

PIGEON FORGE
T.E.N.N.E.S.S.E.E

DEPARTMENT OF PUBLIC WORKS

MARK MILLER
DIRECTOR

NOTICE OF BID

The City of Pigeon Forge is receiving bids on traffic poles and mast arms.

Specifications may be obtained from the Public Works Department in City Hall between the hours of 8:00 am and 4:30 pm, Monday thru Friday.

All bids must be in sealed envelope with bidders name and address on outside and marked "Bid on Poles and Mast Arms."

Bids will be received until 2:00 pm, February 15, 2023, at which time they will be opened and read aloud.

The City reserves the right to reject any or all bids or to accept the bid most favorable to the city.

This 25th day of January, 2023.

Department of Public Works
Pigeon Forge, Tennessee

Specifications

All questions directed to Wesley Stokes, P.E. at Cannon & Cannon, Inc., (865) 770-4015, wstokes@cannon-cannon.com.

All Signal poles and mast arms shall be black powder coated and those with arms 50' or greater in length shall include vibration damper plates. Anchor bolts shall be shipped with the pole/mast arm assemblies. These structures shall comply with TDOT Special Provision SP700SIG and Standard Drawing T-SG-9. Structure sizes are as follows:

Music Road/Lazy Lane @ Parkway

- Pole 4A – Height = 32 feet w/ 1 mast arm (length = 70 feet) and 1 luminaire arm (length = 20 feet and arm to run 22 ½ degrees left of mast arm at top of pole)
- Pole 4F – Height = 22 feet w/ 1 mast arm (length = 45 feet)
- Pole 4G – Height = 32 feet w/ 1 mast arm (length = 70 feet) and 1 luminaire arm (length = 20 feet and arm to run 22 ½ degrees left of mast arm at top of pole)
- Pole 4J – Height = 22 feet w/ 1 mast arm (length = 40 feet)

Teaster Lane @ Parkway

- Pole 5A – Height = 32 feet w/ 1 mast arm (length = 60 feet) and 1 luminaire arm (length = 20 feet and arm to run 22 ½ degrees left of mast arm at top of pole)
- Pole 5I – Height = 32 feet w/ 1 mast arm (length = 70 feet) and 1 luminaire arm (length = 20 feet and arm to run 22 ½ degrees left of mast arm at top of pole)
- Pole 5L – Height = 22 feet w/ 1 mast arm (length = 40 feet)

Pine Mountain @ Parkway

- Pole 6F – Height = 25 feet w/ 1 mast arm (length = 60 feet)
- Pole 6K – Height = 32 feet w/ 1 mast arm (length = 55 feet) and 1 luminaire arm (length = 20 feet and arm to run parallel with mast arm at top of pole)

- Pole 6M – Height = 25 feet w/ 1 mast arm (length = 60 feet)

Old Mill Avenue @ Parkway

- Pole 7E – Height = 32 feet w/ 1 mast arm (length = 60 feet) and 1 luminaire arm (length = 20 feet and arm to run parallel with mast arm at top of pole)
- Pole 7F – Height = 25 feet w/ 1 mast arm (length = 65 feet)
- Pole 7J – Height = 25 feet w/ 1 mast arm (length = 60 feet)

Shipping and Delivery of Bid and Items

Shipment delivery: Pigeon Forge Street Department
2320 Garland Harmon Drive
Pigeon Forge, TN 37863

Bid hand delivery: Pigeon Forge Public Works
3211 Rena Street
Pigeon Forge, TN 37863

