



ProTerra
DESIGN GROUP, LLC

4 Bay Road, Bldg. A Ph:(413)320-4918
Suite 200
Hadley, MA 01035

BOS_BBCOP_001_MA - LOCATION ID: 515462
POLE LOCATION: 647 TREMONT STREET, SOUTH END NEIGHBORHOOD
BOSTON, MA 02118

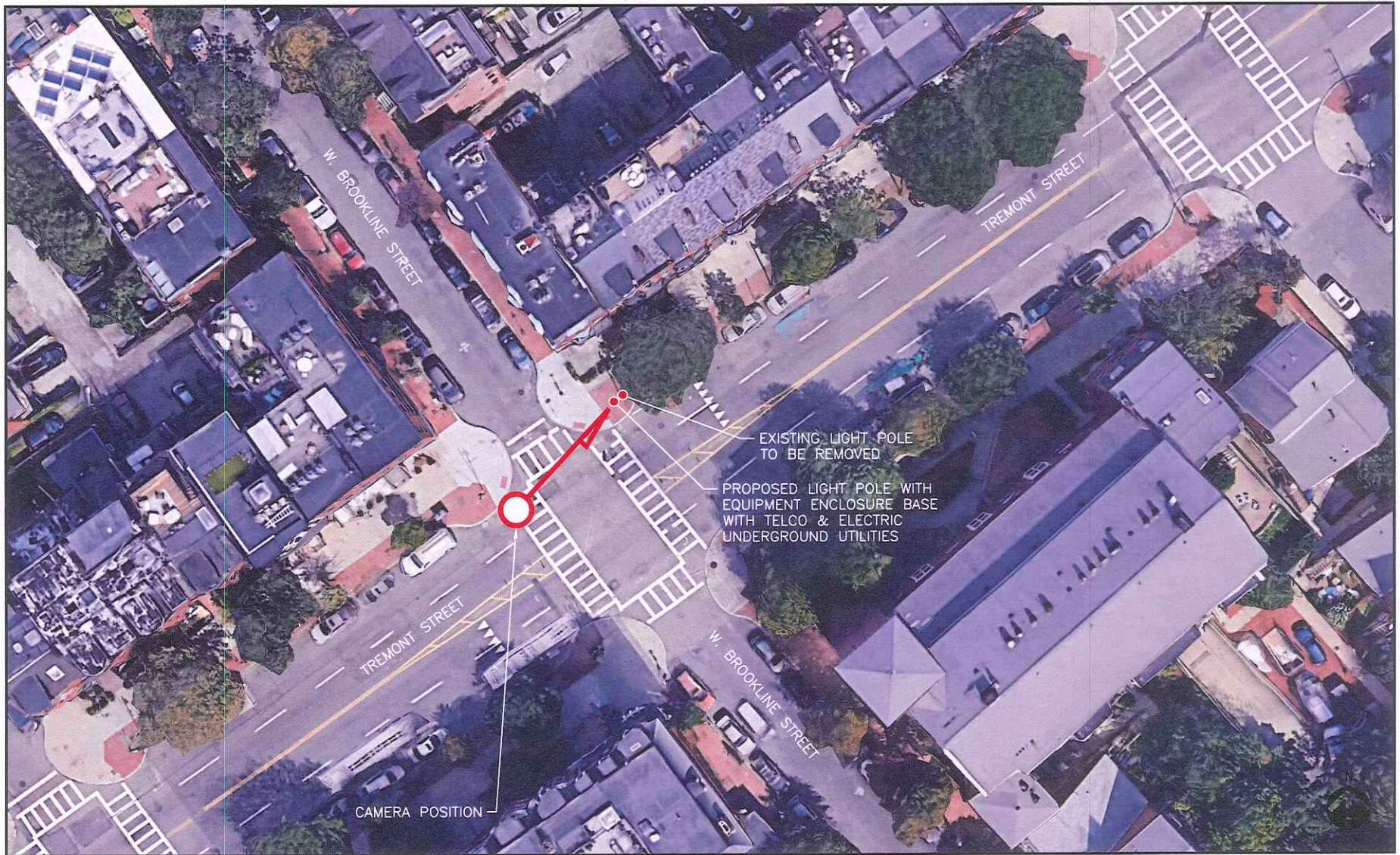
CAMERA LOCATION: 65'± FROM TARGET WITH 50mm LENS

THIS DOCUMENT IS FOR VISUAL REFERENCE ONLY.
VISIBILITY MAY VARY DEPENDING ON CONDITIONS, SEASONS, AND VIEWER LOCATION.

