpw@gmail.com	313 655-4190
Todd McConaghy, Council Member	todd.mcconaghygpw@yahoo.com	248 765-0628
Lisa Hathaway, City Clerk	<u>lhathaway@gpwmi.us</u>	313 343-2447

You may contact Lisa Hathaway, City Clerk, at lhathaway@gpwmi.us should you have any questions prior to the meeting starting.

cc:
Council – 7
Berschback
Smith
Hathaway
Rec. Secretary
Email Group
Media - Email
Post -8
File

NOTE TO PETITIONERS: YOU, OR A REPRESENTATIVE, ARE REQUESTED TO BE IN ATTENDANCE AT THE MEETING SHOULD COUNCIL HAVE QUESTIONS REGARDING YOUR REQUEST

MEMO 20 - 29

TO:

Bruce Smith, City Administrator

FROM:

Frank Schulte, Director of Public Services

DATE:

May 6, 2020

SUBJECT:

Lake Levels - Lake Front Park Marina Potential Flood

The city received good news from the U.S. Army Corps of Engineers. Their May 2020 Projection (attached) indicates the mean level of Lake St. Clair to be four inches lower in July (green line) with the highest possibility to be two inches higher in July compared to last year (red line).

The bad news is if the Lake St. Clair were to rise six inches more than last year's record level, all the boat docks would be underwater. The docks have been elevated to their maximum height. The power pedestals are fixed in their positions and there is nothing we can do to elevate them. If the water rises, we will have no choice but to turn the power off in part or all of the Marina for safety reasons and close the Marina.

Attached is a Lake Front Park overview map prepared by Anderson, Eckstein and Westrick, Inc. (AEW). The <u>red</u> area shows flooding in Lake Front Park if lake level reach six inches higher than last July's record high. The <u>blue</u> area represents flooding from a 20-year storm event and release from the Milk River Pumping Station.

A 20-year storm event would take six pumps running at the Milk River Pumping Station to avoid basement flooding. As you can see, there will be massive flooding in the park and surrounding streets in Saint Clair Shores if this event occurs.

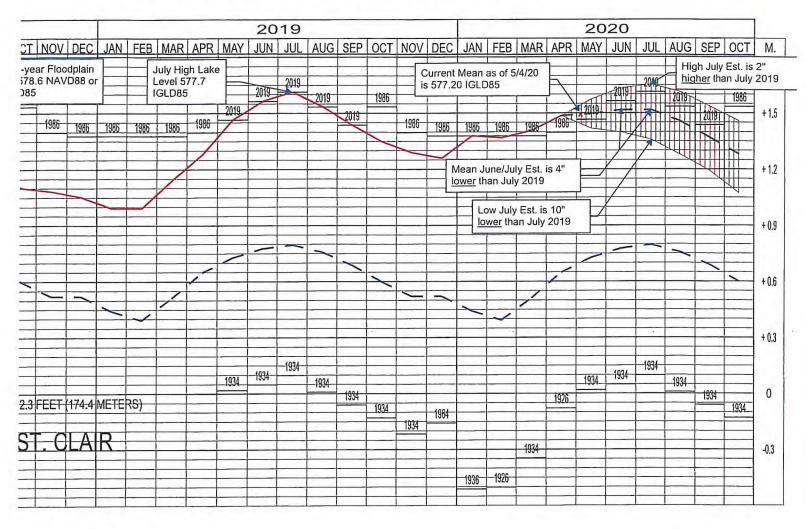
Additional challenges to the marina and Lake Front Park will be when there are strong east winds.

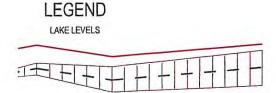
Boaters are concerned about what action the city would take if the marina were forced to close by high lake water levels. Specifically, their concern is that since they have paid for their boat well for the entire season, would they be compensated if the marina were to close and they were unable to use the well they have paid for. My recommendation is to issue a credit towards next season's well fees, based on a prorated basis for the weeks they were unable to use their boat well. The marina is open from May 1, through November 1, for a total of 26 weeks. The cost for an average boat well in the marina is \$892.00 for the season, or \$34.31 per week. If high water levels forced the marina to close for four weeks, a boater would receive credit for those four weeks, or \$137.24, which would to be applied toward next year's well fees. Boat well charges vary according to the size of the well. The attached chart shows the actual credit per week for each category.

This is a fair and equitable way to compensate boaters should high lake levels force the marina to close. Similar practices are being proposed at the other municipal marinas in the Grosse Pointes.



LAKE ST. CLAIR WATER LEVELS - MAY 2020





AVERAGE "

MAXIMUM " 1985 1985 1973 1973

MINIMUM " 1936 1934 1926 1934

" Average, Maximum and Minimum for period 1918-2019

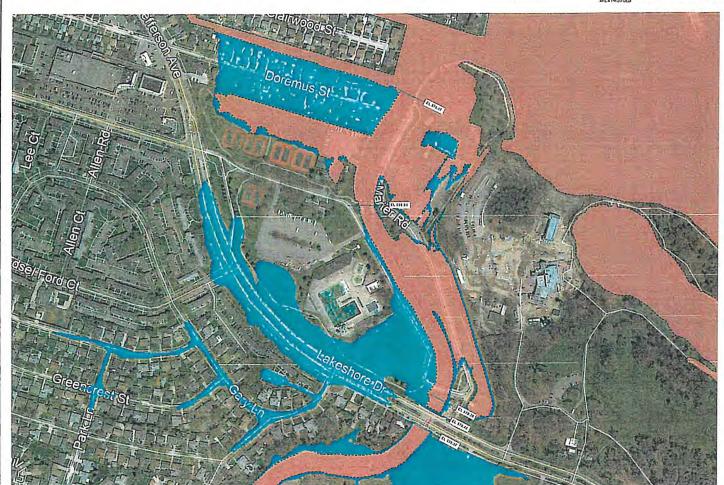




LEGEND

CENTRALED FLOCOCED ANDA AT PEAK

INTERPORT HAS THE PROPERTY OF THE CHARGE CHA





2020 LAKE FRONT PARK MARINA PROJECTED REVENUE

Boat Well Catgory	Total Spaces	Spaces rented (Summer 2020)	Annual Fee (26 weeks)	Revenue
Wet Well 1 (Docks under 21')	17	11	\$703.00	\$7,733.00
Wet Well 2 (Docks 21'-25')	88	61	\$771.00	\$47,031.00
Wet Well 3 (Docks 25'-28')	128	114	\$892.00	\$101,688.00
Dry Dock	11	11	\$525.00	\$5,775.00
Kayak Rack	64	59	\$194.00	\$11,446.00
Floating Docks	23	23	\$498.00	\$11,454.00
		Total Projected Re	venue	\$185,127.00

LAKE FRONT PARK MARINA WEEKLY CREDIT AMOUNT

Boat Well Catgory	Total Spaces	Spaces rented (Summer 2020)	Weekly Fee	Revenue Loss for one week of closure
Wet Well 1 (Docks under 21')	17	11	\$27.04	\$297.42
Wet Well 2 (Docks 21'-25')	88	61	\$29.65	\$1,808.88
Wet Well 3 (Docks 25'-28')	128	114	\$34.31	\$3,911.08
Dry Dock	11	11	\$20.19	\$222.12
Kayak Rack	64	59	\$7.46	\$440.23
Floating Docks	23	23	\$19.15	\$440.54
	Weekly Credit A	Amount		\$7,120.27



CHARLES T. BERSCHBACK

Attorney and Counselor at Law 24053 JEFFERSON AVENUE ST. CLAIR SHORES, MICHIGAN 48080 blbwlaw@yahoo.com

(586) 777-0400 FAX (586 777-0430

April 30, 2020

APR 3 0 2020

CITY OF GHOSSE POINTE WOODS

CLERK'S DEPARTMENT

The Honorable Mayor and City Council City of Grosse Pointe Woods 20025 Mack Plaza Grosse Pointe Woods, MI 48236

RE: City Owned Cell Tower / AT&T Proposals / COW Agenda

Dear Mayor and Council:

- 1. <u>Lease Extension:</u> The City owns the cell tower behind City Hall and has leased it to AT&T with a written license agreement dating back to 1996. The final extension of the license agreement expires in the fall of 2021. I have attached a letter from AT&T proposing extension of the lease with up to six renewal terms (five years each) which would run through October 7, 2051. AT&T proposes new annual rent of \$24,000.00 per year with a 2% annual escalator after the first year.
- 2. <u>AT&T's Upgrade Request:</u> In February of 2020, AT&T submitted a request to upgrade the current equipment on the tower. We dealt with a similar request in 2008. A second amendment to the license agreement was signed allowing them to replace and upgrade some of the antennas and amplifiers on the tower. AT&T's submission indicates there will be no increase to the height of the tower and no groundwork involved, but it does appear that three new additional panel antennas are proposed. A structural analysis has been submitted indicating the proposal will not exceed the load capacity of the tower.

I would like to discuss various options the City may wish to consider regarding these proposals. The license agreement expires in October of 2021. So we need to coordinate any upgrade request with the lease extension. The City may wish to extend the existing lease (one 5 year term or multiples thereof), or begin negotiations with AT&T or another carrier regarding construction of a new tower in a different location on City owned property. Thank you.

Very truly yours,

/s/ Chip Berschback

CHIP BERSCHBACK

CTB:gmr Enclosure

cc:

Bruce Smith Lisa Hathaway Cathy Behrens Gene Tutag







September 16, 2019

City of Grosse Pointe Woods 20025 Mack Plaza Grosse Pointe Woods, MI 48236

Re: AT&T Lease Expiration Program

FA # 10083371; Lease ID: 60628, A007/3011D/GROSSE POINT, located at 20027 MACK PLAZA, GROSSE POINTE, MI 48236

Dear City of Grosse Pointe Woods,

As you are aware, AT&T Mobility ("AT&T") has partnered with Md7, LLC ("Md7") to work with you to facilitate certain modifications to the cell site lease on your property. These modifications will allow AT&T to meet current business requirements and enhance your site's value to the network. AT&T has asked Md7 to provide services in administering AT&T's Lease Expiration Program (LEP). Md7 has been authorized by AT&T to correspond and discuss how the LEP program may be of benefit to you.

Changes in the Wireless Industry

Recent industry developments are changing how wireless telecommunications carriers operate. In the past, carriers focused on rapidly building out their networks in order to provide the best coverage. Today, while consumers are enjoying greater services and better coverage than ever before, operating costs continue to escalate. As a result, the wireless industry is also focusing on operating networks as efficiently as possible.

What does this mean to me?

AT&T would like to work together with you in extending the current lease which is set to expire on October 7, 2021. AT&T is willing to offer the following modifications to secure a longer-term lease with you:

- Commencing October 08, 2021: Rent will be \$24,000.00 per year based on regional market analysis and operational performance statistics.
- Rent will remain fixed until October 08, 2022. On this date, and every year thereafter, a 2% escalator will take effect and be set into place until the termination or expiration of the lease.
- Extend the life of the lease with up to 6 renewal terms (1 term is equal to 5 years), through October 7, 2051.

In order to achieve the necessary lease flexibility required for upcoming technological shifts, the following language must be inserted into the existing lease:

Expansion of Permitted Use

"Tenant, its personnel, invitees, contractors, agents, or assigns may use the Premises, at no additional cost or expense, for the transmission and reception of any and all communications signals and, with prior written notice to landlord, to modify, supplement, replace, upgrade, expand, including but not limited to the number and type(s) of antennas, or refurbish the equipment and/or improvements thereon (collectively, "Communications Facility"), or relocate the same within the Premises at any time during the term of the Agreement for any reason, so long as these changes do not exceed the structural capacity of the tower/structure at this height, or at Tenant's sole expense upgrade the structural capacity, or in order to be in compliance with any current or future federal, state or local mandated application, including but not limited to emergency 911 communication services or for any other reason. Landlord shall reasonably cooperate in obtaining governmental and other use permits or approvals necessary or desirable for the foregoing permitted use. If Landlord does not comply with the terms of this section, in addition to any other rights it may have at law, Tenant may terminate the Agreement and shall have no further liability to Landlord. If Landlord does not comply with the terms of this section, Tenant will have the right to exercise any and all rights available to it under law and equity, including the right to cure Landlord's default and to deduct the costs of such cure from any monies due to Landlord from Tenant."

AT&T values its affiliation with you and hopes to continue a long and mutually profitable relationship for years to come. Participation in this program is optional and AT&T will continue to abide by the terms of the existing agreement, including AT&T's rights to not extend the existing lease agreement. After having reviewed this proposal, please contact me prior to September 23, 2019. Thank you for your consideration.

Sincerely,

Pele Lithyouvong

Md7 | Lease Consultant 10590 West Ocean Air Dr. San Diego, CA 92130 o (858) 926-3903 f (858) 408-3391 plithyouvong@md7.com

Authorized Agent for AT&T Mobility

cc: Gregory D. Ohmer

Area Manager Real Estate Transaction, AT&T Mobility



Submission of this letter does not constitute a modified agreement and is only a proposal. The parties acknowledge and agree that they intend to be bound only upon the execution of an amendment detailing the provisions herein.



LOCATION:_	Grosse Pointe Woods	ID#_	3011	

LICENSE AGREEMENT

THIS LICENSE AGREEMENT ("License"), dated this 17th day of June, 1996, is entered into by City of Grosse Pointe Woods, having its principal office at 20025 Mack Plaza, Grosse Pointe Woods, Michigan 48236 ("Licensor"); and AT&T WIRELESS PCS, INC., a Delaware corporation having an office at 26957 Northwestern Hwy., Southfield, MI 48034 ("AT&T").

BACKGROUND

- A. Licensor owns or otherwise controls certain building(s) and other property and improvements (collectively, "Building") located at 20025 Mack Plaza, in the City of Grosse Pointe Woods, County of Wayne, State of Michigan.
- B. To improve or enhance wireless communications, Licensor and AT&T desire that AT&T install and operate a personal communication base station and related antennae, equipment and accessories ("Station") in and/or on the Building.

THEREFORE, the parties agree as follows:

1. LICENSE, ACCESS AND USE.

- (a) Licensor licenses to AT&T the use of spaces in and/or on the Building, as indicated on Exhibit A (the "Licensed Premises"). Licensor also grants to AT&T and its representatives the right of access to the Licensed Premises (and other necessary areas of the Building), 24 hours a day, 7 days a week for AT&T's permitted uses.
- (b) Licensor permits AT&T to access and use the Licensed Premises to install, operate, maintain, repair, modify, protect, replace and/or remove the Station, at its own expense. AT&T also has the right, reasonably exercised and so as not to interfere with Licensor or other Building occupants, to (i) connect the Station to Licensor's Building electric source and sub-meter, or install separate service and meter, all in a safe manner, (ii) install its own separate telephone line and (iii) connect the base station and antennae by cabling.
- (c) AT&T may use such means as are reasonably necessary or appropriate to install and connect the Station, consistent with Exhibit A. If

AT&T wishes to make subsequent changes to the dimensions/location of the Licensed Premises, AT&T will submit a new Exhibit to Licensor for Licensor's approval. Further, Licensor agrees to cooperate with AT&T in arranging for AT&T's installation and operation of, and access to, the Station, without cost to Licensor.

2. TERM.

- a. This License runs for five (5) years, plus four (4), five (5) year automatically renewing terms. The initial term begins when AT&T is able to obtain any and all land use and building permits and connections (building, electric, telephone or otherwise) applicable to its installation and operation and AT&T installs the Station ("Commencement Date"). As used in this License, "term" means the initial term and any renewal term.
- b. Notwithstanding anything in this License, AT&T may choose, at any time during the term or any renewal term, and for any or no reason, to terminate this License and render it null and void (a) upon thirty (30) day prior written notice to the Licensor, or (b) ten (10) days after delivery of written notice if Licensor has defaulted under this License and fails to cure the default within ten (10) days of written notice of same.
- c. Upon execution of this License Agreement by both parties and prior to the Commencement Date, Licensor grants to AT&T, its agents, employees and contractors, a license to enter Licensors property, including the Licensed Premises, for the purpose of conducting any tests, measurements or other items of due diligence that AT&T may require in order to determine the current status of Licensors property and its suitability for construction of the Station. AT&T agrees to replace or restore to its original condition any damage caused by such tests, measurements or other similar items.
- d. Any environmental reports, studies or other environmental information shall be kept strictly confidential by both parties unless disclosure is required by any statute, ordinance or order of a court of competent jurisdiction.

3. LICENSE FEE.

Beginning with the Commencement Date, but not later than January 5, 1997, AT&T will pay Licensor monthly, in advance, by the fifth (5th) day of each month, a license fee of \$1,500.00. The fee will be prorated for partial months.

4. COMPLIANCE WITH LAWS.

Each party agrees to comply with all applicable laws, rules and regulations respecting its own property and uses. This License is governed by the laws in which the Licensed Premises are located.

NON-INTERFERENCE.

Each party agrees not to interfere with operations of the other on the Building, nor to allow third parties to do so.

6. INSURANCE.

AT&T will carry, during the term of this License and at its own expense, the following insurance (a) "All Risk" casualty insurance for the full replacement cost of the Station; and (b) Comprehensive general liability insurance with a "broad form" comprehensive general liability endorsement having a minimum limit of liability of \$1,000,000 for injury or death arising out of one occurrence and \$1,000,000 for damage to property from any one occurrence. Licensor will be named as an additional insured on AT&T's policy.

7. WARRANTY OF TITLE AND RIGHT TO LICENSE.

Licensor represents and warrants (by and through its undersigned representative) that:

- (a) Licensor owns or controls the Building or all relevant portions thereof (including the Licensed Premises), unencumbered by any contract, agreement or title covenants, conditions, restrictions, limitations or liens of record or not of record which would adversely affect AT&T's use and enjoyment of the Licensed Premises or access to them;
- (b) Licensor has the rights of use and access granted to AT&T under this License;
- (c) If a corporation or partnership, Licensor is duly organized/formed, validly existing and in good standing and has all rights, power and authority to make this License and bind itself hereto; and
- (d) AT&T, during the term or any renewal term, shall have quiet and peaceful use and enjoyment of the Licensed Premises for its permitted uses. Each party shall be responsible for the reasonable legal fees incurred by the other for the party's breach of this License.

8. MISCELLANEOUS.

- (a) All rights granted to AT&T under this License are revocable only when this License expires or sooner terminates, according to its terms.
- (b) Licensor is permitted to assign this License over to a successor Licensor, if the successor agrees to be bound by all of Licensor's obligations under this License. Licensor agrees that AT&T may assign this License only to a related or controlling entity agreeing to be bound by all of AT&T's License obligations.
- (c) Notices to either party must be given in writing to the address of the party set forth above (if to AT&T, Attn: General Counsel) by overnight or certified mail, return receipt requested. The notice shall be effective when received.

- (d) To be valid, a revision of this License must be made in writing and signed by the Director or higher authority of AT&T and an authorized agent of the Licensor.
- (e) The terms and conditions contained in this License benefit and bind Licensor and AT&T and each of their respective successors and permitted assigns. References in this License to "he", "she" or "it" are neutral and mean one and the same thing.
- (f) This License and the attached exhibit constitute the entire agreement of the parties over this subject matter and supersede all prior offers, negotiations and agreements.
 - (g) [INTENTIONALLY OMITTED]
- (h) AT&T will neither generate or store any hazardous substances nor create any hazardous conditions on or about the Licensed Premises. AT&T agrees to indemnify and hold harmless the City of Grosse Pointe Woods from any liabilities, claims, damages, penalties, liabilities or costs that the City may suffer as a result of the presence of hazardous substances or petroleum in or under the Building, including the licensed premises, unless the presence of such substance was caused by the City or any third party except AT&T. Except as set forth in the next sentence, Licensor hereby agrees to indemnify and defend AT&T from any losses, claims, damages, penalties, liabilities or costs that AT&T may suffer as a result of the presence of hazardous substances or petroleum in, on or under the Building, including the Licensed Premises, unless the presence of such substances was caused by AT&T, its agents, employees, representatives, contractors, consultants, shareholders, officers, directors, parents, subsidiaries, assignees, delegatees, or third parties under its control (collectively "AT&T Parties"). Licensor's indemnification obligation as to AT&T in the preceding sentence does not apply to any loss, claim, damage, penalty, liability or cost that AT&T may suffer as a result of the actual, threatened, potential or claimed omission from the Station into the environment of electricity, radiation, microwaves, energy, waves, electromagnetic fields, pulses, noises, vibrations, signals, frequencies, pitches, substances or any other thing of any kind, whether or not such emission was caused by AT&T or by AT&T's use of the Station. This subparagraph shall survive any termination of the License Agreement and/or the Addendum.

ISIGNATURE BLOCKS ON NEXT PAGE]

IN WITNESS WHEREOF, the parties have executed, or have caused their properly authorized representatives to duly execute, counterparts of this License, on the date and year first above written.

WITNESS OR ATTEST:	LICENSOR: OF GROSSE POINTE DOOR
Touise D. Warnke	BY: RADIO A TURNELL
(SEAL)	419 11117YVIX
WITNESS:	AT&T WIRELESS PCS, INC.
Alerta Bestin	BY: BY
State of Michigan	
County of Macomb, Acting in W	layne
	was acknowledged this 17th day of
June , 1996 by Robert E	. Novitke , the Mayor , of
foregoing document.	own to me to be the person executing the
To regard document.	
BY: TIMA LOUISO Sed IN	My commission expires: 10-09-96
Notary PublicTINA	LOUISE SEDER
ACTING II MY COMMIS	COUSE SEDER MACOMB COUNTY, MICH. N WAYNE CO., MICH. SION EXPIRES 10-09-96
State of Michigan	
County of Oakland	
	was acknowledged this 25th day of
June , 1996 by Darrel wa	the Dir of sys Bevelopment, of
	own to me to be the person executing the
foregoing document.	VIRGINIA E. CALHOUN
By: Mugnie Calha Notary Public	
·	Annualised for Claratina
	Approved for Signature
	<u>Lieory: Dattin</u> Géorge B. Catlin City Attorney
	Date: 6-12-98

ADDENDUM NO. 1 TO LICENSE AGREEMENT

This Addendum No. 1 to License Agreement ("Addendum"), dated this 17th day of June, 1996, is entered into by the City of Grosse Pointe Woods, having its principal office at 20025 Mack Plaza, Grosse Pointe Woods, Michigan 48236 ("Licensor"); and AT&T WIRELESS PCS, INC., a Delaware corporation having an office at 26957 Northwestern Hwy., Southfield, MI 48034 ("AT&T").

WHEREAS, Licensor and AT&T desire to enter into a License Agreement of even date herewith ("License"); and

WHEREAS, the parties desire to supplement the terms of the License Agreement to more fully set forth the entire agreement between the parties.

