INDEX OF SHEETS

SEE SHEET 1A

SEE SHEET 05 AND 11 FOR SHEET LAYOUT KEY MAPS

LOCALLY MANAGED PROJECT

LOCALLY LET PROJECT

THE CITY OF GOODLETTSVILLE, TENNESSEE

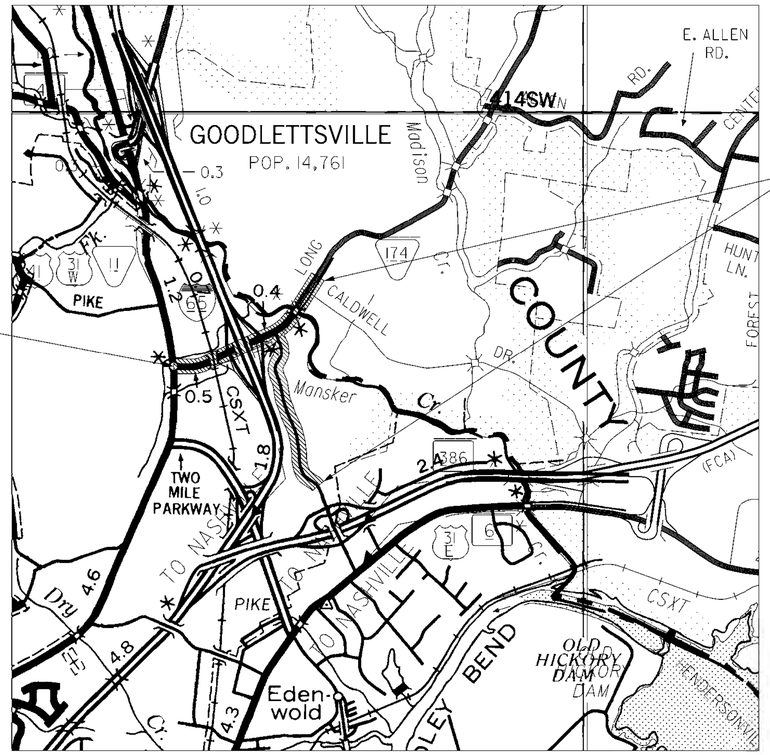
SUMNER AND DAVIDSON COUNTIES

TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES - PHASE II
SR 174 AND CONFERENCE DRIVE

CONSTRUCTION

FEDERAL PROJECT NUMBER: CM-9321(2)
TDOT PROJECT NUMBER: 19LPLM-F3-139
TDOT PIN: 120327.01

THIS PROJECT DOES NOT REQUIRE ANY R.O.W. ACQUISITION OR EASEMENTS.



SCALE: 1" = 2,640' (½ mile)
TOTAL PROJECT LENGTH = 2.26 MILES

N

ENGINEER

KIMLEY-HORN AND ASSOCIATES, INC.
214 OCEANSIDE DRIVE
NASHVILLE, TN 37204
(615) 564-2701 TEL

CONTACT: TERRANCE Q. HILL, P.E.
ENGINEER OF RECORD: CHRISTOPHER D. RHODES, P.E.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2015 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

PROPOSALS MAY BE REJECTED IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
XVI
AGRICULTURE
COMMERCE
141-7002
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REVISIONS		
NO.	DESCRIPTION	DATE

OWNER: CITY OF GOODLETTSVILLE, TENNESSEE
ENGINEER: KIMLEY-HORN AND ASSOCIATES, INC.

LOCATION: LONG HOLLOW PIKE (SR 174) AND CONFERENCE DRIVE
CITY OF GOODLETTSVILLE, TENNESSEE

DRAWN BY: JTB DATE: 1/11/19 SCALE: VARIES
DESIGN BY: TQH DATE: 1/11/19 PROJECT: ITS / TSD

APPROVED: _____ _____
ADMINISTRATOR DATE

INDEX OF SHEETS

STANDARD ROADWAY DRAWINGS

DWG. NO.	REV.	DESCRIPTION
DESIGN - TRAFFIC CONTROL		
T-FAB-1	05-27-97	FLASHING YELLOW ARROW BOARD
T-M-1	07-05-17	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-2	08-02-18	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
T-M-3	07-24-14	MARKING STANDARDS FOR TRAFFIC ISLANDS, MEDIANS & PAVED SHOULDERS ON CONVENTIONAL ROADS
T-M-4	08-02-18	STANDARD INTERSECTION PAVEMENT MARKINGS
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T-WZ-11	03-05-17	ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS
T-WZ-16	03-05-17	LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS
T-WZ-18	03-05-17	SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS
T-WZ-40	03-05-17	RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
T-WZ-41	03-05-17	LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
T-WZ-42	03-05-17	CENTER LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
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T-WZ-52	04-02-12	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR 5 LANE MAJOR AND MINOR ROUTES
T-WZ-53	04-02-12	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES
T-WZ-54	04-02-12	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES AND 4 OR MORE LANE MINOR ROUTES
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EROSION PREVENTION AND SEDIMENT CONTROL		
EC-STR-3B	03-16-17	SILT FENCE
EC-STR-3C	08-01-12	SILT FENCE WITH WIRE BACKING
EC-STR-3E	04-01-08	SILT FENCE FABRIC JOINING DETAILS
EC-STR-8	06-10-14	FILTER SOCK
EC-STR-37	06-10-14	SEDIMENT TUBE
EC-STR-39	08-01-12	CURB INLET PROTECTION TYPE 1 & 2
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RD-L-1	10-26-94	STANDARD LEGEND
RD-L-2	09-05-01	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD-L-3	03-16-17	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-4	07-16-18	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-5	05-01-08	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-6	03-30-10	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-7	05-24-12	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
ROADWAY AND PAVEMENT APPURTENANCES		
RP-H-3	07-16-18	CURB RAMP AND TRUNCATED DOME SURFACE DETAIL
RP-H-4	07-16-18	PERPENDICULAR CURB RAMP
RP-H-5	07-16-18	PARALLEL CURB RAMP
RP-H-6	07-16-18	PEDESTRIAN REFUGE
RP-H-7	07-16-18	PERPENDICULAR CURB RAMP IN CURVE
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RP-S-7	05-15-18	DETAILS FOR CONCRETE SIDEWALKS

STANDARD TRAFFIC OPERATIONS DRAWINGS

DWG. NO.	REV.	DESCRIPTION
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T-FO-1		FIBER OPTIC AERIAL ENTRANCE DETAILS
T-FO-2		FIBER OPTIC UNDERGROUND ENTRANCE DETAILS
T-FO-3		FIBER OPTIC AERIAL CONNECTION DETAILS
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T-S-9	06-10-14	STANDARD LAYOUT GROUND MOUNTED SIGNS
T-S-10	04-04-12	STANDARD MOUNTING DETAILS FLAT SHEET SIGNS ALUMINUM-STEEL DESIGN
T-S-12	07-10-17	STANDARD STEEL GROUND MOUNTED SIGNS, BREAK-AWAY TYPE POST FOOTING DETAILS, SQUARE TUBES
T-S-16	07-02-15	GROUND MOUNTED ROADSIDE SIGN PLACEMENT DETAILS
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T-SG-4	06-27-16	SPAN WIRE AND MESSENGER CABLE DETAILS
T-SG-5	06-27-16	CONTROLLER CABINET DETAILS
T-SG-6		PEDESTRIAN SIGNAL DETAILS
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T-SG-7A		TYPICAL SIGNAL HEAD PLACEMENT - APPROACHES WITH NO THROUGH MOVEMENTS
T-SG-7B		TYPICAL SIGNAL HEAD PLACEMENT - APPROACHES WITH NO THROUGH MOVEMENTS
T-SG-7C		TYPICAL SIGNAL HEAD PLACEMENT - ONE-LANE AND TWO-LANE APPROACHES
T-SG-7D		TYPICAL SIGNAL HEAD PLACEMENT - TWO-LANE APPROACHES
T-SG-7E		TYPICAL SIGNAL HEAD PLACEMENT - THREE-LANE APPROACHES
T-SG-7F	07-13-17	TYPICAL SIGNAL HEAD PLACEMENT - THREE-LANE APPROACHES
T-SG-7G		TYPICAL SIGNAL HEAD PLACEMENT - THREE-LANE APPROACHES
T-SG-7H		TYPICAL SIGNAL HEAD PLACEMENT - THREE-LANE AND FOUR-LANE APPROACHES
T-SG-7K		TYPICAL SIGNAL HEAD PLACEMENT - FOUR-LANE APPROACHES
T-SG-7L		TYPICAL SIGNAL HEAD PLACEMENT - FOUR-LANE APPROACHES
T-SG-8	06-27-16	STRAIN POLE DETAILS FOR SPAN MOUNTED SIGNALS
T-SG-9	07-11-17	DETAILS OF CANTILEVER SIGNAL SUPPORT
T-SG-9A	07-12-17	MISCELLANEOUS SIGNAL DETAILS
T-SG-10	07-11-17	MAST ARM POLE AND STRAIN POLES FOUNDATION DETAILS
T-SG-11	07-12-17	MAINTENANCE OF EXISTING SIGNALS DURING HIGHWAY CONSTRUCTION
T-SG-12	07-12-17	TYPICAL WIRING FOR SIGNAL HEADS AND DETECTION LOOPS
T-SG-13	06-27-16	FLASHING BEACON DETAIL

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INDEX OF SHEETS / ROADWAY DRAWINGS INDEX

CHRISTOPHER D RHODES
REGISTERED ENGINEER
XVI
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COURAGE
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	TQH
CHECKED BY:	CDR
DATE:	1/11/2019
KHA PROJECT NO.: 118035002	
SHEET NUMBER	1A

2/7/2019 11:45:07 AM
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SPECIAL ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT
ASTM	AMERICAN SOCIETY OF TESTING & MATERIALS
ATMS	ADVANCED TRAFFIC MANAGEMENT SYSTEM
AVE	AVENUE
AWG	AMERICAN WIRE GAUGE
(B)	BACK
BCW	BARE COPPER WIRE
BLVD	BOULEVARD
BOC	BACK OF CURB
CCTV	CLOSED CIRCUIT TELEVISION
CIR	CIRCLE
CL	CENTERLINE
COMM	COMMUNICATION
CPU	CENTRAL PROCESSING UNIT
CT	COURT
CW	COPPER WIRE
DEM	DEMARCATION SITE
DET	DETECTOR
DR	DRIVE
EL	ELEVATION
EOP	EDGE OF PAVEMENT
EOTW	EDGE OF TRAVEL WAY
EVP	EMERGENCY VEHICLE PRE-EMPTION
EX	EXISTING
FHWA	FEDERAL HIGHWAY ADMINISTRATION
FO	FIBER OPTIC
FOC	FACE OF CURB
HDPE	HIGH DENSITY POLYETHYLENE
HWY	HIGHWAY
I/C	INTERCONNECT
IP	INTERNET PROTOCOL
ITS	INTELLIGENT TRANSPORTATION SYSTEM
JB	JUNCTION BOX
Kbps	KILOBITS PER SECOND
LAN	LOCAL AREA NETWORK
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET
LN	LANE
MAX	MAXIMUM
Mbps	MEGABITS PER SECOND
MB	METER BASE
MIN	MINIMUM
MMFO	MULTI-MODE FIBER OPTIC CABLE
MSF	MULTI-MODE / SINGLE-MODE FIBER OPTIC CABLE
MSG	MESSENGER CABLE
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NES	NASHVILLE ELECTRIC SERVICE
NESC	NATIONAL ELECTRICAL SAFETY CODE
NTCIP	NATIONAL TRANSPORTATION COMMUNICATIONS FOR ITS PROTOCOL
NTS	NOT TO SCALE
O/H	OVERHEAD
O/S	OFFSET
PB	PULL BOX
PEDS	PEDESTRIANS
PHV	PEAK HOUR VOLUME
PK	PIKE
PKWY	PARKWAY
PL	PLACE
POE	POWER OVER ETHERNET
PPB	PEDESTRIAN PUSHBUTTON
PROP	PROPOSED
PVC	POLYVINYL CHLORIDE
PWR	POWER
RAM	RANDOM ACCESS MEMORY
RD	ROAD
RGS	RIGID GALVANIZED STEEL
SHT	SHEET
SMFO	SINGLE MODE FIBER OPTIC CABLE
SR	STATE ROUTE
ST	STREET
TCOM	TELECOMMUNICATIONS
TDOT	TENNESSEE DEPARTMENT OF TRANSPORTATION
TMC	TRAFFIC MANAGEMENT CENTER
TOC	TRANSIT OPERATIONS CENTER
TPCC	TWISTED PAIR COPPER CABLE
TYP	TYPICAL
UG	UNDERGROUND
UMR	UTILITY MAKE READY
US	US ROUTE
VDC	VIDEO DETECTION CAMERA
WAN	WIDE AREA NETWORK

INTERSECTION IMPROVEMENTS SHEET LEGEND

EXISTING	PROPOSED	DESCRIPTION
		POLE-MOUNTED CABINET
		PAD-MOUNTED CABINET
		BATTERY BACK-UP
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNALIZED MOUNTED SIGN
		GROUND-MOUNTED SIGN
		PULL BOX TYPE "A"
		PULL BOX TYPE "B"
		FIBER OPTIC PULL BOX TYPE "A"
		PEDESTRIAN SIGNAL HEAD
		CONDUIT
		WOOD POLE
		PUSHBUTTON POST
		PEDESTAL POLE
		STEEL SIGNAL POLE
		STEEL POLE WITH MAST ARM
		STREET LIGHT
		RIGHT-OF-WAY
		GUY WIRE
		VEHICLE DETECTION CAMERA
		EMERGENCY VEHICLE PREEMPTION
		FISHEYE VIDEO DETECTION
		VIDEO DETECTION EXTENSION ARM
		VIDEO DETECTION ZONE (6' X 50')
		SIDEWALK

ITS LAYOUT SHEET LEGEND

EXISTING	PROPOSED	DESCRIPTION
		UTILITY POLE
		STEEL STRAIN SIGNAL POLE
		PAD-MOUNTED CABINET
		FIBER OPTIC PULL BOX TYPE "A"
		FIBER OPTIC PULL BOX TYPE "B"
		AERIAL SPLICE ENCLOSURE
		FIBER OPTIC CABLE BACKLASH
F	F	AERIAL SMFO CABLE
F (UG)	F (UG)	UNDERGROUND SMFO CABLE
		GUY WIRE

TRAFFIC CONTROL SHEET LEGEND

EXISTING	PROPOSED	DESCRIPTION
		GROUND-MOUNTED SIGN
		FLEXIBLE DRUMS

PAVEMENT MARKING ABBREVIATIONS

SSWL	SINGLE SOLID WHITE LINE
SSYL	SINGLE SOLID YELLOW LINE
SBWL	SINGLE BROKEN WHITE LINE
SBYL	SINGLE BROKEN YELLOW LINE
DSYL	DOUBLE SOLID YELLOW LINE
DBYL	DOUBLE BROKEN YELLOW LINE
DWL	DOTTED WHITE LINE
DYL	DOTTED YELLOW LINE
HWL	HASHED WHITE LINE
HYL	HASHED YELLOW LINE
NB	NORTH BOUND
EB	EAST BOUND
SB	SOUTH BOUND
WB	WEST BOUND

SEE TDOT STANDARD DRAWINGS T-M-1, T-M-2, T-M-3, AND T-M-4 FOR FURTHER INFORMATION REGARDING PAVEMENT MARKINGS.

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

SPECIAL ABBREVIATIONS AND PLANS LEGEND

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
STATE OF TENNESSEE
AGRICULTURE
COMMERCE
1/11/2019

No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	TQH
CHECKED BY:	CDR
DATE:	1/11/2019
KHA PROJECT NO.:	118035002
SHEET NUMBER	1B

FOOTNOTE	ITEM NUMBER	DESCRIPTION	UNIT	TOTAL QUANTITY
1	202-03	REMOVAL OF RIGID PAVEMENT, SIDEWALK, ETC.	S.Y.	69
2	202-03.01	REMOVAL OF ASPHALT PAVEMENT	S.Y.	200
3	202-08.15	REMOVAL OF CURB AND GUTTER (CONCRETE OR ASPHALT)	L.F.	170
	203-07	FURNISHING & SPREADING TOPSOIL	C.Y.	50
4	209-03.20	FILTER SOCK (8 INCH)	L.F.	170
4	209-05	SEDIMENT REMOVAL	C.Y.	221
4	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	150
4	209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	1200
4	209-09.41	CURB INLET PROTECTION (TYPE 2)	EACH	1
4	209-09.43	CURB INLET PROTECTION (TYPE 4)	EACH	5
4	209-40.31	CATCH BASIN PROTECTION (TYPE E)	EACH	1
5	407-02.14	ASPHALT PAVEMENT REPAIR	S.Y.	67
	407-20.05	SAW CUTTING ASPHALT PAVEMENT	L.F.	860
	701-01.01	CONCRETE SIDEWALK (4")	S.F.	1550
6	701-02.01	CONCRETE CURB RAMP (RETROFIT)	S.F.	500
6	701-02.03	CONCRETE CURB RAMP	S.F.	1915
	701-03	CONCRETE MEDIAN PAVEMENT	C.Y.	11
	702-01	CONCRETE CURB	C.Y.	16
	702-03	CONCRETE COMBINED CURB & GUTTER	C.Y.	10
7	712-01	TRAFFIC CONTROL	LS	1
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	150
	712-05.03	WARNING LIGHTS (TYPE C)	EACH	150
	712-06	SIGNS (CONSTRUCTION)	S.F.	1200
	712-08.03	ARROW BOARD (TYPE C)	EACH	4
	713-11.01	"U" SECTION STEEL POSTS	LB	759
	713-15	REMOVAL OF SIGNS, POSTS AND FOOTINGS	LS	1
	713-15.02	REMOVAL & RELOCATION OF SIGN & SUPPORT	EACH	8
	713-15.36	REMOVE SIGN, SUPPORT & FOOTING	EACH	5
	713-16.21	SIGNS (R10-3E)	EACH	50
	713-16.22	SIGNS (R10-12)	EACH	1
	713-16.23	SIGNS (TN-69A) FLASHING YELLOW ARROW	EACH	15
	713-16.24	SIGNS (R10-15R)	EACH	2
	713-16.25	SIGNS (W11-2)	EACH	8
	713-16.26	SIGNS (W16-7P)	EACH	7
	713-16.27	SIGNS (R1-2)	EACH	2
	713-16.28	SIGNS (R5-1)	EACH	2
	713-16.29	SIGNS (D3-1)	EACH	1
	713-16.30	SIGNS (W16-9P)	EACH	1
	713-16.31	SIGNS (R9-3)	EACH	8
8	716-02.04	PLASTIC PAVEMENT MARKING (CHANNELIZATION STRIPING)	S.Y.	140
8	716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	270
8	716-02.06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	EACH	9
8	716-02.09	PLASTIC PAVEMENT MARKING (LONGITUDINAL CROSS-WALK)	L.F.	2000
8	716-03.01	PLASTIC WORD PAVEMENT MARKING (ONLY)	EACH	10
8	716-04.01	PLASTIC PAVEMENT MARKING (STRAIGHT-TURN ARROW)	EACH	5
8	716-04.12	PLASTIC PAVEMENT MARKING (YIELD LINE)	S.F.	30
	716-08.01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	820
	716-08.03	REMOVAL OF PAVEMENT MARKING (CROSS-WALK)	L.F.	1780
	716-08.05	REMOVAL OF PAVEMENT MARKING (STOP LINE)	L.F.	180
	716-08.06	REMOVAL OF PAVEMENT MARKING (ARROWS)	EACH	5
	716-13.01	SPRAY THERMO P.M. (60 MIL 4IN)	L.M.	0.44
	716-13.03	SPRAY THERMO P.M. (60 MIL) (8IN BARRIER LINE)	L.F.	451
9	717-01	MOBILIZATION	LS	1
10	725-02.41	FIBER OPTIC TERMINATION SPLICE UNIT	EACH	11
10	725-02.79	FIBER SPLICE ENCLOSURE	EACH	5
10	725-23.12	FIBER OPTIC CABLE (48F)	L.F.	6975
10	725-23.21	FIBER OPTIC DROP CABLE (12F)	L.F.	2925
10	725-23.28	FIBER OPTIC SPLICE FUSION	EACH	11
10	725-28.07	ETHERNET SWITCH (FIELD LAYER 2)	EACH	11
10	725-28.08	ETHERNET SWITCH (LAYER 3)	EACH	1
12	730-01.02	REMOVAL OF SIGNAL EQUIPMENT	EACH	12
	730-02.09	SIGNAL HEAD ASSEMBLY (130 WITH BACKPLATE)	EACH	12
	730-02.17	SIGNAL HEAD ASSEMBLY (150 A2H WITH BACKPLATE)	EACH	5
	730-02.31	SIGNAL HEAD ASSEMBLY (130 A3 WITH BACKPLATE)	EACH	5
	730-02.32	SIGNAL HEAD ASSEMBLY (140 A4F WITH BACKPLATE)	EACH	4
	730-02.41	SIGNAL HEAD MODIFICATION (INSTALL BACKPLATE)	EACH	39
	730-02.42	SIGNAL HEAD MODIFICATION (REPLACE LENS)	EACH	2
	730-03.20	INSTALL PULL BOX (TYPE A)	EACH	19
	730-03.21	INSTALL PULL BOX (TYPE B)	EACH	53
	730-03.23	INSTALL PULL BOX (FIBER OPTIC-TYPE A)	EACH	7
	730-03.24	INSTALL PULL BOX (FIBER OPTIC-TYPE B)	EACH	4
10	730-02.30	SIGNAL HEAD ASSEMBLY (BIMODAL FYA SIGNAL ASSEMBLY WITH BACKPLATE)	EACH	11
	730-05.02	SERVICE CABLE (2 CONDUCTOR, # 6 AWG)	L.F.	930
12, 13	730-05.04	MODIFY EXISTING ELECTRICAL SERVICE CONNECTION	EACH	11
	730-08.01	SIGNAL CABLE - 3 CONDUCTOR	L.F.	10010
	730-08.02	SIGNAL CABLE - 5 CONDUCTOR	L.F.	12470

FOOTNOTE	ITEM NUMBER	DESCRIPTION	UNIT	TOTAL QUANTITY
	730-08.03	SIGNAL CABLE - 7 CONDUCTOR	L.F.	19080
	730-11.11	RISER ASSEMBLY (FIBER OPTIC)	EACH	1
14, 15	730-12.07	CONDUIT 1" DIAMETER (RGS)	L.F.	555
	730-12.13	CONDUIT 2" DIAMETER (JACK AND BORE)	L.F.	2130
14, 15	730-12.16	CONDUIT (2" DIAMETER HDPE)	L.F.	4580
10	730-13.02	VEHICLE DETECTOR (VIDEO)	EACH	3
	730-14.01	SHIELDED DETECTOR CABLE	L.F.	8220
	730-14.02	SAW SLOT	L.F.	770
	730-14.03	LOOP WIRE	L.F.	2350
10	730-15.07	CABINET (ATC, BASE MOUNTED)	EACH	11
10, 11	730-16.14	CONTROLLER (INSTALL CITY FURNISHED 16 PHASE ATC)	EACH	11
16	730-23.30	PEDESTAL POLE (PEDESTRIAN)	EACH	30
16	730-23.72	CANTILEVER SIGNAL SUPPORT (1 ARM @ 35')	EACH	1
16	730-23.88	CANTILEVER SIGNAL SUPPORT (1 ARM @ 45')	EACH	1
16	730-23.96	CANTILEVER SIGNAL SUPPORT (1 ARM @ 50')	EACH	2
16	730-23.97	CANTILEVER SIGNAL SUPPORT (1 ARM @ 55')	EACH	1
16	730-23.98	CANTILEVER SIGNAL SUPPORT (1 ARM @ 60')	EACH	1
16	730-23.99	CANTILEVER SIGNAL SUPPORT (1 ARM @ 75')	EACH	1
	730-26.05	COUNTDOWN PEDESTRIAN SIGNAL	EACH	53
16	730-26.06	PEDESTRIAN PUSHBUTTON POST	EACH	3
10, 17	730-26.10	PEDESTRIAN SIGNAL HEAD W/PUSHBUTTON & 15IN SIGN	EACH	50
10	730-35.06	BATTERY BACK-UP AND POWER CONDITIONER	EACH	1
10	798-06.13	FIBER OPTIC CABLE (48F INDOOR/OUTDOOR CABLE)	L.F.	500
10	798-06.48	FIBER STORAGE LOOP	EACH	1
4	801-01	SEEDING (WITH MULCH)	UNIT	10
4	801-02	SEEDING (WITHOUT MULCH)	UNIT	10
4	801-03	WATER (SEEDING AND SODDING)	M.G.	10
10	920-10.04	LCD VIDEO WALL MONITOR	EACH	2
10	920-10.05	CENTRAL SOFTWARE (TOC)	LS	1
10	920-11.04	SFP MODULE (TYPE, SPEED, HAUL)	EACH	26
10	920-11.05	CENTRAL SERVER (TOC)	LS	1
10	920-12.05	TOC ROOM MODIFICATION	LS	1

FOOTNOTES

1 PAY ITEM SHALL BE USED FOR REMOVAL OF NON-VEHICULAR CONCRETE SECTIONS SUCH AS SIDEWALK, CURB RAMPS, AND CONCRETE PLACED WITHIN AN ISLAND / MEDIAN. IT SHALL ALSO INCLUDE THE COST OF SAW CUTTING THE LIMITS OF THESE REMOVAL ITEMS. LIMITS OF SAW CUT SHALL BE DETERMINED AT THE NEAREST SIDEWALK JOINT, WHERE APPLICABLE.

2 DEPENDENT UPON THE DEPTH OF REMOVAL NEEDED, THIS PAY ITEM MAY SOMETIMES INCLUDE REMOVE OF BASE MATERIAL THAT IS BELOW THE RIGID PAVEMENT SECTION.

3 PAY ITEM SHALL BE USED FOR REMOVAL OF ALL CURB AND CURB AND GUTTER (CONCRETE OR ASPHALT).

4 REFER TO EROSION PREVENTION AND SEDIMENT CONTROL NOTES. THIS PAY ITEM SHALL ONLY BE USED WHERE INDICATED BY ENGINEER. SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT. ALL QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER.

5 THIS PAY ITEM INCLUDES ALL NECESSARY BASE MATERIAL AND SITE PREPARATION FOR THE AREA OF REPAIR.

6 THIS ITEM SHALL BE USED FOR THE INSTALLATION OF A CONCRETE CURB RAMP INCLUDING ALL CONCRETE AND THE TRUNCATED DOME TO BE CONSTRUCTED. THIS PAY ITEM ALSO INCLUDES CONCRETE FILL BETWEEN THE SAWCUT LINE AND THE EDGE OF CURB OR CURB / GUTTER. SEE RP-H-SERIES OF THE TDOT STANDARD DRAWINGS AND DETAILS ON SHEET 3C. THIS ITEM SHALL BE PAID ON A SQUARE FOOT BASIS USING THE TOTAL RAMP AREA AS MEASUREMENT FOR PAYMENT.

7 THIS ITEM NUMBER SHALL INCLUDE ALL TRAFFIC CONTROL ACTIVITIES AND DEVICES THAT WILL BE REQUIRED THROUGHOUT THE LIFE OF THE PROJECT AS DESCRIBED ON THE SPECIAL NOTES ON SHEET 2B AND AS DETERMINED BY THE ENGINEER.

8 THE CONTRACTOR MAY ELECT TO SUBSTITUTE PREFORMED PLASTIC FOR THERMOPLASTIC. PREFORMED PLASTIC SHALL BE PAID FOR AT THE SAME UNIT PRICE AS BID FOR THERMOPLASTIC.

9 THE MOBILIZATION ITEM NUMBER IS PROJECT INCLUSIVE AND IS NOT BROKEN DOWN INTO INDIVIDUAL SITES.

10 TECHNICAL SPECIFICATIONS HAVE BEEN DEVELOPED SPECIFICALLY FOR THESE PAY ITEMS. REFER TO THE TECHNICAL SPECIFICATIONS INCLUDED IN THE PROJECT BID BOOK.

11 ITEM INCLUDES INSTALLATION OF MCCAIN OMNI EX2 ATC CONTROLLER INTO PROPOSED CABINET. CONTROLLER WILL BE SUPPLIED BY THE CITIES OF SEVIERVILLE AND PEGION FORGE. SIGNAL SETTINGS WILL BE INPUT INTO THE CONTROLLER PRIOR TO CONSTRUCTION.

12 ITEM SHALL INCLUDE ANY AND ALL COORDINATION WITH UTILITY COMPANIES THAT IS ASSOCIATED WITH THIS TASK.

13 PAY ITEM INCLUDES RELOCATION OF EXISTING ELECTRICAL SERVICE FEED FOR THE NEW TRAFFIC SIGNAL CABINET LOCATIONS. THIS ITEM INCLUDES ANY AND ALL INCIDENTAL ITEMS NECESSARY FOR THE ELECTRICAL SERVICE CONNECTION FOR THE NEW TRAFFIC SIGNAL, INCLUDING RISER ASSEMBLY, ELECTRICAL METER BASE, SERVICE DISCONNECT, AND ANY ADDITIONAL SERVICE CONDUCTORS THAT MAY BE REQUIRED. MODIFICATION OF ELECTRICAL SERVICE CONNECTION SHALL BE COORDINATED WITH THE UTILITY COMPANY.

14 TRENCHING IS NOT BROKEN OUT AS A SEPARATE PAY ITEM; IT SHALL BE INCLUDED IN THE COST OF CONDUIT.

15 THIS PAY ITEM SHALL INCLUDE INSTALLATION OF A SINGLE #6 BCW CABLE IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE, A 5/8 INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE, AND A SEPARATE #6 BCW CABLE FOR THE CONTROLLER CABINET ALONG WITH A 5/8 INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.

16 THIS BID ITEM INCLUDES THE COST OF THE FOUNDATION DESIGN AND IF NECESSARY, THE SOIL EXPLORATION REQUIRED FOR THE DESIGN OF THE SIGNAL POLE FOUNDATION.

17 THIS PAY ITEM IS REFERENCED THROUGHOUT THE PLANS AS "ACCESSIBLE PEDESTRIAN SIGNAL".

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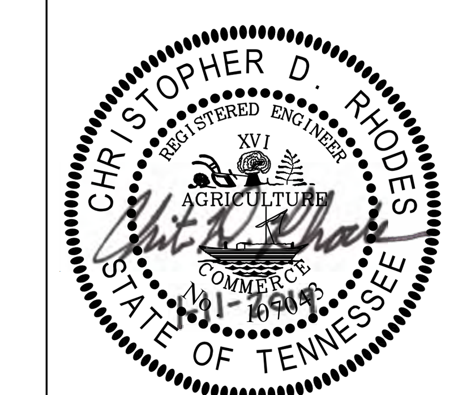
GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

ESTIMATED QUANTITIES



No.	REVISIONS	DATE	BY

DESIGNED BY: TQH
DRAWN BY: TQH
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 1C

SCOPE OF WORK

THIS PROJECT, THE GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II – CONSISTS OF THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE A FULLY FUNCTIONAL INTERCONNECTED TRAFFIC SIGNAL SYSTEM. THE PROJECT WILL INCLUDE THE INTERCONNECTION OF TRAFFIC SIGNALS ALONG LONG HOLLOW PIKE (SR 174) AND CONFERENCE DRIVE AND WILL INCLUDE SIGNAL INFRASTRUCTURE REBUILDS AT TWO (2) INTERSECTIONS WITHIN THE CITY.

COMMUNICATION TO EACH OF THE TRAFFIC SIGNALS WILL BE PROVIDED VIA A HYBRID OF AN EXISTING AND PROPOSED FIBER OPTIC NETWORK. THE CONTRACTOR WILL BE REQUIRED TO COORDINATE WITH CITY OF GOODLETTSVILLE STAFF TO PROVIDE A CONNECTION TO THE NEW TRAFFIC OPERATIONS CENTER (TOC) LOCATED WITHIN THE CITY OF GOODLETTSVILLE PUBLIC WORKS DEPARTMENT. THE PROJECT WILL ALSO CONSIST OF THE FURNISHING, INSTALLING, TESTING, AND INTEGRATION OF A NEW SIGNAL SYSTEM SOFTWARE ALONG WITH FIELD CABINET UPGRADES AT EACH OF THE PROJECT INTERSECTIONS.

THE PROJECT FURTHER CONSISTS OF SEVERAL INTERSECTION IMPROVEMENTS. THESE IMPROVEMENTS INCLUDE BUT ARE NOT LIMITED TO, PEDESTRIAN SIGNAL ADDITIONS AND MODIFICATIONS, PHASING CHANGES, CURB RAMP AND SIDEWALK MODIFICATIONS, PAVEMENT MARKING REPLACEMENT AND UPGRADES, REPLACEMENT OF SIGNAL HEADS, AND SIGN REPLACEMENT AND ADDITIONS. THESE IMPROVEMENTS ARE SPECIFICALLY DETAILED ON THE INDIVIDUAL INTERSECTION IMPROVEMENT PLAN SHEETS.

GENERAL NOTES

GRADING

(1) ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
(2) CERTIFICATION FOR ALL BORROW PITS MUST BE OBTAINED IN ACCORDANCE WITH SUBSECTION 107.06 OF THE STANDARD SPECIFICATIONS.
(3) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WITHOUT APPROVAL BY FEMA. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

SEEDING AND SODDING

(1) ALL EXISTING ROADS WITHIN THE RIGHT-OF-WAY AND NOT IN THE GRADED AREA THAT ARE TO BE ABANDONED SHALL BE SCARIFIED, OBLITERATED, TOPSOILED AND SEEDED. SCARIFYING AND OBLITERATING THE PAVEMENT WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS. TOPSOIL, IN ACCORDANCE WITH SECTION 203 OF THE STANDARD SPECIFICATIONS, WILL BE MEASURED AND PAID FOR UNDER ITEMS 203-04 AND/OR 203-07. SEEDING, IN ACCORDANCE WITH SECTION 801 OF THE STANDARD SPECIFICATIONS, WILL BE MEASURED AND PAID FOR UNDER ITEM 801-01.
(2) SOD SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS TO PREVENT DAMAGE TO ADJACENT FACILITIES AND PROPERTY DUE TO EROSION ON ALL NEWLY GRADED CUT AND FILL SLOPES AS WORK PROGRESSES.
(3) ITEM NO. 801-01, SEEDING (WITH MULCH), SHALL BE USED WHERE EROSION CONTROL BLANKET OR SOD ARE NOT APPLIED.
(4) ITEM NO. 801-02, SEEDING (WITHOUT MULCH) AND EROSION CONTROL BLANKET, SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS AS WELL AS LOCATIONS DIRECTED BY THE ENGINEER.

MISCELLANEOUS

(1) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA.

PAVEMENT MARKINGS

(1) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 4" SPRAY THERMOPLASTIC (60 mil) INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-13.01, SPRAY THERMO PVMT MRKNG (60 mil) (4IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.
(2) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 8" SPRAY THERMOPLASTIC (60 mil) INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-13.03, SPRAY THERMO PVMT MRKNG (60 mil) (8IN BARRIER LINE), L.F. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

PAVING

(1) THE CONTRACTOR SHALL BE REQUIRED TO PAVE IN THE DIRECTION OF TRAFFIC.
(2) THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.
(3) THE CONTRACTOR SHALL ATTACH A DEVICE TO THE SCREED OF THE PAVER SUCH THAT MATERIAL IS CONFINED AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A CONSOLIDATED WEDGE-SHAPE PAVEMENT EDGE OF APPROXIMATELY 25 TO 30 DEGREES AS IT LEAVES THE PAVER (MEASURED FROM A LINE PARALLEL TO THE PAVEMENT SURFACE.) THE DEVICE SHALL MEET THE REQUIREMENTS THAT ARE CURRENTLY SET FORTH IN SPECIAL PROVISION 407SE.

RESURFACING

(1) WHERE DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL BE REQUIRED TO SHAPE PUBLIC SIDE ROADS, BUSINESS ENTRANCES, AND PRIVATE DRIVES, AS WELL AS CLEANING OF EXISTING DRAINS BEFORE PLACING MATERIALS. ALL COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
(2) ON CURB AND GUTTER SECTIONS, PUBLIC ROAD INTERSECTIONS SHALL BE RESURFACED TO THE END OF RADIUS. A SATISFACTORY TRANSITION FROM THE NEW PAVEMENT TO THE EXISTING GRADE OF THE INTERSECTING PUBLIC ROAD SHALL BE PROVIDED.
(3) ON URBAN TYPICAL SECTIONS, (CURB AND GUTTER), RESIDENTIAL DRIVEWAYS AND BUSINESS ENTRANCES SHALL HAVE A MINIMUM WIDTH OF MATERIAL NOT LESS THAN ONE FOOT USED IN THE TRANSITION TO FEATHER THE PAVEMENT EDGE.
(4) IN ALL CASES, THE LENGTH OF THE PAVEMENT TRANSITION, THE THICKNESS AND WIDTH OF THE RESURFACING AND ANY ADDITIONAL PAVEMENT MATERIALS SHALL BE AS DIRECTED BY THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE.

SIGNING

(1) THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS, EXCEPT THAT CUTOUT DIRECT APPLIED COPY SHALL BE USED ON ALL FLAT SHEET SIGNS WITH A GREEN BACKGROUND. THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL EXTRUDED PANEL SIGNS SHALL BE DEMOUNTABLE AND ATTACHED TO THE SIGN FACE, AS OUTLINED IN THE STANDARD SPECIFICATIONS. ALL SHIELDS ON GUIDE SIGNS SHALL BE DEMOUNTABLE AND ATTACHED TO THE SIGN FACE AS OUTLINED IN THE STANDARD SPECIFICATIONS.
(2) THE TOP OF THE SIGN FOOTINGS SHALL BE PLACED LEVEL WITH THE GROUND LINE.
(3) AFTER THE SIGN LOCATIONS HAVE BEEN STAKED, BUT PRIOR TO ORDERING ANY MATERIAL FOR THE SUPPORTS, THERE SHALL BE A FIELD INSPECTION AND APPROVAL BY THE BY THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE.
(4) THE CONTRACTOR SHALL BE REQUIRED TO FURNISH LAYOUT DRAWINGS (3 SETS) OF ALL EXTRUDED PANEL SIGNS WITH SPACING OF ALL LETTERS, NUMERALS, SHIELDS, AND ARROWS. THE LAYOUT DRAWINGS SHALL BE SENT TO THE BY THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE.
(5) ALL SIGNS MARKED "TO BE REMOVED" ARE TO BE REMOVED BY THE CONTRACTOR AND PAID FOR UNDER ITEM 713-15 AND BECOME THE PROPERTY OF THE CONTRACTOR.
(6) THE EXISTING FOOTINGS ARE TO BE REMOVED 6 INCHES BELOW GROUND LINE.
(7) THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS, EXCEPT THAT CUT-OUT DIRECT APPLIED COPY SHALL BE USED ON ALL FLAT SHEET SIGNS WITH A GREEN BACKGROUND, OR BROWN BACKGROUND.
(8) THE LENGTHS OF ALL SIGN SUPPORTS SHOWN ON THE SIGN SCHEDULE ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL SUPPORT LENGTHS AT THE SITE PRIOR TO ERECTION.
(9) THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS.

SIGNALIZATION

(1) EQUIPMENT AND INSTALLATION OF TRAFFIC SIGNALS SHALL COMPLY WITH TDOT STANDARD SPECIFICATIONS, SECTION 730.
(2) SALVAGEABLE EQUIPMENT SHALL BECOME THE PROPERTY OF THE CITY OF GOODLETTSVILLE AND SHALL BE STOCKPILED AT A LOCATION DESIGNATED BY THE ENGINEER FOR PICKUP BY THE CITY.
(3) IF RESURFACING IS INCLUDED IN THE PROJECT, SIGNAL DETECTION LOOPS SHALL BE INSTALLED BEFORE THE FINAL SURFACE IS APPLIED.
(4) ANY SIGNAL HEADS, WHEN VISIBLE TO DRIVERS BUT NOT OPERATIONAL, SHALL BE COMPLETELY COVERED.
(5) THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE. A MINIMUM OF THIRTY (30) DAYS PRIOR TO ACTIVATION OF THE SIGNAL TO OBTAIN THE INITIAL SIGNAL TIMINGS.
(6) THE PROJECT ENGINEER SHALL NOTIFY THE LOCAL GOVERNMENTAL AGENCY RESPONSIBLE FOR TRAFFIC CONTROL MAINTENANCE AT LEAST ONE DAY IN ADVANCE OF THE COLD PLANING ACTIVITY AT SIGNALIZED INTERSECTIONS WHERE DETECTOR LOOPS ARE ON THE PAVEMENT. THE MAINTAINING AGENCY WILL THEN BE RESPONSIBLE FOR DISCONNECTING THE LOOP DETECTORS AND MAKING ANY NECESSARY TIMING ADJUSTMENTS IN THE SIGNAL CONTROLLER PRIOR TO THE CONSTRUCTION.
(7) THE PROJECT ENGINEER SHALL BE RESPONSIBLE FOR SUPPLYING THE CONTRACTOR WITH AS BUILT SIGNAL PLANS AT THE PRE-CONSTRUCTION CONFERENCE. THESE PLANS WILL PROVIDE THE CONTRACTOR WITH THE DESIRED LOCATION FOR DETECTOR LOOP REPLACEMENT.
(8) LOOPS SHALL BE INSTALLED IN THE LEVELING COURSE IF A LEVELING COURSE IS PROVIDED.
(9) LOOP REPLACEMENT SHALL BE IN ACCORDANCE WITH SECTION 730 OF THE STANDARD SPECIFICATIONS.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

(1) ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.
(2) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.
(3) A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
(4) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
(5) USE OF BARRICADES, PORTABLE BARRIER RAILS AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL INCREASE TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.
(6) THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO PARK WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.
(7) ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

DISTURBED AREA

(1) IF DISTURBED ACREAGE IS EQUAL TO ONE ACRE OR MORE, PLEASE CONTACT THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE. AS SOON AS POSSIBLE BECAUSE AN NPDES PERMIT WILL BE REQUIRED.
(2) AREAS TO BE UNDISTURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.
(3) UNLESS OTHERWISE NOTED IN THE PLANS, THE CONTRACTOR SHALL NOT CLEAR/DISTURB ANY AREA BEYOND 15 FEET FROM SLOPE LINES.
(4) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 14 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS APPLIED.
(5) CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION, INCLUDING STREAM AND WETLAND BUFFERS (UNLESS PERMITTED), SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.

SEDIMENT CONTROL

(1) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO EARTH MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.
(2) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REINSTALLED AT THE END OF THE WORKDAY OR BEFORE/DURING A PRECIPITATION EVENT.
(3) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFFSITE MIGRATION OR DEPOSIT OF SEDIMENT OFF THE PROJECT LIMITS (E.G. R.O.W., EASEMENTS, ETC.), INTO WATERS OF THE STATE/U.S., OR ONTO ROADWAYS USED BY THE GENERAL PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFFSITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS (E.G., FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN A STREET MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE NEGOTIATED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT.
(4) OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION EXIT (A POINT OF ENTRANCE/EXIT TO THE CONSTRUCTION PROJECT) SHALL BE PROVIDED TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II
THE CITY OF GOODLETTSVILLE, TENNESSEE

SCOPE OF WORK AND TDOT GENERAL NOTES

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
AGRICULTURE & BIOSYSTEMS ENGINEER
COMMERCE
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY: TOH
DRAWN BY: TOH
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 2

GENERAL NOTES (CONTINUED)

SEDIMENT CONTROL (CONTINUED)

(5) THE DEWATERING OF WORK AREAS, TRENCHES, FOUNDATIONS, EXCAVATIONS, ETC. THAT HAVE COLLECTED STORMWATER, WATER FROM VEHICLE WASH AREAS, OR GROUNDWATER SHALL BE EITHER HELD IN SETTLING BASINS OR TREATED BY FILTRATION AND/OR CHEMICAL TREATMENT PRIOR TO ITS DISCHARGE. ALL PHYSICAL AND/OR CHEMICAL TREATMENT WILL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND FULLY DESCRIBED IN THE EPSC PLANS. WATER DISCHARGED SHALL NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITHIN THE RECEIVING NATURAL RESOURCE. WATER MUST BE HELD IN SETTLING BASINS UNTIL AT LEAST AS CLEAR AS THE RECEIVING WATERS. SETTLING BASINS SHALL NOT BE LOCATED CLOSER THAN 20 FEET FROM THE TOP BANK OF A STREAM. SETTLING BASINS AND SEDIMENT TRAPS SHALL BE PROPERLY DESIGNED ACCORDING TO THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE OR WELL- VEGETATED OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT. DISCHARGES FROM BASINS AND IMPOUNDMENTS SHALL UTILIZE OUTLET STRUCTURES THAT ONLY WITHDRAW WATER FROM NEAR THE SURFACE OF THE BASIN OR IMPOUNDMENT. DISCHARGES MUST NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITH THE RECEIVING STREAM.

NATURAL RESOURCES

(1) SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. EPSC MEASURES TO PROTECT NATURAL RESOURCES AND WATER QUALITY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. APPROPRIATE EPSC MEASURES MUST BE INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG NATURAL RESOURCES IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS, WETLANDS OR OTHER NATURAL FEATURES IN ACCORDANCE WITH TDOT STANDARDS. EPSC MEASURES SHALL BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.

(2) NEW CHANNEL CONSTRUCTION SHALL BE COMPLETED IN THE DRY AND STABILIZED FOR AT LEAST 72 HOURS PRIOR TO DIVERTING WATER FROM THE EXISTING AND/OR TEMPORARY CHANNEL.

(3) INSTREAM EPSC DEVICES REQUIRE A REVIEW BY THE APPROPRIATE LOCAL AGENCY TO OBTAIN WATER QUALITY PERMITS.

(4) THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE/U.S., INCLUDING WETLANDS AND EPHEMERAL, INTERMITTENT, AND PERENNIAL STREAMS, IS NOT ALLOWED.

(5) THE WIDTH OF THE FILL ASSOCIATED WITH TEMPORARY CROSSINGS SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR THE ACTUAL CROSSING, NOT TO EXCEED THE WIDTH SPECIFIED IN THE STANDARD DRAWING.

(6) STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT. TEMPORARY CULVERT CROSSINGS SHALL BE LIMITED TO ONE POINT PER STREAM AND EPSC MEASURES SHALL BE USED WHERE THE STREAM BANKS ARE DISTURBED. WHERE THE STREAMBED IS NOT COMPOSED OF BEDROCK, A PAD OF CLEAN ROCK SHALL BE USED AT THE CROSSING POINT AND CULVERTED TO PREVENT THE IMPOUNDMENT OF WATER FLOW. CLEAN ROCK IS ROCK OF VARIOUS TYPE AND SIZE, DEPENDING UPON APPLICATION, WHICH CONTAINS NO FINES, SOILS, OR OTHER WASTES OR CONTAMINANTS. OTHER MATERIALS USED FOR ALL TEMPORARY FILLS SHALL BE COMPLETELY REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO PREEXISTING ELEVATIONS. ALL TEMPORARY CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. EC-STR-25 UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ALTERNATIVELY, PLACING A TEMPORARY BRIDGE (E.G. BAILEY BRIDGE OR EQUIVALENT, TIMBERS, ETC.) FROM TOP OF BANK TO TOP OF BANK OR THE APPROPRIATE USE OF BARGES AT THE CROSSING TO AVOID DISTURBANCE OF THE STREAMBED IS AN ACCEPTABLE OPTION.

(7) HEAVY EQUIPMENT WORKING IN WETLANDS WITH PERMITTED TEMPORARY IMPACTS SHALL BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE AND COMPACTION UNLESS SPECIFICALLY ADDRESSED IN THE CONSTRUCTION PLANS. ANY MATS AND OTHER MEASURES USED FOR HEAVY EQUIPMENT SHALL BE REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED. ALL AFFECTED AREAS SHOULD BE RETURNED TO PRE-EXISTING CONDITIONS.

(8) WETLANDS SHALL NOT BE USED AS EQUIPMENT STORAGE, STAGING, OR TRANSPORTATION AREAS, UNLESS SPECIFICALLY PROVIDED FOR IN THE CONSTRUCTION PLANS AND PERMITS.

(9) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS PRIOR TO ANY CONSTRUCTION AND MAINTENANCE ACTIVITIES TO ENSURE THAT ENVIRONMENTAL FEATURES (E.G., STREAMS, WETLANDS, SPRINGS, ETC.) ARE NOT IMPACTED BEYOND PERMITTED LOCATIONS. IF THE CONTRACTOR OR THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE IS UNSURE OF THE IDENTITY OF AN ENVIRONMENTAL FEATURE, THE INSPECTOR SHALL CONTACT THE APPROPRIATE LOCAL AGENCY IMMEDIATELY.

SPECIES

(1) NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF THOSE SPECIES OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA.

(2) SHOULD CLIFF SWALLOW OR BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG AND ADULTS) BE PRESENT, THE CONTRACTOR SHALL CONTACT THE LOCAL U.S. FISH & WILDLIFE SERVICE OFFICE TO DETERMINE IF SEASONAL RESTRICTIONS WILL BE NECESSARY. GENERALLY, BIRDS, NESTS, AND EGGS MAY NOT BE DISTURBED BETWEEN APRIL 15 AND JULY 31. FROM AUGUST 1 TO APRIL 14, NESTS CAN BE REMOVED OR DESTROYED SO LONG AS BIRDS OR EGGS ARE NOT PRESENT, AND MEASURES IMPLEMENTED TO PREVENT FUTURE NEST BUILDING AT THE SITE (I.E., CLOSING OFF AREA USING NETTING).

(3) IF THE REMOVAL OF ANY TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) GREATER THAN 3 INCHES IS DEEMED NECESSARY THE ENGINEER SHALL CONTACT THE LOCAL U.S. FISH & WILDLIFE SERVICE OFFICE PRIOR TO REMOVAL OF ANY TREES.

INSPECTION, MAINTENANCE & REPAIR

(1) THE CONSTRUCTION SUPERVISOR (OR THEIR DESIGNEE) AND THE CONTRACTOR?S RESPONSIBLE PARTY ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONSTRUCTION SUPERVISOR OR THEIR DESIGNEE SHALL COMPLETE THE EPSC INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.

(2) CONSULTANTS AND CONTRACTOR STAFF RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE, AND/OR REPAIR OF EPSC MEASURES SHALL SUCCESSFULLY COMPLETE THE TDEC "LEVEL 1 - FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" COURSE AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION.

(3) EPSC CONTROLS SHALL BE INSPECTED ACCORDING TO PERMIT REQUIREMENTS TO VERIFY MEASURES HAVE BEEN INSTALLED AND MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS, SPECIFICATIONS, AND GOOD ENGINEERING PRACTICES. EPSC INSPECTIONS SHALL BE DOCUMENTED ON THE EPSC INSPECTION REPORT.

(4) DISCHARGE POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING EROSION AND CONTROLLING SEDIMENT INCLUDING SIGNIFICANT IMPACTS TO SURROUNDING NATURAL RESOURCES AND ADJACENT PROPERTY OWNERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWN GRADIENT LOCATIONS SHALL BE INSPECTED. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE ROADWAY SEDIMENT TRACKING.

(5) UPON CONCLUSION OF THE INSPECTIONS, EPSC MEASURES FOUND TO BE INEFFECTIVE SHALL BE REPAIRED, REPLACED, OR MODIFIED BEFORE THE NEXT RAIN EVENT, IF POSSIBLE, BUT IN NO CASE MORE THAN 24 HOURS AFTER THE INSPECTION OR WHEN THE CONDITION IS IDENTIFIED. IF THE REPAIR, REPLACEMENT OR MODIFICATION IS NOT PRACTICAL WITHIN THE 24 HOUR TIMEFRAME, WRITTEN DOCUMENTATION SHALL BE PROVIDED IN THE FIELD DIARY AND EPSC INSPECTION REPORT. AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION.

(6) INSPECTION, REPAIR, AND MAINTENANCE OF EPSC MEASURES SHALL BE PERFORMED ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE STEPS TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE EPSC MEASURES AT THE CONTRACTOR'S OWN EXPENSE.

(7) THE EPSC PLAN SHALL BE UPDATED WHENEVER EPSC INSPECTIONS INDICATE, OR WHERE STATE OR FEDERAL OFFICIALS DETERMINE EPSC MEASURES ARE PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES OR ARE OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY.

(8) SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS AND DOES NOT MIGRATE ONTO ADJACENT PROPERTIES AND INTO WATERS OF THE STATE/U.S. COST FOR THIS TREATMENT SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 209-05 SEDIMENT REMOVAL, C.Y.

EROSION PREVENTION

(1) CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION.

(2) THE ACCEPTED EPSC PLAN SHALL REQUIRE THAT EPSC MEASURES BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CULVERT OR BRIDGE CONSTRUCTION, CUTTING, FILLING, OR ANY OTHER EARTHWORK OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.

(3) NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT EPSC MEASURES, HAS BEEN ACCEPTED BY THE RESPONSIBLE PARTY. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE BASIC EPSC DEVICES ON THE EPSC PLAN.

(4) TEMPORARY STABILIZATION SHALL BE INITIATED WITHIN 14 CALENDAR DAYS WHEN CONSTRUCTION ACTIVITIES ON A PORTION OF THE SITE ARE TEMPORARILY CEASED AND EARTH DISTURBING ACTIVITIES WILL NOT RESUME UNTIL AFTER 14 CALENDAR DAYS. PERMANENT STABILIZATION MEASURES IN DISTURBED AREAS SHALL BE INITIATED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OF ANY PHASE OF CONSTRUCTION.

(5) STEEP SLOPES SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. STEEP SLOPES ARE DEFINED AS A NATURAL OR CREATED SLOPE OF 35% GRADE OR GREATER REGARDLESS OF HEIGHT.

(6) PERMANENT STABILIZATION WILL REPLACE TEMPORARY MEASURES AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS.

(7) TEMPORARY OR PERMANENT STABILIZATION MUST BE FREE OF FINES (SILT AND CLAY SIZED PARTICLES). UNPACKED GRAVEL CONTAINING FINES OR CRUSHER-RUN WILL NOT BE CONSIDERED SUFFICIENT STABILIZATION.

(8) DELAYING THE PLANTING OF COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED.

PERMITS, PLANS & RECORDS

(1) THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND OBTAIN ANY NECESSARY ENVIRONMENTAL PERMITS OR APPROVALS, INCLUDING BUT NOT LIMITED TO ARCHAEOLOGY, ECOLOGY, HISTORICAL, HAZARDOUS MATERIALS, AIR AND NOISE, TDEC ARAP/401, USACE SECTION 404, TVA SECTION 26A, AND TDEC NPDES PERMITS, FROM FEDERAL, STATE AND/OR LOCAL AGENCIES REGARDING ANY MATERIAL AND STAGING AREAS AND THE OPERATION OF ANY PROJECT-DEDICATED ASPHALT AND/OR CONCRETE PLANTS TO BE USED. ANY SUCH PERMITS SHALL BE SUPPLIED TO THE THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE PRIOR TO THE USE OF THE PERMITTED AREA(S).

(2) ANY DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, THE PROJECT AS CONSTRUCTED, AND THE PERMIT(S) ISSUED FOR THE PROJECT, SHALL BE BROUGHT TO THE ATTENTION OF THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE. THE APPROPRIATE LOCAL AGNECY SHALL BE CONTACTED IN THESE INSTANCES AND DECIDE WHICH HAS PRECEDENCE AND WHETHER PERMIT OR PLANS REVISIONS ARE NEEDED. IN GENERAL, PERMIT CONDITIONS WILL PREVAIL.

PERMITS, PLANS & RECORDS (CONTINUED)

(3) IF A CHANGE IN PROJECT SCOPE OCCURS DURING CONSTRUCTION, INCLUDING VALUE ENGINEERING, THE TDOT PERMIT SECTION SHALL BE CONTACTED TO DETERMINE WHETHER PERMIT REVISIONS ARE NEEDED. THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.

(4) THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATE. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE TO COMMENCE PERMIT RENEWAL PROCESS.

(5) ALL WATER QUALITY PERMITS SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. THE NAME, COMPANY NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BRIEF DESCRIPTION OF THE PROJECT SHALL ALSO BE POSTED. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE, THE INFORMATION SHALL BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION NEAR WHERE THE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY. THIS LOCATION SHALL BE POSTED AT THE CONSTRUCTION SITE. ALL POSTINGS SHALL BE MAINTAINED IN LEGIBLE CONDITION.

(6) THE EPSC PLAN IS TO SERVE AS AN INITIAL GUIDE FOR SITE PERSONNEL AS THE CONSTRUCTION PROCESS DEVELOPS. IT MUST BE AMENDED, MODIFIED, AND UPDATED WHENEVER A CHANGE IN THE DESIGN OR CONSTRUCTION OF THE PROJECT OCCURS. THE STAGES DEPICTED IN THE EPSC PLANS MAY NOT COINCIDE WITH THE ACTUAL PHASES OF CONSTRUCTION ESTABLISHED BY THE CONTRACTOR DURING CONSTRUCTION, THUS MODIFICATIONS WILL BE REQUIRED TO ENSURE THE EPSC PLAN IS MAINTAINED TO DEPICT CURRENT SITE CONDITIONS. IT SHOULD BE MAINTAINED SUCH THAT IT WILL ALWAYS REFLECT THE MEASURES THAT ARE INSTALLED DURING THE VARIOUS PHASES OF CONSTRUCTION. IT IS IMPRACTICAL TO DETERMINE ALL THE INTERMEDIATE PHASES OF CONSTRUCTION THAT WILL OCCUR, THUS THESE DOCUMENTS WILL HAVE TO BE UPDATED THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT.

GOOD HOUSEKEEPING MEASURES & WASTE DISPOSAL

(1) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS SHALL BE REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFFSITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES. AFTER USE, MATERIALS USED FOR EPSC SHALL BE REMOVED FROM THE SITE.

(2) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION. APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED.

(3) CONTRACTORS SHALL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF CONTAINED, NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE, AND PROPERLY SIGNED. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS SHALL NOT BE PERMITTED ONSITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.

(4) WHEEL WASH WATER SHALL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER SHALL NOT BE DISCHARGED DIRECTLY INTO ANY STORMWATER SYSTEM OR STORMWATER TREATMENT SYSTEM.

(5) IF PORTABLE SANITARY FACILITIES ARE PROVIDED ON CONSTRUCTION SITES, SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY REGULATIONS. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF SANITARY WASTE.

(6) ONLY CONSTRUCTION PRODUCTS NEEDED SHALL BE STORED ONSITE BY THE CONTRACTOR. THE CONTRACTOR SHALL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER?S RECOMMENDATIONS. THE CONTRACTOR?S RESPONSIBLE PARTY SHALL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL.

(7) WHEN POSSIBLE, ALL PRODUCTS SHALL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFFSITE. THE MANUFACTURER?S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS SHALL BE FOLLOWED.

(8) ALL PAINT CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT SHALL BE DISPOSED OF ACCORDING TO THE MANUFACTURER?S INSTRUCTIONS AND APPLICABLE STATE AND LOCAL REGULATIONS.

(9) ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN A MANNER WHICH IS COMPLIANT WITH LOCAL OR STATE REGULATIONS. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR?S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF HAZARDOUS MATERIAL.

(10) OPEN BURNING IS PROHIBITED UNLESS IT IS SPECIFICALLY ALLOWED BY LAW. IF ALLOWED, NATURAL VEGETATION, TREES, AND UNTREATED LUMBER SHALL BE THE ONLY MATERIALS THAT CAN BE OPEN BURNED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE STATE AND LOCAL PERMITS PRIOR TO ANY BURNING.

(11) DISPOSAL OF ONSITE VEGETATION AND TREES BY CHIPPING THEM INTO MULCH IS PREFERABLE TO OPEN BURNING. THIS MULCH MAY BE USED AS AN ONSITE SOIL STABILIZATION MEASURE WHERE APPROPRIATE.

(12) WASTE MATERIAL (EARTH, ROCK, ASPHALT, CONCRETE, ETC.) NOT REQUIRED FOR THE CONSTRUCTION OF THE PROJECT WILL BE DISPOSED OF BY THE CONTRACTOR. IMPACTS TO WATERS OF THE STATE/U.S. SHALL BE AVOIDED IF POSSIBLE. IF UNAVOIDABLE, THE CONTRACTOR WILL OBTAIN ANY AND ALL NECESSARY PERMITS INCLUDING, BUT NOT LIMITED TO NPDES, AQUATIC RESOURCES ALTERATION PERMIT(S), CORPS OF ENGINEERS SECTION 404 PERMITS, AND TVA SECTION 26A PERMITS TO DISPOSE OF WASTE MATERIALS.

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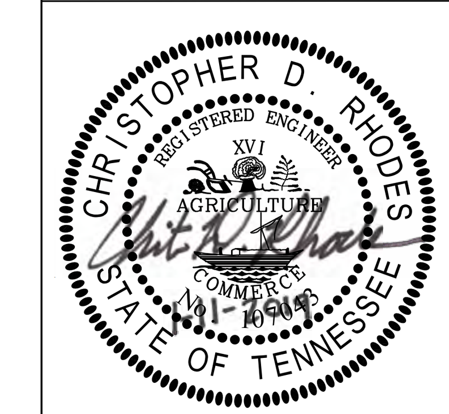
GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

TDOT GENERAL NOTES



No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	TQH
CHECKED BY:	CDR
DATE:	1/11/2019

KHA PROJECT NO.: 118035002

SHEET NUMBER 2A

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GENERAL NOTES (CONTINUED)

SUPPORT ACTIVITIES

(1) MATERIALS AND STAGING AREAS SHALL NOT AFFECT ANY WATERS OF THE STATE/U.S. UNLESS THESE AREAS ARE SPECIFICALLY COVERED BY ENVIRONMENTAL PERMITS, OBTAINED SOLELY BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATES. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE. TO COMMENCE PERMIT RENEWAL PROCESS.

(2) IF OFFSITE BORROW AND WASTE AREAS BECOME NECESSARY DURING THE LIFE OF THE PROJECT, THIS SUPPORT ACTIVITY SHALL BE ADDRESSED PER THE TDOT WASTE AND BORROW MANUAL.

(3) MATERIALS AND STAGING AREAS SHALL BE LOCATED IN NON-WETLAND AREAS AND ABOVE THE 100-YEAR, FEDERAL EMERGENCY MANAGEMENT AGENCY FLOODPLAIN.

(4) IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY EPSC PLANS FOR THE MATERIAL AND STAGING AREAS TO THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE FOR REVIEW.

SPILL PREVENTION, MANAGEMENT & NOTIFICATION

(1) ALL ONSITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE AND SPILLS.

(2) FOR ALL HAZARDOUS MATERIALS STORED ONSITE, THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEAN UP SHALL BE CLEARLY POSTED. SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF THE INFORMATION AND CLEANUP SUPPLIES.

(3) APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT SHALL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ONSITE AND UNDER COVER. SPILL RESPONSE EQUIPMENT SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.

(4) ALL SPILLS SHALL BE CLEANED IMMEDIATELY AFTER DISCOVERY AND THE MATERIALS DISPOSED OF PROPERLY. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

(5) THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SITE SUPERINTENDENT HAS HAD APPROPRIATE TRAINING FOR HAZARDOUS MATERIALS HANDLING, SPILL MANAGEMENT, AND CLEANUP.

(6) IF AN OIL SHEEN IS OBSERVED ON SURFACE WATER (E.G. SETTLING PONDS, DETENTION PONDS, SWALES), ACTION SHALL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR SHALL USE APPROPRIATE MATERIALS TO CONTAIN AND ABSORB THE SPILL. THE SOURCE OF THE OIL SHEEN WILL ALSO BE IDENTIFIED AND REMOVED OR REPAIRED AS NECESSARY TO PREVENT FURTHER RELEASES.

(7) FERTILIZERS SHALL BE APPLIED ONLY IN THE AMOUNTS SPECIFIED. ONCE APPLIED, FERTILIZERS SHALL BE WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORMWATER.

(8) IF A SPILL OCCURS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.

(9) WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTABLE QUANTITY ESTABLISHED UNDER EITHER 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24 HOUR PERIOD, SEE THE LATEST TENNESSEE GENERAL PERMIT NO. TNR100000 STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SECTION 5.1 FOR REPORTING REQUIREMENTS.