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118 FLANDERS ROAD
THIRD FLOOR
WESTBOROUGH, MA 01581

PHOTO LOCATION MAP



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IMAGE SOURCE: GOOGLE EARTH 2018

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GENERAL NOTES

CODE SPECIFICATIONS

1. ALL GENERAL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE CODES AND LOCAL ORDINANCES, RULES, AND SPECIFICATIONS FOR INSTALLING LUMINAIRES SUPPORTING COMMUNICATIONS EQUIPMENT WITHIN THE PUBLIC-RIGHT-OF-WAY.
2. ALL ELECTRICAL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LOCAL UTILITY COMPANY SPECIFICATIONS, NESC & NEC 2017 (NFPA70) WITH MA AMENDMENTS (527 CMR 12.00).

PROJECT NOTES

1. GROUNDING SHALL COMPLY WITH THE LOCAL UTILITY COMPANY CODES AND REQUIREMENTS, NEC ART. 250, AND NESC OR MOST RECENT AS ADOPTED.
2. ALL GROUND CONNECTIONS TO BE BURIED HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD.
3. ROUTE GROUNDING CONNECTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NOT BE BENT AT RIGHT ANGLES. ALWAYS MAKE 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY.
4. CONNECTIONS TO GROUNDING BAR SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
5. TEST COMPLETED GROUNDING SYSTEM AND RECORD RESISTANCE VALUES FOR PROJECT CLOSE-OUT DOCUMENTATION. GROUND RESISTANCE SHALL BE WITHIN VERIZON SPECIFICATIONS.
6. CONDUIT SHALL BE PVC, HEAVY WALL SUNLIGHT RESISTANT (6-7 PERCENT TITANIUM DIOXIDE BY WEIGHT), SCHEDULE 40 OR SCHEDULE 80 UNDER PAVEMENT AS PER ANSI/AIAA TC 2-2003 UNLESS OTHERWISE NOTED OR AS DIRECTED BY UTILITY FURVEYOR.
7. DISCONNECT AND OVERCURRENT PROTECTION DESIGNED AND SIZED IN COMPLIANCE WITH NEC REQUIREMENTS FOR OUTDOOR INSTALLATIONS.
8. ALL MOUNTING BRACKETS AND HARDWARE SHALL BE SUFFICIENTLY PROTECTED FROM CORROSION BY GALVANIZING, PROTECTIVE COATING OR OTHERWISE. THESE SHALL BE SECURED TO THE POLE WITH HARDWARE OF ADEQUATE STRENGTH FOR THE LOAD.
9. RADIO FREQUENCY (RF) RADIATION WARNING SIGNAGE AS REQUIRED BY OSHA SHALL BE PRESENT AND VISIBLE TO PERSONS WORKING NEAR ANTENNA. REQUESTER MUST SUBMIT DOCUMENTS THAT STATE THE RF OUTPUT OF THE ANTENNA FOR EACH LOCATION.

SITE NOTES

1. NORTH SHOWN IS APPROXIMATE, NOT ALL EXISTING OR PROPOSED IMPROVEMENTS ARE SHOWN FOR CLARITY.
2. THIS DOCUMENT IS FOR ILLUSTRATION & LEASING PURPOSES ONLY.
3. POWER AND TELCO UNDERGROUND UTILITY SOURCES AND FINAL ROUTING SHALL BE DETERMINED BY OTHERS. IT IS THE RESPONSIBILITY OF THE UTILITY FURVEYOR AND VERIZON WIRELESS TO OBTAIN ALL APPROVALS AND EASEMENTS AS REQUIRED.
4. SITE PLAN AND RELATIVE LIGHT POLE ELEVATIONS BASED ON SITE VISIT BY PROTERRA DESIGN GROUP, LLC. GROUND LEVEL AMSL, ELEVATIONS AND APPROXIMATE PROPOSED LIGHT POLE COORDINATES SHOWN HEREIN ARE BASED ON LOCATIONS DERIVED FROM AERIAL IMAGERY IN PUBLICLY AVAILABLE GEOGRAPHIC INFORMATION SYSTEMS (GIS).
5. FINAL COORDINATES AND ELEVATIONS OF LIGHT POLE MAY VARY AS SHOWN HEREON DEPENDING ON FIELD PLACEMENT.
6. AERIAL IMAGERY BASED ON GOOGLE.
7. THIS PLAN EXHIBIT IS SCHEMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. LOCATION, SIZE AND TYPE SHALL BE CONFIRMED BY THE CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR SHALL PROVIDE LICENSED TECHNICIANS FAMILIAR WITH SUCH INSTALLATIONS AND THE REQUIRED CODES.