Bid mail delivery: Pigeon Forge Public Works
PO Box 1350
Pigeon Forge, TN 37868

BID SHEET

Bidder: _____

Address: _____

Contact: _____ Phone: _____

FAX: _____ Email: _____

Signature

Date

SIGNAL POLE CONSTRUCTION NOTES

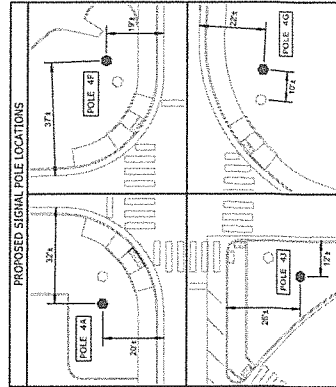
- POLE 4A: INSTALL NEW BLACK POWDER COATED CANTILEVER SIGNAL SUPPORT WITH EXTENSION ARM.
- POLE 4B: REPLACE EXISTING PEDESTRIAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN SIGNAL HEADS AND PUSHBUTTON TO REMAIN.
- POLE 4C: REMOVE EXISTING SIGNAL STRAIN POLE AND CUT OFF FOUNDATION TO ONE FOOT BELOW GROUND LEVEL.
- POLE 4D: REMOVE EXISTING SIGNAL STRAIN POLE AND CUT OFF FOUNDATION TO ONE FOOT BELOW GROUND LEVEL. INSTALL NEW BLACK POWDER COATED PEDESTRIAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN SIGNAL HEAD AND PUSHBUTTON TO REMAIN.
- POLE 4E: REMOVE EXISTING SIGNAL STRAIN POLE AND CUT OFF FOUNDATION TO ONE FOOT BELOW GROUND LEVEL.
- POLE 4F: INSTALL NEW BLACK POWDER COATED CANTILEVER SIGNAL SUPPORT.
- POLE 4G: INSTALL NEW BLACK POWDER COATED CANTILEVER SIGNAL SUPPORT WITH EXTENSION ARM AND TRANSFER HEAD EQUIPMENT FROM POLE 4K.
- POLE 4H: REMOVE EXISTING SIGNAL STRAIN POLE AND CUT OFF FOUNDATION TO ONE FOOT BELOW GROUND LEVEL.
- POLE 4I: REPLACE EXISTING PEDESTRIAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN SIGNAL HEAD AND PUSHBUTTON TO REMAIN.
- POLE 4J: INSTALL NEW BLACK POWDER COATED CANTILEVER SIGNAL SUPPORT.
- POLE 4K: EXISTING UTILITY POLE TO REMAIN. REMOVE EXISTING SIGNAL EQUIPMENT FROM POLE 4K.
- POLE 4L: REMOVE EXISTING PEDESTRIAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN SIGNAL HEADS AND PUSHBUTTONS TO REMAIN.

EQUIPMENT TRANSFER NOTES

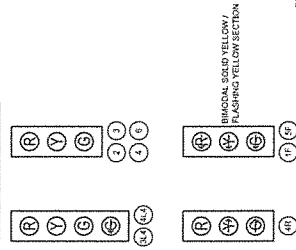
- ALL RING COUNTERS SHALL BE REMOVED FROM POLE 4K AND TRANSFERRED TO PROPOSED SIGNAL POLE 4G.
- ALL PEDESTRIAN SIGNAL FEATURES SHALL BE REMOVED FROM OLD PEDESTRIAN POLES AND PLACED ON NEW BLACK ONES.

SIGNAL REMOVAL NOTE

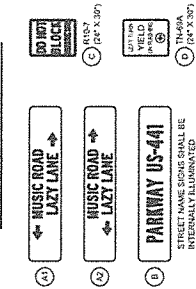
- EXISTING SIGNAL HEADS, SPIN WIRE, ASSOCIATED SIGNAL CABLE AND SIGNAL CABINET SHALL BE REMOVED. ALL REMAINING EQUIPMENT SHALL BE REFERRED TO THE CITY OF PIGEON FOR FURTHER OFFICE.