(10) CONTRACTOR'S BULK FUEL AND PETROLEUM PRODUCTS STORED ONSITE OR ADJACENT TO THE R.O.W. IN ABOVE GROUND STORAGE CONTAINERS WITH A COMBINED CAPACITY OF 1320 GALLONS OR MORE SHALL HAVE SECONDARY CONTAINMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN FOR THE BULK STORAGE AND BE SOLELY RESPONSIBLE FOR OBTAINING ANY NECESSARY LOCAL, STATE, AND FEDERAL PERMITS. THE SPCC PLAN AND/OR PERMITS SHALL BE KEPT ONSITE AND A COPY PROVIDED TO THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE PRIOR TO STORING 1320 GALLONS ON SITE.

SPECIAL NOTES

HISTORICAL

(1) THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING AND COORDINATING WITH THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE FOR STORING HISTORIC MARKER(S). AT THE TIME THE MARKER(S) IS TAKEN DOWN, LINDA WYNN WITH THE TENNESSEE HISTORICAL COMMISSION SHOULD BE NOTIFIED AT (615)-770-1093. AT THE END OF CONSTRUCTION, MARKER(S) WILL BE RESET. IF THE MARKER CANNOT BE RESET OUTSIDE OF THE CLEAR ZONE, THE CITY ENGINEER AND/OR THEIR REPRESENTATIVE WILL CONTACT THE TENNESSEE HISTORIC COMMISSION AND RETURN THE MARKER(S).

SIGNALIZATION

(1) THE DESIGN OF TRAFFIC SIGNAL SUPPORT POLES, MAST ARMS, STRAIN POLES, ETC. SHALL BE IN CONFORMANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, CURRENT EDITION. OVERHEAD CANTILEVERED TRAFFIC SIGNAL STRUCTURES SHALL BE DESIGNED FOR FATIGUE CATEGORY 1.

(2) ALL CIRCULAR AND ARROW INDICATIONS WITHIN ALL VEHICULAR SIGNAL HEADS PROPOSED FOR THIS PROJECT SHALL CONSIST OF AN LED (LIGHT EMITTING DIODE) SIGNAL MODULE UNLESS OTHERWISE NOTED IN THE PLANS.

(3) ALL PEDESTRIAN TRAFFIC CONTROL INDICATIONS, WHERE CALLED FOR, SHALL CONSIST OF LED MODULES DISPLAYING "WALKING PERSON" AND "HAND" SYMBOLS, ALONG WITH A PEDESTRIAN INTERVAL COUNTDOWN DISPLAY, WITHIN THE SAME FACE UNLESS OTHERWISE NOTED IN THE PLANS.

(4) CIRCULAR INDICATIONS SHALL MEET "ITE VTCSH-LED CIRCULAR SIGNAL SUPPLEMENT" FOR EXPANDED/EXTENDED VIEW.

(5) ARROW INDICATIONS SHALL MEET "ITE VTCSH-3 LED ARROW SPECIFICATION" FOR EXPANDED/EXTENDED VIEW.

(6) PEDESTRIAN INDICATIONS SHALL MEET "ITE PTCSI PART 2".

(7) INCANDESCENT OR SCREW-IN MODULES ARE NOT ACCEPTABLE.

(8) COMPATABILITY WITH CONFLICT MONITORS AND LOAD SWITCHES SHALL BE TESTED AND CONFIRMED.

(9) MANUFACTURER SHALL PROVIDE A MINIMUM FIVE-YEAR WARRANTY FOR OPERATION OF THE UNIT.

(10) ALL PROPOSED SIGNAL HEADS ON SPAN WIRE SHALL INCLUDE SWIVEL BALANCE ADJUSTERS TO MAINTAIN THE PROPER VISIBILITY. COSTS OF ADJUSTERS TO BE INCLUDED IN COSTS OF SIGNAL HEADS.

(11) THE ATTACHMENT OF THE TETHER WIRE TO THE POLE SHALL BE LOCATED BELOW THE LOWEST ELEVATION OF THE SIGNAL HEADS.

(12) SIGNAL HEADS SHALL INCLUDE LOUVERED BACKPLATES WITH A 1" MINIMUM, 3" MAXIMUM YELLOW RETRO REFLECTIVE BORDER AROUND THE PERIMETER OF THE FACE OF THE BACKPLATE. THE RETRO REFLECTIVE BORDER IS TO BE MADE OF A TYPE III PRISMATIC OR BETTER MATERIAL.

ENVIRONMENTAL

(1) STAFF FROM THE APPROPRIATE LOCAL AGENCIES SHALL BE INVITED TO ALL PRE-CONSTRUCTION MEETINGS.

STREAMS, WETLANDS & BUFFER ZONES

(1) FOR PROJECTS THAT DISCHARGE INTO KNOWN EXCEPTIONAL TENNESSEE WATERS OR WATERS IMPAIRED BY SILTATION, A 60 FOOT NATURAL RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STREAM WITH THIS DESIGNATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE DURING CONSTRUCTION ACTIVITIES AT THE SITE. THE 60 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 30 FEET AT ANY MEASURED LOCATION.

(2) A 30 FOOT NATURAL RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STREAM SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE DURING CONSTRUCTION ACTIVITIES AT THE SITE. THE 30 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 15 FEET AT ANY MEASURED LOCATION. EVERY ATTEMPT SHALL BE MADE FOR CONSTRUCTION ACTIVITIES NOT TO TAKE PLACE WITHIN THE BUFFER ZONES.

(3) BUFFER ZONES ARE NOT SEDIMENT CONTROL MEASURES AND MUST NOT BE RELIED UPON AS PRIMARY SEDIMENT CONTROL MEASURES. THE RIPARIAN BUFFER ZONE SHALL BE ESTABLISHED BETWEEN THE TOP OF THE STREAM BANK AND THE DISTURBED CONSTRUCTION AREA. EVERY ATTEMPT SHALL BE MADE FOR CONSTRUCTION ACTIVITIES NOT TO TAKE PLACE WITHIN THE BUFFER ZONES. BEST MANAGEMENT PRACTICES (BMPS) PROVIDING EQUIVALENT PROTECTION AS THE NATURAL RIPARIAN ZONE MAY BE USED. A JUSTIFICATION FOR USE AND DESIGN EQUIVALENCY SHALL BE DOCUMENTED WITHIN THE SWPPP. THE ENVIRONMENTAL AND ROADWAY DESIGN DIVISIONS SHALL REVIEW AND APPROVE THIS REVISION OF THE EPSC PLANS BEFORE DISTURBANCE OF THE SITE PROCEEDS, UNLESS PREVIOUSLY EXEMPT IN THE NPDES CONSTRUCTION GENERAL PERMIT. WHERE ISSUED, ARAP/401 REQUIREMENTS WILL PREVAIL IF IN CONFLICT WITH THESE BUFFER ZONE REQUIREMENTS.

OTHER SPECIAL NOTES

(1) BASE MAPPING INFORMATION WAS PROVIDED BY METRO NASHVILLE GIS.

(2) KIMLEY-HORN AND ASSOCIATES, INC. SHALL NOT BE HELD RESPONSIBLE FOR THE ACCURACY AND/OR COMPLETENESS OF THE GIS INFORMATION SHOWN HEREON OR ANY ERRORS OR OMISSIONS RESULTING FROM SUCH.

(3) THE CONTRACTOR SHALL CONFORM TO ALL LOCAL CODES AND RECEIVE APPROVAL WHERE NECESSARY BEFORE CONSTRUCTION.

(4) ANY WORK UNACCEPTABLE TO THE OWNER'S REPRESENTATIVE OR TO THE LOCAL GOVERNING AUTHORITY SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

(5) ALL CONSTRUCTION MATERIALS AND INSTALLATION SHALL CONFORM TO LOCAL GOVERNING AGENCY REGULATIONS AND SPECIFICATIONS.

(6) THE CONTRACTOR IS RESPONSIBLE FOR PREPARING ALL AS-BUILTS AS REQUIRED BY THE OWNER AND ANY GOVERNMENT JURISDICTION NECESSARY TO OBTAIN ANY FILL PERMITS, APPROVALS, CERTIFICATES OF OCCUPANCY, BOND REDUCTIONS OR RELEASES, ETC.

(7) ANY WORK DONE WITHOUT INSPECTION OR TESTING IS SUBJECT TO REMOVAL OR CORRECTION AT CONTRACTOR'S EXPENSE.

(8) THE ENGINEER OF DESIGN SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NOR SHALL HE BE REQUIRED TO SUPERVISE THE CONDUCT OF THE WORK OR THE CONSTRUCTION PROCEDURES AND SAFETY PROCEDURES FOLLOWED BY THE CONTRACTOR OR SUBCONTRACTOR OR THEIR RESPECTIVE EMPLOYEES OR BY ANY OTHER PERSON AT THE JOB SITE OTHER THAN THAT OF THE ENGINEER'S EMPLOYEES.

(9) THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS OF ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

(10) THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS.

(11) ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS, SPECIFICATIONS, AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS OR SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR AFTER HIS DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES, OR AMBIGUITIES PRIOR TO THE ENGINEER'S RESPONSE SHALL BE DONE AT THE CONTRACTOR'S RISK.

(12) TRAFFIC SIGNAL SUPPORT POLES, MAST ARMS, PEDESTAL POLES, PUSHBUTTON POSTS, AND CONTROLLER CABINETS SHALL BE PAINTED BLACK AT THE INTERSECTIONS OF LONG HOLLOW PIKE (SR 174) AT CONFERENCE DRIVE AND CONFERENCE DRIVE AT MISSION RIDGE DRIVE. ALL OTHER LOCATIONS SHALL BE EITHER GALVANIZED STEEL OR ALUMINUM.

Kimley»Horn
214 OCEANSIDE DRIVE
NASHVILLE, TENNESSEE
37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

TDOT GENERAL NOTES AND SPECIAL NOTES

CHRISTOPHER D. RHODES — REGISTERED ENGINEER — XVI — AGRICULTURE — COMMERCE — HOME — STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	TQH
CHECKED BY:	CDR
DATE:	1/11/2019

KHA PROJECT NO.: 118035002

SHEET NUMBER 2B

UTILITIES

(1) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.

(2) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT. ON CONTRACTS WHERE CONSTRUCTION STAKES, LINES, AND GRADES ARE CONTRACT ITEMS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SLOPE STAKES, DITCH OR STREAM BED GRADES, OR OTHER ESSENTIAL SURVEY STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY, THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK AND AT ANY LOCATION ON THE PROJECT DIRECTED BY THE ENGINEER.

(3) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

(4) PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED ?AROUND? UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR?S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.

(5) THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106.

CONTACT INFORMATION

OWNER

CITY OF GOODLETTSVILLE, TENNESSEE
ENGINEERING DEPARTMENT
105 SOUTH MAIN STREET
GOODLETTSVILLE, TN 37072
GREG EDRINGTON, P.E.

ENGINEER

KIMLEY-HORN AND ASSOCIATES, INC.
214 OCEANSIDE DRIVE
NASHVILLE, TENNESSEE 37204
(615) 564-2701
TERRANCE Q. HILL, P.E.

UTILITY OWNERS

WATER, SEWER, AND GAS

CITY OF GALLATIN
ATTN: DAVID GREGORY
239 HANCOCK STREET
GALLATIN, TN 37066
PHONE: (615) 451-5922
EMAIL: DGREGORY@GALLATINUTILITIES.COM

CITY OF HENDERSONVILLE, PUBLIC WORKS
ATTN: DUANE ALLEN
101 MAPLE DRIVE NORTH
HENDERSONVILLE, TN 37075
PHONE: (615) 822-1016
EMAIL: DALLEN@HVILLETN.ORG

WATER AND SEWER

MADISON SUBURBAN UTILITY DISTRICT
ATTN: CINDY ELLIS
108 WEST WEBSTER
MADISON, TN 37116
PHONE: (615) 868-3201
EMAIL: CELLIS@MSUD.NET

CITY OF MILLERSVILLE
ATTN: FRANK WILKERSON
1246 LOUISVILLE HWY.
MILLERSVILLE, TN 37072
PHONE: (615) 859-0880
EMAIL: PUBLICWORKS@CITYOFMILLERSVILLE.COM

METRO WATER & SEWER
ATTN: STEVE NUNLEY
1600 SECOND AVENUE NORTH
NASHVILLE, TN 37208
PHONE: (615) 862-4534
EMAIL: STEVE.NUNLEY@NASHVILLE.GOV

SEWER

CITY OF GOODLETTSVILLE
ATTN: JEFF MCCORMICK
215 CARTWRIGHT STREET
GOODLETTSVILLE, TN 37072
PHONE: (615) 851-2204
EMAIL: JMCCORMICK@GOODLETTSVILLE.GOV

CITY OF PORTLAND - SEWER DEPARTMENT
ATTN: MR. LEWIS
100 SOUTH RUSSELL
PORTLAND, TN 37148
PHONE: (615) 325-6776
EMAIL: BLEWIS@CITYOFPORTLANDTN.GOV

WATER

CITY OF PORTLAND - WATER DEPARTMENT
ATTN: JIMMY STEWART
100 SOUTH RUSSELL
PORTLAND, TN 37148
PHONE: (615) 325-6776
EMAIL: JSTEWART@CITYOFPORTLANDTN.GOV

WHITE HOUSE UTILITY DISTRICT
ATTN: PAT HARRELL
P.O. BOX 608
3303 HWY 31 WEST
WHITE HOUSE, TN 37188
PHONE: (615) 672-4110
EMAIL: PHARRELL@WHUD.ORG

STREETLIGHTS

METRO PUBLIC WORKS
ATTN: MARK STURTEVANT
720 SOUTH FIFTH STREET
NASHVILLE, TN 37206
PHONE: (615) 862-6000
EMAIL: MARK.STURTEVANT@NASHVILLE.GOV

ELECTRIC

CUMBERLAND ELECTRIC MEMBERSHIP CORPORATION
ATTN: MARK COOK
1940 MADISON STREET
CLARKSVILLE, TN 37043
PHONE: (931) 645-2481
EMAIL: MCOOK@CEMC.ORG

GALLATIN ELECTRIC
ATTN: MIKE TAYLOR
135 JONES STREET
GALLATIN, TN 37066
PHONE: (615) 452-5152
EMAIL: MTAYLOR@GALLATINELECTRIC.COM

NASHVILLE ELECTRIC SERVICE
ATTN: HANK DUNNING
1214 CHURCH STREET, ROOM 353
NASHVILLE, TN 37246
PHONE: (615) 747-3530
EMAIL: HDUNNING@NESPOWER.COM

GAS

PIEDMONT GAS COMPANY
ATTN: BOBBY WORTHINGTON
83 CENTURY BOULEVARD
NASHVILLE, TN 37214
PHONE: (615) 872-2332
EMAIL: BOBBY.WORTHINGTON@PIEDMONTNG.COM

CITY OF PORTLAND - GAS DEPARTMENT
ATTN: RICKY BLACKBURN
100 SOUTH RUSSELL
PORTLAND, TN 37148
PHONE: (615) 325-6776
EMAIL: RBLACKBURN@CITYOFPORTLANDTN.GOV

TELEPHONE

AT&T
ATTN: KIM BEAN
333 COMMERCE STREET,
RM 23C-142
NASHVILLE, TN 37201
PHONE: (615) 214-7318
EMAIL: KB1078@ATT.COM

FIBER OPTIC CABLE

AT&T FIBER OPTIC CABLE
ATTN: TRINA IVEY
360 GEES MILL BUSINESS PARKWAY
CONYERS, GA 30013
PHONE: (678) 641-5522
EMAIL: KI2863@ATT.COM

CABLE

GOOGLE NETWORK
ATTN: NICHOLAS FISCHER
1101 MCGAVOCK ST. SUITE # 200
NASHVILLE, TN 37203
PHONE: (312) 533-7966
EMAIL: NFISCHER@GOOGLE.COM

COMCAST
ATTN: LARRY K. WINBURN
2501 MCGAVOCK PIKE
NASHVILLE, TN 37214
PHONE: (615) 244-7462
EMAIL: LARRY_WINBURN@CABLE.COMCAST.COM

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214 OCEANSIDE DRIVE
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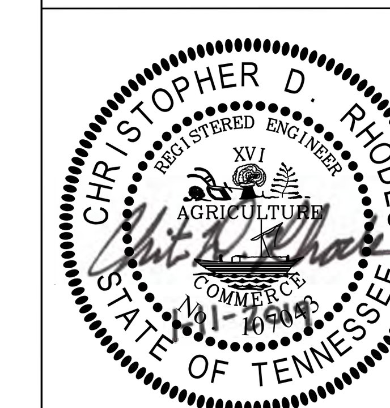
GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES
PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

UTILITY NOTES AND CONTACT INFORMATION



No.	REVISIONS	DATE	BY

DESIGNED BY: TQH
DRAWN BY: TQH
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 2C

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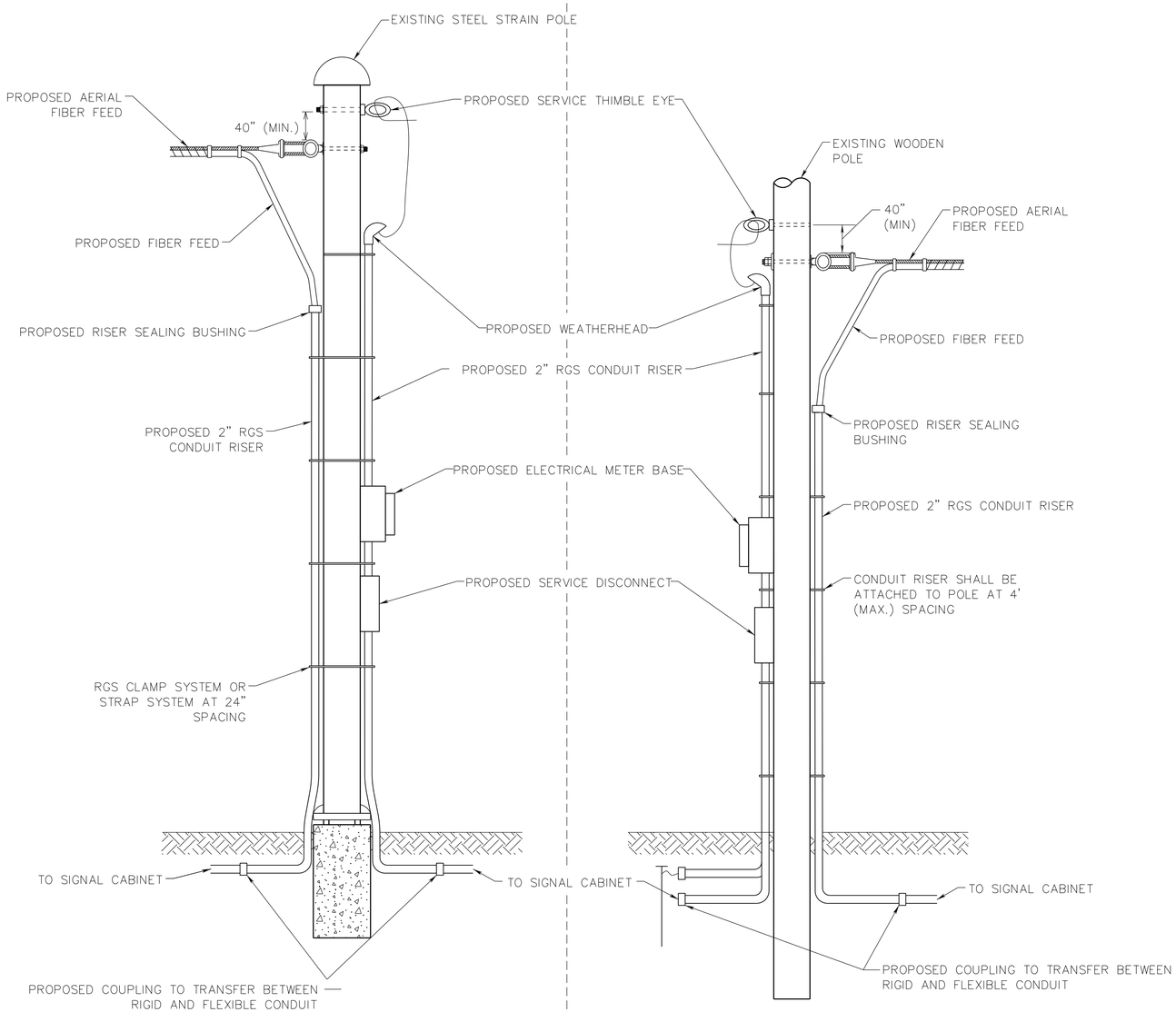
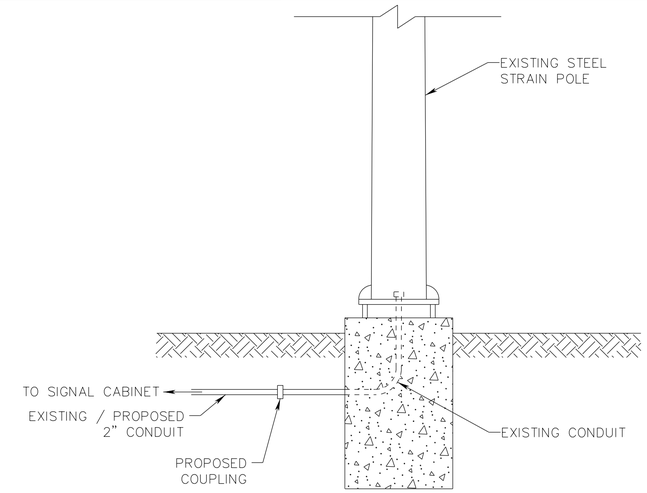


DEMARCATION DETAIL:
STEEL STRAIN SIGNAL POLE
N.T.S.

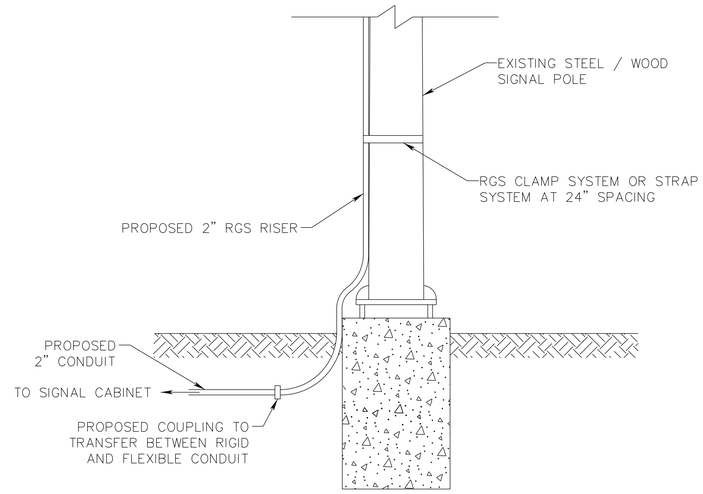
DEMARCATION DETAIL:
WOODEN SIGNAL POLE
N.T.S.

NOTES:

1. ALL EQUIPMENT CONNECTIONS SHALL BE MADE ACCORDING TO MANUFACTURER RECOMMENDATIONS AND APPROVED BY THE ENGINEER.
2. COORDINATE ELECTRICAL SERVICE CONNECTIONS WITH NASHVILLE ELECTRIC SERVICE.
3. COORDINATE COMMUNICATIONS SERVICE CONNECTIONS WITH NASHVILLE ELECTRIC SERVICE.
4. THERE SHALL BE A MINIMUM 40" SEPARATION BETWEEN ELECTRICAL AND COMMUNICATION WEATHERHEADS.
5. ENTIRE INSTALLATION MUST MEET OR EXCEED ALL LOCAL AND NATIONAL ELECTRICAL CODES.
6. LOCATIONS OF CONDUIT SHOWN IN ABOVE DETAILS ARE GENERIC. REFER TO INDIVIDUAL PLAN SHEETS FOR RECOMMENDED LOCATIONS.
7. METER BASES ARE REQUIRED FOR ALL DEMARCATION SITES.
8. SEPARATE CONDUIT AND PULL BOX SYSTEMS ARE REQUIRED FOR ELECTRICAL AND COMMUNICATIONS FEEDS.
9. A DRIP LOOP SHALL BE APPLIED TO ALL CABLING ENTERING A WEATHERHEAD.



ENTRY/ATTACHMENT DETAIL
INTERCEPT SPARE CONDUIT STUB-OUT
N.T.S.



ENTRY/ATTACHMENT DETAIL (OPTION 1)
EXTERNAL RISER ATTACHMENT
N.T.S.

NOTES:

1. OPTION 1 WILL ONLY BE CONSIDERED ONCE THE PRIMARY ENTRANCE DETAIL HAS BEEN DEEMED NON APPLICABLE OR UTILIZING THE EXISTING CONDUITS BETWEEN THE SIGNAL POLE AND THE PULLBOX HAS BEEN SHWON AS VIOLATING NEC FILL REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO DETERMINE WHICH OF THE OPTIONS IS FEASIBLE BASED UPON SITE CONDITIONS.
2. THE MANUFACTURER'S MINIMUM REQUIRED BENDING RADIUS FOR TRAFFIC SIGNAL OR FIBER OPTIC CABLE SHALL NOT BE VIOLATED REGARDLESS OF WHICH ENTRANCE / ATTACHMENT DETAIL IS CONSTRUCTED.
3. TRANSITIONING THE FIBER OPTIC DROP CABLE FROM THE STEEL STRAIN SIGNAL POLES ONTO UTILITY POLES SHALL BE ACCOMPLISHED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS T-FO-1, T-FO-3, AND T-FO-4.

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214 OCEANSIDE DRIVE
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37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II
THE CITY OF GOODLETTSVILLE, TENNESSEE

DETAILS
DEMARCATION DETAILS / ATTACHMENT DETAILS

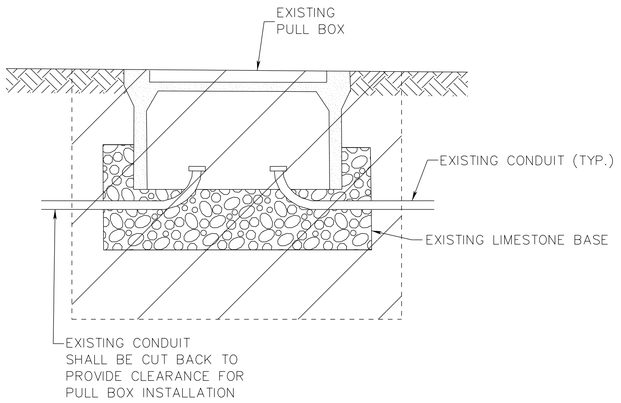
CHRISTOPHER D. RHODES
REGISTERED ENGINEER
XVI
AGRICULTURE
STATE OF TENNESSEE
1-11-2019

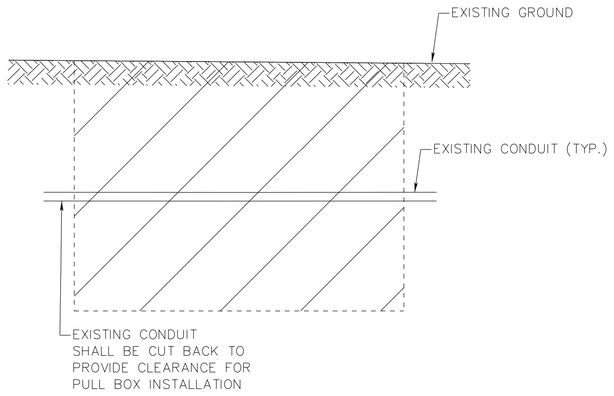
No.	REVISIONS	DATE	BY

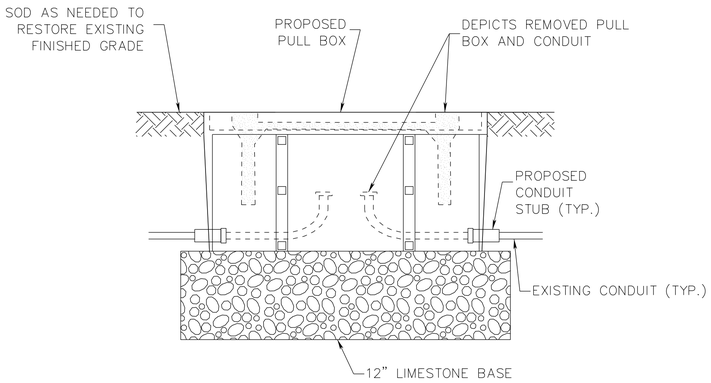
DESIGNED BY:	TQH
DRAWN BY:	TQH
CHECKED BY:	CDR
DATE:	1/11/2019

KHA PROJECT NO.: 118035002

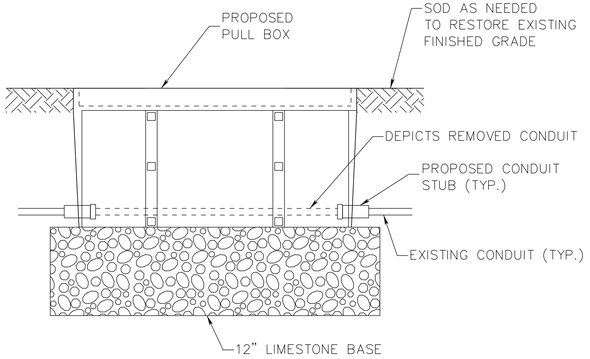
SHEET NUMBER
3







PULL BOX REPLACEMENT DETAIL
N.T.S.



PULL BOX INSTALLATION ALONG EXISTING CONDUIT ROUTE DETAIL
N.T.S.

NOTES:

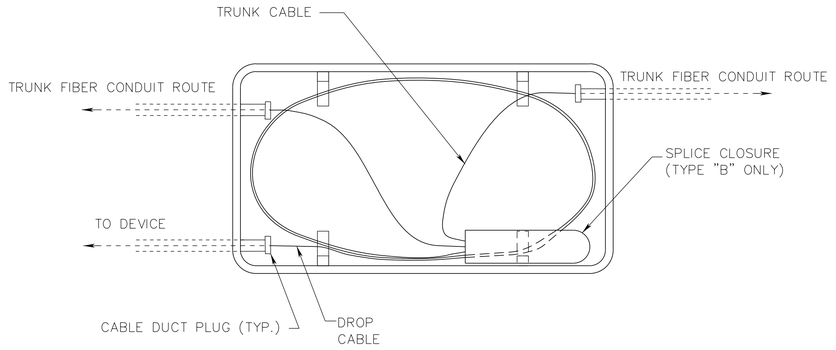
1. SEE TDOT DETAILS T-FO-4 AND T-SG-2 FOR ADDITIONAL INSTALLATION REQUIREMENTS FOR PULL BOXES.
2. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MATERIALS. NO SEPARATE PAYMENT WILL BE PROVIDED FOR THIS EFFORT. COST SHALL BE ABSORBED UNDER PULL BOX PAY ITEMS.
3. EXISTING CABLES SHALL BE PROTECTED, RE-INSTALLED AND RECONNECTED TO THEIR RESPECTIVE DEVICES FOR ALL PULL BOX REPLACEMENTS OR INSTALLATIONS.

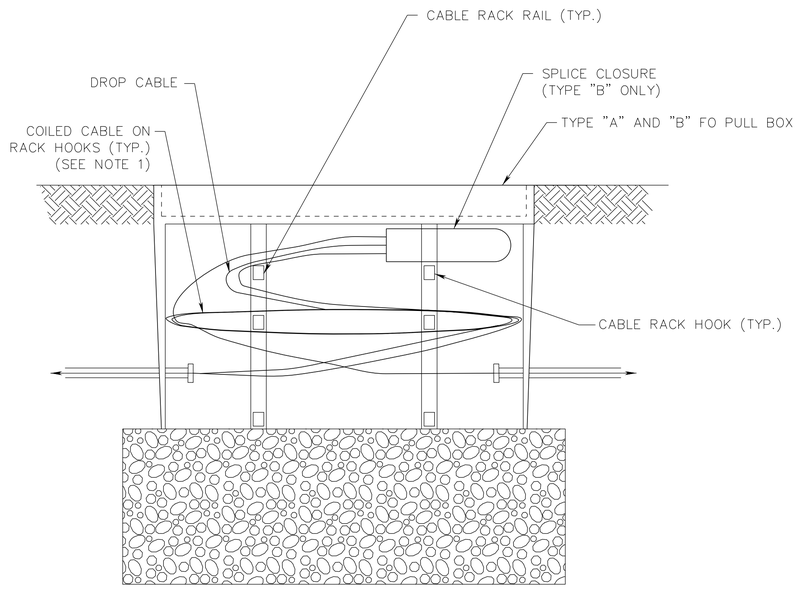
DENOTES AREA OF EXCAVATION AND REMOVAL OF EXISTING MATERIAL (INCLUDES EXISTING PULL BOX, EXCESS CONDUIT, EXISTING LIMESTONE BASE AND SOIL).

TYPICAL FIBER OPTIC CABLE COIL INSTALLATION GUIDE
(FEET OF COIL LENGTH PER ENTERING CABLE)

CABLE TYPE	TYPE "A" FO PULL BOX	TYPE "B" FO PULL BOX	PAD-MOUNTED CABINET BASE	FIBER OPTIC STORAGE BRACKET
FIBER OPTIC CABLES (TRUNK)	25	200	25	200
FIBER OPTIC CABLES (DROP)	25	100	25	100

NOTE: SEE ITS IMPROVEMENTS LAYOUT SHEETS FOR ADDITIONAL INFORMATION





CABLE MANAGEMENT IN TYPE "A" AND "B" FO PULL BOX
N.T.S.

NOTES:

1. FIBER TRUNK AND BRANCH CABLES SHALL BE COILED TOGETHER.
2. CONDUIT MAY ENTER THE LONG SIDE OF THE PULL BOX WHEN FIELD CONDITIONS WARRANT.

Kimley»Horn
214 OCCANSIDE DRIVE
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37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES
PHASE II
THE CITY OF GOODLETTSVILLE, TENNESSEE

DETAILS
TYPICAL FIBER OPTIC PULL BOX DETAILS

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	TQH
CHECKED BY:	CDR
DATE:	1/11/2019
KHA PROJECT NO.: 118035002	
SHEET NUMBER 3A	

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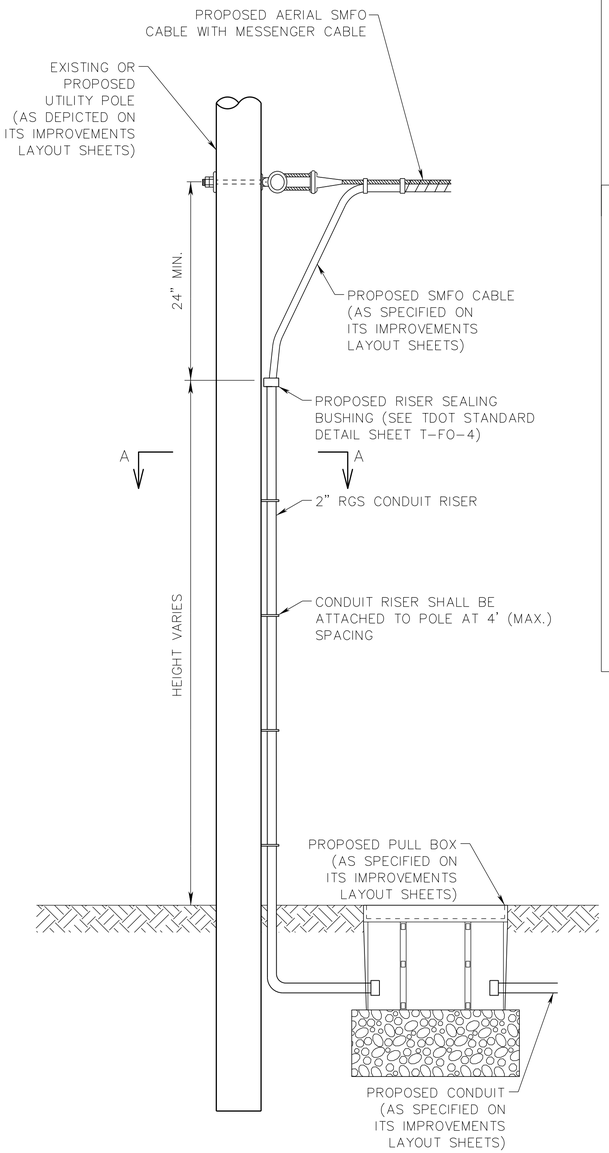


TRANSITIONING FIBER OPTIC CABLE FROM AN UNDERGROUND SYSTEM TO OVERHEAD ROUTING

N.T.S.

WARNING
CITY OF GOODLETTSVILLE ITS
FIBER OPTIC CABLE
TELEPHONE NUMBER: (615) 851-2215
WARNING
FIBER OPTIC CABLE

CABLE TAGGING DETAIL – CITY OF GOODLETTSVILLE ITS

N.T.S.

NOTES:

1. ALL AERIAL FIBER OPTIC CABLE SHALL BE TAGGED AT EVERY POLE ATTACHMENT AS NOTED ABOVE.

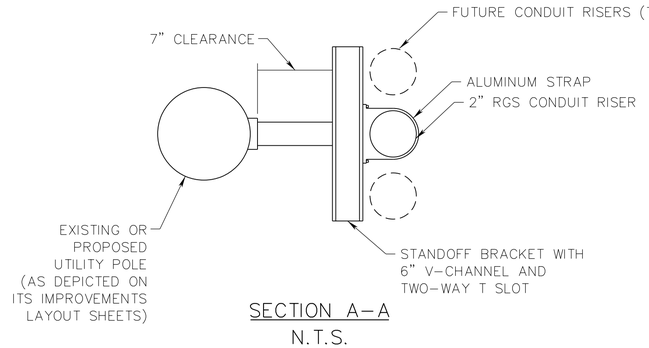
410

CABLE TAGGING DETAIL – NES STANDARD

N.T.S.

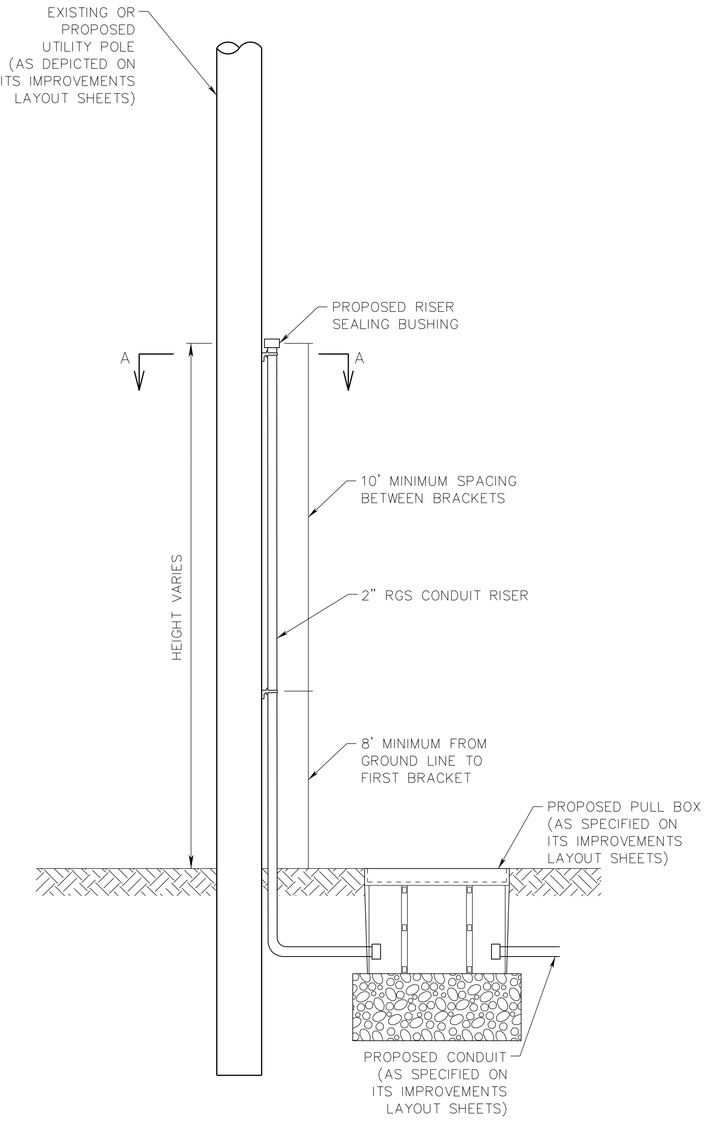
NOTES:

1. ALL AERIAL FIBER OPTIC CABLE SHALL BE TAGGED AT EVERY NES POLE ATTACHMENT AS NOTED ABOVE.
2. ALL TAGS SHALL BE SECURED SO AS TO REMAIN PERMANENTLY AFFIXED TO THE CABLE AT THE POINT OF ATTACHMENT. MULTIPLE ATTACHMENTS ON THE SAME POLE SHALL BE MARKED SEPARATELY.
3. ALL TAGS SHALL BE RESISTANT TO FADING FROM THE EFFECTS OF WEATHER, CHEMICALS, ETC.
4. ALL TAGS SHALL INDICATE THE USER'S THREE-DIGIT CODE IN ONE-INCH BLACK LETTERS ON A YELLOW BACKGROUND.
5. ALL TAGS SHALL AVOID THE USE OF SHARP EDGES AND CORNERS TO PREVENT INJURY TO PERSONNEL AND DAMAGE TO CABLES.



SECTION A-A

N.T.S.



COMMUNICATIONS RISER DETAIL (NES STANDARD)

N.T.S.

NOTES:

1. ALL ATTACHMENTS SHALL CONFORM TO NESC STANDARDS AND THE NES POLE ATTACHMENT AND CONDUIT USAGE GUIDLINES, REVISION 2.12.
2. MINIMUM BENDING RADIUS FOR FO CABLES SHALL BE EQUAL TO OR GREATER THAN THE MINIMUM BENDING RADIUS OF THE LARGEST CABLE PLUS 6 INCHES.
3. ATTACHMENTS SHOWN ARE FOR WOOD POLES. FOR STEEL OR CONCRETE POLES, STAINLESS STEEL BANDS SHALL BE USED.
4. LOCATION OF PULL BOX SHOWN IN ABOVE DETAIL IS GENERAL. REFER TO INDIVIDUAL ITS IMPROVEMENT SHEETS FOR RECOMMENDED LOCATIONS.
5. THE COST OF THE RISER SEALING BUSHING SHALL BE INCLUDED IN THE COST OF THE RISER ASSEMBLY AND WILL NOT BE PAID FOR SEPARATELY.
6. SEE TDOT STANDARD DETAIL SHEET T-FO-3 FOR ADDITIONAL OVERHEAD ROUTING DETAILS.

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

DETAILS

MISCELLANEOUS FIBER ROUTING DETAILS

CHRISTOPHER D. RHODES — REGISTERED ENGINEER — XVI — STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	TQH
CHECKED BY:	CDR
DATE:	1/11/2019
KHA PROJECT NO.: 118035002	
SHEET NUMBER 3B	

2/7/2019 11:45:57 AM
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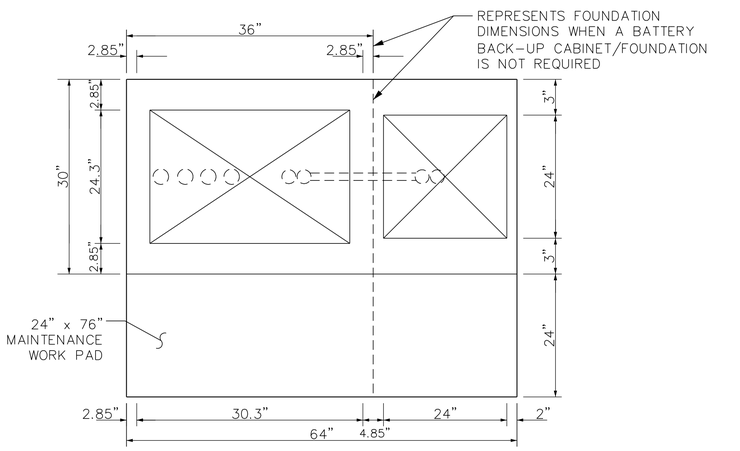

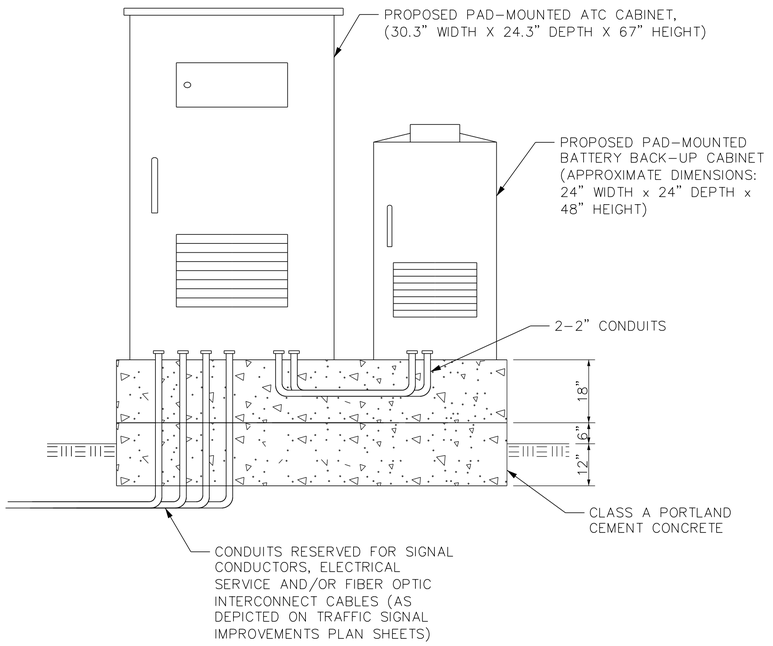

TYPICAL ATC CABINET AND BATTERY BACK-UP FOUNDATION

N.T.S.

NOTES:

1. 24" DEPTH MAINTENANCE WORK PADS SHALL BE INSTALLED IN LOCATIONS WHERE PROPOSED CABINET IS NOT WITHIN AN EXISTING SIDEWALK SECTION.
2. FOUNDATIONS FOR THE SIGNAL CABINET AND BATTERY BACK-UP CABINET (WHEN REQUIRED) SHALL BE FORMED AND POURED AT THE SAME TIME.

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

DETAILS

ATC CABINET FOUNDATION DETAILS

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY:	TOH
DRAWN BY:	TOH
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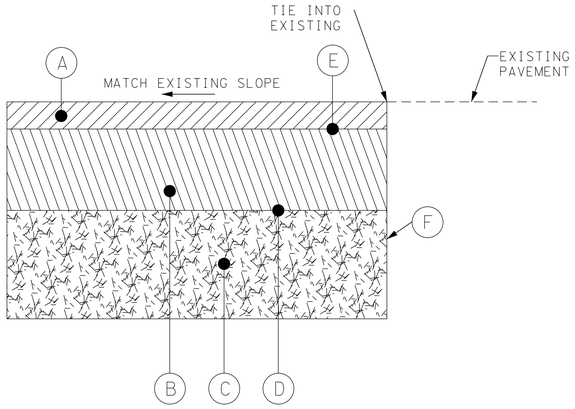
KHA PROJECT NO.: 118035002

SHEET NUMBER 3C



(A) - ASPHALTIC CONCRETE SURFACES (HM) AT 1.5 IN THICK (APPROX. 159 LBS/SY)
ACS MIX (PG70-22) GRADING D

(B) - BITUMINOUS PLANT MIX BASE AT 6.0 IN THICK (APPROX. 690 LBS/SY)
ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING A

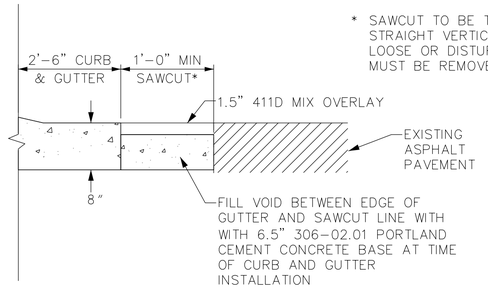
(C) - MINERAL AGGREGATE BASE COURSE AT 10.0 IN THICK
MINERAL AGGREGATE. TYPE A BASE. GRADING D
(CONSTRUCT IN 2 LIFTS)

(D) - PRIME COAT
BITUMINOUS MATERIAL FOR PRIME COAT (PC) (0.30 - 0.35 GAL/SY)
AGGREGATE FOR COVER MATERIAL (PC)

(E) - TACK COAT
BITUMINOUS MATERIAL FOR TACK COAT (TC) (0.05 - 0.07 GAL/SY)

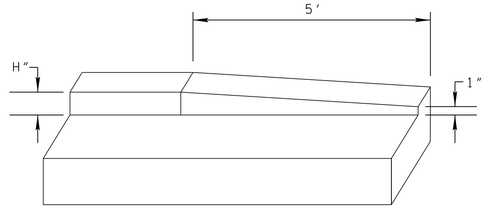
(F) - EXISTING PAVEMENT TO BE SAW CUT A MINIMUM OF ONE FOOT FROM THE EXISTING EDGE OF PAVEMENT AND TRIMMED TO STRAIGHT VERTICAL LINE. ANY LOOSE OR DISTURBED PAVEMENT MUST BE REMOVED AND REPLACED.

FULL DEPTH ASPHALT PAVEMENT SECTION
N.T.S.



* SAWCUT TO BE TRIMMED TO STRAIGHT VERTICAL LINE. ANY LOOSE OR DISTURBED PAVEMENT MUST BE REMOVED AND REPLACED.

TYPICAL SAW CUT TIE-IN DETAIL
N.T.S.



H = FULL CURB HEIGHT

CURB TURN DOWN DETAIL
N.T.S.

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THE CITY OF GOODLETTSVILLE, TENNESSEE

DETAILS
MISCELLANEOUS CIVIL DETAILS

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
STATE OF TENNESSEE

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KHA PROJECT NO.: 118035002	
SHEET NUMBER 3D	

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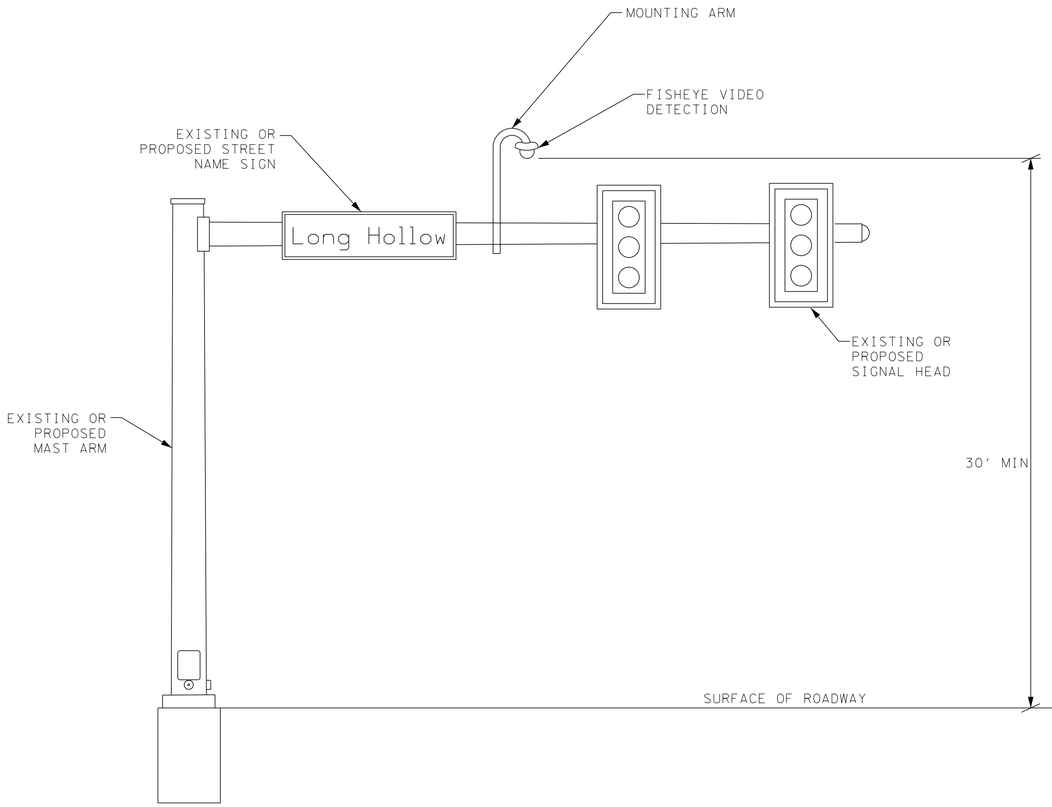
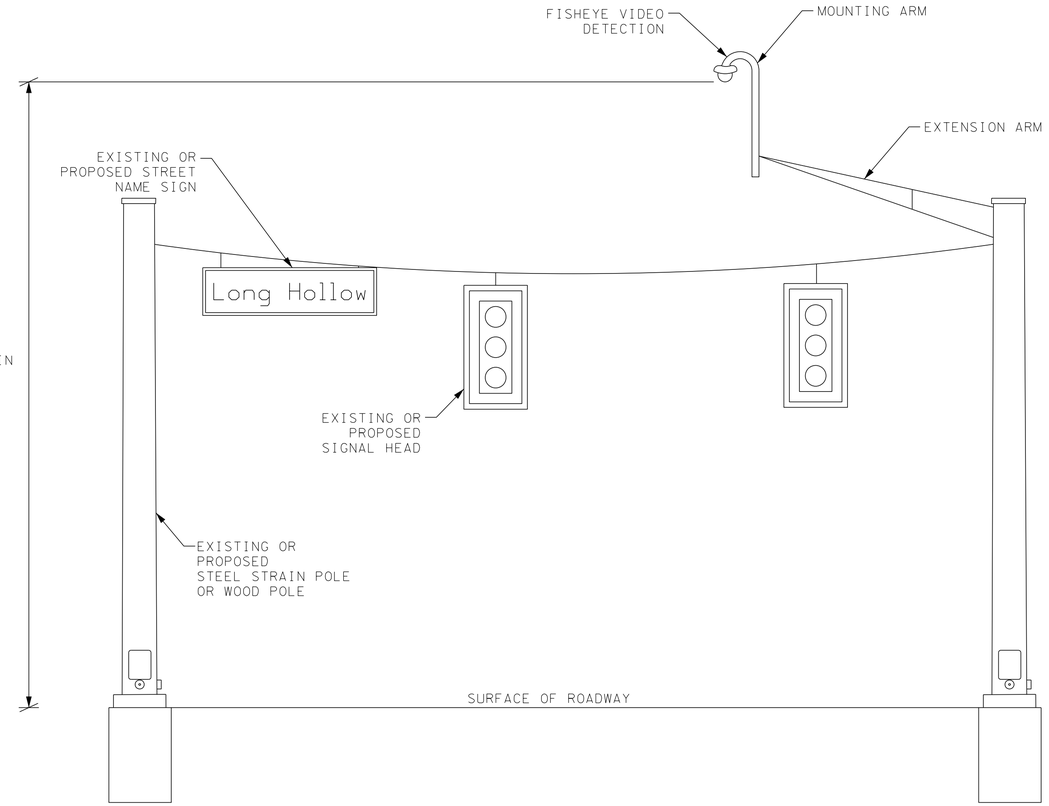


FISHEYE VIDEO DETECTION (MAST ARM) - DETAIL
N.T.S.



FISHEYE VIDEO DETECTION (SPAN WIRE) - DETAIL
N.T.S.

NOTES:
1. PROPOSED FISHEYE VIDEO DETECTION, MOUNTING ARM AND EXTENSION ARM ARE ALL TO BE INCLUDED IN PAY ITEM 730-13.02.
2. MOUNTING LOCATION SHALL BE APPROVED BY ENGINEER IN ORDER TO ACHIEVE OPTIMUM LINE OF SIGHT.
3. FISHEYE VIDEO DETECTION SHOULD BE MOUNTED AT LEAST 30' ABOVE ROADWAY.

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THE CITY OF GOODLETTSVILLE, TENNESSEE

DETAILS
DETECTION DETAILS

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
STATE OF TENNESSEE

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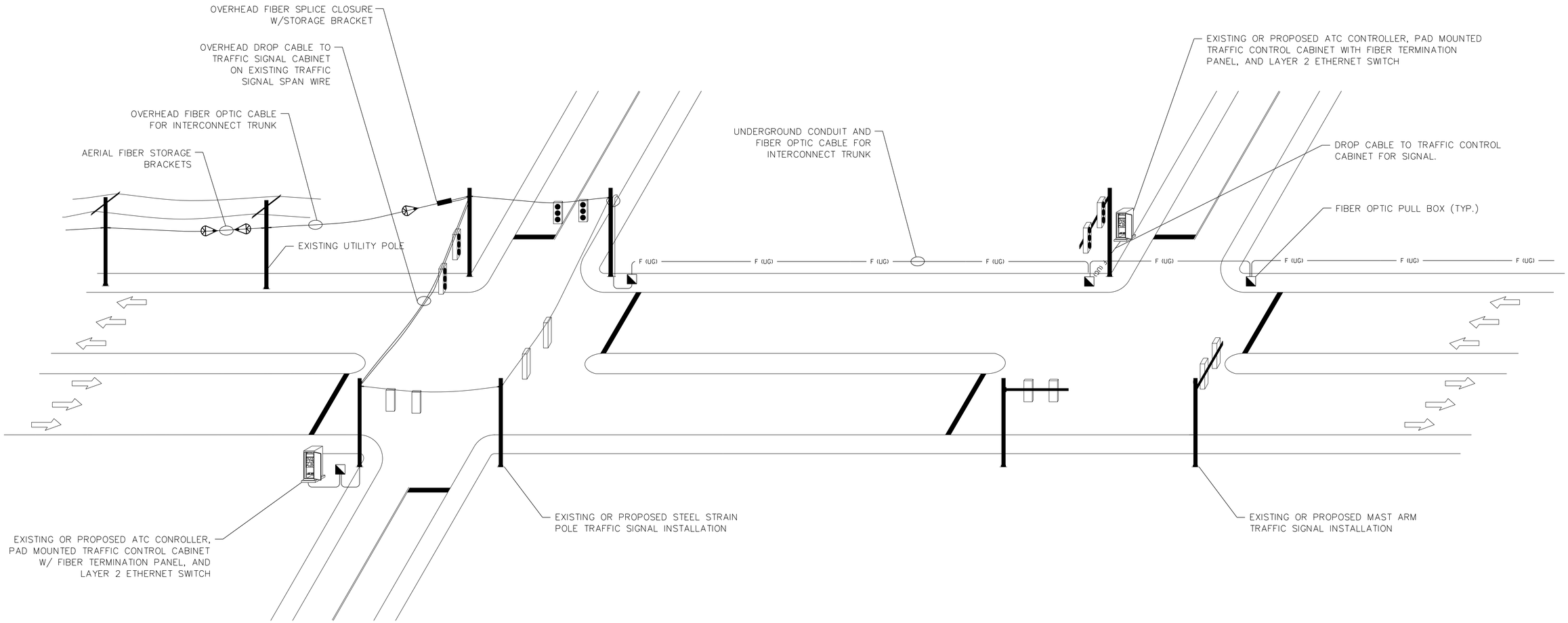
CHECKED BY:	CDR
DATE:	1/11/2019
KHA PROJECT NO.: 118035002	
SHEET NUMBER 3E	



NOTE:

THIS SYSTEM SCHEMATIC IS INTENDED AS A HIGH LEVEL OVERVIEW ONLY. REFER TO THE TECHNICAL SPECIFICATIONS AND OTHER PLAN SHEETS FOR SPECIFIC DETAILS AND QUANTITIES.

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

COMMUNICATIONS SHEETS

FIELD EQUIPMENT OVERVIEW

CHRISTOPHER D. RHODES
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XVI
AGRICULTURE
COMMERCE
ENGINEERING
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

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KHA PROJECT NO.: 118035002	
SHEET NUMBER 4	

PLAN SHEET NUMBER	INTERSECTION NAME		CABINET TYPE		MCCAIN ATC eX2 NEMA TS-2 TYPE 2	LAYER 2 ETHERNET FIELD SWITCH	BATTERY BACK UP WITH CABINET	VEHICLE PHASING CHANGE	PEDESTRIAN PHASING CHANGE	VIDEO DETECTION	ACCESSIBLE PEDESTRIAN SIGNAL EQUIPMENT	NOTES
	MAJOR STREET	MINOR STREET	PROPOSED PAD-MOUNTED (ATC)	EXISTING TO REMAIN								
12	LONG HOLLOW PIKE	MAIN STREET	1		1	1						
13	LONG HOLLOW PIKE	CARTWRIGHT STREET	1		1	1						
14	LONG HOLLOW PIKE	I-65 SOUTHBOUND RAMPS	1		1	1			1		1	
15	LONG HOLLOW PIKE	I-65 NORTHBOUND RAMPS						1			1	WILL BE CONTROLLED BY CABINET AT THE I-65 SOUTHBOUND RAMP
16	LONG HOLLOW PIKE	CONFERENCE DRIVE / EAST CEDAR STREET	1		1	1	1	1		1	1	
17	LONG HOLLOW PIKE	NORTHCREEK BOULEVARD	1		1	1		1				
18	LONG HOLLOW PIKE	CALDWELL DRIVE	1		1	1		1	1	1	1	
19	LONG HOLLOW PIKE	LORETTA DRIVE	1		1	1		1				
20	CONFERENCE DRIVE	MISSION RIDGE DRIVE	1		1	1		1	1		1	
21	CONFERENCE DRIVE	WINDSOR GREEN BOULEVARD	1		1	1		1	1	1	1	
22	CONFERENCE DRIVE	NORTHCREEK BOULEVARD	1		1	1		1				
23	CONFERENCE DRIVE	NORTHGATE CIRCLE	1		1	1					1	

NOTES:
1. ALL EXISTING EQUIPMENT NOT TO BE REUSED SHALL BE REMOVED FROM THE CABINET AND PRESENTED TO THE CITY OF GOODLETTSVILLE. UNUSED EXISTING CABLING SHALL BE DISPOSED OF BY THE CONTRACTOR.
2. VEHICLE PHASING CHANGE COLUMN REFLECTS INSTANCES WHERE THE PHASING ORIENTATION IS CHANGING AND/OR WHERE A PHASING CHANGE IS BEING MADE (I.E. WHERE SIDE STREET SPLIT-PHASE OPERATION IS CHANGING TO PERMISSIVE PHASING).