STRUCTURAL NOTES

1. LIGHT POLES ARE SHOWN SCHEMATICALLY AND IT IS THE RESPONSIBILITY OF VERIZON WIRELESS TO DETERMINE THE STRUCTURAL ADEQUACY OF THE PROPOSED INSTALLATION.
2. CONTRACTOR SHALL CONFIRM ANTENNA AND EQUIPMENT ATTACHMENT METHOD CONFORMS WITH ALL MANUFACTURER SPECIFICATIONS AND VERIZON WIRELESS PRIOR TO CONSTRUCTION.

APPROVED, STREET LIGHTING DIVISION

BOS_BBCOP_001_MA

VERIZON LOCATION ID:

515462

POLE LOCATION:

**647 TREMONT STREET
SOUTH END NEIGHBORHOOD
BOSTON, MA 02118**

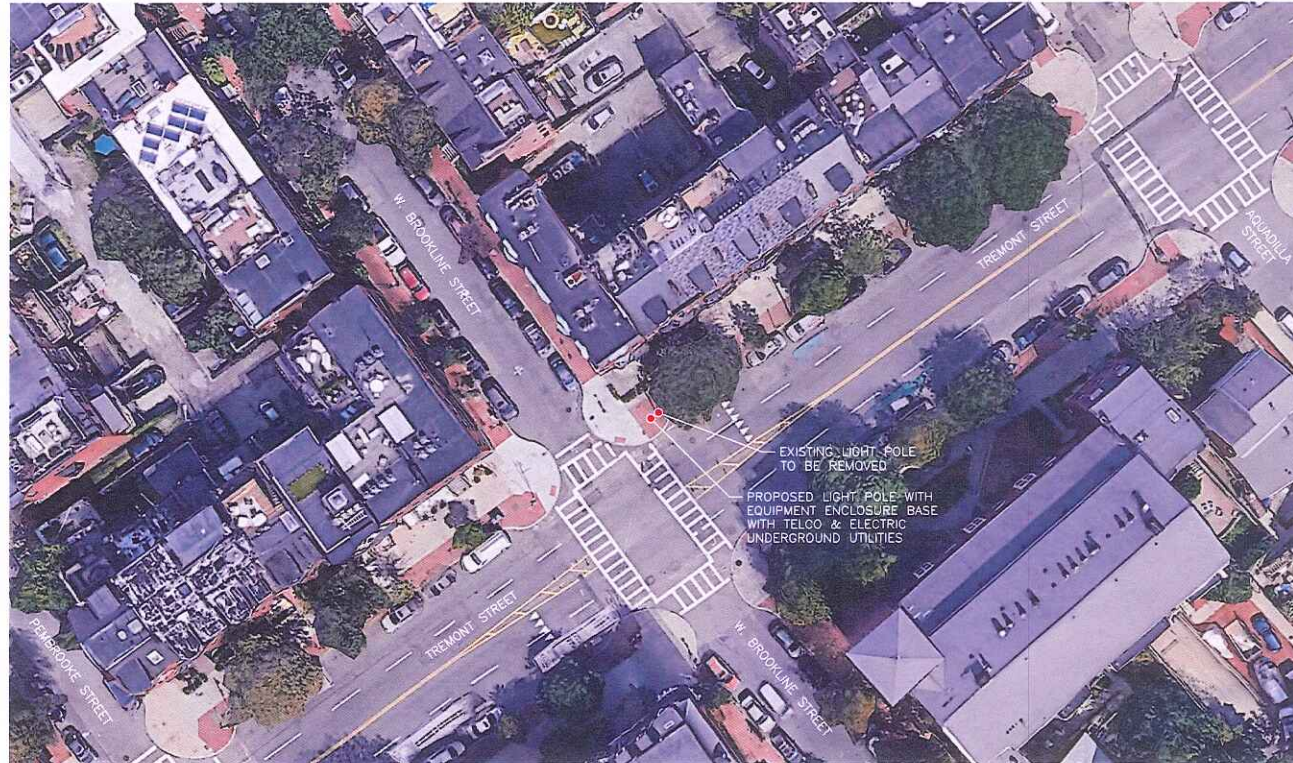


IMAGE SOURCE: GOOGLE EARTH 2018



KEY PLAN
SCALE: N.T.S.



