



CITY OF DULUTH

Community Planning Division

411 W 1st St, Rm 208 * Duluth, Minnesota 55802-1197

Phone: 218/730.5580 Fax: 218/723-3559

File Number	PL 18-116, CUP	Contact	Steven Robertson, 218-730-5295	
Type	Concurrent Use Permit to Place Private Obstructions in Public Right of Way/Public Facilities (6 Light Poles)	Planning Commission Date	September 11, 2018	
Deadline for Action	Application Date	August 9, 2018		
	Date Extension Letter Mailed	N/A	90 Days* (237.163)	November 7, 2018
Location of Subject	6 Separate Sites Near UMD			
Applicant	Verizon Wireless	Contact		
Agent	Amy Dresch	Contact		
Legal Description				
Site Visit Date	August 31, 2018	Sign Notice Date	August 27, 2018	
Neighbor Letter Date	N/A for Concurrent Use	Number of Letters Sent	N/A for Concurrent Use	

Proposal. The applicant is proposing to “install six small wireless facilities on existing distribution poles that are owned and operated by Minnesota Power within the dedicated public right of way”. The six proposed locations are located within a one-mile area surrounding the UMD campus. The attachments will include one exterior mounted panel antenna, and two radio units mounted approximately between at least 23 to 37 feet above the ground. The replacement poles will be approximately 35 feet tall.

Recommended Action: Recommend to the City Council to Approve With Conditions.

	Current Zoning	Existing Land Use	Future Land Use Map Designation
Subject	MU-I	Public Right of Way	Institutional
North	R-1/R-C	Residential	Traditional Neighborhood/Preservation
South	R-1	Residential	Traditional Neighborhood
East	R-1/R-2/MU-P	Residential	Traditional Neighborhood/Neigh. Comm.
West	R-1	Residential	Traditional Neighborhood

Summary of Code Requirements

UDC Section 50-37.7.C. The planning commission shall review the application, and council shall approve the application or approve it with modifications, if it determines that:

- 1) The proposed concurrent use will not harm or inconvenience the health, safety and general welfare of the city;
- 2) No portion of a public easement proposed of use is being physically occupied by the public.

Comprehensive Plan Governing Principle and/or Policies and Current History (if applicable):

Principle #4 - Support emerging economic growth sectors. Emerging economic sectors add economic, cultural and social diversity. These include higher education, medical, value-added manufacturing, commercial outdoor recreation, historic resources interpretation, arts and music, information technology and visitor services.

The installation falls with the provisions of Minnesota Statute 237.162 and 247.1643, as amended in 2017.

Future Land Use: Institutional: Applicable to university and college and public school campuses, large religious facilities or governmental campuses, cemeteries, etc. Applies primarily to existing facilities.

Review and Discussion Items

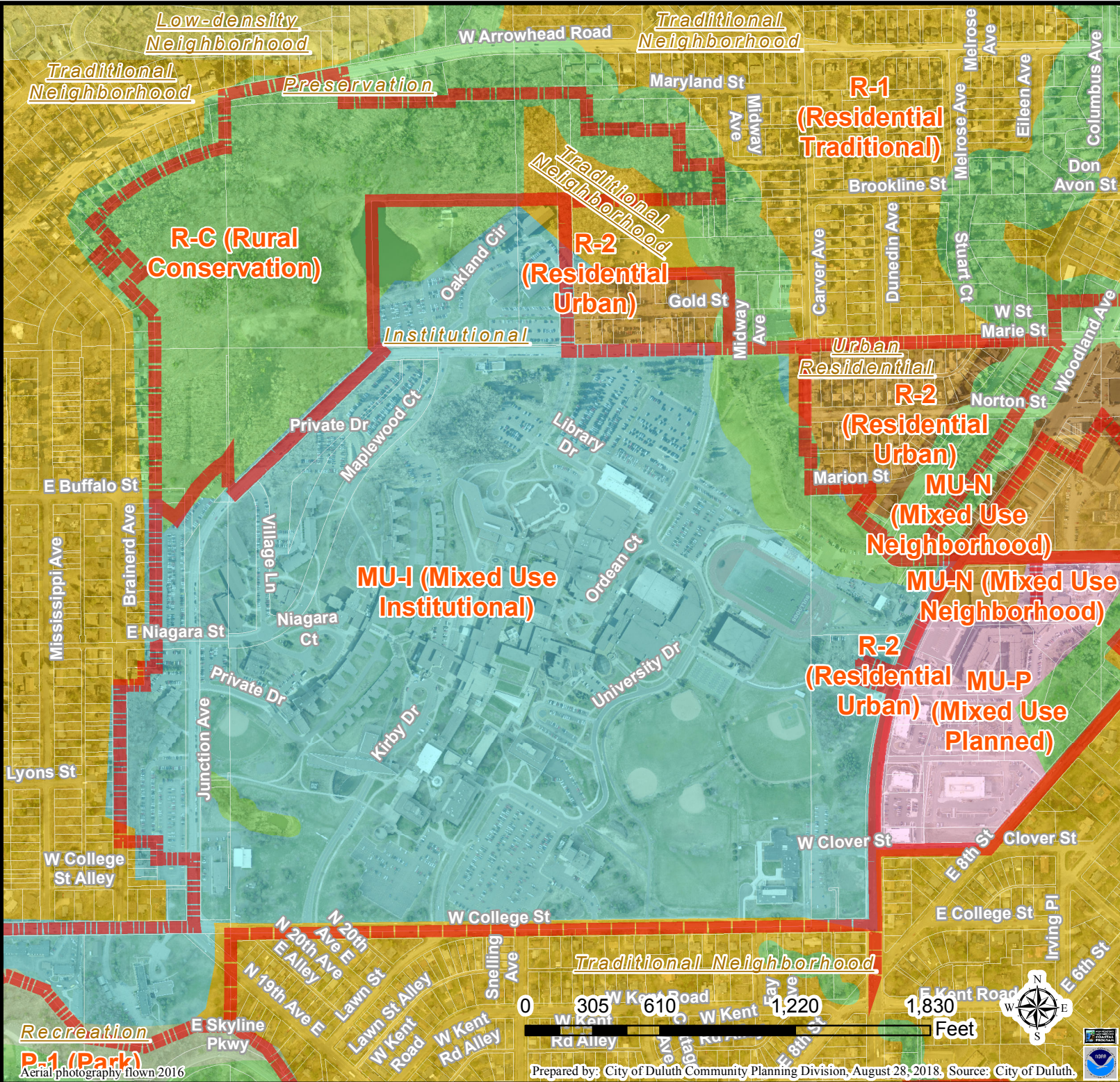
- 1) The applicant is proposing six small wireless facilities on existing Minnesota Power Distribution Poles. The attachments for the small cell facilities will include one exterior mounted panel antenna, and two radio units mounted approximately between at least 23 to 37 feet above the ground. The replacement poles will be approximately 35 feet tall.
- 2) Granting a concurrent use permit would give the applicant the ability to use dedicated public rights-of-way, with conditions, while preserving other existing public uses in the same right-of-way corridors. Concurrent use permits require a public hearing and recommendation by the Planning Commission, and is approved by the City Council via ordinance. Unlike street right-of-way vacations, concurrent use permits are not recorded at the County as they are voidable permits issued by the City to applicants who are private users of public rights-of-way.
- 3) All six of the small wireless facilities will be similar in general configuration. Ownership of the poles will remain with Minnesota Power, with the poles in dedicated public right of way.
- 4) Each of the six sites and replacement wooden poles will have a structure analysis. The new poles will have a structural analysis by the manufacturer to ensure that they can support the weight of the private small cell facilities and required public infrastructure.
- 5) Granting the proposed concurrent use permits will not harm or inconvenience the health, safety and general welfare of the city. The area proposed for the concurrent use permit will not take away from the public's ability to use the public right-of-way. The city will own the poles and continue to use them for utility purposes (lighting).
- 6) The UDC generally requires that new wireless facilities follow a location standard: first they should be collocated on existing towers or other structures on city owned properties first, and then existing towers or other structures on other (private) property, and so forth down the location standard list. As these small wireless facilities would be located on existing infrastructure in public right of way, and as per the recent change in state statute, the city is processing these applications as concurrent use permits and not special use permits, and the UDC's use-specific standards do not apply in this specific situation.
- 7) The city has the ability to regulate land use, however, the Federal Communications Commission preempts local review on the potential environmental effects of radio frequency (RF) emissions, with the presumption that the applicant and service provider is in compliance with the Commission's RF rules. The applicant has submitted FCC categorical exclusion documentation for all six sites.
- 8) At the time that this memo was written, no written comments from the public have been received. City Engineering was still reviewing the exhibits at the time this staff report was written, and will likely have some requests for changes related to some of the technical aspects of the installations in the right of way.

Staff Recommendation:

Based on the above findings, Staff recommends that the Planning Commission recommend approval of the two concurrent use permits subject to the following conditions:

- 1) The project be limited to, constructed, and maintained according to construction drawings submitted and included with this staff report

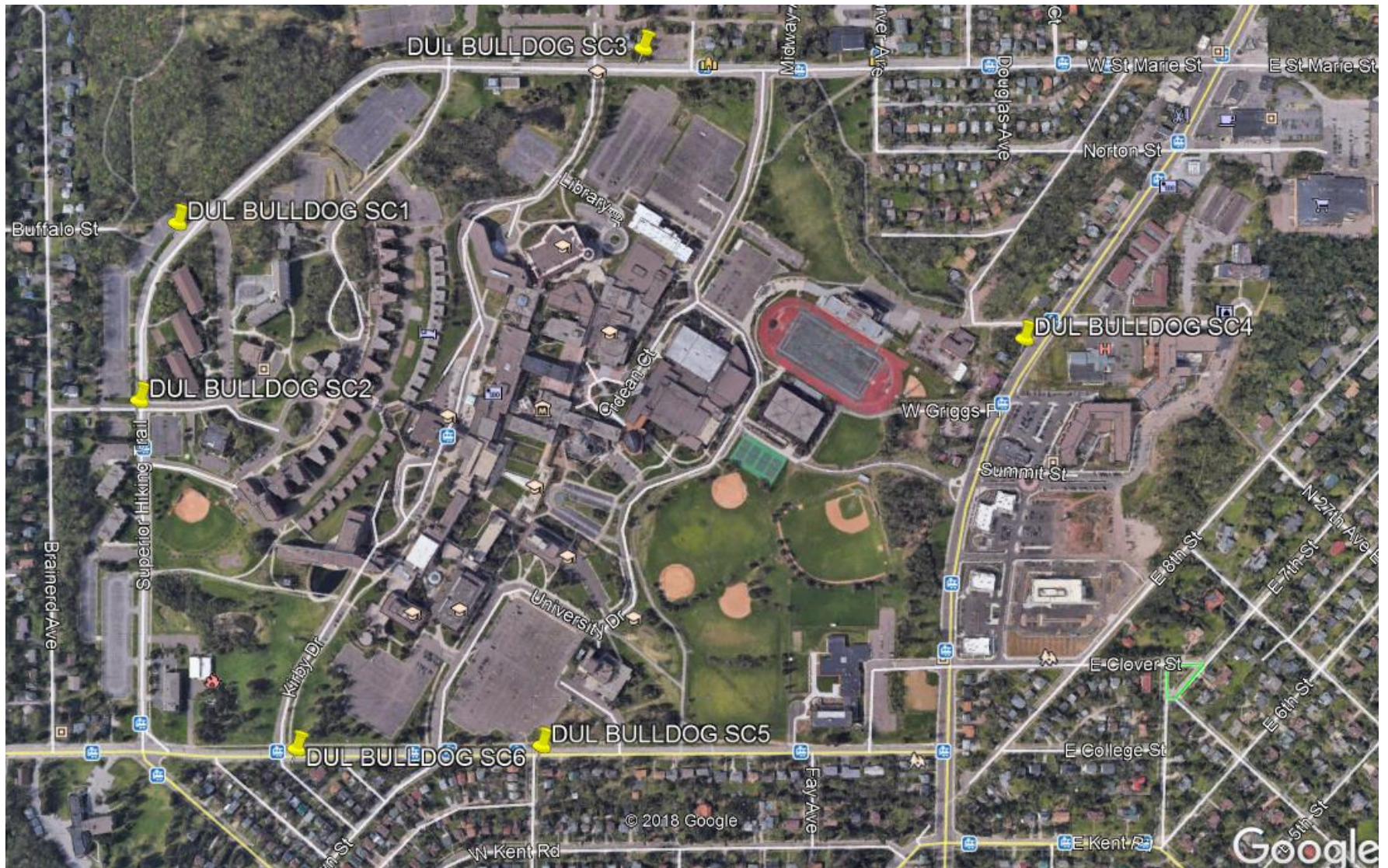
- 2) Applicant, or his or her successors, shall remove the proposed obstructions at applicant's expense if directed to do so by the City with appropriate notice.
- 3) Any alterations to the approved plans that do not alter major elements of the plan may be approved by the Land Use Supervisor without further Planning Commission approval; however, all other changes must be approved by amending the City Council's approved ordinance.



