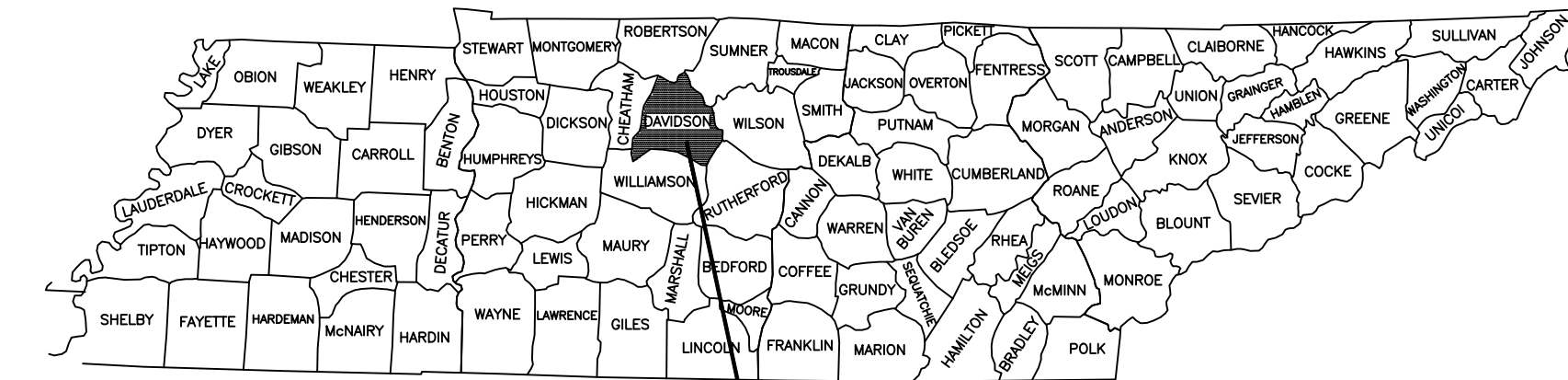


# BIKE LANE PAVEMENT MARKING PLANS

## LINDSLEY AVENUE FROM 2ND AVENUE S TO HERMITAGE AVENUE (SR-24)

### INDEX OF SHEETS CONSTRUCTION

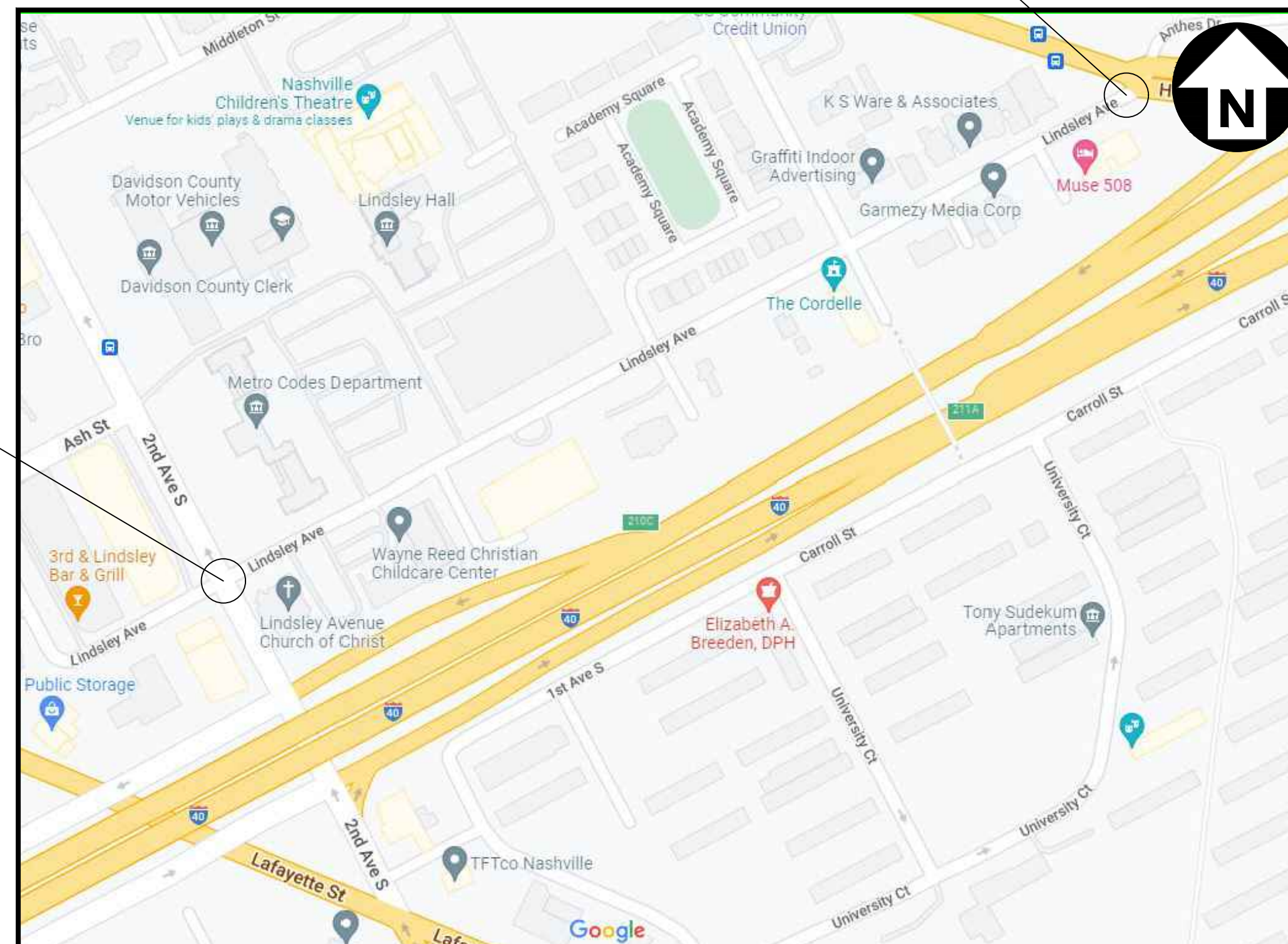
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES
3A-3B	PAVEMENT MARKING DETAILS
4A-4B	PAVEMENT MARKING AND SIGNING PLAN
5	TRAFFIC SIGNAL PLAN
6	TRAFFIC SIGNAL NOTES AND QUANTITIES



PROJECT LOCATION  
DAVIDSON COUNTY

END PROJECT  
HERMITAGE AVE AND LINDSLEY AVE

BEGIN PROJECT  
2ND AVE S AND LINDSLEY AVE



### LOCATION MAP

NOT TO SCALE

LINDSLEY AVENUE SPEED LIMIT = 30 M.P.H.  
TOTAL PROJECT LENGTH - APPROXIMATELY 2,112 L.F.

### T.D.O.T. STANDARD DRAWINGS

- MM-CR-1 DETECTABLE WARNING SURFACE PLACEMENT ON CURB RAMPS
- MM-PM-2 SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANE OR ROUTES
- MM-PM-3 SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANES ON URBAN ROADWAYS
- MM-PM-4 SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANES
- MM-PM-5 SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANES AT INTERSECTIONS
- MM-TS-1 BIKE ACCOMMODATION DESIGN GUIDANCE
- RD-A-1 STANDARD ABBREVIATIONS
- RD-L-1 STANDARD LEGEND
- RD-L-3 STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
- RD-L-4 STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
- T-M-1 DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
- T-M-2 DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
- T-M-3 MARKING STANDARDS FOR TRAFFIC ISLANDS, MEDIANS & PAVED SHOULDERS ON CONVENTIONAL ROADS
- T-M-4 STANDARD INTERSECTION PAVEMENT MARKINGS
- T-S-9 STANDARD LAYOUT GROUND MOUNTED SIGNS
- T-S-10 STANDARD MOUNTING DETAILS FLAT SHEET SIGNS ALUMINUM-STEEL DESIGN
- T-S-19 STANDARD STEEL SIGN SUPPORTS
- T-S-20 SIGN DETAILS
- T-SG-2 LOOP LEAD-INS, CONDUIT AND PULL BOXES
- T-SG-3 STANDARD NOTES AND DETAILS OF INDUCTIVE LOOPS
- T-SG-3A ALTERNATE DETECTION DETAILS
- T-SG-7E TYPICAL SIGNAL HEAD PLACEMENT - TWO-LANE APPROACHES
- T-SG-12 TYPICAL WIRING FOR SIGNAL HEADS AND DETECTION LOOPS

### METRO STANDARD DRAWINGS

- ST-329 DETECTABLE WARNINGS AT CURB RETURNS WITH RADIUS 25 FEET OR LESS
- ST-330 DETECTABLE WARNINGS AT CURB RETURNS WITH RADIUS GREATER THAN 25 FEET
- ST-502 BIKE LANES WITH ON-STREET PARKING PERMITTED
- ST-503 BIKE LANES WITH ON-STREET PARKING PROHIBITED
- ST-504 PAVEMENT MARKINGS AND SIGNS FOR BIKE LANES

### SPECIAL NOTE

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED: JANUARY 1, 2021 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND THE PROPOSAL CONTRACT.

**SPECIAL NOTE:**  
THE BASE SURVEY AND DESIGN INFORMATION FOR ROADWAY AND UTILITIES PRESENTED ON THIS PLAN WERE PROVIDED TO KCI TECHNOLOGIES, INC. BY NASHVILLE DEPARTMENT OF TRANSPORTATION. WHERE AVAILABLE, BASE INFORMATION HAS BEEN SUPPLEMENTED BY FIELD OBSERVATIONS BY THE ENGINEER. KCI TECHNOLOGIES, INC. MAKES NO CLAIMS AS TO THE COMPLETENESS OR ACCURACY OF THE PROVIDED BASE INFORMATION.

DESIGNED BY KCI TECHNOLOGIES, INC.

DESIGNER JONATHAN CLEGHON, PE

P.E. NO. 107340

FILE NO.	892107772.07
DATE:	09/09/22
DESIGNED BY:	JEG
DRAWN BY:	AWW
CHECKED BY:	JMC

### REVISION BLOCK

DATE:		



09/09/22

ALL CONSTRUCTION ACTIVITIES SHALL BE COMPLETED IN FULL COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD, FEDERAL REGISTER 36 CFR PARTS 1190 AND 1191, ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES, ARCHITECTURAL BARRIERS ACT (ABA) ACCESSIBILITY GUIDELINES, PROPOSED RULE. PUBLISHED IN THE FEDERAL REGISTER ON JULY 23, 2004, AS HAS BEEN ADOPTED BY METRO.

ACCEPTED BY : \_\_\_\_\_

DATE : \_\_\_\_\_

APPROVAL OF THIS TRAFFIC SIGNAL PLAN DESIGNATES APPROVAL OF THE DESIGN ONLY. APPROVAL OF THE DESIGN DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO OBTAIN THE APPROPRIATE PERMITS IN ORDER TO INSTALL THE TRAFFIC SIGNAL.



TITLE SHEET

Lindsley Avenue

N.T.S.