APPROXIMATE PROPOSED LATITUDE: N 42.342107± N 42' 20' 31.59"±
POLE COORDINATES: LONGITUDE: W 71.075318± W 71' 04' 31.14"±

(SEE SITE NOTES NO. 5)

LEASE EXHIBIT



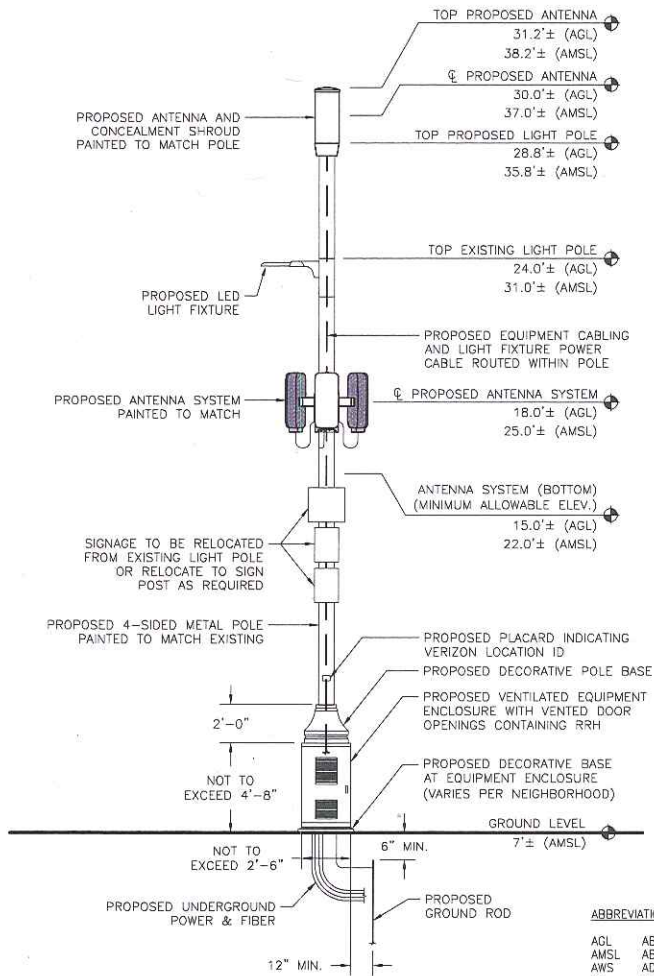
PREPARED BY:
ProTerra
DESIGN GROUP, LLC
4 Bay Road, Bldg A
Hodley, MA 01905
Ph: (413)320-4918

REV	DATE	DESCRIPTION	BY (U/I/R/P/D)	
			STZ	TEJ/JMM
0	07/17/19	LEASE EXHIBIT		



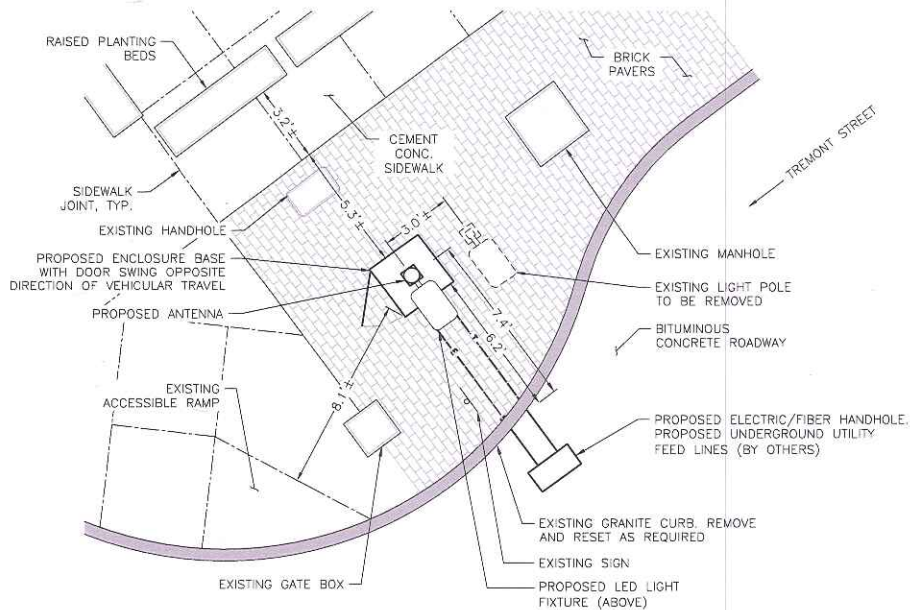
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TREMONT STREET
BOSTON, MA