NOW THEREFORE, in consideration of the mutual promises made by the parties, they agree as follows:

- 1. In the event that the License is executed by duly authorized representatives of Licensor, and all other requirements of Licensor necessary for AT&T to install the Station are satisfied, AT&T agrees, at its sole cost and expense, to fund the construction of two (2) additional garage bays at Licensors existing Building. The construction shall be designed to be reasonably consistent with the existing structures. In addition, AT&T agrees, to fund the replacement of the roofing shingles on the entire Public Safety Building.
- 2. If the installation of the additional garage bays or the installation of AT&T's Station require the relocation of existing water, gas main, sewer, telephone or other similar utility lines, AT&T agrees to fund the cost to relocate the existing utility lines.
- 3. AT&T agrees that upon completion of the construction of the new tower, AT&T will dismantle and dispose of Licensor's existing communication tower. Upon installation of AT&T's Station, AT&T will pay all necessary charges to relocate Licensor's antennae to the new antennae tower.
- 4. Upon completion of the installation of AT&T's Station, AT&T agrees to transfer ownership of the tower portion of the Station to Licensor. It is the understanding of the parties that AT&T will transfer ownership of the tower only and AT&T shall retain ownership of any and all cabling, antennae and equipment associated with AT&T's installation. Such transfer of ownership of the tower shall be accomplished by the execution and delivery by AT&T of

- a Bill of Sale and/or a Quit Claim deed. If AT&T should terminate this Agreement, Licensor shall have no obligation to pay AT&T for the tower.
- (a) From and after the date that AT&T transfers ownership of the tower to Licensor, Licensor shall have the right to lease, license or otherwise permit others to install antennae on the tower; provided, however, that (i) any other user shall not interfere with AT&T's permitted use, (ii) one-half (1/2) of all revenue from monthly rental, excluding initial license payments received by Licensor from such other user shall be paid to AT&T until such time as AT&T has recouped all expenses of the installation of AT&T's Station, (iii) from and after the date that AT&T has recouped all expenses of the installation of its Station, One Hundred percent (100%) of all revenue received from such other user shall be retained by Licensor less all costs of maintenance. inspection or upkeep of the tower, but not AT&T equipment, which shall be paid to AT&T, (iv) Licensor shall not be obligated to pay AT&T more than one-half (1/2) of monthly rental, excluding initial license payments, received by Licensor for use of the tower, and (v) AT&T agrees that the maintenance costs of the tower are not cumulative and shall not be carried over from year to year.
- (b) The expenses of the installation of AT&T's Station shall be limited to those actual expenses incurred pursuant to License paragraph 2.c. and Addendum paragraphs 1, 2, 3, 6, 9, 10, 11, 12, 20, 21 and 22.
- (c) AT&T agrees to provide Licensor with a schedule of all actual expenses of the installation of AT&T's Station, as defined above, at the same time that __AT&T delivers the Bill of Sale or Quit Claim deed pursuant to Addendum paragraph 4, above.
- 6. Prior to installation of the tower portion of the Station, Licensor reserves the right to review AT&T's construction drawings and further reserves the right to require AT&T to modify the exact location of the tower to within no more than 15 feet of its proposed location. After installation of the tower, Licensor reserves the right to relocate the tower to a new location within five hundred (500') feet of the existing location, provided that Licensor pays all costs and expenses of such a move.
- 7. AT&T shall have access to the Licensed Premises twenty-four (24) hours per day, seven (7) days per week; provided, however, that AT&T employees, agents or contractors visiting the Building shall first present themselves to the dispatch desk and indicate the areas to be visited.
- 8. The License Fee set forth in Paragraph 3 of the License Agreement shall be increased annually, as of the anniversary date of the Commencement Date, in accordance with the increase in the United States Department of

Labor, Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers as follows: The License Fee in effect immediately prior to the anniversary of the Commencement Date shall be increased by the percentage increase in the Consumer Price Index as published by the Bureau of Labor Statistics immediately prior to the anniversary of the Commencement Date. In no event shall rental fees be decreased by reason of a decrease in the Consumer Price Index.

- 9. From and after the installation of the tower component of the Station, and so long as AT&T has antennae located on the tower, AT&T agrees to perform maintenance of the tower (but excluding any other parties' proprietary property located on the tower) at its sole cost and expense. In the event of damage or destruction to the tower component of the Station due to an act of God but not due to the fault or negligence of Licensor or any other third party, AT&T hereby agrees to indemnify and defend Licensor from any losses, claims or damages that Licensor may suffer as a result of loss of business caused by said damage or destruction of the tower component of the Station. AT&T will repair the tower within a reasonable time period. Licensor shall have the right to make repairs if AT&T does not act with diligence or within thirty (30) days whichever first occurs, and AT&T agrees to reimburse the Licensor for any such costs.
- 10. The area identified on Exhibit A for housing of AT&T's equipment other than the tower shall be segregated from the rest of Licensor's public safety garage by the erection, at AT&T's sole cost and expense, of ceiling height partitions and a lockable door. Such installation shall conform to all applicable building codes.
- 11. In the event that the License is executed by duly authorized representatives of Licensor, and all other requirements necessary for AT&T to install the Station are satisfied, AT&T agrees, at its sole cost and expense, to conduct a camera survey of the existing sewer system adjacent to the Licensor's Building.
- 12. In the event that, after installation of the antennae tower, Licensor's existing satellite dish requires adjusting for proper operation, AT&T agrees to pay for such adjustment.
- 13. In the event that any provision of the License Agreement and this Addendum conflict, the provision in the Addendum shall control.
- 14. Licensor will neither generate or store any hazardous substances nor create any hazardous conditions on or about the Licensed Premises. AT&T hereby agrees to indemnify and defend Licensor and its Council members, employees, attorneys, representatives and agents whether past, present or

future (collectively "Licensor Parties") from any losses, claims, damages, penalties, liabilities or costs that Licensor or the Licensor Parties may suffer as a result of: (i) the presence of hazardous substances or petroleum in, on or under the Building, including the Licensed Premises, unless the presence of such substances was caused by Licensor, the Licensor Parties or any other third party other than AT&T or the AT&T Parties; or (ii) the actual, threatened, potential or claimed emission from the Station into the environment of electricity, radiation, microwaves, energy, waves, electromagnetic fields, pulses, noises, vibrations, signals, frequencies, pitches, substances or any other thing of any kind, whether or not such emission was caused by AT&T or by AT&T's use of the Station. The second and third sentences of this paragraph shall survive any termination of the License Agreement and/or the Addendum.

- 15. AT&T shall be in default upon failure to pay any license fee within ten (10) days after written notice.
- 16. Supplementing the provisions of paragraph 8(b) of the License Agreement, it is agreed that any entity that AT&T assigns it rights to under this License Agreement shall be a valid, legally organized entity.
- 17. AT&T agrees that the tower will be designed by a licensed engineer and manufactured by a competent supplier governed by the laws and regulations for the design and manufacture of such structures. AT&T agrees to have the tower portion of the Station designed to accommodate three (3) PCS or cellular type providers with AT&T being one of those providers. The additional capacity of the tower shall be allocated by the Licensor pursuant to the provisions of paragraph 5 of this Addendum.

18. [INTENTIONALLY OMITTED].

- 19. This License Agreement and Addendum shall be subject to the prior review and approval of the City of Grosse Pointe Woods Planning Commission and the Board of Zoning Appeals.
- 20. AT&T may conduct an environmental inspection of the surface and subsurface conditions of the Building and licensed Premises ("Environmental Inspection") within thirty (30) days of the effective date of the License Agreement and the Addendum. Notwithstanding any other provision in the License Agreement or the Addendum, and unless otherwise approved in advance by Licensor, AT&T shall not conduct any Environmental Inspection work after that thirty (30) day period of time, unless AT&T has reasonable suspicion that Environmental contamination has recently occurred. AT&T shall provide to Licensor at least three (3) business day advance notice of the dates and times of the Environmental Inspection work, which dates and

times shall be restricted to weekdays and the hours between 9:00 a.m. and 5:00 p.m. As part of such notice, AT&T shall also provide to Licensor a written description of the Environmental Inspection work to be performed, the identification of the entities who will be performing such work, and the areas to be inspected during the Environmental Inspection.

- 21. AT&T shall perform Environmental Inspection work in: (I) a safe and workmanlike manner; (ii) accordance with applicable ASTM standards and all other scientific, hydrogeological, engineering and other practices employed by firms performing inspections of the nature and quality of the surface, subsurface and other conditions of properties; and (iii) full compliance with all applicable federal, state of Michigan and local laws, regulations, rules, ordinances, orders and requirements. AT&T shall obtain all permits, licenses and approvals required to perform the Environmental Inspection work. AT&T shall contact the utility communications system MISS-DIG (1-800-482-7171) at least 48 hours prior to undertaking any excavation, boring, drilling or other activity involving the subsurface of the Building or the Licensed Premises.
- 22. AT&T shall not install any wells in the Building or on the Licensed Premises. AT&T shall undertake any excavation, boring, drilling and other activity involving the subsurface of the Building or the Licensed Premises in a manner which employs techniques necessary to protect groundwater below any confining unit, to not exacerbate any existing conditions, and to prevent any subsidence, impairment, damage or other injury to the Building or the Licensed Premises, or to anything in, under, above or around the Building or the Licensed Premises, from occurring. AT&T shall immediately notify Licensor in the event the Building or the Licensed Premises is damaged in any manner due to the Environmental Inspection work or other activities of AT&T or the AT&T Parties.
- 23. Unless approved in advance by Licensor, AT&T shall not discuss AT&T's performance of the Environmental Inspection work with any persons or entities that are not parties or representatives of parties to the License Agreement and the Addendum (collectively "Third Parties"). This paragraph shall survive any termination of the License Agreement and/or the Addendum.
- 24. All Environmental Inspection activities of AT&T in the Building, on the Licensed Premises or otherwise shall be carried out in such a manner so as not to interfere with Licensor's operations, equipment, machinery, personnel or schedule, or with the use of any of Licensor's facilities. Unless approved in advance by Licensor, all Environmental Inspection activities performed by AT&T outside the Licensed Premises: (I) shall be conducted in as discrete, inconspicuous and non-intrusive manner as possible; (ii) shall not be performed on private or residential property; and (iii) shall be undertaken

without disclosing to Third Parties the Environmental Inspection work performed by AT&T except as provided in paragraph 30. below.

- 25. AT&T, at its sole cost, shall be fully responsible to Licensor for, and shall promptly take all necessary action to properly correct or otherwise address, any act or omission of any of the AT&T Parties which relates to AT&T's performance of the Environmental Inspection. This paragraph shall survive any termination of the License Agreement and/or Addendum.
- 26. AT&T shall at its sole cost, promptly repair or replace any damage, injury, impairment or alteration to the Building or the Licensed Premises, and to anything on, in, above, under or around the Building or the Licenses Premises, which is associated with the Environmental Inspection work. This paragraph shall survive any termination of the License Agreement and/or the Addendum.
- 27. AT&T shall have sole responsibility for the health, safety and welfare of the AT&T Parties in connection with the Environmental Inspection work, and shall exercise due care, and comply with all legal requirements, to protect the health, safety and welfare of all other persons involved in or exposed to the performance of the Environmental Inspection work. This paragraph shall survive any termination of the License Agreement and/or the Addendum.
- 28. Except as to liens against the Licensed Premises as set forth in paragraph 29, AT&T shall fully defend, indemnify and hold harmless Licensor and Licensor Parties from any and all obligations and liabilities associated with any negligence, reckless or willful misconduct, act or omission, or breach of the License Agreement or the Addendum on the part of AT&T or the AT&T Parties which is related to AT&T's entry in the Building or upon the Licensed Premises, or which is related to the performance of Environmental Inspection work. This paragraph shall survive any termination of the License Agreement and/or the Addendum.
- 29. AT&T shall immediately notify Licensor in the event AT&T obtains information that a lien has been or may be asserted against the Licensed Premises by any of the AT&T Parties. AT&T shall immediately pay, satisfy and discharge, and shall fully defend, indemnify and hold harmless, Licensor and the Licensor Parties from any and all obligations and liabilities associated with liens asserted against the Licensed Premises by any of the AT&T Parties. This paragraph shall survive any termination of the License Agreement and/or the Addendum.
- 30. During the term of this Agreement and thereafter, AT&T and the AT&T Parties shall keep strictly confidential, and shall not report or otherwise disclose to Third Parties (including without limitation the United States

Environmental Protection Agency, the state of Michigan Department of Environmental Quality and any other federal, state, county, municipal, local government or private entity), to Licensor or to the Licensor Parties unless requested pursuant to paragraph 31 below, any knowledge, findings, conclusions, opinions or recommendations of AT&T or the AT&T Parties concerning the environmental conditions of the Building or the Licensed Premises, except: (I) as to information which has come into the public domain other than through AT&T or the AT&T Parties; (ii) as authorized in writing by Licensor or its duly authorized designee; or (iii) as required by law (which requirements do not include the voluntary reporting requirements associated with the performance of a "Baseline Environmental Assessment" pursuant to Part 201 of the Michigan Natural Resources and Environmental Protection Act) or upon order of a court of competent jurisdiction. In the event that AT&T is called upon under a purported requirement of law to disclose information protected by this paragraph, AT&T shall give Licensor sufficient advance written notice thereof to allow Licensor to contest the matter. In the event AT&T decides not to construct the Station, AT&T and the AT&T Parties shall immediately destroy all copies of information protected by this paragraph.

- 31. Upon, and only upon, the request of Licensor, AT&T shall provide to Licensor copies of all existing data, results, reports and other documents regarding hydrogeological, soil, groundwater or other conditions of the Building or the Licensed Premises which are in the possession or control of AT&T or the AT&T Parties, including, without limitation, all laboratory data and analyses regarding any samples taken from the Building or the Licensed Premises. This paragraph shall survive any termination of the License Agreement and/or the Addendum.
- 32. In the event that the Licensor finds that it is impractical to perform the obligations of this Agreement by reason of court action or a change in the federal or state laws, the Licensor shall not be liable to AT&T for such failure to perform. In the event the Licensor should be found to be in breach of the terms of this Agreement, any damages paid by the Licensor to AT&T shall be limited to the unrecovered cost of installation of the tower and shall not include any loss of profits.

[SIGNATURE AND NOTARY BLOCKS ON NEXT PAGE]

IN WITNESS WHEREOF, the parties have executed, or have caused their properly authorized representatives to duly execute, counterparts of this License, on the date and year first above written.

WYNESS OR ATTEST: LICENSOR: CITY OF E Souise S. Warnke BY: Brand (SEAL)	GROSSE POINTE WOODS PAYOR NATOR
WITNESS: AT&T WIREL Scherts Benton BY: 1	ESS PCS, INC.
State of Michigan	·
County of Macomb, Acting in Wayne	
The foregoing instrument was acknowled June , 1996 by Robert E. Novitke City of Grosse Pointe Woods , known to me to foregoing document. By: Transport State My corn Notary Public NOTARY PUBLIC MACOMB COUNTY MICH. MY COMMISSION EXPIRES 10-09-96	, the <u>Mayor</u> , of be the person executing the mmission expires: 10-09-96
State of Michigan County of Daklard	
The foregoing instrument was acknowled Lune, 1996 by Darrel Walker ATT Wireless Services, known to me to I foregoing document. By: Virginia & Calhair My con Notary Public	, the away sys pevelopment, of
	Approved for Signature
	George B. Cathin Clty Attorney
	Date: (-12-96





April 6, 2020

VIA Federal Express
City of Grosse Pointe Woods
Building Department
20025 Mack Plaza
Grosse Pointe Woods, MI 48236
Attn: Mr. Greg Tutag, Building Official
313-343-2426

RE: Application for Building Permit for
Existing Wireless Communication Facility Upgrade
Site Address: 20027 MACK PLAZA, GROSSE POINTE WOODS, MI
AT&T Site FA#10083371 MACK PLAZA PACE ID# MRIND045095

Dear Mr. Tutag,

AT&T is proposing to upgrade its existing wireless communication facility at the above referenced address.

Enclosed please find AT&T's completed Building Permit application, two (2) sets signed and stamped 11 x 17 construction drawings dated 03/24/2020 and the signed and stamped structural calculations dated 03/16/2020 for the above-referenced address. The cost of construction is \$24,000. Please let me know the amount for the permit fee and I will have a check sent directly to you. I will include the separate \$50,000 bond fee check with the building permit fee check. I have also enclosed an addressed pre-paid FedEx envelope for the permit return.

If you should have any questions, concerns, or require any additional information, please feel free to contact me at 949-245-9878 or via email at DelbeneP@bv.com. Thank you very much for your attention to this matter.

Sincerely,

Paul Del Bene

Paul Del Bene Black & Veatch, Authorized Agent for AT&T



CITY OF GROSSE POINTE WOODS

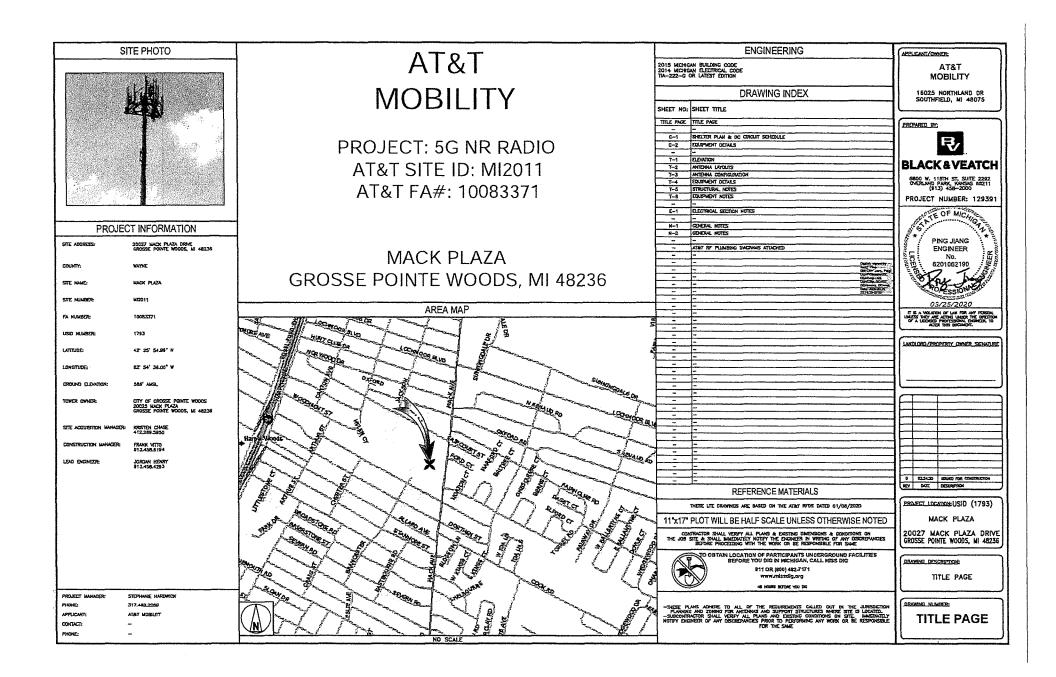
Building Department 20025 Mack Plaza, Grosse Pointe Woods, MI 48236 Ph 313.343.2426/Fax 313.343.2439

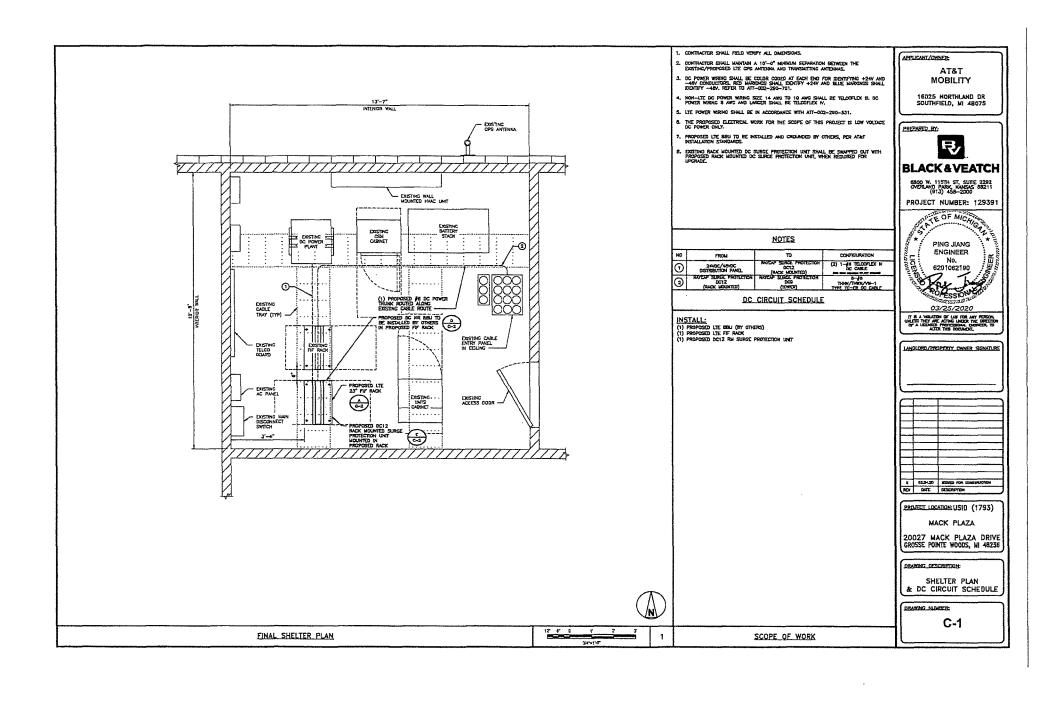
BUILDING PERMIT APPLICATION ZONING COMPLIANCE AND PLAN REVIEW

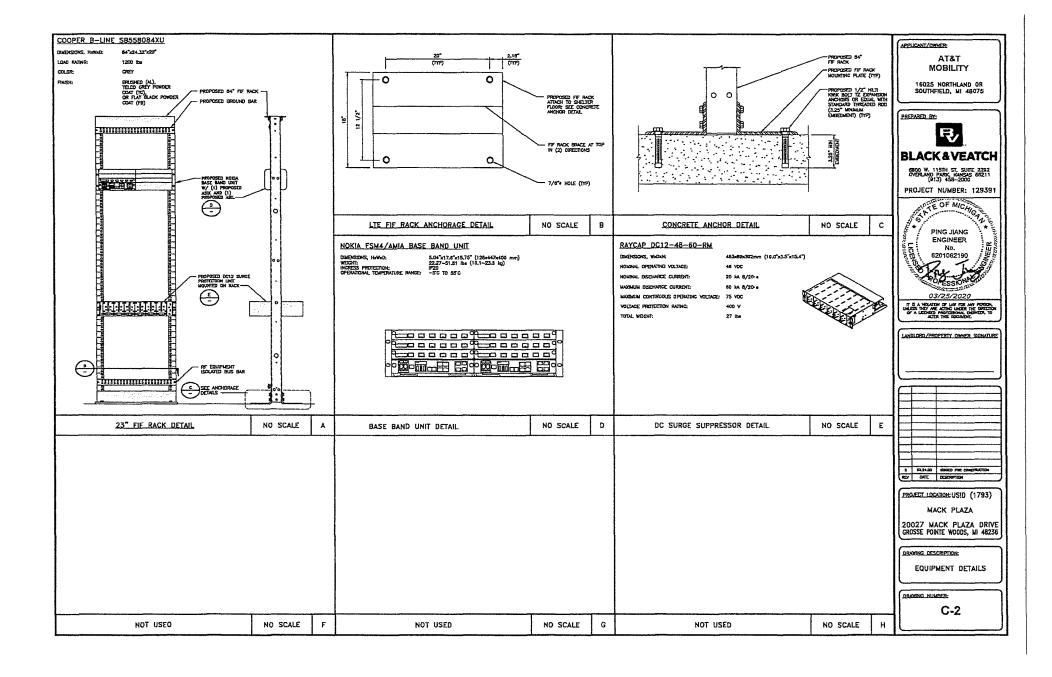
COMMERCIAL AND RESIDENTIAL MI2011-MACK PLAZA-10083371-MRIND045095

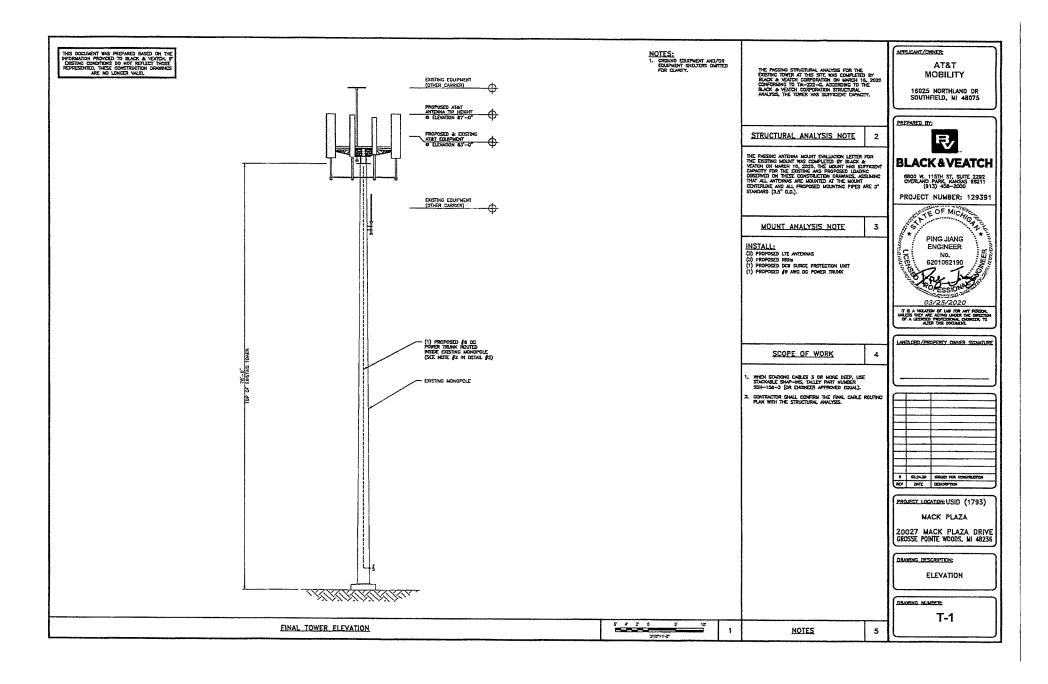
ZONING COMPLIANCE INCLUDES: Drives, Fences, Accessory Structures/Sheds (less than 200 sq ft), Awning,