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

COMMUNICATIONS SHEETS

FIELD CABINET SUMMARY TABLE

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY: TQH
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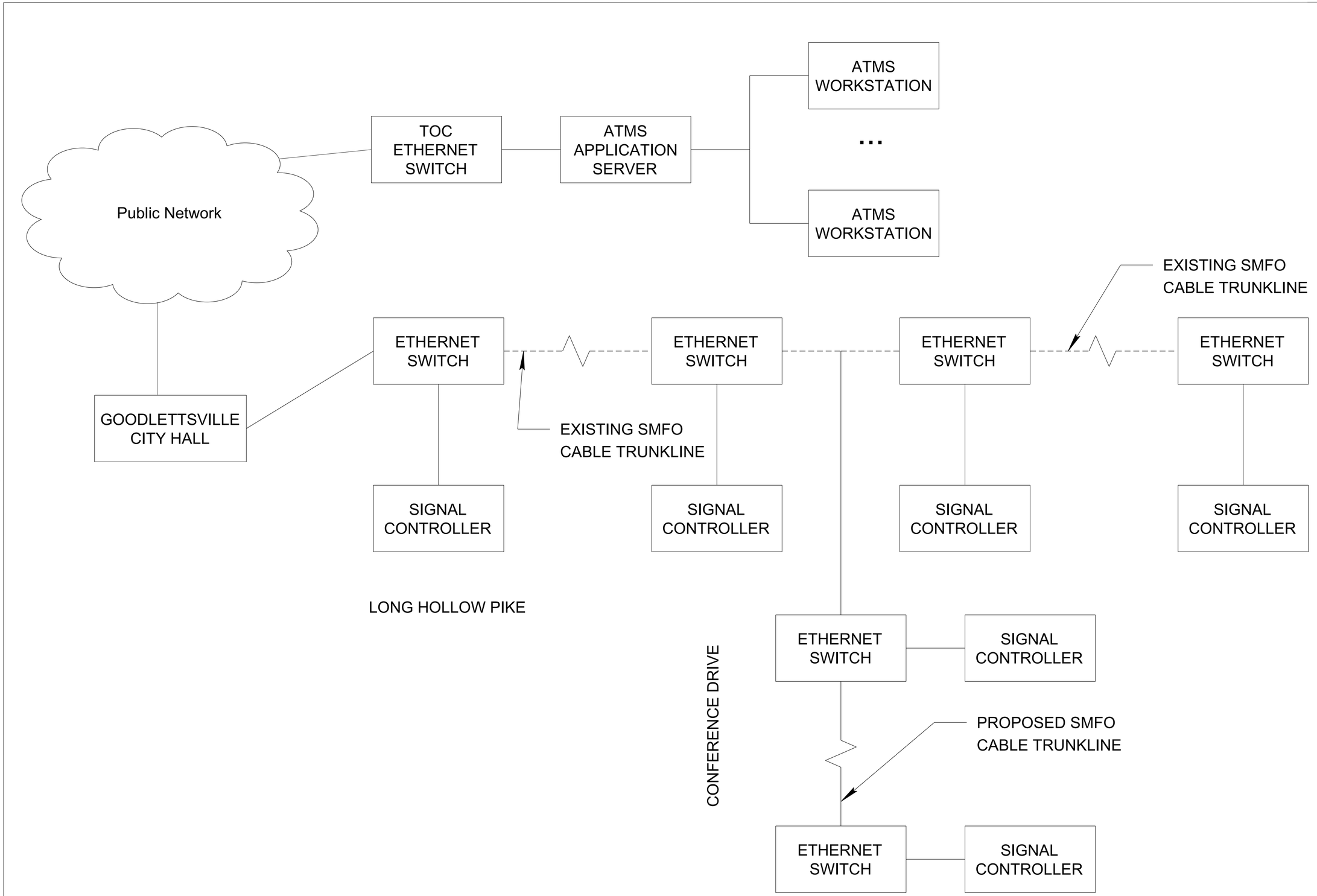
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 4A



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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

COMMUNICATIONS SHEETS

NETWORK COMMUNICATION

SCHEMATIC

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
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KHA PROJECT NO.: 118035002

SHEET NUMBER 4B

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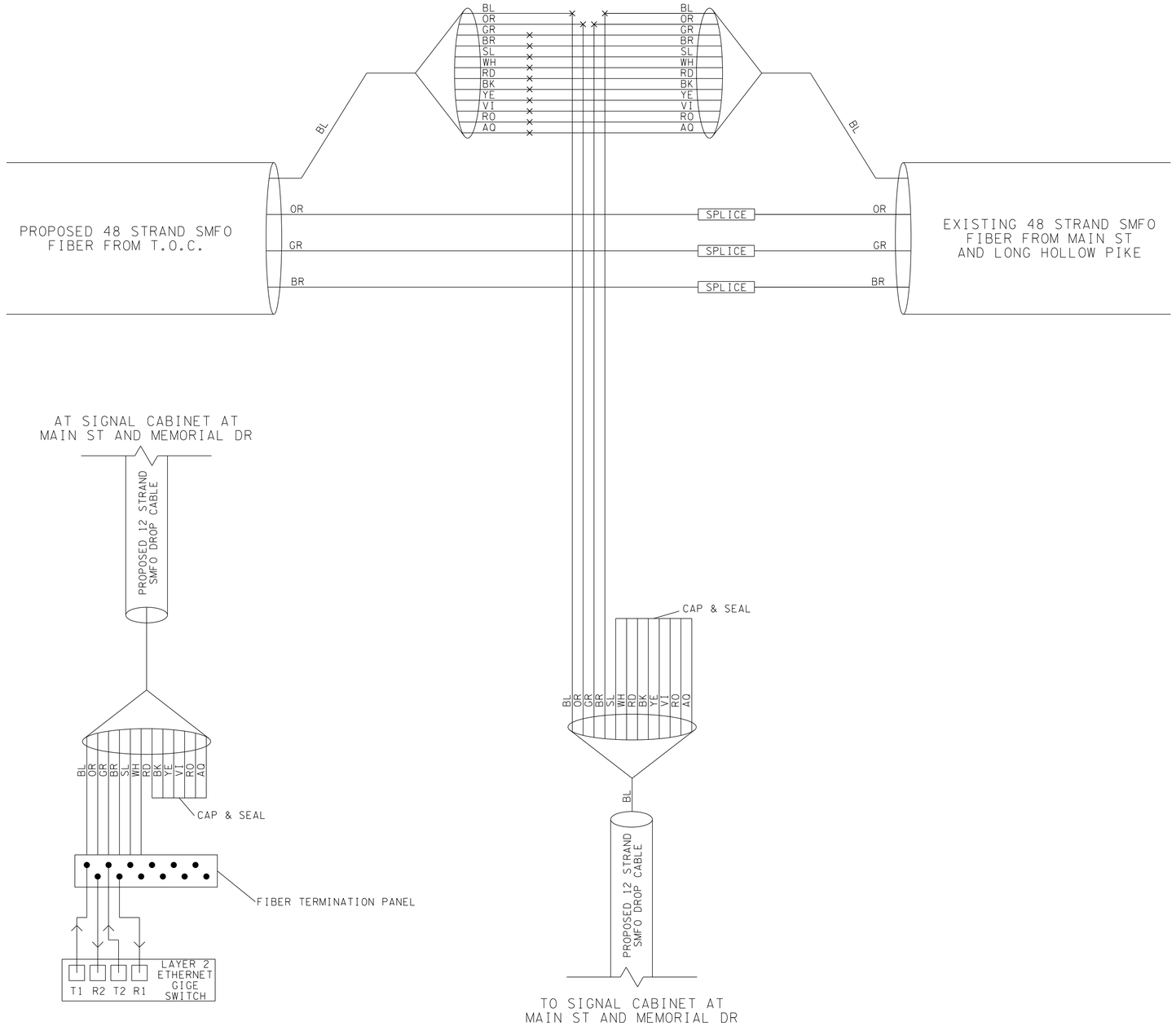
FIBER OPTIC SPLICE DETAIL: DIAGRAM 1
N.T.S.



SPLICE LEGEND

×	FUSION SPLICE INDIVIDUAL FIBER
BUFFER TUBE	SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

COLOR CODE TIA/EIA 598-A

(1)	BLUE (BL)	(7)	RED (RE)
(2)	ORANGE (OR)	(8)	BLACK (BL)
(3)	GREEN (GR)	(9)	YELLOW (YE)
(4)	BROWN (BR)	(10)	VIOLET (VI)
(5)	SLATE (SL)	(11)	ROSE (RO)
(6)	WHITE (WH)	(12)	AQUA (AQ)

LOCATIONS

-AERIAL SPLICE AT MAIN ST. / CITY HALL (SHEET 6)

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

COMMUNICATIONS SHEETS

FIBER OPTIC SPLICING DETAILS

CHRISTOPHER D. RHODES — REGISTERED ENGINEER — XVI — AGRICULTURE — COMMERCE — STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

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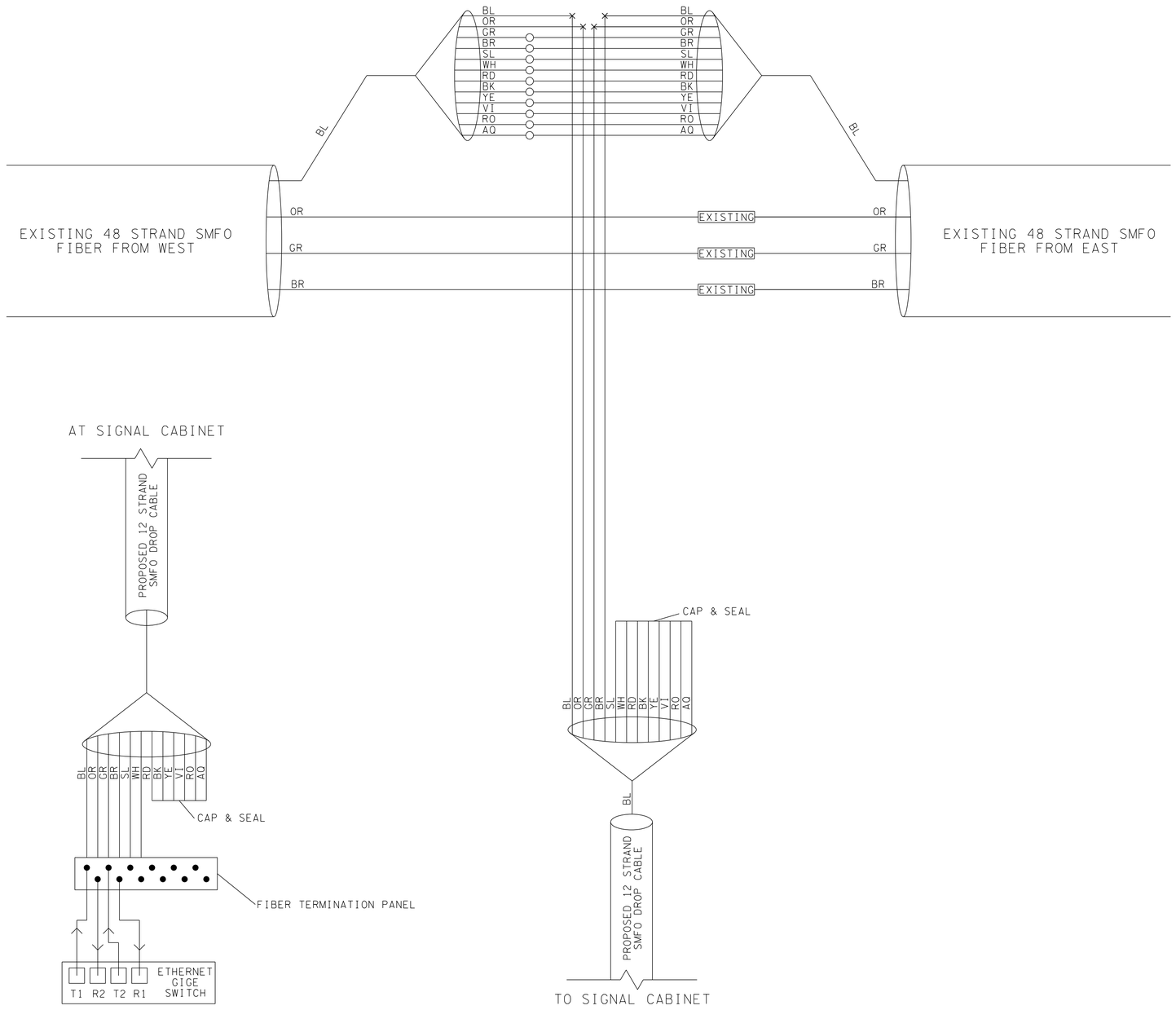
DRAWN BY:	ARG
CHECKED BY:	CDR
DATE:	1/11/2019
KHA PROJECT NO.: 118035002	
SHEET NUMBER	4C

NOTES:

SPLICING DIAGRAM SHOWN IS BASED ON PREVIOUS FIBER DESIGN PLAN. IF FIELD CONDITIONS VARY, CONTRACTOR SHALL COORDINATE WITH ENGINEER.

FIBER OPTIC SPLICE DETAIL: DIAGRAM 2
N.T.S.



SPLICE LEGEND

○	EXISTING FUSION SPLICE INDIVIDUAL FIBER
×	FUSION SPLICE INDIVIDUAL FIBER
BUFFER TUBE	SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

COLOR CODE TIA/EIA 598-A

(1)	BLUE (BL)	(7)	RED (RE)
(2)	ORANGE (OR)	(8)	BLACK (BL)
(3)	GREEN (GR)	(9)	YELLOW (YE)
(4)	BROWN (BR)	(10)	VIOLET (VI)
(5)	SLATE (SL)	(11)	ROSE (RO)
(6)	WHITE (WH)	(12)	AQUA (AQ)

LOCATIONS

-LONG HOLLOW PIKE / MAIN ST (SHEET 6)
-LONG HOLLOW PIKE / CARTWRIGHT ST (SHEET 6)
-LONG HOLLOW PIKE / I-65 (SHEET 6)
-LONG HOLLOW PIKE / NORTHCREEK BLVD (SHEET 7)
-LONG HOLLOW PIKE / CALDWELL RD (SHEET 8)

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

COMMUNICATIONS SHEETS
FIBER OPTIC SPLICING DETAILS

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
XVI
AGRICULTURE
COMMERCE
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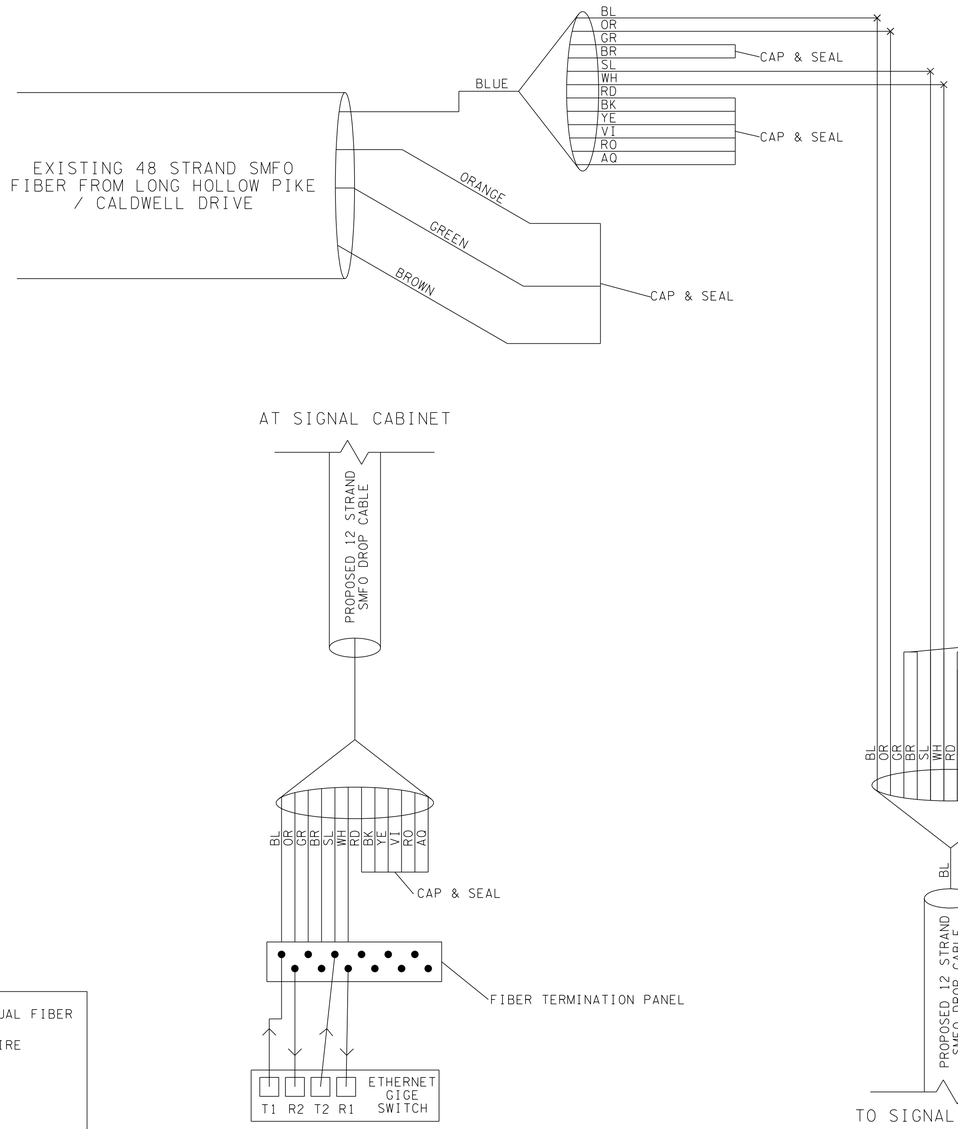
SHEET NUMBER
4D

FIBER OPTIC SPLICE DETAIL: DIAGRAM 3
N.T.S.



SPLICE LEGEND

×	FUSION SPLICE INDIVIDUAL FIBER
BUFFER TUBE	SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

COLOR CODE
TIA/EIA 598-A

(1)	BLUE (BL)	(7)	RED (RE)
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(3)	GREEN (GR)	(9)	YELLOW (YE)
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(5)	SLATE (SL)	(11)	ROSE (RO)
(6)	WHITE (WH)	(12)	AQUA (AQ)

LOCATIONS

-LONG HOLLOW PIKE / LORETTA DR (SHEET 8)

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

COMMUNICATIONS SHEETS
FIBER OPTIC SPLICING DETAILS

CHRISTOPHER D. RHODES
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SHEET NUMBER
4E

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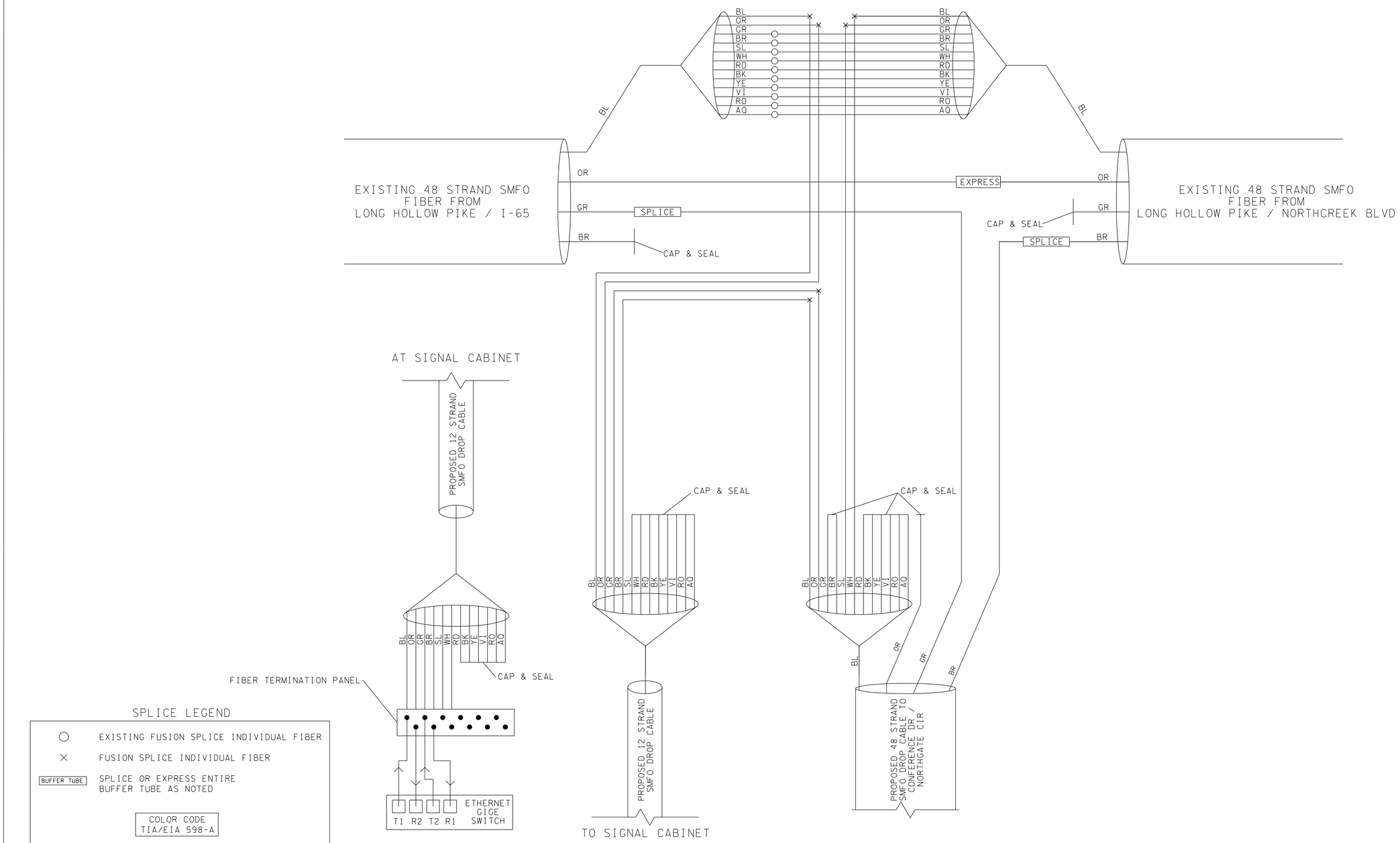
NOTES:

SPLICING DIAGRAM SHOWN IS BASED ON PREVIOUS FIBER DESIGN PLAN. IF FIELD CONDITIONS VARY, CONTRACTOR SHALL COORDINATE WITH ENGINEER.

FIBER OPTIC SPLICE DETAIL: DIAGRAM 4
N.T.S.



SPLICE LEGEND

○	EXISTING FUSION SPLICE INDIVIDUAL FIBER
×	FUSION SPLICE INDIVIDUAL FIBER
BUFFER TUBE	SPLICE OR EXPRESS ENTIRE BUFFER TUBE AS NOTED

COLOR CODE TIA/EIA 598-A

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(5)	SLATE (SL)	(11)	ROSE (RO)
(6)	WHITE (WH)	(12)	AQUA (AQ)

LOCATIONS

-LONG HOLLOW PIKE / CONFERENCE DR (SHEET 7)

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

COMMUNICATIONS SHEETS

FIBER OPTIC SPLICING DETAILS

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
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INDUSTRY
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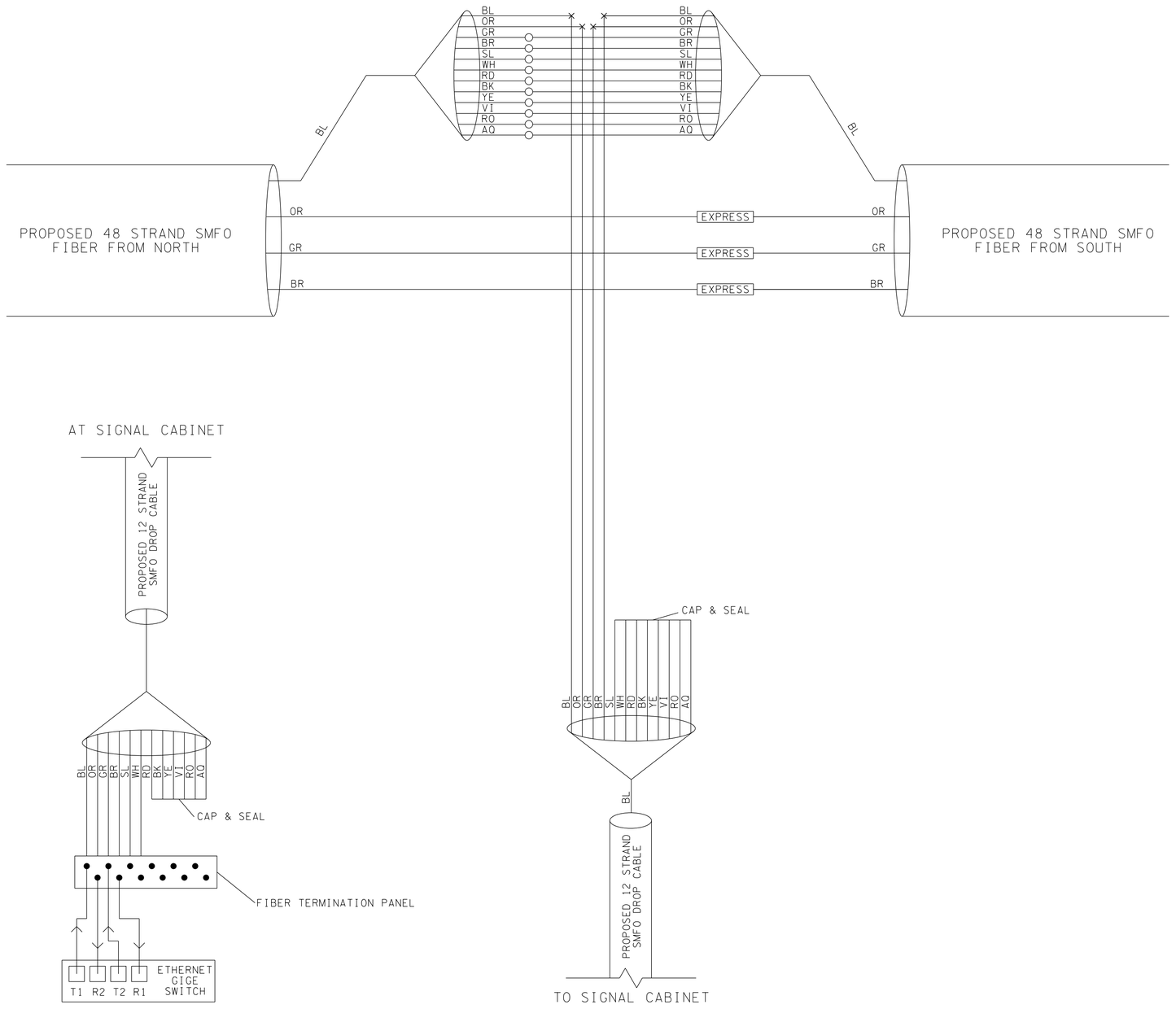
SHEET NUMBER	4F

NOTES:

SPLICING DIAGRAM SHOWN IS BASED ON PREVIOUS FIBER DESIGN PLAN. IF FIELD CONDITIONS VARY, CONTRACTOR SHALL COORDINATE WITH ENGINEER.

FIBER OPTIC SPLICE DETAIL: DIAGRAM 5
N.T.S.



SPLICE LEGEND

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(5)	SLATE (SL)	(11)	ROSE (RO)
(6)	WHITE (WH)	(12)	AQUA (AQ)

LOCATIONS

-CONFERENCE DR / NORTHGATE CIR (SHEET 7)
-CONFERENCE DR / NORTHCREEK BLVD (SHEET 10)
-CONFERENCE DR / WINDSOR GREEN BLVD (SHEET 9)

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THE CITY OF GOODLETTSVILLE, TENNESSEE

COMMUNICATIONS SHEETS

FIBER OPTIC SPLICING DETAILS

CHRISTOPHER D. RHODES
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AGRICULTURE
COMMERCE
STATE OF TENNESSEE

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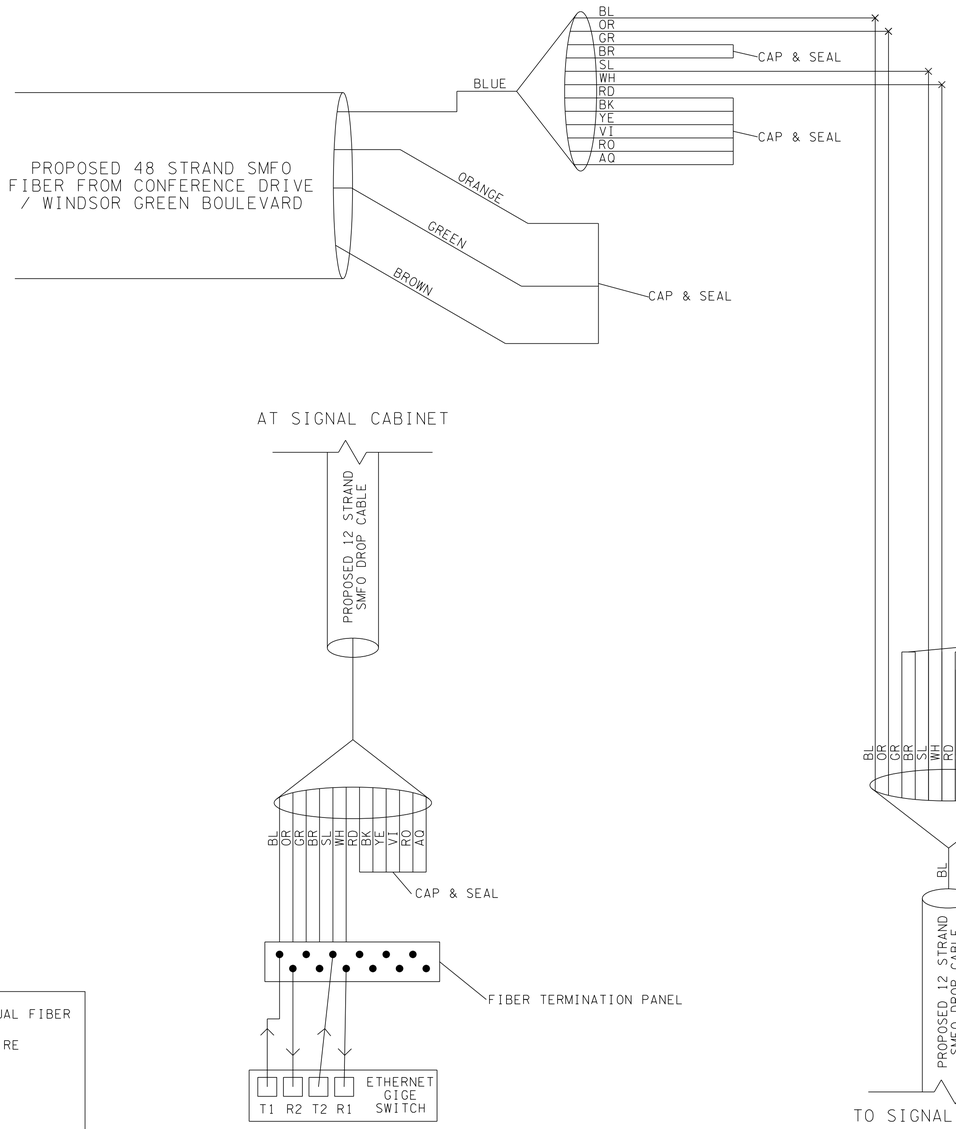
SHEET NUMBER	4G

FIBER OPTIC SPLICE DETAIL: DIAGRAM 3
N.T.S.



SPLICE LEGEND

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(1)	BLUE (BL)	(7)	RED (RE)
(2)	ORANGE (OR)	(8)	BLACK (BL)
(3)	GREEN (GR)	(9)	YELLOW (YE)
(4)	BROWN (BR)	(10)	VIOLET (VI)
(5)	SLATE (SL)	(11)	ROSE (RO)
(6)	WHITE (WH)	(12)	AQUA (AQ)

LOCATIONS

-CONFERENCE DR / MISSION RIDGE DR (SHEET 9)

Kimley»Horn
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NASHVILLE, TENNESSEE
37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

COMMUNICATIONS SHEETS

FIBER OPTIC SPLICING DETAILS

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
XVI
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY:	KLB
DRAWN BY:	ARG
CHECKED BY:	CDR
DATE:	1/11/2019

KHA PROJECT NO.: 118035002

SHEET NUMBER
4H

2/7/2019 11:46:27 AM
K:\NSH_TPTO\118035002 - Goodlettsville CMAO\07 - CAD\PlanSheets\118035002_05_ITS_Key Map.dgn

LEGEND:

PLAN SHEET NUMBER

SCALE IN FEET
0
800
1600

N

DESIGNED BY:	TDH	No.	REVISIONS
DRAWN BY:	JTB		
CHECKED BY:	CDR		
DATE:	1/11/2019		
KHA PROJECT NO:	118035002		
SHEET NUMBER	05		

DATE	BY

CHRISTOPHER D. RHODES
REGISTERED
PROFESSIONAL
ENGINEER
STATE OF TENNESSEE

ITS IMPROVEMENTS

KEY MAP

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

Kimley»Horn

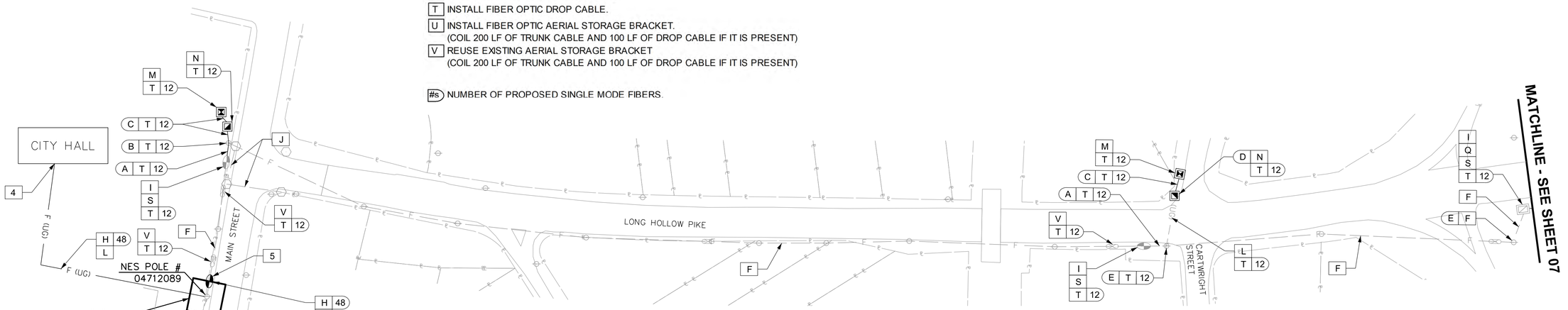
214 OCEANSIDE DRIVE
NASHVILLE, TENNESSEE
37204-2351
TEL 615 564 2701

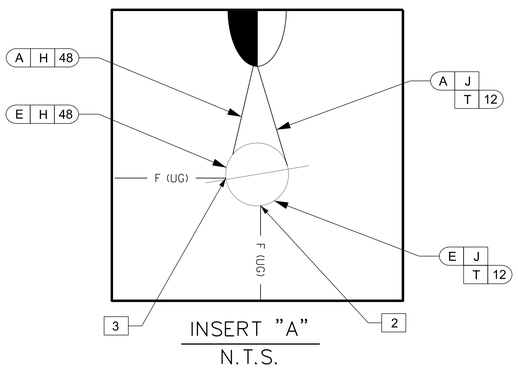
CONSTRUCTION NOTES

- (A) LASH TO EXISTING MESSENGER CABLE.
- (B) INSTALL FIBER OPTIC RISER CONNECTION.
- (C) TRENCH 2" CONDUIT.
- (D) INTERCEPT EXISTING CONDUIT.
- (E) REUSE EXISTING RISER ON UTILITY POLE.

- (F) EXISTING 48 SMFO CABLE TO REMAIN.
- (H) INSTALL SINGLE MODE FIBER OPTIC CABLE.
- (I) FIBER OPTIC SPLICE FUSION.
- (J) REMOVE EXISTING INTERCONNECT CABLE.
- (K) INSTALL FIBER OPTIC SPLICE ENCLOSURE.
- (L) INSTALL FIBER OPTIC CABLE IN EXISTING CONDUIT.
- (M) NEW CABINET REQUIRED (SEE TRAFFIC SIGNAL IMPROVEMENTS SHEET).
- (N) INSTALL FIBER OPTIC PULL BOX TYPE "A".
- (O) INSTALL FIBER OPTIC PULL BOX TYPE "B".
- (P) REPLACE EXISTING PULL BOX.
- (Q) REUSE EXISTING PULLBOX.
- (R) RUN FIBER THROUGH EXISTING PULL BOX, DO NOT COIL.
- (S) REUSE EXISTING SPLICE ENCLOSURE.
- (T) INSTALL FIBER OPTIC DROP CABLE.
- (U) INSTALL FIBER OPTIC AERIAL STORAGE BRACKET. (COIL 200 LF OF TRUNK CABLE AND 100 LF OF DROP CABLE IF IT IS PRESENT)
- (V) REUSE EXISTING AERIAL STORAGE BRACKET (COIL 200 LF OF TRUNK CABLE AND 100 LF OF DROP CABLE IF IT IS PRESENT)

(#s) NUMBER OF PROPOSED SINGLE MODE FIBERS.





NOTES:

1. REMOVE EXISTING 48 COUNT UNDERGROUND SMFO CABLE AND REPLACE WITH 12 COUNT SMFO DROP CABLE IN EXISTING 2" CONDUIT BETWEEN NES POLE AND MEMORIAL DRIVE SIGNAL CABINET. COIL EXCESS 48 COUNT SMFO CABLE ONTO EXISTING STORAGE BRACKET.
2. REUSE EXISTING RISER TO ACCESS SIGNAL CABINET AT MEMORIAL DRIVE.
3. REUSE EXISTING EMPTY RISER TO ACCESS CITY HALL.
4. TERMINATE 48 COUNT SMFO CABLE WITHIN THE SERVER ROOM OF THE GOODLETTSVILLE CITY HALL.
5. CONTRACTOR SHALL SPLICE EXISTING 48 SMFO CABLE AND PROPOSED 48 SMFO DROP CABLE IN PROPOSED ENCLOSURE AT THIS LOCATION. SEE SPLICE DETAIL ON SHEET 4C.

0 100 200
SCALE IN FEET

TENNESSEE ONE CALL SYSTEM, INC. 1-800-351-1111 STOP - CALL BEFORE YOU DIG

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37204-2351
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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

ITS IMPROVEMENTS

SR 174

FROM MAIN STREET TO LORETTA DRIVE

CHRISTOPHER D. RHODES — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	JTB
CHECKED BY:	CDR
DATE:	1/11/2019

KHA PROJECT NO.: 118035002

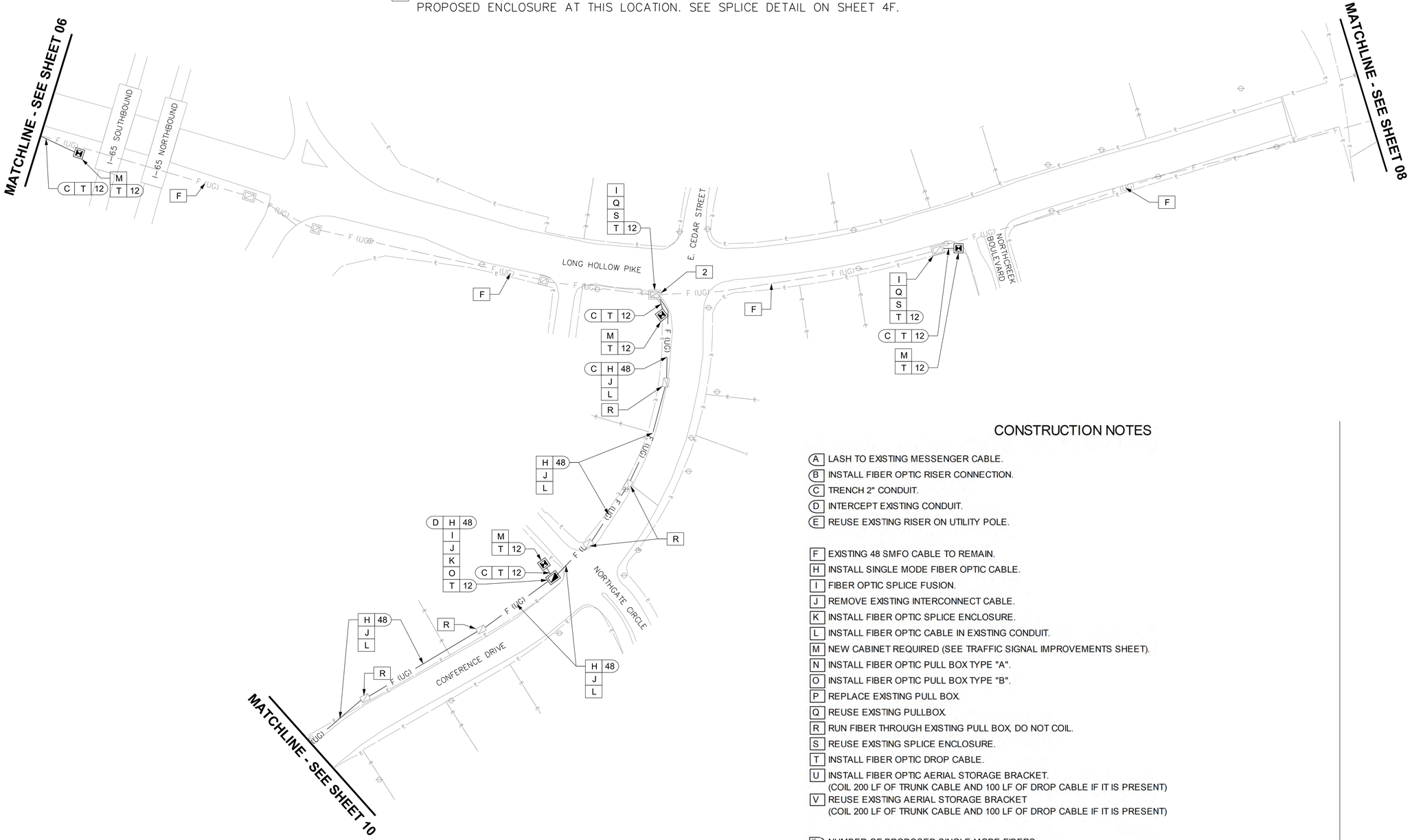
SHEET NUMBER 06

2/7/2019 11:46:28 AM
K:\NSH_TPTO\118035002 - Goodlettsville CMAQ\07 - CAD\PlanSheets\118035002_06_ITS.dgn

NOTES:

1. CONTRACTOR SHALL ONLY BUILD PROPOSED CONDUIT AND PULL BOXES AS DESIGNED. IF EXISTING CONDUIT AND PULL BOXES DO NOT HAVE SUFFICIENT CAPACITY FOR THE PROPOSED FIBER, OR ARE DEEMED IMPASSABLE DUE TO DAMAGE, CONTRACTOR SHALL COORDINATE WITH THE ENGINEER PRIOR TO CONSTRUCTING ANY PROPOSED CONDUIT RUNS OR INSTALLING PROPOSED PULL BOXES.

2. CONTRACTOR SHALL SPLICE EXISTING 48 SMFO CABLE AND PROPOSED 48 SMFO DROP CABLE IN PROPOSED ENCLOSURE AT THIS LOCATION. SEE SPLICE DETAIL ON SHEET 4F.



CONSTRUCTION NOTES

- (A) LASH TO EXISTING MESSENGER CABLE.
- (B) INSTALL FIBER OPTIC RISER CONNECTION.
- (C) TRENCH 2" CONDUIT.
- (D) INTERCEPT EXISTING CONDUIT.
- (E) REUSE EXISTING RISER ON UTILITY POLE.

- [F] EXISTING 48 SMFO CABLE TO REMAIN.
- [H] INSTALL SINGLE MODE FIBER OPTIC CABLE.
- [I] FIBER OPTIC SPLICE FUSION.
- [J] REMOVE EXISTING INTERCONNECT CABLE.
- [K] INSTALL FIBER OPTIC SPLICE ENCLOSURE.
- [L] INSTALL FIBER OPTIC CABLE IN EXISTING CONDUIT.
- [M] NEW CABINET REQUIRED (SEE TRAFFIC SIGNAL IMPROVEMENTS SHEET).
- [N] INSTALL FIBER OPTIC PULL BOX TYPE "A".
- [O] INSTALL FIBER OPTIC PULL BOX TYPE "B".
- [P] REPLACE EXISTING PULL BOX.
- [Q] REUSE EXISTING PULLBOX.
- [R] RUN FIBER THROUGH EXISTING PULL BOX, DO NOT COIL.
- [S] REUSE EXISTING SPLICE ENCLOSURE.
- [T] INSTALL FIBER OPTIC DROP CABLE.
- [U] INSTALL FIBER OPTIC AERIAL STORAGE BRACKET. (COIL 200 LF OF TRUNK CABLE AND 100 LF OF DROP CABLE IF IT IS PRESENT)
- [V] REUSE EXISTING AERIAL STORAGE BRACKET (COIL 200 LF OF TRUNK CABLE AND 100 LF OF DROP CABLE IF IT IS PRESENT)

(#s) NUMBER OF PROPOSED SINGLE MODE FIBERS.

N

0 100 200
SCALE IN FEET

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

ITS IMPROVEMENTS
SR 174
FROM MAIN STREET TO LORETTA DRIVE
CONFERENCE DRIVE
FROM MISSION RIDGE TO SR 174

CHRISTOPHER D. RHODES — REGISTERED ENGINEER — STATE OF TENNESSEE — 1/11/2019

No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	JTB
CHECKED BY:	CDR
DATE:	1/11/2019
KHA PROJECT NO.:	118035002

SHEET NUMBER
07

2/7/2019 11:46:34 AM
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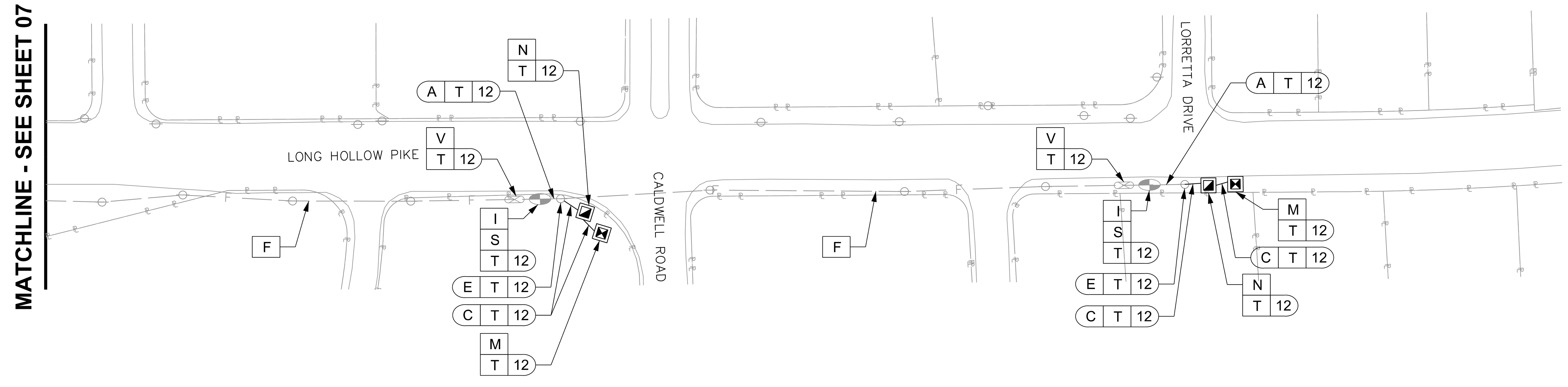
CONSTRUCTION NOTES

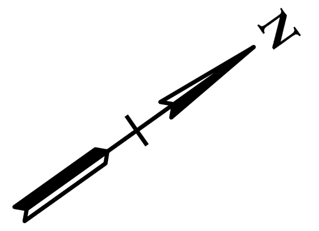
(A) LASH TO EXISTING MESSENGER CABLE.
(B) INSTALL FIBER OPTIC RISER CONNECTION.
(C) TRENCH 2" CONDUIT.
(D) INTERCEPT EXISTING CONDUIT.
(E) REUSE EXISTING RISER ON UTILITY POLE.

[F] EXISTING 48 SMFO CABLE TO REMAIN.
[H] INSTALL SINGLE MODE FIBER OPTIC CABLE.
[I] FIBER OPTIC SPLICE FUSION.
[J] REMOVE EXISTING INTERCONNECT CABLE.
[K] INSTALL FIBER OPTIC SPLICE ENCLOSURE.
[L] INSTALL FIBER OPTIC CABLE IN EXISTING CONDUIT.
[M] NEW CABINET REQUIRED (SEE TRAFFIC SIGNAL IMPROVEMENTS SHEET).
[N] INSTALL FIBER OPTIC PULL BOX TYPE "A".
[O] INSTALL FIBER OPTIC PULL BOX TYPE "B".
[P] REPLACE EXISTING PULL BOX.
[Q] REUSE EXISTING PULLBOX.
[R] RUN FIBER THROUGH EXISTING PULL BOX, DO NOT COIL.
[S] REUSE EXISTING SPLICE ENCLOSURE.
[T] INSTALL FIBER OPTIC DROP CABLE.
[U] INSTALL FIBER OPTIC AERIAL STORAGE BRACKET. (COIL 200 LF OF TRUNK CABLE AND 100 LF OF DROP CABLE IF IT IS PRESENT)
[V] REUSE EXISTING AERIAL STORAGE BRACKET (COIL 200 LF OF TRUNK CABLE AND 100 LF OF DROP CABLE IF IT IS PRESENT)

(#s) NUMBER OF PROPOSED SINGLE MODE FIBERS.

MATCHLINE - SEE SHEET 07





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37204-2351
TEL 615 564 2701

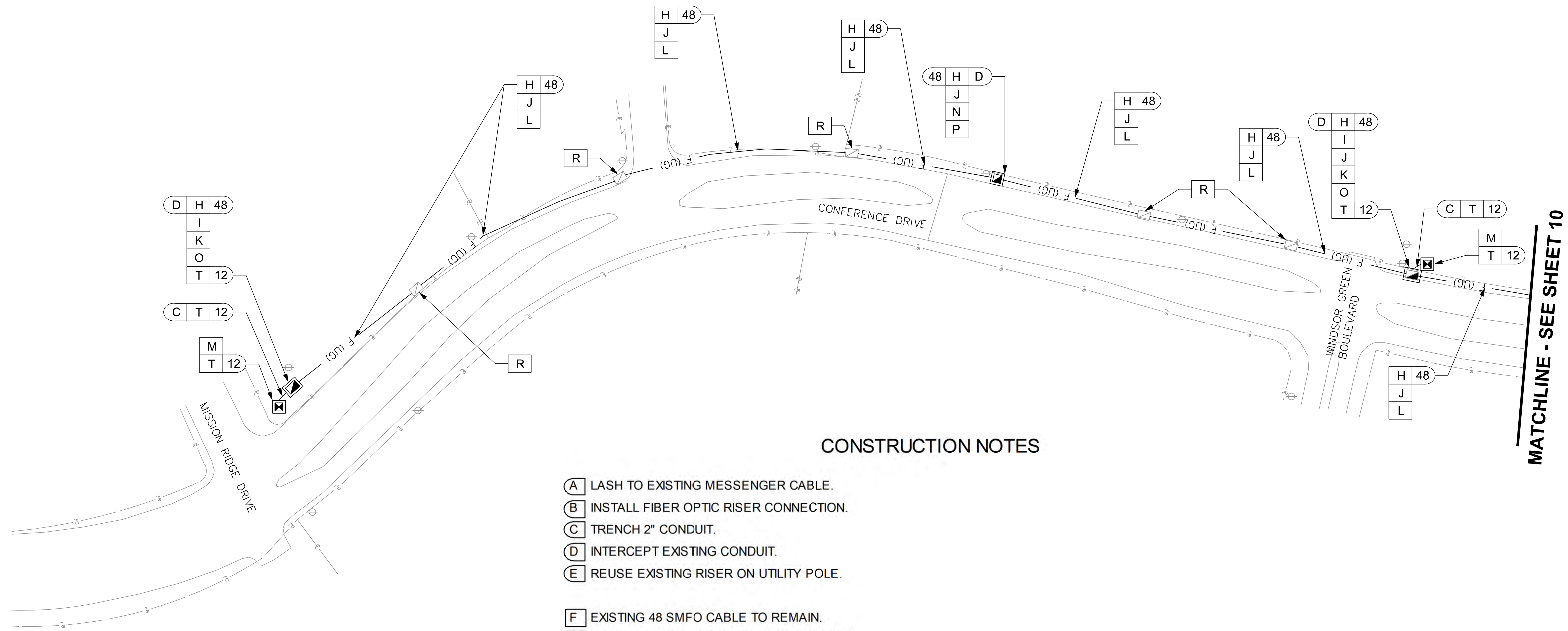
GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

ITS IMPROVEMENTS
SR 174
FROM MAIN STREET TO LORETTA DRIVE

No.	REVISIONS	DATE	BY

DESIGNED BY: TQH
DRAWN BY: JTB
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 08



CONSTRUCTION NOTES

- (A) LASH TO EXISTING MESSENGER CABLE.
- (B) INSTALL FIBER OPTIC RISER CONNECTION.
- (C) TRENCH 2" CONDUIT.
- (D) INTERCEPT EXISTING CONDUIT.
- (E) REUSE EXISTING RISER ON UTILITY POLE.

- [F] EXISTING 48 SMFO CABLE TO REMAIN.
- [H] INSTALL SINGLE MODE FIBER OPTIC CABLE.
- [I] FIBER OPTIC SPLICE FUSION.
- [J] REMOVE EXISTING INTERCONNECT CABLE.
- [K] INSTALL FIBER OPTIC SPLICE ENCLOSURE.
- [L] INSTALL FIBER OPTIC CABLE IN EXISTING CONDUIT.
- [M] NEW CABINET REQUIRED (SEE TRAFFIC SIGNAL IMPROVEMENTS SHEET).
- [N] INSTALL FIBER OPTIC PULL BOX TYPE "A".
- [O] INSTALL FIBER OPTIC PULL BOX TYPE "B".
- [P] REPLACE EXISTING PULL BOX.
- [Q] REUSE EXISTING PULLBOX.
- [R] RUN FIBER THROUGH EXISTING PULL BOX, DO NOT COIL.
- [S] REUSE EXISTING SPLICE ENCLOSURE.
- [T] INSTALL FIBER OPTIC DROP CABLE.
- [U] INSTALL FIBER OPTIC AERIAL STORAGE BRACKET. (COIL 200 LF OF TRUNK CABLE AND 100 LF OF DROP CABLE IF IT IS PRESENT)
- [V] REUSE EXISTING AERIAL STORAGE BRACKET (COIL 200 LF OF TRUNK CABLE AND 100 LF OF DROP CABLE IF IT IS PRESENT)

(#s) NUMBER OF PROPOSED SINGLE MODE FIBERS.

NOTES:

1. CONTRACTOR SHALL ONLY BUILD PROPOSED CONDUIT AND PULL BOXES AS DESIGNED. IF EXISTING CONDUIT AND PULL BOXES DO NOT HAVE SUFFICIENT CAPACITY FOR THE PROPOSED FIBER, OR ARE DEEMED IMPASSABLE DUE TO DAMAGE, CONTRACTOR SHALL COORDINATE WITH THE ENGINEER PRIOR TO CONSTRUCTING ANY PROPOSED CONDUIT RUNS OR INSTALLING PROPOSED PULL BOXES.

0 100 200
SCALE IN FEET

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

ITS IMPROVEMENTS
CONFERENCE DRIVE
FROM MISSION RIDGE TO SR 174

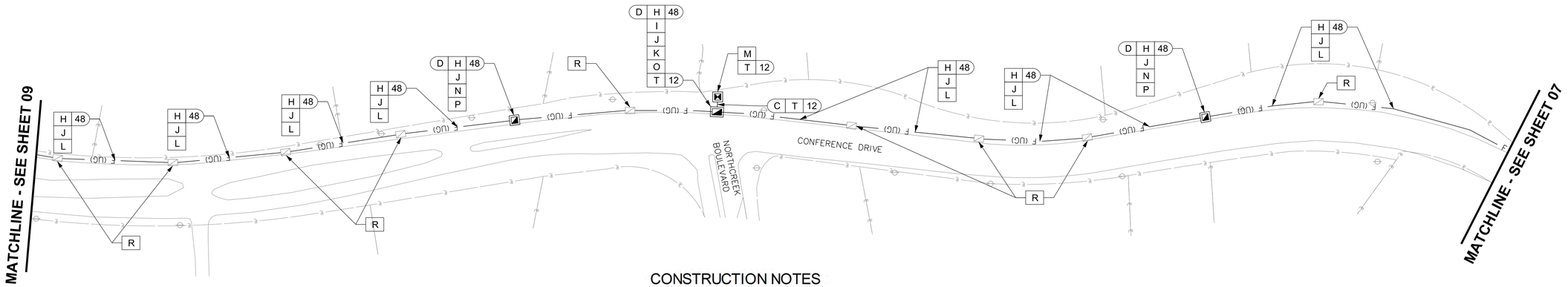
CHRISTOPHER D. RHODES — STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY: TQH
DRAWN BY: JTB
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 09

NOTES:

1 CONTRACTOR SHALL ONLY BUILD PROPOSED CONDUIT AND PULL BOXES AS DESIGNED. IF EXISTING CONDUIT AND PULL BOXES DO NOT HAVE SUFFICIENT CAPACITY FOR THE PROPOSED FIBER, OR ARE DEEMED IMPASSABLE DUE TO DAMAGE, CONTRACTOR SHALL COORDINATE WITH THE ENGINEER PRIOR TO CONSTRUCTING ANY PROPOSED CONDUIT RUNS OR INSTALLING PROPOSED PULL BOXES.



CONSTRUCTION NOTES

- A LASH TO EXISTING MESSENGER CABLE.
- B INSTALL FIBER OPTIC RISER CONNECTION.
- C TRENCH 2" CONDUIT.
- D INTERCEPT EXISTING CONDUIT.
- E REUSE EXISTING RISER ON UTILITY POLE.
- F EXISTING 48 SMFO CABLE TO REMAIN.
- H INSTALL SINGLE MODE FIBER OPTIC CABLE.
- I FIBER OPTIC SPLICE FUSION.
- J REMOVE EXISTING INTERCONNECT CABLE.
- K INSTALL FIBER OPTIC SPLICE ENCLOSURE.
- L INSTALL FIBER OPTIC CABLE IN EXISTING CONDUIT.
- M NEW CABINET REQUIRED (SEE TRAFFIC SIGNAL IMPROVEMENTS SHEET).
- N INSTALL FIBER OPTIC PULL BOX TYPE "A".
- O INSTALL FIBER OPTIC PULL BOX TYPE "B".
- P REPLACE EXISTING PULL BOX.
- Q REUSE EXISTING PULLBOX.
- R RUN FIBER THROUGH EXISTING PULL BOX, DO NOT COIL.
- S REUSE EXISTING SPLICE ENCLOSURE.
- T INSTALL FIBER OPTIC DROP CABLE.
- U INSTALL FIBER OPTIC AERIAL STORAGE BRACKET. (COIL 200 LF OF TRUNK CABLE AND 100 LF OF DROP CABLE IF IT IS PRESENT)
- V REUSE EXISTING AERIAL STORAGE BRACKET (COIL 200 LF OF TRUNK CABLE AND 100 LF OF DROP CABLE IF IT IS PRESENT)

#s NUMBER OF PROPOSED SINGLE MODE FIBERS.

N

0 100 200
SCALE IN FEET

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

ITS IMPROVEMENTS
CONFERENCE DRIVE
FROM MISSION RIDGE TO SR 174

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
XVI
AGRICULTURE
COMMERCE
STATE OF TENNESSEE
2-21-2019

No.	REVISIONS	DATE	BY

DESIGNED BY:	TOH
DRAWN BY:	JTB
CHECKED BY:	CDR
DATE:	1/11/2019

KHA PROJECT NO.: 118035002

SHEET NUMBER 10

2/7/2019 11:46:52 AM
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LEGEND:

PLAN SHEET NUMBER

N

0 800 1600

SCALE IN FEET

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TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS

KEY MAP

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
STATE OF TENNESSEE
AGRICULTURE
COMMERCE
1-11-2019

No.	REVISIONS	DATE	BY

DESIGNED BY:	TOH
DRAWN BY:	JTB
CHECKED BY:	CDR
DATE:	1/11/2019

KHA PROJECT NO.: 118035002

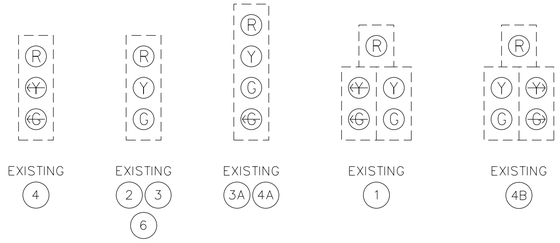
SHEET NUMBER
11

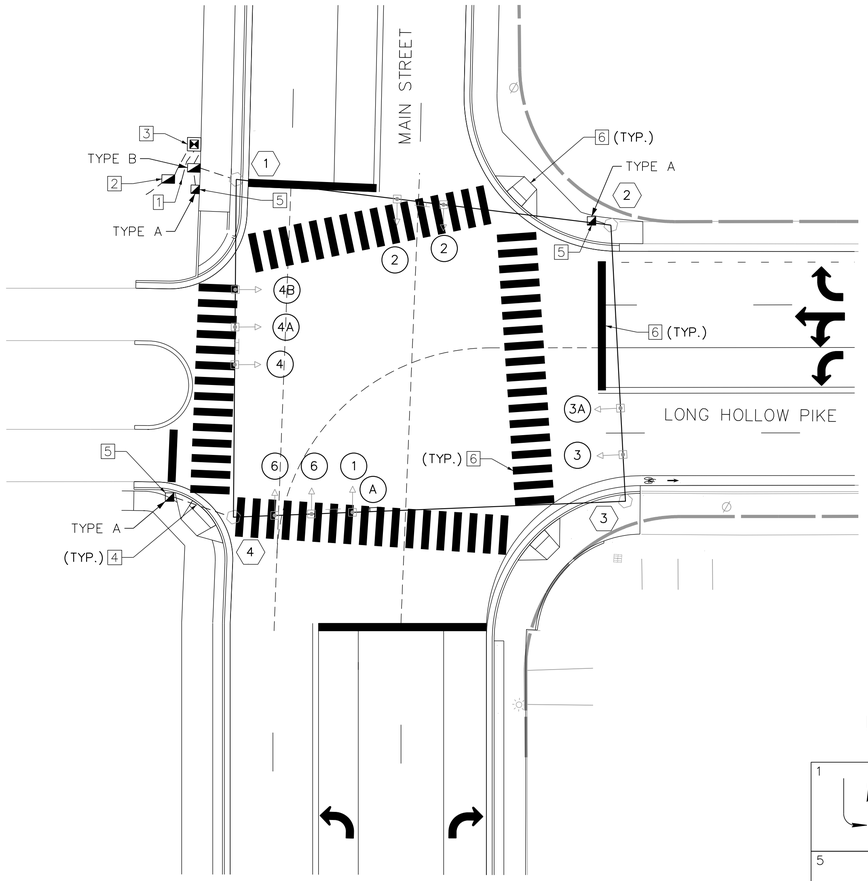
2/7/2019 11:46:58 AM
K:\NSH_TPTO\118035002 - Goodlettsville CMAQ\07 - CAD\PlanSheets\118035002_II_Intersection_Key Map.dgn

CONSTRUCTION NOTES

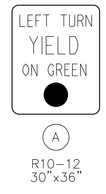
1. CONTRACTOR SHALL PROVIDE A 12 SMFO DROP CABLE WITH RISER ASSEMBLY AT THE BASE OF THE NEAREST NES POLE WHICH IS REFERENCED ON THE ITS IMPROVEMENTS LAYOUT SHEETS (SEE SHEET 06).
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL SERVICE PROVIDER TO TRANSITION ELECTRICAL SERVICE FROM EXISTING CABINET TO PROPOSED CABINET.
3. INSTALL NEW PAD–MOUNTED CABINET AND WIRE CABINET TO REFLECT PROPOSED PHASING PER THIS PLAN. SEE SHEET 4B FOR FIELD CABINET SUMMARY TABLE. FOLLOWING THE INSTALLATION, TESTING, AND INTEGRATION OF THE PROPOSED SIGNAL CABINET AND ITS CONTENTS, THE EXISTING SIGNAL CABINET AND ITS CONTENTS ARE TO BE REMOVED AND RETURNED TO THE CITY.
4. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE – GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A ⅝ INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A ⅝ INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
5. INTERCEPT EXISTING LOOP WIRE IN PROPOSED PULL BOX. REUSE EXISTING LOOP LEADS. SHOULD THE LOOP LEADS NOT BE SUITABLE FOR REUSE, CONTRACTOR TO COORDINATE WITH THE ENGINEER FOR PROPOSED LOOP AND WIRING DESIGN.
6. ALL PROPOSED STRIPING AND ROADWAY IMPROVEMENTS TO BE CONSTRUCTED BY OTHERS (TDOT PIN: 120326.00).