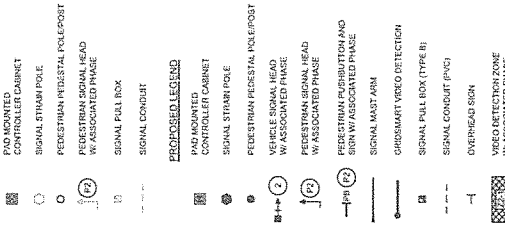
PROPOSED SIGNAL HEADS



PROPOSED OVERHEAD SIGNS



EXISTING LEGEND

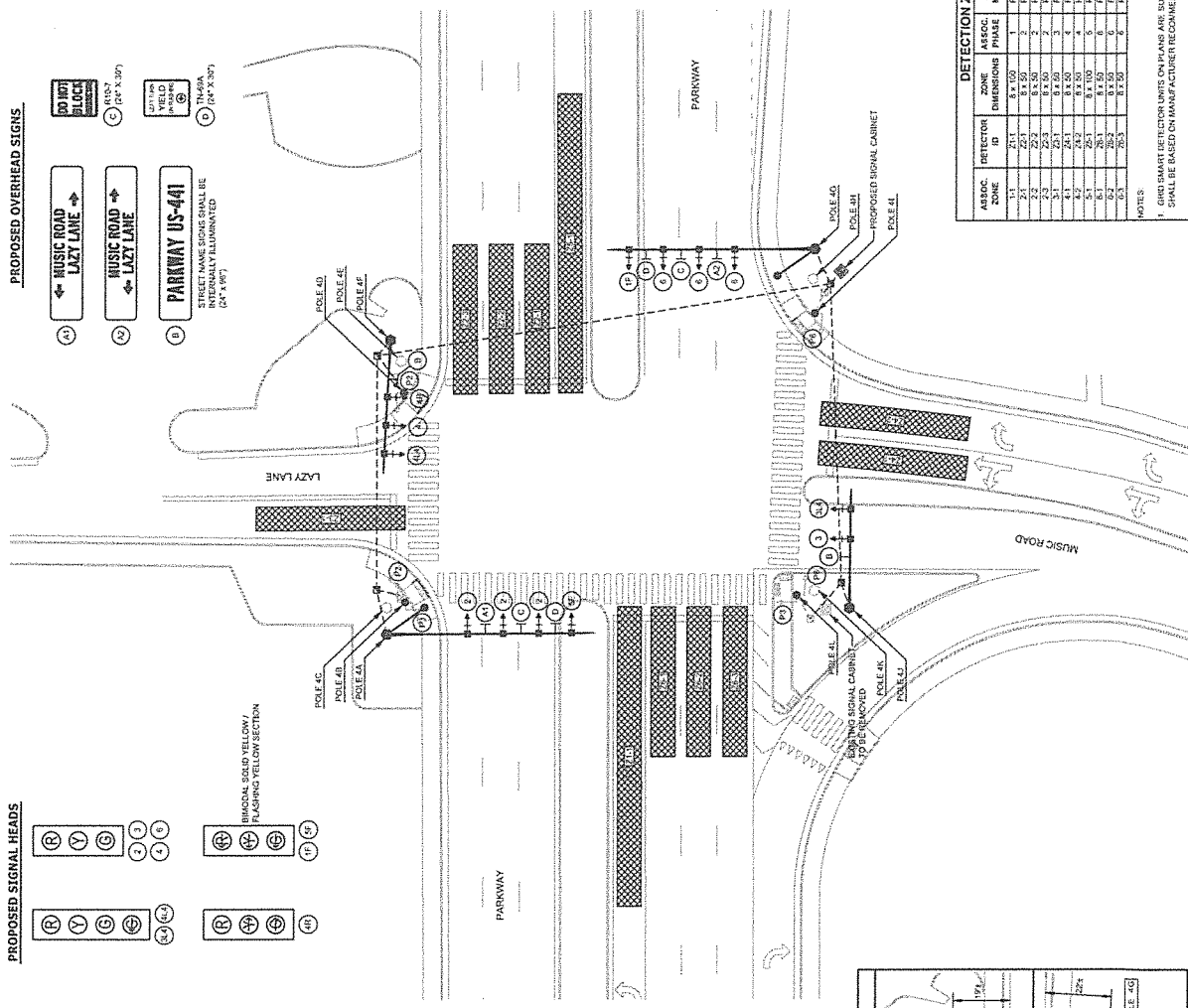


PROPOSED LEGEND



CONSTRUCTION NOTES

- CONTRACTOR SHALL NOTIFY SIGNAL POLES DURING CONSTRUCTION.