SHEET 1

ESTIMATED ROADWAY QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
PW-DW-001	TRUNCATED DOME WARNING MAT	S.F.	130




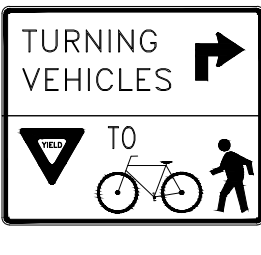



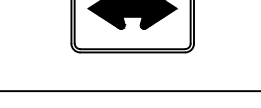


ESTIMATED PAVEMENT MARKING QUANTITIES			
ROADWAY QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
(1) 716-02.01	PLASTIC PAVEMENT MARKING (4" LINE)	L.M.	0.65
716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	80
716-02.09	PLASTIC PAVEMENT MARKING (CROSS-WALK - LONGITUDINAL BAR STYLE)	L.F.	770
(2) 716-02.35	PLASTIC PAVEMENT MARKING (90mil 6" DETAIL WORK - LOADING ZONES, ISLAND MARKINGS, BULBOUITS, ETC.)	L.F.	600
716-04.01	PLASTIC PAVEMENT MARKING (STRAIGHT-TURN ARROW)	EACH	1
(3) 920-11	EPOXY PAINT ON CURBS	L.F.	410
(4) 920-20.04	INSTALLATION OF FLEXIBLE DELINEATORS (WHITE)	EACH	12
BIKEWAY QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
716-02.01	PLASTIC PAVEMENT MARKING (4" LINE)	L.M.	0.60
716-02.10	PLASTIC PAVEMENT MARKING (6" LINE)	L.M.	0.65
716-02.10 BZ	PLASTIC PAVEMENT MARKING (6" LINE - BUFFER ZONE)	L.M.	0.30
716-02.11	PLASTIC PAVEMENT MARKING (6" DOTTED LINE - 2' LINE W/ 4' SKIP)	L.M.	0.20
(5) 716-02.12	PLASTIC PAVEMENT MARKING (8" LINE)	L.M.	0.01
716-04.03	PLASTIC PAVEMENT MARKING (4" DOTTED LINE - 2' LINE W/ 4' SKIP)	L.F.	350
716-04.12	PLASTIC PAVEMENT MARKING (YIELD LINE TRIANGLES)	EACH	6
716-04.13 HR	PLASTIC PAVEMENT MARKING (BICYCLE W/ HELEMTEED RIDER SYMBOL & DIRECTIONAL ARROW)	EACH	12
716-04.20	GREEN TEXTURED BIKE LANE (EXTRUDED THERMOPLASTIC)	S.Y.	110
920-13.04	TUFF CURB XLP WITH TUBULAR MARKER (SUPPLY AND INSTALL)	EACH	9
(6) 920-20.04	INSTALLATION OF FLEXIBLE DELINEATORS (WHITE)	EACH	210

FOOTNOTES:

- (1) THIS ITEM INCLUDES THE DOUBLE SOLID YELLOW LINE ALONG LINDSLEY AVENUE BETWEEN 2ND AVENUE SOUTH AND HERMITAGE AVENUE.
- (2) THIS ITEM INCLUDES ALL DETAIL WORK NECESSARY FOR THE CURB EXTENSION AT THE INTERSECTION OF 2ND AVENUE SOUTH AND I-40 WESTBOUND RAMPS AND THE ON-STREET PARKING BUFFERS ON UNIVERSITY STREET AND ACADEMY PLACE.
- (3) THIS ITEM INCLUDES THE PERIMETER OF THE EPOXY PAVEMENT MARKINGS FOR THE CURB EXTENSIONS AT THE INTERSECTIONS OF 2ND AVENUE SOUTH AND I-40 WESTBOUND RAMPS AND 2ND AVENUE SOUTH AND LINDSLEY AVENUE WITH A TOTAL APPROXIMATE AREA OF 1,500 SQUARE FEET. SPECIFIC
- (4) THIS ITEM INCLUDES THE FLEXIBLE DELINEATORS TO BE USED FOR THE CURB EXTENSION AT THE INTERSECTION OF 2ND AVENUE SOUTH AND I-40 WESTBOUND RAMPS.
- (5) THIS ITEM INCLUDES THE BIKE LANE STOP BARS AT THE INTERSECTIONS OF 2ND AVENUE SOUTH AND LINDSLEY AVENUE AND HERMITAGE AVENUE AND LINDSLEY AVENUE.
- (6) THIS ITEM INCLUDES THE FLEXIBLE DELINEATORS TO BE USED ALONG THE BIKEWAY ON LINDSLEY AVENUE BETWEEN 2ND AVENUE SOUTH AND HERMITAGE AVENUE.
- (7) SIGN FACE BACKGROUND TO BE FLUORESCENT YELLOW-GREEN GREEN IN COLOR.

NDOT NOTES:

- ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.).
- PLAN DESIGN IS BASED ON FIELD CONDITIONS AS OF 2/1/22.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ROADWAY MARKINGS, SIGNS, AND SIGNALS.

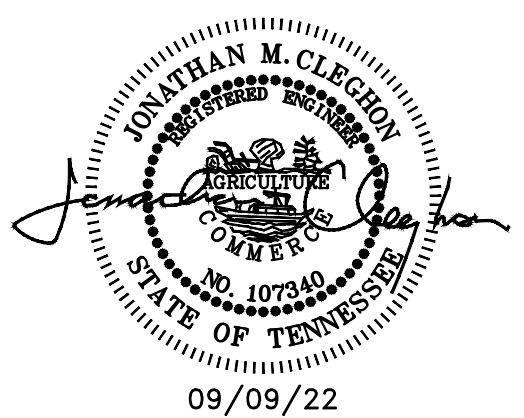
SIGN SCHEDULE					
#	SIGN	DESCRIPTION	MUTCD	SIZE	QTY.
S1		NO RIGHT-TURN BLANK-OUT SIGN	R3-1 L.E.D.	24"X24"	1
S2		BICYCLE/PEDESTRIAN (FYG)	W11-15	36"X36"	4
S3		AHEAD PLAQUE (FYG)	W16-9P	24"X12"	3
S4		RIGHT TURNING VEHICLES YIELD TO BIKE/PED (FYG)	R10-15R MOD.	30"X30"	2
S5		BIKE LANE	R3-17	24"X18"	7
S6		PARKING RESTRICTION (NO PARKING IN BIKE LANE)	R7-9A	12"X18"	7
S7		BIKE ROUTE	D11-1	24"X18"	2
S8		BICYCLE ROUTE DOUBLE ARROW	M6-4	12"X9"	1
S9		BICYCLE ROUTE SINGLE ARROW	M6-1R	12"X9"	1
S10		PEDESTRIAN (FYG)	W11-2	30"X30"	1
				TOTAL	99.75 S.F.

ESTIMATED SIGN QUANTITIES				
ITEM NO.	SIGN #	DESCRIPTION	UNIT	QUANTITY
713-15.36	NA	REMOVE SIGN, SUPPORT & FOOTING	EACH	4
713-16.20	S1	SIGNS (24" X 24") R3-1, NO RIGHT TURN, L.E.D. BLANK OUT SIGN	EACH	1
(7) 713-16.21	S2	SIGNS (30" X 30") W11-15, BICYCLE / PEDESTRIAN	EACH	4
(7) 713-16.22	S3	SIGNS (24" X 12") W16-9P, AHEAD PLAQUE	EACH	3
(7) 713-16.23	S4	SIGNS (30" X 30") R10-15R MOD., TURNING VEHICLES YIELD TO PEDESTRIANS AND BICYCLISTS, RIGHT	EACH	2
713-16.24	S5	SIGNS (24" X 18") R3-17, BIKE LANE	EACH	7
713-16.25	S6	SIGNS (12" X 18") R7-9A, PARKING RESTRICTION, NO PARKING IN BIKE LANE	EACH	7
713-16.26	S7	SIGNS (24" X 18") D11-1, BIKE ROUTE	EACH	2
713-16.27	S8	SIGNS (12" X 9") M6-4, BICYCLE ROUTE DOUBLE ARROW	EACH	1
713-16.28	S9	SIGNS (12" X 9") M6-1R, BICYCLE ROUTE SINGLE ARROW, RIGHT	EACH	1
(7) 713-16.29	S10	SIGNS (30" X 30") W11-2, PEDESTRIAN	EACH	1

FILE NO.	892107772.07
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CHECKED BY:	JMC

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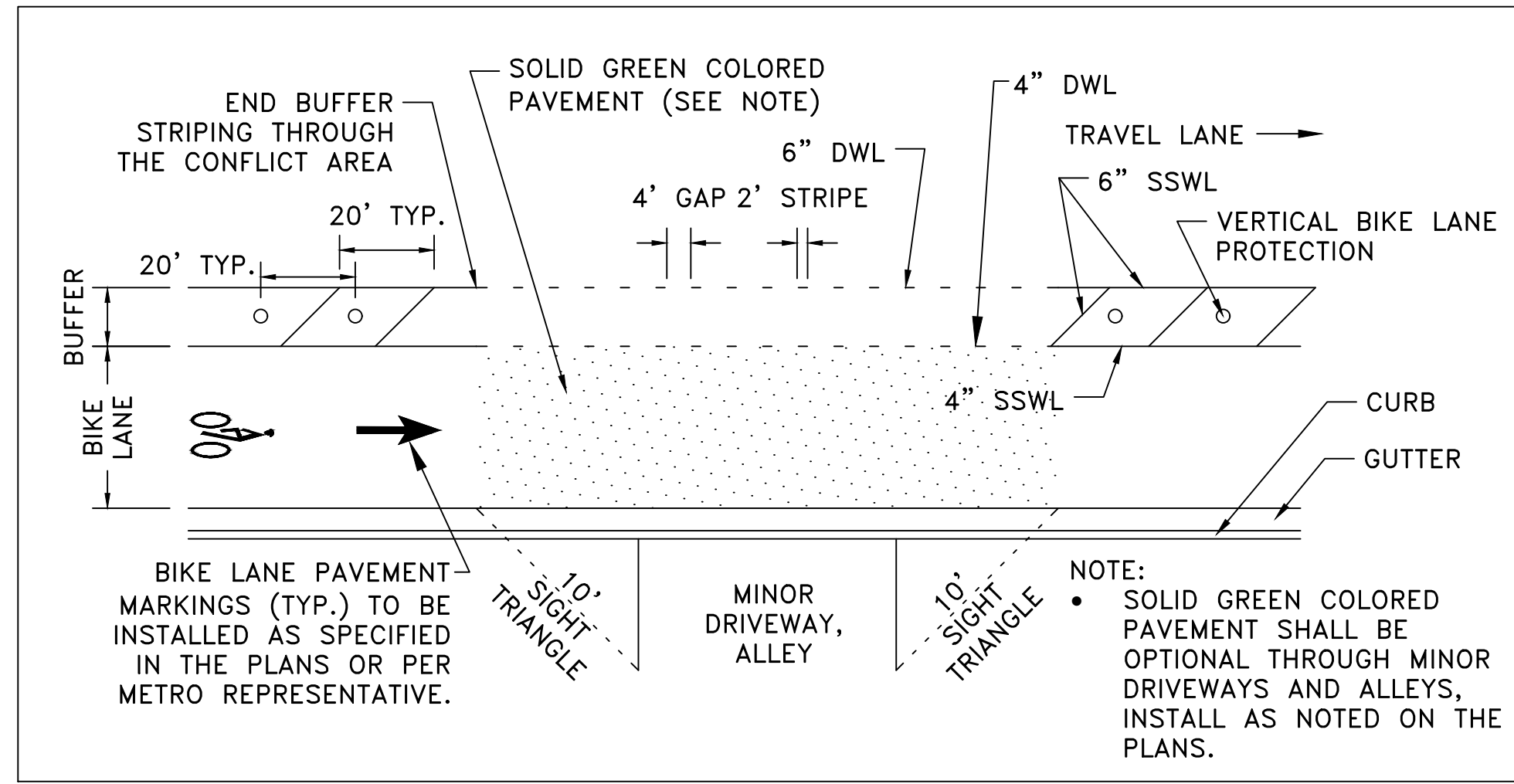