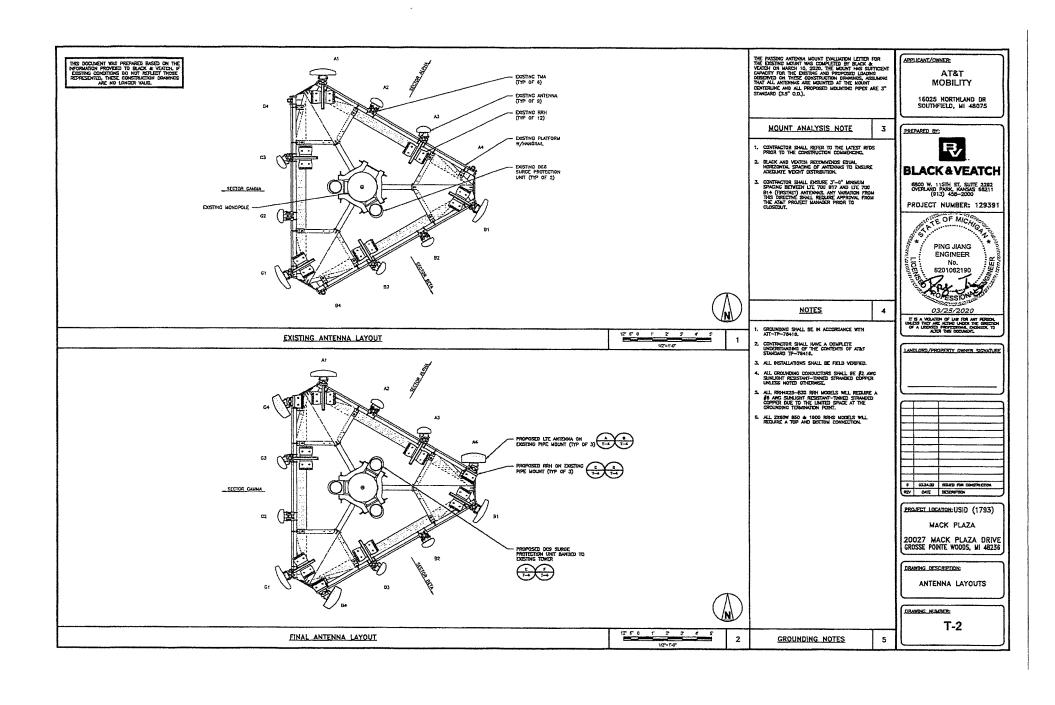
Garage Floors, Patios (non-elevat please call the Building Departme		list is not all incl	usive. If you have any questions,
Property Owner Name: City	of Grosse Pointe Woods	Date:	April 6, 2020
GP Woods Address: 20027 M		e-mail:	building@gpwmi.us
Work#: (313) 343-2426	Home/C	ell#:	
Telephone # 949-245-9878	Applicant - Paul Del Bene, Black & V	Mobile/Ce	11 #949-245-9878
	d Contracting, Inc., 30150 Telegrap		
MI Builder's License #: n/a C		er's License # :	
e-mail address:delbeneP@b	ov.com (applicant on behalf of OCI)		
Value of Construction \$ 24,0	000.00		
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I hereby certify that the proposed v	work is authorized by the owner of rized agent and we agree to conform	ecord and that I had	ave been authorized by the owner to
	FOR OFFICE USI	ONLY	
Approved: Den			











FINAL ANTENNA CONFIGURATION

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PROJECT LOCATION: USID (1793)
MACK PLAZA

20027 MACK PLAZA DRIVE GROSSE POINTE WOODS, MI 48236

ANTENNA CONFIGURATION

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BLACK & VEATCH

SECTION STATE 2221

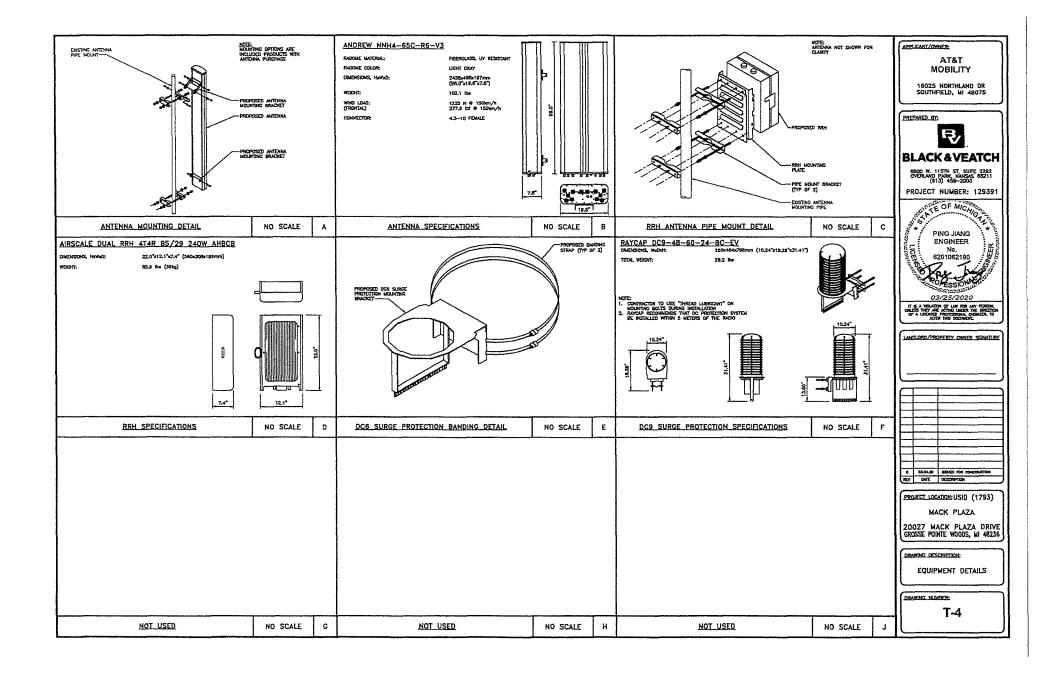
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PROJECT NUMBER: 129391

16025 NORTHLAND DR SOUTHFIELD, MI 48075

VELTICANI/DANIES

AT&T MOBILITY



20027 MACK PLAZA DRIVE GROSSE POINTE WOODS, MI 48236 **BLACK & VEATCH** PROJECT NUMBER: 129391 LANDLORD/PROPERTY OWNER SIGNATURE If a wound of the for an edeby, weeds for an edeby, and a volume of a ladded frontstead deposit to activity. The accuracy, the activity is a consistent. GROO W. 115TH ST, SUITE 2282 OVERLAND PARK, KANSAS BEZ11 (813) 458-2000 PROJECT LOCATON: USID (1793) SAL TE OF MICHAE 16025 NORTHLAND DR SOUTHFIELD, MI 48075 STRUCTURAL NOTES RY DATE DESCRIPTION AT&T MOBILITY PING JIANG ENGINEER MACK PLAZA rè -5 -5 DRAWING DESCRIPTION PREPARED OF STRUCTURAL FIELD WELDING SHALL BE DONE BY THE BLECTING SUBVERGED OR SYRELDED METAL ARC PROCESS, WELDED CONSTRUCTION SPALL COMPLY WITH ANY D1.1. B. STRUCTURAL STEEL SURFACE PREPARATION SHALL CONFORM TO SSPC-SPJ, "POWER TOOL CLEMBAC." E. PRIUTS SHULL BE, JAPIED TO 1871, CLOW, PREDAID SUBSULT, AND UNDED SHORBREE CONDITIONS. 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PASREVIE ITIMS OF STRUCTURM, STEEL IN ACCORDANCE WITH THE AXIC→SD SPECIFICATION, AND AS INCICATED ON THE AFFICINED SHOP DAWNINGS. restanci cource, on structural, coarcetions (acec); "specifications for structural, Johans usan acta acec or assal and dolts" as brooked by ass. COMMON OWCHOE) BOLTS SHALL CONTORN TO ASTA ASTA CALDE A AND MATS TO ASTA ASECT, ONE COMMON BOLT ASSEARSY SHALL CONESSED OF A BOLT, A HENY HEX NUT, AND A HANDENED WASHER, 1. PROPERLY MARK AND MATCH-MARK MATERIAIS FOR PELD ASSEMBLY AND FOR IODINFOLATION AS TO LOCATION FOR WHECH INTENDED. AS AND SECURITY, STEER ON AN IMPOSES (GRIV). ASTA ASS PRE-TIRES BACK AND SERVED, THE PRESS. THE ACCOUNTS SECURITY SECUR I. PARKADAN AND EXEMIDING DRAWNICS SHOWING ALL DETAILS, CONNECTIONS, MATERAL DESIGNATIONS, AND ALL TOP STEEL BENATIONS. HAS STROCKH RAT SAUL CONTRAL TO KIN ALLS, DE HOI STROCKH RAT ASSERSY SAUL MOUST OF A HEAV FOR STRUCTURE, ROLL A HEAV FOR MIT, A HEAVEN DEFENSIVE WHAT KHE HAS MO A DEET TROCKH MOUTHE ORMSOME WHI STR FIRE THE WEBDEN WHAT SAUL REVENIES AND AND THE ELDENT THROW IN THE THREATS HOWED MITTENSE ON THE OWNERS, ALL DEMECTINGS SAUL BE BOARD THE CONNECTION. 1. PROVICE BOLTS AND WISHEDS OF THEIS AND SIZE REQUIRED FOR COMPLETON OF RILLD ERECTION. USE 1/4 INCH DIWIETER AZIS BOLTS UNLESS NOTED OTHERWISE. I WILDED CONSTRUCTION SHALL COMPLY WITH ANS D1.1 FOR PROCEDURES, APPEARANCE, GUALITY OF WILD, AND METHODS USED IN CORRECTIVE WILDED WORK. A FRAKES SAUL BE RED DXDC-CHOCALITE PRAKEN COUPLING WITH SSPC PANT SPECIFICATION HO. 11. provide fabrolaton and executor of structural, step, and other iteas as shown on the drawness or regulado by other szetigins of these specifications. STRUCTURAL TUBORC SHALL CONFORM TO ASTA ASOO, GRADE B. SIEEL PRFE SHALL CONFORM TO ASTA ASSA, TIPE E OR S, CRADE B. A. WELDING ELECTRODES SHALL COMPLY WITH ANS D1.1 USING AS.1 OR AS.5 ETOCK AND SHALL BE COMPADIBLE WITH THE WELDING PROCESS SELECTED. . PROVIDE FRESH SURFACE OF NEVEROR EXPOSED IN THE FINAL STRUCTURE FREE FROM MARRANGS. AND OTHER DETECTS. NSTALL HEN STREMCTH THREADD FASTIDIERS IN ACCORDANCE WITH RICSC "SPECIFICATION FOR STRUCTURAL, LOWIS LIGHG ASTH ALZS OR ASTH. AND BOLITS." ANDROWN RETITUTE OF STEEL CONSTRUCTION (MSC). MAMIAL OF STEEL CONSTRUCTION (13TH EDITON), ALLOWALE STREES DESCH (ASD). I. WEDE FINESING IS REGURED, COMPLETE THE ASSISTARY, MILITIMO THE WELDING OF UNIS, BEFORE STAFF OF PRESENTS OPERATIONS. LEMEUNIE DE MOTOWER HA SEDUDICE WACH WILL EVERDITE ERECTION AND MIDINGE FIELD HANDLING OF MATERIALS. STEL STREETHEN PARK CHANGE (SSPC): STATE STREETHEN THE CLEMENT TO CHANGE AND LESSED BY CHANGE PARKE. STATE-PARK 11: FOR HEAN GOODS, 2015 CHANGE, PARK LASSED BY, CH. ALVOD PARKE. ANCHOR BOLD'S SHALL CONFORM TO ASTA A307 WITH HEAVY HEXAZENAL NUTS. A SHAPE, PLATES AND DARS SAMI, CONFORM TO ASTA ASS AND ASTA ASSA. 2 ALL EXPOSED STRUCTURAL STIEL SAMIL BE HOT OIP CALMARDED PER ASTA ALERCAN WELDING SOCIETY (ANG): AND ASI, CONTROL DAMENG STELL. ARC MELDING ELECTRODES. ANG ASSA CONY ALLOY STELL CONFRED ARC WELDING ELECTRODES. ANS D1.1: STRUCTURAL WELDING CODE — STELL. A SHOP FABRICATE AND ASSEABLY WATERLAS AS SPECIFICO HEROIX B. WELDERS SHALL BE QUALFIED AS PRESCREED IN AWS DILL PROVIDE CONNECTIONS AS SPECIFICO HEREIN A SUBMIT THE FOLLOWING FOR APPROVAL: WELDING ELECTRODES: ANCHOR BOLTS: PAST 3 - EXECUTION 1.2 REPERENCES 2 រ ኋ 2

STRUCTURAL NOTES

APPLICANT/CIMSER

CONNECTIONS.

- DESIGN AND CONSTRUCTION OF ANTENIA SUPPORTS SHALL CONFORM TO CLIRREDIT ANS/TIA-222 OR APPLICABLE LOCAL CODES.
- ALL STEE, MATERALS SHALL BE CALVANDED AFTER FABRICATION IN ACCORDANCE WITH ASTA ASZA "ZINA (NOTI-OSP CALVANDED) COATRICS ON IRON AND STEEL PRODUCTS", UNLESS HOTED OP-ERMISE.
 - ALL BOLDS, ANCHORS AND MISCELLANGUIS HARDWARE SKALL BE CALVANIZED IN ACCORANCE WITH ASTA ALES "ZINC"-COACHIG (ACTI-DIP) ON RION AND STEEL JANDMARE", LINLESS NOTED STAFFRINSE.
- DUMINGED CALVANCED SURFACES SHALL BE REPARKED BY COLD GALVANCENC IN ACCORDANCE WITH ASTA APRIC.
- ALL ANTONA WOUNTS SAUL BE INSTILLED WITH LOCK RUTS, LOCK WASHORS, OR DOUBLE MUTS AND SAUL BE TOROUTD TO MANUFACTURER'S RECOMMEDICATIONS.
 - CONTRACTOR SHULL BISTALL ANTERIA, PCR LAWLESCHRECKS RECOMMENDATION FOR INSTALLATION AND GRICINGDING.
 - ALL UNISED PORTS ON ANY AMBNIAS SIVILL BE TEXARATED WITH A SO-CHM LOAD TO DISURE AMENIAS PERFORM AS DESIGNED.

CONTRACTOR SHALL REPEIBLICE THE TOWER STRUCTURAL ANALYSS/DESKIN DRAWNES FOR DRECTIONS ON CASLE DISTRIBUTION/ROUTING.

AL OUTDON OF CHNELTING CONNECTIONS SALL BE WEINEDFOODED, DESTY THE RET OWNSTORMS, USING BITH, VEX, ATRIS TREALINGTH AND PAIL CONNECTIONS, MEN BEEN, THE SALL HAR A MARALL OF ONE-ALLY THE METH CARLE, OH EACH THOW AND EACH LANGS SALL BE NORMS OF MESS. PRIMES PACHEDFOODEN SALL BE SMOTH WINDOT BLOADER, BITH, BETTONG IS ALTH ALL HARD.

E REQUESTO TO HART ANTIHAMES, AND, CHE CONC.

A. TINNERSCRUITE SALL RE, LONG SOF IL THAN GONDANDON.

B. PONT COLOGN MACE THE CAPPACOD TO APPRICADE THAN IS RECULAND.

C. CON HOST PANT THAN COLOGN CONFINE TRANSPARENT MODES, INMUSES.

- PRIOR TO STRING ANTIDAY CARRIER SAND DOWNETTS, ANTIDAY CENTRALTINE SHALL CHECK THE STR THEN THE RENEW THAT THE THE STRING THE THE STRING THE ST
 - JAMPERS FROM THE THAN'S MUST TERGENATE TO OPPOSITE POLARGATIONS IN EACH SELTOR.
 - 10. CONTRACTOR SMAL RECIPIO THE SEXM. § SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INTORMATION TO ATAIT.
- 11. TIAN'S SWILL DE MOUNTED ON PIPE DREETLY BEHND ANTDOWS AS CLOSE TO ANTDOW, AS FOSGRE IN A VESTICAL POSITION.

- ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORGUE WRENCH.
- 13. ALL BM ANTDOWN HANDWARE SHALL BE TECHTOCOD TO 9 LB-FT (12 MM).
- 14. ALL 12M ANTDRIM HARDWARE SHALL BE TICHTENED TO 43 LB-FT (28 NU).
- IS. ALL CROUNDING HARDINARE SIMUL BE TIGHTINGS UMPL. THE LOCK WISHER COLLAPSES AND THE CROUNDING WARRINGS IS NO LONGS! LODGE.
- 16. ALL DAY TYPE COMPETITIONS SAMIL BE TIGHTENED TO 18-22 LB-FT (24.4 29.8 NW).

12. ALL N TIPE CONNECTIONS SMALL BE TROUBLED TO 15-20 LB-IN (1.7 - 2.3 MJ).

DEER & POWER CASTE MOUNTING

39. THE COMPACION SAUL BE RESPONSIBLE FOR VOTOTING THE ANTONIA AND THE COMX COMPAGNATION IS THE CORPECT MADE AND MODILS, PROR TO INSTALLATION,

AL CONNETIONS FOR HANGING, SUPPORTS, BRACHO, ETC. SHALL BE NETALLED PER TOWER WANNIFACTURER'S SPECIFICATION & PECCHALIBROATIONS.

38. BAR DOMMENS A WEAKUM DISTANCE OF 4'-0" BELDM GROUND BAR, TENEVATIONS MAY BE EXOTHERALL OR COMPRESSION.

27. ALL PROPOSED GROUND BAR COMPLEADS ARE TO BE TEMINATED TO THE EXSTINC ADJACENT CROUND

38. ALL OBLES SWILL BE GROUNDS WITH COMM, OME, GROUND KITS FOLIDW THE MANIFOLDER'S PROMODENING.
4. GROUNDING, AT PARTINGLE LINEA.
5. GROUNDING, AT SECURITY TOWNS WHICH ARE DOTN STOT—C, ADMITION, C, GROUNDING, AT SECURITY OF THE TOWNS WHICH PART.
6. GROUNDING TOWNS THE CRUINMENT SHELTER AT THE PART.
6. GROUNDING BOSTER THE CRUINMENT SHELTER AT THE PART.
6. GROUNDING BOSTER THE CRUINMENT SHELTER AT THE DRIFT PORT.

- THE TREE OFFIT THAN CARES SHALL BE REVELLED FOR COMMENT. CHANGE OFFIT THAN OFFIT THAN COLD THAN YOU'S STEAL HIS PLAN. OR COLD NOW HEALTH FOR THAN OFFIT THAN COLD THAN OFFIT THAN OFFIT THAN COLD THAN OFFIT THAN
- THE TITY "AND GREEN WHITE INCRUDING TOWN CHARLE THAN ON OUR THAN AND SHALL RE SETTED IN MEMORY TOWN CARD SHALL RE THAN THE THAN THAN THE T

COMPACTOR SAVIL GROUPD ALL EQUIPMENT AS A COMPLET SYSTEM, GROUPOAS SAVIL BE IN COMPLANCE TOTAL SOCIATION AND AREI GROUPOAND AND BRAINE REGUISCLEATE (ATT—TP—THAIG) AND WANTACTIVERS'S POETHICATIONS.

41. CHOUNDING IS SHOWN DUCKASMATICALLY ONLY.

all calls shall be groundd with consal case grounding http. Frlidm the Mandfathren's recommendations.

AS. ALL GROUND CONDUCTORS SAUL BE COPPOSE NO ALLMANIA CONDUCTORS SAUL BE LISED.

ALL PROPOSED GRUNDING BAR DOWNEDUS ARE TO BE TODAWITED TO THE DISTING ADJACEDY REGULATION BAR DOWNEDUS BAR TEXNERINGS WY SECONFIDANC OR COMPRESSION.

WHEN INSTALLING OPTIC FIREM TRUNK CHOLES OR TIPE TC-ER CHOLES INTO CONGUITS, NPPA 70 (NEC). APPICLE 300 RAISS SAULL APPLY.

- 21. TYPES AND SIZES OF THE ANTONIA CHEEL ARE BUSED ON ESTIMATED LENGTHS. PROOF TO GRODENIC COLSE. CONTINUENTS SALLL YEAR ACTIVIL LENGTH BUSED ON CHESCATICION LYOUT AND HITTEY THE PROLEST MANASE & ACTIVIL LENGTHS SCICED ISTIMATED LENGTHS.
- 22. CONTRACTOR SHALL VERBY THE DOMN-TILT OF EACH ANTDOM WITH A DICTAL LEVEL.
- 23. COMPACTOR SAUL COMPRIA COAC COLOR COBNE PROR TO CONSTRUCTION, RETER TO "MATERIA. SYSTEM LABOLMS STAMDARD" NO—COCCT LATEST VERSION.
- 24. All JUMPES TO THE ANTIDAMS TROW THE WAY TRANSMISSON LINE SHALL BE $1/2^{\circ}$ da. Lijf and Sauli not excess $e^{-\phi^{\circ}_{-}}$.
- 25. ALL CONDAL CABLE SIALL BE STEATED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCESS 4'-4" CE.
- 28. COMPACTOR SHALL FOLLOW ALL WANDACTS REDGIANDRAINGS RECARDING BOTH THE INSTALLATION AND CHONDING OF ALL COURSE, CHELTS, CONSICTORS, ANTONING, AND ALL OTHER EDUPAGENT,
- 2). CONTACTOR SALL WENTERPROP ALL AMBNA CONSCIOUS WITH SELF JULICALITIES THE WENTERPROPRING SALL BE COMPLETED IN STREET ACCORDANCE WITH ALEY STANGARDS.
- CENTRACTOS SKALL CROMO ALI EXPRADOR. INCLINOM ANTRANS, RET MATROS. TAN'S, COAX CHAES, NO RET CONTROL, CHAES, NA A TANGALET STREIT, CROMONO, SALL DE FOREINED BY CALADETO WIREDON N. CHAIRMASE, WITH MAKEACHURET'S SPECTRATOR, AND RECOMMENDATION.
- CONTROLTIO SMALL PROMOTE STRANG-ROLDS AND CHRILE SUPPORTIS FOR ALL CHRILE ASSENDENCES, COUNTROLTION SMALL PROMOTED TO CHRILL TO CHRILL CHRISTS AND CHRILL SUPPORTION SMALL FOR PROMOTED THE WASHINGTHYS SPECIFICATIONS AND

39. CONTRACTOR TO VERY THY DOSTING COX HANGERS ARE STACKABLE SHAP IN HANGERS. IF DISTING HANGES ARE NOT STACKED SHAP IN HANGER THE CHITECOTOR SHALL REPLACE EXCEINE HANGES HIT CONTRACTOR AND HANGES THE CHITECOTOR SHALL REPLACE EXCEINE HANGES THE CONTRACTOR TO AND THE SHALL REPLACE EXCEINE HANGES THE CONTRACTOR TO AND THE SHAPE SHALL REPLACE EXCEINE THE SHALL REPLACE EXCEINED THE SHALL REPLACE THE SHALL REP

3), CONTINETOR SHULL BE RESPONSILE TO YOR'S AMERIKA, TIMS, DIPLEMENS, AND COMY COMPICURATION, LANG. AND LODGES PRICE TO RECOLLATION.

CENERAL CARLE AND STRIPMENT MITTER

AL CONNECTIONS FOR HANGES, SUPPORTS, DRACHG, ETC, SHALL BE INSTALED FOR TOWER WANDEAUTRON'S RECOMMENDATIONS.