DETECTION ZONE SCHEDULE

ASSOC. ZONE	DETECTOR ID	ZONE DIMENSIONS	ASSOC. NODE	PHASE	COMMENTS
1-1	21-1	8' x 100'	1	PREIS	NORMAL
2-1	22-1	8' x 50'	2	PREIS	NORMAL
3-1	23-1	8' x 50'	3	PREIS	NORMAL
4-1	24-1	8' x 50'	4	PREIS	NORMAL
5-1	25-1	8' x 50'	5	PREIS	NORMAL
6-1	26-1	8' x 50'	6	PREIS	NORMAL
7-1	27-1	8' x 50'	7	PREIS	NORMAL
8-1	28-1	8' x 50'	8	PREIS	NORMAL
9-1	29-1	8' x 50'	9	PREIS	NORMAL
10-1	30-1	8' x 50'	10	PREIS	NORMAL

NOTES:
1. GRID CABINET DETECTOR UNITS ON PLANS ARE SUGGESTED PLACEMENT. FINAL PLACEMENT SHALL BE BASED ON MANUFACTURER RECOMMENDATIONS.

CANNON & CANNON INC
CONSULTING ENGINEERS - FIELD SURVEYORS
10000 BROADVIEW AVENUE
ANN ARBOR, MI 48106-1700
TEL: 734.769.8855
WWW.CANNONANDCANNON.COM

CLIENT: CITY OF PIGEON FORGE

PROJECT: PARKWAY TRAFFIC SIGNALS REPLACEMENT

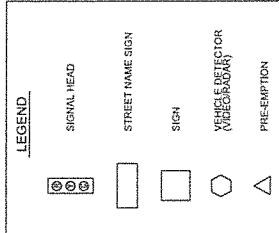
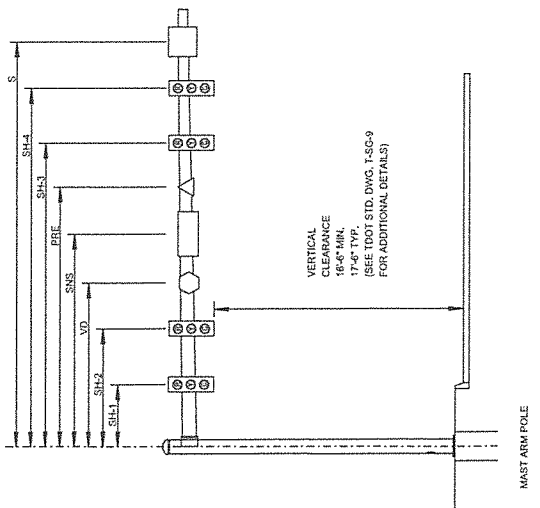
PROPOSED SIGNAL LAYOUT
PARKWAY AT LAZY LANE/MUSIC ROAD

DATE: 12-14-2022
DRAWN: WSK
CHECKED: WSK
SCALE: AS SHOWN

4

TYPICAL SIGNAL SUPPORT POLE DATA TABLE

POLE (TYPE)	MAST ARM, POLE, & FOUNDATION DATA							
	POLE HEIGHT	SH1	SH2	SH3	SH4	SNS	S	FOUNDATION DIAMETER & DEPTH
1. POLE WITH TRAFFIC SIGNAL	32	17	27	13	17	10	10	3' X 3' X 12' MINIMUM (SEE NOTE 2)
2. POLE WITH TRAFFIC SIGNAL AND PRE-EMPTION	32	17	27	13	17	10	10	3' X 3' X 12' MINIMUM (SEE NOTE 2)
3. POLE WITH TRAFFIC SIGNAL AND RADAR VEHICLE DETECTOR	32	17	27	13	17	10	10	3' X 3' X 12' MINIMUM (SEE NOTE 2)
4. POLE WITH TRAFFIC SIGNAL AND VEHICLE DETECTOR (VIBECORAN)	32	17	27	13	17	10	10	3' X 3' X 12' MINIMUM (SEE NOTE 2)
5. POLE WITH TRAFFIC SIGNAL AND PRE-EMPTION AND RADAR VEHICLE DETECTOR	32	17	27	13	17	10	10	3' X 3' X 12' MINIMUM (SEE NOTE 2)
6. POLE WITH TRAFFIC SIGNAL AND PRE-EMPTION AND VEHICLE DETECTOR (VIBECORAN)	32	17	27	13	17	10	10	3' X 3' X 12' MINIMUM (SEE NOTE 2)