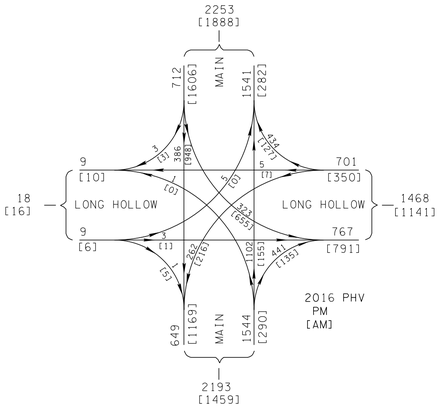
SIGNAL HEADS



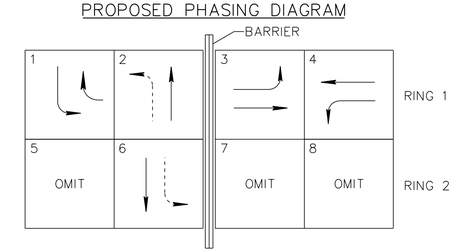


PROPOSED SIGNS





PROPOSED PHASING DIAGRAM



NEMA EIGHT PHASE DESIGNATIONS

PERMISSIVE MOVEMENT PROTECTED MOVEMENT

N

0 20 40

SCALE IN FEET

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
MAIN STREET

CHRISTOPHER D. RHODES REGISTERED ENGINEER AGRICULTURE TENNESSEE STATE OF TENNESSEE

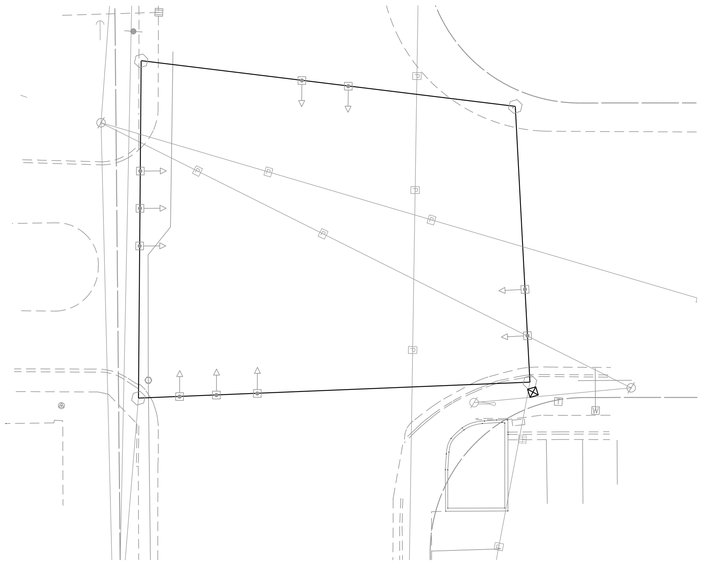
No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	JTB
CHECKED BY:	CDR
DATE:	1/11/2019
KHA PROJECT NO.:	118035002

SHEET NUMBER
12

2/7/2019 11:46:59 AM
K:\NSH_TPTO\118035002 - Goodlettsville CMAQ\07 - CAD\PlanSheets\118035002_12_LHP_at_Main.dgn

REMOVAL DIAGRAM
N.T.S.



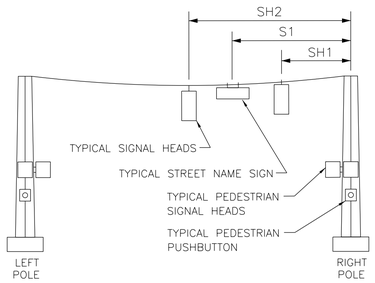
REMOVAL ITEMS (SHOWN IN BOLD)

1. CONTROL CABINET AND CONTENTS
2. CONDUCTOR CABLES

DETECTION DIAGRAM
N.T.S.

NO DETECTION UPGRADES PROPOSED

SPAN WIRE DETAIL
N.T.S.

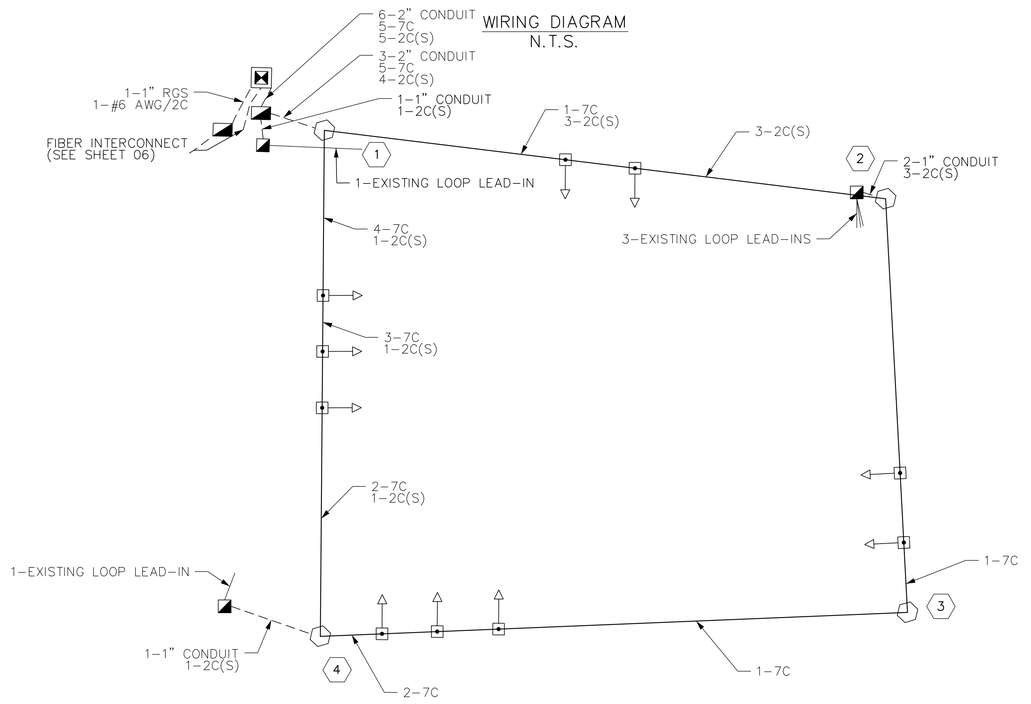


NOTE: ADDITIONAL SIGNS, S2, S3, ETC.
ADDITIONAL SIGNAL HEADS, SH3, SH4, ETC.
STOP BAR DETECTOR – SB DET1, SB DET2

SIGNAL SUPPORT POLE DATA

POLE NO.	POLE TYPE	HEIGHT	SPAN LENGTH	SPAN (LT TO RT)	S1	S2	SH1	SH2	SH3	LATITUDE	LONGITUDE
(1)	STEEL STRAIN	EXISTING	EXISTING	4 TO 1	EXISTING	–	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
(2)	STEEL STRAIN	EXISTING	EXISTING	1 TO 2	EXISTING	–	EXISTING	EXISTING	–	EXISTING	EXISTING
(3)	STEEL STRAIN	EXISTING	EXISTING	2 TO 3	–	–	EXISTING	EXISTING	–	EXISTING	EXISTING
(4)	STEEL STRAIN	EXISTING	EXISTING	3 TO 4	EXISTING	36'–6"	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING

WIRING DIAGRAM
N.T.S.



Kimley»Horn
214 OCEANSIDE DRIVE
NASHVILLE, TENNESSEE
37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
MAIN STREET

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE
1/11/2019

No.	REVISIONS	DATE	BY

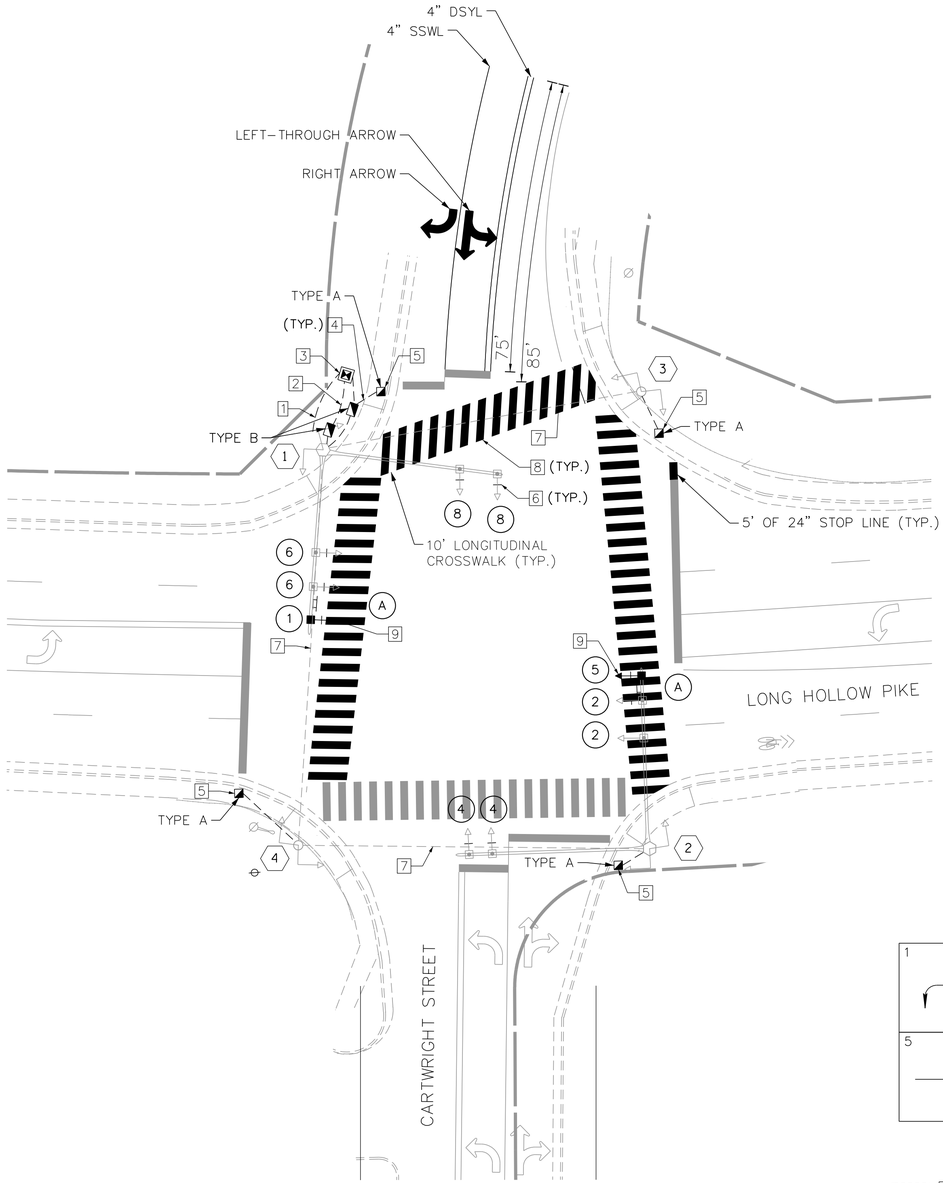
DESIGNED BY:	TQH
DRAWN BY:	JTB
CHECKED BY:	CDR
DATE:	1/11/2019

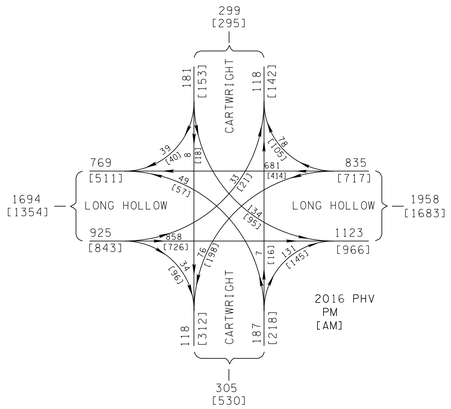
KHA PROJECT NO.: 118035002

SHEET NUMBER
12A

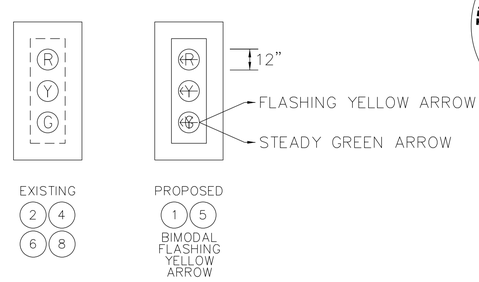
CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROVIDE A 12 SMFO DROP CABLE WITH RISER ASSEMBLY AT THE BASE OF THE NEAREST NES POLE WHICH IS REFERENCED ON THE ITS IMPROVEMENTS LAYOUT SHEETS (SEE SHEET 06).
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL SERVICE PROVIDER TO TRANSITION ELECTRICAL SERVICE FROM EXISTING CABINET TO PROPOSED CABINET.
3. INSTALL NEW PAD–MOUNTED CABINET AND WIRE CABINET TO REFLECT PROPOSED PHASING PER THIS PLAN. SEE SHEET 4B FOR FIELD CABINET SUMMARY TABLE. FOLLOWING THE INSTALLATION, TESTING, AND INTEGRATION OF THE PROPOSED SIGNAL CABINET AND ITS CONTENTS, THE EXISTING SIGNAL CABINET AND ITS CONTENTS ARE TO BE REMOVED AND RETURNED TO THE CITY.
4. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE – GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A ⅝ INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A ⅝ INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
5. INTERCEPT EXISTING LOOP WIRE IN PROPOSED PULL BOX. REUSE EXISTING LOOP LEADS. SHOULD THE LOOP LEADS NOT BE SUITABLE FOR REUSE, CONTRACTOR TO COORDINATE WITH THE ENGINEER FOR PROPOSED LOOP AND WIRING DESIGN.
6. INSTALL SIGNAL HEAD BLACK BACKPLATE WITH YELLOW REFLECTIVE TAPE ON EXISTING SIGNAL HEADS.
7. REUSE EXISTING CONDUIT. SHOULD THE EXISTING CONDUIT NOT HAVE SUFFICIENT CAPACITY FOR THE PROPOSED CONDUCTORS, CONTRACTOR TO COORDINATE WITH THE ENGINEER FOR PROPOSED CONDUIT DESIGN.
8. REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED DESIGN.
9. 3–SECTION FLASHING YELLOW ARROW SIGNAL HEAD TO BE USED ONLY AT LOCATIONS WHERE 16 FOOT 6 INCH VERTICAL CLEARANCE IS NOT POSSIBLE. OTHERWISE, CONTRACTOR TO INSTALL 4–SECTION FLASHING YELLOW ARROW SIGNAL HEAD.



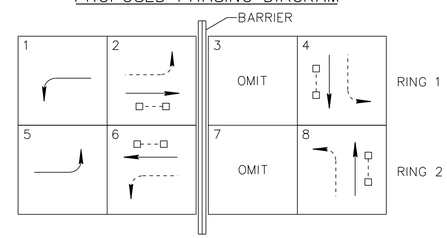


SIGNAL HEADS



PROPOSED SIGNS

PROPOSED PHASING DIAGRAM



NEMA EIGHT PHASE DESIGNATIONS

PERMISSIVE MOVEMENT — PROTECTED MOVEMENT

PEDESTRIAN PHASE

N

0 20 40

SCALE IN FEET

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
CARTWRIGHT STREET

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
XVI
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

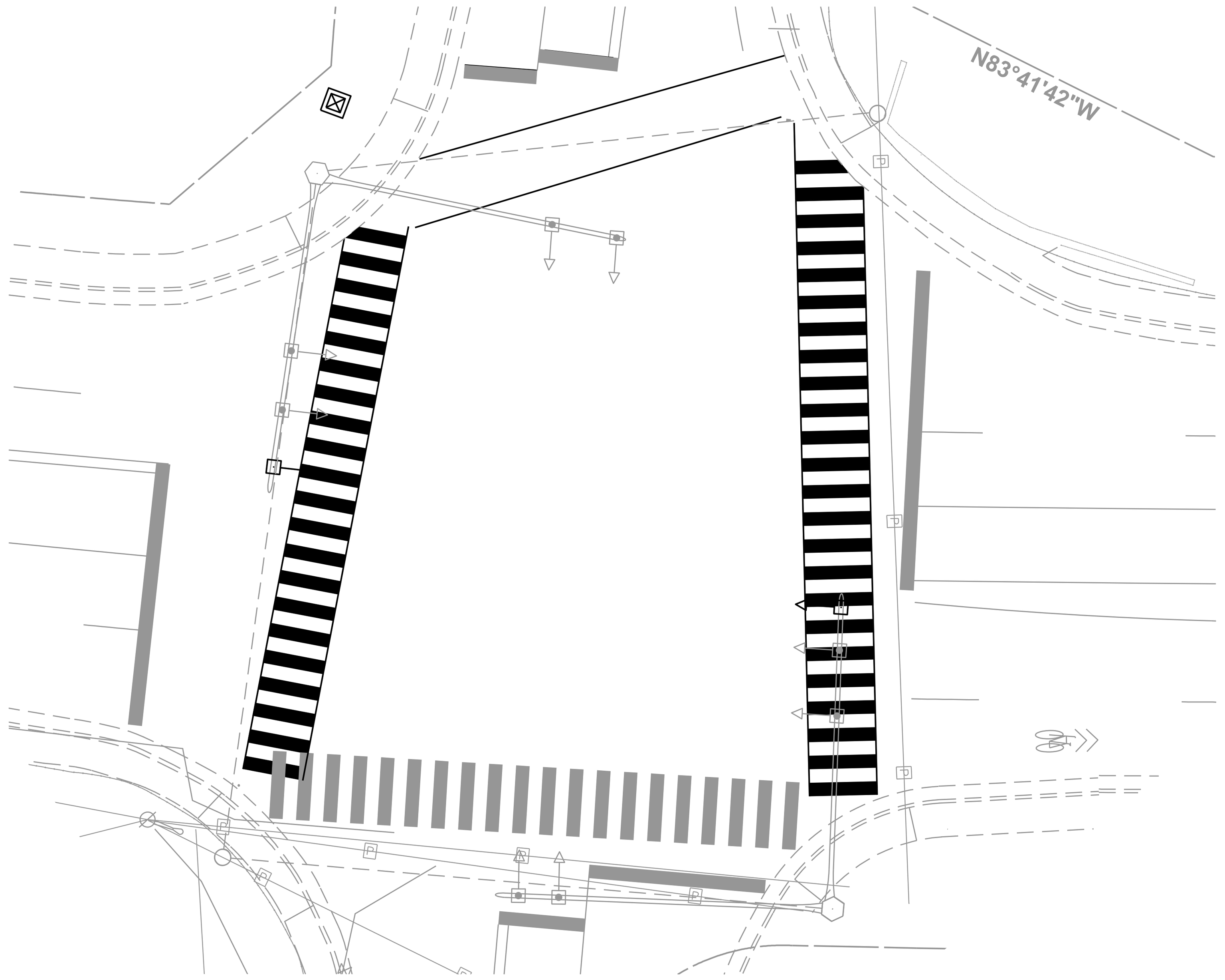
DESIGNED BY:	TOH
DRAWN BY:	JTB
CHECKED BY:	CDR
DATE:	1/11/2019

KHA PROJECT NO.: 118035002

SHEET NUMBER 13

2/7/2019 11:47:01 AM
K:\NSH_TPTO\118035002 - Goodlettsville CMAQ\07 - CAD\PlanSheets\118035002_13_LHP_at_Cartwright.dgn

REMOVAL DIAGRAM
N.T.S.

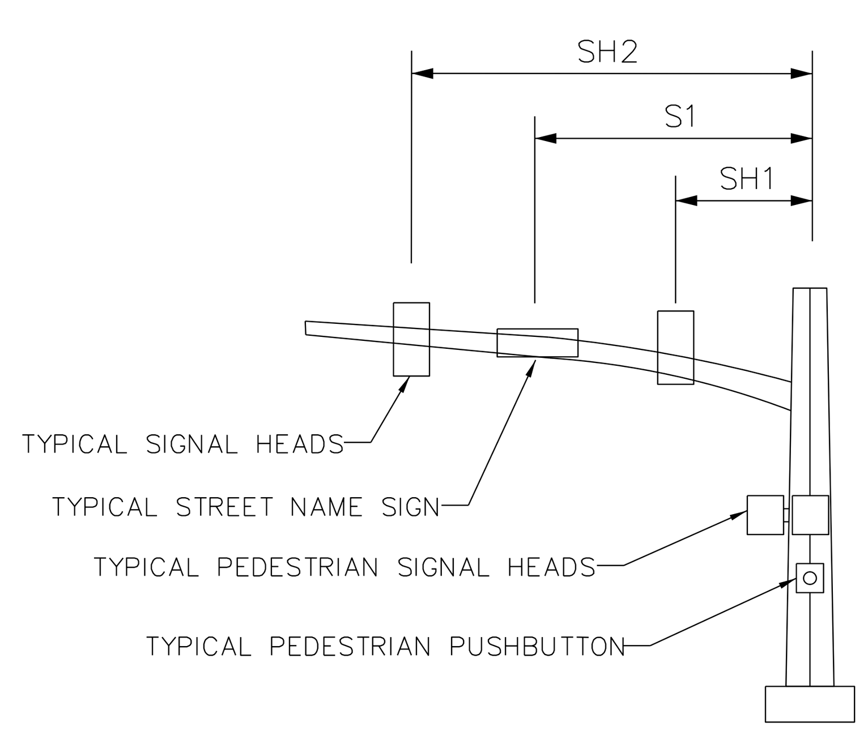


REMOVAL ITEMS (SHOWN IN BOLD)
1. CONTROL CABINET AND CONTENTS
2. CONDUCTOR CABLES
3. PAVEMENT STRIPING
4. 5-SECTION SIGNAL HEADS

DETECTION DIAGRAM
N.T.S.

NO DETECTION UPGRADES PROPOSED

MAST ARM DETAIL
N.T.S.

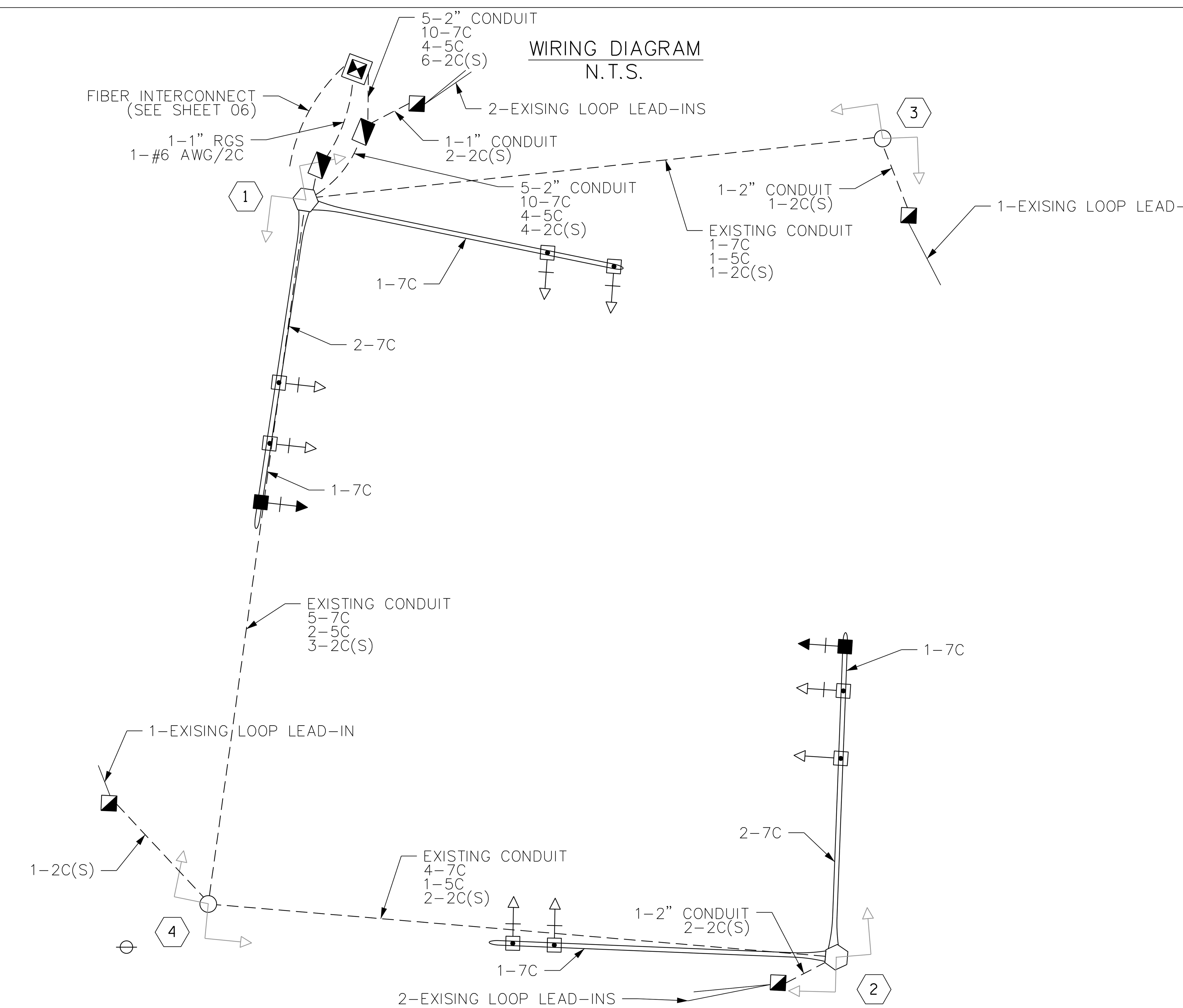


NOTE: ADDITIONAL SIGNS, S2, S3, ETC.
ADDITIONAL SIGNAL HEADS, SH3, SH4, ETC.
STOP BAR DETECTOR - SB DET1, SB DET2

SIGNAL SUPPORT POLE DATA

POLE NO.	POLE TYPE	HEIGHT	MAST ARM	MAST ARM LENGTH	S1	SH1	SH2	SH3	LATITUDE	LONGITUDE
1	CANTILEVER	EXISTING	A1 - LONG HOLLOW PK	EXISTING	39'-6"	EXISTING	EXISTING	44'-0"	EXISTING	EXISTING
		EXISTING	B1 - CARTWRIGHT ST	EXISTING	EXISTING	EXISTING	EXISTING	-	EXISTING	EXISTING
2	CANTILEVER	EXISTING	A2 - LONG HOLLOW PK	EXISTING	41'-6"	EXISTING	EXISTING	44'-6"	EXISTING	EXISTING
		EXISTING	B2 - CARTWRIGHT ST	EXISTING	EXISTING	EXISTING	EXISTING	-	EXISTING	EXISTING
3	PEDESTRIAN	EXISTING	-	-	-	-	-	-	EXISTING	EXISTING
4	PEDESTRIAN	EXISTING	-	-	-	-	-	-	EXISTING	EXISTING

WIRING DIAGRAM
N.T.S.



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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
CARTWRIGHT STREET

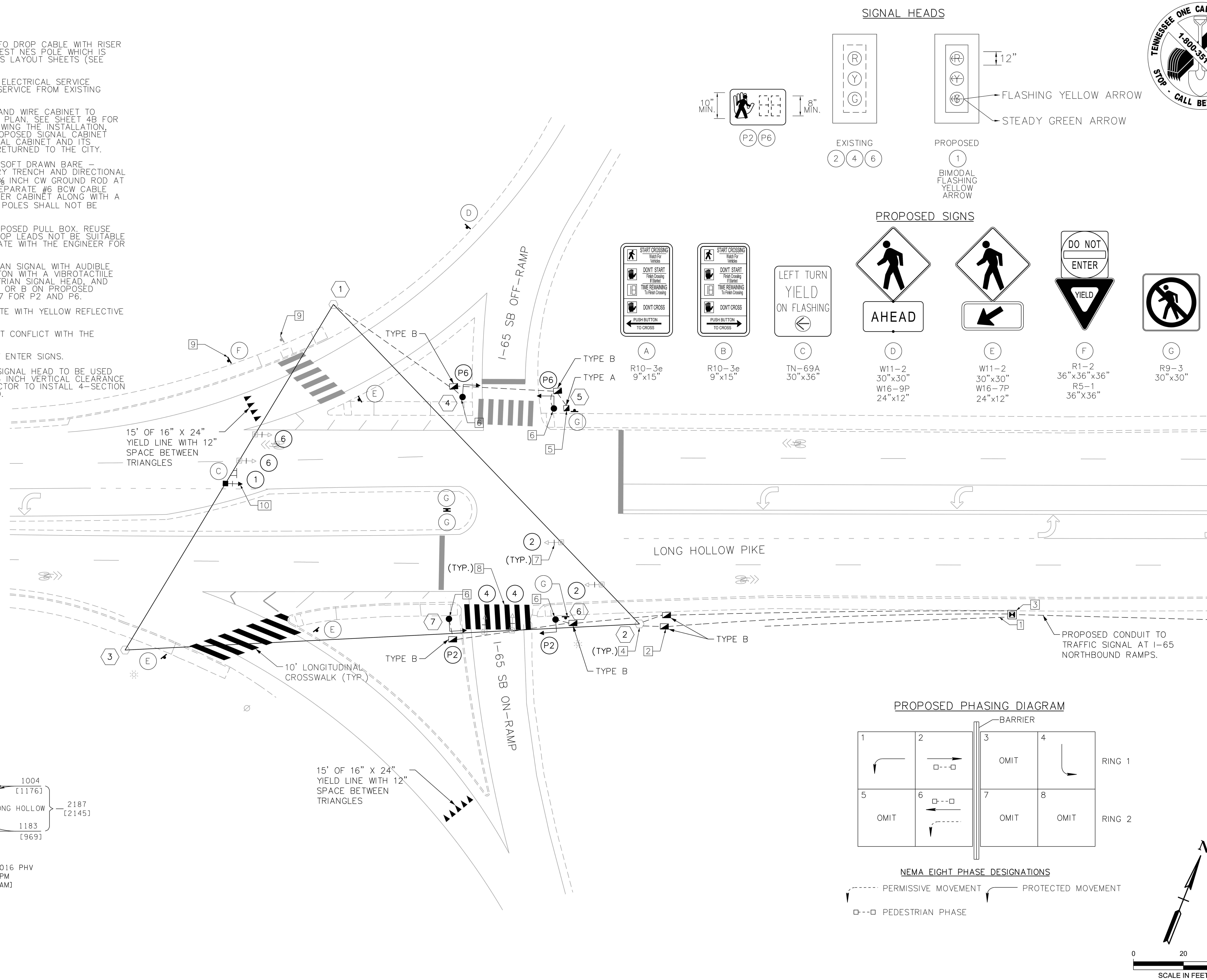
CHRISTOPHER D. RHODES
REGISTERED ENGINEER
STATE OF TENNESSEE

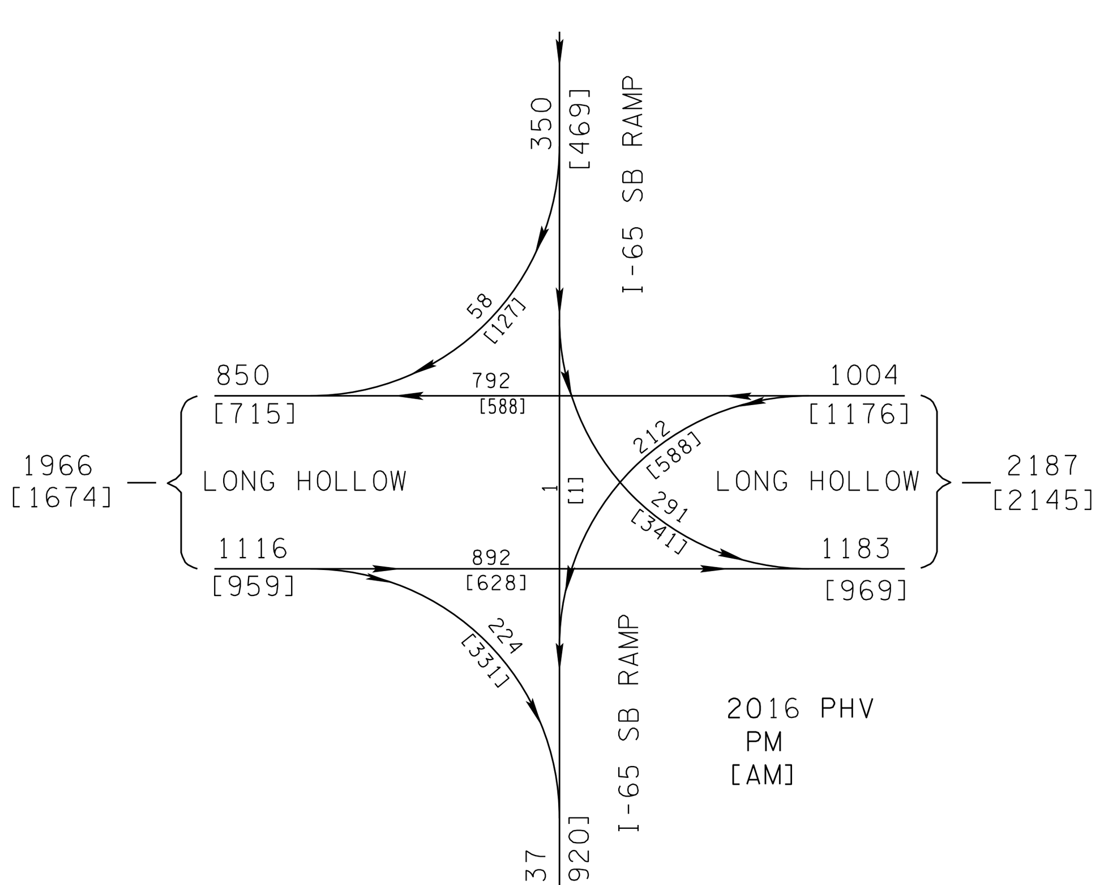
No.	REVISIONS	DATE	BY

DESIGNED BY: TQH
DRAWN BY: JTB
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER
13A

CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROVIDE A 12 SMFO DROP CABLE WITH RISER ASSEMBLY AT THE BASE OF THE NEAREST NES POLE WHICH IS REFERENCED ON THE ITS IMPROVEMENTS LAYOUT SHEETS (SEE SHEET 06).
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL SERVICE PROVIDER TO TRANSITION ELECTRICAL SERVICE FROM EXISTING CABINET TO PROPOSED CABINET.
3. INSTALL NEW PAD-MOUNTED CABINET AND WIRE CABINET TO REFLECT PROPOSED PHASING PER THIS PLAN. SEE SHEET 4B FOR FIELD CABINET SUMMARY TABLE. FOLLOWING THE INSTALLATION, TESTING, AND INTEGRATION OF THE PROPOSED SIGNAL CABINET AND ITS CONTENTS, THE EXISTING SIGNAL CABINET AND ITS CONTENTS ARE TO BE REMOVED AND RETURNED TO THE CITY.
4. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE - GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A 5/8 INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A 5/8 INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
5. INTERCEPT EXISTING LOOP WIRE IN PROPOSED PULL BOX. REUSE EXISTING LOOP LEADS. SHOULD THE LOOP LEADS NOT BE SUITABLE FOR REUSE, CONTRACTOR TO COORDINATE WITH THE ENGINEER FOR PROPOSED LOOP AND WIRING DESIGN.
6. INSTALL ONE (1) ACCESSIBLE PEDESTRIAN SIGNAL WITH AUDIBLE TONES, ONE (1) PEDESTRIAN PUSHBUTTON WITH A VIBROTACTIILE SURFACE, ONE (1) COUNTDOWN PEDESTRIAN SIGNAL HEAD, AND ONE (1) PEDESTRIAN GUIDANCE SIGN A OR B ON PROPOSED PEDESTRIAN PEDESTALS 4, 5, 6, AND 7 FOR P2 AND P6.
7. INSTALL SIGNAL HEAD BLACK BACKPLATE WITH YELLOW REFLECTIVE TAPE ON EXISTING SIGNAL HEADS.
8. REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED DESIGN.
9. RELOCATE EXISTING YIELD AND DO NOT ENTER SIGNS.
10. 3-SECTION FLASHING YELLOW ARROW SIGNAL HEAD TO BE USED ONLY AT LOCATIONS WHERE 16 FOOT 6 INCH VERTICAL CLEARANCE IS NOT POSSIBLE. OTHERWISE, CONTRACTOR TO INSTALL 4-SECTION FLASHING YELLOW ARROW SIGNAL HEAD.





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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
I-65 SOUTHBOUND RAMPS

CHRISTOPHER D. RHODES — STATE OF TENNESSEE — REGISTERED ENGINEER

No.	REVISIONS	DATE	BY

DESIGNED BY: TQH
DRAWN BY: JTB
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER
14

2/7/2019 11:47:02 AM
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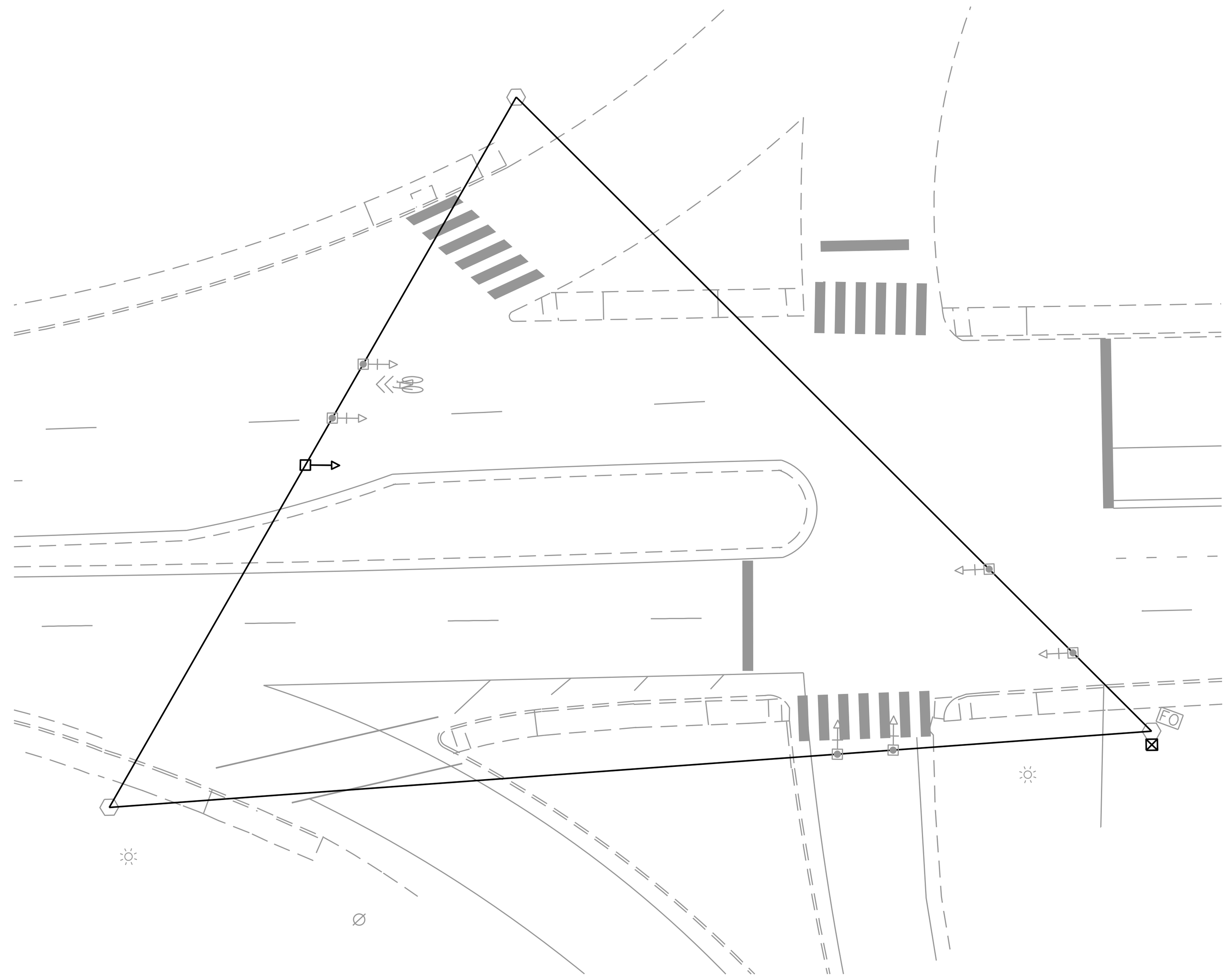
REMOVAL DIAGRAM
N.T.S.



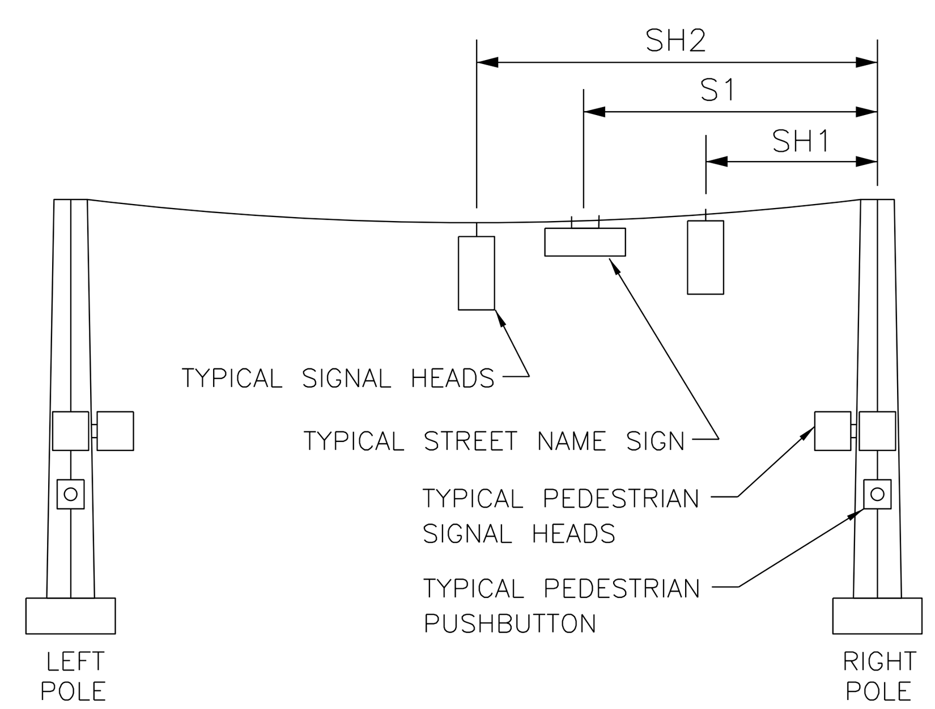
REMOVAL ITEMS (SHOWN IN BOLD)

1. CONTROL CABINET AND CONTENTS
2. CONDUCTOR CABLES
3. PAVEMENT STRIPING
4. 5-SECTION SIGNAL HEAD

DETECTION DIAGRAM
N.T.S.

NO DETECTION UPGRADES PROPOSED

SPAN WIRE DETAIL
N.T.S.



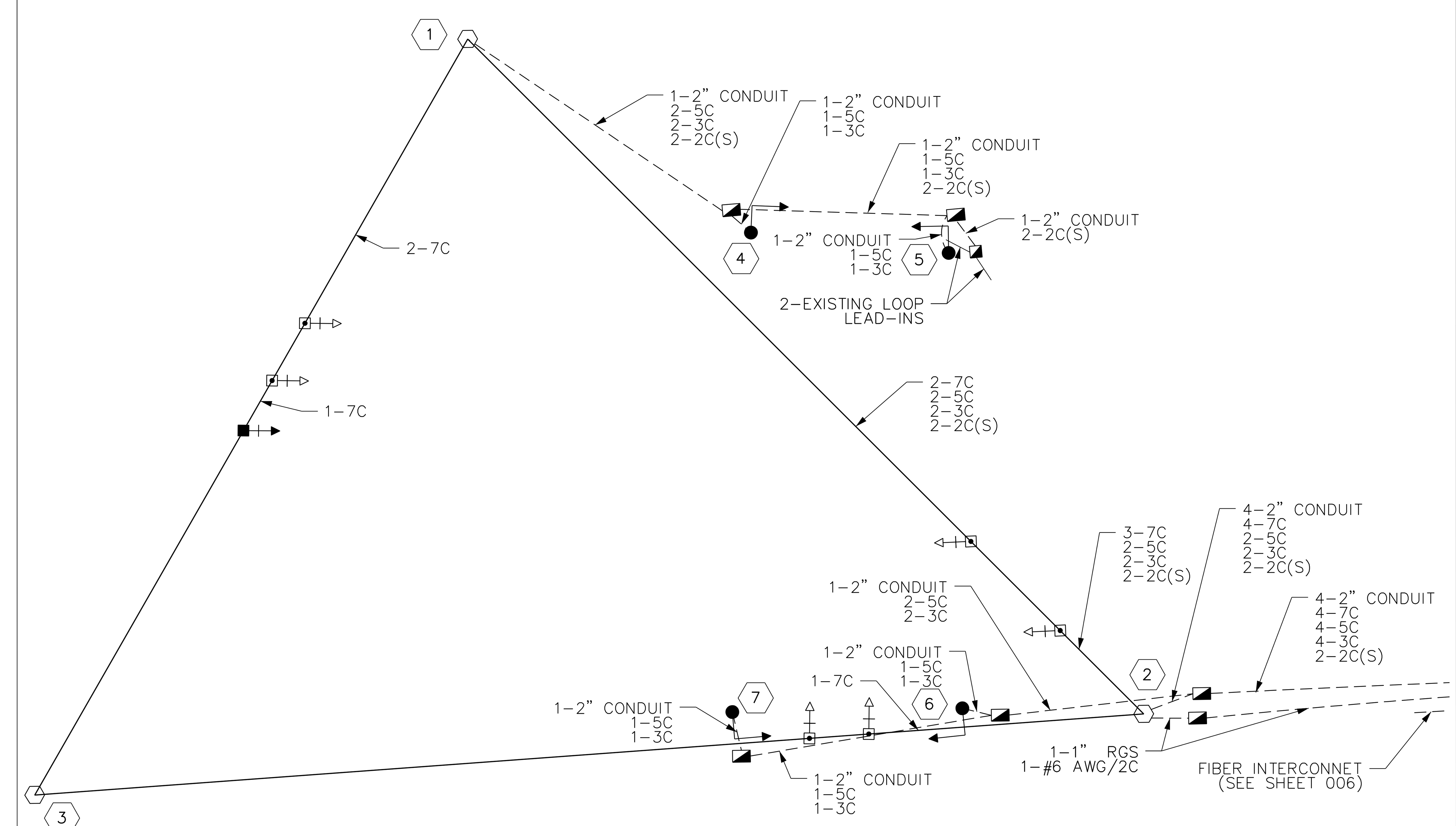
POLE NO.	PED PHASE	POSITION OF PPB / SIGN
4	P6	●
5	P6	●
6	P2	●
7	P2	●

NOTE: ADDITIONAL SIGNS, S2, S3, ETC.
ADDITIONAL SIGNAL HEADS, SH3, SH4, ETC.
STOP BAR DETECTOR – SB DET1, SB DET2

SIGNAL SUPPORT POLE DATA

POLE NO.	POLE TYPE	HEIGHT	SPAN LENGTH	SPAN (LT TO RT)	S1	SH1	SH2	SH3	LATITUDE	LONGITUDE
1	STEEL STRAIN	EXISTING	EXISTING	3 TO 1	78'–6"	EXISTING	EXISTING	83'–6"	EXISTING	EXISTING
2	STEEL STRAIN	EXISTING	EXISTING	1 TO 2	–	EXISTING	EXISTING	–	EXISTING	EXISTING
3	STEEL STRAIN	EXISTING	EXISTING	2 TO 3	–	EXISTING	EXISTING	–	EXISTING	EXISTING
4	PEDESTAL	8'–0"	–		–	–	–	–	36.323696°	–86.706079°
5	PEDESTAL	8'–0"	–		–	–	–	–	36.323721°	–86.705958°
6	PEDESTAL	8'–0"	–		–	–	–	–	36.323507°	–86.705849°
7	PEDESTAL	8'–0"	–		–	–	–	–	36.323464°	–86.705983°

WIRING DIAGRAM
N.T.S.



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37204-2351
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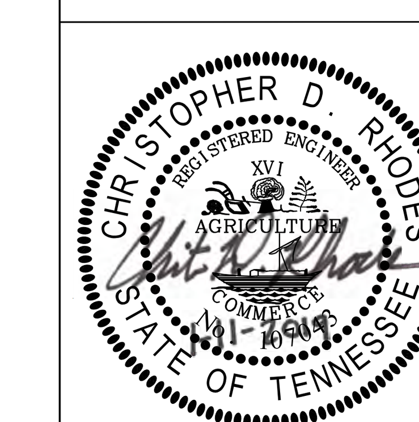
GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
I-65 SOUTHBOUND RAMPS



No.	REVISIONS	DATE	BY

DESIGNED BY: TQH
DRAWN BY: JTB
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 14A

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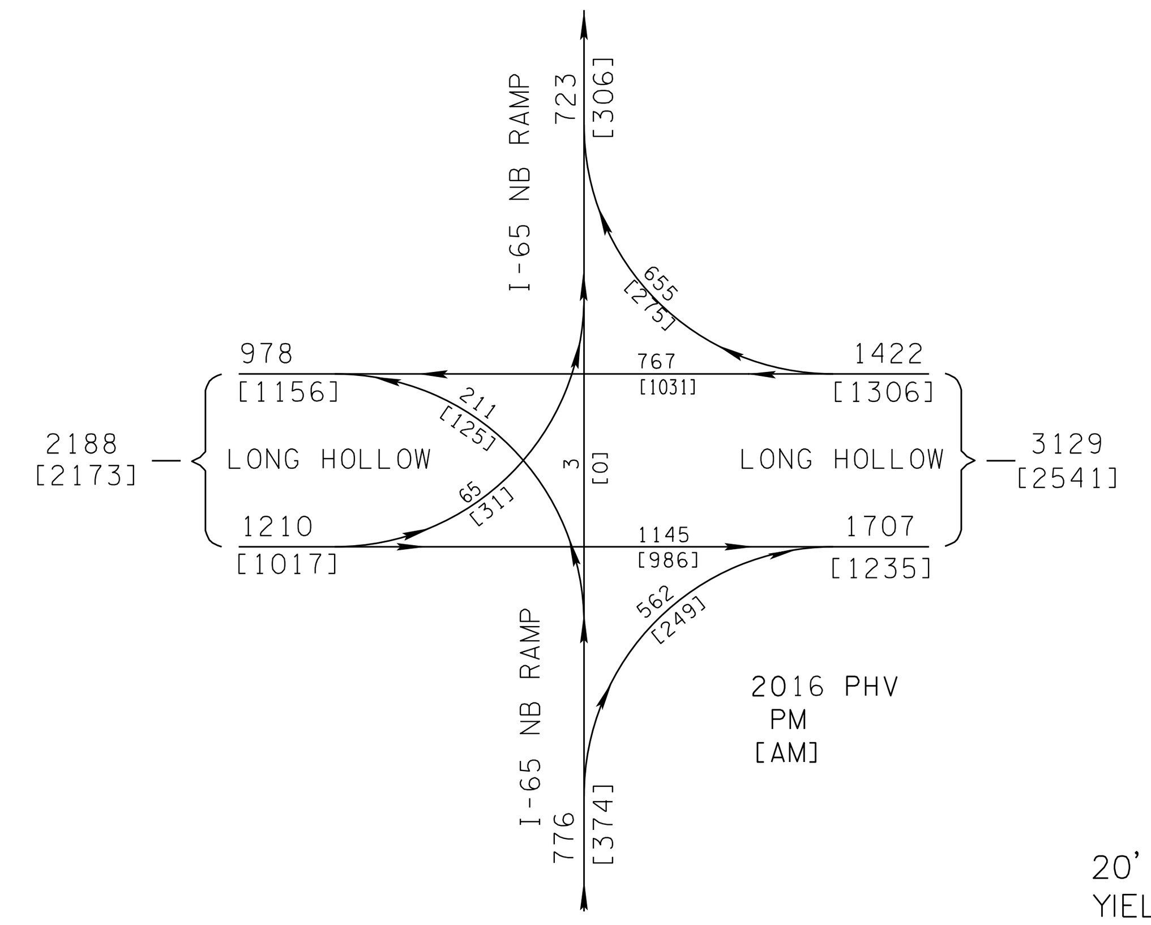
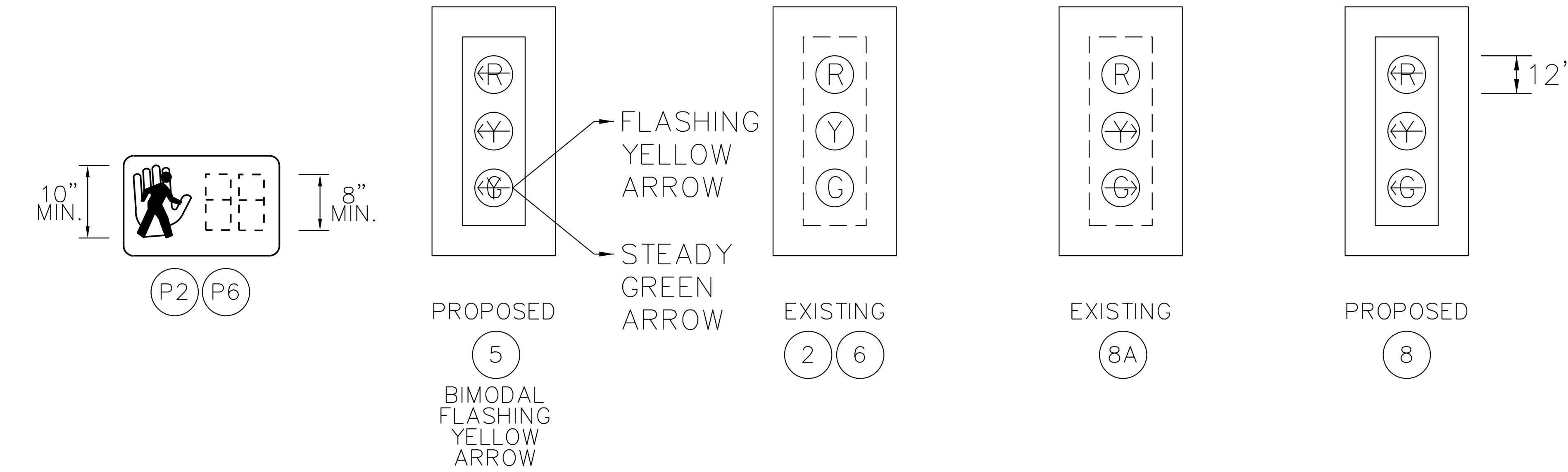
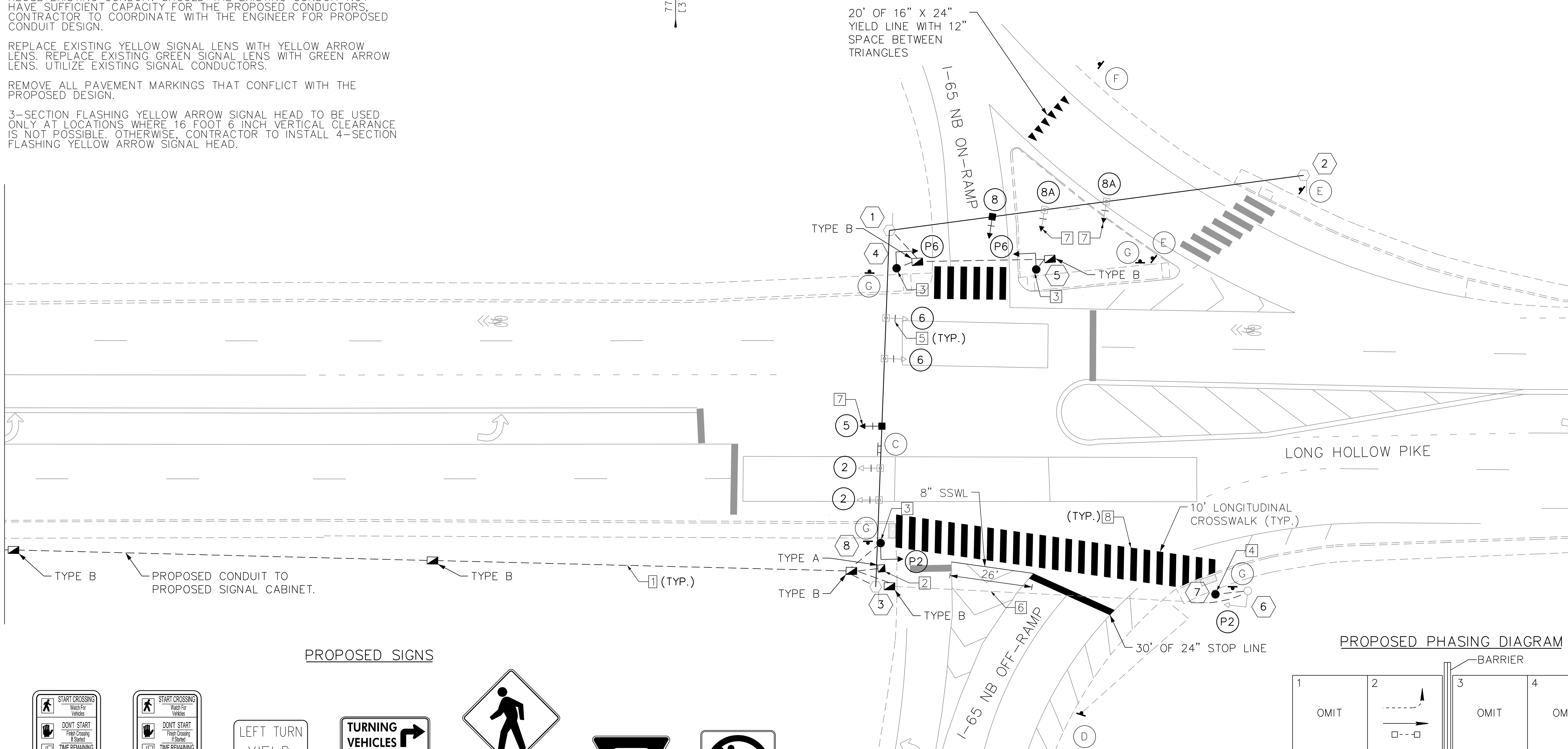
CONSTRUCTION NOTES

1. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE – GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A ⅝ INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A ⅝ INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
2. INTERCEPT EXISTING LOOP WIRE IN PROPOSED PULL BOX. REUSE EXISTING LOOP LEADS. SHOULD THE LOOP LEADS NOT BE SUITABLE FOR REUSE, CONTRACTOR TO COORDINATE WITH THE ENGINEER FOR PROPOSED LOOP AND WIRING DESIGN.
3. INSTALL ONE (1) ACCESSIBLE PEDESTRIAN SIGNAL WITH AUDIBLE TONES, ONE (1) PEDESTRIAN PUSHBUTTON WITH A VIBROTACTILE SURFACE, ONE (1) COUNTDOWN PEDESTRIAN SIGNAL HEAD, AND ONE (1) PEDESTRIAN GUIDANCE SIGN A OR B ON PROPOSED PEDESTRIAN PEDESTALS 4, 5, AND 8 FOR P2 AND P6.
4. INSTALL ONE (1) ACCESSIBLE PEDESTRIAN SIGNAL WITH AUDIBLE TONES, ONE (1) PEDESTRIAN PUSHBUTTON WITH A VIBROTACTILE SURFACE, AND ONE (1) PEDESTRIAN GUIDANCE SIGN A OR B ON PROPOSED PUSHBUTTON POST 7 FOR P2.
5. INSTALL SIGNAL HEAD BLACK BACKPLATE WITH YELLOW REFLECTIVE TAPE ON EXISTING SIGNAL HEADS.
6. REUSE EXISTING CONDUIT. SHOULD THE EXISTING CONDUIT NOT HAVE SUFFICIENT CAPACITY FOR THE PROPOSED CONDUCTORS, CONTRACTOR TO COORDINATE WITH THE ENGINEER FOR PROPOSED CONDUIT DESIGN.
7. REPLACE EXISTING YELLOW SIGNAL LENS WITH YELLOW ARROW LENS. REPLACE EXISTING GREEN SIGNAL LENS WITH GREEN ARROW LENS. UTILIZE EXISTING SIGNAL CONDUCTORS.
8. REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED DESIGN.
9. 3-SECTION FLASHING YELLOW ARROW SIGNAL HEAD TO BE USED ONLY AT LOCATIONS WHERE 16 FOOT 6 INCH VERTICAL CLEARANCE IS NOT POSSIBLE. OTHERWISE, CONTRACTOR TO INSTALL 4-SECTION FLASHING YELLOW ARROW SIGNAL HEAD.

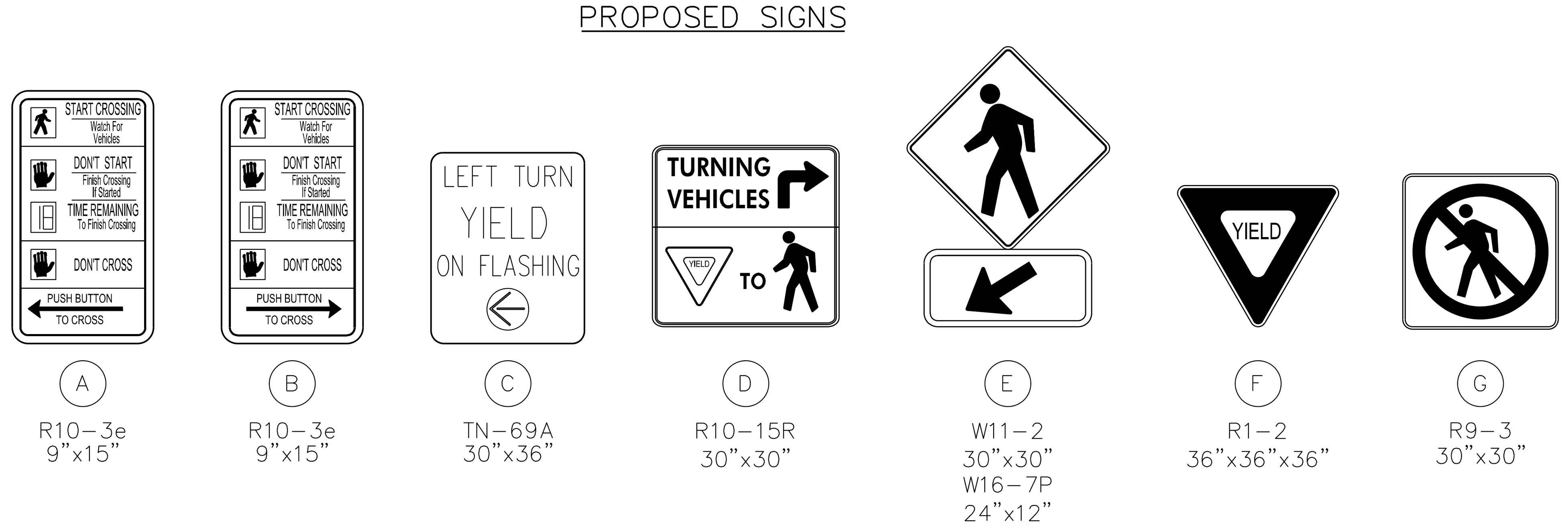


SIGNAL HEADS

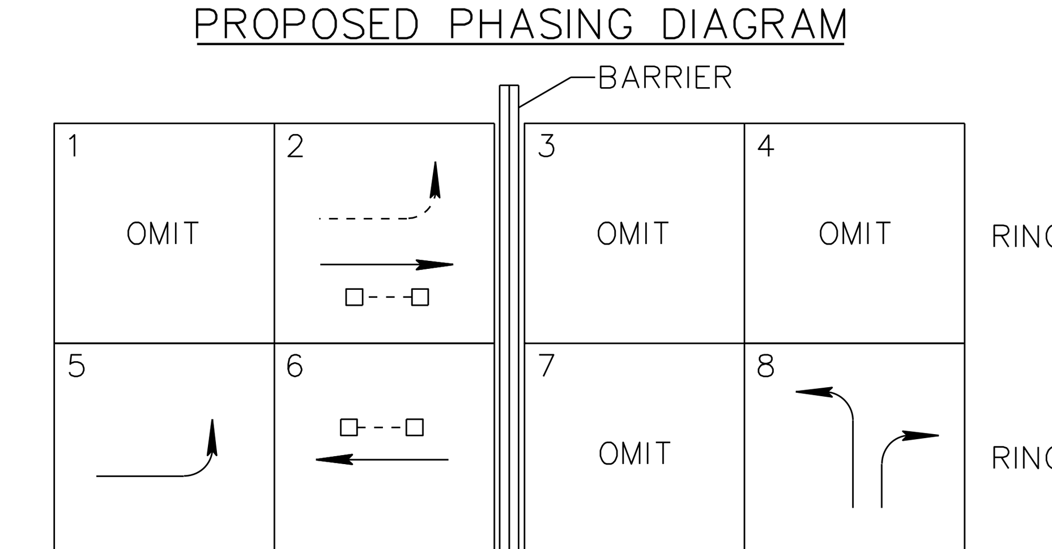




PROPOSED SIGNS

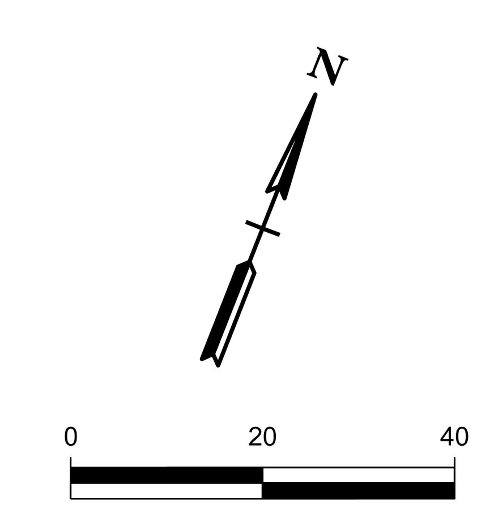


PROPOSED PHASING DIAGRAM



NEMA EIGHT PHASE DESIGNATIONS

PERMISSIVE MOVEMENT — PROTECTED MOVEMENT — PEDESTRIAN PHASE



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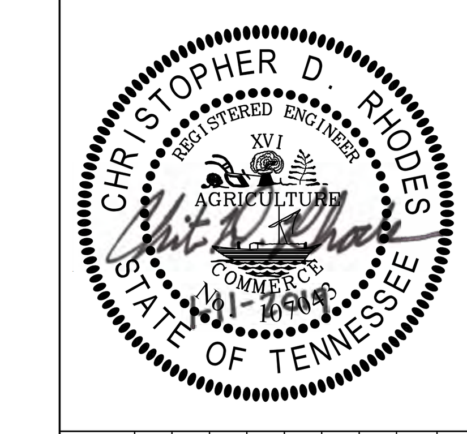
GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS

LONG HOLLOW PIKE AT I-65 NORTHBOUND RAMPS



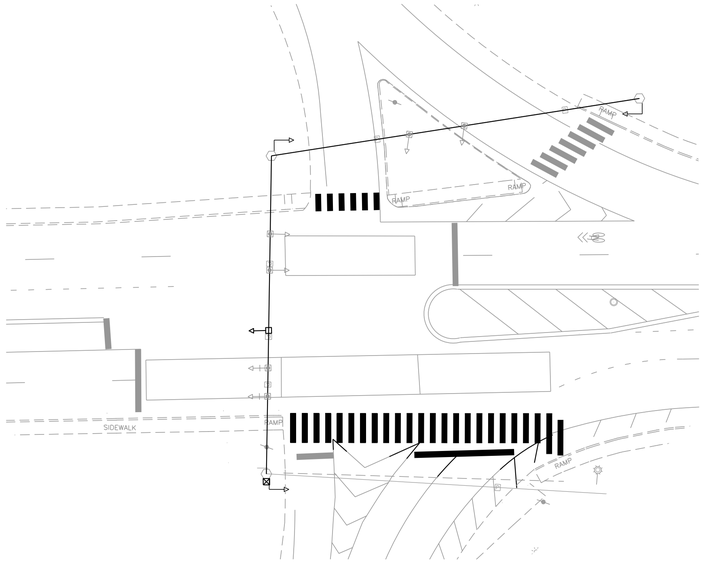
No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	JTB
CHECKED BY:	CDR
DATE:	1/11/2019

KHA PROJECT NO.: 118035002

SHEET NUMBER 15

REMOVAL DIAGRAM
N.T.S.