ESTIMATED QUANTITIES

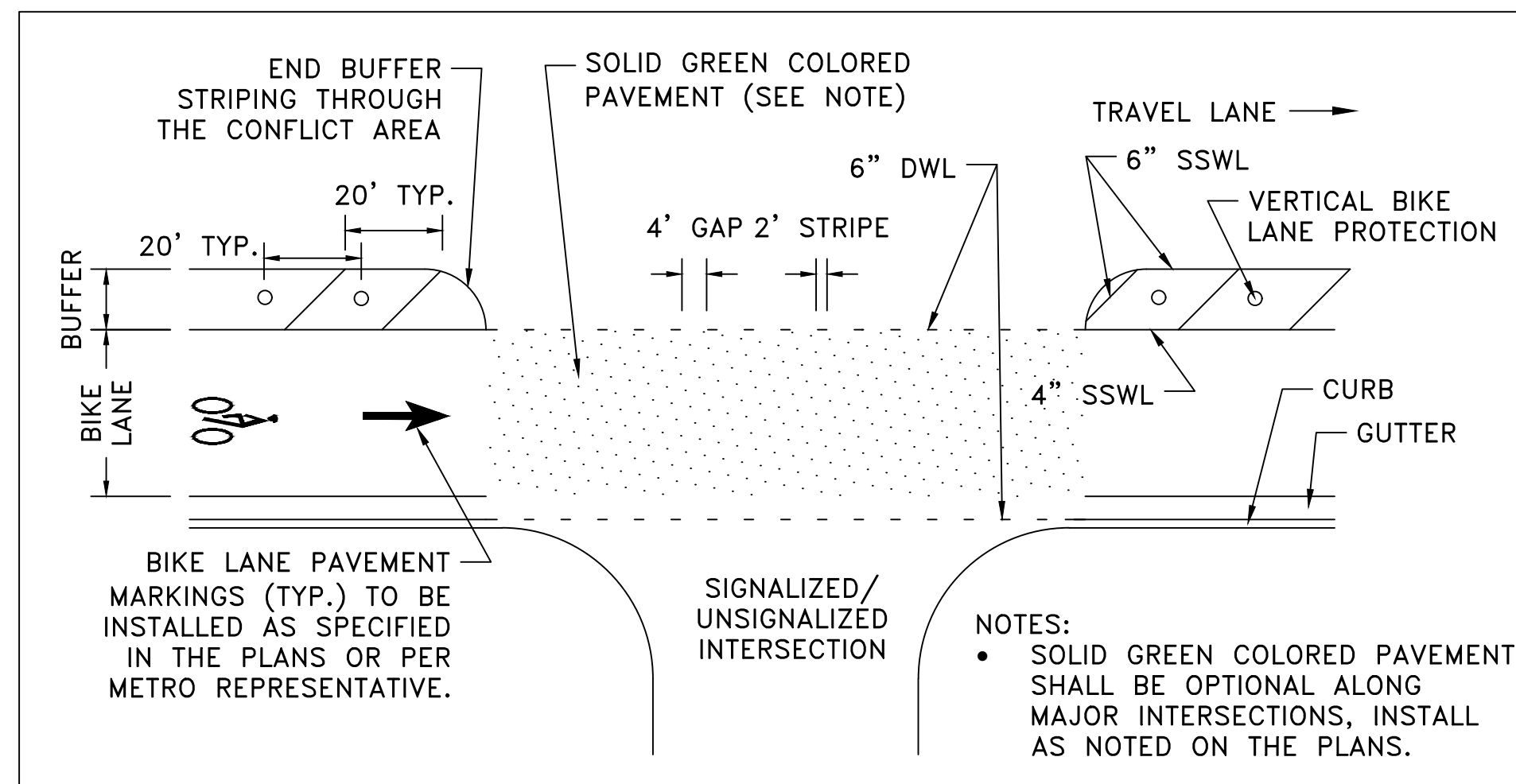
Lindsley Avenue

N.T.S.

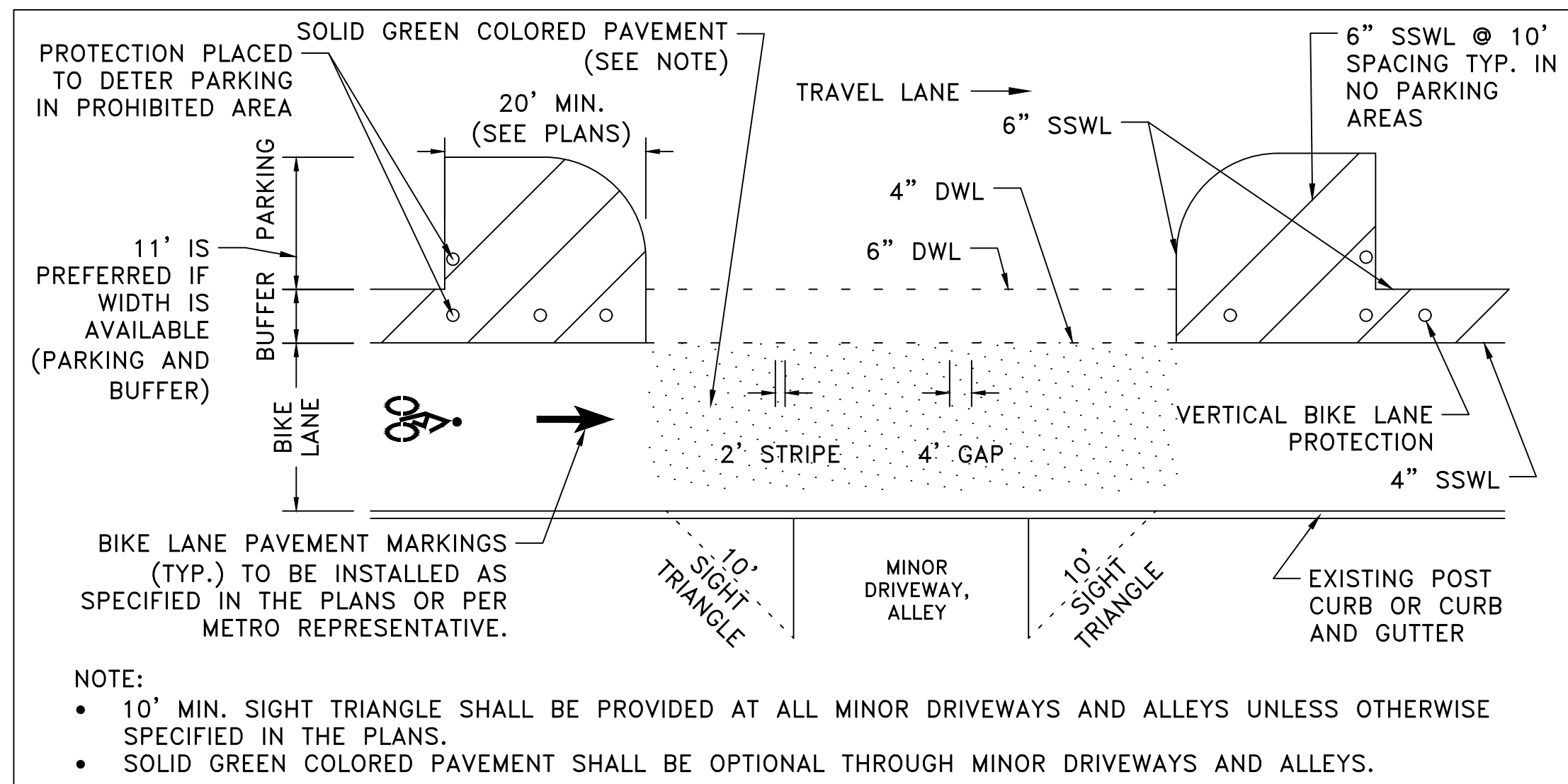
SHEET 2



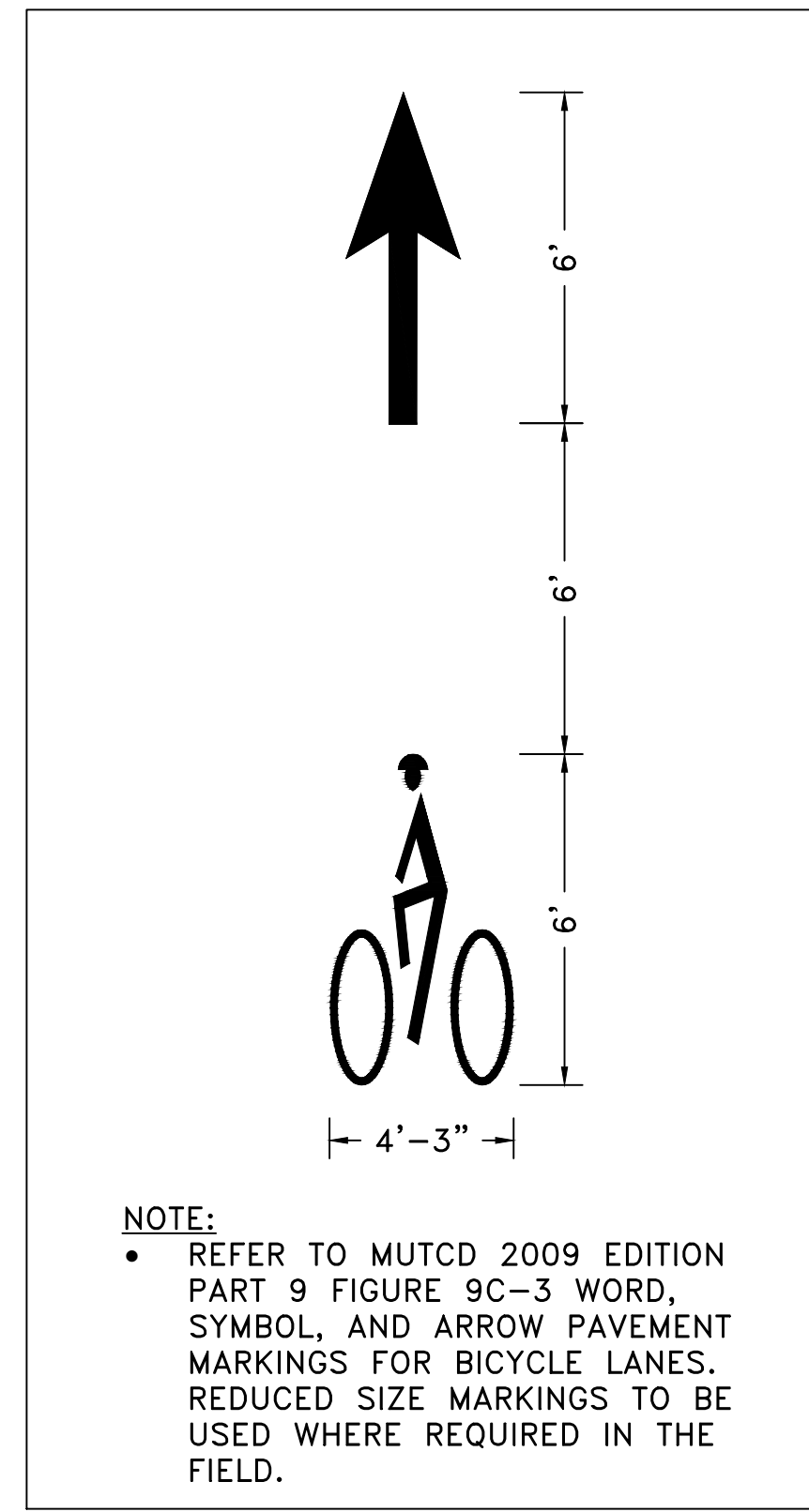
**SITE TRIANGLE & BIKE CONFLICT LINE (BLC) DETAIL AT DRIVEWAYS**  
N.T.S.