Legend
 Zoning Boundaries

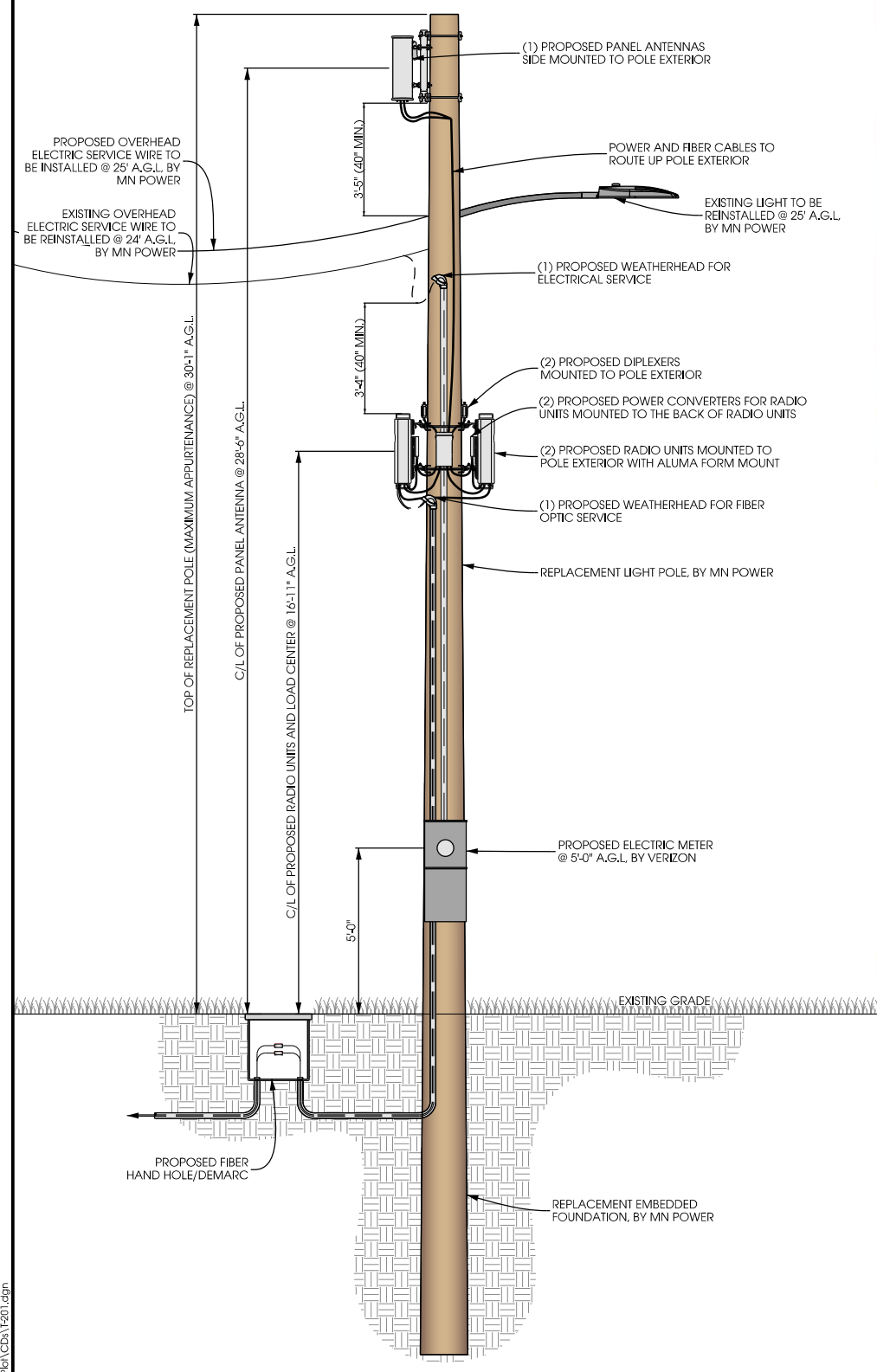
The City of Duluth has tried to ensure that the information contained in this map or electronic document is accurate. The City of Duluth makes no warranty or guarantee concerning the accuracy or reliability. This drawing/data is neither a legally recorded map nor a survey and is not intended to be used as one. The drawing/data is a compilation of records, information and data located in various City, County and State offices and other sources affecting the area shown and is to be used for reference purposes only. The City of Duluth shall not be liable for errors contained within this data provided or for any damages in connection with the use of this information contained within.

DUL BULLDOG SC1 – SC6 PROPOSED VZW SMALL CELL LOCATIONS



EXISTING POLE	
POLE HEIGHT:	25'-1" A.G.L.
MAXIMUM APPUTENANCE HEIGHT:	25'-1" A.G.L.
PROPOSED POLE	
POLE HEIGHT:	30'-1" A.G.L.
ANTENNA TIP HEIGHT:	29'-6" A.G.L.
MAXIMUM APPUTENANCE HEIGHT:	30'-1" A.G.L.

NOTES:
 TYPICAL INSTALLATION SHOWN.
 ALL ELEVATIONS ARE ASSUMED TO BE MEASURED FROM ABOVE GRADE LEVEL.



A POLE ELEVATION
 SCALE: 11" x 17" - 1" = 5'-0"
 22" x 34" - 1" = 2'-6"

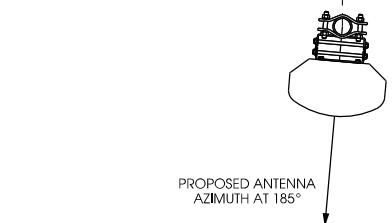


B SITE ELEVATION



TRUE NORTH

NOTES:
 VERIZON TO PROVIDE FINAL RF CONFIGURATION



C ANTENNA ORIENTATION
 SCALE: NTS

ANTENNAS					
QUANTITY	MAKE	MODEL	CENTERLINE	TIP HEIGHT	AZIMUTH
1	JMA	X7CQAP-FRO-260	28'-6" AGL	29'-6" AGL	185°

EQUIPMENT			
QUANTITY	TYPE	MAKE	MODEL
2	RRU	ERICSSON	RRUS32 B66
2	PSU	EMERSON	PSU AC 08
2	DIPLEXER	COMMSCOPE	CBC1923T-4310 E11F13PO6

CABLING			
QUANTITY	TYPE	MAKE	MODEL
16	COAX	COMMSCOPE	LDF4-50

D ANTENNA AND CABLING
 SCALE: NTS



E RF WARNING SIGNS
 SCALE: NTS



PROJECT NO: 20171666352
 LOCATION CODE: 473799
 EDGE PROJECT NO: 16773
 CHECKED BY: OGD

REV.	DATE	DESCRIPTION	INT.
A	04/13/2018	PRELIM SMALL CELL DWGS	MWH
B	04/24/2018	PRELIM SMALL CELL DWGS	MWH

- PRELIMINARY -
 NOT FOR CONSTRUCTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DUL BULLDOG SC 1
 DULUTH, MINNESOTA
 REPLACEMENT LIGHT POLE
 SMALL CELL DRAWINGS

SHEET TITLE
SITE ELEVATION

SHEET NUMBER
T-201



verizon

JACOBS

Jacobs Engineering Group, Inc
2727 Patton Road
Roseville, Minnesota 55113
www.jacobs.com

Edge
Consulting Engineers, Inc.

2101 Highway 13 W
Burnsville, MN 55337
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

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DUL BULLDOG SC1 1
DULUTH, MINNESOTA
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
SITE PLAN

SHEET NUMBER
C-101

POWER AND FIBER ROUTING NOTE:
THE PROPOSED POWER AND FIBER ROUTES ARE PRELIMINARY, AND WILL BE CONFIRMED WITH THE FIBER PROVIDER PRIOR TO CONSTRUCTION. IF THE GENERAL CONTRACTOR NOTICES ANY DISCREPANCIES BETWEEN THESE PLANS AND THE ACTUAL SOURCES OF POWER AND FIBER, THE VERIZON CONSTRUCTION ENGINEER AND PROJECT ENGINEER ARE TO BE NOTIFIED PRIOR TO COMMENCING WORK.



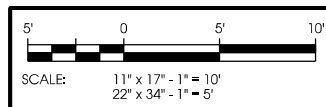
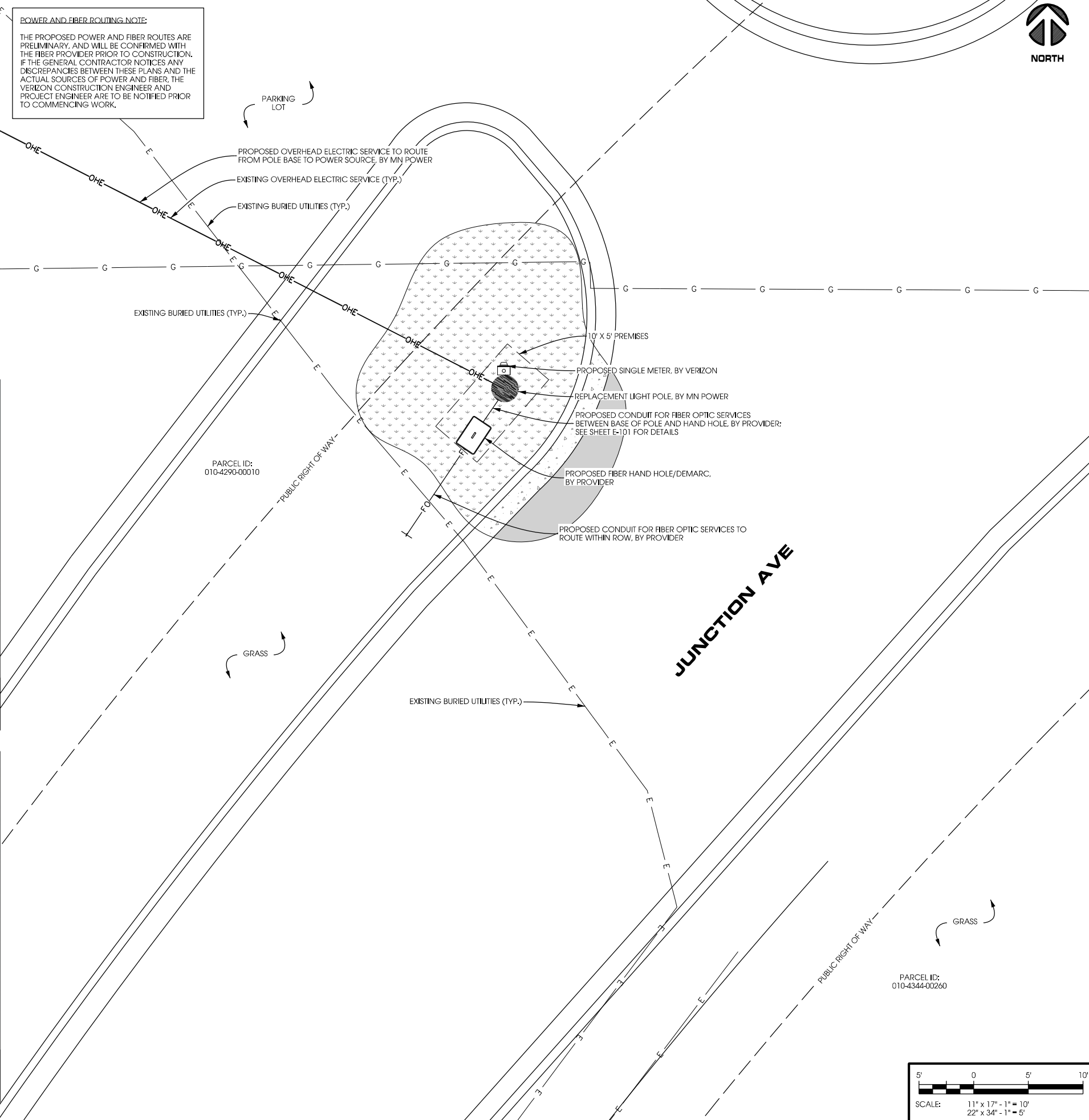
A AERIAL OVERVIEW