S: SIGN
 SNS: STREET NAME SIGN
 SH-X: SIGNAL HEAD
 VD: RADAR VEHICLE DETECTOR
 PRE: PREEMPTION DETECTOR

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 CONSULTING ENGINEERS, FIELD SURVEYORS
 1100 BESENBERRY BLVD
 ST. LOUIS, MISSOURI 63108
 WWW.CANNON-ENGINEERS.COM

DATE: _____
 PROJECT: CITY OF PIGEON FORGE
 PARKWAY TRAFFIC SIGNALS REPLACEMENT
 SIGNAL POLE TABLE
 PARKWAY AT LAZY LANE / MUSIC ROAD

LOG PROJECT NO.: 00017-0023
 DATE: 12-14-2022
 TYP: AAK
 DESIGNED: TSM
 CHECKED: ALC

4B

PRELIMINARY

SIGNAL POLE CONSTRUCTION NOTES

- POLE SA: INSTALL NEW BLACK POWDER COATED CANTILEVER SIGNAL
- POLE SB: REPLACE EXISTING PEDESTRIAN RESTRAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN RESTRAN POLE AND BASE WITH EXISTING PEDESTRIAN SIGNAL HEAD AND DISTRIBUTION TO REMAIN
- POLE SC: REMOVE EXISTING SIGNAL STRAIN POLE AND CUT OLD FOUNDATION TO ONE FOOT BELOW GROUND LEVEL.
- POLE SD: REPLACE EXISTING PEDESTRIAN RESTRAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN POLE AND BASE WITH EXISTING PEDESTRIAN SIGNAL HEAD AND DISTRIBUTION TO REMAIN.
- POLE SE: REMOVE EXISTING SIGNAL STRAIN POLE AND TRANSFER CCTV AND RADIO EQUIPMENT TO PROPOSED SIGNAL POLE SA.
- POLE SF: REPLACE EXISTING PEDESTRIAN RESTRAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN POLE AND BASE WITH EXISTING PEDESTRIAN SIGNAL HEAD AND DISTRIBUTION TO REMAIN.
- POLE SG: REPLACE EXISTING PEDESTRIAN RESTRAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN POLE AND BASE WITH EXISTING PEDESTRIAN SIGNAL HEAD AND DISTRIBUTION TO REMAIN.
- POLE SH: INSTALL NEW BLACK POWDER COATED CANTILEVER SIGNAL SUPPORT WITH EXTENSION ARM AND TRANSFER CCTV AND RADIO EQUIPMENT FROM POLE SE.
- POLE SI: REPLACE EXISTING PEDESTRIAN RESTRAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN POLE AND BASE WITH EXISTING PEDESTRIAN SIGNAL HEAD AND DISTRIBUTION TO REMAIN.
- POLE SJ: REPLACE EXISTING PEDESTRIAN RESTRAN POLE AND BASE WITH NEW BLACK POWDER COATED PEDESTRIAN POLE AND BASE WITH EXISTING PEDESTRIAN SIGNAL HEAD AND DISTRIBUTION TO REMAIN.
- POLE SK: INSTALL NEW BLACK POWDER COATED CANTILEVER SIGNAL SUPPORT.
- POLE SL: REMOVE EXISTING SIGNAL STRAIN POLE AND CUT OLD FOUNDATION TO ONE FOOT BELOW GROUND LEVEL.

EQUIPMENT TRANSFER NOTES

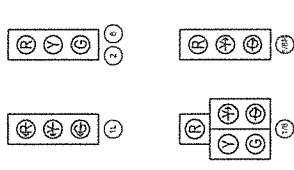
- ALL RADIO EQUIPMENT SHALL BE REMOVED FROM POLE SE AND TRANSFERRED TO PROPOSED SIGNAL POLE SA.
- ALL CCTV AND RADIO EQUIPMENT SHALL BE REMOVED FROM POLE SI AND TRANSFERRED TO PROPOSED SIGNAL POLE SA.
- ALL EXISTING PEDESTRIAN SIGNAL HEADS AND DISTRIBUTION TO REMAIN SHALL BE REMOVED FROM POLE SD AND POLE SJ.