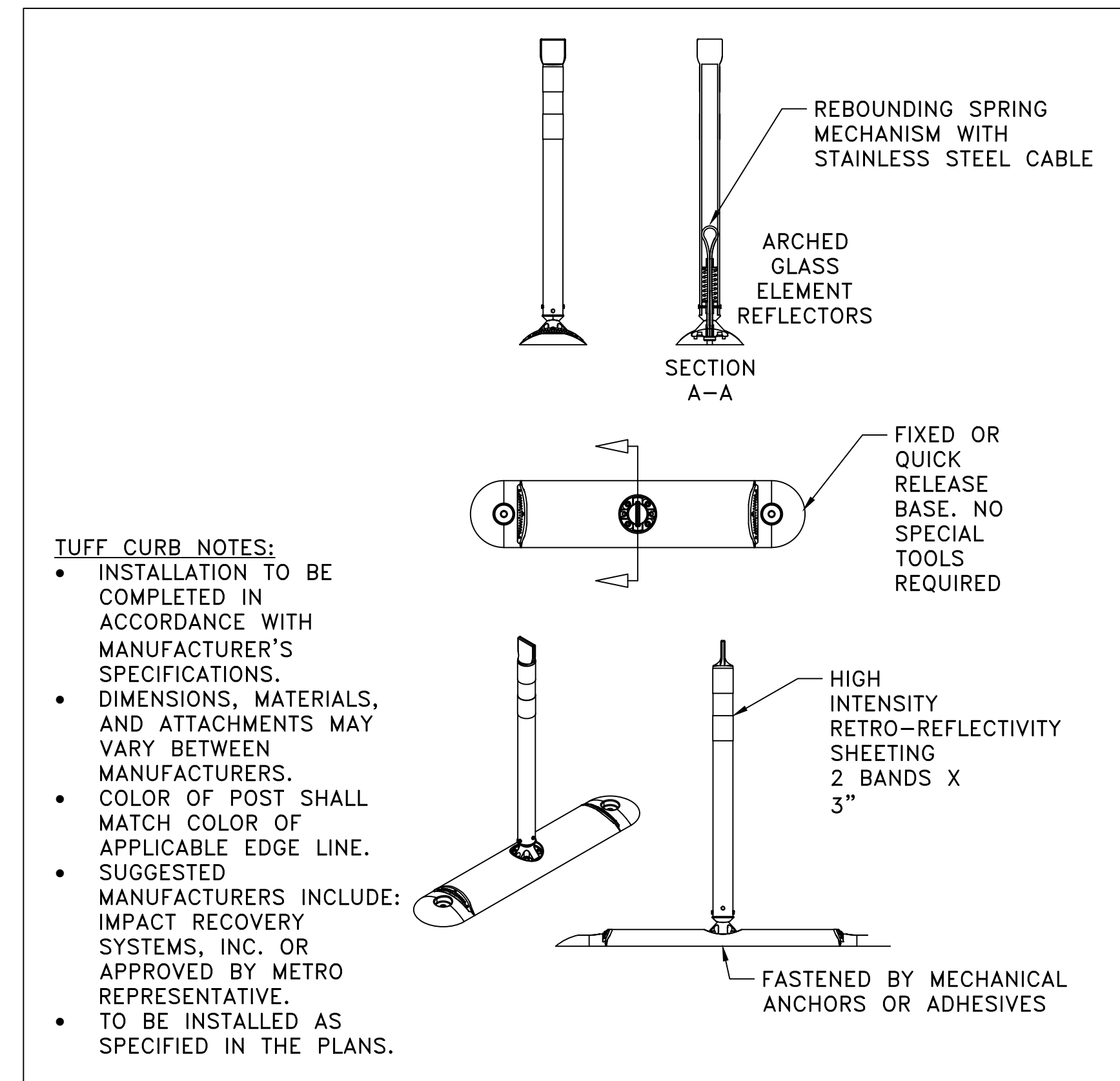
**BIKE CONFLICT LINE (BLC) AT INTERSECTIONS**  
N.T.S.



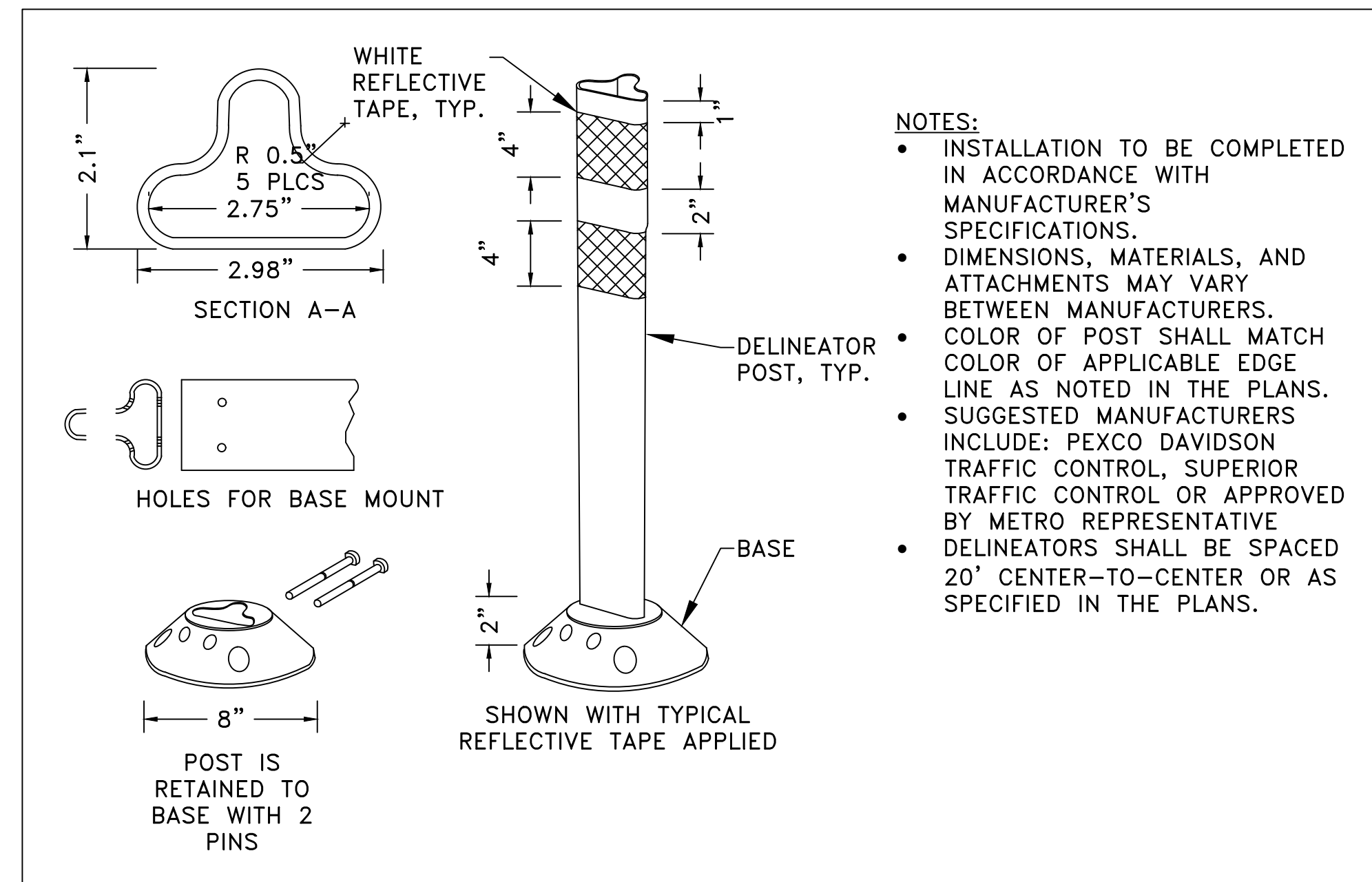
**SIGHT TRIANGLE & BIKE CONFLICT LINE (BLC) DETAIL AT DRIVEWAYS FOR PARKING PROTECTED BIKEWAYS**  
N.T.S.



**BIKE LANE PAVEMENT MARKING DETAIL**  
N.T.S.



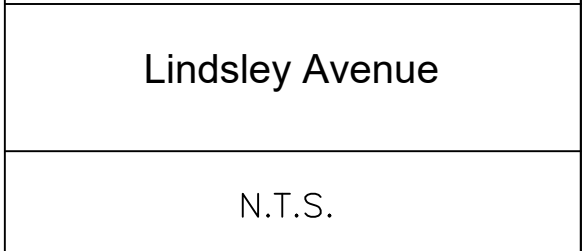
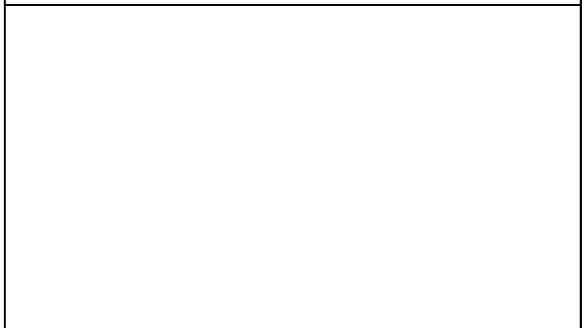
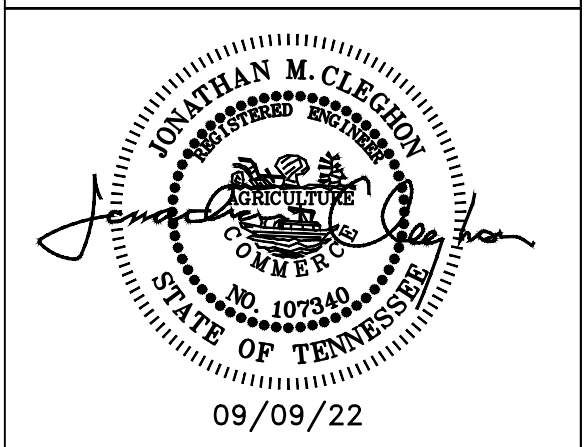
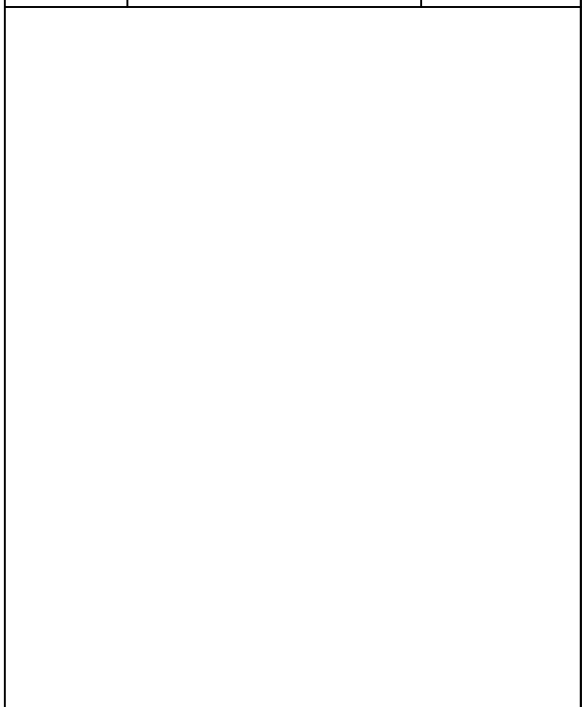
**TUFF CURB XLP WITH TUBULAR MARKER DETAIL**  
N.T.S.