B SITE OVERVIEW [LOOKING NORTHEAST]



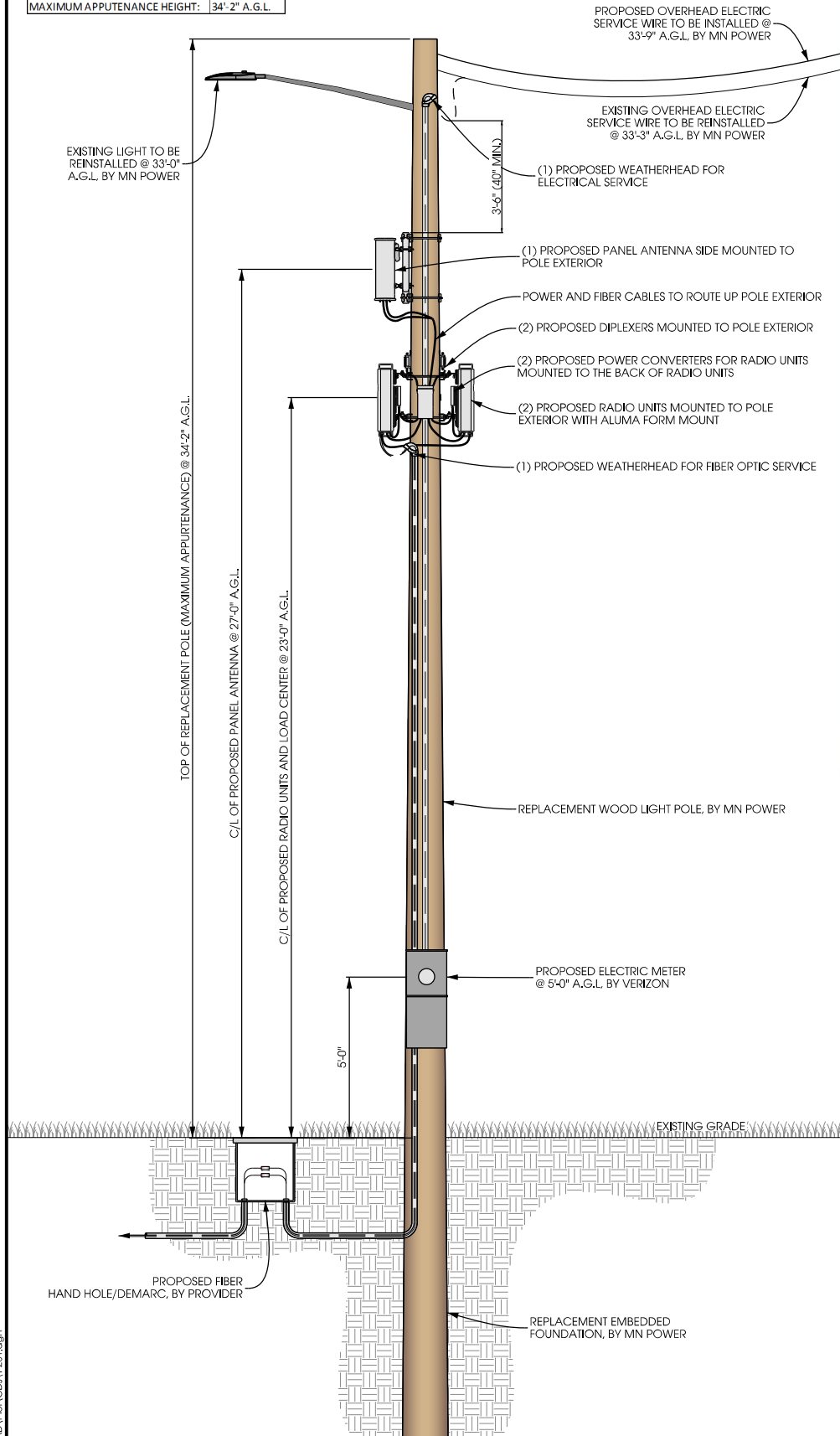
C POLE BASE [LOOKING NORTH]



LA:16700\16773\CAD\REF\CD\A\C-101.dgn

EXISTING POLE	
POLE HEIGHT:	34'-2" A.G.L.
MAXIMUM APPUTENANCE HEIGHT:	34'-2" A.G.L.
PROPOSED POLE	
POLE HEIGHT:	34'-2" A.G.L.
ANTENNA TIP HEIGHT:	28'-0" A.G.L.
MAXIMUM APPUTENANCE HEIGHT:	34'-2" A.G.L.

NOTES:
TYPICAL INSTALLATION SHOWN.
ALL ELEVATIONS ARE ASSUMED TO BE MEASURED FROM ABOVE GRADE LEVEL.



A POLE ELEVATION
SCALE: 11" x 17" - 1" = 5'-0"
22" x 34" - 1" = 2'-6"

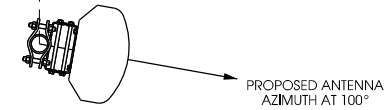


B SITE ELEVATION



TRUE NORTH

NOTES:
VERIZON TO PROVIDE FINAL RF CONFIGURATION



C ANTENNA ORIENTATION
SCALE: NTS

ANTENNAS					
QUANTITY	MAKE	MODEL	CENTERLINE	TIP HEIGHT	AZIMUTH
1	JMA	X7CQAP-FRO-260	27'-0" AGL	28'-0" AGL	100°

EQUIPMENT			
QUANTITY	TYPE	MAKE	MODEL
2	RRU	ERICSSON	RRUS32 B66
2	PSU	EMERSON	PSU AC 08
2	DIPLEXER	COMMSCOPE	CBC1923T-4310 E11F13PO6

CABLING			
QUANTITY	TYPE	MAKE	MODEL
16	COAX	COMMSCOPE	LDF4-50

D ANTENNA AND CABLING
SCALE: NTS



E RF WARNING SIGNS
SCALE: NTS



PROJECT NO: 20171666352
LOCATION CODE: 473780
EDGE PROJECT NO: 16774
CHECKED BY: OGD

REV.	DATE	DESCRIPTION	INT.
A	04/24/2018	PRELIM SMALL CELL DWGS	MWH
B	04/26/2018	PRELIM SMALL CELL DWGS	MWH
C	07/26/2018	PRELIM SMALL CELL DWGS	MWH

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DUL BULLDOG SC 1 2
DULUTH, MINNESOTA
REPLACEMENT WOOD LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
SITE ELEVATION

SHEET NUMBER
T-201



verizon

JACOBS

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2727 Patton Road
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Edge
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DUL BULLDOG SC1 2
DULUTH, MINNESOTA
REPLACEMENT WOOD LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
SITE PLAN

SHEET NUMBER
C-101

POWER AND FIBER ROUTING NOTE:
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EXISTING BURIED UTILITIES (TYP.)

E NIAGARA ST

EXISTING BURIED UTILITIES (TYP.)

PROPOSED OVERHEAD ELECTRIC SERVICE TO ROUTE FROM POLE BASE TO POWER SOURCE, BY MN POWER
EXISTING OVERHEAD ELECTRIC SERVICE (TYP.)

10' X 5' PREMISES
REPLACEMENT WOOD LIGHT POLE, BY MN POWER

PROPOSED SINGLE METER, BY VERIZON

PROPOSED FIBER OPTIC SERVICE CONDUIT BETWEEN POLE BASE AND HAND HOLE, BY PROVIDER; SEE SHEET E-101 FOR DETAILS

PROPOSED FIBER HAND HOLE/DEMARC, BY PROVIDER

PROPOSED FIBER OPTIC SERVICE CONDUIT TO ROUTE WITHIN RIGHT OF WAY, BY PROVIDER

JUNCTION AVE

GRASS

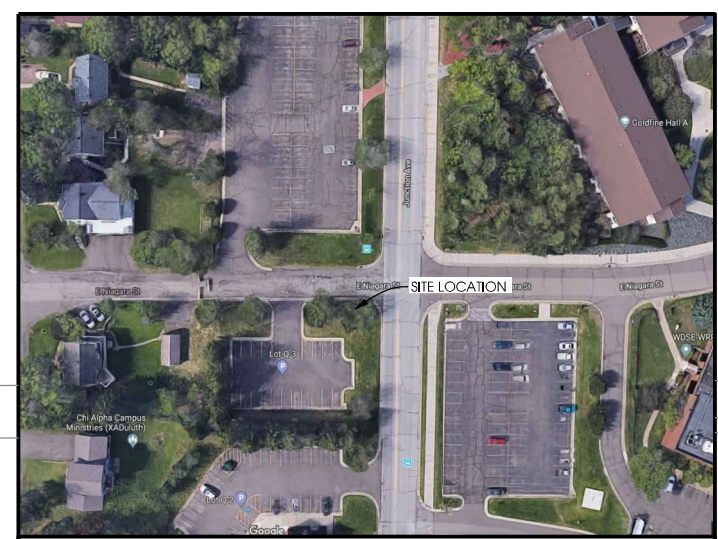
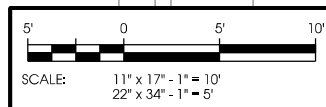
EXISTING BURIED UTILITIES (TYP.)

EXISTING BURIED UTILITIES (TYP.)

EXISTING BURIED UTILITIES (TYP.)