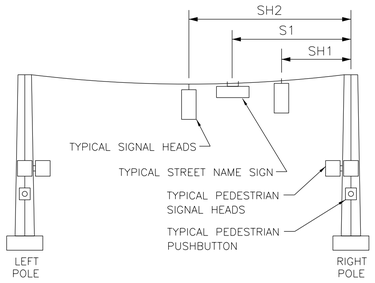
REMOVAL ITEMS (SHOWN IN BOLD)

1. CONTROL CABINET AND CONTENTS
2. CONDUCTOR CABLES
3. PAVEMENT STRIPING
4. 5-SECTION SIGNAL HEAD
5. PEDESTRIAN SIGNAL/PUSHBUTTONS

DETECTION DIAGRAM
N.T.S.

NO DETECTION UPGRADES PROPOSED

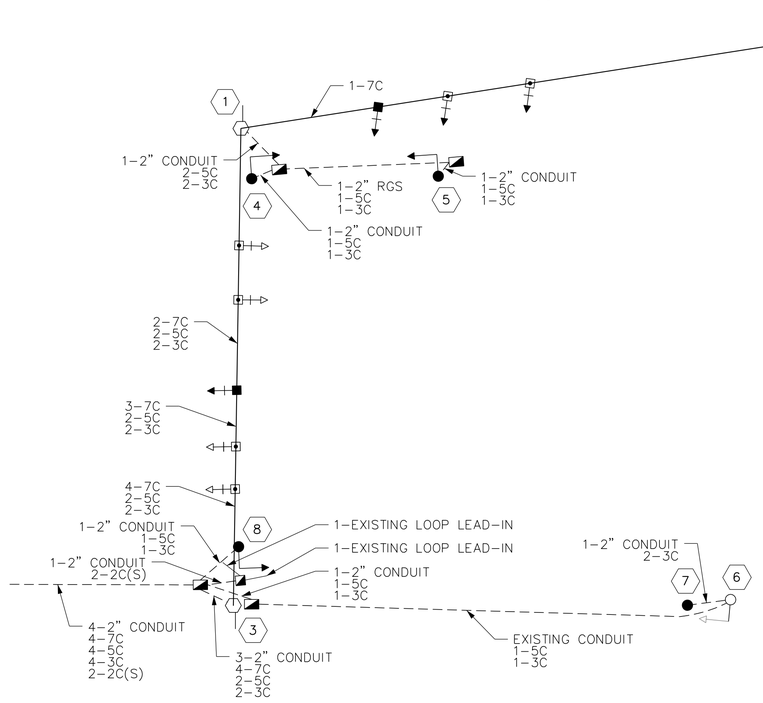
SPAN WIRE DETAIL
N.T.S.



POLE NO.	PED PHASE	POSITION OF PPB / SIGN
4	P6	● →
5	P6	● ←
7	P2	● ←
8	P2	● →

NOTE: ADDITIONAL SIGNS, S2, S3, ETC.
ADDITIONAL SIGNAL HEADS, SH3, SH4, ETC.
STOP BAR DETECTOR – SB DET1, SB DET2

WIRING DIAGRAM
N.T.S.



SIGNAL SUPPORT POLE DATA

POLE NO.	POLE TYPE	HEIGHT	SPAN LENGTH	SPAN (LT TO RT)	S1	S2	S3	SH1	SH2	SH3	SH4	SH5	LATITUDE	LONGITUDE
1	STEEL STRAIN	EXISTING	EXISTING	3 TO 1	EXISTING	67'-0"	EXISTING	EXISTING	EXISTING	60'-0"	EXISTING	EXISTING	EXISTING	EXISTING
2	STEEL STRAIN	EXISTING	EXISTING	1 TO 2	EXISTING	–	–	EXISTING	EXISTING	96'-0"	–	–	EXISTING	EXISTING
3	STEEL STRAIN	EXISTING	EXISTING	–	–	–	–	–	–	–	–	–	EXISTING	EXISTING
4	PEDESTAL	8'-0"	–	–	–	–	–	–	–	–	–	–	36.324276°	-86.704271°
5	PEDESTAL	8'-0"	–	–	–	–	–	–	–	–	–	–	36.324319°	-86.704136°
6	PEDESTAL	EXISTING	–	–	–	–	–	–	–	–	–	–	EXISTING	EXISTING
7	PPB POST	5'-0"	–	–	–	–	–	–	–	–	–	–	36.324121°	-86.703838°
8	PEDESTAL	8'-0"	–	–	–	–	–	–	–	–	–	–	36.324056°	-86.704180°

Kimley»Horn
214 OCEANSIDE DRIVE
NASHVILLE, TENNESSEE
37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES
PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
AT
LONG HOLLOW PIKE
AT
I-65 NORTHBOUND RAMPS

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
No. XVI
AGRICULTURE
COMMERCE
INDUSTRY
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

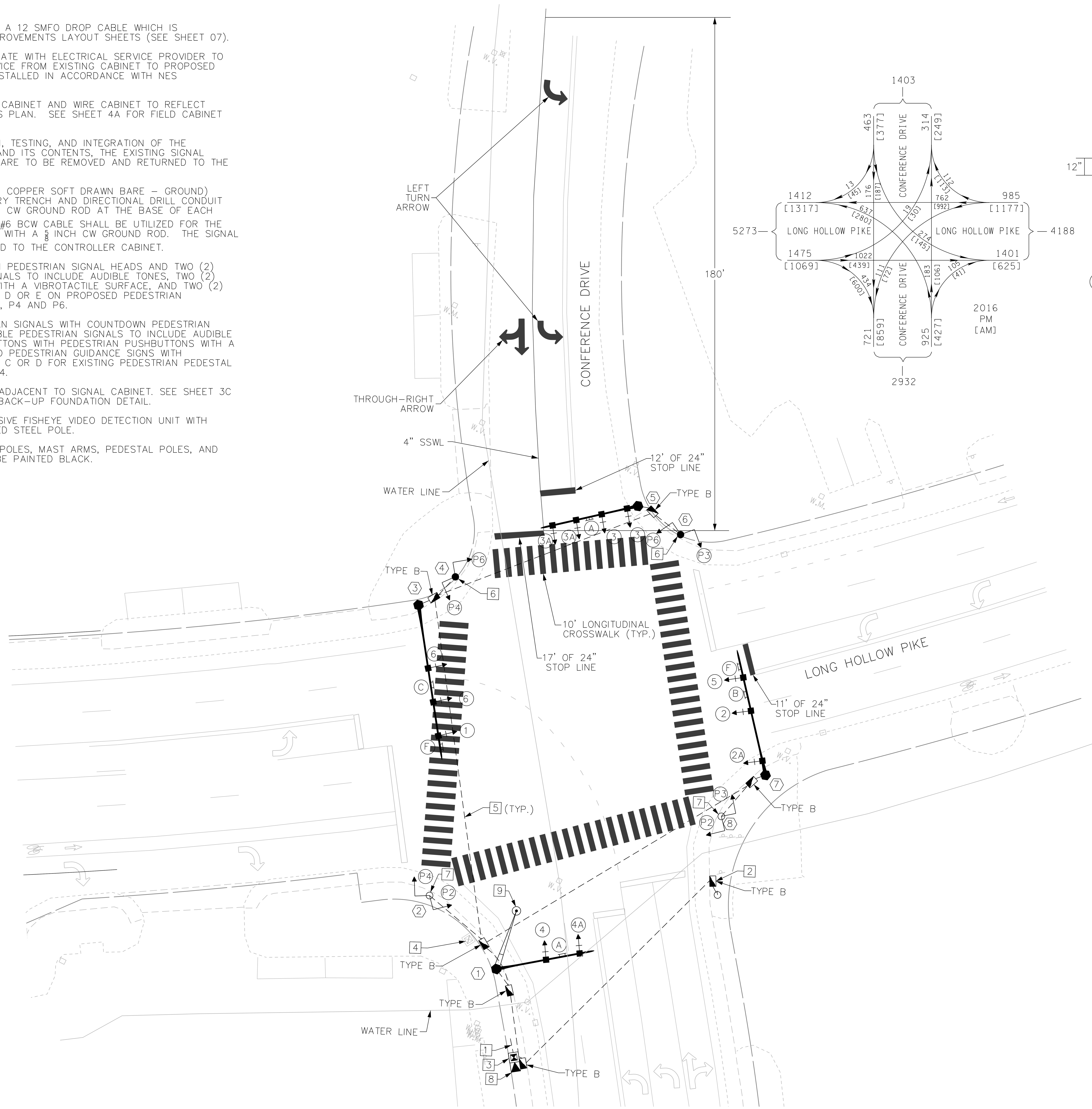
DESIGNED BY: TOH
DRAWN BY: JTB
CHECKED BY: CDR
DATE: 1/11/2019

KHA PROJECT NO.: 118035002

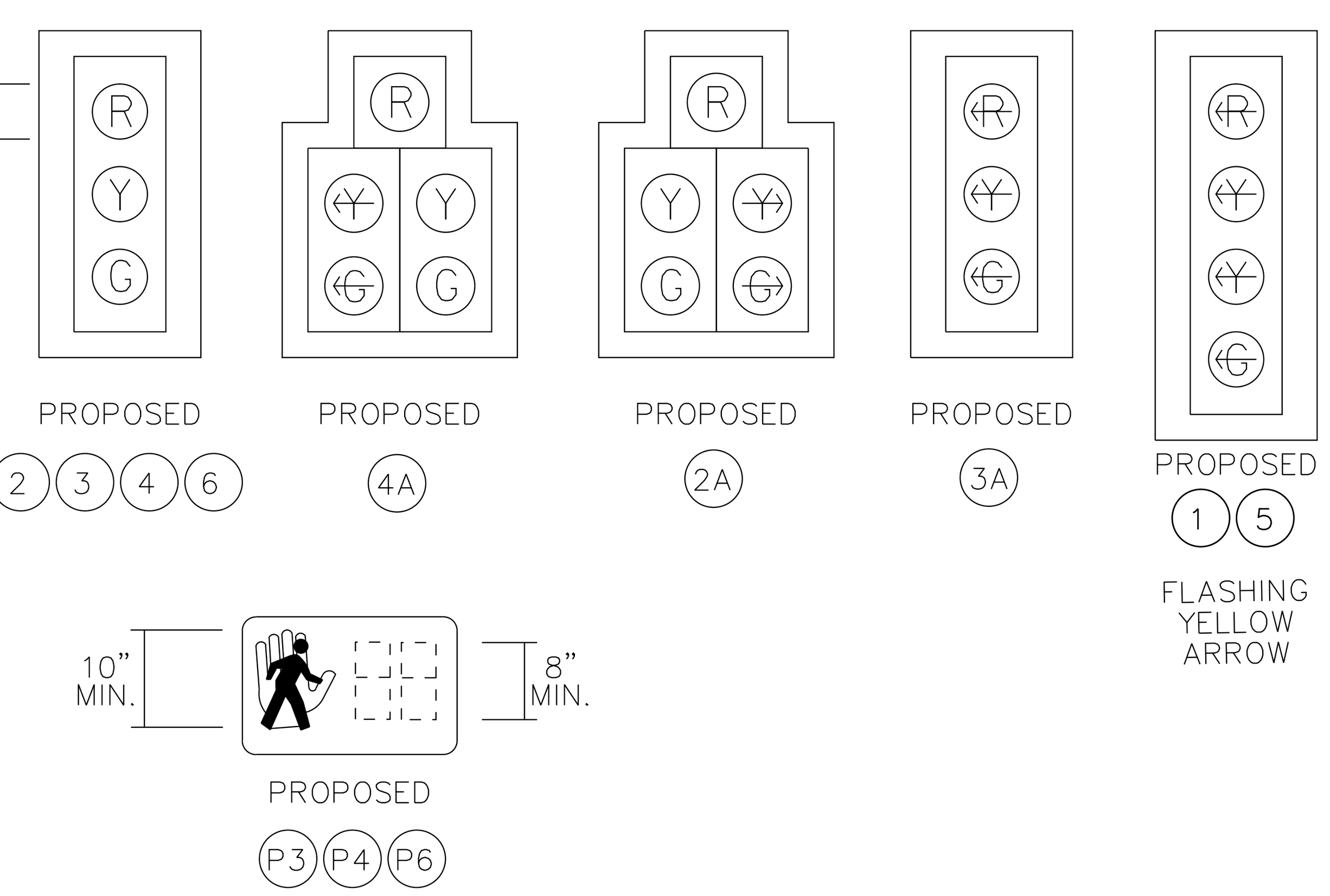
SHEET NUMBER
15A

CONSTRUCTION NOTES

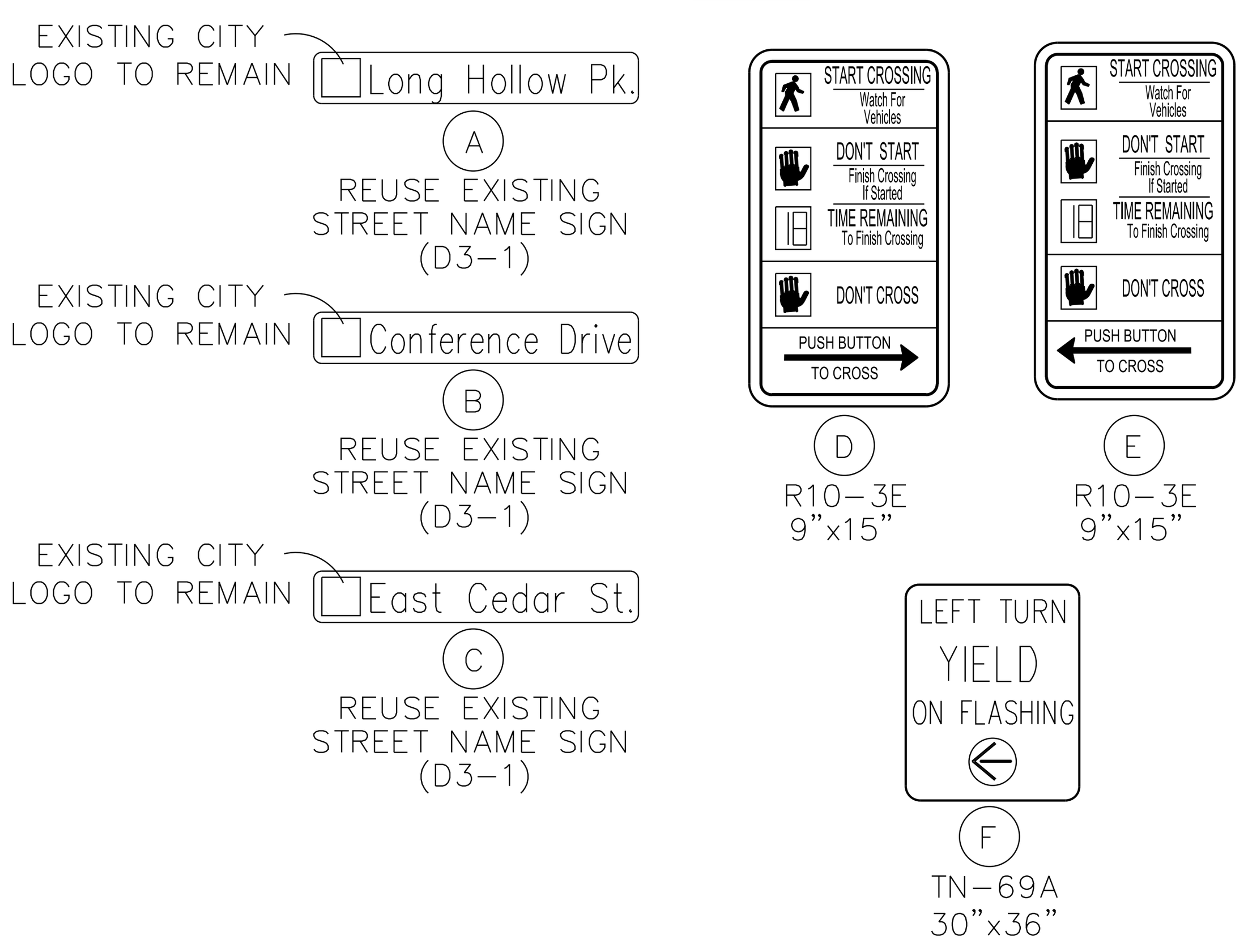
1. CONTRACTOR SHALL PROVIDE A 12 SMFO DROP CABLE WHICH IS REFERENCED ON THE ITS IMPROVEMENTS LAYOUT SHEETS (SEE SHEET 07).
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL SERVICE PROVIDER TO TRANSITION ELECTRICAL SERVICE FROM EXISTING CABINET TO PROPOSED CABINET. RISER SHALL BE INSTALLED IN ACCORDANCE WITH NES STANDARDS.
3. INSTALL NEW PAD-MOUNTED CABINET AND WIRE CABINET TO REFLECT PROPOSED PHASING PER THIS PLAN. SEE SHEET 4A FOR FIELD CABINET SUMMARY SHEET.
4. FOLLOWING THE INSTALLATION, TESTING, AND INTEGRATION OF THE PROPOSED SIGNAL CABINET AND ITS CONTENTS, THE EXISTING SIGNAL CABINET AND ITS CONTENTS ARE TO BE REMOVED AND RETURNED TO THE CITY.
5. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE – GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A 5/8 INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A 5/8 INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
6. INSTALL TWO (2) COUNTDOWN PEDESTRIAN SIGNAL HEADS AND TWO (2) ACCESSIBLE PEDESTRIAN SIGNALS TO INCLUDE AUDIBLE TONES, TWO (2) PEDESTRIAN PUSHBUTTONS WITH A VIBROTACTILE SURFACE, AND TWO (2) PEDESTRIAN GUIDANCE SIGNS D OR E ON PROPOSED PEDESTRIAN PEDESTALS 4 AND 6 FOR P3, P4 AND P6.
7. REPLACE EXISTING PEDESTRIAN SIGNALS WITH COUNTDOWN PEDESTRIAN SIGNAL HEADS AND ACCESSIBLE PEDESTRIAN SIGNALS TO INCLUDE AUDIBLE TONES, REPLACE PEDESTRIAN PUSHBUTTONS WITH PEDESTRIAN PUSHBUTTONS WITH A VIBROTACTILE SURFACE, AND PEDESTRIAN GUIDANCE SIGNS WITH PEDESTRIAN GUIDANCE SIGNS C OR D FOR EXISTING PEDESTRIAN PEDESTAL 2 AND 8 FOR P2, P3 AND P4.
8. INSTALL BATTERY BACK-UP ADJACENT TO SIGNAL CABINET. SEE SHEET 3C FOR CABINET AND BATTERY BACK-UP FOUNDATION DETAIL.
9. INSTALL ONE (1) NON-INTRUSIVE FISHEYE VIDEO DETECTION UNIT WITH EXTENSION ARM ON PROPOSED STEEL POLE.
10. SIGNAL CABINET, MAST ARM POLES, MAST ARMS, PEDESTAL POLES, AND PUSHBUTTON POSTS SHALL BE PAINTED BLACK.



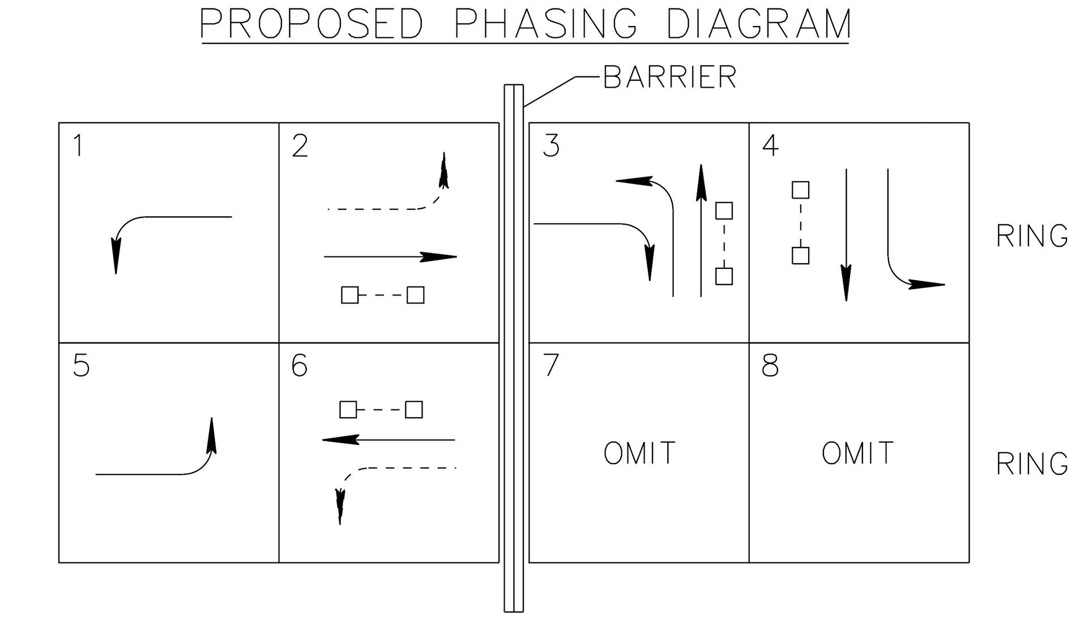
SIGNAL HEADS



SIGNS



PROPOSED PHASING DIAGRAM



NEMA EIGHT PHASE DESIGNATIONS

PERMISSIVE MOVEMENT — PROTECTED MOVEMENT — PEDESTRIAN PHASE

N

0 20 40 SCALE IN FEET

TENNESSEE ONE CALL SYSTEM, INC. 1-800-351-1111 STOP - CALL BEFORE YOU DIG

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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS

LONG HOLLOW PIKE AT CONFERENCE DRIVE

BRANDON S. BAXTER REGISTERED ENGINEER STATE OF TENNESSEE No. 111639

No.	REVISIONS	DATE	BY

DESIGNED BY:	TRG
DRAWN BY:	TRG
CHECKED BY:	BSB
DATE:	01/11/2019
KHA PROJECT NO.: 118035002	
SHEET NUMBER	16

1/11/2019 11:03:19 AM
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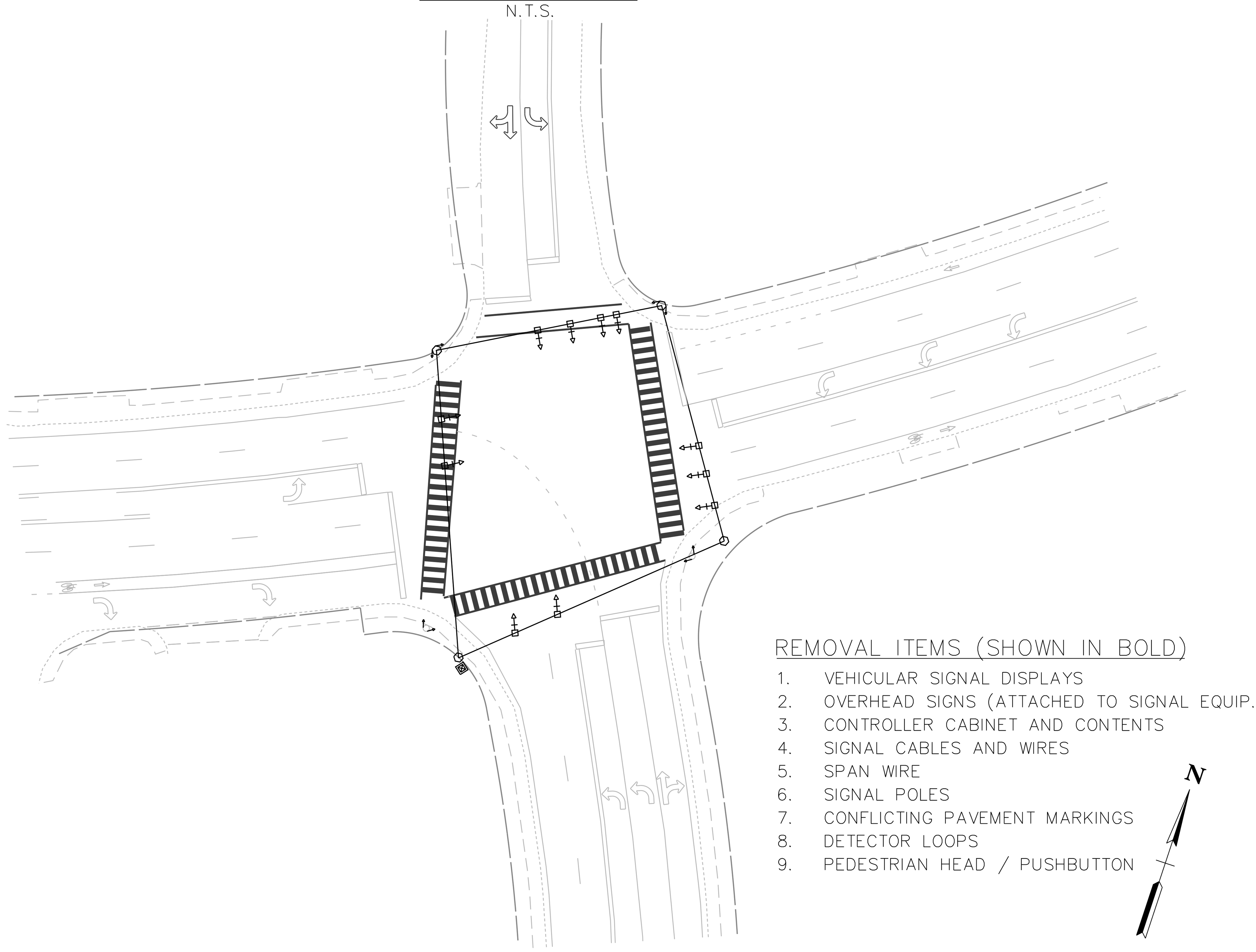
REMOVAL DIAGRAM
N.T.S.

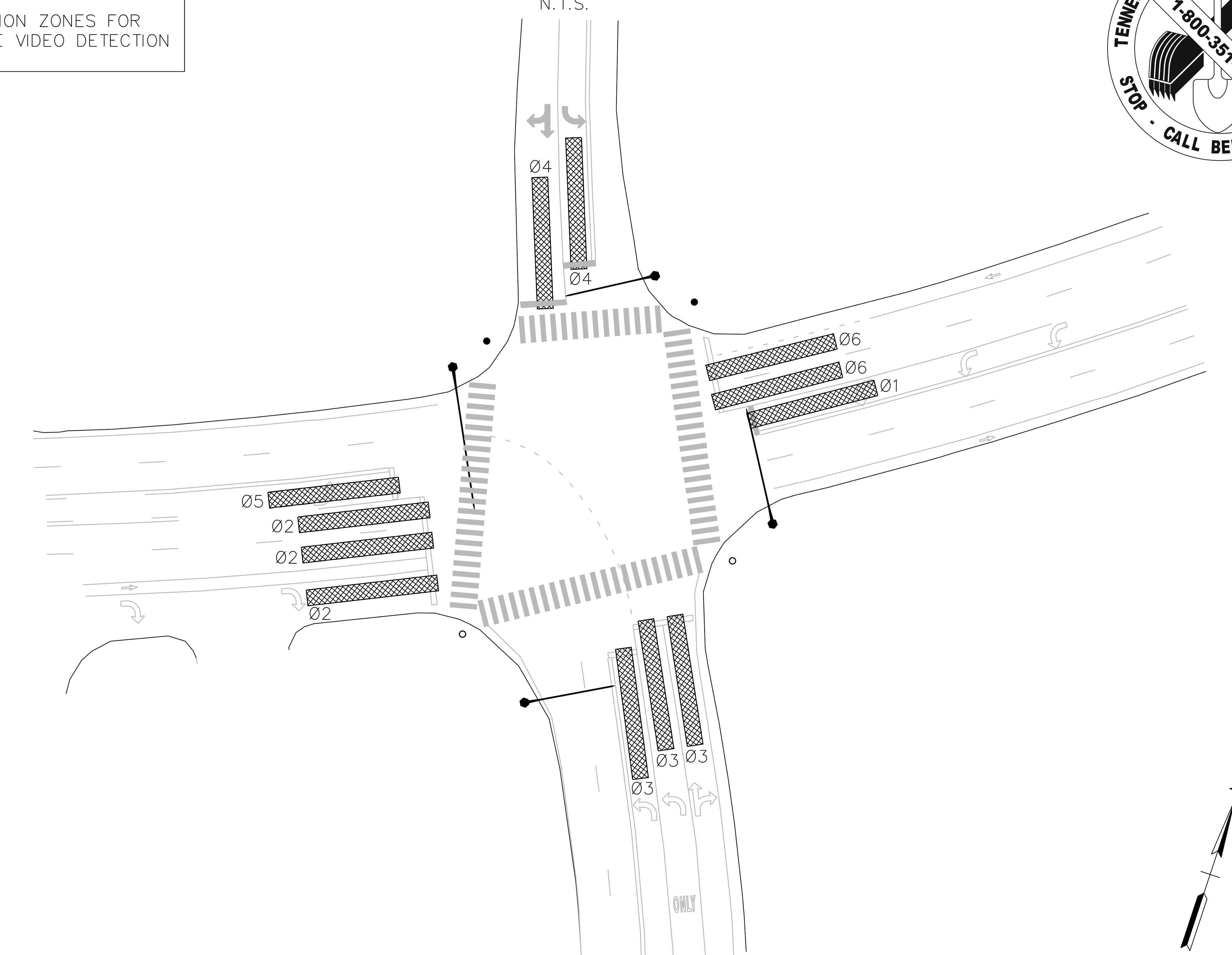


REMOVAL ITEMS (SHOWN IN BOLD)

1. VEHICULAR SIGNAL DISPLAYS
2. OVERHEAD SIGNS (ATTACHED TO SIGNAL EQUIP.)
3. CONTROLLER CABINET AND CONTENTS
4. SIGNAL CABLES AND WIRES
5. SPAN WIRE
6. SIGNAL POLES
7. CONFLICTING PAVEMENT MARKINGS
8. DETECTOR LOOPS
9. PEDESTRIAN HEAD / PUSHBUTTON

DETECTION DIAGRAM
N.T.S.

NOTE:
DETECTION ZONES FOR FISHEYE VIDEO DETECTION UNIT.



TENNESSEE ONE CALL SYSTEM, INC.
1-800-351-1111
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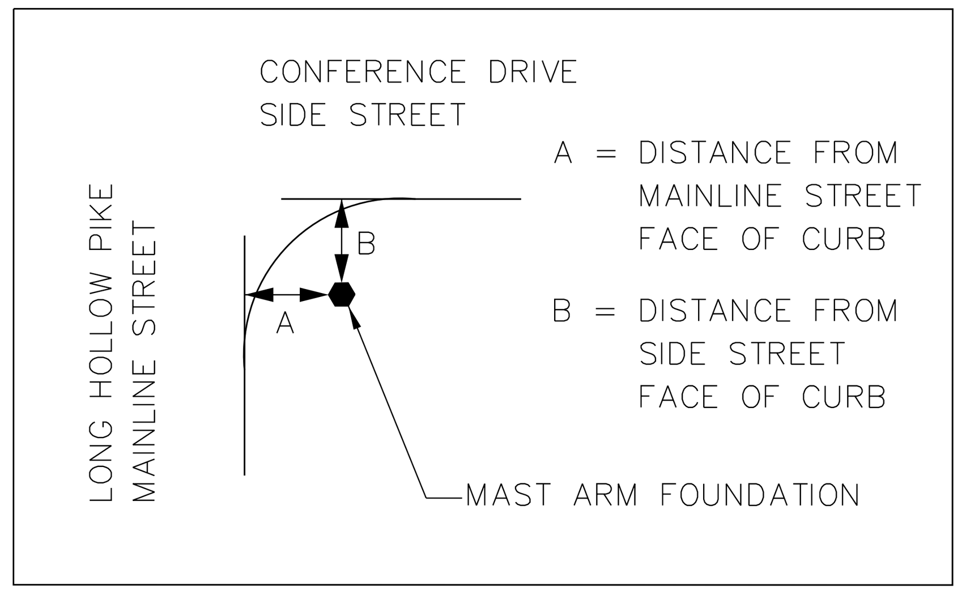
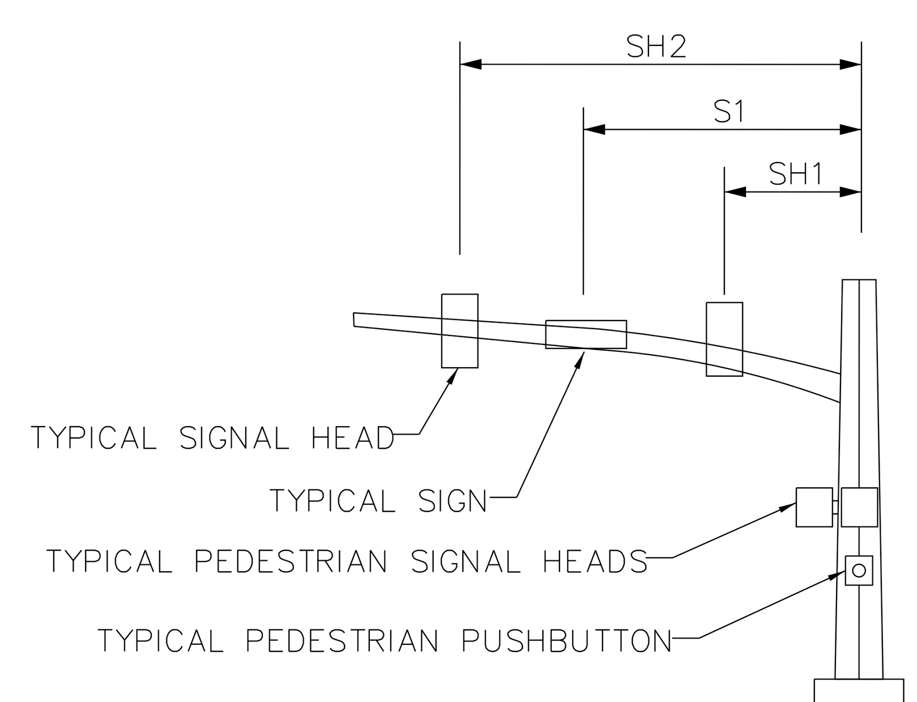
MAST ARM DETAILS
N.T.S.



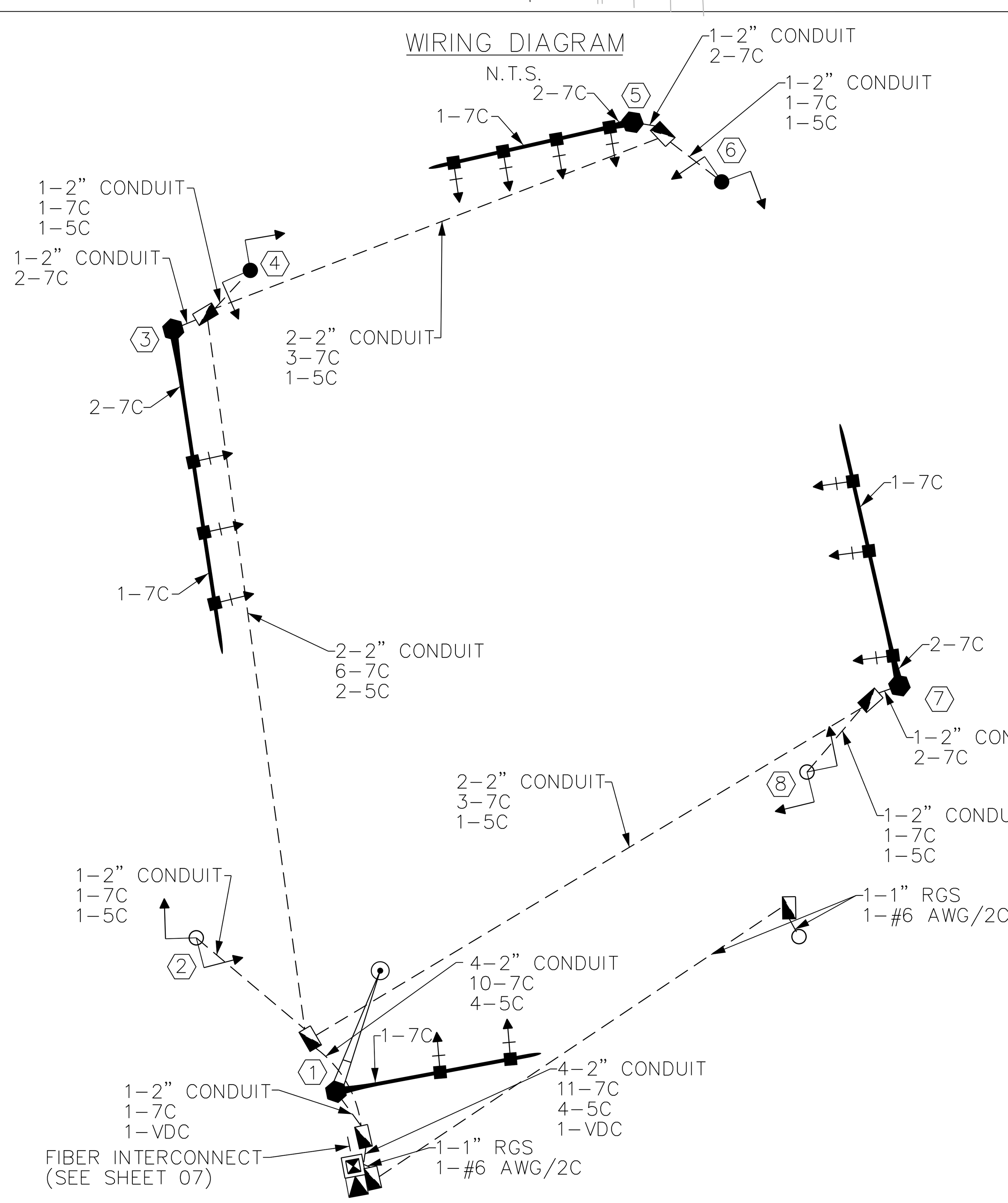


NOTE: ADDITIONAL SIGNS, S2, S3, ETC.
ADDITIONAL SIGNAL HEADS, SH3, SH3, ETC.

POLE NO.	PED. PHASE	POSITION OF PPB/SIGN
2	P2	
	P4	
4	P4	
	P6	
6	P3	
	P6	
8	P2	
	P3	

SIGNAL SUPPORT POLE DATA AND MAST ARM DETAILS													
POLE NO.	A	B	NORTHING	EASTING	POLE TYPE	HEIGHT	MAST ARM LENGTH	S1	S2	SH1	SH2	SH3	SH4
1	39'-6"	9'-3"	725674.2551	1761782.4568	STEEL POLE	20'-0"	35'-0"	23'-9"	–	17'-9"	29'-9"	–	–
2	EXISTING	EXISTING	EXISTING	EXISTING	PEDESTAL	EXISTING	N/A	–	–	–	–	–	–
3	7'-8"	26'-11"	725775.9981	1761700.5743	STEEL POLE	20'-0"	55'-0"	28'-5"	50'-5"	22'-5"	34'-5"	46'-5"	–
4	14'-10"	13'-9"	725790.7399	1761707.6459	PEDESTAL	8'-0"	N/A	–	–	–	–	–	–
5	29'-1"	4'-8"	725841.6886	1761753.6008	STEEL POLE	20'-0"	35'-0"	17'-8"	–	3'-10"	13'-0"	22'-2"	30'-8"
6	15'-7"	18'-1"	725839.4974	1761771.4994	PEDESTAL	8'-0"	N/A	–	–	–	–	–	–
7	9'-5"	26'-1"	725777.6343	1761836.1406	STEEL POLE	20'-0"	45'-0"	29'-1"	39'-1"	5'-1"	23'-1"	35'-1"	–
8	EXISTING	EXISTING	EXISTING	EXISTING	PEDESTAL	EXISTING	N/A	–	–	–	–	–	–

WIRING DIAGRAM
N.T.S.



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CHATTANOOGA, TN 37408
(423) 490-9400

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE AT CONFERENCE DRIVE

BRANDON S. BAXTER
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 111639
STATE OF TENNESSEE
01/11/19

No.	REVISIONS	DATE	BY

DESIGNED BY: TRG
DRAWN BY: TRG
CHECKED BY: BSB
DATE: 01/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER
16A

1/11/2019 11:03:20 AM
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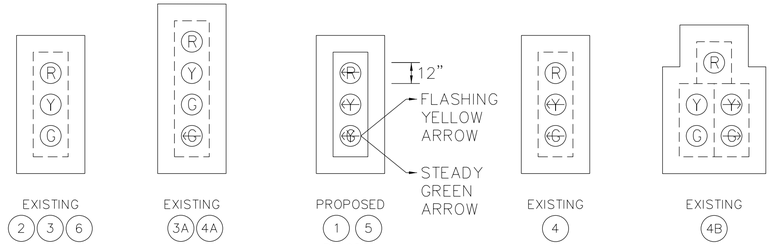
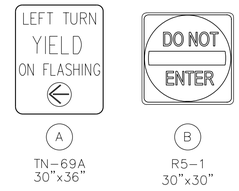
CONSTRUCTION NOTES

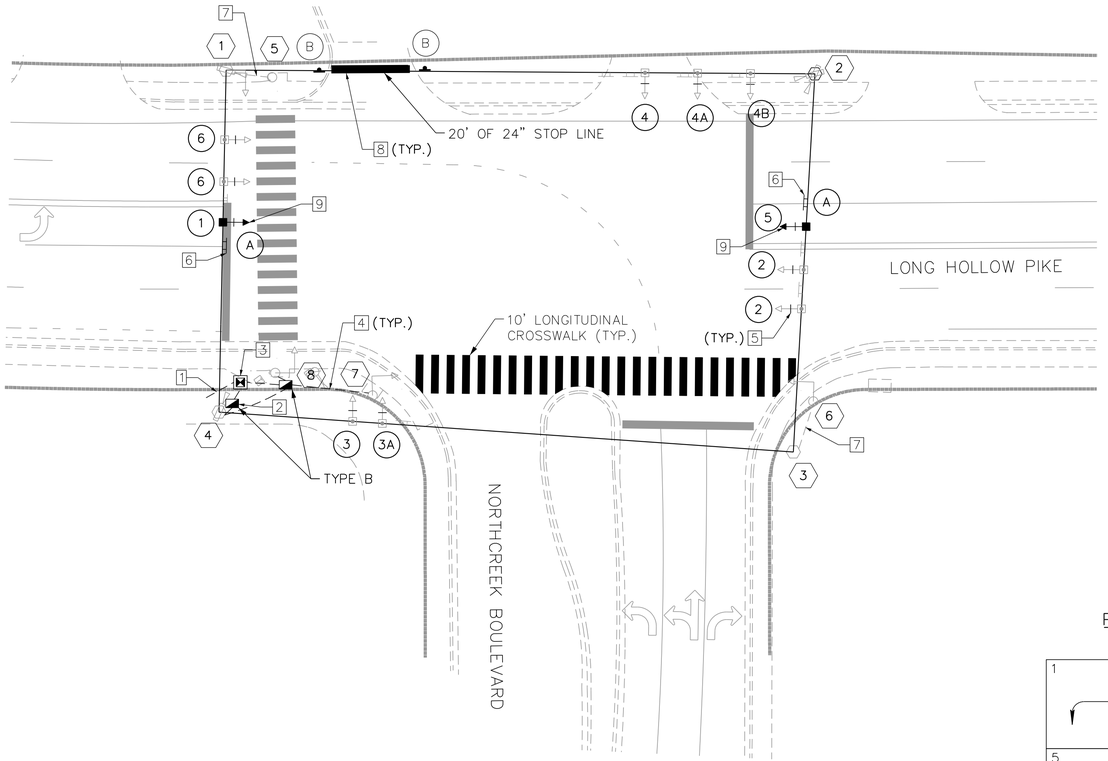
1. CONTRACTOR SHALL PROVIDE A 12 SMFO DROP CABLE WITH RISER ASSEMBLY AT THE BASE OF THE NEAREST NES POLE WHICH IS REFERENCED ON THE ITS IMPROVEMENTS LAYOUT SHEETS (SEE SHEET 07).
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL SERVICE PROVIDER TO TRANSITION ELECTRICAL SERVICE FROM EXISTING CABINET TO PROPOSED CABINET.
3. INSTALL NEW PAD-MOUNTED CABINET AND WIRE CABINET TO REFLECT PROPOSED PHASING PER THIS PLAN. SEE SHEET 4B FOR FIELD CABINET SUMMARY TABLE. FOLLOWING THE INSTALLATION, TESTING, AND INTEGRATION OF THE PROPOSED SIGNAL CABINET AND ITS CONTENTS, THE EXISTING SIGNAL CABINET AND ITS CONTENTS ARE TO BE REMOVED AND RETURNED TO THE CITY.
4. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE – GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A ⅝ INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A ⅝ INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
5. INSTALL SIGNAL HEAD BLACK BACKPLATE WITH YELLOW REFLECTIVE TAPE ON EXISTING SIGNAL HEADS.
6. REPLACE EXISTING R10-12 SIGN WITH SIGN A.
7. REUSE EXISTING CONDUIT. SHOULD THE EXISTING CONDUIT NOT HAVE SUFFICIENT CAPACITY FOR THE PROPOSED CONDUCTORS, CONTRACTOR TO COORDINATE WITH THE ENGINEER FOR PROPOSED CONDUIT DESIGN.
8. REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED DESIGN.
9. 3-SECTION FLASHING YELLOW ARROW SIGNAL HEAD TO BE USED ONLY AT LOCATIONS WHERE 16 FOOT 6 INCH VERTICAL CLEARANCE IS NOT POSSIBLE. OTHERWISE, CONTRACTOR TO INSTALL 4-SECTION FLASHING YELLOW ARROW SIGNAL HEAD.

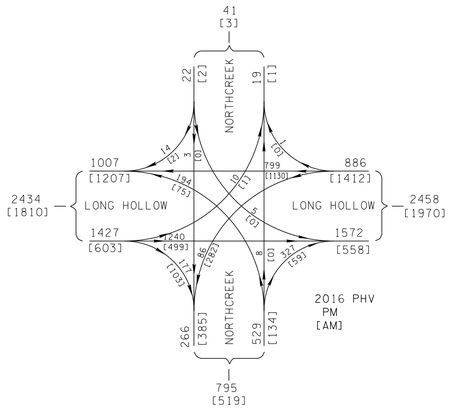
SIGNAL HEADS



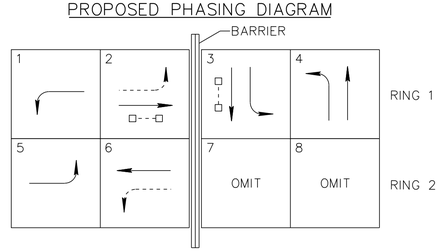
PROPOSED SIGNS







PROPOSED PHASING DIAGRAM



NEMA EIGHT PHASE DESIGNATIONS

PERMISSIVE MOVEMENT — PROTECTED MOVEMENT

PEDESTRIAN PHASE

N

0 20 40

SCALE IN FEET

Kimley»Horn
214 OCEANSIDE DRIVE
NASHVILLE, TENNESSEE
37204-2351
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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
NORTHCREEK BOULEVARD

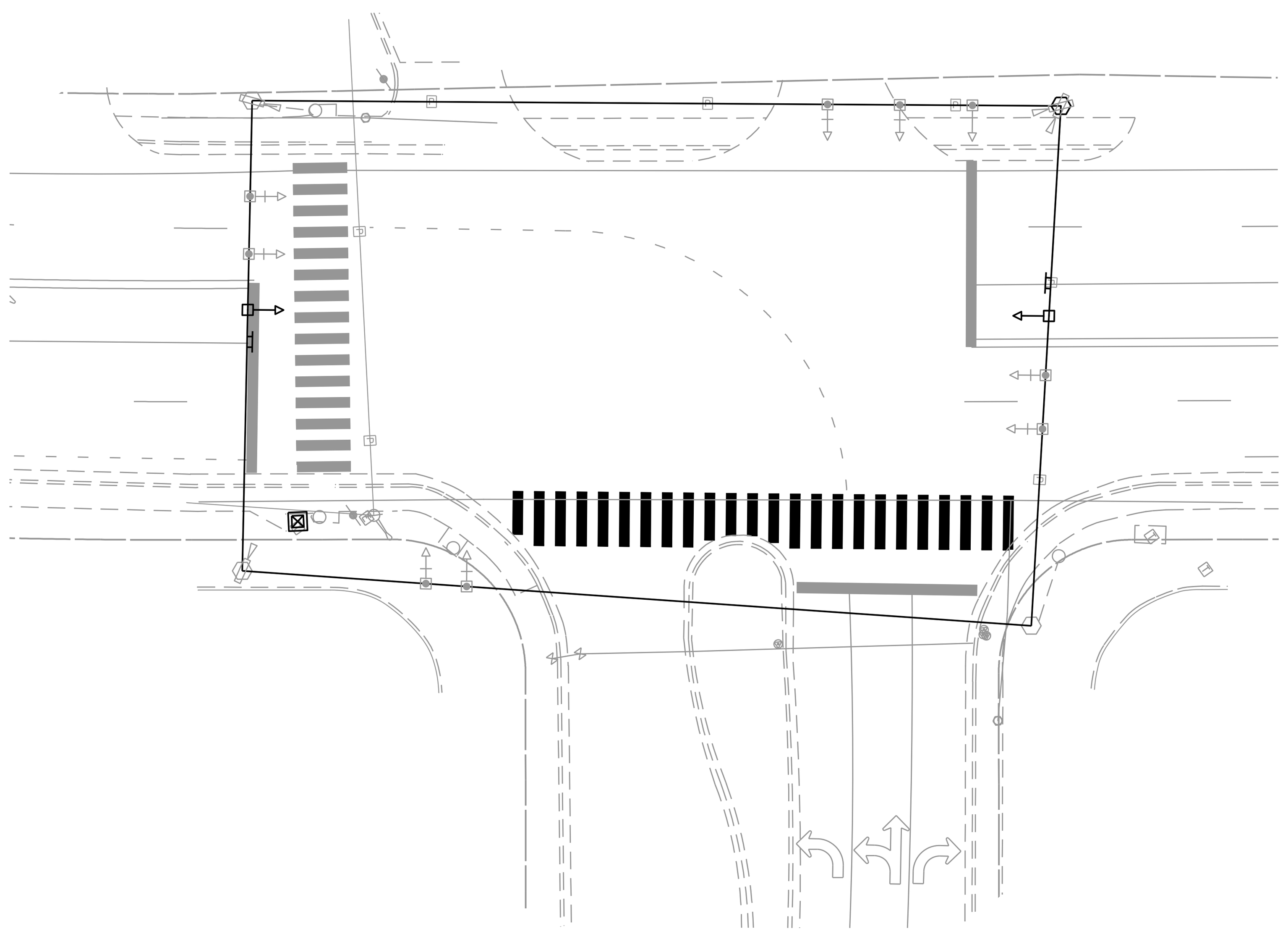
CHRISTOPHER D. RHODES
REGISTERED ENGINEER
XVI
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY:	TOH
DRAWN BY:	JTB
CHECKED BY:	CDR
DATE:	1/11/2019
KHA PROJECT NO.:	118035002

SHEET NUMBER
17

REMOVAL DIAGRAM
N.T.S.



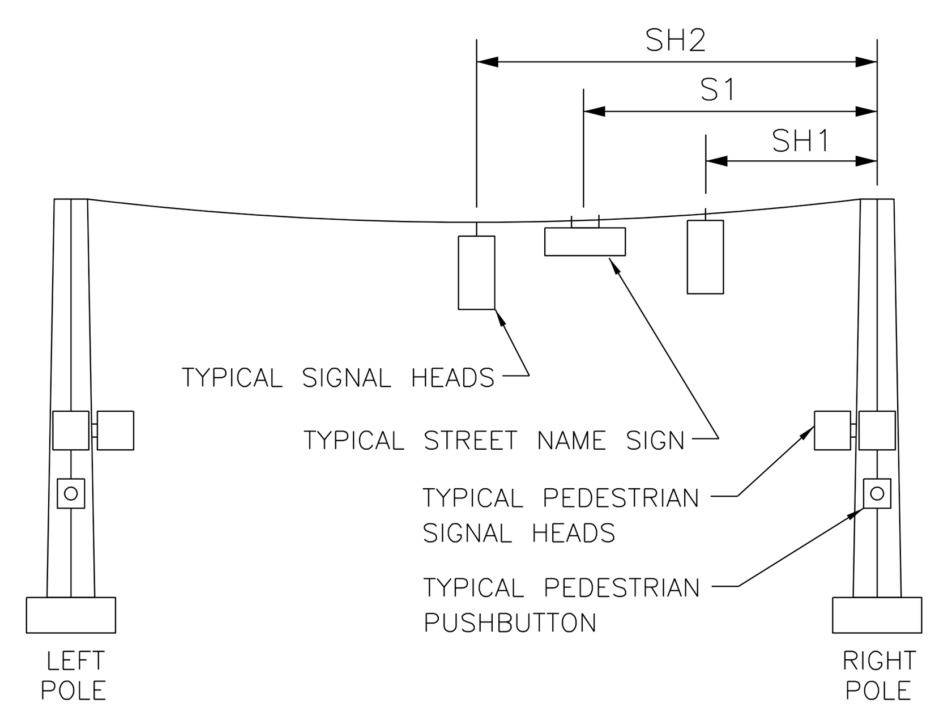
REMOVAL ITEMS (SHOWN IN BOLD)

1. CONTROL CABINET AND CONTENTS
2. CONDUCTOR CABLES
3. PAVEMENT STRIPING
4. 5-SECTION SIGNAL HEADS
5. SIGNS

DETECTION DIAGRAM
N.T.S.

NO DETECTION UPGRADES PROPOSED

SPAN WIRE DETAIL
N.T.S.

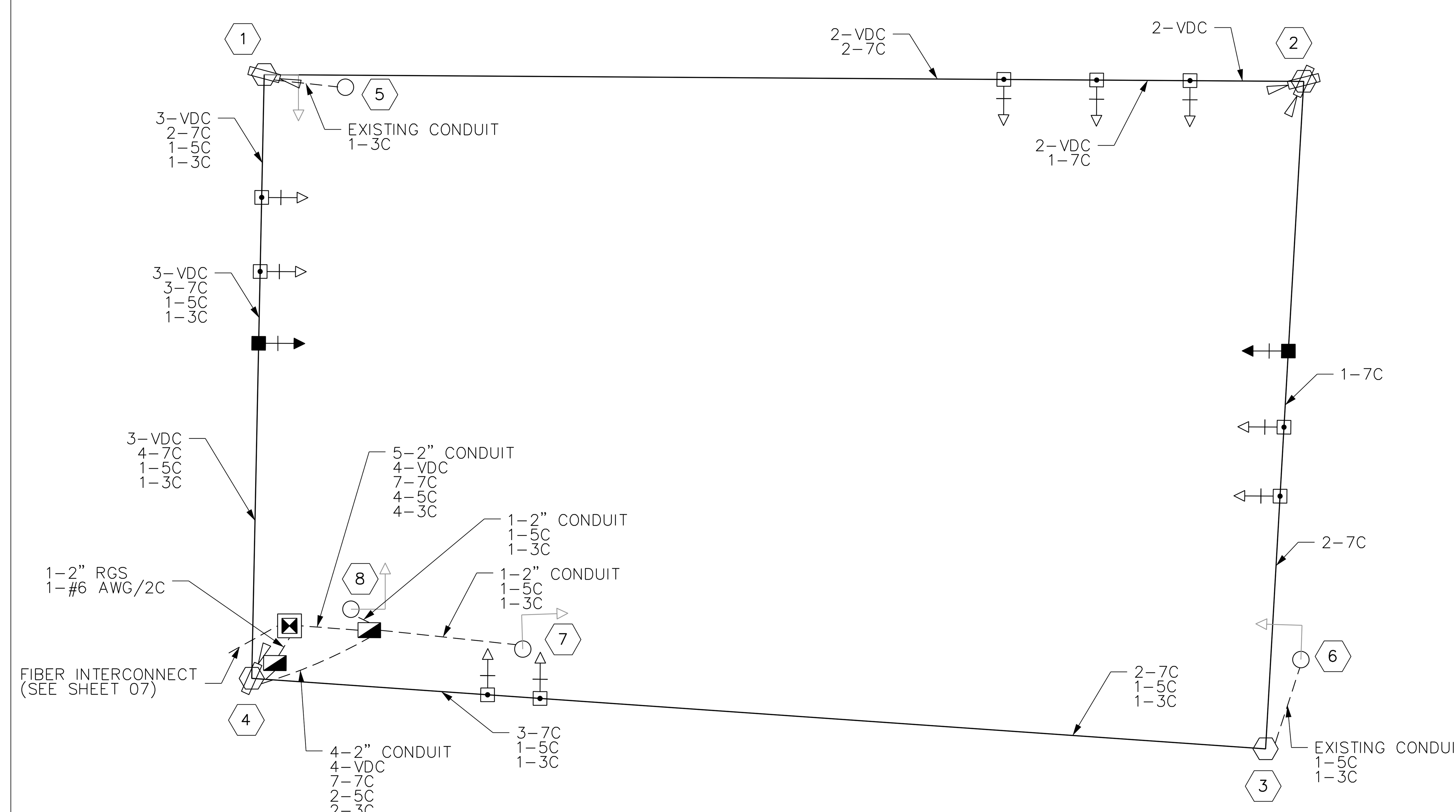


NOTE: ADDITIONAL SIGNS, S2, S3, ETC.
ADDITIONAL SIGNAL HEADS, SH3, SH4, ETC.
STOP BAR DETECTOR – SB DET1, SB DET2

SIGNAL SUPPORT POLE DATA

POLE NO.	POLE TYPE	HEIGHT	SPAN LENGTH	SPAN (LT TO RT)	S1	S2	S3	S4	SH1	SH2	SH3	LATITUDE	LONGITUDE
1	STEEL STRAIN	EXISTING	EXISTING	4 TO 1	EXISTING	EXISTING	45'–0"	–	EXISTING	EXISTING	39'–0"	EXISTING	EXISTING
2	STEEL STRAIN	EXISTING	EXISTING	1 TO 2	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
3	STEEL STRAIN	EXISTING	EXISTING	2 TO 3	EXISTING	EXISTING	64'–0"	–	EXISTING	EXISTING	58'–0"	EXISTING	EXISTING
4	STEEL STRAIN	EXISTING	EXISTING	3 TO 4	EXISTING	–	–	–	EXISTING	EXISTING	–	EXISTING	EXISTING
5	PPB POST	EXISTING	–		–	–	–	–	–	–	–	EXISTING	EXISTING
6	PEDESTAL	EXISTING	–		–	–	–	–	–	–	–	EXISTING	EXISTING
7	PEDESTAL	EXISTING	–		–	–	–	–	–	–		EXISTING	EXISTING
8	PEDESTAL	EXISTING	–		–	–	–	–	–	–	–	EXISTING	EXISTING

WIRING DIAGRAM
N.T.S.