**36\"/>**

FILE NO.	892107772.07
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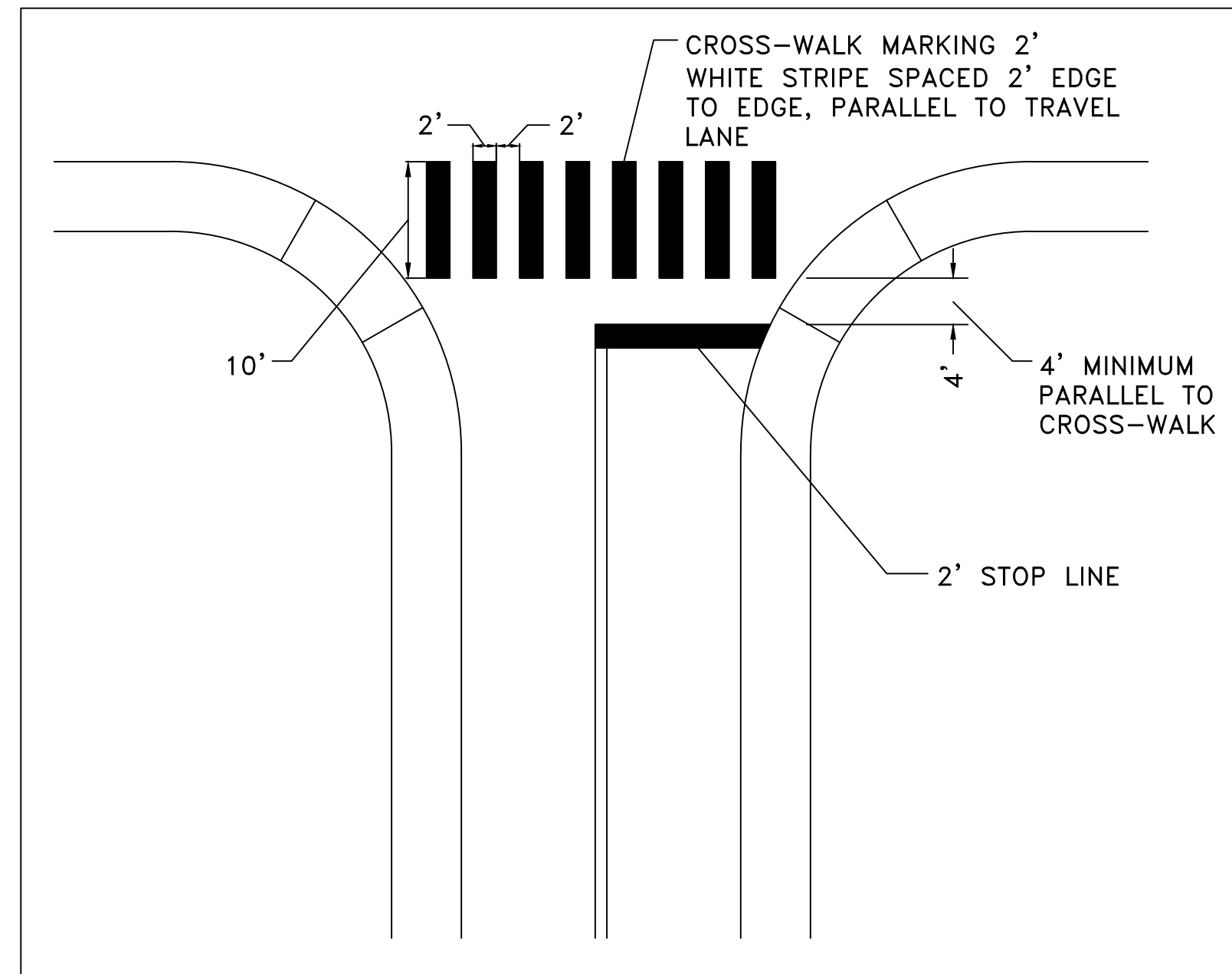
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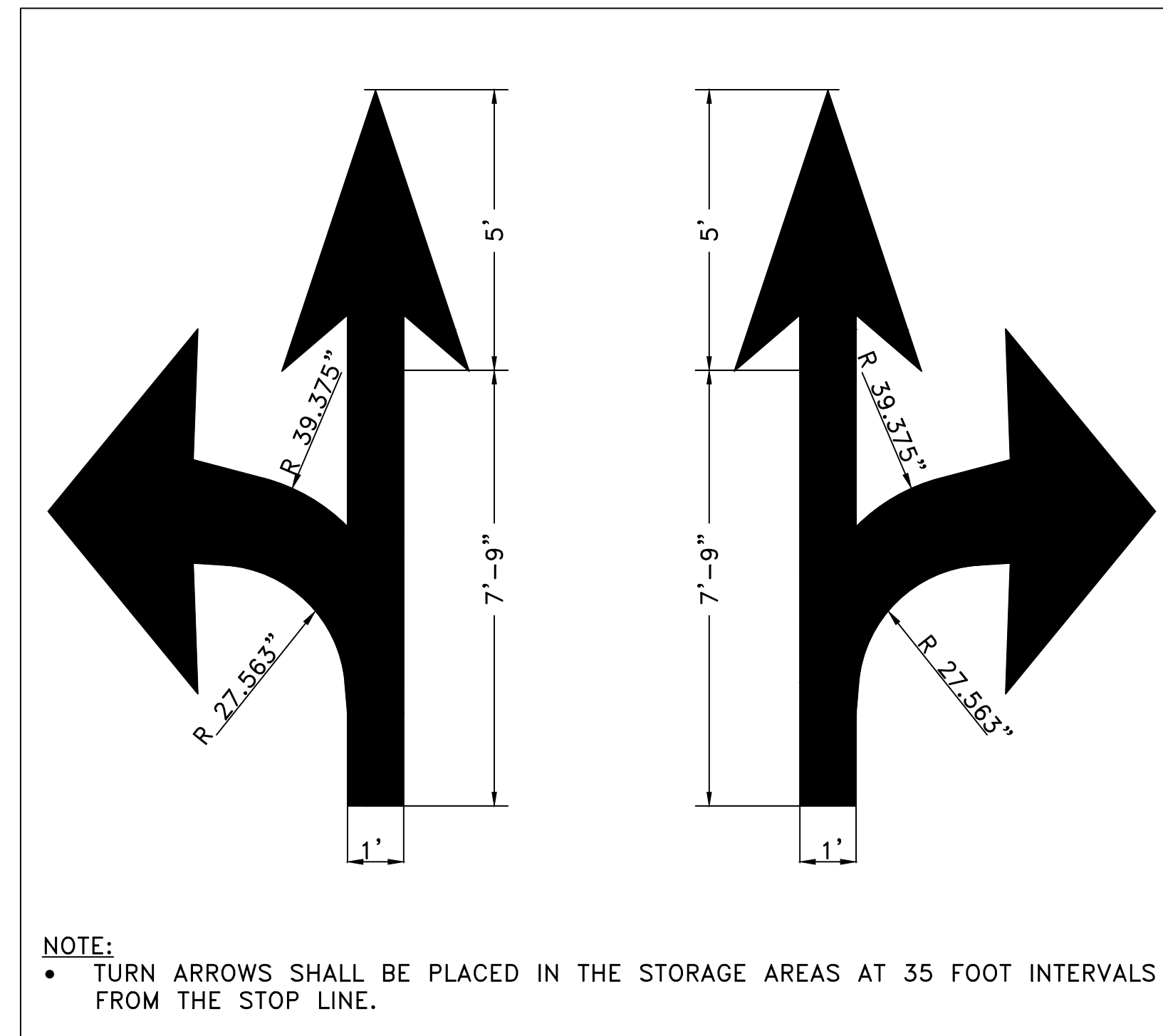
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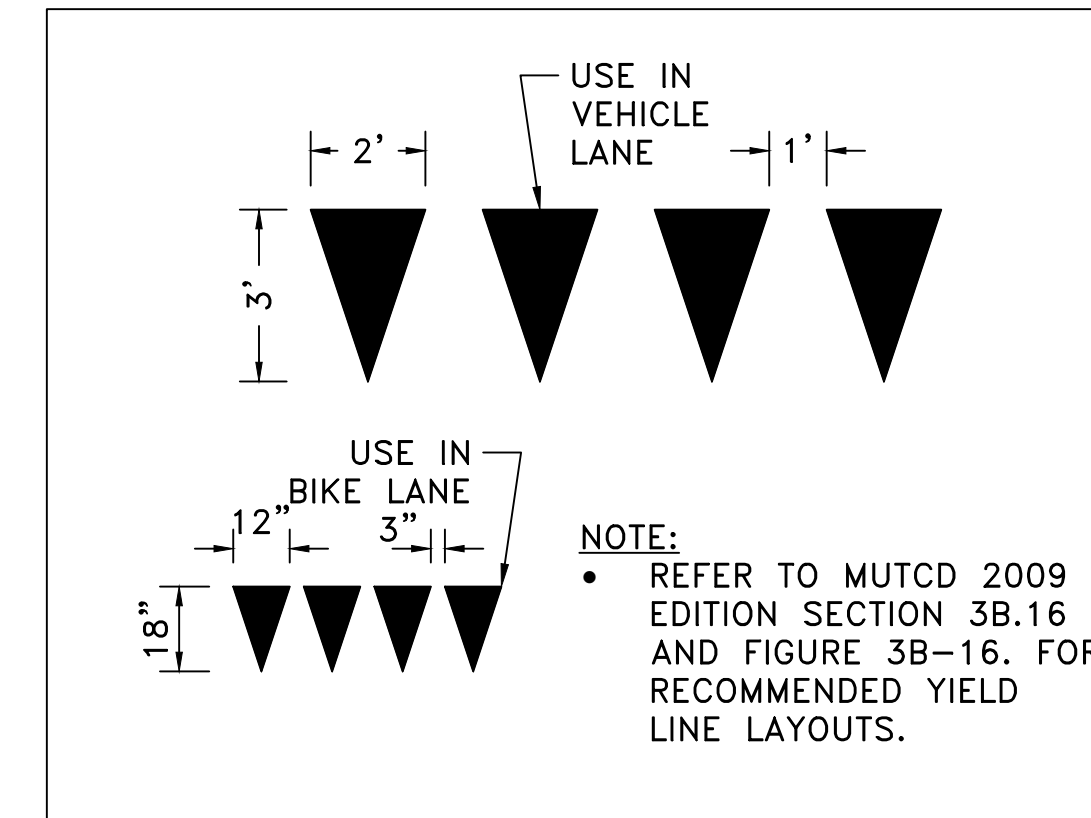


TYPICAL STOP LINE PLACEMENT  
AND CROSS-WALK MARKINGS  
N.T.S.



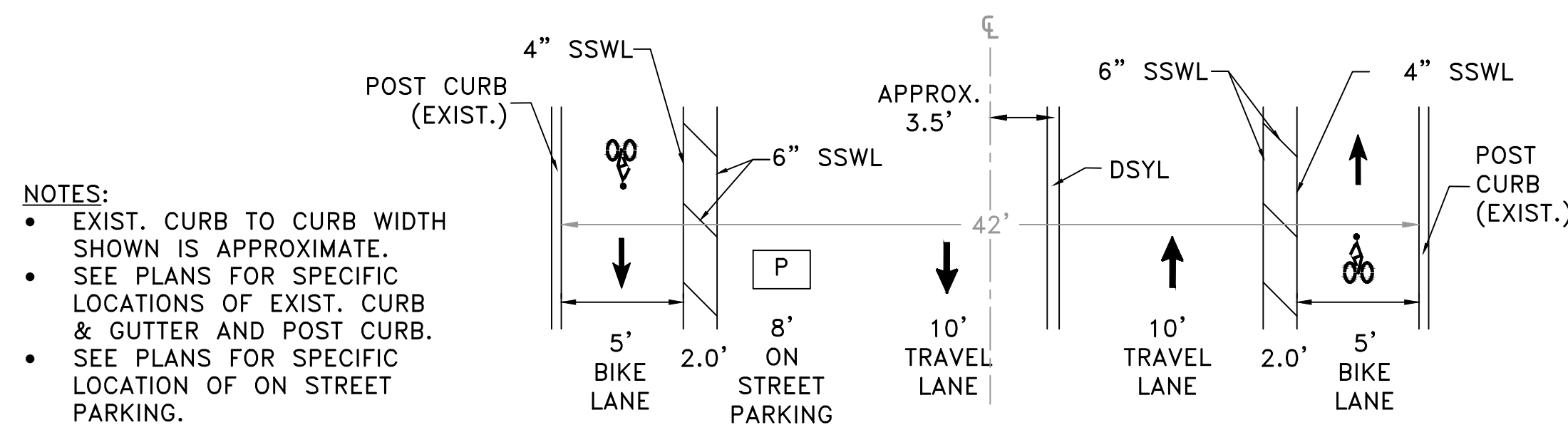
NOTE:  
• TURN ARROWS SHALL BE PLACED IN THE STORAGE AREAS AT 35 FOOT INTERVALS FROM THE STOP LINE.

STANDARD ARROW PAVEMENT MARKINGS  
N.T.S.



YIELD LINE DETAILS  
N.T.S.

ROADWAY TYPICAL SECTION  
EASTBOUND – PROTECTED BIKE LANE  
WESTBOUND – PARKING PROTECTED BUFFERED BIKE LANE



- NOTES:
- EXIST. CURB TO CURB WIDTH SHOWN IS APPROXIMATE.
  - SEE PLANS FOR SPECIFIC LOCATIONS OF EXIST. CURB & GUTTER AND POST CURB.
  - SEE PLANS FOR SPECIFIC LOCATION OF ON STREET PARKING.