PREPARED BY

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AT&T MOBILITY

BLACK & VEATCH

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GROOD W. 115TH ST, SUTE 2292 OVENUND PARK, KANSAS BEZ11 (913) 458-2000

PROJECT NUMBER: 129391 STATE OF MICHIGA PING JIANG ENGINEER No. 6201062190

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LANDLORD, PROPERTY OWNER SIGNATURE

PROFEET LOCATION: USID (1793)

20027 MACK PLAZA DRIVE GROSSE POINTE WOODS, MI 48236 MACK PLAZA

EQUIPMENT NOTES DEAKING DESCRIPTION:

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EQUIPMENT NOTES

- ARMINICAR SALL MENTET THE CORRECTOR STITC COMPANIENCE FROM TO TABILITIES OR ANY CONTROL ARMINICARY DESIGN THE DIFFERENCE OF THE COMPANIENCE PARTICIOS. THE STOPE OF WITH WAY CHARGE THE BOTH STATE OF THE STATE OF THE DIFFERENCE OF DIRECT FIRST THE PRANCE THE WAY OF THE CHARGE OF THE STATE OF THE STATE OF THE STATE OF THE THE PRANCE THE STATE OF THE STA
 - The contractor same gram permits, legacs, have all deposits, and pay all fees reduited for the work under this section. œ
- DOMINICA SHOW THE CONTRAL ARRANGDARY OF ALL SYSTEMS AND COMPONENTS COMERT. UNDER THIS STOLEN THE CONTRACTION SHALL VEREY ALL ENDERGORS, DAMINIC SHALL NOT BE SCALED TO EXPLOSE DUCKNESSIVE. ಚ
- LAWS, RECULATIONS, DROBAWGES, STATUTES AND CODES. 4 7
- THE PRESCRIENCE SITEM BELLOW WE PART OF THE STEPPOCHOL COLP PUBLICATION SALL BY THE OWNER THE WINNER WAS ADDITIONAL STEPPOCHON IS SENTENCED THE THE OWNER STEPPOCHOL IS SENTENCED THE OWNER STEPPOCHOL IS SENTENCED THE OWNER STEPPOCHOL IS SENTENCED THE OWNER STEPPOCHOL SPOCHOL SPO REPROCES <u>n</u> ≺
- work under This Section Swall Consist of Furneshika all Lador, Material, and Associated Separces regulated to Complete Requiric construction and be definitional. SCOPE OF WORK
- al estimbal equipada under tas contract spall be proporty tisted, adulsted, and alighed By the compactor. ď
 - THE COMPACTOR SHALL BE RESPONSIBLE FOR ALL EXCHANDING, DAWINNG, TRONCHES, BACKFLLING, AND PROVING, OF DICESS DRIF. d

 - THE CONTRACTOR SWAL FURNISH TO THE OWNER WITH CERTIFICATES OF A FINAL INSPECTION AND APPROVAL FROM THE INSPECTION AUTHORITIES HANNE JURISDICTION. d
- THE COMPLETOR SALL PREPARE A COUPLETE SET OF AS-BLIT DROWNES, DOCUMENT ALL WIRDS. DELINENT ALL SOUTHWEST THIS CONTINUE, AND COUNTS WITH CANGETTING THIS CONTINUE; THE AS-BLIT DROWNESS SALL BE STRAINED AS CONTINUED. u
- CDEPAL
- ALL WATERULS AND EQUIPMENT SHALL BE UT. LISTED, NEW, AND FREE FROM DOTATION
- AL TIDES OF LATIBULS AND ENUMBRION SAMIL BE ACCEPTABLE TO THE AUTHORIT HANGE JURISDICTION AS SAFABLE FOR THE LISE, APPARED, ч н
 - AL EXPRIENT SHALL BEAR THE UNDERWITTER LABORATORIES LABEL OF APPROVAL, AND SHALL CONTEXY TO RECURBING OF THE NATIONAL ELECTRICAL CODE. d
- ALL ORGANISMOST DEVELS ALL HAY AN HISTORISMOST ARROW HAY SALL E RECORD THE WAS A REAL PROPERTY. THAN THE SALE ORGANISMOST DIRECTOR HAS A REAL MESSAGE OF THE MASS A REAL MASS A R d
- MATERIALS AND EQUIPMENT
- ROD WE'N, CONDUIT (RWC) SWILL BE HOT-DRPPD GALVMOZID RODE AND GITSDE NIZLIONG BNDS AND THROUGS AND BUMBLED OR LACOLEPED INSDE IN ADOITION TO CALVMOZING.
 - LIGHERTHAND FLEXIBLE METAL, CONTIUT SAMIL BE UL LISTE
- COODIT CLARK, STAVS AND SUPPORTS SAAL BE STEEL OR WALFARE IRON, ALL FITTINGS SAAL BE COUNTSSON AND CHARGET FIRST THE, GROANCING BLISANES WITH INSULATED THROW'S SAAL BE INSULATED BY ALL CONDUIT TROUMNINGS.
- HOWETHE CONDUIT AND FITTINGS SAME BE SCHEDULE 40 PMC. PSTALL USING SOLVENT-COLORIT-TYPE. JOHN'S AS RECOMMENDED BY THE MANUFACTURED.
 - CONDUCTORS AND CABLES
- COMDICTORS AND CREE SHALL BE FLAME-RETARDANT, MOSTURE AND HEAT RESISTANT THERAIDPLASTIC, SADE ADDICTOR, COPPER, TOPPER, TYPE THAN/THAN-2, BOD YOLD, SATE AS INDICATED, §12 AND SHALL BE. THE MANIAN SIZE CAROULTING USED.
- THE AME AND SAMLER CHADICTOR SHALL BE SCLID OR STRANGED AND \$8 AME AND LARGER COMPLETES SHALL BE STRANGED.
- SOLDENESS, COMPRESSION—TYPE CONNECTIONS SAMIL BE USED FOR TERMINATION OF ALL STRANDED CONDUCTIONS.
- STRAIN-RELIEF SUPPORTS GROPS SHALL BE HUBBELL KELEIGS OR APPROVED EIXUA, CHALCS SHALL BE SUPPORTED IN ACCORDANCE WITH THE NEE AND CABLE WANTACHVERTY RECOMMENDATIONS.
- ALL CROUCTORS SHALL BE DUCED AF BOTH BADS OF THE CONCACTOR AT ALL PULL BONCS. 1-BOXES TRANSPORD PLASTIC TAGS (ACTION CART), BOXES, BOXEN, DR. DISCONDERS AND SHALL BE DESTRIBUTED WITH APPROVED PLASTIC TAGS (ACTION CART).
- EXCENDED SMITCHES SHALL BE HEAVY DUTY, DEAD-FROM, RUCK-LAWE, DATEM, STEEDLY, OTTEMALLY GPENALE, HANGEL LOCKSEL, AND RIFELLES MITH, CAPIE, NI DESSED ASSIDIAL, SMITCHES, MITCHES, ILL LABLES THROMED IN HEAV, SP. DALESHIES, SELWER-D OR ENGAREZ APPROVED TRUM.
- CHEMICAL ELECTROLYTIC CROUNDING SYSTEM
- SECUL CONCRETE CONTROL TO STORE SHALL BE ELECTROLISM CONTROL DESCRIPTION OF CONTROL OF STORE SHALL BE ELECTROLISM CONTROL OF STORE SHALL WEIGHT SHALL BETWEEN SHALL BE ENVIOLED THE CONTROL OF STORE SHALL BE ENVIOLED THE CONTROL OF STORE SHALL BE ENVIOLED. THE CONTROL OF STORE SHALL BE ENVIOLED.

- THEOLOGICAL SOLVER EXPLANATIONS OF THE PROPERTY PROPUNDES INCLINES FROM DOMESTICS OF THE PROPERTY PROPUNDES INCLINES AND COMPILATED COARD WITH STRAIGHT SOTTINGS. AND INCOMPANIES WAS COARD WAS PASSED OF THE PROPUND WITH DESTRUCTION WAS COARD COARD COARD TO THE DESTRUCTION OF THE PROPERTY OF THE PROPUNDES AND COARD COARD TO THE CHARGO.
- BACKLIT MYTERY, SHALL BE LYNCOHITE AND LYNCOLE GROUNDING GRAVEL
- al grounding components skall be tinned and grounding complicities skall be fiz and bard skald, threed, copper, above grade grounding complicities skall be institated where with
- GOUGHER BLIES WILL BE WEET, MOREL ANGELD CROPPER MEY OF RETURNING MOST SETTION SERVICES BUT BUT SHALL SE FRIENDS OF THE CORRECTION. THE STAN LINE SHALL SET SHALL SET THE CORRECTION. THE STAN LINE DESCRIPTION OF THE SHALL SET SHALL S
- DONNETINGS SHALL BE FROM-CONSTATING, FROM UTT, LEEDEN AND LACEDA, DE GENOMOR CONNECTINGS FROM THE MATERIAL USED. USET TRO-PLEE, CHRIPTISSON, LUCS WITH HEAT SHARE FROM WHOTH WE OLD MET TRO-PLEE COMPRESSION LUCS WITH DESTRUCTION OF THE WAY WHOTH WE OLD MET SHARE.
 - BOTHERIC WELLED CONNECTORS SAIL BE PROVIDED IN ICT FORM AND SELECTED FOR THE SPECIFIC TIPES, 3225, AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS TO BE CONNECTED.
- - NOSTAL, AN EQUIPAUNT GROUNDING CONDUCTOR IN ALL CONDUTS IN COMPLANCE WITH THE ATRA SECRETACIONS AND REE. THE EDUPAUNT GROUNDING SALE BE BENEED AT ALL JUNCTION BOOKS, PULLBOOKS, DISCUSINEET SWITHSE, STAFTINGS, AND EXIPPORT CARRES.
- 2. PROVIDE PULL BOXES AND JUHCTION BOXES WERE SHOWN OR REDLERD BY HER. G. PANELS AND LIAM CONTENS.
- THE CONTRACTOR SAUL PROVIDE OTHER MUTBALS, THOUGH NAT SPECFICULY DESCRIBED, WHICH ARE RESULTED FOR A COMPLETELY OPERATIONAL SYSTEM AND PROPER INSTALLATION OF THE WORK.
- 1. AL PAKE ORECTORES SAUL BE TYPEMETTEN. PART.1. EXECUTEN
- al waters, and exipplent spall be installed in strict accordance with the manufacturent's recognitions, 4
- ECUPADIT SIVIL BE TIGHTY COVERD AND PROTICIED ACANST DRY OR WATER, AND ACANST CHEMCAL. RADAY DURING PSTRALLING AND CONSTRUCTION PERSOS. nd Ħ
 - al lador for the distalation of materias and equipadat adressed for the electrical system symbols. Wreden, in a next and yorgana-like manner 4
- AL ELETRICAL ENIPADIT SKALL SE ALAGEED, ALONED AND TESTED OF THE CONTRACTOR AS REQUIRED TO PROCUES THE WITGOOD PERFORMANCE. ø
- d
 - LPON COMPLETON OF WORG, THE CONTRACTOR SMALL THOROUGHLY CLEAR ALL EDFOSED EQUIPMENT, SECURE ALL LEAST AND ANY OUTSING, CONTINUE AND LEAF. THE INSTITUTION PRINKED AND INCOME. H
 - fré compactor saul copponate ne installation of electrica, fides with the poster-funktion erupaidm dolivent schedule to previdit unaeccessant delats on the total poste. 4
- KSTALLATION: Ä

- AL CLETRICA, WRING SAUL BE INSTALLED IN CONCULT AS SPECIFED, NO CONDUIT OR TUBING OF LESS THAN 3/4 INCH TROOK SIZE. PROMDE RICH PAG SCHEDULE 80 CONDUTS FOR ALL RICEDS, RUC OTHERWISE, NATED, EAST MAY BE RISTALED FOR EXTENDED. FOR EXIDED TO PRISECUL DAMAGE.
- NEGALL SCHEDLE 40 PC CENCUIT WITH A MUNICAL COPEN OF 24" UNDER ROLDWAYS, PARGING LOTS. STREAM, AND LEINS CONDINIT SAULT, HARMAN COPEN OF 18" IN ALL OTHER NON-TRUPPE, PHYLOGRAPS (SPEET TO LUTS) NGC, DIEL 3005).
- C CLAWAZD ROBER STILL CORRECT RAPES CHEFT CONSCIOUNT DE CURVADOR WEBLING, OF THE COST OF WARRINGS, THE CLARK CHEFT OF THE CORPECT OF THE CORP
- A RUM OF CONSULT BEYEDN BEZES OR EXUPAUSAT SYALL NUT CONTAN MORE THAN THE EGITAALDAT OF THREE CLUMEDS—GONDAL CANDUT BENO SYALL BE WASE WITH THE ULL USTED BENGER OR FACTORY SO DEFORE LEUNIS MAY BE USEN.
 - PROMOCATO CONDIGING SYMLL BE CUT SOUNCE WITH A CONCULT CUTTING TOOL AND REJUED TO PROMOCE A SHOOTH MISCE SURFACE.

PROMIDE INSULATED GROUNDING BUSHING FOR ALL CONDUITS.

- WANTEN BE REPORTED FOR THE CONTINUE OF CONTINUE OF CONTINUES OF CONTIN
 - ALL CONDUTS SAUL RE STAGRED CLEM BY PLALING AN APPROPRIATE SIZE LANDED. THROUGH THE CONDUCTIONS ON CHRIES, CONDUTS SAVIL RE: FREE OF DRIT AND CURRES.
- BRIVAL 2" HCHIY NSBLE AND DETECTABLE "LIVE 12" ABOVE ALL UNDERGROUND CONCUTS AND CONCUTS AND

INSTALL PULL STROKES IN ALL CLEAN EAPTY CONDUITS, IDENTITY PULL STROKES AT EACH END.

- CHOURS SHUL BE RETULLED IN SUCH A MANNER AS TO ENSURE AGAINST COLLECTION OF TRAPPOS CORRESPONDAL
- PROVICE ORIC DRILINE AS NEEDSOMP FOR PORTPURING TO ALLIM FOR RECEIVED AND CAREES TO BE PROTINGENESS. THE WORLD STATEMENT STATEMENT AND MANUAL PROPERTY AND THE PROPERTY PROPERTY OF THE PROPERTY OF THE WINES OF THE PROPERTY OF THE PROPERTY
- ELECTRICAL SECTION NOTES

ZDB/Z40/120 VOL. STSTEMS RED RED PLUE WHITE GREEN ALL POWER WRONG SHALL BE COLOR COODD AS FOLLOWS

2. SPLICES SHALL BE MADE ONLY AT OUTLETS, AUNCHION BOACS, OR ACCESSEDE FACENAY CONDUITS. APPROVED FOR THE PURPOSE.

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- 3. PILLING LUBRICANTS SHALL BE UL APPRONED, CONTRACTOR SHALL LICE NYCON OR HEAP ROPE FOR PILLING CONSULCTOR OR CHELES INTO THE CONDUST.
- - DESCRIPTION SANTEMENT d
- 1. NISTALL DESCRIBEDT SWITHES LEVEL AND PLEAR, CONNECT TO WIRNG SYSTEM AND CROUNDING SYSTEM AS PROCKIED.

BLACK & VEATCH

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PREPARED BY

PROJECT NUMBER: 129391

WALE OF MICHER

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- ď
- ALL KENLLE PARTS OF ELECTRICAL EXURAGENT WICH DO NOT CARRY CARRENT SAVIL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BURDING MAKENTINER, ATA'S GROUNDING AND BOHONG STANDARDS THE-FIRST, RELOCATIONS, AND THE NATIONAL PRITIES AT STANDARD ú
- 2. PROVINE ELITRICAL GROUNDING AND BOADING STRIDA INDICATED WITH ASSESSAY OF WATHOUS INCLUDING CRAUMING ELITRICATS, BOADING JUNIORS AND AUSTRIAM, ASSESSADESS AS RECURRED FIRE A CHARLING AND ASSESSATION.
 - ri
- BELLINES MOST MEY THOUGH SECRET WHI TE TET IN LEGAT AND WEST THE WAS REQUIRED TO CONCLIDES ME. KELLEND TO BE SHOUTD TO COME. THE CORRECTION SHALL KNOTE, THO CONCLIDES THE WAS RECOVERED TO THE WINDOWN TO THOUGH SECRETARIES SHALL KNOTE THO CONCLIDES CONCLIDES TO SHALL WEST TO SHALL WE WINDOWN THROUGH SHALL WE SHALL WE WINDOWN THE WINDOWN THE WINDOWN SHALL WE WINDOWN THE WIND

No. 8201062190

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- THERTH COLUMNE AND REVIEW CONSTRUCTOR WITH ACCORDING WITH WARFACTURES AND BOLDS, WITHOUT WITH WARFACTURES WE BESTED TREME THERTHER WITHOUT THE WARMALE THE THE CHARLES WE STEDIED IN III. TO NESSEE THE THE CHARLES WE STEDIED IN III. TO NESSEE RESUMMENT AND PRETENT CONCERNE.
- ALL CRONDING CONNECTIONS SWILL BE INSPECTED FOR TRAININGS. EXTENDING, WELDER CONNECTIONS
 SWILL BE APPROVED BY THE INSPECTIOR HANNEL JURISDICTION BETTHE BEING PERAMIDIALY CONCEALED. DEFTRACTOR SHALL NOSSY THE LICKTONE OF GROUNDED TIE-HA-POWED TO THE DOSSING COCKNOWN SYSTEL, ALL UNDERGROUND GROUNDING CONNECTIONS SHALL EN WAS OF THE LOOTHEDING WELL PROCESS. AND INSTILLIDERS, CACHENING THE THE WARRACTORS'S BESTRACTORS.
 - 8. APPL CORROSON-RESIDENT PARK TO FIELD CONNECTIONS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COLVENIES NAVE BY DESTINATION, USE ROTH CONNECTIONS. TO SHARM COMPOUND ON ALL CONNECTIONS COMPANIES CONFIDENCE.

LANDLOSTO /PROPERTY, CAMER SIGNATURA HE & A WOLATON OF LUR TOK ANY PERSON, INCLSS THEY ANK ATCHOGACE THE DESCRIPT OF A LUTSON PROTESSORY OF ACTION ACTOR THE DOCUMENT.

- B. A SERARATE, CANTINLOLS, INSTALTED EQUIPMENT CROUNTING CONDUCTOR SYMLE BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS.
- 10, BOND ALL INSTANTO GROUNDING BLISHINGS WITH A BARE $f \theta$ ANG GROUNDING CONDUCTOR TO A GROUND ψ_{S}
 - 11. DRECT BARED GROUNDING CONCUCIOUS SMAL BE INSTITUDIATA A MOBINAL DEPTH OF 35" MINGAN ELLOW GROOE, OR O" DELOW THE PROST LIVE, USE THE ONEOTER OF THE THO DISTANCES.
- 12. ALL GROUNDING CONCULTURS EMEMORED IN OR PENCHAUTING CONCRETE SIMIL BE INSTALLED IN SCREDULE 40 PAC CONCULT.
- 13. THE INSTALLATION OF CHOICAL ELECTROLITIC GROUNGING SYSTEM SHALL BE IN STRICT ACCORDANCE WITH WAVEFACTOR'S PRINCIPLYS. RELIVE SKALMG THE FIRM LEACHING AND RESISTIVE HOLES, INSTALL MOTORITIES IN ACCOUNT. 14, DRNE CHOUND RODS LIMIT, TOPS ME A LANDAUM DISTANCE OF 30" DEPTH OR 6" BELOW FROST LINE, USNO, THE CHEATER OF THE TWO DISTANCES.
 - 15. F. COAL ON THE LEE BROOK ES MORE THAN A FF. FROW THE CHOUNDING BAN AT THE BACE OF THE THE THE A SECTION OF CHAINE AND THE EMEDION AT THE EMED AT THE EMO OF THE ICE BROOKE, TO GROUND THE COAL CASE (CROSSING). AND RELIDEAT MRSTORE.

 - 16. CONTINUTOR SHALL REPUR. AND/OR REPLACE. EXCEING GROINENG SYSTEM COMPONENTS DAMAGED.
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- WITH WIDEM, AND AS READERS BE EXHIB WITH COLOURS WITH THE STRUCTURE MEDICAL COLOURS WITH THE WAS CALLED RESURDING THE WAS CALLED WITH THE WAS CALLED WITH THE WAS CALLED WITH THE WAS CALLED TO WITH THE WAS CALLED WAS CALLED WITH THE WAS CALLED WAS CALLED

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- ALL FEDERS SAUL HAVE INSULATION TESTED AFTER DISTALLATION, RETOAKE CONNECTION TO DENOESS. ** CONOCIOUS SAUL HE FOR SHE FRAS SHOULD HAVE DISCUSSED INSULATION SAUL HE FOR CHE WAITE USING 10000 FOR PRODUCE HOUSE WAITE USING 1000 FOR PRODUCE HOUSE WAITE WAITE HOUSE WAITE HOUSE WAITE WAITE HOUSE WAITE HOUSE WAITE WAIT WAITE WAI ż

20027 MACK PLAZA DRIVE GROSSE POINTE WOODS, NI 48236

ELECTRICAL SECTION NOTES

DRAWING DESCRIPTION

PROJECT LOCATION: USID (1793)

MACK PLAZA

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- PEDTORA GROUNDAG TIST TO MEUSINE, GROUNDAG RESISTANCE OF GROUNDAG SYSTEM USAIG THE IEEE STANDAGO S-PORT' PULLOR—POTRANT, LEPRO, REPORTS PLITS VALUES AND LICENTAGO STATIST, MISTORIANDAGO STATIST, MISTORIANDA

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	M 0	BLKG BLCCONG SU BEAU	_		6800 W. 115TH ST. SUITE 2202
(2) TWD LAMPS 40TB	-		MIS NOT 13 SCALE		OVERLAND PARK, KANSAS BRZ11 (913) 458-2000
		BOF BOTTOM OF FOOTING			PROJECT NUMBER: 129391
SMOKE DELECTION (DC)					100000000000000000000000000000000000000
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SECURITY LIGHT W/PHOTOCELL LITHONIA ALXM	-				NA.
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- ALL STE WORK SAVIL DE COMPLETED AS NOICATED ON THE DRAWINGS AND ATAIT PROJECT SPECIFICATION 4
- - A ULTERAS TREMESTA ON ENTRUDIS SHALL BK. HERE CHORDWARE WITH ALL MASSICAL OF COUNTY AND ALL LACK GROWNESS RUZE, RESTAUDISE, AND LENGTH, CHORDWARE SEPREMENTS. BLIZE, RESTAUDISE, AND LANTIL, CHORDWARE SEPREMENTS. THE RESTAUDISE, AND LANTIL, CHORDWARE SEPREMENT SHALL WAS CHORDWARE OF WARF PUBLIC ACTIVITIES. AND LANTIL, CHORDWARE SEPREMENT SEPREMENT OF WORK.
 - AL WORK CARRED OUT SHALL COURTY WITH ALL APPLICABLE MANCIPAL AND UTLITY COMPANY EPECENCATIONS AND LOCAL MINESTERIONAL CODES, OPOSIMMEES, AND APPLICABLE RECALATIONS. uf
 - INICSS NOTIO OTHERNES, THE WORK SAUL INCLUDE FURNISHING MATRIALS, EXURIDAT, APPLITEUMICS, AND LABOR INCIDENCE TO COUNTER ALL INSOLUTIONS AS INDICATED ON THE DRAWNINGS. ď
- PLANE, FOR WITH THE SECULE THE SET PLANE, NEW TOTALISM TO A CONSTRUCTION OF THE SECULE OF THE SECURE OF THE SECURE
- The compactor saal detail al equipadh and waterals in accordance with warfacherts Recombigations unless specifically stated otherwise
- IF THE SYCLOSIO COUPLING CANNOT BE INSTALLED AS SHOWN ON THESE DIAMENCE, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL, BY THE INCHOSON PRICH TO PROCESSING ei. ğ
 - GENERAL COMPACTINE SAULT BE RESPONSELE FOR THE SAVETY OF WORK AND A ADJACENT ANDIG AND UNIVERSITY OF WHICH DECEMBANT HAS COMPACT. WORK SAULT CHRINGS THIS COMPACT, WORK SAULT CHRINGS THIS COMPACT, WORK SAULT CHRINGS TO ALL OSSA REMEMBERS AND THE LOCAL JANGUSCHICK.
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- SEA, PONTRATIONS THROUGH FRE RAITD AREAS WITH US LISTED MATERALS APPROVED BY LOCAL JAPISDIC COMPINACION SHALL KEDP AREA CLEAN, WAZARD FREE, AND DISPICES OF ALL DEBRES. ħ
 - CONTRACTOR SHALL PROMDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PROR TO COMMENCAGET OF WORS.
- THE CONTRACTOR SHALL PRETECT DOCTING HERROPOLPHIS. PARCHERTS, CHROS. LANDSCAPING AND STRUCTHER ANT DAMAGED PART SHALL BE INTRAFED AT COMPLACTOR'S DIPORCE. TO THE SATISFACTION OF THE COMPLE.
- 17. THE COMPLETOR SHALL CONDUCT UTLITY LOCATING SERVICES PRISOR TO THE STAFF OF CONSTRUCTION.