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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES
PHASE II
THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
NORTHCREEK BOULEVARD

No.	REVISIONS	DATE	BY

DESIGNED BY: TQH
DRAWN BY: JTB
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER
17A

2/7/2019 11:47:07 AM
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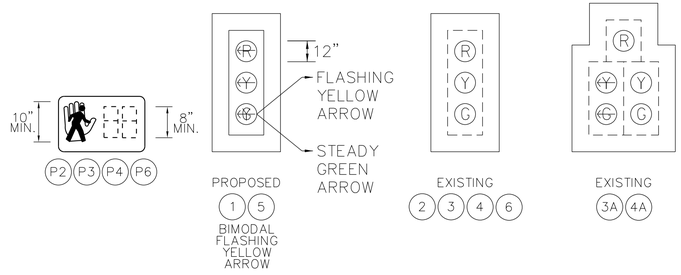
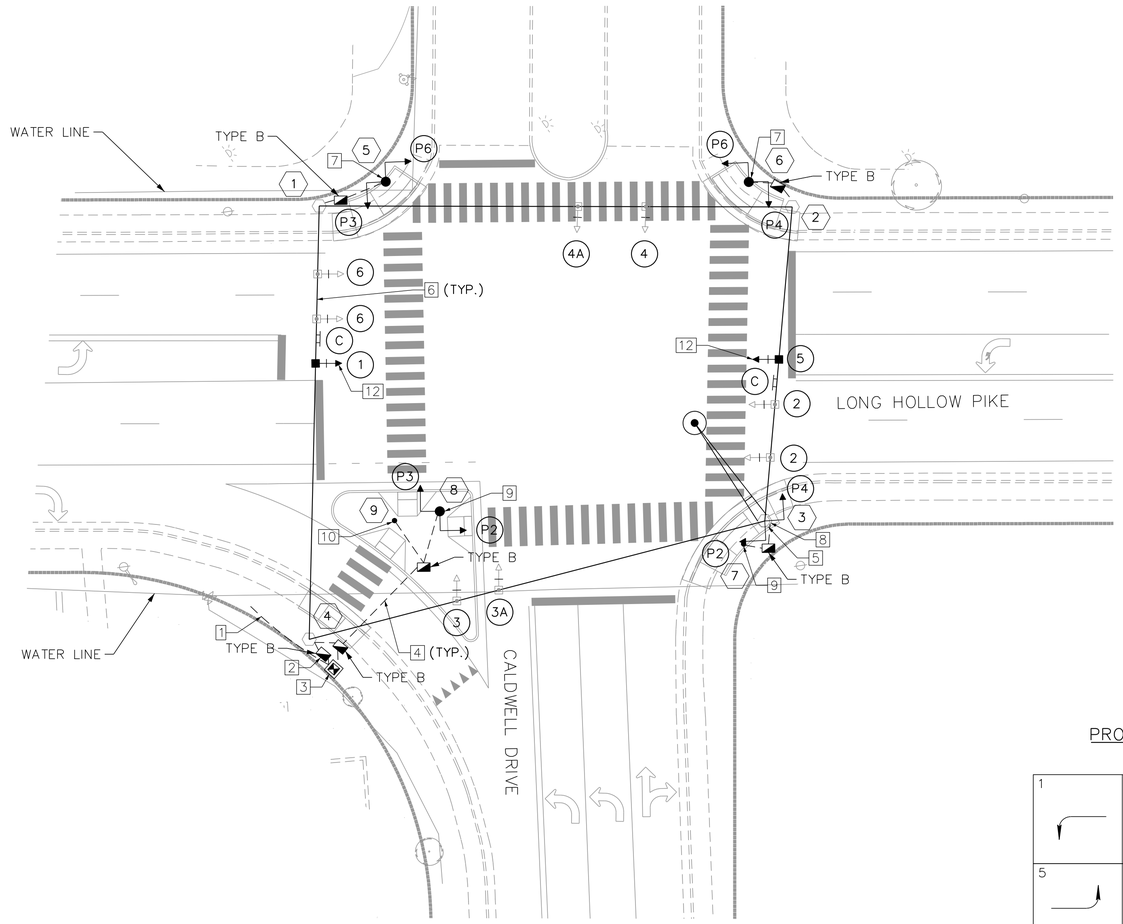
CONSTRUCTION NOTES

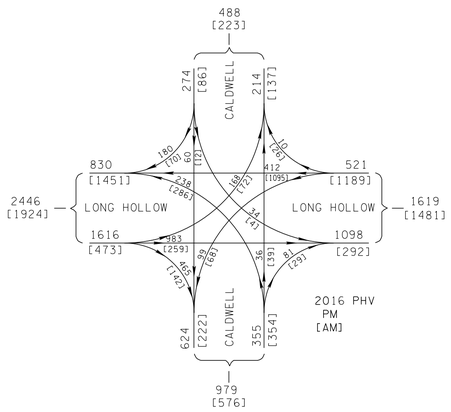
1. CONTRACTOR SHALL PROVIDE A 12 SMFO DROP CABLE WITH RISER ASSEMBLY AT THE BASE OF THE NEAREST NES POLE WHICH IS REFERENCED ON THE ITS IMPROVEMENTS LAYOUT SHEETS (SEE SHEET 08).
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL SERVICE PROVIDER TO TRANSITION ELECTRICAL SERVICE FROM EXISTING CABINET TO PROPOSED CABINET.
3. INSTALL NEW PAD–MOUNTED CABINET AND WIRE CABINET TO REFLECT PROPOSED PHASING PER THIS PLAN. SEE SHEET 4B FOR FIELD CABINET SUMMARY TABLE. FOLLOWING THE INSTALLATION, TESTING, AND INTEGRATION OF THE PROPOSED SIGNAL CABINET AND ITS CONTENTS, THE EXISTING SIGNAL CABINET AND ITS CONTENTS ARE TO BE REMOVED AND RETURNED TO THE CITY.
4. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE – GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A ⅝ INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A ⅝ INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
5. INSTALL ONE (1) NON–INSTRUSIVE FISHEYE VIDEO DETECTION UNIT WITH EXTENSION ARM ON EXISTING STEEL STRAIN POLE.
6. INSTALL SIGNAL HEAD BLACK BACKPLATE WITH YELLOW REFLECTIVE TAPE ON EXISTING SIGNAL HEADS.
7. INSTALL TWO (2) ACCESSIBLE PEDESTRIAN SIGNALS WITH AUDIBLE TONES, TWO (2) PEDESTRIAN PUSHBUTTONS WITH A VIBROTACTILE SURFACE, TWO (2) COUNTDOWN PEDESTRIAN SIGNAL HEADS, AND TWO (2) PEDESTRIAN GUIDANCE SIGNS A OR B ON PROPOSED PEDESTRIAN PEDESTALS 5 AND 6 FOR P3, P4, AND P6.
8. INSTALL TWO (2) COUNTDOWN PEDESTRIAN SIGNAL HEADS ON EXISTING SIGNAL POLE 3 FOR P2 AND P4.
9. INSTALL TWO (2) ACCESSIBLE PEDESTRIAN SIGNALS WITH AUDIBLE TONES, TWO (2) PEDESTRIAN PUSHBUTTONS WITH A VIBROTACTILE SURFACE, AND TWO (2) PEDESTRIAN GUIDANCE SIGNS A OR B ON PROPOSED PUSHBUTTON POST 7 FOR P2 AND P4. INSTALL ONE (1) ACCESSIBLE PEDESTRIAN SIGNAL WITH AUDIBLE TONES, ONE (1) PEDESTRIAN PUSHBUTTON WITH A VIBROTACTILE SURFACE, TWO (2) COUNTDOWN PEDESTRIAN SIGNAL HEADS, AND ONE (1) PEDESTRIAN GUIDANCE SIGN A OR B ON PROPOSED PEDESTRIAN PEDESTALS 8 FOR P2 AND P3.
10. INSTALL ONE (1) ACCESSIBLE PEDESTRIAN SIGNAL WITH AUDIBLE TONES, ONE (1) PEDESTRIAN PUSHBUTTON WITH A VIBROTACTILE SURFACE, AND ONE (1) PEDESTRIAN GUIDANCE SIGN A OR B ON PROPOSED PUSHBUTTON POST 9 FOR P3.
11. SEE SHEET 18B FOR PROPOSED CIVIL, SIGNING, AND PAVEMENT MARKING IMPROVEMENTS.
12. 3–SECTION FLASHING YELLOW ARROW SIGNAL HEAD TO BE USED ONLY AT LOCATIONS WHERE 16 FOOT 6 INCH VERTICAL CLEARANCE IS NOT POSSIBLE. OTHERWISE, CONTRACTOR TO INSTALL 4–SECTION FLASHING YELLOW ARROW SIGNAL HEAD.

SIGNAL HEADS

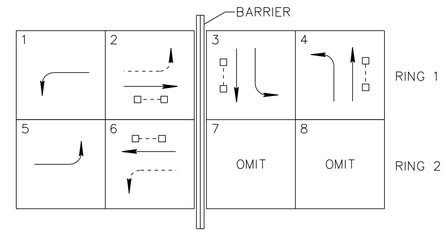


PROPOSED SIGNS





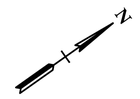
PROPOSED PHASING DIAGRAM



NEMA EIGHT PHASE DESIGNATIONS

PERMISSIVE MOVEMENT — PROTECTED MOVEMENT

PEDESTRIAN PHASE



0 20 40

SCALE IN FEET

Kimley»Horn
214 OCCANSIDE DRIVE
NASHVILLE, TENNESSEE
37204-2351
TEL 615 564 2701

TENNESSEE ONE CALL SYSTEM, INC. 1-800-351-1111 STOP - CALL BEFORE YOU DIG

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
CALDWELL DRIVE

CHRISTOPHER D. RHODES REGISTERED ENGINEER XVI AGRICULTURE COMMERCE 121-0179 STATE OF TENNESSEE

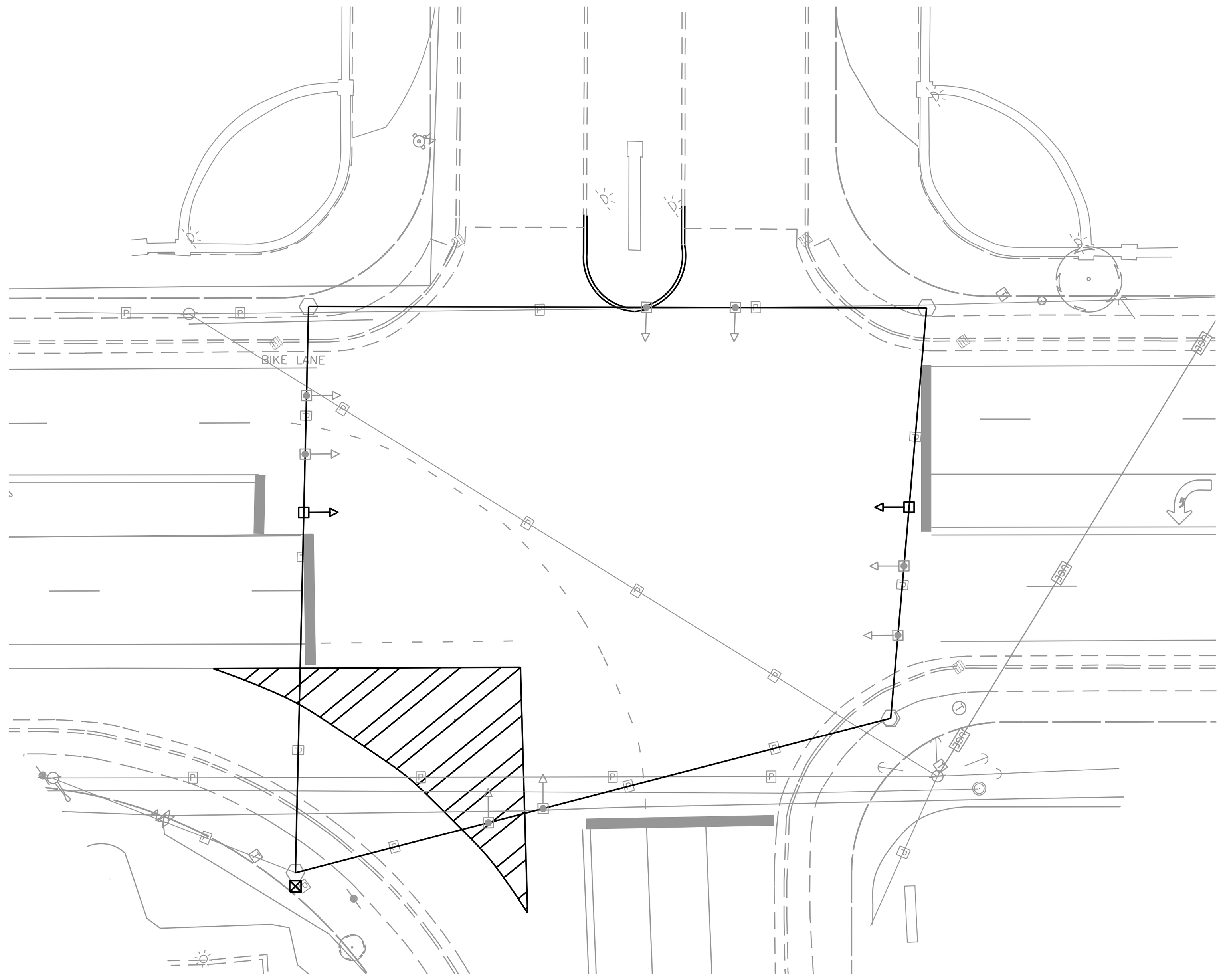
No.	REVISIONS	DATE	BY

DESIGNED BY:	TOH
DRAWN BY:	JTB
CHECKED BY:	CDR
DATE:	1/11/2019

KHA PROJECT NO.: 118035002

SHEET NUMBER 18

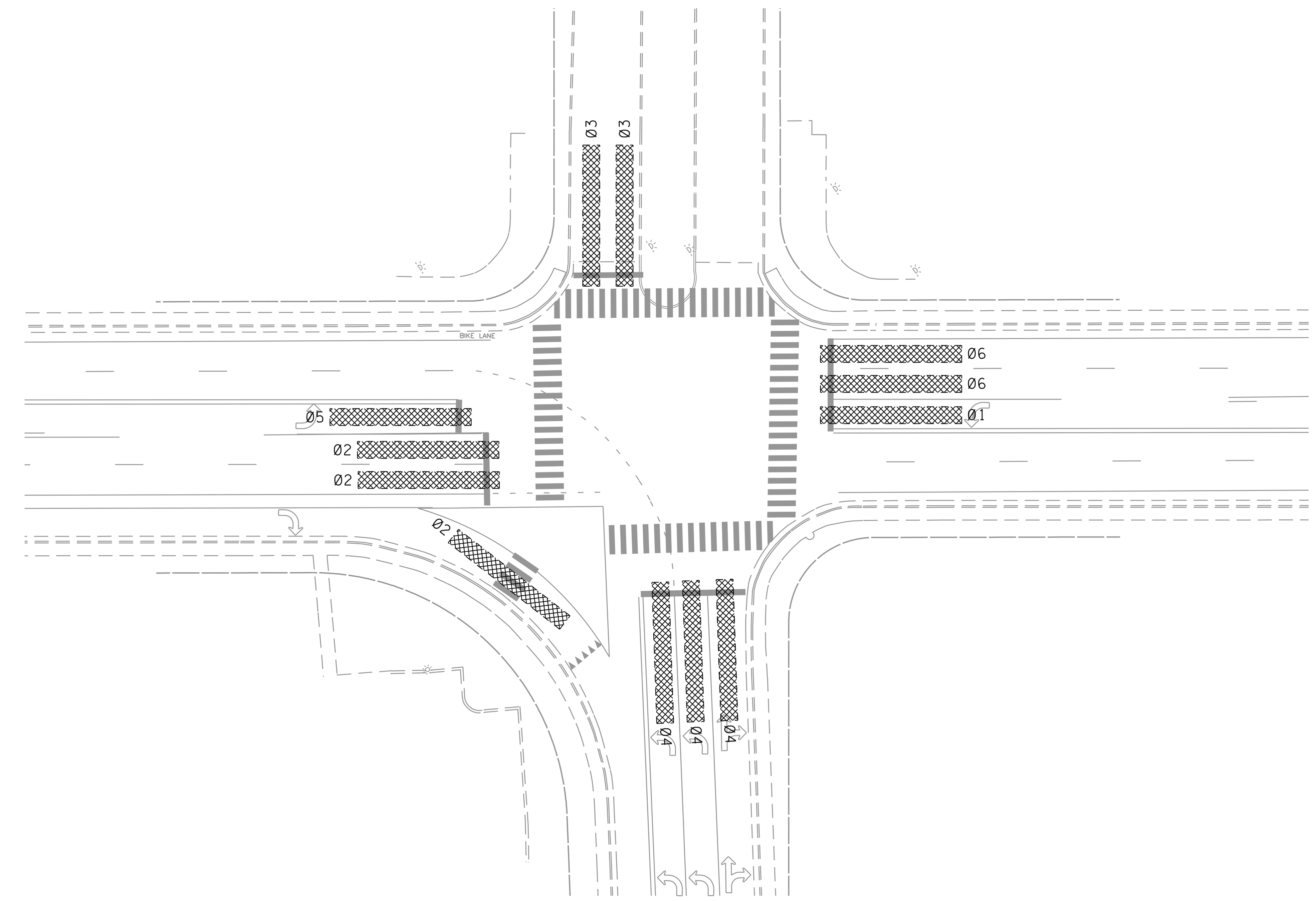
REMOVAL DIAGRAM
N.T.S.



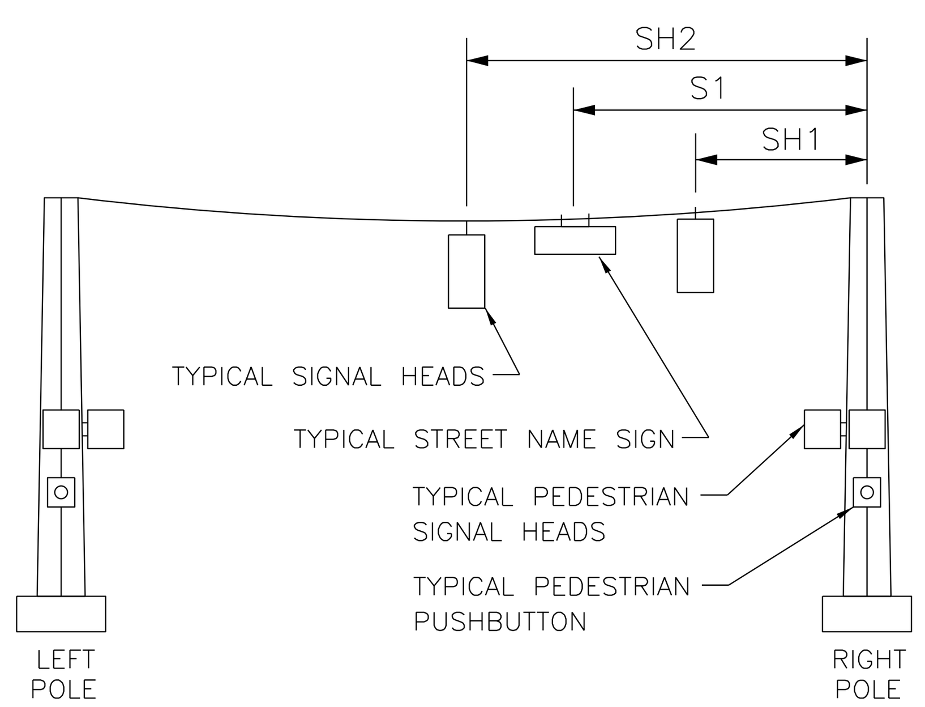
REMOVAL ITEMS (SHOWN IN BOLD)

1. CONTROL CABINET AND CONTENTS
2. CONDUCTOR CABLES
3. PAVEMENT STRIPING
4. RAISED MEDIAN
5. 5-SECTION SIGNAL HEADS ON LONG HOLLOW PIKE

DETECTION DIAGRAM
N.T.S.



SPAN WIRE DETAIL
N.T.S.



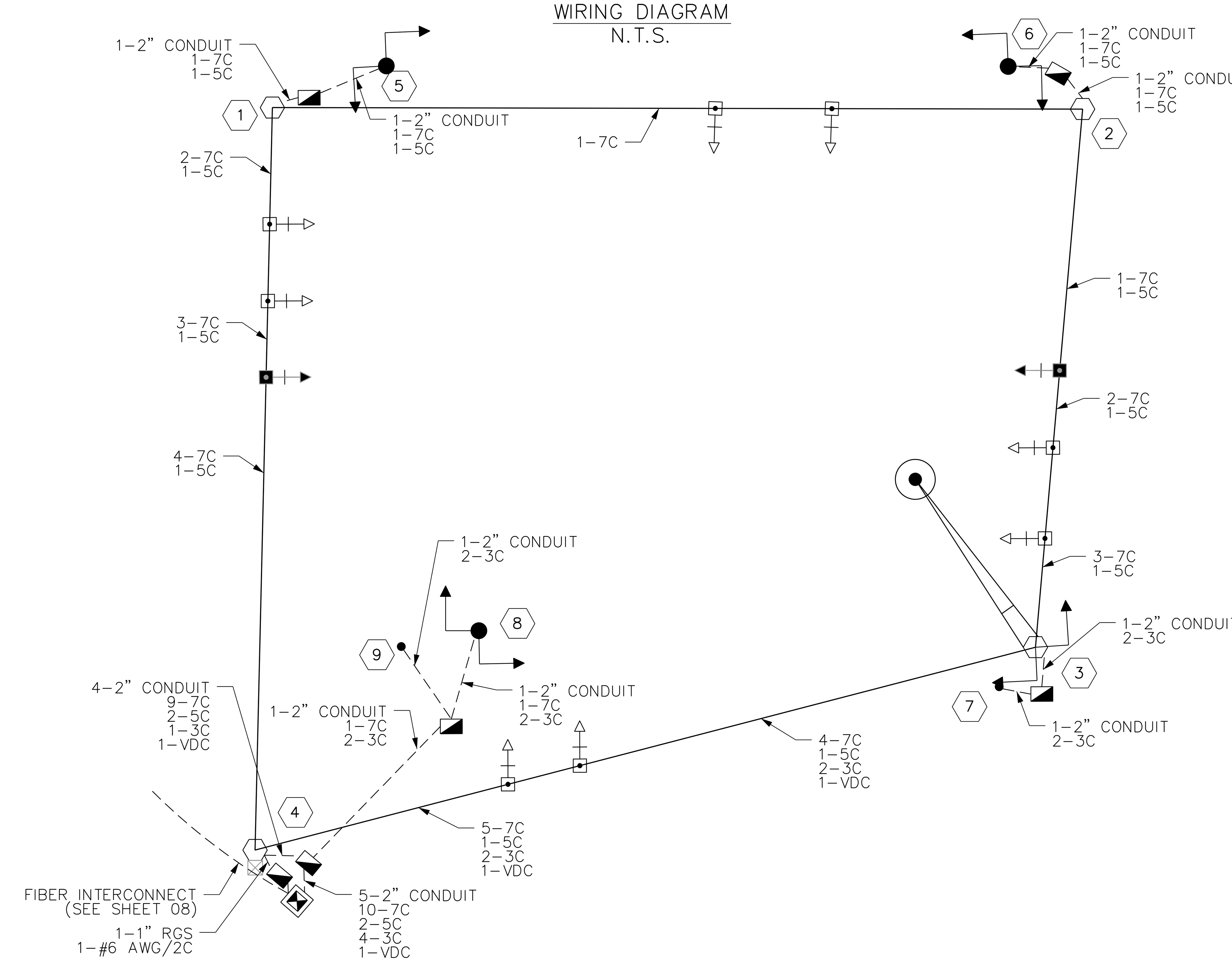
NOTE: ADDITIONAL SIGNS, S2, S3, ETC.
ADDITIONAL SIGNAL HEADS, SH3, SH4, ETC.
STOP BAR DETECTOR - SB DET1, SB DET2

POLE NO.	PED PHASE	POSITION OF PPB / SIGN
5	P3	
	P6	
6	P4	
	P6	
7	P2	
	P4	
8	P2	
9	P3	

SIGNAL SUPPORT POLE DATA

POLE NO.	POLE TYPE	HEIGHT	SPAN LENGTH	SPAN (LT TO RT)	S1	S2	SH1	SH2	SH3	LATITUDE	LONGITUDE
1	STEEL STRAIN	EXISTING	EXISTING	4 TO 1	EXISTING	34'-0"	EXISTING	EXISTING	40'-6"	EXISTING	EXISTING
2	STEEL STRAIN	EXISTING	EXISTING	1 TO 2	EXISTING	-	EXISTING	EXISTING	-	EXISTING	EXISTING
3	STEEL STRAIN	EXISTING	EXISTING	2 TO 3	EXISTING	47'-0"	EXISTING	EXISTING	42'-0"	EXISTING	EXISTING
4	STEEL STRAIN	EXISTING	EXISTING	3 TO 4	EXISTING	-	EXISTING	EXISTING	-	EXISTING	EXISTING
5	PEDESTAL	8'-0"	-		-	-	-	-	-	36.329485°	-86.697967°
6	PEDESTAL	8'-0"	-		-	-	-	-	-	36.329696°	-86.697785°
7	PPB POST	5'-0"	-		-	-	-	-	-	36.329546°	-86.697528°
8	PEDESTAL	8'-0"	-		-	-	-	-	-	36.329383°	-86.697703°
9	PPB POST	5'-0"	-		-	-	-	-	-	36.329353°	-86.697719°

WIRING DIAGRAM
N.T.S.



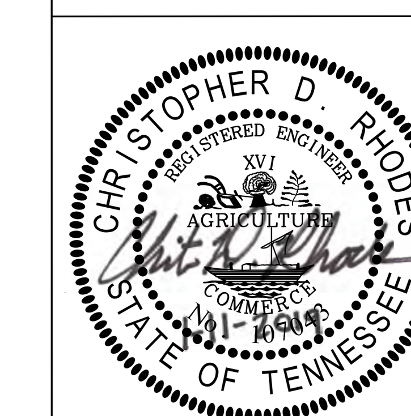
Kimley»Horn

214 OCEANSIDE DRIVE
NASHVILLE, TENNESSEE
37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
CALDWELL DRIVE



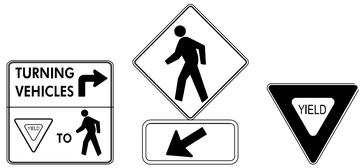
NO.	REVISIONS	DATE	BY

DESIGNED BY: TQH
DRAWN BY: JTB
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER
18A

2/7/2019 11:47:09 AM
K:\NSH_TPTO\118035002 - Goodlettsville CMAQ\07 - CAD\PlanSheets\118035002_18A_LHP_at_CaldwellDr.dgn

CONSTRUCTION NOTES

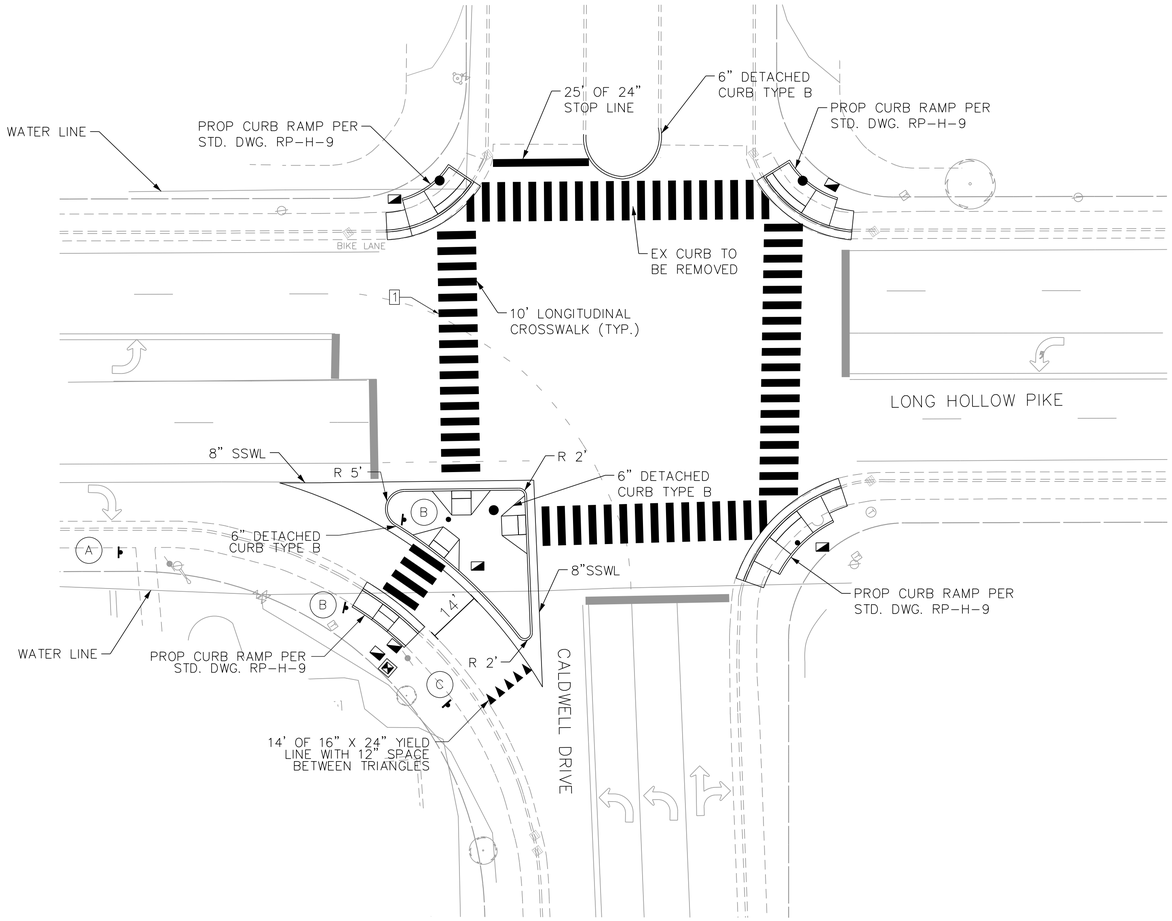
1 REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED DESIGN.

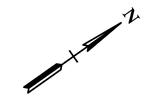


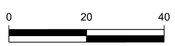
A
R10-15R
30"x30"

B
W11-2
30"x30"
W16-7P
24"x12"

C
R1-2
36"x36"x36"







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NASHVILLE, TENNESSEE
37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
CALDWELL DRIVE

No.	REVISIONS	DATE	BY

DESIGNED BY:	TOH
DRAWN BY:	JTB
CHECKED BY:	CDR
DATE:	1/11/2019

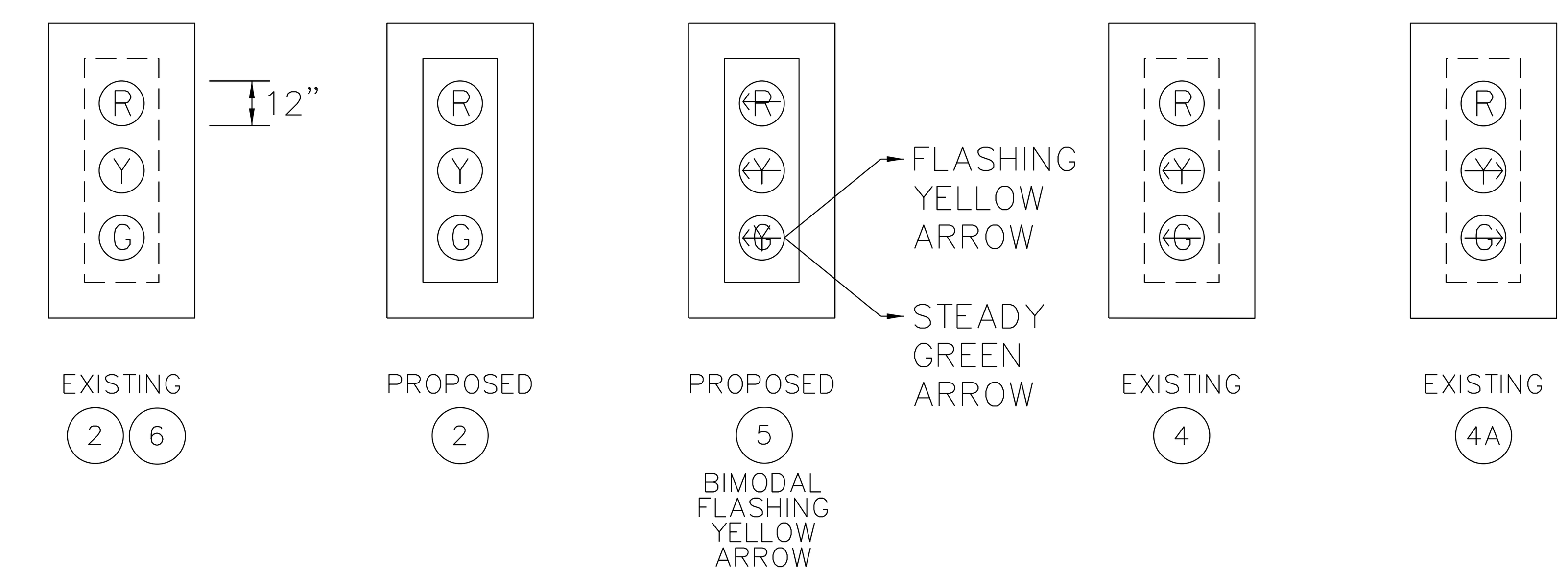
KHA PROJECT NO.:
118035002

SHEET NUMBER
18B

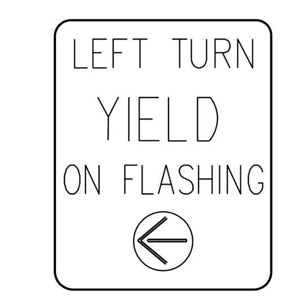
CONSTRUCTION NOTES

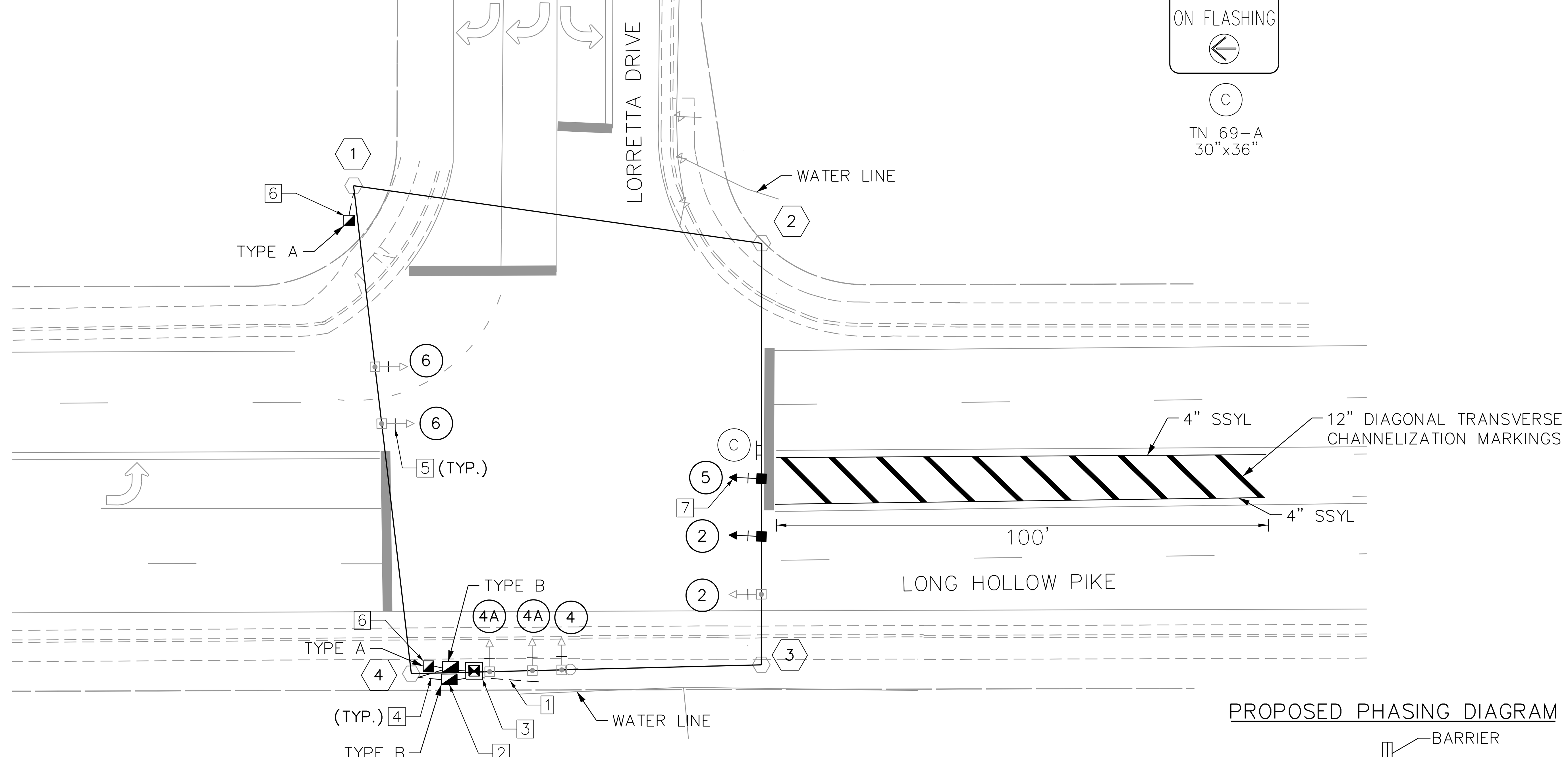
1. CONTRACTOR SHALL PROVIDE A 12 SMFO DROP CABLE WITH RISER ASSEMBLY AT THE BASE OF THE NEAREST NES POLE WHICH IS REFERENCED ON THE ITS IMPROVEMENTS LAYOUT SHEETS (SEE SHEET 07).
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL SERVICE PROVIDER TO TRANSITION ELECTRICAL SERVICE FROM EXISTING CABINET TO PROPOSED CABINET.
3. INSTALL NEW PAD-MOUNTED CABINET AND WIRE CABINET TO REFLECT PROPOSED PHASING PER THIS PLAN. SEE SHEET 4B FOR FIELD CABINET SUMMARY SHEET. FOLLOWING THE INSTALLATION, TESTING, AND INTEGRATION OF THE PROPOSED SIGNAL CABINET AND ITS CONTENTS, THE EXISTING SIGNAL CABINET AND ITS CONTENTS ARE TO BE REMOVED AND RETURNED TO THE CITY.
4. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE – GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A 5#8 INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A 5#8 INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
5. INSTALL SIGNAL HEAD BLACK BACKPLATE WITH YELLOW REFLECTIVE TAPE ON EXISTING SIGNAL HEADS.
6. INTERCEPT EXISTING LOOP WIRE IN PROPOSED PULL BOX. REUSE EXISTING LOOP LEADS. SHOULD THE LOOP LEADS NOT BE SUITABLE FOR REUSE, CONTRACTOR TO COORDINATE WITH THE ENGINEER FOR PROPOSED LOOP AND WIRING DESIGN.
7. 3-SECTION FLASHING YELLOW ARROW SIGNAL HEAD TO BE USED ONLY AT LOCATIONS WHERE 16 FOOT 6 INCH VERTICAL CLEARANCE IS NOT POSSIBLE. OTHERWISE, CONTRACTOR TO INSTALL 4-SECTION FLASHING YELLOW ARROW SIGNAL HEAD.

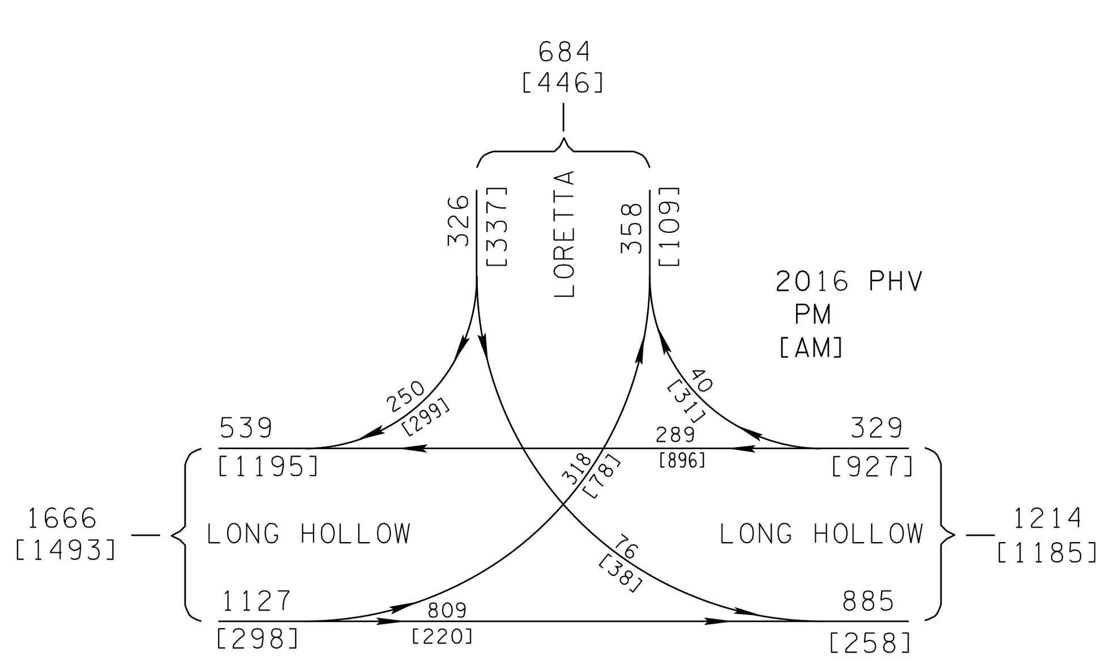
SIGNAL HEADS



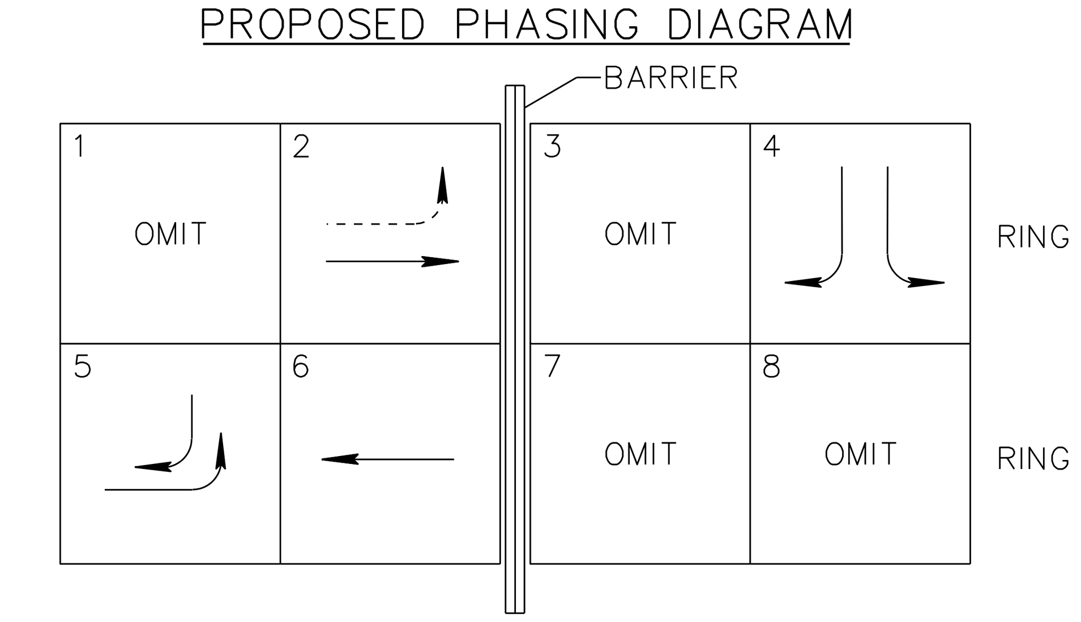
PROPOSED SIGNS







PROPOSED PHASING DIAGRAM



NEMA EIGHT PHASE DESIGNATIONS

PERMISSIVE MOVEMENT — PROTECTED MOVEMENT

0 20 40
SCALE IN FEET

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37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

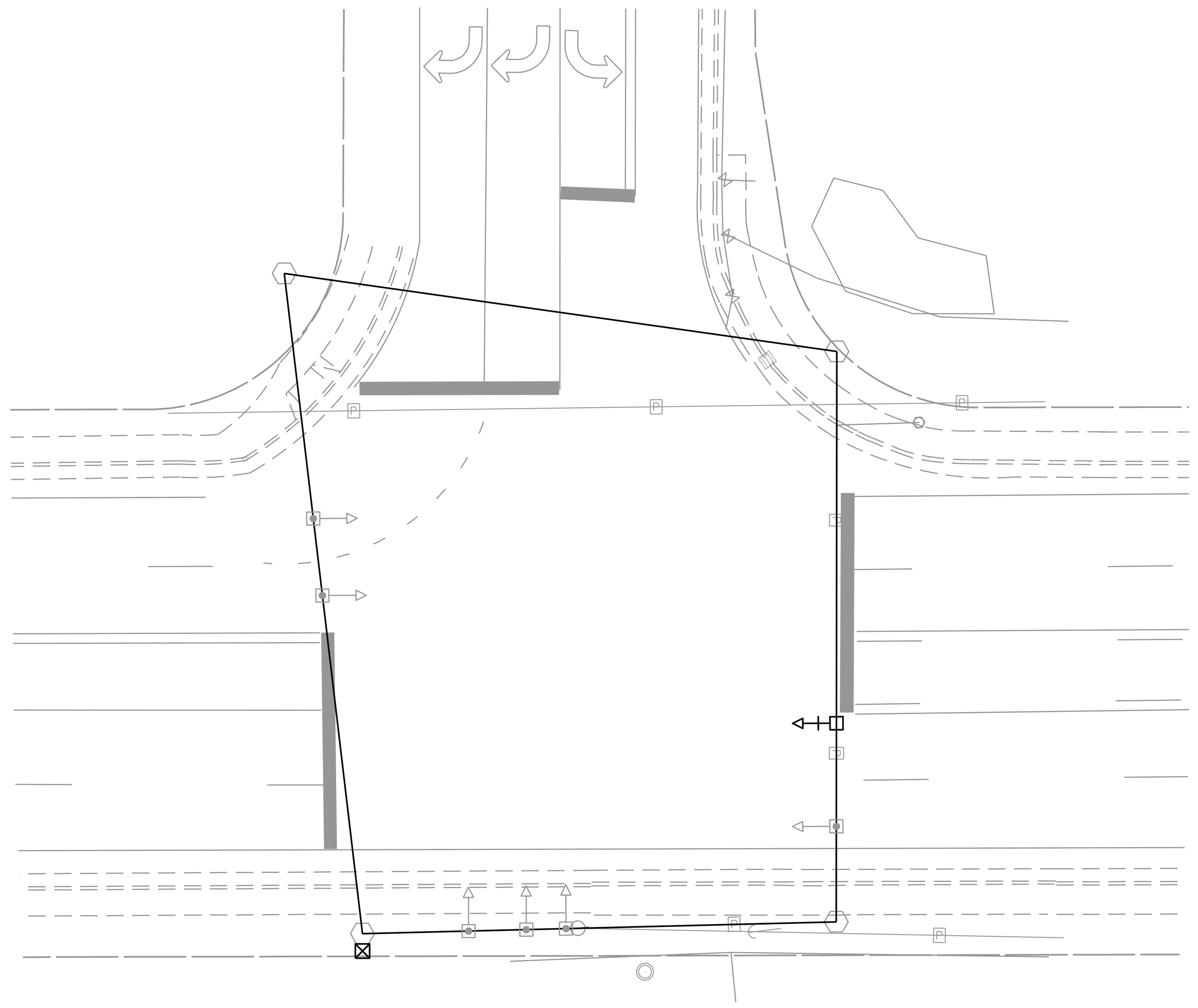
INTERSECTION IMPROVEMENTS
LONG HOLLOW PIKE
AT
LORRETTA DRIVE

CHRISTOPHER D. RHODES — STATE OF TENNESSEE — REGISTERED ENGINEER — AGRICULTURE — COMMERCE

No.	REVISIONS	DATE	BY

DESIGNED BY: TQH
DRAWN BY: JTB
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002

REMOVAL DIAGRAM
N.T.S.



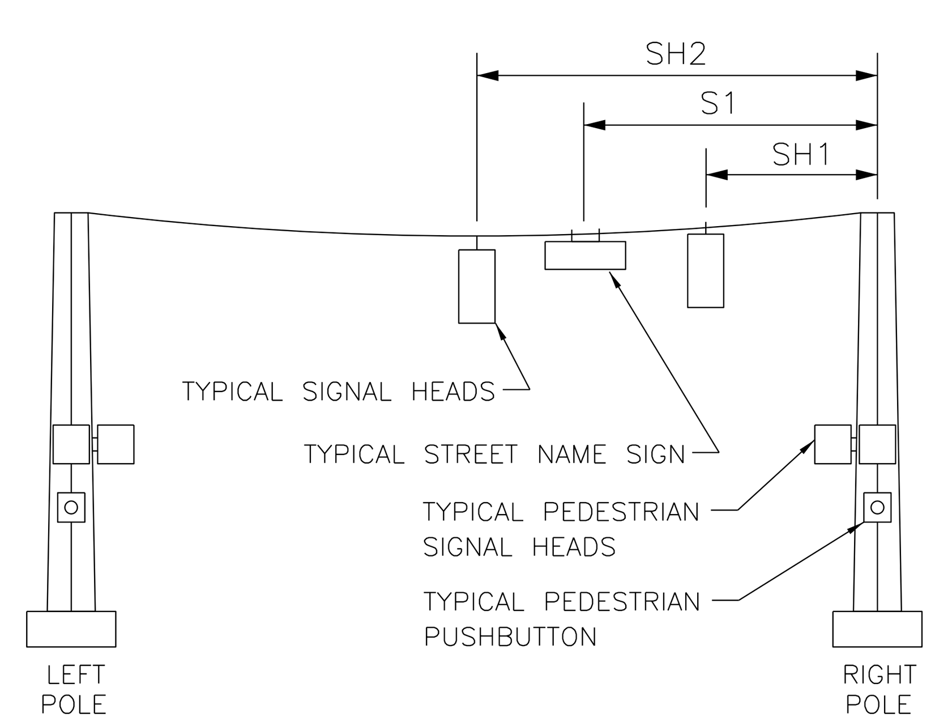
REMOVAL ITEMS (SHOWN IN BOLD)

1. CONTROL CABINET AND CONTENTS
2. CONDUCTOR CABLES
3. 5-SECTION SIGNAL HEAD

DETECTION DIAGRAM
N.T.S.

NO DETECTION UPGRADES PROPOSED

SPAN WIRE DETAIL
N.T.S.

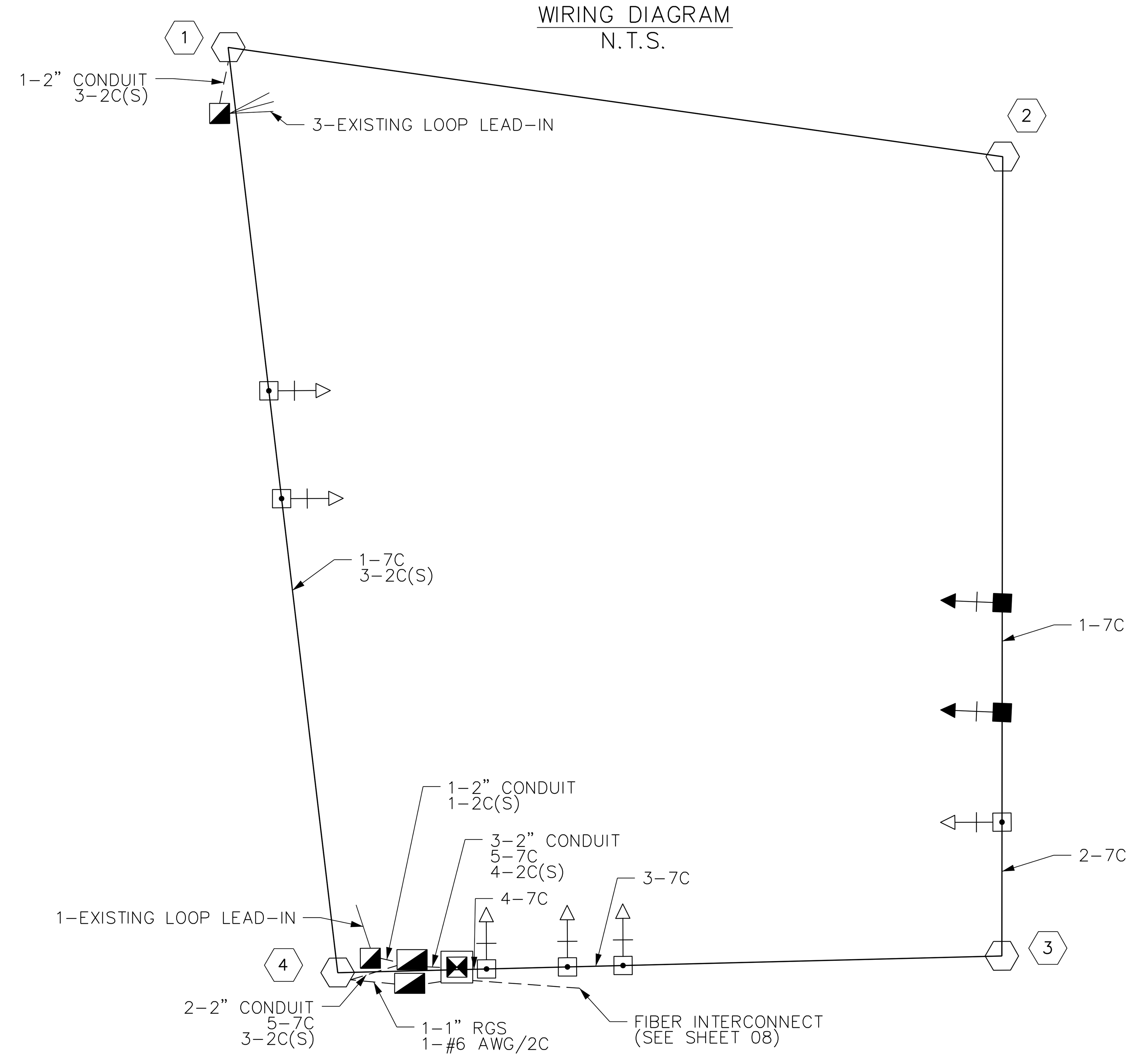


NOTE: ADDITIONAL SIGNS, S2, S3, ETC.
ADDITIONAL SIGNAL HEADS, SH3, SH4, ETC.
STOP BAR DETECTOR - SB DET1, SB DET2

SIGNAL SUPPORT POLE DATA

POLE NO.	POLE TYPE	HEIGHT	SPAN LENGTH	SPAN (LT TO RT)	S1	S2	SH1	SH2	SH3	A	B
1	STEEL STRAIN	EXISTING	N/A	4 TO 1	EXISTING	–	EXISTING	EXISTING	–	EXISTING	EXISTING
2	STEEL STRAIN	EXISTING	N/A	1 TO 2	–	–	–	–	–	EXISTING	EXISTING
3	STEEL STRAIN	EXISTING	N/A	2 TO 3	EXISTING	44'-6"	EXISTING	26'-8"	38'-8"	EXISTING	EXISTING
4	STEEL STRAIN	EXISTING	N/A	3 TO 4	EXISTING	–	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING

WIRING DIAGRAM
N.T.S.



Kimley»Horn
214 OCEANSIDE DRIVE
NASHVILLE, TENNESSEE
37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS

LONG HOLLOW PIKE AT LORRETTA DRIVE

CHRISTOPHER D. RHODES
STATE OF TENNESSEE

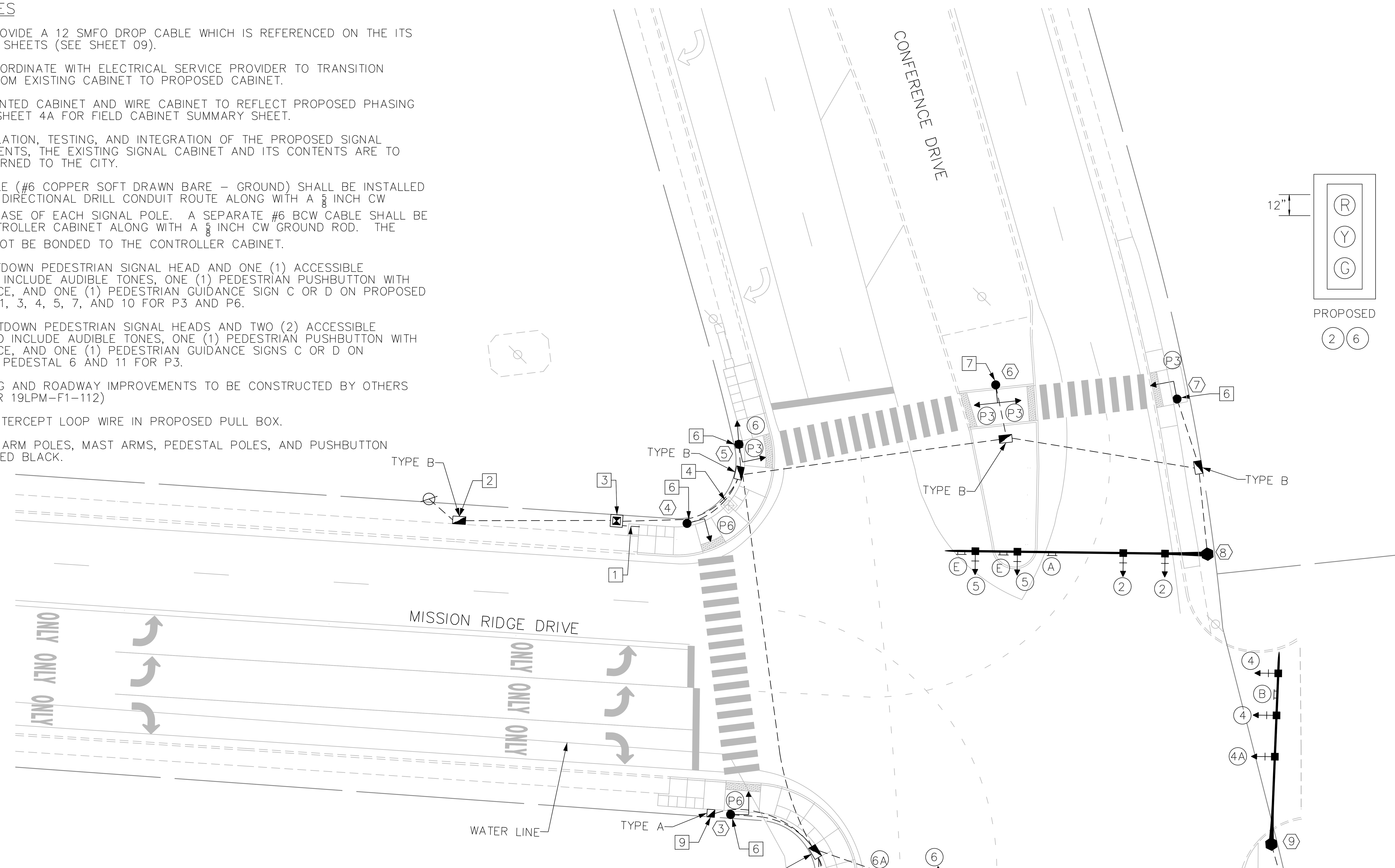
No.	REVISIONS	DATE	BY

DESIGNED BY: TQH
DRAWN BY: JTB
CHECKED BY: CDR
DATE: 1/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 19A

2/7/2019 11:47:12 AM
K:\NSH_TPTO\118035002 - Goodlettsville CMAQ\07 - CAD\PlanSheets\118035002_19A_LHP_at_LorrettaDr.dgn

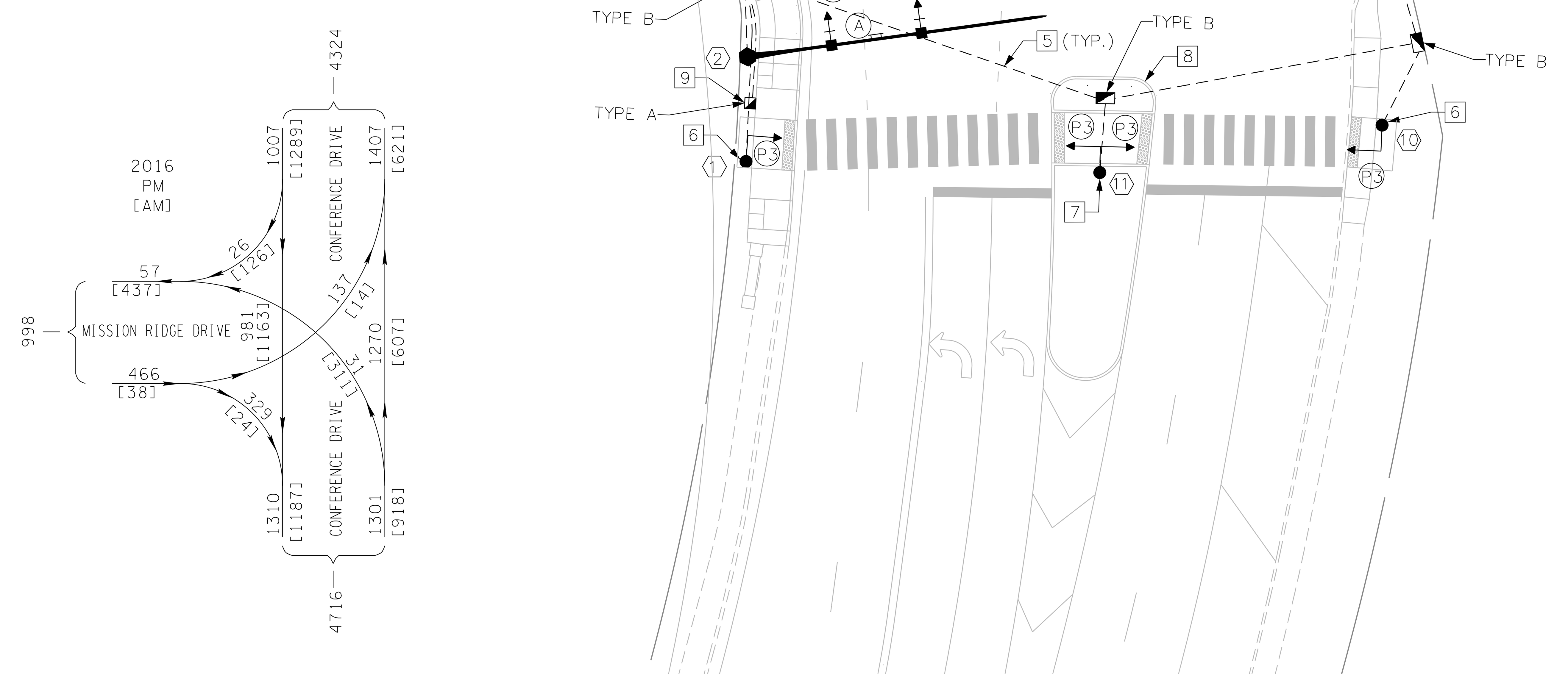
CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROVIDE A 12 SMFO DROP CABLE WHICH IS REFERENCED ON THE ITS IMPROVEMENTS LAYOUT SHEETS (SEE SHEET 09).
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL SERVICE PROVIDER TO TRANSITION ELECTRICAL SERVICE FROM EXISTING CABINET TO PROPOSED CABINET.
3. INSTALL NEW PAD-MOUNTED CABINET AND WIRE CABINET TO REFLECT PROPOSED PHASING PER THIS PLAN. SEE SHEET 4A FOR FIELD CABINET SUMMARY SHEET.
4. FOLLOWING THE INSTALLATION, TESTING, AND INTEGRATION OF THE PROPOSED SIGNAL CABINET AND ITS CONTENTS, THE EXISTING SIGNAL CABINET AND ITS CONTENTS ARE TO BE REMOVED AND RETURNED TO THE CITY.
5. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE - GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A 5/8 INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A 5/8 INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
6. INSTALL ONE (1) COUNTDOWN PEDESTRIAN SIGNAL HEAD AND ONE (1) ACCESSIBLE PEDESTRIAN SIGNAL TO INCLUDE AUDIBLE TONES, ONE (1) PEDESTRIAN PUSHBUTTON WITH A VIBROTACTILE SURFACE, AND ONE (1) PEDESTRIAN GUIDANCE SIGN C OR D ON PROPOSED PEDESTRIAN PEDESTAL 1, 3, 4, 5, 7, AND 10 FOR P3 AND P6.
7. INSTALL TWO (2) COUNTDOWN PEDESTRIAN SIGNAL HEADS AND TWO (2) ACCESSIBLE PEDESTRIAN SIGNALS TO INCLUDE AUDIBLE TONES, ONE (1) PEDESTRIAN PUSHBUTTON WITH A VIBROTACTILE SURFACE, AND ONE (1) PEDESTRIAN GUIDANCE SIGNS C OR D ON PROPOSED PEDESTRIAN PEDESTAL 6 AND 11 FOR P3.
8. ALL PROPOSED STRIPING AND ROADWAY IMPROVEMENTS TO BE CONSTRUCTED BY OTHERS (TDOT PROJECT NUMBER 19LPM-F1-112)
9. LOOP LEAD-INS WILL INTERCEPT LOOP WIRE IN PROPOSED PULL BOX.
10. SIGNAL CABINET, MAST ARM POLES, MAST ARMS, PEDESTAL POLES, AND PUSHBUTTON POSTS SHALL BE PAINTED BLACK.