LINDSLEY AVENUE – 2ND AVENUE SOUTH TO HERMITAGE AVENUE



PAVEMENT MARKING  
DETAILS

Lindsley Avenue

N.T.S.

SHEET 3B



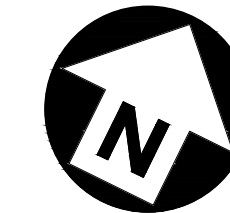
**LEGEND**

	GROUND MOUNTED SIGN W/ NUMBER (EXISTING, MOVED, REMOVED)
	GROUND MOUNTED SIGN W/ NUMBER (NEW)
	24 INCH WIDE STOP LINE (NEW)
	YIELD LINE (NEW)
	CROSSWALK PAVEMENT MARKINGS (NEW)
	ARROW PAVEMENT MARKING (NEW)
	VERTICAL BIKE LANE PROTECTION (NEW)
	GREEN PAVEMENT MARKINGS AND DOTTED CONFLICT LINES (NEW)
	DETAIL CURB EXTENSION MARKINGS (CONTRASTING EPOXY MATERIAL, NEW)
	BIKE LANE PAVEMENT MARKING (NEW)

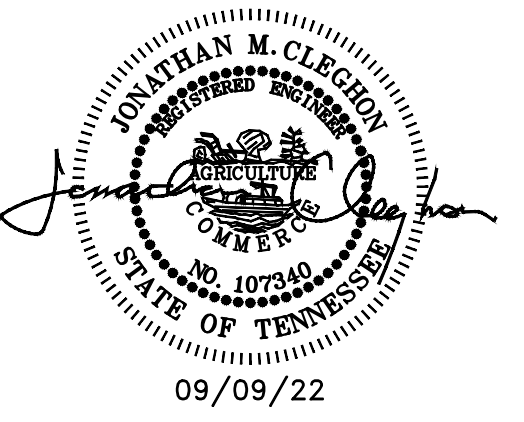
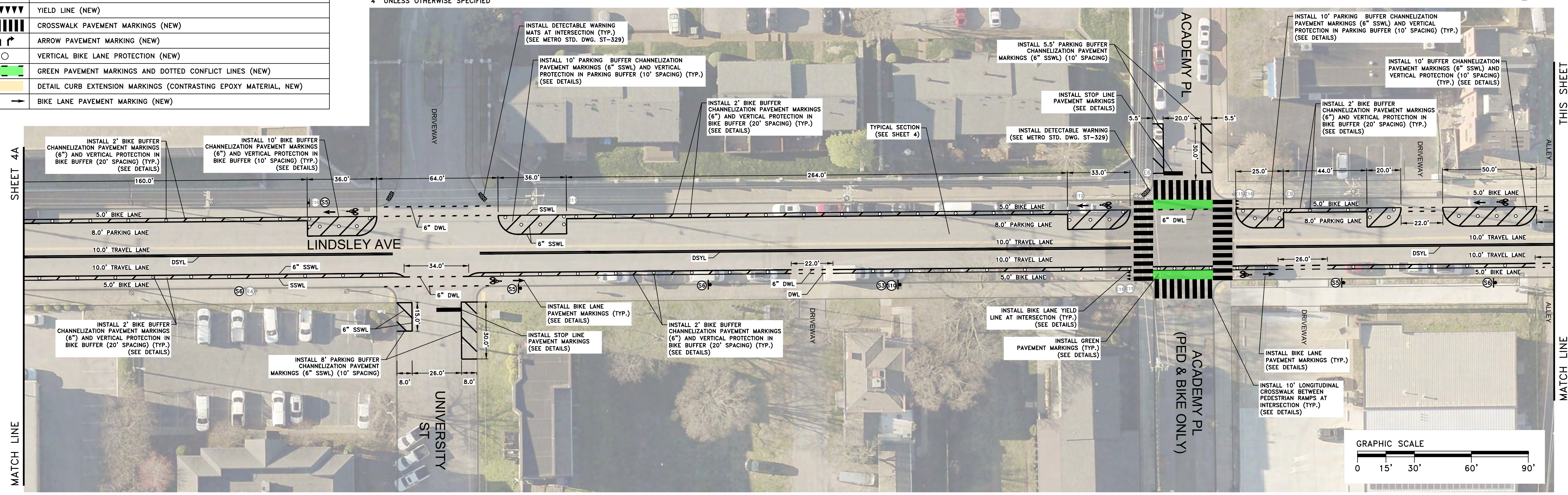
**MARKING ABBREVIATIONS**

SSWL	- SINGLE SOLID WHITE LINE
DSYL	- DOUBLE SOLID YELLOW LINE
DWL	- DOTTED WHITE LINE

4" UNLESS OTHERWISE SPECIFIED



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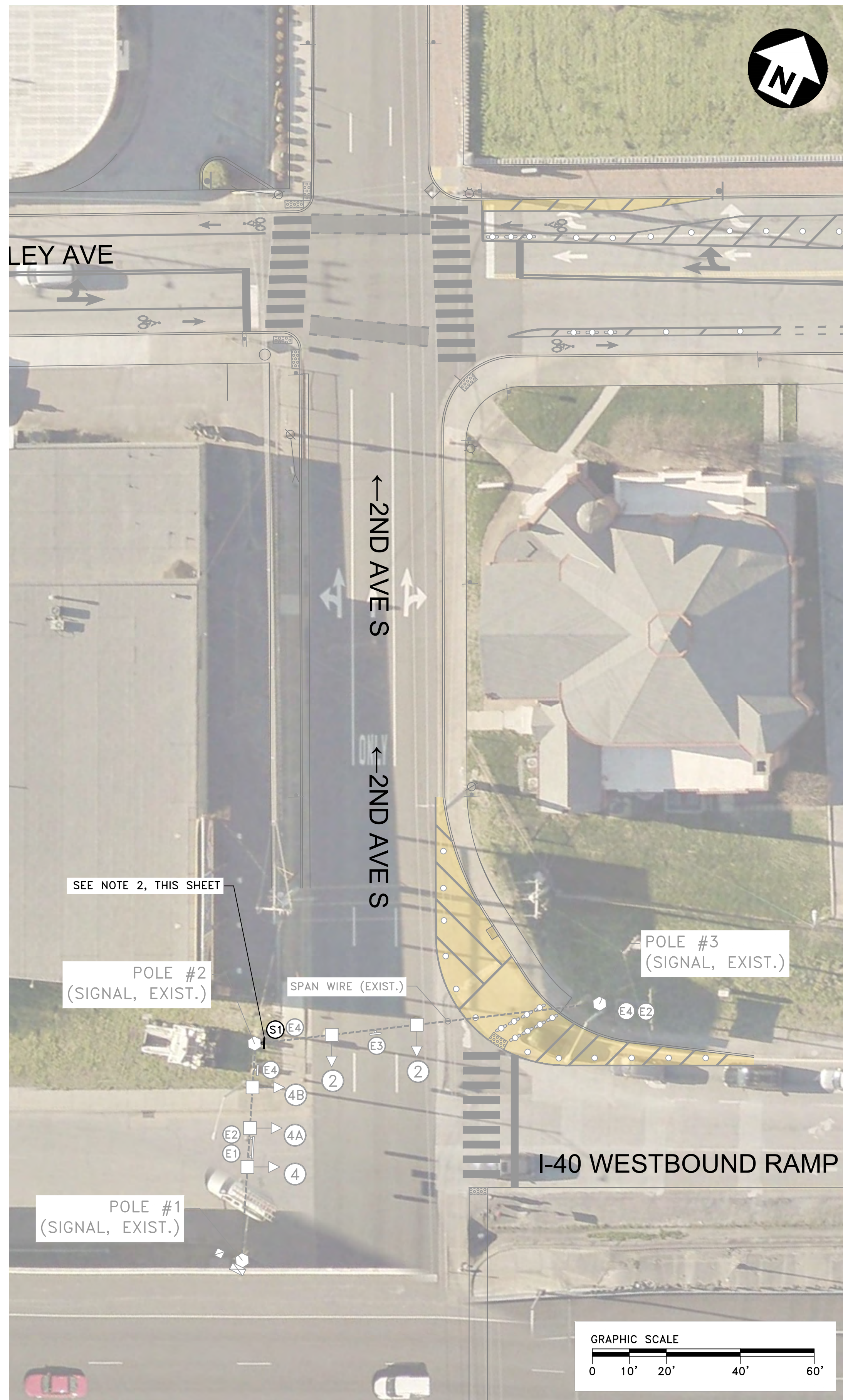


**PAVEMENT MARKING AND SIGNING PLAN**

Lindsley Avenue

SCALE: 1"=30'

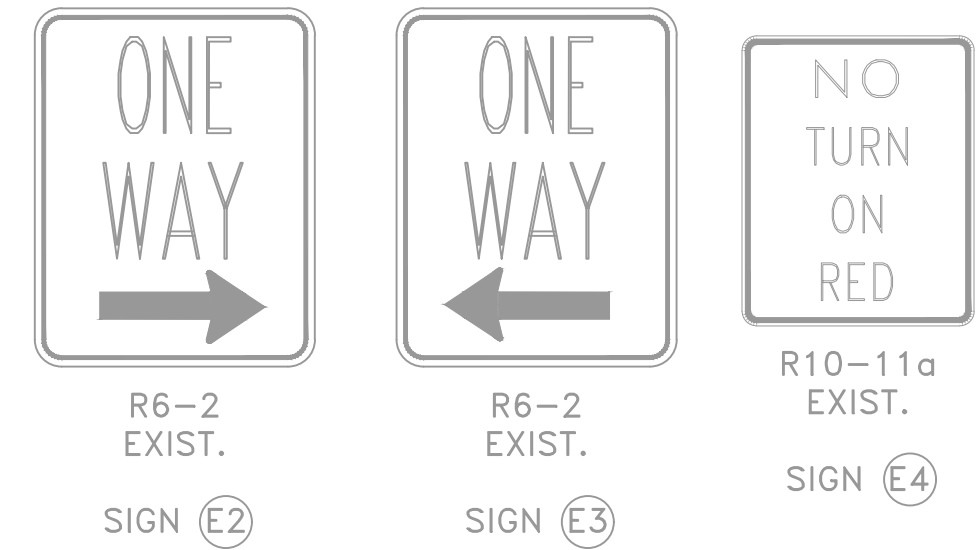
SHEET 4B



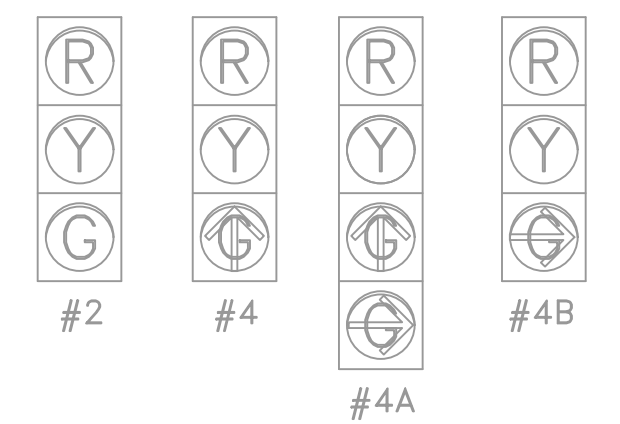
**OVERHEAD STREET NAME SIGNS  
(EXISTING, TO REMAIN) (SNS)**