PARKING LOT

SIDEWALK



A AERIAL OVERVIEW



B SITE OVERVIEW

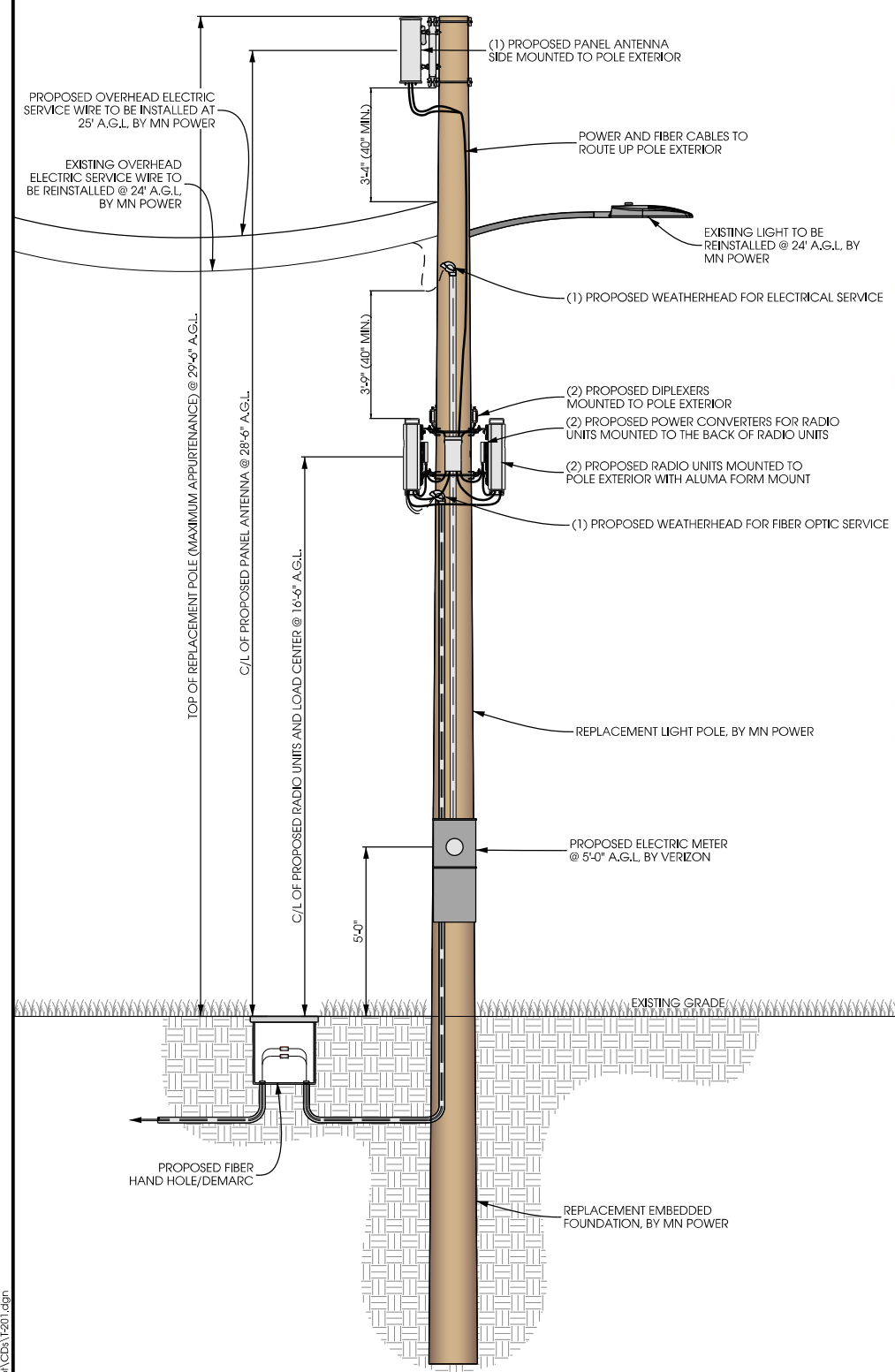


C POLE BASE

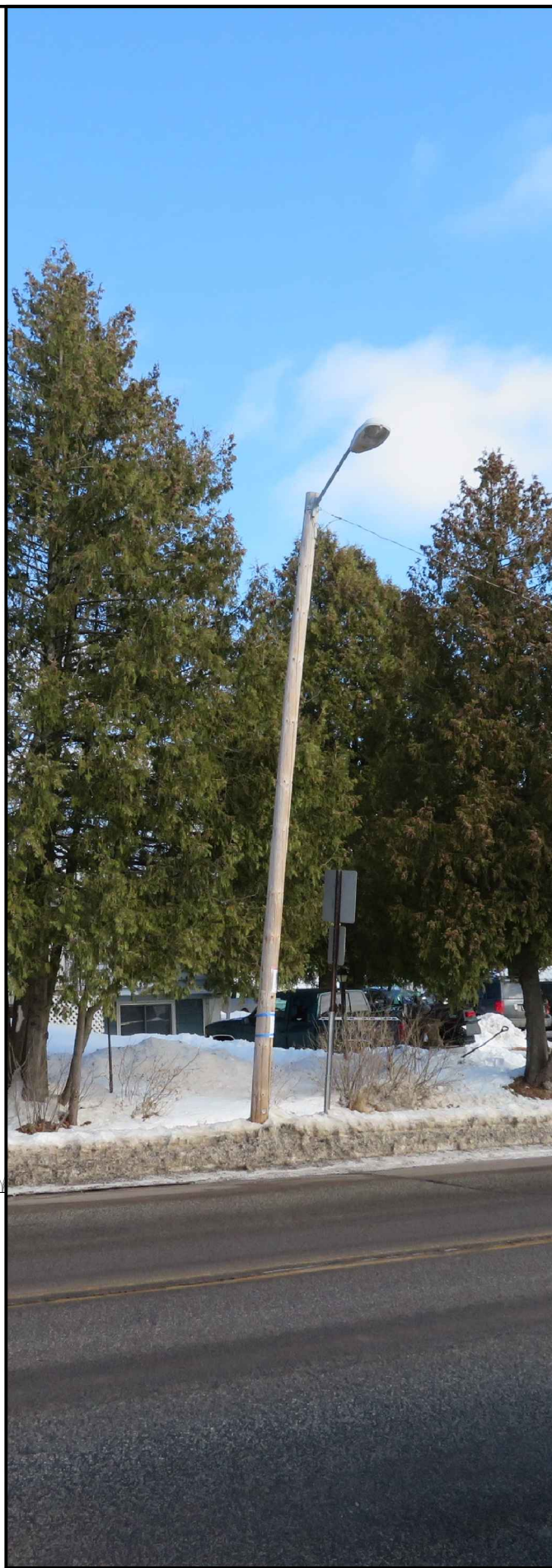
LA:16700\16774\CAD\PE\VCDA\C-101.dgn

EXISTING POLE	
POLE HEIGHT:	24'-8" A.G.L.
MAXIMUM APPURTENANCE HEIGHT:	24'-8" A.G.L.
PROPOSED POLE	
POLE HEIGHT:	29'-6" A.G.L.
ANTENNA TIP HEIGHT:	29'-6" A.G.L.
MAXIMUM APPURTENANCE HEIGHT:	29'-6" A.G.L.

NOTES:
TYPICAL INSTALLATION SHOWN.
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A POLE ELEVATION
SCALE: 11" x 17" - 1" = 5'-0"
22" x 34" - 1" = 2'-6"

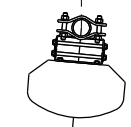


B SITE ELEVATION



TRUE NORTH

NOTES:
VERIZON TO PROVIDE FINAL RF CONFIGURATION



C ANTENNA ORIENTATION
SCALE: NTS

ANTENNAS					
QUANTITY	MAKE	MODEL	CENTERLINE	TIP HEIGHT	AZIMUTH
1	JMA	X7CQAP-FRO-260	28'-6" A.G.L.	29'-6" A.G.L.	185°

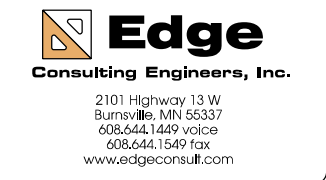
EQUIPMENT			
QUANTITY	TYPE	MAKE	MODEL
2	RRU	ERICSSON	RRUS32 B66
2	PSU	EMERSON	PSU AC 08
2	DIPLEXER	COMMSCOPE	CBC1923T-4310 E11F13PO6

CABLING			
QUANTITY	TYPE	MAKE	MODEL
16	COAX	COMMSCOPE	LDF4-50

D ANTENNA AND CABLING
SCALE: NTS



E RF WARNING SIGNS
SCALE: NTS



PROJECT NO:	20171666354
LOCATION CODE:	473801
EDGE PROJECT NO:	16775
CHECKED BY:	OGD

REV.	DATE	DESCRIPTION	INT.
A	04/13/2018	PRELIM SMALL CELL DWGS	MWH
B	04/24/2018	PRELIM SMALL CELL DWGS	MWH

- PRELIMINARY -
NOT FOR CONSTRUCTION

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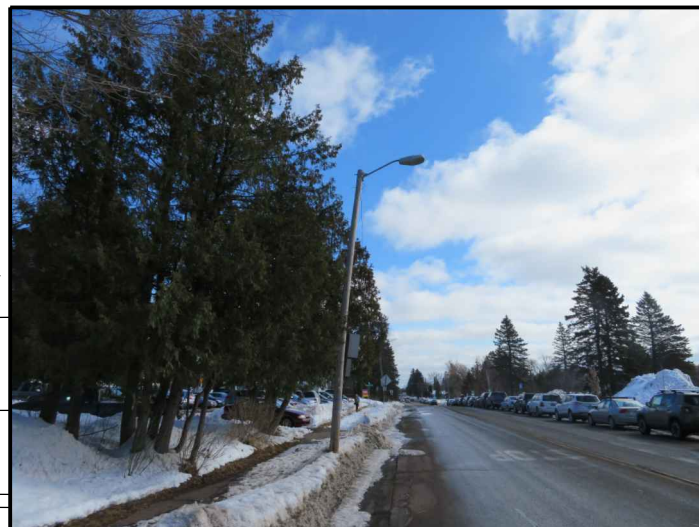
DUL BULLDOG SC1 3
DULUTH, MINNESOTA
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
SITE ELEVATION

SHEET NUMBER
T-201



A AERIAL OVERVIEW

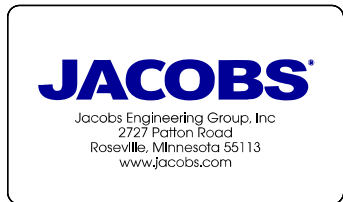
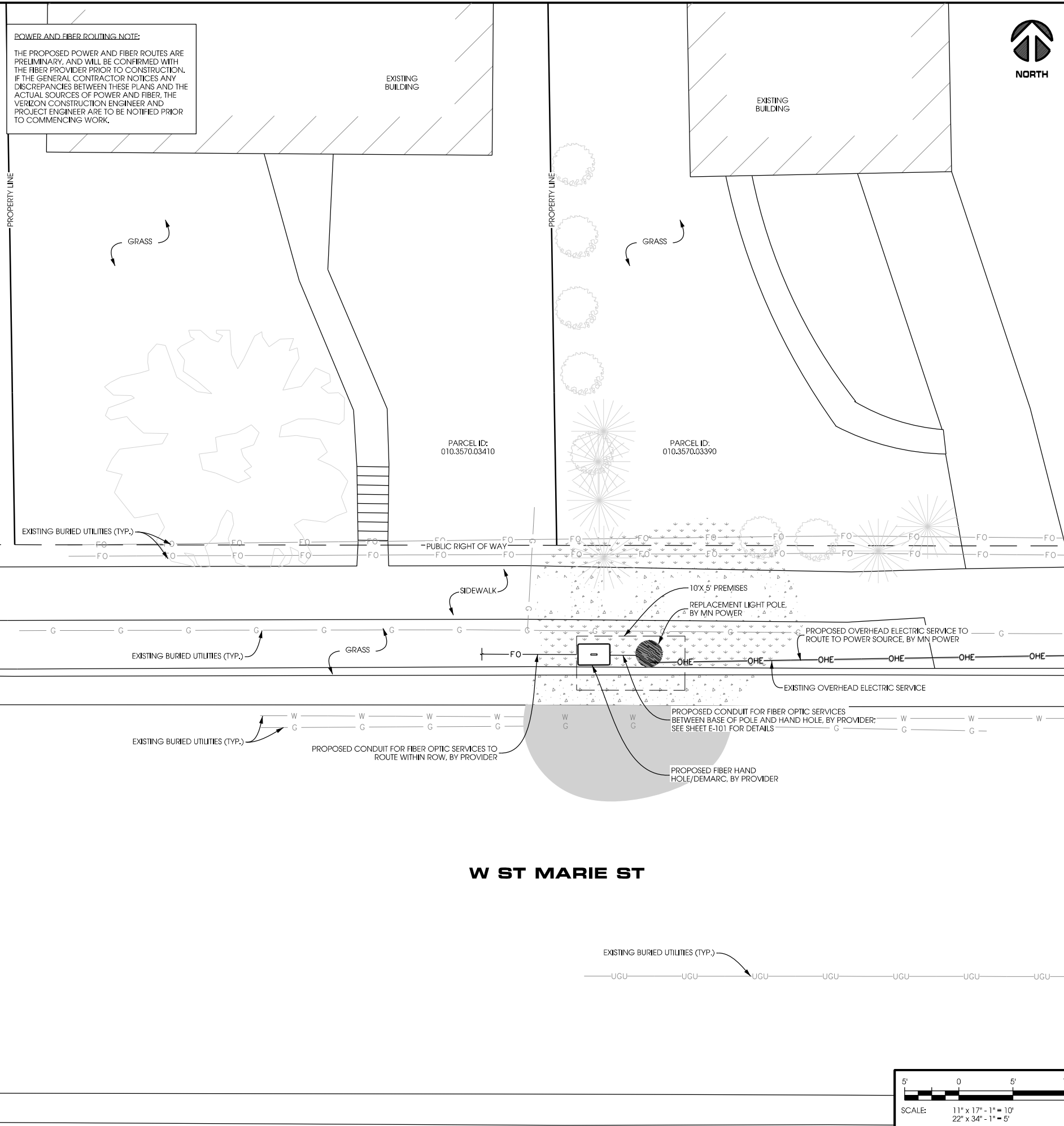