 18. CANCELL, COMPLETOR SHALL CONSEINET. AND MARTINY ACCESS STAF ALL TRACES. AND CONTRACTIONS TO THE STEE AND CONTRACTIONS TO THE
- THE COURSE COMPACTOR SAUL BE RESPONSELE FOR SECURITY OF THE STE FOR THE QUANTON OF CONSTRUCTION WITH JOB COMPLETION.
- 23. THE COMPAL COMPANTOR SHALL MANTAN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDORD, AND CHANGE ORDERS ON THE PREMISES AT ALL TRACE.

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- THE CAMENUTOR SWILL PROVICE PORTIBLE THE EXTRIBITIONES WITH A RUTHO OF NOT LESS THAN A TO Z-A-LICE AGE, AND SWILL IR WITHER SETS OF TRAVEL DESIRACE TO ALL PORTIBUS OF WHERE THE VIOLE IS BEING CAMPALED DIRECT ON THE PROPERTY.
 - AL HOSTING, ACTION, STORE WITH OLD LUTTER, AND OTHER THE SHALL SEE SECTION OF LIBERT AND ACTION OF THE PRESENCE OF THE PRESENC
- LOSTING NATING STORE, WALLD ON SELECTION, AND OTHER UTHERS, WHICH PRESENTS WITH THE DECLARATION OF THE WAYS, SAME, IR. REMORD, CHPRE, PULICIZE ON OTHERWISE DECEMBERED AT PERIOR WHICH WILL WITH INTERPRESE WITH THE CELECTION OF THE WORM, AS DOBSETTO BY THE RESPONSESEE DIGHTLY. WHO SILBERT TO THE PREPARA OF THE OWERS, MAJOR LOCAL (TIMITIES.)

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- THE ARDS OF THE OWNER'S PROPERTY DISTURBED OF THE WORK AND HIT COMPRED BY THE TOWER, STURIED OR DREMENT SHALL BE GRADED TO A LAWFORM SLOPE, AND STURILIZED TO PREMENT ENDSOIN ž
- CONTRACTOR SKUL WINNEZ DISTURBANCE TO THE EXCENDE SITE DERNE CONSTRUCTOR . BROSEN CONTRA VECASES, I PREJURCÍ DÁMBE DÁMBE CÓNSTRUCINE, SMLL BE N CONFORMACE WITH THE PEDERAL AND LOCA JARSONICH FOR BESSEN AND SERVINTS CONTRACT. ส

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- THE SERVICE YALL BE RENDERT HA A SMOTH VERBUR HOUGE, FOR COMPACTION BY STREAM SYNONE PROTEST BENEVILL MEDICAL STREAM STRE NO FILL OR BUBANGAIDHT WATRAL, SWALL BE PLACED ON FROZEN CROUNGRAL, PROZEN LANTOUALS, SMON OR ICE SWALL NOT BE PLACED IN ARY FILL OR BUBANDALDYT.
 - ALL NEESSLAF REBRISH, STOAPS, DEBRIS, STOCKS, STONES, AND OTHER REFUSE SAULL BE RELIONED FROM THE SITE AND DISPUSED OF IN A LUNFAL MANNER.
- ALL BROCHARS, OFFIATING AND MANTEMACE MANUALS, CATALOSS, SHOP TRANFINS, AND OTHER DOCUMENTS WALLER THRAED OVER TO THE EDIEDAL COMPILACIOR AT COMPLITION OF CONSTRUCTION AND PRIOR TO PAYADAT. соителстик shull slight a colorlite set of as-aliet redimes to the coloral commution upon Coloretion of Prolect and Prior to Final Payagat.

GENERAL NOTES

- CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
- The proposed facility will be unanando and does not reguine potable within or senen scrape. And is not for human maetat (no haddeap access reguined).
 - JI. COLJENNY IS LIMITED TO PESIODIC MANTEMANCE AND RESPECTION, APPROXIMITELY 2 TIMES PER MONTH BY ATAL TECHNICANS.
 - 34. NO OUTDOOR STORLOE OR SOLID WASTE CONTAMERS ARE PROPOSE
- ALL WITHUR SAULE RETROEDED NO WERE SHALL BE REPENDED IN ACCORDING WITH LAND SEATON ACE MOBILE GROWNER SEWING TERROLD STEERINGE IN CONSTRUCTION OF A CONCINE WITHURS SHITS AND THE PRICE STEERING STEERING STEERING OF A CONCINE STEERING THE CONSTRUCTION SEPERIORISM NO THE DRAWNERS. THE DRAWNING SHALL DON'T
- ONTRACTORS SHALL BE RESPONSIBE FOR GEDARICA ALL PEDACTS AND INFECTIONS REQUEST FOR GOMENICION. FOR CONFINCION, P. CONTRACTOR, CANNOT DETAIN A PEDACT, INEY HIST KITTY THE GONERAL CONTRACTOR. Ŕ

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- HETORAGION SHORM ON THESE DRAININGS WAS DEFINALD FROM STE VISTS AND/OR DRAININGS PROVIDED FOR THE SITE OWNER. CHARACTURES SHALL INTEPT THE BIGINEER OF ANY DISCRESSIVATES PROPERTY.

 WHICH SHAREMAL IN PROCESSIVA, WHICH CHARITORN. CONTRACTOR SHULL REMOVE ALL TRASH AND DEBRIS FROM THE STIE ON A DALY BASIS. Ŕ
 - 39. NO WATE STROBE LICHTS ARE PERUTTED. LIGHTNO F REGURED, WILL WEET FAA STANDARDS AND REQUIREDURING.

BLACK & VEATCH

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PREPARED BY

16025 NORTHLAND DR SOUTHFIELD, MI 48075

AT&T MOBILITY

PROJECT NUMBER: 129391

STE OF MICH

PING JIANG ENGINEER

No. 6201062190

6800 W, 115TH ST, SURE 2292 OVERLAND PARK, KANSAS BEZTI (913) 458-2000

- AL CONDAL CABLE INSTALLATIONS TO FOLLOW WANTFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
 - CONTRACTOR WILL RETER TO LATEST REDS SHEET PROOR TO CONSTRUCTION COMMENCENC

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PROJECT LOCATION: USID (1793) MACK PLAZA

20027 MACK PLAZA DRIVE GROSSE PORTE WOODS, NI 48236

GENERAL NOTES DRAWING CESCRIPTION

DRAWING NUMBER

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Black & Veatch Corp. 6800 W 115th ST, Suite 2292 Overland Park, KS 66211 Sedlacek S. Brennan B&V Ltd. Of Michigan 3550 Green Court Ann Arbor, MI 48105 (913) 458-6069 SedlacekB@bv.com

Monday, March 16, 2020

RIGOROUS STRUCTURAL ANALYSIS 78' Monopole

AT&T DESIGNATION:

Site ID:

1793 (MI2011)

Site FA:

10083371

Site Name:

Mack Plaza Non AT&T Owned Tower

AT&T Project: BV Project:

129391 (1793ATTMI-S)

ANALYSIS CRITERIA:

Codes:

TIA-222-G

115 mph Ultimate 3-second Gust

IBC 2015

2015 Michigan Building Code

SITE DATA:

20027 Mack Plaza Drive, Gross Pointe Woods, MI 48236, Wayne County

Latitude 42.431944, Longitude -82.91

Market: MI/IN 78' Monopole

B&V Ltd. Of Michigan is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:	94.30%	Pass
Connection Stress Level with Proposed Equipment:	95.60%	Pass
Foundation Ratio with Proposed Equipment:	32.60%	Pass

We at B&V Ltd. Of Michigan appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully Submitted by:

B&V Ltd. Of Michigan

Analysis Prepared by:

Khushal Patel / Anup Chitale

Analysis Reviewed by:

Ping Jiang, P.E.

This analysis was prepared by me or under my direct supervision and to the best of my knowledge and ability complies with the applicable provisions of the governing codes and ordinances.

Digitally signed by Jang, Ping ON: CN="Jiang, Ping, Ping, Ping, Ping, OU=Professionals, OU=Corp. PA, OU=Corp. DC=net, DC=bycorp. DC=net Date: 2020.03.16







B&V Ltd. Of Michigan 3550 Green Court Ann Arbor, MI 48105

B&V:

129391 (1793ATTMI-S)

Documents

Document	Description	Source
Site Photos from 2018	Site Condition Data	AT&T Siterra
One i notos non 2010		/ (d) Olicina
Carrier Co-Location Documents (Applications, Leases, Initial Co-Location Analyses, Modification Request for Information Form, etc.)	_	AT&T Siterra
Structural Analysis completed by B+T Group, dated 05/23/2018	Previous Structural Analysis w/Tower Geometry & Loading Data	AT&T Siterra
Tower Drawings completed by Paul J. Ford And Company, dated 12/04/1996	Tower Geometry Data	AT&T Siterra
Structural Analysis completed by Paul J. Ford And Company, dated 12/18/2015	Previous Structural Analysis w/Tower Geometry & Loading Data	AT&T Siterra





B&V Ltd. Of Michigan 3550 Green Court Ann Arbor, MI 48105 B&V: 129391 (1793ATTMI-S)

Assumptions, Disclaimers, and Notes

- 1. This analysis was performed under the assumption that all information provided to Black & Veatch is current and correct. This is to include site data, existing/proposed appurtenance loading, tower/foundation details, and geotechnical data. If this information is not current and correct, this report should be considered obsolete and further analysis will be required.
- 2. This analysis assumes that the tower structural components and mounts, including all steel sections and attachment hardware, are in good working order and in their original state, free of rust or other forms of corrosion. Furthermore, it is assumed that the tower and the tower foundation have been properly maintained and monitored since the time of construction. This report should be considered obsolete and further analysis will be required if the tower and/or foundation does not meet all of the above specifications.
- 3. This analysis assumes that all existing and/or proposed equipment mounts on the tower will have adequate capacity to support the existing and proposed equipment loading.
- 4. Capacity of the structural members is based on theoretical values as shown in the attached TAS form.
- 5. When applicable, this structural analysis is only valid if the proposed coax cables are stacked as shown in the attached feedline sketch.
- 6. This analysis assumes that all existing and proposed port cuts are properly installed such that the overall structural capacity of the monopole is not reduced.

Tower Analysis Summary Form

General Into	
Site Name	Mack Plaza
Site Number	1793ATTMI-S (MI2011)
FA Number	10083371
Date of Analysis	3/16/2020
Company Performing Analysis	E&V Ltd. Of Michigan

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower info	Description	Date
Tower Type (G, SST, MP)	MP	N/A
Tower Height (Top of Steel)	78 ft	N/A
Tower Manufacturer	Summit Manufacturing, Inc.	N/A
Tower Modei	N/A	N/A
Tower Drawings	Paul J. Ford And Company	12/4/1996
Foundation Design	N/A	N/A
Geotech Report	N/A	N/A
Tower Mapping	N/A	N/A
Previous Structural Analysis	B+T Group	5/23/2018
Foundation Mapping	N/A	N/A

Design Parameters Design Code Used TJA-222-G IBC 2015 Location of Tower (County, State) Wayne County, MI Wind Speed (mph) 115 Ice Thickness (in) Structure Classification (I, II, III) 11 Exposure Category (B, C, D)
Topographic Category (1 to 5)

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xisting/Reserved + Future + Pro	posed Condition
ower (%)	
connection (%)	
oundation (%)	
oundation Adequate?	N/A
	· · · · · · · · · · · · · · · · · · ·

Analysis Results (% Maximum Usage)
Existing/Reserved REV F REV G Connection (%)
Foundation (%)
Foundation (%)
Foundation Adequate?
Analysis Results (% Maximum Usage)
Existing/Reserved + Proposed Condition

94.30% 95,60% 32.60% Tower (%) Connection (%) Foundation (%) Foundation Adequate?

Pole	A607 Gr 60
Base Plate	A572-50
Anchor Bolts	A615-75

Evictica Loading

n efice march (Tibe	NEGRICI POPULE	Particolarus	经的特别产金和	STORY OF THE	Antenna (**)		所從哲學制制和各項音	1	per a pro-	. Mount	4.51	Transmission	Une	
Anienna Owner	Mount Height (fl)	Anienna CL (ft)	Quantity	Type	Menufacturer	Model	Azimuth	Quantity	Manufacturer	Туре	Quantity	Model	Size	Attachm Inside/Out
AT&T	80	83	3	Panel	KMW Communications	EPBQ-554L8H8-L2		1	Site Pro 1	F3P-12 12' Fortress Platform	4	#8 AWG DC Trunk	3/4	Inside
T&TA	80	83	3	Panel	Powerwave	7772.00					1	Fiber Trunk (12-pair)	3/8	Insid
AT&T	80	83	3	Panel	KMW Communications	ET-X-UW-70-16-70-18-IR-AT					1	Fiber Trunk (18-pair)	3/8	Insid
AT&T	80	83	6	TMA	Powerwave	LGP21401		1						T
Tata	80	83	3	RRH	Alcatel Lucent	RRH2x40-07L								
AT&T	80	83	3	RRH	Nokia	AirScale Dual RRH 4T4R B25/56 320W AHFIB								
AT&T	80	83	3	RRH	7775	Flexi RRH 4T4R B14 160W FRBI								
AT&T	80	83	3	RRH	Alcatel Lucent	RRH4x25-WCS-4R					Т			
AT&T	80	83	1	SA Box	Raycap	DC6-18-60-18-8C								
T&TA.	80	83	1	SA Box	Raycap	DC6-48-60-18-8F		1						<u> </u>
Unknown	72	74.5	2	Omni	Unknown	5° Omni		2	Unknown	Side Arm	2	AVA5-50	7/8	
Unknown	50	67.5	1	Omni	Unknown	15' Omni		1	Unknown	Side Arm	1	AVA5-\$0	7/8	
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			1				1				1		1	

Proposed Loading

Antenna Owner	Mount Height (fl)	Antenna CL (ft)	Quantity	Туре	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Туре	Quantity	Model	Stze	Attachme Leg/Fac
T&TA	80	83	3	Panel	Commscope	NNH4-65C-R5-V3		1			1	#6 AWG DC Trunk	3/4	inside
AT&T	80	83	\$	RRH	Nokia	AirScale Dual RRH 4T4R B5/29 240W AHBCB		T						
T&TA	80	63	11	SA Box	Raycap	DC9-48-60-24-8C-EV		1						
								 						
								1					1	

					Antenna	and and the first of the second of the properties of the second of the s	wildersquarestrates (1965) and	1.7		Mount		Transmission	Line	
Antenna Owner	Mount Height (fl)	Antenna CL (ft)	Quantity	Туре	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Туре	Quantity	Model	Size	Attachment Leg/Face
														



Section	2	-
Length (fl)	46.00	34.50
Number of Sides	81	18
Thickness (in)	02500	0.1875
Sockel Length (fl)		2.50
Top Dia (in)	18.8090	14,000
Bot Dia (in)	26.2600	19.5890
Grade	A607-60	
Weight (K) 3.9	2.8	1.2
2:14.31	43.5 ¶	78.0 R

DESIGNED APPLIETENANCE LOADING

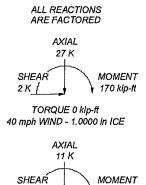
DEGI	GINED AFFOR	TENANCE LOADING	LEIEVATION	
TYPE	ELEVATION	TYPE	ELEVATION	
Site Pro 1 F3P-12 12' Fortress Platform	80	(2) LGP21401 (ATT-Existing)	80	
(ATI-Existing)		RRH2X40-07-L (ATI-Existing)	80	
Miscellaneous [NA 607-1] (ATT-Existing)	80	RRH2X40-07-L (ATI-Existing)	80	
		RRH2X40-07-L (ATI-Existing)	80	
2'x2" Mount Pipe (ATI-Existing)	80	AIRSCALE DUAL RRH 4T4R B25/66	80	
2'x2" Mount Pipe (ATI-Existing)	80	320W AHFIB (ATT-Existing)		
EPBQ-654L8H8-L2_TIA w/ Mount Pipe (ATT-Existing)	80	AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB (ATT-Existing)	80	
EPBQ-654L8H8-L2_TIA w/ Mount Pipe (ATT-Existing)	8D	AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB (ATI-Existing)	80	
EPBQ-654L6H8-L2_TIAW/ Mount Pipe (ATI-Existing)	80	Flexi RRH 4T4R B14 160W FRBI (ATI-Existing)	80	
7772.00 w/ Mount Pipe (ATI-Existing)	80	Flexi RRH 4T4R B14 160W FRBI	80	
7772.00 w/ Mount Pipe (ATI-Existing)	80	(ATI-Existing)		
7772.00 w/ Mount Pipe (ATT-Existing)	60	Flexi RRH 4T4R B14 160W FRBI	80	
ET-X-UW-70-16-70-18-IR-AT_T/AW/	80	(ATI-Existing)		
Mount Pipe (ATT-Existing)		RRH4X25-WCS-4R (ATT-Existing)	80	
ET-X-UW-70-16-70-18-IR-AT_TIAW/	80	RRH4X25-WCS-4R (ATI-Existing)	80	
Mount Pipe (ATI-Existing)		RRH4X25-WCS-4R (ATT-Existing)	80	
ET-X-UW-70-16-70-18-IR-AT_TIAW/ Mount Pipe (ATT-Existing)	80	DC6-48-60-0-BC (ATI-Existing)	80	
	80	DC6-48-60-0-BF (ATI-Existing)	80	
NNH4-65C-R6-V3_TIA w/ Mount Pipe (ATI-Proposed)	80	DC9-48-60-24-8C-EV (ATT-Proposed)	80	
NNH4-65C-R6-V3_TIA w/ Mount Pipe	80	14" x 2' Top Hal (Unknown-Existing)	78	
(ATI-Proposed)		2' horizontal 2 1/2"x2 1/2" angla (Unknown Existing)	72	
NNH4-65C-R6-V3_TIA w/ Mount Pipe (ATI-Proposed)	80	2' horizontal 2 1/2"x2 1/2" angle (Unknown Existing)	72	
AirScale Dual RRH 4T4R B5/29 240W AHBCB (ATT-Proposed)	80	3'x2" Mount Pipe (Unknown Existing)	72	
AirScale Duel RRH 4T4R B5/29 240W	80	352" Mount Pipe (Unknown Existing)	72	
AHBCB (ATI-Proposed)		1,25" Dia 5' Omni (Unknown Existing)	72	
AirScale Dual RRH 4T4R B5/29 240W	80	1.25" Dia 5' Omni (Unknown Existing)	72	
AHBCB (ATT-Proposed)		Side Arm Mount [SO 311-1] (Unknown	60	
(2) LGP21401 (ATI-Existing)	80	Existing)		
(2) LGP21401 (ATT-Existing)	80	2" Dia 15' Omni (Unknown Existing)	60	

		MATERIAL	STRENG	ТН	
GRADE	Fy	Fu	GRADE	Fy	Fu
A607-60	60 ksl	75 ksl			

TOWER DESIGN NOTES

- TOWER DESIGN NOTES

 1. Tower is located in Wayne County, Michigan.
 2. Tower designed for Exposure B to the TiA-222-G Standard.
 3. Tower designed for a 89 mph basic wind in accordance with the TiA-222-G Standard.
 4. Tower is also designed for a 40 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
 5. Deflections are based upon a 60 mph wind.
 6. Tower Structure Class II.
 7. Topographic Category 1 with Crest Height of 0.00 ft
 8. TOWER RATING: 94.3%



TORQUE 0 kip-ft REACTIONS - 89 mph WIND

685 klp-ft



B&V Ltd. Of Michigan 3550 Green Court Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136

^{Job:} 1793 Mack	Plaza	
Project: 129391 (175	3ATTMI-S)	
Client: AT&T	Drawn by: Khushai Patel	App'd:
Code: TIA-222-G	Date: 03/16/20	Scale: NTS
Path;	AT ST SALVEN LIGHTLING (1788) (In Applications of Tendon) in	Dwg No. E-1

tnxTower

B&V Ltd. Of Michigan 3550 Green Court

> Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136

Job			Page
	1793	Mack Plaza	1 of 14
Project			Date
	129391	(1793ATTMI-S)	16:53:05 03/16/20
Client		AT&T	Designed by Khushal Patel

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in Wayne County, Michigan.

Basic wind speed of 89 mph.

Structure Class II.