**TRAFFIC SIGNS  
(EXISTING, TO REMAIN)**



**SIGNAL HEAD DISPLAYS  
(EXISTING, TO REMAIN)**

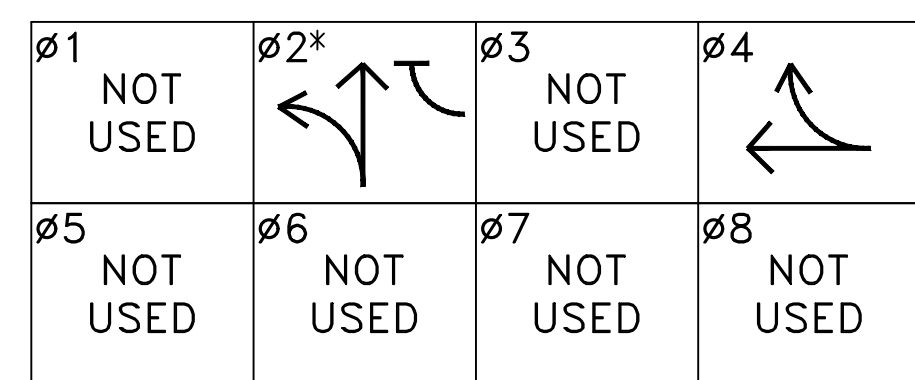


**CHANGEABLE MESSAGE  
SIGN (CMS)  
(NEW)**



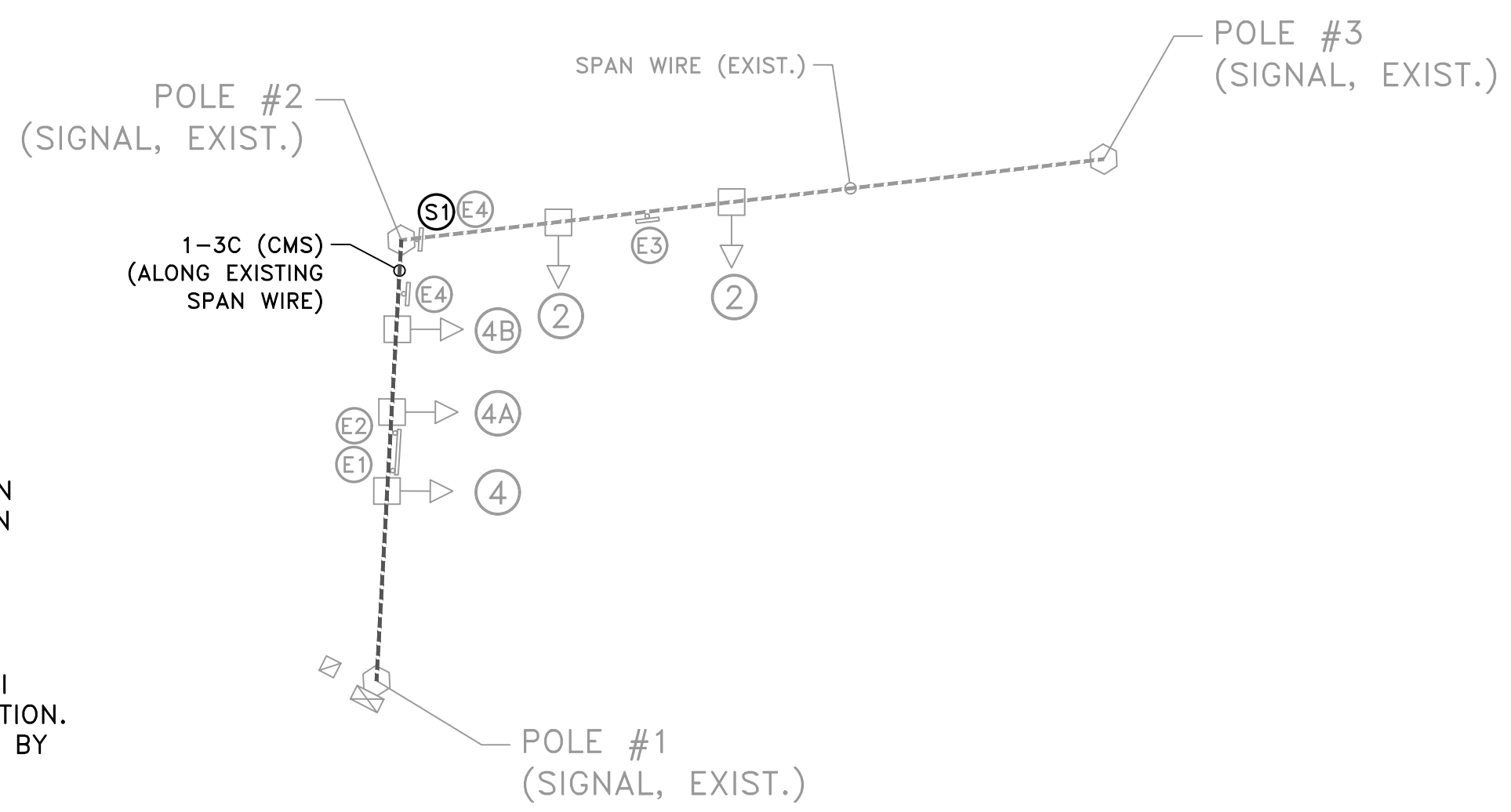
R3-1 L.E.D.  
NO RIGHT-TURN  
BLANK-OUT SIGN  
24"x24"  
SIGN (S1)

**PHASING DIAGRAM**



\* NO RIGHT-TURN BLANK-OUT SIGN, S1, TO COME ON DURING PHASE 2.

**WIRING DIAGRAM**



- NOTE:**
- CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDUIT AND WIRING. ALL EXISTING WIRING TO REMAIN. NEW WIRING TO BE PROVIDED FOR NO RIGHT-TURN BLANK-OUT SIGN, S1, AS NEEDED, AS SHOWN.
  - NO RIGHT-TURN BLANK-OUT SIGN, S1, SHALL BE MOUNTED ON SIGNAL POLE ABOVE SIGN E4 AND JUST BELOW EXISTING SPAN ATTACHMENT.

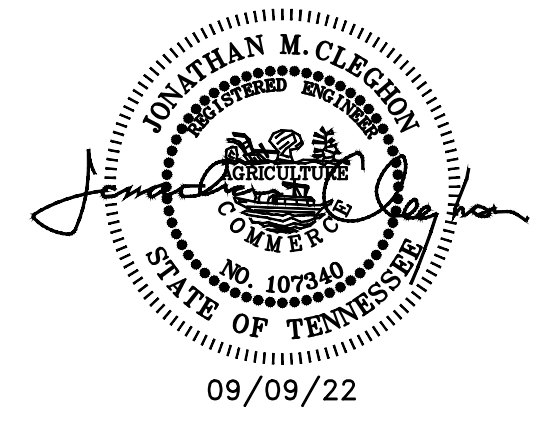
**SPECIAL NOTE:**  
THE BASE SURVEY AND DESIGN INFORMATION FOR ROADWAY AND UTILITIES PRESENTED ON THIS PLAN WERE PROVIDED TO KCI TECHNOLOGIES, INC. BY NASHVILLE DEPARTMENT OF TRANSPORTATION. WHERE AVAILABLE, BASE INFORMATION HAS BEEN SUPPLEMENTED BY FIELD OBSERVATIONS BY THE ENGINEER. KCI TECHNOLOGIES, INC. MAKES NO CLAIMS AS TO THE COMPLETENESS OR ACCURACY OF THE PROVIDED BASE INFORMATION.

**LEGEND**

	TRAFFIC SIGNAL POLE (EXISTING)
	SIGNAL HEAD W/ NUMBER (EXISTING)
	POLE MOUNTED TRAFFIC SIGNAL CONTROLLER (EXISTING)
	PULL BOX (EXISTING)
	OVERHEAD STREET NAME SIGN W/ NUMBER (EXISTING)
	POLE OR SPAN MOUNTED SIGN W/ NUMBER (EXISTING, REMOVED)
	POLE MOUNTED SIGN W/ NUMBER (NEW)

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INTERSECTION NO. 1080

**TRAFFIC SIGNAL PLAN**

I-40 Westbound Ramp & 2nd Avenue South

SCALE: 1"=20'

SHEET 5



## SIGNAL NOTES

1. ALL CONSTRUCTION, EQUIPMENT, AND INSTALLATION PROCEDURES SHALL COMPLY WITH THE TENNESSEE DEPARTMENT OF TRANSPORTATION (TDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. SIGNAL INSTALLATION AND EQUIPMENT SHALL COMPLY WITH SECTION 730N-TRAFFIC SIGNALS (CURRENT EDITION). ALL PAVEMENT MARKINGS SHALL COMPLY WITH SECTION 716-PAVEMENT MARKINGS.

2. THE CONTRACTOR SHALL SUBMIT A MATERIALS LIST TO NDOT FOR REVIEW AND APPROVAL PRIOR TO START OF CONSTRUCTION (CONTACT: MIKE HIRTZER, METRO TRAFFIC ENGINEERING, 615-880-3261).

3. INITIAL SIGNAL TIMINGS ARE TO BE PROVIDED BY MDPW. THE CONTRACTOR SHALL NOTIFY NDOT A MINIMUM OF THIRTY (30) DAYS PRIOR TO ACTIVATION OF THE TRAFFIC SIGNAL.

4. CONSTRUCT THE CONTROLLER CABINET AND FOUNDATION IN ACCORDANCE WITH TDOT STANDARD DRAWINGS. AN APPROPRIATE CABINET AND FOUNDATION SHALL BE INSTALLED PER NDOT SPECIFICATIONS: TYPE IV 55" X 44" X 26" ALUMINUM TYPE IV-C 50" X 36" X 17<sup>3</sup>/<sub>4</sub>" ELECTROSTATIC PAINTED BLACK.

5. THE CONTRACTOR SHALL CONNECT THE EXISTING SIGNAL COMMUNICATIONS CABLE TO THE NEW TRAFFIC SIGNAL CONTROLLER CABINET. THE CONNECTION SHALL BE MADE BY SPLICING THE EXISTING CABLE IN A MANNER ACCEPTABLE TO NDOT. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH NDOT AND RECEIVE NDOT APPROVAL PRIOR TO SPLICING THE EXISTING CABLE.

6. ALL UTILITY LOCATIONS, AS SHOWN, ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY. SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ELECTRICAL SERVICE TO THE SITE.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL UTILITIES FOR ANY "MAKE READY" WORK REQUIRED. NDOT SHALL BE RESPONSIBLE FOR THE ACTUAL COST OF "MAKE READY" WORK.

9.A CONTRACTOR SHALL INSTALL A 50 AMP, 2 POLE WEATHERPROOF EXTERNAL DISCONNECT ON THE POLE WITH A/C SERVICE CONNECTION. ENCLOSURE SHALL BE METALLIC WITH A 50 AMP SINGLE POLE CIRCUIT BREAKER.

9.B CONTRACTOR SHALL INSTALL UNDERGROUND ELECTRIC SERVICE CONNECTION IN A TYPE B PULL BOX LABELED "TRAFFIC SIGNAL". PULL BOX SHALL HAVE A 30 AMP KTK FUSE AND WATER PROOF FUSE HOLDER WITH #6 AWG WIRES COLOR CODED BLACK, WHITE, AND GREEN. POWER SERVICE SHOULD BE INSTALLED IN A 2" CONDUIT FROM NES VAULT TO CONTROLLER CABINET.

10. VEHICLE DETECTION LOOPS SHALL MEASURE 6' X 45' QUADRAPOLE LOOPS WITH TWO TURNS OF WIRE, UNLESS SPECIFIED OTHERWISE. LOOPS SHALL BE CENTERED IN THE TRAVEL LANES. LOOPS SHALL BE INSTALLED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS AND MDPW LOOP SPECIFICATIONS, UNLESS OTHERWISE NOTED.