B SITE OVERVIEW (LOOKING EAST)



C SITE OVERVIEW (LOOKING NORTH)

POWER AND FIBER ROUTING NOTE:
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PROJECT NO:	20171666354
LOCATION CODE:	473801
EDGE PROJECT NO:	16775
CHECKED BY:	OGD

REV.	DATE	DESCRIPTION	INT.
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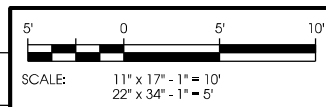
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DUL BULLDOG SC1 3
 DULUTH, MINNESOTA
 REPLACEMENT LIGHT POLE
 SMALL CELL DRAWINGS

SHEET TITLE
SITE PLAN

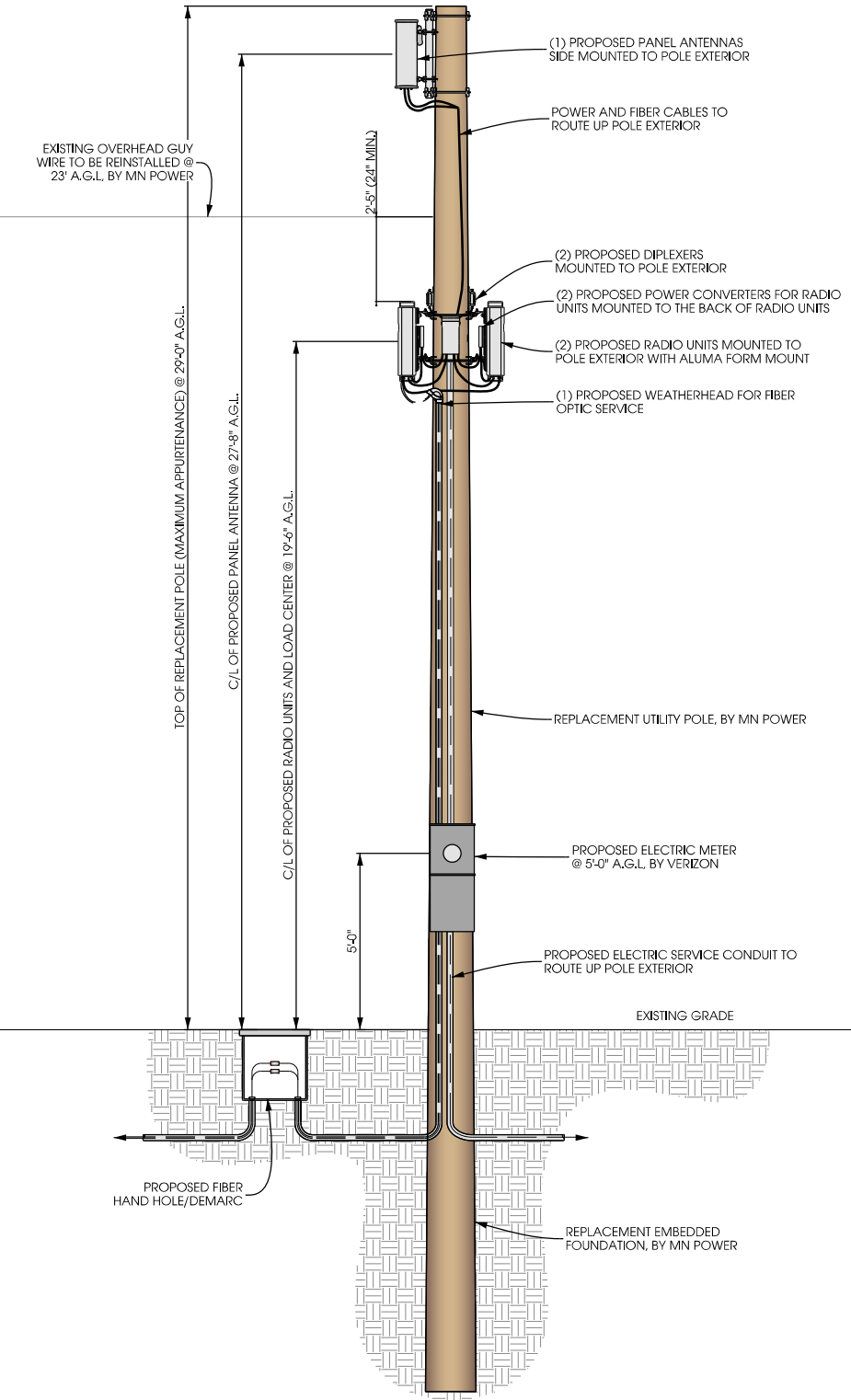
SHEET NUMBER
C-101



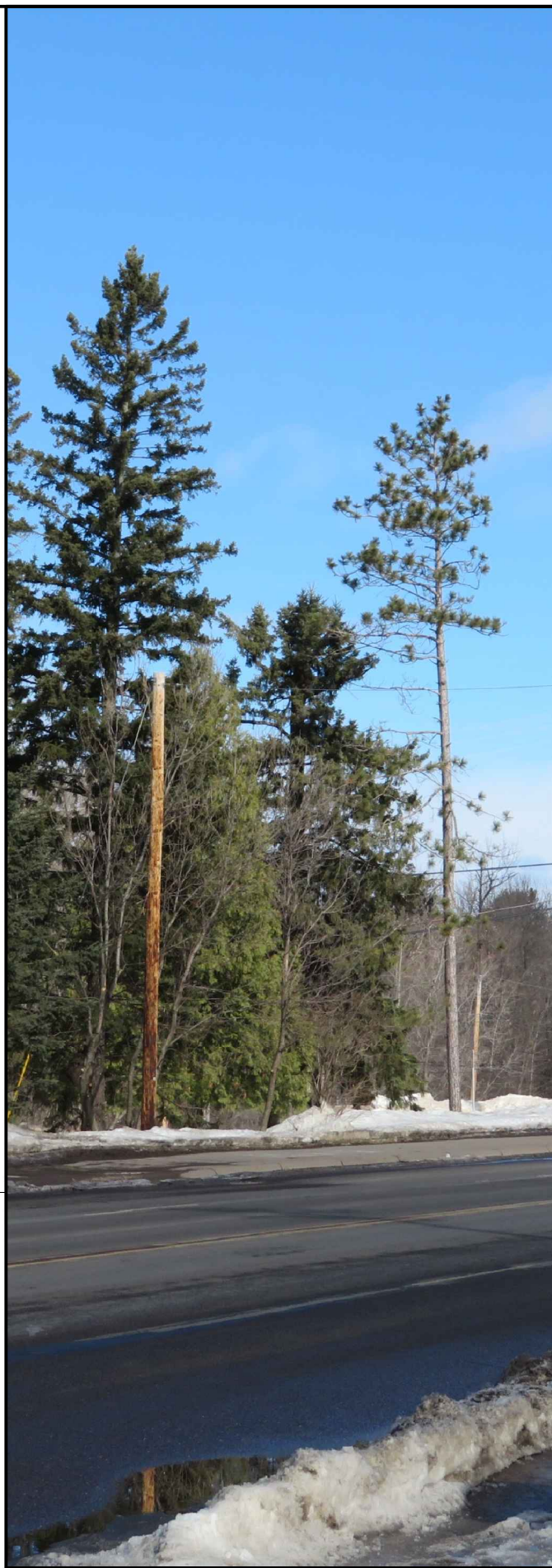
LA:16700\16775\CAD\PRE\CD\A\C-101.dgn

EXISTING POLE	
POLE HEIGHT:	29'-0" A.G.L.
MAXIMUM APPUTENANCE HEIGHT:	29'-0" A.G.L.
PROPOSED POLE	
POLE HEIGHT:	29'-0" A.G.L.
ANTENNA TIP HEIGHT:	28'-8" A.G.L.
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NOTES:
 TYPICAL INSTALLATION SHOWN.
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A POLE ELEVATION
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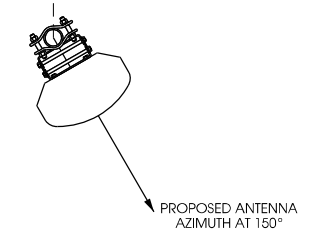


B SITE ELEVATION



TRUE NORTH

NOTES:
 VERIZON TO PROVIDE FINAL RF CONFIGURATION



C ANTENNA ORIENTATION
 SCALE: NTS

ANTENNAS					
QUANTITY	MAKE	MODEL	CENTERLINE	TIP HEIGHT	AZIMUTH
1	JMA	X7CQAP-FRO-260	27'-8" AGL	28'-8" AGL	150°

EQUIPMENT			
QUANTITY	TYPE	MAKE	MODEL
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2	DIPLEXER	COMMSCOPE	CBC1923T-4310 E11F13PO6

CABLING			
QUANTITY	TYPE	MAKE	MODEL
16	COAX	COMMSCOPE	LDF4-50



PROJECT NO: 20171666355
 LOCATION CODE: 473802
 EDGE PROJECT NO: 16776
 CHECKED BY: OGD

REV.	DATE	DESCRIPTION	INT.
A	04/13/2018	PRELIM SMALL CELL DWGS	MWH
B	04/24/2018	PRELIM SMALL CELL DWGS	MWH
C	06/14/2018	PRELIM SMALL CELL DWGS	ZRS

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DUL BULLDOG SC1 4
 DULUTH, MINNESOTA
 REPLACEMENT UTILITY POLE
 SMALL CELL DRAWINGS