SIGNAL REMOVAL NOTE

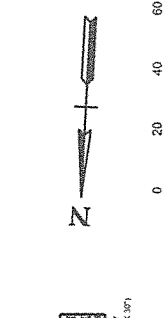
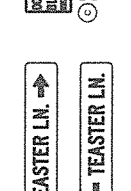
- EXISTING SIGNAL POLES, STRAIN POLES, AND SIGNAL CABLES AND SIGNAL CABINET SHALL BE REMOVED AT THE CITY OF PIGEON FORGE PUBLIC WORKS OFFICE.



PROPOSED SIGNAL HEADS



PROPOSED OVERHEAD SIGNS



EXISTING LEGEND

- PAN MOUNTED CONTROLLER CABINET
- SIGNAL STRAIN POLE
- PEDESTRIAN RESTRAN POLE/POST W/ ASSOCIATED PHASE
- SIGNAL PULL BOX
- SIGNAL CONDUIT

PROPOSED LEGEND

- PAN MOUNTED CONTROLLER CABINET
- SIGNAL STRAIN POLE
- PEDESTRIAN RESTRAN POLE/POST W/ ASSOCIATED PHASE
- VEHICLE SIGNAL HEAD W/ ASSOCIATED PHASE
- PEDESTRIAN SIGNAL HEAD W/ ASSOCIATED PHASE
- PEDESTRIAN DISTRIBUTION AND SIGN W/ ASSOCIATED PHASE
- SIGNAL MAST ARM
- UNDERMOUNT VIDEO DETECTION
- SIGNAL PULL BOX (TYPE B)
- SIGNAL CONDUIT (PVC)
- OVERHEAD SIGN
- VIDEO DETECTION ZONE W/ ASSOCIATED PHASE

CONSTRUCTION NOTES

- CONTRACTOR SHALL COORDINATE WITH EXISTING OVERHEAD POLE SA TO ENSURE EXISTING UTILITIES ARE NOT IN CONFLICT WITH NEW MAST ARM.

DETECTION ZONE SCHEDULE

ASSOC. ZONE	DETECTOR ID	ZONE DIMENSIONS	ASSOC. PHASE	AMP MORE	COMMENTS
1-1	21-1	8' X 50'	1	1	NORMAL
1-2	21-2	8' X 50'	2	1	NORMAL
2-1	22-1	8' X 50'	1	1	NORMAL
2-2	22-2	8' X 50'	2	1	NORMAL
3-1	23-1	8' X 50'	1	1	NORMAL
3-2	23-2	8' X 50'	2	1	NORMAL
4-1	24-1	8' X 50'	1	1	NORMAL
4-2	24-2	8' X 50'	2	1	NORMAL
5-1	25-1	8' X 50'	1	1	NORMAL
5-2	25-2	8' X 50'	2	1	NORMAL
6-1	26-1	8' X 50'	1	1	NORMAL
6-2	26-2	8' X 50'	2	1	NORMAL
7-1	27-1	8' X 50'	1	1	DELAY 7 NORMAL (DELAY T. 19.8 SEC)
7-2	27-2	8' X 50'	2	1	DELAY 7 NORMAL (DELAY T. 19.8 SEC)

NOTES

- 1. OVERLAP DETECTION ZONES ON PLAN ARE BASED ON PLACEMENT. FINAL PLACEMENT SHALL BE BASED ON MANUFACTURER RECOMMENDATIONS.

DATE: _____

PROJECT: _____

CITY OF PIGEON FORGE

PROJECT: PARKWAY TRAFFIC SIGNALS REPLACEMENT

PROPOSED SIGNAL LAYOUT PARKWAY AT TEASTER LANE

DATE: 12-12-2022

SCALE: 1" = 20'

5

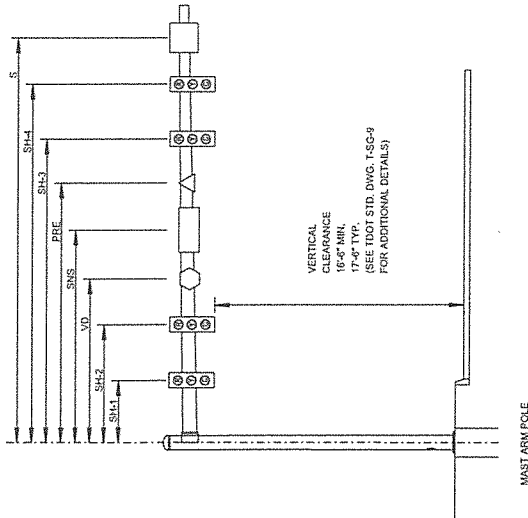
CANNON & CANNON INC
CONSULTING ENGINEERS - FIELD SUPERVISORS
1405 N. HARRIS BLVD
ANN ARBOR, MI 48106
WWW.CANNON-AND-CANNON.COM