11. ALL EQUIPMENT NECESSARY FOR RADAR DETECTION SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED IN THE CABINET.

12. ALL FOUNDATIONS SHALL HAVE A SPARE 2-INCH STUBOUT PARALLEL TO THE ROAD (POLES AND CONTROLLER):

13. THE PROPOSED LOCATIONS FOR THE SIGNAL SUPPORT POLES, AS SHOWN ON THESE PLANS, ARE APPROXIMATE. SOME FIELD ADJUSTMENT MAY BE REQUIRED IN ORDER TO AVOID CONFLICT WITH EITHER OVERHEAD OR UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND STAKING THE OPTIMUM LOCATIONS FOR

THESE POLES AND FOR RECEIVING APPROVAL FROM THE ENGINEER AND THE APPROPRIATE UTILITIES BEFORE INSTALLATION BEGINS. PROPER ROADSIDE CLEAR ZONES SHALL BE OBSERVED:

14. SHAFTS FOR FOOTINGS SHALL BE DRILLED THROUGH FIRM, UNDISTURBED, UNSATURATED SOIL AND SHALL BE VISUALLY INSPECTED BY THE ENGINEER OR ENGINEERING REPRESENTATIVE PRIOR TO PLACEMENT OF REINFORCEMENT. THE ENGINEER OR ENGINEERING REPRESENTATIVE SHALL BE ADVISED BY THE CONTRACTOR OF ANY GROUND WATER OR LOOSE SOIL ENCOUNTERED DURING DRILLING. FOOTINGS SHALL COMPLY WITH TDOT STANDARD DRAWINGS:

15. SIGNAL HEADS VISIBLE TO DRIVERS BUT NOT OPERATIONAL SHALL BE COMPLETELY COVERED.

16. SIGNAL HEADS SHALL FLASH A MINIMUM OF SEVEN (7) DAYS PRIOR TO ACTIVATION OF THE TRAFFIC SIGNAL; UNLESS OTHERWISE SPECIFIED BY NDOT TRAFFIC ENGINEER.

17. IF FIELD ADJUSTMENTS RESULT IN CHANGES TO SIGNAL HEAD PLACEMENT, ATTACHMENT HEIGHTS, OR SPAN WIRE/MAST ARM LENGTH, THE ENGINEER SHALL BE ADVISED AND SHOP DRAWINGS SHALL BE RE-EVALUATED TO VERIFY THAT THE CHANGES ARE STRUCTURALLY ACCEPTABLE.

18. ALL STOP LINES, CROSSWALK LINES, LANE LINES, AND PAVEMENT ARROWS SHALL BE THERMOPLASTIC. STOP LINES SHALL BE 24 INCHES WIDE. ALL CONFLICTING MARKINGS SHALL BE REMOVED USING AN ACCEPTABLE METHOD AS SPECIFIED BY TDOT SPECIFICATION SECTION 712-TEMPORARY TRAFFIC CONTROL. EXISTING PAVEMENT MARKINGS SHALL BE REAPPLIED AS NECESSARY.

19. STREET NAME SIGNS ARE TO BE PROVIDED BY NDOT AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED. CONTACT NDOT SIGN SHOP A MINIMUM OF THIRTY (30) DAYS PRIOR TO EXPECTED SIGN INSTALLATION DATE FOR SIGN PREPARATION:

20. ALL ITEMS INSTALLED WITHIN THE PEDESTRIAN PATH OF TRAVEL (I.E. SIDEWALK) SHALL MEET THE NDOT STANDARD DETAILS. THIS INCLUDES A MINIMUM PATH OF TRAVEL WIDTH OF 60" AND A PROTRUDING OBJECT LIMIT OF 4" IF MOUNTED AT A HEIGHT BETWEEN 27" AND 80" AND WITHIN THE PATH OF TRAVEL. VARIANCES MUST BE APPROVED BY NDOT.

21. EXISTING SIGNAL EQUIPMENT TO BE REMOVED BY THE CONTRACTOR. ALL SALVAGED EQUIPMENT TO BE RETURNED TO NDOT.

22. EXISTING SIGNAL EQUIPMENT SHALL REMAIN IN OPERATION UNTIL NEW SIGNAL EQUIPMENT IS COMPLETE AND IN FULL OPERATION.

23. ALL NEW SIGNAL HEADS SHALL BE FABRICATED FROM ALUMINUM. ALL NEW SIGNAL HEADS SHALL BE LED TYPE, GELCORE OR METRO APPROVED ALTERNATE. SIGNAL HEAD EQUIPMENT (I.E. FRAME AND ILLUMINATION TYPE) SHALL BE APPROVED BY NDOT PRIOR TO INSTALLATION. ATTACHMENT TO BE WITH "ASTRO" BRACKETS:

24. CABINET AND CONTROLLER MUST HAVE ALL EQUIPMENT NECESSARY TO PROVIDE SIGNAL COMMUNICATION VIA PHONE DROP. CONTRACTOR TO FURNISH CELL MODEM. THIS INCLUDES 2" RISER WITH PULL LINE. THIS DOES NOT INCLUDE THE INSTALLATION OF THE PHONE LINE ITSELF.

25. CABINET/CONTROLLER TO INCLUDE COORDINATION MODULE, ETHERNET PORT, COMMUNICATIONS PANEL AND OTHER CABINET WIRING AS REQUIRED FOR SYSTEM OPERATION. CONTROLLER TO BE COMPATIBLE WITH EXISTING NDOT SIGNAL MANAGEMENT SOFTWARE AS SPECIFIED:

26. ALL CONSTRUCTION ACTIVITIES SHALL BE COMPLETED IN FULL COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD, FEDERAL REGISTER 36 CFR PARTS 1190 AND 1191, ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES; ARCHITECTURAL BARRIERS ACT (ABA) ACCESSIBILITY GUIDELINES; PROPOSED RULE, PUBLISHED IN THE FEDERAL REGISTER ON JULY 23, 2004, AS HAS BEEN ADOPTED BY METRO.

27. TRAFFIC SIGNAL SUPPORT POLES SHALL BE DESIGNED IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES, AND TRAFFIC SIGNALS (2009 EDITION). WIND LOADS SHALL BE BASED ON A BASIC WIND SPEED OF

90MPH WITH A RECURRENCE INTERVAL OF 50YRS. USE THE FATIGUE CATEGORY AS NOTED ON EACH PROPOSED SIGNAL LAYOUT. FATIGUE LOADS ARE BASED ON THE REQUIREMENTS OF SECTION 11.7 AND THE FOLLOWING LOADS: GALLOPING - NO DESIGN NECESSARY. VIBRATION DAMPENERS SHALL BE USED ON ALL MAST ARMS 50' OR GREATER. VORTEX SHEDDING - NOT APPLICABLE ON TRAFFIC SIGNAL SUPPORTS WITH A TAPER OF AT LEAST 0.14 IN/FT. NATURAL WIND GUST - THE YEARLY MEAN WIND SPEED FOR NATURAL WIND GUSTS SHALL BE 11.2MPH. TRUCK INDUCED GUST - NO DESIGN NECESSARY. THE TRAFFIC SIGNAL SUPPORT POLES SHALL BE POLES WITH CURVED MAST ARMS IN ACCORDANCE WITH NDOT 730-N POLE AND LIGHTING SPECIFICATIONS JANUARY 31, 2014. FOR POLE AND ARM DETAILS, AND TO CONFIRM DESIGN CRITERIA, CONTACT MIKE HIRTZER, METRO TRAFFIC ENGINEERING, 615-880-3261.

28. ALL OPEN CUTS AND TRENCH REPAIRS SHALL BE PERFORMED IN STRICT ACCORDANCE WITH CURRENT NDOT STANDARD DRAWINGS:

29. ALL SIDEWALK AND RAMP REPAIRS SHALL COMPLY WITH CURRENT NDOT STANDARD DRAWINGS.

30. ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED. CONDUIT SHALL BE LAID AT A MINIMUM DEPTH OF 24 INCHES BELOW FINISHED GRADE AND SHALL COMPLY WITH TDOT TRENCHING DETAILS AND CONDUIT PLACEMENT. THE CONTRACTOR SHALL SEAL ALL OPEN CONDUIT ENTRANCE HOLES, WITH OR WITHOUT CABLES, WITH CONDUIT DUCT SEAL PUTTY OR CONDUIT PLUGS. WHERE CABLE ENTER THE CONDUIT, THE SEALANT SHALL BE APPLIED AFTER INSTALLING THE CABLE. THESE LOCATIONS SHALL CONSIST OF CONDUIT ENDS AND PULL BOXES, CABINET BASES AND WEATHER HEADS:

31. THE PLAN SHEETS HAVE BEEN DEVELOPED WITH EXISTING DATA AVAILABLE FROM MULTIPLE SURVEYS AND FIELD VISITS. ALL ITEMS INCLUDED AND SHOWN HEREIN ARE BELIEVED TO REFLECT EXISTING CONDITIONS TO A REASONABLE DEGREE OF ACCURACY. HOWEVER, THE CONTRACTOR HAS FINAL RESPONSIBILITY TO VERIFY ALL EXISTING CONDITIONS, INCLUDING BUT NOT LIMITED TO, UNDERGROUND UTILITIES, PROPERTY LINES AND DRAINAGE STRUCTURES.

32. OPERATION OF EACH INTERNALLY ILLUMINATED STREET NAME SIGN SHALL BE CONTROLLED THROUGH THE USE OF A SINGLE PHOTO CELL (GRAINGER PART #K 4021 OR EQUIVALENT) LOCATED IN THE TOP OF THE CONTROLLER CABINET. INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL BE WIRED TO A SEPARATE 6 POSITION TERMINAL BLOCK AND A SEPARATE 6 POSITION GROUND BAR LOCATED IN THE CONTROLLER CABINET:

33. SIGNAL HEADS SHALL INCLUDE LOUVERED BACKPLATES WITH A 1" MINIMUM YELLOW RETRO REFLECTIVE BORDER AROUND THE PERIMETER OF THE FACE OF THE BACKPLATE. THE RETRO REFLECTIVE BORDER TO BE MADE OF A TYPE III PRISMATIC MATERIAL:

34. UTILITY MARKINGS SHALL BE CHALK BASED MARKING PAINT ON ASPHALT AND SIDEWALKS, AND REMOVED ONCE CONSTRUCTION IS COMPLETED:

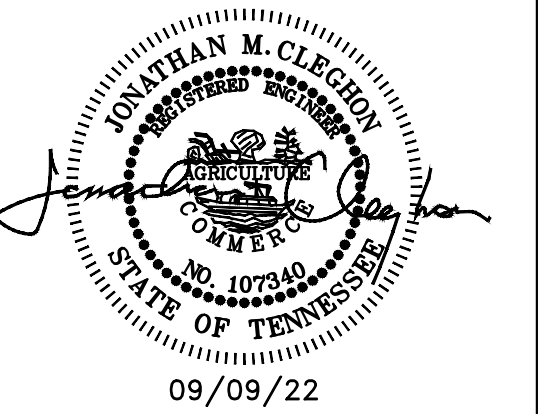
35. A SINGLE #6 BCW CABLE (#6 COPPER SOFT DRAWN BARE GROUND, ITEM NUMBER 714-06.08) SHALL BE INSTALLED IN EVERY DIRECTIONAL DRILLED CONDUIT ROUTE ALONG WITH A  $\frac{3}{8}$ " CW GROUND ROD AT THE BASE OF EACH SIGNAL POLE. A SEPARATE #6 BWC CABLE SHALL BE UTILIZED FOR THE CONTROLLER CABINET ALONG WITH A  $\frac{3}{8}$ " CW GROUND ROD. THE SIGNAL POLES SHALL NOT BE BONDED TO THE CONTROLLER CABINET. ALL CONDUIT RUNS BETWEEN PULL BOXES OR BETWEEN PULL BOXES AND POLES TO HAVE A LOCATE WIRE, ITEM NUMBER 730-14.03:

ESTIMATED SIGNAL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
712-08.06	UNIFORMED POLICE OFFICIER	HOUR	8
(1) 713-16.23	SIGNS (R3-1 36" X 36")	EACH	1
(1) 730-02.30	MAST ARM HARDWARE (3C CABLE)	EACH	1
730-08.01	SIGNAL CABLE - 3 CONDUCTOR	L.F.	85

### FOOTNOTES:

- (1) THIS ITEM INCLUDES THE R3-1 L.E.D. CHANGEABLE MESSAGE SIGN. ALL NECESSARY MATERIALS REQUIRED FOR INSTALLATION SHALL BE INCLUDED.

FILE NO.	892107772.07
DATE:	09/09/22
DESIGNED BY:	JEG
DRAWN BY:	AWW
CHECKED BY:	JMC
REVISION BLOCK	
DATE:	



# NDOT

**TRAFFIC SIGNAL  
NOTES AND  
QUANTITIES**

Lindsley Avenue

N.T.S.

SHEET 6