SHEET TITLE
SITE ELEVATION

SHEET NUMBER
T-201



E RF WARNING SIGNS
 SCALE: NTS

LA:16700\16776\CAD\REV\CDR\T201.dgn

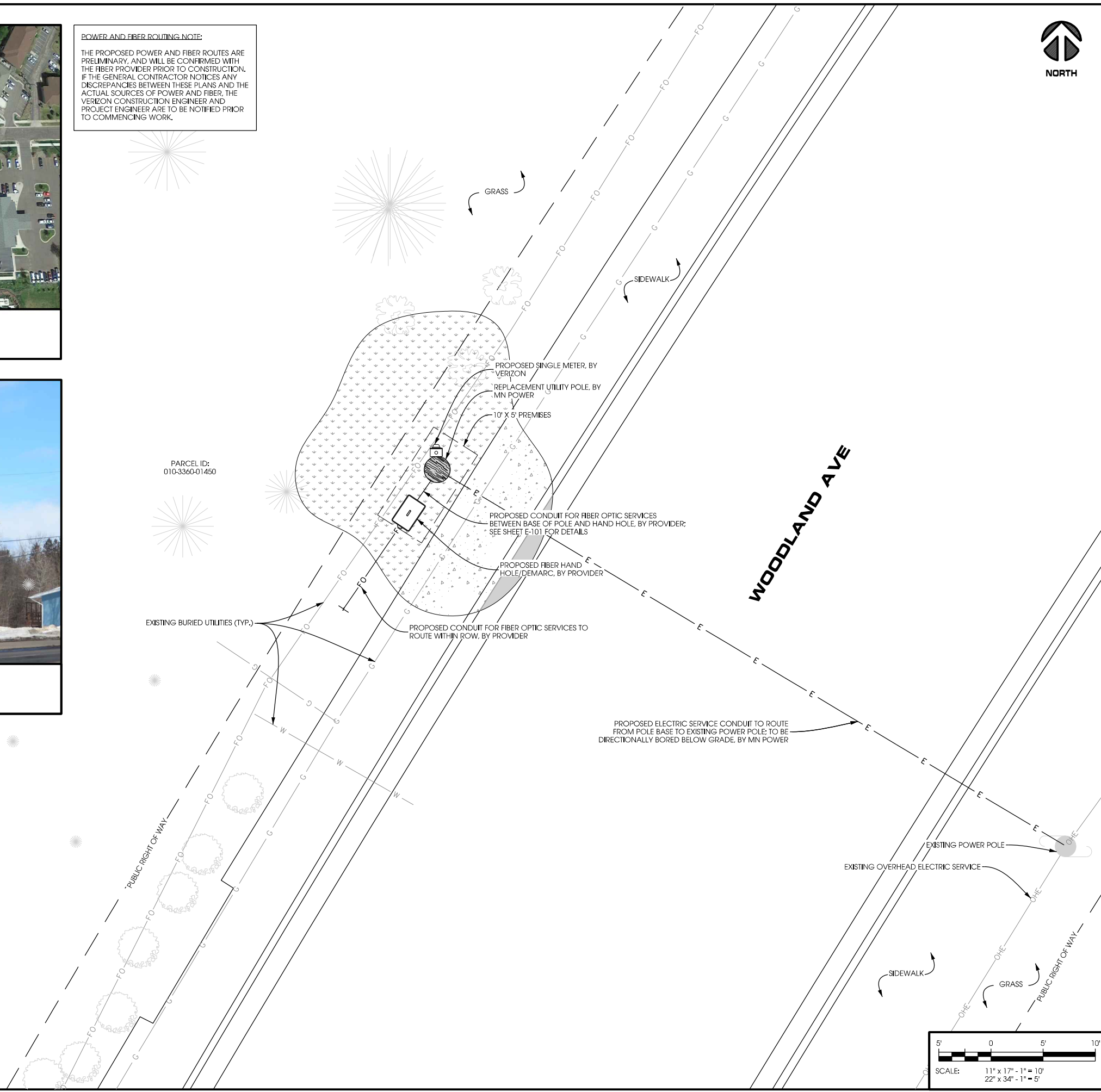


A **AERIAL OVERVIEW**



B **SITE OVERVIEW [LOOKING NORTHWEST]**

POWER AND FIBER ROUTING NOTE:
 THE PROPOSED POWER AND FIBER ROUTES ARE PRELIMINARY, AND WILL BE CONFIRMED WITH THE FIBER PROVIDER PRIOR TO CONSTRUCTION. IF THE GENERAL CONTRACTOR NOTICES ANY DISCREPANCIES BETWEEN THESE PLANS AND THE ACTUAL SOURCES OF POWER AND FIBER, THE VERIZON CONSTRUCTION ENGINEER AND PROJECT ENGINEER ARE TO BE NOTIFIED PRIOR TO COMMENCING WORK.



PROJECT NO:	20171666355
LOCATION CODE:	473802
EDGE PROJECT NO:	16776
CHECKED BY:	OGD

REV.	DATE	DESCRIPTION	INT.
A	04/13/2018	PRELIM SMALL CELL DWGS	MWH
B	04/24/2018	PRELIM SMALL CELL DWGS	MWH
C	06/14/2018	PRELIM SMALL CELL DWGS	ZRS

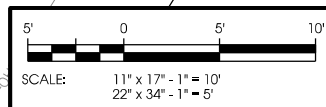
**- PRELIMINARY -
 NOT FOR CONSTRUCTION**

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**DUL BULLDOG SC1 4
 DULUTH, MINNESOTA
 REPLACEMENT UTILITY POLE
 SMALL CELL DRAWINGS**

SHEET TITLE
SITE PLAN

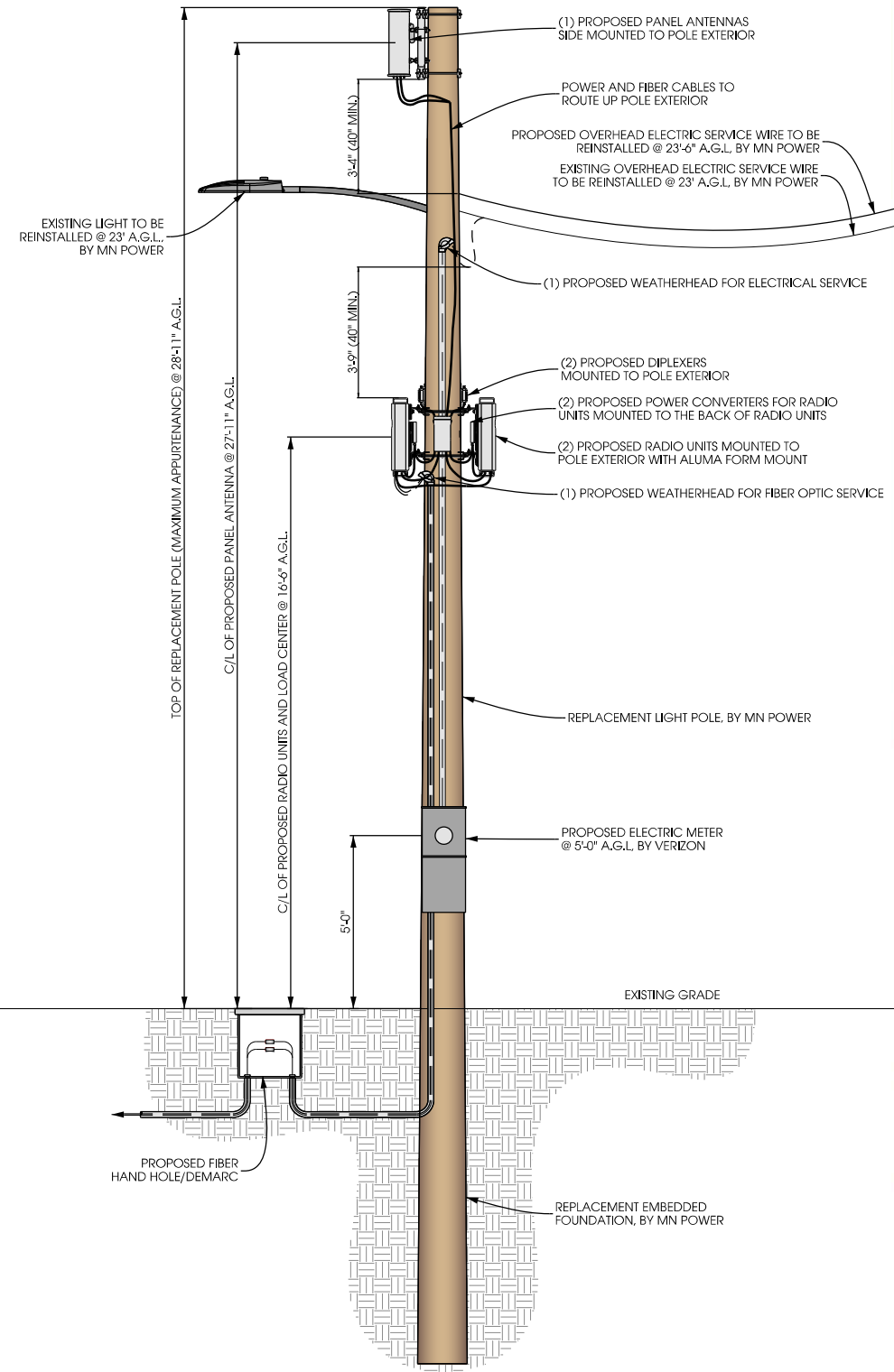
SHEET NUMBER
C-101



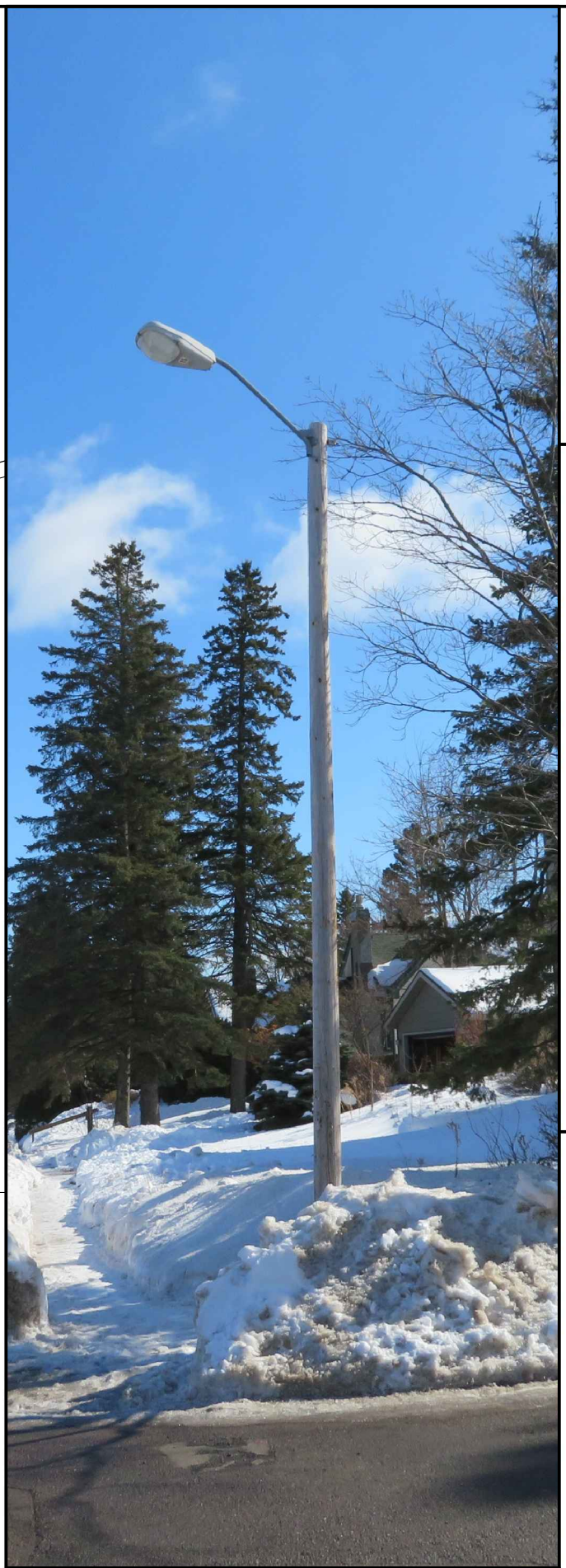
LA:16700\16776\CAD\PE\VCDA\C-101.dgn

EXISTING POLE	
POLE HEIGHT:	23'-11" A.G.L.
MAXIMUM APPUTENANCE HEIGHT:	23'-11" A.G.L.
PROPOSED POLE	
POLE HEIGHT:	28'-11" A.G.L.
ANTENNA TIP HEIGHT:	28'-10" A.G.L.
MAXIMUM APPUTENANCE HEIGHT:	28'-11" A.G.L.