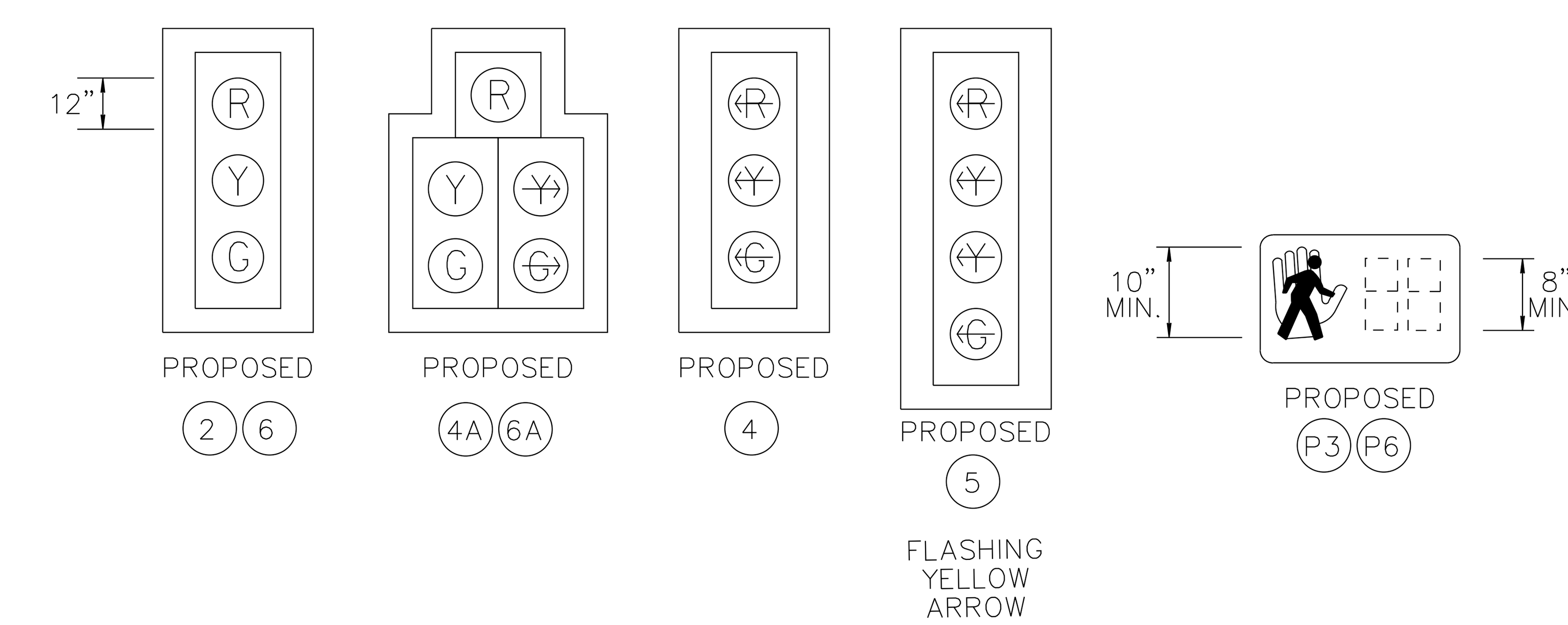


CONSTRUCTION NOTES

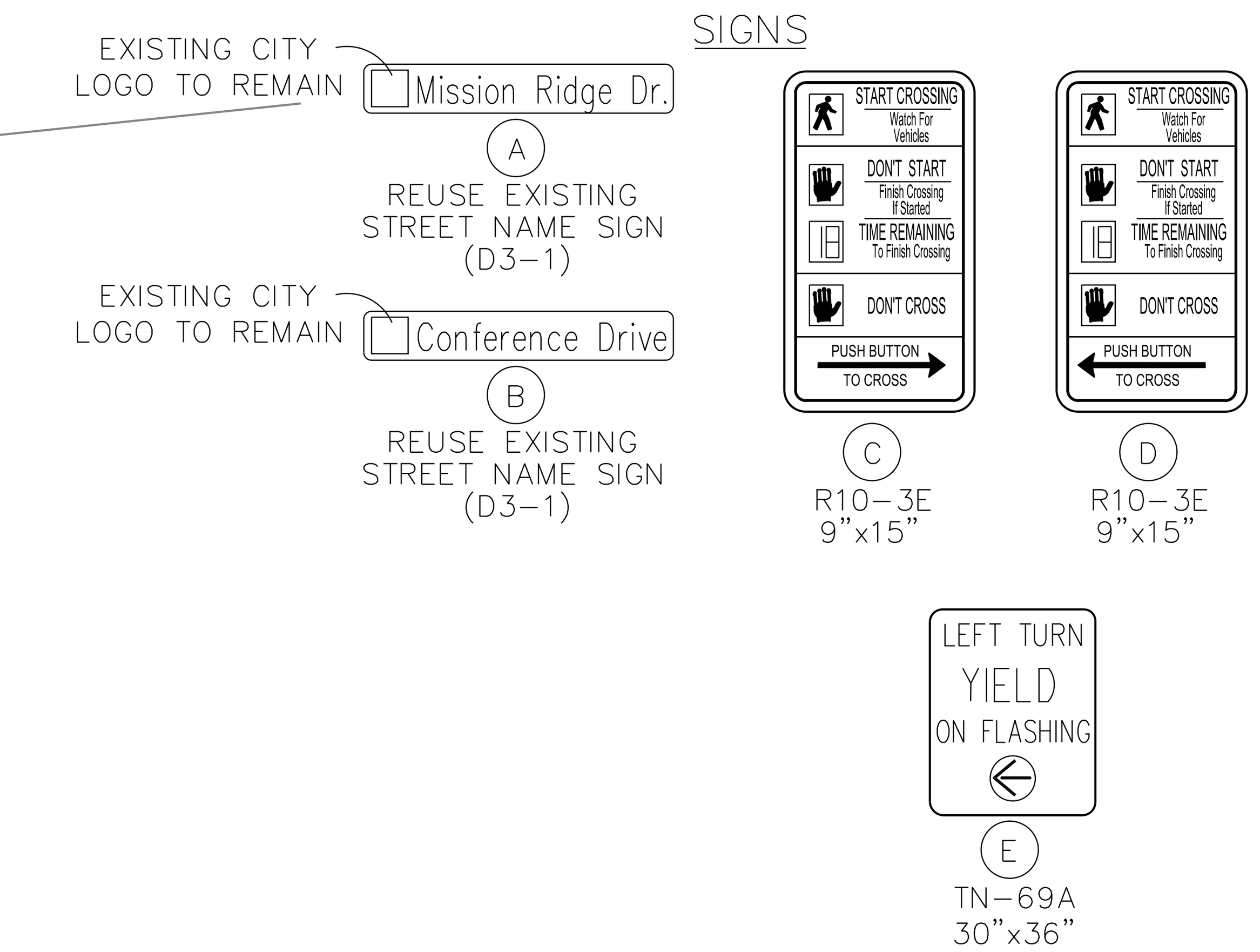
ALL PROPOSED STRIPING AND ROADWAY IMPROVEMENTS TO BE CONSTRUCTED BY OTHERS (TDOT PROJECT NUMBER 19LPM-F1-112)



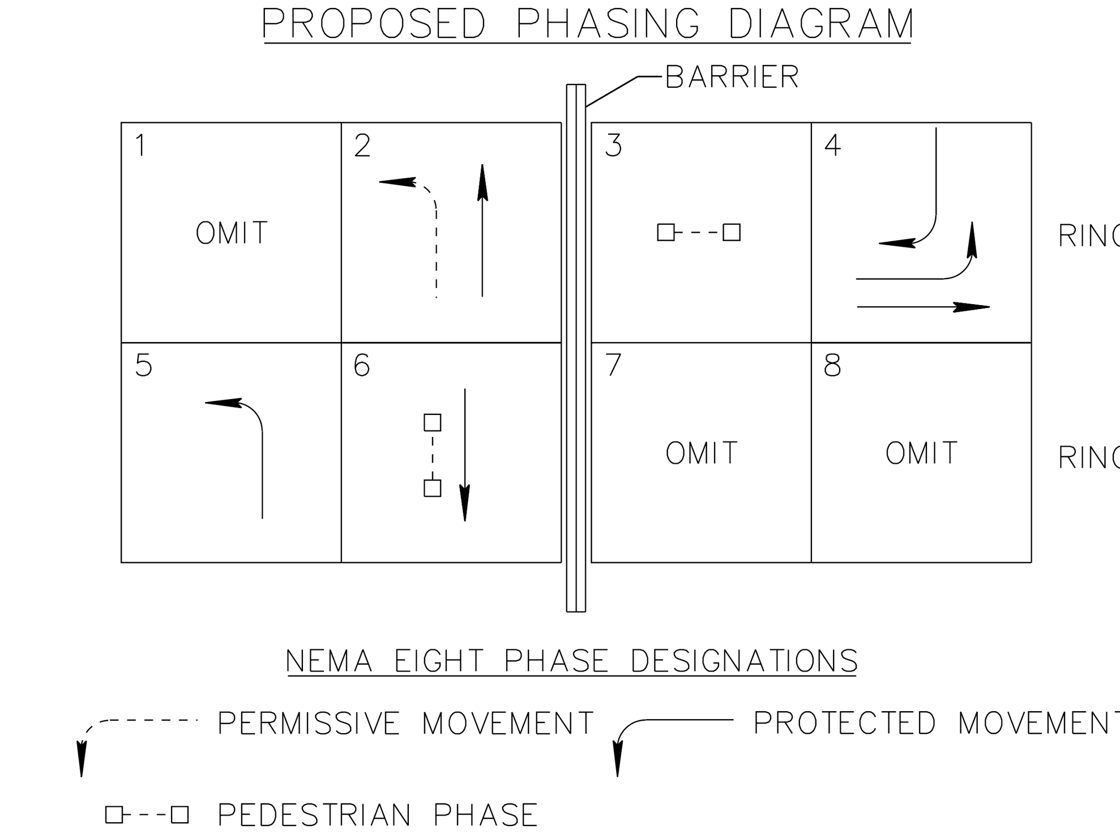
SIGNAL HEADS



SIGNS



PROPOSED PHASING DIAGRAM



0 20 40
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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS

CONFERENCE DRIVE AT MISSION RIDGE DRIVE

BRANDON S. BAXTER REGISTERED ENGINEER AGRICULTURE COMMERCE No. 111639 STATE OF TENNESSEE

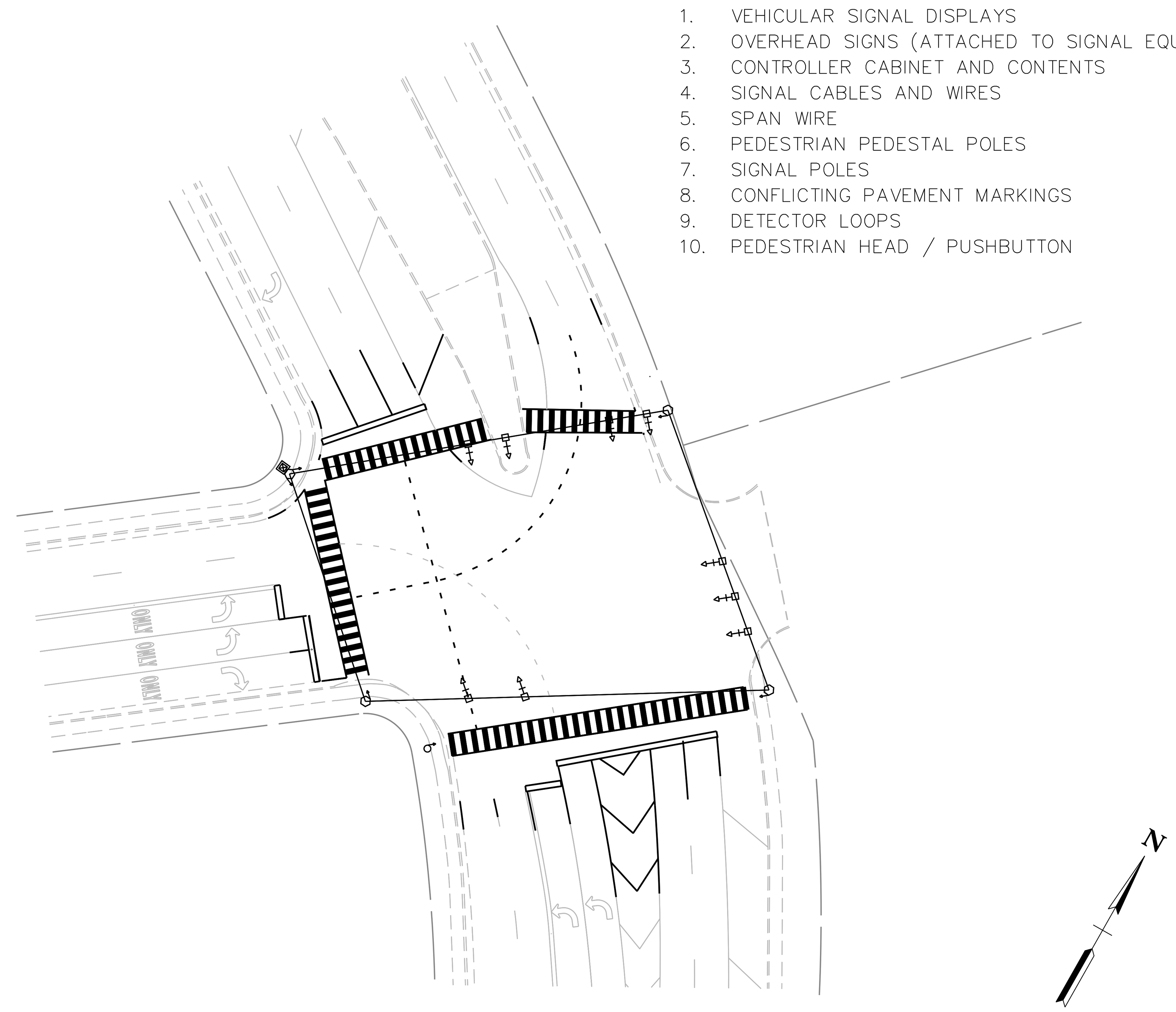
No.	REVISIONS	DATE	BY

DESIGNED BY: TRG
DRAWN BY: TRG
CHECKED BY: BSB
DATE: 01/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 20

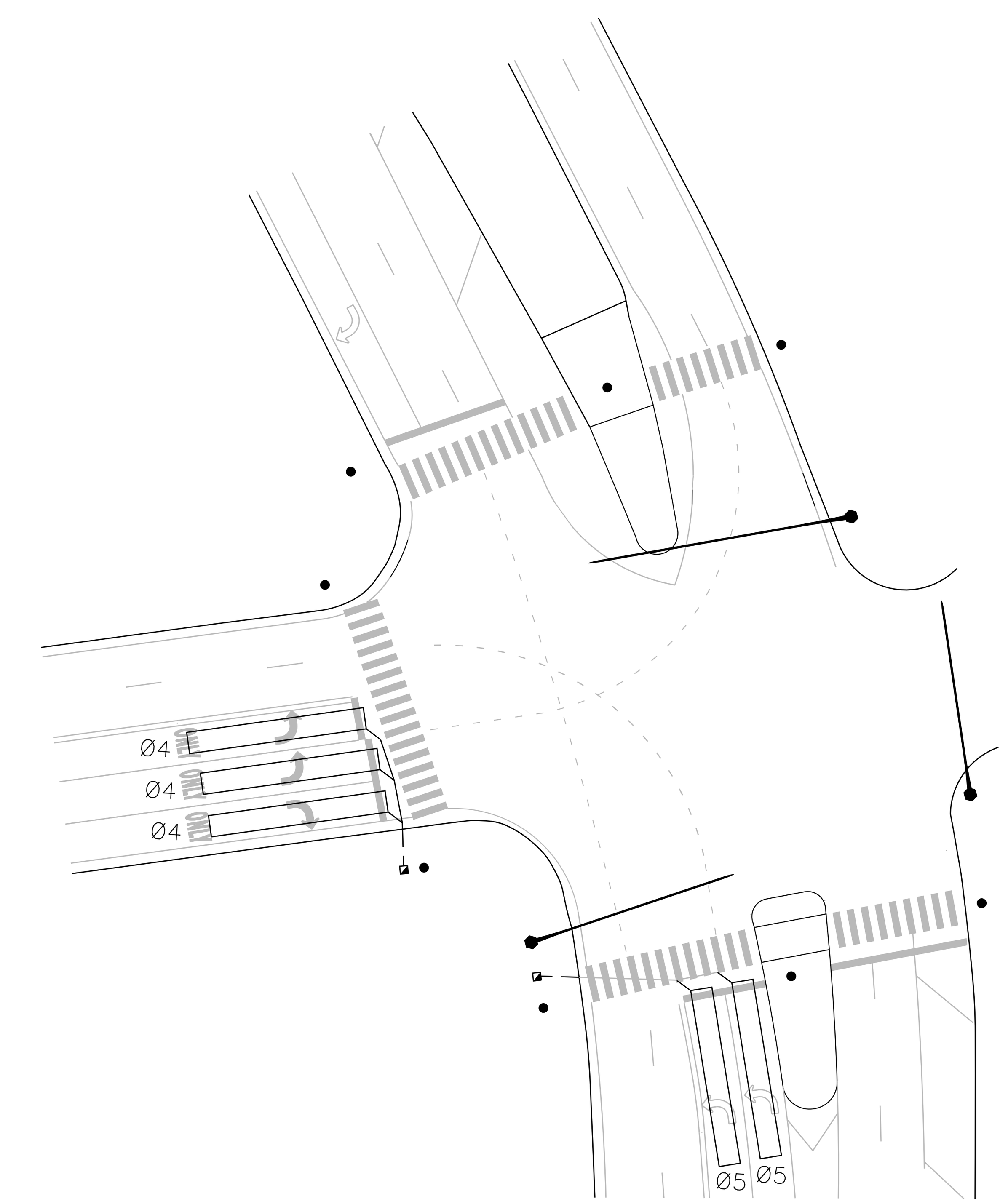
1/11/2019 11:03:26 AM
G:\6108-0647\1-Transportation\Sheets\20_Conference@MissionRidge_Signal.sht

REMOVAL DIAGRAM
N.T.S.

REMOVAL ITEMS (SHOWN IN BOLD)
1. VEHICULAR SIGNAL DISPLAYS
2. OVERHEAD SIGNS (ATTACHED TO SIGNAL EQUIP.)
3. CONTROLLER CABINET AND CONTENTS
4. SIGNAL CABLES AND WIRES
5. SPAN WIRE
6. PEDESTRIAN PEDESTAL POLES
7. SIGNAL POLES
8. CONFLICTING PAVEMENT MARKINGS
9. DETECTOR LOOPS
10. PEDESTRIAN HEAD / PUSHBUTTON



DETECTION DIAGRAM
N.T.S.



TENNESSEE ONE CALL SYSTEM, INC.
1-800-351-1111
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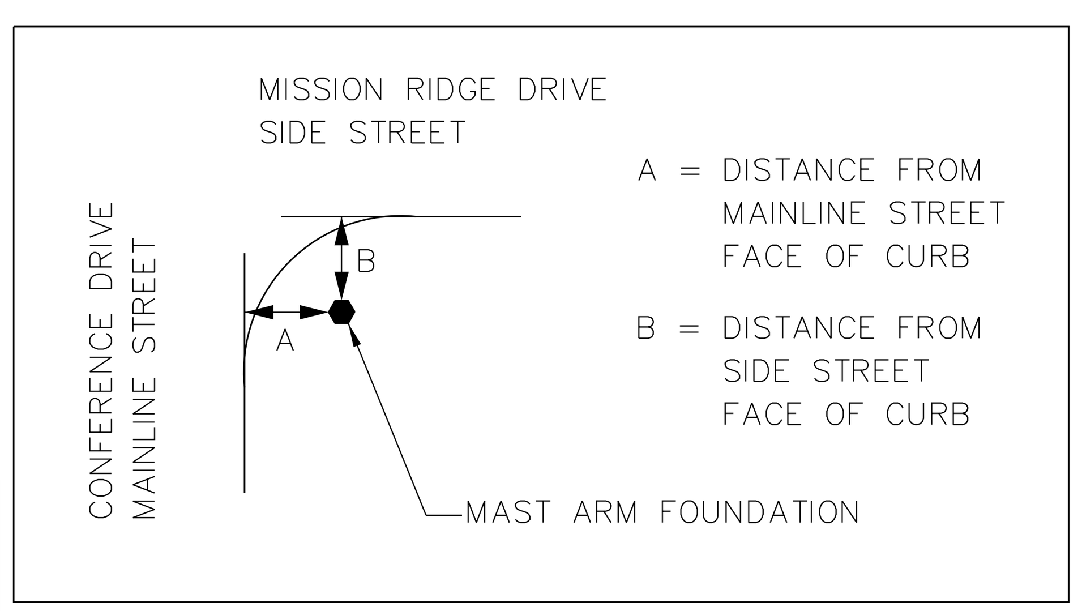
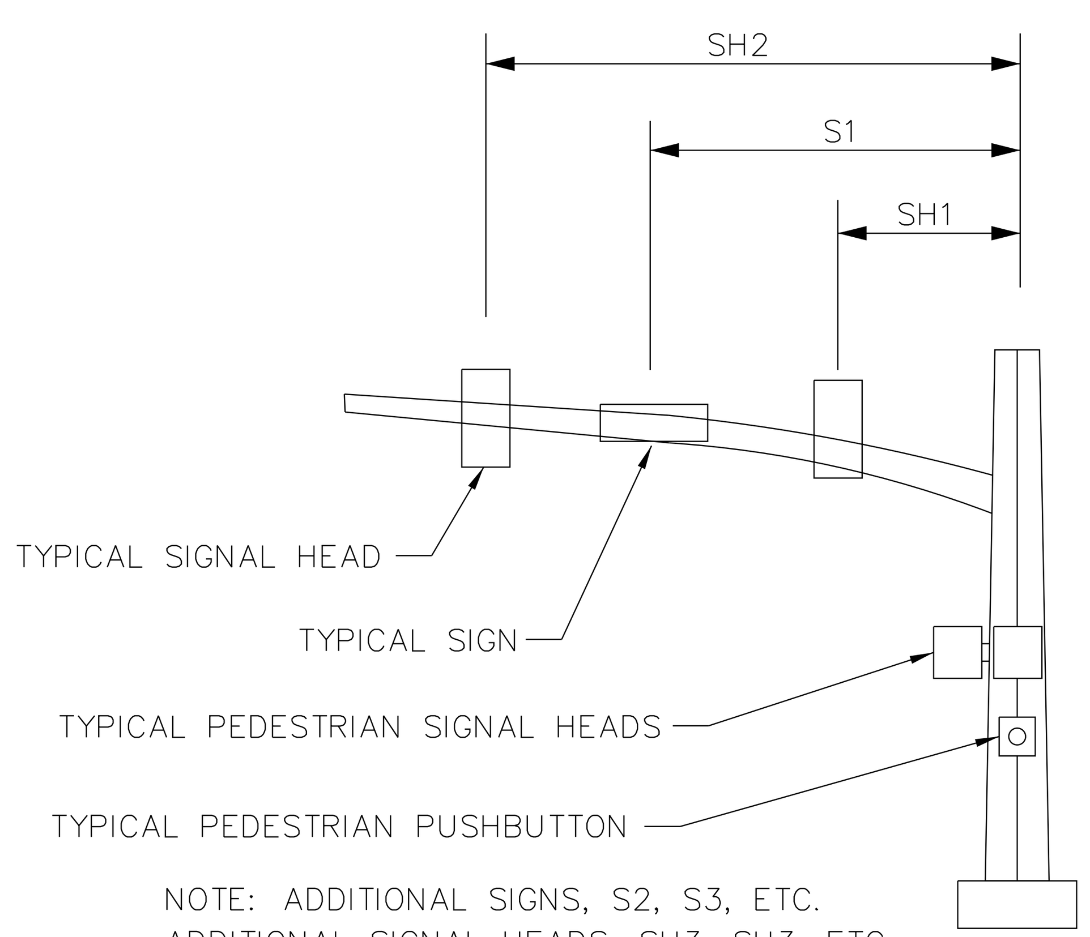
MAST ARM DETAILS
N.T.S.





NOTE: ADDITIONAL SIGNS, S2, S3, ETC.
ADDITIONAL SIGNAL HEADS, SH3, SH3, ETC.

POLE NO.	PED PHASE	POSITION OF PPB/SIGN
1	P3	
3	P6	
4	P6	
5	P3	
6	P3	
7	P3	
10	P3	
11	P3	

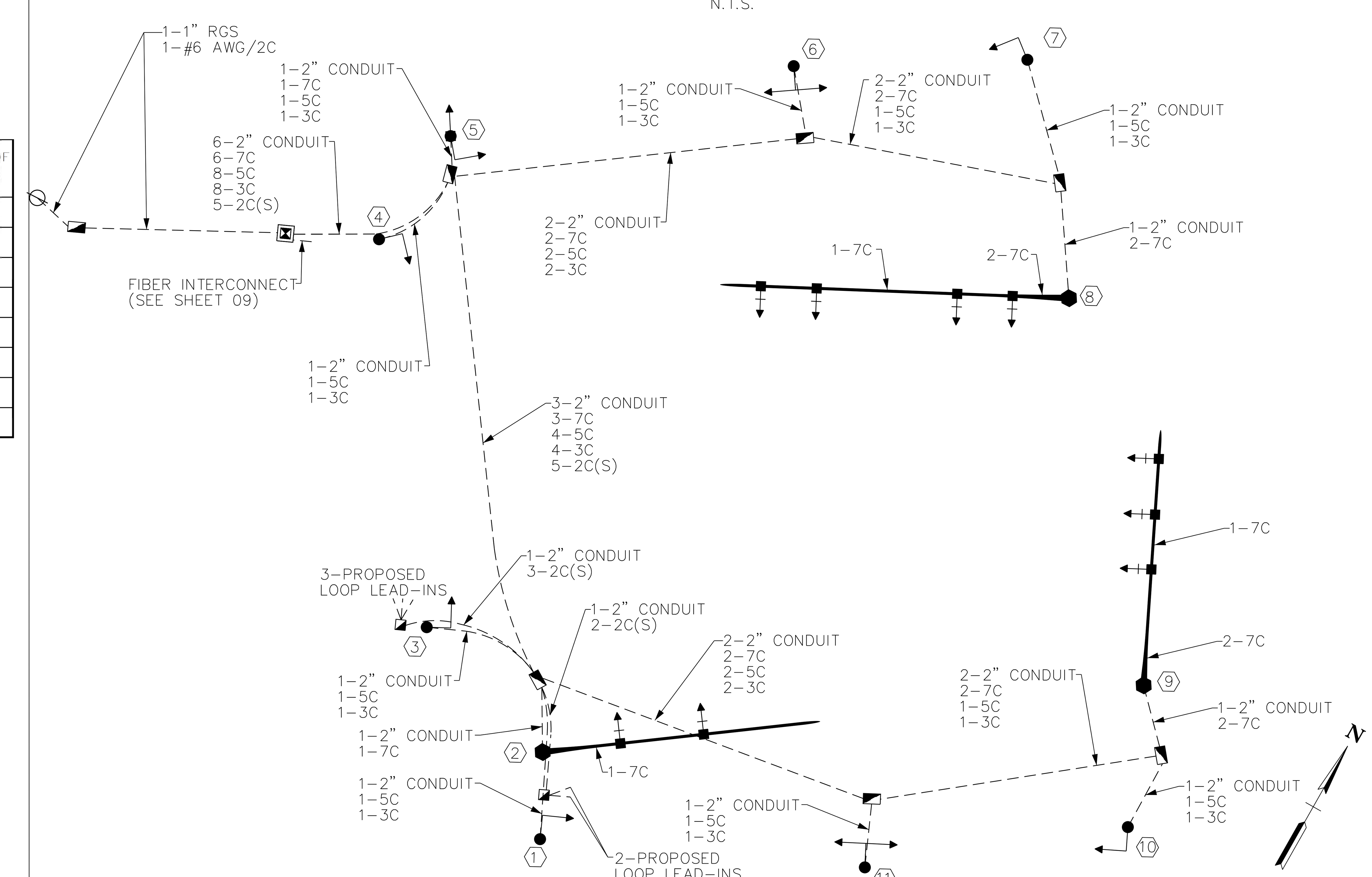
SIGNAL SUPPORT POLE DATA AND MAST ARM DETAILS

POLE NO.	A	B	NORTHING	EASTING	POLE TYPE	HEIGHT	MAST ARM LENGTH	S1	S2	S3	SH1	SH2	SH3	SH4
1	9'-3"	52'-0"	720507.9731	1763248.7210	PEDESTAL	8'-0"	N/A	–	–	–	–	–	–	–
2	10'-3"	33'-4"	720522.8682	1763234.2557	STEEL POLE	20'-0"	60'-0"	25'-10"	–	–	16'-10"	34'-10"	–	–
3	37'-2"	9'-1"	720523.287	1763197.6507	PEDESTAL	8'-0"	N/A	–	–	–	–	–	–	–
4	29'-6"	9'-3"	720573.2573	1763130.0993	PEDESTAL	8'-0"	N/A	–	–	–	–	–	–	–
5	8'-11"	40'-1"	720599.6817	1763124.6008	PEDESTAL	10'-0"	N/A	–	–	–	–	–	–	–
6*	66'-0"	55'-9"	720663.506	1763164.4169	PEDESTAL	8'-0"	N/A	–	–	–	–	–	–	–
7	5'-11"	79'-6"	720697.2303	1763203.8560	PEDESTAL	8'-0"	N/A	–	–	–	–	–	–	–
8	7'-6"	28'-1"	720672.0535	1763241.2996	STEEL POLE	20'-0"	75'-0"	44'-4"	58'-3"	70'-3"	12'-1"	24'-0"	54'-3"	66'-3"
9	8'-0"	7'-10"	720626.4057	1763312.7195	STEEL POLE	20'-0"	55'-0"	42'-9"	–	–	25'-C"	36'-9"	48'-9"	–
10	6'-4"	38'-6"	720602.2727	1763332.8161	PEDESTAL	8'-0"	N/A	–	–	–	–	–	–	–
11**	60'-10"	51'-4"	720556.0287	1763299.8931	PEDESTAL	8'-0"	N/A	–	–	–	–	–	–	–

*POLE 6 DISTANCE WAS MEASURED USING THE CURB FACES FROM THE NORTHWEST CORNER OF THE INTERSECTION.

**POLE 11 DISTANCE WAS MEASURED USING THE CURB FACES FROM THE SOUTHWEST CORNER OF THE INTERSECTION.

WIRING DIAGRAM
N.T.S.



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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
CONFERENCE DRIVE
AT
MISSION RIDGE DRIVE

BRANDON S. BAXTER
REGISTERED ENGINEER
No. 111639
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY: TRG
DRAWN BY: TRG
CHECKED BY: BSB
DATE: 01/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER
20A

1/11/2019 11:03:27 AM
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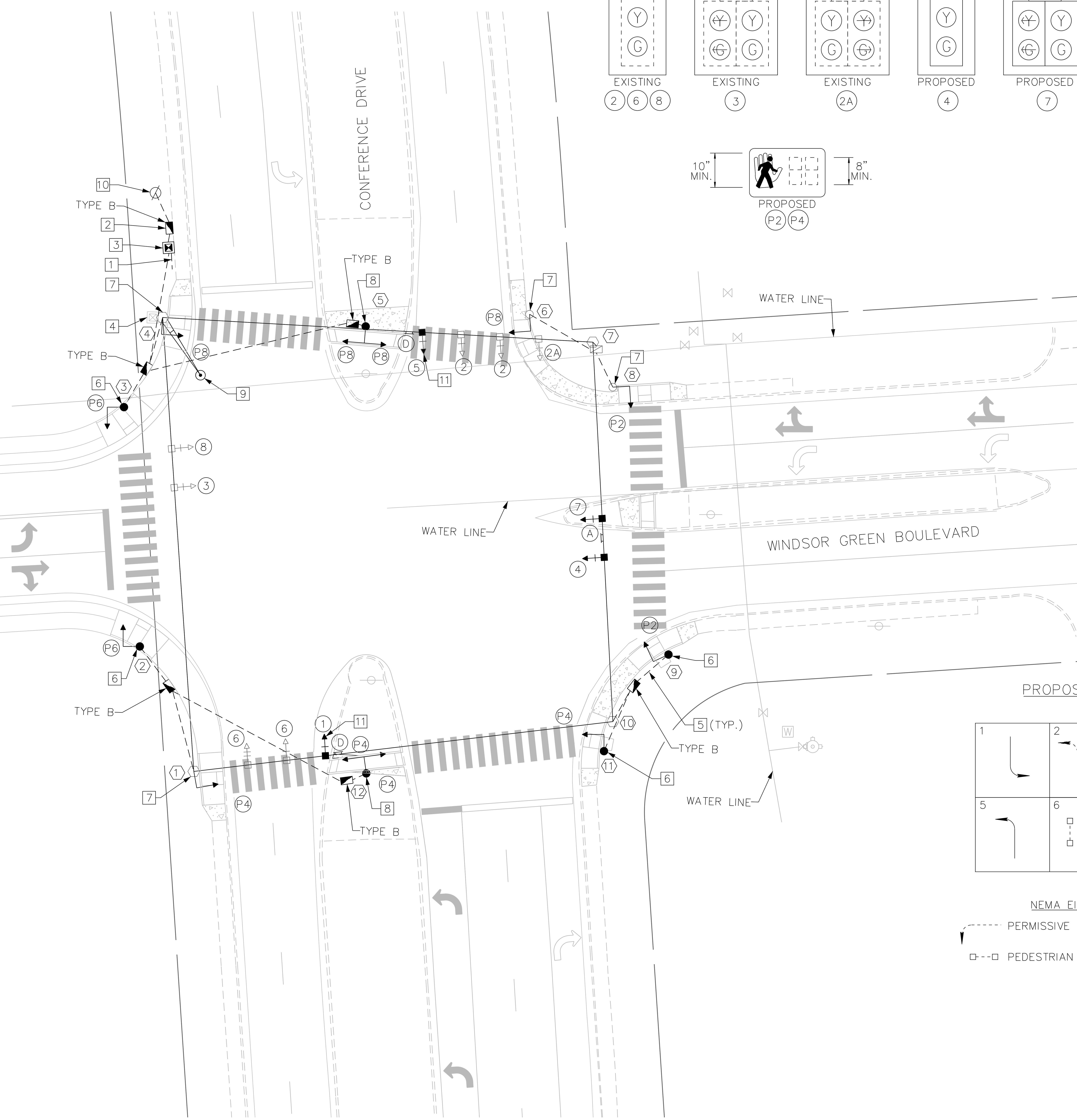
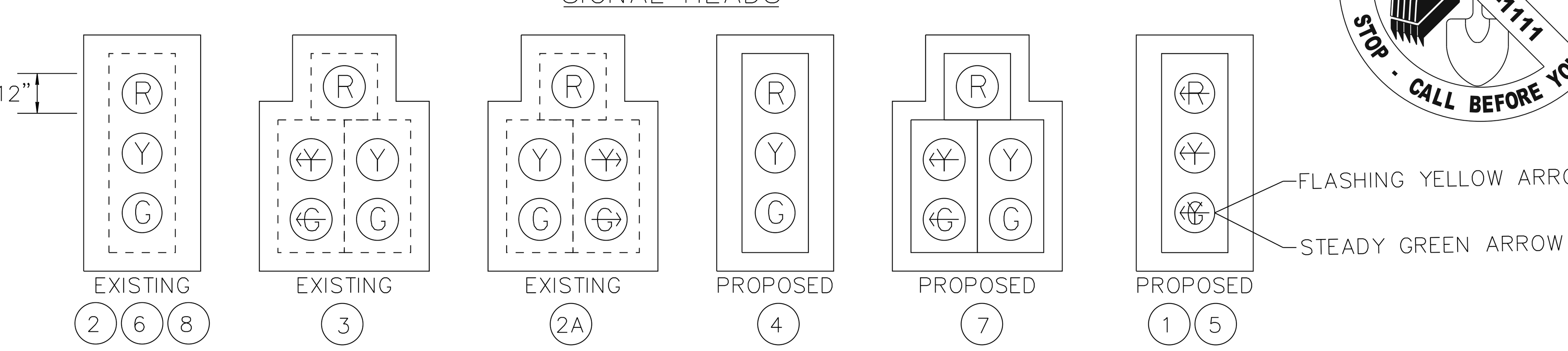
CONSTRUCTION NOTES

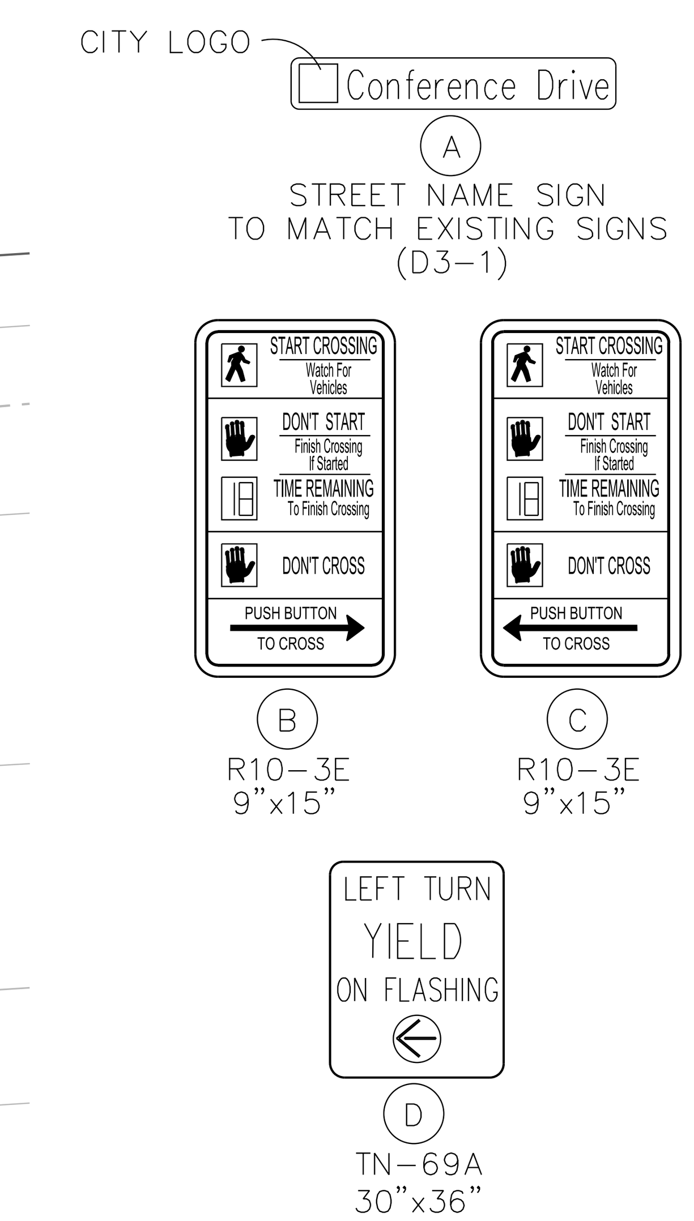
1. CONTRACTOR SHALL PROVIDE A 12 SMFO DROP CABLE WHICH IS REFERENCED ON THE IMPROVEMENTS LAYOUT SHEETS (SEE SHEET 09).
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL SERVICE PROVIDER TO TRANSITION ELECTRICAL SERVICE FROM EXISTING CABINET TO PROPOSED CABINET. EXISTING ELECTRICAL SERVICE IS PROVIDED FROM A WOODEN POLE THAT WILL BE RELOCATED AS PART OF THE FUTURE DEVELOPMENT. THE CONTRACTOR SHALL COORDINATE WITH THE DEVELOPER FOR ELECTRICAL SERVICE RELOCATION.
3. INSTALL NEW PAD-MOUNTED CABINET AND WIRE CABINET TO REFLECT PROPOSED PHASING PER THIS PLAN. SEE SHEET 4A FOR FIELD CABINET SUMMARY SHEET.
4. FOLLOWING THE INSTALLATION, TESTING, AND INTEGRATION OF THE PROPOSED SIGNAL CABINET AND ITS CONTENTS, THE EXISTING SIGNAL CABINET AND ITS CONTENTS ARE TO BE REMOVED AND RETURNED TO THE CITY.
5. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE – GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A 5/8 INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A 5/8 INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
6. INSTALL ONE (1) COUNTDOWN PEDESTRIAN SIGNAL HEAD AND ONE (1) ACCESSIBLE PEDESTRIAN SIGNAL TO INCLUDE AUDIBLE TONES, ONE (1) PEDESTRIAN PUSHBUTTON WITH A VIBROTACTILE SURFACE, AND ONE (1) PEDESTRIAN GUIDANCE SIGN B OR C ON PROPOSED PEDESTRIAN PEDESTAL 2, 3, 9 AND 11 FOR P2, P4 AND P6.
7. REPLACE EXISTING PEDESTRIAN SIGNALS WITH COUNTDOWN PEDESTRIAN SIGNAL HEADS AND ACCESSIBLE PEDESTRIAN SIGNALS TO INCLUDE AUDIBLE TONES, PEDESTRIAN PUSHBUTTONS WITH PEDESTRIAN PUSHBUTTONS WITH A VIBROTACTILE SURFACE, AND PEDESTRIAN GUIDANCE SIGNS WITH PEDESTRIAN GUIDANCE SIGNS B OR C ON EXISTING SIGNAL POLE 1 AND 4 FOR P4 AND P8, AND EXISTING PEDESTRIAN PEDESTAL 6 AND 8 FOR P2 AND P8.
8. INSTALL TWO (2) COUNTDOWN PEDESTRIAN SIGNAL HEADS AND TWO (2) ACCESSIBLE PEDESTRIAN SIGNALS TO INCLUDE AUDIBLE TONES, ONE (1) PEDESTRIAN PUSHBUTTON WITH A VIBROTACTICLE SURFACE, AND ONE (1) PEDESTRIAN GUIDANCE SIGNS B OR C ON PROPOSED PEDESTRIAN PEDESTAL 5 AND 12 FOR P4 AND P8.
9. INSTALL ONE (1) NON-INTRUSIVE FISHEYE VIDEO DETECTION UNIT WITH EXTENSION ARM ON EXISTING STEEL POLE.
10. APPROXIMATE LOCATION OF RELOCATED POLE BY OTHERS. LOCATION IS APPROXIMATE.
11. 3-SECTION FLASHING YELLOW ARROW SIGNAL HEAD TO BE USED ONLY AT LOCATIONS WHERE 16 FOOT 6 INCH VERTICAL CLEARANCE IS NOT POSSIBLE. OTHERWISE, CONTRACTOR TO INSTALL 4-SECTION FLASHING YELLOW ARROW SIGNAL HEAD.

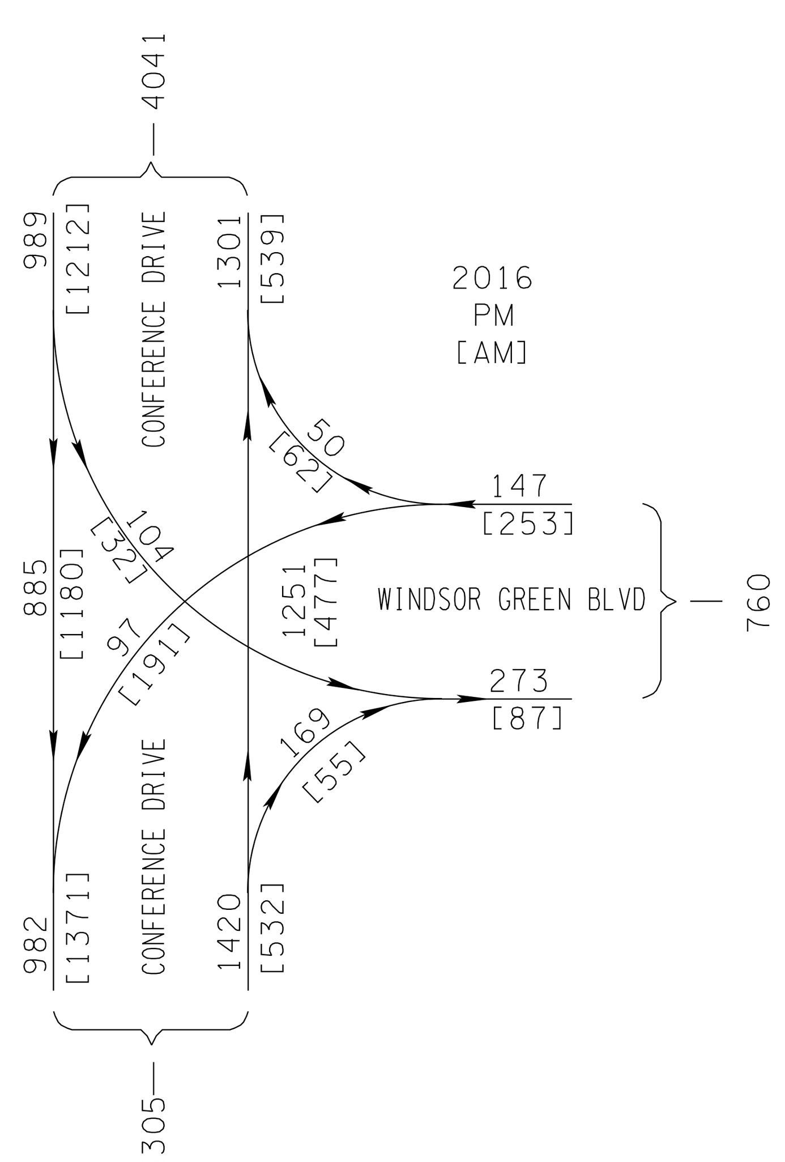


SIGNAL HEADS

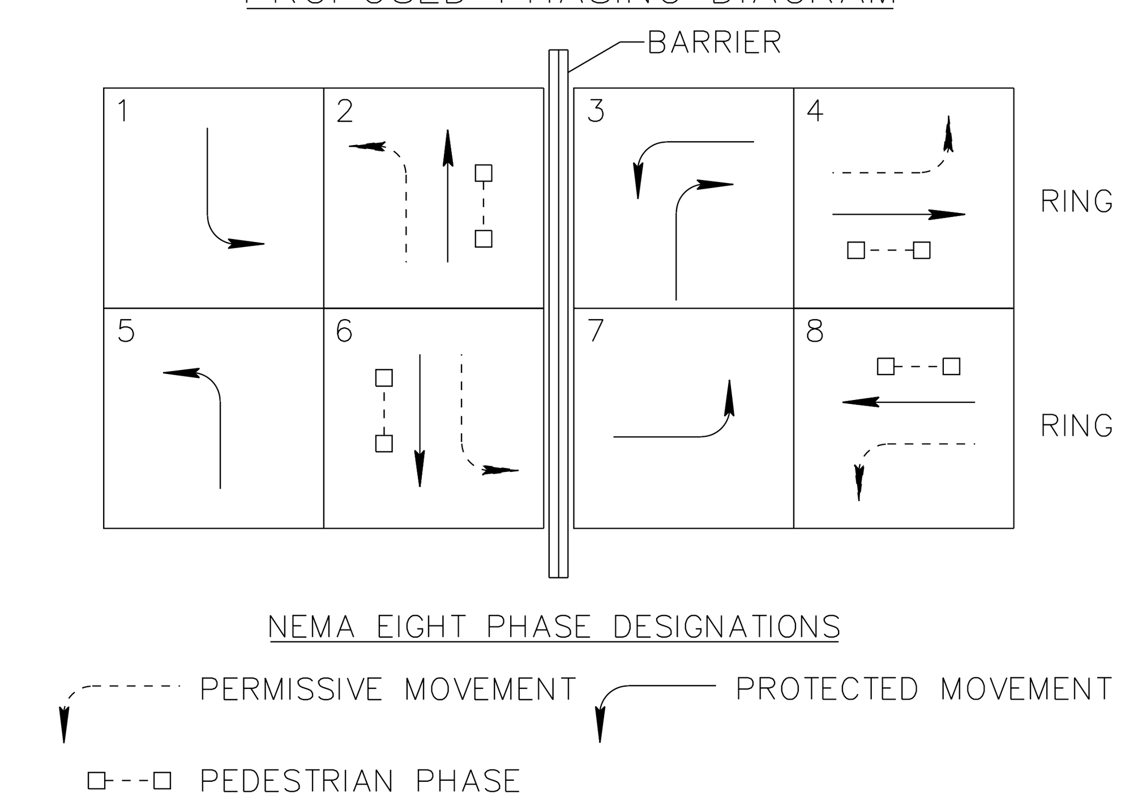


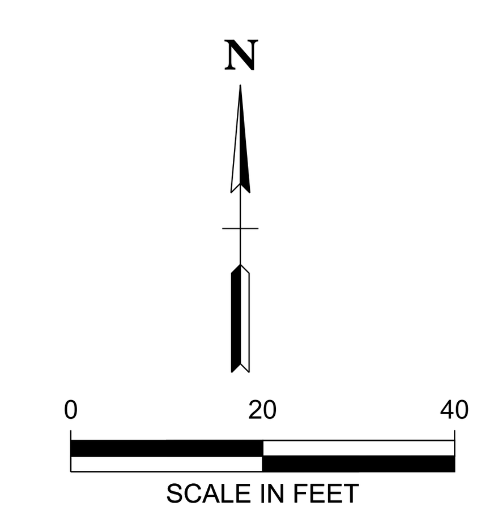
SIGNS





PROPOSED PHASING DIAGRAM





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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
CONFERENCE DRIVE
AT
WINDSOR GREEN BOULEVARD

BRANDON S. BAXTER, REGISTERED ENGINEER, No. 111639, STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY: TRG
DRAWN BY: TRG
CHECKED BY: BSB
DATE: 01/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 21

1/11/2019 11:03:35 AM
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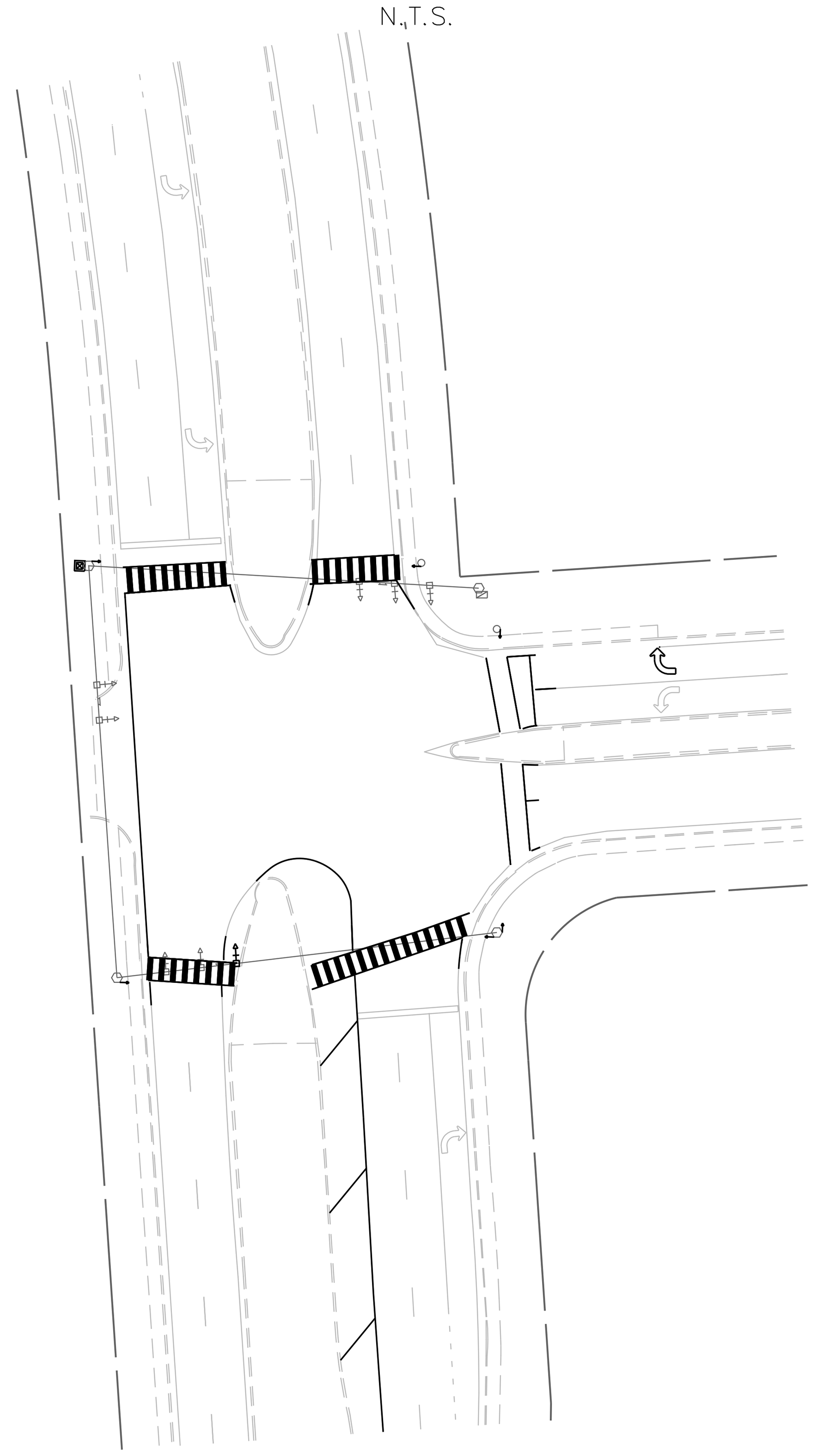
REMOVAL DIAGRAM
N.T.S.

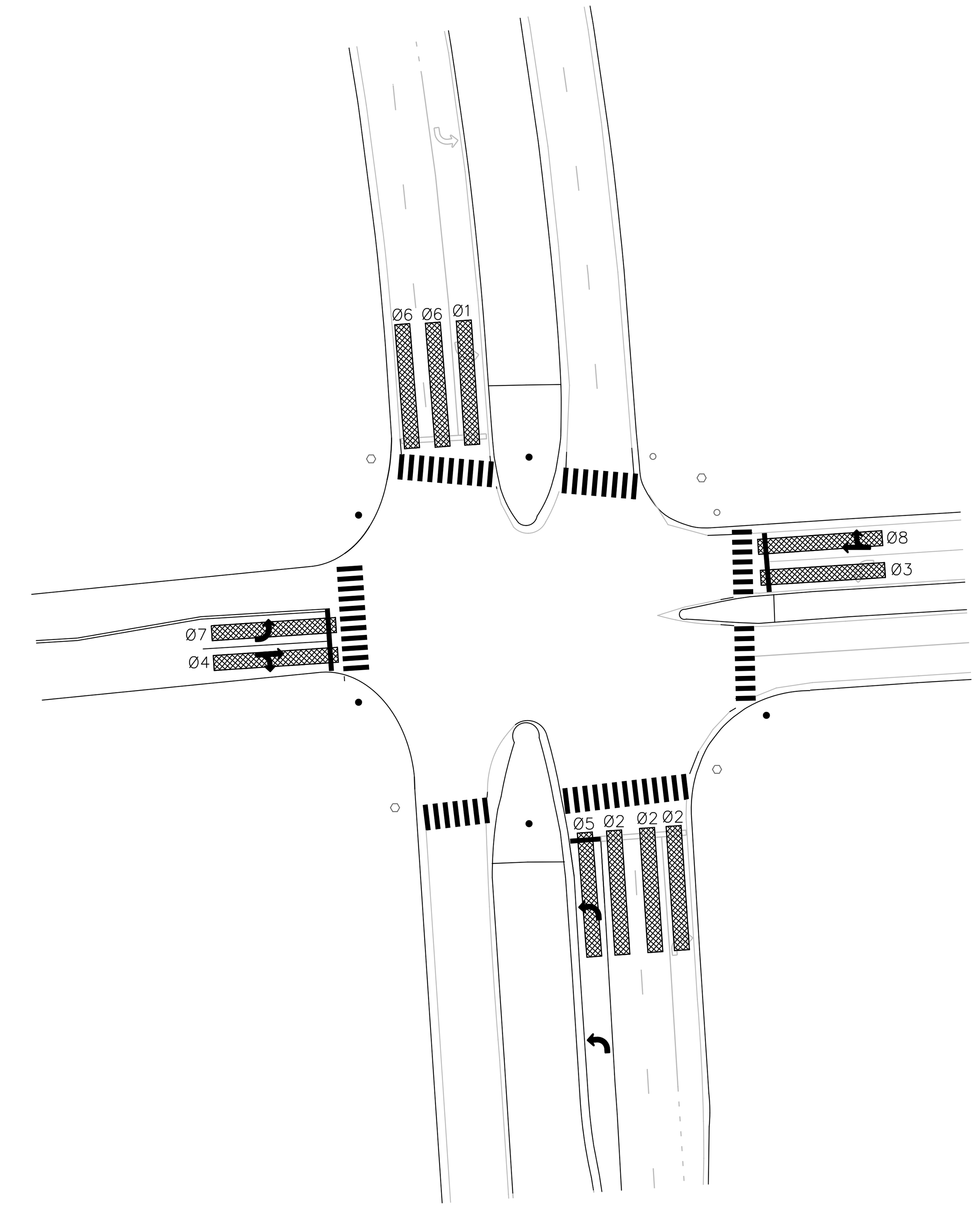


REMOVAL ITEMS (SHOWN IN BOLD)

1. CONTROLLER CABINET AND CONTENTS
2. SIGNAL CABLES AND WIRES
3. CONFLICTING PAVEMENT MARKINGS
4. DETECTOR LOOPS
5. PEDESTRIAN HEAD / PUSHBUTTON
6. 5-SECTION SIGNAL HEAD

DETECTION DIAGRAM
N.T.S.

NOTE:
DETECTION ZONES FOR FISHEYE VIDEO DETECTION UNIT.



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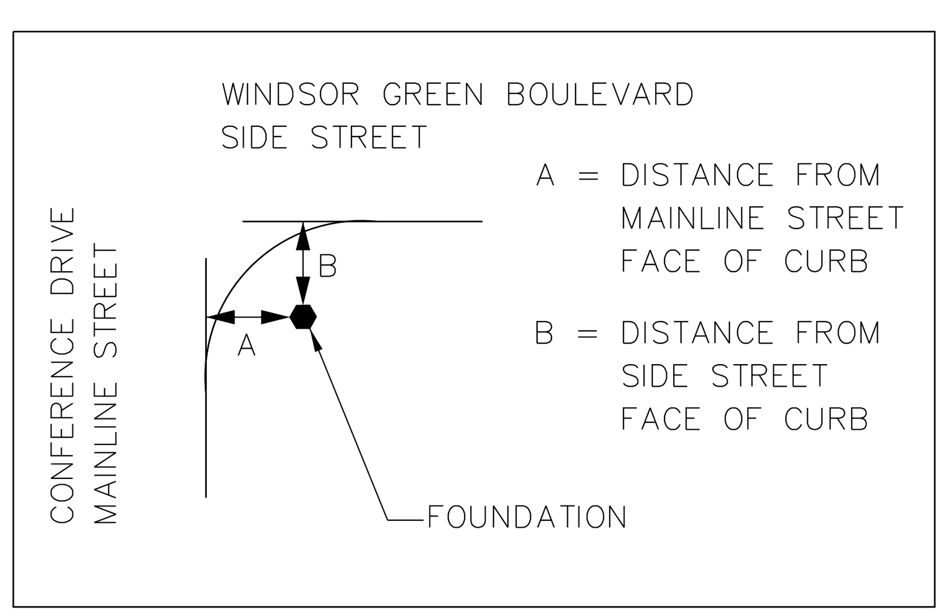
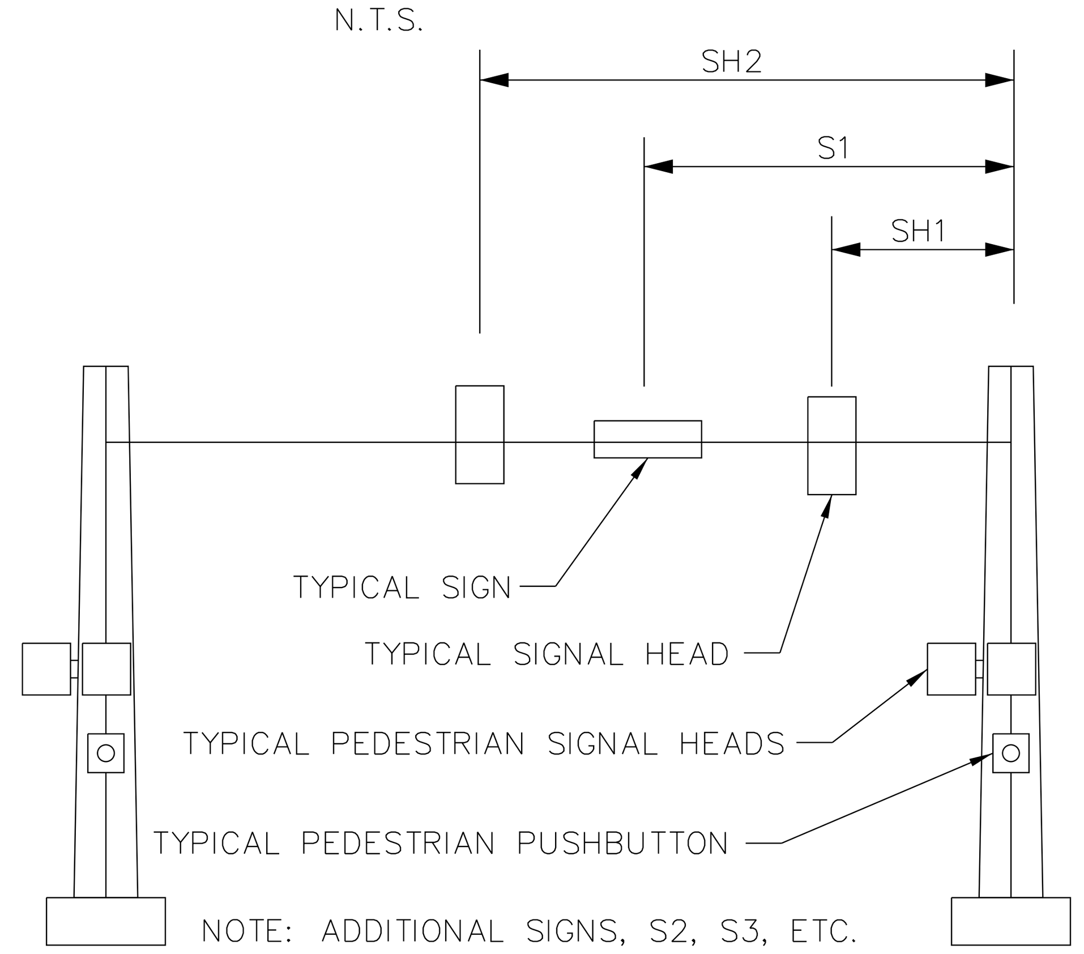
DETAILS
N.T.S.





NOTE: ADDITIONAL SIGNS, S2, S3, ETC.
ADDITIONAL SIGNAL HEADS, SH3, SH3, ETC.