Exposure Category B.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 40 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification Use Code Stress Ratios

√ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg

Use Diamond Ipper Bracing (4 Sided)

Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric Distribute Leg Loads As Uniform Assume Legs Pinned

✓ Assume Rigid Index Plate

- √ Use Clear Spans For Wind Area
 Use Clear Spans For KL/r
 Retension Guys To Initial Tension
- √ Bypass Mast Stability Checks
- √ Use Azimuth Dish Coefficients
- √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs

Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation

- √ Consider Feed Line Torque
 Include Angle Block Shear Check
 Use TIA-222-G Bracing Resist. Exemption
 Use TIA-222-G Tension Splice Exemption
 Poles
- √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets
- → Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known

Page Job tnxTower 2 of 14 1793 Mack Plaza Project Date B&V Ltd. Of Michigan 3550 Green Court 129391 (1793ATTMI-S) 16:53:05 03/16/20 Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136 Cllent Designed by AT&T Khushal Patel

	Tapered Pole Section Geometry									
Section	Elevation fi	Section Length fi	Splice Length ft	Number of Sides	Top Diameter in	Bottom Dtameter in	Wall Thickness in	Bend Radius in	Pole Grade	
Ll	78.00-43.50	34.50	2.50	18	14.0000	19.5890	0.1875	0.7500	A607-60 (60 ksi)	
L2	43.50-0.00	46.00		18	18.8090	26.2600	0.2500	1.0000	A607-60 (60 ksi)	

				Ta	pered P	ole Pr	opertie	S			
Section	Tip Dia. in	Area in²	I in ⁴	r in	C In	I/C in³	J in4	It/Q in²	\i' 117	14/1	
LI	14,1870 19,8623	8.2202 11.5463	198,13: 549,100		7.1120 9.9512	27.8593 55.1792	396.5319 1098.9228	4.1109 5.7743	2.1340 3.1177	11.381 16.628	
L2	19.471 8 26.6265	14.7266 20.6389	640.83° 1764.02	78 6.5884	9.5550 13.3401	67.0685 132.2352	1282.5188 3530.3769	7.3647 10.3214	2.8704 4.1818	11.482 16.727	
Tower	Gu	sset	Gusset	Gusset Grade	Adjust. Factor	Adjust.	Weight M	ult. Double	Angle Do	uble Angle	Double Angle
Elevatio	m Ai		hickness	Shoop, Grade	Ag	Factor A _r	21814 114	Stitch Spac Diago	Bolt S	titch Bolt Spacing orizontals	Stitch Bolt Spacing Reduidants
ſŧ	,	\tilde{I}^2	in					Diago		in	in
.1 78.00-43 .2 43.50-0					1	1] [

	Feed	d Lin	e/Line	ar Appı	ırtenan	ces - E	<u>Intere</u>	d As	Roun	d Or F	lat
Description	Face or	Allow Shield	Exclude From	Component Type	Placement	Total Number	Number Per Row	Clear Spacing	Width or Diameter	Perinteter	Weight
	Leg	Smort	Torque Calculation	25/20	ſı	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		in	in	bt	plf

Feed Line/Linear Appurtenances - Entered As Area									
Description	Face or	Allow Shield	Exclude From	Component Type	Placement	Total Number		C_AA_A	Weight
	Leg		Torque Calculation	-21-	ſì			ʃ1³/ʃ1	plf
Safety Line 3/8 (Unknown-Existing)	A	No	No	CaAa (Out Of Face)	78.00 - 8.00	1	No Ice 1/2" Ice 1" Ice	0.04 0.14 0.24	0.22 0.75 1,28
*** #8 AWG DC Trunk (AT&T-Existing)	С	No	No	Inside Pole	78.00 - 0.00	4	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.51 0.51 0.51
Fiber Trunk (12-pair)	С	No	No	Inside Pole	78.00 - 0.00	1	No Ice 1/2" Ice	0.00 0.00 0.00	0.08

Job Page *tnxTower* 3 of 14 1793 Mack Plaza Project Date B&V Ltd. Of Michigan 129391 (1793ATTMI-S) 16:53:05 03/16/20 3550 Green Court Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136 Client Designed by T&TA Khushal Patel

Description	Face or	Allow Shield	Exclude From	Component Type	Placement	Total Number		C_AA_A	Weight
	Leg	J	Torque Calculation	.,,,,	fi			ſt²/ſt	plf
(AT&T-Existing)							l" Ice	0.00	0.08
Fiber Trunk	С	No	No	Inside Pole	78.00 - 0.00	I	No Ice	0.00	80.0
(18-pair)							1/2" Ice	0,00	0.08
(AT&T-Existing)							l" Ice	0,00	0.08
#6 AWG DC Trunk	С	No	No	Inside Pole	78.00 - 0.00	1	No Ice	0.00	0.51
(AT&T-Proposed)							1/2" Ice	0,00	0.51
***							I" Ice	0.00	0.51
AVA5-50(7/8)	C	No	No	Inside Pole	72.00 - 0.00	2	No Ice	0.00	0.30
(Unknown-Existing)							1/2" Ice	0.00	0.30
(l" Ice	0.00	0,30

AVA5-50(7/8)	С	No	No	Inside Pole	60.00 - 0.00	1	No Ice	0.00	0.30
(Unknown-Existing)							1/2" Ice	0.00	0.30
,							l" Ice	0.00	0.30

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation	Face	A_R	A_F	C _A A _A In Face	C _A A _A Out Face	Weight
	ft		fì²	ft²	fî²	ft²	K
LI	78.00-43.50	A	0.000	0.000	0.000	1.294	0.01
		В	0.000	0.000	0.000	0.000	0.00
		С	0.000	0,000	0.000	0.000	0.12
L2	43.50-0.00	A	0.000	0.000	0.000	1.331	0.01
		В	0.000	0.000	0.000	0.000	0.00
		С	0.000	0.000	0.000	0.000	0.16

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation	Face or	Ice Thickness	A_R	A_F	C _A A _A In Face	C _A A _A Out Face	Weight
	ft	Leg	in	ft²	fl²	fl²	fî²	K
Ll	78.00-43.50	A	2.124	0.000	0.000	0.000	15.947	0.09
		В		0.000	0.000	0.000	0.000	0.00
		С		0.000	0.000	0.000	0.000	0.12
L2	43,50-0,00	Α	1.909	0.000	0.000	0.000	16.410	0.09
		В		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.16

Feed Line Center of Pressure

Section	Elevation	CP_X	$CP_{\mathbf{z}}$	CP _X Ice	CP _Z lce
	ſı	in	in	<u>lu</u>	in

tnxTower	Job	1793	Mack Plaza	Page 4 of 14
B&V Ltd. Of Michigan 3550 Green Court	Project	129391	(1793ATTMI-S)	Date 16:53:05 03/16/20
Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136	Cilent		AT&T	Designed by Khushal Patel

Section	Elevation	CP_X	CPz	CP _X Ice	CP _z Ice
	fi	in	in	in	in
Li	78.00-43.50	0.0000	-0.3281	0.0000	-1.4990
L2	43.50-0.00	0.0000	-0.2642	0.0000	-1.3410

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower	Feed Line	Description	Feed Line	Ka	Ka
Section	Record No.		Segment Elev.	No Ice	Ice

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement		C _A A _A Front	C _A A _A Side	Weight
			fi fi fi	o	ft		fl²	fî²	K
14" x 2' Top Hat (Unknown-Existing)	С	None		0.0000	78.00	No Ice 1/2" Ice 1" Ice	1.17 1.82 2.02	1.17 1.82 2.02	0.11 0.13 0.16
Site Pro 1 F3P-12 12' Fortress Platform (AT&T-Existing)	С	None		0.0000	80,00	No Ice 1/2" Ice 1" Ice	21.67 26.34 33.27	20.93 25.94 31.74	1.72 2.09 2.61
Miscellaneous [NA 507-1] (AT&T-Existing)	С	None		0.0000	80,00	No Ice 1/2" Ice 1" Ice	4.56 6.39 8.18	4.56 6.39 8.18	0.25 0.31 0.40
2'x2" Mount Pipe (AT&T-Existing)	A	From Face	0.50 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	0.34 0.47 0.61	0.34 0.47 0.61	0.01 0.01 0.02
2'x2" Mount Pipe (AT&T-Existing)	В	From Face	0.50 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	0.34 0.47 0.61	0.34 0.47 0.61	0.01 0.01 0.02

EPBQ-654L8H8-L2_TIA w/ Mount Pipe (AT&T-Existing)	A	From Face	3.00 -6,00 3,00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	18.33 19.06 19.81	9.17 10.68 12.22	0.12 0.24 0.36
EPBQ-654L8H8-L2_TIA w/ Mount Pipe	В	From Face	3,00 -6.00 3,00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	18.33 19.06 19.81	9.17 10.68 12.22	0.12 0.24 0.36
(AT&T-Existing) EPBQ-654L8H8-L2_TIA w/ Mount Pipe	С	From Face	3.00 -6.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	18.33 19.06 19.81	9.17 10.68 12.22	0.12 0.24 0.36
(AT&T-Existing) 7772.00 w/ Mount Pipe (AT&T-Existing)	A	From Face	3.00 3.00 -2.00 3.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	8.85 9.47 10.04	6.54 7.83 8.91	0.07 0.14 0.22
7772.00 w/ Mount Pipe (AT&T-Existing)	В	Front Face	3.00 -2.00 3.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	8.85 9.47 10.04	6.54 7.83 8,91	0.07 0.14 0.22
7772.00 w/ Mount Pipe	С	From Face	3.00	0.0000	80.00	No Ice	8.85	6.54	0.07

Page Job tnxTower 5 of 14 1793 Mack Plaza Project Date B&V Ltd. Of Michigan 3550 Green Court 129391 (1793ATTMI-S) 16:53:05 03/16/20 Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136 Client Designed by AT&T Khushal Patel

Description	Face or	Offset Type	Offsets: Horz	Azimuth Adjustment	Placement		C _A A _A Front	C₄A₄ Side	Weight
	Leg		Lateral Vert						
			ft	0	ſì		ft²	ft²	K
			ft ft						
(AT&T-Existing)			-2.00			1/2" Ice	9.47	7.83	0.14
,			3.00			1" Ice	10.04	8.91	0.22
ET-X-UW-70-16-70-18-iR-A	A	From Face	3.00	0.0000	80.00	No Ice	11.10	8.68	0.08
T_TIA w/ Mount Pipe (AT&T-Existing)			2,00 3.00			1/2" Ice 1" Ice	11.79 12.49	10.13 11.55	0.17 0.26
T-X-UW-70-16-70-18-iR-A	В	From Face	3.00	0,0000	80.00	No Ice	11.10	8.68	0.20
T TIA w/ Mount Pipe		1101111100	2.00	0.0000	00.00	1/2" Ice	11.79	10.13	0.17
(AT&T-Existing)			3.00			1" Ice	12.49	11.55	0.26
T-X-UW-70-16-70-18-iR-A	C	From Face	3.00	0.0000	80.00	No Ice	11.10	8.68	0.08
T_TIA w/ Mount Pipe			2.00			1/2" Ice	11.79	10.13	0.17
(AT&T-Existing)		F F	3.00	0.0000	80.00	I" Ice	12.49	11.55	0.26 0.16
NNH4-65C-R6-V3_TIA w/	Α	From Face	3.00 6.00	0.0000	80.00	No Ice 1/2" Ice	17.31 18.04	10.34 11.86	0.18
Mount Pipe (AT&T-Proposed)			3.00			l" Ice	18.78	13.41	0.40
NNH4-65C-R6-V3_TIA w/	В	From Face	3.00	0.0000	80.00	No Ice	17.31	10.34	0.16
Mount Pipe			6.00			1/2" Ice	18.04	11.86	0.28
(AT&T-Proposed)			3.00			1" Ice	18.78	13.41	0.40
NNH4-65C-R6-V3_TIA w/	C	From Face	3.00	0.0000	80.00	No Ice	17.31	10.34	0.16
Mount Pipe			6.00			1/2" Ice	18.04	11.86	0.28
(AT&T-Proposed)		r. r.	3.00	0.0000	80.00	l" Ice	18.78	13.41	0.40
AirScale Dual RRH 4T4R	A	From Face	3.00 0.00	0.0000	80.00	No Ice 1/2" Ice	2.23 2.42	1.39 1.55	0.07 0.09
B5/29 240W AHBCB (AT&T-Proposed)			3.00			1" Ice	2.62	1.72	0.03
AirScale Dual RRH 4T4R	В	From Face	3.00	0.0000	80,00	No Ice	2,23	1.39	0.07
B5/29 240W AHBCB		1101111400	0.00	010000	00,00	1/2" Ice	2.42	1.55	0.09
(AT&T-Proposed)			3.00			l" Ice	2.62	1.72	0.11
AirScale Dual RRH 4T4R	C	From Face	3.00	0.0000	80.00	No Ice	2.23	1.39	0.07
B5/29 240W AHBCB			0.00			1/2" Ice	2.42	1,55	0.09
(AT&T-Proposed)			3.00		20.00	1" Ice	2.62	1.72	0.11
(2) LGP21401	A	From Face	3.00	0.0000	80.00	No Ice 1/2" Ice	1.10 1.24	0,35 0.44	0.01 0.02
(AT&T-Existing)			0.00 3.00			1" Ice	1.38	0.44	0.02
(2) LGP21401	В	From Face	3.00	0.0000	80.00	No Ice	1.10	0.35	0.01
(AT&T-Existing)	Б	110111111100	0.00	0.0000	00.00	1/2" Ice	1.24	0.44	0.02
(Trace Sillering)			3.00			1" Ice	1.38	0.54	0.03
(2) LGP21401	C	From Face	3.00	0.0000	80.00	No Ice	1.10	0.35	0.01
(AT&T-Existing)			0.00			1/2" Ice	1.24	0.44	0.02
			3.00			1" Ice	1.38	0.54	0.03
RRH2X40-07-L	A	From Face	3.00	0.0000	80.00	No Ice	1.82	1.52	0.06
(AT&T-Existing)			0.00 3.00			1/2" Ice 1" Ice	1.99 2.18	1.69 1.86	0,08
RRH2X40-07-L	В	From Face	3.00	0.0000	80.00	No Ice	1.82	1.52	0.16
(AT&T-Existing)	В	110m race	0.00	0.0000	00.00	1/2" Ice	1.99	1.69	0.08
(111201 2330011)			3.00			1" lce	2.18	1.86	0.10
RRH2X40-07-L	С	From Face	3.00	0.0000	80.00	No Ice	1.82	1.52	0.06
(AT&T-Existing)			0.00			1/2" Ice	1.99	1.69	80.0
			3.00			l" Ice	2.18	1.86	0.10
AIRSCALE DUAL RRH	Α	From Face	3.00	0.0000	80.00	No Ice	2.90	1.53	0.09
T4R B25/66 320W AHFIB			0.00			1/2" Ice 1" Ice	3.13 3.37	1.72 1.92	0.11 0.13
(AT&T-Existing) AIRSCALE DUAL RRH	В	From Face	3.00 3.00	0.0000	80.00	No Ice	2.90	1.53	0.13
T4R B25/66 320W AHFIB	D	rion face	0.00	0.0000	80.00	1/2" Ice	3.13	1.72	0.03
(AT&T-Existing)			3.00			l" Ice	3.37	1.92	0.13
AIRSCALE DUAL RRH	С	From Face	3.00	0.0000	80.00	No Ice	2.90	1.53	0.09
T4R B25/66 320W AHFIB			0.00			1/2" Ice	3.13	1.72	0.11
(AT&T-Existing)			3.00			l" Ice	3.37	1.92	0.13
Flexi RRH 4T4R B14 160W	Α	From Face	3.00	0.0000	80.00	No Ice	2.40	1.25	0.05

tnxTower

B&V Ltd. Of Michigan 3550 Green Court Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136

Job			Page
	1793	Mack Plaza	6 of 14
Project			Date
	129391	(1793ATTMI-S)	16:53:05 03/16/20
Client			Designed by
		AT&T	Khushal Patel

Description	Face or Leg	Offset Type	Offsets: Horz Lateral	Azimuth Adjustment	Placement		C _A A _A Front	C _A A _A Side	Weight
	Leg		Vert	0	^		Δ2	n?	ν
	2		fi fi fi		ſì		fì²	fî²	K
FRBI			0.00		***************************************	1/2" Ice	2.61	1.41	0.07
(AT&T-Existing)			3.00			l" Ice	2.81	1.58	0.09
Flexi RRH 4T4R B14 160W	В	From Face	3.00	0.0000	80.00	No Ice	2,40	1.25	0.05
FRBI			0.00			1/2" Ice	2.61	1.41	0.07
(AT&T-Existing)			3.00			I" Ice	2.81	1.58	0.09
Flexi RRH 4T4R B14 I60W	С	From Face	3.00	0.0000	80.00	No Ice	2.40	1.25	0.05
FRBI			0.00			1/2" Ice	2.61	1.41	0.07
(AT&T-Existing)			3.00			I" Ice	18.2	1.58	0.09
RRH4X25-WCS-4R	A	From Face	3.00	0.0000	80.00	No Ice	3.16	2.38	0.07
(AT&T-Existing)			0.00			1/2" Ice	3.40	2.60	01.0
	_		3.00	0.0000		I" Ice	3.65	2.82	0.13
RRH4X25-WCS-4R	В	From Face	3.00	0.0000	80.00	No Ice	3.16	2.38	0.07
(AT&T-Existing)			0.00			1/2" Ice	3.40	2.60	0.10
PRIMAC MOS AR	_	F P	3.00	0.0000	00.00	I" ice	3.65	2.82	0.13
RRH4X25-WCS-4R	С	From Face	3.00	0.0000	80.00	No Ice 1/2" Ice	3.16	2.38	0.07 0.10
(AT&T-Existing)			0.00 3.00			1" Ice	3.40 3.65	2.60 2.82	0.10
DC6-48-60-0-8C	Α	From Face	0.50	0.0000	80.00	No Ice	2.04	2.04	0.13
	А	From Face	0.00	0.0000	80,00	1/2" Ice	2,23	2.23	0.04
(AT&T-Existing)			3.00			1" Ice	2.42	2,42	0.04
DC6-48-60-0-8F	В	From Face	0.50	0.0000	80.00	No Ice	0.92	0.92	0.02
(AT&T-Existing)	ь	Prom race	0.00	0.0000	80.00	1/2" Ice	1.46	1.46	0.02
(Alber-Lasting)			3.00			l" Ice	1.64	1.64	0.06
DC9-48-60-24-8C-EV	С	From Face	3.00	0.0000	80.00	No lce	2.74	4.78	0.03
(AT&T-Proposed)	C	Prom Pacc	0.00	0.0000	80.00	1/2" Ice	2.96	5.06	0.06
(AT&T-Troposed)			3.00			I" Ice	3.20	5.35	0.10
***			5.00				21		***
2' horizontal 2 1/2"x2 1/2"	В	From Face	0.00	0.0000	72.00	No Ice	0.46	0.00	0.00
angle			0.00			I/2" Ice	0.53	0.02	0.01
(Unknown Existing)			0.00			I" Ice	16.0	0.05	0.01
2' horizontal 2 I/2"x2 1/2"	С	From Face	0.00	0.0000	72.00	No Ice	0.46	0.00	0.00
angle			0.00			1/2" Ice	0.53	0.02	10.0
(Unknown Existing)			0.00			1" Ice	16.0	0.05	0.01
3'x2" Mount Pipe	В	From Face	2.00	0.0000	72.00	No Ice	0.58	0.58	0.01
(Unknown Existing)			0.00			1/2" Ice	0.77	0.77	0.02
-			0.00			l" Ice	0.97	0.97	0.02
3'x2" Mount Pipe	С	From Face	2.00	0.0000	72.00	No Ice	0.58	0.58	10.0
(Unknown Existing)			0.00			1/2" Ice	0.77	0.77	0.02
			0.00			l" Ice	0.97	0.97	0.02
1,25" Dia 5' Omni	В	From Face	2.00	0.0000	72.00	No Ice	0.63	0.63	0.01
(Unknown Existing)			0.00			1/2" Ice	1.14	1.14	0.02
			2.50			1" Ice	1.49	1.49	0.02
1.25" Dia 5' Omni	С	From Face	2.00	0.0000	72,00	No Ice	0.63	0.63	0.01
(Unknown Existing)			0.00			1/2" Ice	1.14	1,14	0.02
			2.50			l" Ice	1.49	1.49	0.02
****		W 77	0.00	0.0000	CO 00	M- * :	1.60	4.52	0.04
Side Arm Mount [SO 311-1]	В	From Face	0.00	0.0000	60.00	No Ice	1.67	4.53	0.06
(Unknown Existing)			0.00			1/2" Ice	2.43	6.41	0.10
28 Dia 10 O	p	France France	0.00	0.000	60.00	I" Ice	3.21	8.37	0.15
2" Dia 15' Omni	В	From Face	3.00	0.0000	60.00	No Ice 1/2" Ice	3.00	3.00	0.01
(Unknown Existing)			0.00				4.52	4.52	0.04
***			7.50			1" Ice	6.05	6.05	0.07

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B&V Ltd. Of Michigan 3550 Green Court	Project	129391	(1793ATTMI-S)	Date 16:53:05 03/16/20
Ann Arbor, MI 48105 Phone: (913) 458-6909	Client		AT&T	Designed by Khushal Patel

Load Combinations

Comb.	Description
No.	
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1,2 Dead+1,6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	I.2 Dcad+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1,2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Icc+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Icc+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Icc+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+I.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

tnxTower

B&V Ltd. Of Michigan 3550 Green Court Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136

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Client			Designed by
	AT&T		Khushal Patel

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load	Axial	Major Axis Moment	Minor Axis Moment
				Comb.	K	kip-ft	kip-ft
L1	78 - 43,5	Pole	Max Tension	30	0.00	0.00	0.00
			Max. Compression	26	-20.21	-1.36	-0.39
			Max. Mx	8	-6.22	-282.59	-0.44
			Max, My	14	-6.22	-0.55	-280,73
			Max. Vy	8	8.32	-282.59	-0.44
			Max. Vx	14	8.30	-0.55	-280.73
			Max. Torque	20			0.54
L2	43.5 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.74	-1.46	-0.33
			Max. Mx	8	-10.62	-683.90	-1.86
			Max, My	14	-10.62	-1.97	-681.19
			Max, Vy	8	9.11	-683.90	-1.86
			Max. Vx	14	9.09	-1.97	-681.19
			Max. Torque	5			-0.51

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, 2 K
Pole	Max, Vert	31	26.74	-1.80	-1.05
	Max. H _x	20	10.64	9.08	0.03
	Max, H _z	2	10.64	0.03	9.07
	Max, M _x	2	681.07	0.03	9.07
	Max, M _z	8	683.90	-9.08	-0.03
	Max, Torsion	17	0.47	4.52	-7.84
	Min. Vert	7	7.98	-7.85	4.51
	Min. H _x	8	10,64	-9.08	-0.03
	Min. H.	14	10.64	-0.03	-9.07
	Min. Mx	14	-681.19	-0.03	-9.07
	Min, Mz	20	-683.55	9.08	0.03
	Min. Torsion	5	-0.49	-4.52	7.84

Tower Mast Reaction Summary

Load Combination	Vertical	Shear _x	Shear ₌	Overturning Moment, M_x	Overturning Moment, M _z	Тогдие
	K	K	K	kip-fl	kip-ft	kip-ft
Dead Only	8.87	0.00	0.00	0.04	-0.13	0.00
1,2 Dead+1.6 Wind 0 deg - No	10.64	-0.03	-9.07	-681.07	1.64	0.41
Ice						
0.9 Dead+1.6 Wind 0 deg - No	7.98	-0.03	-9.07	-669.59	1.66	0.41
Ice						
1.2 Dead+1.6 Wind 30 deg - No	10.64	4.52	-7.84	-588.92	-340.48	0.49
Ice						
0.9 Dead+1.6 Wind 30 deg - No	7.98	4.52	-7.84	-578.99	-334.68	0.49
Ice						
1.2 Dead+1.6 Wind 60 deg - No	10.64	7.85	-4.51	-338.94	-591.40	0.44
Ice						
0.9 Dead+1.6 Wind 60 deg - No	7.98	7.85	-4 .51	-333.23	-581.37	0.44

tnxTower

B&V Ltd. Of Michigan 3550 Green Court Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136

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Project	420204	(4702ATTMLC)	Date
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Client		AT&T	Designed by Khushal Patel