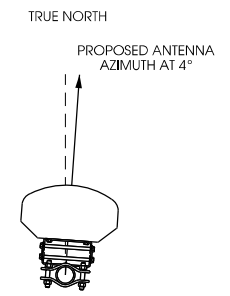
NOTES:
 TYPICAL INSTALLATION SHOWN.
 ALL ELEVATIONS ARE ASSUMED TO BE MEASURED FROM ABOVE GRADE LEVEL.



A POLE ELEVATION
 SCALE: 11" x 17" - 1" = 5'-0"
 22" x 34" - 1" = 2'-6"



B SITE ELEVATION

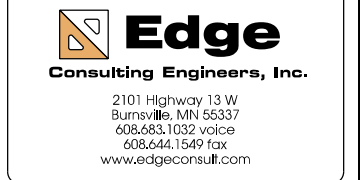


C ANTENNA ORIENTATION
 SCALE: NTS

ANTENNAS					
QUANTITY	MAKE	MODEL	CENTERLINE	TIP HEIGHT	AZIMUTH
1	JMA	X7CQAP-FRO-260	27'-11" AGL	28'-10" AGL	4°

EQUIPMENT			
QUANTITY	TYPE	MAKE	MODEL
2	RRU	ERICSSON	RRUS32 B66
2	PSU	EMERSON	PSU AC 08
2	DIPLEXER	COMMSCOPE	CBC1923T-4310 E11F13PO6

CABLING			
QUANTITY	TYPE	MAKE	MODEL
16	COAX	COMMSCOPE	LDF4-50



PROJECT NO: 20171666356
 LOCATION CODE: 473803
 EDGE PROJECT NO: 16777
 CHECKED BY: OGD

REV.	DATE	DESCRIPTION	INT.
A	04/16/2018	PRELIM SMALL CELL DWGS	MWH
B	04/24/2018	PRELIM SMALL CELL DWGS	MWH

- PRELIMINARY -
 NOT FOR CONSTRUCTION

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DUL BULLDOG SC1 5
 DULUTH, MINNESOTA
 REPLACEMENT LIGHT POLE
 SMALL CELL DRAWINGS

SHEET TITLE
SITE ELEVATION

SHEET NUMBER
T-201



E RF WARNING SIGNS
 SCALE: NTS

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A AERIAL OVERVIEW



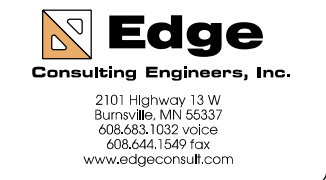
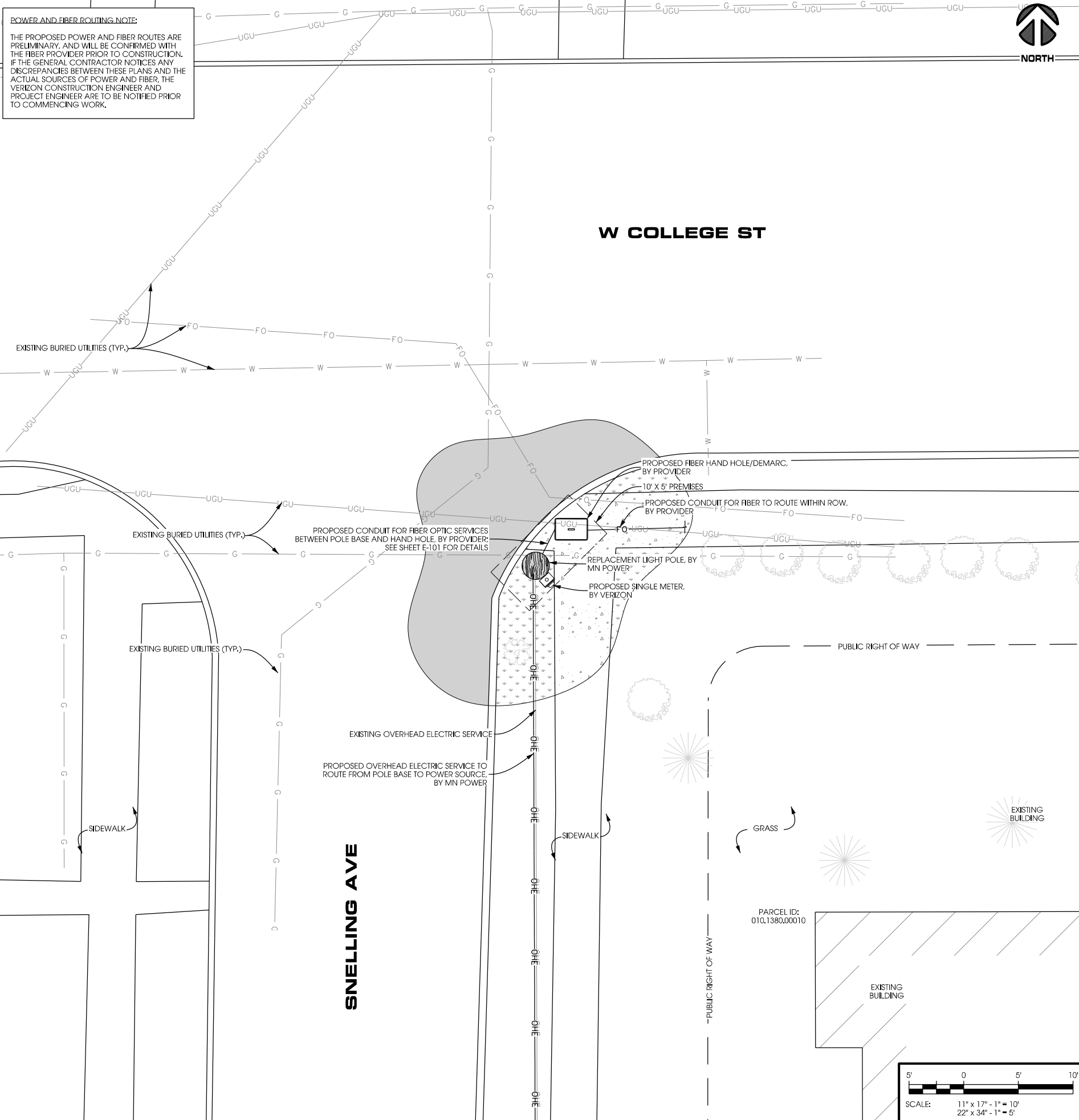
B SITE OVERVIEW

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W COLLEGE ST

SNELLING AVE



PROJECT NO:	20171666356
LOCATION CODE:	473803
EDGE PROJECT NO:	16777
CHECKED BY:	OGD

REV.	DATE	DESCRIPTION	INT.
A	04/16/2018	PRELIM SMALL CELL DWGS	MWH
B	04/24/2018	PRELIM SMALL CELL DWGS	MWH

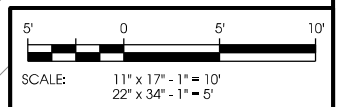
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DUL BULLDOG SC1 5
 DULUTH, MINNESOTA
 REPLACEMENT LIGHT POLE
 SMALL CELL DRAWINGS

SHEET TITLE
SITE PLAN

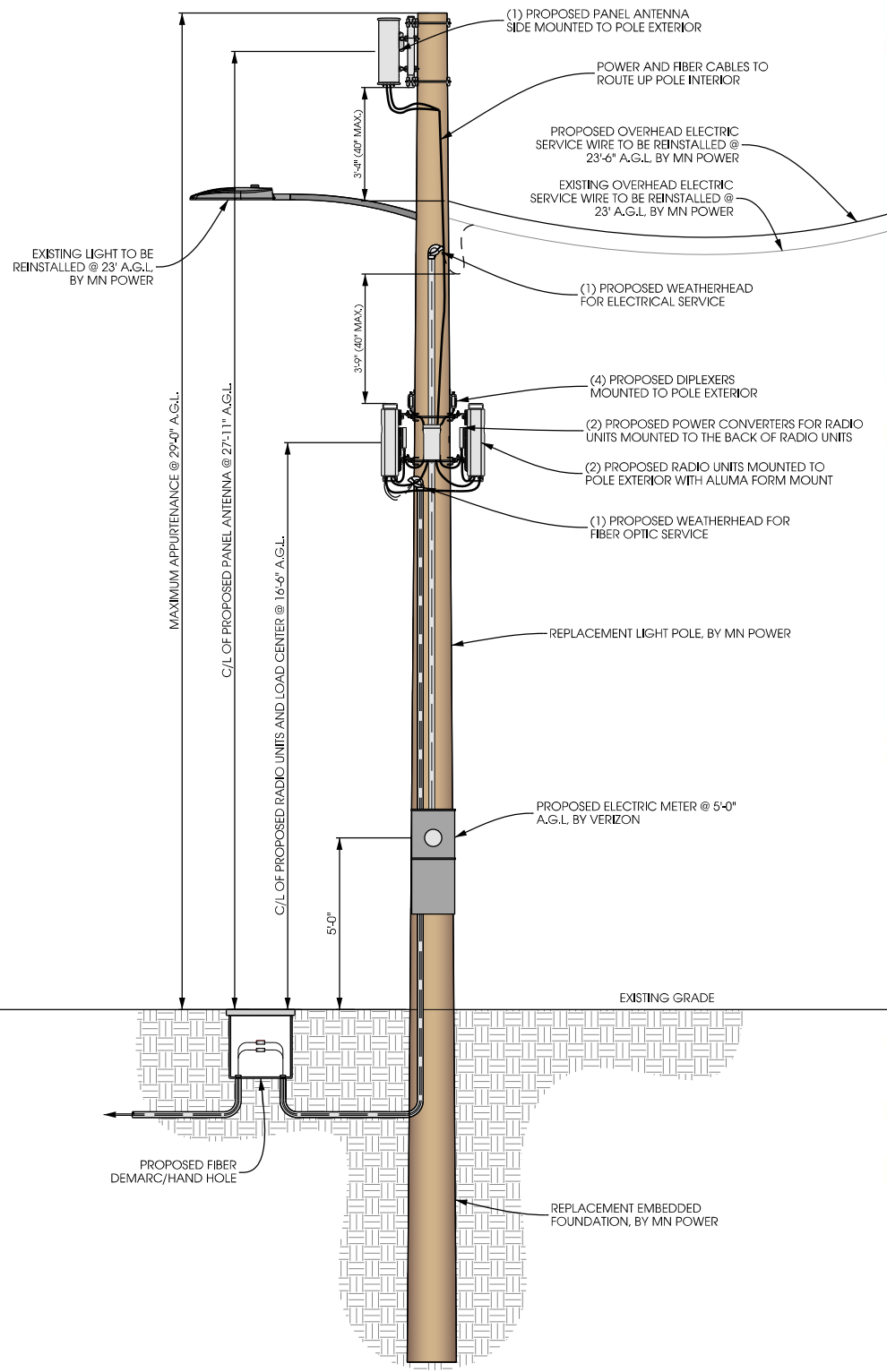
SHEET NUMBER
C-101



LA:167700\16777\CAD\PLANS\CD\A\C-101.dgn

EXISTING POLE	
POLE HEIGHT:	24'-00" A.G.L.
MAXIMUM APPUTENANCE HEIGHT:	24'-00" A.G.L.
PROPOSED POLE	
POLE HEIGHT:	29'-00" A.G.L.
ANTENNA TIP HEIGHT:	28'-11" A.G.L.
MAXIMUM APPUTENANCE HEIGHT:	29'-00" A.G.L.