1/23/2023 3:04:55 PM
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TYPICAL SIGNAL SUPPORT POLE DATA TABLE

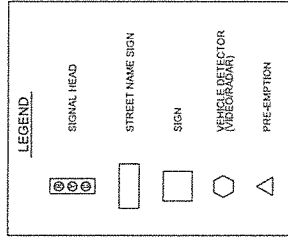
MAST ARM, POLE, & FOUNDATION DATA									
POLE (TYPE)	POLE HEIGHT	MAST ARM SPREAD	SH-1	SH-2	SH-3	SH-4	S	Ø	FOUNDATION DIAMETER (DEPTH)
Ø - POLE WITH MAST ARM	25'	60"	20'	43'	33'	23'	30'	47"	4' X 12' MINIMUM (SEE NOTE 3)
ØK - POLE WITH MAST ARM	25'	50"	17'	30'	30'	48'	23.5'	42"	3' X 12' MINIMUM (SEE NOTE 3)
ØK - POLE WITH MAST ARM	25'	60"	20'	43'	33'	23.5'	34.8'	42"	4' X 12' MINIMUM (SEE NOTE 3)

1. ALL MAST ARMS, PIERSTALS, AND POSTS SHALL BE BLACK POWDER COATED AND SHALL BE DESIGNED FOR THE VERTICAL CLEARANCES, ARM SPREADS, AND HEIGHTS SPECIFIED BY THIS DESIGN PLAN. THE DESIGNER SHALL COMPLY WITH THE REQUIREMENTS OF T.O.T. STANDING SPECIFICATION SECTION 100.01.01.
2. FINAL DESIGN OF POLES AND FOUNDATION DEPTHS ARE THE RESPONSIBILITY OF THE POLE MANUFACTURER AND CONTRACTOR.
3. A GROUNDWATER BELL CURVE SHALL BE ADAPTED PER MANUFACTURER RECOMMENDATIONS ON POLE ØK, INCLUDING ALL NECESSARY RISERS AND BRACETS TO BE INDICATED ON POLE ØK.
4. MAST ARM SPREAD IS MEASURED FROM CENTER OF POLE.
5. FOUNDATION DEPTHS IS DEPTHS BELOW SURFACE OF GROUND.
6. FOUNDATION DEPTHS SHALL BE MEASURED PER DOT STD. DRAWING T-609.
7. VERTICAL CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD HEIGHTS: MIN = 16.5', MAX = 19.0'.
8. SIGNAL HEAD AND SIGN MOUNTING BRACKETS SHALL BE PER T.O.T. STANDING DRAWING T-609 OR EQUIVALENT.



VERTICAL CLEARANCE
16'-5" MIN.
17'-0" TYP.
(SEE T.O.T. STD. DWG. T-609
FOR ADDITIONAL DETAILS)

- S: SIGN
- SNS: STREET NAME SIGN
- SH-2: SIGNAL HEAD
- SH-3: SIGNAL HEAD DETECTOR
- PRE: PRE-EMPTION DETECTOR



REVNO.	DATE
CANNON & CANNON INC CORPORATE ENGINEERING AND SURVEYING www.cannonandcannon.com 15214 N. 152nd Ave., Suite 100 Redmond, WA 98073	
CLIENT: CITY OF PIGEON FORGE	
PROJECT: PARKWAY TRAFFIC SIGNALS REPLACEMENT	
SIGNAL POLE TABLE	
DATE: 12-16-2023	DATE: 02/28/2024
BY: [Signature]	BY: [Signature]
CHECKED: [Signature]	CHECKED: [Signature]
SCALE: 1"=10'-0"	SCALE: 1"=10'-0"
PRELIMINARY	
6B	