LE-1



ABBREVIATIONS:

AGL ABOVE GROUND LEVEL
 AMSL ABOVE MEAN SEA LEVEL
 AWS ADVANCED WIRELESS SERVICES
 (E) EXISTING
 (P) PROPOSED
 (R) RELOCATE
 RGS RIGID GALVANIZED STEEL
 RRH REMOTE RADIO HEAD
 SAR-O SERVICE AGGREGATION ROUTER-OPTICAL
 V.I.F. VERIFY IN FIELD



- GENERAL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE CODES AND LOCAL ORDINANCES, RULES, AND SPECIFICATIONS FOR INSTALLING LUMINAIRES SUPPORTING COMMUNICATIONS EQUIPMENT WITHIN THE PUBLIC-RIGHT-OF-WAY.
- THE PROPOSED POLE LOCATION SHOWN IS AT THE REQUEST OF VERIZON WIRELESS. THE INSTALLATION IS INTENDED TO CONFORM WHERE FEASIBLE AND TO THE EXTENT PRACTICABLE WITH THE CITY OF BOSTON TRANSPORTATION DEPARTMENT BOSTON COMPLETE STREETS DESIGN GUIDELINES.
- ALL DISTANCES, DIMENSIONS, LOCATIONS, AND EQUIPMENT DESIGNATIONS AND SPECIFICATIONS ARE APPROXIMATE. ALL MATERIALS WILL RESEMBLE CURRENTLY EXISTING MATERIALS AND WHERE NEEDED ANY RF FRIENDLY MATERIAL WILL BE PAINTED TO MATCH.
- IT IS ASSUMED THAT ALL PROPOSED UTILITIES WILL BE ROUTED BELOW GRADE TO THE PROPOSED INSTALLATION.
- CITY EXHIBIT X APPROVALS INCLUDE THE OPTION OF INSTALLING ONE (1) ANTENNA UP TO 16"Ø X 40" TALL AND/OR (1) ANTENNA SYSTEM (42"Ø X 30"H).
- TOP OF PROPOSED LIGHT POLE ELEVATION SHOWN TO INCLUDE INTEGRATED CONCEALMENT SHROUD AND ANTENNA MOUNTING ASSEMBLY.
- RRH TO BE NO LARGER THAN 16"WX12"DX40"H.
- POLE REPLACEMENT INFO FOR LIGHT POLES:
 14' EXISTING POLE TO BE REPLACED WITH A NEW POLE WITH A MAX HEIGHT OF 16.8'.
 19' EXISTING POLE TO BE REPLACED WITH A NEW POLE WITH A MAX HEIGHT OF 22.8'.
 24' EXISTING POLE TO BE REPLACED WITH A NEW POLE WITH A MAX HEIGHT OF 28.8'.
 29' EXISTING POLE TO BE REPLACED WITH A NEW POLE WITH A MAX HEIGHT OF 34.8'.
- V2W WILL PLACE SMALL PLACARD ON POLE IDENTIFYING OWNERSHIP/CONTACT INFORMATION.
- LED LIGHT & LUMINAIRE ARM WILL BE AT THE SAME APPROXIMATE HEIGHT AS EXISTING.
- PROPOSED LIGHTING WILL CONFORM TO THE CITY OF BOSTON'S LIGHTING STANDARDS.
- IF THE EXISTING LIGHT POLE IS TO BE REPLACED WITH PROPOSED LIGHT POLE AT THE SAME LOCATION, SUPPLEMENTAL NIGHT-TIME STREET LIGHTING WILL BE REQUIRED DURING CONSTRUCTION UNTIL PROPOSED LIGHT FIXTURE IS FUNCTIONAL.
- EXISTING POLE HEIGHTS HAVE BEEN FIELD VERIFIED BY PROTERRA DESIGN GROUP, LLC. EXISTING POLE HEIGHTS SHOWN ARE APPROXIMATED TO MATCH STANDARDIZED POLE DIMENSIONS THAT ARE TYPICAL OF LIGHT DEPARTMENT INSTALLATIONS.