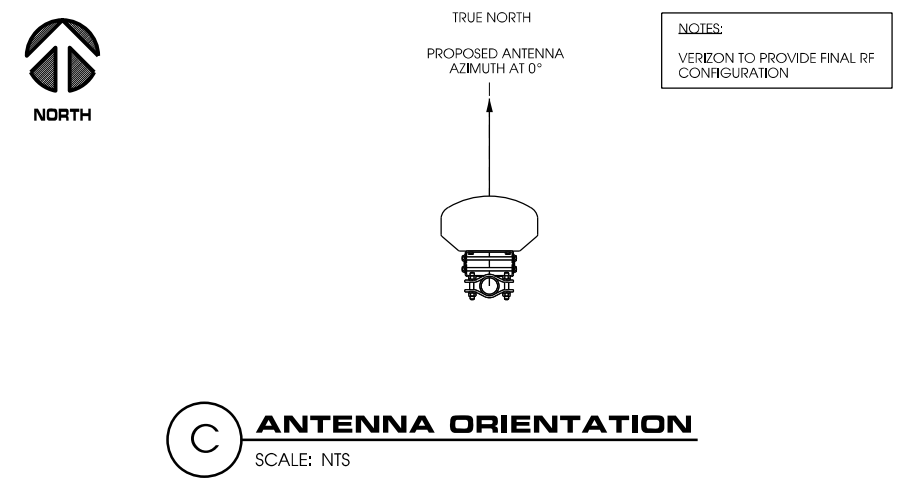
NOTES:
TYPICAL INSTALLATION SHOWN.
ALL ELEVATIONS ARE ASSUMED TO BE MEASURED FROM ABOVE GRADE LEVEL.



A POLE ELEVATION
SCALE: 11" x 17" - 1" = 5'-0"
22" x 34" - 1" = 2'-6"



B SITE ELEVATION



ANTENNAS					
QUANTITY	MAKE	MODEL	CENTERLINE	TIP HEIGHT	AZIMUTH
1	JMA	X7CQAP-FRO-260	26' AGL	27' AGL	0°

EQUIPMENT			
QUANTITY	TYPE	MAKE	MODEL
2	RRU	ERICSSON	RRUS32 B66
2	PSU	EMERSON	PSU AC 08
2	DIPLEXER	COMMSCOPE	CBC1923T-4310 E11F13PO6

CABLING			
QUANTITY	TYPE	MAKE	MODEL
16	COAX	COMMSCOPE	LDF4-50



E RF WARNING SIGNS
SCALE: NTS



PROJECT NO: 20171666357
LOCATION CODE: 473804
EDGE PROJECT NO: 16778
CHECKED BY: OGD

REV.	DATE	DESCRIPTION	INT.
A	04/16/2018	PRELIM SMALL CELL DWGS	MWH
B	04/25/2018	PRELIM SMALL CELL DWGS	MWH

- PRELIMINARY -
NOT FOR CONSTRUCTION

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DUL BULLDOG SC1 6
DULUTH, MINNESOTA
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
SITE ELEVATION

SHEET NUMBER
T-201



verizon

JACOBS

Jacobs Engineering Group, Inc
2727 Patton Road
Roseville, Minnesota 55113
www.jacobs.com

Edge
Consulting Engineers, Inc.

2101 Highway 13 W
Burnsville, MN 55337
952.683.1032 voice
608.644.1549 fax
www.edgeconsult.com

PROJECT NO: 20171666357

LOCATION CODE: 473804

EDGE PROJECT NO: 16778

CHECKED BY: OGD

REV.	DATE	DESCRIPTION	INT.
A	04/16/2018	PRELIM SMALL CELL DWGS	MWH
B	04/25/2018	PRELIM SMALL CELL DWGS	MWH

**- PRELIMINARY -
NOT FOR CONSTRUCTION**

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DUL BULLDOG SC1 6
DULUTH, MINNESOTA
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE

SITE PLAN

SHEET NUMBER

C-101

POWER AND FIBER ROUTING NOTE:

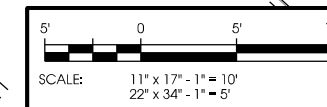
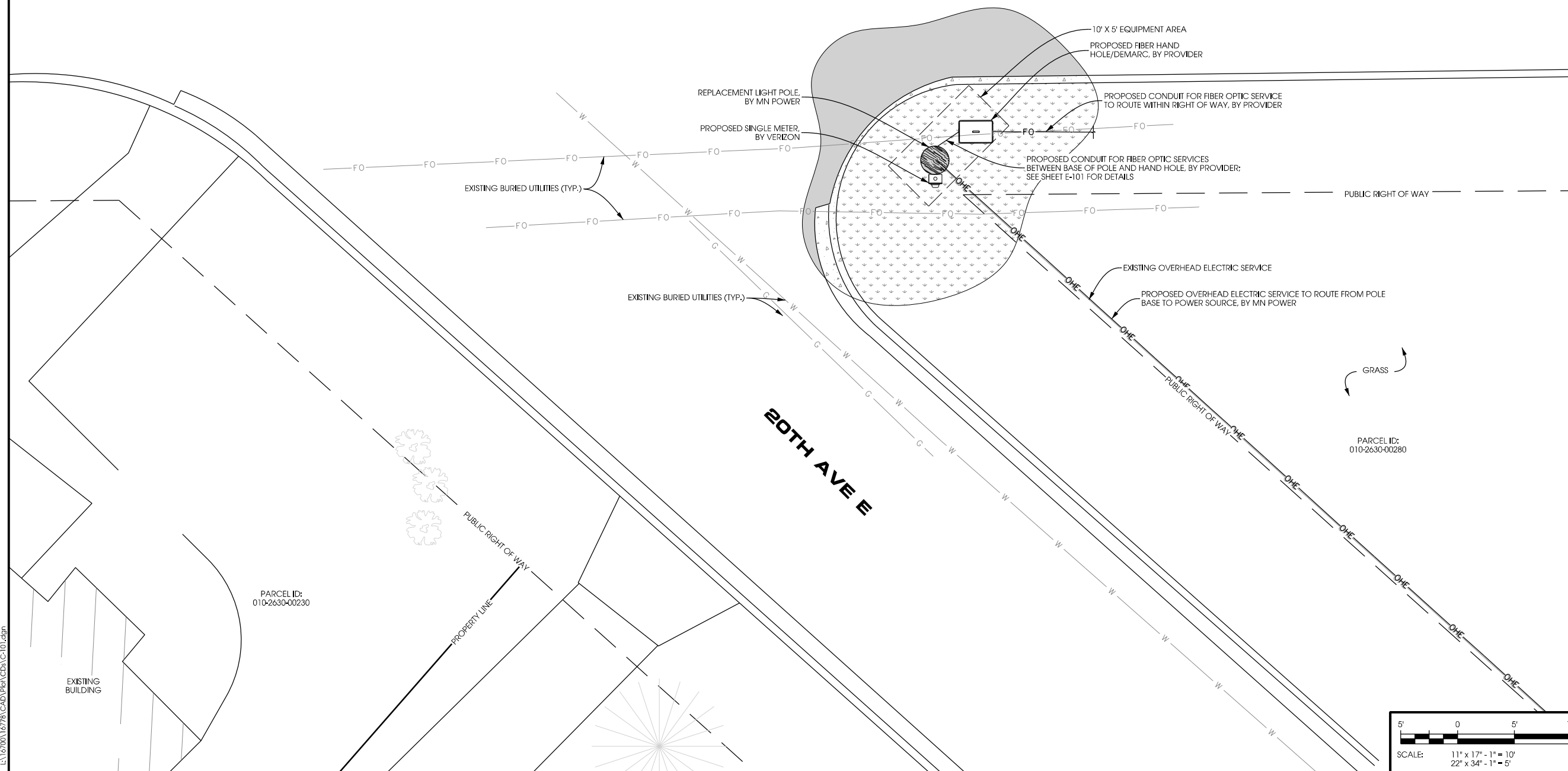
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A AERIAL OVERVIEW

W COLLEGE ST

BOTH AVE E



LA:16700\16778\CAD\PLN\CD0A\C-101.dgn

**Optional Checklist for Local Government
To Determine Whether a Facility is Categorically Excluded**

Purpose: The FCC has determined that many wireless facilities are unlikely to cause human exposures in excess of RF exposure guidelines. Operators of those facilities are exempt from routinely having to determine their compliance. These facilities are termed "categorically excluded." Section 1.1307(b)(1) of the Commission's rules defines those categorically excluded facilities. This checklist will assist state and local government agencies in identifying those wireless facilities that are categorically excluded, and thus are highly unlikely to cause exposure in excess of the FCC's guidelines. Provision of the information identified on this checklist may also assist FCC staff in evaluating any inquiry regarding a facility's compliance with the RF exposure guidelines.

BACKGROUND INFORMATION

- 1. Facility Operator's Legal Name: Cellular Inc. Network Corporation d/b/a Verizon Wireless
- 2. Facility Operator's Mailing Address: 10801 Bush Lake Road, Bloomington, MN 55438
- 3. Facility Operator's Contact Name/Title: Amanda Turner, Network Real Estate
- 4. Facility Operator's Office Telephone: # 612-720-1657 amanda.turner@verizonwireless
- 5. Facility Operator's Fax: _____
- 6. Facility Name: DUL Bulldog SC1
- 7. Facility Address: Near 1217 Junction Avenue (Right-of-Way)
- 8. Facility City/Community: Duluth
- 9. Facility State and Zip Code: MN 55811
- 10. Latitude: 46-49-12.99 (46.820275)
- 11. Longitude: 92-05-24.01 (-92.090003)

continue
→

Optional Local Government Checklist (page 2)

EVALUATION OF CATEGORICAL EXCLUSION

- 12. Licensed Radio Service (see attached Table 1): Cellular Radiotelephone Service & Personal Communications Svc.
- 13. Structure Type (free-standing or building/roof-mounted): Light Pole
- 14. Antenna Type [omnidirectional or directional (includes sectored)]: Panel/directional
- 15. Height above ground of the lowest point of the antenna (in meters): 26'-6" / 8.10768 meters
- 16. Check if all of the following are true:
 - (a) This facility will be operated in the Multipoint Distribution Service, Paging and Radiotelephone Service, Cellular Radiotelephone Service, Narrowband or Broadband Personal Communications Service, Private Land Mobile Radio Services Paging Operations, Private Land Mobile Radio Service Specialized Mobile Radio, Local Multipoint Distribution Service, or service regulated under Part 74, Subpart I (see question 12).
 - (b) This facility will not be mounted on a building (see question 13).
 - (c) The lowest point of the antenna will be at least 10 meters above the ground (see question 15).

If box 16 is checked, this facility is categorically excluded and is unlikely to cause exposure in excess of the FCC's guidelines. The remainder of the checklist need not be completed. If box 16 is not checked, continue to question 17.

- 17. Enter the power threshold for categorical exclusion for this service from the attached Table 1 in watts ERP or EIRP* (note: EIRP = (1.64) X ERP): (see below)
- 18. Enter the total number of channels if this will be an omnidirectional antenna, or the maximum number of channels in any sector if this will be a sectored antenna: (see below)
- 19. Enter the ERP or EIRP per channel (using the same units as in question 17): (see below)
- 20. Multiply answer 18 by answer 19: (see below)
- 21. Is the answer to question 20 less than or equal to the value from question 17 (yes or no)? (see below)

If the answer to question 21 is YES, this facility is categorically excluded. It is unlikely to cause exposure in excess of the FCC's guidelines.

If the answer to question 21 is NO, this facility is not categorically excluded. Further investigation may be appropriate to verify whether the facility may cause exposure in excess of the FCC's guidelines.

- 17. 1000W ERP (700 MHz), 2000W ERP (1900 MHz/PCS, 2100 MHz/AWS)
- 18. 2 bands per block (LTE & AWS)
- 19. 365.72 ERP + 437.67 ERP (700 + 850 MHz LTE) and 377.59 ERP + 377.59 ERP (2100 MHz AWS1 + AWS3)
- 20. 803.39 ERP (700 MHz +850 MHz LTE)+ 755.18 ERP (2100 MHz AWS1 + AWS3) = 1558.57 W ERP
- 21. Yes

*"ERP" means "effective radiated power" and "EIRP" means "effective isotropic radiated power"