Re	ne.
1.2 Dead+1.6 Wind 90 deg - No lee 1.2 Dead+1.6 Wind 90 deg - No row 9.08 1.2 Dead+1.6 Wind 90 deg - No row 9.08 1.2 Dead+1.6 Wind 120 deg - row 9.08 1.2 Dead+1.6 Wind 150 deg - row 9.08 1.2 Dead+1.6 Wind 180 deg - row 9.08 1.2 Dead+1.6 Wind 210 deg - row 9.08 1.2 Dead+1.6 Wind 240 deg - row 9.08 1.2 Dead+1.6 Wind 240 deg - row 9.08 1.2 Dead+1.6 Wind 270 deg - row 9.08 1.2 Dead+1.6 Wind 300 deg - row 9.08 1.2 Dead+1.0 Wind 00 deg+1.0 1.2 Dead+1.0 Wind 00 deg+1.0 1.2 Dead+1.0 Wind 00 deg+1	<u>fi</u>
0.9 Dend+1.6 Wind 90 deg - No lee	0.26
1.2 Dead+1.6 Wind 120 deg - 10.64	0.26
0.9 Dead+1.6 Wind 120 deg - 7.98 7.88 4.56 336.39 -583.14 No lee	0.02
1.2 Dead+1.6 Wind 150 deg - 10.64	0.02
0.9 Dead+1.6 Wind 150 deg - 7.98	-0.22
No Ice 0.9 Dead+1.6 Wind 180 deg - 7.98	-0.22
No Ice 1.2 Dead+1.6 Wind 210 deg - N.98	-0.39
No Ice 0.9 Dead+1.6 Wind 210 deg - No Ice 1.2 Dead+1.6 Wind 240 deg - No Ice 1.2 Dead+1.6 Wind 240 deg - No Ice 0.9 Dead+1.6 Wind 240 deg - No Ice 0.9 Dead+1.6 Wind 270 deg - No Ice 0.9 Dead+1.6 Wind 270 deg - No Ice 0.9 Dead+1.6 Wind 270 deg - No Ice 0.9 Dead+1.6 Wind 300 deg - No Ice 0.9 Dead+1.0 Wind 300 deg - No Ice 1.2 Dead+1.0 Wind 300 deg+1.0 26.74 26.74 26.74 27.77 28.79 28.79 28.79 28.70 28.7	-0,40
No Ice 1.2 Dead+1.6 Wind 240 deg - 10.64 -7.85 4.51 339.04 591.06 No Ice 0.9 Dead+1.6 Wind 240 deg - 7.98 -7.85 4.51 333.30 581.12 No Ice 1.2 Dead+1.6 Wind 270 deg - 10.64 -9.08 -0.03 -1.75 683.55 No Ice 0.9 Dead+1.6 Wind 270 deg - 7.98 -9.08 -0.03 -1.74 672.05 No Ice 1.2 Dead+1.6 Wind 270 deg - 7.98 -9.08 -0.03 -1.74 672.05 No Ice 1.2 Dead+1.6 Wind 300 deg - 10.64 -7.88 -4.56 -342.05 592.85 No Ice 0.9 Dead+1.6 Wind 300 deg - 7.98 -7.88 -4.56 -342.05 592.85 No Ice 0.9 Dead+1.6 Wind 300 deg - 7.98 -7.88 -4.56 -336.30 582.88 No Ice 1.2 Dead+1.6 Wind 330 deg - 10.64 -4.57 -7.87 -590.70 343.26 No Ice 0.9 Dead+1.6 Wind 330 deg - 7.98 -4.57 -7.87 -580.75 337.51 No Ice 1.2 Dead+1.0 Ice+1.0 Temp 26.74 0.00 0.00 0.33 -1.46 1.2 Dead+1.0 Wind 0 deg+1.0 26.74 -0.01 -2.07 -167.66 -0.65 Ice+1.0 Temp 1.2 Dead+1.0 Wind 30 deg+1.0 26.74 1.02 -1.79 -144.74 -84.64 Ice+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 26.74 1.78 -1.03 -82.93 -146.35 Ice+1.0 Temp	-0.47
No Ice 0.9 Dead+1.6 Wind 240 deg - 7.98	-0.47
No Ice 1.2 Dead+1.6 Wind 270 deg - 10.64	-0.42
No Ice 0.9 Dead+1.6 Wind 270 deg - 7.98 -9.08 -0.03 -1.74 672.05 No Ice 1.2 Dead+1.6 Wind 300 deg - 10.64 -7.88 -4.56 -342.05 592.85 No Ice 0.9 Dead+1.6 Wind 300 deg - 7.98 -7.88 -4.56 -336.30 582.88 No Ice 1.2 Dead+1.6 Wind 330 deg - 10.64 -4.57 -7.87 -590.70 343.26 No Ice 0.9 Dead+1.6 Wind 330 deg - 7.98 -4.57 -7.87 -590.70 343.26 No Ice 0.9 Dead+1.6 Wind 330 deg - 7.98 -4.57 -7.87 -580.75 337.51 No Ice 1.2 Dead+1.0 Ice+1.0 Temp 26.74 0.00 0.00 0.33 -1.46 1.2 Dead+1.0 Wind 0 deg+1.0 26.74 -0.01 -2.07 -167.66 -0.65 Ice+1.0 Temp 1.2 Dead+1.0 Wind 30 deg+1.0 26.74 1.02 -1.79 -144.74 -84.64 Ice+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 26.74 1.78 -1.03 -82.93 -146.35 Ice+1.0 Temp	-0.42
No Ice 1.2 Dead+1.6 Wind 300 deg - 10.64 -7.88 -4.56 -342.05 592.85 No Ice 0.9 Dead+1.6 Wind 300 deg - 7.98 -7.88 -4.56 -336.30 582.88 No Ice 1.2 Dead+1.6 Wind 330 deg - 10.64 -4.57 -7.87 -590.70 343.26 No Ice 0.9 Dead+1.6 Wind 330 deg - 7.98 -4.57 -7.87 -580.75 337.51 No Ice 1.2 Dead+1.0 Ice+1.0 Temp 26.74 0.00 0.00 0.33 -1.46 1.2 Dead+1.0 Wind 0 deg+1.0 26.74 -0.01 -2.07 -167.66 -0.65 Ice+1.0 Temp 1.2 Dead+1.0 Wind 30 deg+1.0 26.74 1.02 -1.79 -144.74 -84.64 Ice+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 26.74 1.78 -1.03 -82.93 -146.35 Ice+1.0 Temp	-0.27
No Ice 0.9 Dead+1.6 Wind 300 deg - 7.98 -7.88 -4.56 -336.30 582.88 No Ice 1.2 Dead+1.6 Wind 330 deg - 10.64 -4.57 -7.87 -590.70 343.26 No Ice 0.9 Dead+1.6 Wind 330 deg - 7.98 -4.57 -7.87 -580.75 337.51 No Ice 1.2 Dead+1.0 Ice+1.0 Temp 26.74 0.00 0.00 0.33 -1.46 1.2 Dead+1.0 Wind 0 deg+1.0 26.74 -0.01 -2.07 -167.66 -0.65 Ice+1.0 Temp 1.2 Dead+1.0 Wind 30 deg+1.0 26.74 1.02 -1.79 -144.74 -84.64 Ice+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 26.74 1.78 -1.03 -82.93 -146.35 Ice+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 26.74 1.78 -1.03 -82.93 -146.35 Ice+1.0 Temp	-0.27
No Ice 1,2 Dead+1.6 Wind 330 deg - 10.64 -4.57 -7.87 -590.70 343.26 No Ice 0,9 Dead+1.6 Wind 330 deg - 7.98 -4.57 -7.87 -580.75 337.51 No Ice 1,2 Dead+1.0 Ice+1.0 Temp 26.74 0.00 0.00 0.33 -1.46 1,2 Dead+1.0 Wind 0 deg+1.0 26.74 -0.01 -2.07 -167.66 -0.65 Ice+1.0 Temp 1,2 Dead+1.0 Wind 30 deg+1.0 26.74 1.02 -1.79 -144.74 -84.64 Ice+1.0 Temp 1,2 Dead+1.0 Wind 60 deg+1.0 26.74 1.78 -1.03 -82.93 -146.35 Ice+1.0 Temp	-0.04
No Ice 0.9 Dead+1.6 Wind 330 deg - 7.98 -4.57 -7.87 -580.75 337.51 No Ice 1.2 Dead+1.0 Ice+1.0 Temp 26.74 0.00 0.00 0.33 -1.46 1.2 Dead+1.0 Wind 0 deg+1.0 26.74 -0.01 -2.07 -167.66 -0.65 Ice+1.0 Temp 1.2 Dead+1.0 Wind 30 deg+1.0 26.74 1.02 -1.79 -144.74 -84.64 Ice+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 26.74 1.78 -1.03 -82.93 -146.35 Ice+1.0 Temp	-0.04
No Ice 1.2 Dead+1.0 Ice+1.0 Temp 26.74 0.00 0.00 0.33 -1.46 1.2 Dead+1.0 Wind 0 deg+1.0 1.2 Dead+1.0 Wind 30 deg+1.0 1.2 Dead+1.0 Wind 30 deg+1.0 1.2 Dead+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 1.2 Dead+1.0 Temp 1.2 Dead+1.0 Temp 1.2 Dead+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 1.78 -1.03 -82.93 -146.35 1ce+1.0 Temp	0.21
1.2 Dead+1.0 Wind 0 deg+1.0 26.74 -0.01 -2.07 -167.66 -0.65 Ice+1.0 Temp 1.2 Dead+1.0 Wind 30 deg+1.0 26.74 1.02 -1.79 -144.74 -84.64 Ice+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 26.74 1.78 -1.03 -82.93 -146.35 Ice+1.0 Temp	0.21
Ice+1.0 Temp 1.2 Dead+1.0 Wind 30 deg+1.0 26.74 1.02 -1.79 -144.74 -84.64 Ice+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 26.74 1.78 -1.03 -82.93 -146.35 Ice+1.0 Temp	0.00
Ice+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 26.74 1.78 -1.03 -82.93 -146.35 Ice+1.0 Temp	0.16
Ice+1.0 Temp	0.11
1.2 Dead+1.0 Wind 90 deg+1.0 20.74 2.07 0.01 1.18 -109.24	-0.05
Ice+1.0 Temp 1.2 Dead+1.0 Wind 120 26.74 1.80 1.05 85.07 -147.19	-0.13
deg+1.0 Ice+1.0 Temp	
1.2 Dead+1.0 Wind 150 26.74 1.04 1.80 146.25 -86.10 deg+1.0 Ice+1.0 Temp 1.2 Dead+1.0 Wind 180 26.74 0.01 2.07 168.34 -2.34	-0.17 -0.16
1.2 Dead+1.0 Wind 180 26.74 0.01 2.07 108.34 -2.34 deg+1.0 Ice+1.0 Temp 1.2 Dead+1.0 Wind 210 26.74 -1.02 1.79 145.41 81.65	-0.11
1.2 Dead+1.0 Vind 210 26.74 -1.02 1.79 143.41 81.03 deg+1.0 Temp 1.2 Dead+1.0 Wind 240 26.74 -1.78 1.03 83.61 143.36	-0.03
1.2 Dead+1.0 Vind 270 26.74 -2.07 -0.01 -0.51 166.26	0.05
1.2 Dead+1.0 Vinio 270 1.2 Dead+1.0 Winio 300 26.74 -1.80 -1.05 -84.39 144.20	0.13
deg+1.0 Ice+1.0 Temp 1.2 Dead+1.0 Wind 330 26.74 -1.04 -1.80 -145.58 83.11	0.17

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B&V Ltd. Of Michigan 3550 Green Court	Project	129391	(1793ATTMI-S)	Date 16:53:05 03/16/20
Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136	Client		AT&T	Designed by Khushal Patel

Load Combination	Vertical	Shear _x	Shear <u>.</u>	Overturning Moment, M _r	Overturning Moment, Mz	Torque
	K	K	K	kip-ft	kip-fl	kip-fi
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	8.87	-0.01	-2.30	-171.76	0.31	0.10
Dead+Wind 30 deg - Service	8.87	1.15	-1.99	-148.52	-85.99	0.13
Dead+Wind 60 deg - Service	8.87	2.00	-1.15	-85,46	-149.28	0.11
Dead+Wind 90 deg - Service	8.87	2.31	0.01	0.50	-172.61	0.07
Dead+Wind 120 deg - Service	8.87	2.00	1.16	86,35	-149.74	0.01
Dead+Wind 150 deg - Service	8.87	1,16	2.00	149.07	-86.78	-0.06
Dead+Wind 180 deg - Service	8.87	0.01	2.30	171.86	-0.60	-0.10
Dead+Wind 210 deg - Service	8.87	-1.15	1.99	148.61	85.70	-0.12
Dead+Wind 240 deg - Service	8.87	-2.00	1,15	85,56	148.99	-0.11
Dead+Wind 270 deg - Service	8.87	-2.31	-0.01	-0.41	172,32	-0.07
Dead+Wind 300 deg - Service	8.87	-2.00	-1.16	-86.25	149.45	-0.01
Dead+Wind 330 deg - Service	8.87	-1.16	-2.00	-148.97	86.48	0.05

So	lut	i	0	n	Summary	,

	Sı	ım of Applied Force.	5	2.2. (\$2.00) 100 (2.00) 2.00000 100 (2.00)	Sum of Reaction	S	
Load	PX	PY	PZ	PX	PΥ	PZ	% Error
Comb.	K	K	K	K	K	K	
]	0.00	-8.87	0.00	0.00	8.87	0.00	0.000%
2	-0.03	-10.64	-9.07	0.03	10,64	9.07	0.000%
3	-0.03	-7.98	-9.07	0.03	7.98	9.07	0.000%
4	4.52	-10.64	-7.84	-4.52	10.64	7.84	0.000%
	4.52	-7.98	-7.84	-4.52	7.98	7.84	0.000%
5 6	7.85	-10.64	-4.51	-7.85	10.64	4.51	0.000%
7	7.85	-7.98	-4.51	-7.85	7.98	4.51	0.000%
8	9.08	-10,64	0.03	-9.08	10.64	-0.03	0.000%
9	9.08	-7.98	0.03	-9.08	7.98	-0.03	0.000%
10	7.88	-10,64	4.56	-7.88	10.64	-4.56	0.000%
11	7.88	-7.98	4.56	-7.88	7.98	-4.56	0.000%
12	4.57	-10.64	7.87	-4.57	10.64	-7.87	0.000%
13	4.57	-7.98	7.87	-4.57	7.98	-7.87	0.000%
14	0.03	-10.64	9.07	-0.03	10.64	-9.07	0.000%
15	0.03	-7.98	9.07	-0.03	7.98	-9.07	0.000%
16	-4.52	-10.64	7.84	4.52	10.64	-7.84	0.000%
17	-4.52	-7.98	7.84	4.52	7,98	-7.84	0.000%
18	-7.85	-10.64	4.51	7.85	10.64	-4.51	0.000%
19	-7.85	-7.98	4.51	7.85	7.98	-4.51	0.000%
20	-9.08	-10,64	-0.03	9.08	10.64	0.03	0.000%
21	-9.08	-7.98	-0.03	9.08	7.98	0.03	0.000%
22	-7.88	-10.64	-4.56	7.88	10.64	4.56	0.000%
23	-7.88	-7.98	-4.56	7.88	7.98	4.56	0.000%
24	-4.57	-10.64	-7.87	4.57	10.64	7.87	0.000%
25	-4.57	-7.98	-7.87	4.57	7.98	7.87	0.000%
26	0.00	-26.74	0.00	-0.00	26.74	-0.00	0.000%
27	-0.01	-26.74	-2.07	0.01	26.74	2.07	0.000%
28	1.02	-26.74	-1.79	-1.02	26.74	1.79	0.000%
29	1.78	-26.74	-1.03	-1.78	26.74	1,03	0.000%
30	2.07	-26.74	0.01	-2.07	26.74	-0.01	0.000%
31	1.80	-26.74	1.05	-1.80	26.74	-1.05	0.000%
32	1.04	-26.74	1.80	-1.04	26.74	-1.80	0.000%
33	0.01	-26.74	2.07	-0.01	26.74	-2.07	0.000%
34	-1.02	-26.74	1.79	1.02	26.74	-1.79	0.000%
35	-1.78	-26.74	1.03	1.78	26.74	-1.03	0.000%
36	-2.07	-26.74	-0.01	2.07	26.74	0.01	0.000%
37	-1.80	-26.74	-1.05	1.80	26.74	1.05	0.000%
38	-1.04	-26.74	-1.80	1.04	26.74	1.80	0.000%
39	-0.01	-8.87	-2.30	0.01	8.87	2.30	0.000%

tnxTower	Job	1793	Mack Plaza	Page 11 of 14
B&V Ltd. Of Michigan 3550 Green Court	Project	129391	(1793ATTMI-S)	Date 16:53:05 03/16/20
3550 Green Court Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136	Cilent		AT&T	Designed by Khushal Patel

		n of Applied Force	5		Sum of Reaction	S	
Load	PX	PY	PZ	PX	РY	PZ	% Error
Comb.	K	К	K	K	K	K	
40	1.15	-8.87	-1.99	-1.15	8.87	1.99	0.000%
41	2.00	-8.87	-1.15	-2.00	8,87	1.15	0.000%
42	2.31	-8.87	0.01	-2,31	8.87	-0.01	0.000%
43	2.00	-8.87	1.16	-2.00	8.87	-1.16	0.000%
44	1.16	-8.87	2.00	-1.16	8.87	-2.00	0.000%
45	0.01	-8.87	2.30	-0.01	8.87	-2.30	0.000%
46	-1.15	-8.87	1.99	1.15	8.87	-1.99	0.000%
47	-2,00	-8.87	1,15	2.00	8,87	-1.15	0.000%
48	-2.31	-8,87	-0.01	2.31	8.87	0.01	0.000%
49	-2.00	-8.87	-1.16	2,00	8.87	1.16	0.000%
50	-1.16	-8.87	-2.00	1.16	8.87	2.00	0.000%

Non-Linear Convergence Results

Load	Converged?	Number	Displacement	Force
Combination	_	of Cycles	Tolerance	Tolerance
1	Yes	4	0.00000001	0.0000001
2 3	Yes	5	0.00000001	0.00012542
3	Yes	5	0,00000001	0,00005572
4	Yes	6	0.0000001	0.00036704
5	Yes	6	0.0000001	0.00010247
6	Yes	6	0.00000001	0.00034761
7	Yes	6	0.0000001	0.00009558
8	Yes	5	0.0000001	0.00018624
9	Yes	5	0.00000001	0.00008009
10	Yes	6	0.00000001	0.00036184
11	Yes	6	0.00000001	0.00010019
12	Yes	6	0.00000001	0.00036112
13	Yes	6	0.00000001	0.00010001
14	Yes	5	0.0000001	0.00018440
15	Yes	5	0.00000001	0.00008028
16	Yes	6	0.0000001	0.00034752
17	Yes	6	0.00000001	0.00009558
18	Yes	6	0.0000001	0.00036768
19	Yes	6	0.0000001	0.00010266
20	Yes	5	0.00000001	0.00012847
21	Yes	5	0.0000001	0.00005612
22	Yes	6	0.0000001	0.00035577
23	Yes	6	0.0000001	0.00009820
24	Yes	6	0.0000001	0.00035573
25	Yes	6	0.0000001	0.00009817
26	Yes	4	0.0000001	0.00005727
27	Yes	6	0.0000001	0.00021601
28	Yes	6	0.0000001	0.00048847
29	Yes	6	0.0000001	0.00046562
30	Yes	6	0.0000001	0.00021490
31	Yes	6	0.0000001	0.00048512
32	Yes	6	0.0000001	0.00050499
33	Yes	6	0.00000001	0.00021997
34	Yes	6	0.00000001	0.00044816
35	Yes	6	0.0000001	0.00046960
36	Yes	6	0.0000001	0.00020865
37	Yes	6	0.0000001	0.00046782
38	Yes	6	0.00000001	0.00044951
39	Yes	4	0.00000001	0.00036735
40	Yes	5	0.00000001	0.00014305

tnxTower	Job	1793	Mack Plaza	Page 12 of 14
B&V Ltd. Of Michigan 3550 Green Court	Project	129391	(1793ATTMI-S)	Date 16:53:05 03/16/20
Ann Arbor, Ml 48105 Phone: (913) 458-6909 FAX: (913) 458-8136	Client		AT&T	Designed by Khushal Patel

41	Yes	5	0.0000001	0.00012556
42	Yes	4	0.0000001	0.00038280
43	Yes	5	0.0000001	0.00013829
44	Yes	5	0.0000001	0.00013765
45	Yes	4	0.0000001	0.00037778
46	Yes	5	0.0000001	0.00012501
47	Yes	5	0.0000001	0.00014324
48	Yes	4	0.00000001	0.00037166
49	Yes	5	0.0000001	0.00013191
50	Yes	5	0.0000001	0.00013176

Maximum Tower Deflections - Service Wind

Section No.	Elevation	Horz. Deflection	Gov. Load	Tilı	Twist
110.	ſì	in	Comb.	٥	0
Ll	78 - 43.5	19.540	43	2.3451	0.0061
L2	46 - 0	6.615	43	1,3722	0,0020

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load	Deflection	Tilı	Twist	Radius of Curvature
ft		Comb.	in	0	0	fi
80.00	Site Pro 1 F3P-12 12' Fortress Platform	43	19.540	2.3451	0.0061	7691
78.00	14" x 2' Top Hat	43	19.540	2.3451	0.0061	7691
72.00	2' horizontal 2 1/2"x2 1/2" angle	43	16.808	2.1620	0.0052	6409
60.00	Side Arm Mount [SO 311-1]	43	11.613	1.7964	0.0034	2135

Maximum Tower Deflections - Design Wind

Section	Elevation	Horz.	Gov.	Tilt	Twist
No.		Deflection	Load		
	ft	ln –	Comb.	٥	۰
LI	78 - 43.5	77.272	8	9.2934	0.0237
L2	46 - 0	26.198	10	5.4419	0.0077

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load	Deflection	Tili	Twist	Radius of Curvature
ſì		Comb.	ln	0	0	ſi
80.00	Site Pro 1 F3P-12 12' Fortress Platform	8	77.272	9.2934	0.0237	2009
78.00	14" x 2' Top Hat	8	77.272	9,2934	0.0237	2009
72.00	2' horizontal 2 1/2"x2 1/2" angle	8	66.474	8.5678	0.0201	1674

Page Job tnxTower 13 of 14 1793 Mack Plaza Project B&V Ltd. Of Michigan 3550 Green Court 129391 (1793ATTMI-S) 16:53:05 03/16/20 Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136 Client Designed by AT&T Khushal Patel

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
fi		Comb.	in	0	0	fi
60.00	Side Arm Mount [SO 311-1]	8	45.944	7.1211	0.0133	555

Compression Checks

Pole Design Data								
Elevation	Size	L	L_{u}	Kl/r	Α	P_u	ϕP_n	Ratio P _u
ft		fi	ft		in²	K	К	φ <i>P_n</i>
78 - 43.5 (I)	TP19.589x14x0.1875	34,50	0.00	0.0	11.3053	-6.22	775.32	0.008
43.5 - 0 (2)	TP26.26x18.809x0.25	46.00	0.00	0.0	20.6389	-10.62	1414.53	0.008
	ft 78 - 43.5 (1)	ft 78 - 43.5 (1) TP19,589x14x0.1875	Elevation Size L ft ft ft 78 - 43.5 (1) TP19.589x14x0.1875 34.50	Elevation Size L L _u ft ft ft ft 78 - 43.5 (1) TP19.589x14x0.1875 34.50 0.00	Elevation Size L L _{II} Kl/r ft ft ft ft 78 - 43.5 (1) TP19.589x14x0.1875 34.50 0.00 0.0	Elevation Size L L _u Kl/r A ft ft ft in² 78 - 43.5 (1) TP19.589x14x0.1875 34.50 0.00 0.0 11.3053	Elevation Size L L _u Kl/r A P _u ft ft ft in² K 78 - 43.5 (1) TP19.589x14x0.1875 34.50 0.00 0.0 11.3053 -6.22	Elevation Size L L_u Kl/r A P_u ϕP_n ft ft ft im² K K 78 - 43.5 (1) TP19.589x14x0.1875 34.50 0.00 0.0 11.3053 -6.22 775.32

	Pole Bending Design Data							
Section	Elevation	Size	M _{ux}	ϕM_{nv}	Ratio	M_{vv}	ф <i>М</i> _{ту}	Ratio
No.	ft		kìp-ft	kip-ft	$\frac{M_{nx}}{\phi M_{nx}}$	kip-fl	kip-fi	$\frac{M_{i\eta}}{\phi M_{in}}$
Ll	78 - 43.5 (1)	TP19.589x14x0.1875	282.59	302.26	0.935	0.00	302,26	0.000
L2	43.5 - 0 (2)	TP26.26x18.809x0.25	684.81	755.25	0.907	0.00	755.25	0.000

Pole Shear Design Data								
Section No.	Elevation	Size	Actual V _"	ϕV_n	Ratio V _u	Actual T _u	ϕT_n	Ratio T _"
-,	ſŧ		K	K	$\frac{V_u}{\phi V_u}$	kip-fl	kip-fl	φ <i>T</i> ,,
Li	78 - 43.5 (1)	TP19.589x14x0.1875	8.32	387.66	0.021	0.30	606.16	0.000
L2	43.5 - 0 (2)	TP26.26x18.809x0.25	9.13	707.27	0.013	0.02	1514.54	0.000

	Pole Interaction Design Data								
Section No.	Elevation	Ratio P _u	Ratio M _{ux}	Ratio M _{uy}	Ratio V _u	Ratio T _u	Comb. Stress	Aliow. Stress	Criteria
	fi	φР"	фМ,п	φ <i>M</i> ₁₀ ,	φ <i>V_n</i>	φ <i>T</i> ,,	Ratio	Ratio	
Ll	78 - 43,5 (1)	0.008	0.935	0.000	0.021	0.000	0.943	1.000	4.8.2
L2	43.5 - 0 (2)	0.008	0.907	0.000	0.013	0.000	0.914	1.000	4.8.2

tnxTower	Job	1793	Mack Plaza	Page 14 of 14
B&V Ltd. Of Michigan 3550 Green Court	Project	129391	(1793ATTMI-S)	Date 16:53:05 03/16/20
Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136	Client		AT&T	Designed by Khushal Patel

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	øP _{ollow} K	% Capacity	Pass Fail
LI	78 - 43.5	Pole	TP19.589x14x0.1875	1	-6.22	775.32	94.3	Pass
L2	43.5 - 0	Pole	TP26.26x18.809x0.25	2	-10.62	1414.53	91.4	Pass
							Summary	
						Pole (L1)	94.3	Pass
						RATING =		Pass

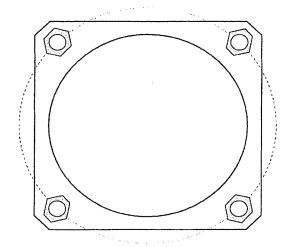
Program Version 8.0.5.0 - 11/28/2018 File:Y:/TELECOM/2020/Engineering/Projects/AT&T SA/1793/1793ATTMI-S (129391)/Structural/1793ATTMI-S Structural Analysis.eri