LEASE EXHIBIT



118 FLANDERS ROAD
 THIRD FLOOR
 WESTBOROUGH, MA 01581



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 Haverly, MA 01025
 PH: (413)320-4918

PREPARED BY:

REV	DATE	DESCRIPTION	BY (CHK/APP'D)	DATE
0	07/17/19	LEASE EXHIBIT	STZ (EJ/JAM)	

REVISIONS

REV	DATE	DESCRIPTION	BY (CHK/APP'D)	DATE

BOS_BBCCP_001_MA
 TREMONT STREET
 BOSTON, MA

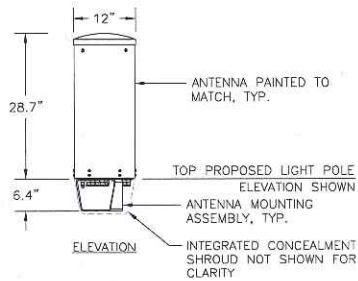
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REF: PROTERRA 10/26/18

PHOTO DETAIL
SCALE: N.T.S.

1
LE-3



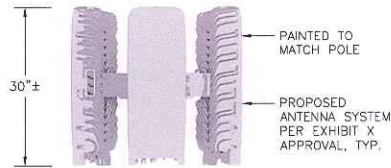
ANTENNA SPECIFICATIONS

MODEL: COMMSCOPE
NNWSSP-360S-FM
ANTENNA DIMENSIONS: 12"Ø x 28.7"H
WEIGHT: 26.7 LBS. ±

ANTENNA DETAIL

SCALE: N.T.S.

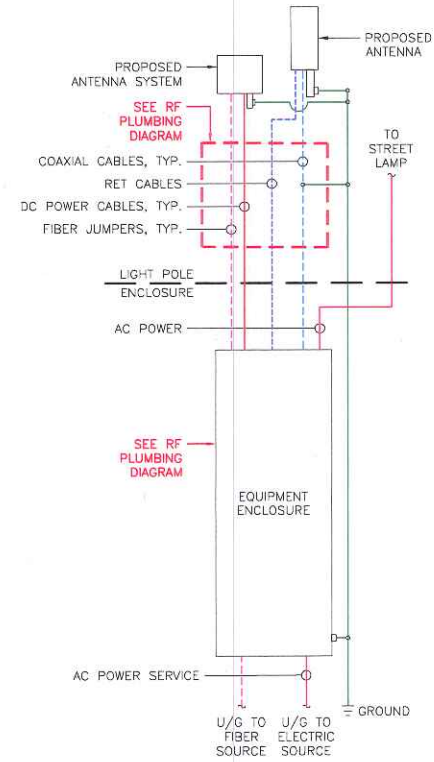
2
LE-3



ANTENNA SYSTEM DETAIL

SCALE: N.T.S.

3
LE-3



NOTES:

- IT IS THE RESPONSIBILITY OF VERIZON WIRELESS AND THE POLE MANUFACTURER TO DETERMINE THE PROPOSED EQUIPMENT AND CABLING, QUANTITIES, CONSTRAINTS, AND FITMENT WITHIN THE PROPOSED POLE.
- CONTRACTOR TO FIELD TEST AND TIE INTO EXISTING GROUNDING SYSTEM. IF GROUNDING SYSTEM DOES NOT MEET VERIZON WIRELESS STANDARDS OR IS NOT FOUND, CONTRACTOR SHALL NOTIFY POLE OWNER AND INSTALL GROUNDING SYSTEM PER UTILITY PROVIDER AND VERIZON WIRELESS REQUIREMENTS AND SPECIFICATIONS.
- CONTRACTOR TO VERIFY FINAL ANTENNA DESIGN WITH VERIZON WIRELESS RF ENGINEER PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL HAVE WRITTEN WORK AUTHORIZATION FROM POLE OWNER PRIOR TO COMMENCEMENT OF WORK.
- THE WIRING DIAGRAM SHOWN HEREIN IS SCHEMATIC. THE INSTALLATION SHALL BE VERIFIED AND INSPECTED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH APPLICABLE CODES.

GENERAL WIRING DIAGRAM

SCALE: N.T.S.

4
LE-3

LEASE EXHIBIT



PREPARED BY:
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REV	DATE	DESCRIPTION	BY (CHK/APPD)	STZ	TEJ	JAM
0	07/17/19	LEASE EXHIBIT				

REVISIONS

FOR SCHEMATIC ONLY

BOS_BBOP_001_M
TREMONT STREET
BOSTON, MA

LE-3