POLE NO.	PED PHASE	POSITION OF PPB/SIGN
1	P4	● →
2	P6	↑ ●
3	P6	↓ ●
4	P8	● →
5	P8	● ↔
6	P8	● ←
8	P2	● ↓
9	P2	↑ ●
11	P4	← ●
12	P4	↔ ●

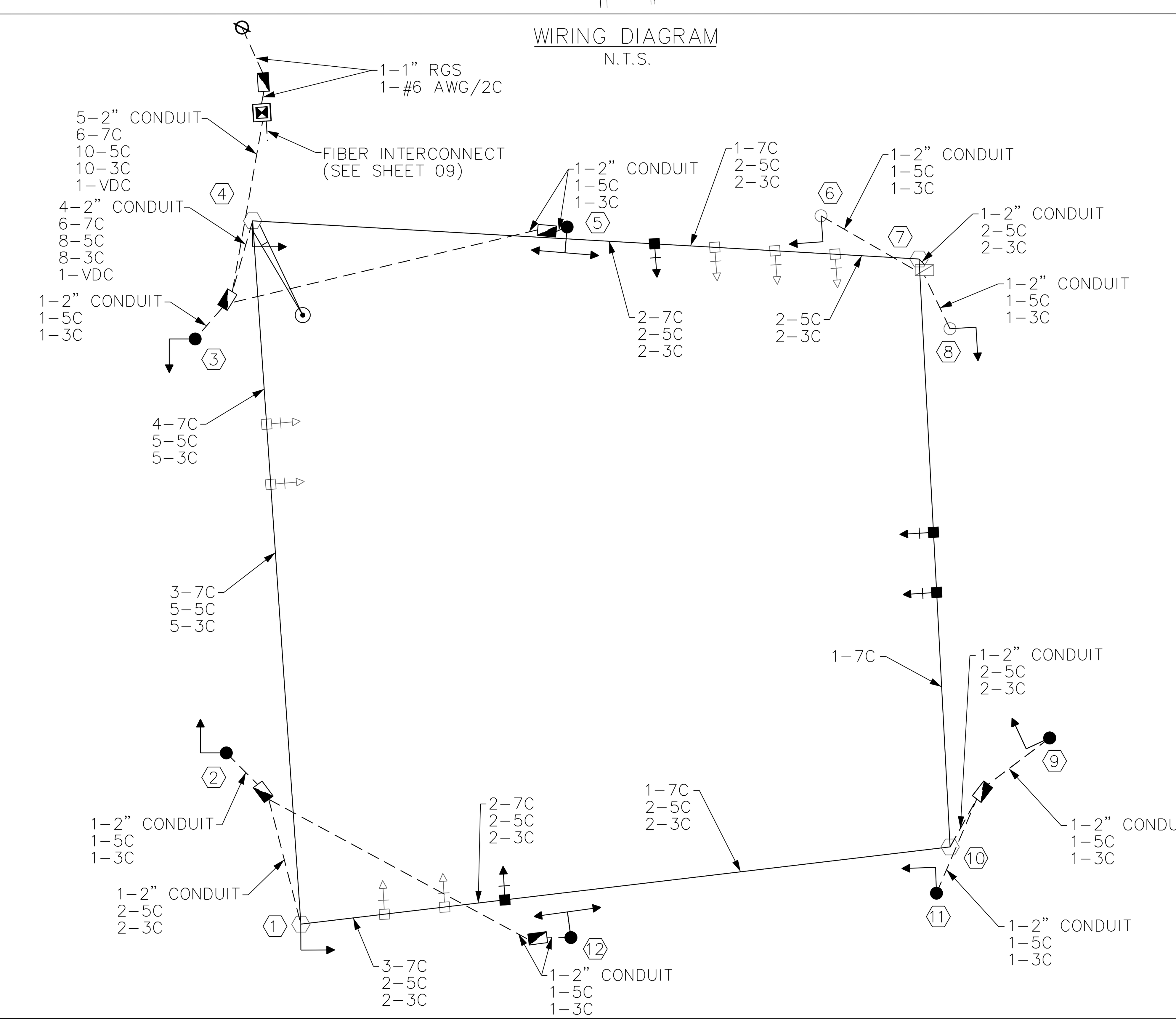
SIGNAL SUPPORT POLE DATA AND MAST ARM DETAILS

POLE NO.	A	B	NORTHING	EASTING	POLE TYPE	HEIGHT	MAST ARM LENGTH	S1	S2	SH1	SH2	SH3	SH4
1	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	EXISTING	44'-11"	EXISTING	EXISTING	40'-11"	-
2	23'-5"	15'-5"	721909.2699	1762482.0558	PEDESTAL	8'-0"	N/A	-	-	-	-	-	-
3	24'-1"	15'-7"	721983.1764	1762477.1580	PEDESTAL	8'-0"	N/A	-	-	-	-	-	-
4	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	EXISTING	-	EXISTING	EXISTING	-	-
5*	45'-0"	30'-10"	722008.1155	1762551.8052	PEDESTAL	8'-0"	N/A	-	-	-	-	-	-
6	EXISTING	EXISTING	EXISTING	EXISTING	PEDESTAL	EXISTING	N/A	-	-	-	-	-	-
7	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	EXISTING	56'-10"	EXISTING	EXISTING	EXISTING	52'-10"
8	EXISTING	EXISTING	EXISTING	EXISTING	PEDESTAL	EXISTING	N/A	-	-	-	-	-	-
9	31'-11"	9'-9"	721906.7692	1762645.3209	PEDESTAL	8'-0"	N/A	-	-	-	-	-	-
10	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	56'-10"	-	50'-10"	62'-10"	-	-
11	7'-6"	38'-10"	721876.9334	1762625.4012	PEDESTAL	8'-0"	N/A	-	-	-	-	-	-
12**	65'-2"	43'-0"	721870.0639	1762551.9923	PEDESTAL	8'-0"	N/A	-	-	-	-	-	-

*POLE 5 DISTANCE WAS MEASURED USING THE CURB FACES FROM THE NORTHWEST CORNER OF THE INTERSECTION.

**POLE 12 DISTANCE WAS MEASURED USING THE CURB FACES FROM THE SOUTHWEST CORNER OF THE INTERSECTION.

WIRING DIAGRAM
N.T.S.



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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
CONFERENCE DRIVE
AT
WINDSOR GREEN BOULEVARD

BRANDON S. BAXTER
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 111639
STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY: TRG
DRAWN BY: TRG
CHECKED BY: BSB
DATE: 01/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER
21A

1/11/2019 11:03:37 AM
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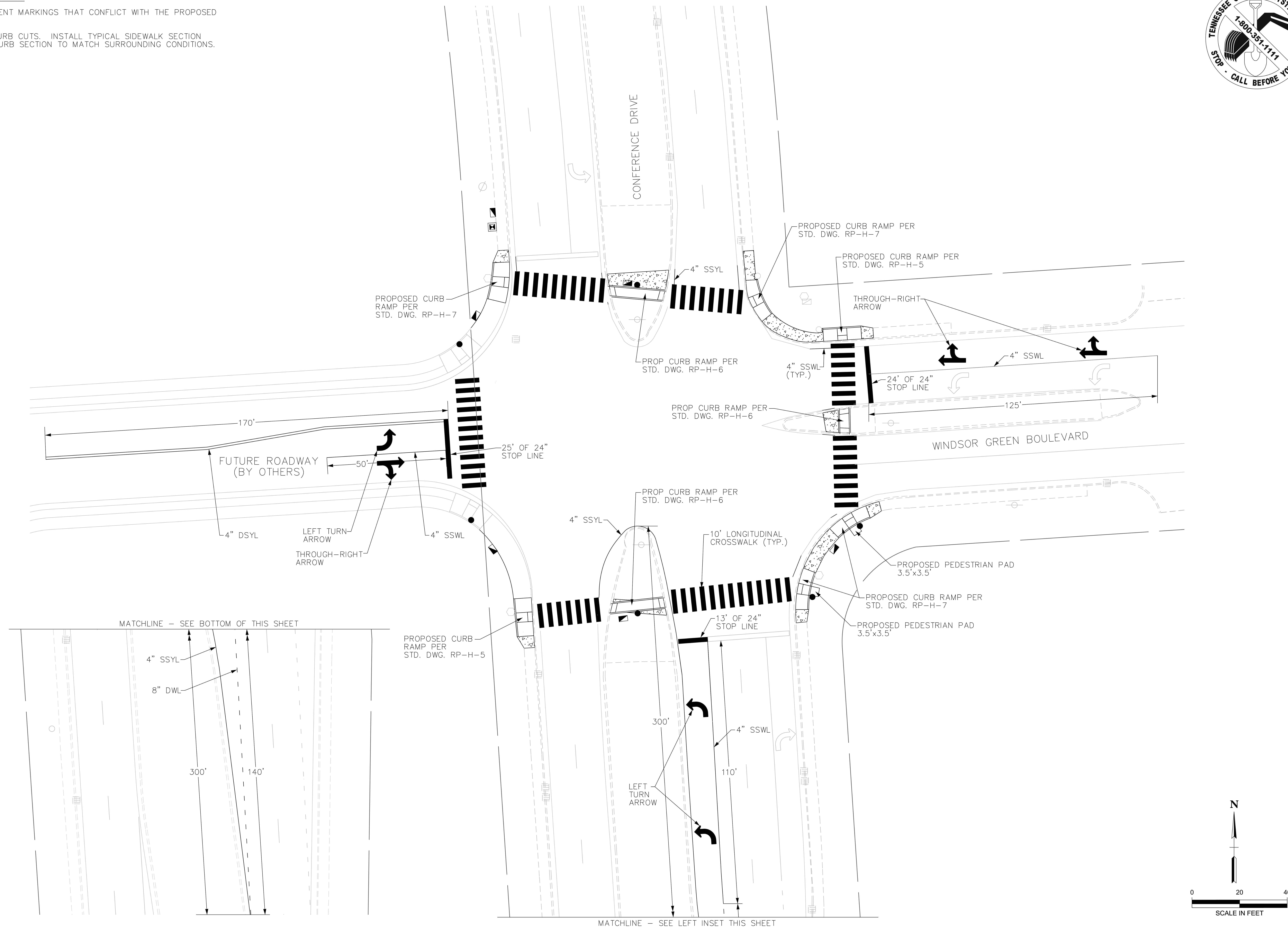
CONSTRUCTION NOTES

1 REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED DESIGN.

2 REMOVE EXISTING CURB CUTS. INSTALL TYPICAL SIDEWALK SECTION WITH FULL DEPTH CURB SECTION TO MATCH SURROUNDING CONDITIONS.



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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
CONFERENCE DRIVE AT WINDSOR GREEN BOULEVARD

BRANDON S. BAXTER REGISTERED ENGINEER STATE OF TENNESSEE No. 111636 AGRICULTURE COMMERCE 01/11/19

No.	REVISIONS	DATE	BY

DESIGNED BY: TRG
DRAWN BY: TRG
CHECKED BY: BSB
DATE: 01/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 21B

1/11/2019 11:03:46 AM
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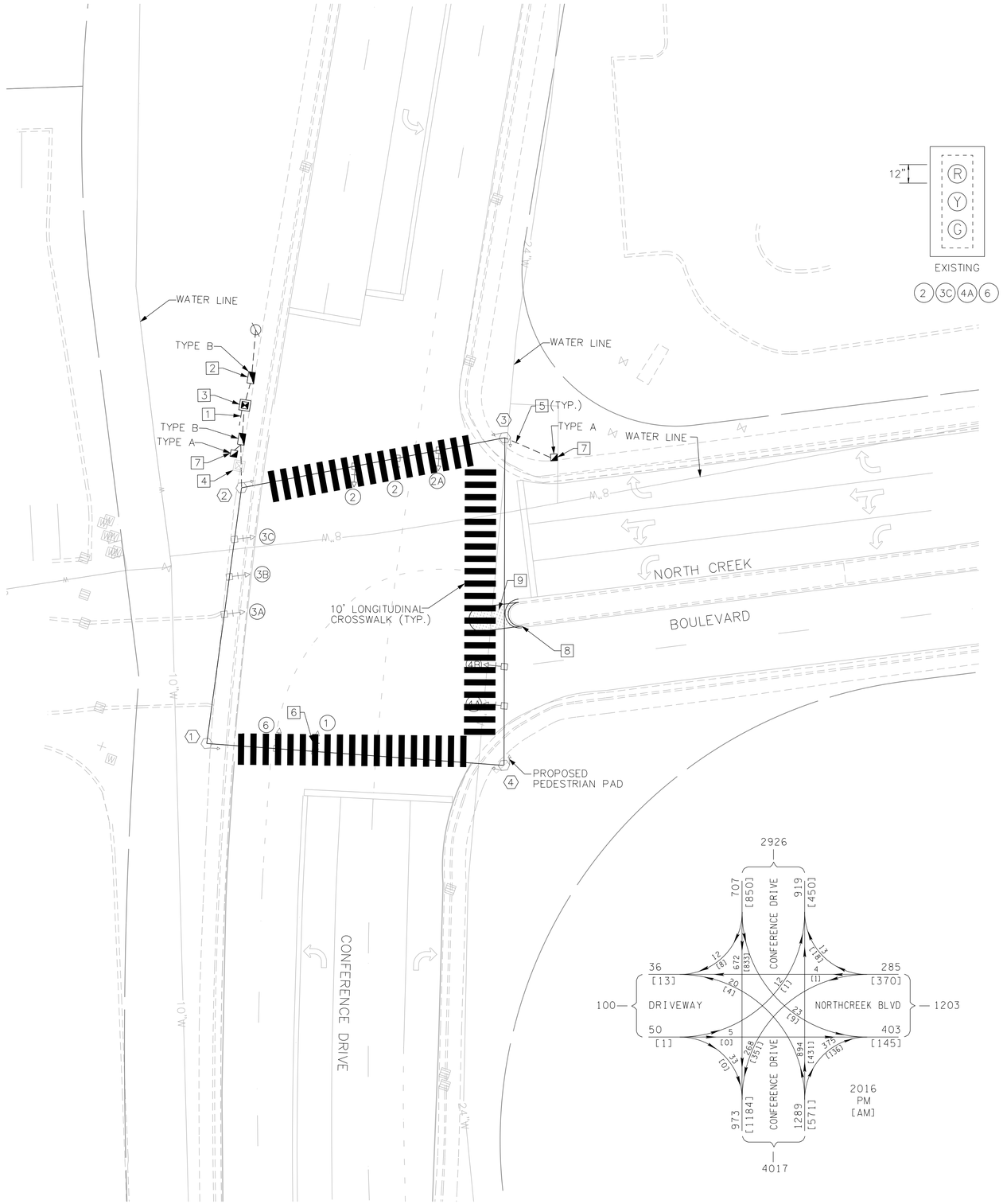
CONSTRUCTION NOTES

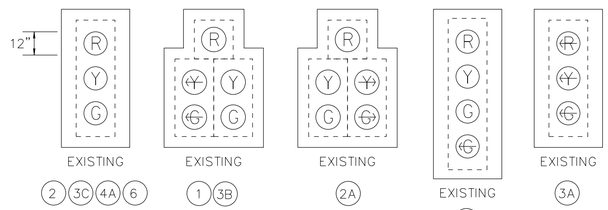
1. CONTRACTOR SHALL PROVIDE A 12 SMFO DROP CABLE WHICH IS REFERENCED ON THE IMPROVEMENTS LAYOUT SHEETS (SEE SHEET 10).
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL SERVICE PROVIDER TO TRANSITION ELECTRICAL SERVICE FROM EXISTING CABINET TO PROPOSED CABINET.
3. INSTALL NEW PAD-MOUNTED CABINET AND WIRE CABINET TO REFLECT PROPOSED PHASING PER THIS PLAN. SEE SHEET 4A FOR FIELD CABINET SUMMARY SHEET.
4. FOLLOWING THE INSTALLATION, TESTING, AND INTEGRATION OF THE PROPOSED SIGNAL CABINET AND ITS CONTENTS, THE EXISTING SIGNAL CABINET AND ITS CONTENTS ARE TO BE REMOVED AND RETURNED TO THE CITY.
5. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE – GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A $\frac{5}{8}$ INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A $\frac{5}{8}$ INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
6. INSTALL SIGNAL HEAD BLACK BACKPLATE WITH YELLOW REFLECTIVE TAPE ON EXISTING SIGNAL HEAD.
7. INTERCEPT EXISTING LOOP WIRE IN PROPOSED PULL BOX. REUSE EXISTING LOOP LEADS. SHOULD THE LOOP LEADS NOT BE SUITABLE FOR REUSE, CONTRACTOR TO COORDINATE WITH THE ENGINEER FOR PROPOSED LOOP AND WIRING DESIGN.



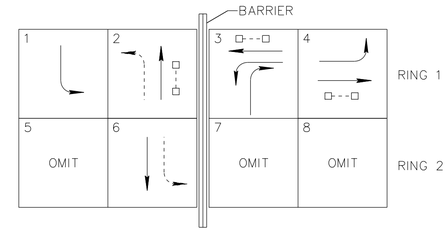
CONSTRUCTION NOTES

8. INSTALL 6" CONCRETE COMBINED CURB AND GUTTER PER STD. DWG. RP-NMC-10.
9. REPAIR ASPHALT PAVEMENT PER SHEET 3D – FULL DEPTH ASPHALT PAVEMENT SECTION DETAIL.

SIGNAL HEADS



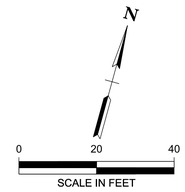
PROPOSED PHASING DIAGRAM



NEMA EIGHT PHASE DESIGNATIONS

PERMISSIVE MOVEMENT — PROTECTED MOVEMENT

PEDESTRIAN PHASE



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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
CONFERENCE DRIVE
AT
NORTHCREEK BOULEVARD

BRANDON S. BAXTER REGISTERED ENGINEER No. 116638 STATE OF TENNESSEE

No.	REVISIONS	DATE	BY

DESIGNED BY:	TRG
DRAWN BY:	TRG
CHECKED BY:	BSB
DATE:	01/11/2019
KHA PROJECT NO.:	118035002
SHEET NUMBER	22

1/11/2019 11:03:48 AM
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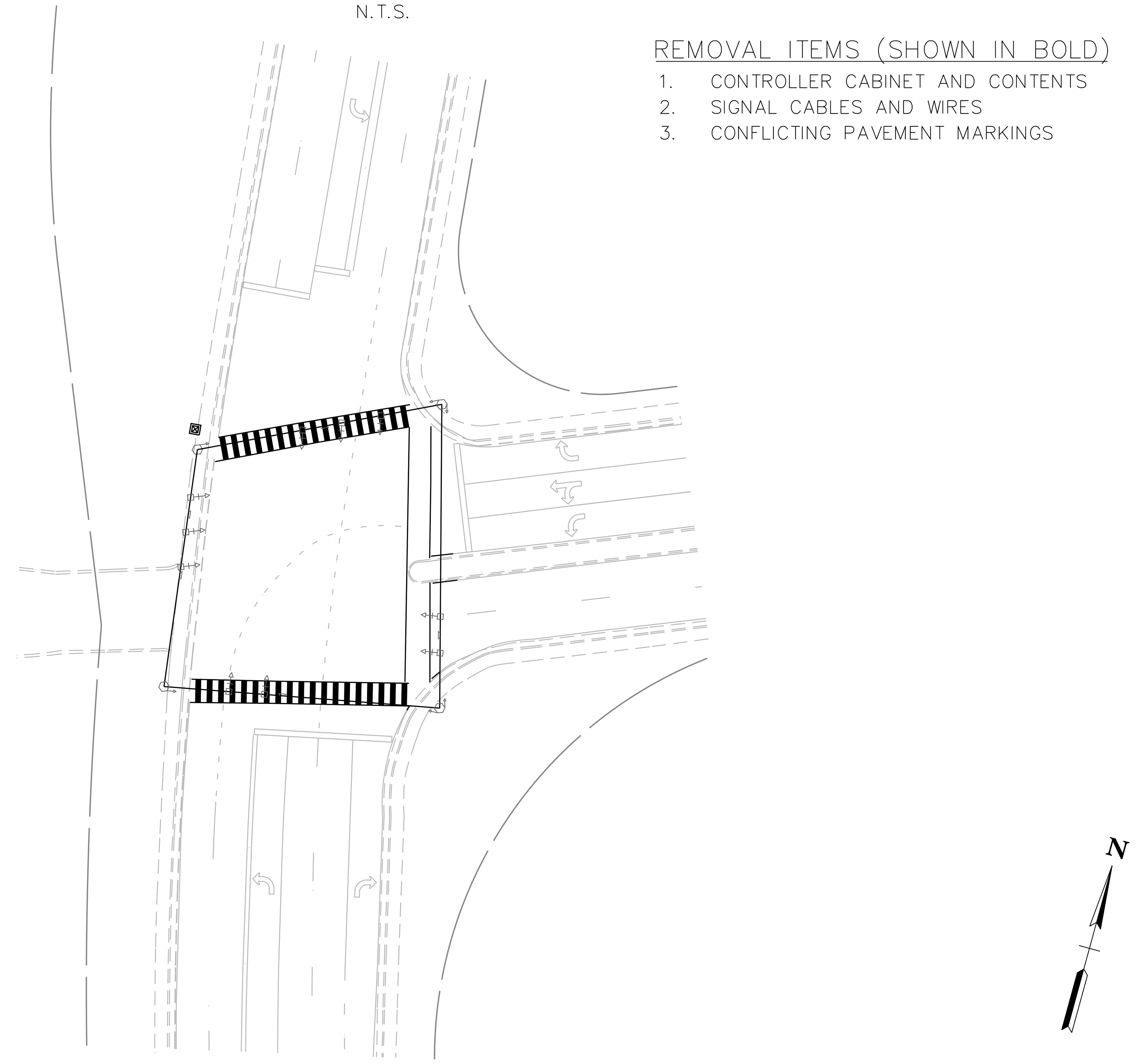
REMOVAL DIAGRAM

N.T.S.



REMOVAL ITEMS (SHOWN IN BOLD)

1. CONTROLLER CABINET AND CONTENTS
2. SIGNAL CABLES AND WIRES
3. CONFLICTING PAVEMENT MARKINGS

DETECTION DIAGRAM

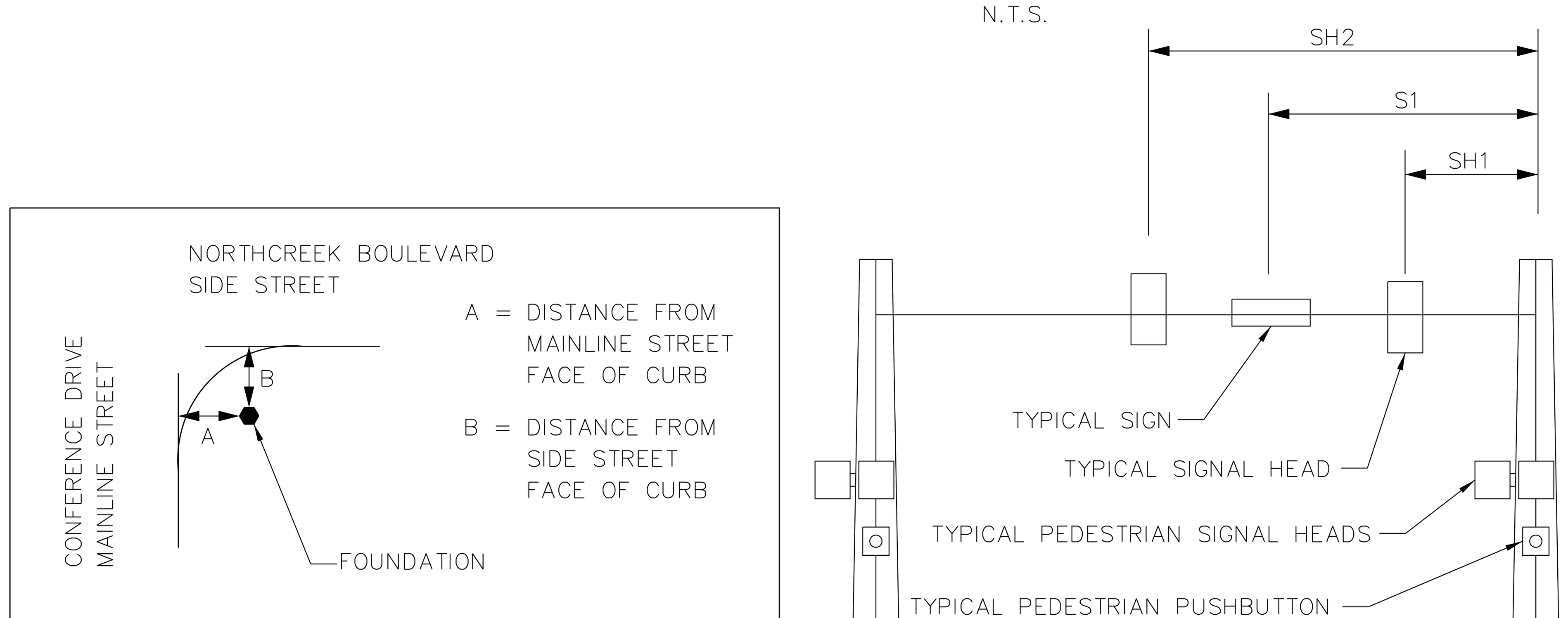
N.T.S.

TENNESSEE ONE CALL SYSTEM, INC. 1-800-351-1111 STOP · CALL BEFORE YOU DIG

NO DETECTION UPGRADES PROPOSED

DETAILS

N.T.S.



NOTE: ADDITIONAL SIGNS, S2, S3, ETC.
ADDITIONAL SIGNAL HEADS, SH3, SH3, ETC.

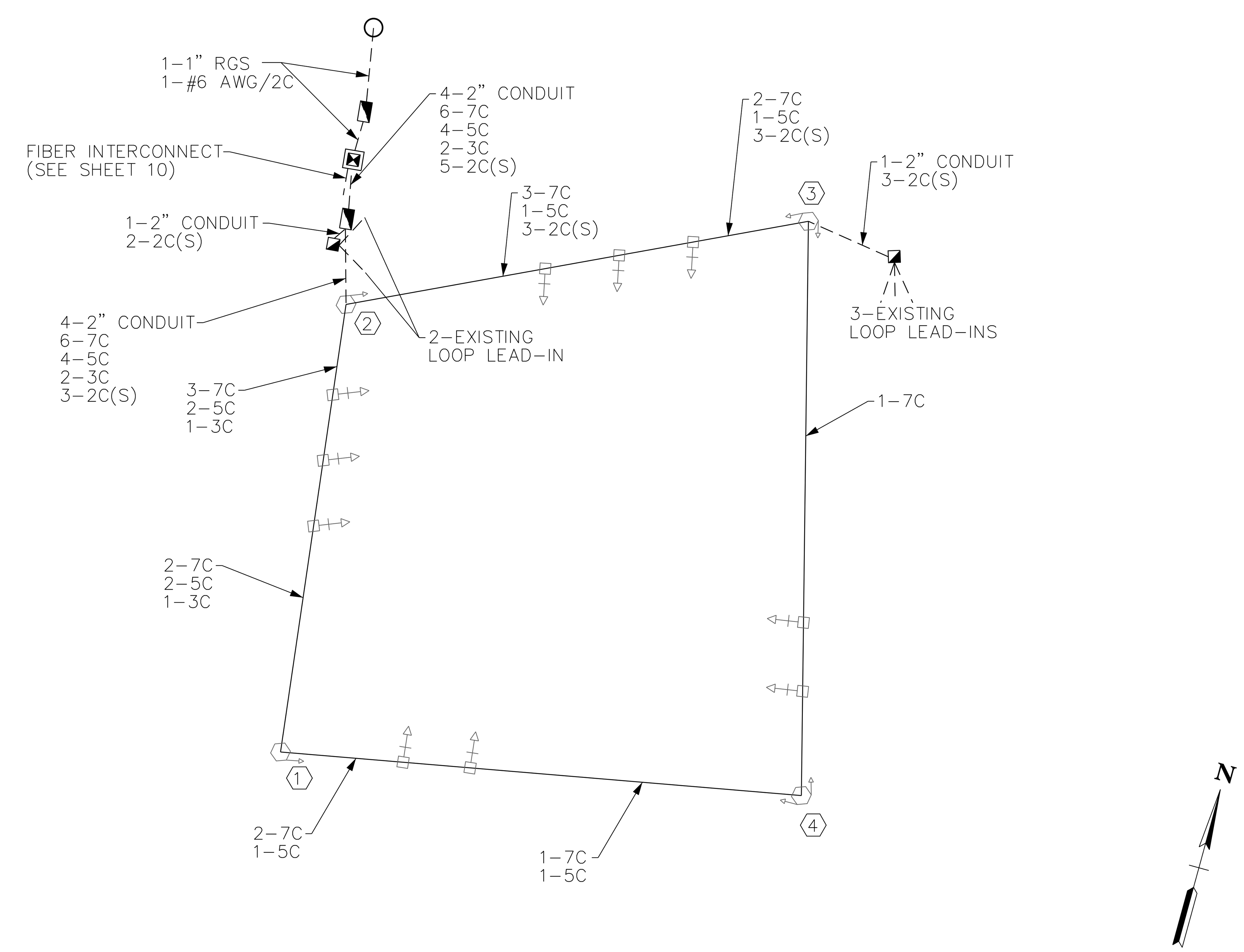
POLE NO.	PED PHASE	POSITION OF PPB/SIGN
1	P4	EXISTING
2	P3	EXISTING
3	P2	EXISTING
	P3	EXISTING
4	P2	EXISTING
	P4	EXISTING

SIGNAL SUPPORT POLE DATA AND MAST ARM DETAILS

POLE NO.	A	B	NORTHING	EASTING	POLE TYPE	HEIGHT	MAST ARM LENGTH	S1	S2	SH1	SH2	SH3
1	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	EXISTING	–	EXISTING	EXISTING	–
2	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
3	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	EXISTING	–	EXISTING	EXISTING	EXISTING
4	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	EXISTING	–	EXISTING	EXISTING	–

WIRING DIAGRAM

N.T.S.



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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS

CONFERENCE DRIVE AT NORTHCREEK BOULEVARD

BRANDON S. BAXTER REGISTERED ENGINEER AGRICULTURE COMMERCE No. 111639 STATE OF TENNESSEE 01-11-19

No.	REVISIONS	DATE	BY

DESIGNED BY: TRG
DRAWN BY: TRG
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DATE: 01/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 22A

1/11/2019 11:03:52 AM
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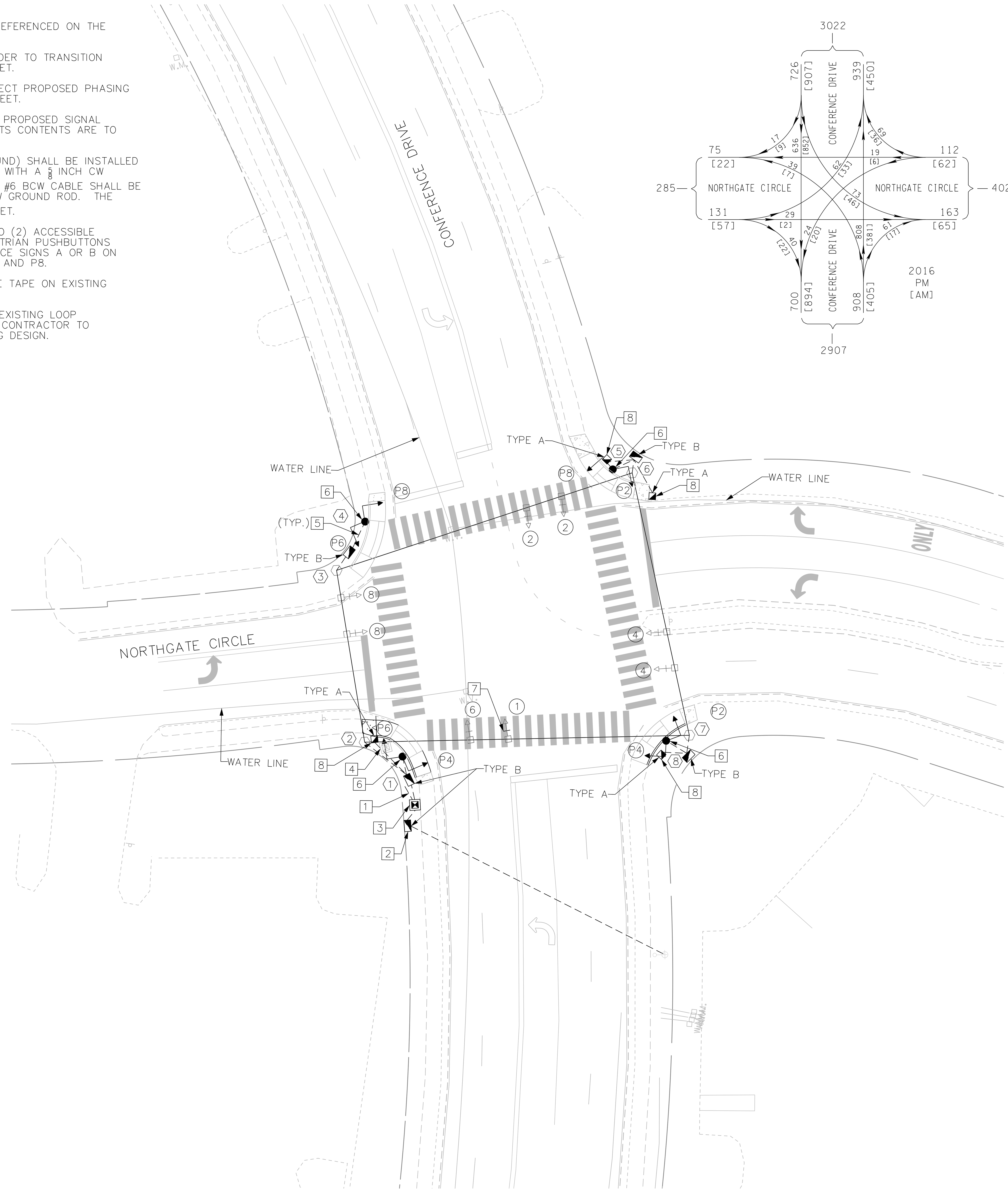
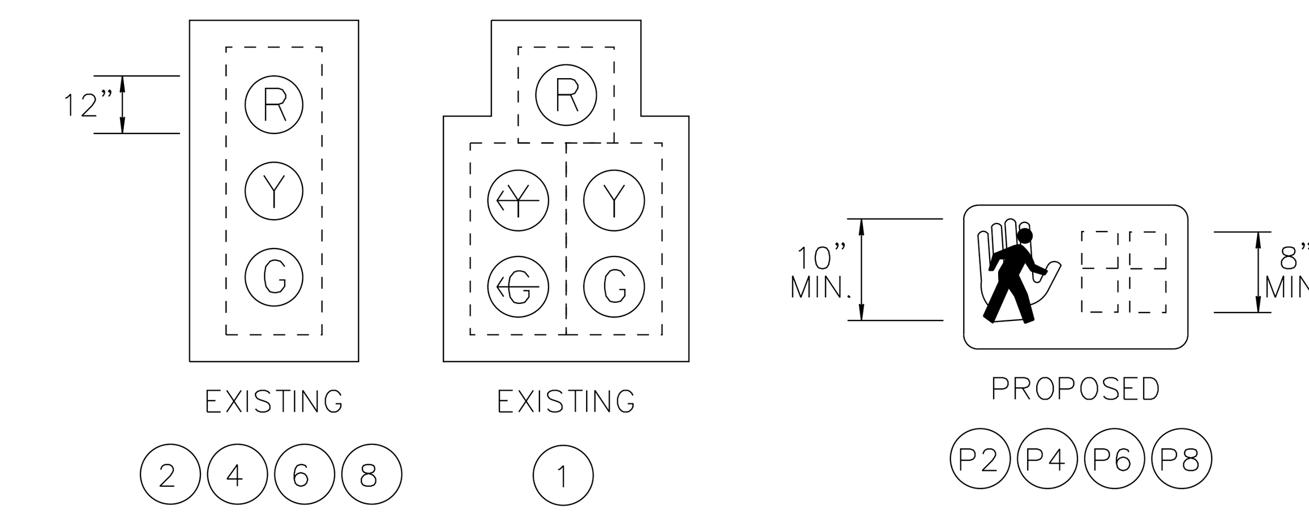
CONSTRUCTION NOTES

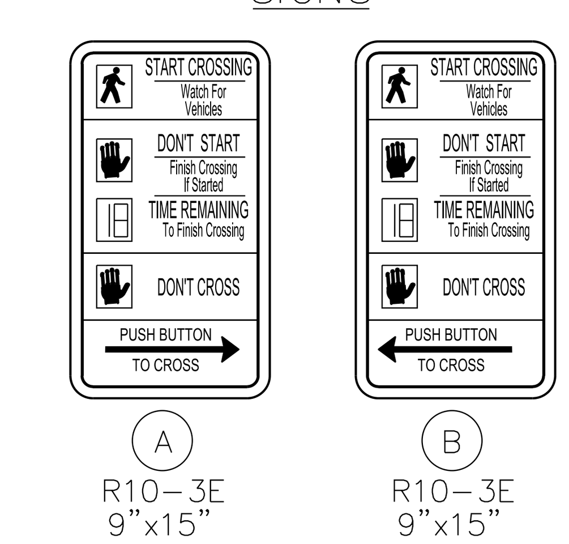
1. CONTRACTOR SHALL PROVIDE A 12 SMFO DROP CABLE WHICH IS REFERENCED ON THE IMPROVEMENTS LAYOUT SHEETS (SEE SHEET 07).
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL SERVICE PROVIDER TO TRANSITION ELECTRICAL SERVICE FROM EXISTING CABINET TO PROPOSED CABINET.
3. INSTALL NEW PAD-MOUNTED CABINET AND WIRE CABINET TO REFLECT PROPOSED PHASING PER THIS PLAN. SEE SHEET 4A FOR FIELD CABINET SUMMARY SHEET.
4. FOLLOWING THE INSTALLATION, TESTING, AND INTEGRATION OF THE PROPOSED SIGNAL CABINET AND ITS CONTENTS, THE EXISTING SIGNAL CABINET AND ITS CONTENTS ARE TO BE REMOVED AND RETURNED TO THE CITY.
5. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE – GROUND) SHALL BE INSTALLED IN EVERY TRENCH AND DIRECTIONAL DRILL CONDUIT ROUTE ALONG WITH A 5/8 INCH CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BCW CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A 5/8 INCH CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET.
6. INSTALL TWO (2) COUNTDOWN PEDESTRIAN SIGNAL HEADS AND TWO (2) ACCESSIBLE PEDESTRIAN SIGNALS TO INCLUDE AUDIBLE TONES, TWO (2) PEDESTRIAN PUSHBUTTONS WITH A VIBROTACTILE SURFACE, AND TWO (2) PEDESTRIAN GUIDANCE SIGNS A OR B ON PROPOSED PEDESTRIAN PEDESTAL 1, 4, 5 AND 8 FOR P2, P4, P6 AND P8.
7. INSTALL SIGNAL HEAD BLACK BACKPLATE WITH YELLOW REFLECTIVE TAPE ON EXISTING SIGNAL HEAD.
8. INTERCEPT EXISTING LOOP WIRE IN PROPOSED PULL BOX. REUSE EXISTING LOOP LEADS. SHOULD THE LOOP LEADS NOT BE SUITABLE FOR REUSE, CONTRACTOR TO COORDINATE WITH THE ENGINEER FOR PROPOSED LOOP AND WIRING DESIGN.



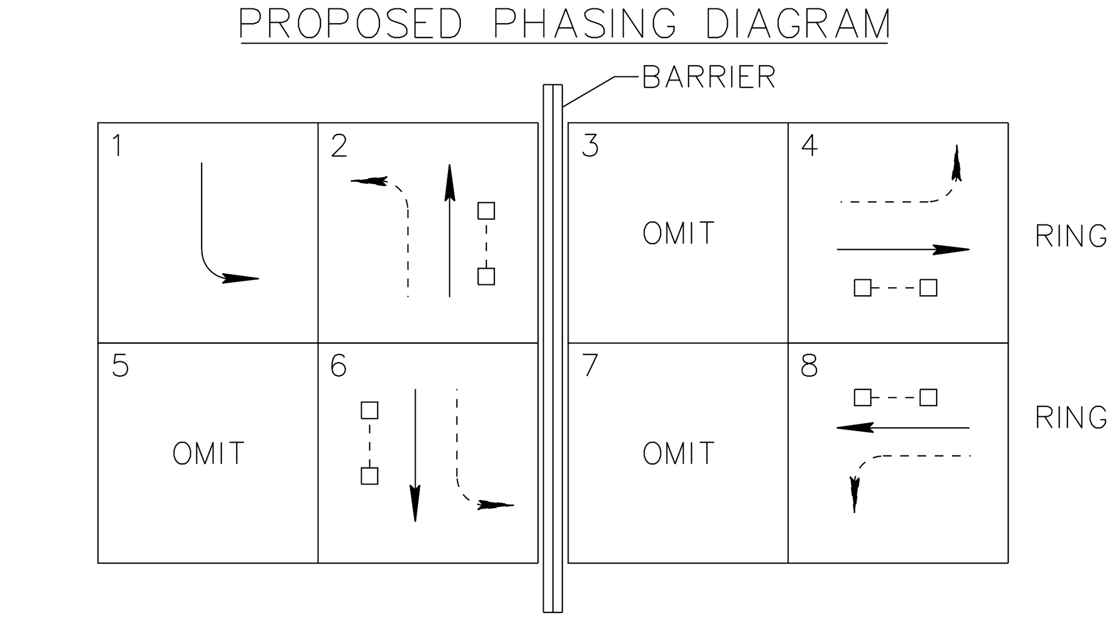
SIGNAL HEADS



SIGNS



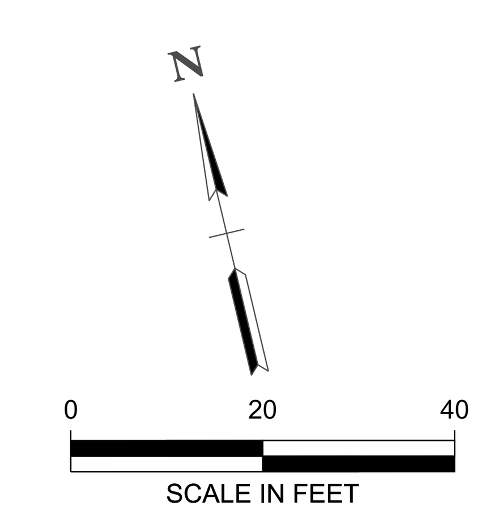
PROPOSED PHASING DIAGRAM



NEMA EIGHT PHASE DESIGNATIONS

PERMISSIVE MOVEMENT — PROTECTED MOVEMENT

PEDESTRIAN PHASE



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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
CONFERENCE DRIVE AT NORTHGATE CIRCLE

No.	REVISIONS	DATE	BY

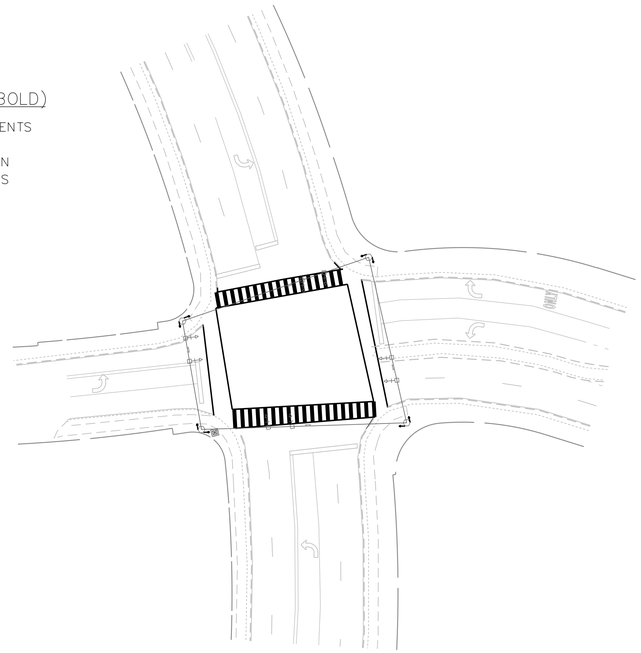
DESIGNED BY: TRG
DRAWN BY: TRG
CHECKED BY: BSB
DATE: 01/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 23

1/11/2019 11:03:57 AM
G:\6108-0647\1-Transportation\Sheets\23_Conference@Northgate_Signal.sht

REMOVAL DIAGRAM
N.T.S.

REMOVAL ITEMS (SHOWN IN BOLD)

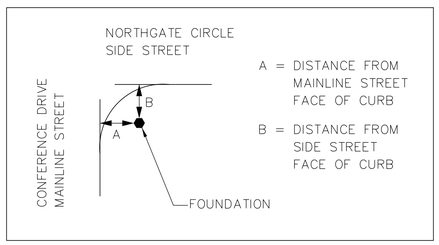
1. CONTROLLER CABINET AND CONTENTS
2. SIGNAL CABLES AND WIRES
3. PEDESTRIAN HEAD / PUSHBUTTON
4. CONFLICTING PAVEMENT MARKINGS

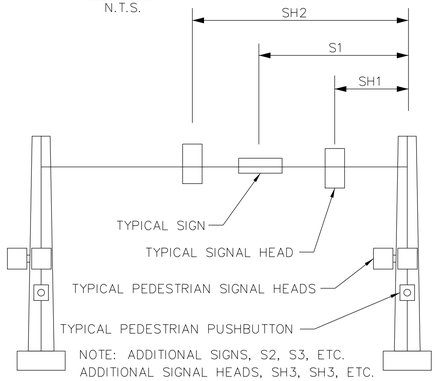


DETECTION DIAGRAM
N.T.S.

NO DETECTION UPGRADES PROPOSED

DETAILS
N.T.S.



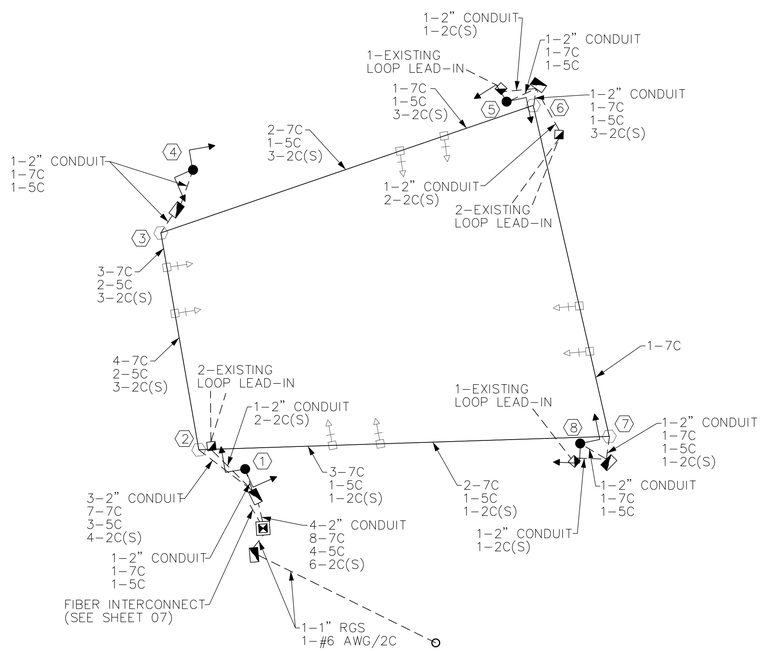


POLE NO.	PED PHASE	POSITION OF PPB/SIGN
①	P4	→
	P6	↑
④	P6	↓
	P8	→
⑤	P2	↓
	P8	←
⑥	P2	↑
	P4	←

SIGNAL SUPPORT POLE DATA AND MAST ARM DETAILS

POLE NO.	A	B	NORTHING	EASTING	POLE TYPE	HEIGHT	MAST ARM LENGTH	S1	SH1	SH2
①	10'-1"	17'-3"	725163.8014	1761923.5691	PEDESTAL	8'-0"	N/A	–	–	–
②	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	EXISTING	EXISTING	EXISTING
③	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	EXISTING	EXISTING	EXISTING
④	9'-4"	25'-6"	725240.9895	1761930.7482	PEDESTAL	8'-0"	N/A	–	–	–
⑤	10'-3"	10'-6"	725237.4701	1762013.1023	PEDESTAL	8'-0"	N/A	–	–	–
⑥	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	EXISTING	EXISTING	EXISTING
⑦	EXISTING	EXISTING	EXISTING	EXISTING	STEEL SPAN	EXISTING	N/A	EXISTING	EXISTING	EXISTING
⑧	13'-8"	12'-4"	725147.4948	1762008.0398	PEDESTAL	8'-0"	N/A	–	–	–

WIRING DIAGRAM
N.T.S.



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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
CONFERENCE DRIVE
AT
NORTHGATE CIRCLE

BRANDON S. BAXTER
REGISTERED ENGINEER
No. 117639
STATE OF TENNESSEE
01/11/19

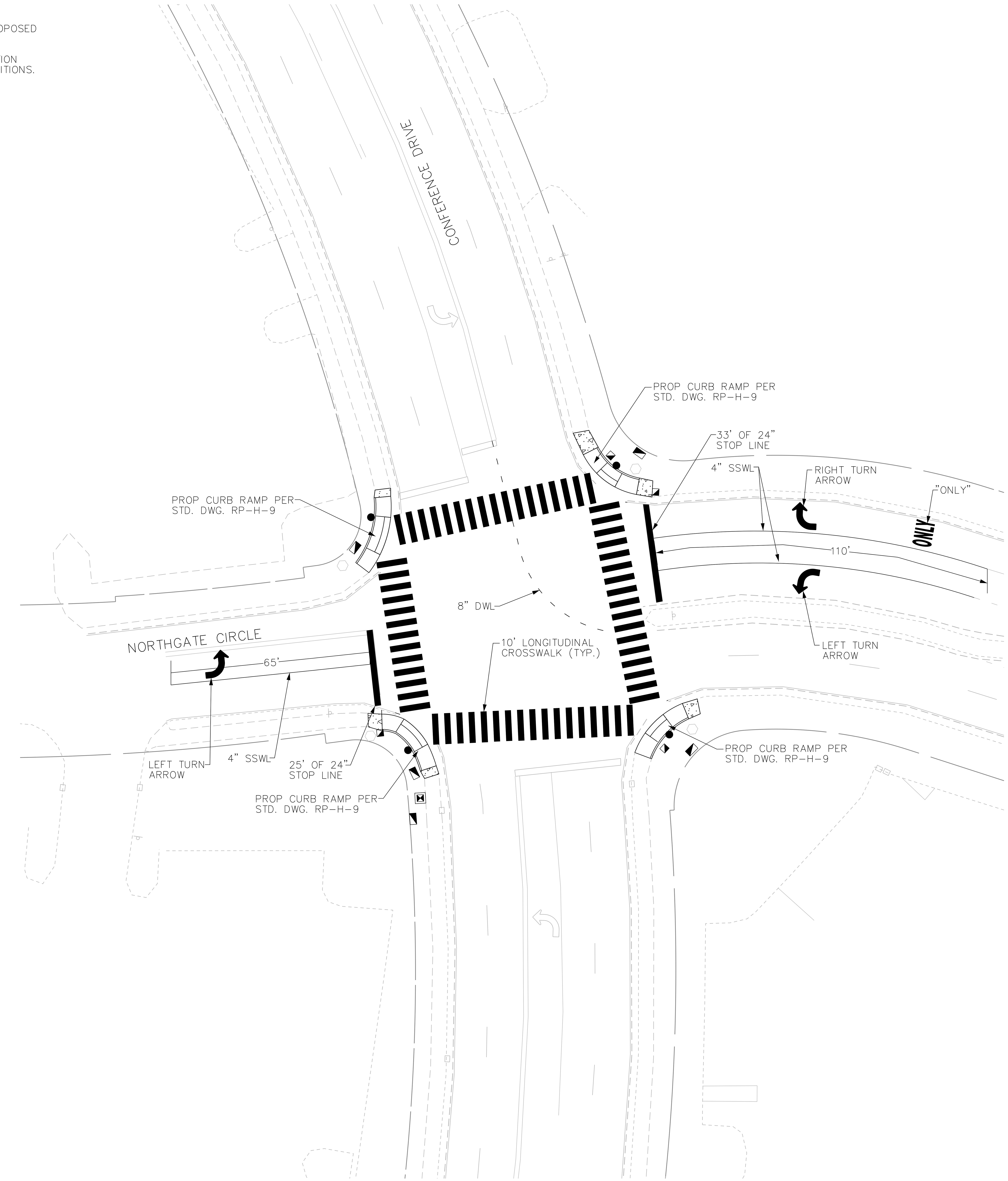
No.	REVISIONS	DATE	BY

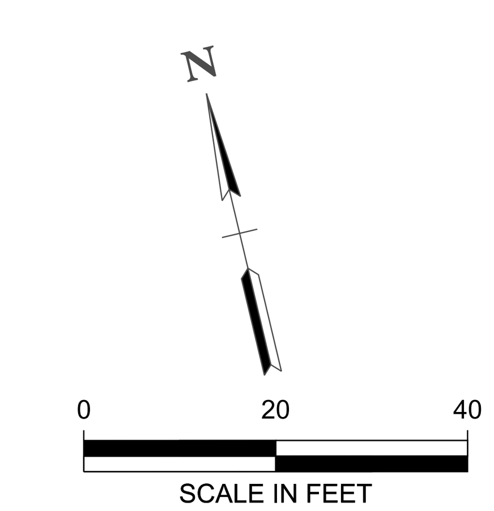
DESIGNED BY: TRG
DRAWN BY: TRG
CHECKED BY: BSB
DATE: 01/11/2019
KHA PROJECT NO.: 118035002
SHEET NUMBER 23A

1/11/2019 11:03:58 AM
G:\16108-06471-Transportation\Sheets\23A_Conference@Northgate_Details.sht

CONSTRUCTION NOTES

1. REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED DESIGN.
2. REMOVE EXISTING CURB CUTS. INSTALL TYPICAL SIDEWALK SECTION WITH FULL DEPTH CURB SECTION TO MATCH SURROUNDING CONDITIONS.





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GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES PHASE II

THE CITY OF GOODLETTSVILLE, TENNESSEE

INTERSECTION IMPROVEMENTS
CONFERENCE DRIVE AT NORTHGATE CIRCLE

BRANDON S. BAXTER
REGISTERED ENGINEER
STATE OF TENNESSEE
No. 111639

No.	REVISIONS	DATE	BY

DESIGNED BY:	TRG
DRAWN BY:	TRG
CHECKED BY:	BSB
DATE:	01/11/2019

KHA PROJECT NO.: 118035002

SHEET NUMBER
23B

1/11/2019 11:04:04 AM
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TRAFFIC CONTROL NOTES

1 CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE CITY OF GOODLETTSVILLE A MINIMUM OF 24 HOURS PRIOR TO COMMENCING CONSTRUCTION OR IMPLEMENTING A TRAFFIC CONTROL PLAN. ALL TRAFFIC CONTROL DEVICES MUST BE IN PLACE BEFORE CONSTRUCTION ACTIVITY BEGINS.

2 THE TRAFFIC CONTROL PLAN IS PROVIDED FOR GUIDANCE ONLY. ADDITIONAL SIGNS, DRUMS, WARNING LIGHTS, OTHER DEVICES, AND PERSONNEL MAY BE REQUIRED. CONTRACTOR SHALL NOT BE ABSOLVED OF INSTALLING TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE TDOT STANDARDS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

3 SIGN LOCATION AND NUMBER OF SIGNS SHALL BE ADJUSTED TO ACCOMMODATE ANY MODIFICATIONS TO THE ACTIVE WORK ZONE.

4 ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.

5 SIDE STREET, DRIVEWAY ACCESS, AND SAFE PEDESTRIAN WAYS SHALL BE MAINTAINED AT ALL TIMES.

6 WORK WITHIN THE ROADWAY SHALL BE CONDUCTED BETWEEN 9:00 A.M. AND 4:00 P.M. AND THE ROADWAY SHALL BE COMPLETELY OPEN TO TRAFFIC AT ALL OTHER TIMES AND INAPPROPRIATE SIGNS SHALL BE COVERED.

7 IF CONSTRUCTION ACTIVITIES REQUIRE OVER-NIGHT CLOSURE OF ANY PORTION OF THE ROADWAY, A REVISED TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER'S OFFICE.

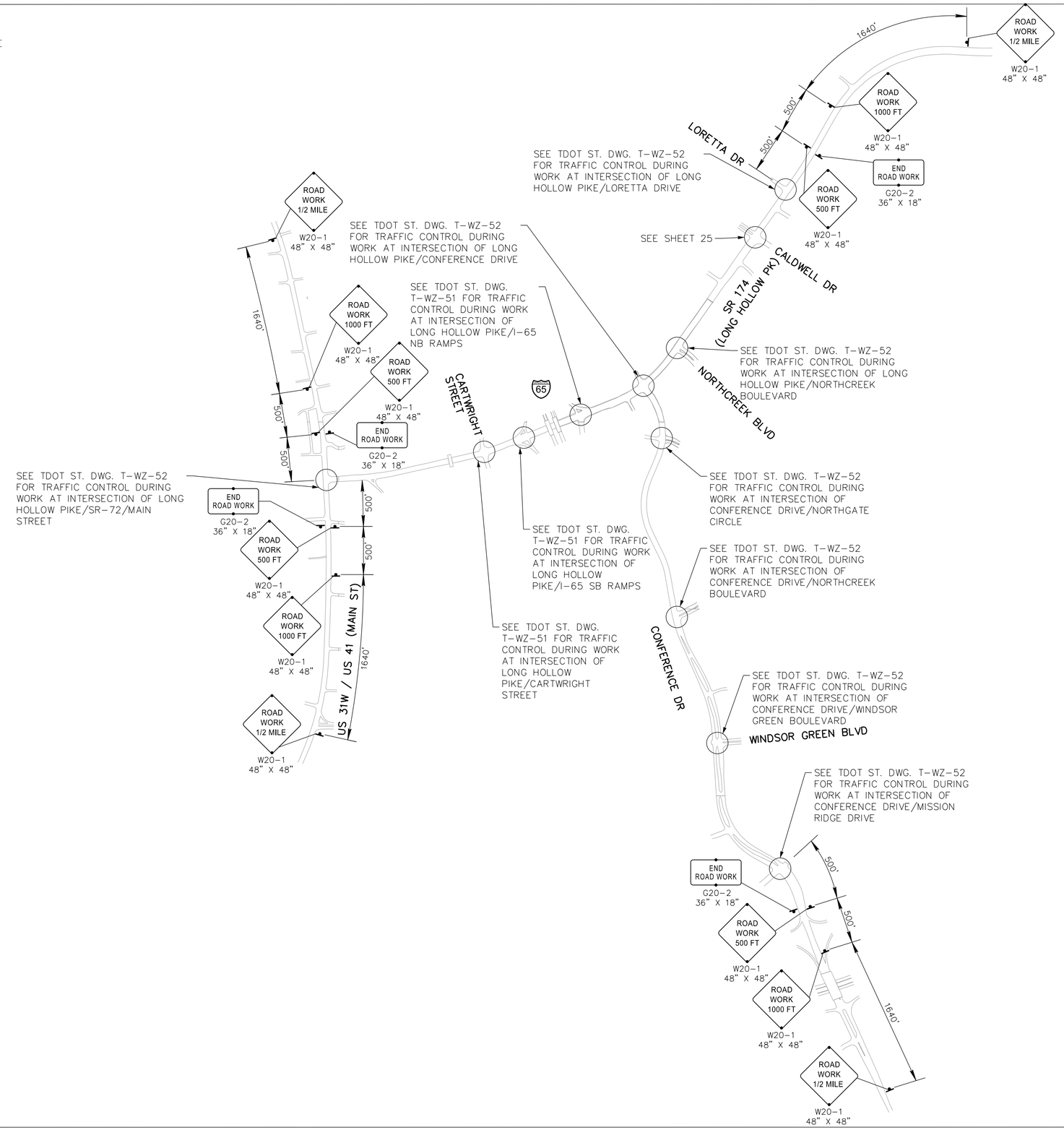
8 EXISTING STRIPING THAT CONFLICTS WITH THE TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING CONSTRUCTION, WHEN CONSTRUCTION IS COMPLETE THE EXISTING STRIPING SHALL BE RETURNED TO ITS ORIGINAL STATE.

9 ALL TRAFFIC CONTROL SIGNS SHALL MEET THE MINIMUM RETROREFLECTIVITY LEVELS SPECIFIED IN THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

10 FLEXIBLE DRUMS OR CONES MAY BE USED FOR SHORT-TERM LANE CLOSURES (DAY TIME ONLY), FLEXIBLE DRUMS SHALL BE USED FOR LONG-TERM (OVERNIGHT) CLOSURES.

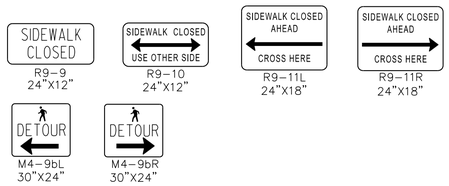
11 RAISED PAVEMENT MARKERS FOR LEFT EDGE LINES SHALL BE SPACED AT 20 FEET AND PLACED IN A SINGLE ROW, NOT STAGGERED.

12 ALL TEMPORARY STRIPING SHALL BE REMOVABLE PAVEMENT MARKING LINE PER LINEAR FOOT.



SIDEWALK TRAFFIC CONTROL NOTES

1 SIDEWALK CLOSED AND PEDESTRIAN DETOUR SIGNS SHALL BE USED WHEN WORK REQUIRES CLOSURE OF A SIDEWALK. REFER TO TDOT STD. DWG. T-WZ-55 FOR APPLICATIONS. DURATION OF SIDEWALK CLOSURES SHALL BE MINIMIZED TO THE FURTHEST EXTENT POSSIBLE.



Kimley»Horn
214 OCEANSIDE DRIVE
NASHVILLE, TENNESSEE
37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES
PHASE II
THE CITY OF GOODLETTSVILLE, TENNESSEE

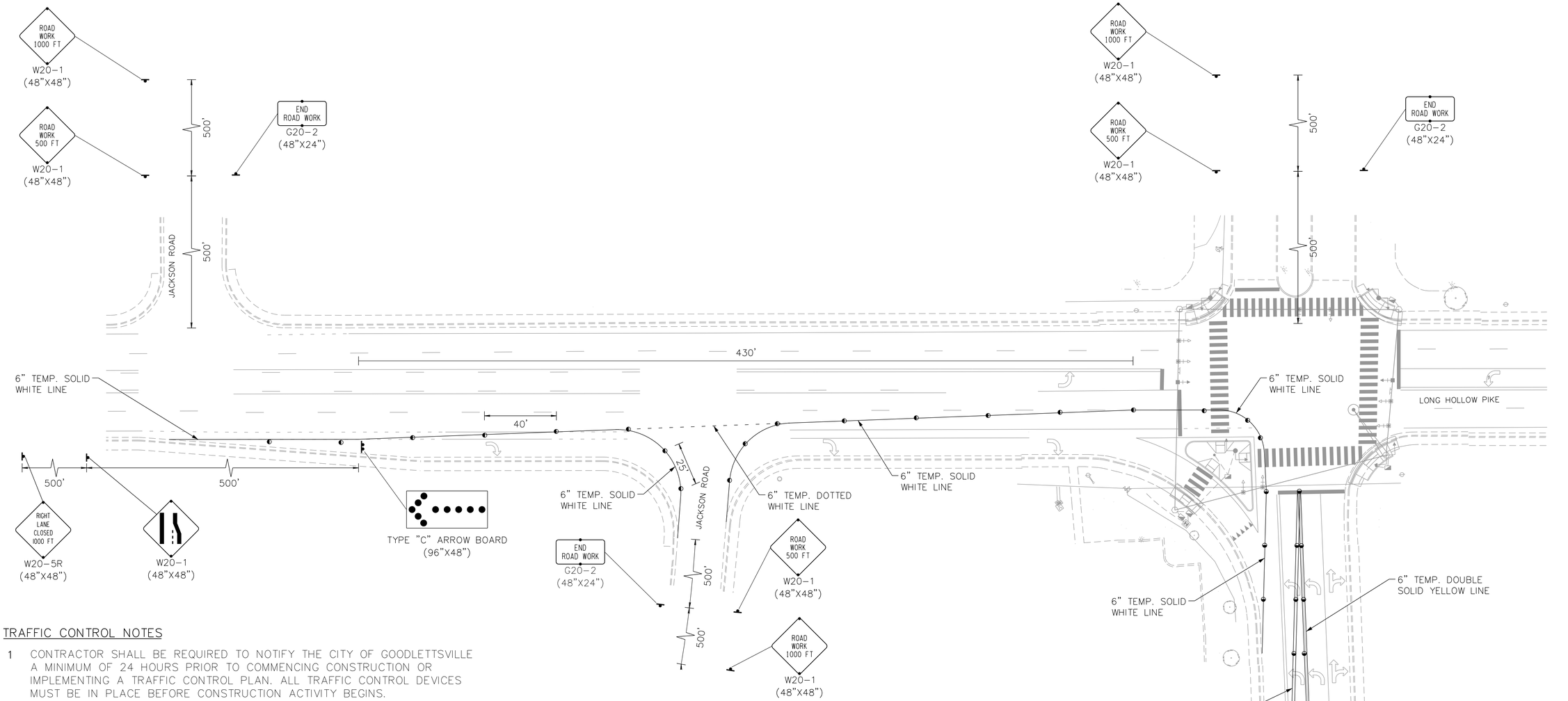
TRAFFIC CONTROL PLAN
LONG HOLLOW PIKE
AND
CONFERENCE DRIVE
CORRIDORS

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
XVI
AGRICULTURE
COMMERCE
STATE OF TENNESSEE
12-31-2019

No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	NLM
CHECKED BY:	CDR
DATE:	1/11/2019
KHA PROJECT NO.:	118035002

SHEET NUMBER
24



TRAFFIC CONTROL NOTES

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TRAFFIC CONTROL NOTES (CONTINUED)

9 ALL TRAFFIC CONTROL SIGNS SHALL MEET THE MINIMUM RETROREFLECTIVITY LEVELS SPECIFIED IN THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

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Kimley»Horn
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NASHVILLE, TENNESSEE
37204-2351
TEL 615 564 2701

GOODLETTSVILLE TRAFFIC FLOW IMPROVEMENTS AND TRAFFIC SIGNAL UPGRADES
PHASE II
THE CITY OF GOODLETTSVILLE, TENNESSEE

TRAFFIC CONTROL PLAN
LONG HOLLOW PIKE
AT
CALDWELL DRIVE

CHRISTOPHER D. RHODES
REGISTERED ENGINEER
XVI
AGRICULTURE
COURAGE
STATE OF TENNESSEE
1/11/2019

No.	REVISIONS	DATE	BY

DESIGNED BY:	TQH
DRAWN BY:	NLM
CHECKED BY:	CDR
DATE:	1/11/2019

KHA PROJECT NO.: 118035002

SHEET NUMBER
25

2/7/2019 11:47:14 AM
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