Monopole Base Plate Connection

Site Info	
Project #	129391
Site Name	Mack Plaza
WO #	1793ATTMI-S

Analysis Considerations	
TIA-222 Revision	G
Grout Considered:	No
l _{ar} (in)	0
Eta Factor, η	0.5

Applied Loads	segesilik i egistek
Moment (kip-ft)	684.81
Axial Force (kips)	10.62
Shear Force (kips)	9.13



Connection Properties	A	nalysis Results	
Anchor Rod Data	Anchor Rod Summary		(units of kips, kip-in)
(4) 2-1/4" ø bolts (A615-75 N; Fy=75 ksl, Fu=100 ksl) on 34" BC	Pu_c = 243.92	φPn_t = 260	Stress Rating
	Vu = 2.28	φVn = n/a	95.6%
Base Plate Data	, Mu = n/a	φMn = n/a	Pass
30" OD x 2.75" Plate (A572-50; Fy=50 ksl, Fu=65 ksl,			
	Base Plate Summary		
Stiffener Data	Max Stress (ksl):	30.88	(Flexural)
N/A	Allowable Stress (ksi):	45	
	Stress Rating:	68.6%	Pass
Pole Data			
26.26" x 0.25" 18-sided pole (A607-60; Fy=60 ksi, Fu=75 ksi)			

CCIplate - version 3.6.1 Analysis Date: 3/16/2020

Drilled Pier Foundation

Project # : 129391 Site Name: Mack Plaza WO# : 1793ATTMI-S

TIA-222 Revison: G
Tower Type: Monopole

Applied	Loads	
	Comp.	Uplift
Moment (kip-ft)	684.81	
Axial Force (kips)	10.62	
Shear Force (kips)	9.13	

Material F	roperties
Concrete Strength, fc:	3.5 ksi
Rebar Strength, Fy:	60 ksi

Pier Desig	n Data
Depth	24.5 ft
Ext. Above Grade	0.5 ft
Pier Sec	tion 1
From 0.5' above grade t	o 24.5' below grade
Pier Diameter	5 ft
Rebar Quantity	24
Rebar Size	10
Clear Cover to Ties	4 in
Tie Size	4

Analysi	s Results	
Soil Lateral Capacity	Compression	Uplift
D _{v=0} (ft from TOC)	5.45	-
Soil Safety Factor	6.90	
Max Moment (kip-ft)	740.84	-
Rating	19.3%	-
Soil Vertical Capacity	Compression	Uplift
Skin Friction (kips)	185.70	-
End Bearing (kips)	117.81	-
Weight of Concrete (kips)	88.36	-
Total Capacity (kips)	303,51	-
Axial (kips)	98.98	-
Rating	32.6%	-
Reinforced Concrete Capacity	Compression	Uplift
Critical Depth (ft from TOC)	5.50	-
Critical Moment (kip-ft)	740.83	-
Critical Moment Capacity	3143.68	-
Rating	23.6%	-
Soil Interaction Rating	32	.6%
Structural Foundation Rating	23	.6%

Check Limitation				
N/	A	11	Ø	
Load Z Normalization	n:			

							Soi	l Profile						
Groundwa	ter Depth	99	ft		į	# of Layers	3							
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	Ysoii (pcf)	Yconcrete (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	L Ultimate Skin	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	4.17	4.17	100	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
. 2	4.17	12.5	8.33	100	150	2	0	1.100	1.100	14亿分的				Cohesive
3	12.5	24.5	12	100	150	30 00 P 10 1	C	0.550	0.550	1000124000000		8		Cohesive



ASCE 7 Hazards Report

Address:

No Address at This Location

Standard:

ASCE/SEI 7-10

Elevation: 584.3 ft (NAVD 88)

Risk Category: II

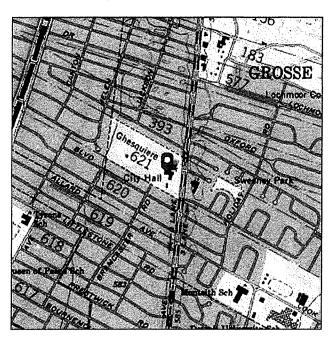
Latitude:

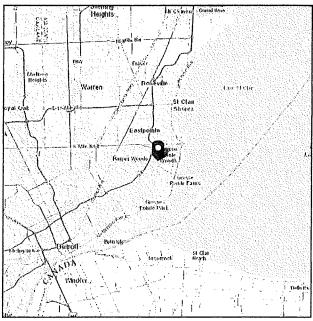
42.431942

Soil Class:

D - Stiff Soil

Longitude: -82.91





Wind

Results:

Wind Speed:

115 Vmph

10-year MRI

76 Vmph

25-year MRI

84 Vmph

50-year MRI

90 Vmph

100-year MRI

96 Vmph

Data Source:

ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1-CC-4, incorporating errata of

March 12, 2014

Date Accessed:

Wed Feb 19 2020

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

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2.

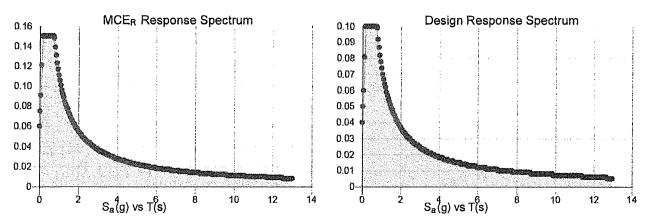
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.



Site Soil Class: Results:	D - Stiff Soil			
Ss:	0.094	S _{DS} :	0.1	
S ₁ :	0.046	S _{D1} :	0.074	
Fa:	1.6	T _L :	12	
F _v :	2.4	PGA:	0.043	
S _{MS} :	0.15	PGA M:	0.07	
S _{M1} :	0.111	F _{PGA} :	1.6	•
		l _e :	1	

Seismic Design Category

В



Data Accessed:

Wed Feb 19 2020

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.



lce

Results:

Ice Thickness:

1.00 in.

Concurrent Temperature:

5 F

Gust Speed:

40 mph

Data Source:

Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed:

Wed Feb 19 2020

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

The ASCE 7 Hazard Tool is provided for your convenience, for Informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.



CITY OF GROSSE POINTE WOODS MEMORANDUM



CITY OF GROSSE POINTE WOODS

Date:

May 7, 2018

To:

Mayor and City Council

From:

Cathrene Behrens, Treasurer/Comptroller /cb

Re:

IBEX Insurance Company - Workers Compensation Excess Coverage

Please find attached a copy of the proposal for the City's Worker's Compensation third party administrative services (York Risk Services) and for our excess workers compensation coverage (Midwest Employers Casualty Co.) provided by Mark Sledzinski of IBEX Insurance Company.

Mr. Sledzinski solicited quotes for the City's excess workers compensation coverage, which is set to expire on June 30, 2020. He reached out to Midwest Employers Casualty Co. (our current carrier) and Safety National Co. who declined to quote based upon the small premium. The following quotes were submitted:

<u>Carrier</u>	Contract	Annual	Specific	Premium
	Term	Premium	Retention	Savings
Midwest Employers	2 Year	\$59,450	\$450,000	\$0
Midwest Employers	2 Year	\$55,455	\$500,000	\$3,995
Midwest Employers	2 Year	\$50,876	\$550,000	\$8,574
Safety National Co.	No Quote			127

The premium of \$59,450 represents a 9% increase over the current premium paid by the City (\$53,378) and I asked why the large increase, Mark advised that the excess premium coverage does have volatility and it is the primary reason that he recommends a two-year contract to "lock-in" the annual premium rate. The difference between the two quotes provided by Midwest Employers Casualty is regarding the specific retention amount that the City would be exposed to. The City currently has a \$450,000 specific retention limit which means that at the time the City has a claim that reaches \$450,000 in expenses our excess policy picks up and begins to pay expenses. Mark advised me no longer offer a specific retention amount of \$500,000 and that the City would be best served by maintaining the current policy terms and a specific retention of \$450,000 so as not to be exposed to the additional \$50,000 or \$100,000 of potential liability. The annual premium the City paid in FY

Based upon Mark's recommendation I would concur that entering into a 2-Year contract with Midwest Employers Casualty Co. would be in the best interests of the City. Specific retention to be maintained at \$450,000 at an annual premium of \$59,450 paid from Fiscal Year 19-20, budget line 632-854-914.000.

Upon receipt of the actual contract from Midwest Employers Casualty Co., it will be forwarded to the City Attorney for review and approval.

Thank you.





Excess Workers Compensation Quotation Sheet

Insurer: Midwest Employers Casualty Company

Policy Effective Date: 07.

07/01/2020

Insured: City of Grosse Pointe Woods

Quote Date:

04/13/2020

Policy #: EWC008739

Quote Expiration Date: 60 Days

			QUOTE OP	TIONS		
POLICY TERMS	0226277	0226867				
Named States	MI	MI				
SPECIFIC:						
Specific Limit	STATUTORY	STATUTORY				
Specific Retention	\$450,000	\$450,000	3 DE			
EMPLOYERS LIABILITY:	1 (2/3/4)					
Employers Liability Limit	\$1,000,000	\$1,000,000				
Employers Liability Retention	See Specific	See Specific		100		
AGGREGATE:				1		
Aggregate Limit	\$5,000,000	\$5,000,000			5.9	
Rate as a % of Normal Premium	442.01%	397.81%	1			
Estimated Aggregate Retention	\$717,767	\$1,291,983				
Minimum Aggregate Retention	\$703,411	\$1,266,144	- 10			
Aggregate Loss Limitation	\$450,000	\$450,000				
RATING BASE:						
Est. Annual Payroll	\$6,836,712	\$6,836,712				
Est. Annual Manual Premium	\$162,387	\$162,387			11	
Length of Policy (Years)	1.000000	2.000000				
Est. Policy Normal Premium	\$162,387	\$324,774				
Rate as a % of Normal Premium	36.61%	36.61%				
PREMIUM:						
Total Est Policy Prd Premium	\$59,450	\$118,900				
(including Flat Charges)						
Policy Minimum Premium	\$53,505	\$107,010			1	
Deposit Premium	\$59,450	\$59,450		1.1		
Deposit Flat Charge(s)	NA	NA				
Total Deposit Due	\$59,450	\$59,450				
Terrorism Risk Ins Act of 2002	\$1,784	\$1,784				
incl in Total Deposit Due above)						
			1			

CONDITIONS / COMMENTS:

^{*} MECC must be notified of any aircraft changes occurring during the policy period.



Endorsement Schedule Quotation

Insurer: Midwest Employers Casualty Company

Policy Effective Date:

07/01/2020

Insured: City of Grosse Pointe Woods

Quote Date:

04/13/2020

Policy #: EWC008739

Quote Expiration Date: 60 Days

Quote Option(s) 226867 Include(s) the following Endorsements:

CMB-187

Two Year Policy Short Rate Table

ISI-285

More Than One Premium Adjustment

The following endorsements apply to all quote options:

CMB-11

Amendment to Schedule Item 11

CMB-199

Policyholder Disclosure Notice of Terrorism Insurance

ISI-254-EXC

Aircraft Exclusion

ISI-MI

Michigan

Page 1 of 1 Date Printed: 04/13/2020





Coverage for acts of terrorism, as defined in the Terrorism Risk Insurance Act as amended, (the "Act"), is included in the quote for your policy.

As defined in Section 102(1) of the Act: The term "act of terrorism" means any act that is certified by the Secretary of the Treasury—in consultation with the Secretary of Homeland Security, and the Attorney General of the United States—to be an act of terrorism; to be a violent act or an act that is dangerous to human life, property, or infrastructure; to have resulted in damage within the United States, or outside the United States in the case of certain air carriers or vessels or the premises of a United States mission; and to have been committed by an individual or individuals as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion. Under your coverage, any losses resulting from certified acts of terrorism may be partially reimbursed by the United States Government under a formula established by the Act.

However, your policy may contain other exclusions which might affect your coverage, such as an exclusion for nuclear events. Under the formula, the United States Government generally reimburses 85% through 2015; 84% beginning on January 1, 2016; 83% beginning on January 1, 2017; 82% beginning on January 1, 2018; 81% beginning on January 1, 2019 and 80% beginning on January 1, 2020 of covered terrorism losses exceeding the statutorily established deductible paid by the insurance company providing the coverage. The Act contains a \$100 billion cap that limits U.S. States Government reimbursement as well as insurers' liability for losses resulting from certified acts of terrorism when the amount of such losses exceeds \$100 billion in any one calendar year. If the aggregate insured losses for all insurers exceed \$100 billion, your coverage may be reduced.

A. The portion of your annual premium that is attributable to coverage for acts of terrorism, as defined in the Act through December 31, 2020 is shown in row (A) below. B. The portion of your annual premium that is attributable to coverage for acts of terrorism, as defined in the Act, for the period beyond December 31, 2020 is estimated in row (B) below, and does not include any charges for the portion of losses covered by the United States Government under the Act. (Refer to the paragraph below) and does not include any charges for the portion of losses covered by the United States government under the Act.

Quote Option	0226277	0226867
Portion (A):	\$899	\$899
Portion (B):	\$884	\$884
Combined	\$1 784	\$1 78 <i>4</i>

Possibility of Additional Premium. The premium for certified acts of terrorism coverage is calculated based in part on the federal participation in payment of terrorism losses as set forth in the Act. The federal program established by the Act is scheduled to terminate at the end of 12/31/20 unless extended by the federal government. If the federal program terminates or if the level or terms of federal participation change, the estimated premium shown in (B) of above may not be appropriate.

When disposition of the federal program is determined, we will recalculate the premium shown in (B) above and will charge additional premium, if indicated.

If we notify you of an additional premium charge, the additional premium will be due as specified in such notice.

Name of Insurer:

Midwest Employers Casualty Company

Name of Insured:

City of Grosse Pointe Woods



Excess Workers Compensation Quotation Sheet

Insurer: Midwest Employers Casualty Company

Policy Effective Date:

07/01/2018

Insured:

City of Grosse Pointe Woods

Quote Date:

03/07/2018

Policy #: EWC008739

Quote Expiration Date: 60 Days

	QUOTE OPTIONS						
POLICY TERMS	0214232	0214270	0214271	0214272			
Named States	MI	МІ	МІ	МІ			
SPECIFIC:							
Specific Llmit	STATUTORY	STATUTORY	STATUTORY	STATUTORY			
Specific Retention	\$450,000	\$500,000	\$450,000	\$500,000			
EMPLOYERS LIABILITY:			17 T				
Employers Liability Limit	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000			
Employers Liability Retention	See Specific	See Specific	See Specific	See Specific			
AGGREGATE:							
Aggregate Limit	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000			
Rate as a % of Normal Premium	343.23%	356.35%	308.91%	320.72%			
Estimated Aggregate Retention	\$688,495	\$714,813	\$1,239,304	\$1,286,684			
Minimum Aggregate Retention	\$674,725	\$700,517	\$1,214,518	\$1,260,950			
Aggregate Loss Limitation	\$450,000	\$500,000	\$450,000	\$500,000			
RATING BASE:							
st. Annuai Payroli	\$6,262,105	\$6,262,105	\$6,262,105	\$6,262,105			
st. Annual Manual Premium	\$200,593	\$200,593	\$200,593	\$200,593			
ength of Policy (Years)	1.000000	1.000000	2.000000	2.000000			
st. Policy Normal Premium	\$200,593	\$200,593	\$401,186	\$401,186			
Rate as a % of Normal Premium	26.61%	24.23%	26.61%	24.23%			
PREMIUM:							
otal Est Policy Prd Premium	\$53,378	\$48,604	\$106,756	\$97,208			
including Flat Charges)							
olicy Minimum Premium	\$48.040	\$43,743	\$96,080	\$87,487			
eposit Premium	\$53,378	\$48,604	\$53,378	\$48,604			
eposit Flat Charge(s)	NA	NA	NA	NA	***		
otal Deposit Due	\$53,378	\$48,604	\$53,378	\$48,604			
errorism Risk Ins Act of 2002	\$1,601	\$1.458	\$1,601	\$1,458			

CONDITIONS / COMMENTS:

* MECC must be notified of any alrcraft changes occurring during the policy period.

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Endorsement Schedule Quotation

Insurer: Midwest Employers Casualty Company Policy Effective Date: 07/01/2018

City of Grosse Pointe Woods Insured:

Policy #: EWC008739

Quote Date:

03/07/2018

Quote Expiration Date: 60 Days

Quote Option(s) 214271, 214272 Include(s) the following Endorsements:

CMB-187

Two Year Policy Short Rate Table

ISI-285

More Than One Premium Adjustment

The following endorsements apply to all quote options:

CMB-11

Amendment to Schedule Item 11

CMB-197

Policyholder Disclosure Notice of Terrorism Insurance

ISI-254-EXC

Aircraft Exclusion

ISI-MI

Michigan

Page 1 of 1 Date Printed: 03/07/2018





Coverage for acts of terrorism, as defined in the Terrorism Risk Insurance Act as amended, (the "Act"), is included in the quote for your policy.

As defined in Section 102(1) of the Act: The term "act of terrorism" means any act that is certified by the Secretary of the Treasury—in consultation with the Secretary of Homeland Security, and the Attorney General of the United States—to be an act of terrorism; to be a violent act or an act that is dangerous to human life, property, or infrastructure; to have resulted in damage within the United States, or outside the United States in the case of certain air carriers or vessels or the premises of a United States mission; and to have been committed by an individual or individuals as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion. Under your coverage, any losses resulting from certified acts of terrorism may be partially reimbursed by the United States Government under a formula established by the Act.

However, your policy may contain other exclusions which might affect your coverage, such as an exclusion for nuclear events. Under the formula, the United States Government generally reimburses 85% through 2015; 84% beginning on January 1, 2016; 83% beginning on January 1, 2017; 82% beginning on January 1, 2018; 81% beginning on January 1, 2019 and 80% beginning on January 1, 2020 of covered terrorism losses exceeding the statutorily established deductible paid by the insurance company providing the coverage. The Act contains a \$100 billion cap that limits United States Government reimbursement as well as insurers' liability for losses resulting from certified acts of terrorism when the amount of such losses exceeds \$100 billion in any one calendar year. If the aggregate insured losses for all insurers exceed \$100 billion, your coverage may be reduced.

The portion of your annual premium that is attributable to coverage for acts of terrorism, as defined in the Act, is shown below and does not include any charges for the portion of losses covered by the United States Government under the Act.

 TRIA Charge
 0214232
 0214270
 0214271
 0214272

 \$1,601
 \$1,458
 \$1,601
 \$1,458

Name of Insurer: Midwest Employers Casualty Company

Name of Insured: City of Grosse Pointe Woods



Excess Workers Compensation Quotation Sheet

Insurer: Midwest Employers Casualty Company

Policy Effective Date: 07/01/2020

Insured: City of Grosse Pointe Woods

Quote Date:

04/23/2020

Policy #: EWC008739

Quote Expiration Date: 60 Days

[QUOTE OPTIONS						
POLICY TERMS	0226868	0226869	0227025	0227026			
Named States							
Named States	МІ	MI	MI	MI			
SPECIFIC:	ļ						
Specific Limit	STATUTORY	STATUTORY	STATUTORY	STATUTORY			
Specific Retention	\$500,000	\$500,000	\$550,000	\$550,000			
EMPLOYERS LIABILITY:							
Employers Liability Limit	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000			
Employers Liability Retention	See Specific	See Specific	See Specific	See Specific			
AGGREGATE:							
Aggregate Limit	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000			
Rate as a % of Normal Premium	458.9%	413.01%	475.8%	428.22%			
Estimated Aggregate Retention	\$745,194	\$1,341,349	\$772,637	\$1,390,747			
Minimum Aggregate Retention	\$730,290	\$1,314,522	\$757,185	\$1,362,932			
Aggregate Loss Limitation	\$500,000	\$500,000	\$550,000	\$550,000			
RATING BASE:							
Est. Annual Payroll	\$6,836,712	\$6,836,712	\$6,836,712	\$6,836,712			
Est. Annual Manual Premium	\$162,387	\$162,387	\$162,387	\$162,387			
ength of Policy (Years)	1.000000	2.000000	1.000000	2.000000			
Est. Policy Normal Premium	\$162,387	\$324,774	\$162,387	\$324,774			
Rate as a % of Normal Premium	34.15%	34.15%	31.33%	31.33%			
PREMIUM:							
Total Est Policy Prd Premlum	\$55,455	\$110,910	\$50,876	\$101,752			
Including Flat Charges)							
Policy Minimum Premium	\$49,910	\$99,819	\$45,788	\$91,577			
Deposit Premium	\$55,455	\$55,455	\$50,876	\$50,876			
eposit Flat Charge(s)	NA	NA	NA	NA			
otal Deposit Due	\$55,455	\$55,455	\$50,876	\$50,876			
Terrorism Risk Ins Act of 2002	\$1,664	\$1,664	\$1,526	\$1,526			
incl in Total Deposit Due above)		Ì		İ			

CONDITIONS / COMMENTS:

^{*} MECC must be notified of any aircraft changes occurring during the policy period.



Endorsement Schedule Quotation

Insurer: Midwest Employers Casualty Company

Policy Effective Date:

07/01/2020

Insured: City of Grosse Pointe Woods

Quote Date:

04/23/2020

Policy #: EWC008739

Quote Expiration Date: 60 Days

Quote Option(s) 226869, 227026 Include(s) the following Endorsements:

CMB-187

Two Year Policy Short Rate Table

ISI-285

More Than One Premium Adjustment

The following endorsements apply to all quote options:

CMB-11

Amendment to Schedule Item 11

CMB-199

Policyholder Disclosure Notice of Terrorism Insurance

ISI-254-EXC

Aircraft Exclusion

ISI-MI

Michigan





Coverage for acts of terrorism, as defined in the Terrorism Risk Insurance Act as amended, (the "Act"), is included in the quote for your policy.

As defined in Section 102(1) of the Act: The term "act of terrorism" means any act that is certified by the Secretary of the Treasury—in consultation with the Secretary of Homeland Security, and the Attorney General of the United States—to be an act of terrorism; to be a violent act or an act that is dangerous to human life, property, or infrastructure; to have resulted in damage within the United States, or outside the United States in the case of certain air carriers or vessels or the premises of a United States mission; and to have been committed by an individual or individuals as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion. Under your coverage, any losses resulting from certified acts of terrorism may be partially reimbursed by the United States Government under a formula established by the Act.

However, your policy may contain other exclusions which might affect your coverage, such as an exclusion for nuclear events. Under the formula, the United States Government generally reimburses 85% through 2015; 84% beginning on January 1, 2016; 83% beginning on January 1, 2017; 82% beginning on January 1, 2018; 81% beginning on January 1, 2019 and 80% beginning on January 1, 2020 of covered terrorism losses exceeding the statutorily established deductible paid by the insurance company providing the coverage. The Act contains a \$100 billion cap that limits U.S. States Government reimbursement as well as insurers' liability for losses resulting from certified acts of terrorism when the amount of such losses exceeds \$100 billion in any one calendar year. If the aggregate insured losses for all insurers exceed \$100 billion, your coverage may be reduced.

A. The portion of your annual premium that is attributable to coverage for acts of terrorism, as defined in the Act through December 31, 2020 is shown in row (A) below. B. The portion of your annual premium that is attributable to coverage for acts of terrorism, as defined in the Act, for the period beyond December 31, 2020 is estimated in row (B) below, and does not include any charges for the portion of losses covered by the United States Government under the Act. (Refer to the paragraph below) and does not include any charges for the portion of losses covered by the United States government under the Act.

Quote Option	0226868	0226869	0227025	0227026	
Portion (A):	\$839	\$839	\$769	\$769	
Portion (B):	\$825	\$825	\$757	\$757	
Combined	\$1,664	\$1,664	\$1 526	\$1 526	

Possibility of Additional Premium. The premium for certified acts of terrorism coverage is calculated based in part on the federal participation in payment of terrorism losses as set forth in the Act. The federal program established by the Act is scheduled to terminate at the end of 12/31/20 unless extended by the federal government. If the federal program terminates or if the level or terms of federal participation change, the estimated premium shown in (B) of above may not be appropriate.

When disposition of the federal program is determined, we will recalculate the premium shown in (B) above and will charge additional premium, if indicated.

If we notify you of an additional premium charge, the additional premium will be due as specified in such notice.

Name of Insurer:

Midwest Employers Casualty Company

Name of Insured:

City of Grosse Pointe Woods